

ALLIED  
Catalog  
640

ALLIED Industrial Electronics Catalog

# ALLIED

## Industrial Electronics Catalog

**1964**

**NO. 640**

*our 43<sup>rd</sup> year*

INDEX: PAGE 528

*world's largest distributor  
of electronic components for industry*

CHICAGO  
CLEVELAND  
DALLAS  
DAYTON  
DENVER  
DETROIT  
LOS ANGELES  
MILWAUKEE  
MINNEAPOLIS - ST. PAUL  
ROCHESTER  
SAN FRANCISCO  
SEATTLE  
WASHINGTON, D. C.

## ALLIED ELECTRONICS

A SUBSIDIARY OF **ALLIED RADIO CORPORATION**

100 N. WESTERN AVE., CHICAGO 80, ILL.

PHONE: Area Code 312 • TAYLOR 9-9100 • TWX: 312-431-1721

1964

# ALLIED ELECTRONICS

## your complete electronics supply source

WORLD'S LARGEST INVENTORY • SAME-DAY SHIPMENT • OEM PRICES

use the services of the **ALLIED** facility nearest you

**CHICAGO—CENTRAL HEADQUARTERS**  
100 N. WESTERN AVENUE, CHICAGO 80, ILL.  
Phone: TAYlor 9-9100 TWX: 312-431-1721

**CLEVELAND**  
4824 Turney Road  
Cleveland 25, Ohio  
883-5252 (Area Code 216)

**DALLAS**  
5622 Dyer Street  
Dallas 6, Texas  
EMerson 3-6221 (Area Code 214)

**DAYTON**  
1823 Catalpa Drive  
Dayton 6, Ohio  
278-5866 (Area Code 513)

**DENVER**  
6767 E. 39th Avenue  
Denver 7, Colorado  
399-2250 (Area Code 303)

**DETROIT**  
16047 W. McNichols Road  
Detroit 35, Michigan  
836-0007 (Area Code 313)

**LOS ANGELES AREA**  
Allied Radio of California  
2085 E. Foothill Boulevard  
Pasadena, California  
795-5901 (Area Code 213)  
TWX: 213-449-1455

**MILWAUKEE**  
2461 W. Center Street  
Milwaukee 6, Wisconsin  
COncord 4-3970 (Area Code 414)

**MINNEAPOLIS • ST. PAUL**  
730 E. 38th Street  
Minneapolis 7, Minnesota  
TAYlor 7-5401 (Area Code 612)

**ROCHESTER**  
942 Monroe Avenue  
Rochester 21, New York  
CHapel 4-8750 (Area Code 716)

**SAN FRANCISCO AREA**  
2439 Birch Street  
Palo Alto, California  
321-0240 (Area Code 415)

**SEATTLE**  
1020 Fourth Avenue South  
Seattle 4, Washington  
MUtual 2-8026 (Area Code 206)

**WASHINGTON, D.C. and BALTIMORE AREA**  
5509 Colorado Avenue, N.W.  
Washington 11, D.C.  
TUckerman 2-5100 and  
TUckerman 2-6560  
(Area Code 202)

EVERY ITEM LISTED  
IN THIS CATALOG  
IS STOCKED

### CONDENSED INDEX

Adhesives (epoxies).....	462-465
Alternator.....	501
Batteries.....	494-497
Bulbs.....	336-339
Cabinets, Metal.....	427-435, 460-461
Capacitors.....	144-186, 188
Chokes, Coils and Transformers.....	344-379
Communications Equip.....	498, 500, 502-506
Connectors.....	189-214, 222, 227, 239-242
Diodes and Transistors.....	6-27, 30-36, 38, 39, 42-45, 49-52, 54-72, 75, 81
Fiber Optics.....	466
Fuses.....	340-342
Headphones.....	510-512
Infrared Cells.....	78
Intercom Equipment.....	467-473
Lasers and Laser Systems.....	81
Meters, Panel.....	416-426
Microphones and Accessories.....	482-488
Military Specification Index.....	536
Motors.....	305, 306, 309, 310
P.A. Equipment.....	474-481, 489-492
Photo-Sensing Devices.....	78-79, 293, 499
Pilot Light Assemblies.....	331-339
Plugs and Jacks.....	207, 211-214, 218, 220-231, 237, 250, 257, 330
Potentiometers.....	122-142
Power Supplies.....	380-385
Printed Circuit Boards.....	186, 187, 247
Recording Equipment.....	514-521
Rectifiers.....	29, 31, 32, 37, 40, 41, 45- 48, 51-53, 58, 59, 61, 64, 65, 72-74, 76, 77
Relays.....	284-303, 305-308
Resistors.....	110-121, 126
Semiconductors.....	6-75
Sockets.....	207, 212-214, 233-240
Solar Cells.....	78, 79
Soldering Equipment.....	438-444
Speakers.....	489-492, 513, 526
Switches.....	258-277, 283, 307, 330, 437
Test Instrumentation.....	385-415
Tools and Hardware.....	438-458
Tubes.....	78, 81, 84-108
Wire and Cable.....	312-323, 325, 329
FULL INDEX STARTS ON PAGE 528	

### TWO ALLIED CATALOGS



Catalog 640 has complete listings of industrial components and equipment for purchasing personnel, procurement and design engineers.

Features Knight-Kits, hi-fi components, Ham radio gear, radios, TV accessories, books, tapes, etc. For free copy of Cat. 230, mail card—page 512.

## ALLIED ELECTRONICS

industrial subsidiary of **ALLIED RADIO**

WORLD'S LARGEST DISTRIBUTOR OF ELECTRONIC COMPONENTS FOR INDUSTRY



every time your order goes to **ALLIED**  
*it's the best buying decision  
you can make...*



*you're backed by these experience-proved advantages:*

**1 SAME DAY SHIPMENT**

All orders received in our warehouse before 4:00 PM are shipped same day. An average of over 94% of all items ordered is shipped same day—by far the best record of service in the industry.

**2 WORLD'S LARGEST INVENTORY**

We fill your orders off-the-shelf from a \$12,000,000 inventory of components, in all categories and major lines. You can count on supply-in-depth to fill your needs fast.

**3 FACTORY O.E.M. PRICES**

You pay no more than the factory price for the components you order. See O.E.M. quantity price columns in the directory on the following pages and in the catalog listings.

**4 COMPLETE ONE-ORDER SUPPLY**

You realize substantial economies through one-order purchasing from Allied. You reduce handling costs—less paper work in purchasing, receiving, bookkeeping. You place one order, receive one shipment, make one disbursement. You avoid costly delays and down-time.

**5 AN ALLIED FACILITY NEAR YOU**

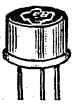
For same day shipment, call the Allied field service office nearest you (see page 1). Expert staffs are linked by private TWX lines to strategically located warehouses—you get same day shipment wherever you are.

**6 NEW PRODUCT AVAILABILITY**

We maintain close, continuous liaison with over 600 suppliers and are fully alerted to new product releases. If it's new and available in quantity, you can get it fast from Allied.

**ONE ORDER TO ALLIED FILLS THE WHOLE BILL FOR YOU**

# HANDY DIRECTORY OF MAJOR LINES

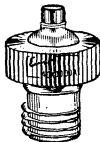
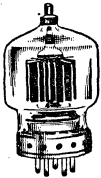


## SEMICONDUCTORS

MANUFACTURER	OEM TO	PAGE
General Electric	5000	42-48
Hughes	999	64-66
International Rectifier	999	70-73
Microwave Associates	999	75
Motorola	999	34-41
Pacific	999	58-60
Philco	999	54-57
Raytheon	999	61-63
RCA	5000	49-53
Sarkes-Tarzian	999	74,75
Sylvania:		
Transistors	999	68,69
Diodes	5000	67-69
Texas Instruments	5000	24-33

Government Source Inspected Tubes and Semiconductors (USAF, USN, JAN, USA and SC Types) Available from Stock.

See pages 6-83 for complete listing of semi-conductors. Pages 84-91 for tubes.

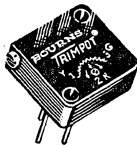
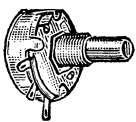


## TUBES

RCA Industrial	10,000 (varies by type)
RCA Receiving	10,000 (varies by type)
GE Industrial	10,000 (varies by type)

The following lines are stocked in depth. OEM Price Limits vary by type (see pages 84-91).

Amperex	National Union
Cetron	Penta
Dumont	Raytheon
Eimac	Sylvania
Electrons	Thermosen
Machlett	Tungsol
Mullard	Victoreen
National Electronics	Waterman



## CONTROLS

Borg	199	128
Bourns	500	130-136
Centralab	249	139
Clarostat	249	129
IRC-CTS:		
Circuitrim	999	122, 123
Precision	499	124
Industrial	ANY	125
Military	249	126
Jensen	ANY	138
Mallory	499	140-142
Ohmite	ANY	136-138



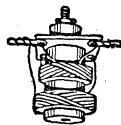
## CAPACITORS

### Fixed Types

MANUFACTURER	OEM TO	PAGE
Arco-EIMenco	99	175, 176
Centralab	999	178-180
Cornell-Dubilier:		
Mica	999	169
Metallized	999	170
Oil Filled	999	169
All Others	249	166-168
Good-All	999	171-173
Kemet	999	150, 151
Mallory: Tantalums	999	151
All Others	249	162-165
Plastic Capacitors	499	177
Sprague: Ceramics	999	158
Computer 36D	99	155
Hi-K Ceramics	499	159
Metallized 118P	999	152
121P	999	153
155P	499	152
156P	499	152
Oil Filled CP-53	499	153
CP-70	99	153
Subminiatures 96P	499	153
Tantalums	999	146-148
All Others	249	154-161
Texas Instruments	999	149
Vitramon	999	174, 175

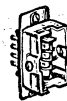
### Variable Types

Bud	149	184
Cardwell	Each	184
Hammarlund	Each	185
JFD: Y Series	499	182, 183
All Others	299	180-183
Johnson	99	184



## TRANSFORMERS, COILS AND CHOKES

Acme	ANY	373
General Electric	99	377
Knight	ANY	358-361
Miller, J. W.:		
Chokes	249	345-347
Coils	249	347, 348
Inductors	249	346
Transformers	ANY	345
Milwaukee	24	372, 381
National	999	344
Raytheon	24	377
Sola: Type CVS	49	378, 379
Type CVN	49	378
Type CVE	99	379
Solitron	24	379
Type CVF	49	379
Stancor	249	350-357
Standard	99	373, 380
Superior:		
Single-Phase Portable Powerstats	99	374
Single-Phase Surface-Mtg. Powerstats	49	374
3-Phase Powerstats	49	374
400-Cycle Powerstats	99	375
Stabiline Regulators	49	376
Triad	499	369-372
U.T.C.	499	362-368
Wells	999	345



## CONNECTORS

MANUFACTURER	OEM TO	PAGE
Amphenol:		
AN/MS	999	190-195
Series 67	199	196, 197
MS-R, Series 115	99	198, 203
Series 165, 48	99	199
RF Cable Series	2499	200-202
Series 126, 94	249	203
Series 5116	999	203
Series 220, 221, 96, 222, 223	249	204, 206
Series 57, 74, 26, 64	249	205, 206
Series 17, 133, 143	2499	205
Audio and Microphone	999	208
Cannon (Audio)	99	208
Cinch-Jones	999	211-218
Eimac	ANY	240
Elco	999	207, 209-211, 257
Hart & Hegeman	999	239
Harvey-Hubbell	499	239
Herman H. Smith	999	218
Switchcraft	999	209
Thomas & Betts	ANY	210



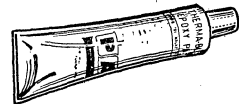
## SOCKETS, PLUGS AND JACKS

Amphenol	2499	234, 235
Cinch-Jones	999	225, 236, 237
Eby	499	238
Elco	9999	233, 234
G-C Electronics	499	222, 224, 225, 228
Grayhill	1999	228
Johnson: Sockets	99	240
Plugs and Jacks	999	226
Mallory	499	223
Superior	199	227
Switchcraft	999	220-222
Vector	999	238



## RESISTORS

Continental-Wirt	ANY	118
Dale	499	118, 119
IRC: Axial Lead 1%	999	113
Carbon	4999	111
Precision 1%	999	112, 113
Wirewound	499	114, 115
Ohmite	1000	116-118
Sprague	999	121
Texas Instruments	999	120



## ADHESIVES AND EPOXIES

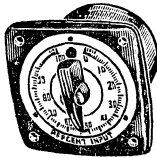
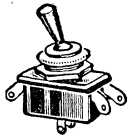
Dow-Corning	ANY	464, 465
Emerson & Cummings	ANY	462
General Electric	ANY	462
Plastic Associates	ANY	463

# STOCKED BY **ALLIED** FOR SAME-DAY SHIPMENT



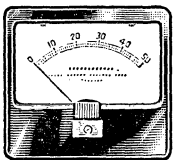
## HARDWARE, KNOBS, CLIPS AND TERMINAL BOARDS

MANUFACTURER	OEM TO	PAGE
A-MP	ANY	245
Davies, Harry	ANY	252, 253
Grayhill	999	248
Johnson	499	256
Mueller	ANY	219
National	499	254, 256
Pomona	249	231, 232
Raytheon	4999	248, 251
Smith, Herman H.	499	230, 249
Thomas & Betts	ANY	245
Vasco	1999	241-243, 247, 250
Vaco	ANY	244
Vector	999	246



## SWITCHES/TIME CONTROLS

Acro	499	276, 277
APM	4999	263
Arrow-Hart & Hegeman	4999	262, 263
Centralab	249	265, 267
Series JV-9000	99	267
Continental-Wirt	999	271
Controls Co. of America	499	275
Cutter-Hammer: Industrial	999	258, 259, 261
Military	249	260
General Electric	999	264
Grayhill	ANY	264
Hamlin	999	264
Haydon	249	280
Industrial Timer	499	277-279
Intermatic	11	281
Mallory	499	270, 271
Mark Time	99	283
Oak	249	268, 269
Ohmite	9	275
Shallcross	49	274
Switchcraft	249	272, 273
Tork	11	282



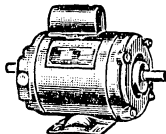
## PANEL METERS

API	24	423
Emico	99	426
JBT	ANY	425
Parker	99	426
Simpson	49	416, 419
Triplett	49	420, 422
Weston	49	424, 425



## TEST INSTRUMENTATION

MANUFACTURER	OEM TO	PAGE
Accutronics	ANY	402
Amprobe	ANY	395
API	24	387
Associated Testing Labs	ANY	387
B & K	ANY	414
Clarostat	ANY	392
Cornell-Dubilier	ANY	393
Eico	ANY	406, 409
Hathaway	ANY	388, 389
Hickok	ANY	412-414
Knight	ANY	404, 405
Micro Measurements	ANY	391
Millen	ANY	392
Motorola	ANY	391
Ohmite	99	393
Pioneer	ANY	385
RCA	ANY	410-412
Rustrak	ANY	394
Scott	ANY	387
Seco	ANY	390
Self-Organizing Syst.	ANY	402
Simpson	49	386, 396, 397
Solitron Devices	ANY	390
Sprague	ANY	392
Test Devices	ANY	402
Triplett	24	400, 401
Vap-Air	ANY	390
Weston	24	398, 399



## RELAYS AND MOTORS

Amphenol-Borg	199	306
Barber-Colman	49	308, 309
Bourns	499	305
Controls Co. of America: Solenoids	249	304
Danbury-Knudsen	99	307
Dow-Key	49	306
Ebert	49	295
G-V Controls	249	295
Guardian: Solenoids	499	296
Relays	499	297, 298
Series 900 Relays	199	298
Hurst	107	305
ITT-General Controls: Counters	249	308
Magnecraft	499	299-302
Potter & Brumfield	499	285-292
Sigma	249	293, 294
Struthers-Dunn	249	302, 303
Superior Motors	99	310



## WIRE AND CABLE

Alpha: Tubing and Accessories	ANY	322, 323
Military, Hook-Up	24,999'	312
Amphenol: Dielectric	2999'	313
Microphone	2999'	313
Teflon	4999'	313
Belden	19,999'	314-319
Consolidated	ANY	320, 321
Timely	49,999'	324

## THIS IS THE MOST COMPLETE INDUSTRIAL CATALOG PRODUCTS OF OVER 600 SUPPLIERS ARE DESCRIBED IN THIS CATALOG

The listings on these pages represent the leaders in electronic components and electronic instrumentation. OEM factory prices for each major product line are given for your ordering convenience. Remember, wherever you are, it's faster to do business with Allied! All merchandise listed is stocked. You get OEM prices and same day off-the-shelf shipment.

For Complete Manufacturer's Index SEE PAGES 534-536



## FUSES/CIRCUIT BREAKERS

MANUFACTURER	OEM TO	PAGE
Bussman	999	342
Littelfuse	999	340, 341
Mel-Rain	249	342
Sylvania	999	341
Wood Electric: Thermal	499	343
Magnetic	25	343



## POWER SUPPLIES

Acme	24	382
ATR	ANY	385
Eico: Converters	ANY	384
Electro Products	ANY	383
Jackson	ANY	384
Perkins	ANY	381
Plastic Capacitors	ANY	382
Precise Develop.	ANY	384
Schauer	ANY	385
Sola	24	380

## ELECTRONIC SPECIALTIES

American Optical: Fiber Optics	ANY	466
Amtron: Modules	ANY	80
Dialco: Pilot Assem.	ANY	331-335
Fenwal: Thermistors	1999	143
Rotron: Blowers, Fans	499	436, 437
Wakefield: Heat Sinks	4999	109

## SEE WHAT'S NEW IN INDUSTRIAL ELECTRONICS COMPONENTS, EQUIPMENT

Lasers: RCA, GE	Page 81
Kemet Capacitors	150, 151
TiNeon Lights	82
Miniature Module Amplifiers	80
Electroluminescence	77
"Hall Effect" Devices	77
Optical Fibers	466
Biological Fuel Cell	77
Bourns Relays	305
Perkins Power Supplies	381
Motorola Test Instrumentation	391

# Over 6000 Types Stocked in Depth

Semiconductors listed in this directory are duplicated on pages 24-83, with manufacturers' specifications included.

# ALLIED'S SEMICONDUCTOR DIRECTORY

... Your Easy Ordering Guide for All Your Semiconductor Needs—Prepared with the Purchasing Agent and Buyer in Mind.

## ALLIED—YOUR SEMICONDUCTOR HEADQUARTERS

- World's Largest, Most Complete Stocks
- From 12 Leading Manufacturers
- OEM Quantity Price Discounts
- Every Semiconductor Listed is Stocked
- New Types Stocked as Soon as Announced
- Phone, Write, Wire for Same Day Shipment

Use the Services of the Allied Facility Nearest You—See Page 1 of This Catalog for Locations of Branch Offices With Addresses and Telephone Numbers.

### KEY TO NAMES OF MANUFACTURERS

GE.....General Electric	PH.....Philco
HA.....Hughes Aircraft	RA.....Raytheon
IN.....International Rectifier	RC.....Radio Corp. of America
MI.....Microwave Associates	ST.....Sarkes-Tarzian
MO.....Motorola	SY.....Sylvania
PA.....Pacific Semiconductors	TI.....Texas Instruments

Call your man at

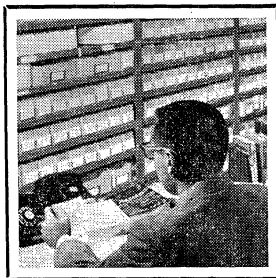
# ALLIED Taylor 9-9100

TWX: 312-431-1721

He's an expert on your semiconductor needs, knows how to take care of them fast.

He serves you best because he's backed by the world's most complete, up-to-the-minute stocks.

For complete supply, for expert help, for same-day shipment at factory prices, "call your man at Allied."



One Order to Allied Fills the Whole Bill

## NAVY STOCK FACILITY

Over 400 military-type semiconductors are available from Allied's Navy Stock facility. They include USAF, USN, JAN, USA, and SC types. When ordering, two copies of purchase order must be sent to Allied. We will ship from stock within 48 hours. See Pages 22 and 23 for Complete Listing of Mil-Type Semiconductors.

Prices Effective July 22, 1963—We Bill at Price in Effect at Time of Shipment

## DIODES AND RECTIFIERS

MICROWAVE ASSOCIATES				Type No. Mfr. EACH				Type No. Mfr. EACH				Type No. Mfr. EACH			
Type No.	1-9	10-99	100-999	Type No.	Mfr.	1-99	100-999	Type No.	Mfr.	1-99	100-999	Type No.	Mfr.	1-99	100-999
1N21B	.68	.61	.54	1N21BMR	SY	2.04	1.61	1N34A	SY	.30	.23	1N63A	RA	.90	.60
1N21BR	1.02	.92	.81	1N21CMR	SY	3.07	3.45	1N34AS	GE	.32	.....	1N64	SY	.30	.23
1N21C	1.02	.92	.81	1N21EMR	SY	13.50	10.50	1N35	SY	1.58	1.21	1N65	SY	.48	.35
1N21D	2.45	2.21	1.93	1N21FMR	SY	33.00	26.00	1N38A	RA	.75	.57	1N66A	RA	.39	.30
1N21DR	3.68	3.31	2.90	1N25	SY	3.53	2.74	1N38A	SY	.75	.57	1N67A	HA	.61	.46
1N21E	4.03	3.52	3.14	1N25A	SY	8.48	6.60	1N38B	SYL	.75	.57	1N67A	RA	.55	.47
1N21ER	6.72	6.05	5.30	1N26	PH	5.50	5.10	1N38BL	SY	1.22	.95	1N67A	SY	.61	.48
1N21F	11.00	9.90	8.64	1N26A	PH	7.75	6.05	1N39AL	SY	4.00	3.10	1N68A	HA	1.00	.75
1N21FR	16.50	14.85	13.00	1N26A	SY	7.75	6.05	1N40	SY	6.70	5.25	1N68A	RA	.70	.54
1N21WE	7.65	6.89	6.00	1N26AM	PH	19.30	15.20	1N48	SY	.30	.23	1N68A	SY	.70	.55
1N23B	.67	.60	.54	1N26AM	SY	19.30	15.20	1N53	SY	23.20	18.60	1N69	SY	.30	.23
1N23BR	1.02	.92	.81	1N26AMR	PH	23.00	18.20	1N53BM	SY	74.50	64.80	1N69A	SY	.58	.45
1N23C	1.02	.92	.81	1N26AR	PH	11.65	9.15	1N53BMR	SY	98.45	78.75	1N69AL	SY	.58	.45
1N23CR	1.41	1.27	1.12	1N26B	PH	27.25	21.25	1N53C	SY	49.79	37.45	1N70	SY	.48	.38
1N23D	2.45	2.21	1.93	1N26BM	PH	68.00	53.50	1N53CM	SY	116.95	93.60	1N70A	SY	1.01	.79
1N23DR	3.68	3.31	2.90	1N26BR	PH	81.75	65.30	1N53CMR	SY	140.40	112.30	1N70AL	SY	1.01	.79
1N23E	4.45	4.01	3.50	1N26BR	PH	40.85	32.65	1N53CR	SY	70.20	57.15	1N71	SY	6.75	5.25
1N23ER	6.72	6.05	6.00	1N26C	PH	31.15	25.50	1N53D	SY	73.50	57.80	1N72	SY	.95	.70
1N23F	13.20	11.88	10.50	1N26CM	PH	77.85	63.75	1N53M	SY	58.10	46.55				
1N23FR	19.80	17.82	15.75	1N26CMR	PH	48.20	38.22	1N53MR	SY	72.75	58.20				
1N23WE	5.90	5.31	4.65	1N26CR	PH	96.40	76.50	1N53R	SY	36.30	29.10				
1N23				1N26CMR	PH	16.15	12.75	1N54	SY	1.55	.99				
WEM	14.75	13.28	11.60	1N26M	PH	16.15	12.75	1N54AL	SY	1.20	.94				
1N26	6.50	5.85	5.16	1N26M	SY	16.15	12.75	1N55A	SY	1.05	.81				
1N26MR	19.45	17.51	15.28	1N26MR	PH	19.45	15.30	1N55AL	SY	2.52	1.97				
1N26R	9.90	8.91	7.29	1N26MR	SY	19.45	15.30	1N55B	RA	.96	.81				
1N32	11.61	10.45	9.30	1N26R	PH	9.90	7.80	1N56AL	SY	1.14	.89				
1N53	23.20	20.88	18.60	1N26R	SY	9.90	7.80	1N58A	SY	.77	.55				
1N53A	25.68	23.11	20.58	1N31A	SY	14.70	11.75	1N60	GE	.48	.....				
1N53BM	74.48	67.03	64.78	1N34A	HA	.43	.32	1N60	SY	.30	.23				
				1N34A	RA	.32	.22	1N63	SY	.36	.28				

MICROWAVE ASSOCIATES			
Type No.	1-9	10-99	100-999
1N78	5.50	4.95	4.32
1N78A	8.10	7.29	6.36
1N78AM	20.30	18.27	15.90
1N78AR	12.10	10.89	9.55
1N78AMR	24.30	21.87	19.10
1N78B	12.00	10.80	9.45

The Semiconductor Directory is issued on a regular basis throughout the year. If you want to receive each issue, be sure you are on our mailing list by writing: Semiconductor Products Manager, ALLIED ELECTRONICS, 100 N. Western Ave., Chicago 80, Illinois.



# Semiconductor Directory—DIODES AND RECTIFIERS

Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH	
		1-99	100-999			1-99	100-999			1-99	100-999			1-99	100-999
1N78A	PH	6.50	5.10	1N198	RA	.51	.39	1N336R	TI	1.25	.83	1N457	HA	.74	.56
1N78AM	PH	8.10	6.26	1N198A	SV	.35	.28	1N337	GE	2.45	1.60	1N457B	SV	.60	.45
1N78AR	PH	20.30	15.90	1N198B	SV	1.03	.20	1N337A	MO	1.25	.83	1N457C	SV	.45	.36
1N78AMR	PH	12.10	9.55	1N207	RA	2.80	2.20	1N337T	TI	1.25	.83	1N457D	PA	.60	.45
1N78B	PH	24.30	19.10	1N248	GE	2.46	1.64	1N337R	TI	2.45	1.60	1N457E	SV	.45	.36
1N78C	PH	12.00	9.45	1N248A	GE	2.46	1.64	1N338	MO	1.87	1.25	1N457F	TI	.45	.36
<b>MICROWAVE ASSOCIATES</b>															
Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH	
1-99	100-999	1-99	100-999	1-99	100-999	1-99	100-999	1-99	100-999	1-99	100-999	1-99	100-999	1-99	100-999
1N78BM	PH	30.00	27.00	1N248C	RC	3.62	2.42	1N339	MO	1.18	.79	1N458	TI	.51	.40
1N78BMR	PH	36.00	32.40	1N248CR	RC	3.01	2.01	1N339T	TI	2.00	1.30	1N458A	SV	.51	.40
1N78BR	PH	18.00	16.20	1N249	GE	3.01	2.01	1N340	GE	1.05	.70	1N458A	TI	.51	.40
1N78C	PH	50.00	40.00	1N249A	RA	4.15	3.10	1N340A	MO	1.18	.79	1N459	HA	1.12	.84
1N78CM	PH	13.00	10.00	1N249B	GE	3.01	2.01	1N340	MO	1.18	.79	1N459	PA	.80	.60
1N78CMMR	PH	135.00	106.00	1N249C	GE	3.01	2.01	1N340T	TI	1.19	.79	1N459	SV	.66	.51
1N78CR	PH	67.50	53.00	1N249CR	RC	4.46	2.97	1N340R	TI	2.00	1.30	1N459	TI	.66	.51
1N78D	PH	55.00	42.00	1N250	GE	2.31	1.54	1N341	GE	1.97	1.31	1N459A	PA	.60	.45
1N78DM	PH	137.50	108.00	1N250A	GE	4.54	3.03	1N341	MO	1.97	1.31	1N459A	SV	.66	.51
1N78DMR	PH	165.00	130.00	1N250A	RA	5.75	4.45	1N341T	TI	1.97	1.31	1N459A	TI	.66	.51
1N78DR	PH	82.50	65.00	1N250C	GE	4.54	3.03	1N341R	TI	4.75	3.15	1N460	TI	.66	.51
1N78M	PH	11.75	9.00	1N250C	RC	6.60	4.40	1N342	GE	1.97	1.31	1N461	HA	.62	.47
1N78MR	PH	16.50	13.00	1N250CR	RC	3.30	2.20	1N342	MO	1.95	1.30	1N461	PA	.53	.40
1N78R	PH	8.25	6.50	1N251	RC	1.35	.80	1N342	TI	1.97	1.31	1N461	SV	.35	.28
1N78A	SV	.75	.59	1N251	RC	1.22	.60	1N342T	TI	4.75	3.15	1N461	TI	1.15	.90
1N81AL	SV	.75	.59	1N251	SV	.90	.75	1N343	GE	1.58	1.05	1N461A	PA	.60	.45
1N82	RA	.72	.55	1N251	TI	1.52	1.07	1N343	MO	1.58	1.05	1N461A	SV	.35	.28
1N82	SV	.70	.55	1N252	GE	1.20	.80	1N343	TI	1.58	1.05	1N461A	TI	1.15	.90
1N82A	GE	.92	.71	1N252	HA	1.35	1.01	1N343R	TI	3.50	2.25	1N462	HA	.70	.53
1N82A	RA	.92	.71	1N252	HA	1.35	1.01	1N344	GE	1.58	1.05	1N462	PA	.60	.45
1N82A	SV	.91	.71	1N252	SV	.80	.65	1N344	MO	1.57	1.05	1N462	SV	.38	.30
1N82A	HA	.38	.29	1N253	GE	1.05	.70	1N344	TI	1.58	1.05	1N462	TI	.62	.47
1N90	RA	.34	.26	1N253	MO	1.05	.70	1N345	GE	3.50	2.25	1N462A	PA	.60	.45
1N90	SV	.35	.27	1N253	RA	1.19	.79	1N345	GE	1.24	.83	1N462A	SV	.38	.30
1N91	GE	.85	.55	1N253R	TI	1.19	.79	1N345	MO	1.24	.83	1N463	HA	.60	.45
1N91	SV	.85	.55	1N254	GE	1.25	.83	1N345	TI	1.25	.83	1N463	PA	.67	.50
1N91	TI	1.95	1.30	1N254	MO	1.24	.83	1N345	TI	2.25	1.50	1N463	SV	.46	.36
1N92	GE	1.95	1.30	1N254	RA	1.25	.83	1N346	GE	1.25	.83	1N463	TI	1.95	1.49
1N92	SV	1.95	1.30	1N254	RA	1.25	.83	1N346	MO	1.24	.83	1N463A	PA	.71	.53
1N93	GE	2.70	1.80	1N254	RA	1.25	.83	1N346	TI	1.25	.83	1N463A	SV	.46	.36
1N95	HA	.52	.39	1N255	MO	1.96	1.31	1N346R	TI	2.25	1.50	1N464	HA	1.05	.79
1N95	RA	.44	.34	1N255	RA	2.68	1.79	1N347	TI	2.00	1.30	1N464	PA	.72	.54
1N96	HA	.59	.44	1N255	RA	2.68	1.79	1N347	TI	2.00	1.30	1N464	SV	.45	.35
1N96A	HA	.69	.52	1N255R	TI	1.97	1.31	1N347R	TI	2.00	1.30	1N464	TI	1.85	1.40
1N97	RA	.61	.46	1N256	TI	1.97	1.31	1N348	GE	1.05	.70	1N464A	PA	.74	.55
1N98	HA	.66	.50	1N256	TI	1.97	1.31	1N348	MO	1.18	.79	1N464A	SV	.45	.35
1N98	SV	.48	.38	1N256R	TI	2.85	1.90	1N348	TI	1.19	.79	1N464A	TI	3.00	2.05
1N98A	HA	.66	.50	1N263	PH	12.50	9.19	1N348R	TI	1.19	.79	1N482	HA	.69	.49
1N99	HA	.88	.66	1N263	HA	.75	.56	1N358A	SV	19.25	17.10	1N482	PA	.60	.45
1N99	SV	.50	.39	1N270	RA	.50	.39	1N358AR	SV	28.90	25.65	1N482	SV	.59	.46
1N100	HA	.96	.72	1N270	RA	.50	.39	1N368	GE	2.55	1.70	1N482A	TI	2.00	1.60
1N100	RA	.96	.72	1N273	HA	.69	.51	1N368A	SV	31.85	28.48	1N482B	HA	.65	.49
1N100	SV	.51	.40	1N276	RA	.60	.45	1N369AR	SV	47.90	38.22	1N482B	PA	.65	.49
1N100A	HA	1.00	.75	1N276	RA	.60	.45					1N482B	SV	.59	.46
1N116	HA	.56	.42	1N276	RA	.60	.45					1N482B	TI	2.20	1.76
1N116	RA	.53	.40	1N276	RA	.60	.45					1N483	HA	1.00	.75
1N116	SV	.53	.41	1N277	HA	.93	.70					1N483	PA	.67	.50
1N117	HA	.58	.44	1N277	HA	.93	.70					1N483	SV	.61	.47
1N117	SV	.58	.44	1N277	SV	.59	.46					1N483	TI	2.00	1.60
1N118	HA	.61	.46	1N278	HA	1.03	.77					1N483A	HA	1.14	.86
1N118	SV	.61	.48	1N278	HA	1.03	.77					1N483A	PA	.67	.50
1N118A	HA	.63	.47	1N279	HA	.71	.54					1N483A	SV	.61	.47
1N119	SV	.51	.40	1N279	SV	.29	.22					1N483A	TI	2.12	1.70
1N120	SV	.46	.36	1N281	RA	.50	.40					1N483B	PA	1.20	.90
1N126	HA	.45	.34	1N281	SV	.31	.24					1N483B	SV	.67	.47
1N126	RA	.45	.34	1N283	SV	.60	.45					1N483B	TI	2.00	1.60
1N126A	SV	.40	.34	1N283	SV	.60	.45					1N484	HA	1.25	.94
1N126A	HA	.45	.34	1N287	HA	.88	.66					1N484	PA	.67	.50
1N127	HA	.89	.68	1N288	HA	.90	.68					1N484	SV	.70	.55
1N127	RA	.87	.65	1N289	HA	.98	.66					1N484	TI	2.35	1.90
1N127	SV	.83	.65	1N291	HA	.95	.71					1N484A	HA	1.34	1.01
1N127A	SV	.83	.65	1N292	HA	.60	.45					1N484A	PA	.80	.60
1N128	HA	.59	.44	1N294	RA	.34	.26					1N484A	SV	.70	.55
1N128	RA	.57	.33	1N295	GE	.35	.25					1N484A	TI	2.52	2.02
1N128	SV	.32	.25	1N295	GE	.35	.25					1N484B	HA	1.42	1.07
1N128A	RA	.57	.38	1N297	SV	.70	.55					1N484B	PA	2.92	2.34
1N147A	PH	.96	.71	1N297A	SV	.72	.55					1N484B	SV	.70	.55
				1N298	RA	.48	.38					1N484B	TI	2.92	2.34
				1N300	RA	4.55	3.50					1N485	HA	1.45	1.09
				1N300A	RA	5.20	4.00					1N485	PA	.85	.60
				1N301	RA	4.55	3.50					1N485	SV	3.55	2.60
				1N301A	RA	5.20	4.00					1N485	TI	2.55	1.95
				1N302	RA	5.20	4.00					1N485A	HA	1.50	1.13
				1N302A	RA	6.50	5.00					1N485A	PA	1.00	.75
				1N303	RA	4.55	3.50					1N485A	SV	.85	.60
				1N303A	RA	5.20	4.00								

# Semiconductor Directory—DIODES AND RECTIFIERS

Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH	
		1-99	100-999			1-99	100-999			1-99	100-999			1-99	100-999
1N487A	TI	6.60	4.67	1N603A	TI	1.37	.66	1N645A	TI	3.63	2.66	1N715	HA	2.10	1.58
1N488	HA	2.85	2.14	1N603A	GE	1.32	.81	1N646	GE	1.65	1.10	1N716	HA	2.10	1.60
1N488	PA	2.12	1.59	1N603A	TI	2.07	1.38	1N646	HA	2.55	.91	1N715A	PA	2.60	2.15
1N488	SV	2.50	1.95	1N604	GE	.81	.54	1N646	PA	1.65	1.10	1N715A	HA	2.90	2.15
1N488	TI	5.05	3.57	1N604	TI	1.86	1.24	1N646	TI	2.00	1.10	1N716	HA	2.10	1.58
1N488A	HA	2.95	2.21	1N604A	GE	1.62	1.08	1N647	GE	1.80	1.20	1N716	PA	2.10	1.60
1N488A	PA	2.53	1.90	1N604A	TI	2.32	1.68	1N647	HA	3.25	2.44	1N716A	PA	2.66	2.00
1N488A	SV	2.51	1.90	1N605	GE	.90	.60	1N647	PA	1.80	1.20	1N716A	HA	2.90	2.15
1N488A	TI	3.29	2.51	1N605	TI	1.97	1.31	1N647	GE	3.00	1.38	1N717	PA	2.10	1.58
1N497	SV	4.50	3.35	1N605A	GE	1.97	1.19	1N648	GE	1.95	1.35	1N717	HA	2.10	1.60
1N498	SV	.50	.39	1N605A	TI	2.59	1.79	1N648	HA	3.85	2.89	1N717A	PA	2.29	1.69
1N500	SV	.53	.41	1N606	GE	1.19	.79	1N648	PA	4.95	3.47	1N717A	HA	2.90	2.15
1N530	TI	.68	.43	1N606	TI	2.22	1.48	1N648	TI	3.70	2.08	1N718	PA	2.10	1.58
1N531	TI	.85	.55	1N606A	GE	2.37	1.58	1N649	GE	2.50	1.65	1N718	HA	2.10	1.60
1N532	TI	1.00	.70	1N606A	TI	3.50	2.33	1N649	HA	4.50	3.38	1N718A	PA	2.53	1.90
1N533	TI	1.20	.80	1N607	GE	1.05	.70	1N649	PA	3.30	2.25	1N718A	HA	2.90	2.15
1N534	TI	1.25	.84	1N607	TI	1.15	.76	1N649	TI	4.20	2.72	1N719	PA	2.10	1.58
1N535	TI	2.40	1.60	1N607	MO	1.12	.75	1N658	PA	3.75	2.73	1N719	HA	2.10	1.60
1N536	GE	.47	.31	1N607	TI	1.14	.76	1N658	SV	3.64	2.73	1N719A	HA	2.53	1.90
1N536	IN	.66	.44	1N607A	GE	1.14	.76	1N659	HA	1.40	1.05	1N719A	PA	2.90	2.15
1N536	MO	.78	.50	1N607A	TI	1.25	.83	1N659	PA	1.30	.70	1N720	HA	2.10	1.58
1N536	RA	.53	.35	1N607AR	TI	1.40	1.40	1N659	SV	.78	.44	1N720	PA	2.10	1.60
1N536	RC	.53	.35	1N607R	TI	1.70	1.20	1N659	TI	1.20	.70	1N720A	HA	3.21	2.41
1N536	TI	.53	.35	1N608	GE	1.08	.72	1N659A	GE	2.25	1.58	1N720A	PA	2.90	2.15
1N537	GE	.53	.35	1N608	IN	1.19	.79	1N660	TI	1.50	.80	1N721	HA	2.10	1.60
1N537	IN	.72	.48	1N608	MO	1.18	.79	1N660	PA	1.30	.80	1N721	PA	2.10	1.60
1N537	MO	.79	.50	1N608	TI	1.19	.79	1N661	TI	2.00	1.32	1N721A	HA	2.53	1.90
1N537	RA	.60	.40	1N608A	GE	1.17	.78	1N661	SV	2.85	2.43	1N721A	PA	2.90	2.15
1N537	RC	.50	.33	1N608A	TI	1.29	.86	1N661	TI	1.95	1.32	1N722	HA	2.31	1.73
1N537	TI	.60	.40	1N608AR	TI	2.25	1.50	1N662	HA	1.20	.90	1N722	PA	2.10	1.60
1N538	GE	.63	.42	1N608R	TI	1.90	1.35	1N662	PA	1.20	.60	1N722A	HA	2.53	1.90
1N538	IN	.76	.51	1N609	GE	1.13	.75	1N662	TI	1.14	.80	1N722A	PA	2.90	2.15
1N538	MO	.78	.50	1N609	IN	1.22	.85	1N662	PA	1.20	.60	1N723	HA	2.10	1.60
1N538	RA	.64	.43	1N609	MO	1.21	.81	1N662A	PA	1.20	.60	1N723	PA	2.10	1.60
1N538	RC	.53	.35	1N609	TI	1.22	.81	1N663	TI	1.50	1.15	1N723A	HA	2.42	1.82
1N538	TI	.68	.45	1N609A	GE	1.12	.81	1N663	PA	1.64	1.15	1N723A	PA	2.90	2.15
1N539	GE	.66	.44	1N609A	TI	1.34	.89	1N663A	HA	1.75	1.31	1N724	HA	2.75	2.06
1N539	IN	.91	.61	1N609AR	TI	2.55	1.55	1N663A	PA	1.60	1.15	1N724	PA	2.10	1.60
1N539	MO	.91	.60	1N609R	TI	2.10	1.95	1N676	GE	.93	.62	1N724A	HA	3.04	2.28
1N539	RA	.83	.55	1N610	GE	1.14	.75	1N676	TI	1.05	.75	1N724A	PA	2.10	1.60
1N539	RC	.59	.40	1N610	IN	1.25	.83	1N677	GE	1.09	.70	1N725	HA	2.75	2.06
1N539	TI	.83	.55	1N610	MO	1.24	.83	1N678	GE	1.23	.82	1N725	PA	2.10	1.60
1N540	GE	.81	.54	1N610	TI	1.25	.83	1N679	GE	1.35	.90	1N725A	HA	3.04	2.28
1N540	MO	1.07	.71	1N610A	GE	1.26	.84	1N681	GE	1.53	1.02	1N725A	PA	2.90	2.15
1N540	RA	.98	.65	1N610A	TI	1.47	.92	1N682	GE	1.65	1.10	1N726	HA	2.64	1.98
1N540	RC	.68	.45	1N610AR	TI	2.75	1.90	1N683	GE	1.80	1.20	1N730	MO	3.50	2.80
1N540	TI	.98	.65	1N610R	TI	2.30	1.60	1N684	GE	1.88	1.25	1N732	MO	3.50	2.80
1N547	GE	1.19	.79	1N611	GE	1.11	.74	1N685	GE	2.10	1.40	1N732	PA	3.50	2.80
1N547	IN	1.60	1.07	1N611	IN	1.58	1.05	1N686	GE	2.25	1.50	1N732A	ST	2.40	2.25
1N547	MO	1.40	.95	1N611	TI	1.58	1.05	1N687	GE	2.40	1.60	1N733	MO	3.50	2.80
1N547	RA	1.57	1.05	1N611A	GE	1.61	1.07	1N689	GE	2.50	1.65	1N734	MO	3.50	2.80
1N547	RC	1.19	.79	1N611A	TI	1.77	1.18	1N690	PA	2.86	1.92	1N746	HA	2.15	1.61
1N547	TI	1.43	.95	1N611AR	TI	3.50	2.40	1N695	HA	.77	.58	1N746	PA	2.15	1.60
1N550	GE	1.29	.86	1N611R	TI	2.75	1.90	1N695	SV	.65	.50	1N746 thru	TI	2.60	2.10
1N550	MO	1.29	.86	1N612	GE	1.80	1.20	1N695A	HA	.98	.74	1N746A thru	TI	2.60	2.10
1N550	TI	1.29	.86	1N612	IN	1.97	1.31	1N702	HA	2.10	1.58	1N759A thru	HA	3.00	2.25
1N550R	TI	1.50	1.00	1N612	TI	1.97	1.31	1N708	PA	2.10	1.60	1N746A thru	IN	2.95	2.20
1N551	GE	1.38	.92	1N612A	GE	1.97	1.31	1N702A	HA	3.21	2.41	1N747 thru	PA	2.15	1.60
1N551	MO	1.38	.92	1N612A	TI	2.16	1.44	1N702A thru	PA	2.90	2.10	1N757	PA	2.15	1.60
1N551	TI	1.38	.92	1N612AR	TI	4.00	2.75	1N703	HA	2.10	1.58	MOTOROLA-GLASS ZENER DIODES *10 per type, 100 total on order—must all be glass.			
1N551R	TI	1.70	1.10	1N613	GE	1.80	1.20	1N703 thru	TI	2.10	1.60				
1N552	GE	1.77	1.18	1N613	TI	1.97	1.31	1N716	HA	2.10	1.60				
1N552	MO	1.77	1.18	1N613	TI	1.97	1.31	1N703A	HA	2.53	1.89				
1N552	TI	1.77	1.18	1N613A	GE	1.97	1.31	1N703A thru	TI	2.80	2.10				
1N552R	TI	2.20	1.30	1N613A	TI	2.16	1.44	1N716A	TI	2.80	2.10				
1N553	GE	2.16	1.44	1N613AR	TI	5.00	3.30	1N704	HA	2.10	1.58				
1N553	MO	2.01	1.34	1N613R	TI	4.50	3.00	1N704	SV	2.00	1.89				
1N553	TI	2.16	1.44	1N614	GE	2.45	1.63	1N704A	HA	2.53	1.90				
1N553R	TI	2.50	1.75	1N614	TI	2.85	1.90	1N705	HA	2.10	1.58				
1N554	GE	2.16	1.44	1N614	TI	2.85	1.90	1N705	SV	2.00	1.89				
1N554	MO	2.10	1.40	1N614A	TI	2.87	1.91	1N705A	HA	2.42	1.82				
1N554	TI	2.16	1.44	1N614A	GE	3.15	2.10	1N706	HA	2.10	1.58				
1N554R	TI	3.50	2.30	1N614AR	TI	7.00	4.50	1N706A	HA	2.42	1.82				
1N555	GE	3.15	2.10	1N614R	TI	6.30	4.20	1N707	HA	2.10	1.58				
1N555	MO	3.15	2.10	1N625	HA	.60	.45	1N707A	HA	2.42	1.82				
1N555	TI	2.15	2.00	1N625	PA	.60	.41	1N708	HA	2.64	1.98				
1N555R	TI	5.00	3.25	1N625	SV	.54	.33	1N708A	HA	3.21	2.41				
1N560	GE	2.55	1.70	1N625	TI	.57	.43	Type No. Mfr. 1-24 25-99 100-Up							
1N560	MO	2.55	1.70	1N626	HA	.60	.49								
1N561	GE	5.10	3.40	1N626	PA	.65	.43	Type No. Mfr. 1-99 100-999							
1N561	MO	5.10	3.40	1N626	SV	.59	.34	1N746A	PA	3.00	2.25				
1N562	GE	5.26	3.57	1N626	TI	.62	.46	1N746A	TI	2.80	2.10				
1N562	MO	5.02	3.35	1N627	HA	.70	.53	1N749	HA	2.15	1.61				
1N563	GE	10.73	7.15	1N627	TI	.67	.48	1N749A	PA	3.00	2.25				
1N563	MO	7.50	5.00	1N627	SV	.67	.48	1N749A	TI	2.80	2.10				
1N570	TI	32.20	24.60	1N627	TI	.67	.48	1N750	HA	2.15	1.61				
1N576A	GE	1.50	.....	1N628	HA	.88	.66	1N750A	PA	3.00	2.25				
1N584	GE	1.97	.....	1N628	PA	.90	.50	1N750A	TI	2.80	2.10				
1N588	PA	1.00	5.30	1N628	SV	.81	.47	1N751	HA	2.15	1.61				
1N588	TI	6.10	5.40	1N628	TI	.72	.53	1N751A	PA	3.00	2.25				
1N589	PA	10.00	7.00	1N629	HA	.95	.71	1N751A	TI	2.80	2.10				
1N589	TI	11.20	7.60	1N629	PA	.95	.55	1N752	HA	2.15	1.61				
1N596	IN	5.00	.....	1N629	SV	.88	.59	1N752A	PA	2.10	1.60				
1N597	IN	6.00	.....	1N629	TI	.86	.60	1N752A	TI	2.80	2.10				
1N598	IN	8.50	.....	1N630	SV	35.70	28.50	1N753	HA	2.15	1.61				
1N599	GE	.47	.31	1N630R	SV	53.50	42.80	1N753A	MO	3.00	2.25				
1N599															

# Semiconductor Directory—DIODES AND RECTIFIERS

Type No.	Mfr.	EACH	
		1-99	100-999
1N758	HA	2.15	.61
1N758	PA	2.15	1.60
1N758A	MO	3.00	2.25
1N758A	PA	3.00	2.25
1N758A	TI	2.80	2.10
1N759	HA	2.15	1.61
1N759	PA	2.15	1.60
1N759A	MO	3.00	2.25
1N759A	PA	3.00	2.25
1N759A	TI	2.80	2.10
1N761	PA	2.10	1.60
1N761 thru 1N765	TI	2.10	1.60
1N763	PA	2.10	1.60
1N763	PA	2.10	1.60
1N764	PA	2.10	1.60
1N764	PA	2.10	1.60
1N766	PA	2.10	1.60
1N766	TI	2.10	1.60
1N767	PA	2.10	1.60
1N768	PA	2.10	1.60
1N769	PA	2.10	1.60
1N770	HA	2.10	1.60
1N770	SY	.48	.38
1N789	PA	1.40	1.08
1N790	PA	1.40	1.08
1N791	PA	1.70	1.30
1N792	PA	2.15	1.65
1N793	PA	1.70	1.30
1N794	PA	1.70	1.30
1N795	PA	2.15	1.65
1N796	PA	2.70	2.00
1N797	PA	2.30	1.75
1N798	PA	2.00	1.50
1N799	PA	2.70	2.00
1N800	PA	3.60	2.70
1N801	PA	2.45	1.92
1N802	PA	3.00	2.25
1N803	PA	2.80	2.10
1N804	PA	3.60	2.70
1N805	SY	.34	.26
1N811	GE	1.55	1.09
1N812	GE	2.55	1.58
1N813	GE	2.00	1.40
1N814	GE	2.25	1.58
1N815	GE	2.25	1.58

Type No.	Mfr.	EACH	
		1-99	100-999
1N904A	GE	1.80	1.20
1N904A	HA	1.80	1.20
1N905	GE	1.50	1.00
1N905	PA	1.20	.90
1N905	HA	4.20	2.80
1N905	SV	2.50	2.00
1N905A	GE	3.65	2.56
1N905A	HA	1.80	1.35
1N906	GE	1.80	1.20
1N906	HA	1.20	.90
1N906	SV	2.20	1.75
1N906A	GE	1.80	1.20
1N906A	HA	1.80	1.35
1N907	GE	1.50	1.00
1N907	HA	1.20	.90
1N907	SV	1.45	1.15
1N907A	GE	1.80	1.20
1N907A	HA	1.80	1.35
1N908	GE	1.50	1.20
1N908	HA	1.35	1.01
1N908	MI	1.75	1.40
1N908	SV	2.85	2.20
1N908A	GE	1.80	1.20
1N908A	HA	1.95	1.46
1N914	GE	2.40	1.90
1N914	HA	2.25	1.69
1N914	MI	1.95	1.55
1N914	PA	3.00	2.40
1N914	SV	3.00	2.40
1N914	TI	2.40	1.90
1N914A	GE	2.40	1.90
1N914A	HA	2.40	1.80
1N914A	MI	2.20	1.75
1N914A	PA	3.36	2.69
1N914A	RA	3.20	2.19
1N914A	SV	3.25	2.55
1N914A	TI	3.20	2.19
1N914B	GE	4.85	3.26
1N914B	MI	2.50	2.00
1N914B	TI	4.85	3.26
1N915	TI	4.05	3.03
1N916	GE	3.20	2.60
1N916	HA	8.55	1.91
1N916	MI	3.00	2.40
1N916	SV	4.06	3.24
1N916	TI	3.20	2.60
1N916A	GE	3.80	3.15
1N916A	HA	2.70	2.03
1N916A	PA	4.41	3.52
1N916A	SV	3.80	3.15
1N916A	TI	4.40	3.53
1N916A	TI	3.80	3.15
1N916B	GE	4.76	3.90
1N916B	MI	3.75	3.00
1N916B	TI	4.76	3.80
1N917	GE	4.65	3.74
1N917	TI	4.65	3.74
1N920	MI	4.19	4.13
1N920	PA	3.50	2.80
1N921	MI	4.80	3.85
1N933	SV	1.12	.85

Type No.	Mfr.	EACH	
		1-99	100-999
1N949	SV	2.00	1.50
1N950	HA	3.80	2.55
1N951	HA	3.50	2.63
1N952	HA	2.90	2.18
1N953	HA	3.00	2.25
1N954	HA	1.80	1.35
1N955	HA	2.00	1.50
1N956	GE	2.40	1.80
1N957A	GE	2.85	1.90
1N958A	GE	2.85	1.90
1N959A	GE	2.85	1.90
1N960A	GE	2.85	1.90
1N961A	GE	2.85	1.90
1N962A	GE	2.85	1.90
1N963	HA	3.15	2.36
1N963A	HA	3.15	2.36
1N963B	HA	3.15	2.36
1N964A	GE	2.85	1.90
1N964B	HA	3.15	2.36
1N965A	GE	2.85	1.90
1N965B	HA	3.15	2.36
1N966A	GE	2.85	1.90
1N967A	GE	3.15	2.36
1N967B	HA	3.15	2.36
1N968A	GE	2.85	1.90
1N968B	HA	3.15	2.36

Type No.	Mfr.	EACH	
		1-99	100-999
1N107	GE	.90	.60
1N109S	IN	.90	.65
1N109S	MO	.97	.65
1N109S	RA	.98	.65
1N109S	RC	.76	.51
1N109S	SV	.98	.65
1N109S	TI	.98	.65
1N1096	GE	1.19	.79
1N1096	MI	1.43	.95
1N1096	MO	1.42	.95
1N1096	TI	1.43	.95
1N1100	GE	.53	.35
1N1100	MI	.75	.50
1N1100	TI	.92	.61
1N1101	GE	.63	.42
1N1101	MO	.75	.50
1N1101	TI	1.13	.75
1N1102	GE	.66	.44
1N1102	MO	.90	.60
1N1102	TI	1.46	.97
1N1103	GE	.81	.54
1N1103	MO	.97	.65
1N1103	TI	2.13	1.42
1N1104	MO	2.47	1.65
1N1104	TI	2.92	2.41
1N1105	MO	2.92	2.45
1N1105	TI	3.60	2.40

**MOTOROLA-GLASS ZENER DIODES**  
\*10 per type, 100 total per order—must all be glass.

Type	EACH	
	1-99	*100-999
1N975A thru 1N971B	3.00	2.60
1N972B thru 1N984B	2.95	2.55
1N985B thru 1N922B	3.65	3.15

Type No.	Mfr.	EACH	
		1-49	50-999
1N1108	ST	2.75	2.35
1N1109	ST	4.15	3.55
1N1110	ST	5.55	4.75
1N1111	ST	8.35	7.15
1N1112	ST	9.75	8.35

Type No.	Mfr.	EACH	
		1-99	100-999
1N1115	GE	1.05	.70
1N1115	MO	1.09	.73
1N1115	TI	1.19	.75
1N1115R	GE	1.19	.75
1N1116	GE	1.25	.83
1N1116	MO	1.25	.83
1N1116	TI	1.25	.83
1N1116R	TI	1.25	.83
1N1117	GE	1.58	1.05
1N1117	MO	1.53	1.02
1N1117	TI	1.58	1.05
1N1117R	TI	1.58	1.05
1N1118	GE	1.80	1.20
1N1118	TI	1.97	1.31
1N1118R	TI	1.97	1.31
1N1119	GE	1.97	1.31
1N1119	MO	1.90	1.27
1N1119	TI	1.97	1.31
1N1119R	TI	1.97	1.31
1N1120	GE	2.25	1.50
1N1120	MO	2.77	1.85
1N1120	TI	2.85	1.90
1N1120R	TI	2.85	1.90
1N1124	MO	2.44	1.63
1N1124	TI	2.70	2.21
1N1124R	TI	2.70	2.21
1N1124R	MO	2.44	1.63
1N1124R	TI	2.70	2.21
1N1125	MO	2.85	1.90
1N1125	TI	3.38	2.76
1N1125A	TI	3.38	2.76
1N1125R	MO	2.85	1.90
1N1125R	TI	3.38	2.76
1N1126	MO	4.65	3.10
1N1126	TI	4.73	3.87
1N1126A	TI	4.73	3.87
1N1126R	MO	4.65	3.10
1N1126R	TI	4.73	3.87
1N1127	MO	7.35	4.90
1N1127	TI	6.76	5.56
1N1127A	TI	6.76	5.56
1N1127R	MO	7.35	4.90
1N1127R	TI	6.76	5.56
1N1128	MO	8.60	5.75
1N1128	TI	8.32	6.80
1N1128	TI	8.32	6.80
1N1130	TI	11.20	7.45
1N1130	TI	6.22	4.15
1N1131	IN	11.20	7.45
1N1131	TI	6.22	4.15
1N1132	SY	43.05	33.85
1N1150A	ST	13.00	11.70

Type No.	Mfr.	EACH	
		1-99	100-999
1N957B thru 1N971B	IN	3.15	2.30
1N962B	PA	3.15	2.35
1N963B	PA	3.15	2.35
1N964B	PA	3.15	2.35
1N965B	PA	3.15	2.35
1N966B	PA	3.15	2.35
1N967B	PA	3.15	2.35
1N968B	PA	3.15	2.35
1N969A	GE	2.85	1.90
1N969B	HA	3.15	2.36
1N969S	PA	3.15	2.35
1N970A	GE	2.85	1.96
1N970B	HA	3.15	2.36
1N970B	PA	3.15	2.35
1N971A	GE	2.85	1.90
1N971B	HA	3.15	1.96
1N971B	PA	3.45	2.75
1N972A	GE	3.45	2.58
1N972B	IN	3.45	2.59
1N972B	PA	3.45	2.75
1N973B	HA	3.45	2.59
1N973B	TI	3.45	2.70
1N973B	PA	3.45	2.75
1N974B	PA	3.45	2.59
1N974B	PA	3.45	2.75
1N975A	MO	3.45	2.75
1N975B	HA	3.45	2.59
1N975B	PA	3.45	2.75
1N976B	PA	4.00	3.00
1N977B	PA	4.00	3.00
1N978B	PA	4.00	3.00
1N978B	PA	4.00	3.00
1N979B	PA	4.00	3.00
1N981B	PA	4.00	3.00
1N983B	PA	4.00	3.00
1N984A	MO	3.00	2.60
1N984B	PA	4.00	3.00
1N985A	SV	.60	.45
1N997	GE	2.90	2.25
1N1008	TI	1.50	1.10
1N1010	GE	3.00	2.25
1N1024	GE	1.50	1.10

Type No.	Mfr.	EACH	
		1-49	50-999
1N1128	TI	8.32	6.80
1N1128A	TI	8.32	6.80
1N1128R	MO	8.60	5.75
1N1128R	TI	8.32	6.80
1N1130	TI	11.20	7.45
1N1131	IN	11.20	7.45
1N1131	TI	6.22	4.15
1N1132	SY	43.05	33.85
1N1150A	ST	13.00	11.70

**MOTOROLA-OTC ZENER DIODES**  
\*10 per type, 100 total per order—must all be OTC.

Type No.	Mfr.	EACH	
		1-99	*100-999
1N935	3.45	3.00	2.60
1N935A	3.85	3.35	2.90
1N935B	4.60	3.95	3.45
1N936	4.00	3.45	3.00
1N936A	6.25	4.20	3.65
1N936B	5.60	4.85	4.25
1N937	7.00	6.05	5.25
1N937A	7.60	6.55	5.70
1N937B	8.50	7.35</	

# Semiconductor Directory—DIODES AND RECTIFIERS

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N1169	MO	1.99	1.00	999
1N1183A	RC	2.56	1.71	
1N1183AR	RC	2.56	1.71	
1N1184A	RC	3.22	2.15	
1N1184AR	RC	3.22	2.15	
1N1186A	RC	4.70	3.14	
1N1186AR	RC	4.70	3.14	
1N1187	RC	7.19	5.04	
1N1187A	RC	7.01	4.98	
1N1188	RC	9.90	6.60	
1N1188R	RC	8.66	5.78	
1N1189	RC	12.21	8.14	
1N1189R	RC	10.31	6.88	
1N1190	RC	14.60	9.74	
1N1190R	RC	12.38	8.20	
1N1195	RA	8.30	5.90	
1N1195A	GE	5.47	3.65	
1N1195A	RC	5.86	3.90	
1N1195AR	RC	5.36	3.58	
1N1195A	RA	11.40	7.60	
1N1196A	GE	8.25	5.50	
1N1196A	RC	8.25	5.50	
1N1196A	RC	6.60	4.40	
1N1197	RA	15.00	10.45	
1N1197A	GE	8.25	5.50	
1N1197A	RC	10.73	7.15	
1N1197AR	RC	8.25	5.50	
1N1198	RA	19.00	12.70	
1N1198A	RC	10.14	6.76	
1N1198A	RC	12.62	8.42	
1N1198AR	RC	9.10	6.00	
1N1199	HA	3.30	2.21	
1N1199	IN	2.64	1.76	
1N1199A	GE	1.80	1.20	
1N1199A	RC	1.24	.83	
1N1199AR	RC	1.24	.83	
1N1200	HA	3.35	2.24	
1N1200	IN	3.15	2.10	
1N1200A	GE	2.33	1.55	
1N1200A	RC	1.40	.94	
1N1200AR	RC	1.40	.94	
1N1201	HA	4.35	2.91	
1N1201	IN	4.28	2.85	
1N1201A	GE	2.85	1.90	
1N1202	HA	5.20	3.48	
1N1202	IN	4.70	3.10	
1N1202A	GE	3.38	2.25	
1N1202A	RC	2.72	1.82	
1N1202AR	RC	2.72	1.82	
1N1203	HA	7.00	4.69	
1N1203	IN	6.68	4.45	
1N1203A	GE	4.13	2.75	
1N1203A	RC	4.13	2.75	
1N1203AR	RC	4.13	2.75	
1N1204	HA	10.00	6.70	
1N1204	IN	9.68	6.45	
1N1204A	GE	5.03	3.35	
1N1204A	RC	5.12	3.41	
1N1204AR	RC	5.12	3.41	
1N1205	HA	14.00	9.20	
1N1205	IN	13.00	8.70	
1N1205A	GE	5.78	3.85	
1N1205A	RC	6.60	4.40	
1N1205AR	RC	6.19	4.13	
1N1206	HA	17.00	11.39	
1N1206A	GE	6.90	4.60	
1N1206A	RC	8.25	5.50	
1N1206AR	RC	8.25	5.50	
1N1217	MO	.68	.45	
1N1217A	MO	.84	.56	
1N1217B	GE	.81	.54	

Type No.	Mfr.	EACH		
		1-24	25-99	100-499
1N1218A	ST	.83	.71	.67
1N1220A	ST	1.07	.91	.86
1N1221A	ST	1.80	1.54	1.44
1N1222A	ST	2.27	1.94	1.82
1N1223A	ST	3.14	2.68	2.51
1N1224A	ST	3.94	3.37	3.16

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N1218	GE	.56	.37	
1N1218	MO	.77	.51	
1N1218A	GE	.49	.66	
1N1218B	GE	.85	.57	
1N1219	MO	.82	.55	
1N1219A	MO	1.19	.79	
1N1220	MO	.93	.62	
1N1220A	MO	1.43	.95	
1N1220B	GE	1.04	.69	
1N1221	MO	1.23	.82	
1N1221A	MO	1.80	1.24	
1N1222	MO	2.50	1.00	
1N1222A	MO	2.55	1.70	
1N1222B	GE	1.50	1.00	
1N1223	MO	1.95	1.30	
1N1223A	MO	3.55	2.38	
1N1224	MO	2.40	1.60	
1N1224A	GE	4.75	3.19	
1N1224B	GE	2.10	1.40	
1N1225	MO	3.15	2.10	
1N1226	MO	3.90	2.60	
1N1227B	GE	1.50	1.00	
1N1228B	GE	1.65	1.10	
1N1230B	GE	2.03	1.35	
1N1232B	GE	3.27	2.18	
1N1234B	GE	4.04	2.69	

SARKES RECTIFIERS			
Type No.	Mfr.	EACH	
		1-49	50-100-499
1N1237	IN	11.50	11.00
1N1238	IN	11.50	11.00
1N1239	IN	17.50	17.00

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N1239	ST	20.25	18.10	
1N1262	ST	20.25	18.10	
1N1329	TI	5.19	3.46	
1N1341	HA	2.64	1.77	
1N1341	IN	2.48	1.65	
1N1341A	GE	1.62	1.08	
1N1342	GE	2.85	1.90	
1N1342	HA	2.95	1.98	
1N1342	IN	2.85	1.90	
1N1342A	GE	2.09	1.39	
1N1343	HA	3.90	2.61	
1N1343	IN	3.60	2.40	
1N1343A	GE	1.71	1.11	
1N1344	HA	4.50	3.02	
1N1344	IN	4.28	2.85	
1N1344A	GE	3.05	2.03	
1N1345	HA	6.15	4.12	
1N1345	IN	5.85	3.90	
1N1345A	GE	3.72	2.48	
1N1345A	RC	4.25	2.82	
1N1346	HA	8.25	5.50	
1N1346	IN	7.88	5.25	
1N1346A	GE	4.53	3.02	
1N1347	HA	10.20	6.83	
1N1347	IN	9.23	6.15	
1N1347A	GE	5.19	3.46	
1N1348	HA	12.30	8.24	
1N1348A	GE	4.22	4.15	
1N1406	IN	5.00	3.50	
1N1407	IN	5.50	3.80	
1N1408	IN	8.00	5.50	
1N1409	IN	8.00	5.50	
1N1410	IN	9.00	6.00	
1N1411	IN	11.00	7.50	
1N1412	IN	15.00	10.00	
1N1413	IN	15.50	10.50	
1N1443	MO	4.42	2.95	
1N1487	GE	.53	.35	
1N1487	MO	.72	.48	
1N1487	TI	.69	.46	
1N1488	GE	.63	.42	
1N1488	MO	.75	.50	
1N1488	TI	.81	.54	
1N1489	GE	.66	.44	
1N1489	MO	.82	.55	
1N1489	TI	1.04	.69	
1N1490	GE	.81	.54	
1N1490	MO	.97	.65	
1N1490	TI	1.19	.79	
1N1491	GE	.92	.60	
1N1491	MO	.97	.65	
1N1491	TI	1.19	.79	
1N1492	GE	1.19	.79	
1N1492	MO	1.42	.95	
1N1492	TI	2.00	1.33	
1N1507	IN	4.55	3.65	
1N1508	IN	5.45	4.35	
1N1508	IN	5.45	4.35	
1N1508A	IN	5.45	4.35	
1N1509	IN	3.30	2.65	
1N1510	IN	3.30	2.65	
1N1511	IN	3.30	2.65	
1N1512	IN	3.30	2.65	
1N1513	IN	3.30	2.65	
1N1514	IN	3.30	2.65	
1N1515	IN	3.30	2.65	
1N1516	IN	3.30	2.65	
1N1517	IN	3.30	2.65	
1N1509A	thru			
1N1517A	IN	3.95	3.15	
1N1518	IN	4.25	3.40	
1N1518A	IN	5.05	4.05	
1N1519	IN	4.25	3.40	
1N1519A	IN	5.05	4.05	
1N1520	IN	3.10	2.45	
1N1521	IN	3.10	2.45	
1N1521A	thru			
1N1528A	IN	3.70	2.95	
1N1522	IN	3.10	2.45	
1N1523	IN	3.10	2.45	
1N1524	IN	3.10	2.45	
1N1525	IN	3.10	2.45	
1N1526	IN	3.10	2.45	
1N1527	IN	3.10	2.45	
1N1528	IN	3.10	2.45	
1N1530	MO	15.60	10.45	
1N1530	MO	16.55	12.45	
1N1530A	IN	23.40	19.95	
1N1530A	MO	24.85	18.70	
1N1537	MO	1.75	1.19	
1N1538	MO	2.25	1.50	
1N1539	MO	2.32	1.55	
1N1540	MO	2.55	1.70	
1N1541	MO	3.00	2.00	
1N1542	MO	3.97	2.65	
1N1543	MO	5.17	3.45	
1N1544	MO	6.30	4.20	
1N1545	MO	1.05	1.70	
1N1563A	MO	1.65	1.10	
1N1564	MO	1.18	.79	
1N1564A	MO	1.87	1.25	

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N1565A	MO	1.25	1.25	
1N1566	MO	1.57	1.05	
1N1566A	MO	2.40	1.00	
1N1581	TI	2.45	1.85	
1N1582	TI	3.50	2.65	
1N1583	TI	4.45	3.35	
1N1585	TI	7.25	5.50	
1N1585	TI	7.25	5.50	
1N1586	TI	12.75	9.40	
1N1587	TI	15.50	11.65	
1N1588	IN	5.30	4.25	
1N1588A	IN	6.40	5.10	
1N1589	IN	5.30	4.25	
1N1589A	IN	6.40	5.10	

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N1598	IN	3.85	3.10	
1N1590A	thru			
1N1598A	IN	4.60	3.70	
1N1599	IN	7.45	5.95	
1N1600	IN	9.70	7.75	
1N1600A	IN	9.70	7.75	
1N1601	IN	6.20	4.95	
1N1601A	thru			
1N1609A	IN	8.05	6.45	
1N1603	IN	6.20	4.95	
1N1603	IN	6.20	4.95	
1N1604	IN	6.20	4.95	
1N1605	IN	6.20	4.95	
1N1606	IN	6.20	4.95	
1N1606A	IN	8.10	6.48	
1N1607	IN	6.20	4.95	
1N1608	IN	6.20	4.95	
1N1609	IN	6.20	4.95	

Type No.	Mfr.	EACH		
		1-9	10-999	100-999
1N1611	MJ	4.28	3.85	3.40
1N1611A	MI	9.15	8.24	7.35

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N1611A	SY	9.15	7.35	
1N1611AR	SY	12.80	11.05	
1N1612	GE	1.62	1.08	
1N1612	HA	2.64	1.87	
1N1612	RC	1.07	.72	
1N1612	RC	1.07	.72	
1N1612R	RC	1.07	.72	
1N1613	GE	2.09	1.39	
1N1613	HA	2.95	1.98	
1N1613	RC	1.24	.83	
1N1613	TI	3.50		

# Semiconductor Directory—DIODES AND RECTIFIERS

Type No.	Mfr.	EACH	
		1-99	100-999
1N1960	IN	2.60	2.10
1N1961	IN	2.60	2.10
1N1962	IN	2.60	2.10
1N1963	IN	2.60	2.10
1N1964	IN	2.60	2.10
1N1965	IN	2.60	2.10
1N2008	thru		
1N2011	TI	8.45	6.50
1N2008A	thru		
1N2011A	TI	11.00	8.50
1N2008C	thru		
1N2012C	TI	13.00	10.00
1N2008R	thru		
1N2012R	TI	8.45	6.50
1N2008RA	thru		
1N2012RA	TI	11.00	8.50
1N2054	IN	12.40	.....
1N2055	IN	14.90	.....
1N2057	IN	20.80	.....
1N2059	IN	21.10	.....
1N2061	IN	39.65	.....
1N2063	IN	48.00	.....

Type No.	Mfr.	EACH	
		1-99	100-999
1N2446	HA	3.80	2.55
1N2447	HA	4.51	3.00
1N2448	HA	5.20	3.68
1N2449	HA	5.89	3.95
1N2450	HA	7.10	4.76
1N2451	HA	8.30	5.56
1N2452	HA	9.95	6.67
1N2453	HA	11.63	7.79
1N2458	HA	4.00	2.68
1N2459	HA	4.75	3.19
1N2460	HA	5.50	3.69
1N2461	HA	6.20	4.15
1N2462	HA	7.50	5.03
1N2463	HA	8.75	5.86
1N2464	HA	10.50	7.04
1N2465	HA	12.25	8.21
1N2482	SV	.63	.41
1N2483	SV	.97	.58
1N2484	SV	1.27	.77
1N2490	ST	12.87	11.70
1N2498	TI	8.45	6.50
1N2498A	TI	11.00	8.50
1N2498C	TI	13.00	10.00
1N2498R	TI	8.45	6.50
1N2498RA	TI	11.00	8.50
1N2499	TI	8.45	6.50
1N2499A	TI	11.00	8.50
1N2499C	TI	13.00	10.00
1N2499R	TI	8.45	6.50
1N2499RA	TI	11.00	8.50
1N2500	TI	8.45	6.50
1N2500A	TI	11.00	8.50
1N2500C	TI	13.00	10.00
1N2500RA	TI	8.45	6.50
1N2510	SV	18.20	14.30
1N2512	RA	3.04	2.10
1N2513	RA	3.45	2.38
1N2514	RA	4.15	2.86
1N2515	RA	5.87	4.05
1N2516	RA	8.28	5.71
1N2517	RA	10.20	7.05
1N2609	TI	.90	.60
1N2610	GE	1.05	.70
1N2610	MO	1.05	.70
1N2610	TI	1.05	.70
1N2611	GE	1.19	.79
1N2611	MO	1.18	.79
1N2611	TI	1.18	.79
1N2612	GE	1.54	1.03
1N2612	MO	1.55	1.03
1N2612	TI	1.55	1.03
1N2613	GE	1.74	1.16
1N2613	MO	1.70	1.16
1N2613	TI	1.70	1.16
1N2614	GE	1.95	1.30
1N2614	MO	1.95	1.30
1N2614	TI	1.95	1.30
1N2615	GE	2.22	1.15
1N2615	MO	2.30	1.55
1N2615	TI	2.30	1.55
1N2616	MO	4.85	3.25
1N2616	TI	4.85	3.25
1N2617	MO	7.50	5.00
1N2617	TI	7.80	5.00
1N2665	PA	7.65	6.00
1N2766	PA	11.25	9.00
1N2767	PA	17.10	12.80
1N2768	PA	22.50	17.95
1N2769	PA	28.00	22.00
1N2770	PA	34.50	25.00

Type No.	Mfr.	EACH	
		1-99	100-999
1N2767	MO	9.05	6.80
1N2767A	MO	11.70	8.80
1N2768	MO	11.15	8.40
1N2768A	MO	14.15	10.65
1N2769	MO	13.70	10.30
1N2769A	MO	17.15	12.90
1N2770	MO	15.75	11.85
1N2770A	MO	20.70	15.55

**MOTOROLA METAL ZENER DIODES**  
\*10 per type, 100 total per order —must all be metal.

Type No.	EACH		
	1-99	100-999	*100-Mix
1N2804			
1N2838	6.25	4.70	5.40
1N2808A	8.20	6.15	7.10
1N2804B			
1N2838B	11.75	8.80	10.15
1N2818A	8.20	6.15	7.10
1N2824A	8.20	6.15	7.10
1N2826A	8.20	6.15	7.10
1N2834A	8.20	6.15	7.10
1N2836A	8.20	6.15	7.10
1N2837A	8.20	6.15	7.10
1N2839			
1N2846	7.00	5.25	6.05
1N2839B			
1N2846B	20.55	15.45	17.75

**EPOXY RECTIFIERS**

Type No.	Mfr.	EACH		
		1-99	100-999	1000-Up
1N2069	SV	.76	.51	.41
1N2069	TI	.76	.76	.51
1N2069A	SV	.76	.51	.41
1N2070	SV	.96	.64	.50
1N2070	TI	.96	.96	.64
1N2070A	SV	.96	.64	.50
1N2071	SV	1.49	.99	.61
1N2071	TI	1.49	1.49	.99
1N2071A	SV	1.49	.99	.61

Type No.	Mfr.	EACH	
		1-99	100-999
1N2500	TI	8.45	6.50
1N2500A	TI	11.00	8.50
1N2500C	TI	13.00	10.00
1N2500RA	TI	8.45	6.50
1N2510	SV	18.20	14.30
1N2512	RA	3.04	2.10
1N2513	RA	3.45	2.38
1N2514	RA	4.15	2.86
1N2515	RA	5.87	4.05
1N2516	RA	8.28	5.71
1N2517	RA	10.20	7.05
1N2609	TI	.90	.60
1N2610	GE	1.05	.70
1N2610	MO	1.05	.70
1N2610	TI	1.05	.70
1N2611	GE	1.19	.79
1N2611	MO	1.18	.79
1N2611	TI	1.18	.79
1N2612	GE	1.54	1.03
1N2612	MO	1.55	1.03
1N2612	TI	1.55	1.03
1N2613	GE	1.74	1.16
1N2613	MO	1.70	1.16
1N2613	TI	1.70	1.16
1N2614	GE	1.95	1.30
1N2614	MO	1.95	1.30
1N2614	TI	1.95	1.30
1N2615	GE	2.22	1.15
1N2615	MO	2.30	1.55
1N2615	TI	2.30	1.55
1N2616	MO	4.85	3.25
1N2616	TI	4.85	3.25
1N2617	MO	7.50	5.00
1N2617	TI	7.80	5.00
1N2665	PA	7.65	6.00
1N2766	PA	11.25	9.00
1N2767	PA	17.10	12.80
1N2768	PA	22.50	17.95
1N2769	PA	28.00	22.00
1N2770	PA	34.50	25.00

Type No.	Mfr.	EACH	
		1-99	100-999
1N2847	GE	1.65	1.10
1N2848	GE	1.74	1.16
1N2849	GE	2.21	1.47
1N2850	GE	2.75	1.83
1N2851	GE	2.76	1.83
1N2852	GE	4.29	2.86
1N2858	RC	.40	.28
1N2859	RC	.41	.28
1N2860	RC	.43	.29
1N2861	RC	.56	.37
1N2862	RC	.66	.44
1N2863	RC	.73	.48
1N2864	RC	.92	.62
1N2939	GE	6.70	4.45
1N2939A	GE	13.35	8.90
1N2940	GE	4.95	3.30
1N2940A	GE	10.05	6.70
1N2941	GE	4.15	2.75
1N2941A	GE	8.25	5.50
1N2969	GE	5.55	3.05
1N2969A	GE	9.15	6.10

**RECTIFIERS**

Type No.	Mfr.	EACH	
		1-99	100-999
1N2117	TI	9.95	6.25
1N2129	IN	4.25	3.00
1N2129A	IN	5.05	3.00
1N2130A	IN	6.05	4.30
1N2131A	IN	7.10	4.90
1N2132A	IN	8.50	5.75
1N2133A	IN	9.90	6.80
1N2134A	IN	11.80	7.80
1N2135A	IN	13.95	9.20
1N2136A	IN	15.95	11.00
1N2137A	IN	19.25	13.70
1N2154	GE	3.16	2.11
1N2154R	GE	3.16	2.11
1N2155	GE	3.81	2.54
1N2155R	GE	3.81	2.54
1N2156	GE	5.64	3.76
1N2156R	GE	5.64	3.76
1N2157	GE	6.78	4.52
1N2157R	GE	6.78	4.52
1N2158	GE	8.22	5.48
1N2158R	GE	8.22	5.48
1N2159	GE	9.96	6.64
1N2159R	GE	9.96	6.64
1N2160	GE	12.09	8.06
1N2160R	GE	12.09	8.06
1N2175	TI	1.50	8.00
1N2246	HA	3.00	2.01
1N2248	HA	3.35	2.24
1N2250	HA	5.20	3.48
1N2252	HA	7.00	4.69
1N2254	HA	10.00	6.70
1N2256	HA	13.05	8.74
1N2326	RC	5.00	.33
1N2382	HA	16.50	14.25
1N2382	MO	13.95	9.30
1N2382	PA	14.00	.....
1N2383	HA	22.00	19.50
1N2383	MO	18.90	12.60
1N2383	PA	19.25	9.60
1N2384	PA	30.00	27.00
1N2384	MO	25.05	16.70
1N2384	PA	25.00	.....
1N2385	HA	39.00	34.00
1N2385	MO	30.00	20.00
1N2385	PA	30.00	.....

**MOTOROLA OTC ZENER DIODES**  
\*10 per type, 100 total per order —must all be OTC.

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N2620	4.10	3.55	3.05	
1N2620A	4.35	3.75	3.25	
1N2620B	4.90	4.20	3.65	
1N2621	4.60	3.95	3.45	
1N2621A	5.55	4.80	4.15	
1N2621B	6.75	5.85	5.05	
1N2622	7.60	6.55	5.70	
1N2622A	8.15	7.05	6.10	
1N2622B	9.35	8.05	7.00	
1N2623	8.80	7.60	6.60	
1N2623A	10.05	8.70	7.55	
1N2623B	13.50	11.65	10.15	
1N2624	22.00	19.00	16.55	
1N2624A	28.80	24.90	21.65	
1N2624B	38.50	33.30	28.95	

Type No.	Mfr.	EACH		
		1-24	25-99	100-999
1N2970	TI	5.85	5.50	4.40
1N2970B	TI	5.85	5.50	4.40
1N2971	TI	5.85	5.50	4.40
1N2972	TI	5.85	5.50	4.40
1N2973	TI	5.85	5.50	4.40
1N2974	TI	5.85	5.50	4.40
1N2975	TI	5.85	5.50	4.40
1N2976	TI	5.85	5.50	4.40
1N2977	TI	5.85	5.50	4.40
1N2979	TI	5.85	5.50	4.40
1N2980	TI	5.85	5.50	4.40
1N2982	TI	5.85	5.50	4.40
1N2984	TI	5.85	5.50	4.40
1N2985	TI	5.85	5.50	4.40
1N2988	TI	5.85	5.50	4.40
1N2989	TI	5.85	5.50	4.40
1N2990	TI	5.85	5.50	4.40
1N2991	TI	5.85	5.50	4.40
1N2992	TI	5.85	5.50	4.40
1N2993	TI	5.85	5.50	4.40
1N2995	TI	5.85	5.50	4.40
1N2997	TI			



# Semiconductor Directory—DIODES AND RECTIFIERS

Type No.	Mfr.	EACH		
		1-24	25-99	100-999
1N3017	MO	2.95	2.20	2.55
1N3017	TI	2.95	2.95	2.20
1N3017A	MO	3.25	2.45	2.80
1N3018	TI	2.95	2.95	2.20
1N3019	TI	2.95	2.95	2.20
1N3020	MO	2.95	2.20	2.55
1N3021	TI	2.95	2.95	2.20
1N3022	TI	2.95	2.95	2.20
1N3023	TI	2.95	2.95	2.20
1N3024	TI	2.95	2.95	2.20
1N3026	TI	2.95	2.95	2.20
1N3027	TI	2.95	2.95	2.20
1N3028	TI	2.95	2.95	2.20
1N3029	TI	2.95	2.95	2.20
1N3030	TI	2.95	2.95	2.20
1N3031	TI	2.95	2.95	2.20
1N3031B thru 1N3044A	IN	4.60	4.60	3.45
1N3032	TI	2.95	2.95	2.20
1N3032A	MO	3.30	2.45	2.85
1N3033	TI	2.95	2.95	2.20
1N3034	TI	2.95	2.95	2.20
1N3035	TI	2.95	2.95	2.20
1N3036	TI	2.95	2.95	2.20
1N3037	TI	2.95	2.95	2.20
1N3038	MO	2.95	2.20	2.55
1N3038	TI	2.95	2.95	2.20
1N3039 thru 1N3044	TI	2.95	2.95	2.20
1N3045 thru 1N3051B	TI	3.55	3.55	2.65
1N3051B thru 1N3051B	IN	7.70	7.70	5.85

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N3101	IN	7.20	5.45	8.10
1N3154A	IN	11.30	8.45	12.25
1N3155	IN	11.30	8.45	12.25
1N3155A	IN	11.30	8.45	12.25
1N3156	IN	16.80	12.60	16.80
1N3156A	IN	18.10	13.60	18.10
1N3157	CE	25.30	19.00	25.30
1N3189	CE	3.15	2.10	3.15
1N3189	MO	3.15	2.10	3.15
1N3189	TI	3.32	2.20	3.32
1N3190	GE	5.25	3.50	5.25
1N3190	MO	5.25	3.50	5.25
1N3190	TI	4.57	3.05	4.57
1N3191	GE	7.35	4.90	7.35
1N3191	MO	7.65	5.10	7.65
1N3191	TI	7.65	5.10	7.65
1N3193	RC	.41	.28	.41
1N3194	RC	.58	.39	.58
1N3195	RC	.91	.61	.91
1N3196	RC	1.24	.83	1.24
1N3206	PA	4.90	3.85	4.90
1N3207	PA	4.50	3.40	4.50
1N3208	R	1.19	.79	1.19
1N3208	R	1.15	.79	1.15
1N3209	R	1.60	1.09	1.60
1N3209	R	1.30	.89	1.30
1N3210	R	2.15	1.46	2.15
1N3210	R	1.75	1.19	1.75
1N3211	R	3.30	2.20	3.30
1N3211	MO	2.40	1.60	2.40
1N3212	R	3.30	2.20	3.30
1N3212	R	2.90	1.93	2.90
1N3218	GE	15.00	10.00	15.00
1N3218A	GE	18.00	12.00	18.00
1N3219A	GE	12.00	8.00	12.00
1N3241	HA	5.00	10.00	5.00
1N3242	HA	4.00	2.68	4.00
1N3243	HA	6.00	4.02	6.00
1N3244	HA	8.50	5.70	8.50
1N3245	HA	12.50	8.38	12.50
1N3246	HA	3.00	2.01	3.00
1N3247	HA	3.00	2.01	3.00
1N3248	HA	2.70	1.81	2.70
1N3249	HA	5.25	3.52	5.25
1N3250	HA	6.75	4.52	6.75
1N3251	HA	8.25	5.53	8.25
1N3252	HA	12.00	8.04	12.00
1N3253	RC	.45	.30	.45
1N3254	RC	.91	.61	.91
1N3255	RC	1.27	.85	1.27
1N3256	MO	3.95	2.65	3.95
1N3283	MO	5.60	3.75	5.60
1N3284	MO	7.95	5.30	7.95
1N3285	MO	10.05	6.70	10.05
1N3286	MO	12.00	8.00	12.00
1N3289	GE	12.00	8.00	12.00
1N3290	GE	13.10	10.00	13.10
1N3291	GE	14.25	11.00	14.25
1N3292	GE	15.80	12.20	15.80
1N3293	GE	18.60	14.40	18.60
1N3294	GE	23.50	18.10	23.50
1N3295	GE	28.00	21.50	28.00
1N3296	GE	32.00	24.50	32.00
1N3298	PA	3.20	2.25	3.20

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N3332	IN	6.20	4.65	6.20
1N3333	IN	6.20	4.65	6.20
1N3334	IN	6.20	4.65	6.20
1N3335	IN	6.20	4.65	6.20
1N3336	IN	6.20	4.65	6.20
1N3337	IN	6.20	4.65	6.20
1N3338	IN	6.20	4.65	6.20
1N3339	IN	6.20	4.65	6.20
1N3340	IN	6.20	4.65	6.20
1N3353	PH	6.20	4.65	6.20
1N3481	PH	16.70	13.35	16.70
1N3482	PH	29.50	21.60	29.50
1N3510	IN	3.60	2.85	3.60
1N3511	IN	3.60	2.85	3.60
1N3512	IN	3.60	2.85	3.60
1N3514	IN	3.60	2.85	3.60
1N3515	IN	3.60	2.85	3.60
1N3516	IN	3.60	2.85	3.60
1N3517	IN	3.60	2.85	3.60
1N3518	IN	3.60	2.85	3.60
1N3519	IN	3.60	2.85	3.60
1N3521	IN	3.60	2.85	3.60
1N3522	IN	3.60	2.85	3.60
1N3523	IN	3.60	2.85	3.60
1N3524	IN	3.60	2.85	3.60
1N3525	IN	3.60	2.85	3.60
1N3526	IN	3.60	2.85	3.60
1N3527	IN	3.60	2.85	3.60
1N3528	IN	3.60	2.85	3.60
1N3529	IN	3.60	2.85	3.60
1N3530	IN	3.60	2.85	3.60
1N3534	GE	2.25	1.50	2.25
1N3545	GE	2.78	1.85	2.78
1N3546	GE	3.49	2.45	3.49
1N3547	GE	4.00	2.80	4.00
1N3548	GE	5.55	3.70	5.55
1N3549	GE	6.45	4.30	6.45
1N3560	PH	6.00	3.95	6.00
1N3561	PH	6.00	3.95	6.00
1N3562	PH	8.12	5.35	8.12
1N3563	RC	1.65	1.10	1.65
1N3569	GE	1.70	1.10	1.70
1N3570	GE	.80	.50	.80
1N3571	GE	2.32	1.55	2.32
1N3572	GE	2.85	1.90	2.85
1N3573	GE	4.25	2.85	4.25
1N3574	GE	6.15	4.10	6.15
1N3575	TI	1.75	1.45	1.75
1N3576	TI	2.30	1.87	2.30
1N3577	TI	2.30	1.87	2.30
1N3578	TI	2.73	2.22	2.73
1N3579	TI	3.00	2.31	3.00
1N3593	TI	3.00	2.22	3.00

Type No.	Mfr.	EACH		
		1-99	100-Mix	100-999
1N3581B	7.75	6.70	5.80	
1N3582	8.95	7.75	6.70	
1N3582A	9.85	8.45	7.35	
1N3582B	10.90	9.40	8.20	
1N3680B thru 1N3689B	3.05	2.65	2.30	
1N3696B thru 1N3696B	3.35	2.90	2.55	

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N3052	HA	48.80	42.72	48.80
1N3052	HA	53.25	46.50	53.25
1N3053	HA	45.00	38.00	45.00
1N3054	HA	61.75	53.50	61.75
1N3054	PA	52.00	44.00	52.00
1N3055	HA	70.00	61.00	70.00
1N3055	PA	60.00	51.00	60.00
1N3056	PA	75.00	64.00	75.00
1N3056	PA	62.00	53.00	62.00
1N3057	HA	88.25	77.00	88.25
1N3057	PA	75.00	64.00	75.00
1N3058	HA	99.50	86.50	99.50
1N3058	PA	85.00	74.00	85.00
1N3059	HA	122.00	97.00	122.00
1N3059	PA	100.00	84.00	100.00
1N3060	HA	140.00	122.00	140.00
1N3061	HA	140.00	122.00	140.00
1N3061	PA	120.00	100.00	120.00
1N3062	GE	5.75	4.00	5.75
1N3063	GE	2.85	2.15	2.85
1N3064	GE	3.95	2.80	3.95
1N3064	HA	1.15	.86	1.15
1N3064	SY	2.50	2.00	2.50
1N3064	TI	3.55	2.80	3.55
1N3065	GE	6.50	5.00	6.50
1N3066	GE	5.50	3.85	5.50
1N3067	GE	1.20	.90	1.20
1N3067	GE	1.80	1.45	1.80
1N3068	GE	1.12	.82	1.12
1N3068	HA	1.05	.79	1.05
1N3085	IN	9.55	6.80	9.55
1N3086	IN	14.20	10.00	14.20
1N3087	IN	20.80	14.80	20.80
1N3088	IN	29.80	21.00	29.80
1N3089	IN	37.80	27.00	37.80
1N3090	IN	47.75	34.00	47.75

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
1N3305	MO	6.25	5.40	4.70
1N3306	MO	6.25	5.40	4.70
1N3309	MO	6.25	5.40	4.70
1N3314	MO	6.25	5.40	4.70
1N3319	MO	6.25	5.40	4.70
1N3320	MO	6.25	5.40	4.70
1N3322	MO	6.25	5.40	4.70
1N3324	MO	6.25	5.40	4.70
1N3331	MO	6.25	5.40	4.70
1N3332	MO	6.25	5.40	4.70
1N3334	MO	6.25	5.40	4.70
1N3336	MO	6.25	5.40	4.70
1N3340	MO	6.25	5.40	4.70
1N3342	MO	7.00	6.05	5.25
1N3350	MO	7.00	6.05	5.25

Type No.	Mfr.	EACH		
		1-99	100-Mix	100-999
1N3305B	11.75	10.15	8.80	
1N3306B	11.75	10.15	8.80	
1N3307B	11.75	10.15	8.80	
1N3308B	11.75	10.15	8.80	
1N3309B	11.75	10.15	8.80	
1N3310B	11.75	10.15	8.80	
1N3311B	11.75	10.15	8.80	
1N3312B	11.75	10.15	8.80	
1N3313B	11.75	10.15	8.80	
1N3314B	11.75	10.15	8.80	
1N3315B	11.75	10.15	8.80	
1N3316B	11.75	10.15	8.80	
1N3317B	11.75	10.15	8.80	
1N3318B	11.75	10.15	8.80	
1N3319B	11.75	10.15	8.80	
1N3320B	11.75	10.15	8.80	
1N3321B	11.75	10.15	8.80	
1N3322B	11.75	10.15	8.80	
1N3323B	11.75	10.15	8.80	
1N3324B	11.75	10.15	8.80	
1N3325B	11.75	10.15	8.80	
1N3326B	11.75	10.15	8.80	
1N3327B	11.75	10.15	8.80	
1N3328B	11.75	10.15	8.80	
1N3329B	11.75	10.15	8.80	
1N3330B	11.75	10.15	8.80	
1N3331B	11.75	10.15	8.80	
1N3332B	11.75	10.15	8.80	
1N3333B	11.75	10.15		

# Semiconductor Directory—DIODES—TRANSISTORS—RECTIFIERS

MOTOROLA METAL ZENER DIODES			
*10 per type, 100 total on order must all be metal.			
Type No.	1-99	EACH *100-Mix	100-999
1N3903 thru 1N3905	3.50	7.35	6.40
1N3906 thru 1N4000	5.65	4.90	6.25
1N3933A thru 1N3935A	10.25	8.85	7.70
1N3966A thru 1N4000A	7.70	6.65	5.80

Type No.	Mfr.	EACH	
		1-99	100-999
1N3847	RC	4.95	3.30
1N3848	RC	4.95	3.30
1N3849	RC	4.95	3.30
1N3850	RC	4.95	3.30
1N3851	RC	4.95	3.30
1N3852	RC	11.39	7.59
1N3853	RC	11.39	7.59
1N3854	RC	11.39	7.59
1N3855	RC	11.39	7.59
1N3856	RC	11.39	7.59
1N3857	RC	14.85	9.90
1N3858	RC	14.85	9.90
1N3859	RC	14.85	9.90
1N3860	RC	14.85	9.90
1N3861	RC	6.19	4.13
1N3862	RC	11.39	7.59
1N3863	RC	14.85	9.90
1N3873	GE	3.30	2.20
1N3873/HR	GE	4.20	2.80
1N3880	HA	18.00	13.50
1N3881	HA	21.20	15.90
1N3882	HA	24.45	18.34
1N3882	HA	27.60	20.85
1N3883	HA	31.00	23.25
1N3889	HA	21.00	15.75
1N3890	HA	24.65	18.49
1N3891	HA	28.40	21.30
1N3892	HA	32.65	24.15
1N3893	HA	36.00	27.00
1N3899	HA	25.00	18.75
1N3900	HA	32.00	24.00
1N3901	HA	40.00	30.00
1N3902	HA	45.00	33.75
1N3903	HA	50.00	37.50
1N3904	HA	50.00	37.50
1N3910	HA	65.00	48.75
1N3911	HA	80.00	60.00
1N3912	HA	90.00	67.50
1N3913	HA	100.00	75.00
1N3958	GE	1.49	.99
1N3959	GE	1.80	1.20
1N3960	GE	2.23	1.55
1N3961	GE	2.85	1.90
1N3962	GE	4.28	2.85
1N3963	GE	6.15	4.10
1N4001	MO	.45	.30
1N4002	MO	.49	.33
1N4003	MO	.60	.40
1N4004	MO	.67	.45
1N4005	MO	1.46	.94
1N4006	MO	2.55	1.70
1N4007	MO	5.10	3.40
1N4009	GE	.78	.35

## TRANSISTORS

2N345	SV	3.26	2.17
2N35	SV	1.17	.78
2N43	GE	4.15	2.75
2N43A	GE	4.15	2.75
2N44	GE	2.95	1.95
2N47	GE	2.50	1.65
2N78A	GE	2.70	1.80
2N94	SV	1.34	.89
2N94A	SV	1.50	1.00
2N102/13	SV	4.50	3.00
2N104	RC	1.82	1.21
2N105	RC	1.65	1.10
2N107	GE	.55	.37
2N109	RC	.69	.46
2N117	TI	8.15	5.45
2N118	TI	8.15	5.45
2N118A	TI	8.15	5.45
2N119	TI	11.05	7.35
2N120	TI	12.60	8.40
2N122	TI	60.00	40.00
2N123	GE	3.65	2.45
2N123/5	SV	2.92	1.95
2N125	PH	6.30	4.62
2N139	RC	1.26	.77
2N140	RC	1.24	.83
2N143/13	SV	8.14	5.43
2N144/13	SV	8.14	5.43
2N167	GE	5.10	3.40
2N167A	GE	5.10	3.40
2N169	GE	1.57	1.05
2N169A	GE	1.45	1.00
2N170	GE	7.45	5.00
2N173	MO	3.70	2.50
2N173	RC	3.75	2.50
2N174	MO	4.00	2.67
2N174A	RC	4.01	2.67
2N174A	MO	4.20	2.79
2N175	RC	1.63	1.09
2N176	MO	1.20	.87

Type No.	Mfr.	EACH	
		1-99	100-999
2N176	RC	1.88	1.25
2N178	MO	1.10	.80
2N187A	GE	1.50	1.00
2N188A	GE	1.64	1.09
2N189	GE	.70	.47
2N190	PH	.75	.50
2N191	GE	.83	.55
2N192	GE	1.57	1.05
2N193	SV	1.17	.78
2N194	SV	1.25	.83
2N194A	SV	1.42	.94
2N207	PH	1.95	1.43
2N207A	PH	2.10	1.54
2N207B	PH	2.25	1.65
2N211	SV	1.80	1.39
2N212	SV	1.50	1.08
2N213	SV	1.25	.83
2N213A	SV	1.59	1.05
2N214	SV	1.42	.94
2N214MP	SV	2.56	1.96
2N215	RC	1.75	1.16
2N216	RC	1.75	1.16
2N217	RC	1.66	.44
2N218	RC	1.16	.77
2N219	RC	1.24	.83
2N220	RC	1.55	1.03
2N223	PH	1.08	.80
2N227	PH	2.04	1.50
2N228	SV	1.59	1.05
2N229	SV	1.80	1.39
2N232	PH	1.05	.77
2N233	SV	1.50	.33
2N233A	SV	1.13	.76
2N240	PH	5.63	4.13
2N241A	GE	.92	.61
2N243	TI	13.75	9.15
2N245	TI	20.45	13.60
2N250	TI	1.90	.25
2N250A	TI	2.00	.30
2N251	TI	2.25	.50
2N251A	TI	2.25	1.50
2N263	TI	17.85	11.90
2N264	TI	11.50	7.65
2N265	GE	1.87	1.24
2N269	RC	1.83	.55
2N270	RC	.83	.55
2N274	RC	1.24	.83
2N277	MO	2.50	1.66
2N277	RC	3.00	2.00
2N278	MO	1.85	1.25
2N278	RC	3.10	2.07
2N291	GE	1.62	1.09
2N292	GE	.75	.50
2N293	GE	.83	.55
2N297A	MO	1.75	1.17
2N301	RC	1.52	1.01
2N301A	RC	3.71	2.48
2N301A	SV	3.70	2.74
2N306	SV	1.84	.56
2N307	RC	1.89	.92
2N309	TI	2.66	1.78
2N317A	PH	4.05	2.97
2N319	GE	.44	.29
2N319	MO	1.50	1.00
2N320	GE	.59	.39
2N320	MO	.59	.39
2N321	GE	.68	.45
2N321	MO	.42	.28
2N322	GE	.42	.28
2N322	MO	.48	.32
2N323	GE	.60	.40
2N323	MO	.60	.40
2N324	MO	.63	.42
2N324A	MO	1.75	1.00
2N324A	PH	6.00	4.00
2N327A	HA	4.00	3.00
2N327A	RA	3.70	2.80
2N328A	HA	5.75	4.31
2N328A	RA	6.50	5.00
2N329A	HA	12.55	9.41
2N329A	RA	13.00	10.00
2N331	MO	1.55	1.00
2N332	TI	4.65	3.10
2N332A	GE	4.95	3.30
2N332A	TI	4.95	3.30
2N333	TI	4.65	3.10
2N333	TI	4.65	3.10
2N333A	GE	4.65	3.10
2N333A	TI	4.65	3.10
2N334	TI	4.65	3.10
2N334A	GE	4.95	3.30
2N334A	TI	4.95	3.30
2N335	GE	4.95	3.30
2N335	TI	4.95	3.30
2N335A	GE	5.25	3.50
2N335A	TI	5.25	3.50
2N335B	GE	5.95	5.95
2N335B	TI	5.95	5.95
2N336	GE	6.00	4.00
2N336	TI	6.00	4.00
2N336A	GE	6.30	4.20
2N336A	TI	6.30	4.20
2N337	GE	4.85	3.20
2N337	TI	4.85	3.20
2N337A	GE	5.15	3.40
2N337A	TI	5.15	3.40
2N338	GE	5.50	3.65
2N338	TI	5.65	3.65
2N338A	GE	5.80	3.85
2N338A	TI	10.15	6.75
2N340	TI	10.80	7.20
2N341	TI	17.50	11.65
2N342	TI	11.85	7.95

Type No.	Mfr.	EACH	
		1-99	100-999
2N342A	TI	11.90	7.95
2N342B	TI	16.75	11.20
2N343	TI	18.40	12.25
2N343B	TI	22.40	14.90
2N344	PH	3.45	2.59
2N345	PH	4.35	3.13
2N346	PH	5.85	4.29
2N350	MO	1.65	1.10
2N350A	MO	1.65	1.10
2N351	MO	1.70	1.15
2N351	RC	2.03	1.35
2N351A	MO	1.70	1.15
2N357A	SV	3.00	2.00
2N360	RA	1.40	.93
2N360	RA	1.23	.87
2N361	RA	1.06	.72
2N362	RA	.83	.55
2N363	RA	.72	.48
2N364	TI	7.18	5.2
2N367	TI	2.18	1.45
2N368	TI	1.92	1.28
2N370	RC	.81	.54
2N370/33	SV	.81	.54
2N371	RC	.79	.53
2N371/33	SV	.79	.53
2N372	RC	.79	.53
2N372/33	SV	.79	.53
2N373/33	SV	1.24	.83
2N374	MO	4.10	2.75
2N375	MO	2.10	1.40
2N376	RC	2.10	1.40
2N376A	MO	1.85	1.25
2N384	RC	1.65	1.10
2N384A/33	SV	1.65	1.10
2N385	GE	1.89	1.26
2N388	RA	.60	.40
2N388	RC	.59	.40
2N388	RC	.59	.40
2N388A	RC	2.57	1.72
2N388A	TI	1.10	.73
2N389	RA	42.00	28.00
2N389	TI	42.00	28.00
2N393	PH	4.35	3.17
2N394	GE	.50	.33
2N394A	GE	.50	.33
2N395	GE	.50	.33
2N395	PH	.93	.69
2N395	RA	.66	.44
2N395	RC	.66	.44
2N395	TI	.94	.62
2N396	GE	.62	.41
2N396	RA	.62	.41
2N396	RC	.62	.41
2N396	TI	1.36	.90
2N396A	GE	.62	.41
2N396A	PH	1.50	1.10
2N396A	RA	.61	.41
2N396A	RC	.84	.56
2N397	GE	1.11	.74
2N397	GE	1.24	.84
2N397	TI	2.69	1.82
2N398	MO	1.30	.87
2N398	RC	.61	.41
2N398	SV	1.50	1.00
2N398	TI	1.30	.87
2N398A	MO	1.30	.87
2N398A	RC	1.12	.87
2N398A	TI	1.30	.87
2N398B	RC	.30	.37
2N404	GE	.50	.33
2N404	PH	.74	.54
2N404	RA	.50	.33
2N404	RC	.41	.28
2N404	TI	.50	.33
2N404A	GE	.85	.57
2N404A	PH	1.63	.89
2N404A	RC	.85	.57
2N404A	TI	.85	.57
2N404/3007	RC	1.24	.83
2N405	RC	.40	.26
2N407	RC	.35	.23
2N408	RC	.45	.30
2N408	RC	.41	.26
2N409	RC	.54	.36
2N410	RC	.51	.34
2N411	RC	.58	.39
2N412	RC	.54	.36
2N413	GE	.61	.40
2N413	GE	.62	.40
2N414	RA	.62	.41
2N414	RA	.62	.41
2N414	RC	.41	.26
2N416	MO	1.5	

# Semiconductor Directory—TRANSISTORS—CONTROLLED RECTIFIERS

Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH	
		1-99	100-999			1-99	100-999			1-99	100-999			1-99	100-999
2N515	SY	1.42	.94	2N662	RA	2.10	1.40	2N706A	GE	1.82	1.21	2N744	HA	7.33	5.50
2N516	SY	1.20	.87	2N663	TI	1.92	1.15	2N706A	HA	5.10	3.82	2N744	MO	8.25	5.50
2N517	SY	1.67	1.11	2N669	PH	1.42	1.05	2N706A	MO	1.80	1.21	2N744	MO	7.50	5.50
2N524	GE	1.30	.87	2N670	PH	3.38	2.48	2N706A	RC	1.82	1.21	2N744	TI	8.25	5.50
2N524	MO	1.30	.87	2N671	PH	4.13	3.03	2N706A	SY	1.82	1.21	2N744/46	SY	12.75	8.50
2N524	TI	1.35	.90	2N672	PH	3.38	2.48	2N706A	TI	1.82	1.21	2N744/51	SY	21.00	14.00
2N524A	MO	1.95	1.30	2N673	PH	4.13	3.03	2N706A/46	SY	4.50	3.00	2N745	RA	17.75	11.85
2N525	GE	1.30	.87	2N681	GE	8.65	5.75	2N706A/51	SY	9.40	6.25	2N746	RA	20.50	13.65
2N525	MO	1.30	.87	2N681	IN	9.00	6.00	2N706B	HA	5.25	3.94	2N747	RA	22.50	15.00
2N525	TI	1.65	1.10	2N681	RC	8.65	5.75	2N706B	MO	2.40	3.60	2N748	RA	20.25	13.50
2N525A	TI	2.02	1.35	2N681	RC	8.65	5.75	2N706B	MO	2.40	3.60	2N748	RA	40.50	27.00
2N526	GE	1.65	1.10	2N681	TI	8.65	5.75	2N706B	TI	5.40	3.60	2N751	RA	10.50	7.50
2N526	MO	1.65	1.10	2N681A	TI	8.65	5.75	2N706B/46	SY	9.75	5.00	2N753	GE	5.65	3.75
2N526	SY	1.65	1.10	2N682	GE	9.40	6.25	2N706B/51	SY	9.00	6.00	2N753	MO	5.60	3.75
2N526	TI	1.65	1.10	2N682	IN	9.00	6.00	2N706C	SY	7.50	5.00	2N753	SY	6.00	4.00
2N526A	MO	2.02	1.35	2N682	MO	9.40	6.25	2N706C/46	SY	10.50	7.00	2N753	TI	5.65	3.75
2N527	GE	1.91	1.35	2N682	RC	9.40	6.25	2N706C/46	SY	22.50	15.00	2N753/46	SY	7.30	4.85
2N527	MO	1.90	1.27	2N682	TI	9.40	6.25	2N707	MO	10.00	7.50	2N753/51	SY	9.75	6.50
2N527	TI	1.91	1.27	2N682A	TI	9.40	6.25	2N707	PA	7.65	5.03	2N760	GE	8.10	5.40
2N527A	MO	2.28	1.52	2N683	GE	10.50	7.00	2N707A	MO	22.50	15.00	2N760	TI	8.10	5.40
2N534	PH	2.33	1.71	2N683	IN	10.20	6.80	2N708	GE	2.89	1.93	2N760A	TI	14.95	9.95
2N535	PH	2.78	2.04	2N683	MO	10.50	7.00	2N708	HA	7.46	5.59	2N768	PH	5.85	4.29
2N535A	PH	3.00	2.20	2N683	RC	10.50	7.00	2N708	MO	2.90	1.93	2N769	PH	6.75	4.95
2N535B	PH	3.20	2.39	2N683	TI	10.50	7.00	2N708	MO	2.90	1.93	2N769	PH	6.75	4.95
2N536	PH	3.38	2.48	2N683A	GE	10.50	7.00	2N708	RC	2.48	1.65	2N779A	PH	3.53	2.50
2N541	GE	6.20	4.10	2N684	IN	12.75	8.50	2N708	RC	2.48	1.65	2N781	SY	10.95	7.50
2N541	TI	6.20	4.10	2N684	GE	12.75	8.50	2N708	SY	2.48	1.65	2N781	SY	11.72	8.20
2N542	GE	6.30	4.20	2N684	MO	12.75	8.50	2N708/46	SY	5.40	3.60	2N782	RA	2.40	1.60
2N542	TI	6.30	4.20	2N684	RC	12.75	8.45	2N708/51	SY	11.85	7.90	2N782	SY	2.40	1.60
2N542A	GE	10.05	6.70	2N684	TI	12.75	8.50	2N709	PH	8.25	5.50	2N783	SY	7.50	5.00
2N543	GE	8.10	5.40	2N684A	TI	12.75	8.50	2N709	RC	8.25	5.50	2N784	PH	11.28	7.50
2N543	MO	8.10	5.40	2N684	GE	15.00	10.00	2N709	SY	11.39	7.57	2N784	SY	9.01	5.39
2N543A	GE	12.90	8.60	2N685	TI	14.22	9.45	2N709/46	SY	9.85	6.50	2N784A	PH	8.68	6.39
2N544/33	SY	1.46	.97	2N685	MO	15.00	10.00	2N709/51	SY	22.15	15.00	2N784	PH	11.20	7.50
2N554	MO	.60	.40	2N685	RC	14.85	9.90	2N709A	SY	13.50	9.00	2N784A/46	SY	15.00	10.00
2N555	MO	.75	.50	2N685	TI	15.00	10.00	2N710	MO	1.75	1.16	2N784A/51	SY	22.50	15.00
2N578	RC	.99	.66	2N685A	TI	15.00	10.00	2N710	RA	1.57	1.05	2N790	RA	13.05	8.70
2N579	RC	1.57	1.05	2N686	GE	18.00	12.00	2N710	RC	1.73	1.16	2N791	RA	13.05	8.70
2N580	RC	2.06	1.38	2N686	IN	18.00	12.00	2N710	SY	1.57	1.05	2N792	RA	16.75	11.18
2N581	RC	.50	.32	2N686	IN	18.00	12.00	2N710	TI	2.48	1.65	2N794	RC	1.49	.99
2N582	RC	.99	.66	2N686	RC	18.00	12.00	2N710A	RA	2.55	1.77	2N794	RC	1.98	1.32
2N583	RC	.83	.55	2N686	TI	18.00	12.00	2N711	MO	1.12	.75	2N796	RC	1.98	1.32
2N584	RC	3.22	2.15	2N686A	TI	18.00	12.00	2N711	RA	1.12	.75	2N797	TI	4.58	3.05
2N585	RC	.99	.66	2N687	GE	21.00	14.00	2N711	RC	1.12	.75	2N799	RA	2.85	1.90
2N585	RC	1.05	.71	2N687	IN	21.00	14.00	2N711	SY	1.12	.75	2N800	RA	3.14	2.09
2N586	RC	1.73	1.16	2N687	MO	21.00	14.00	2N711	TI	1.45	.97	2N801	RA	3.33	2.23
2N587	PH	3.40	2.30	2N687	RC	20.95	14.00	2N711A	MO	1.53	1.02	2N802	RA	3.67	2.45
2N588	PH	1.43	1.05	2N687	TI	21.00	14.00	2N711A	RA	1.35	.90	2N803	RA	4.35	2.90
2N591	RC	.58	.39	2N687A	TI	21.00	14.00	2N711A	TI	1.35	.90	2N803	RA	4.78	3.10
2N594	TI	2.85	1.90	2N688	GE	26.25	17.50	2N711A	TI	1.45	.97	2N805	RA	4.95	3.19
2N595	TI	4.35	2.90	2N688	IN	25.50	17.00	2N711B	MO	1.56	1.02	2N806	RA	6.90	4.60
2N596	TI	5.85	3.90	2N688	MO	26.25	17.50	2N711B	RA	1.45	.95	2N807	RA	4.95	3.30
2N597	PH	2.63	1.93	2N688	RC	26.25	17.50	2N711B	TI	1.42	.92	2N808	RA	5.44	3.63
2N598	PH	2.55	1.87	2N688	TI	26.25	17.50	2N711B	TI	1.56	1.05	2N809	RA	2.78	1.85
2N599	PH	3.08	2.26	2N688A	TI	26.25	17.50	2N711B	TI	1.56	1.05	2N809	RA	2.78	1.85
2N600	PH	3.45	2.53	2N689	GE	31.90	21.25	2N711B	TI	34.65	23.10	2N810	RA	3.05	2.03
2N601	PH	3.83	2.81	2N689	IN	32.00	22.00	2N712	GE	1.87	1.25	2N810	RA	4.16	2.77
2N602	SY	1.92	1.28	2N689	MO	31.90	21.25	2N712	HA	5.00	3.75	2N811	RA	6.67	4.58
2N603	SY	4.05	2.70	2N689	RC	31.85	21.25	2N717	PA	2.20	1.65	2N814	RA	7.56	5.04
2N604	SY	6.15	4.10	2N689A	TI	31.90	21.25	2N717	TI	1.87	1.25	2N815	RA	5.85	3.90
2N618	MO	4.50	3.00	2N690	GE	37.50	25.00	2N718	GE	2.36	1.58	2N816	RA	6.43	4.29
2N624	MO	8.10	5.40	2N691	GE	42.75	28.50	2N718	HA	5.80	4.35	2N817	RA	3.70	2.41
2N627	MO	2.85	1.90	2N692	GE	48.00	32.00	2N718	HA	5.00	3.50	2N818	RA	4.08	2.72
2N628	MO	3.35	2.25	2N695	MO	17.60	11.75	2N718	TI	2.15	1.50	2N819	RA	5.20	3.46
2N629	MO	5.30	3.55	2N696	GE	1.57	1.05	2N718A	GE	7.31	4.88	2N820	RA	5.11	3.50
2N630	MO	6.05	4.05	2N696	HA	5.00	3.75	2N718A	HA	11.05	8.29	2N821	RA	8.25	5.50
2N636A	SY	3.22	2.15	2N696	PA	2.00	1.50	2N718A	PA	8.80	6.60	2N822	RA	9.07	6.05
2N640	RC	1.44	.96	2N696	RC	1.57	1.05	2N718A	RA	7.31	4.88	2N823	RA	3.38	2.25
2N642	RC	1.40	.94	2N696	SY	1.57	1.05	2N718A	TI	7.31	4.88	2N824	RA	3.70	2.47
2N643	RC	1.40	.94	2N696	TI	1.57	1.05	2N718A	TI	7.31	4.88	2N825	RA	4.39	2.93
2N643	SY	1.40	.94	2N697	GE	2.06	1.38	2N719	PA	9.26	6.95	2N826	RA	4.83	3.22
2N644	RC	1.65	1.10	2N697	HA	5.80	4.35	2N719	PA	9.26	6.95	2N826	RA	4.83	3.22
2N644	SY	1.65	1.10	2N697	MO	2.07	1.38	2N719	RA	5.25	3.50	2N827	MO	3.30	2.20
2N645	RC	4.95	3.30	2N697	PA	2.80	2.10	2N719A	GE	5.55	3.70	2N828	SY	3.30	2.20
2N645	SY	2.64	1.75	2N697	SY	2.06	1.38	2N719A	PA	7.30	5.50	2N828A	MO	3.75	2.50
2N647	RC	1.16	.77	2N697	TI	2.06	1.38	2N719A	TI	5.55	3.70	2N829	MO	4.45	2.95
2N647/22	SY	1.16	.77	2N698	GE	4.95	3.30	2N720	GE	5.25	3.50	2N834	GE	6.19	4.13
2N649	RC	.86	.57	2N698	HA	9.26	6.95	2N720	HA	12.67	9.50	2N834	MO	6.15	4.10
2N649/22	SY	.86	.57	2N698	PA	6.75	5.00	2N720	PA	5.00	3.50	2N834	PH	4.13	2.75
2N650	MO	1.85	1.25	2N698	SY	10.05	6.95	2N720	RA	5.25	3.50	2N834	RC	4.13	2.75
2N650A	MO	2.40	1.60	2N698	TI	2.89	1.93	2N720	TI	5.25	3.50	2N834	RC	4.13	2.75
2N650A	TI	1.70	1.13	2N699	GE	4.95	3.30	2N720A	GE	10.90	8.05	2N834/46	SY	10.50	7.00
2N651	MO	1.88	1.25	2N699	HA	12.67	9.50	2N720A	PA	13.20	9.90	2N834/51	SY	19.50	13.00
2N651A	TI	2.30	1.55	2N699	PA	6.70	5.00	2N720A	TI	10.90	8.05	2N835	MO	5.40	3.60
2N651A	TI	1.70	1.13												

# Semiconductor Directory—TRANSISTORS—CONTROLLED RECTIFIERS

Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH	
		1-99	100-999			1-99	100-999			1-99	100-999			1-99	100-999
2N909	PA	15.00	11.30	2N1037	RA	6.30	4.75	2N1142	TI	9.45	6.30	2N1279	TI	5.60	3.70
2N910	GE	10.50	7.00	2N1038	SV	2.85	1.90	2N1143	MO	6.38	4.25	2N1292	SV	10.05	6.70
2N910	PA	8.00	6.00	2N1038	TI	2.85	1.90	2N1143	SY	6.38	4.25	2N1294	SV	15.10	9.75
2N910	HA	10.00	7.50	2N1038-1	TI	2.85	1.90	2N1144	GE	6.38	4.25	2N1296	SY	17.60	11.50
2N910	HA	8.50	5.60	2N1038-2	TI	2.85	1.90	2N1144	GE	6.38	4.25	2N1299	SY	4.88	3.25
2N910	TI	8.40	5.60	2N1039	SV	3.75	2.50	2N1145	GE	.60	.40	2N1300	RC	1.16	.77
2N911	GE	7.90	5.25	2N1039	TI	3.75	2.50	2N1149	TI	8.65	5.75	2N1300	TI	1.84	1.21
2N911	HA	9.00	6.75	2N1039-1	TI	3.75	2.50	2N1150	TI	8.65	5.75	2N1301	RC	1.49	.99
2N911	PA	6.70	5.00	2N1039-2	TI	3.75	2.50	2N1151	TI	8.65	5.75	2N1301	TI	2.48	1.65
2N911	RA	7.90	5.25	2N1040	SV	11.25	7.50	2N1152	TI	11.35	7.55	2N1302	RC	.50	.33
2N912	HA	5.55	3.70	2N1040	TI	11.25	7.50	2N1153	TI	12.35	8.90	2N1303	RC	1.30	.87
2N912	HA	5.55	3.70	2N1040-1	TI	11.25	7.50	2N1154	TI	12.35	8.90	2N1303	GE	.49	.33
2N912	PA	5.30	4.00	2N1040-2	TI	11.25	7.50	2N1155	TI	13.15	8.80	2N1303	RC	.50	.33
2N912	RA	6.20	4.15	2N1041	SV	15.75	10.50	2N1156	TI	17.65	11.75	2N1303	TI	.50	.33
2N912	TI	6.20	4.15	2N1041	TI	7.50	5.00	2N1158	PH	5.25	3.85	2N1304	RC	.61	.41
2N914	GE	5.78	3.85	2N1041-1	TI	15.75	10.50	2N1158A	PH	7.13	5.23	2N1304	TI	.61	.41
2N914	HA	13.60	10.20	2N1041-2	TI	15.75	10.50	2N1162	MO	5.40	3.60	2N1305	GE	.61	.41
2N914	MO	5.75	3.85	2N1042	SV	5.25	3.50	2N1162A	MO	6.15	4.10	2N1305	RC	.48	.32
2N914	PH	3.71	2.48	2N1042	TI	5.25	3.50	2N1163	MO	6.15	4.10	2N1305	TI	3.01	2.01
2N914	RC	3.71	2.48	2N1042-1	TI	5.25	3.50	2N1163A	MO	6.15	4.10	2N1306	RC	.79	.53
2N914	SV	5.78	3.85	2N1042-2	TI	5.25	3.50	2N1164	MO	8.25	5.50	2N1306	TI	.80	.53
2N914/46	SV	10.65	7.10	2N1043	SV	9.00	6.00	2N1164A	MO	9.00	6.00	2N1307	GE	.80	.53
2N914/51	SV	15.00	10.00	2N1043	TI	5.85	3.90	2N1165	MO	10.10	6.75	2N1307	RC	.79	.53
2N915	GE	8.85	5.90	2N1043-1	TI	9.00	6.00	2N1165A	MO	10.85	7.25	2N1307	TI	.80	.53
2N915	SV	8.85	5.90	2N1043-2	TI	9.00	6.00	2N1166	MO	9.75	6.50	2N1308	RC	1.11	.74
2N916	GE	7.85	5.25	2N1044	SV	13.50	9.00	2N1166A	MO	10.50	7.00	2N1308	TI	1.12	.74
2N916	PA	7.95	5.25	2N1044	TI	9.90	6.85	2N1167	MO	7.95	6.50	2N1309	RC	1.11	.74
2N918	MO	20.25	13.50	2N1044-1	TI	13.50	9.00	2N1167A	MO	10.50	7.00	2N1309	TI	1.12	.74
2N929	SV	12.25	8.15	2N1044-2	TI	13.50	9.00	2N1169	RC	1.98	1.32	2N1310	TI	4.51	3.00
2N929	TI	10.90	7.28	2N1045	SV	18.00	12.00	2N1170	RC	3.71	2.48	2N1311	TI	3.24	2.15
2N930	SV	19.90	13.30	2N1045	TI	11.45	7.65	2N1175	GE	.99	.66	2N1312	TI	1.78	1.18
2N930	TI	15.40	10.30	2N1045-1	TI	18.00	12.00	2N1175	GE	.99	.66	2N1319	RC	1.65	1.10
2N934	RC	6.60	4.40	2N1045-2	TI	18.00	12.00	2N1175A	GE	1.50	1.00	2N1321	SV	10.10	6.75
2N947	PH	3.79	2.48	2N1046	TI	10.00	6.70	2N1178	RC	.83	.54	2N1323	TI	10.10	6.75
2N955	RC	3.79	2.48	2N1046A	TI	19.35	12.25	2N1178	RC	.81	.54	2N1325	SV	17.25	11.50
2N955A	RC	5.36	3.58	2N1046B	TI	25.00	16.70	2N1179	RC	.81	.54	2N1335	PA	24.00	16.00
2N956	GE	8.55	5.70	2N1047	GE	25.35	16.90	2N1180	RC	.74	.50	2N1336	PA	21.00	15.65
2N956	HA	17.06	12.80	2N1047	TI	22.05	14.70	2N1183	RC	1.82	1.21	2N1337	PA	39.50	39.00
2N956	PA	9.35	6.90	2N1047A	GE	25.35	16.90	2N1183A	RC	2.31	1.54	2N1338	PA	26.75	20.25
2N956	TI	8.45	5.70	2N1047A	TI	22.05	14.70	2N1183B	RC	2.89	1.93	2N1338	PA	25.00	19.75
2N960	MO	2.85	1.90	2N1047B	GE	25.95	17.50	2N1184	RC	2.48	1.65	2N1339	PA	26.75	20.25
2N960	RA	3.30	2.20	2N1048	GE	29.95	19.95	2N1184A	RC	2.31	1.87	2N1341	PA	30.81	24.41
2N960	SV	1.85	1.30	2N1048	GE	32.95	21.95	2N1184B	RC	3.47	2.31	2N1342	PA	28.75	21.60
2N960	TI	3.85	2.56	2N1048	TI	28.60	19.05	2N1185	MO	2.78	1.85	2N1358	MO	4.60	3.06
2N960/46	SV	6.60	4.40	2N1048A	GE	28.60	19.05	2N1186	MO	2.60	1.75	2N1358	RC	5.94	3.96
2N961	MO	2.45	1.65	2N1048A	TI	32.95	21.95	2N1187	MO	2.60	1.75	2N1359	MO	2.15	1.45
2N961	RA	2.77	1.85	2N1048B	GE	38.55	25.55	2N1188	MO	3.15	2.10	2N1360	MO	2.25	1.50
2N961	SV	2.45	1.65	2N1048B	TI	38.55	25.55	2N1191	MO	1.12	.75	2N1361	MO	4.85	3.25
2N961	TI	3.15	2.10	2N1049	GE	29.95	19.95	2N1192	MO	1.12	.75	2N1363	MO	5.10	3.40
2N961/46	SV	5.60	3.60	2N1049	TI	26.05	17.35	2N1193	MO	5.00	1.00	2N1364	MO	13.85	9.25
2N962	MO	2.25	1.50	2N1049A	GE	29.95	19.95	2N1194	MO	1.87	1.25	2N1365	MO	15.00	10.00
2N962	RA	2.10	1.40	2N1049A	TI	26.05	17.35	2N1195	MO	6.63	4.42	2N1370	TI	.72	.48
2N962	SV	2.10	1.40	2N1049B	GE	33.75	22.50	2N1195	TI	6.65	4.42	2N1371	TI	1.14	.76
2N962	TI	2.40	1.60	2N1049B	TI	33.75	22.50	2N1196	HA	11.35	8.50	2N1372	TI	.82	.54
2N962/46	SV	4.15	2.65	2N1050	GE	41.85	27.90	2N1197	HA	11.35	8.50	2N1373	TI	1.20	.80
2N963	MO	1.42	.95	2N1050	GE	36.40	24.25	2N1197	HA	5.40	3.60	2N1374	TI	1.02	.68
2N963	RA	1.20	.80	2N1050A	GE	41.85	27.90	2N1204	MO	6.95	4.65	2N1375	TI	1.02	.68
2N963	SV	1.42	.95	2N1050A	TI	36.40	24.25	2N1204	PH	6.38	4.68	2N1376	TI	1.29	.86
2N963	TI	1.25	.85	2N1050B	TI	47.05	31.35	2N1204A	PH	6.38	4.68	2N1377	TI	1.50	1.00
2N964	MO	4.11	2.74	2N1057	GE	5.25	3.50	2N1213	RC	4.54	3.03	2N1378	TI	1.29	.86
2N964	RA	3.67	2.45	2N1058	SV	1.75	1.17	2N1214	RC	4.54	3.03	2N1379	TI	1.44	.96
2N964	SV	3.67	2.45	2N1059	SV	1.00	.67	2N1215	RC	4.54	3.03	2N1380	TI	.72	.48
2N964	TI	4.11	2.74	2N1066	RC	1.98	1.32	2N1216	RC	2.97	1.98	2N1381	TI	.67	.44
2N964/46	SV	7.30	4.87	2N1066	SV	1.98	1.32	2N1217	GE	2.80	1.90	2N1382	TI	.67	.44
2N965	MO	5.25	3.50	2N1067	GE	20.95	13.95	2N1218	SV	7.50	5.00	2N1383	TI	.92	.61
2N965	RA	3.30	2.20	2N1067	RC	20.95	13.95	2N1224	RC	1.24	.83	2N1384	RC	2.06	1.38
2N965	SV	3.30	2.20	2N1068	GE	21.95	14.65	2N1224	SV	1.24	.83	2N1385	TI	26.40	16.50
2N965	TI	3.75	2.50	2N1068	RC	21.95	14.65	2N1225	RC	1.40	.94	2N1395	RC	1.49	.99
2N966	MO	2.45	1.65	2N1069	RC	49.90	33.30	2N1225	SV	1.40	.94	2N1395	SV	1.49	.99
2N966	RA	2.52	1.68	2N1086A	GE	.83	.70	2N1226	RC	1.49	.99	2N1396	RC	1.65	1.10
2N966	SV	2.52	1.68	2N1086A	TI	1.57	1.05	2N1226	SV	1.49	.99	2N1396	SV	1.65	1.10
2N966	TI	2.85	1.90	2N1090	RC	1.82	1.21	2N1228	HA	3.10	2.33	2N1397	RC	2.15	1.43
2N967	MO	1.56	1.02	2N1090	GE	1.24	.83	2N1229	HA	3.10	2.33	2N1397	SV	2.15	1.43
2N967	RA	1.50	1.00	2N1091	RC	1.57	1.05	2N1230	HA	8.65	6.50	2N1401A	TI	6.60	4.40
2N967	RA	1.50	1.00	2N1092	RC	10.75	7.15	2N1231	HA	10.65	8.00	2N1404	TI	.84	.56
2N967	SV	1.56	1.02	2N1097	GE	.47	.31	2N1232	HA	16.00	12.00	2N1405	TI	4.50	3.00
2N967	TI	1.30	.90	2N1098	GE	.42	.28	2N1233	HA	18.35	13.75	2N1406	TI	3.75	2.50
2N968	MO	1.53	1.02	2N1099	MO	4.30	2.87	2N1234	HA	24.67	18.50	2N1407	TI	3.30	2.15
2N968	RA	2.10	1.40	2N1099	TI	4.31	2.87	2N1238	HA	7.00	3.75	2N1409	PA	6.75	4.50
2N968	SV	2.10	1.40	2N1100	MO	5.00	3.34	2N1239	HA	7.00	5.25	2N1409A	PA	13.90	10.90
2N969	MO	1.24	.83	2N1100	RC	8.33	5.56	2N1240	HA	9.00	6.75	2N1410	PA	7.65	5.10
2N969	RA	1.35	.90	2N1101	SV	.75	.50	2N1241	HA	14.65	11.00	2N1410A	PA	15.90	12.85
2N970	MO	.89	.59	2N1102	SV	.84	.56	2N1242	HA	17.60	13.20	2N1411	PH	5.74	2.74
2N970	RA	1.02	.68	2N1107	TI	2									

# Semiconductor Directory—TRANSISTORS—CONTROLLED RECTIFIERS

Type	Mfr.	EACH		Type	Mfr.	EACH		Type	Mfr.	EACH		Type	Mfr.	EACH	
		1-99	100-999			1-99	100-999			1-99	100-999			1-99	100-999
2N1482	RC	4.3	2.75	2N1588	TI	4.4	2.75	2N1769	RC	10.73	7.15	2N1900	HA	18.45	13.84
2N1483	RC	4.13	2.75	2N1587	TI	4.5	3.0	2N1770	GE	5.5	3.70	2N1890	PA	18.45	14.40
2N1484	RC	5.36	3.58	2N1588	TI	6.15	4.10	2N1770	IN	5.85	3.90	2N1890	TI	18.45	12.30
2N1485	RC	6.19	4.13	2N1589	TI	4.90	3.25	2N1770	TI	5.55	3.70	2N1893	GE	10.60	6.85
2N1486	RC	9.08	6.05	2N1590	TI	5.25	3.50	2N1770A	GE	6.15	4.10	2N1893	PA	12.00	9.00
2N1487	RC	6.60	4.40	2N1591	TI	6.30	4.20	2N1770A	IN	6.45	4.30	2N1893	PH	10.31	6.85
2N1488	RC	7.43	4.95	2N1592	TI	7.75	5.15	2N1771	GE	6.00	4.00	2N1893	RC	4.13	2.75
2N1489	RC	9.90	6.60	2N1593	TI	9.05	6.05	2N1771	TI	6.30	4.20	2N1893	TI	9.85	6.55
2N1490	RC	16.13	11.00	2N1594	TI	19.30	13.20	2N1771	IN	6.00	4.00	2N1893A	PA	10.00	7.50
2N1491	RC	4.13	2.75	2N1595	GE	3.75	2.50	2N1771A	GE	7.00	4.90	2N1899	PA	27.50	25.50
2N1492	RC	6.60	4.40	2N1595	TI	3.75	2.50	2N1771A	IN	7.35	4.90	2N1900	PA	120.00	99.50
2N1493	RC	9.90	6.60	2N1596	GE	6.00	4.00	2N1772	GE	7.50	5.00	2N1901	PA	130.00	105.00
2N1494	MO	7.50	5.00	2N1596	TI	6.00	4.00	2N1772	IN	7.20	4.80	2N1902	PA	95.40	79.50
2N1494	PH	6.83	5.01	2N1597	GE	11.25	7.50	2N1772	TI	7.50	5.00	2N1903	PA	120.00	99.50
2N1494A	PH	7.82	5.95	2N1597	TI	11.25	7.50	2N1772A	GE	9.00	6.00	2N1904	PA	130.00	105.00
2N1495	MO	7.35	5.39	2N1598	GE	22.00	14.65	2N1772A	IN	8.55	5.70	2N1905	RC	4.13	2.75
2N1495	PH	7.35	5.39	2N1598	TI	22.00	14.65	2N1773	GE	9.75	6.50	2N1906	RC	6.00	4.00
2N1496	MO	8.55	5.70	2N1599	GE	31.00	20.75	2N1773	IN	9.75	6.50	2N1907	TI	13.00	8.70
2N1496	PH	7.80	5.72	2N1599	TI	31.00	20.75	2N1773	TI	9.75	6.50				
2N1499A	PH	1.43	1.05	2N1600	IN	5.70	3.80	2N1773A	GE	11.10	7.40				
2N1499B	PH	1.92	1.15	2N1600	TI	6.00	4.00	2N1773A	IN	11.10	7.40				
2N1500	PH	6.38	4.68	2N1601	TI	6.00	4.40	2N1774	GE	12.00	8.00				
2N1500/18	SY	12.25	8.68	2N1601	TI	7.50	5.00	2N1774	IN	12.00	8.00				
2N1501	PA	34.50	25.50	2N1602	TI	12.00	8.00	2N1774A	GE	29.00	20.00				
2N1506A	PA	36.50	27.50	2N1603	IN	15.00	10.00	2N1774A	IN	12.90	9.00				
2N1507	TI	6.00	4.00	2N1603	TI	16.50	11.00	2N1775	GE	14.25	9.50				
2N1508	TI	32.85	21.90	2N1604	IN	18.00	12.00	2N1775	IN	14.25	9.50				
2N1510	GE	2.40	1.60	2N1604	TI	21.00	14.00	2N1775	TI	14.25	9.50				
2N1511	RC	8.25	5.50	2N1605	RA	7.2	.48	2N1775A	GE	15.75	10.50				
2N1512	RC	9.90	6.60	2N1605	RC	1.24	.83	2N1775A	IN	15.75	10.50				
2N1513	RC	12.40	8.25	2N1605	RC	1.09	.74	2N1776	GE	16.50	11.00				
2N1514	RC	19.80	13.20	2N1605A	RC	1.50	1.00	2N1776	TI	16.50	11.00				
2N1524	RC	.51	.34	2N1613	GE	7.01	4.68	2N1776	TI	16.50	11.00				
2N1525	RC	.54	.36	2N1613	PH	3.73	2.48	2N1776A	GE	18.40	12.25				
2N1526	RC	.54	.36	2N1613	SV	13.10	8.75	2N1776A	IN	18.40	12.25				
2N1527	RC	.58	.39	2N1613	HA	12.67	9.50	2N1777	GE	21.00	14.00				
2N1529	MO	2.15	1.45	2N1613	HA	8.00	6.00	2N1777	IN	19.95	13.30				
2N1529A	MO	2.60	1.75	2N1613	PH	3.72	2.48	2N1777	TI	21.00	14.00				
2N1530	MO	2.25	1.50	2N1613	RC	3.71	2.48	2N1777A	GE	25.65	15.75				
2N1530A	MO	2.70	1.80	2N1613	TI	3.71	2.48	2N1777A	IN	25.65	15.75				
2N1531	MO	3.00	2.00	2N1614	GE	2.50	1.65	2N1778	GE	25.90	17.45				
2N1531A	MO	3.80	2.55	2N1614	RA	2.16	1.65	2N1778	IN	32.25	23.50				
2N1532	MO	4.30	2.90	2N1631	RC	.63	.42	2N1785	PH	.90	.66				
2N1532A	MO	5.10	3.40	2N1632	RC	.59	.40	2N1786	PH	.83	.61				
2N1533	MO	7.75	5.25	2N1635	RC	1.24	.83	2N1787	PH	.90	.66				
2N1534	MO	2.55	1.65	2N1635	RC	1.32	.88	2N1788	PH	1.20	.88				
2N1534A	MO	2.30	1.05	2N1635	RC	1.32	.88	2N1789	PH	1.13	.83				
2N1535	MO	1.71	1.14	2N1636	RC	1.32	.88	2N1790	PH	1.17	.86				
2N1535A	MO	2.45	1.64	2N1637	RC	.63	.42	2N1808	TI	.84	.56				
2N1536	MO	1.87	1.25	2N1637/33	SV	.90	.60	2N1837	PA	11.95	8.95				
2N1536A	MO	2.60	1.75	2N1638	RC	.56	.37	2N1837A	PA	23.25	15.35				
2N1537	MO	4.40	2.95	2N1639	SV	.68	.45	2N1838	PA	8.50	6.25				
2N1537A	MO	5.10	3.40	2N1640	SV	1.40	1.00	2N1839	PA	8.25	6.00				
2N1538	MO	9.05	6.10	2N1655	RA	57.00	38.00	2N1842	GE	7.00	4.50				
2N1539	MO	1.68	1.12	2N1657	RA	57.00	38.00	2N1842	IN	8.10	5.40				
2N1539	TI	2.10	1.40	2N1671	GE	2.95	1.98	2N1842	IN	8.85	5.90				
2N1539A	MO	2.45	1.12	2N1671	TI	2.95	1.98	2N1842A	RC	7.75	5.15				
2N1540	MO	1.34	1.23	2N1671A	GE	3.20	2.14	2N1842B	TI	7.75	5.15				
2N1540	TI	2.15	1.44	2N1671A	TI	3.20	2.14	2N1843	GE	8.50	5.65				
2N1540A	MO	2.00	2.00	2N1671B	GE	3.55	2.36	2N1843	IN	8.70	5.80				
2N1541	TI	3.75	2.50	2N1671B	TI	3.55	2.36	2N1843A	IN	7.75	5.50				
2N1541A	MO	2.75	2.25	2N1673	SV	2.85	1.90	2N1843A	RC	8.50	5.65				
2N1542	MO	4.15	2.78	2N1677	PH	8.85	6.49	2N1843B	TI	8.50	5.65				
2N1542	TI	4.80	3.20	2N1683	RC	1.65	1.10	2N1844	GE	9.45	6.30				
2N1542A	MO	5.55	3.70	2N1685	SV	5.67	3.78	2N1844	IN	9.30	6.20				
2N1543	MO	10.30	6.95	2N1690	TI	28.10	18.70	2N1844A	IN	9.90	6.60				
2N1544	MO	2.75	1.85	2N1692	MO	40.80	27.20	2N1844A	RC	9.40	6.25				
2N1544A	MO	2.75	1.85	2N1692	MO	22.50	17.00	2N1844B	TI	9.45	6.30				
2N1545	MO	2.60	1.75	2N1693	MO	18.00	12.00	2N1845	GE	11.40	7.65				
2N1545A	MO	3.30	2.20	2N1694	GE	.99	.66	2N1845	IN	11.40	7.65				
2N1546	MO	3.90	2.65	2N1700	RC	2.23	1.49	2N1845A	IN	12.45	8.30				
2N1546A	MO	4.70	3.15	2N1701	RC	3.30	2.20	2N1845A	RC	11.45	7.65				
2N1547	MO	6.70	3.80	2N1702	RC	6.19	4.13	2N1845B	TI	11.50	7.65				
2N1547A	MO	6.35	4.30	2N1703	RC	7.43	4.95	2N1846	GE	13.50	9.00				
2N1548	MO	7.05	4.70	2N1707	RC	4.79	3.19	2N1846	IN	12.90	8.80				
2N1549	MO	6.55	4.70	2N1708	SV	4.79	3.19	2N1846A	IN	14.10	9.40				
2N1549A	MO	3.30	2.20	2N1709	PA	80.00	60.00	2N1846A	RC	13.50	9.00				
2N1550	MO	3.05	2.05	2N1710	PA	45.00	33.00	2N1846B	TI	13.50	9.00				
2N1550A	MO	3.80	2.55	2N1711	GE	8.25	5.50	2N1847	GE	20.85	13.90				
2N1551	MO	4.85	3.25	2N1711	HA	17.06	12.80	2N1847	IN	16.05	10.70				
2N1551A	MO	5.60	3.75	2N1711	PA	8.50	6.30	2N1847A	IN	16.55	11.70				
2N1552	MO	5.55	3.70	2N1711	RC	3.47	2.31	2N1847A	RC	16.10	10.75				
2N1552A	MO	6.30	4.20	2N1712	TI	4.24	3.02	2N1847B	TI	16.15	10.75				
2N1553	MO	2.70	1.80	2N1714	TI	13.05	9.00	2N1847B	TI	16.15	10.75				
2N1553A	MO	3.35	2.25	2N1715	TI	17.40	11.60	2N1848	GE	18.75	12.50				
2N1554	MO	3.20	2.15	2N1716	TI	14.70	9.80	2N1848A	IN	20.55	13.70				
2N1554A	MO	3.90	2.60	2N1717	TI	19.50	13.00	2N1848A	RC	18.75	12.50				
2N1555	MO	5.20	3.50	2N1718	TI	13.90	9.25	2N1848B	TI	18.75	12.50				
2N1555A	MO	5.90	4.00	2N1719	TI	18.20	12.15	2N1849	GE	23.65	15.75				
2N1556	MO	12.00	8.00	2N1720	TI	15.50	10.35	2N1849	IN	22.50	15.00				
2N1556A	MO	7.90	5.50	2N1721	TI	22.75	15.25	2N1849A	IN	24.75	16.50				
2N1557	MO	3.90	2.60	2N1722	TI	44.75	30.75	2N1							



# Semiconductor Directory—TRANSISTORS—CONTROLLED RECTIFIERS

Type				Type				Type				Type			
No.	Mfr.	EACH		No.	Mfr.	EACH		No.	Mfr.	EACH		No.	Mfr.	EACH	
		1-99	100-999			1-99	100-999			1-99	100-999			1-99	100-999
2N1944	GE	5.10	3.40	2N2160	TI	2.50	1.88	2N2391	TI	45.00	30.00	2N2676	GE	6.30	4.20
2N1984	PA	5.10	3.40	2N2183	TI	9.20	6.75	2N2397	SV	10.00	6.75	2N2677	GE	5.15	3.40
2N1984	RA	4.30	3.31	2N2180	PH	4.73	3.47	2N2398	PH	3.75	2.75	2N2678	GE	5.10	3.40
2N1985	PA	3.90	2.60	2N2181	PH	15.60	11.44	2N2399	PH	3.20	2.42	2N2692	TI	29.25	19.50
2N1985	RA	3.30	2.54	2N2182	PH	31.50	23.10	2N2400	PH	1.28	.94	2N2693	TI	18.65	12.45
2N1986	PA	4.80	3.70	2N2183	PH	14.93	10.95	2N2401	PH	1.43	1.05	2N2694	TI	11.05	7.45
2N1986	RA	4.60	3.54	2N2184	PH	30.15	22.11	2N2402	PH	2.25	1.60	2N2699	PH	2.93	1.95
2N1987	PA	4.20	3.25	2N2185	PH	15.00	11.00	2N2405	RC	5.78	3.85	2N2768	RC	7.84	5.23
2N1988	RA	6.10	3.40	2N2186	PH	30.60	22.40	2N2410	SV	10.80	7.20	2N2710	PH	9.77	6.50
2N1988	RA	6.65	5.42	2N2187	PH	31.50	23.40	2N2411	SV	9.20	6.55	2N2711	GE	1.10	.80
2N1989	PA	5.40	3.60	2N2188	TI	1.27	.85	2N2412	TI	18.00	12.00	2N2712	GE	1.20	.80
2N1989	RA	4.35	3.35	2N2189	TI	1.64	1.09	2N2413	TI	22.50	15.00	2N2713	GE	1.50	1.00
2N1990	PA	3.90	2.60	2N2190	TI	1.47	.94	2N2415	TI	11.55	7.70	2N2714	GE	1.65	1.10
2N1990	SV	3.60	2.40	2N2191	TI	1.86	1.23	2N2415	TI	52.50	35.00	2N2715	GE	1.13	.75
2N1990/18	SV	4.35	2.90	2N2192	GE	10.50	7.00	2N2416	TI	37.50	25.00	2N2716	GE	1.20	.80
2N1990/16	SV	4.05	2.70	2N2192	TI	10.50	7.00	2N2417	GE	7.10	4.75	2N2726	GE	22.50	19.95
2N1991	HA	4.25	3.19	2N2192A	GE	12.00	8.00	2N2417A	GE	7.65	5.10	2N2727	GE	26.80	23.75
2N1994	TI	2.47	1.65	2N2192A	TI	12.00	8.00	2N2417B	GE	9.15	6.10	2N2728	GE	20.25	17.50
2N1995	TI	3.00	2.60	2N2193	GE	9.30	6.20	2N2418	GE	7.80	5.20	2N2719	SV	3.75	2.50
2N1996	TI	5.33	3.55	2N2193	TI	9.30	6.20	2N2418A	GE	8.35	5.55	2N2781	PA	52.90	39.90
2N1997	TI	2.03	1.35	2N2193A	GE	10.80	7.20	2N2418B	GE	9.85	6.55	2N2782	PA	59.90	44.90
2N1998	TI	2.55	1.70	2N2193A	TI	10.80	7.20	2N2419	GE	8.45	5.60	2N2783	PA	100.00	75.00
2N1998	TI	5.00	3.32	2N2194	GE	6.75	4.50	2N2419A	GE	8.90	5.95	2N2784	SV	22.50	15.00
2N2000	TI	3.00	2.00	2N2194	TI	6.75	4.50	2N2419B	GE	10.40	6.95	2N2800	MO	13.95	9.30
2N2001	TI	2.25	1.83	2N2194A	GE	8.25	5.50	2N2420	GE	10.40	6.95	2N2801	MO	17.50	11.80
2N2015	RC	13.20	8.80	2N2195	GE	2.35	1.50	2N2420A	GE	10.40	6.95	2N2802	TI	79.40	53.00
2N2016	RC	28.05	18.70	2N2195A	GE	2.55	1.70	2N2420B	GE	11.90	7.95	2N2803	TI	49.90	33.20
2N2017	GE	8.35	5.55	2N2196	GE	7.00	4.70	2N2421	GE	10.75	7.20	2N2804	TI	36.00	24.00
				2N2197	GE	7.70	5.10	2N2421A	GE	11.20	7.50	2N2805	TI	98.75	65.85
				2N2201	GE	14.05	9.35	2N2421B	GE	12.75	8.50	2N2806	TI	67.50	45.00
				2N2202	GE	13.20	8.85	2N2422	GE	10.90	7.30	2N2807	TI	45.00	30.00
				2N2202	GE	13.30	8.90	2N2422A	GE	13.40	7.60	2N2808	RA	50.00	33.50
				2N2204	GE	15.55	10.35	2N2422B	GE	12.90	8.90	2N2809	MO	4.00	2.60
				2N2205	RC	3.30	2.20	2N2432	TI	18.50	12.35	2N2833	MO	13.00	8.70
				2N2205	SV	4.95	3.30	2N2455	SV	4.50	3.00	2N2834	MO	22.50	15.00
				2N2206	RC	3.71	2.48	2N2456	SV	22.50	15.00	2N2837	MO	13.95	9.30
				2N2217	MO	5.85	3.90	2N2475	RC	6.19	4.13	2N2838	MO	14.70	9.80
				2N2217	MO	5.85	3.90	2N2476	RC	3.71	2.48	2N2861	TI	19.70	13.10
				2N2218	TI	5.85	3.90	2N2477	RC	6.19	4.13	2N2862	TI	12.00	8.00
				2N2218	TI	5.85	3.90	2N2478	PH	7.19	5.28	2N2863	TI	12.00	8.00
				2N2219	MO	6.75	4.50	2N2479	PH	3.75	2.75	2N2864	TI	16.25	11.00
				2N2219	TI	6.75	4.50	2N2480	GE	26.00	17.25	2N2865	TI	20.25	13.55
				2N2220	MO	5.85	3.90	2N2480A	GE	30.40	20.25	2N2874	PA	50.00	37.50
				2N2220	TI	5.85	3.90	2N2482	RC	6.19	4.13	2N2875	GE	18.15	12.10
				2N2221	MO	5.85	3.90	2N2490	MO	3.20	2.40	3N34	TI	5.00	4.15
				2N2221	TI	5.85	3.90	2N2491	MO	3.30	2.40	3N35	TI	22.50	15.00
				2N2222	TI	5.85	4.50	2N2492	MO	5.50	4.00	3N36	GE	3.20	2.20
				2N2222	TI	6.75	4.50	2N2493	MO	1.00	8.50	3N58	GE	9.20	6.20
				2N2223	GE	13.30	8.85	2N2497	TI	33.40	22.30	3N59	GE	3.75	2.50
				2N2223	TI	25.95	17.40	2N2498	TI	27.60	18.35	3N60	GE	4.15	2.75
				2N2233A	TI	34.25	23.00	2N2499	TI	35.50	23.65	3N62	NA	18.70	14.00
				2N2243	TI	19.40	12.90	2N2500	TI	68.00	52.95	3N74	TI	49.50	33.00
				2N2243A	TI	20.90	13.90	2N2501	MO	8.25	5.50	3N75	TI	43.00	28.65
				2N2244	TI	1.12	.80	2N2503	IN	65.50	52.00	3N76	TI	28.00	18.65
				2N2257	MO	3.27	.85	2N2504	IN	29.00	20.00	3N77	TI	47.50	25.00
				2N2258	MO	1.12	.75	2N2505	IN	140.25	110.00	3N78	TI	47.50	25.00
				2N2259	MO	1.27	.85	2N2506	IN	195.00	153.00	3N79	TI	20.00	13.35
				2N2270	RC	2.06	1.38	2N2507	IN	216.40	170.00				
				2N2273	RC	4.13	2.75	2N2508	IN	271.75	214.00				
				2N2274	PH	9.00	6.60	2N2526	MO	7.10	4.75				
				2N2275	PH	19.50	14.30	2N2527	MO	9.30	6.20				
				2N2275	PH	6.10	4.40	2N2527	MO	14.85	9.95				
				2N2277	PH	13.20	9.68	2N2537	MO	6.65	4.65				
				2N2281	PH	12.00	8.80	2N2538	MO	7.40	4.95				
				2N2279	PH	25.80	18.92	2N2539	MO	6.65	4.45				
				2N2280	PH	4.50	3.30	2N2540	MO	7.40	4.95				
				2N2281	PH	10.05	7.37	2N2552	TI	3.00	2.00				
				2N2281	SV	17.00	11.00	2N2553	TI	3.90	2.60				
				2N2303	PH	3.33	2.50	2N2554	TI	5.85	3.90				
				2N2322	GE	3.75	2.50	2N2555	TI	2.95	2.00				
				2N2323	GE	4.15	2.75	2N2556	TI	3.05	2.05				
				2N2324	GE	6.60	4.40	2N2557	TI	3.95	2.65				
				2N2325	GE	9.50	6.35	2N2558	TI	5.90	3.95				
				2N2326	GE	12.40	8.25	2N2559	TI	9.20	6.15				
				2N2327	GE	15.55	10.35	2N2560	TI	4.45	2.95				
				2N2328	GE	24.00	16.00	2N2561	TI	5.80	3.85				
				2N2329	GE	6.10	4.15	2N2562	TI	8.70	7.80				
				2N2330	MO	14.62	9.75	2N2563	TI	11.40	7.60				
				2N2331	MO	14.62	9.75	2N2564	TI	4.30	2.85				
				2N2338	RC	9.90	6.60	2N2565	TI	5.65	3.75				
				2N2339	RC	4.95	3.30	2N2566	TI	8.55	5.70				
				2N2344	GE	8.10	5.40	2N2567	TI	11.25	7.50				
				2N2345	GE	10.00	6.70	2N2573	MO	7.70	5.15				
				2N2346	GE	2.10	1.45	2N2574	MO	8.40	5.60				
				2N2347	GE	16.50	11.00	2N2575	MO	8.40	5.60				
				2N2348	GE	19.80	13.20	2N2576	MO	13.50	9.00				
				2N2350	GE	10.50	7.00	2N2577	MO	18.90	12.60				
				2N2350A	GE	12.00	8.00	2N2578	MO	23.60	15.75				
				2N2351	GE	9.30	6.20	2N2579	MO	28.65	19.10				
				2N2351A	GE	10.80	7.20	2N2586	TI	22.00	14.70				
				2N2352	GE	6.75	4.50	2N2611	GE	13.65	9.10				
				2N2353	GE	6.75	4.50	2N2613	RC	.59	.40				
				2N2353A	GE	8.25	5.50	2N2614	RC	5.40	3.60				
				2N2354	SV	.92	.61	2N2618	SV	5.40	3.60				
				2N2356	GE	30.00	20.00	2N2618/46	SV	8.25	5.50				
				2N2356A	GE	35.00									

# Semiconductor Directory

LISTINGS BY MANUFACTURER'S TYPE NUMBER \*Indicates Transistors

Type No.	EACH	
	1-99	*100-Mix
1/4MS025	4.35	4.00
1/4MS225	4.35	4.00
1/4MS525	4.35	4.00
1/4MS625	4.35	4.00
1/4MS825	4.35	4.00
1/4MS75Z	4.35	4.00
1/4MS82Z	4.35	4.00
1/4MS91Z	4.35	4.00
1/4M100Z	4.35	4.00
1/4M105Z	4.35	4.00
1/4M120Z	4.35	4.00
1/4M130Z	4.35	4.00
1/4M140Z	4.35	4.00
1/4M150Z	4.35	4.00
1/4M175Z	4.35	4.00
1/4M200Z	4.35	4.00

Type No.	Mfr.	1-24	EACH	100-999
1MA4	IN	.85	.69	.99
1M3Z5	MO	5.60	4.00	4.85
1M30Z5	MO	6.55	4.00	5.65
1M110Z5	MO	8.75	8.20	6.55
1T5.6A thru 1T100A	ST	2.83	2.42	2.27
1Z5.1T5	IN	5.05	5.05	4.05
1Z24T5	IN	3.70	3.70	2.95
1Z33T5	IN	3.70	3.70	2.95

### MOTOROLA-METAL ZENER DIODES

\*10 per type, 100 total per order —must all be metal.

Type No.	EACH	
	1-99	*100-Mix
1.5M6.8Z5	6.95	5.25
1.5M7.5Z5	6.95	5.25
1.5M8.2Z5	6.95	5.25
1.5M9.1Z5	6.95	5.25
1.5M10Z5	6.95	5.25
1.5M11Z5	6.95	5.25
1.5M12Z5	6.95	5.25
1.5M13Z5	6.95	5.25
1.5M14Z5	6.95	5.25
1.5M15Z5	6.95	5.25
1.5M16Z5	6.95	5.25
1.5M17Z5	6.95	5.25
1.5M18Z5	6.95	5.25
1.5M19Z5	6.95	5.25
1.5M20Z5	6.95	5.25
1.5M22Z5	6.95	5.25
1.5M24Z5	6.95	5.25
1.5M25Z5	6.95	5.25
1.5M27Z5	6.95	5.25
1.5M30Z5	6.95	5.25
1.5M33Z5	6.95	5.25
1.5M36Z5	6.95	5.25
1.5M39Z5	6.95	5.25
1.5M43Z5	6.95	5.25
1.5M45Z5	6.95	5.25
1.5M47Z5	6.95	5.25
1.5M50Z5	6.95	5.25
1.5M52Z5	6.95	5.25
1.5M56Z5	6.95	5.25
1.5M62Z5	6.95	5.25
1.5M68Z5	6.95	5.25
1.5M75Z5	6.95	5.25
1.5M82Z5	6.95	5.25
1.5M91Z5	6.95	5.25
1.5M100Z5	6.95	5.25
1.5M105Z5	8.35	6.30
1.5M110Z5	8.35	6.30
1.5M120Z5	8.35	6.30
1.5M130Z5	8.35	6.30
1.5M140Z5	8.35	6.30
1.5M150Z5	8.35	6.30
1.5M175Z5	8.80	6.60
1.5M200Z5	8.80	6.60

Type No.	Mfr.	1-9	EACH	10-50	100-999
2D001	RC	1.62	1.08	.....	.....
2E4	IN	.70	.68	.68	.49
2F4	ST	.89	.85	.75	.63
3D001	RC	2.34	1.56	.....	.....

Type No.	Mfr.	1-99	EACH	100-999
3RC2	IN	4.50	3.00	.....
3RC5A	IN	7.46	4.97	.....
3RC10	IN	6.00	4.00	.....
3RC10A	IN	10.38	6.92	.....
3RC15	IN	7.80	5.20	.....
3RC20	IN	9.45	6.50	.....
3RC20A	IN	14.62	9.75	.....
3RC25	IN	10.40	7.50	.....
3RC30	IN	13.50	9.00	.....
3RC30A	IN	20.75	.....	.....
3RC40	IN	16.50	11.00	.....
3RC40A	IN	29.00	.....	.....
3RC50A	IN	21.75	14.50	.....

### SARKES-TARZIAN-SILICON CONTROLLED RECTIFIERS

Type	1-24	25-99	100-499	500-999
3TCR A	3.15	2.70	2.54	2.29
3TCR B	3.40	2.93	2.74	2.47
3TCR C	3.85	3.29	3.07	2.76
3TCR D	4.35	3.71	3.47	3.12
3TCR E	4.85	4.14	3.86	3.47
3TCR F	5.45	4.64	4.34	3.91
3TCR G	6.65	5.71	5.24	4.81
3TCR H	9.60	8.10	7.67	6.90
3TCR I	13.75	11.80	11.00	9.90

Type No.	Mfr.	1-9	EACH	10-99	100-999
3Z6.2T5	IN	4.60	4.60	3.70	.....
3Z13T5	IN	4.60	4.60	3.70	.....
3Z33T5	IN	7.20	7.20	3.72	.....
4JA10M	GE	1.43	1.43	.95	.....
4JA10N	GE	2.67	2.67	1.78	.....
4JA10P	GE	5.33	5.33	3.55	.....

Type No.	Mfr.	1-99	EACH	100-999
4C28	GE	2.25	1.65	.....
4C29	GE	1.80	1.20	.....
4C30	GE	2.50	1.85	.....
4C31	GE	2.80	2.10	.....
4D20	GE	1.90	1.45	.....
4D21	GE	2.50	1.90	.....
4D22	GE	3.00	2.30	.....
4D24	GE	1.17	.78	.....
4D25	GE	1.26	.84	.....
4D26	GE	1.83	1.22	.....
4JZ4X14B	GE	3.90	2.60	.....
4JZ4X5.1B	GE	2.40	1.60	.....
4R8V	IN	75.00	63.75	.....
4R8VA	IN	81.00	68.85	.....
4R8V16	IN	100.00	85.00	.....
4R8V16A	IN	107.00	90.95	.....
5A-2	IN	.73	.58	.....
5A-4	IN	.87	.69	.....
5A-5	IN	1.30	1.00	.....
5A-6	IN	1.45	1.15	.....
5A8	IN	2.00	1.60	.....
5A10	IN	2.65	2.10	.....
5B10	IN	2.75	2.10	.....
5E5	IN	1.15	.77	.....
5E6	IN	1.20	.80	.....
5MA2	IN	.85	.63	.....
5MA4	IN	1.30	.90	.....
5MA5	IN	1.25	.99	.....

Type No.	Mfr.	1-24	EACH	25-99	100-999
4JN101-1	GE	24.95	19.95	16.63	.....
4JN102-1	GE	24.95	19.95	16.63	.....
4JN103-1	GE	24.95	19.95	16.63	.....
4JN301-1	GE	29.95	23.95	19.93	.....
4JN302-1	GE	29.95	23.95	19.93	.....
4JN303-15	GE	29.95	23.95	19.93	.....
4JN401-1	GE	67.50	54.00	45.00	.....
4JN401-9	GE	67.50	54.00	45.00	.....
4JN401-15	GE	67.50	54.00	45.00	.....
4JN402-1	GE	67.50	54.00	45.00	.....
4JN402-9	GE	67.50	54.00	45.00	.....
4JN402-15	GE	67.50	54.00	45.00	.....
4JN403-1	GE	79.95	64.00	53.40	.....
4JN403-7	GE	79.95	64.00	53.40	.....
4JN403-15	GE	79.95	64.00	53.40	.....
5R3P	ST	3.50	3.00	2.80	.....
5S3P	ST	4.17	3.68	3.34	.....
5TCR1	ST	24.60	21.10	19.69	.....

Type No.	Mfr.	1-99	EACH	100-999
5MA6	IN	1.70	1.35	.....
5RC2	IN	4.26	3.50	.....
5RC2A	IN	6.15	4.10	.....
5RC3	IN	5.70	3.80	.....
5RC3A	IN	7.65	5.10	.....
5RC30	IN	6.60	4.20	.....
5RC10A	IN	10.70	7.10	.....
5RC15	IN	8.85	5.90	.....
5RC15A	IN	13.20	8.80	.....
5RC20	IN	10.35	6.90	.....
5RC20A	IN	15.00	10.00	.....
5RC25	IN	12.90	8.60	.....
5RC25A	IN	18.00	12.00	.....
5RC30	IN	15.00	10.00	.....
5RC30A	IN	22.00	14.65	.....
5RC40	IN	18.00	12.00	.....
5RC40A	IN	31.00	20.75	.....
5RC50B	IN	52.00	34.00	.....
5RCL2	IN	4.65	3.10	.....
5RCL5	IN	4.80	3.20	.....
5RCL10	IN	5.10	3.40	.....
5RCL15	IN	5.25	3.50	.....
5RCL20	IN	6.30	4.20	.....
5RCL30	IN	8.70	5.80	.....
5RCL40	IN	10.30	6.85	.....
5S3N	ST	5.75	3.10	.....
5SMB5L	IN	3.50	3.10	.....
5SM510L	IN	3.98	3.45	.....

### SARKES-TARZIAN SILICON CONTROLLED RECTIFIERS

Type	1-24	25-99	100-499	500-999
A	4.00	3.43	3.20	2.88
B	5.90	5.07	4.74	4.27
C	6.35	5.42	5.04	4.56
D	6.85	5.85	5.47	4.92
E	7.35	6.27	5.86	5.27
F	10.10	8.63	8.07	7.26
G	13.75	11.79	11.00	9.90
H	17.90	15.36	14.35	12.91

Type No.	Mfr.	1-9	EACH	10-99	100-999
5V3N	ST	12.75	8.70	7.45	.....
5X3N	ST	16.05	11.00	9.95	.....

Type No.	Mfr.	1-24	EACH	25-99	100-499
5V3P	ST	10.80	9.30	8.60	.....

Type No.	Mfr.	1-99	EACH	100-999
6GC1	GE	.54	.49	.....
6GD1	GE	.54	.49	.....
6GX1	GE	.54	.49	.....
6R78	IN	63.00	53.55	.....
6RVA	IN	69.00	58.65	.....
6RV-16	IN	98.00	83.30	.....
6RV-16A	IN	105.00	89.25	.....
7A30	GE	1.20	1.05	.....
7A31	GE	1.35	1.20	.....
7A32	GE	1.70	1.50	.....
10B1	IN	.86	.66	.....
10B2	IN	1.24	.95	.....
10B3	IN	1.75	1.34	.....
10B4	IN	2.46	1.89	.....
10B5	IN	3.46	2.65	.....
10B6	IN	4.89	3.75	.....
10D2	IN	.73	.58	.....
10D3	IN	.80	.64	.....
10D4	IN	.87	.69	.....
10D5	IN	1.00	.80	.....
10D6	IN	1.12	.90	.....
10D8	IN	2.65	1.85	.....
10D10	IN	3.25	2.25	.....

Type No.	Mfr.	1-24	EACH	25-99	100-499	500-999
10H	ST	65	47	44	36	.....
10H3	ST	2.00	1.71	1.60	.....	.....
20H3	ST	2.17	1.86	1.73	1.65	.....
30H3	ST	2.75	2.36	2.20	2.05	.....
40H3	ST	3.25	2.79	2.60	2.45	.....
50H3	ST	4.16	3.57	3.32	3.15	.....
60H3	ST	4.92	4.22	3.93	3.80	.....

Type No.	Mfr.	1-24	EACH	25-99	100-999
10M14Z	MO	5.85	5.50	4.40	.....
10M14Z5	MO	8.10	7.60	7.10	.....
10M14Z10	MO	6.45	6.05	4.40	.....
10M14Z7	MO	5.85	5.50	4.40	.....
10M17Z5	MO	8.10	7.60	7.10	.....
10M19Z	MO	5.85	5.50	4.40	.....
10M19Z5	MO	8.10	7.60	7.10	.....
10M25Z	MO	5.85	5.50	4.40	.....
10M25Z5	MO	8.10	7.60	7.10	.....
10M45Z	MO	5.85	5.50	4.40	.....
10M45Z5	MO	8.10	7.60	7.10	.....
10M50Z	MO	5.85	5.50	4.40	.....
10M50Z5	MO	8.10	7.60	7.10	.....
10M52Z	MO	5.85	5.50	4.40	

# Semiconductor Directory

## LISTINGS BY MANUFACTURERS TYPE NUMBER

Type No.	Mfr.	EACH	
		1-99	100-999
651C9	TI	4.85	4.15
652	TI	4.35	3.65
652CO	TI	4.85	4.15
652C2	TI	4.85	4.15
652C4	TI	4.85	4.15
652C6	TI	4.85	4.15
652C7	TI	4.85	4.15
652C8	TI	4.85	4.15
652C9	TI	4.85	4.15
653C2	TI	4.85	4.15
653CO	TI	4.85	4.15
653C3	TI	4.85	4.15
653C4	TI	4.85	4.15
653C5	TI	4.85	4.15
653C6	TI	4.85	4.15
653C8	TI	4.85	4.15
653C9	TI	4.85	4.15
654C9	TI	4.85	4.15
A71	GE	1.95	1.30
A7C	GE	1.95	1.30
A7D	GE	1.95	1.30
A7E	GE	1.95	1.30
A7G	GE	1.95	1.30
A10A	GE	.66	.44
A10B	GE	.69	.46
A10C	GE	.77	.51
A10D	GE	.85	.59
A10E	GE	.88	.65
A10M	GE	1.43	.95
A10N	GE	2.67	1.78
A10P	GE	5.33	3.55
A27B	GE	6.38	4.25
A27M	GE	8.63	5.75
A27N	GE	12.48	8.50
A27P	GE	12.75	8.50
A27PB	GE	18.00	12.00
A40A	GE	1.34	.89
A40B	GE	1.79	1.19
A40C	GE	2.40	1.60
A40D	GE	2.90	1.93
A40E	GE	3.63	2.35
A40F	GE	4.19	.79
A40M	GE	4.20	2.80
A44A	GE	.81	.54
A44B	GE	1.20	.80
A44C	GE	1.54	1.03
A44D	GE	1.93	1.29
A44E	GE	2.79	1.86
A44F	GE	3.73	2.49
A44M	GE	3.51	2.34
A45A	GE	.81	.54
A45B	GE	1.20	.80
A45C	GE	1.54	1.03
A45D	GE	1.93	1.29
A45F	GE	.73	.49
A92M	GE	66.00	55.80
A92P	GE	44.60	32.60
A92PB	TI	10.40	9.30
A650	TI	27.30	21.00
A651	TI	39.00	30.00
A670	TI	5.00	.....
A671	TI	6.00	.....

Type No.	Mfr.	EACH	
		1-9	10-99
A-610	TI	225.00	175.00
A-610	TI	325.00	290.00
A612	TI	425.00	400.00
A652	TI	18.20	14.00
A653	TI	11.70	9.00

Type No.	Mfr.	EACH	
		1-99	100-999
BD1	GE	5.00	3.30
BD2	GE	5.00	3.30
BD3	GE	3.00	2.00
BD4	GE	3.00	3.49
BD5	GE	10.00	6.65
BD6	GE	10.00	6.65
BD7	GE	10.00	6.65
C12A	GE	8.40	5.60
C12B	GE	13.95	9.30
C12C	GE	20.25	13.50
C12F	GE	6.60	4.40
C12G	GE	11.10	7.40
C12H	GE	16.95	11.30
C12U	GE	6.15	4.10
C15A	GE	5.10	3.40
C15B	GE	6.30	4.20
C15C	GE	8.70	5.80
C15D	GE	10.30	6.85
C15F	GE	4.80	3.20
C15G	GE	5.85	3.90
C15U	GE	4.65	3.10
C20A	GE	2.85	1.90
C20B	GE	3.08	2.05
C20C	GE	5.25	3.50
C20D	GE	7.35	4.90
C20U	GE	2.63	1.75
C22A	GE	2.40	1.60
C22B	GE	2.63	1.75
C22C	GE	4.80	3.00
C22D	GE	6.90	4.60
C22F	GE	2.18	1.45
C22U	GE	1.95	1.30

Type No.	Mfr.	EACH	
		1-99	100-999
C35M	GE	37.50	25.00
C35S	GE	42.75	28.50
C36M	GE	30.00	20.00
C36S	GE	32.25	21.50
C37A	GE	6.83	4.55
C37B	GE	9.75	6.50
C37C	GE	16.73	11.15
C37D	GE	23.63	15.75
C37F	GE	6.00	4.00
C37U	GE	5.18	3.45
C38A	GE	13.90	9.25
C38B	GE	19.50	13.00
C38C	GE	27.40	18.25
C38D	GE	34.15	22.75
C38E	GE	41.25	27.25
C38F	GE	12.40	8.25
C38H	GE	23.25	15.50
C40A	GE	11.70	7.80
C40B	GE	17.40	11.60
C40C	GE	25.75	17.15
C40D	GE	34.15	22.75
C40E	GE	44.65	29.75
C40F	GE	10.35	6.90
C40G	GE	14.50	9.65
C40H	GE	21.45	14.30
C40U	GE	9.55	6.35
C50E	GE	170.00	.....
C50M	GE	210.00	.....

Type No.	Mfr.	EACH	
		1-24	25-99
C45A	GE	29.50	23.00
C45B	GE	32.00	25.00
C45C	GE	47.50	37.50
C45D	GE	61.50	48.50
C45E	GE	71.50	56.00
C45F	GE	23.00	18.00
C45G	GE	29.00	22.00
C45M	GE	118.00	93.00
C45N	GE	181.00	142.00
C55M	GE	142.00	113.00
C55A	GE	43.00	35.00
C55B	GE	54.00	43.00
C55C	GE	80.00	64.00
C55D	GE	89.00	71.00
C55E	GE	106.00	84.00
C55F	GE	35.00	28.50
C55G	GE	51.00	41.00
C55H	GE	69.00	55.00
C55U	GE	27.00	22.00
C80A	GE	107.00	79.00
C80B	GE	144.00	113.00
C80C	GE	195.00	153.00
C80D	GE	224.00	176.00
C80E	GE	259.00	204.00
C80F	GE	62.50	50.00
C80G	GE	177.00	.....
C80H	GE	282.00	.....
C80M	GE	302.00	238.00
C80N	GE	423.00	340.00
C80S	GE	33.00	24.00
C80U	GE	55.50	44.50

Type No.	Mfr.	EACH	
		1-99	100-999
CK4A	RA	2.55	1.70
CK4B	RA	3.00	2.00
CK4C	RA	3.30	2.20
CK4D	RA	2.73	1.82
CK65A	RA	2.48	1.65
CK65B	RA	2.48	1.65
CK65C	RA	2.73	1.82
CK66B	RA	2.85	1.90
CK66C	RA	3.30	2.20
CK67	RA	3.63	2.42
CK47A*	RA	8.50	4.60
CK715	RA	.66	.....
CK721*	RA	2.40	.....
CK722*	RA	.90	.....
CK768*	RA	1.50	.....

Type No.	Mfr.	EACH		
		1-9	100-999	1000-9999
CM0911	RC	73.26	48.84	44.40
CM0912	RC	97.60	65.07	59.15
CM0913	RC	91.76	61.17	55.61
CM0914	RC	53.72	35.82	32.56
CM0915	RC	110.48	73.66	66.96
CO-1	TI	1.00	.82	.....
CPO917	RC	7.90	5.27	4.79
CPO918	RC	6.91	4.61	4.19
CPO919	RC	8.42	5.61	5.10
CPO920	RC	11.67	7.78	7.07

Type No.	Mfr.	EACH	
		1-9	10-Up
CR101	RC	6.00	5.50
CR102	RC	8.40	7.70
CR103	RC	9.60	8.80
CR104	RC	11.40	10.45
CR105	RC	13.20	12.10
CR106	RC	15.60	14.30
CR107	RC	18.00	16.50
CR108	RC	20.40	18.70
CR109	RC	24.00	22.00
CR110	RC	26.40	24.20
CR201	RC	4.80	4.40
CR203	RC	7.20	6.60

Type No.	Mfr.	EACH	
		1-9	10-Up
CR204	RC	9.60	8.80
CR206	RC	13.20	12.10
CR208	RC	16.80	15.40
CR210	RC	20.40	18.70
CR212	RC	23.40	21.45

Type No.	Mfr.	EACH	
		1-99	100-999
D1820	SY	.55	.42
D3530	SY	.91	.71

Type No.	Mfr.	EACH		
		1-9	10-99	100-999
D4168	SY	15.00	12.95	11.85
D4168A	SY	25.00	21.20	19.40
D4168B	SY	40.00	35.25	31.40
D4168C	SY	75.00	64.40	59.00
D4168D	SY	110.00	94.40	86.50
D4200H	SY	90.00	77.00	.....
D4201H	SY	90.00	77.00	.....
D4210H	SY	96.00	82.50	.....
D4221H	SY	110.00	95.00	.....

Type No.	Mfr.	EACH	
		1-99	100-999
D4231B	SY	40.00	34.30
D4231D	SY	55.00	47.20
D4231F	SY	100.00	85.75
D4231H	SY	180.00	154.50
D4231J	SY	200.00	172.00

Type No.	Mfr.	EACH	
		1-9	10-99
D4232E	SY	100.00	85.75
D4241C	SY	45.00	38.60
D4252A	SY	46.00	39.40
D4252B	SY	64.00	55.00
D4264A	SY	90.00	77.00
D4266-3	SY	46.00	39.40

Type No.	Mfr.	EACH	
		1-99	100-999
D4401F	SY	60.00	51.50
D4401G	SY	84.00	72.00
D4401H	SY	120.00	104.00
D4401J	SY	168.00	143.00
D4401K	SY	210.00	180.00

Type No.	Mfr.	EACH	
		1-9	10-99
D4554X	SY	23.00	19.80
D4556X	SY	23.00	19.80
D4561Y	SY	12.50	11.00
D4562Z	SY	23.00	19.80
D4560X	SY	23.00	19.80
D4560Z	SY	12.50	11.00
D4570Y	SY	23.00	19.80
D4570Y	SY	12.50	11.00
D4570Z	SY	8.00	6.85
D4601H	SY	9.00	6.85
D4603F	SY	139.00	115.00
D4603F	SY	149.00	128.00
D4611G	SY	88.00	75.50
D4611H	SY	106.00	91.00
D4612G	SY	121.00	104.00
D4621H	SY	121.00	104.00
D4632E	SY	110.00	95.00
D4641E	SY	77.00	65.00
D4643C	SY	121.00	104.00

Type No.	Mfr.	EACH	
		1-99	100-999
D4762	SY	109.00	93.00
D4763	SY	168.00	144.00
D4764	SY	114.00	98.00
D4763	SY	156.00	134.00
D4912	SY	75.00	64.00
D4912A	SY	100.00	86.00
D4912B	SY	125.00	107.00

Type No.	Mfr.	EACH	
		1-9	10-99
D4961	SY	25.00	21.40
D4961C	SY	110.00	94.00
D4962	SY	20.00	17.15
D4962B	SY	50.00	43.00
D4966	SY	12.00	10.60
D4966B	SY	37.50	32.00
D5061</			

# Semiconductor Directory

## LISTINGS BY MANUFACTURERS TYPE NUMBER

Type No.	Mfr.	EACH	
		1-99	100-999
K-1W	IN	98.50	.....
K-10W	IN	169.00	.....
K-1000	IN	383.00	.....
L6A	GE	7.50	5.00
L6B	GE	10.00	6.65
L6C	GE	15.00	10.00
L6D	GE	25.00	16.65
L6F	GE	5.00	3.33
L6U	GE	3.00	2.00
L6X12	GE	2.50	1.67
L7A	GE	7.50	5.00
L7B	GE	10.00	6.65
L7C	GE	15.00	10.00
L7D	GE	25.00	16.65
L7E	GE	5.00	3.33
L7F	GE	3.00	2.00
L7X12	GE	2.50	1.67

Type No.	Mfr.	EACH	
		1-9	10-99
L4120	PH	35.40	26.00
L4122	PH	35.40	26.00
L4130	PH	35.40	26.00
L4131	PH	35.40	26.00
L4132	PH	35.40	26.00
L4133	PH	35.40	26.00
L4134	PH	35.40	26.00
L4135	PH	35.40	26.00
L4136	PH	35.40	26.00
L4137	PH	52.60	35.00
L4138	PH	35.40	26.00
L4139	PH	35.40	26.00
L4140	PH	35.40	26.00
L4141	PH	35.40	26.00
L4142	PH	35.40	26.00
L4143	PH	35.40	26.00
L4144	PH	35.40	26.00
L4145	PH	35.40	26.00
L4146	PH	35.40	26.00
L4147	PH	35.40	26.00

Type No.	Mfr.	EACH	
		1-9	10-99
L4233A	PH	15.00	12.00
L4233B	PH	15.00	12.00
L4233C	PH	15.00	12.00
L4233D	PH	20.00	16.00
L4233E	PH	30.00	24.00
L4233F	PH	40.00	32.00
L4233G	PH	50.00	40.00
L4233H	PH	60.00	48.00
L4233I	PH	70.00	56.00
L4234A	PH	15.00	12.00
L4234B	PH	15.00	12.00
L4234C	PH	20.00	16.00
L4234D	PH	35.00	28.00
L4234E	PH	45.00	36.00
L4234F	PH	20.00	16.00
L4234G	PH	20.00	16.00
L4234H	PH	25.00	20.00
L4234I	PH	35.00	28.00
L4234J	PH	45.00	36.00
L4234K	PH	55.00	44.00
L4234L	PH	65.00	52.00
L4234M	PH	75.00	60.00
L4244A	PH	20.00	16.00
L4244B	PH	20.00	16.00
L4244C	PH	25.00	20.00
L4244D	PH	30.00	24.00
L4244E	PH	40.00	32.00
L4244F	PH	50.00	40.00
L4256A	PH	40.00	32.00
L4256B	PH	50.00	40.00
L4256C	PH	60.00	48.00
L4267A	PH	50.00	40.00
L4267B	PH	60.00	48.00
L4277A	PH	60.00	48.00
L4277B	PH	70.00	56.00
L4632A	PH	15.00	12.00
L4632B	PH	15.00	12.00
L4632C	PH	15.00	12.00
L4632D	PH	20.00	16.00
L4632E	PH	25.00	20.00
L4633A	PH	15.00	12.00
L4633B	PH	15.00	12.00
L4633C	PH	15.00	12.00
L4633D	PH	15.00	12.00
L4633E	PH	20.00	16.00
L4633F	PH	25.00	20.00
L4633G	PH	30.00	24.00
L4633H	PH	40.00	32.00
L4634A	PH	15.00	12.00
L4634B	PH	15.00	12.00
L4634C	PH	15.00	12.00
L4634D	PH	25.00	20.00
L4643A	PH	15.00	12.00
L4643B	PH	15.00	12.00
L4643C	PH	15.00	12.00
L4643D	PH	20.00	16.00
L4644A	PH	15.00	12.00
L4644B	PH	15.00	12.00
L4644C	PH	20.00	16.00
L4644D	PH	30.00	24.00
L4701	PH	52.60	35.00

Type No.	Mfr.	EACH	
		1-9	10-99
LL-9000	PH	35.00	.....
LS-221	TI	24.00	20.00
LS-222	TI	6.00	5.45
LS-223	TI	9.40	9.20
LS-400	TI	13.50	12.50
LS-600	TI	13.00	9.50
M0001	SV	3.82	3.40
M0002	SV	5.65	5.10
M0003	SV	4.75	4.25
M0004	SV	7.05	6.30
M0005	SV	5.10	4.55
M0006	SV	7.65	6.80
M0007	SV	3.18	2.84
M0008	SV	4.75	4.25
M0009	SV	6.35	5.70
M0010	SV	7.65	6.80
M0011	SV	9.50	8.50
M0012	SV	10.20	9.10
M0013	SV	10.45	9.40
M0045	SV	10.20	9.10
M0046	SV	10.45	9.40
M0047	SV	14.00	12.50
M0101	SV	3.18	2.84
M0103	SV	6.35	5.70
M0104	SV	4.75	4.25
M0105	SV	7.05	6.30
M0106	SV	9.50	8.50
M0107	SV	3.18	2.84
M0108	SV	5.65	5.10
M0109	SV	7.65	6.80
M0116	SV	12.00	9.60
M0117	SV	8.00	6.40

Type No.	Mfr.	EACH	
		1-9	10-99
MA408A	MI	6.00	5.40 4.80
MA425	MI	6.70	6.03 5.25
MA462	MI	20.00	18.00 16.00

Type No.	Mfr.	EACH	
		1-9	10-99
MA4506	MI	15.00	10.00

Type No.	Mfr.	EACH	
		1-9	10-99
M-150	ST	.66	.43
MA460C	MI	15.00	10.00
MA785	MI	11.50	9.20

Type No.	Mfr.	EACH		
		1-9	10-99	100-999
MA4050A	MI	100.00	60.00	35.00
MA4050B	MI	100.00	160.00	35.00

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
MA4060A	MI	35.00	20.00	.....
MA4060B	MI	35.00	20.00	.....

Type No.	Mfr.	EACH		
		1-4	5-9	10-24
MA4060C	MI	35.00	17.00	14.00
MA4060D	MI	35.00	17.00	14.00
MA4061A	MI	50.00	25.00	20.00
MA4061B	MI	50.00	25.00	20.00
MA4061C	MI	50.00	25.00	20.00
MA4061D	MI	50.00	25.00	20.00

Type No.	Mfr.	EACH	
		1-99	100-999
MA4121	MI	5.00	4.00

Type No.	Mfr.	EACH		
		1-9	10-99	100-999
MA4127	MI	3.80	3.42	2.90
MA4128	MI	7.50	6.75	5.90
MA4133	MI	4.20	3.78	3.30

Type No.	Mfr.	EACH		
		1-4	5-9	10-24
MA4135	MI	17.50	15.75	13.80

Type No.	Mfr.	EACH	
		1-99	100-999
MA4280	MI	24.00	19.20
MA4287	MI	11.00	11.00
MA4346C	MI	55.00	44.00
MA4346D	MI	65.00	52.00
MA4346E	MI	75.00	60.00
MA4346F	MI	85.00	68.00
MA4347C	MI	55.00	44.00
MA4347D	MI	55.00	44.00
MA4347E	MI	75.00	60.00
MA4352A1	MI	63.30	55.64
MA4351A1	MI	80.00	64.00
MA4354A1	MI	52.00	41.60
MA4354B1	MI	63.30	50.64
MA4355A1	MI	52.00	41.60
MCR649-3	MO	7.35	4.90
MCR649-4	MO	9.75	5.50
MCR649-5	MO	9.75	6.50
MCR649-6	MO	14.25	9.50
MCR649-7	MO	21.75	14.50
MCR649-8	MO	30.75	20.50
MCR649-9	MO	37.50	25.00
MCR729-5	MO	37.50	25.00
MCR729-6	MO	52.50	35.00
MCR729-7	MO	60.00	40.00

Type No.	Mfr.	EACH	
		1-99	100-999
MCR729-8	MO	90.00	60.00
MCR729-9	MO	150.00	100.00
MCR729-10	MO	210.00	140.00
MCR808-1	MO	4.50	3.50
MCR808-2	MO	5.25	3.50
MCR808-3	MO	6.00	4.50
MCR808-4	MO	7.50	5.00
MCR808-5	MO	12.75	8.50
MCR808-6	MO	18.00	12.00
MCR808-7	MO	15.00	10.00
MCR808-8	MO	18.75	12.50
MCR808-9	MO	22.50	15.00
MCR808-10	MO	29.25	19.50
MCR808-11	MO	60.00	40.00
MCR808-12	MO	90.00	60.00

Type No.	Mfr.	EACH	
		1-99	100-999
MCR846-1	MO	5.15	3.45
MCR846-2	MO	5.75	3.85
MCR846-3	MO	7.35	4.90
MCR846-4	MO	14.60	9.75
MD225	HA	7.70	5.78
MD226	HA	7.70	5.78
MD227	HA	7.70	5.78
MD228	HA	7.70	5.78
MD229	HA	7.70	5.78
MD230	HA	8.35	6.26
MD471	HA	7.00	5.25
MD472	HA	7.00	5.25
MD473	HA	7.00	5.25
MD474	HA	7.00	5.25
MD475	HA	7.00	5.25
MD746	HA	5.33	4.00
MD747	HA	5.33	4.00
MD748	HA	5.33	4.00
MD749	HA	5.33	4.00
MD750	HA	5.33	4.00
MD751	HA	5.33	4.00
MD752	HA	5.33	4.00
MD753	HA	5.33	4.00
MD754	HA	5.33	4.00
MD755	HA	5.33	4.00
MD756	HA	5.33	4.00
MD757	HA	5.33	4.00
MD758	HA	5.33	4.00
MD759	HA	5.33	4.00
MK-10	MO	.23	.15
MK-15	MO	.23	.15
MK-20	MO	.35	.23
MMS77	MO	7.50	5.78
MM719	MO	4.50	3.00
MM799	MO	48.75	32.50
MM800	MO	66.75	44.50
MM801	MO	14.25	9.50
MP1	GE	8.25	5.50
MP2	GE	7.50	5.00
MP500*	MO	6.35	4.25

Type No.	Mfr.	EACH	
		1-99	100-999
MP500A*	MO	7.10	4.75
MP501*	MO	10.80	7.20
MP501A*	MO	11.55	7.70
MP502*	MO	14.25	9.25
MP502A*	MO	15.00	10.00
MP503*	MO	20.25	13.50
MP593A*	MO	21.00	14.00
MP504*	MO	7.40	4.95
MP504A*	MO	8.15	5.45
MP505*	MO	12.00	8.00
MP505A*	MO	12.75	8.50
MP506*	MO	16.10	10.75
MP506A*	MO	16.85	11.25
MP507*	MO	22.50	15.00
MP721A	MO	9.00	6.00
MP721B	MO	13.00	8.70
MP721C	MO	22.50	15.00
MQ1	GE	16.50	11.00
MQ2	GE	15.00	10.00

Type No.	Mfr.	EACH	
		1-99	100-999
MR322,MR322R	MO	.66	.45
MR323,MR323R	MO	.72	.51

# Semiconductor Directory

## LISTINGS BY MANUFACTURER'S TYPE NUMBER

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
PS415	PA	2.13	1.60	
PS420	PA	2.60	1.80	
PS425	PA	2.80	1.95	
PS430	PA	2.85	1.85	
PS435	PA	3.00	2.00	
PS440	PA	3.10	2.10	
PS450	PA	3.20	2.20	
PS460	PA	3.30	2.30	
PS1140	PA	7.75	.....	
PS1141	PA	9.75	.....	
PS1142	PA	12.00	.....	
PS1143	PA	16.00	.....	
PS1144	PA	20.00	.....	
PS1145	PA	24.00	.....	
PS1146	PA	27.00	.....	
PS1147	PA	31.00	.....	
PS1148	PA	39.00	.....	
PS1910	PA	51.00	.....	
PS1911	PA	55.00	.....	
PS1912	PA	74.00	.....	
PS1913	PA	21.00	.....	
PS6314	PA	21.00	.....	
PS6313	PA	2.75	2.20	
PS6313A	PA	3.60	2.85	
PS6314	PA	2.75	2.20	
PS6314A	PA	3.60	2.85	
PS6315	PA	2.75	2.20	
PS6315A	PA	3.60	2.85	
PS6316	PA	2.75	2.20	
PS6316A	PA	3.60	2.85	
PS6317	PA	2.75	2.20	
PS6317A	PA	3.60	2.85	
PS6318	PA	2.75	2.20	
PS6318A	PA	3.60	2.85	
PS6319	PA	2.75	2.20	
PS6319A	PA	3.60	2.85	
PS6320	PA	2.75	2.20	
PS6320A	PA	3.60	2.85	
PS6321	PA	2.75	2.20	
PS6321A	PA	3.60	2.85	
PS6322	PA	2.75	2.20	
PS6322A	PA	3.60	2.85	
PS6323	PA	2.75	2.20	
PS6323A	PA	3.60	2.85	
PS6324	PA	2.75	2.20	
PS6324A	PA	3.60	2.85	
PS6325	PA	2.75	2.20	
PS6325A	PA	3.60	2.85	
PT530A	PA	100.00	75.00	
PT7351	PA	125.00	100.00	
PT600	PA	32.50	24.90	
PT601	PA	32.50	24.90	
PT612	PA	37.50	37.50	
PT665A	PA	75.00	58.00	
PT720	PA	4.00	3.00	
PT850	PA	11.95	8.95	
PT850A	PA	25.20	17.50	
PT886	PA	3.50	2.95	
PT887	PA	4.25	3.75	
PT888	PA	4.75	3.95	
PT900	PA	85.00	72.00	
PT1515	PA	42.50	35.00	
PT1558	PA	49.50	42.50	
OT-1	IN	3.00	2.00	
RA1	GE	4.50	3.00	
RA1A	GE	7.95	5.30	
RA1B	GE	14.10	9.40	
RA1C	GE	27.75	18.50	
RA2	GE	7.95	5.30	
RA2A	GE	22.50	15.00	
RA2B	GE	49.50	33.00	
RA3	GE	8.25	5.50	
RA3A	GE	23.40	15.60	
RA3B	GE	54.00	36.00	
RCA-40044	RC	100.00	.....	
RCA-40045	RC	110.00	.....	
RCA-40046	RC	125.00	.....	
RCA-40047	RC	150.00	.....	
RCA-40048	RC	180.00	.....	
RCA-40108	RC	74	50	
RCA-40109	RC	197	61	
RCA-40110	RC	1.51	1.05	
RCA-40111	RC	2.62	1.83	
RCA-40112	RC	2.48	1.65	
RCA-40114	RC	3.71	2.48	
RCA-40208	RC	1.32	88	
RCA-40209	RC	1.40	.94	
RCA-40210	RC	1.90	1.27	
RCA-40211	RC	2.62	1.60	
RCA-40212	RC	2.39	1.63	
RCA-40214	RC	4.21	2.81	
RV8	IN	52.00	.....	
RV8A	IN	57.00	.....	
RV8-PC	IN	45.00	.....	
RV8-PCA	IN	49.00	.....	

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
S-493C	ST	8.37	7.53	6.70
S-493	ST	4.39	3.95	3.51
S-495A	ST	6.46	5.81	5.17
S-495B	ST	8.48	7.63	6.78
S-495C	ST	12.13	10.92	9.70
S-539	ST	1.02	.93	.82
S-539A	ST	1.42	1.28	1.14
S-539B	ST	1.76	1.58	1.41
S-539C	ST	2.26	2.03	1.81
S-542	ST	2.59	2.22	2.17
S-542A	ST	4.58	4.18	3.71
S-542B	ST	4.64	4.18	3.71
S-542C	ST	6.49	5.84	5.19
S-544	ST	3.43	3.09	2.74
S-544A	ST	5.02	4.52	4.02
S-544B	ST	6.56	5.90	5.25
S-544C	ST	9.31	8.38	7.47
S-544D	ST	7.1	6.4	5.7
S-550A	ST	.94	.85	.75
S-550B	ST	1.12	1.01	.90
S-550C	ST	1.32	1.19	1.06
S-553	ST	1.19	1.07	.95
S-553A	ST	1.66	1.49	1.33
S-553B	ST	2.08	1.87	1.66
S-553C	ST	2.73	2.46	2.18
S-556	ST	1.59	1.41	1.24
S-556A	ST	2.39	2.14	1.90
S-556B	ST	3.04	2.74	2.43
S-556C	ST	4.04	3.64	3.23

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
ST-6	IN	14.40	12.24	
ST-7A	IN	28.25	24.01	
ST-8	IN	13.00	11.05	
ST-9	IN	137.50	116.88	
ST-10	IN	137.50	116.88	
ST13	IN	13.00	11.05	
ST14	IN	5.95	5.06	

Type No.	Mfr.	EACH		
		1-99	100-999	1000-9999
TI-42	TI	2.75	1.80	
TI-43	TI	2.25	1.50	
TI-56	TI	.73	.56	
TI-57	TI	.81	.62	
TI-58	TI	.78	.68	
TI-60	TI	.99	.75	
TI-71	TI	.76	.65	
TI-72	TI	.87	.74	
TI-73	TI	1.03	.85	
TI-74	TI	1.19	1.02	
TI-75	TI	1.50	1.30	
TI-116	TI	12.00	8.00	
TI-117	TI	31.00	20.70	
TI-118	TI	47.90	31.75	
TI-136	TI	12.00	8.00	
TI-137	TI	31.00	20.70	
TI-138	TI	47.90	31.45	
TI-140A	TI	4.65	3.10	
TI-140A1	TI	5.10	3.40	
TI-140A2	TI	6.30	4.20	
TI-140A3	TI	8.70	5.80	
TI-140A4	TI	10.30	6.85	
TI-145A0	TI	3.40	2.25	
TI-145A1	TI	5.10	3.40	
TI-145A2	TI	6.30	4.20	
TI-145A3	TI	8.70	5.80	
TI-145A4	TI	10.30	6.85	
TI-150	TI	25.00	22.50	
TI-153	TI	81.00	72.90	
TI-251	TI	1.68	1.26	
TI-252	TI	1.72	1.28	
TI-253	TI	1.78	1.32	
TI-254	TI	2.75	1.60	
TI-255	TI	2.95	2.40	
TI-256	TI	2.95	2.60	
TI-257	TI	3.65	2.80	
TI-320	TI	1.50	1.00	
TI-321	TI	1.66	1.10	
TI-363	TI	.85	.57	
TI-364	TI	.78	.52	
TI-365	TI	1.50	1.00	
TI-376	TI	.71	.45	
TI-377	TI	.70	.47	
TI-388*	TI	1.20	.80	
TI-389*	TI	1.20	.80	
TI-390	TI	2.04	1.36	
TI-391	TI	1.85	1.23	
TI-395*	TI	1.41	.94	
TI-397*	TI	.92	.62	
TI-399*	TI	.87	.58	



# Semiconductor Directory

## LISTINGS BY MANUFACTURERS TYPE NUMBER

Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		Type No.	Mfr.	EACH		
		1-99	100-999			1-99	100-999			1-99	100-999			1-99	100-999	
V912	PA	3.50	2.50	VD116	RC	140.00	.....	VD503	RC	60.00	.....	Z1104	IN	1.90	1.60	
V912E	PA	3.75	2.75	VD116A	RC	190.00	.....	VD503A	RC	60.00	.....	Z1108	IN	1.90	1.60	
V920	PA	3.50	2.50	VD117	RC	180.00	.....	VD510	RC	15.00	.....	Z1110	IN	1.90	1.60	
V920E	PA	3.75	2.75	VD117A	RC	235.00	.....	VD510A	RC	15.00	.....	Z1114	IN	1.90	1.60	
V927	PA	3.50	2.50	VD210	RC	30.00	.....	VD511	RC	30.00	.....	Z1118	IN	1.90	1.60	
V927E	PA	3.75	2.75	VD210A	RC	35.00	.....	VD511A	RC	30.00	.....	Z1122	IN	1.90	1.60	
V933	PA	3.50	2.50	VD211	RC	40.00	.....	VD512	RC	60.00	.....	Z1126	IN	1.90	1.60	
V933E	PA	3.75	2.75	VD211A	RC	65.00	.....	VD512A	RC	60.00	.....	Z1130	IN	1.90	1.60	
V939	PA	3.50	2.50	VD212	RC	50.00	.....	VD513	RC	120.00	.....	Z1134	IN	1.90	1.60	
V939E	PA	3.75	2.75	VD212A	RC	80.00	.....	VD513A	RC	120.00	.....	Z1138	IN	2.25	1.85	
V947	PA	3.50	2.50	VD213	RC	65.00	.....	VD520	RC	30.00	.....	Z1140	IN	2.25	1.85	
V947E	PA	3.75	2.75	VD213A	RC	100.00	.....	VD520A	RC	30.00	.....	Z1300	IN	3.50	2.95	
V956	PA	3.50	2.50	VD214	RC	85.00	.....	VD521	RC	45.00	.....	Z1304	IN	2.90	2.45	
V956E	PA	3.75	2.75	VD214A	RC	125.00	.....	VD521A	RC	45.00	.....	Z1308	IN	2.90	2.45	
V968	PA	3.50	2.50	VD215	RC	110.00	.....	VD522	RC	90.00	.....	Z1310	IN	2.90	2.45	
V982	PA	3.75	2.75	VD215A	RC	155.00	.....	VD522A	RC	90.00	.....	Z1314	IN	2.90	2.45	
V2853	PH	8.46	5.60	VD216	RC	140.00	.....	VD523	RC	180.00	.....	Z1318	IN	2.90	2.45	
V2854	PH	14.00	9.25	VD216A	RC	190.00	.....	VD523A	RC	180.00	.....	Z1322	IN	2.90	2.45	
V100	PA	3.05	2.30	VD217	RC	180.00	.....	WR-3	RA	12.00/c	.....	Z1326	IN	2.90	2.45	
VD110	RC	30.00	.....	VD217A	RC	85.00	.....	WR-16	RA	12.00/c	.....	Z1330	IN	2.90	2.45	
VD110A	RC	55.00	.....	VD310	RC	30.00	.....	WR-20	RA	12.00/c	.....	Z1334	IN	2.90	2.45	
VD111	RC	40.00	.....	VD312	RC	50.00	.....	XA650	TI	27.30	21.00	Z1338	IN	2.90	2.45	
VD111A	RC	65.00	.....	VD313	RC	100.00	.....	XA651	TI	39.00	30.00	Z1340	IN	4.00	3.40	
VD112	RC	50.00	.....	VD314	RC	150.00	.....	XA652	TI	18.20	14.00	Z1-235A	GE	7.50	.....	
VD112A	RC	80.00	.....	VD315	RC	200.00	.....	XA653	TI	11.70	9.00	Z1-235B	GE	10.00	.....	
VD113	RC	65.00	.....	VD500	RC	100.00	.....	XD-501	TI	140.00	.....	Z1-235C	GE	15.00	10.00	
VD113A	RC	85.00	.....	VD501	RC	15.00	.....	XD-501T	TI	280.00	240.00	Z1-235D	GE	25.00	16.65	
VD114	RC	85.00	.....	VD501A	RC	15.00	.....	XD-502	TI	400.00	329.00	Z1-235F	GE	5.00	.....	
VD114A	RC	125.00	.....	VD502	RC	30.00	.....	XD-503	TI	500.00	411.00	Z1-235U	GE	3.00	.....	
VD115	RC	110.00	.....	VD502A	RC	30.00	.....	Z1100	IN	1.90	1.60					
VD115A	RC	155.00	.....													

## MIL-TYPE SEMI-CONDUCTORS

Over 350 military-type semiconductors are available from Allied's Navy stock facility. They include JAN, USN, JRC, USA and USAF. As specifications are revised, Allied will stock the latest MIL spec. When ordering, two copies of your purchase order must be sent to Allied.

Type No.	Mfr.	EACH				Type No.	Mfr.	EACH				Type No.	Mfr.	EACH			
		1-99	100-999	1000-9999	10000-49999			1-99	100-999	1000-9999	10000-49999			1-99	100-999	1000-9999	10000-49999
1N21B/JAN	SY	.68	.54	.....	.....	1N315/USAF	GE	3.75	2.50	.....	.....	1N649/AF	PA	6.35	4.44	.....	.....
1N21C/JAN	SY	1.16	.81	.....	.....	1N430/USN	HA	25.20	21.60	.....	.....	1N649/AF	TI	4.60	3.05	.....	.....
1N21WE/JAN	SY	7.65	.54	.....	.....	1N437/JAN	PA	1.00	.75	.....	.....	1N658/SC	PA	3.75	2.73	.....	.....
1N23B/JAN	SY	.67	.54	.....	.....	1N437/JAN	PA	.74	.55	.....	.....	1N662/SC	PA	1.20	.60	.....	.....
1N23C/JAN	SY	1.41	1.12	.....	.....	1N437/JAN	PA	.74	.55	.....	.....	1N662/SC	TI	1.14	.80	.....	.....
1N23WE/JAN	SY	5.90	4.65	.....	.....	1N457/JAN	TI	.45	.35	.28	.....	1N663/SC	PA	1.60	1.15	.....	.....
1N25/JAN	SY	3.53	2.74	.....	.....	1N458/JAN	HA	1.25	.94	.....	.....	1N663/USA	TI	1.54	1.13	.....	.....
1N26/JAN	SY	6.50	5.10	.....	.....	1N458/JAN	PA	.79	.59	.....	.....	1N691/USN	RA	3.38	2.25	.....	.....
1N26M/JAN	PH	6.50	5.10	.....	.....	1N458/JAN	RA	.58	.45	.....	.....	1N709/Sig C	PA	2.10	1.60	.....	.....
1N26B/USN	PH	27.25	21.75	.....	.....	1N458/JAN	SY	.51	.40	.32	.....	1N716/Sig C	PA	2.10	1.60	.....	.....
1N38B/JAN	SY	1.22	.95	.81	.....	1N458/JAN	TI	.51	.40	.....	.....	1N718/Sig C	PA	2.10	1.60	.....	.....
1N53/JAN	SY	23.20	18.60	.....	.....	1N459/JAN	HA	1.50	1.13	.....	.....	1N720/Sig C	PA	2.10	1.60	.....	.....
1N55A/USN	SY	2.51	1.97	1.58	.....	1N459/JAN	PA	.93	.70	.....	.....	1N722/Sig C	PA	2.10	1.60	.....	.....
1N69A/JAN	SY	.58	.45	.36	.....	1N459/JAN	SY	.66	.51	.41	.....	1N648/AF	GE	2.50	1.65	.....	.....
1N70A/JAN	PH	1.05	.79	.63	.....	1N459/JAN	TI	.66	.51	.....	.....	1N649/JAN	GE	3.50	2.40	.....	.....
1N78M/JAN	PH	6.65	5.20	.....	.....	1N483B/USN	PA	1.50	1.05	.....	.....	1N649/AF	GE	2.63	1.75	.....	.....
1N78/JAN	SY	6.50	5.10	.....	.....	1N483B/JAN	PA	1.00	.75	.....	.....						
1N78B/Sig. C	PH	12.00	9.45	.....	.....	1N483B/JAN	HA	1.44	1.08	.....	.....						
1N78C/Sig. C	PH	45.00	35.40	.....	.....	1N483B/USN	TI	.61	.49	.....	.....						
1N81A/JAN	SY	.75	.59	.47	.....	1N483B/USN	TI	2.60	1.90	.....	.....						
1N82A/USA	SY	.81	.71	.61	.....	1N483BM/JAN	PA	1.00	.75	.....	.....						
1N83/USN	SY	3.45	2.30	.....	.....	1N485B/USN	HA	2.40	1.80	.....	.....						
1N126/JAN	HA	1.45	.34	.....	.....	1N485B/USN	PA	1.60	1.20	.....	.....						
1N126A/JAN	SY	.89	.54	.24	.....	1N485B/USN	TI	4.20	3.35	.....	.....						
1N127/JAN	SY	.30	.70	.59	.....	1N486B/USN	HA	2.28	2.18	.....	.....						
1N127A/JAN	HA	.89	.68	.....	.....	1N486B/USN	PA	2.00	1.50	.....	.....						
1N127B/JAN	SY	.83	.65	.52	.....	1N486B/USN	TI	5.00	3.75	.....	.....						
1N128/JAN	HA	.55	.41	.....	.....	1N486BM/JAN	PA	2.00	1.50	.....	.....						
1N128A/JAN	SY	.37	.33	.....	.....	1N538/JAN	GE	.65	.43	.....	.....						
1N128B/JAN	SY	3.17	.25	.20	.....	1N538/JAN	MO	.87	.55	.....	.....						
1N198/JAN	HA	.51	.40	.....	.....	1N538/JAN	RC	.91	.61	.....	.....						
1N198A/JAN	RA	.51	.39	.....	.....	1N538/JAN	TI	.75	.50	.....	.....						
1N198B/JAN	SY	.35	.28	.22	.....	1N538/JAN	TI	.75	.50	.....	.....						
1N249B/USA	GE	8.18	5.45	.....	.....	1N538/JAN	TI	.75	.50	.....	.....						
1N249B/USA	RC	3.63	2.42	.....	.....	1N538/JAN	TI	.75	.50	.....	.....						
1N250B/USA	RC	5.70	3.80	.....	.....	1N540/JAN	MO	.82	.68	.....	.....						
1N250B/USA	RC	3.24	3.80	.....	.....	1N540/JAN	MO	.82	.68	.....	.....						
1N251/JAN	SY	.70	.55	.44	.....	1N540/JAN	RC	1.22	.81	.....	.....						
1N251A/JAN	TI	1.90	1.20	.....	.....	1N540/JAN	TI	1.05	.70	.....	.....						
1N252A/JAN	GE	1.57	.05	.....	.....	1N540/JAN	TI	1.05	.70	.....	.....						
1N253A/JAN	MO	1.95	1.30	.....	.....	1N540/JAN	TI	1.05	.70	.....	.....						
1N253/JAN	TI	1.28	.85	.....	.....	1N540/JAN	TI	1.05	.70	.....	.....						
1N253A/JAN	MO	1.63	.09	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N253/JAN	MO	1.17	1.45	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N254/JAN	TI	1.34	.89	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N255A/JAN	GE	2.35	1.57	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N255/JAN	MO	3.28	2.15	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N255A/JAN	TI	2.06	1.37	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N256/JAN	GE	3.24	2.16	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N257/JAN	TI	2.24	1.26	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N257A/JAN	TI	15.83	1.26	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N270/JAN	HA	.75	.56	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N270A/JAN	RA	.50	.39	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N270/JAN	SY	.32	.25	.20	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N276/JAN	HA	.70	.53	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N276A/JAN	RA	.43	.34	.....	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N276/JAN	SY	.31	.24	.19	.....	1N547/JAN	MO	1.51	1.01	.....	.....						
1N277/JAN	HA																

# Semiconductor Directory

## MIL-TYPE SEMI-CONDUCTORS

Type No.	Mfr.	EACH	
		1-99	100-999
1N2135A/USA	GE	9.07	6.05
1N2153/USA	HA	18.00	12.06
1N2135A/USA	RC	9.08	6.05

MOTOROLA-METAL ZENER DIODES			
*10 per type, 100 total per order — must all be metal.			
Type No.	Mfr.	EACH	
		1-99	*100-Mix
1N2804B/USN thru			
1N2838B/USN thru	GE	14.65	11.00
1N2840B/USN thru			
1N2846B/USN thru	GE	25.75	19.35
1N2970B/USA thru			
1N2977B/USA thru	GE	10.05	7.55
1N2979B/USA thru	GE	10.05	7.55
1N2980B/USA thru	GE	10.05	7.55
1N2982B/USA thru	GE	10.05	7.55
1N2984B/USA thru			
1N2993B/USA thru	GE	10.05	7.55
1N2995B/USA thru			
1N2997B/USA thru	GE	10.05	7.55
1N2999B/USA thru			
1N3005B/USA thru	GE	10.05	7.55
1N3007B/USA thru			
1N3009B/USA thru	GE	10.05	7.55
1N3011B/USA thru			
1N3012B/USA thru	GE	17.50	13.15
1N3015B/USA thru			
1N3016B/USA thru	GE	5.20	3.90
1N3020B/USA thru			
1N3031B/USA thru	GE	5.20	3.90
1N3043B/USA thru			

Type No.	Mfr.	EACH			
		1-24	25-99	100-999	1000-9999
1N3064/USN	GE	2.70	2.70	1.80	
1N3064/USN	TI	3.55	3.55	2.80	
1N3189/USN	MO	4.35	4.35	2.90	
1N3206/Sig. C	PA	4.90	4.90	3.85	
1N3207/Sig. C	PA	4.50	4.50	3.40	
1N3666M/USN	HA	.70	.70	.53	

Type No.	Mfr.	EACH	
		1-99	100-999
2N43A/USAF	GE	5.25	3.50
2N44A/USAF	GE	4.95	3.50
2N78A/USAF	GE	3.10	2.10
2N117/USN	TI	8.45	5.65
2N118/USN	TI	9.15	6.35
2N119/USN	TI	11.45	7.55
2N123/USAF	GE	4.50	3.00
2N128/JAN	PH	6.30	4.62
2N167A/USAF	GE	5.65	3.78
2N174/JAN	MO	4.75	3.18
2N174/JAN	RC	7.67	5.11

Type No.	Mfr.	EACH	
		1-99	100-999
2N220/JAN	RC	2.06	1.38
2N240/JAN	PH	5.93	4.35
2N274/JAN	RC	3.30	2.20
2N297A/USA	MO	2.65	1.78
2N326/JAN	SY	14.10	9.40
2N328AM/JAN	HA	6.65	5.00
2N329A/USA	RA	13.00	10.00
2N329AM/JAN	HA	13.35	10.00
2N331/JAN	MO	1.80	1.20
2N332/USN	GE	4.95	3.30
2N332/USN	TI	4.95	3.30
2N333/USN	TI	4.95	3.30
2N334/USN	GE	4.95	3.30
2N334/USN	TI	4.95	3.30
2N335/USN	GE	5.25	3.50
2N335/USN	TI	5.25	3.50
2N337/USN	GE	5.15	3.40
2N337/USN	TI	5.15	3.40
2N337/USN	TI	5.25	3.82
2N342/JAN	TI	14.55	9.65
2N343/JAN	TI	22.90	15.25
2N384/JAN	RC	3.71	2.48
2N384/USN	RC	4.54	3.03
2N388/USN	RC	.61	.41
2N388/USN	TI	.61	.41
2N389/USN	TI	43.35	28.90
2N393/JAN	TI	4.73	3.45
2N396A/USN	GE	8.3	5.5
2N398/USN	MO	1.47	.98
2N398/USN	RC	1.47	.98
2N404/USAF	GE	.63	.42
2N404/USAF	PH	.94	.62
2N404/USAF	RC	.50	.33
2N404/USAF	TI	.50	.33
2N423/JAN	GE	34.35	22.90
2N428/MIL	PH	2.95	1.44
2N456A/USA	TI	3.45	2.30
2N457A/USA	TI	4.00	2.65
2N458A/USA	TI	4.50	3.00
2N461/AF	GE	3.45	2.30
2N461/USAF	MO	3.45	2.30
2N465/SC	MO	1.80	1.20
2N466/JAN	MO	1.95	1.30
2N467/USA	MO	2.25	1.50
2N489/USAF	GE	7.85	5.25
2N490/USAF	GE	8.55	5.70
2N490/USAF	TI	3.55	2.70
2N491/USAF	GE	9.15	6.10
2N491/USAF	TI	9.15	6.10
2N492/USAF	GE	10.55	7.05
2N493/USAF	GE	11.40	7.60
2N493/USAF	TI	11.00	7.60
2N494/USAF	GE	11.60	7.70
2N494/USAF	TI	11.60	7.70
2N495/USAF	PH	11.63	8.53
2N496/USAF	PH	11.63	8.53
2N497/JAN	GE	2.30	2.20
2N497/JAN	TI	6.40	4.25
2N497/JAN	RA	9.30	6.20
2N498/JAN	GE	11.80	7.85
2N498/JAN	TI	8.35	5.55
2N499/USA	PH	4.20	3.05
2N499A/USA	PH	5.18	3.30
2N501A/JAN	PH	7.35	5.50
2N502A/SC	PH	3.75	2.75
2N526/JAN	GE	1.74	1.16
2N526/USN	GE	1.74	1.16
2N526/JAN	MO	1.74	1.16
2N528/MIL	PH	3.08	2.26
2N528/MIL	PH	3.08	2.26
2N529/MIL	PH	3.90	2.86
2N590/USA	PH	3.90	2.86
2N600/MIL	PH	3.98	2.92
2N600/MIL	PH	3.98	2.92

Type No.	Mfr.	EACH	
		1-99	100-999
2N601/USA	PH	3.83	2.81
2N624/USA	SV	9.00	6.00
2N650A/USN	MO	2.92	1.95
2N651A/USN	MO	2.85	1.90
2N652A/USN	MO	1.37	2.22
2N656/JAN	GE	10.37	6.85
2N656/JAN	TI	7.15	4.75
2N657/JAN	GE	10.50	7.00
2N657/JAN	RA	10.50	7.00
2N657/JAN	TI	9.45	6.30
2N681/USN	GE	9.70	6.45
2N681M/JAN	GE	9.70	6.45
2N682/USN	GE	10.45	6.95
2N682M/JAN	GE	10.45	6.95
2N683/USN	GE	9.55	7.20
2N683M/JAN	GE	11.55	7.70
2N684/USN	GE	13.80	9.20
2N684M/JAN	GE	13.80	9.20
2N685/USN	GE	16.05	10.70
2N685M/JAN	GE	16.05	10.70
2N686/JAN	GE	19.05	12.70
2N686M/JAN	GE	19.05	12.70
2N687/USN	GE	22.05	14.70
2N687M/JAN	GE	22.05	14.70
2N688/USN	GE	27.30	18.20
2N688M/JAN	GE	27.30	18.20
2N689M/JAN	GE	32.95	21.95
2N696/USN	GE	1.98	1.32
2N696/USA	RC	1.98	1.32
2N696/USA	TI	5.25	2.75
2N696/USA	TI	1.98	1.32
2N696M/JAN	TI	1.98	1.32
2N697/JAN	GE	2.48	1.65
2N697/USA	PA	2.80	2.10
2N697/USA	RA	6.25	3.30
2N697/USA	RC	2.48	1.65
2N697/USA	TI	2.06	1.38
2N697M/JAN	TI	2.06	1.38
2N700A/SC	MO	14.25	9.50
2N702/USA	TI	7.65	5.10
2N703/USA	TI	7.80	5.25
2N705/USN	MO	2.45	1.65
2N705/USN	SY	3.00	2.00
2N705/USN	TI	3.00	2.00
2N706/USN	RC	2.23	1.49
2N706/JAN	SV	5.40	3.50
2N706/JAN	TI	1.57	1.05
2N706/JAN	TI	2.23	1.49
2N706M/JAN	MO	5.40	3.60
2N716/USN	TI	43.00	28.70
2N929/USN	TI	13.03	8.71
2N930/USA	TI	21.00	14.01
2N1011/USA	MO	2.90	1.94
2N1021/USN	TI	5.10	3.40
2N1022/USA	TI	5.70	3.80
2N1039/USN	TI	4.50	3.00
2N1039/USN	TI	4.50	3.00
2N1041/USN	TI	8.25	5.50
2N1042/USA	TI	5.25	3.50
2N1042-1/USA	TI	5.25	3.50
2N1042-2/USA	TI	5.25	3.50
2N1043/USA	TI	6.60	4.40
2N1043-1/USA	TI	9.00	6.00
2N1044/USA	TI	9.55	6.35
2N1045/USA	TI	12.20	8.15
2N1047A/USN	TI	23.20	15.45
2N1048A/USN	TI	29.75	18.10
2N1049A/USN	TI	27.15	16.80
2N1050A/USN	TI	37.50	25.00
2N1120/USA	MO	12.75	8.50
2N1131/USN	HA	6.45	4.84
2N1131/USA	TI	6.00	4.00
2N1132/USN	HA	13.08	9.81
2N1132/USA	PH	13.95	9.30
2N1133/USA	PH	7.13	5.23
2N1165/USN	MO	14.60	9.75
2N1183/USA	RC	2.64	1.76

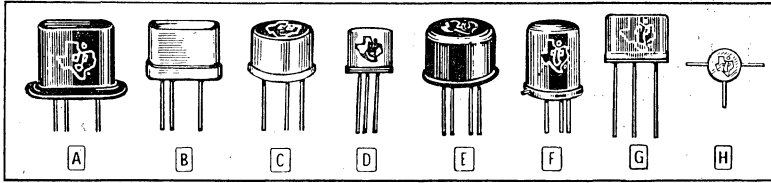
Type No.	Mfr.	EACH	
		1-99	100-999
2N1183A/USA	RC	3.30	2.20
2N1183B/USA	RC	3.88	2.59
2N1184/USA	RC	4.95	3.30
2N1184A/USA	RC	5.78	3.85
2N1184B/USA	RC	7.43	4.95
2N1197/USA	HA	11.35	8.50
2N1224/Sig. C	RC	2.06	1.38
2N1224/USN	SV	2.06	1.38
2N1225/Sig. C	SV	2.31	1.54
2N1225/USN	RC	2.31	1.54
2N1234/USA	HA	25.30	19.00
2N1302/USN	TI	.51	.34
2N1303/USN	RC	.51	.34
2N1303/USN	TI	.51	.34
2N1304/USN	RC	.64	.43
2N1304/USN	TI	.63	.43
2N1305/USN	GE	.64	.43
2N1305/USN	RC	.64	.43
2N1305/USN	TI	.63	.43
2N1306/USN	TI	.86	.57
2N1307/USN	GE	.84	.57
2N1307/USN	RC	.84	.57
2N1308/USN	TI	1.19	.79
2N1308/USN	TI	1.17	.79
2N1309/USN	RC	1.19	.79
2N1309/USN	TI	1.17	.79
2N1358/USA	MO	5.90	4.17
2N1358M/JAN	MO	6.90	5.10
2N1358/USA	RC	7.67	5.11
2N1411/USA	PH	3.74	2.74
2N1412/USN	MO	6.50	4.34
2N1412/USN	RC	6.52	4.34
2N1479/USA	RC	3.47	2.31
2N1480/USA	RC	3.80	2.53
2N1481/USA	RC	4.13	2.75
2N1482/USA	RC	4.95	3.30
2N1483/USA	RC	5.36	3.58
2N1484/USA	RC	6.60	4.40
2N1485/USA	RC	8.25	5.50
2N1486/USA	RC	11.14	7.43
2N1499A/USA	PH	1.73	1.27



# Texas Instruments Silicon Transistors

ALLIED STOCKS EVERY TI SEMICONDUCTOR AS SOON AS ANNOUNCED

Over 400 military version semiconductors are now available from Allied.



Order your TI semiconductors from Allied. Same-day shipment, OEM prices, complete stocks.

Explanation of Abbreviations and Column Headings. A, alloy junction; AD, alloy diffused; E, epitaxial. EM, epitaxial mesa. GD, grown diffused. GJ, grown junction; M, mesa. P, planar; EP, epitaxial planar. All PNP, except \*NPN. Symbols: \*, h<sub>FE</sub>; †, h<sub>FB</sub>; §, BV<sub>CEO</sub>; †V<sub>sat</sub>. Column heads; BV<sub>CEO</sub>, collector-base breakdown voltage, open input; BV<sub>CEO</sub>, collector-emitter breakdown voltage, open input; BV<sub>CEB</sub>, collector-emitter breakdown voltage, resistance input;

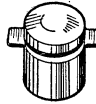
BV<sub>CEC</sub>, collector-emitter breakdown voltage, base-emitter back biased; f<sub>ab</sub>, alpha cutoff freq; h<sub>FB</sub>, small-signal current gain, common base; h<sub>FE</sub>, small-signal current gain, common emitter; h<sub>FE</sub>, DC current gain; I<sub>C</sub>, max. coll. curr.; I<sub>CO</sub>, collector-base cutoff curr.; P<sub>C</sub>, max. collector diss.; P<sub>T</sub>, total diss.; R<sub>sat</sub>, sat. res.; S, structure; V<sub>CEO</sub>, max. collector-base voltage, open input; V<sub>sat</sub>, collector-emitter sat. voltage; V<sub>BB</sub>, base-to-base voltage; η, intrinsic standoff ratio.

## SMALL-SIGNAL SILICON TRANSISTORS

BV<sub>CEO</sub> measured at I<sub>E</sub>=0.

Type No.	Fig.	S	P <sub>C</sub> mW	I <sub>C</sub> ma	h <sub>FB</sub>		BV <sub>CEO</sub> V	f <sub>ab</sub> mc	EACH	
					Min.	Max.			1-99	100-999
2N117	A	*GJ	150	25	0.9	0.953	45	4	8.15	5.45
USN2N117	A	MIL-T-19500/35							8.45	5.65
2N118	A	*GJ	150	25	0.948	0.976	45	5	8.15	5.45
JAN2N118	A	MIL-T-19500/2							9.15	6.35
2N118A	A	*GJ	150	25	0.948	0.989	45	8	8.15	5.45
2N119	A	*GJ	150	25	0.973	0.989	45	6	11.05	7.35
USN2N119	A	MIL-T-19500/35							11.45	7.55
2N120	A	*GJ	150	25	0.987	0.997	45	7	12.60	8.40
2N332	A	*GJ	150	25	0.9	0.953	45	6	4.65	3.10
USN2N332	A	MIL-T-19500/37A							4.95	3.30
2N332A	C	*GJ	500	25	0.9	0.953	45	10	4.95	3.30
2N333	C	*GJ	150	25	0.948	0.976	45	8	4.65	3.10
USN2N333	C	MIL-T-19500/37A							4.95	3.30
2N333A	C	*GJ	500	25	0.948	0.976	45	11	4.95	3.30
2N334	C	*GJ	150	25	0.948	0.989	45	10	4.65	3.10
USN2N334	C	MIL-T-19500/37A							4.95	3.30
2N334A	C	*GJ	500	25	0.948	0.989	45	12	4.95	3.30
2N335	C	*GJ	150	25	0.973	0.989	45	11	4.95	3.30
USN2N335	C	MIL-T-19500/37A							5.25	3.50
2N335A	C	*GJ	500	25	0.973	0.989	45	13	5.25	3.50
2N336	C	*GJ	150	25	0.987	0.997	45	13	6.00	4.00
2N336A	C	*GJ	500	25	0.987	0.997	45	15	6.30	4.20
2N470	C	*GJ	200	25	*10	*25	15	....	3.45	2.30
2N471	C	*GJ	200	25	*10	*25	30	....	5.60	3.75
2N472	C	*GJ	200	25	*10	*25	45	....	7.45	4.95
2N473	C	*GJ	200	25	*20	*50	15	....	3.45	2.50
2N474	C	*GJ	200	25	*20	*50	30	....	6.40	4.30
2N475	C	*GJ	200	25	*20	*50	45	....	7.95	5.30
2N476	C	*GJ	200	25	*30	*60	15	....	8.80	6.00
2N477	C	*GJ	200	25	*30	*60	30	....	9.80	6.55
2N478	C	*GJ	200	25	*40	*100	15	....	3.70	2.80
2N479	C	*GJ	200	25	*40	*100	30	....	7.10	4.75
2N480	C	*GJ	200	25	*40	*100	45	....	9.50	6.55
2N541	C	*GJ	200	25	*80	*200	15	....	6.20	4.10
2N542	C	*GJ	200	25	*80	*200	30	....	6.30	4.20
2N543	C	*M	200	25	*80	*200	45	....	8.10	5.40
2N734	D	*M	500	50	20	50	60	40	8.95	5.95
2N735	D	*M	500	50	40	100	60	40	8.95	5.95
2N736	D	*M	500	50	80	200	60	50	9.90	6.60
2N736A	E	*M	1W	100	*80	*200	80	30	9.90	6.60
2N738	D	*M	500	50	*20	*50	125	60	12.50	8.30
2N739	D	*M	500	50	*40	*100	125	60	12.50	8.30
2N740	D	*M	500	50	*80	*200	125	60	12.40	8.30
2N760	E	*M	1W	100	*76	*333	45	50	8.10	5.40
2N760A	E	*M	1W	100	*76	*333	60	50	14.95	9.75
2N1149/903	B	*GJ	150	25	0.9	0.953	45	4	8.65	5.75
2N1150/904	B	*GJ	150	25	0.948	0.976	45	5	8.65	5.75
2N1150/904A	B	*GJ	150	25	0.948	0.949	45	8	8.65	5.75
2N1152/905	B	*GJ	150	25	0.972	0.989	45	6	11.35	7.55
2N1153/910	B	*GJ	150	25	0.987	0.997	45	7	13.35	8.90
2N1276	C	*GJ	150	25	*9	*22	40	30	3.85	2.55
2N1277	C	*GJ	150	25	*18	*44	40	30	4.25	2.84
2N1278	C	*GJ	150	25	*37	*90	40	30	4.75	3.15
2N1279	C	*GJ	150	25	*76	*333	40	34	5.60	3.70
2N1564	C	*M	600	50	*20	*50	80	40	10.35	6.90
2N1565	C	*M	600	50	*40	*100	80	40	10.35	6.90
2N1566	C	*M	600	50	*80	*200	80	50	10.35	6.90
2N1566A	C	*M	1.2W	100	*80	*200	80	30	10.35	6.90
2N1572	C	*M	1.2W	50	*20	*50	125	30	12.60	8.40
2N1573	C	*M	1.2W	50	*40	*100	125	30	12.75	8.55
2N1574	C	*M	1.2W	50	*80	*200	125	30	13.65	9.15
2N2387	H	*P	1W	30	*100	*120	45	30	18.40	12.25
2N2388	H	*P	1W	30	*100	*300	45	30	29.95	19.95

## NEW LS-600 NPN LIGHT SENSOR



Ultra-miniature light sensor device is designed specifically for 1/16" printed circuit board insertion. Unit is ideal for use in tape and card readers, character recognition and photo relay applications. Especially useful where size is a critical factor. Compact unit combines high sensitivity (light current, 8 ma minimum; dark current, 25 ma maximum) with extremely minute size. Tiny encapsulated package is less than 1/10" high with a body diameter of only 1/16".

LS-600, 1-99..... EACH 13.00 100-999..... EACH 9.50

## INDUSTRIAL TYPE SILICON TRANSISTORS

Type No.	Fig.	S	P <sub>C</sub> ma	I <sub>C</sub> ma	h <sub>FE</sub>		BV <sub>CEO</sub> V	f <sub>ab</sub> Mc	EACH		
					Min.	Max.			1-99	100-999	
2N1586/J503	B	*GJ	150	25	*9	*27	15	4	4.65	3.10	
2N1587/J504	B	*GJ	150	25	*9	*27	30	4	4.50	3.00	
2N1588/J505	B	*GJ	150	25	*9	*27	60	4	6.15	4.10	
2N1589/J506	B	*GJ	150	25	*25	*75	15	6	4.90	3.25	
2N1590/J507	B	*GJ	150	25	*25	*75	30	6	5.25	3.50	
2N1591/J508	B	*GJ	150	25	*25	*75	60	6	6.30	4.20	
2N1592/J509	B	*GJ	150	25	*70	*210	15	7	7.75	5.15	
2N1593/J510	B	*GJ	150	25	*70	*210	30	7	9.05	6.05	
2N1594/J511	B	*GJ	150	25	*70	*210	60	7	10.30	6.85	
TI-480	F	*GJ	600	60	*9	*36	50	1	1.55	1.20	
TI-481	F	*GJ	600	60	9	36	80	1	1.90	1.45	
TI-482	D	*M	2W	500	20	....	20	60	2.15	1.65	
TI-483	D	*M	2W	500	20	60	40	60	2.40	1.85	
TI-484	D	*M	2W	500	40	120	40	60	2.95	2.25	
TI-485	G	*M	1W	....	15	60	20	....	3.25	2.50	
TI-486	C	*M	15W	1A	20	80	80	25	5.00	3.85	
TI-487	C	*M	15W	1A	20	80	80	25	5.65	4.35	
TI-492	C	*GJ	15W	25	15	45	40	8	1.55	1.20	
TI-493	C	*GJ	125	20	15	45	40	20	1.90	1.45	
TI-494	C	*GJ	125	20	40	125	40	20	2.50	1.90	
TI-495	C	*GJ	125	20	250	....	250	40	20	3.00	2.30
TI-496	F	*GJ	600	60	10	....	40	....	1.75	1.35	

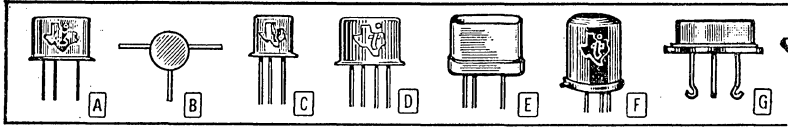
## UNIJUNCTION SILICON TRANSISTORS

For pulse timing circuits, relaxation oscillators, medium power switches. Max. ratings; peak emitter curr., 2 amps; RMS, 50 Ma.

Type No.	S	V <sub>BB</sub> V	P <sub>T</sub> mW	η		EACH	
				Min.	Max.	1-99	100-999
2N489	*GJ	65	600	.51	.62	7.10	4.75
2N490	*GJ	65	600	.51	.62	7.80	5.20
2N491	*GJ	65	600	.56	.68	8.40	5.60
2N492	*GJ	65	600	.56	.68	9.80	6.55
2N493	*GJ	65	600	.62	.75	10.75	7.20
2N494	*GJ	65	600	.62	.75	10.90	7.30
2N1671	*GJ	35	450	.47	.62	2.95	1.98
2N1671A	*GJ	35	450	.47	.62	3.20	2.14
2N1671B	*GJ	35	450	.47	.62	3.55	2.36
2N489A	GJ	65	600	.51	.62	7.65	5.10
2N489B	GJ	65	600	.51	.62	9.15	6.10
2N490A	GJ	65	600	.51	.62	8.35	5.55
2N490B	GJ	65	600	.51	.62	9.85	6.55
2N491A	GJ	65	600	.56	.68	8.90	5.95
2N491B	GJ	65	600	.56	.68	10.40	6.95
2N492A	GJ	65	600	.56	.68	10.40	6.95
2N492B	GJ	65	600	.56	.68	11.90	7.95
2N493A	GJ	65	600	.62	.75	11.20	7.50
2N493B	GJ	65	600	.62	.75	12.75	8.50
2N494A	GJ	65	600	.62	.75	11.40	7.60
2N494B	GJ	65	600	.62	.75	12.90	8.60
2N2160	GJ	35	450	.47	.80	2.50	1.68

# Texas Instruments Silicon Transistors

Order your TI semiconductors from Allied. Same-day shipment, OEM prices, complete stocks.



## SWITCHING AND HIGH FREQUENCY SILICON TRANSISTORS

Type No.	Fig.	S	P <sub>e</sub> mw	I <sub>c</sub> ma	hFE		BV <sub>CEO</sub> V	f <sub>β</sub> mc	EACH		
					Min.	Max.			1-99	100-999	
2N337	A	*GJ	125	20		20	55	45	20	4.85	3.20
US2N337	A	MIL-S-19500/69C								5.15	3.40
2N338	A	*GJ	125	20	45	150	45	30		5.50	3.65
US2N338	A	MIL-S-19500/69C								5.80	3.85
2N702	C	*P	1W	30	15	45	20	100		7.65	5.10
USA2N702	C	MIL-S-19500/153								7.65	5.10
2N703	C	*EM	600	50	40	120	25	150		7.65	5.10
USA2N703	C	MIL-S-19500/153								7.80	5.25
2N706	C	*EM	1W	30	20	45	25	100		1.57	1.05
USA2N706	C	MIL-S-19500/120								1.57	1.05
2N706A	C	*EM	1W	30	20	60	25	100		1.82	1.21
2N706B	C	*EM	1W	30	20	60	25	100		5.40	3.60
2N726	C	EP	1W	50	15	45	20	100		15.00	10.00
2N727	C	EP	1W	50	30	90	20	100		16.50	11.00
2N743	C	*EM	1W	200	20	60	12	100		7.65	5.10
2N744	C	*EM	1W	200	40	120	25	100		8.25	5.50
2N753	C	*EM	1W	200	40	120	25	100		5.65	3.75
2N849/ TI 1430	B	*E	1W	30	20	160	15	100		8.10	5.40
2N850/ TI 1431	B	*E	1W	30	40	120	15	100		9.60	6.40
2N851/ TI 1422	B	*E	1W	200	20	60	12	100		11.50	7.65
2N852/ TI 1423	B	*E	1W	200	40	120	12	100		12.40	8.25
2N2410	A	*EP	2.5W	800	30	120	30	100		10.80	7.20
2N2411	C	EP	1W	100	20	60	20	100		18.00	12.00
2N2412	C	EP	1W	100	40	120	20	100		22.50	15.00
2N2413	D	*EM	1W	200	30	120	18	100		11.55	7.70
3N34	D	*GD	125	20	*1@30 mc	30		100		5.00	4.15
3N35	D	*GD	125	20	*1@70 mc	30		100		22.50	15.00
JAN3N35		MIL-S-19500/80B			45	150	45	30		24.38	16.25
2N 263	E	GJ	125	20	20	55	45	20		17.85	11.90
2N 264	E	GJ	125	20	20	55	45	20		11.50	7.65
KA 2N706M	M	MIL-S-19500/120A								2.23	1.49
2N715	C	EM	500	50	10	50	35	70		34.65	23.10
2N716	C	EM	500	50	10	50	40	70		43.10	28.70
USA2N716		MIL-S-19500/154A								43.10	28.70
2N2217	C	EP	3W	800	20	60	30	100		5.85	3.90
2N2218	C	EP	3W	800	40	120	30	100		5.85	3.90
2N2219	C	EP	3W	800	100	300	30	100		6.75	4.50
2N2220	C	EP	1.8W	800	20	60	30	100		5.85	3.90
2N2221	C	EP	1.8W	800	40	120	30	100		5.85	3.90
2N2222	C	EP	1.8W	800	100	300	30	100		6.75	4.50
2N2243	C	EP	2.8W	1A	40	120	80	20		19.40	12.90
2N2243A	C	EP	2.8W	1A	40	120	80	20		20.90	13.90
TI 874	D	GD	125	20	10@1 kc	30		100		4.20	2.70

## MEDIUM & INTERMEDIATE-POWER SILICON TRANSISTORS (Cont'd From Column at Left)

Type No.	Fig.	S	P <sub>e</sub> mw	I <sub>c</sub> ma	hFE		BV <sub>CEO</sub> V	R <sub>θJA</sub> Ohms	NET EACH	
					Min.	Max.			1-99	100-999
2N721	C	*M	1.5W	30	20	45	50	11.5	6.82	4.55
2N722	C	*M	1.5W	30	90	50	50	11.5	20.90	15.65
2N730	C	*M	1500	20	60	60	60	11.5	1.87	1.25
2N731	C	*M	1500	40	120	60	60	11.5	2.36	1.58
2N870	C	*P	1.8W	40	120	100	100	15.0	15.45	10.30
2N871	C	*P	1.8W	100	300	100	100	15.0	18.45	12.30
2N1131	C	*M	2000	20	45	50	50	11.5	6.00	4.00
2N1132	A	M	2000	30	90	50	50	11.5	13.02	8.25
2N1154/951	E	*GJ	750	60	10.9	11.0	50	300	12.65	8.40
2N1155/952	E	*GJ	750	50	10.9	11.0	80	350	13.15	8.80
2N1156/953	A	*GJ	750	40	10.9	11.0	120	400	17.65	11.75
2N1252	A	*M	2000	15	45	30	30	11.5	7.00	4.65
2N1253	C	*M	2000	30	90	30	30	11.5	11.95	7.95
2N1420	C	*P	1.8W	100	300	60	60	11.5	6.00	4.00
2N1507	A	M	2000	100	300	60	60	11.5	6.00	4.00
2N1613	A	*P	3W	40	120	75	75	11.5	3.71	2.48
2N1711	A	*P	3W	100	300	75	75	11.5	4.54	3.03
2N1889	A	*P	3W	40	120	100	100	15.0	15.45	10.30
2N1890	A	*P	3W	100	300	100	100	11.5	18.45	12.30
2N1893	A	*P	3W	40	120	120	120	15.0	9.85	6.55
2N122	.....	GJ	8.75W	140	3	.....	120	200	60.00	40.00
JAN2N342		MIL-S-19500/16D							14.55	9.65
JAN2N696M		MIL-S-19500/99B							1.98	1.32
JAN2N697M		MIL-S-19500/99B							2.48	1.65
2N910	C	P	1.8W	80	200	100	1.2V		8.40	5.60
2N911	C	P	1.8W	40	100	100	1.2V		5.55	3.70
2N912	C	P	1.8W	20	50	100	1.2V		6.20	4.15
2N956	C	P	1.8W	100	300	75	1.5V		8.45	5.70
US2N1131		MIL-S-19500/177A							6.00	4.00
US2N1132		MIL-S-19500/177A							13.95	9.30
US2N1613		MIL-S-19500/181N							7.00	4.68
US2N1893		MIL-S-19500/182N							9.85	6.55
2N1973	A	P	3W	80	200	100	1.2V		10.50	7.00
2N1974	A	P	3W	40	100	100	1.2V		7.90	5.25
2N1975	A	P	3W	20	50	100	1.2V		6.20	4.15

## SILICON FIELD EFFECT TRANSISTORS

Type No.	Fig.	S	P <sub>t</sub> (W)	Max. I <sub>D(on)</sub> @ V <sub>DS</sub> = -10 v., V <sub>GS</sub> = 0 (ma)	EACH	
					1-99	100-999
2N2497	A	P	1.2	3	33.40	22.30
2N2498	A	P	1.5	6	27.60	18.35
2N2499	A	P	1.5	15	35.50	23.65
2N2500	A	P	1.5	6	68.00	52.95
2N2386	A	P	1.5	.....	14.86	9.75

## ☐ SILICON DUAL EMITTER CHOPPER

Type 2N2432. Has epitaxial planar construction in TO-18 case; collector or gate in electrical contact with case. Total power dissipation, P<sub>t</sub>, 0.6 watt. Maximum emitter current when emitter junction is reverse biased and collector is open circuited, I<sub>EB</sub>, 2ma @ V<sub>EB</sub> = 15V and I<sub>C</sub> = 0.  
2N2432. 1-99.....EACH 18.50 100-999.....EACH 12.35

## SILICON DIFFERENTIAL AMPLIFIER DUAL TRANSISTORS

Type No.	Fig.	S	P <sub>t</sub> (W)	hFE@V <sub>CE</sub> =5V I <sub>C</sub> =10μA, I <sub>B</sub> =100μA		EACH	
				Min.	Max.	1-99	100-999
2N2639	D	P	1.2	50	300	44.60	29.75
2N2640	D	P	1.2	50	300	29.55	19.70
2N2641	D	P	1.2	50	300	21.80	14.55
2N2642	D	P	1.2	100	300	51.00	33.95
2N2643	D	P	1.2	100	300	44.60	29.75
2N2644	D	P	1.2	100	300	26.20	17.50
2N2060	D	P	3.0	30	90	51.90	34.80
2N2223	D	P	3.0	25	150	25.95	17.40
2N2223A	D	P	3.0	25	150	34.25	23.00

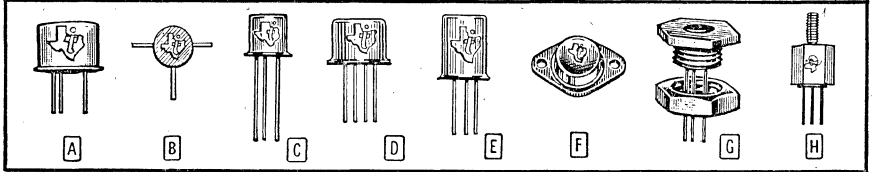
## SILICON LOW LEVEL SWITCH TRANSISTORS

Type	Fig.	S	P <sub>t</sub> (W)	Min. BV <sub>CEO</sub> @I <sub>C</sub> =10 ma (v)	1-99, EA.	100-999, EA.
2N2692	C	EP	.6	30	29.25	19.50
2N2693	C	EP	.6	30	18.65	12.45
2N2694	C	EP	.6	20	11.05	7.45

## MEDIUM & INTERMEDIATE-POWER SILICON TRANSISTORS

Type No.	Fig.	S	P <sub>e</sub> mw	I <sub>c</sub> ma	hFE		BV <sub>CEO</sub> V	R <sub>θJA</sub> Ohms	NET EACH	
					Min.	Max.			1-99	100-999
2N243	E	*GJ	750	60	10.9	10.968	60	350	13.75	9.15
2N244	E	*GJ	750	60	10.961	10.989	60	350	20.45	13.60
2N339	F	*GJ	1000	60	10.9	10.989	55	300	10.15	6.75
2N340	F	*GJ	1000	60	10.9	10.989	85	350	10.80	7.20
2N341	F	*GJ	1000	60	10.9	10.989	125	400	17.50	11.65
2N342	F	*GJ	1000	60	10.9	10.97	60	350	11.85	7.90
2N342A	F	*GJ	1000	60	10.97	10.97	85	350	11.90	7.95
2N342B	F	*GJ	1000	60	*9.0	*32	85	200	16.75	11.20
2N343	F	*GJ	1000	60	10.966	10.98				

# Texas Instruments Germanium Transistors



SEE PAGE 24 FOR EXPLANATION OF ABBREVIATIONS AND COLUMN HEADINGS

## HIGH-SPEED TRIODE SWITCHING TRANSISTORS

Fig. A types are short round welded triodes; each has nickel TO-5 case and 1/2" leads (min.). Fig. C types are miniature round welded triodes with standard TO-18 case and 1/2" leads (min.); collector is in electrical contact with case. 2N2001 is a core driver. \* Indicates positive volts. Total power dissipation is measured at 25°C free-air ambient, except † 25°C case temp. ‡ Bi-directional types.

Type No.	Fig.	S	P <sub>t</sub> (mw)	V <sub>C</sub> (V)	I <sub>C</sub> (ma)	I <sub>CBO</sub> /V <sub>CB</sub> (μa@V)	h <sub>FE</sub> Min.	f <sub>hfb</sub> (*f <sub>r</sub> ) mc	EACH	
									1-99	100-999
2N388	A	*A	150	#25	200	5 #1	60	15	.60	.40
2N388A	A	*A	150	#40	200	5 #1	60	16	1.10	.73
USN 2N388									.61	.41
2N395	A	A	150	30	250	6 15	20	3	.50	.33
2N396	A	A	150	30	250	6 20	20	3	.61	.41
2N397	A	A	150	30	250	6 15	40	10	1.12	.74
2N404	A	A	150	25	100	5 12	30	12	.50	.33
2N404A	A	A	150	40	150	5 12	30	12	.85	.57
USAF 2N404									.50	.33
2N426	A	A	150	30	400	4 1.5	30	.....	.72	.48
2N427	A	A	150	30	400	4 1.5	40	.....	.92	.61
2N428	A	A	150	30	400	4 1.5	60	.....	1.24	.82
2N524	A	A	225	45	500	10 30	25	2	1.35	.90
2N525	A	A	225	45	500	10 30	34	2.5	1.65	1.10
2N526	A	A	225	45	500	10 30	53	3.0	1.65	1.10
2N527	A	A	225	45	500	10 30	72	3.3	1.91	1.27
2N594	A	*A	150	#20	300	5 #5	20	.....	2.76	1.83
2N595	A	*A	150	#20	300	5 #5	35	.....	4.26	2.83
2N596	A	*A	150	#20	300	5 #5	50	.....	5.66	3.76
2N705	C	M	150	15	50	3 5	25	300	2.48	1.65
USN 2N705									3.00	2.00
2N710	C	M	150	15	50	3 5	25	300	2.48	1.65
2N711	C	M	150	12	100	3 5	20	300	1.45	.97
2N711A	C	M	150	15	100	1.5 5	25	300	1.45	.97
2N711B	C	M	150	18	.....	1.5 10	30	300	1.56	1.02
2N797	C	M	150	20	150	1 10	40	1000	4.58	3.05
2N960	C	EM	150	15	150	3 6	20	.....	3.85	2.56
2N961	C	EM	150	12	150	3 6	20	.....	3.15	2.10
2N962	C	EM	150	12	150	3 6	20	.....	2.40	1.60
2N963	C	EM	150	12	150	5 6	20	.....	1.25	.85
2N964	C	EM	150	15	150	3 6	40	.....	4.11	2.74
2N965	C	EM	150	12	150	3 6	40	.....	3.75	2.50
2N966	C	EM	150	12	150	3 6	40	.....	2.85	1.90
2N967	C	EM	150	12	150	3 6	40	.....	1.30	.90
2N985	C	EM	150	15	200	3 5	60	.....	4.11	2.74
2N1300	A	AD	150	13	100	6 6	30	.....	1.82	1.21
2N1301	A	AD	150	13	100	3 6	30	.....	2.48	1.65
2N1302	A	*A	150	#25	300	6 #25	20	3	.50	.33
USN 2N1302									.51	.34
2N1303	A	A	150	30	300	6 25	20	3	.50	.33
USN 2N1303									.51	.34
2N1304	A	*A	150	#25	300	6 #25	40	5	.61	.41
USN 2N1304									.63	.43
2N1305	A	A	150	30	300	6 25	40	5	.61	.41
USN 2N1305									.63	.43
2N1306	A	*A	150	#25	300	6 #25	60	10	.80	.53
USN 2N1306									.84	.57
2N1307	A	A	150	30	300	6 25	60	10	.80	.53
USN 2N1307									.84	.57
2N1308	A	*A	150	#25	300	6 #25	80	15	1.12	.74
USN 2N1308									1.17	.79
2N1309	A	A	150	30	300	6 25	80	15	1.12	.74
USN 2N1309									1.17	.79
2N1404	A	A	150	25	300	5 15	.....	4	.58	.39
2N1605	A	*A	150	#25	100	5 #12	40	12	.72	.48
2N1808	A	*A	150	#25	300	5 #15	.....	4	.58	.39
2N1994	A	*A	150	30	300	6 #20	15	.....	2.32	1.55
2N1995	A	*A	150	25	300	6 #20	25	.....	3.77	2.50
2N1996	A	*A	150	20	300	6 #20	35	.....	5.16	3.43
2N1997	A	A	250	45	500	6 15	40	.....	1.98	1.31
2N1998	A	A	250	35	500	6 15	50	.....	2.55	1.70
2N1999	A	A	250	30	500	6 15	75	.....	3.45	2.29
2N2000	A	A	300	50	1A	10 30	50	.....	3.00	2.00
2N2001	A	A	300	1A	6 15	60	.....	2.75	1.83	
TI-440	B	M	300†	15	50	3 5	25	300	30.80	20.45
TI-442	B	M	300†	12	50	3 5	20	300	30.80	20.45

## SWITCHING TRANSISTORS (Cont'd)

Type No.	Fig.	S	P <sub>t</sub> (mw)	V <sub>C</sub> (V)	I <sub>C</sub> (ma)	I <sub>CBO</sub> /V <sub>CB</sub> (μa@V)	h <sub>FE</sub> Min.	f <sub>hfb</sub> (*f <sub>r</sub> ) mc	EACH	
									1-99	100-999
2N1924	A	A	225	45	500	10 45	34	3	1.90	1.25
2N1925	A	A	225	45	500	10 45	53	3.5	2.10	1.40
2N1926	A	A	225	45	500	10 45	72	4	2.45	1.65
2N2635	C	EM	150	30	100	3 25	45	280*	1.75	1.15

## SMALL-SIGNAL TRANSISTORS

Fig. D types are short, round welded tetrodes in std. TO-12 nickel cases. Fig. E types are tall, round welded triodes.

Type No.	Fig.	S	P <sub>t</sub> (mw)	V <sub>C</sub> (V)	I <sub>C</sub> (ma)	I <sub>CBO</sub> /V <sub>CB</sub> (μa@V)	h <sub>FE</sub> (*h <sub>FE</sub> ) Min.	f <sub>hfb</sub> (mc)	EACH	
									1-99	100-999
TI-363	E	AM	150	30	50	3.0 @ 12	35	.....	.85	.57
TI-364	E	AM	150	30	50	5.0 @ 12	20	.....	.78	.52
TI-365	E	AM	150	30	50	5.0 @ 12	30	.....	1.50	1.00
TI-388	E	AM	150	30	50	5.0 @ 12	35	.....	1.20	.80
TI-389	E	AM	150	30	50	5.0 @ 12	20	.....	1.20	.80
TI-390	D	EM	75	30	25	4.0 @ 12	10	450	2.04	1.36
TI-391	D	EM	75	30	25	4.0 @ 12	10	450	1.85	1.23
TI-395	E	AM	150	30	50	5.0 @ 12	.....	.....	1.41	.95
TI-396	E	AM	150	45	50	5.0 @ 12	.....	.....	2.51	1.67
TI-397	E	AM	150	35	50	3.0 @ 12	35	.....	.92	.61
TI-398	E	AM	150	35	50	5.0 @ 12	30	.....	.87	.58
TI-399	E	AM	150	35	50	5.0 @ 12	20	.....	.87	.58
2N2188	E	AD	125	40	30	3 @ 12	*40	125 typ	1.27	.85
2N2189	E	AD	125	40	30	3 @ 12	*60	150	1.64	1.09
2N2190	E	AD	125	60	30	3 @ 12	*40	125	1.47	.98
2N2191	E	AD	125	60	30	3 @ 12	*60	150	1.86	1.23

## HIGH-FREQUENCY SMALL-SIGNAL TRANSISTORS

Fig. A and C types are same as described above left. Fig. B types are "Micromesa" units.

Type No.	Fig.	S	P <sub>t</sub> (mw)	V <sub>C</sub> (V)	I <sub>C</sub> (ma)	h <sub>FE</sub> (*h <sub>FE</sub> ) Min.	I <sub>CBO</sub> /V <sub>CB</sub> (μa@V)	f <sub>hfb</sub> (mc)	EACH	
									1-99	100-999
2N1141	A	M	300	35	100	*12	5 @ 15	750 typ	10.12	6.75
2N1142	A	M	300	30	100	*10	5 @ 15	600 typ	9.45	6.30
2N1143	A	M	300	25	100	*8	5 @ 15	480 typ	6.38	4.25
2N1195	A	M	225	30	40	12db	5 @ 20	750 typ	6.65	4.42
2N2415	C	M	75	15	20	2.5	5 @ 10	840 typ	52.50	35.00
2N2416	C	M	75	15	20	2.0	5 @ 10	750 typ	37.50	25.00
TI-443	B	EM	100	35	100	12 db	5 @ 15	750 typ	30.80	20.45
TI-444	B	EM	100	30	100	10 db	5 @ 15	600 typ	30.80	20.45
TI-445	B	EM	100	25	100	8 db	5 @ 15	480 typ	30.80	20.45

## GENERAL-PURPOSE TRANSISTORS

Type No.	Fig.	S	P <sub>t</sub> (mw)	V <sub>CB</sub> (V)	I <sub>C</sub> (ma)	h <sub>FE</sub>		I <sub>CBO</sub> (μa)	f <sub>ab</sub> Typ (Mc)	EACH	
						Min.	Max.			1-99	100-999
TI-376	...	A	150	20	150	60	150	15 @ 20V	.....	.74	.49
TI-377	...	A	150	20	150	30	75	20 @ 20V	.....	.70	.47
TI-320	...	A	100	30	50	19	49	20 @ 30V	40 min	1.50	1.00
TI-321	...	A	100	30	50	49	142	20 @ 30V	50 min	1.65	1.10
2N1273	A	A	150	15	150	30	150	14 @ 12V	.....	.67	.44
2N1274	A	A	150	25	150	30	150	14 @ 20V	.....	.69	.46
2N1370	A	A	150	25	150	50	150	14 @ 20V	5	.72	.48
2N1371	A	A	150	45	150	50	150	14 @ 20V	5	1.14	.76
2N1372	A	A	250	25	200	30	95	7 @ 20V	5.5	.82	.54
2N1373	A	A	250	45	200	30	95	7 @ 20V	5.5	1.20	.80
2N1374	A	A	250	25	200	50	150	7 @ 20V	7	1.02	.68
2N1375	A	A	250	45	200	50	150	7 @ 20V	7	1.39	.92
2N1376	A	A	250	25	200	75	150	7 @ 20V	10	1.29	.86
2N1377	A	A	250	45	200	75	150	7 @ 20V	10	1.50	1.00
2N1378	A	A	250	12	200	95	300	7 @ 12V	13	1.29	.86
2N1379	A	A	250	25	200	95	300	7 @ 20V	13	1.44	.96
2N1380	A	A	250	12	200	30	300	14 @ 12V	7	.67	.44
2N1381	A	A	250	25	200	30	300	14 @ 20V	7	.72	.48
2N1382	A	A	200	25	200	50	150	14 @ 20V	7	.99	.66
2N1383	A	A	200	25	200	50	150	14 @ 20V	5	.92	.61
2N650A	A	A	200	45	500	33	.....	10 @ 30V	7.5	1.70	1.13
2N651A	A	A	200	45	500	45	.....	10 @ 30V	1.00	1.70	1.13
2N652A	A	A	200								



# Texas Instruments Germanium and Silicon Transistors

## GENERAL-PURPOSE GERMANIUM TRANSISTORS

(Continued From Page 26)

Type No.	Fig.	S	P <sub>t</sub> (mw)	V <sub>CEO</sub> (V)	I <sub>c</sub> (ma)	hFE		I <sub>co</sub> (μa)	f <sub>ab</sub> Typ (Mc)	EACH	
						Min.	Max.			1-99	100-999
2N660	A	A	170	30	1000	40	.....	6 @ 12	15	2.78	1.85
2N661	A	A	170	30	1000	55	.....	6 @ 12	22	4.05	2.70
2N662	A	A	170	30	1000	18	.....	6 @ 12	10	1.92	1.15

## MEDIUM-POWER TRANSISTORS

P<sub>t</sub> is for 25°C case temperature.

Type No.	Fig.	S	P <sub>t</sub> (w)	V <sub>C</sub> (v)	I <sub>c</sub> (a)	hFE Min.	f <sub>hfe</sub> Min.	EACH	
								1-99	100-999
2N1038	G	A	20	40	3	20 @ 1A	225kc	2.85	1.90
2N1039	G	A	20	60	3	20 @ 1A	225kc	3.75	2.50
USN2N1039	Per MIL-S-19500/89							4.50	3.00
2N1040	G	A	20	80	3	20 @ 1A	225kc	5.70	3.80
2N1041	G	A	20	100	3	20 @ 1A	225kc	7.50	5.00
USN2N1041	Per MIL-S-19500/89							8.25	5.50
2N1042	G	A	20	40	3	20 @ 3A	250kc	4.50	3.00
USA2N1042	Per MIL-S-19500/137							5.25	3.50
2N1043	G	A	20	60	3	20 @ 3A	250kc	5.85	3.90
USA2N1043	Per MIL-S-19500/137							6.60	4.40
2N1044	G	A	20	80	3	20 @ 3A	250kc	8.80	5.85
USA2N1044	Per MIL-S-19500/137							9.55	6.35
2N1045	G	A	20	100	3	20 @ 3A	250kc	11.45	7.65
USA2N1045	Per MIL-S-19500/137							12.20	8.15
2N2552	H	A	20	40	3	20 @ 1A	225kc	3.00	2.00
2N2553	H	A	20	60	3	20 @ 1A	225kc	3.90	2.60
2N2554	H	A	20	80	3	20 @ 1A	225kc	5.85	3.90
2N2555	H	A	20	100	3	20 @ 1A	225kc	9.15	6.10
2N2556	G	A	20	40	3	20 @ 1A	225kc	3.05	2.05
2N2557	G	A	20	60	3	20 @ 1A	225kc	3.95	2.65
2N2558	G	A	20	80	3	20 @ 1A	225kc	5.90	3.95
2N2559	G	A	20	100	3	20 @ 1A	225kc	9.20	6.15
2N2560	G	H	20	40	3	20 @ 3A	250kc	4.45	2.95
2N2561	H	A	20	60	3	20 @ 3A	250kc	5.80	3.85
2N2562	H	A	20	80	3	20 @ 3A	250kc	8.70	5.80
2N2563	H	E	20	100	3	20 @ 3A	250kc	11.40	7.60
2N2564	E	A	20	40	3	20 @ 3A	250kc	4.30	2.85
2N2565	E	A	20	60	3	20 @ 3A	250kc	5.65	3.75
2N2566	E	A	20	80	3	20 @ 3A	250kc	8.55	5.70
2N2567	E	A	20	100	3	20 @ 3A	250kc	11.25	7.50

## GENERAL-PURPOSE POWER TRANSISTORS

Type No.	Fig.	S	P <sub>t</sub> (w)	V <sub>CEO</sub> (v)	I <sub>c</sub> (a)	hFE Min.	f <sub>ab</sub>	EACH	
								1-99	100-999
2N250A	F	A	90	40	7	35 @ 5A	.....	2.00	1.30
2N251A	F	A	90	60	7	35 @ 5A	.....	2.25	1.50
2N456A	F	A	90	40	7	30 @ 5A	200 kc	2.35	1.55
USA2N456A	Per MIL-S-19500/217							3.45	2.30
2N456B	F	A	150	40	7	30 @ 5A	200 kc	2.50	1.65
2N457A	F	A	90	60	7	30 @ 5A	200 kc	2.85	1.90
USA2N457A	Per MIL-S-19500/217							4.00	2.65
2N457B	F	A	150	60	7	30 @ 5A	200 kc	3.00	2.00
2N458A	F	A	90	80	7	30 @ 5A	200 kc	3.40	2.25
USA2N458A	Per MIL-S-19500/217							4.50	3.00
2N458B	F	A	150	80	7	30 @ 5A	200 kc	3.55	2.35
2N1021	F	A	90	100	7	30 @ 5A	200 kc	4.00	2.65
USA2N1021	Per MIL-S-19500/217							5.10	3.40
2N1021A	F	A	150	100	7	30 @ 5A	200 kc	4.15	2.75
2N1022	F	A	90	120	7	30 @ 5A	200 kc	4.60	3.05
USA2N1022	Per MIL-S-19500/217							5.70	3.80
2N1022A	F	A	150	120	7	30 @ 5A	200 kc	4.75	3.15

## HIGH-FREQUENCY TRANSISTORS

Type No.	Fig.	S	P <sub>t</sub> (w)	V <sub>CEO</sub> (v)	I <sub>c</sub> (a)	hFE Min.	f <sub>ab</sub>	EACH	
								1-99	100-999
2N1046	F	AD	150	100	10	40 @ 5A	15 mc min	10.00	6.70
2N1907	F	AD	150	100	20	10 @ 15A	20 mc min	9.00	6.00
2N1908	F	AD	150	130	20	10 @ 15A	20 mc min	13.00	8.70

## HIGH-POWER GENERAL-PURPOSE TRANSISTORS

Type No.	Fig.	S	P <sub>t</sub> (w)	I <sub>c</sub> (ma)	h <sub>rb</sub> Min.	V <sub>CEO</sub> (v)	f <sub>ab</sub> (mc)	EACH	
								1-99	100-999
2N511	F	A	150	40	25	20 @ 10A	260 kc	4.50	3.00
2N511A	F	A	150	60	25	20 @ 10A	260 kc	5.25	3.50
2N511B	F	A	150	80	25	20 @ 10A	260 kc	6.45	4.30
2N512	F	A	150	40	25	20 @ 15A	280 kc	5.25	3.50
2N512A	F	A	150	60	25	20 @ 15A	280 kc	6.00	4.00
2N512B	F	A	150	80	25	20 @ 15A	280 kc	7.95	5.30
2N513	F	A	150	40	25	20 @ 20A	300 kc	6.00	4.00
2N513A	F	A	150	60	25	20 @ 20A	300 kc	6.65	4.45
2N513B	F	A	150	80	25	20 @ 20A	300 kc	8.70	5.80
2N514	F	A	150	40	25	20 @ 25A	350 kc	8.25	5.50
2N514A	F	A	150	60	25	20 @ 25A	350 kc	8.40	5.60
2N514B	F	A	150	80	25	20 @ 25A	350 kc	12.00	8.00

## NEW HIGH-VOLTAGE SWITCHING TRANSISTORS

Round triodes; have welded nickel cases. #Indicates + voltage.

Type No.	Fig.	S	P <sub>t</sub> (w)	V <sub>CEO</sub> (v)	I <sub>c</sub> (a)	hFE Min.	f <sub>ab</sub>	EACH	
								1-99	100-999
2N398	A	A	50	105	100	20 @ 5 ma	.8 mc	1.30	.87
2N398A	A	A	150	105	200	20 @ 5 ma	.8 mc	1.30	.87
2N398B	A	A	250	105	200	20 @ 5 ma	1.0 mc	1.62	1.08
2N1310	A	A	120	#90	300	#20 @ 5 ma	3.8 mc	4.51	3.00
2N1311	A	A	120	#75	300	#15 @ 5 ma	4.0 mc	3.24	2.15
2N1312	A	A	120	#50	300	#20 @ 20 ma	3.8 mc	1.78	1.18

## SILICON TRANSISTORS

\*\*Indicates P<sub>o</sub> measured at 100°C; ††Indicates rating is BV<sub>CEX</sub>; #, BV<sub>CEO</sub>; ‡, V<sub>sat</sub>.

## POWER TRANSISTORS

Type No.	Fig.	S	P <sub>t</sub> (w)	I <sub>c</sub> (ma)	hFE		V <sub>CEO</sub> (V)	R <sub>sat</sub> (Ohms)	EACH	
					Min.	Max.			1-99	100-999
2N389	.....	.....	#M 85	2A	12	60	60#	5	42.00	28.00
USN2N389	.....	.....	MIL-S-19500/173						43.35	28.90
2N424	.....	.....	#M 85	2A	12	60	60#	10	33.00	22.00
USN2N424	.....	.....	MIL-S-19500/173						34.35	22.90
2N497	.....	.....	#M 4	.....	12	36	60	25	5.95	3.95
2N497A	A	A	#M 5	.....	12	36	60	10	8.85	5.90
JAN2N497	A	A	MIL-T-19500/74C						6.40	4.25
2N498	A	A	#M 4	.....	12	36	100	25	7.90	5.25
2N498A	A	A	#M 5	.....	12	36	100	10	11.30	7.55
JAN2N498	A	A	MIL-T-19500/74C						8.35	5.55
2N656	A	A	#M 4	.....	30	90	60	25	6.70	4.45
2N656A	A	A	#M 5	.....	30	90	60	10	9.85	6.55
JAN2N656	A	A	MIL-T-19500/74C						7.15	4.75
2N657	A	A	#M 4	.....	30	90	100	25	9.00	6.00
2N657A	A	A	#M 5	.....	30	90	100	10	10.05	6.70
JAN2N657	.....	.....	MIL-T-19500/74C						9.45	6.30
2N1047	.....	.....	#M 40	500	12	36	80†	7.5V‡	22.05	14.70
2N1047A	.....	.....	#M 40	500	12	36	80	7.5V‡	22.05	14.70
USN2N1047A	.....	.....	Per MIL-S-19500/176						23.20	15.45
2N1047B	.....	.....	#M 40	750	12	36	80	2.0†	25.95	17.30
2N1048	.....	.....	#M 40	500	12	36	120††	7.5V‡	28.60	19.05
2N1048A	.....	.....	#M 40	500	12	36	120	7.5V‡	28.60	19.05
USN2N1048A	.....	.....	Per MIL-S-19500/176						29.75	19.80
2N1048B	.....	.....	#M 40	750	12	36	120	2.0†	38.35	25.55
2N1049	.....	.....	#M 40	500	30	90	80††	7.5V‡	26.05	17.35
2N1049A	.....	.....	#M 40	500	30	90	80	7.5V‡	26.05	17.35
USN2N1049A	.....	.....	Per MIL-S-19500/176						27.15	18.10
2N1049B	.....	.....	#M 40	750	30	90	80	2.0†	33.75	22.50
2N1050	.....	.....	#M 40	500	30	90	120	7.5V‡	36.40	24.25
2N1050A	.....	.....	#M 40	500	30	90	120	7.5V‡	36.40	24.25
USN2N1050A	.....	.....	Per MIL-S-19500/176						37.50	25.00
2N1050B	.....	.....	#M 40	750	30	90	120	2.0†		

# Texas Instruments Integrated Circuits

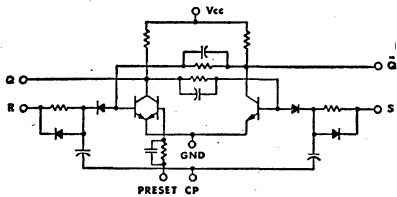
## SOLID CIRCUIT SEMI-CONDUCTOR NETWORKS



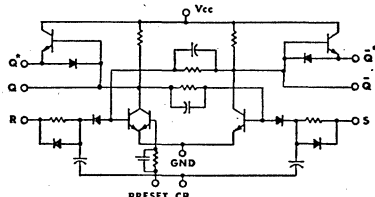
- Microelectronic Equipment Performance Compatible with Present Digital Requirements
- Advanced Package Design; Low Power Drain
- Unique Standard Silicon Wafer Design

Series of six digital networks, requiring only a single-phase clock source. Fulfill logic functions of a complete assembly. Flat design allows advanced packaging techniques. Lateral leads permit high-density construction, compatible with micro-electronic practices. Op. temp.,  $-55^{\circ}$  to  $+125^{\circ}\text{C}$ . Supply voltage:  $+3$  to  $+6$  VDC  $\pm 10\%$ . Prop. delay: 150-450 nsec,  $V_{CC}=3$  v.; 75-225 nsec,  $V_{CC}=6$  v.,  $.125 \times .250 \times .035^{\circ}$  (less leads); weigh only .005 gms.

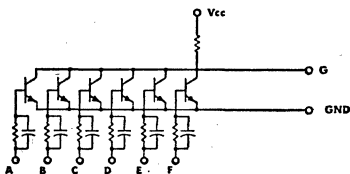
### SERIES 51 - DIGITAL COMPUTER TYPES



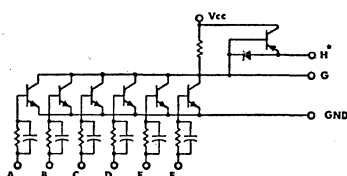
SN 510 — R-S FLIP-FLOP/COUNTER



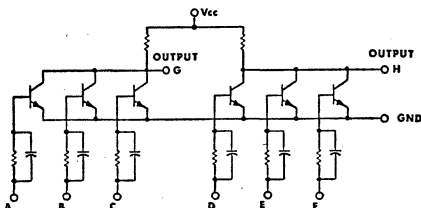
SN 511 — R-S FLIP-FLOP/COUNTER



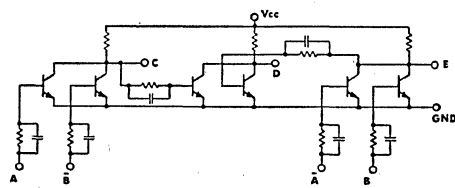
SN 512 — NOR/NAND NETWORK



SN 513 — NOR/NAND NETWORK



SN 514 — TWO NOR/NAND NETWORKS



SN 515 — Exclusive OR NETWORK

SN510 R-S Flip-Flop Counter. Clock pulse internally capacitively coupled, allowing single-phase source. Fan-out, 4 max. Power drain: 2 mw @  $V_{CC}=3$  v.; 8 mw @  $V_{CC}=6$  v. (N=4). Max. clock pulse to 1 mc. SN510. 1-24. EA. 56.00 25-249. EA. 44.50

SN512 NOR/NAND Network. Fan-out of 5 max. Drain 2mw @  $V_{CC}=3$ v.; 8 mw @  $V_{CC}=6$  v. Logic: NOR (high voltage input=logical 1),  $A+B+C+D+E+F$ ; NAND (low voltage input=logical 1), ABCDEF. SN512. 1-24. EA. 56.00 25-249. EA. 44.50

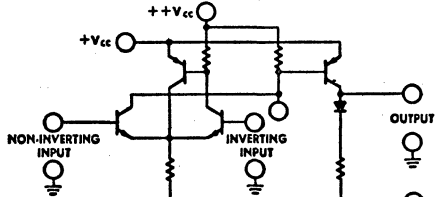
SN514 Two NOR/NAND Networks. Contains two isolated logic functions; however, a common B+ terminal is used. Fan-out: Term G and H—5 max. Power drain: 2 mw @  $V_{CC}=3$  v.; 8 mw @  $V_{CC}=6$  v. (N=5). SN514. 1-24. EA. 56.00 25-249. EA. 44.50

SN511 R-S Flip-Flop Counter with Emitter-Follower Output. Same as SN510, except fan-out: term. Q and  $\bar{Q}$ —4 max.;  $Q^*$  and  $\bar{Q}^*$ —20 max. Drain: 3 mw @ 3 v.; 18 mw @ 6 v. SN511. 1-24. EA. 64.00 25-249. EA. 51.50

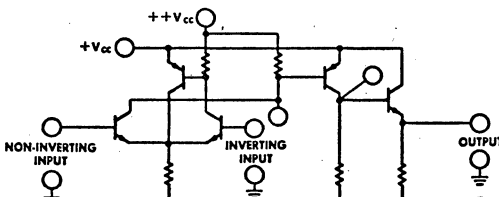
SN513 NOR/NAND Network. Same as SN512, except fan-out: terminal G—5 max.; terminal H—25 max. Power drain is 3 mw @  $V_{CC}=3$  v.; 13 mw @  $V_{CC}=6$  v. (N=10). SN513. 1-24. EA. 64.00 25-249. EA. 51.50

SN515 Exclusive OR Network. Contains NOR logic and NAND logic circuits. Fan-out: Term. C and E—4 max.; Term D—5 max. Drain: 4 mw @  $V_{CC}=3$  v.; 16 mw @ 6 v. SN515. 1-24. EA. 56.00 25-249. EA. 44.50

### SERIES 52 - FOR ANALOG COMPUTERS



SN521 — Operational Amplifier



SN522 — Operational Amplifier

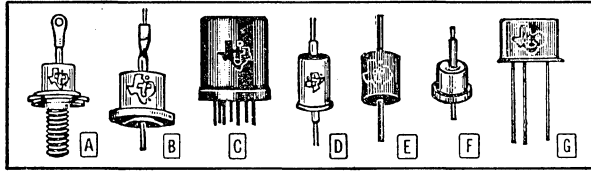
SN521 Operational Amplifier. Compact basic amplifier for use in analog computers. Measures only  $\frac{1}{32} \times \frac{1}{4} \times \frac{1}{32}$ ". Has open-loop voltage gain of 62 db, common-mode rejection of 60 db, DC offset referred to input,  $-0.5$  mv. Frequency response: DC to 50,000 cps. Has input impedance of 12K ohms; output impedance of 10K ohms. DC drift referred to input is  $8 \mu\text{volts}/^{\circ}\text{C}$ . SN521. 1-24. . . . . EACH 108.00 25-249. . . . . EACH 86.00

SN522 Operational Amplifier with Emitter-Follower Output. Small basic amplifier for analog computer applications. Measures only  $\frac{1}{32} \times \frac{1}{4} \times \frac{1}{32}$ ". Has open-loop voltage gain of 62 db; common-mode rejection of 60 db; DC offset referred to input of  $-0.5$  mv. Frequency response, DC to 50 kc. Input impedance, 12K ohms; output impedance, 160 ohms. DC drift referred to input,  $8 \mu\text{v}/^{\circ}\text{C}$ . SN522. 1-24. . . . . EACH 132.00 25-249. . . . . EACH 106.00

# Texas Instruments Silicon Rectifiers

## EXPLANATION OF COLUMN HEADINGS APPEARING IN TABLE BELOW

$I_o$ —max. av. rectified forward current  
 $I_{RP}$ —recurrent peak current  
 $P_{IV}$ —peak inverse voltage  
 $P_t$ —total device dissipation



BE SURE TO SPECIFY MANUFACTURER'S NAME AND TYPE NUMBER WHEN ORDERING SEMICONDUCTORS

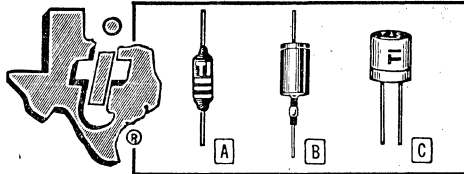
GENERAL-PURPOSE SILICON RECTIFIERS †Indicates type is in stock with "R" suffix (anode to stud). Use suffix "R" when ordering this type. Prices same as those of standard units. §For each half-wave section.

Type No.	Fig.	PIV (V)	$I_o$ (A) @ 50°C	$I_{RP}$ (A) @ 50°C	EACH		Type No.	Fig.	PIV (V)	$I_o$ (A) @ 50°C	$I_{RP}$ (A) @ 50°C	EACH	
					1-99	100-999						1-99	100-999
IN253†	A	100	3	10	1.19	.79	IN608†	A	100	1.0	3.0	1.19	.79
JAN IN253	A	MIL-E-1D/1024A			1.28	.85	IN608A†	A	100	1.0	3.0	1.29	.86
IN254†	A	200	3	10	1.25	.83	IN609†	A	150	1.0	3.0	1.22	.81
JAN IN254	A	MIL-E-1D/989B			1.34	.89	IN609A†	A	150	1.0	3.0	1.34	.89
IN255†	A	400	3	10	1.97	1.31	IN610†	A	200	1.0	3.0	1.25	.83
JAN IN255	A	MIL-E-1D/990B			2.06	1.37	IN610A†	A	200	1.0	3.0	1.47	.92
IN256	A	600	3	10	2.85	1.90	IN611†	A	300	1.0	3.0	1.58	1.05
JAN IN256	A	MIL-E-1D/991B			2.94	1.96	IN611A†	A	300	1.0	3.0	1.77	1.18
IN332†	A	400	1.2	4.0	1.97	1.31	IN612†	A	400	1.0	3.0	1.97	1.31
IN333†	A	400	0.6	2.0	1.97	1.31	IN612A†	A	400	1.0	3.0	2.16	1.44
IN334†	A	300	1.2	4.0	1.58	1.05	IN613†	A	500	1.0	3.0	1.97	1.31
IN335†	A	300	0.6	2.0	1.58	1.05	IN613A†	A	500	1.0	3.0	2.16	1.44
IN336†	A	200	1.2	4.0	1.25	.83	IN614†	A	600	1.0	3.0	2.85	1.90
IN337†	A	200	0.6	2.0	1.25	.83	IN614A†	A	600	1.0	3.0	3.15	2.10
IN338†	A	100	3.0	10.0	2.10	1.40	IN1095	B	500	0.75	2.5	.98	.65
IN339†	A	100	1.2	4.0	1.19	.79	IN1096	B	600	0.75	2.5	1.43	.95
IN340†	A	100	0.6	2.0	1.19	.79	IN1100	B	100	0.75	2.5	.92	.61
IN341†	A	400	1.2	4.0	1.97	1.31	IN1101	B	200	0.75	2.5	1.13	.75
IN342†	A	400	0.6	2.0	1.97	1.31	IN1102	B	300	0.75	2.5	1.46	.97
IN343†	A	300	1.2	4.0	1.58	1.05	IN1103	B	400	0.75	2.5	2.13	1.42
IN344†	A	300	0.6	2.0	1.58	1.05	IN1104	B	500	0.75	2.5	3.30	2.10
IN345†	A	200	1.2	4.0	1.25	.83	IN1105	B	600	0.75	2.5	3.60	2.40
IN346†	A	200	0.6	2.0	1.25	.83	IN1115†	A	100	1.5	5.0	1.19	.75
IN347†	A	100	3.0	10.0	2.00	1.30	IN1116†	A	200	1.5	5.0	1.25	.83
IN348†	A	100	1.2	4.0	1.19	.79	IN1117†	A	300	1.5	5.0	1.58	1.05
IN349†	A	100	0.6	2.0	1.19	.79	IN1118†	A	400	1.5	5.0	1.97	1.31
IN440B	B	100	0.75	2.5	.83	.55	IN1119†	A	500	1.5	5.0	1.97	1.31
IN441B	B	200	0.75	2.5	.86	.57	IN1120†	A	600	1.5	5.0	2.85	1.90
IN442B	B	300	0.75	2.5	.99	.66	IN1124†	A	200	3.0	10.0	2.70	2.21
IN443B	B	400	0.75	2.5	1.24	.73	IN1125†	A	300	3.0	10.0	3.38	2.76
IN444B	B	500	0.65	2.0	1.40	.94	IN1126†	A	400	3.0	10.0	4.73	3.87
IN445B	B	600	0.65	2.0	1.82	1.21	IN1127†	A	500	3.0	10.0	6.76	5.56
IN530	B	100	0.3	1.5	.68	.43	IN1128†	A	600	3.0	10.0	8.32	6.80
IN531	B	200	0.3	1.5	.85	.55	IN1124A	A	200	3.3	10.0	2.70	2.21
IN532	B	300	0.3	1.5	1.00	.70	USN IN1124A	MIL-S-19500/104				3.58	2.92
IN533	B	400	0.3	1.5	1.20	.80	IN1125A	A	300	3.3	10.0	3.38	2.76
IN534	B	500	0.3	1.5	1.25	.84	IN1126A	A	400	3.3	10.0	4.73	3.87
IN535	B	600	0.3	1.5	2.40	1.60	USN IN1126A	MIL-S-19500/104				6.26	5.16
IN536	B	50	0.75	2.5	.53	.35	IN1127A	A	500	3.3	10.0	6.76	5.56
IN537	B	100	0.75	2.5	.60	.40	IN1128A	A	600	3.3	10.0	8.32	6.80
IN538	B	200	0.75	2.5	.68	.45	USN IN1128A	MIL-S-19500/104				11.01	8.99
JAN IN538	B	MIL-E-1D/1084			.75	.50	IN1130	....	1500	0.3	1.0	6.22	4.15
IN539	B	300	0.75	2.5	.83	.55	USA IN1130	....	MIL-E-1D/1287			7.03	4.69
IN540	B	400	0.75	2.5	.98	.65	IN1131	....	1500	0.3	1.0	6.22	4.15
JAN IN540	B	MIL-E-1D/1085A			1.05	.70	USA IN1131	....	MIL-E-1D/1287			7.03	4.69
IN547	B	600	0.75	2.5	1.43	.95	IN1487	B	100	0.75	2.5	.69	.46
JAN IN547	B	MIL-E-1D/1083A			1.52	1.01	IN1488	B	200	0.75	2.5	.81	.54
IN550†	A	100	0.5	1.5	1.29	.86	IN1489	B	300	0.75	2.5	1.04	.69
IN551†	A	200	0.5	1.5	1.38	.92	IN1490	B	400	0.75	2.5	1.19	.79
IN552†	A	300	0.5	1.5	1.77	1.18	IN1491	B	500	0.75	2.5	1.19	.79
IN553†	A	400	0.5	1.5	2.16	1.44	IN1492	B	600	0.75	2.5	2.00	1.33
IN554†	A	500	0.5	1.5	2.16	1.44	IN1581	A	50	10.0	35.0	2.45	1.85
IN555†	A	600	0.5	1.5	3.15	2.10	IN1582	A	100	10.0	35.0	3.50	2.65
IN570	C	1500	\$0.038	\$1.2	32.20	24.60	IN1583	A	200	10.0	35.0	4.45	3.35
IN588	D	1500	0.015	0.15	8.10	5.40	IN1584	A	300	10.0	35.0	7.25	5.45
IN589	D	1500	0.05	0.25	11.20	7.60	IN1585	A	400	10.0	35.0	9.95	7.50
IN599	B	50	0.4	1.5	.74	.49	IN1586	A	500	10.0	35.0	12.75	9.60
IN599A	B	50	0.4	1.5	1.31	.87	IN1587	A	600	10.0	35.0	15.50	11.65
IN600	B	100	0.4	1.5	.92	.61	IN1612	A	50	15.0	50.0	2.45	1.85
IN600A	B	100	0.4	1.5	1.46	.97	IN1613	A	100	15.0	50.0	3.50	2.65
IN601	B	150	0.4	1.5	.98	.65	IN1614†	A	200	15.0	50.0	5.84	3.89
IN601A	B	150	0.4	1.5	1.59	1.06	USA IN1614†	A	MIL-S-19500/162A			4.33	2.87
IN602	B	200	0.4	1.5	1.05	.70	IN1615†	A	400	15.0	50.0	8.34	5.55
IN602A	B	200	0.4	1.5	1.68	1.12	USA IN1615†	A	MIL-S-19500/162A			5.83	3.87
IN603	B	300	0.4	1.5	1.37	.91	IN1616†	A	600	15.0	50.0	12.75	8.50
IN603A	B	300	0.4	1.5	2.07	1.38	USA IN1616†	A	MIL-S-19500/162A			8.05	5.35
IN604	B	400	0.4	1.5	1.86	1.24	IN1692	B	100	0.75	2.5	.63	.39
IN604A	B	400	0.4	1.5	2.52	1.68	IN1693	B	200	0.75	2.5	.78	.51
IN605	B	500	0.4	1.5	1.97	1.31	IN1694	B	300	0.75	2.5	.95	.63
IN605A	B	500	0.4	1.5	2.59	1.79	IN1695	B	400	0.75	2.5	1.02	.68
IN606	B	600	0.4	1.5	2.22	1.48	IN1696	B	500	0.75	2.5	1.02	.68
IN606A	B	600	0.4	1.5	3.50	2.33	IN1697	B	600	0.75	2.5	1.79	1.19
IN607†	A	50	1.0	3.0	1.14	.76	IN2117	B	720	0.75	2.5	9.95	6.25
IN607A†	A	50	1.0	3.0	1.25	.83	IN3775†	A	1500	3.3	10	6.39	4.26

All Prices Shown Are OEM Factory Prices

ALLIED • 29

# Texas Instruments Regulator Diodes



## EXPLANATION OF COLUMN HEADINGS ON THIS AND FACING PAGE

- BV<sub>F</sub>—min. forward breakdown v.
- C—capacitance
- I<sub>F</sub>—maximum forward current
- I<sub>GT</sub>—gate-current to trigger
- I<sub>MR</sub>—maximum reverse-current
- I<sub>o</sub>—max. av. rectified fwd. current
- I<sub>p</sub>—peak point current
- I<sub>RP</sub>—recurrent peak current
- I<sub>SR</sub>—non-recurrent surge current
- I<sub>v</sub>—valley current
- I<sub>z</sub>—zener current
- PIV—peak inverse voltage
- P<sub>t</sub>—total power dissipation
- V<sub>F</sub>—forward voltage drop
- V<sub>R</sub>—reverse voltage
- V<sub>v</sub>—valley voltage
- V<sub>z</sub>—zener voltage
- Z—dynamic impedance

## VOLTAGE REGULATOR DIODES

Suffix "A" Types and 650CO through 653C9,  $\pm 5\%$  tolerance. Others, except where V<sub>z</sub> range is indicated,  $\pm 10\%$ . Power dissipation, 400 mw; except Types 650 through 653C9, 150 mw. V<sub>z</sub> at 5 ma

zener current, except 10 ma for 1N761 through 1N764, 12 ma for 1N713 through 1N715, 20 ma for 1N746 through 1N759, and 25 ma for 1N709 through 1N712. Ratings are at 25°C.

Type No.	Fig.	V <sub>z</sub> Volts	Z Ohms	EACH		Type No.	Fig.	V <sub>z</sub> Volts	Z Ohms	EACH		Type No.	Fig.	V <sub>z</sub> Volts	Z Ohms	EACH	
				1-99	100-999					1-99	100-999					1-99	100-999
1N703	A	3.0-3.9	55	2.10	1.60	1N747	A	3.6	24	2.10	1.60	1N765	A	9.0-12.0	50	2.10	1.60
1N703A	A	3.0-3.9	55	2.80	2.10	1N747A	A	3.6	24	2.80	2.10	1N766	A	11.0-14.5	70	2.10	1.60
1N704	A	3.7-4.5	45	2.10	1.60	1N748	A	3.9	23	2.10	1.60	650	B	3.7-4.5	.....	4.35	3.65
1N704A	A	3.7-4.5	45	2.80	2.10	1N748A	A	3.9	23	2.80	2.10	651	B	4.3-5.4	.....	4.35	3.65
1N705	A	4.3-5.4	35	2.10	1.60	1N749	A	4.3	27	2.10	1.60	652	B	5.2-6.4	.....	4.35	3.65
1N705A	A	4.3-5.4	35	2.80	2.10	1N749A	A	4.3	27	2.80	2.10	653	B	6.2-8.0	.....	4.35	3.65
1N706	A	5.2-6.4	20	2.10	1.60	1N750	A	4.7	19	2.10	1.60	650C0	B	3.7	.....	4.85	4.15
1N706A	A	5.2-6.4	20	2.80	2.10	1N750A	A	4.7	19	2.80	2.10	650C3	B	4.0	.....	4.85	4.15
1N707	A	6.2-8.0	10	2.10	1.60	1N751	A	5.1	17	2.10	1.60	651C0	B	4.5	.....	4.85	4.15
1N707A	A	6.2-8.0	10	2.80	2.10	1N751A	A	5.1	17	2.80	2.10	651C1	B	4.6	.....	4.85	4.15
1N708	A	5.6	3.6	2.10	1.60	1N752	A	5.6	11	2.10	1.60	651C4	B	4.9	.....	.....	.....
1N708A	A	5.6	3.6	2.80	2.10	1N752A	A	5.6	11	2.80	2.10	651C5	B	5.0	.....	.....	.....
1N709	A	6.2	4.1	2.10	1.60	1N753	A	6.2	7	2.10	1.60	651C6	B	5.1	.....	4.85	4.15
1N709A	A	6.2	4.1	2.80	2.10	1N753A	A	6.2	7	2.80	2.10	651C7	B	5.2	.....	.....	.....
1N710	A	6.8	4.7	2.10	1.60	1N754	A	6.8	5	2.10	1.60	651C9	B	5.4	.....	.....	.....
1N710A	A	6.8	4.7	2.80	2.10	1N754A	A	6.8	5	2.80	2.10	652C0	B	5.5	.....	.....	.....
1N711	A	7.5	5.3	2.10	1.60	1N755	A	7.5	6	2.10	1.60	652C2	B	5.7	.....	.....	.....
1N711A	A	7.5	5.3	2.80	2.10	1N755A	A	7.5	6	2.80	2.10	652C4	B	5.9	.....	4.85	4.15
1N712	A	8.2	6.0	2.10	1.60	1N756	A	8.2	8	2.10	1.60	652C5	B	6.0	.....	.....	.....
1N712A	A	8.2	6.0	2.80	2.10	1N756A	A	8.2	8	2.80	2.10	652C7	B	6.2	.....	.....	.....
1N713	A	9.1	7.0	2.10	1.60	1N757	A	9.1	10	2.10	1.60	652C9	B	6.4	.....	.....	.....
1N713A	A	9.1	7.0	2.80	2.10	1N757A	A	9.1	10	2.80	2.10	653C0	B	6.5	.....	.....	.....
1N714	A	10.0	8.0	2.10	1.60	1N758	A	10.0	17	2.10	1.60	653C2	B	6.7	.....	4.85	4.15
1N714A	A	10.0	8.0	2.80	2.10	1N758A	A	10.0	17	2.80	2.10	653C3	B	6.8	.....	.....	.....
1N715	A	11.0	9.0	2.10	1.60	1N759	A	12.0	30	2.10	1.60	653C4	B	7.0	.....	.....	.....
1N715A	A	11.0	9.0	2.80	2.10	1N759A	A	12.0	30	2.80	2.10	653C5	B	7.2	.....	.....	.....
1N716	A	12.0	10.0	2.10	1.60	1N761	A	4.3-5.4	55	2.10	1.60	653C8	B	7.8	.....	.....	.....
1N716A	A	12.0	10.0	2.80	2.10	1N762	A	5.2-6.4	20	2.10	1.60	653C9	B	8.0	.....	4.85	4.15
1N746	A	3.3	28	2.10	1.60	1N763	A	6.2-8.0	8	2.10	1.60	654C9	B	8.5-9.5	.....	.....	.....
1N746A	A	3.3	28	2.80	2.10	1N764	A	7.5-10.0	15	2.10	1.60	655C9	B	9.5-10.5	.....	.....	.....

## C SINGLE-ANODE SILICON POWER REGULATORS

Handle 10 watts.  $\pm 20\%$  tolerance. 10-32 top-hat stud mounting.

Type No.	V <sub>z</sub> @ I <sub>z</sub> (V)	I <sub>z</sub> (ma)	Max. Z @ I <sub>z</sub> (Ohms)	EACH		
				1-24	25-99	100-999
1N2970	6.8	370	1.2	5.85	5.50	4.40
1N2971	7.5	335	1.3			
1N2972	8.2	305	1.5			
1N2973	9.1	275	2			
1N2974	10	250	3			
1N2975	11	230	3	5.85	5.50	4.40
1N2976	12	210	3			
1N2977	13	190	3			
1N2979	15	170	3			
1N2980	16	155	4			
1N2982	18	140	4	5.85	5.50	4.40
1N2984	20	125	4			
1N2985	22	115	5			
1N2986	24	105	5			
1N2988	27	95	7			
1N2989	30	85	8	5.85	5.50	4.40
1N2990	33	75	9			
1N2991	36	70	10			
1N2992	39	65	11			
1N2993	43	60	12			
1N2995	47	55	14	5.85	5.50	4.40
1N2997	51	50	15			
1N2999	56	45	16			
1N3000	62	40	17			
1N3001	68	37	18			
1N3002	75	33	22	5.85	5.50	4.40
1N3003	82	30	25			
1N3004	91	28	35			
1N3005	100	25	40			
1N3007	110	23	55			
1N3008	120	20	75			
1N3009	130	19	100			
1N3011	150	17	175			
1N3012	160	16	200	6.45	6.05	4.85
1N3014	180	14	260			
1N3015	200	12	300			

## C POWER REGULATORS AND DOUBLE-ANODE CLIPPERS

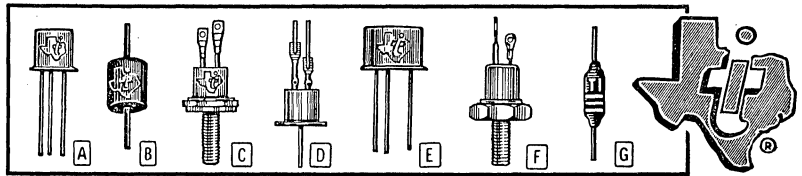
10-watt diffused silicon types. Tol.,  $\pm 10\%$ . Welded case. Glass-to-metal hermetic seal between case, anode. 10-32 UNF-2 thread.

Type No.	V <sub>z</sub> @ I <sub>z</sub> (V)	I <sub>z</sub> (ma)	IMR (ma)	EACH	
				1-99	100-999
1N1816	13	500	25 @ 5 v	8.45	6.50
1N1817	15	500	15 @ 5 v	8.45	6.50
1N1818	16	500	10 @ 5 v	8.45	6.50
1N1819	18	500	10 @ 5 v	8.45	6.50
1N1820	20	250	10 @ 10 v	8.45	6.50
1N1821	22	250	10 @ 10 v	8.45	6.50
1N1822	24	250	10 @ 10 v	8.45	6.50
1N1823	27	250	10 @ 10 v	8.45	6.50
1N1824	30	250	10 @ 10 v	8.45	6.50
1N1825	33	150	10 @ 10 v	8.45	6.50
1N1826	36	150	10 @ 10 v	8.45	6.50
1N1827	39	150	10 @ 10 v	8.45	6.50
1N1828	43	150	10 @ 10 v	8.45	6.50
1N1829	47	150	10 @ 10 v	8.45	6.50
1N1830	51	150	10 @ 10 v	8.45	6.50
1N1831	56	150	10 @ 10 v	8.45	6.50
1N1832	62	50	10 @ 10 v	8.45	6.50
1N1833	68	50	10 @ 10 v	8.45	6.50
1N1834	75	50	10 @ 10 v	8.45	6.50
1N1835	82	50	10 @ 10 v	8.45	6.50
1N1836	91	50	10 @ 10 v	8.45	6.50
1N2008	100	50	10 @ 10 v	8.45	6.50
1N2009	110	50	10 @ 10 v	8.45	6.50
1N2010	120	50	10 @ 10 v	8.45	6.50
1N2011	130	50	10 @ 10 v	8.45	6.50
1N2498	10	500	40 @ 5 v	8.45	6.50
1N2499	11	500	30 @ 5 v	8.45	6.50
1N2500	12	500	25 @ 5 v	8.45	6.50

Allied—your most dependable, up-to-date source of Texas Instruments diodes in industrial quantities. You select from the world's largest electronic stocks. One order fills the bill.

# Texas Instruments Rectifiers and Diodes

**ALLIED STOCKS EVERY  
TI SEMICONDUCTOR  
AS SOON AS  
ANNOUNCED**



## ALL-DIFFUSED SILICON CONTROLLED-RECTIFIERS

- Tight Lot-to-Lot Uniformity
- High dV/dt Capability—Resist False Firing, Transient Turn On
- High Voltage-Stability—No Derating
- Low Internal Dissipation—Reliable
- High Surge Current Capability

Temperatures in column headings are case temperatures. †Indicates 65°C stud. ‡Indicates 60°C case. \*At 90°C. §At -55°C.

Type No.	Fig.	I <sub>o</sub> (A) @ 30°C	I <sub>RP</sub> (A) @ 30°C	I <sub>sur</sub> (A)	PIV (V)	BV <sub>F</sub> (V) @ 125°C	I <sub>GT</sub> (ma) @ 25°C		EACH	
							Min.	Max.	1-99	100-999
TI-40A0	C	‡3	‡10	75	50	60	1	50	4.65	3.10
TI-40A1	C	‡3	‡10	75	100	120	1	50	5.10	3.40
TI-40A2	C	‡3	‡10	75	200	240	1	50	6.30	4.20
TI-40A3	C	‡3	‡10	75	300	360	1	50	8.70	5.80
TI-40A4	C	‡3	‡10	75	400	480	1	50	10.30	6.85
TI-116	E	†1	†3.3	15	200	240	1	50	12.00	8.00
TI-117	E	†1	†3.3	15	300	360	1	50	18.00	12.00
TI-118	E	†1	†3.3	15	400	480	1	50	30.00	20.00
TI-136	C	3	10	25	200	240	1	50	12.00	8.00
TI-137	C	3	10	25	300	360	1	50	18.00	12.00
TI-138	C	3	10	25	400	480	1	50	30.00	20.00
TI-140A0	D	‡7.50	‡2.4	60	50	60	1	50	4.65	3.10
TI-140A1	D	‡7.50	‡2.4	60	100	120	1	50	5.10	3.40
TI-140A2	D	‡7.50	‡2.4	60	300	240	1	50	6.30	4.20
TI-140A3	D	‡7.50	‡2.4	60	300	360	1	50	8.70	5.80
TI-140A4	D	‡7.50	‡2.4	60	400	480	1	50	10.30	6.85
TI-145A0	E	‡5.60	‡1.8	30	50	60	1	50	3.40	2.25
TI-145A1	E	‡5.60	‡1.8	30	100	120	1	50	5.10	3.40
TI-145A2	E	‡5.60	‡1.8	30	200	240	1	50	6.30	4.20
TI-145A3	E	‡5.60	‡1.8	30	300	360	1	50	8.70	5.80
TI-145A4	E	‡5.60	‡1.8	30	400	480	1	50	10.30	6.85
2N2653	C	*3	140	75	400	480	...	‡20	33.00	22.00
2N681	F	†16	150	150	25	25	1	25	8.65	5.75
2N681A	F	†18	150	250	25	35	10	40	8.65	5.75
2N682	F	†16	150	150	50	50	1	25	9.40	5.75
2N682A	F	†18	150	250	50	75	10	40	9.40	6.25
2N683	F	†16	150	150	100	100	1	25	10.50	7.00
2N683A	F	†18	150	250	100	150	10	40	10.50	7.00
2N684	F	†16	150	150	150	150	1	25	12.75	8.50
2N684A	F	†18	150	250	150	225	10	40	12.75	8.50
2N685	F	†16	150	150	200	200	1	25	15.00	10.00
2N685A	F	†18	150	250	200	300	10	40	15.00	10.00
2N686	F	†16	150	150	250	300	1	25	18.00	12.00
2N686A	F	†18	150	250	250	350	10	40	18.00	12.00
2N687	F	†16	150	150	300	400	1	25	21.00	14.00
2N687A	F	†18	150	250	300	400	10	40	21.00	14.00
2N688	F	†16	150	150	400	500	1	25	26.25	17.50

### G PNP TRIGGER

Average power, 100 milliwatts. Type MM-1 case.

Mfr's Type	I <sub>RP</sub> (mA) @ 60°C	BV <sub>F</sub> (V) @ 125°C	Max. Case Temp.	Anode Current to Trigger	EACH	
					1-99	100-999
TI-42	1A	32 ± 4	150°C	300 μA max.	1.50	1.00
TI-43	Same as above, but with symmetrical trigger.				2.25	1.50

### A GALLIUM ARSENIDE TUNNEL DIODES

Specifications at 25°C. Type HH case.

Mfr's Type	I <sub>P</sub> (ma)	I <sub>P</sub> /I <sub>V</sub>	C @ V <sub>F</sub> (μf)	V <sub>F</sub> (V)	EACH	
					1-99	100-999
A-650	10 ± 10%	> 15:1	25 typ	1.10 ± 10%	27.30	21.00
A-651	10 ± 3%	> 10:1	25 typ	1.10 ± 5%	39.00	30.00
A-652	5 ± 10%	> 5:1	35 typ	0.98 ± 10%	18.20	14.00
A-653	5 ± 10%	> 5:1	35 typ	0.98 typ	11.70	9.00

### G SILICON STABISTORS

Forward-conductance diodes. Maximum leakage current (or reverse current) is only 0.1 microamp at -2 volts. V<sub>F</sub> is given at 100 milliamps at 25°C. Type-MM case.

Type No.	I <sub>F</sub> (ma)	V <sub>R</sub> (V)	V <sub>F</sub> (V)	V <sub>F</sub> @ 1 ma	EACH	
					1-99	100-999
G-129	250	10	1	0.56 ± 10%	1.30	.85
G-130	150	6	1	0.64 ± 10%	1.30	.85

Type No.	Fig.	I <sub>o</sub> (A) @ 80°C	I <sub>RP</sub> (A) @ 80°C	I <sub>sur</sub> (A)	PIV (V)	BV <sub>F</sub> (V) @ 125°C	I <sub>GT</sub> (ma) @ 25°C		EACH	
							Min.	Max.	1-99	100-999
2N688A	F	†18	‡50	250	400	500	10	40	26.25	17.50
2N689	F	†16	‡50	150	500	600	1	25	31.90	21.25
2N689A	F	†18	‡50	250	500	600	10	40	31.90	21.25
2N1595	E	1	3.3	15	50	60	1	10	3.75	2.50
2N1596	E	1	3.3	15	100	120	1	10	6.00	4.00
2N1597	E	1	3.3	15	200	240	1	10	11.25	7.50
2N1598	E	1	3.3	15	300	360	1	10	22.00	14.65
2N1599	E	1	3.3	15	400	480	1	10	31.00	20.75
2N1600	C	3	10	25	50	60	1	10	6.00	4.00
2N1601	C	3	10	25	100	120	1	10	7.50	5.00
2N1602	C	3	10	25	200	240	1	10	12.00	8.00
2N1603	C	3	10	25	300	360	1	10	16.50	11.00
2N1604	C	3	10	25	400	480	1	10	21.00	14.00
2N1770	C	‡4.7	‡15	60	25	30	1	15	5.55	3.70
2N1771	C	‡4.7	‡15	60	50	60	1	15	6.00	4.00
2N1772	C	‡4.7	‡15	60	100	120	1	15	7.50	5.00
2N1773	C	‡4.7	‡15	60	150	180	1	15	9.75	6.50
2N1774	C	‡4.7	‡15	60	200	240	1	15	12.00	8.00
2N1775	C	‡4.7	‡15	60	250	300	1	15	14.25	9.50
2N1776	C	‡4.7	‡15	60	300	360	1	15	16.50	11.00
2N1777	C	‡4.7	‡15	60	400	480	1	15	21.00	14.00
2N1842B	F	†16	‡45	150	25	35	2	75	7.75	5.15
2N1843B	F	†16	‡45	150	50	75	2	75	8.50	5.65
2N1844B	F	†16	‡45	150	100	150	2	75	9.45	6.30
2N1845B	F	†16	‡45	150	150	225	2	75	11.50	7.65
2N1846B	F	†16	‡45	150	200	300	2	75	13.50	9.00
2N1847B	F	†16	‡45	150	250	350	2	75	16.15	10.75
2N1848B	F	†16	‡45	150	300	400	2	75	18.75	12.50
2N1849B	F	†16	‡45	150	400	500	2	75	23.65	15.75
2N1850B	F	†16	‡45	150	500	600	2	75	27.00	18.00
2N1929	D	0.850	2.8	30	25	35	1	15	6.15	4.10
2N1930	D	0.850	2.8	30	50	75	1	15	7.65	5.10
2N1931	D	0.850	2.8	30	100	150	1	15	10.65	7.10
2N1932	D	0.850	2.8	30	150	225	1	15	13.25	8.80
2N1933	D	0.850	2.8	30	200	300	1	15	15.00	10.00
2N1934	D	0.850	2.8	30	250	350	1	15	18.00	12.00
2N1935	D	0.850	2.8	30	300	400	1	15	22.00	14.65

### B SILICON RECTIFIERS—ECONOMY PACKAGE

Epoxy encapsulated types. Type GG case.

Type No.	PIV (V)	I <sub>o</sub> (ma)	I <sub>RP</sub> (A)	I <sub>MR</sub> (μA @ V)	EACH	
					1-99	100-999
1N2069	200	750	6	10 @ 200	.76	.51
1N2070	400	750	6	10 @ 400	.96	.64
1N2071	600	750	6	10 @ 600	1.49	.99

### TRANSISTOR MOUNTING CLIPS

Transistor mounting-clips are not illustrated. Non-insulated Beryllium copper, cadmium-plated, gold-iridized.

Stock No.	Mfr's Type	Mounts	EACH	
			1-99	100-999
4 U 055	70318-1	2N454, etc.	.15	.05
4 U 056	354001-100	2N497, etc.	.15	.10
4 U 057	354001-99	2N339, etc.	.15	.10

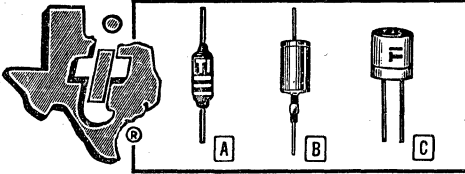
### INDUSTRIAL QUANTITIES AT OEM PRICES

Inquire for latest OEM prices on all TI semiconductors. Allied has industrial quantities on hand, ready for shipment, as soon as announced by TI. Orders are shipped the same day they are received. For prompt delivery of industrial quantities at OEM prices, make Allied your one-stop electronic source.

# Texas Instruments Diodes and Rectifiers

COLUMN HEADINGS ON PAGES 32 AND 33

Column Headings:  $BV_R$ , min. rev. breakdown v.  $f_{HB}$ , common base alpha cut-off freq.  $f_{HE}$ , common emitter alpha cut-off freq.  $f_T$ , gain bandwidth product freq. where  $H_{FE}$  is unity.  $I_{CBO}$ , max. collector rev. current.  $I_F$ , min. fwd. current.  $I_P$ , peak point current.  $I_P/I_V$ , peak-to-valley current ratio.  $I_R$ , max. rev. current.  $P_T$ , total diss.  $Q$ , quality factor.  $S$ , structure,  $t_{rr}$ , max. recovery time.  $V_C$ , max. collector v.  $V_F$ , fwd. voltage drop.  $V_{MR}$ , max. rev. v.  $BV_F$ , forward breakdown voltage.  $f_{max}$ , maximum frequency.  $I_R$ , recurrent peak forward current.  $I_O$ , maximum rectified forward current.  $PIV$ , peak inverse voltage.  $V_R$ , reverse working voltage.



## A SILICON COMPUTER DIODES—GLASS CASES

Fig. A except 1N3593, TI-6 and TI-251/TI-257 series which are microminiature glass diodes (not illus.). †JAN 256 (30 ma to -35 v, recov. to 400K); \*\*JAN 256 (5 ma to -40 v, recov. to 200K); ‡JAN 256 (5 ma to -40 v, recov. to 80K); §JAN 256 (5 ma to -40 v, recov. to 100K); ††JAN 256 (5 ma to -10 v, recov. to 20K). #BGG 2236A (10 ma to 6 v, recov. to 1 ma rev.). \*Measured at 1.5 v.

Type No.	PIV (V)	BV <sub>R</sub> (V)	t <sub>rr</sub> (usec)	I <sub>R</sub> (µa)	I <sub>F</sub> (ma)	EACH		
						1-99	100-999	
1N251	30	40	0.15††	0.1 @ 10v	5	1.52	1.07	
JAN 1N251	Per MIL-S-19500/188							
1N625	20	30	1†	1 @ 20v	*4	.57	.43	
1N626	35	50	1†	1 @ 35v	*4	.62	.46	
1N627	75	100	1†	1 @ 75v	*4	.67	.48	
1N628	125	150	1†	1 @ 125v	*4	.72	.53	
1N629	175	200	1†	1 @ 175v	*4	.86	.60	
1N643	175	200	0.3**	1 @ 100v	10	2.20	1.62	
1N659	50	60	0.3†	5 @ 50v	6	1.20	.70	
1N660	100	110	0.3†	5 @ 100v	6	1.30	.80	
1N661	200	240	0.3†	10 @ 200v	6	1.95	1.32	
1N662	80	100	0.5§	20 @ 50v	10	1.14	.80	
USA 1N662	Per MIL-E-1/1139							
1N663	80	100	0.5**	5 @ 75v	100	1.54	1.13	
USA 1N663	Per MIL-E-1/1140							
1N914	75	100	.0004#	5 @ 75v	10	2.40	1.90	
USN 1N914	Per MIL-S-19500/116							
1N914A	75	100	0.004#	0.025 @ 20v	20	3.20	2.19	
1N914B	75	100	0.004#	0.025 @ 20v	100	4.85	3.26	
1N915	50	65	0.010	0.025 @ 10v	50	4.05	3.03	
1N916	75	100	0.004#	5 @ 75v	10	3.20	2.60	
1N916A	75	100	0.004#	0.025 @ 20v	20	3.80	3.15	
1N916B	75	100	0.004#	0.025 @ 20v	30	4.76	3.80	
1N917	30	50	0.003	0.05 @ 10v	10	4.65	3.74	
1N3064	50	75	4.0	0.1 @ 50v	10	3.55	2.80	
USN 1N3064	Per MIL-S-19500/144							
1N3593	40	50	0.010	0.025 @ 10v	10	3.00	2.22	
C-0-1	40	65	0.5†	10	4	1.00	.82	
TI-6	20	30	0.100	1 @ 10v	5	.56	.44	
TI-71	.....	40	.01	1 @ 20v	6	.76	.65	
TI-72	.....	40	.02	1 @ 20v	10	.87	.74	
TI-73	.....	40	.02	1 @ 20v	20	1.03	.85	
TI-74	.....	40	.03	1 @ 15v	30	1.19	1.02	
TI-75	.....	40	.05	5 @ 35v	75	1.52	1.30	
TI-251	30	40	0.15††	1.0 @ 10v	5	1.68	1.26	
TI-252	50	60	0.3†	5	6	1.72	1.28	
TI-253	100	120	0.3†	5	6	1.78	1.32	
TI-254	75	100	0.004#	0.025 @ 20v	10	2.75	1.60	
TI-255	75	100	0.004#	0.025 @ 20v	20	2.95	2.40	
TI-256	75	100	0.004#	0.025 @ 20v	10	3.35	2.60	
TI-257	75	100	0.004#	0.025 @ 20v	20	3.65	2.80	

## HIGH-CONDUCTANCE DIFFUSED SILICON DIODES

Type No.	Fig.	PIV (V)	V <sub>MR</sub> (V)	I <sub>F</sub> (ma)	P <sub>T</sub> (mw)	EACH		
						1-99	100-999	
1N645	A	225	275	400	600	1.50	.93	
AF 1N645	Per MIL-E-1/1143							
1N645A	A	225	275	400	600	3.63	2.66	
1N646	A	300	360	400	600	2.00	1.10	
AF 1N646	Per MIL-E-1/1143							
1N647	A	400	480	400	600	2.25	1.21	
AF 1N647	Per MIL-E-1/1143							
1N648	A	500	600	400	600	3.25	1.56	
AF 1N648	Per MIL-E-1/1143							
1N649	A	600	720	400	600	3.95	2.28	
AF 1N649	Per MIL-E-1/1143							
1N649	A	600	720	400	600	4.20	2.72	
AF 1N649	Per MIL-E-1/1143							
1N649	A	600	720	400	600	4.60	3.05	

## GENERAL-PURPOSE SILICON DIODES—3x.12"

Type No.	Fig.	PIV (V)	V <sub>MR</sub> (V)	I <sub>F</sub> (ma)	P <sub>T</sub> (mw)	EACH		
						1-99	100-999	
1N456	A	25	30	40	500	.37	.29	
1N456A	A	25	30	100	500	.37	.29	
1N457	A	60	70	20	500	.45	.36	
JAN 1N457	Per MIL-S-19500/193A							
1N457A	A	60	70	100	500	.45	.36	
1N458	A	125	150	7	500	.51	.40	
JAN 1N458	Per MIL-S-19500/193A							

## GENERAL-PURPOSE SILICON DIODES—3x.12" (Cont'd)

Type No.	Fig.	PIV (V)	V <sub>MR</sub> (V)	I <sub>F</sub> (ma)	P <sub>T</sub> (mw)	EACH		
						1-99	100-999	
1N459A	A	125	150	100	500	.51	.40	
1N459	A	175	200	3	500	.66	.51	
JAN 1N459	Per MIL-S-19500/193A							
1N459A	A	175	200	100	500	.66	.51	
1N461	A	25	30	15	200	1.15	.90	
1N461A	A	25	30	100	200	1.15	.90	
1N462	A	60	70	5	200	1.82	1.31	
1N463	A	175	200	1	200	1.95	1.49	
1N464	A	125	150	3	200	1.85	1.40	
1N482	A	30	40	100	500	1.60	1.19	
1N482A	A	30	40	100	500	2.00	1.60	
1N482B	A	30	40	100	500	2.20	1.76	
1N483	A	60	80	100	500	2.00	1.60	
1N483A	A	60	80	100	500	2.12	1.70	
1N483B	A	60	80	100	500	2.60	1.90	
USN 1N483B	Per MIL-S-19500/118							
1N484	A	125	150	100	500	2.35	1.90	
1N484A	A	125	150	100	500	2.52	2.02	
1N484B	A	125	150	100	500	2.92	2.34	
1N485	A	175	200	100	500	2.55	1.95	
1N485A	A	175	200	100	500	3.60	2.54	
1N485B	A	175	200	100	500	4.20	3.35	
USN 1N485B	Per MIL-S-19500/118							
1N486	A	225	250	100	500	3.15	2.23	
1N486A	A	225	250	100	500	4.30	3.04	
1N486B	A	225	250	100	500	5.00	3.75	
USN 1N486B	Per MIL-S-19500/118							
1N487	A	300	330	100	500	4.00	2.85	
1N487A	A	300	330	100	500	6.60	4.67	
1N488	A	380	420	100	500	5.05	3.57	
1N488A	A	380	420	100	500	8.00	5.68	
1N3575	A	60	80	100	250	1.75	1.45	
1N3576	A	125	150	100	250	2.15	1.79	
1N3577	A	175	200	100	250	2.30	1.87	
1N3578	A	225	250	100	250	2.73	2.22	
1N3579	A	275	300	100	250	3.00	2.31	
600	C	27	30	3	150	1.94	1.58	
601	C	45	50	10	150	3.60	2.94	
604	C	4.7	5.5	60	150	3.25	2.66	
606	C	6.8	7.5	35	150	3.25	2.66	
608	C	10	11.0	25	150	3.25	2.66	
610	C	15	17	20	150	3.30	2.70	
612	C	22	25	20	150	3.40	2.78	
614	C	33	37	20	150	3.50	2.86	
616	C	47	52	10	150	3.60	2.94	
618	C	68	75	10	150	3.60	2.94	
620	C	100	110	10	150	3.65	2.99	
622	C	150	170	7	150	3.70	3.03	
624	C	220	250	3	150	3.75	3.07	
G-01	A	100	125	200	.....	.85	.66	
G-02	A	50	65	50	.....	.73	.56	
G-222	A	100	125	250	.....	.75	.65	
G-296	A	200	250	250	.....	.85	.70	

## B FLANGELESS RECTIFIERS

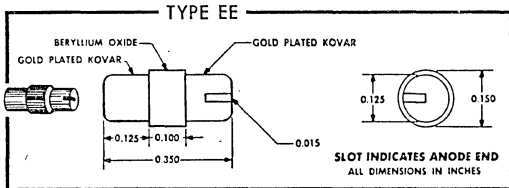
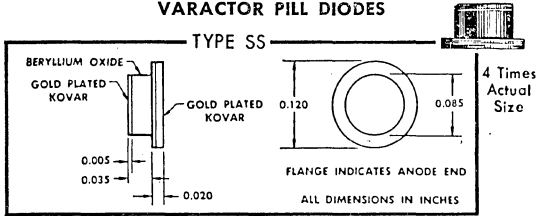
V<sub>F</sub> (max) is 1 volt @ .75 amperes for all units. I<sub>R</sub> is 5 microamps @ 25°C for all units. §§Indicates I<sub>O</sub> measured at 100°C and 150°C.

Type No.	V <sub>R</sub> (max.)	I <sub>O</sub>		EACH	
		25°C (a)	150°C (a)	1-99	100-999
1N3189	200	§§1	§§.5	3.32	2.21
1N3190	400	§§1	§§.5	4.75	3.05
1N3191	600	§§1	§§.5	7.65	5.10
1N2609	50	.75	.25	.90	.60
1N2610	100	.75	.25	1.05	.70
1N2611	200	.75	.25	1.18	.79
1N2612	300	.75	.25	1.55	1.03
1N2613	400	.75	.25	1.70	1.16
1N2614	500	.75	.25	1.95	1.30
1N2615	600	.75	.25	2.30	1.55
1N2616	800	.75	.25	4.85	3.25
1N2617	1000	.75	.25	7.50	5.00

# Texas Instruments Regulators, Diodes, Sensors

SEE PAGE 32 FOR EXPLANATION OF COLUMN HEADINGS

## DIFFUSED GALLIUM ARSENIDE MESA VARACTOR PILL DIODES



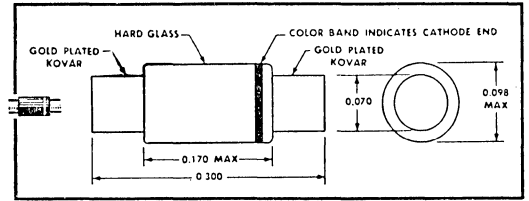
Designed specifically for use in parametric amplifiers, microwave switches, phase shifters, harmonic generators, and parametric limiters. Construction consists of a gallium arsenide wafer encased in a beryllium oxide microwave cartridge. Offers ceramic-to-metal seal and matched temperature coefficients for wide operating temperature range—units are checked for diode action in liquid nitrogen. Minimum cutoff frequency ( $f_{max}$ ), 90 to 150 gigacycles ( $G_c$ ) at  $-2$  volts. Cutoff frequency defined as measurement frequency of  $3 G_c$  times  $Q$  (quality factor).  $Q$  is measured at  $f=3G_c$ ,  $V_R = -2$  v. Junction capacitance, .15 to .75 picofarads at zero bias. 8 v. minimum reverse breakdown voltage ( $I_R = 10 \mu a.$ ), and total capacitance from .45 to 1 picofarad ( $f=1$  mc,  $V_R=0$ ).

Type No.	Case Type	$f_{max}$ ( $G_c$ )	Q	EACH	
				1-10	11-99
A-600	EE	90	30	225.00	175.00
A-601	EE	120	40	325.00	290.00
A-602	EE	150	50	425.00	400.00
A-610	SS	90	30	225.00	175.00
A-611	SS	120	40	325.00	290.00
A-612	SS	150	50	425.00	400.00

## DIFFUSED SILICON 1 WATT REGULATORS

Type No.	Zener Voltage (v)	Test Current (ma)	Zener Impedance (ohms)	Max. DC Current (ma)	Surge Current (ma)	EACH	
						1-99	100-999
IN3016	6.8	37	3.5	100	740	No Suffix 20% 2.95   2.20	
IN3017	7.5	34	4	90	680		
IN3018	8.2	31	4.5	80	600		
IN3019	9.1	28	5	70	540		
IN3020	10	25	7	65	480		
IN3021	11	23	8	55	420	A Suffix 10% 3.25   2.45	
IN3022	12	21	9	53	400		
IN3023	13	19	10	50	370		
IN3024	15	17	14	42	320		
IN3025	16	15.5	16	40	300		
IN3026	18	14	20	35	260	B Suffix 5% 3.85   2.90	
IN3027	20	12.5	22	32	240		
IN3028	22	11.5	23	29	210		
IN3029	24	10.5	25	26	200		
IN3030	27	9.5	35	23	170		
IN3031	30	8.5	40	21	160	No Suffix 20% 3.55   2.65	
IN3032	33	7.5	45	20	150		
IN3033	36	7	50	18	130		
IN3034	39	6.5	60	15	110		
IN3035	43	6	70	14	100		
IN3036	47	5.5	80	13	95	A Suffix 10% 5.20   3.90	
IN3037	51	5	95	12.2	90		
IN3038	56	4.5	110	11	85		
IN3039	62	4	125	10	75		
IN3040	68	3.7	150	9	70		
IN3041	75	3.3	175	8.5	63	B Suffix 5% 7.85   5.90	
IN3042	82	3	200	7.5	58		
IN3043	91	2.8	250	7	50		
IN3044	100	2.5	350	6	45		
IN3045	110	2.3	450	5.4	42		
IN3046	120	2	550	5.2	40	No Suffix 20% 3.55   2.65	
IN3047	130	1.0	700	4.5	35		
IN3048	150	1.7	1000	3.7	29		
IN3049	160	1.6	1100	3.6	27		
IN3050	180	1.4	1200	3.4	25		
IN3051	200	1.2	1500	3	23		

## GALLIUM ARSENIDE SAMPLING DIODES



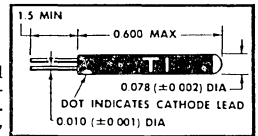
Used in fractional nanosecond sampling and pulse generators, and ultra high-speed switching. Minimum reverse breakdown voltage, 10 v.  $R_{DYN}$ , dynamic resistance.  $t_r$ , rise time.

Type No.	Max. $I_R$ @ $-2$ v. (na)	Max. $C_T$ @ $f=1$ mc, 0 bias (pf)	Max. $R_{DYN}$ @ 5 ma (ohms)	Max. $t_r$ (nsec)	EACH
A-670	1	.8	15	.3	1-999
A-671	1	.6	20	.3	5.00 6.00

## PHOTOELECTRIC SENSORS

### SUBMINIATURE PLANAR SILICON PHOTO DEVICE

- 9 MA Output At 1000 Ft. Candles
- Compact End-Reading Design



For use in scanning, cataloging, and information storage equipment. LS-400 provides 9 ma output at 1000 ft. candles input. Cycle capability, 25,000/sec. Temp. stability, 1%/°C.  $BV_F$  @ 100  $\mu a.$ , 7v.  $BV_R$  @ 100  $\mu a.$ , 50 v. Power dissipation, 50 mw maximum. Light current @ 5 vdc, 1 ma minimum. Dark current @ 30 vdc, .025  $\mu a$  maximum. Light current sensitivity between 300 and 600 ft.-candles at 5 v., 7  $\mu a./ft.$ -candle.

LS-400, 1-99.....EACH 13.50 100-999.....EACH 10.80

### SILICON PHOTOVOLTAIC LIGHT SENSORS

LS-221, Output, 250 mv. at 280 ft. candles (10,000 ohm load). Imbalance between sensitive elements, maximum output 50 mv.

LS-221, 1-99.....EACH 24.00 100-999.....EACH 20.00

LS-222, Typical output is 290 microamps at 1250 ft. candles, 2800°K input. (1000 ohm load).

LS-222, 1-99.....EACH 6.00 100-999.....EACH 5.45

LS-223, Typical output is 350 microamps at 1250 ft. candles, 2800°K input (1000 ohm load).

LS-223, 1-99.....EACH 9.40 100-999.....EACH 9.20

### SILICON PHOTOCONDUCTIVE LIGHT SENSORS

Have bias voltage  $\pm 50$  v. maximum. Maximum dark current @ 25°C  $\pm 50$  v., .5  $\mu a$  except Type H-38, 10  $\mu a$ . Light current measured in terms of radiation. Radiation = 9 mw/cm<sup>2</sup> in a frequency bandwidth of .7 to 1 micron.

Type No.	Max. Dark Curr. @ 25°C, $\pm 50$ v. (ua)	Min. Light Curr. @ 25°C, $\pm 10$ v. (ua)	Max. Light Curr. @ 25°C, $\pm 10$ v. (ua)	EACH	
				1-99	100-999
IN2175	.5	100	...	11.50	8.00
H-11	.5	40	...	4.00	2.80
H-35	.5	60	...	5.00	3.50
H-38	10.	100	...	4.00	2.80
H-60	.5	100	200	8.00	5.60
H-61	.5	200	300	9.00	6.25
H-62	.5	300	400	13.50	10.00

### TYPE 2N997 DARLINGTON TRANSISTOR

An epitaxial planar type grown unijunction device for use in pulse timing circuits, relaxation oscillators, and medium power switches. Miniature round welded case. Power dissipation @ 25°C case temperature, 1.5 watts. Minimum open input collector-emitter breakdown voltage @ 100 ma collector current and 0 base current, 40 v. Min. DC gain @ 10 v. collector to emitter voltage and 100 ma collector current, 7000.

2N997, 1-99.....EACH 25.35 100-999.....EACH 16.90

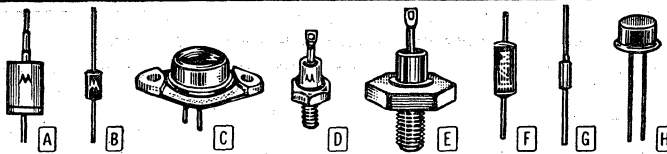
### TRANSISTOR CIRCUIT DESIGN MANUAL

Written by Texas Instrument engineers to assist the circuit designer in solving difficult design problems. Bridges the gap between theory and practice and offers generalized design procedures applicable to a wide range of circuits. Contains dozens of complete, tested designs.

37 K 689.....15.00



# Motorola Silicon Zener Diodes



## EXPLANATION OF COLUMN HEADINGS

I<sub>test</sub>—Test Current  
V<sub>Z</sub>—Nominal Zener Voltage  
Z—Maximum Zener Impedance

\*ASSORTED PRICE FOR 100-999 MUST INCLUDE A MINIMUM OF 10 UNITS OF EACH TYPE ORDERED

### F 1/4-WATT ALLOY ZENER DIODES ( $\pm 5\%$ V<sub>Z</sub> Tol.)

Type No.	V <sub>Z</sub> Volts	I <sub>test</sub> ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
1/4 M2.4AZ5	2.4	10	60	4.00	3.65	3.20
1/4 M2.7AZ5	2.7	10	60			
1/4 M3.0AZ5	3.0	10	55			
1/4 M3.3AZ5	3.3	10	55	4.00	3.65	3.20
1/4 M3.6AZ5	3.6	10	50			
1/4 M3.9AZ5	3.9	10	50			
1/4 M4.3AZ5	4.3	10	45	4.00	3.65	3.20
1/4 M4.7AZ5	4.7	10	35			
1/4 M5.1AZ5	5.1	10	25			
1/4 M5.6AZ5	5.6	10	20	4.00	3.65	3.20
1/4 M6.2AZ5	6.2	10	15			
1/4 M6.8AZ5	6.8	10	10			

### F 1/4-WATT DIFFUSED ZENER DIODES ( $\pm 5\%$ V<sub>Z</sub> Tol.)

Type No.	V <sub>Z</sub> Volts	I <sub>test</sub> ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
1/4 M6.8Z5	6.8	9.2	7.0	4.00	3.65	3.20
1/4 M7.5Z5	7.5	8.3	8.0			
1/4 M8.2Z5	8.2	7.6	9.0			
1/4 M9.1Z5	9.1	6.9	10	4.00	3.65	3.20
1/4 M10Z5	10	6.3	11			
1/4 M11Z5	11	5.7	13			
1/4 M12Z5	12	5.2	15	4.00	3.65	3.20
1/4 M13Z5	13	4.8	18			
1/4 M14Z5	14	4.5	20			
1/4 M15Z5	15	4.2	22	4.00	3.65	3.20
1/4 M16Z5	16	3.9	24			
1/4 M17Z5	17	3.7	26			
1/4 M18Z5	18	3.5	28	4.00	3.65	3.20
1/4 M19Z5	19	3.3	30			
1/4 M20Z5	20	3.1	33			
1/4 M22Z5	22	2.8	40	4.00	3.65	3.20
1/4 M24Z5	24	2.6	46			
1/4 M25Z5	25	2.5	50			
1/4 M27Z5	27	2.3	58	4.35	4.00	3.50
1/4 M30Z5	30	2.1	70			
1/4 M33Z5	33	1.9	85			
1/4 M36Z5	36	1.7	100	4.35	4.00	3.50
1/4 M39Z5	39	1.6	120			
1/4 M43Z5	43	1.5	140			
1/4 M45Z5	45	1.4	150	4.35	4.00	3.50
1/4 M47Z5	47	1.3	150			
1/4 M50Z5	50	1.2	180			
1/4 M52Z5	52	1.2	200	4.35	4.00	3.50
1/4 M56Z5	56	1.1	230			
1/4 M62Z5	62	1.0	290			
1/4 M68Z5	68	0.92	350	4.35	4.00	3.50
1/4 M75Z5	75	0.83	450			
1/4 M82Z5	82	0.76	550			
1/4 M91Z5	91	0.69	700	4.35	4.00	3.50
1/4 M100Z5	100	0.63	900			
1/4 M105Z5	105	0.60	1000			
1/4 M110Z5	110	0.57	1200	4.35	4.00	3.50
1/4 M120Z5	120	0.52	1500			
1/4 M130Z5	130	0.48	1900			
1/4 M140Z5	140	0.45	2200	4.35	4.00	3.50
1/4 M150Z5	150	0.42	2500			
1/4 M175Z5	175	0.36	3300			
1/4 M200Z5	200	0.31	4300			

### G 400-MW ALLOY ZENER DIODES ( $\pm 5\%$ V<sub>Z</sub> Tol.)

Type No.	V <sub>Z</sub> Volts	I <sub>test</sub> ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
1/4 N746A	3.3	20	28	2.80	2.40	2.10
1/4 N747A	3.6	20	24			
1/4 N748A	3.9	20	23			
1/4 N749A	4.3	20	22			
1/4 N750A	4.7	20	19			
1/4 N751A	5.1	20	17	2.80	2.40	2.10
1/4 N752A	4.6	20	11			
1/4 N753A	6.2	20	7			
1/4 N754A	6.8	20	5			
1/4 N755A	7.5	20	6			
1/4 N756A	8.2	20	8	2.80	2.40	2.10
1/4 N757A	9.1	20	10			
1/4 N758A	10.0	20	17			
1/4 N759A	12.0	20	30			

### G 400-MW DIFFUSED ZENER DIODES ( $\pm 5\%$ V<sub>Z</sub> Tol.)

Type No.	V <sub>Z</sub> Volts	I <sub>test</sub> ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
1/4 N957B	6.8	18.5	4.5	2.95	2.55	2.20
1/4 N958B	7.5	16.5	5.5			
1/4 N959B	8.5	15	6.5			
1/4 N960B	9.1	14	7.5			
1/4 N961B	10	12.5	8.5			
1/4 N962B	11	11.5	9.5	2.95	2.55	2.20
1/4 N963B	12	10.5	11.5			
1/4 N964B	13	9.5	13.0			
1/4 N965B	15	8.5	16.0			
1/4 N966B	16	7.8	17.0			
1/4 N967B	18	7.0	21	2.95	2.55	2.20
1/4 N968B	20	6.2	25			
1/4 N969B	22	5.6	29			
1/4 N970B	24	5.2	33			
1/4 N971B	27	4.6	41			
1/4 N972B	30	4.2	49	2.95	2.55	2.20
1/4 N973B	33	3.8	58			
1/4 N974B	36	3.4	70			
1/4 N975B	39	3.2	80			
1/4 N976B	43	3.0	93			
1/4 N977B	47	2.7	105	2.95	2.55	2.20
1/4 N978B	51	2.5	125			
1/4 N979B	56	2.2	150			
1/4 N980B	62	2.0	185			
1/4 N981B	68	1.8	230			
1/4 N982B	75	1.7	270	2.95	2.55	2.20
1/4 N983B	82	1.5	330			
1/4 N984B	91	1.4	400			
1/4 N985B	100	1.3	500			
1/4 N986B	110	1.1	750			
1/4 N987B	120	1.0	900	3.65	3.15	2.75
1/4 N988B	130	.95	1100			
1/4 N989B	150	.85	1500			
1/4 N990B	160	.80	1700			
1/4 N991B	180	.68	2200			
1/4 N992B	200	.65	2500			

### A 1-WATT ALLOY ZENER DIODES ( $\pm 5\%$ V<sub>Z</sub> Tol.)

Type No.	V <sub>Z</sub> Volts	I <sub>test</sub> ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
1/4 N3821A	3.3	76	10	2.65	2.30	2.00
1/4 N3822A	3.6	69	10			
1/4 N3823A	3.9	64	9			
1/4 N3824A	4.3	58	9			
1/4 N3825A	4.7	53	8			
1/4 N3826A	5.1	49	7	2.65	2.30	2.00
1/4 N3827A	5.6	45	5			
1/4 N3828A	6.2	41	2			
1/4 N3829A	6.8	37	1.5			
1/4 N3830A	7.5	34	1.5			

### A 1-WATT DIFFUSED ZENER DIODES ( $\pm 5\%$ V<sub>Z</sub> Tol.)

Type No.	V <sub>Z</sub> Volts	I <sub>test</sub> ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
1/4 N3016B	6.8	37	3.5	3.85	3.30	2.90
1/4 N3017B	7.5	34	4.0			
1/4 N3018B	8.2	31	4.5			
1/4 N3019B	9.1	28	5			
1/4 N3020B	10	25	7			
1/4 N3021B	11	23	8	3.85	3.30	2.90
1/4 N3022B	12	21	9			
1/4 N3023B	13	19	10			
1/4 N3024B	15	17	14			
1/4 N3025B	16	15.5	16			
1/4 N3026B	18	14	20	3.85	3.30	2.90
1/4 N3027B	20	12.5	22			
1/4 N3028B	22	11.5	23			
1/4 N3029B	24	10.5	25			
1/4 N3030B	27	9.5	35			
1/4 N3031B	30	8.5	40	4.70	4.05	3.50
1/4 N3032B	33	7.5	45			
1/4 N3033B	36	7.0	50			
1/4 N3034B	39	6.5	60			
1/4 N3035B	43	6.0	70			
1/4 N3036B	47	5.5	80	4.70	4.05	3.50
1/4 N3037B	51	5.0	90			
1/4 N3038B	56	4.5	110			
1/4 N3039B	62	4.0	125			
1/4 N3040B	68	3.7	150			
1/4 N3041B	75	3.3	175			

# Motorola Silicon Zener Diodes

\*ASSORTED PRICE FOR 100-999 MUST INCLUDE A MINIMUM OF 10 UNITS OF EACH TYPE ORDERED

SEE PAGE 34 FOR EXPLANATION OF COLUMN HEADINGS AND FOR ILLUSTRATIONS

## A 1-WATT DIFFUSED ZENER DIODES ( $\pm 5\%$ Vz Tol.) (Cont'd from previous page)

Type No.	Vz Volts	Itest ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
				IN3042B	82	3.0
IN3043B	91	2.8	250			
IN3044B	100	2.5	350			
IN3045B	110	2.3	450	7.85	6.75	5.90
IN3046B	120	2.0	550			
IN3047B	130	1.9	700			
IN3048B	150	1.7	1000			
IN3049B	160	1.6	1100	7.85	6.75	5.90
IN3050B	180	1.4	1200			
IN3051B	200	1.2	1500			

## B 3/4-WATT "SURMETIC"® ZENER DIODES ( $\pm 5\%$ Vz Tol.)

Zener diode with void-free silicone package and glass surface passivated hermetic seal—10,000 times less permeable than epoxy and other coatings. Passed all std. MIL high temperature-humidity storage tests plus 20,000 g acceleration and 1500 g shock.

Type No.	Vz Volts	Itest ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
IN3680B	11	11.5	9.5	3.05	2.65	2.30
IN3681B	12	10.5	11.5			
IN3682B	13	9.5	13.0			
IN3683B	15	8.5	16.0			
IN3684B	16	7.8	17.0	3.05	2.65	2.30
IN3685B	18	7.0	21.0			
IN3686B	20	6.2	25			
IN3687B	22	5.6	29			
IN3688B	24	5.2	33			
IN3689B	27	4.6	41	3.35	2.90	2.55
IN3690B	30	4.2	49			
IN3691B	33	3.8	58			
IN3692B	36	3.4	70	3.35	2.90	2.55
IN3693B	39	3.2	80			
IN3694B	43	3.0	93	3.35	2.90	2.55
IN3695B	47	2.7	105			
IN3696B	51	2.5	125			

## D 10-WATT ALLOY ZENER DIODE ( $\pm 5\%$ Vz Tol.)

Type No.	Vz Volts	Itest ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
IN3993A	3.9	640	2.0	10.25	8.85	7.70
IN3994A	4.3	580	1.5			
IN3995A	4.7	530	1.2			
IN3996A	5.1	490	1.1	7.70	6.65	5.80
IN3997A	5.6	445	1.0			
IN3998A	6.2	405	1.1			
IN3999A	6.8	370	1.2			
IN4000A	7.5	335	1.3			

## H 1.5-WATT DIFFUSED ZENER DIODE ( $\pm 5\%$ Vz Tol.)

Type No.	Vz Volts	Itest ma	Z Ohms	EACH		
				1-99	Assorted 100-999*	Single Type 100-999
IN3785B	6.8	55	2.7	6.95	6.00	5.25
IN3786B	7.5	50	3.0			
IN3787B	8.2	46	3.5			
IN3788B	9.1	41	4.0			
IN3789B	10	37	5			
IN3790B	11	34	6	6.95	6.00	5.25
IN3791B	12	31	7			
IN3792B	13	29	8			
IN3793B	15	25	10			
IN3794B	16	23	11			
IN3795B	18	21	13	6.95	6.00	5.25
IN3796B	20	19	15			
IN3797B	22	17	16			
IN3798B	24	16	17			
IN3799B	27	14	20			
IN3800B	30	12	25	6.95	6.00	5.25
IN3801B	33	11	30			
IN3802B	36	10	35			
IN3803B	39	10	40			
IN3804B	43	9.0	45			
IN3805B	47	8.0	55	6.95	6.00	5.25
IN3806B	51	7.4	65			
IN3807B	56	6.7	75			
IN3808B	62	6.0	85			
IN3809B	68	5.5	95			
IN3810B	75	5.0	110	6.95	6.00	5.25
IN3811B	82	4.5	130			
IN3812B	91	4.1	150			
IN3813B	100	3.7	200			
IN3814B	110	3.4	300	8.35	7.20	6.30
IN3815B	120	3.1	350			
IN3816B	130	2.9	400			
IN3817B	150	2.5	700	8.80	7.60	6.60
IN3818B	160	2.3	750			
IN3819B	180	2.1	800			
IN3820B	200	1.9	1000			

## D 10-WATT DIFFUSED ZENER DIODES ( $\pm 5\%$ Vz Tol.)

JEDEC No.	Mfr's Type	Vz Volts	Itest ma	Z Ohms	EACH		
					1-99	Assorted 100-999*	Single Type 100-999
IN2970B	10M6.8Z5	6.8	370	1.2	7.60	6.55	5.70
IN2971B	10M7.5Z5	7.5	335	1.3			
IN2972B	10M8.2Z5	8.2	305	1.5			
IN2973B	10M9.1Z5	9.1	275	2.0			
IN2974B	10M10Z5	10	250	3			
IN2975B	10M11Z5	11	230	3	7.60	6.55	5.70
IN2976B	10M12Z5	12	210	3			
IN2977B	10M13Z5	13	190	3			
IN2979B	10M15Z5	15	170	3			
IN2980B	10M16Z5	16	155	4			
IN2982B	10M18Z5	18	140	4	7.60	6.55	5.70
IN2984B	10M20Z5	20	125	4			
IN2985B	10M22Z5	22	115	5			
IN2986B	10M24Z5	24	105	5			
IN2988B	10M27Z5	27	95	7			
IN2989B	10M30Z5	30	85	8	7.60	6.55	5.70
IN2990B	10M33Z5	33	75	9			
IN2991B	10M36Z5	36	70	10			
IN2992B	10M39Z5	39	65	11			
IN2993B	10M43Z5	43	60	12			
IN2995B	10M47Z5	47	55	14	7.60	6.55	5.70
IN2997B	10M51Z5	51	50	15			
IN2999B	10M56Z5	56	45	16			
IN3000B	10M62Z5	62	40	17			
IN3001B	10M68Z5	68	37	18			
IN3002B	10M75Z5	75	33	22	7.60	6.55	5.70
IN3003B	10M82Z5	82	30	25			
IN3004B	10M91Z5	91	28	35			
IN3005B	10M100Z5	100	25	40			
IN3007B	10M110Z5	110	23	55			
IN3008B	10M120Z5	120	20	75	7.60	6.55	5.70
IN3009B	10M130Z5	130	19	100			
IN3011B	10M150Z5	150	17	175			
IN3012B	10M160Z5	160	16	200			
IN3014B	10M180Z5	180	14	260			
IN3015B	10M200Z5	200	12	300	13.85	11.95	10.40

## C E 50-WATT DIFFUSED ZENER DIODES ( $\pm 5\%$ Vz Tol.)

JEDEC No.	Mfr's Type	Vz Volts	Itest ma	Z Ohms	EACH		
					1-99	Assorted 100-999*	Single Type 100-999
IN2804B	IN3305B	6.8	1850	0.2	11.75	10.15	8.80
IN2805B	IN3306B	7.5	1700	0.3			
IN2806B	IN3307B	8.2	1500	0.4			
IN2807B	IN3308B	9.1	1370	0.5			
IN2808B	IN3309B	10	1200	0.6			
IN2809B	IN3310B	11	1100	0.8	11.75	10.15	8.80
IN2810B	IN3311B	12	1000	1.0			
IN2811B	IN3312B	13	960	1.1			
IN2812B	IN3313B	14	890	1.2			
IN2813B	IN3314B	15	830	1.4			
IN2814B	IN3315B	16	780	1.6	11.75	10.15	8.80
IN2815B	IN3316B	17	740	1.8			
IN2816B	IN3317B	18	700	2.0			
IN2817B	IN3318B	19	660	2.2			
IN2818B	IN3319B	20	630	2.4			
IN2819B	IN3320B	22	570	2.5	11.75	10.15	8.80
IN2820B	IN3321B	24	520	2.6			
IN2821B	IN3322B	25	500	2.7			
IN2822B	IN3323B	27	460	2.8			
IN2823B	IN3324B	30	420	3.0			
IN2824B	IN3325B	33	380	3.2	11.75	10.15	8.80
IN2825B	IN3326B	36	350	3.5			
IN2826B	IN3327B	39	320	4.0			
IN2827B	IN3328B	43	290	4.5			
IN2828B	IN3329B	45	280	4.5			
IN2829B	IN3330B	47	270	5.0	11.75	10.15	8.80
IN2830B	IN3331B	50	250	5.0			
IN2831B	IN3332B	51	245	5.2			
.....	IN3333B	52	240	5.5			
IN2832B	IN3334B	56	220	6			
IN2833B	IN3335B	62	200	7	11.75	10.15	8.80
IN2834B	IN3336B	68	180	8			
IN2835B	IN3337B	75	170	9			
IN2836B	IN3338B	82	150	11			
IN2837B	IN3339B	91	140	15			
IN2838B	IN3340B	100	120	20	20.55	17.75	16.45
IN2839B	IN3341B	105	120	25			
IN2840B	IN3342B	110	110	30			
IN2841B	IN3343B	120	100	40			
IN2842B	IN3344B	130	95	50			
.....	IN3345B	140	90	60	20.55	17.75	16.45
IN2843B	IN3346B	150	85	75			
IN2844B	IN3347B	160	80	80			
.....	IN3348B	175	70	85			
IN2845B	IN3349B	180	68	90			
IN2846B	IN3350B	200	65	100			



# Motorola Diodes and Transistors

## EXPLANATION OF COLUMN HEADINGS, ABBREVIATIONS AND SYMBOLS

Zd—Maximum Dynamic Zener Impedance  
 Vz—Zener Voltage  
 Z—Maximum Zener Impedance at Vz

Pc—Av. Collector Power Dissipation  
 BVcbo—DC Breakdown Coll.-Base V.  
 Ic—Maximum Collector Current

### MINIATURE AND SUB-MINIATURE REFERENCE DIODES

Hermetically sealed, temperature-stable Zener diodes. Voltage/temperature coefficients .01%/°C or less. \*Assorted Prices. Any order for 100-999 units at these prices must include a minimum of 10 of each type ordered.

#### B 6.2-V. SUBMINIATURES (400 MW.)

Voltage range, 5.9 to 6.5 volts @ 7.5 ma. Temperature range, -55 to +100°C.

Type No.	Zd	EACH		
		1-99	Assorted 100-999*	Single Type 100-999
1N821	15	4.00	3.45	3.00
1N821A	10	5.65	4.90	4.25
1N823	15	5.00	4.30	3.75
1N823A	10	7.50	6.50	5.65
1N825	15	7.95	6.90	6.00
1N825A	10	11.25	9.75	8.45
1N827	15	27.00	23.30	20.30
1N827A	10	29.35	25.35	22.05

#### B 8.4-V. SUBMINIATURES (400 MW.)

Voltage range, 8.0-8.8 v. @ 10 ma. Temp., "A" Types, -55 to +150°C; others, +100°C.

Type No.	Zd	EACH		
		1-99	Assorted 100-999*	Single Type 100-999
1N3154	15	7.30	6.30	5.50
1N3154A	15	8.15	7.05	6.15
1N3155	15	11.35	9.80	8.50
1N3155A	15	12.30	10.65	9.25
1N3156	15	16.85	14.55	12.65
1N3156A	15	18.15	15.70	13.65
1N3157	15	25.30	21.90	19.05
1N3157A	15	27.85	24.10	20.95

#### B 9.0-V. SUBMINIATURES (1/2 W.)

Range, 8.55-9.45 v. @ 7.5 ma. "A" Types, -55 to +100°C; "B", to +150°C; others, 0 to +75°C.

Type No.	Zd	EACH		
		1-99	Assorted 100-999*	Single Type 100-999
1N935	20	3.45	3.00	2.60
1N935A	20	3.85	3.35	2.90
1N935B	20	4.60	3.95	3.45
1N936	20	4.00	3.45	3.00
1N936A	20	4.85	4.20	3.65
1N936B	20	5.60	4.85	4.20
1N937	20	7.00	6.05	5.25
1N937A	20	7.60	6.55	5.70
1N937B	20	8.50	7.35	6.40
1N938	20	8.10	7.00	6.10
1N938A	20	9.15	7.90	6.85
1N938B	20	12.30	10.65	9.25
1N939	20	18.75	16.20	14.10
1N939A	20	25.80	22.30	19.40
1N939B	20	28.75	24.85	21.60
1N940	20	39.00	33.70	29.30
1N940A	20	47.00	40.65	35.35
1N940B	20	52.25	45.15	39.30

#### A 9.3-V. MINIATURES (3/4 W.)

Range, 8.9-9.7 v. @ 10 ma. "A" Types, -55 to +100°C; "B", to +150°C; others, 0 to +75°C.

Type No.	Zd	1-99	Assorted 100-999*	Single Type 100-999
1N2620	15	4.10	3.55	3.05
1N2620A	15	4.35	3.75	3.25

#### A 9.3-V. MINIATURES (Cont'd)

Range, 8.9-9.7 v. @ 10 ma. "A" Types, -55 to +100°C; "B", to +150°C; others, 0 to +75°C.

Type No.	Zd	EACH		
		1-99	Assorted 100-999*	Single Type 100-999
1N2620B	15	4.90	4.20	3.65
1N2621	15	4.60	3.95	3.45
1N2621A	15	5.55	4.80	4.15
1N2621B	15	6.75	5.85	5.05
1N2622	15	7.60	6.55	5.70
1N2622A	15	8.15	7.05	6.10
1N2622B	15	9.35	8.05	7.00
1N2623	15	8.80	7.60	6.60
1N2623A	15	10.05	8.70	7.55
1N2623B	15	13.50	11.65	10.15
1N2624	15	22.00	19.00	16.55
1N2624A	15	28.80	24.90	21.65
1N2624B	15	38.50	33.30	28.95

#### B 11.7-V. SUBMINIATURES (1/2 W.)

Range, 11.12-12.28 v. @ 7.5 ma. "A" Types, -55 to +100°C; "B", to +150°C; others, 0 to +75°C.

Type No.	Zd	EACH		
		1-99	Assorted 100-999*	Single Type 100-999
1N941	30	4.90	4.20	3.65
1N941A	30	5.25	4.55	3.95
1N941B	30	6.05	5.20	4.55
1N942	30	5.35	4.60	4.00
1N942A	30	6.35	5.50	4.75
1N942B	30	7.35	6.35	5.50
1N943	30	9.10	7.85	6.85
1N943A	30	9.90	8.55	7.45
1N943B	30	11.10	9.60	8.35
1N944	30	10.55	9.10	7.90
1N944A	30	12.00	10.35	9.00
1N944B	30	15.90	13.75	11.95
1N945	30	24.50	21.15	18.40
1N945A	30	33.40	28.85	25.10
1N945B	30	37.55	32.45	28.20
1N946	30	54.40	47.00	40.90
1N946A	30	64.50	55.75	48.50
1N946B	30	70.65	61.10	53.10

#### A 11.7-V. MINIATURES (3/4 W.)

Range, 11.12-12.28 v. @ 7.5 ma. "A" Types, -55 to +100°C; "B", to +150°C; others, 0 to +75°C.

Type No.	Zd	EACH		
		1-99	Assorted 100-999*	Single Type 100-999
1N3580	25	4.90	4.20	3.65
1N3580A	25	5.20	4.50	3.90
1N3580B	25	6.00	5.20	4.50
1N3581	25	5.55	4.80	4.15
1N3581A	25	6.60	5.70	4.95
1N3581B	25	7.75	6.70	5.80
1N3582	25	8.95	7.75	6.70
1N3582A	25	9.80	8.45	7.35
1N3582B	25	10.90	9.40	8.20

### MOLDED ASSEMBLY REFERENCE DIODES

Not illus. Vz and Z @ 7.5 ma. except 1N1530 and 1N1530A, 10 ma. Vz ±5% tol. Op. temp., -55 to +150°C. Voltage/

temp. coefficient, .001-.01%/°C. Axial leads except 1N429, 1N1530, 1N1530A, out one end only. Case length, .360-1.200".

Type No.	Vz Volts	Z Ohms	EACH	
			1-99	100-999
1N429	6.2	20	5.80	4.35
1N1735	6.2	20	6.20	4.65
1N1736	12.4	40	8.85	6.65
1N1736A	12.4	40	14.10	10.60
1N1737	18.6	60	13.05	9.80
1N1737A	18.6	60	20.50	15.40
1N1738	24.8	80	17.20	12.95
1N1738A	24.8	80	27.40	20.60
1N1739	31.0	100	21.55	16.20
1N1739A	31.0	100	33.10	24.90
1N1740	37.2	120	25.75	19.35
1N1740A	37.2	120	45.10	33.90
1N1741	43.4	140	34.30	25.80
1N1741A	43.4	140	52.25	39.30
1N1742	49.6	180	39.10	29.40

Type No.	Vz Volts	Z Ohms	EACH	
			1-99	100-999
1N1742A	49.6	180	57.45	43.20
1N2765	6.8	20	5.00	3.75
1N2765A	6.8	20	6.25	4.70
1N2766	13.6	40	6.60	4.95
1N2766A	13.6	40	8.70	6.55
1N2767	20.4	60	9.05	6.80
1N2767A	20.4	60	11.70	8.80
1N2768	27.2	80	11.15	8.40
1N2768A	27.2	80	14.15	10.65
1N2769	34.0	100	13.70	10.30
1N2769A	34.0	100	17.15	12.90
1N2770	40.8	120	15.75	11.85
1N2770A	40.8	120	20.70	15.55
1N1530	8.4	15	16.55	12.45
1N1530A	8.4	15	24.85	18.70

### MILLIWATT TRANSISTORS

Suitable for audio, switching and control applications requiring moderate power levels and current gains to 500—at frequencies to 3 megacycles. †"Meg-A-Life" tested to military standards. \*\*Per MIL-specs shown.

Type No.	Pc Mw.	BVcbo Volts	Ic Ma.	EACH	
				1-99	100-999
2N320	225	.....	500	.59	.39
2N321	225	.....	500	.68	.45
2N322	225	.....	500	.48	.32
2N323	225	.....	500	.60	.40
2N324	225	.....	500	.75	.50
2N331	200	30	200	1.50	1.00
JAN2N331	**S-19500/4C			1.80	1.20
2N398A	150	105	200	1.30	.87
USN2N398	**S-19500/174		200	1.47	.98
USAF2N461	**T-19500/45			3.45	2.30
2N464	200	45	100	1.50	1.00
USA2N465	**T-19500/50B			1.80	1.20
2N466	200	35	100	1.65	1.10
JAN2N466	**S-19500/51D			1.95	1.30
2N467	200	35	100	2.10	1.40
USA2N467	**T-19500/52B			2.25	1.50
2N508	225	.....	500	.83	.55
2N524	225	.....	500	1.30	.87
2N524A	225	.....	500	1.95	1.30
2N525	225	.....	500	1.30	.87
2N525A	225	.....	500	2.00	1.35
2N526	225	.....	500	1.65	1.10
JAN2N526	**S-19500/60C			1.74	1.16
2N526A	225	.....	500	2.02	1.35
2N527	225	.....	500	1.91	1.27
2N527A	225	.....	500	2.28	1.52
2N650	200	45	500	1.85	1.25
2N650A	200	45†	500	2.40	1.60
USN2N650A	**S-19500/175A			2.92	1.95
2N651	200	45	500	1.88	1.25
2N651A	200	45†	500	2.30	1.55
USN2N651A	**S-19500/175A			2.85	1.90
2N652	200	45†	500	2.40	1.60
2N652A	200	45†	500	2.75	1.85
USN2N652A	**S-19500/175A		250	3.37	2.25
2N653	200	30†	250	1.65	1.10
2N654	200	30	250	1.80	1.20
2N655	200	30	250	1.95	1.30
2N1175	225	.....	500	.99	.66
2N1185	200	45	500	2.75	1.85
2N1188	200	60	500	3.15	2.10
2N1191	200	40	200	1.12	.75
2N1192	200	40	200	1.12	.75
2N1193	200	40	200	1.50	1.00
2N1414	225	.....	500	.82	.55
2N1415	225	.....	500	.99	.66
2N1924	225	.....	500	1.65	1.10
2N1925	225	.....	500	1.85	1.25
2N1926	225	.....	500	2.20	1.48
2N2042	200	105	200	1.85	1.25
2N2042A	200	105†	200	2.25	1.50
2N2043	200	105	200	2.25	1.50
2N2043A	200	105†	200	2.60	1.75

## ALLIED ...

YOUR SEMICONDUCTOR HEADQUARTERS

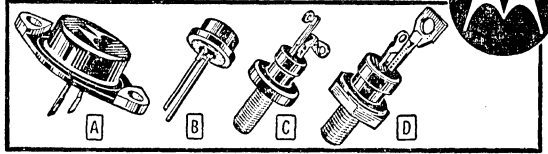
- OEM Prices
- All Types in Stock
- Personal Service
- Same Day Shipment

# Motorola Silicon Controlled Rectifiers



## EXPLANATION OF COLUMN HEADINGS

**T<sub>J</sub>**—Junction Temperature      **PRV**—Peak Reverse Voltage  
**ca**—Full Cycle Average      **ton**—Turn On Time  
**V<sub>BO</sub>**—Breakover Voltage      **nsec typ**—Nanoseconds Typical



### FORWARD CURRENT 25 AMPS RMS (T<sub>J</sub> = 125°C.)

Rugged, heavy-duty silicon controlled rectifiers for industrial and military power control applications. Types 2N681 through 2N689

have 1/8" mounting stud. Types 2N2573 through 2N2579 are housed in TO-41 package; have pair of solder lug terminals.

Type No.	Fig.	Maximum Ratings and Characteristics @ T <sub>J</sub> Max.				EACH	
		PRV, V <sub>BO</sub> Volts	1/2 Cycle Surge Current Amps	Forward Voltage Drop Volts	Gate Firing Current Ma.	1-99	100-999
					<b>16 Amps fca</b>		
2N681	D	25	150	0.86	25	8.65	5.75
2N682	D	50	150	0.86	25	9.40	6.25
2N683	D	100	150	0.86	25	10.50	7.00
2N684	D	150	150	0.86	25	12.75	8.50
2N685	D	200	150	0.86	25	15.00	10.00
2N686	D	250	150	0.86	25	18.00	12.00
2N687	D	300	150	0.86	25	21.00	14.00
2N688	D	400	150	0.86	25	26.25	17.50
2N689	D	500	150	0.86	25	31.90	21.25
2N2573	A	25	260	0.7	25	7.70	5.15
2N2574	A	50	260	0.7	25	8.40	5.60
2N2575	A	100	260	0.7	25	9.45	6.30
2N2576	A	200	260	0.7	25	13.50	9.00
2N2577	A	300	260	0.7	25	18.90	12.60
2N2578	A	400	260	0.7	25	23.60	15.75
2N2579	A	500	260	0.7	25	28.65	19.10

### FORWARD CURRENT 20 AMPS RMS (T<sub>J</sub> = 100°C.)

Type No.	Fig.	PRV, V <sub>BO</sub> Volts	1/2 Cycle Surge Current Amps	Forward Voltage Drop Volts	Gate Firing Current Ma.	EACH	
						1-99	100-999
					<b>13 Amps fca</b>		
MCR649-1	A	25	260	0.7	50	4.95	3.30
MCR649-2	A	50	260	0.7	50	5.55	3.70
MCR649-3	A	100	260	0.7	50	6.50	4.35
MCR649-4	A	200	260	0.7	50	9.20	6.15
MCR649-5	A	300	260	0.7	50	15.90	10.60
MCR649-6	A	400	260	0.7	50	21.20	14.15
MCR649-7	A	500	260	0.7	50	26.90	17.95

### FORWARD CURRENT 18 AMPS RMS (T<sub>J</sub> = 100°C.)

Type No.	Fig.	PRV, V <sub>BO</sub> Volts	1/2 Cycle Surge Current Amps	Forward Voltage Drop Volts	Gate Firing Current Ma.	EACH	
						1-99	100-999
					<b>12 Amps fca</b>		
MCR808-1	B	25	225	0.8	65	4.50	3.00
MCR808-2	B	50	225	0.8	65	5.25	3.50
MCR808-3	B	100	225	0.8	65	6.00	4.00
MCR808-4	B	200	225	0.8	65	7.50	5.00
MCR808-5	B	300	225	0.8	65	12.75	8.50
MCR808-6	B	400	225	0.8	65	18.00	12.00

### FORWARD CURRENT 2 AMPS RMS (T<sub>J</sub> = 105°C.)

Type No.	Fig.	PRV, V <sub>BO</sub> Volts	1/2 Cycle Surge Current Amps	Forward Voltage Drop Volts	Gate Firing Current Ma.	EACH	
						1-99	100-999
					<b>1 Amp DC @ 25°C.</b>		
MCR846-1	C	25	30	1.2	50	5.15	3.45
MCR846-2	C	50	30	1.2	50	5.75	3.85
MCR846-3	C	100	30	1.2	50	7.35	4.90
MCR846-4	C	200	30	1.2	50	14.60	9.75

### ☐ RADAR MODULATOR TYPES—2 AMPS AVERAGE (T<sub>J</sub> = 105°C.)

Silicon controlled rectifiers especially designed for use in radar modulation circuitry. All have 1/8" mounting stud and solder termi-

nals. Electrical characteristics in table below are measured at ambient of 25°C. \*Higher voltages available on request.

Mfr's Type	Maximum Ratings			ton (30 Amp Pulse) nsec typ	Min. Holding Current Ma.	Max. Gate Firing Current Ma.	Max. Fwd. Voltage Drop @ 1 Amp DC Volts	EACH	
	V <sub>BO</sub> Volts	PRV* Volts	Pulse Current (PW 10 sec)					1-99	100-999
MCR729-5	300	50	100	200	5	50	1.2	37.50	25.00
MCR729-6	400	50	100	200	5	50	1.2	52.50	35.00
MCR729-7	500	50	100	200	5	50	1.2	60.00	40.00
MCR729-8	600	50	100	200	5	50	1.2	90.00	60.00
MCR729-9	700	50	100	200	5	50	1.2	150.00	100.00
MCR729-10	800	50	100	200	5	50	1.2	210.00	140.00

### ☐ GATE CONTROLLED SWITCHES (T<sub>J</sub> = 105°C.)†

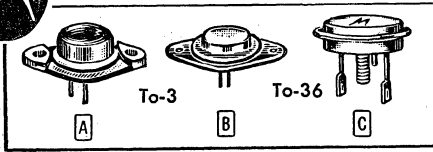
All are housed in TO-41 package; have pair of solder lug terminals. All electrical characteristics in table below are measured at ambi-

ent temperature of 25°C. †Values apply with gate-to-cathode resistor (R<sub>GC</sub>) of 300 ohms.

Mfr's Type	Maximum Ratings			Max. Fwd. Voltage Drop @ 5 Amper DC Volts	Max. Gate Turn-On		Max. Gate Turn-Off		EACH	
	PRV, V <sub>BO</sub> Volts	Anode Control Current Amps	1/2 Cycle Surge Current Amps		Ma.	Volts	Ma.	Volts	1-99	100-999
MGCS821-1	25	5	60	2.0	100	3.5	500	10	15.00	10.00
MGCS821-2	50	5	60	2.0	100	3.5	500	10	18.75	12.50
MGCS821-3	100	5	60	2.0	100	3.5	500	10	22.50	15.00
MGCS821-4	200	5	60	2.0	100	3.5	500	10	29.25	19.50
MGCS821-5	300	5	60	2.0	100	3.5	500	10	60.00	40.00
MGCS821-6	400	5	60	2.0	100	3.5	500	10	90.00	60.00



# Motorola Germanium Power Transistors



## EXPLANATION OF COLUMN HEADINGS

- $V_{CB0}$ —breakdown voltage, collector to base (in volts)
- $V_{CBO}$ —breakdown voltage, collector to base, open input (in volts)
- $V_{CE0}$ —breakdown voltage, collector to emitter, shorted input (volts)
- $h_{FE}$ —DC current gain (large signal DC beta)
- $I_c$ —maximum collector current (in amperes)
- $P_c$ —maximum power dissipation of collector (in watts)
- $P_o$ —maximum power output (in watts)
- $T_j$ —junction temperature expressed in degrees centigrade

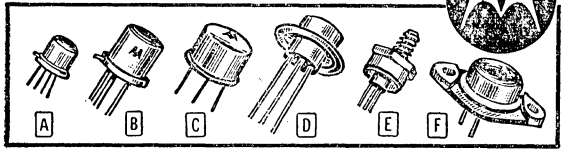
Motorola power transistors come in a variety of heavy-duty power handling capabilities—some types offering up to 170 watts of power dissipation. Types in "doorknob" TO-36 cases feature low

silhouette packaging that requires 30% less headroom than conventional TO-36 packages. Over 200 different types are available—all in stock at Allied. \*\*See Data Sheet for safe area operation.

## GERMANIUM POWER TRANSISTORS

Type No.	Fig.	$P_c$ (W)	$T_j$ (°C)	$V_{CB0}$ or $V_{CBO}$ (V)	$V_{CES}$ (V)	$I_c$ (A)	$h_{FE}$		EACH		Type No.	Fig.	$P_c$ (W)	$T_j$ (°C)	$V_{CB0}$ (V)	$V_{CES}$ (V)	$I_c$ (A)	$h_{FE}$		EACH	
							min	max	1-99	100-999								min	max	1-99	100-999
2N173	C	150	100	60*	50	15	35	70	3.70	2.50	2N1548	A	90	100	120	90	5	75	150	10.95	7.40
JAN2N174	Per MIL-T-19500/13A	150	100	80*	70	15	25	50	4.75	3.18	2N1549	A	90	100	40	30	15	10	30	2.55	1.70
2N174	C	150	100	80*	70	15	25	50	4.00	2.67	2N1550	A	90	100	60	45	15	10	30	3.05	2.05
2N174A	C	150	100	80*	70	15	25	50	4.20	2.79	2N1551	A	90	100	80	60	15	10	30	4.85	3.25
2N277	C	150	100	40*	40	15	35	70	2.50	1.66	2N1552	A	90	100	100	75	15	10	30	5.55	3.70
2N278	C	150	100	50*	45	15	35	70	1.85	1.25	2N1553	A	90	100	40	30	15	30	60	2.70	1.80
2N297A	A	90	100	60	50	3	40	100	1.75	1.17	2N1554	A	90	100	60	45	15	30	60	3.20	2.15
USA2N297A	Per MIL-T-19500/36A	90	100	80	60	3	35	90	2.65	1.78	2N1555	A	90	100	80	60	15	30	60	5.20	3.50
2N375	A	90	100	80	60	3	35	90	4.10	2.75	2N1556	A	90	100	100	75	15	30	60	6.35	4.30
2N441	C	150	100	40*	40	15	20	40	1.85	1.25	2N1557	A	90	100	40	30	15	50	100	3.20	2.15
2N442	C	150	100	50*	45	15	20	40	1.95	1.30	2N1558	A	90	100	60	45	15	50	100	4.80	3.20
2N443	C	150	100	60*	50	15	20	40	2.08	1.39	2N1559	A	90	100	80	60	15	50	100	5.90	4.00
2N618	A	90	100	80	60	3	60	140	4.50	3.00	2N1560	A	90	100	100	75	15	50	100	7.85	5.30
2N627	A	90	100	40	30	10	10	30	2.85	1.90	2N1970	C	150	100	100	50	15	17	40	2.60	1.73
2N628	A	90	100	60	45	10	10	30	3.35	2.25	2N2075	C	170	110	80	80	15	20	40	5.75	3.84
2N629	A	90	100	80	60	10	10	30	5.30	3.55	2N2076	C	170	110	70	70	15	20	40	4.00	2.67
2N630	A	90	100	100	75	10	30	30	6.05	4.05	2N2077	C	170	110	50	50	15	20	40	3.20	2.12
2N1011	A	90	100	80	80	5	30	75	2.17	1.45	2N2078	C	170	110	40	40	15	20	70	2.08	1.39
USA2N1011	Per MIL-T-19500/67A	90	100	80	80	5	30	75	2.90	1.94	2N2079	C	170	110	80	80	15	35	70	8.00	5.34
2N1099	C	150	100	80*	70	15	35	70	4.30	2.87	2N2080	C	170	100	70	70	15	35	70	5.65	3.78
2N1100	C	150	100	100*	80	15	25	50	5.00	3.34	2N2081	C	170	110	50	50	15	35	70	3.50	2.32
2N1120	A	90	100	80	70	15	20	50	8.25	5.50	2N2082	C	170	110	40	40	15	35	70	2.65	1.78
USA2N1120	Per MIL-T-19500/68	90	100	80	70	15	20	50	12.75	8.50	2N2137	A	62.5	100	30	30	3	30	60	1.80	1.20
2N1162	A	90	100	50	35	25	15	65	5.40	3.60	2N2138	A	62.5	100	45	45	3	30	60	2.10	1.40
2N1163	A	90	100	50	35	25	15	65	5.40	3.60	2N2139	A	62.5	100	60	60	3	30	60	2.25	1.50
2N1164	A	90	100	80	60	25	15	65	8.25	5.50	2N2140	A	62.5	100	75	75	3	30	60	3.90	2.60
2N1165	A	90	100	80	60	25	15	65	8.25	5.50	2N2141	A	62.5	100	90	90	3	30	60	7.85	5.25
USN2N1165	Per MIL-S-19500/178A	90	100	80	60	25	15	65	14.60	9.75	2N2142	A	62.5	100	30	30	3	50	100	2.30	1.55
2N1166	A	90	100	100	75	25	15	65	9.75	6.50	2N2143	A	62.5	100	45	45	3	50	100	2.45	1.65
2N1167	A	90	100	100	75	25	15	65	9.75	6.50	2N2144	A	62.5	100	60	60	3	50	100	3.75	2.50
2N1358	C	150	100	80*	70	15	25	50	4.60	3.06	2N2145	A	62.5	100	75	75	3	50	100	4.50	3.00
USA2N1358	Per MIL-S-19500/122	90	100	80*	70	15	25	50	6.25	4.17	2N2146	A	62.5	100	90	90	3	50	100	8.60	5.75
JAN2N1358M	Per MIL-S-19500/122A	90	100	80*	70	15	25	50	6.25	4.17	2N2152	C	170	110	45	45	30	50	100	3.60	2.40
2N1359	A	90	100	50	40	3	35	90	2.15	1.45	2N2153	C	170	110	60	60	30	50	100	5.55	3.70
2N1360	A	90	100	50	40	3	60	140	2.25	1.50	2N2154	C	170	110	75	75	30	50	100	10.10	6.75
2N1362	A	90	100	100	75	3	35	90	4.85	3.25	2N2155	C	170	110	90	90	30	50	100	15.35	10.25
2N1363	A	90	100	100	75	3	60	140	5.10	3.40	2N2156	C	170	110	45	45	30	80	160	4.10	2.75
2N1364	A	90	100	120	100	3	35	90	13.85	9.25	2N2157	C	170	110	60	60	30	80	160	6.35	4.25
2N1365	A	90	100	120	100	3	60	140	5.00	3.40	2N2158	C	170	110	75	75	30	80	160	10.85	7.25
2N1412	C	150	100	100*	80	15	25	50	5.75	3.84	2N2159	C	170	110	90	90	30	80	160	16.25	10.85
USN2N1412	Per MIL-S-19500/76A	90	100	100*	80	15	25	50	6.50	4.34	2N2490	C	170	110	70	50	15	20	40	3.30	2.40
2N1529	A	90	100	40	30	5	20	40	1.95	1.30	2N2491	C	170	110	60	40	15	35	70	3.30	2.40
2N1530	A	90	100	60	45	5	20	40	2.00	1.35	2N2492	C	170	110	80	65	15	25	50	5.50	4.15
2N1531	A	90	100	80	60	5	20	40	3.00	2.05	2N2493	C	170	110	100	75	15	25	50	11.00	8.50
2N1532	A	90	100	100	75	5	20	40	4.30	2.90	2N2526	A	85	110	80	80	10	20	50	7.10	4.75
2N1533	A	90	100	120	90	5	20	40	7.75	5.25	2N2527	A	85	110	120	120	10	20	50	9.30	6.20
2N1534	A	90	100	40	30	5	35	70	1.55	1.05	2N2528	A	85	110	160	160	10	20	50	14.85	9.90
2N1535	A	90	100	60	45	5	35	70	1.71	1.14	2N2728	C	170	110	15	5	50	20	26.25	17.50	
2N1536	A	90	100	80	60	5	35	70	1.87	1.25	2N2832	A	**	110	.....	50	20	25	.....	9.00	6.00
2N1537	A	90	100	100	75	5	35	70	4.40	2.95	2N2833	A	**	110	.....	75	20	25	.....	13.00	8.70
2N1538	A	90	100	120	90	5	35	70	9.05	6.10	2N2834	A	**	110	.....	100	20	25	.....	22.50	15.00
2N1539	A	90	100	40	30	5	50	100	1.68	1.12	MP500	C	170	110	45	45	60	30	60	6.35	4.25
2N1540	A	90	100	60	45	5	50	100	1.34	1.23	MP501	C	170	110	60	60	60	30	60	10.80	7.20
2N1541	A	90	100	80	60	5	50	100	3.00	2.00	MP502	C	170	110	75	75	60	30	60	14.25	9.50
2N1542	A	90	100	100	75	5	50	100	4.15	2.78	MP503	C	170	110	90	90	60	30	60	20.25	13.50
2N1543	A	90	100	120	90	5	50	100	10.30	6.95	MP504	C	170	110	45	45	60	50	100	7.40	4.95
2N1544	A	90	100	40	30	5	75	150	2.15	1.44	MP505	C	170	110	60						

# Quality Engineered Motorola Transistors



## EXPLANATION OF COLUMN HEADINGS AND SYMBOLS

f—typ. operating frequency  
 $G_e$  @ f—common emitter AC gain  
 $P_c$ —maximum collector current  
 $P_o$ —maximum power output  
 $V_{CB}$ —maximum collector-to-base voltage  
 $*$ —stud mtd. †—epitaxial #— $P_o$  in mw  
 $f_T$ —gain bandwidth product  
 $h_{FE}$ —large signal DC gain  
 $P_D$ —transistor power dissip.  
 $T_j$ —junction temperature  
 $\dagger$ —hFE @ 1c  
 $\S$ —4 lead TO-18

## HIGH FREQUENCY SWITCHING AND AMPLIFIER TRANSISTORS

### GERMANIUM PNP MESA SWITCHING TYPES

For high speed switching applications. All have  $T_j$  of 100°C.

Type No.	Case	$P_o$ (mw)	$V_{CB}$ (volts)	$h_{FE}$ @ 1c typ. (ma)	$f_T$ typ. (mc)	EACH	
						1-99	100-999
2N695	A	75	15	40	10	250	17.60 11.75
2N705	B	150	15	40	10	325	1.95 1.32
2N705 USN	B	150	15	40	10	325	2.45 1.65
2N710	B	150	15	40	10	325	1.75 1.16
2N711	B	150	12	30	10	300	1.15 .77
2N711A	B	150	15	40	10	320	1.45 .97
2N711B	B	150	18	50	10	320	1.56 1.02
2N828†	B	150	15	40	10	400	3.75 2.50
2N828A†	B	150	15	40	10	400	3.75 2.50
2N829†	B	150	15	80	10	400	4.45 2.90
2N960†	B	150	15	40	10	460	2.85 1.90
2N961†	B	150	12	40	10	460	2.45 1.65
2N962†	B	150	12	40	10	460	2.25 1.50
2N963†	B	150	12	40	10	460	1.42 .95
2N964†	B	150	15	70	10	460	4.11 2.74
2N964A†	B	150	15	80	10	460	5.25 3.50
2N965†	B	150	12	70	10	460	3.75 2.50
2N966†	B	150	12	70	10	460	2.45 1.65
2N967†	B	150	12	70	10	460	1.56 1.02
2N968	B	150	15	35	10	320	1.53 1.02
2N969	B	150	12	35	10	320	1.24 .83
2N970	B	150	12	35	10	320	.89 .59
2N971	B	150	7	35	10	320	.84 .56
2N972	B	150	15	75	10	320	1.60 1.07
2N973	B	150	12	75	10	320	1.35 .90
2N974	B	150	12	75	10	320	.94 .63
2N975	B	150	7	75	10	320	.89 .59
2N1204†	C	250	20	30	400	400	6.38 4.65
2N1494†	C*	300	20	30	400	400	7.50 5.00
2N1495†	C	250	40	40	200	400	7.35 5.35
2N1496†	C*	300	40	40	200	400	8.55 5.70
2N2381†	C	300	30	45	200	400	7.50 5.00
2N2382†	C	300	45	45	200	400	8.55 5.70

### GERMANIUM PNP MESA AMPLIFIER TYPES

Type No.	Case	$P_D$ (mw)	$V_{CB}$ (volts)	$G_e$ @ f db (mc)	$f_T$ typ. (mc)	EACH	
						1-99	100-999
2N700	A	75	25	23	70	500	7.35 4.90
2N700A	A	75	25	25	70	500	11.85 8.70
2N700A SigC	A	75	25	25	70	800	14.25 9.50
2N741	B	150	15	22	30	360	2.18 1.45
2N741A	B	150	20.	22	30	360	3.30 2.20
2N1141†	C	300	35	27	70	850	10.12 6.75
2N1142†	C	300	30	26	70	850	9.45 6.30
2N1143†	C	300	25	26	70	850	6.38 4.25
2N1195†	C	225	30	27	70	850	6.63 4.42
2N1561	D	250	25	600#	160	500	21.75 14.50
2N1562	D	250	25	500#	160	450	14.25 9.50
2N1692	E	350	25	600#	160	500	22.50 17.00
2N1693	E	350	25	500#	160	450	18.00 12.00

## "MEG-A-LIFE" TYPE INDUSTRIAL POWER TRANSISTORS

Rugged power transistors especially designed for industrial use. Identical to those germanium power transistors listed above that

are without "A" suffixes in their Type Nos., but, in addition, are certified to meet the latest MIL-S-19500 specifications.

Type No.	EACH		Type No.	EACH		Type No.	EACH		Type No.	EACH	
	1-99	100-999		1-99	100-999		1-99	100-999		1-99	100-999
2N1162A	6.15	4.10	2N1541A	3.75	2.50	2N1559A	6.65	4.50	2N2143A	3.20	2.15
2N1163A	6.15	4.10	2N1542A	4.90	3.28	2N1560A	8.60	5.80	2N2144A	4.50	3.00
2N1164A	9.00	6.00	2N1544A	2.75	1.85	2N2075A	6.50	4.34	2N2145A	5.25	3.50
2N1165A	9.00	6.00	2N1545A	3.30	2.20	2N2076A	4.75	3.17	2N2146A	9.35	6.25
2N1166A	10.50	7.00	2N1546A	4.70	3.15	2N2077A	3.95	2.62	2N2152A	4.35	2.90
2N1167A	10.50	7.00	2N1547A	6.35	4.30	2N2078A	2.85	1.89	2N2153A	6.30	4.20
2N1529A	2.60	1.75	2N1549A	3.30	2.20	2N2079A	8.75	5.84	2N2154A	10.85	7.25
2N1530A	2.70	1.80	2N1550A	3.80	2.55	2N2080A	6.40	4.28	2N2156A	4.85	3.25
2N1531A	3.80	2.55	2N1551A	5.60	3.75	2N2081A	4.25	2.82	2N2157A	7.10	4.75
2N1532A	5.10	3.40	2N1552A	6.30	4.20	2N2082A	3.40	2.28	2N2158A	11.60	7.75
2N1534A	2.30	1.55	2N1553A	3.35	2.25	2N2137A	2.55	1.70	MP500A	7.10	4.75
2N1535A	2.45	1.64	2N1554A	3.90	2.65	2N2138A	2.85	1.90	MP501A	11.55	7.70
2N1536A	2.60	1.75	2N1555A	5.90	4.00	2N2139A	3.00	2.00	MP502A	15.00	10.00
2N1537A	5.15	3.45	2N1556A	7.10	4.80	2N2140A	4.65	3.10	MP503A	8.15	5.45
2N1539A	2.45	1.62	2N1557A	3.90	2.60	2N2141A	8.60	5.75	MP504A	12.75	8.50
2N1540A	2.60	1.73	2N1558A	5.45	3.65	2N2142A	3.05	2.05	MP506A	16.85	11.25

### SILICON NPN EPITAXIAL SWITCHING TYPES

Type No.	Case	$P_D$ (mw)	$T_j$ °C	$V_{CB}$ (v.)	$h_{FE}$ @ 1c min/max (ma)	$f_T$ typ. (mc)	EACH	
							1-99	100-999
2N697	C	600	175	60	40/120	150	400-300	2.07 1.38
2N706	B	300	175	25	20/—	10	400	1.55 1.05
2N706A	B	300	175	25	20/60	10	400	1.80 1.21
2N706B	B	300	175	25	20/60	10	400	5.40 3.60
2N706M(JAN)	B	300	175	25	30/120	10	460	5.40 3.60
2N708	B	360	200	40	30/120	10	450	2.90 1.93
2N744	B	300	200	20	40/120	10	450	8.25 5.50
2N753	B	300	175	25	40/120	10	400	5.60 3.75
2N834	B	300	175	40	25/—	10	500	6.15 4.10
2N835	B	300	175	25	20/—	10	450	5.40 3.60
2N914	B	360	200	40	30/120	10	500	5.75 3.85
2N1420	C	600	175	70	100/300	150	300	6.30 4.20
2N2217	C	800	175	60	20/60	150	400	5.85 3.90
2N2218	C	800	175	60	40/120	150	400	5.85 3.90
2N2219	C	800	175	60	100/300	150	400	6.75 4.50
2N2220	B	500	175	60	20/60	150	400	5.85 3.90
2N2221	B	500	175	60	40/120	150	400	5.85 3.90
2N2222	B	500	175	60	100/300	150	400	6.75 4.50
2N2501	B	360	200	40	50/150	10	500	8.25 5.50
2N2537	C	800	200	60	50/150	150	400	6.65 4.45
2N2538	C	800	200	60	100/300	150	400	7.40 4.95
2N2539	B	500	200	60	50/150	150	400	6.65 4.45
2N2540	B	500	200	60	100/300	150	400	7.40 4.95

### NPN CHOPPER

2N2330	C	800	175	30	50/—	10	200	14.62 9.75
2N2331	B	500	175	30	50/—	10	200	14.62 9.75

### SILICON PNP EPITAXIAL SWITCHING TYPES

2N722	B	400	175	50	30/90	150	60(Min)	11.15 8.36
2N1132	C	600	175	50	30/90	150	60(Min)	11.15 8.36
2N1132A	C	600	175	60	30/90	150	60(Min)	16.65 12.50
2N1132B	C	600	175	70	30/90	150	60(Min)	26.00 19.50
2N2800	C	800	200	50	30/90	150	20(Min)	13.95 9.30
2N2801	C	800	200	50	15/225	150	20(Min)	14.70 9.80
2N2837	B	500	200	50	30/90	150	20(Min)	13.95 9.30
2N2838	B	500	200	50	75/225	150	20(Min)	14.70 9.80

### NPN AMPLIFIER

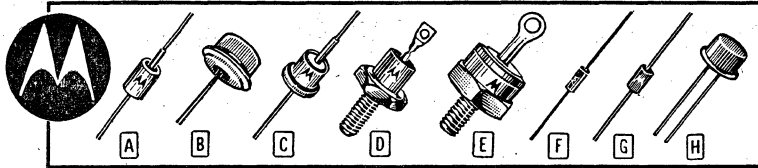
Type No.	Case	$P_D$ (mw)	$T_j$ °C	$V_{CB}$ (v.)	$P_o$ @ f (w.) (mc)	$f_T$ typ. (mc)	EACH	
							1-99	100-999
2N707	B	0.3	175	56	0.3	100	350	7.54 5.13
2N707A	B	0.5	175	70	0.5	100	350	22.50 15.00
2N918	B§	0.2	200	30	0.02	500	600	20.25 13.50
MM 719	C	3	200	60	0.80	60	400	4.50 3.00
MM 799	F	20	175	55	12	50	200	48.75 32.50
MM 800	F	25	175	55	17	50	200	66.75 44.50
MM 801	E	5	175	55	6	50	300	14.25 9.50

### COMPLEMENTARY NPN-PNP MESA SWITCHES

2N2257 Si	B	300	175	7	50	10†	320	1.27 .85
2N2259 Ge	B	150	100	7	50	10†	320	1.27 .85



# Motorola Silicon Rectifiers



## EXPLANATION OF COLUMN HEADINGS

$I_o$ —maximum average rectified forward current  
 $I_{sur}$ —surge current  
 PIV—peak inverse voltage

### HIGH-VOLTAGE MOLDED ASSEMBLY

(Not illus.) Max. operating temp. is 150°C.

Type No.	PIV (V)	I° (A) @ 25°C	I <sub>sur</sub> (A)	EACH	
				1-99	100-999
IN1730	1000	0.2	2.5	5.85	3.90
IN1731	1500	0.2	2.5	6.90	4.60
IN1732	2000	0.2	2.5	8.70	5.80
IN1733	3000	0.15	2.5	12.75	8.50
IN1734	5000	0.10	2.5	15.00	10.00
IN2382	4000	0.15	2.5	13.95	9.30
IN2383	6000	0.10	2.5	18.90	12.60
IN2384	8000	0.07	2.5	25.05	16.70
IN2385	10,000	0.07	2.5	30.00	20.00

### GENERAL-PURPOSE TYPES

Letter "R" in Type No. indicates reverse polarity. Max. temp. is 175°C.

Type No.	PIV (V)	I° (A) @ 150°C	I <sub>sur</sub> (A)	EACH	
				1-99	100-999
MR322	50	18	300	.66	.45
MR322R	50	18	300	.66	.45
MR323	100	18	300	.72	.51
MR323R	100	18	300	.72	.51
MR324	200	18	300	1.08	.74
MR324R	200	18	300	1.08	.74
MR325	300	18	300	1.27	.85
MR325R	300	18	300	1.27	.85
MR326	400	18	300	1.48	.99
MR326R	400	18	300	1.48	.99

### FLANGELESS TYPES

Type No.	PIV (V)	I° (ma) @ 50°C	I <sub>sur</sub> (A)	EACH	
				1-99	100-999
IN2610	100	750	30	1.05	.70
IN2611	200	750	30	1.18	.79
IN2612	300	750	30	1.55	1.03
IN2613	400	750	30	1.70	1.16
IN2614	500	750	30	1.95	1.30
IN2615	600	750	30	2.30	1.55
IN2616	800	750	30	4.85	3.25
IN2617	1000	750	30	7.50	5.00
IN3189	200	1A	30	3.15	2.10
USNI N3189	Per MIL-S-19500/155			4.35	2.90
IN3190	400	1A	30	5.25	3.50
IN3191	600	1A	30	7.35	4.90

### SINGLE-ENDED TYPES

Mfr's Type	PIV	I° (A) @ 25°C	I <sub>sur</sub> (A) @25°C	EACH	
				1-99	100-999
IN1563	100	1.0	70	1.05	.70
IN1563A	100	1.5	70	1.65	1.10
IN1564	200	1.0	70	1.18	.79
IN1564A	200	1.5	70	1.87	1.25
IN1565	300	1.0	70	1.54	1.25
IN1565A	300	1.5	70	2.17	1.45
IN1566	400	1.0	70	1.57	1.05
IN1566A	400	1.5	70	2.40	1.60

### SUB-MINIATURE TYPES

IN3282	1000	100	5	3.95	2.65
IN3283	1500	100	5	5.60	3.75
IN3284	2000	100	5	7.95	5.30
IN3285	2500	100	5	10.05	6.70
IN3286	3000	100	5	12.00	8.00

### "SURMETIC" TYPES

Max. operating temp. is 175°C.

Type No.	PIV (V)	I° (A) @ 75°C	I <sub>sur</sub> (A)	EACH	
				1-99	100-999
IN4001	50	1.0	30	.45	.30
IN4002	100	1.0	30	.49	.33
IN4003	200	1.0	30	.60	.40
IN4004	400	1.0	30	.67	.45
IN4005	600	1.0	30	.96	.64
IN4006	800	1.0	30	2.55	1.70
IN4007	1000	1.0	30	5.10	3.40

### TOP-HAT TYPES

\*, @ 50°C; †, @ 100°C; §, @ 30°C.

Type No.	PIV (V)	I° (A)	I <sub>sur</sub> (A)	EACH	
				1-99	100-999
IN536	50	.750*	30	.78	.50
IN537	100	.750*	30	.78	.50
IN538	200	.750*	30	.78	.50
IN539	300	.750*	30	.91	.60
IN540	400	.750*	30	.97	.65
JANI N540	Per MIL-E-11085A			1.24	.80
IN547	600	.750*	30	1.42	.95
IN560	800	.600§	15	2.55	1.70
IN561	1000	.600§	15	5.10	3.40
IN1095	500	.750*	30	.97	.65
IN1096	600	.750*	30	1.42	.95
IN1100	100	.750*	15	.75	.50
IN1101	200	.750*	15	.75	.50
IN1102	300	.750*	15	.90	.60
IN1103	400	.750*	15	.97	.65
IN1104	500	.750*	15	2.47	1.65
IN1105	600	.750*	15	2.92	1.95
IN1169	400	500†	15	1.20	.80
IN1217	50	1.2	15	.68	.45
IN1217A	50	1.2	15	.84	.56
IN1218	100	1.2	15	.77	.51
IN1218A	100	1.2	15	.99	.66
IN1219	150	1.2	15	.82	.55
IN1219A	150	1.2	15	1.19	.79
IN1220	200	1.2	15	.93	.62
IN1220A	200	1.2	15	1.43	.95
IN1221	300	1.2	15	1.23	.82
IN1221A	300	1.2	15	2.00	1.34
IN1222	400	1.2	15	1.50	1.00
IN1222A	400	1.2	15	2.55	1.70
IN1223	500	1.2	15	1.95	1.30
IN1223A	500	1.2	15	3.55	2.38
IN1224	600	1.2	15	2.40	1.60
IN1224A	600	1.2	15	4.75	3.19
IN1225	700	1.2	15	3.15	2.10
IN1226	800	1.2	15	3.90	2.60
IN1443	1000	1.2	15	4.42	2.95
IN1487	100	.750	15	.72	.48
IN1488	200	.750	15	.75	.50
IN1489	300	.750	15	.82	.55
IN1490	400	.750	15	.97	.65
IN1491	500	.750	15	.97	.65
IN1492	600	.750	15	1.42	.95
IN1692	100	.600*	20	.70	.45
IN1693	200	.600*	20	.75	.50
IN1694	300	.600*	20	.78	.52
IN1695	400	.600*	20	.96	.64
IN1696	500	.600*	20	.96	.64
IN1697	600	.600*	20	1.41	.94

### STUD-MOUNTED TYPES

Fig. D, 7/16"; Fig. E, 1/8". Max. temp. 175°C. "R" indicates reverse polarity. \* @ 135°C; † @ 100°C; ‡ @ 50°C; § @ 85°C; # @ 140°C; \*\* @ 150°C.

Type No.	Fig.	PIV (V)	I <sub>o</sub> (ma)	EACH	
				1-99	100-999
IN253	D	100	1A*	1.05	.70
IN254	D	200	400*	1.24	.83
IN255	D	400	400*	1.96	1.31
IN256	D	600	200*	2.70	1.80
IN332	D	400	400**	1.95	1.30
IN333	D	400	400**	1.95	1.30
IN334	D	300	400**	1.57	1.05
IN335	D	300	200**	1.57	1.05
IN336	D	200	400**	1.24	.83
IN337	D	200	200**	1.24	.83
IN338	D	100	1A**	1.87	1.25
IN339	D	100	400**	1.18	.79
IN340	D	100	200**	1.18	.79
IN341	D	400	400**	1.95	1.30
IN342	D	400	200**	1.95	1.30
IN343	D	300	400**	1.57	1.05
IN344	D	300	200**	1.57	1.05

### STUD-MOUNTED TYPES (Cont'd)

Type No.	Fig.	PIV (V)	I <sub>o</sub> (ma)	EACH	
				1-99	100-999
IN345	D	200	400**	1.24	.83
IN346	D	200	200**	1.24	.83
IN347	D	100	1A**	1.72	1.15
IN348	D	100	400**	1.18	.79
IN349	D	100	200**	1.18	.79
IN550	D	100	500†	1.29	.86
IN551	D	200	500†	1.38	.92
IN552	D	300	500†	1.77	1.18
IN553	D	400	500†	2.01	1.34
IN554	D	500	500†	2.10	1.40
IN555	D	600	500†	3.00	2.00
IN562	D	800	400**	5.02	3.35
IN563	D	1000	400**	7.50	5.00
IN607	D	50	1A†	1.12	.75
IN608	D	100	1A†	1.18	.79
IN609	D	150	1A†	1.21	.81
IN610	D	200	1A†	1.24	.83
IN1115	D	100	1.5A§	1.09	.73
IN1116	D	200	1.5A§	1.21	.81
IN1117	D	300	1.5A§	1.53	1.02
IN1118	D	400	1.5A§	1.80	1.20
IN1119	D	500	1.5A§	1.90	1.27
IN1120	D	600	1.5A§	2.77	1.85
IN1537	D	50	1.6A#	1.75	1.19
IN1538	D	100	1.6A#	2.25	1.50
IN1539	D	150	1.6A#	2.32	1.55
IN1540	D	200	1.6A#	2.55	1.70
IN1541	D	300	1.6A#	3.00	2.00
IN1542	D	400	1.6A#	3.97	2.65
IN1543	D	500	1.6A#	5.17	3.45
IN1544	D	600	1.6A#	6.30	4.20
IN3208	E	50	15A**	1.15	.79
IN3208R	E	50	15A**	1.15	.79
IN3209	E	100	15A**	1.30	.89
IN3209R	E	100	15A**	1.30	.89
IN3210	E	200	15A**	1.75	1.19
IN3210R	E	300	15A**	1.75	1.19
IN3211	E	300	15A**	2.40	1.60
IN3211R	E	300	15A**	2.40	1.60
IN3212	E	400	15A**	2.90	1.93
IN3212R	E	400	15A**	2.90	1.93
IN1124	D	200	3A‡	2.44	1.63
IN1124R	D	200	3A‡	2.44	1.63
IN1125	D	300	3A‡	2.85	1.90
IN1125R	D	300	3A‡	2.85	1.90
IN1126	D	400	3A‡	4.65	3.10
IN1126R	D	400	3A‡	4.65	3.10
IN1127	D	500	3A‡	7.35	4.90
IN1127R	D	500	3A‡	7.35	4.90
IN1128	D	600	3A‡	8.60	5.75
IN1128R	D	600	3A‡	8.60	5.75
IN3649	D	800	3.3A‡	12.15	8.10
IN3650	D	1000	3.3A‡	14.10	9.40

### SEMICONDUCTOR BOOKS



Silicon Zener Diode and Rectifier Handbook. Accepted as a standard reference for those who use, specify, or purchase semiconductors. A comprehensive 200-page guide to basic theory, design, and applications. 6x8 1/2". Postpaid in U.S.A. 37 K 412.....2.00

Power Transistor Handbook. Begins with semi-conductor basic theory and structure, progresses to newest designs and applications. Recognized as the standard industry reference. 215 pages. 6x8 1/2". 37 K 185. Postpaid in U.S.A. ....2.00

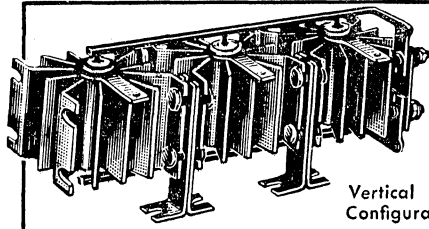
# Motorola Silicon Rectifier Stacks, Logic Circuits



## FOR MEDIUM-CURRENT APPLICATIONS

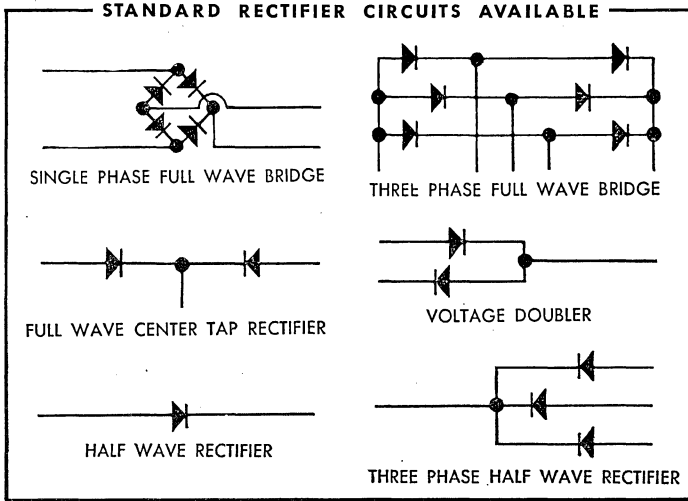
Motorola rectifier stacks described on this page consist of medium-current rectifier cells interconnected in any of six standard rectifier circuits, and are available with voltage and current ratings up to 1200 volts and 105 amperes. Securely mounted in extruded-fin aluminum coolers, which provide optimum heat-sink surface contact, these units offer a new concept in compact, thermal-efficient circuit packages.

**GENERAL SPECIFICATIONS:** Rectifier Stacks; Storage and operating temperature,  $-65^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Individual Rectifier Cells (at  $25^{\circ}\text{C}$ ); DC forward voltage drop at 100 Adc,  $V_F = 1.5$  Vdc max. Reverse Current at rated DC reverse voltage,  $I_R = 1.0$  mA max. Peak recurrent forward current at 60 cps,  $I_F = 115$  amps max. See diagrams below for standard rectifier circuits available.



Vertical Configuration

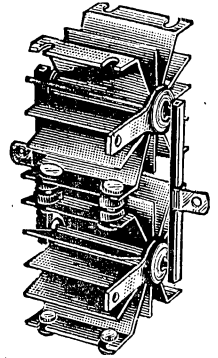
Free Convection Cooling



Voltage/current ratings up to 1200 volts & 105 amperes

In any of six types of design

Maximum heat-transfer due to extruded-fin coolers



**HORIZONTAL CONFIGURATION**

Forced-Air Cooling

Extruded-fin design provides maximum air exposure—greater heat dissipation. Mount horizontally. Also can be mounted vertically for convection cooling.

### EXTRA-WIDE-SELECTION OF ASSEMBLY COMBINATIONS AND CIRCUIT CONFIGURATIONS

Standard assemblies in six basic circuits provide a choice of more than 400 voltage-current combinations. See diagrams of standard rectifiers above. Custom circuits are also available upon request. See ordering information below.

### HIGH THERMAL-EFFICIENCY . . . PLUS SLOTTED-BRACKET DESIGN FOR EXTREME MOUNTING EASE

The number of cooler-fins, their precise orientation and radial design, are engineered for maximum heat dissipation. Optimum rectifier-cooler contact assures maximum heat-transfer. Slotted-bracket design provides chassis mounting flexibility.

### FULLY TESTED—MULTI-STAGE IN-PROCESS CHECKING—YOUR ASSURANCE OF MAXIMUM PERFORMANCE

Individual rectifier cells are 100% stress-tested and checked for thermal fatigue (lot sampling). They are again tested after insertion into coolers, and finally the completed assemblies are again 100% tested to their maximum ratings.

### ORDERING INFORMATION

Complete specifications and ordering instructions for more than 400 standard Motorola rectifier stacks (as described above) are provided in a special brochure that is now available from your

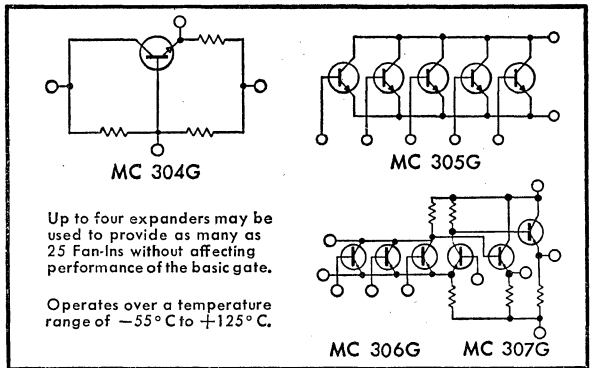
nearest Allied Electronics office (see page one for locations). Ask for Motorola publication number DS6016—you'll receive prompt, courteous attention.

## MECL INTEGRATED LOGIC CIRCUITS

- Simultaneous OR-NOR and AND-NAND Functions
- Propagation Delay of Only 4 nsec at 35 mw Power Dissipation
- High Noise-Immunity—50% of Logic Swing

MC306G and MC307G. Feature: *Extreme high-speed capability*—due to the elimination of storage delay time as a speed limiting factor. *Low noise and crosstalk*—because of high input and output impedances and the constant-current characteristics of this logic form. *High logic capability*—thanks to the simultaneous availability of the logic output and its complement from the same circuit. For systems in which the logic operation is performed at the circuit outputs, the Type MC307G gate is supplied without output resistors so that it can be connected in parallel with a MC306G gate to substantially reduce the overall system power dissipation.

Complementing the 3-input gate circuits are: Fan-In Expanders (MC305G), each of which adds five inputs to the original 3-input gate. Bias Regulator (MC304G) which provides a regulated bias voltage for optimum circuit performance under extreme temperature and power supply variations.



Up to four expanders may be used to provide as many as 25 Fan-Ins without affecting performance of the basic gate.

Operates over a temperature range of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

Stock No.	Mfr's Type	Logical Function	Fan In	Fan Out	Pd (mw)	EACH	
						1-24	25-99
4 U 025	MC306G	3-input gate	3	26	35	75.00	60.00
4 U 026	MC307G	3-input gate	3	26	15	75.00	60.00

Stock No.	Mfr's Type	Logical Function	Fan In	Fan Out	Pd (mw)	EACH	
						1-24	25-99
4 U 023	MC304G	Bias Regulator	...	26	18	45.00	36.00
4 U 024	MC305G	Expander	5	..	..	50.00	40.00



# General Electric Silicon Transistors

## EXPLANATION OF COLUMN HEADINGS

**BV<sub>CB0</sub>**—coll.-to-base breakdown voltage, open input  
**C<sub>ob</sub>**—output cap. **h<sub>FE</sub>**—DC fwd curr. trans. ratio  
**h<sub>fe</sub>**—small signal (AC) fwd current transfer ratio  
**f<sub>hfb</sub>**—small signal common base fwd curr. trans. ratio cutoff freq.  
**I<sub>CB0</sub>**—collector cutoff current, emitter open **I<sub>F</sub>**—forward current

**I<sub>GC</sub>**—cathode gate current to fire **r<sub>s</sub>**—series "on" resistance  
**V<sub>CB</sub>**—coll.-to-base volts **V<sub>CE0</sub>**—coll.-to-emitter volts, open input  
**V<sub>CE</sub>**—coll.-to-emitter v., res. input **V<sub>EE0</sub>**—emitter-to-emitter v.  
**V<sub>GFA</sub>**—anode gate volts to fire **V<sub>GC</sub>**—cathode gate volts to fire  
**V<sub>EB0</sub>**—emitter-to-base volts, open input **V<sub>o</sub>**—offset voltage diff.

### PLANAR PASSIVATED TRANSISTORS

For switching and amplifier use. TO-5 package. Typ. f<sub>t</sub>, 130 mc.

Type No.	P <sub>t</sub> @ 25°C (w)		V <sub>EB0</sub> (v)	V <sub>CE</sub> (v)	h <sub>FE</sub> Min. Max.		h <sub>fe</sub> Min. Max.		EACH	
	Min.	Max.			1-99	100-999				
2N696	0.6	5	40	20-60	.....	1.57	1.05			
2N697	0.6	5	40	40-120	.....	2.06	1.38			
2N698	0.8	7	80	20-60	15	4.95	3.30			
2N699	0.6	5	80	40-120	35-100	4.95	3.30			
2N1613	0.8	7	50	40-120	30-100	7.01	4.68			
2N1711	0.8	7	50	100-300	50-200	8.25	5.50			
2N1889	0.8	7	80	40-120	30-100	15.45	10.30			
2N1890	0.8	7	80	100-300	50-200	18.45	12.30			
2N1893	0.8	7	100	40-120	30-100	10.60	6.85			
2N1973	0.8	7	80	75 min.	76-200	10.50	7.00			
2N1974	0.8	7	80	35 min.	36-90	7.90	5.25			
2N1975	0.8	7	80	15 min.	18-50	6.20	4.15			
2N1983	0.6	5	30	.....	70-210	7.50	5.00			
2N1984	0.6	5	30	.....	35-100	5.10	3.40			
2N1985	0.6	5	30	.....	15-45	3.90	2.60			
2N2049	0.8	7	50	.....	75	24.00	16.00			

### GENERAL PURPOSE PLANAR PASSIVATED

#### NPN TRANSISTORS (Cont'd)

Type No.	h <sub>FE</sub> Min. Max.		V <sub>CE0</sub> (v)	P <sub>t</sub> (mw)	C <sub>ob</sub> (pf)	V <sub>sat</sub> (v)	455 Kc Power Gain (db)	EACH	
	1-99	100-999							
2N2712	75	225	18	200	10	0.8	45	1.20	.80
2N2713	30	90	18	200	10	0.15	..	1.50	1.00
2N2714	75	225	18	200	10	0.15	..	1.65	1.10
2N2715	30	90	18	200	4	2.0	42	1.13	.75
2N2716	75	225	18	200	4	2.0	45	1.20	.80

### NPN LOW-CURRENT CONTROLLED SWITCHES

TO-5 pkg., isolated case. \*Measured @ V<sub>AC</sub>=40 v.; R<sub>GC</sub>=0; R<sub>L</sub>=800 ohms.

Type No.	Anode Voltage (v)	I <sub>F</sub> @ 100°C (ma)	V <sub>GFA</sub> * (v)	Max. I <sub>GC</sub> * (μa)	V <sub>GC</sub> * (v)	EACH	
						1-99	100-999
3N58	40	100	.....	1.0	.4 to .65	3.40	2.25
3N59	40	100	-.6 to -1.2	.....	.....	3.75	2.50
3N60	40	100	-.6 to -1.2	1.0	.4 to .65	4.15	2.75

### MESA NPN PASSIVATED POWER TRANSISTORS

Typ. f<sub>t</sub>, 15 mc. \*At 100°C. †V<sub>CE</sub>=10 v., I<sub>C</sub>=200 ma. ‡I<sub>C</sub>=250 μa

Type No.	h <sub>FE</sub> Min. Max.		V <sub>CE0</sub> † (v)	Max. P <sub>t</sub> @ 25°C (watts)	Max. Power @ 25°C (watts)	EACH	
	1-99	100-999					
2N497	12-36	60	4	0.8	8.85	5.90	
2N497A	12-36	60	5	1.0	8.85	5.90	
2N498	12-36	100	4	0.8	11.35	7.55	
2N498A	12-36	100	5	1.0	11.35	7.55	
2N656	30-90	60	4	0.8	9.85	6.55	
2N656A	30-90	60	5	1.0	9.85	6.55	
2N657	30-90	100	4	0.8	10.05	6.70	
2N657A	30-90	100	5	1.0	10.05	6.70	
2N2017	50-200	60	5	1.0	8.35	5.55	
2N2106	12-36	60	.....	1.0	3.70	2.45	
2N2107	30-90	60	.....	1.0	4.20	2.80	
2N2108	75-200	60	.....	1.0	4.35	2.90	
2N2726	30-90	200	5	1.0	22.50	15.00	
2N2727	75-150	200	5	1.0	26.80	17.95	
7A30	12-36	40	5	1.0	1.20	1.05	
7A31	30-90	30	5	1.0	1.35	1.20	
7A32	75-200	30	5	1.0	1.70	1.50	
2N1047A	12-36	80	40	1.0	25.35	16.90	
2N1048A	12-36	120	40	1.0	32.95	21.95	
2N1049A	30-90	80	40	1.0	29.95	19.95	
2N1050A	30-90	120	40	1.0	41.85	27.90	
2N1067	15-75	60	5	.....	20.95	13.95	
2N1068	15-75	60	10*	.....	21.95	14.65	
2N2196	30-90	60	10*	2.0	7.00	4.70	
2N2197	75-200	60	10*	2.0	7.70	5.10	
2N2201	30-90	100	10*	2.0	14.05	9.35	
2N2202	30-90	100	10*	1.0	13.20	8.95	
2N2203	30-90	100	10*	1.0	13.30	8.85	
2N2204	30-90	100	10*	1.0	15.55	10.35	
2N2611	12-36	100	10*	2.0	13.65	9.10	

### PLANAR EPITAXIAL PASSIVATED TRANSISTORS

Type No.	JEDEC Pkg.	P <sub>t</sub> @ 25°C (w)	V <sub>EB0</sub> (v)	V <sub>CE</sub> (sat) (v)	V <sub>CE</sub> (v)	h <sub>FE</sub> Min. Max.		EACH	
						1-99	100-999		
2N2192	TO-5	0.8	5	0.35	40	100	300	10.50	7.00
2N2350	TO-46	0.4	5	0.35	40	100	300	10.50	7.00
2N2192A	TO-5	0.8	5	0.25	40	100	300	12.00	8.00
2N2350A	TO-46	0.4	5	0.25	40	100	300	12.00	8.00
2N2193	TO-5	0.8	8	0.35	50	40	120	9.30	6.20
2N2351	TO-46	0.4	8	0.35	50	40	120	9.30	6.20
2N2193A	TO-5	0.8	8	0.25	50	40	120	10.80	7.20
2N2351A	TO-46	0.4	8	0.25	50	40	120	10.80	7.20
2N2194	TO-5	0.8	5	0.35	40	20	60	6.75	4.50
2N2352	TO-46	0.4	5	0.35	40	20	60	6.75	4.50
2N2194A	TO-5	0.8	5	0.25	40	20	60	8.25	5.50
2N2352A	TO-46	0.4	5	0.25	40	20	60	8.25	5.50
2N2195	TO-5	0.6	5	0.35	25	20	.....	2.35	1.50
2N2353	TO-46	0.35	5	0.35	25	20	.....	2.65	4.50
2N2195A	TO-5	0.6	5	0.25	25	20	.....	2.55	1.70
2N2353A	TO-46	0.35	5	0.25	25	20	.....	8.25	5.50

### PLANAR EPITAXIAL PASSIVATED

#### HIGH-SPEED SWITCHES

Type No.	h <sub>FE</sub> Min. Max.		V <sub>CE</sub> (v)	V <sub>CE0</sub> (v)	t <sub>on</sub> (nsec)	t <sub>off</sub> (nsec)	C <sub>ob</sub> @ V <sub>CB</sub> (pf)	V <sub>CB</sub> (v)	EACH	
	1-99	100-999								
2N706	20	.....	20	.....	.....	.....	6	10	1.57	1.05
2N706A	20	60	20	15	40	75	5	5	1.82	1.21
2N708	30	120	20	15	40	70	6	10	2.89	1.93
2N753	40	120	20	15	40	75	5	5	5.65	3.75
2N834	25	.....	30	.....	35	75	4	10	6.19	4.13
2N914	30	120	20	15	40	75	4	10	5.78	3.85

### PLANAR PASSIVATED AMPLIFIERS

Type No.	P <sub>t</sub>	V <sub>EB0</sub>	V <sub>CE</sub>	t <sub>on</sub>	t <sub>off</sub>	C <sub>ob</sub>	V <sub>CB</sub>	EACH
2N759	36	90	.....	45	.....	8	5	7.80 5.20
2N760	76	333	.....	45	.....	8	5	8.10 5.40
2N915	40	160	.....	50	.....	3.5	10	8.85 5.90
2N916	50	200	.....	25	.....	6	5	7.85 5.25

### PLANAR PASSIVATED TRANSISTORS

Type No.	P <sub>t</sub>	V <sub>EB0</sub>	V <sub>CE</sub>	t <sub>on</sub>	t <sub>off</sub>	C <sub>ob</sub>	V <sub>CB</sub>	EACH
2N717	20	60	40	.....	.....	35	10	1.87 1.25
2N718	40	120	40	.....	.....	35	10	2.36 1.58
2N718A	40	120	50	.....	.....	25	10	7.31 4.88
2N719	20	60	80	.....	.....	20	10	5.25 3.50
2N719A	20	60	80	60	.....	15	10	5.55 3.70
2N720	40	120	80	.....	.....	20	10	5.25 3.50
2N720A	40	120	100	80	.....	15	10	10.90 8.05
2N870	40	120	80	60	.....	15	10	15.45 10.30
2N871	100	300	80	60	.....	15	10	18.45 12.30
2N910	75	.....	80	.....	.....	15	10	10.50 7.00
2N911	35	.....	80	.....	.....	15	10	7.90 5.25
2N956	100	300	50	.....	.....	25	10	8.55 5.70

### GENERAL PURPOSE PLANAR PASSIVATED

#### NPN TRANSISTORS

Type No.	h <sub>FE</sub> Min. Max.		V <sub>CE0</sub> (v)	P <sub>t</sub> (mw)	C <sub>ob</sub> (pf)	V <sub>sat</sub> (v)	455 Kc Power Gain (db)	EACH	
	1-99	100-999							
2N2711	30	90	18	200	10	0.8	42	1.13	.75

### GROWN DIFFUSED PASSIVATED NPN TRANSISTORS

TO-5 isol. case. \*V<sub>CB</sub>=5 v., I<sub>E</sub>=1 ma, f=1 kc. †V<sub>CE</sub>=5 v., I<sub>C</sub>=1 ma

Type No.	h <sub>FE</sub> * Min. Max.		Min. V <sub>CB0</sub> (v)	Max. P <sub>d</sub> (mw)	h <sub>FE</sub> † Min. Max.	EACH	
	1-99	100-999					
4C28	9-19	.....	40	150	15	2.25	1.65
4C29	18-40	.....	40	150	30	1.80	1.20
4C30	37-80	.....	40	150	55	2.50	1.85
4C31	76-300	.....	40	150	115	2.80	2.10
4D20	See h <sub>FE</sub>	.....	40	150	15-50	1.90	1.45
4D21	See h <sub>FE</sub>	.....	40	150	40-135	2.50	1.90
4D22	See h <sub>FE</sub>	.....	40	150	120-250	3.00	2.30
4D24	See h <sub>FE</sub>	.....	15	125	15-50	1.17	.78
4D25	See h <sub>FE</sub>	.....	15	125	40-135	1.26	.84
4D26	See h <sub>FE</sub>	.....	15	125	120-250	1.83	1.22
2N332	9-22	.....	45	150	14	4.65	3.10
2N332A	9-22	.....	45	500	14	4.95	3.30
2N333	18-44	.....	45	150	27	4.65	3.10
2N333A	18-44	.....	45	500	27	4.95	3.30
2N334	18-90	.....	45	150	36	4.65	3.10
2N334A	18-90	.....	45	500	36	4.95	3.30
2N335	37-90	.....	45	150	45	4.95	3.30
2N335A	37-90	.....	45	500	45	5.25	3.50
2N335B	37-90	.....	40	500	45	8.90	5.95
2N336	76-333	.....	65	150	75	6.00	4.00
2N336A	76-333	.....	45	500	75	6.30	4.20

# General Electric Silicon and Germanium Transistors

SEE PREVIOUS PAGE FOR EXPLANATION OF COLUMN HEADINGS

## SILICON GROWN DIFFUSED PASSIVATED NPN TRANSISTORS (Cont'd)

\* $V_{CB} = 5$  v.,  $I_E = 1$  ma,  $f = 1$  kc. † $V_{CE} = 5$  v.,  $I_C = 1$  ma. ‡TO-46 case, others TO-5.

Type No.	hfe* Min. Max.	Min. BV <sub>CEO</sub> (v)	Max. Pd (mw)	hFE† Min. Max.	EACH	
					1-99	100-999
2N337	55	45	125	20-55	4.85	3.20
2N337A	55	45	500	20-55	5.15	3.40
2N338	99	45	125	45-150	5.50	3.65
2N338A	99	45	500	45-150	5.80	3.85
2N478	40-100	15	200	.....	3.70	2.80
2N479	40-100	30	200	.....	7.10	4.75
2N479A	40-100	30	200	.....	7.40	4.95
2N480	40-100	45	200	.....	9.50	6.55
2N480A	40-100	45	200	.....	9.80	6.75
2N541	80-200	15	200	.....	6.20	4.10
2N542	80-200	30	200	.....	6.30	4.20
2N542A	80-200	30	200	.....	10.05	6.70
2N543	80-200	45	200	.....	8.10	5.40
2N543A	80-200	45	200	.....	12.90	8.60
2N1248	.....	6	30	15 min.	13.50	9.00
2N1276	9-22	40	150	10	3.85	2.55
2N1277	18-44	40	150	20	4.25	2.84
2N1278	37-90	40	150	33	4.75	3.15
2N1279	76-333	40	150	80	5.60	3.70
2N1417	30-200	15	150	.....	2.30	1.60
2N1418	30-200	30	150	.....	2.75	1.90
2N2673	9-22	60‡	250	8-22	4.95	3.30
2N2674	18-44	60‡	250	12-40	4.95	3.30
2N2675	37-90	60‡	250	22-76	5.25	3.50
2N2676	76-333	60‡	250	45-290	6.30	4.20
2N2677	19-120	45‡	250	20-55	5.15	3.40
2N2678	39-250	45‡	250	45-150	5.80	3.85

## SILICON UNIJUNCTION TRANSISTORS

Type No.		Interbase Res. (K ohms)	Intrinsic Standoff Ratio	Min. Emitter Rev. Volts	EACH	
TO-5	TO-18				1-99	100-999
2N489	2N2417	4.7-6.8	.51-.62	60	7.10	4.75
2N489A	2N2417A	4.7-6.8	.51-.62	60	7.65	5.10
2N489B	2N2417B	4.7-6.8	.51-.62	60	9.15	6.10
2N490	2N2418	6.2-9.1	.51-.62	60	7.80	5.20
2N490A	2N2418A	6.2-9.1	.51-.62	60	8.35	5.55
2N490B	2N2418B	6.2-9.1	.51-.62	60	9.85	6.55
2N491	2N2419	4.7-6.8	.56-.68	60	8.40	5.60
2N491A	2N2419A	4.7-6.8	.56-.68	60	8.90	5.95
2N491B	2N2419B	4.7-6.8	.56-.68	60	10.40	6.95
2N492	2N2420	6.2-9.1	.56-.68	60	9.80	6.55
2N492A	2N2420A	6.2-9.1	.56-.68	60	10.40	6.95
2N492B	2N2420B	6.2-9.1	.56-.68	60	11.90	7.95
2N493	2N2421	4.7-6.8	.62-.75	60	10.75	7.20
2N493A	2N2421A	4.7-6.8	.62-.75	60	11.20	7.50
2N493B	2N2421B	4.7-6.8	.62-.75	60	12.75	8.50
2N494	2N2422	6.2-9.1	.62-.75	60	10.90	7.30
2N494A	2N2422A	6.2-9.1	.62-.75	60	11.40	7.60
2N494B	2N2422B	6.2-9.1	.62-.75	60	12.90	8.60
2N494C	.....	6.2-9.1	.62-.75	60	14.95	9.95
2N1671	.....	4.7-9.1	.47-.62	30	2.95	1.98
2N1671A	.....	4.7-9.1	.47-.62	30	3.20	2.14
2N1671B	.....	4.7-9.1	.47-.62	30	3.55	2.36
2N2160	.....	4.0-12.0	.47-.80	30	1.49	.99
.....	2N2646	4.7-9.1	.56-.75	30	1.35	.90
.....	2N2647	4.7-9.1	.68-.82	30	3.55	2.36

## SILICON NPN CHOPPERS

Type No.	Max. V <sub>0</sub> (μvolts)	Min. V <sub>CEO</sub> (volts)	Max. r <sub>s</sub> (ohms)	Max. I <sub>CO</sub> (na)	EACH	
					1-99	100-999
2N2356	100 @ +25°C to +125°C	20	40	10	30.00	20.00
2N2356A	50 @ -55°C to +125°C	20	40	10	35.00	23.40

## SILICON NPN DIFFERENTIAL AMPLIFIERS

Type No.	V <sub>CEO</sub> (volts)	hFE Min. Max.	hFE/hFE2	Max. V <sub>BE1-V<sub>BE2</sub></sub> (mvolts)	EACH	
					1-99	100-999
2N2060	60	30 min.	0.9-1.0	5	51.90	34.80
2N2223	60	25-150	0.8-1.0	15	13.30	8.85
2N2480	40	30-350	0.8-1.0	10	26.00	17.25
2N2480A	40	50-200	0.8-1.0	5	30.40	20.25
2N2652	60	50-200	.85-1.0	3	45.00	30.00
2N2652A	60	50-200	0.9-1.0	3	52.50	35.00
12A8	30	30 min.	0.6-1.0	15	10.40	6.95

Allied carries large stocks of GE semiconductors. Cull, write or wire for the latest OEM factory prices. Orders are shipped the same day they are received.

## SILICON NPN DARLINGTON CIRCUITS

Type No.	Min. V <sub>CEO</sub> (v)	hFE @ 100 ma		hFE @ 10 ma		Min. hFE I <sub>C</sub> =1 ma	EACH	
		Min.	Max.	Min.	Max.		1-99	100-999
2N998	60	2000		1600-8000		800	20.00	13.40
2N2785	40	2000-20,000		1200 min.		600	18.15	12.10

## FUNCTIONAL COMPONENTS

All Elements Within Single Chip

P321 Set, Reset "Flip-Flop". Includes circuit with 7 semiconductors. For use in computer and logic applications as R-S "Flip-Flop" or Logic "Flip-Flop" devices.

P321. 1-24.....EACH 69.00 25-249.....EACH 55.00

P323 "AND-OR Gate". Consists of circuit with 7 semiconductors. For use in logic systems. Includes 2-input "AND Gates" driving one 2-input "OR Gate" with tie points for extending either the "AND" or "OR" inputs.

P323. 1-24.....EACH 67.00 25-249.....EACH 53.50

P325 Inverter. Applications include: use as 4 inverters; as 2 clamped inverters; as 2 direct-coupled "Flip-Flops" or as 4 clamps. Circuit includes 4 semiconductors.

P325. 1-24.....EACH 52.00 25-249.....EACH 41.50

P327 Majority Gate. Includes pair of three resistors in parallel. Circuit is two 3-input resistor "Majority Gate" designed for use with "Half-Shift Register" in triplicate and vote redundancy. Has 8 terminals.

P327. 1-24.....EACH 34.00 25-249.....EACH 27.20

P322 "AND Gate". Circuit with 5 semiconductors. Applications: 3-input "AND Gate" with output clamp; 3-input "AND Gate" unclamped; 3-input "AND Gate" adapted for complemented outputs.

P322. 1-24.....EACH 55.00 25-249.....EACH 44.00

P324 "Half-Shift Register". Circuit with 4 semiconductors. Applications: "Half-Shift Register" with series gate resistors for isolation or for gate determination; direct coupled "Flip-Flop" with triggering transistors.

P324. 1-24.....EACH 53.50 25-249.....EACH 42.90

P326 "AND" Inputs. 6 semiconductors. Applications: 3 pairs of inputs designed for tying into "AND Gates" (pairs can be combined).

P326. 1-24.....EACH 52.00 25-249.....EACH 41.50

## GERMANIUM ALLOY PNP TRANSISTORS

Type No.	hFE Min. Max.	Typ. f <sub>hfb</sub> (mc)	BV <sub>CER</sub> (v)	Power Diss. (mw)	EACH	
					1-99	100-999
2N43A	34-65	1.3	30	240	4.15	2.75
2N44	18-43	1.0	30	240	2.95	1.95
2N187A	25-42	1.0	25	200	1.50	1.00
2N188A	34-65	1.2	25	200	1.64	1.09
2N189	25-42	0.8	25	200	.70	.47
2N190	34-65	1.0	25	200	.75	.50
2N191	53-121	1.2	25	200	.83	.55
2N192	72-176	1.5	25	200	1.57	1.05
2N241A	50-125	1.3	25	200	.92	.61
2N319	25-42	2.0	20	225	.44	.29
2N320	34-65	2.5	20	225	.59	.39
2N321	53-121	3.0	20	225	.65	.43
2N322	34-65	3.0	16	200	.42	.28
2N323	53-121	3.5	16	200	.59	.39
2N324	72-198	4.0	16	200	.63	.42
2N394	20 Min.	7.0	15	150	.50	.33
2N394A	30-120	7.0	15	150	.50	.33
2N395	20-150	6.0	15	200	.50	.33
2N396	30-150	8.0	20	200	.62	.41
2N396A	30-150	8.0	20	200	.62	.41
2N397	40-150	12.0	15	200	1.11	.74
2N404	.....	8.0	24	150	.50	.33
2N404A	.....	8.0	35	150	.85	.57
2N413	.....	6.0	18	150	.61	.40
2N414	30-120	7.0	15	150	.62	.41
2N427	40-80	10.0	15	150	.92	.61
2N428	60 min.	15.0	12	150	1.24	.82
2N461	32-199	4.0	35	200	1.75	1.15
2N508	99-198	4.5	16	200	.69	.46
2N524	25-42	2.5	30	225	1.30	.87
2N525	34-65	3.0	30	225	1.30	.87
2N526	53-90	3.5	30	225	1.65	1.10
2N527	72-121	4.0	30	225	1.91	1.27
2N1057	34-90	1.3	30	240	5.25	3.50
2N1097	34-90	3.0	16	200	1.82	1.21
2N1098	25-90	3.0	16	200	.42	.28
2N1144	34-90	1.3	16	175	.68	.45
2N1145	25-90	1.3	16	175	.60	.40
2N1175	70-140	4.0	25	200	.99	.66
2N1175A	70-140	4.0	25	200	1.50	1.00
2N1303	20 min.	7.0	25	150	.49	.33
2N1305	40-200	8.0	20	150	.61	.41



# General Electric Semiconductors

## EXPLANATION OF COLUMN HEADINGS

$V_{CEO}$ —coil.-to-emitter breakdown volts, open input  
 $V_{CER}$ —coil.-to-emitter breakdown volts, res. input  
 $h_{FE}$ —large signal (DC) fwd current transfer ratio  
 $f_{hfb}$ —small signal common base fwd curr. trans. ratio cutoff freq.  
 $I_F$ —forward current  $I_R$ —reverse current  $I_{DC}$ —rect. output curr.

$PRV$ —peak reverse voltage  $V_{BO}$ —breakdown voltage, open input  
 $\Delta V_F$ —max. fwd voltage difference between diodes in pairs and quads  
 $V_F$ —maximum forward voltage  $V_{R1}$ —minimum reverse voltage  
 $V_Z$ — $I_{ZT}$ —nominal zener voltage  $\Delta V_Z$ —typ. zener voltage regulation  
 $I_{ZM}$ —maximum zener current  $Z_{T1}$ — $I_{ZT}$ —maximum zener impedance

### GERMANIUM ALLOY PNP TRANSISTORS (Cont'd)

Type No.	hFE Min./Max.	Typ. f <sub>hfb</sub> (mc)	BV <sub>CEO</sub> (v)	Power Diss. (mw)	EACH	
					1-99	100-999
2N1307	60-300	12.0	15	150	.80	.53
2N1413	25-42	3.2	25	200	.80	.53
2N1414	34-65	3.6	25	200	.83	.55
2N1415	53-90	4.0	25	200	.99	.66
2N1614	18-43	1.3	40	240	2.50	1.65
2N1924	34-65	3.0	40	225	1.65	1.10
2N1925	53-90	3.5	40	225	1.88	1.25
2N1926	72-121	4.0	40	225	2.22	1.48

### GERMANIUM RATE GROWN NPN TRANSISTORS

\*Measured at V<sub>CE</sub> = 1 volt, I<sub>C</sub> = 1 ma. †At I<sub>C</sub> = 300 μamp. #At 455 kc.

Type No.	hFE* Min./Max.	BV <sub>CEO</sub> † (v)	Power Gain#(db)	Power Diss.(mw)	f <sub>hfb</sub> (mc)	EACH	
						1-99	100-999
2N78	45-135	15	26.0-31.0	65	9	2.50	1.65
2N78A	45-135	15	26.0-31.0	65	9	2.70	1.80
2N167A	45-135	20	26.0-31.0	65	9	5.10	3.40
2N169	34-200	15	23.5	65	9	1.57	1.05
2N169A	34-200	25	23.5	65	9	2.40	1.60
2N292	8-51	15	21.0-26.0	65	5	.75	.50
2N293	8-51	15	23.5-28.0	65	8	.83	.55
2N1086	17-200	9	23.0-29.0	65	9	.83	.70
2N1086A	17-200	9	23.0-27.0	65	9	1.57	1.05
2N1087	17-200	9	25.0-29.0	65	9	1.82	1.21
2N1121	34-200	15	26.5-30.5	65	9	1.57	1.05
2N1127	40-100	20	.....	75	9	2.80	1.90
2N1510	8-90	70	.....	75	9	2.40	1.60
2N1694	15-45	20	.....	75	9	.99	.66

### FIELD EFFECT TRANSISTORS

Type No.	Transconductance (gm)	Input Resistance (ohms)	Figure of Merit (gm/Ip)	EACH	
				1-99	100-999
18A1	30	500	1.8	15.00	10.00
18A2	100	500	1.4		
18A3	500	500	1.0		
18A4	1000	500	0.75		
18A5	1500	500	0.5		
18A6	2000	500	0.3		

### SILICON SIGNAL DIODES

Type No.	Min. Sat. Voltage (v)	Fwd. Current (ma)	Rev. Recovery (nsec)	EACH	
				1-99	100-999
1N251	40	5.0, 1.0V	150	1.20	.80
1N252	30	10.0, 1.0V	150	1.20	.80
1N659A	75	10.0, 1.0V	300	2.25	1.58
1N811	30	1.0, 1.0V	250	1.55	1.09
1N812	40	2.0, 1.0V	250	2.25	1.58
1N813	20	5.0, 1.0V	250	2.00	1.40
1N814	50	2.0, 1.0V	250	2.25	1.58
1N815	20	100.0, 1.5V	250	2.25	1.58
1N891	60	50.0, 1.0V	300	2.50	1.75
1N903	40	10.0, 1.0V	4.0	1.50	1.00
1N903A	40	20.0, 1.0V	4.0	1.80	1.20
1N904	30	10.0, 1.0V	4.0	1.50	1.00
1N904A	30	20.0, 1.0V	4.0	1.80	1.20
1N905	20	10.0, 1.1V	4.0	1.50	1.00
1N905A	20	20.0, 1.0V	4.0	1.80	1.20
1N906	20	10.0, 1.0V	4.0	1.50	1.00
1N906A	20	20.0, 1.0V	4.0	1.80	1.20
1N907	30	10.0, 1.0V	4.0	1.50	1.00
1N907A	30	20.0, 1.0V	4.0	1.80	1.20
1N908	40	10.0, 1.0V	4.0	1.50	1.20
1N908A	40	20.0, 1.0V	4.0	1.80	1.20
1N914	100	10.0, 1.0V	4.0	2.40	1.90
1N914A	100	20.0, 1.0V	4.0	3.00	2.19
1N914B	100	100.0, 1.0V	4.0	4.85	3.26
1N916	100	10.0, 1.0V	4.0	3.20	2.60
1N916A	100	20.0, 1.0V	4.0	3.80	3.15
1N916B	100	20.0, 1.0V	4.0	4.76	3.80
1N917	50	10.0, 1.0V	3.0	4.65	3.74
1N997	40	10.0, 1.0V	150	2.90	2.25
1N3062	75	20.0, 1.0V	2.0	5.75	4.00
1N3063	...	115	2.0	2.85	2.15
1N3064	75	10.0, 1.0V	4.0	2.70	1.80
1N3065	75	20.0, 1.0V(cc)	2.0	6.50	5.00
1N3066	75	10.0, 1.0V	2.0	5.50	3.85
1N3067	30	5.0, 1.0V	2.0	1.20	.90
1N3068	30	5.0, 1.0V	50.0	1.12	.82
1N3124	40	20.0, 1.0V	4.0	3.00	2.20

### SILICON SIGNAL DIODES

\*At I<sub>R</sub> = 5μa. †At V<sub>R</sub> = 0. #At I<sub>F</sub> = 10 ma, V<sub>R</sub> = 6 v., R<sub>L</sub> = 100 ohms.

Type No.	I <sub>R</sub> @ 25°C (μa)	Break-down*(v)	Tot. Cap.† (pf)	Rev. Recovery# (nsec)	EACH	
					1-99	100-999
1N3604	.05 @ 50V	75	2	2	2.45	1.65
1N3605	.05 @ 30V	40	2	2	2.45	1.65
1N3606	.05 @ 50V	75	2	2	2.90	1.90
1N3607	.05 @ 50V	75	2	2	4.65	3.10
1N3608	.05 @ 30V	40	2	2	4.65	3.10
1N3609	.05 @ 50V	75	2	2	5.55	3.70
1N3873	0.1 @ 50V	..	4	4	3.30	2.20
1N3873 H R	0.1 @ 50V	..	4	4	4.20	2.80
1N4009	0.1 @ 25V	25	4	2	.78	.35

### MATCHED PAIRS AND QUADS

#Maximum forward voltage difference between diodes in pairs or quads (T<sub>A</sub> = -55°C to +125°C). \*At I<sub>F</sub> = 0.1 to 10 ma; †at I<sub>F</sub> = 10 to 50 ma. ‡I<sub>R</sub> = 5 μa.

Type No.	Max. V <sub>F</sub> (v)	I <sub>R</sub> @ 25°C (μa)	Min. Break-down‡ (v)	ΔV <sub>F</sub> # *mv †mv	EACH	
					1-99	100-999
MP-1	1.0 @ 50 ma	.05 @ 50V	75	10 20	8.25	5.50
MP-2	1.0 @ 10 ma	.10 @ 30V	40	10 50	7.50	5.00
MQ-1	1.0 @ 50 ma	.05 @ 50V	75	10 20	16.50	11.00
MQ-2	1.0 @ 10 ma	.10 @ 30V	40	10 50	15.00	10.00

### TUNNEL DIODES

Type No.	Peak Point Curr. (ma)	Max. Cap. (pf)	Peak Voltage (mv)	Typ. Resistive Cutoff (kmc)	EACH	
					1-99	100-999
1N3712(TD-1)	1.0 ± 10%	10	65 Typ.	2.3	3.75	2.50
1N3713(TD-1A)	1.0 ± 2.5%	5	65 ± 7	3.2	5.60	3.75
1N3714(TD-2)	2.2 ± 10%	25	65 Typ.	2.2	3.30	2.20
1N3715(TD-2A)	2.2 ± 2.5%	10	65 ± 7	3.0	5.15	3.45
1N3716(TD-3)	4.7 ± 10%	50	65 Typ.	1.8	2.55	1.70
1N3717(TD-3A)	4.7 ± 2.5%	25	65 ± 7	3.4	4.45	2.95
1N3718(TD-4)	10.0 ± 10%	90	65 Typ.	1.6	2.55	1.70
1N3719(TD-4A)	10.0 ± 2.5%	50	65 ± 7	2.8	4.45	2.95
1N3720(TD-5)	22.0 ± 10%	150	65 Typ.	1.6	1.80	1.20
1N3721(TD-5A)	22.0 ± 2.5%	100	65 ± 7	2.6	4.45	2.95
TD-9	.55 ± 10%	5.0	60 Typ.	...	4.50	3.00
1N3218	1.0 ± 10%	10	60 Typ.	1.5	15.00	10.00
1N3218A	1.0 ± 10%	5	60 Typ.	3.0	18.00	12.00
1N3219	2.2 ± 10%	20	60 Typ.	1.8	12.00	8.00
1N3219A	2.2 ± 10%	10	60 Typ.	3.4	15.00	10.00
TD-101	100 ± 10%	6	180 Typ.	...	12.00	8.00
TD-102	50 ± 10%	5	140 Typ.	16.8	12.00	8.00
TD-103	22 ± 10%	4	110 Typ.	15.0	12.00	8.00
TD-104	10 ± 10%	2	95 Typ.	14.9	12.00	8.00
TD-310	4.7 ± 10%	10	100 Typ.	2.7	30.00	20.00
TD-310A	4.7 ± 10%	5	100 Typ.	5.5	35.00	23.50
TD-311	10.0 ± 10%	20	90 Typ.	2.7	30.00	20.00
TD-311A	10.0 ± 10%	10	90 Typ.	5.4	35.00	23.50
TD-311B	10.0 ± 4%	9	86 ± 11	6.1	40.00	27.00
MTD-1	1.0 ± 10%	10	65 Typ.	2.3	15.00	10.00
MTD-2	2.2 ± 10%	25	65 Typ.	2.5	12.50	8.50
MTD-3	4.7 ± 10%	50	65 Typ.	2.6	10.00	6.65
MTD-4	10.0 ± 10%	100	65 Typ.	2.3	10.00	6.65

### BACK DIODES

\*When I<sub>F1</sub> = milliamps listed below. †At I<sub>F2</sub> = 3 I<sub>F1</sub> #I<sub>R</sub> = I<sub>P</sub> max.

Type No.	Fwd Voltage V <sub>F1</sub> = 90 mv ± 10 mv*	Fwd Voltage† (mv)	Max. Reverse Peak Pt. (ma)	V <sub>R1</sub> # (mv)	EACH	
					1-99	100-999
BD-1	10.0	120	1.0	440	5.00	3.30
BD-2	5.0	130	0.5	420	5.00	3.30
BD-3	2.0	170	0.2	400	3.00	2.00
BD-4	1.0	170	0.1	380	5.00	3.30
BD-5	.5	160	0.05	350	10.00	6.65
BD-6	.2	160	0.02	330	10.00	6.65
BD-7	.1	160	0.01	300	10.00	6.65

### SNAP-OFF DIODES

\*At I<sub>R</sub> = 5 μamp. †T<sub>s</sub> = 2 nsec. I<sub>F</sub> = 20 ma. #T<sub>s</sub> = 2 nsec. I<sub>F</sub> = 100 ma.

Type No.	Power Diss. @ 25°C (mw)	Min. Break-down* (v)	Snap-off Time (Typ. nsec)	(Max. nsec)	EACH	
					1-99	100-999
SSA-550	250	15	0.3†	0.5†	24.00	16.00
SSA-551	250	8	0.3†	0.5†	16.00	10.65
SSA-552	250	15	0.2#	0.4#	21.00	14.00
SSA-553	250	8	0.2#	0.4#	13.00	8.65

# General Electric Semiconductors

SEE PAGE 44 FOR EXPLANATION OF COLUMN HEADINGS

## REFERENCE AMPLIFIER TRANSISTORS

Type No.	hFE	V <sub>CE</sub> (v)	Total Zener (ma)	Power Diss. (mw)	EACH	
					1-99	100-999
RA1A	10-120	45	6	300	4.50	3.00
RA1B	10-120	45	6	300	7.95	5.30
RA1C	10-120	45	6	300	14.10	9.40
RA1D	10-120	45	6	300	27.75	18.50
RA1E	40-120	45	6	300	7.95	5.30
RA2A	40-120	45	6	300	22.50	15.00
RA2B	40-120	45	6	300	49.50	33.00
RA3	30-90	60	6	300	8.25	5.50
RA3A	30-90	60	6	300	23.40	15.60
RA3B	30-90	60	6	300	54.00	36.00

## SEMICONDUCTOR STRAIN, SHEAR AND TORQUE SENSORS

### SINGLE ELEMENT STRAIN SENSOR—ACTIVE LENGTH 0.200"

Type No.	Unstrained Res. (ohms)	Gauge Factor	Max. Mamps (no heats'k)	EACH		
				1-24	25-99	100-999
4JN101-1	150	+120	10	24.95	19.95	16.65
4JN102-11	300	-100	10			
4JN103-19	1000	+100	10			

### SINGLE ELEMENT STRAIN GAUGES—ACTIVE LENGTH 0.100"

Type No.	Unstrained Res. (ohms)	Gauge Factor	Max. Mamps (no heats'k)	EACH
4JN301-1	600	+120	10	29.95 23.95 19.95
4JN302-9	1000	-100	10	
4JN303-15	2500	+100	10	

### EPITAXIAL SHEAR SENSORS

Type No.	Unstrained Res. (ohms)	Gauge Factor	Max. Mamps (no heats'k)	EACH
4JN401-1	10	.....	100	67.50 54.00 45.00
4JN402-1	600	.....	100	
4JN401-9	75	.....	100	
4JN402-9	1000	.....	100	
4JN401-15	150	.....	100	
4JN402-15	2500	.....	100	

### EPITAXIAL TORQUE SENSOR

Type No.	Unstrained Res. (ohms)	Gauge Factor	Max. Mamps (no heats'k)	EACH
4JN403-1	10	.....	10	79.95 64.00 53.40
4JN403-7	50	.....	10	
4JN403-15	150	.....	10	

## 1-WATT AVALANCHE ZENER DIODES

All tests at 25°C. Operating junction temperature, -65° to +175°C.

Type No.	V <sub>Z</sub> @ I <sub>ZT</sub> (v)	Z <sub>zr</sub> @ I <sub>ZT</sub> (ohms)	Typ. Δ V <sub>Z</sub> (v)	Max. I <sub>ZM</sub> @ TA=50°C (ma)	EACH	
					1-99	100-999
Z4X5.1B	5.1	7.0	0.11	160	2.40	1.60
1N1765	5.6	1.2	0.14	150		
1N1766	6.2	1.5	0.16	130		
1N1767	6.8	1.7	0.20	120		
1N1768	7.5	2.1	0.24	109		
1N1769	8.2	2.4	0.28	100	3.90	2.60
1N1770	9.1	3.0	0.34	90		
1N1771	10.0	3.5	0.41	82		
1N1772	11.0	4.2	0.48	74		
1N1773	12.0	5.0	0.57	68		
1N1774	13.0	5.8	0.66	63	3.90	2.60
Z4X14B	14.0	6.6	0.75	58		
1N1775	15.0	7.6	0.86	54		
1N1776	16.0	8.6	0.97	51		

## SILICON CONTROLLED RECTIFIERS

### LOW CURRENT TYPE

Type No.	PRV and V <sub>BO</sub> (v)	Max. I <sub>DC</sub> (amp) @ Temp. °C	Max. Required Gate Signal	EACH	
				1-99	100-999
2N2322	25	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	3.75	2.50
2N2323	50	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	4.15	2.75
2N2324	100	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	6.60	4.40
2N2325	150	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	9.50	6.35
2N2326	200	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	12.40	8.25
2N2327	250	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	15.55	10.35
2N2328	300	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	24.00	16.00
2N2329	400	1.6A @ 87°C case	0.8V, 200 μA @ 25°C T <sub>J</sub>	34.15	22.75
2N2344	25	.6A @ 87°C case	0.8V, 20 μA @ 25°C T <sub>J</sub>	8.10	5.40
2N2345	50	.6A @ 87°C case	0.8V, 20 μA @ 25°C T <sub>J</sub>	10.00	6.70
2N2346	100	.6A @ 87°C case	0.8V, 20 μA @ 25°C T <sub>J</sub>	14.10	9.40
2N2347	150	.6A @ 87°C case	0.8V, 20 μA @ 25°C T <sub>J</sub>	16.50	11.00
2N2348	200	.6A @ 87°C case	0.8V, 20 μA @ 25°C T <sub>J</sub>	19.80	13.20
2N1595	50	1.6A @ 87°C case	3V, 10 ma @ 25°C T <sub>J</sub>	3.75	2.50
2N1596	100	1.6A @ 87°C case	3V, 10 ma @ 25°C T <sub>J</sub>	6.00	4.00
2N1597	200	1.6A @ 87°C case	3V, 10 ma @ 25°C T <sub>J</sub>	11.25	7.50
2N1598	300	1.6A @ 87°C case	3V, 10 ma @ 25°C T <sub>J</sub>	22.00	14.65
2N1599	400	1.6A @ 87°C case	3V, 10 ma @ 25°C T <sub>J</sub>	31.00	20.75
2N1929	25	1.1A @ 25°C amb.	2V, 8 ma @ 125°C T <sub>J</sub>	6.15	4.10
2N1930	50	1.1A @ 25°C amb.	2V, 8 ma @ 125°C T <sub>J</sub>	7.65	5.10
2N1931	100	1.1A @ 25°C amb.	2V, 8 ma @ 125°C T <sub>J</sub>	10.70	7.10
2N1932	150	1.1A @ 25°C amb.	2V, 8 ma @ 125°C T <sub>J</sub>	13.20	8.80
2N1933	200	1.1A @ 25°C amb.	2V, 8 ma @ 125°C T <sub>J</sub>	15.00	10.00

## LOW CURRENT SILICON CONTROLLED RECTIFIERS (Cont'd)

Type No.	PRV and V <sub>BO</sub> (v)	Max. I <sub>DC</sub> (amp) @ Temp. °C	Max. Required Gate Signal	EACH	
				1-99	100-999
2N1934	250	1.1A @ 25°C amb.	2V, 8 ma @ 125°C T <sub>J</sub>	18.00	12.00
2N1935	300	1.1A @ 25°C amb.	2V, 8 ma @ 125°C T <sub>J</sub>	22.00	14.65
C15U	25	3A @ 75°C stud	2.5V, 25 ma @ 25°C T <sub>J</sub>	4.65	3.10
C15F	50	3A @ 75°C stud	2.5V, 25 ma @ 25°C T <sub>J</sub>	4.80	3.20
C15A	100	3A @ 75°C stud	2.5V, 25 ma @ 25°C T <sub>J</sub>	5.10	3.40
C15G	150	3A @ 75°C stud	2.5V, 25 ma @ 25°C T <sub>J</sub>	5.85	3.90
C15B	200	3A @ 75°C stud	2.5V, 25 ma @ 25°C T <sub>J</sub>	6.30	4.20
C15C	300	3A @ 75°C stud	2.5V, 25 ma @ 25°C T <sub>J</sub>	8.70	5.80
C15D	400	3A @ 75°C stud	2.5V, 25 ma @ 25°C T <sub>J</sub>	10.30	6.85
2N1770A	25	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	6.15	4.10
2N1771A	50	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	7.00	4.65
2N1772A	100	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	9.00	6.00
2N1773A	150	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	11.10	7.40
2N1774A	200	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	13.50	9.00
2N1775A	250	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	15.75	10.50
2N1776A	300	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	18.40	12.25
2N1777A	400	7A @ 115°C stud	2V, 6 ma @ 150°C T <sub>J</sub>	23.65	15.75
2N1770	25	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	5.55	3.70
2N1771	50	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	6.00	4.00
2N1772	100	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	7.50	5.00
2N1773	150	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	9.75	6.50
2N1774	200	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	12.00	8.00
2N1775	250	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	14.25	9.50
2N1776	300	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	16.50	11.00
2N1777	400	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	21.00	14.00
2N1778	500	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	25.90	17.45
2N2619	600	6A @ 70°C stud	2V, 8 ma @ 125°C T <sub>J</sub>	30.00	20.00
C12U	25			6.15	4.10
C12F	50			6.60	4.40
C12A	100			8.40	5.60
C12G	150			11.10	7.40
C12B	200			13.95	9.30
C12H	250			16.95	11.30
C12C	300			20.25	13.50

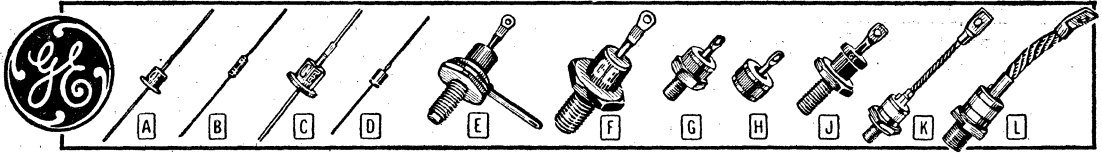
Other ratings and characteristics are the same as for 2N1770-1776, except that turn-off time is guaranteed at less than 12 microseconds. These units are designed specifically for fast turn-off time for inverter applications.

### MEDIUM CURRENT TYPE

Type No.	PRV and V <sub>BO</sub> (v)	Max. I <sub>DC</sub> (amp) @ Temp. °C	Max. Required Gate Signal	EACH
2N681	25	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	8.65
2N682	50	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	9.40
2N683	100	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	10.50
2N684	150	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	12.75
2N685	200	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	15.00
2N686	250	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	18.00
2N687	300	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	21.00
2N688	400	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	26.25
2N689	500	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	31.90
2N690	600	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	37.50
2N691	700	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	42.75
2N692	800	25A @ 57°C stud	3V, 25 ma @ 125°C T <sub>J</sub>	48.00
2N1842	25	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	7.75
2N1843	50	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	8.50
2N1844	100	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	9.45
2N1845	150	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	11.50
2N1846	200	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	13.50
2N1847	250	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	16.15
2N1848	300	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	18.75
2N1849	400	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	23.65
2N1850	500	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	27.00
C36M	600	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	30.00
C36S	700	16A @ 25°C stud	3.5V, 50 ma @ 100°C T <sub>J</sub>	32.25
C37U	25	16A @ 25°C stud	3.5V, 80 ma @ 25°C T <sub>J</sub>	5.18
C37F	50	16A @ 25°C stud	3.5V, 80 ma @ 25°C T <sub>J</sub>	6.00
C37A	100	16A @ 25°C stud	3.5V, 80 ma @ 25°C T <sub>J</sub>	6.83
C37B	200	16A @ 25°C stud	3.5V, 80 ma @ 25°C T <sub>J</sub>	9.75
C37C	300	16A @ 25°C stud	3.5V, 80 ma @ 25°C T <sub>J</sub>	16.73
C37D	400	16A @ 25°C stud	3.5V, 80 ma @ 25°C T <sub>J</sub>	23.63
C40U	25			9.55
C40F	50			10.35
C40A	100			11.70
C40G	150			14.50
C40B	200			17.40
C40H	250			21.45
C40C	300			25.75
C40D	400			34.15
C40E	500			44.65
C38F	50	35A @ 60°C stud	3V, 40 ma @ 25°C T <sub>J</sub>	12.40
C38A	100	35A @ 60°C stud	3V, 40 ma @ 25°C T <sub>J</sub>	13.90
C38B	200	35A @ 60°C stud	3V, 40 ma @ 25°C T <sub>J</sub>	19.50
C38H	250	35A @ 60°C stud	3V, 40 ma @ 25°C T <sub>J</sub>	23.25
C38C	300	35A @ 60°C stud		



# General Electric Low-Current Rectifiers



## A GERMANIUM LOW-CURRENT CELLS

JEDEC No.	PRV	Max. Ipc @ 55°C Amb.	Max. Full-Load Voltage Drop (Volts)	Max. Oper. °C	EACH	
					1-99	100-999
IN93	300	75 ma	.18	95°	3.45	3.30
IN315	300	75 ma	Min. fwd./rev. ratio 700 @ 55°C	85°	3.00	2.00
IN368	200	100 ma	.48	55°	2.55	1.70
IN92	200	100 ma	.19	95°	1.95	1.50
IN91	100	150 ma	.22	95°	.85	.55

## B SILICON SUBMINIATURE GLASS CELLS (LEAD MOUNTED)

JEDEC No.	Repetitive PRV	Transient PRV	Max. Ipc @ 25°C	Max. Oper. °C	EACH	
					1-99	100-999
IN645	225	275	400 ma	175°	1.43	.93
IN645A	225	275	400 ma	175°	1.65	1.10
IN646	300	360	400 ma	175°	1.65	1.10
IN647	400	480	400 ma	175°	1.80	1.20
IN648	500	600	400 ma	175°	1.95	1.30
IN649	600	720	400 ma	175°	2.50	1.65
IN676	100	120	200 ma	175°	.93	.62
IN677	100	120	400 ma	175°	1.05	.70
IN678	200	240	200 ma	175°	1.23	.82
IN679	200	240	400 ma	175°	1.35	.90
IN681	300	360	200 ma	175°	1.53	1.02
IN682	300	360	400 ma	175°	1.65	1.10
IN683	400	480	200 ma	175°	1.80	1.20
IN684	400	480	400 ma	175°	1.88	1.25
IN685	500	600	200 ma	175°	2.10	1.40
IN686	500	600	400 ma	175°	2.25	1.50
IN687	600	720	200 ma	175°	2.40	1.60
IN689	600	720	400 ma	175°	2.50	1.65
IN3544	100	120	600 ma	200°	2.25	1.50
IN3545	200	240	600 ma	200°	2.78	1.85
IN3546	300	360	600 ma	200°	3.49	2.45
IN3547	400	480	600 ma	200°	4.50	3.00
IN3548	500	600	600 ma	200°	5.55	3.70
IN3549	600	720	600 ma	200°	6.45	4.30

## C SILICON LOW-CURRENT CELLS (LEAD MOUNTED)

JEDEC or G-E No.	PRV	Max. Ipc @ T°C Amb.	Max. Peak 1-Cycle Surge	Max. Oper. °C	EACH	
					1-99	100-999
IN599	50	600 ma @ 25°C	10 A	150°	.47	.31
IN599A	50	600 ma @ 25°C	10 A	150°	.93	.62
IN600	100	600 ma @ 25°C	10 A	150°	.53	.35
IN600A	100	600 ma @ 25°C	10 A	150°	1.05	.70
IN601	150	600 ma @ 25°C	10 A	150°	.54	.36
IN601A	150	600 ma @ 25°C	10 A	150°	1.08	.72
IN602	200	600 ma @ 25°C	10 A	150°	.63	.42
IN602A	200	600 ma @ 25°C	10 A	150°	1.26	.84
IN603	300	600 ma @ 25°C	10 A	150°	.66	.44
IN603A	300	600 ma @ 25°C	10 A	150°	1.32	.88
IN604	400	600 ma @ 25°C	10 A	150°	.81	.54
IN604A	400	600 ma @ 25°C	10 A	150°	1.62	1.08
IN605	500	600 ma @ 25°C	10 A	150°	.90	.60
IN605A	500	600 ma @ 25°C	10 A	150°	1.77	1.18
IN606	600	600 ma @ 25°C	10 A	150°	1.19	.79
IN606A	600	600 ma @ 25°C	10 A	150°	2.37	1.58
IN560	800	600 ma @ 30°C	15 A	150°	2.55	1.70
IN561	1000	600 ma @ 30°C	15 A	150°	5.10	3.40
IN1692	100	600 ma @ 50°C	20 A	115°	.51	.34
IN1693	200	600 ma @ 50°C	20 A	115°	.59	.39
IN1694	300	600 ma @ 50°C	20 A	115°	.63	.42
IN1695	400	600 ma @ 50°C	20 A	115°	.78	.52
IN1696	500	600 ma @ 50°C	20 A	115°	.89	.59
IN1697	600	600 ma @ 50°C	20 A	115°	1.16	.77
IN444B	500	650 ma @ 50°C	15 A	150°	1.12	.75
IN445B	600	650 ma @ 50°C	15 A	150°	1.61	1.07
IN440B	100	750 ma @ 50°C	15 A	165°	.72	.48
IN441B	200	750 ma @ 50°C	15 A	165°	.77	.51
IN442B	300	750 ma @ 50°C	15 A	165°	.87	.58
IN443B	400	750 ma @ 50°C	15 A	165°	1.10	.73
IN1100	100	750 ma @ 50°C	15 A	165°	.53	.35
IN1101	200	750 ma @ 50°C	15 A	165°	.63	.42
IN1102	300	750 ma @ 50°C	15 A	165°	.66	.44
IN1103	400	750 ma @ 50°C	15 A	165°	.81	.54
IN1487	100	750 ma @ 25°C	15 A	140°	.53	.35
IN1488	200	750 ma @ 25°C	15 A	140°	.63	.42

## C SILICON LOW-CURRENT CELLS (LEAD MOUNTED—Cont'd)

JEDEC or G-E No.	PRV	Max. Ipc @ T°C Amb.	Max. Peak 1-Cycle Surge	Max. Oper. °C	EACH	
					1-99	100-999
IN1489	300	750 ma @ 25°C	15 A	140°	.66	.44
IN1490	400	750 ma @ 25°C	15 A	140°	.81	.54
IN1491	500	750 ma @ 25°C	15 A	125°	.90	.60
IN1492	600	750 ma @ 25°C	15 A	120°	1.19	.79
IN536	50	750 ma @ 50°C	15 A	165°	.47	.31
IN537	100	750 ma @ 50°C	15 A	165°	.53	.35
IN538	200	750 ma @ 50°C	15 A	165°	.63	.42
IN539	300	750 ma @ 50°C	15 A	165°	.66	.44
IN540	400	750 ma @ 50°C	15 A	165°	.81	.54
IN1095	500	675 ma @ 50°C	15 A	150°	.90	.60
IN1096	600	640 ma @ 50°C	15 A	150°	1.19	.79
IN547	600	750 ma @ 50°C	15 A	165°	1.19	.79
A10A	100	1.5 A @ 25°C	45 A	165°	.66	.44
A10B	200	1.5 A @ 25°C	45 A	165°	.69	.46
A10C	300	1.5 A @ 25°C	45 A	165°	.77	.51
A10D	400	1.5 A @ 25°C	45 A	165°	.89	.59
A10E	500	1.5 A @ 25°C	45 A	165°	.98	.65
A10M	600	1.5 A @ 25°C	45 A	165°	1.43	.95
A10N	800	1.5 A @ 25°C	45 A	165°	2.67	1.78
A10P	1000	1.5 A @ 25°C	45 A	165°	5.33	3.55

## D FLANGELESS

JEDEC No.	PRV	Max. Ipc @ 25°C Amb.	Max. Peak 1-Cycle Surge	Max. Oper. °C	EACH	
					1-99	100-999
IN2610	100	850 ma	30 A	175°	1.05	.70
IN2611	200	850 ma	30 A	175°	1.19	.79
IN2612	300	850 ma	30 A	175°	1.54	1.03
IN2613	400	850 ma	30 A	175°	1.74	1.16
IN2614	500	850 ma	30 A	175°	1.95	1.30
IN2615	600	850 ma	30 A	175°	2.22	1.55
IN3639	200	750 ma	40 A	100°	.60	.40
IN3640	400	750 ma	40 A	100°	.75	.50
IN3641	600	750 ma	40 A	100°	1.08	.72
IN3642	800	500 ma	40 A	100°	1.49	.99
IN3189	200	1 A @ 100°C	30 A	175°	3.15	2.10
IN3190	400	1 A @ 100°C	30 A	175°	5.25	3.50
IN3191	600	1 A @ 100°C	30 A	175°	7.35	4.90

## E INSULATED STUD

JEDEC No.	PRV	Max. Ipc @ T°C	Max. Oper. °C	EACH	
				1-99	100-999
IN2851	500	1.5 A @ 50° Case	150°	2.60	1.73
IN2852	600	1.5 A @ 50° Case	150°	3.83	2.55
IN2847	100	1.5 A @ 75° Case	165°	1.49	.99
IN2848	200	1.5 A @ 75° Case	165°	1.58	1.05
IN2849	300	1.5 A @ 75° Case	165°	1.98	1.32
IN2850	400	1.5 A @ 75° Case	165°	2.48	1.65

## F STUD MOUNTED

IN340	100	200 ma @ 150° Case	170°	1.05	.70
IN349	100	200 ma @ 150° Case	170°	1.05	.70
IN337	200	200 ma @ 150° Case	170°	1.25	.83
IN346	200	200 ma @ 150° Case	170°	1.25	.83
IN335	300	200 am @ 150° Case	170°	1.58	1.05
IN344	300	200 ma @ 150° Case	170°	1.58	1.05
IN333	400	200 ma @ 150° Case	170°	1.97	1.31
IN342	400	200 ma @ 150° Case	170°	1.97	1.31
IN339	100	400 ma @ 150° Case	170°	1.05	.70
IN348	100	400 ma @ 150° Case	170°	1.05	.70
IN336	200	400 ma @ 150° Case	170°	1.25	.83
IN345	200	400 ma @ 150° Case	170°	1.25	.83
IN334	300	400 ma @ 150° Case	170°	1.58	1.05
IN343	300	400 ma @ 150° Case	170°	1.58	1.05
IN332	400	400 ma @ 150° Case	170°	1.97	1.31
IN341	400	400 ma @ 150° Case	170°	1.97	1.31
IN562	800	400 ma @ 100° Case	170°	5.36	3.57
IN563	1000	400 ma @ 100° Case	150°	10.73	7.15
IN550	100	500 ma @ 100° Amb.	150°	1.29	.86
IN551	200	500 ma @ 100° Amb.	150°	1.38	.92
IN552	300	500 ma @ 100° Amb.	150°	1.77	1.18
IN553	400	500 ma @ 100° Amb.	150°	2.01	1.34
IN554	500	500 ma @ 100° Amb.	150°	2.16	1.44
IN555	600	500 ma @ 100° Amb.	150°	3.15	2.10
IN256	570	600 ma @ 135° Case	155°	2.55	1.70
IN254	190	800 ma @ 135° Case	170°	1.25	.83
IN255	380	800 ma @ 135° Case	170°	1.80	1.20
IN607	50	1 A @ 100° Amb.	150°	1.05	.70
IN607A	50	1 A @ 100° Amb.	150°	1.14	.76

# G.E. Rectifiers and Military Semiconductors



## F SILICON LOW-CURRENT CELLS (STUD MOUNTED—Cont'd)

JEDEC No.	PRV	Max. I <sub>dc</sub> @ T <sup>o</sup> C	Max. Oper. T <sup>o</sup> C	EACH	
				1-99	100-999
IN608	100	1A @ 100° Amb.	150°	1.08	.72
IN608A	100	1A @ 100° Amb.	150°	1.17	.78
IN609	150	1A @ 100° Amb.	150°	1.13	.75
IN609A	150	1A @ 100° Amb.	150°	1.22	.81
IN610	200	1A @ 100° Amb.	150°	1.14	.76
IN610A	200	1A @ 100° Amb.	150°	1.26	.84
IN611	300	1A @ 100° Amb.	150°	1.44	.96
IN611A	300	1A @ 100° Amb.	150°	1.61	1.07
IN612	400	1A @ 100° Amb.	150°	1.80	1.20
IN612A	400	1A @ 100° Amb.	150°	1.97	1.31
IN613	500	1A @ 100° Amb.	150°	1.80	1.20
IN613A	500	1A @ 100° Amb.	150°	1.97	1.31
IN614	600	1A @ 100° Amb.	150°	2.45	1.63
IN614A	600	1A @ 100° Amb.	150°	2.87	1.91
IN1115	100	1.5A @ 85° Case	170°	1.05	.70
IN1116	200	1.5A @ 85° Case	170°	1.25	.83
IN1117	300	1.5A @ 85° Case	170°	1.58	1.05
IN1118	400	1.5A @ 85° Case	170°	1.80	1.20
IN1119	500	1.3A @ 85° Case	155°	1.97	1.31
IN1120	600	1.3A @ 85° Case	155°	2.55	1.70
IN253	95	1A @ 135° Case	170°	1.05	.70

## SILICON MEDIUM-CURRENT CELLS

JEDEC or G-E No.	Fig.	Repetitive PRV	Trans-ient PRV	Max. I <sub>dc</sub> Stud Single-Phase	Max. Peak 1-Cycle Surge	EACH	
						1-99	100-999
IN3569	F	100	150	3.5A @ 85°C	35A	1.34	.89
IN3570	F	200	275	3.5A @ 85°C	35A	1.62	1.08
IN3571	F	300	400	3.5A @ 85°C	35A	2.10	1.40
IN3572	F	400	525	3.5A @ 85°C	35A	2.57	1.71
IN3573	F	500	650	3.5A @ 85°C	35A	3.86	2.57
IN3574	F	600	775	3.5A @ 85°C	35A	5.54	3.69
IN1612	F	50	100	5A @ 150°C	150A	1.62	1.08
IN1613	F	100	200	5A @ 150°C	150A	2.09	1.39
IN1614	F	200	350	5A @ 150°C	150A	3.05	2.03
IN1615	F	400	600	5A @ 150°C	150A	4.53	3.02
IN1616	F	600	800	5A @ 150°C	150A	6.23	4.15
IN1341A	F	50	100	6A @ 145°C	150A	1.62	1.08
IN1342A	F	100	200	6A @ 145°C	150A	2.09	1.39
IN1343A	F	150	300	6A @ 145°C	150A	2.57	1.71
IN1344A	F	200	350	6A @ 145°C	150A	3.05	2.03
IN1345A	F	300	450	6A @ 145°C	150A	3.72	2.48
IN1346A	F	400	600	6A @ 145°C	150A	4.53	3.02
IN1347A	F	500	700	6A @ 145°C	150A	5.19	3.46
IN1348A	F	600	800	6A @ 145°C	150A	6.23	4.15
IN1199A	F	50	100	12A @ 145°C	240A	1.80	1.20
IN1200A	F	100	200	12A @ 145°C	240A	2.33	1.55
IN1201A	F	150	300	12A @ 145°C	240A	2.85	1.90
IN1202A	F	200	350	12A @ 145°C	240A	3.38	2.25
IN1203A	F	300	450	12A @ 145°C	240A	4.13	2.75
IN1204A	F	400	600	12A @ 145°C	240A	5.03	3.35
IN1205A	F	500	700	12A @ 145°C	240A	5.78	3.85
IN1206A	F	600	800	12A @ 145°C	240A	7.65	5.10
IN248C	F	55	.....	20A @ 145°C	350A	2.46	1.64
IN249C	F	110	.....	20A @ 145°C	350A	3.01	2.01
IN250C	F	220	.....	20A @ 145°C	350A	4.54	3.03

## SILICON MEDIUM-CURRENT CELLS (Cont'd)

JEDEC or G-E No.	Fig.	Repetitive PRV	Trans-ient PRV	Max. I <sub>dc</sub> Stud Single-Phase	Max. Peak 1-Cycle Surge	EACH	
						1-99	100-999
IN1195A	F	300	.....	20A @ 145°C	350A	5.47	3.65
IN1196A	F	400	.....	20A @ 145°C	350A	6.73	4.49
IN1197A	F	500	.....	20A @ 145°C	350A	8.25	5.50
IN1198A	F	600	.....	20A @ 145°C	350A	10.14	6.76
A40F	G	50	50	20A @ 110°C	300A	1.19	.79
A40A	G	100	100	20A @ 110°C	300A	1.34	.89
A40B	G	200	200	20A @ 110°C	300A	1.79	1.19
A40C	G	300	300	20A @ 110°C	300A	2.40	1.60
A40D	G	400	400	20A @ 110°C	300A	2.90	1.93
A40E	G	500	500	20A @ 110°C	300A	3.53	2.35
A40M	G	600	600	20A @ 110°C	300A	4.20	2.80
A44F	H	50	50	20A @ 110°C	300A	.73	.49
A44A	H	100	100	20A @ 110°C	300A	.81	.54
A44B	H	200	200	20A @ 110°C	300A	1.20	.80
A44C	H	300	300	20A @ 110°C	300A	1.54	1.03
A44D	H	400	400	20A @ 110°C	300A	1.93	1.29
A44E	H	500	500	20A @ 110°C	300A	2.79	1.86
A44M	H	600	600	20A @ 110°C	300A	3.51	2.34
IN2154	F	50	100	25A @ 110°C	400A	3.16	2.11
IN2155	F	100	200	25A @ 110°C	400A	3.81	2.54
IN2156	F	200	350	25A @ 110°C	400A	5.64	3.76
IN2157	F	300	450	25A @ 110°C	400A	6.78	4.52
IN2158	F	400	600	25A @ 110°C	400A	8.22	5.48
IN2159	F	500	700	25A @ 110°C	400A	9.96	6.64
IN2160	F	600	800	25A @ 110°C	400A	12.09	8.06
IN3670A	J	700	900	12A @ 150°C	240A	9.30	6.20
IN3671A	J	800	1000	12A @ 150°C	240A	11.33	7.55
IN3672A	J	900	1100	12A @ 150°C	240A	11.78	7.85
IN3673A	J	1000	1200	12A @ 150°C	240A	12.15	8.10
IN395B	F	100	150	3.5A @ 85°C	35A	1.49	.99
IN3959	F	200	275	3.5A @ 85°C	35A	1.80	1.20
IN3960	F	300	400	3.5A @ 85°C	35A	2.33	1.55
IN3961	F	400	525	3.5A @ 85°C	35A	2.85	1.90
IN3962	F	500	650	3.5A @ 85°C	35A	4.28	2.85
IN3963	F	600	775	3.5A @ 85°C	35A	6.15	4.10

## SILICON 100 AND 250-AMP CELLS

JEDEC No.	G-E Type No.	Fig.	Repetitive PRV	Trans-ient PRV	Max. I <sub>dc</sub> Single-Phase Av.	EACH	
						1-99	100-999
IN3289	A70B	K	200	300	100A @ 130°C T <sub>s</sub>	12.00	9.50
IN3290	A70C	K	300	400	100A @ 130°C T <sub>s</sub>	13.10	10.00
IN3291	A70D	K	400	525	100A @ 130°C T <sub>s</sub>	14.25	11.00
IN3292	A70E	K	500	650	100A @ 130°C T <sub>s</sub>	15.80	12.20
IN3293	A70M	K	600	800	100A @ 130°C T <sub>s</sub>	18.60	14.40
IN3294	A70N	K	800	1050	100A @ 130°C T <sub>s</sub>	23.50	18.10
IN3295	A70P	K	1000	1300	100A @ 130°C T <sub>s</sub>	28.00	21.50
						1.24	25.99
IN3296	A70PB	K	1200	1500	100A @ 130°C T <sub>s</sub>	32.00	24.50
IN3736	A90B	L	200	300	250A @ 130°C T <sub>s</sub>	24.50	21.00
IN3737	A90C	L	300	400	250A @ 130°C T <sub>s</sub>	28.80	24.60
IN3738	A90D	L	400	525	250A @ 130°C T <sub>s</sub>	34.50	26.60
IN3739	A90E	L	500	650	250A @ 130°C T <sub>s</sub>	43.50	33.50
IN3740	A90M	L	600	800	250A @ 130°C T <sub>s</sub>	52.00	40.00
IN3741	A90N	L	800	1050	250A @ 130°C T <sub>s</sub>	70.00	55.00
IN3742	A90P	L	1000	1300	250A @ 130°C T <sub>s</sub>	84.00	66.00

## MILITARY SEMICONDUCTORS

Type No.	MIL-	EACH		Type No.	MIL-	EACH		Type No.	MIL-	EACH					
		1-99	100-999			1-99	100-999			1-99	100-999				
USN 1N93	E-1/895	3.45	3.30	USAF 1N1201	E-1/1108	3.30	2.20	JAN 2N497	S-19500/74C	9.30	6.20	USAF 2N404	T-19500/70	.50	.33
USAF 1N315	E-1/1088	3.75	2.50	USAF 1N1202	E-1/1108	4.05	2.70	JAN 2N498	S-19500/74D	11.80	7.85	JAN 2N428	S-19500/44B	2.16	1.44
USA 1N249B	S-19500/134	3.63	2.42	USAF 1N1203	E-1/1108	4.88	3.25	JAN 2N526	S-19500/600	1.74	1.16	USAF 2N461	T-19500/45	3.45	2.30
JAN 1N250B	S-19500/134	5.70	3.80	USAF 1N1204	E-1/1108	5.63	3.75	JAN 2N656	S-19500/740	10.30	6.85	USAF 2N489	T-19500/75	7.85	5.25
JAN 1N253	S-19500/194	1.57	1.05	USAF 1N1205	E-1/1108	6.83	4.55	JAN 2N657	S-19500/74C	10.50	7.00	USAF 2N499	T-19500/75	8.55	5.70
JAN 1N254	S-19500/194	1.63	1.09	USAF 1N1206	E-1/1108	8.25	5.50	JAN 2N681M	S-19500/108A	9.70	6.45	USAF 2N491	T-19500/75	9.15	6.10
JAN 1N255	S-19500/194	2.35	1.57	USA 1N1614	S-19500/162	5.52	3.68	JAN 2N682M	S-19500/108A	10.45	6.95	USAF 2N492	T-19500/75	10.55	7.05
JAN 1N256	S-19500/194	3.24	2.16	USA 1N1615	S-19500/162	7.01	4.67	JAN 2N683M	S-19500/108A	11.55	7.70	USAF 2N493	T-19500/75	11.40	7.60
JAN 1N338	E-1/1094A	.87	.58	USA 1N1616	S-19500/162	8.70	5.80	JAN 2N684M	S-19500/108A	13.80	9.20	USAF 2N494	T-19500/75	11.60	7.70
JAN 1N538M	S-19500/202	.87	.58	USA 1N2135A	S-19500/134	9.07	6.05	JAN 2N685M	S-19500/108A	16.05	10.70	USN 2N1305	S-19500/126A	.64	.43
JAN 1N540	E-1/1085A	1.08	.72	USN 1N306A	S-19500/144	2.70	1.80	JAN 2N686M	S-19500/108A	19.05	12.70	USN 2N1307	S-19500/126A	.84	.57
JAN 1N540M	S-19500/202	1.08	.72	USAF 2N43A	T-19500/118	5.25	3.50	JAN 2N687M	S-19500/108A	22.05	14.70	USN 2N1613	S-19500/181	9.00	6.00
JAN 1N547	E-1/1083A	1.47	.98	USAF 2N44A	T-19500/6	4.95	3.30	JAN 2N688M	S-19500/108A	27.30	18.20	USN 2N1771A	S-19500/168	8.05	5.35
JAN 1N547M	S-19500/202	1.47	.98	USAF 2N78A	S-19500/90	3.10	2.10	JAN 2N689M	S-19500/108A	32.95	21.95	USN 2N1772A	S-19500/168	10.05	6.70
JAN 1N645	S-19500/240	2.40	1.60	USAF 2N123	T-19500/30	4.50	3.00	USN 2N681	S-19500/108	9.70	6.45	USN 2N1774A	S-19500/168	14.55	9.70
USAF 1N645	E-1/1143	1.50	1.00	USAF 2N167A	S-19500/11A	5.65	3.78	USN 2N682	S-19500/108	10.45	6.95	USN 2N1776A	S-19500/168	19.45	12.95
USAF 1N646	E-1/1143	1.80	1.20	USN 2N332	T-19500/37A	4.95	3.30	USN 2N683	S-19500/108	11.55	7.70	USN 2N1777A	S-19500/168	24.70	16.45
JAN 1N647	S-19500/240	4.05	2.70	USN 2N333	T-19500/37A	4.95	3.30	USN 2N684	S-19500/108	13.80	9.20	USN 2N2031W	S-19500/204A	34.40	27.90
USAF 1N647	E-1/1143	1.95	1.30	USN 2N334	T-19500/37A	4.95	3.30								



# General Electric Rectifiers

## EXPLANATION OF COLUMN HEADINGS

(W)PRV, (working) peak reverse voltage.  $V_{BO}$ , break-over voltage.  $I_{DC}$ , DC current.  $T_j$ , junction temp.

## NEW SILICON-CONTROLLED HIGH-CURRENT RECTIFIERS

JEDEC No.	G.E. Type No.	PRV and $V_{BO}$	Max. $I_{DC}$ @ Stud Temp. °C	Max. Req'd Gate Signal @ $T_j$	EACH	
					1-24	25-99
2N1909	C50U	25	110A @59°C	3V, 40 ma @125°C	22.00	17.00
2N1910	C50F	50	110A @59°C	3V, 40 ma @125°C	30.00	23.50
2N1911	C50A	100	110A @59°C	3V, 40 ma @125°C	38.00	30.00
2N1912	C50G	150	110A @59°C	3V, 40 ma @125°C	46.00	36.00
2N1913	C50B	200	110A @59°C	3V, 40 ma @125°C	49.00	38.50
2N1914	C50H	250	110A @59°C	3V, 40 ma @125°C	64.00	50.00
2N1915	C50C	300	110A @59°C	3V, 40 ma @125°C	75.00	59.00
2N1916	C50D	400	110A @59°C	3V, 40 ma @125°C	84.00	66.00
.....	C50E	500	110A @59°C	3V, 40 ma @125°C	101.00	79.00
.....	C50M	600	110A @59°C	3V, 40 ma @125°C	137.00	108.00
.....	C50N	800	110A @59°C	3V, 40 ma @125°C	181.00	142.00
.....	C55U	25	Other ratings and characteristics are the same as for 2N1909 series above, except that turn-off time is guaranteed at less than 20 microseconds.		27.00	22.00
.....	C55F	50			35.00	28.50
.....	C55A	100			43.00	35.00
.....	C55G	150			51.00	41.00
.....	C55B	200			54.00	43.50
.....	C55H	250			69.00	55.00
.....	C55C	300			80.00	64.00
.....	C55D	400			89.00	71.00
.....	C55E	500			106.00	84.00
.....	C55M	600			142.00	113.00
2N2023	C60U	25	110A @87°C	3V, 30 ma @150°C	25.30	19.55
2N2024	C60F	50	110A @87°C	3V, 30 ma @150°C	34.50	27.05
2N2025	C60A	100	110A @87°C	3V, 30 ma @150°C	43.70	34.50
2N2026	C60G	150	110A @87°C	3V, 30 ma @150°C	52.90	41.40
2N2027	C60B	200	110A @87°C	3V, 30 ma @150°C	56.35	44.30
2N2028	C60H	250	110A @87°C	3V, 30 ma @150°C	73.60	57.50
2N2029	C60C	300	110A @87°C	3V, 30 ma @150°C	86.25	67.85
2N2030	C60D	400	110A @87°C	3V, 30 ma @150°C	96.60	75.90
.....	C80A	100	235A @75°C	1.7V, 100 ma @125°C	101.00	79.00
.....	C80G	150	235A @75°C	1.7V, 100 ma @125°C	123.00	96.00
.....	C80B	200	235A @75°C	1.7V, 100 ma @125°C	144.00	113.00
.....	C80H	250	235A @75°C	1.7V, 100 ma @125°C	169.00	133.00
.....	C80C	300	235A @75°C	1.7V, 100 ma @125°C	195.00	153.00
.....	C80D	400	235A @75°C	1.7V, 100 ma @125°C	224.00	176.00
.....	C80E	500	235A @75°C	1.7V, 100 ma @125°C	259.00	204.00
.....	C80M	600	235A @75°C	1.7V, 100 ma @125°C	302.00	238.00

## NEW SILICON-CONTROLLED AVALANCHE RECTIFIERS

G-E Type No.	WPRV	Min. Avalanche V. @ 25°C	Max. $I_{DC}$	Peak Trans. Rev. Surge 10 $\mu$ sec	EACH	
					1-99	100-999
A7G	150	200 @ 50 $\mu$ A	500 ma @ 50°C Amb.	310 w	1.95	1.30
A7B	200	300 @ 50 $\mu$ A	500 ma @ 50°C Amb.	310 w	1.95	1.30
A7C	300	400 @ 50 $\mu$ A	500 ma @ 50°C Amb.	310 w	1.95	1.30
A7D	400	500 @ 50 $\mu$ A	500 ma @ 50°C Amb.	310 w	1.95	1.30
A7E	500	600 @ 50 $\mu$ A	500 ma @ 50°C Amb.	310 w	1.95	1.30
A27B	200	250 @ 5 ma	12 A @ 125°C Stud	3900 w	6.38	4.25
A27D	400	500 @ 5 ma	12 A @ 125°C Stud	3900 w	8.63	5.75
A27M	600	750 @ 5 ma	12 A @ 125°C Stud	3900 w	11.48	7.65
A27N	800	1000 @ 5 ma	12 A @ 125°C Stud	3900 w	12.75	8.50
A27P	1000	1250 @ 5 ma	12 A @ 125°C Stud	3900 w	12.75	8.50
A27PB	1200	1500 @ 5 ma	12 A @ 125°C Stud	3900 w	18.00	12.00

## NEW HIGH-CURRENT AVALANCHE RECTIFIERS

G-E Type	WPRV	Min. Avalanche V. @ 25°C	Max. $I_{DC}$	Peak Trans. Rev. Surge 10 $\mu$ sec	EACH	
					1-24	25-99
A92M	600	800 @ 25 ma	250A @ 130° Stud	80,000 w	66.00	55.80
A92N	800	1000 @ 25 ma	250A @ 130° Stud	80,000 w	84.60	72.00
A92P	1000	1200 @ 25 ma	250A @ 130° Stud	80,000 w	110.40	93.60

## G.E. SEMICONDUCTOR MANUALS

**37 K 001.** 6th Edition Transistor Manual. Detailed explanations of basic theory, applications and circuitry. Includes section on transistor specs, plus interchangeability chart. 440 pages. Size, 6x8 $\frac{3}{4}$ ". Postpaid in U.S.A. .... 2.00

**37 K 410.** Tunnel-Diode Manual. Clearly explains tunnel-diode theory and ratings. Specific applications and test circuits. Illustrated. 90 pages. Size, 5 $\frac{1}{2}$ x8 $\frac{1}{2}$ ". Postpaid in U.S.A. .... 1.00

## G.E. RECTIFIER CHART AND MANUAL

**4 U 170.** Rectifier Selection Chart. Easy-to-use rectifier slide rule selects the optimum rectifier for your needs. Just set av. forward current against peak inverse v. and ambient temperature; rule indicates proper rectifier. Shpg. wt., 4 oz. .... 1.00

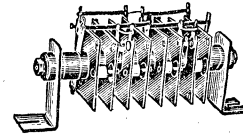
**37 K 058.** 2nd Edition Controlled-Rectifier Manual. Theory of operation, ratings, applications, and specifications. Fully illustrated. 338 pages. Size, 5 $\frac{1}{2}$ x8 $\frac{1}{2}$ ". Postpaid in U.S.A. .... 1.50

## RECTIFIER STACKS

**HOW TO ORDER RECTIFIER STACKS:** Order by series number. Include required current, voltage, max. ambient temp., no. of phases, and circuit configuration. (For SCR combinations. Specify how SCR's are to be connected—a circuit diagram is preferred.) Up to 29 pieces will be "Special Ordered" direct from G.E. at current OEM prices. Write or call Allied for prices and delivery. If you need more specs, contact your nearest Allied Electronics branch.

Type	Series/Max. Amps/Max. PRV
Germanium Low Current	4JA211/6/630
Silicon Low Current	4JA411/18/3360; 4JA1011—similar, but features 45 amp, 1-cycle surge.
Silicon Medium Current	4JA2011/32/1800; 4JA2511/50/1800; 4JA3511/65/1800; 4JA3512/108/1800—5" fin.
Potted Rectifier Circuit	4JA220/0.4/1800; 4JA420/2/3000; 4JA421/0.65/10,000; 4JA422/1.50/2000
Silicon High Current	4JA7012/165/1000 (5x5 $\frac{1}{8}$ " fin); 4JA7013/165/1000 (7x7 $\frac{3}{8}$ " fin); 4JA7014/240/1000 (4x4x5" fin); 4JA9013/690/1000 (7x7x $\frac{3}{8}$ " fin); 4JA9015—extruded aluminum stacks.
SCR Combination	5 Series—C3512, 13; C4012, 13; C1012, 13; C1112, 13; C1212, 13. Up to 13.65A/fin, convection. Up to 23.5A/fin, forced. Fin sizes: 3x3"; 5x5". 2 Series—C5014; C6014. Up to 64A per fin, free convection rating.

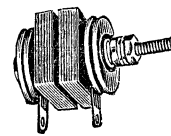
## SILICON BRIDGE RECTIFIER STACKS



Series 4JA1011. Feature excellent regulation, high efficiency and low leakage. Forward voltage drops less than 1 volt per cell; efficiency is up to 99%. Negligible reverse losses. Oper. temp. range, -65° to +170°C.\*Amp. rating @ 25°C. Compact design; require no fins or insulation. 2-bolt mtg. 12 oz.

Stock No.	Mfr's Type	AC V.	DC Output V. *Amps	Size	EACH		
					1-9	10-U <sub>P</sub>	
4 U 950	ABIAD1	70	62	3.6	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	7.00	5.80
4 U 951	ABIAD2	70	62	7.2	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x5 $\frac{1}{2}$ "	14.00	11.60
4 U 006	CB1AD3	210	188	10.8	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x7"	22.80	18.60
4 U 952	BB1AD1	140	125	3.6	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	7.20	6.00
4 U 953	BB1AD2	140	125	7.2	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x5 $\frac{1}{2}$ "	14.40	12.00
4 U 007	BB1AD3	140	125	10.8	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x7"	21.60	18.00
4 U 954	CB1AD1	210	188	3.6	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	7.60	6.20
4 U 955	CB1AD2	210	188	7.2	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x5 $\frac{1}{2}$ "	15.20	12.40
4 U 008	ABIAD3	70	62	10.8	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x7"	21.00	17.40
4 U 956	DB1AD2	280	250	7.2	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x5 $\frac{1}{2}$ "	16.80	13.60
4 U 957	RB1AD1	350	314	3.6	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	8.40	6.80
4 U 958	CB2AD1	420	376	3.6	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x5"	15.20	12.40

## THYRECTOR DIODES, TRANSIENT VOLTAGE SUPPRESSORS



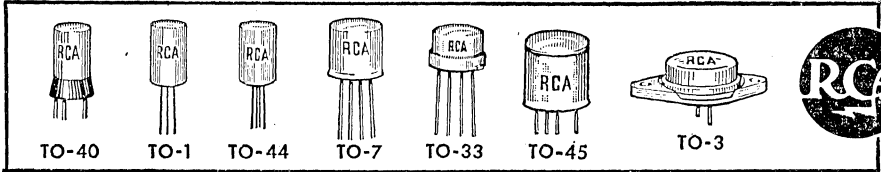
Selenium rectifiers perform like zener diodes. Effective as transient v. suppressors—for connection across AC input of silicon, silicon-controlled, and germanium rectifiers. Limitation of transients to known values aids in circuit design; reduces cost by allowing use of rectifiers with lower PRV. Instant response; high dissipation. Temperature-stable and non-aging. Max. leakage current at rated v., 12

ma. Max. operating temperature, 100°C. Units are 1" square. "Length" in table is between stud ends. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	RMS Input (V)	Peak Input (V)	Length	EACH	
					1-49	50-U <sub>P</sub>
4 U 150	6RS21SA1D1	25	35	1 $\frac{3}{4}$ "	1.87	1.33
4 U 151	6RS21SA2D2	50	70	1 $\frac{3}{16}$ "	2.00	1.45
4 U 152	6RS21SA3D3	75	105	1 $\frac{7}{8}$ "	2.20	1.63
4 U 153	6RS21SA4D4	100	140	2"	2.38	1.70
4 U 154	6RS21SA5D5	125	175	2 $\frac{1}{16}$ "	2.55	1.85
4 U 155	6RS21SA6D6	150	210	2 $\frac{1}{8}$ "	2.75	1.97
4 U 156	6RS21SA7D7	175	245	2 $\frac{1}{4}$ "	2.90	2.10
4 U 157	6RS21SA8D8	200	280	2 $\frac{5}{16}$ "	3.10	2.25
4 U 158	6RS21SA9D9	225	315	2 $\frac{3}{8}$ "	3.30	2.40
4 U 159	6RS21SA10D10	250	350	2 $\frac{1}{2}$ "	3.47	2.55
4 U 160	6RS21SA11D11	275	385	2 $\frac{9}{16}$ "	3.65	2.70
4 U 161	6RS21SA12D12	300	420	2 $\frac{5}{8}$ "	3.85	2.88
4 U 162	6RS21SA13D13	325	455	2 $\frac{11}{16}$ "	4.00	3.05
4 U 163	6RS21SA14D14	350	490	2 $\frac{13}{16}$ "	4.20	3.23
4 U 164	6RS21SA15D15	375	525	2 $\frac{7}{8}$ "	4.37	3.40
4 U 165	6RS21SA16D16	400	560	2 $\frac{15}{16}$ "	4.55	3.60
4 U 166	6RS21SA17D17	425	595	3"	4.75	3.75
4 U 167	6RS21SA18D18	450	630	3 $\frac{1}{8}$ "	4.90	3.95
4 U 168	6RS21SA19D19	475	665	3 $\frac{1}{16}$ "	5.10	4.15
4 U 169	6RS21SA20D20	500	700	3 $\frac{1}{4}$ "	5.25	4.30

# RCA Germanium Transistors

These top-quality RCA germanium transistors are ideal for use in both consumer product and industrial applications. Allied maintains large stocks of RCA semiconductors—order now for same day shipment at OEM prices.



## EXPLANATION OF COLUMN HEADINGS AND SYMBOLS

**$f_{hfb}$** —small signal (AC) common base forward-current-transfer-ratio cutoff frequency  
 **$f_T$** —large signal gain-bandwidth product  
 **$h_{FE}$** —DC forward-current-transfer ratio (large signal current gain)  
 **$h_{fe}$** —small signal forward-current-transfer ratio (AC current gain)  
 **$I_C$** —DC collector current

**$I_{CBO}$** —collector-cutoff current with emitter open  
 **$P_d$** —transistor total power dissipation  
 **$P_g$** —available power gain  
 **$V_{CB}$** —collector-to-base voltage  
 \*—military version also available †—low noise type: NF=5 db max.  
 ‡—NPN type † conversion power gain

## TYPES FOR RF APPLICATIONS

PNP types for oscillator, amplifier or switching use.

Type No.	Material and Construction	JEDEC Pkg.	Characteristics						EACH		
			Max. $P_g$		Typ. $f_{hfb}$	Typ. $f_T$	Typ. $h_{FE}$	Typ. $h_{fe}$	Max. $V_{CB}$	1-99	100-999
			db	Mc							
2N139	Alloy	TO-40	37	0.455	4.7	48	48	1	16	1.16	.77
2N140	Alloy	TO-40	32#	1	10	75	75	0.6	16	1.24	.83
2N218	Alloy	TO-1	37	0.455	4.7	48	48	1	16	1.16	.77
2N219	Alloy	TO-1	32#	1	10	75	75	0.6	20	1.24	.83
2N274	Drift-Field	TO-44	27	12.5	30	60	60	1.5	40	1.24	.83
2N370	Drift-Field	TO-7	17	20	60	100	100	1	24	.81	.54
2N371	Drift-Field	TO-7	.....	.....	.....	80	80	1	24	.79	.53
2N372	Drift-Field	TO-7	26.2	10	60	80	80	1	24	.79	.53
2N384*	Drift-Field	TO-44	21	50	100	60	60	1	40	1.65	1.10
2N409	Alloy	TO-40	37.8	0.455	6.7	48	48	1	13	.54	.36
2N410	Alloy	TO-1	37.8	0.455	6.7	48	48	1	13	.51	.34
2N411	Alloy	TO-40	32#	1	10	75	75	0.6	13	.58	.39
2N412	Drift-Field	TO-1	32#	1	10	75	75	0.6	13	.54	.36
2N1023	Drift-Field	TO-44	24	50	120	60	60	1	40	1.98	1.32
2N1066	Drift-Field	TO-33	24	50	120	60	60	1.5	40	1.98	1.32
2N1177	Drift-Field	TO-45	14	100	140	100	100	1	30	.83	.55
2N1178	Drift-Field	TO-45	.....	.....	140	40	40	1	30	.81	.54
2N1179	Drift-Field	TO-45	17#	100	140	80	80	1	30	.81	.54
2N1180	Drift-Field	TO-45	35	10.7	100	80	80	1.5	30	.74	.50
2N1224	Drift-Field	TO-33	27	12.5	30	60	60	1.5	40	1.24	.83
2N1225	Drift-Field	TO-33	21	50	100	60	60	1.5	40	1.40	.94
2N1226	Drift-Field	TO-33	27	12.5	30	60	60	1.5	60	1.49	.99
2N1395	Drift-Field	TO-33	27	12.5	30	90	90	1.5	40	1.49	.99
2N1396	Drift-Field	TO-33	21	50	100	90	90	1.5	40	1.65	1.10
2N1397	Drift-Field	TO-33	24	50	120	90	90	1.5	40	2.15	1.47
2N1425	Drift-Field	TO-7	51	0.455	33	50	50	1	24	.86	.57
2N1426	Drift-Field	TO-7	43.5#	1.5	33	130	130	1	24	.89	.59
2N1524	Drift-Field	TO-1	54.4	0.455	33	60	60	1	24	.51	.34
2N1525	Drift-Field	TO-40	54.4	0.455	33	60	60	1	24	.54	.36
2N1526	Drift-Field	TO-1	48.9#	1.5	33	130	130	1	24	.54	.36
2N1527	Drift-Field	TO-40	48.9#	1.5	33	130	130	1	24	.58	.39
2N1631	Drift-Field	TO-40	47.7	1.5	45	80	80	1	34	.63	.42
2N1632	Drift-Field	TO-1	47.7	1.5	45	80	80	1	34	.59	.40
2N1637	Drift-Field	TO-1	47.7	1.5	45	80	80	1	34	.63	.42
2N1638	Drift-Field	TO-1	61.5	0.262	40	75	75	1	34	.56	.37
2N1639	Drift-Field	TO-1	37#	1.5	45	75	75	1	34	.59	.40

## TYPES FOR LARGE-SIGNAL AMPLIFIER APPLICATIONS

Rugged PNP type transistors designed for transmitting and pulsing applications. Can be used in RF power amplifiers utilizing either Class A or Class B operation.

Type No.	Material and Const.	JEDEC Pkg.	Maximum Ratings			Characteristics			EACH		
			$P_d$ @ 25°C	$V_{CB}$	$I_C$	Typ. $h_{FE}$ @ $I_C$ (ma)	Typ. $f_{hfb}$	Typ. $f_T$	1-99	100-999	
			Watts	Volts	Amp	$h_{FE}$	ma	Mc	Mc		
2N109	Alloy	TO-40	0.15	25	0.07	75	50	1	.....	.69	.46
2N176	Alloy	TO-3	10	40	3	63	500	.....	45	1.88	1.25
2N217	Alloy	TO-1	0.15	25	0.07	75	50	1	.....	.66	.44
2N270	Alloy	TO-7	0.25	25	0.075	70	150	1	.....	.83	.55
2N301	Alloy	TO-3	11	32	3	70	1000	.....	.....	1.52	1.01
2N301A	Alloy	TO-3	11	32	3	70	1000	.....	.....	3.71	2.48
2N351	Alloy	TO-3	10	40	3	65	700	.....	45	2.03	1.35
2N376	Alloy	TO-3	10	40	3	78	700	.....	60	2.10	1.40
2N407	Alloy	TO-40	0.15	20	0.07	65	50	.....	.....	.45	.30
2N408	Alloy	TO-1	0.15	20	0.07	65	50	.....	.....	.41	.28
2N647†	Alloy	TO-1	0.1	25	0.05	70	50	.....	.....	1.16	.77
2N649†	Alloy	TO-1	0.1	20	0.05	65	50	.....	.....	.86	.57
2N1505	Drift-Field	TO-3	50	60	10	90	1000	.....	7.5	4.13	2.75
2N1906	Drift-Field	TO-3	50	100	10	125	5000	.....	7.5	6.60	4.40
2N2147	Drift-Field	TO-3	12.5	75	5	150	1000	.....	4	2.06	1.38
2N2148	Drift-Field	TO-3	12.5	60	5	80	1000	.....	3	1.58	1.06

## TYPES FOR SMALL-SIGNAL AMPLIFIER APPLICATIONS

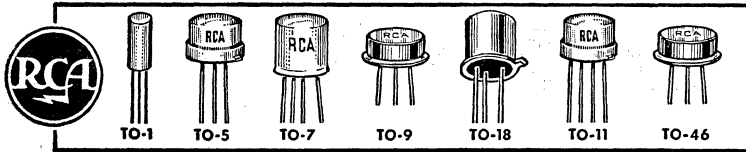
Type No.	Const.	JEDEC Pkg.	Max. Ratings		Characteristics				EACH	
			$V_{CB}$	$I_C$	Typ. $h_{FE}$ @ $I_C$ (ma)	Typ. $f_{hfb}$	Max. $I_{CBO}$	1-99	100-999	
			Volts	ma	$h_{FE}$	ma	Mc	$\mu A$		
2N104	Alloy	TO-40	30	50	44	1	0.7	10	1.65	1.10
2N175	Alloy	TO-40	10	2	65	0.5	0.85	12	1.63	1.09
2N215	Alloy	TO-1	30	50	44	1	0.7	10	1.73	1.16
2N220*	Alloy	TO-1	10	2	65	0.5	0.85	12	1.55	1.03
2N405	Alloy	TO-40	20	35	35	1	0.65	14	.40	.26
2N406	Alloy	TO-1	20	35	35	1	0.65	14	.35	.23
2N591	Alloy	TO-1	32	20	70	2	0.7	7	.58	.39
2N1010†	Alloy	TO-1	10	2	35	0.3	2	10	2.89	1.93
2N2613†	Alloy	TO-1	13	10	125	0.5	10	4	.59	.40
2N2614	Alloy	TO-1	20	50	160	1	10	6.5	.54	.36

## SEMICONDUCTOR DEVICES DESIGNED TO MEET MILITARY SPECIFICATIONS

Type	Specification	1-99, EA.	100-999, EA.
USA-1N249B	MIL-S-19500/134 (Sig C)	3.30	2.20
USA-1N250B	MIL-S-19500/134 (Sig C)	4.54	3.03
USAF-1N1199	MIL-E-1/1108 (USAF)	2.06	1.38
USAF-1N1200	MIL-E-1/1108 (USAF)	2.72	1.82
USAF-1N1201	MIL-E-1/1108 (USAF)	3.30	2.20
USAF-1N1202	MIL-E-1/1108 (USAF)	3.96	2.64
USAF-1N1203	MIL-E-1/1108 (USAF)	5.12	3.41
USAF-1N1204	MIL-E-1/1108 (USAF)	6.27	4.18
USAF-1N1205	MIL-E-1/1108 (USAF)	7.43	4.95
USAF-1N1206	MIL-E-1/1108 (USAF)	8.66	5.78
USA-1N2135A	MIL-T-19500/134 (Sig C)	7.84	5.23
JAN-2N174	MIL-T-19500/134	4.77	3.18
JAN-2N220	MIL-T-19500/1	2.06	1.38
USA-2N274	MIL-T-19500/26 (Sig C)	2.48	1.65
JAN-2N384	MIL-S-19500/27C	3.30	2.20
USN-2N388	MIL-T-19500/65 (Navy)	.61	.41
USN-2N398	MIL-S-19500/174 (Navy)	1.47	.98
USAF-2N404	MIL-T-19500/20 (USAF)	.50	.33
USA-2N1183	MIL-S-19500/143 (Sig C)	2.64	1.76
USA-2N1183A	MIL-S-19500/143 (Sig C)	3.30	2.20
USA-2N1183B	MIL-S-19500/143 (Sig C)	3.88	2.59
USA-2N1184	MIL-S-19500/143 (Sig C)	3.71	2.48
USA-2N1184A	MIL-S-19500/143 (Sig C)	4.04	2.70
USA-2N1184B	MIL-S-19500/143 (Sig C)	4.70	3.14

Type	Specification	1-99, EA.	100-999, EA.
USA-2N1224	MIL-S-19500/189 (Sig C)	2.06	1.38
USA-2N1225	MIL-S-19500/189 (Sig C)	2.31	1.54
USN-2N1302	MIL-S-19500/126A (Navy)	.51	.34
USN-2N1303	MIL-S-19500/126A (Navy)	.51	.34
USN-2N1304	MIL-S-19500/126A (Navy)	.64	.43
USN-2N1305	MIL-S-19500/126A (Navy)	.64	.43
USN-2N1306	MIL-S-19500/126A (Navy)	.86	.57
USN-2N1307	MIL-S-19500/126A (Navy)	.86	.57
USN-2N1308	MIL-S-19500/126A (Navy)	1.19	.79
USN-2N1309	MIL-S-19500/126A (Navy)	1.19	.79
USN-2N1412	MIL-S-19500/76 (Navy)	6.52	4.34
USA-2N1479	MIL-S-19500/207 (Sig C)	3.47	2.31
USA-2N1480	MIL-S-19500/207 (Sig C)	3.80	2.53
USA-2N1481	MIL-S-19500/207 (Sig C)	4.13	2.75
USA-2N1482	MIL-S-19500/207 (Sig C)	4.95	3.30
USA-2N1483	MIL-S-19500/180 (Sig C)	5.36	3.58
USA-2N1484	MIL-S-19500/180 (Sig C)	6.60	4.40
USA-2N1485	MIL-S-19500/180 (Sig C)	8.25	5.50
USA-2N1486	MIL-S-19500/180 (Sig C)	11.14	7.43
USA-2N1513	MIL-S-19500/208 (Sig C)	26.50	11.00
USA-2N1514	MIL-S-19500/208 (Sig C)	13.95	15.95
USN-2N1853	MIL-S-19500/171A (Navy)	1.32	.88
USN-2N1854	MIL-S-19500/172A (Navy)	1.65	1.10
USA-2N2273M	MIL-S-19500/244A (EL)	4.95	3.30

# RCA Semiconductors



## EXPLANATION OF COLUMN HEADINGS, SYMBOLS

**C<sub>o</sub>**—output cap.      **V<sub>CE</sub>**—col-emitter v.  
**f<sub>T</sub>**—gain-bandwidth    **V<sub>CEX</sub>**—c-e v. rev. bias  
**h<sub>FE</sub>**—fwd DC ratio    **V<sub>CE(sus)</sub>**—c-e sus v.  
**I<sub>c</sub>**—DC coll. cur.      †—NPN, others PNP  
**P<sub>d</sub>**—total dissip.      \*alpha, beta cutoff

### GERMANIUM AND SILICON COMPUTER SWITCHING TRANSISTORS

#### TYPES FOR LOW-SPEED SWITCHING APPLICATIONS

Type No.	Material and Const.		JEDEC Pkg.	Min. f <sub>T</sub> (mc)	Min. h <sub>FE</sub> @I <sub>c</sub> (ma)	Max. C <sub>ob</sub> (pf)	Max. P <sub>d</sub> (mw)	Max. V <sub>CE</sub> (volts)	EACH	
									1-99	100-999
2N398A	Ge	Alloy	TO-5	20	5	.....	50	105	.61	.41
2N388A	Ge	Alloy	TO-5	20	5	.....	150	105	1.12	.75
2N388B	Ge	Alloy	TO-5	20	5	.....	250	105	1.30	.87
2N586	Ge	Alloy	TO-7	35	250	.....	250	105	1.73	1.16

#### TYPES FOR MEDIUM-SPEED SWITCHING APPLICATIONS

Type No.	Material and Const.		JEDEC Pkg.	Min. f <sub>T</sub> (mc)	Min. h <sub>FE</sub> @I <sub>c</sub> (ma)	Max. C <sub>ob</sub> (pf)	Max. P <sub>d</sub> (mw)	Max. V <sub>CE</sub> (volts)	EACH		
									1-99	100-999	
2N269	Ge	Alloy	TO-1	13*	24	24	20	120	24	1.98	1.32
2N388†	Ge	Alloy	TO-5	5*	30	200	.....	150	20	.59	.40
2N388A†	Ge	Alloy	TO-5	5*	30	200	.....	150	20	2.57	1.72
2N395	Ge	Alloy	TO-5	3*	20	10	20	150	15	.66	.44
2N396	Ge	Alloy	TO-5	5*	30	10	20	150	20	.84	.56
2N396A	Ge	Alloy	TO-5	5*	30	10	20	200	20	.84	.56
2N397	Ge	Alloy	TO-5	10*	40	10	20	150†	15	1.34	.89
2N404	Ge	Alloy	TO-5	13*	24	24	20	150	24	.41	.28
2N404A	Ge	Alloy	TO-5	4*	24	24	20	150	35	.58	.39
2N414	Ge	Alloy	TO-5	80*	80	.....	11	150	15	.41	.28
2N578	Ge	Alloy	TO-9	3*	10	400	.....	120	14	.99	.66
2N579	Ge	Alloy	TO-9	5*	20	400	.....	120	14	1.57	1.05
2N580	Ge	Alloy	TO-9	10*	30	400	.....	120	14	2.06	1.38
2N581	Ge	Alloy	TO-5	4*	20	20	20	150	15	.50	.33
2N582	Ge	Alloy	TO-5	14*	40	24	20	150	14	.99	.66
2N583	Ge	Alloy	TO-1	4*	20	20	20	120	15	.83	.55
2N584	Ge	Alloy	TO-1	14*	40	24	12	120	14	3.22	2.15
2N585†	Ge	Alloy	TO-9	3*	20	20	25	120	15	.99	.66
2N794	Ge	Mesa	TO-18	25	30	10	12	150	13	1.49	.99
2N795	Ge	Mesa	TO-18	35	30	10	12	150	12	1.98	1.32
2N796	Ge	Mesa	TO-18	50	50	10	12	150	12	2.89	1.93
2N828	Ge	Mesa	TO-18	300	25	10	6	150	15	3.30	2.20
2N834†	Si	Planar-epitaxial	TO-18	350	25	10	4	300	30	4.13	2.75
2N914†	Si	Planar-epitaxial	TO-18	300	30	10	6	360	15	3.71	2.48
2N955†	Ge	Mesa	TO-18	1000	30	30	6	150	8	4.79	3.19
2N955A†	Ge	Epitaxial	TO-18	1000	30	30	6	150	8	5.36	3.58
2N1300	Ge	Mesa	TO-5	25	30	10	12	150	12	1.16	.77
2N1301	Ge	Mesa	TO-5	35	30	10	12	150	12	1.49	.99
2N1384	Ge	Drift-Field	TO-11	20	20	200	.....	240	30	2.06	1.38
2N1450	Ge	Drift-Field	TO-9	.....	20	10	.....	120	20	2.06	1.38
2N1683	Ge	Mesa	TO-5	50	50	10	12	150	12	1.65	1.10
2N1711†	Si	Triple-diffused-planar	TO-5	70	100	150	25	800	50	3.47	2.31
2N1853	Ge	Mesa	TO-5	.....	30	6	.....	150	6	1.32	.88
2N1854	Ge	Mesa	TO-5	40	40	20	12	150	6	1.65	1.10
2N2273	Ge	Mesa	TO-18	200	20	1	3.5	100	15	4.13	2.75
2N2475†	Si	Planar-epitaxial	TO-18	600	20	50	3	300	6	6.19	4.13
2N2476†	Si	Planar-epitaxial	TO-5	250	20	150	10	600	20	3.71	2.48
2N2477†	Si	Planar-epitaxial	TO-5	250	20	150	10	600	20	6.19	4.13
2N2482†	Ge	Mesa	TO-18	300	25	2	4.5	150	20	6.19	4.13
2N1090†	Ge	Alloy	TO-9	5*	30	20	25	120	15	1.24	.83
2N1091†	Ge	Alloy	TO-9	10*	40	20	25	120	12	1.57	1.05
2N1169†	Ge	Bidirectional	TO-5	4.5*	20	200	19	120	18	1.98	1.32
2N1170†	Ge	Bidirectional	TO-5	4.5*	20	200	19	120	20	3.71	2.48
2N1302†	Ge	Alloy	TO-5	3*	20	10	20	150	25	.50	.33
2N1303	Ge	Alloy	TO-5	3*	20	10	20	150	30	.50	.33
2N1304†	Ge	Alloy	TO-5	5*	40	10	20	150	25	.61	.41
2N1305	Ge	Alloy	TO-5	5*	40	10	20	150	30	.48	.32
2N1306†	Ge	Alloy	TO-5	10*	60	10	20	150	25	.79	.53
2N1307	Ge	Alloy	TO-5	10*	60	10	20	150	30	.79	.53
2N1308†	Ge	Alloy	TO-5	15*	80	10	20	150	25	1.11	.74
2N1309	Ge	Alloy	TO-5	15*	80	10	20	150	30	1.07	.72
2N1319	Ge	Bidirectional	TO-5	4.5*	20	200	19	120	21	1.65	1.10
2N1605†	Ge	Alloy	TO-5	4*	24	24	20	150	24	1.24	.83
2N1605A†	Ge	Alloy	TO-5	4*	24	24	20	200	40	1.50	1.00

Draw on the world's largest, most complete stocks of RCA semiconductors. All orders are shipped the same day they are received.

### GERMANIUM AND SILICON COMPUTER SWITCHING TRANSISTORS

#### TYPES FOR HIGH-SPEED SWITCHING APPLICATIONS

Type No.	Material and Const.		JEDEC Pkg.	Min. f <sub>T</sub> (mc)	Min. h <sub>FE</sub> @I <sub>c</sub> (ma)	Max. C <sub>ob</sub> (pf)	Max. P <sub>d</sub> (mw)	Max. V <sub>CE</sub> (volts)	EACH		
									1-99	100-999	
2N643	Ge	Drift-Field	TO-9	20	20	5	120	29	1.40	.94	
2N644	Ge	Drift-Field	TO-9	40	20	5	120	29	1.65	1.10	
2N645	Ge	Drift-Field	TO-9	60	20	5	120	29	2.64	1.76	
2N696†	Si	Diffused-Junction	TO-9	80	20	150	35	600	40	1.57	1.05
2N697†	Si	Diffused-Junction	TO-5	100	40	150	35	600	40	2.06	1.38
2N705	Ge	Mesa	TO-5	300	25	10	5	150	15	1.98	1.32
2N706†	Si	Mesa	TO-18	200	20	10	6	300	20	1.32	.88
2N706A†	Si	Mesa	TO-18	200	20	10	.....	300	20	1.82	1.21
2N708†	Si	Planar-epitaxial	TO-18	.....	30	10	6	360	20	2.06	1.38
2N709†	Si	Planar-epitaxial	TO-18	600	15	30	3	300	6	8.25	5.50
2N710	Ge	Mesa	TO-18	300	25	10	5	150	15	1.73	1.16
2N711	Ge	Mesa	TO-18	200	20	10	5	150	12	1.16	.77
2N1613†	Si	Triple-diffused-planar	TO-5	60	20	0.1	25	800	50	2.89	1.93
2N1708†	Si	Planar-epitaxial	TO-46	200	20	10	6	300	25	3.30	2.20
2N2102†	Si	Triple-diffused-planar	TO-5	60	10	0.1	15	1000	80	4.13	2.75
2N2205†	Si	Planar-epitaxial	TO-18	200	20	10	6	300	25	3.30	2.20
2N2206†	Si	Planar-epitaxial	TO-46	200	40	10	6	300	25	3.71	2.48
2N2270†	Si	Triple-diffused-planar	TO-5	60	50	150	15	1000	60	2.06	1.38

### SILICON AND GERMANIUM POWER TRANSISTORS MEDIUM-POWER TYPES

Type No.	Material and Const.		JEDEC Pkg.	Max. P <sub>d</sub> (w)	Min. V <sub>CE</sub> (v)	Min. V <sub>CE(sus)</sub> (v)	Min. h <sub>FE</sub> @I <sub>c</sub> (amp)	Max. V <sub>CE(sat)</sub> (v @ I <sub>c</sub> )	Typ. f <sub>T</sub> (mc)	EACH	
										1-99	100-999
2N1092†	Si	Alloy	TO-5	2	60	.....	15 @ 2	2 @ 2	1.5*	10.75	7.15
2N699†	Si	Planar	TO-5	2	80	80	40 @ .15	8 @ .15	50	2.89	1.93
2N1613†	Si	PI-Ep.	TO-5	3	50	.....	35 @ .01	1.5 @ .15	60	3.71	2.48
2N497†	Si	Alloy	TO-5	4	60	.....	12 @ 2	13.5 @ 2	.....	3.30	2.20
2N656†	Si	Alloy	TO-5	4	60	.....	30 @ 2	13.5 @ 2	.....	4.13	2.75
2N1067†	Si	Alloy	TO-18	5	60	.....	15 @ 2	2 @ 2	1.5*	20.95	13.95
2N1479†	Si	Alloy	TO-5	5	60	40	20 @ 2	1.4 @ 2	1.5*	3.47	2.31
2N1481†	Si	Alloy	TO-5	5	60	40	35 @ 2	1.4 @ 2	1.5*	3.30	2.20
2N1700†	Si	Alloy	TO-5	5	60	40	20 @ 1	1 @ 1	.....	2.23	1.49
2N2270†	Si	PI-Ep.	TO-5	5	60	45	35 @ .001	.9 @ .15	60	2.06	1.38
2N1480†	Si	Alloy	TO-5	5	100	55	20 @ 2	1.4 @ 2	1.5*	4.13	2.75
2N1482†	Si	Alloy	TO-5	5	100	55	35 @ 2	1.4 @ 2	1.5*	5.78	3.85
2N2102†	Si	PI-Ep.	TO-5	5	80	65	35 @ .01	.5 @ .15	60	4.95	3.30

### INTERMEDIATE-POWER TYPES

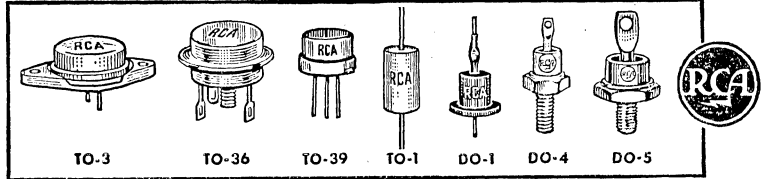
Type No.	Material and Const.		JEDEC Pkg.	Max. P <sub>d</sub> (w)	Min. V <sub>CE</sub> (v)	Min. V <sub>CE(sus)</sub> (v)	Min. h <sub>FE</sub> @I <sub>c</sub> (amp)	Max. V <sub>CE(sat)</sub> (v @ I <sub>c</sub> )	Typ. f <sub>T</sub> (mc)	EACH	
										1-99	100-999
2N1183	Ge	Alloy	TO-8	7.5	45	.....	20 @ 4	5 @ 4	0.5*	1.82	1.21
2N1184	Ge	Alloy	TO-8	7.5	45	.....	40 @ 4	5 @ 4	0.5*	2.48	1.65
2N1183A	Ge	Alloy	TO-8	7.5	60	.....					

# RCA Transistors and Rectifiers

## COLUMN HEADINGS

(See also preceding pages)

**VRM(rep)**—repetitive peak reverse voltage  
**VRM(non rep)**—non rep. trans. peak rev. v.  
**VF(BOM(rep))**—rep. peak fwd blocking voltage  
**IF(av)**—average forward current  
**IFM(surge)**—peak surge current  
**IGT**—maximum DC gate trigger current  
 †—NPN, others PNP. \*alpha, ‡beta cutoff



## SILICON AND GERMANIUM POWER TRANSISTORS HIGH-POWER TYPES

Type No.	Material and Const.	JEDEC Pkg.	Max. P <sub>o</sub> (w)	Min. V <sub>CEX</sub> (v)	Min. V <sub>CE(sat)</sub> (v)	Min. h <sub>FE</sub> @ I <sub>C</sub> (amp)	Max. V <sub>CE(sat)</sub> (v @ I <sub>C</sub> )	Typ. I <sub>T</sub> (mc)	EACH	
									1-99	100-999
2N1069†	Si Alloy	TO-3	50	60	10 @ 1.5	3 @ 1.5	1.2*	49.90	33.30	
2N1070†	Si Alloy	TO-3	50	60	20 @ 1.5	1 @ 1.5	1.2*	64.95	43.30	
2N1487†	Si Alloy	~TO-3	75	60	15 @ 1.5	3 @ 1.5	1*	6.60	4.40	
2N1489†	Si Alloy	~TO-3	75	60	25 @ 1.5	3 @ 1.5	1*	9.90	6.60	
2N1513†	Si Alloy	TO-36	75	60	15 @ 1.5	3 @ 1.5	1*	8.25	5.50	
2N1513†	Si Alloy	TO-36	75	60	25 @ 1.5	1 @ 1.5	1	12.40	8.25	
2N1702†	Si Alloy	TO-3	75	60	15 @ 3	3.2 @ 3	.....	6.19	4.13	
2N1703†	Si Alloy	TO-36	75	60	15 @ 3	3.2 @ 3	.....	7.43	4.95	
2N1488†	Si Alloy	~TO-3	75	100	15 @ 1.5	3 @ 1.5	1*	9.90	6.60	
2N1490†	Si Alloy	~TO-3	75	100	25 @ 1.5	1 @ 1.5	1*	16.50	11.00	
2N1512†	Si Alloy	TO-36	75	100	15 @ 1.5	3 @ 1.5	1	9.90	6.60	
2N1514†	Si Alloy	TO-36	75	100	25 @ 1.5	1 @ 1.5	1	19.80	13.20	
2N227†	Ge Alloy	TO-36	150	40	35 @ 5	7 @ 12	10‡	3.00	2.00	
2N441	Ge Alloy	TO-36	150	40	20 @ 5	7 @ 12	10‡	2.67	1.78	
2N278†	Ge Alloy	TO-36	150	50	35 @ 5	7 @ 12	10‡	3.10	2.07	
2N442	Ge Alloy	TO-36	150	50	20 @ 5	7 @ 12	10‡	3.14	2.09	
2N173†	Ge Alloy	TO-36	150	60	35 @ 5	7 @ 12	10‡	3.75	2.50	
2N174†	Ge Alloy	TO-36	150	60	25 @ 5	7 @ 12	10‡	4.01	2.67	
2N443†	Ge Alloy	TO-36	150	60	20 @ 5	7 @ 12	10‡	2.08	1.39	
2N1099†	Ge Alloy	TO-36	150	.....	35 @ 5	3 @ 12	10‡	4.31	2.87	
2N1100	Ge Alloy	TO-36	150	.....	25 @ 5	3 @ 12	10‡	5.02	3.34	
2N1358†	Ge Alloy	TO-36	150	.....	25 @ 5	7 @ 12	100‡	4.59	3.06	
2N1412†	Ge Alloy	TO-36	150	.....	25 @ 5	7 @ 12	10‡	5.76	3.84	
2N2338†	Si Alloy	TO-36	150	60	15 @ 3	1.5 @ 3	.....	14.85	9.90	
2N2015†	Si Alloy	TO-36	150	100	15 @ 5	1.25 @ 5	25kc‡	13.20	8.80	
2N2016†	Si Alloy	TO-36	150	130	15 @ 5	1.25 @ 5	25kc‡	19.80	13.20	

## VHF AMPLIFIER TRANSISTORS

Type No.	Material	JEDEC Pkg.	PRV (v)	Max. P <sub>o</sub> (mW)	Min. V <sub>CEX</sub> (v)	Min. V <sub>CE(sat)</sub> (v)	Min. h <sub>FE</sub> @ I <sub>C</sub> (amp)	Max. V <sub>CE(sat)</sub> (v @ I <sub>C</sub> )	Typ. I <sub>T</sub> (mc)	Max. I <sub>R</sub> (ma)	1-99	100-999
2N1491†	Si Alloy	TO-12	500mV	30	.....	50 @ .015	.....	.....	15db	4.13	4.13	2.75
2N1492†	Si Alloy	TO-12	500mV	60	.....	50 @ .015	.....	.....	15db	6.60	6.60	4.40
2N1493†	Si Alloy	TO-12	500mV	100	.....	50 @ .015	.....	.....	16db	9.90	9.90	6.60

## SILICON DIFFUSED-JUNCTION RECTIFIERS TUBULAR SINGLE-ENDED TYPES

Type No.	JEDEC Pkg.	PRV (v)	IF(av) @ T <sub>FA</sub> = °C		IF peak rep (amp)	IF peak surge (amp)	Max. E <sub>FWD</sub> (v)	Max. I <sub>R</sub> (ma)	EACH	
			(amp)	°C					1-99	100-999
IN3754	TO-1	100	0.125	65	1.3	30	1	0.3	.36	.24
IN3755	~TO-1	200	0.125	65	1.3	30	1	0.3	.40	.26
IN3756	~TO-1	400	0.125	65	1.3	30	1	0.3	.45	.30

## AXIAL-LEAD TYPES

Type No.	JEDEC Pkg.	PRV (v)	IF(av) @ T <sub>FA</sub> = °C	IF peak rep (amp)	IF peak surge (amp)	Max. E <sub>FWD</sub> (v)	Max. I <sub>R</sub> (ma)	1-99	100-999		
IN2858	DO-1	50	.75	75	.....	40	1.2	0.4	.40	.26	
IN2859	DO-1	100	.75	75	.....	40	1.2	0.4	.41	.28	
IN3193	~TO-1	200	.75	75	6	35	1.2	0.2	.41	.28	
IN3253	DO-1	200	Insulated version of IN3193				40	1.2	0.4	.45	.30
IN2860	DO-1	200	.75	75	.....	40	1.2	0.4	.43	.29	
IN2861	DO-1	300	.75	75	.....	40	1.2	0.3	.56	.37	
IN3194	~TO-1	400	.75	75	6	35	1.2	0.2	.58	.39	
IN3254	DO-1	400	Insulated version of IN3194				40	1.2	0.3	.61	.41
IN2862	DO-1	400	.75	75	.....	40	1.2	0.3	.66	.44	
IN2863	DO-1	500	.75	75	.....	40	1.2	0.3	.73	.48	
IN3195	~TO-1	600	.75	75	6	35	1.2	0.2	.91	.61	
IN3255	DO-1	600	Insulated version of IN3195				40	1.2	0.3	.94	.63
IN3196	TO-1	800	.75	75	5	35	1.2	0.2	1.24	.83	
IN3256	DO-1	800	Insulated version of IN3196				40	1.2	0.3	1.27	.85
IN3563	~TO-1	1000	.4	75	4	35	1.2	0.2	1.65	1.10	

## HIGH VOLTAGE TYPES

Type No.	PRV (v)	IF(av) @ T <sub>FA</sub> = °C		IF peak rep (amp)	IF peak surge (amp)	Max. E <sub>FWD</sub> (v)	Max. I <sub>R</sub> (ma)	EACH	
		(amp)	°C					1-29	30-Up
CR101	1200	0.85	60	5	15	1.2	0.3	6.00	5.50
CR201	1500	0.3	60	3	9	1.8	0.1	4.80	4.40
CR102	2000	0.825	60	5	15	2.4	0.3	8.40	7.70
CR103	3000	0.725	60	5	15	3	0.3	9.60	8.80
CR203	3000	0.3	60	3	9	3	0.1	7.20	6.60
CR104	4000	0.625	60	5	15	4.2	0.3	11.40	10.45
CR204	4500	0.3	60	3	9	3.6	0.1	9.60	8.80
CR105	5000	0.625	60	5	15	4.8	0.3	13.20	12.10
CR106	6000	0.575	60	5	15	6	0.3	15.60	14.30
CR206	6000	0.3	60	3	9	6	0.1	13.20	12.10
CR107	7000	0.55	60	5	15	7.2	0.3	18.00	16.50

## SILICON DIFFUSED-JUNCTION RECTIFIERS HIGH VOLTAGE TYPES (Cont'd)

Type No.	PRV (v)	IF(av) @ T <sub>FA</sub> = °C		IF peak rep (amp)	IF peak surge (amp)	Max. E <sub>FWD</sub> (v)	Max. I <sub>R</sub> (ma)	EACH	
		(amp)	°C					1-29	30-Up
CR108	8000	0.55	60	5	15	7.8	0.3	20.40	18.70
CR208	8000	0.3	60	3	9	6	0.1	16.80	15.40
CR109	9000	0.65	60	5	15	9	0.3	24.00	22.00
CR110	10000	0.55	60	5	15	9.6	0.3	26.40	24.20
CR210	10000	0.3	60	3	9	7.2	0.1	20.40	18.70
CR212	12000	0.3	60	3	9	7.2	0.1	23.40	21.45

## AXIAL-LEAD TYPES FOR TV AND RADIO

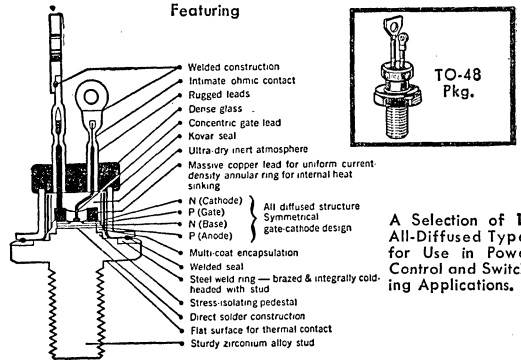
Type No.	JEDEC Pkg.	IF(av) @ T <sub>FA</sub> = °C		PRV (v)	IF peak rep (amp)	IF peak surge (amp)	Max. E <sub>FWD</sub> (v)	Max. I <sub>R</sub> (ma)	EACH	
		(amp)	°C						1-99	100-999
IN1763	DO-1	0.5	75	400	5	35	3	0.1	.58	.39
IN1764	DO-1	0.5	75	500	5	35	3	0.1	.69	.46

## AXIAL-LEAD TYPES FOR MILITARY AND INDUSTRIAL USE

Type No.	JEDEC Pkg.	PRV (v)	IF(av) @ T <sub>FA</sub> = °C	IF peak rep (amp)	IF peak surge (amp)	Max. E <sub>FWD</sub> (v)	Max. I <sub>R</sub> (ma)	1-99	100-999	
IN4448	DO-1	0.65	50	500	3.5	15	1.5	1.75 μa	1.24	.83
IN4458	DO-1	0.65	50	600	3.5	15	1.5	2 μa	1.60	1.07
IN536	DO-1	0.75	50	50	.....	15	1.1	5 μa	.45	.30
IN4408	DO-1	0.75	50	100	3.5	15	1.5	0.3 μa	.73	.48
IN537	DO-1	0.75	50	100	.....	15	1.1	5 μa	.50	.33
IN4418	DO-1	0.75	50	200	3.5	15	1.5	0.75 μa	.76	.51
IN538	DO-1	0.75	50	200	.....	15	1.1	5 μa	.53	.35
IN4428	DO-1	0.75	50	300	3.5	15	1.5	1 μa	.87	.58
IN539	DO-1	0.75	50	300	.....	15	1.1	5 μa	.59	.40
IN4438	DO-1	0.75	50	400	3.5	15	1.5	1.5 μa	1.09	.73
IN540	DO-1	0.75	50	400	.....	15	1.1	5 μa	.68	.45
IN1095	DO-1	0.75	50	500	.....	15	1.2	5 μa	.76	.51
IN547	DO-1	0.75	50	600	.....	15	1.2	5 μa	.96	.64

## SILICON CONTROLLED RECTIFIERS

Featuring



A Selection of 18 All-Diffused Types for Use in Power Control and Switching Applications.

Type No.	JEDEC Pkg.	VRM (non-rep) (volts)	VRM(rep) & VF(BOM(rep)) (volts)	IF(av) @ 65°C or 80°C (amp)	IFM (amp)	Max. IGT @ 125°C	EACH	
							1-99	100-999
2N681	TO-48	35	25	16	150	25	8.60	5.70
2N682	TO-48	75	50	16	150	25	9.40	6.25
2N683	TO-48	150	100	16	150	25	10.50	7.00
2N684	TO-48	225	150	16	150	25	12.70	8.45
2N685	TO-48	300	200	16	150	25	14.85	9.90
2N686	TO-48	350	250	16	150	25	18.00	12.00
2N687	TO-48	400	300	16	150	25	20.95	14.00
2N688	TO-48	500	400	16	150	25	26.25	17.50





# RCA Semiconductors

## EXPLANATION OF COLUMN HEADINGS

**BVR**—rev. breakdown voltage  
**C<sub>j</sub>**—junction capacitance  
**EFWD**—forward voltage drop  
**I<sub>C</sub>**—DC collector current

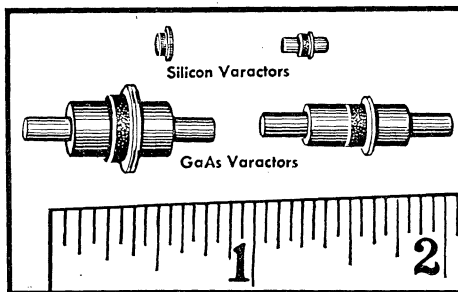
**I<sub>C(sus)</sub>**—sustaining collector current  
**I<sub>F</sub>**—av. rectified forward current  
**I<sub>P</sub>**—peak-to-point current  
**I<sub>P/V</sub>**—peak-to-valley current ratio

**I<sub>R</sub>**—reverse current  
**P<sub>d</sub>**—transistor dissipation  
**PRV**—peak reverse voltage  
**t<sub>r</sub>**—maximum rise time

**t<sub>f</sub>**—maximum fall time  
**V<sub>CB</sub>**—max. collector-to-base voltage  
**V<sub>F</sub>**—max. forward voltage  
**V<sub>R</sub>**—max. reverse voltage

## GALLIUM ARSENIDE VARACTORS

RCA presents a selection of 28 developmental varactor types featuring low noise parametric amplification to frequencies above the X Band and efficient harmonic generation to the K Band. In hermetically sealed cases with welded ceramic-to-metal seals. Resist shock to 15G; acceleration to 20,000G. Have broad temperature range—from -196° to +150°C—high radiation resistance, cut-off to 225 Kmc. Meet MIL-S-19500 specs.



## SILICON POWER VARACTORS

New, diffused-junction, silicon epitaxial varactor diodes. Designed for high-power applications in the VHF and UHF bands. Offer breakdown voltages to 200 volts; dissipation to 12 watts. In hermetically sealed, ceramic-metal packages. Feature low leakage current—no greater than 10 microamps at reverse breakdown voltage; low package inductance—up to 4 times less than conventional cartridge diodes. Designed to meet MIL-S-19500 specs.

### 6-VOLT GALLIUM ARSENIDE VARACTORS

Have very low noise figure—less than 3 db @ 25°C in non-degenerate X-Band paramps. Power diss. to 200 mw. Characteristics below at 25°C. Cut-off freq.: 50-225 kmc, measured @ -6 v., 10 kmc.

Type No.	Pkg.	C <sub>j</sub> @ -6 v. (pf) max.	EACH	Type No.	Pkg.	C <sub>j</sub> @ -6 v. (pf) max.	EACH
VD110	PiHl	0.8	30.00	VD210	Prong	0.8	30.00
VD110A	PiHl	0.3	55.00	VD210A	Prong	0.3	55.00
VD111	PiHl	0.8	40.00	VD211	Prong	0.8	40.00
VD111A	PiHl	0.3	65.00	VD211A	Prong	0.3	65.00
VD112	PiHl	0.8	50.00	VD212	Prong	0.8	50.00
VD112A	PiHl	0.3	80.00	VD212A	Prong	0.3	80.00
VD113	PiHl	0.8	65.00	VD213	Prong	0.8	65.00
VD113A	PiHl	0.3	100.00	VD213A	Prong	0.3	100.00
VD114	PiHl	0.8	85.00	VD214	Prong	0.8	85.00
VD114A	PiHl	0.3	125.00	VD214A	Prong	0.3	125.00
VD115	PiHl	0.8	110.00	VD215	Prong	0.8	110.00
VD115A	PiHl	0.3	155.00	VD215A	Prong	0.3	155.00
VD116	PiHl	0.8	140.00	VD216	Prong	0.8	140.00
VD116A	PiHl	0.3	190.00	VD216A	Prong	0.3	190.00
VD117	PiHl	0.8	180.00	VD217	Prong	0.8	180.00
VD117A	PiHl	0.3	235.00	VD217A	Prong	0.3	235.00

### SILICON VHF POWER VARACTORS

All have 10 kmc minimum cut-off frequency at breakdown (measured at 2 kmc). Have working voltages up to 200 volts.

Type No.	C <sub>j</sub> @ Working Voltage (pf) minimum	Working Voltage (volts) minimum	EACH
VD 500	4-10	125	15.00
VD 501	4-9	150	25.00
VD 502	4-8	175	40.00
VD 503	4-8	200	60.00

### SILICON UHF POWER VARACTORS

Have cut-off freq. to 50 kmc at breakdown; wkg. voltages to 200 v.

Type No.	C <sub>j</sub> @ -6 v. (pf) minimum	Working Voltage (volts) minimum	EACH
VD 510	1-2.5	125	30.00
VD 511	1-2	150	45.00
VD 512	1-2	175	75.00
VD 513	1-2	200	100.00
VD 520	1-2.5	125	45.00
VD 521	1-2	150	70.00
VD 522	1-2	175	100.00
VD 523	1-2	200	150.00

### 30-VOLT GALLIUM ARSENIDE VARACTORS

Cut-off frequency is measured at 10 kmc. Power dissipation is up to 500 mw. All characteristics below are given for T<sub>A</sub> = 25°C.

Type No.	Cut-off Frequency		C <sub>j</sub> (pf)	EACH
	f <sub>c</sub> @ -6 v. min	f <sub>c</sub> @ -30 v. typ.		
VD 310	20	35	0.22-1.5	20.00
VD 311	40	70	0-22.1.4	30.00
VD 312	60	110	0.22-1.3	50.00

Type No.	Cut-off Frequency		C <sub>j</sub> (pf)	EACH
	f <sub>c</sub> @ -6 v. min	f <sub>c</sub> @ -30 v. typ.		
VD 313	80	145	0.22-1.2	100.00
VD 314	100	180	0.22-1.1	150.00
VD 315	120	220	0.22-1.0	200.00

### THYRISTOR (BISTABLE) TYPES

In TO-5 cases. All have V<sub>CB</sub>, 25 v.; I<sub>C</sub>, 100 ma; P<sub>d</sub> @ 25°C, 75 ma.

Type No.	Max. I <sub>C(sus)</sub> (ma)	Max. I <sub>F</sub> (ma)	Max. I <sub>R</sub> (ma)	"Turn-On"		"Turn-Off"		"On" I <sub>C</sub> (ma)	EACH	
				Delay μsec	Rise μsec	Storage μsec	Fall μsec		1-99	100-999
2N1213	8	0.5	3 @ 10	5	15	50	60	10	4.54	3.03
2N1214	18	1.0	7 @ 20	6	15	50	50	20	4.54	3.03
2N1215	26	1.5	10 @ 30	6	15	35	30	30	4.54	3.03
2N1216	45	5.0	...	7	20	...	...	50	2.97	1.98

### GERMANIUM TUNNEL DIODES

Type No.	Material and Construction	JEDEC Pkg.	Max. I <sub>p</sub> (ma)	Min. I <sub>p</sub> (ma)	Max. P (mW)	EACH	
						1-99	100-999
IN3128	Ge	Special RCA	5 ± 5%	8:1	15	12.38	8.25
IN3847	Ge	Epitaxial Special RCA	5 ± 10%	6:1	25	4.95	3.30
IN3852	Ge	Epitaxial Special RCA	5 ± 5%	8:1	15	11.39	7.59
IN3857	Ge	Epitaxial Special RCA	5 ± 5%	8:1	8	14.85	9.90
IN3848	Ge	Epitaxial Special RCA	10 ± 10%	6:1	25	4.95	3.30
IN3853	Ge	Epitaxial Special RCA	10 ± 5%	8:1	15	11.39	7.59
IN3854	Ge	Epitaxial Special RCA	10 ± 5%	8:1	8	14.85	9.90
IN3129	Ge	...	20 ± 5%	8:1	20	11.47	7.65
IN3849	Ge	Epitaxial Special RCA	20 ± 10%	6:1	30	4.95	3.30
IN3854	Ge	Epitaxial Special RCA	20 ± 5%	8:1	20	11.39	7.59
IN3859	Ge	Epitaxial Special RCA	20 ± 5%	8:1	10	14.85	9.90
IN3130	Ge	...	50 ± 5%	8:1	25	12.38	8.25
IN3138	GaAs	...	50 ± 5%	13:1	30	36.30	24.20
IN3850	Ge	Epitaxial Special RCA	50 ± 10%	6:1	40	4.95	3.30
IN3855	Ge	Epitaxial Special RCA	50 ± 5%	8:1	25	11.39	7.59
IN3860	Ge	Epitaxial Special RCA	50 ± 5%	8:1	12	14.85	9.90
IN3851	Ge	Epitaxial Special RCA	100 ± 10%	6:1	40	4.95	3.30
IN3856	Ge	Epitaxial Special RCA	100 ± 5%	8:1	25	11.39	7.59

### MULTIPLE DIODES

Type No.	Material and JEDEC Pkg.	Min. BV <sub>R</sub> (v)	Max. V <sub>F</sub> (v)	Max. I <sub>F</sub> (v)	Max. I <sub>R</sub> @ 55°C (μa)	EACH	
						1-99	100-999
2 DG 001	Ge TO-33	20	0.4	40	15	1.62	1.08
3 DG 001	Ge TO-33	20	0.4	40	15	2.34	1.56

### GERMANIUM COMPENSATING DIODE

Type No.	Material and JEDEC Pkg.	V <sub>R</sub> (v)	I <sub>F</sub> (ma)	EFWD @ 25°C @ I <sub>F</sub> = 2 ma (mw)	EACH	
					1-99	100-999
IN2326	Ge TO-1	1	10	135	.50	.33

### DIGITAL MICROCIRCUIT

Type No.	Max. Number		Typ. t <sub>r</sub> (nsec)	Typ. t <sub>f</sub> (nsec)	Typ. Stage Delay / (nsec)	Noise Immunity		EACH
	Inputs	Outputs				Off (v)	On (v)	
DMC-100	15	5	11	10	7	1.5	1.5	33.00

### GERMANIUM TUNNEL RECTIFIERS

Type No.	Material and JEDEC Pkg.	Min. I <sub>p</sub> (ma)	Max. V <sub>R</sub> (mv)		Min. V <sub>F</sub> @ I <sub>F</sub> = 1 ma	Max. C (pf)	EACH	
			I <sub>R</sub> = 30 ma	I <sub>R</sub> = 10 ma			1-99	100-999
IN 3861	Ge/Spec. Pkg.	.01	...	170	400	6	6.19	4.13
IN 3862	Ge/Spec. Pkg.	.01	300	150	420	4	11.39	7.59
IN 3863	Ge/Spec. Pkg.	.01	300	150	435	4	14.85	9.90

RCA Transistor Manual, SC-10. Includes rect., diodes. 5 3/4 x 8 3/8". 37 K 683

RCA Tunnel-Diode Manual, TD-30. Contains 160 pgs. 5 3/4 x 8 3/8". 37 K 727

# RCA Silicon Power Rectifiers

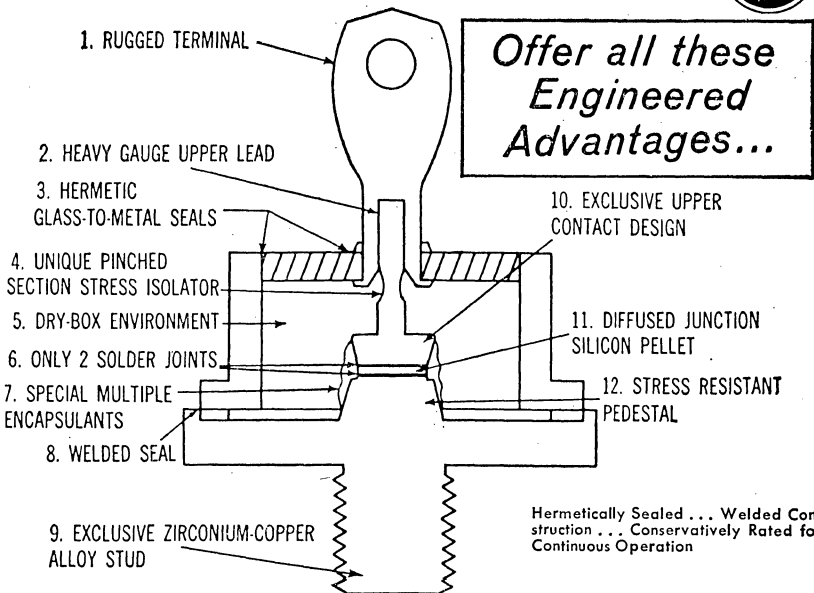
## STUD MOUNTED SILICON RECTIFIERS...



RCA presents a series of stud-mounted, diffused-junction type silicon rectifiers engineered to provide a high degree of quality and dependability. Designed specifically for service in heavy-duty military and industrial power supplies, these rugged power rectifiers incorporate the finest of materials in their construction, as well as an engineering concept that embodies balanced electrical and mechanical ruggedness through solid construction at every critical point. Check the important construction features listed in the cross-sectional view at right.

Long term life-testing and field experience have proven the soundness of this important RCA design concept. Units are conservatively rated for continuous operation over long periods of time. These fine rectifiers provide the added reliability and large safety factors so important in critical military and industrial power rectification applications.

Allied maintains large stocks of these RCA stud-mounted silicon rectifiers—call or wire us for same day shipment at OEM prices.



Offer all these  
 Engineered  
 Advantages...

Hermetically Sealed... Welded Construction... Conservatively Rated for Continuous Operation

Type No.	Maximum Ratings		Maximum Peak Amperes			
	I <sub>F</sub> @ °C* (amp)	(°C)	V <sub>R</sub> (v)	Re-current	1 Cycle (60 cps) Surge	Peak Pulse Surge (1 μsec)
IN1612, IN1612R	5	135°	50	25	150	2000
IN1613, IN1613R			100			
IN1614, IN1614R			200			
IN1615, IN1615R			400			
IN1616, IN1616R			600			
40108	10	150°	50	40	140	
40109			100			
40110			200			
40111			300			
40112			400			
40114	600					
IN1199A, IN1199RA	12	150°	50	50	240	3100
IN1200A, IN1200RA			100			
IN1202A, IN1202RA			200			
IN1203A, IN1203RA			300			
IN1204A, IN1204RA			400			
IN1205A, IN1205RA	500					
IN1206A, IN1206RA	600					

\*Average value DC forward current at indicated case temperature.

Type No.	Maximum Ratings		Maximum Peak Amperes			
	I <sub>F</sub> @ °C (amp)	(°C)	V <sub>R</sub> (v)	Re-current	1 Cycle (60 cps) Surge	Peak Pulse Surge (1 μsec)
40208	18	150°	50	72	250	
40209			100			
40210			200			
40211			300			
40212			400			
40214	600					
IN248C, IN248RC	20	150°	55	90	350	4500
IN249C, IN249RC			110			
IN250C, IN250RC			220			
IN1195A, IN1195RA			300			
IN1196A, IN1196RA			400			
IN1197A, IN1197RA	500					
IN1198A, IN1198RA	600					
IN1187, IN1187R	35	140°	300	130	500	6400
IN1188, IN1188R			400			
IN1189, IN1189R			500			
IN1190, IN1190R			600			
IN1183A, IN1183RA			50			
IN1184A, IN1184RA	100					
IN1186A, IN1186RA	200					

### PRICES AND ADDITIONAL SPECIFICATIONS OF STUD MOUNTED RECTIFIERS

Type No.	JEDEC Pkg.	I <sub>F</sub> @ °C	PRV (v)	EACH		Type No.	JEDEC Pkg.	I <sub>F</sub> @ °C	PRV (v)	EACH		Type No.	JEDEC Pkg.	I <sub>F</sub> @ °C	PRV (v)	EACH	
				1-99	100-999					1-99	100-999					1-99	100-999
IN1612	D0-4	5 @ 135	50	1.07	.72	IN1202RA	D0-4	12 @ 150	200	2.72	1.82	IN1195A	D0-5	20 @ 150	300	5.36	3.58
IN1612R	D0-4	5 @ 135	50	1.07	.72	IN1203A	D0-4	12 @ 150	300	4.13	2.75	IN1195RA	D0-5	20 @ 150	300	5.36	3.58
IN1613	D0-4	5 @ 135	100	1.24	.83	IN1203RA	D0-4	12 @ 150	300	4.13	2.75	IN1196A	D0-5	20 @ 150	400	6.60	4.40
IN1613R	D0-4	5 @ 135	100	1.24	.83	IN1204A	D0-4	12 @ 150	400	5.12	3.41	IN1196RA	D0-5	20 @ 150	400	6.60	4.40
IN1614	D0-4	5 @ 135	200	1.90	1.27	IN1204RA	D0-4	12 @ 150	400	5.12	3.41	IN1197A	D0-5	20 @ 150	300	8.25	5.50
IN1614R	D0-4	5 @ 135	200	1.90	1.27	IN1205A	D0-4	12 @ 150	500	6.19	4.13	IN1197RA	D0-5	20 @ 150	400	8.25	5.50
IN1615	D0-4	5 @ 135	400	4.13	2.75	IN1205RA	D0-4	12 @ 150	500	6.19	4.13	IN1198A	D0-5	20 @ 150	500	9.90	6.60
IN1615R	D0-4	5 @ 135	400	4.13	2.75	IN1206A	D0-4	12 @ 150	600	7.43	4.95	IN1198RA	D0-5	20 @ 150	600	9.90	6.60
IN1616	D0-4	5 @ 135	600	6.02	4.02	IN1206RA	D0-4	12 @ 150	600	7.43	4.95	IN1187	D0-5	35 @ 140	300	7.01	4.68
IN1616R	D0-4	5 @ 135	600	6.02	4.02	40208	D0-5	18 @ 150	50	1.32	.88	IN1187R	D0-5	35 @ 140	300	7.01	4.68
40108	D0-4	10 @ 150	50	.74	.50	40209	D0-5	18 @ 150	100	1.40	.94	IN1188	D0-5	35 @ 140	400	8.66	5.78
40109	D0-4	10 @ 150	100	.91	.61	40210	D0-5	18 @ 150	200	1.90	1.27	IN1188R	D0-5	35 @ 140	400	8.66	5.78
40110	D0-4	10 @ 150	200	1.57	1.05	40211	D0-5	18 @ 150	300	2.39	1.60	IN1189	D0-5	35 @ 140	500	10.31	6.88
40111	D0-4	10 @ 150	300	2.15	1.43	40212	D0-5	18 @ 150	400	2.89	1.93	IN1189R	D0-5	35 @ 140	500	10.31	6.88
40112	D0-4	10 @ 150	400	2.48	1.65	40214	D0-5	18 @ 150	600	4.21	2.81	IN1190	D0-5	35 @ 140	600	12.38	8.25
40114	D0-4	10 @ 150	600	3.71	2.48	IN248C	D0-5	20 @ 150	55	1.82	1.21	IN1190R	D0-5	35 @ 140	600	12.38	8.25
IN1199A	D0-4	12 @ 150	50	1.24	.83	IN248RC	D0-5	20 @ 150	55	1.82	1.21	IN1183A	D0-5	40 @ 150	50	2.56	1.71
IN1199RA	D0-4	12 @ 150	50	1.24	.83	IN249C	D0-5	20 @ 150	110	2.31	1.54	IN1183RA	D0-5	40 @ 150	50	2.56	1.71
IN1200A	D0-4	12 @ 150	100	1.40	.94	IN249RC	D0-5	20 @ 150	110	2.31	1.54	IN1184A	D0-5	40 @ 150	100	3.22	2.15
IN1200RA	D0-4	12 @ 150	100	1.40	.94	IN250C	D0-5	20 @ 150	220	3.30	2.20	IN1184RA	D0-5	40 @ 150	100	3.22	2.15
IN1202A	D0-4	12 @ 150	200	2.72	1.82	IN250RC	D0-5	20 @ 150	220	3.30	2.20						

### ATTENTION INDUSTRIAL BUYERS

Allied constantly maintains large stocks of RCA semiconductor products—ready for immediate shipment in quantity! Your order will be shipped to you the same day it is received—at the lowest OEM factory prices prevailing at the time of shipment.



# PHILCO Semiconductors

## EXPLANATION OF COLUMN HEADINGS

Cob, coll.-base output cap.  $f_{hfb}$ , AC common-base forward-current-transfer-ratio cutoff freq.  $f_{hfe}$ , gain/bandwidth product.  $h_{FE}$ , large sig. DC current gain.  $h_{FE}$ , AC current gain.  $h_{ib}$ , common-base AC short-circuit input imp.  $h_{ob}$ , base AC open-circuit output cond.  $h_{rb}$ , base AC open-circuit reverse transfer v. ratio.  $I_B$ , DC current.  $I_C$ , max. coll. current.  $I_{CBO}$ , coll.

cutoff current, open emitter. NF, input noise; v. ref. to 1  $\mu$ v. PG, power gain @ specified freq. PO, power output. PT, total dissipation.  $r_b/C_c$ , internal base resistance/coll. cp a. product.  $T_j$ , junction temp.  $t_{on}$ , on time.  $t_{off}$ , off time.  $t_r$ , rise time.  $t_s$ , storage time.  $V_{CB}$ , max. coll.-base v.  $V_{CE}(SAT)$ , sat. v. @ specified  $I_C$ ,  $I_B$ . Explanation of column headings applies to the following page also.

## GERMANIUM SWITCHING TRANSISTORS MEDIUM AND LOW-SPEED PNP ALLOY JUNCTION TYPES

Type No.	$T_j$ (°C)	$V_{CB}$ (volts)	PT at 25°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max. ( $\mu$ a)	$h_{FE}$		$V_{CE}(SAT)$ Max. (volts)	$I_C$ (ma)	$I_B$ (ma)	$f_T$ Min. (mc)	Cob Max. (pf)	$t_r$ Typ. ( $\mu$ sec)	Case	EACH	
						Min.	Max.								1-99	100-999
2N317A	100	25	150	500	2	20	60	.20	400	40	20	14	0.3	TO-5	4.05	2.97
2N395	100	15	150	200	5	25	150	.1	20	1	.....	20	.....	TO-5	.93	.69
2N396A	100	30	200	200	5	25	150	.1	20	1	.....	20	.....	TO-5	1.50	1.10
2N404	85	25	150	100	5	.....	.....	.15	12	0.4	4	20	.....	TO-5	.74	.54
USAF2N404	Per MIL-S-19500/20															
2N428	85	30	150	400	4	60	.....	.32	200	10	10	20	0.4	TO-5	2.33	1.71
JAN2N428	Per MIL-S-19500/44B															
2N536	85	20	50	30	10	100	.....	.13	10	1	1	.....	.....	TO-23	3.38	2.48
2N597	100	45	250	400	5	40	.....	.2	10	0.33	3	20	.....	TO-9	2.63	1.93
2N598	100	35	250	400	5	70	225	.2	10	0.33	5.6	20	165	TO-9	2.55	1.87
USA2N598	Per MIL-S-19500/197A															
2N599	100	30	250	400	5	100	.....	.2	10	0.33	10	20	130	TO-9	3.08	2.26
USN2N599	Per MIL-S-19500/166B															
2N600	100	35	175	400	5	70	225	.2	10	0.33	5.6	20	165	TO-31	3.90	2.86
USA2N600	Per MIL-S-19500/197A															
2N601	100	30	750	400	5	100	.....	.2	10	0.33	10	20	130	TO-31	3.83	2.81
2N1123	100	45	750	400	5	40	.....	.2	10	0.33	3	20	.....	TO-31	3.30	2.42
2N1478	100	30	250	400	5	40	.....	.2	10	0.33	3	20	.....	TO-9	1.43	1.05

## HIGH-SPEED DIFFUSED-BASE PNP POLARITY TYPES

Type No.	$T_j$ (°C)	$V_{CB}$ (volts)	PT at 25°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max. ( $\mu$ a)	$h_{FE}$		$V_{CE}(SAT)$ Max. (volts)	$I_C$ (ma)	$I_B$ (ma)	$f_T$ Min. (mc)	Cob Max. (pf)	$t_r$ Typ. (nsec)	$t_s$ Typ. (nsec)	Case	EACH	
						Min.	Max.									1-99	100-999
2N501	100	15	60	50	5	20	.....	.2	10	1	175	5	11	.....	TO-1	6.38	4.65
JAN2N501A	Per MIL-S-19500/62A																
2N768	100	12	35	100	3	25	.....	.13	2	0.2	125	2	.....	.....	TO-18	5.85	4.29
2N769	100	12	35	100	3	25	.....	.24	10	1	600	3	.....	18	TO-18	6.75	4.95
2N779A	100	15	60	50	3	50	200	.125	10	0.5	320	2.5	13	39	TO-18	3.53	2.59
2N846A	100	15	60	50	3	25	125	.14	10	1	320	2.5	13	39	TO-18	5.40	3.96
2N976	100	15	100	100	3	30	30	.17	20	2	600	3	7	15	TO-18	4.35	3.19
2N1499A	100	20	60	100	3	30	30	.2	10	1	100	3	25	100	TO-9	1.43	1.05
USA2N1499A	Per MIL-S-19500/170																
2N1500	100	15	60	50	5	20	.....	.2	10	1	3	13	.....	TO-9	1.73	1.27	
USA2N1500	Per MIL-S-19500/125																
2N1754	85	13	50	100	5	20	.....	.2	10	1	.....	3	25	100	TO-9	7.35	5.35
2N2048	100	20	150	100	5	50	300	.14	10	0.5	150	3	35	75	TO-9	1.35	.99
2N2400	100	12	150	100	3	30	30	.22	10	0.4	150	4	48	100	TO-18	1.80	1.32
2N2401	100	15	150	100	1.5	50	50	.2	10	0.4	200	4	48	90	TO-18	1.28	.94
2N2402	100	18	150	100	1.5	60	60	.2	10	0.4	250	4	48	75	TO-18	1.43	1.05
2N2402	100	18	150	100	1.5	60	60	.2	10	0.4	250	4	48	75	TO-18	2.25	1.60

## HIGH-CURRENT DIFFUSED-BASE PNP POLARITY TYPES

2N1204	100	20	200	500	7	15	.....	.5	200	10	220	10	15	.....	TO-9	6.38	4.68
2N1204A	100	20	200	500	7	15	.....	.4	200	10	220	8	15	45	TO-9	6.38	4.68
2N1494	100	20	400	500	7	25	.....	.5	200	10	220	10	18	.....	TO-31	6.83	5.01
2N1494A	100	20	400	500	7	25	.....	.4	200	10	220	8	15	45	TO-31	6.83	5.01
2N1495	100	40	250	500	7	25	.....	.3	200	20	150	6.5	30	60	TO-9	7.35	5.39
2N1496	100	40	500	500	7	25	.....	.3	200	20	150	6.5	30	60	TO-31	7.80	5.72

## GERMANIUM COMMUNICATIONS TRANSISTORS

### LOW-FREQUENCY PNP ALLOY JUNCTION TYPES

Type No.	$T_j$ (°C)	$V_{CB}$ (volts)	PT at 25°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max. ( $\mu$ a)	Small Signal Parameters						PG Typ. (db)	NF Max. (db)	Case	EACH		
						$h_{FE}$		$h_{ib}$ Max. (ohms)	$h_{ob}$ Max. ( $\mu$ mhos)	$h_{rb}$ Typ. ( $\times 10^{-4}$ )	$f_{hfb}$ Typ. (mc)				$t_r$ Typ. ( $\mu$ sec)	1-99	100-999
						Min.	Max.										
2N207	65	12	50	20	15	35	.....	50	2	4	2	43	15	TO-23	1.95	1.43	
2N207A	65	12	50	20	10	35	.....	50	2	4	2	43	10	TO-23	2.10	1.54	
2N207B	65	12	50	20	10	35	.....	50	2	4	2	43	5	TO-23	2.25	1.65	
2N534	65	50	25	25	15	35	.....	50	2	4	.....	.....	.....	TO-23	2.33	1.71	
2N535	85	20	50	20	10	35	200	50	1	4	2	43	10	TO-23	2.78	2.04	
2N535A	85	20	50	20	10	35	200	50	1	4	2	43	5	TO-23	3.00	2.20	
2N535B	85	20	50	20	10	35	200	50	1	4	2	43	0	TO-23	3.38	2.48	
2N2374	100	35	250	500	5	100	500	.....	.....	.....	15	.....	.....	TO-5	.98	.72	
2N2375	100	35	250	500	5	35	200	.....	.....	.....	9	.....	.....	TO-5	.83	.61	
2N2376	Matched pair of 2N2375				$h_{FE}$ match, 20%												

## MEDIUM HIGH FREQUENCY DIFFUSED-BASE PNP POLARITY TYPES

2N1726	100	20	60	50	10	40	120	.....	1	.....	.....	35	.....	TO-9	1.05	.77
2N1727	100	20	60	50	10	15	150	.....	1	.....	.....	35	.....	TO-9	.98	.72
2N1728	100	20	60	50	10	25	100	.....	1	.....	.....	40	.....	TO-9	1.02	.75
2N1752	100	12	60	50	10	50	300	.....	1	.....	.....	.....	.....	TO-9	.90	.66
2N1785	85	10	45	50	10	40	120	.....	2	.....	.....	35	.....	TO-9	.90	.66
2N1786	85	10	45	50	10	15	200	.....	2	.....	.....	35	.....	TO-9	.83	.61
2N1787	85	15	45	50	10	20	100	.....	2	.....	.....	40	.....	TO-9	.90	.66
2N1788	100	35	60	50	5	40	120	.....	1	.....	.....	35	.....	TO-9	1.20	.88
2N1789	100	35	60	50	7	15	150	.....	1	.....	.....	35	.....	TO-9	1.13	.83
2N1790	100	35	60	50	7	25	100	.....	1	.....	.....	40	.....	TO-9	1.17	.86
2N1864	100	20	60	50	10	20	80	.....	1	.....	.....	30	.....	TO-9	1.05	.77

# PHILCO Semiconductors

SEE PREVIOUS PAGE FOR EXPLANATION OF COLUMN HEADINGS

## GERMANIUM COMMUNICATIONS TRANSISTORS (Cont'd)

### HIGH-FREQUENCY DIFFUSED-BASE PNP POLARITY TYPES



Type No.	T <sub>J</sub> (°C)	V <sub>CB</sub> (volts)	P <sub>T</sub> at 25°C (mw)	I <sub>C</sub> (ma)	I <sub>CB0</sub> Max. (μa)	hFE		h <sub>FB</sub> Typ. (μmhos)	C <sub>ob</sub> Max. (pf)	r <sub>b</sub> ' C <sub>c</sub> Max. (psec)	f <sub>max</sub> Min. (mc)	PG Min. (db)	f (mc)	Case	EACH	
						Min.	Max.								1-99	100-999
2N503	85	20	25	50	5	45			2	120	360	11	100	TO-9	2.25	1.65
2N504	85	35	30	50	10	16		1	2.5		50			TO-1	3.45	2.50
2N588	85	15	30	50	15						200	14	50	TO-1	1.43	1.05
2N1746	100	20	60	50	10	10		0.2	3	100	100	30	4.5	TO-9	.90	.66
2N1747	100	20	60	50	10	10		0.2			180	25	10.7	TO-9	.98	.72
2N1865	100	20	60	50	10	25	100	0.2			180	25	10.7	TO-9	1.05	.77
2N1866	100	35	60	50	10	25	100	0.2			180	25	10.7	TO-9	1.13	.83
2N1867	100	35	60	50	10	10		0.2			180	25	10.7	TO-9	1.10	.81

### VERY HIGH-FREQUENCY DIFFUSED-BASE PNP POLARITY TYPES

2N499	85	30	30	50	5				2.5	250	250	7.5	100	TO-1	3.98	2.90
USA 2N499	Per MIL-S-19500/72B															
USA 2N499A	Per MIL-S-19500/72B															
2N502	85	20	60	50	5				2	120	500	8	200	TO-9	2.93	2.15
USA 2N502A	Per MIL-S-19500/112															
2N1158	100	20	60	100	5	50			3	50		25	200	TO-9	5.25	3.85
2N1158A	100	20	75	100	5	50			2.8	50		27	200	TO-9	7.13	5.23
USA 2N1158A	Per MIL-S-19500/113															
2N1745	100	20	60	50	10	33					500	21	45	TO-9	1.80	1.32
2N1868	100	20	60	50	10	33					400	19	45	TO-9	1.88	1.38

### ULTRA HIGH-FREQUENCY DIFFUSED-BASE PNP POLARITY TYPES

Type No.	T <sub>J</sub> (°C)	V <sub>CB</sub> (volts)	P <sub>T</sub> at 25°C (mw)	I <sub>C</sub> (ma)	I <sub>CB0</sub> Max. (μa)	hFE Min.	PG or PO* (db or mw*)		f (mc)	NF Max. (db)	Case	EACH	
							Min.	Max.				1-99	100-999
2N1742	100	20	60†	10	10	10	14	19	1000	5.5	TO-9	2.93	2.15
2N1743	100	20	60†	10	10	10	14		1000	12	TO-9	2.87	2.11
2N1744	100	20	60†	10	10	10	1.5*				TO-9	2.25	1.65
2N2360	125	20	30	10	10	10	14	19	200	5.5	TO-12	2.63	1.93
2N2361	125	20	30	10	10	10	14		200-44	12	TO-12	2.40	1.76
2N2362	125	20	30	10	10	10	1.5*		257		TO-12	2.10	1.54
2N2398	125	20	30	10	10	10	16	22	200	4.5	TO-12	3.75	2.75
2N2399	125	20	30	10	10	10	16		200-44	9.0	TO-12	3.30	2.42

### VIDEO AMPLIFIER DIFFUSED-BASE PNP POLARITY TYPES

Type No.	T <sub>J</sub> (°C)	V <sub>CB</sub> (volts)	P <sub>T</sub> at 25°C (mw)	I <sub>C</sub> (ma)	I <sub>CB0</sub> Max. (μa)	Small Signal Parameters				C <sub>ob</sub> Max. (pf)	f <sub>T</sub> Min. (mc)	Case	EACH	
						h <sub>FE</sub>		h <sub>ib</sub> Max. (ohms)	h <sub>ob</sub> Max. (μmhos)				1-99	100-999
						Min.	Max.							
2N1748	100	25	60	50	10	30	150	40	1	2.5	80	TO-9	1.05	.77
2N1748A	100	25	60	50	10	50	150	40	1	2.5	100	TO-9	1.13	.83
2N1749	100	40	75	10	10	30	150	40	1	2.5	80	TO-9	1.43	1.05

## SILICON SWITCHING TRANSISTORS

NPN epitaxial silicon planar transistors feature interdigitated emitter-base configuration—raises useful current range, lowers base resistance, and lowers

capacitance of both emitter and collector. Results in faster switching over a wider current range. \*Core drive/pulse amplifier ("Tear Drop" design).



### VERY HIGH-SPEED NPN INTERDIGITATED EPITAXIAL PLANAR TYPES

Type No.	T <sub>J</sub> (°C)	V <sub>CB</sub> (volts)	P <sub>T</sub> at 25°C (mw)	I <sub>C</sub> (ma)	I <sub>CB0</sub> Max. (μa)	hFE Min.	V <sub>CE</sub> (SAT) Max. (volts)	I <sub>C</sub> (ma)	I <sub>B</sub> (ma)	f <sub>T</sub> Min. (mc)	C <sub>ob</sub> Max. (pf)	t <sub>s</sub> Max. (nsec)	t <sub>on</sub> Max. (nsec)	t <sub>off</sub> Max. (nsec)	Case	EACH	
																1-99	100-999
2N706	175	25	300	50	.5	20	0.6	10	1	200	6	60		TO-18	1.32	.88	
2N708	300	40	360	.025	30	0.4	10	1	300	6	25			TO-18	2.48	1.65	
2N784A	300	40	350	200	.025	25	0.19	10	1	300	3.5	15	20	40	TO-18	9.61	6.39
2N834	175	40	300	200	.5	25	0.25	10	1	350	4	25	35	75	TO-18	4.13	2.75
2N914	300	40	360	500	.025	30	0.25	10	1	300	6	20	40	40	TO-18	3.71	2.48
2N1613	300*	7.5	800	.01	40	1.5	150	15	60	25				TO-5	3.73	2.48	
2N1893	300*	120	800	.01	40	1.2	50	5	50	15				TO-5	9.86	6.55	
2N2651	300*	40	360	500	.03	25	0.25	10	1	350	4	25	35	75	TO-18	4.43	2.95
2N2710	300	40	360	.03	40	0.25	10	1	500	4	15	20	35	TO-18	7.44	4.94	

### ULTRA HIGH-SPEED NPN PLANAR TYPES

2N709	300	15	300	.05	20	.30			600	3	6	15	15	TO-18	8.25	5.50
T2877	200	12	300	.05	20	.30	3	.15	400	3	8	17	17	TO-18	5.43	3.61

### HIGH-GAIN PNP POLARITY TYPES

Type No.	T <sub>J</sub> (°C)	V <sub>CB</sub> (volts)	P <sub>T</sub> at 25°C (mw)	I <sub>C</sub> (ma)	I <sub>CB0</sub> Max. (μa)	hFE		V <sub>CE</sub> (SAT) Max. (volts)	I <sub>C</sub> (ma)	I <sub>B</sub> (ma)	h <sub>FE</sub>		C <sub>ob</sub> Max. (pf)	f <sub>T</sub> Min. (mc)	Case	EACH	
						Min.	Max.				Min.	Max.				1-99	100-999
USA 2N495	Per MIL-T-19500/54A																
USA 2N496	Per MIL-S-19500/85																
2N858	140	40	150	50	.1	10	60	.15	5	.8	15	75	9	5	TO-18	9.23	6.77
2N859	140	40	150	50	.1	10	100	.15	5	.5	30	120	9	6	TO-18	10.43	7.65
2N860	140	25	150	50	.1	10	40	.15	5	.8	15	45	9	6.5	TO-18	8.48	6.22
2N861	140	25	150	50	.1	25	75	.15	5	.5	30	100	9	7.5	TO-18	6.00	4.40
2N862	140	15	150	50	.1	12	48	.15	5	.8	20	60	9	8	TO-18	8.33	6.11
2N863	140	15	150	50	.1	25	100	.15	5	.5	40	120	9	10	TO-18	4.50	3.30
2N864	140	6	150	50	.1	20	100	.1	5	.5	25	125	9	16	TO-18	6.23	4.57
2N865	140	10	150	50	.1	45	125	.1	5	.5	100	350	9	24	TO-18	8.25	6.05



# PHILCO Semiconductors

## EXPLANATION OF COLUMN HEADINGS

$C_{ob}$ , collector-base output capacitance.  $f_{hfb}$ , AC common-base forward-current-transfer-ratio cut-off freq.  $f_T$ , gain/bandwidth product.  $h_{FE}$ , large-signal DC current gain.  $h_{fe}$ , AC current gain.  $h_{fb}$ , common-base AC short-circuit input impedance.  $h_{ob}$ , base AC open-circuit output conductance.  $h_{rb}$ , base AC open-circuit reverse transfer v. ratio.  $I_B$ , DC base current.  $I_C$ , max. collector current.  $I_{CBO}$ , collector cutoff current, open emitter.  $NF$ , input noise; v. ref. to 1  $\mu V$ .  $PG$ , power gain @ specified freq.  $PO$ , power output.  $PT$ , total dissipation.  $r_b'c_c$ , internal base resistance/collector capacitance product.  $T_A$ , ambient temperature.  $T_J$ , junction temp.  $t_{on}$ , on time.  $t_{off}$ , off time.  $t_r$ , rise time.  $t_s$ , storage time.  $V_{CB}$ , max. collector-base v.  $V_{CE}(SAT)$ , saturation v. @ specified  $I_C$  and  $I_B$ .  $V_{EC}$ , inverted offset v.  $V_{EE}$ , offset voltage of matched pair.

## SILICON SWITCHING TRANSISTORS

### HIGH-GAIN PNP POLARITY TYPES (Cont'd)

Type No.	$T_J$ (°C)	$V_{CB}$ (volts)	$PT$ at 25°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max ( $\mu$ a)	$h_{FE}$		$V_{CE}(SAT)$ Max (volts)	$I_C$ (ma)	$I_B$ (ma)	$h_{fe}$ Min	$C_{ob}$ Max (pf)	$f_T$ Min (mc)	Case	EACH	
						Min	Max								1-99	100-999
2N1118A	140	25	150	50	1	20	.....	.07	8	1.0	40	12	40	TO-5	15.75	11.55
USA2N1118	Per MIL Spec. MIL-S-19500/138A															
USA2N1119	Per MIL Spec. MIL-S-19500/139A															
2N1428	140	6	100	50	0.1	12	.....	0.1	5	0.8	25	14	16	TO-1	8.78	6.44
2N1429	140	6	100	50	0.1	12	.....	0.1	5	0.8	25	14	16	TO-5	8.78	6.44
2N1676	140	4.5	100	50	0.1	.....	.....	0.1	5	0.8	.....	14	16	TO-5	11.70	8.58
2N1677	140	4.5	100	50	0.1	.....	.....	0.1	5	0.8	25	14	16	TO-5	8.85	6.49

## PNP POLARITY CHOPPERS—SINGLE AND MATCHED PAIRS

Type No.	$t_s$ (°C)	$V_{CB}$ (V)	$PT$ at 25°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max (na)	Offset Voltage			$f_r$ Min (mc)	$h_{FE}$ Min	Differential Offset Voltage			Case	EACH	
						$V_{EC}$ Max (mv)	$I_B$ (ma)	$C_{ob}$ Max (pf)			$V_{EE}$ Max ( $\mu$ v)	$I_B$ (ma)	$T_A$ (°C)		1-99	100-999
2N2185	140	30	150	50	1	2.0	1	9	6.5	.....	50	1	25-85	TO-18	15.00	11.00
2N2187	Matched Pair of 2N2185's															
2N2274	140	25	150	50	3	3.25	1	9	6	10	100	1.5	25-65	TO-18	9.00	6.60
2N2275	Matched Pair of 2N2274's															
2N2276	140	15	150	50	3	2.25	1	9	6	10	100	1.5	25-65	TO-18	19.50	14.30
2N2277	Matched Pair of 2N2276's															
2N2278	140	15	150	50	1	1.75	1	9	7.6	.....	50	1	25-85	TO-18	12.00	8.80
2N2279	Matched Pair of 2N2278's															
2N2280	140	10	150	50	3	1.50	1	10	16	.....	50	1	25-85	TO-18	25.80	18.92
2N2281	Matched Pair of 2N2280's															
											100	1.0	25-65	TO-18	10.05	7.37

## NPN EPITAXIAL SILICON MESA TRANSISTORS

### HIGH-VOLTAGE, MEDIUM-SPEED TYPES

Type No.	$T_J$ (°C)	$V_{CB}$ (v)	$PT$ at 25°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max ( $\mu$ a)	$h_{FE}$		$V_{CE}(SAT)$ Max (v)	$I_C$ (ma)	$I_B$ (ma)	$f_T$ Min (mc)	$C_{ob}$ Max (pf)	$t_r$ Typ (nsec)	$t_s$ Typ (nsec)	Case	EACH	
						Min	Max									1-99	100-999
2N2086	175	120	600	500	2	20	.....	.7	150	15	150	12	100	130	TO-5	10.95	8.03
2N2087	300	120	600	500	2	40	120	0.5	150	15	150	12	55	65	TO-5	11.55	8.47
2N2380	175	80	600	500	4	20	120	1.3	150	15	100	14	125	130	TO-5	3.75	2.75
2N2380A	175	80	600	500	4	20	120	.5	50	1.67	100	14	125	130	TO-5	4.05	2.97
2N2478	300	120	600	500	2	30	120	0.7	150	15	200	12	55	65	TO-5	7.13	5.23
2N2479	300	80	600	500	4	30	120	0.85	150	15	150	14	60	65	TO-5	3.75	2.75

## NEWEST SEMICONDUCTORS FROM PHILCO

### HIGH-FREQUENCY SURFACE BARRIER TYPES

Type No.	$T_J$ (°C)	$V_{CB}$ (volts)	$PT$ @ 25°C; *40°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max ( $\mu$ a)	$h_{fe}$		$h_{ob}$ Typ ( $\mu$ mhos)	$C_{ob}$ Max (pf)	$r_b'c_c$ Max (psec)	$f_{max}$ Min (mc)	Case	EACH		
						Min	Max						1-99	100-999	
2N128	85	10	25	5	3	19	66	1.5	5	1000	45	TO-24	6.30	4.62	
JAN2N128	Per MIL Spec. MIL-T-19500/9A														
2N232	55	4.5	9*	3	6	9	36	5	6	1500	20	TO-24	1.05	.77	
2N240	85	6	25	15	10	.....	.....	.....	6	.....	.....	TO-24	5.63	4.13	
JAN2N240	Per MIL Spec. MIL-S-19500/25A														
2N344	85	5	20*	5	3	11	33	2	6	1200	30	TO-24	3.45	2.53	
2N345	85	5	20*	5	3	25	110	2	6	1200	30	TO-24	4.35	3.19	
2N346	85	5	20*	5	3	10	.....	2	6	1200	60	TO-24	5.85	4.29	
2N1750	75	14	15*	5	2	18	40	5	6	1200	30	TO-24	1.17	.86	

### HIGH-FREQUENCY MICROALLOY TYPES

Type No.	$T_J$ (°C)	$V_{CB}$ (volts)	$PT$ @ 25°C; *45°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max ( $\mu$ a)	$h_{FE}$ (Min)	$V_{CE}(SAT)$ Max (volts)	$I_C$ (ma)	$I_B$ (ma)	$f_T$ Min (mc)	$C_{ob}$ Max (pf)	$t_s$ Typ (nsec)	Case	EACH		
														1-99	100-999	
2N393	85	6	25*	50	10	20	.07	8	1	25	6	55	TO-24	4.35	3.15	
JAN2N393	Per MIL Spec. MIL-S-19500/77B															
2N1122	85	12	25*	50	5	25	.1	8	1	40	6	75	TO-24	5.48	4.00	
2N1122A	85	15	25*	50	5	25	.1	8	1	40	6	75	TO-24	6.75	4.95	
USA2N1411	Per MIL Spec. MIL-S-19500/133															
2N1427	85	6	25*	50	5	25	.2	50	5	50	6	55	TO-24	3.74	2.74	
															4.58	3.36

### PULSE AMPLIFIER TYPES

Type No.	$T_J$ (°C)	$V_{CB}$ (volts)	$PT$ at 25°C (mw)	$I_C$ (ma)	$I_{CBO}$ Max ( $\mu$ a)	$h_{FE}$		$V_{CE}(SAT)$ Max (volts)	$I_C$ (ma)	$I_B$ (ma)	$f_{hfb}$ Typ (Kc)	$t_r$ Max (nsec)	Case	EACH	
						Min	Max							1-99	100-999
2N670	85	40	300	2000	25	40	250	0.35	1000	100	700	.....	M3/2H	3.38	2.48
2N671	85	40	1000	2000	25	40	250	0.85	1000	100	700	.....	TO-26	4.13	3.03
2N672	85	25	300	2000	25	.....	.....	0.2	400	20	.....	500	M3/2H	3.38	2.48
2N673	85	25	1000	2000	25	.....	.....	0.2	400	20	.....	500	TO-26	4.13	3.03

# PHILCO Diodes



## EXPLANATION OF COLUMN HEADINGS

**BV**—maximum breakdown voltage. **BVR**—reverse breakdown voltage.  
**C**—total capacitance of unit.  
**Gc**—gigacycles (one gigacycle equals 1000 megacycles).  
**IMR**—maximum reverse current. **Ip**—maximum peak-point current.

**Ir**—reverse current leakage through diode.  
**pi**—picofarads (1 picofarad=1 micromicrofarad of capacitance).  
**PiV**—peak inverse voltage. **Pr**—total diode power dissipation.  
**Q**, quality factor. **Vf**—forward voltage drop across unit.

### NEW VOLTCAPS

New epitaxial, silicon-planar, voltage-variable capacitor diodes. Have wide range of applications in highly selective, electronically tuned circuits. Feature higher reverse bias voltage, higher Q, lower reverse leakage current, closer tracking and change ratios. Epitaxial growth raises Q value; planar construction reduces Ir and assures both inherent reliability and product uniformity. Maximum tracking error (@ 4v. to 100v.), only 1%.

Type No.	C @ 8V Nom. (pf)	Min. BVR (v)	Q @ 8 V. Min. (mc)	Ir @ 85°C, 100v. Max. (µa)	EACH	
					1-99	100-999
V2853	47	115	90 @ 50	2.5	8.46	5.60
V2854	150	115	180 @ 25	5.0	14.00	9.25



### MICROWAVE MIXER DIODES

Type No.	Application Freq. Band	Conversion Loss (db)	Burn-out (ergs)	Test Freq. (Gc)	EACH	
					1-99	100-999
IN26	K	8.5	0.1	24	6.50	5.10
JANIN26M	Per MIL-S-19500/235 specs.				16.15	12.75
IN26A	K	7.5	0.3	24	7.75	6.05
IN26B	K	7.5	0.3	24	27.25	21.75
USAIN26B	Per MIL-S-19500/128 specs.				27.25	21.75
IN26C	K	7.5	0.3	24	31.15	25.50
IN78	Ku	7.5	0.3	16	6.50	5.10
JANIN78M	Per MIL-S-19500/239				13.75	10.80
IN78A	Ku	7.0	0.3	16	8.10	6.36
IN78B	Ku	6.5	0.3	16	12.00	9.45
USAIN78B	Per MIL-S-19500/129 specs.				12.00	9.45
IN78C	Ku	6.5	0.6	16	45.00	35.40
USAIN78C	Per Mil-S-19500/130 specs.				45.00	35.40
IN78D	Ku	5.7	0.6	16	55.00	42.00
IN263	X	6.0	1.3	9.375	12.50	9.19
JANIN263	Per MIL-S-19500/191 specs.				13.83	10.52
IN1838	X	.....	1.3	13.5	37.50	30.00

### GERMANIUM VARACTOR DIODES

Type No.	Junc. Cap.(Pf)	Max. Pr (watts)	BV (volts)	Cutoff Freq. (Gc)	EACH	
					1-99	100-999
L4632A	0.4-0.8	0.3	40	5	15.00	12.00
L4632B	0.4-0.8	0.3	40	10	15.00	12.00
L4632C	0.4-0.8	0.3	40	15	15.00	12.00
L4632D	0.4-0.8	0.3	40	20	15.00	12.00
L4632E	0.4-0.8	0.3	40	30	15.00	12.00
L4632F	0.4-0.8	0.3	40	40	15.00	12.00
L4632G	0.4-0.8	0.3	40	50	20.00	16.00
L4632H	0.4-0.8	0.3	40	60	25.00	20.00
L4633A	0.8-1.6	0.3	40	5	15.00	12.00
L4633B	0.8-1.6	0.3	40	10	15.00	12.00
L4633C	0.8-1.6	0.3	40	15	15.00	12.00
L4633D	0.8-1.6	0.3	40	20	15.00	12.00
L4633E	0.8-1.6	0.3	40	30	20.00	16.00
L4633F	0.8-1.6	0.3	40	40	25.00	20.00
L4633G	0.8-1.6	0.3	40	50	30.00	24.00
L4633H	0.8-1.6	0.3	40	60	35.00	28.00
L4633J	0.8-1.6	0.3	40	70	40.00	32.00
L4634A	1.6-3.0	0.4	40	5	15.00	12.00
L4634B	1.6-3.0	0.4	40	10	15.00	12.00
L4634C	1.6-3.0	0.4	40	15	15.00	12.00
L4634D	1.6-3.0	0.4	40	20	20.00	16.00
L4634E	1.6-3.0	0.4	40	30	25.00	20.00
L4643A	0.8-1.6	0.3	60	5	15.00	12.00
L4643B	0.8-1.6	0.3	60	10	15.00	12.00
L4643C	0.8-1.6	0.3	60	15	15.00	12.00
L4643D	0.8-1.6	0.3	60	20	20.00	16.00
L4644A	1.6-3.0	0.4	60	5	15.00	12.00
L4644B	1.6-3.0	0.4	60	10	15.00	12.00
L4644C	1.6-3.0	0.4	60	15	20.00	16.00
L4644D	1.6-3.0	0.4	60	20	25.00	20.00
L4644E	1.6-3.0	0.4	60	30	30.00	24.00

### MICROWAVE MIXER DIODE

Type No.	mm	Conversion Loss (db)	Test Freq. (Gc)	1-9, EA.	10-99, EA.
IN2792	.....	13.5	69.75	250.00	183.00

### GERMANIUM TUNNEL AND BACKWARD\* DIODES

Type No.	Max. Temp. (°C)	Vf (mv)	Ip ±2.5% (ma)	C (pf)	EACH	
					1-99	100-999
IN3560	+100	475	1.00	9	6.00	3.95
IN3561	+100	475	1.0	9	6.00	3.95
IN3562	+100	475	5.00	45	8.12	5.35
IN3535*	+100	80	.....	4.0	6.40	4.25

### LOW-NOISE GERMANIUM UHF MIXER DIODE

Type No.	Freq. Mc	PIV (V)	IMR (ma)	Noise Fig. (Db) @ 500 Mc	EACH	
					1-99	100-999
IN147A	0-1000	2	55	10	.96	.71

### MICROWAVE SWITCHING DIODES

Type No.	Band Freq.	Max. Insertion Loss (db)	Power Level (mw)	Test Freq. (Gc)	EACH	
					1-9	10-99
IN3482	X	1.2	10	9.0	29.50	21.60
L4120	X	1.2	10	10.0	35.40	26.00
L4122	X	1.2	10	11.5	35.40	26.00
L4130	C	1.2	10	4.5	35.40	26.00
L4131	C	1.2	10	5.0	35.40	26.00
L4132	C	1.2	10	5.5	35.40	26.00
L4133	Xn	1.2	10	6.0	35.40	26.00
L4134	Xn	1.2	10	6.5	35.40	26.00
L4135	Xn	1.2	10	7.0	35.40	26.00
L4136	X	1.2	10	11.0	35.40	26.00
L4137	Ku	1.2	100	13.3	52.60	35.00
L4138	Xn	1.2	10	7.5	35.40	26.00
L4139	Xn	1.2	10	8.0	35.40	26.00
L4140	XL	1.2	10	7.5	35.40	26.00
L4141	XL	1.2	10	8.0	35.40	26.00
L4142	XL	1.2	10	8.5	35.40	26.00
L4143	XL	1.2	10	9.0	35.40	26.00
L4144	XL	1.2	10	9.5	35.40	26.00
L4145	X	1.2	10	8.5	35.40	26.00
L4146	X	1.2	10	9.5	35.40	26.00
L4147	X	1.2	10	10.5	35.40	26.00
L4701	Ku	1.5	100	16.5	52.60	35.00

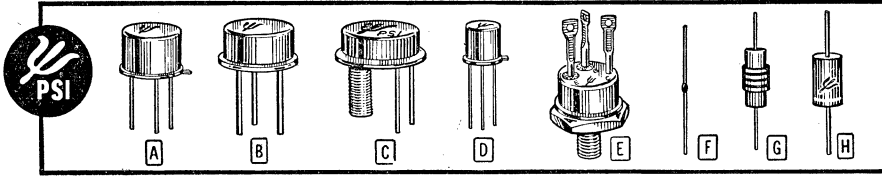
### MICROWAVE HARDWARE

Stock No.	Mfr's Type	Description	1-9, EA.	10-99, EA.
8 E 715	P901A	Switch Mount	90.00	66.00
8 E 716	P902	Switch Mount	105.00	77.00
8 E 717	P903	Switch Mount	105.00	77.00
8 E 718	P904A	Switch Mount	105.00	77.00
8 E 719	P951	Mixer Mount	145.00	.....
8 E 720	P952	Mixer Mount	165.00	.....
8 E 721	P950	Diode Adapter	1.33	1.33

### SILICON VARACTOR DIODES

Type No.	Junc. Cap.(Pf)	Max. Pr (watts)	BV (volts)	Cutoff Freq. (Gc)	EACH	
					1-9	10-99
L4233A	0.8-1.6	0.5	40	5	15.00	12.00
L4233B	0.8-1.6	0.5	40	10	15.00	12.00
L4233C	0.8-1.6	0.5	40	15	15.00	12.00
L4233D	0.8-1.6	0.5	40	20	20.00	16.00
L4233E	0.8-1.6	0.5	40	30	30.00	24.00
L4233F	0.8-1.6	0.5	40	40	40.00	32.00
L4233G	0.8-1.6	0.5	40	50	50.00	40.00
L4233H	0.8-1.6	0.5	40	60	60.00	48.00
L4233J	0.8-1.6	0.5	40	70	70.00	56.00
L4234A	1.6-3.0	1.0	40	5	15.00	12.00
L4234B	1.6-3.0	1.0	40	10	15.00	12.00
L4234C	1.6-3.0	1.0	40	15	20.00	16.00
L4234D	1.6-3.0	1.0	40	20	25.00	20.00
L4234E	1.6-3.0	1.0	40	30	35.00	28.00
L4234F	1.6-3.0	1.0	40	40	45.00	36.00
L4243A	0.8-1.6	0.5	60	5	20.00	16.00
L4243B	0.8-1.6	0.5	60	10	20.00	16.00
L4243C	0.8-1.6	0.5	60	15	20.00	16.00
L4243D	0.8-1.6	0.5	60	20	25.00	20.00
L4243E	0.8-1.6	0.5	60	30	35.00	28.00
L4243F	0.8-1.6	0.5	60	40	45.00	36.00
L4243G	0.8-1.6	0.5	60	50	55.00	44.00
L4243H	0.8-1.6	0.5	60	60	65.00	52.00
L4243J	0.8-1.6	0.5	60	70	75.00	60.00
L4244A	1.6-3.0	1.0	60	5	20.00	16.00
L4244B	1.6-3.0	1.0	60	10	20.00	16.00
L4244C	1.6-3.0	1.0	60	15	25.00	20.00
L4244D	1.6-3.0	1.0	60	20	30.00	24.00
L4244E	1.6-3.0	1.0	60	30	40.00	32.00
L4244F	1.6-3.0	1.0	60	40	50.00	40.00
L4256A	6.0-12.0	3.0	90	5	40.00	32.00
L4256B	6.0-12.0	3.0	90	10	50.00	40.00
L4256C	6.0-12.0	3.0	90	15	60.00	48.00
L4267A	12.0-20.0	5.0	120	5	50.00	40.00
L4267B	12.0-20.0	5.0	120	10	60.00	48.00
L4277A	12.0-20.0	5.0	140	5	60.00	48.00
L4277B	12.0-20.0	5.0	140	10	70.00	56.00

# Pacific NPN Silicon Semiconductors



**IN YOUR HANDS...**  
is the world's largest, most complete listing of industrial electronic stocks. This catalog is your guide to the latest, most up-to-date equipment available—anywhere!

## EXPLANATION OF COLUMN HEADINGS ON THIS AND FOLLOWING PAGE

BV, breakdown v.  $C_o$ , output capacity.  $f_t$ , min. unity gain frequency.  $G_p$ , power gain.  $h_{fe}$ , small signal current-gain.  $h_{FE}$ , DC current gain.  $I_{FWD}$ , min. forward current.  $I_{MR}$ , max. reverse current.  $I_o$ , max. av. rectified forward current. PIV, peak inverse voltage.  $P_r$ , power output.  $P_d$ , power dissipation. RR, recovery resistance. TR, recovery time.  $V_{CBO}$ , max. coll.-base v., open input.  $V_{CE sat}$ , saturated coll.-emitter v.  $V_{CEO}$ , max. coll.-emitter v., open input.  $V_{CER}$ , max. coll.-emitter v., 1K resistive input.  $V_{EBO}$ , max. emitter-base v., open input.  $V_{sat}$ , saturated v.  $V_{FWD}$ , forward voltage drop.  $V_{rms}$ , maximum AC input to rectifier.

recovery time.  $V_{CBO}$ , max. coll.-base v., open input.  $V_{CE sat}$ , saturated coll.-emitter v.  $V_{CEO}$ , max. coll.-emitter v., open input.  $V_{CER}$ , max. coll.-emitter v., 1K resistive input.  $V_{EBO}$ , max. emitter-base v., open input.  $V_{sat}$ , saturated v.  $V_{FWD}$ , forward voltage drop.  $V_{rms}$ , maximum AC input to rectifier.

### GENERAL-PURPOSE TRANSISTORS

Type No.	Fig.	$P_t$ (w)	$V_{CBO}$	$V_{CER}$ $V_{CEO}^*$	$V_{EBO}$	$f_t$ (mc)	$h_{fe}$	$V_{CE sat}$ Max	EACH	
									1-99	100-999
2N 497	A	4.0	60	60*	8.0	180 typ	12-36	5.0	8.85	5.90
2N 498	A	4.0	100	100*	8.0	180 typ	12-36	5.0	9.00	6.50
2N 656	A	4.0	60	60*	8.0	180 typ	30-90	5.0	9.00	6.50
2N 657	A	4.0	100	100*	8.0	180 typ	30-90	5.0	9.00	6.50
2N 696	A	2.0	60	40	5.0	190	20-60	1.5	2.00	1.50
2N 697	A	2.0	60	40	5.0	190	40-120	1.5	2.80	2.10
2N 698	A	3.0	120	80	7.0	190	20-60	5.0	6.70	5.00
2N 699	A	2.0	120	80	5.0	190	40-120	5.0	6.70	5.00
2N 699B	A	5.0	120	100	7.0	190	40-120	5.0	12.00	9.00
2N 707	D	1.0	56	28	4.0	250 typ	9 min	0.6	7.65	5.03
2N 717	D	1.5	60	40	5.0	190	20-60	1.5	2.20	1.65
2N 718	D	1.5	60	40	5.0	190	40-120	1.5	3.00	2.30
2N 718A	D	1.8	75	50	7.0	190	40-120	1.5	8.80	6.30
2N 719	D	1.5	120	80	5.0	190	20 min	5.0	5.25	3.50
2N 719A	D	1.5	120	80	5.0	190	20-60	5.0	7.30	5.50
2N 720	D	1.5	120	80	5.0	190	40-120	5.0	7.30	5.50
2N 720A	D	1.8	120	100	7.0	190	40-120	5.0	13.20	9.90
2N 870	D	1.8	100	80	7.0	190	40-120	5.0	12.00	9.00
2N 871	D	1.8	100	80	7.0	190	100-300	5.0	15.00	11.30
2N 909	D	1.5	60	30	5.0	190	110-350	2.0	15.00	11.30
2N 910	D	1.8	100	80	7.0	190	75 min	1.2	8.00	6.00
2N 911	D	1.8	100	80	7.0	190	35 min	1.2	6.70	5.00
2N 912	D	1.8	100	80	7.0	190	15 min	1.2	5.30	4.00
2N 916	D	1.2	45	25*	5.0	250 typ	50-200	0.5	7.85	5.25
2N 956	D	1.8	75	50	7.0	190	100-300	1.5	9.35	6.90
2N 1409	A	2.0	30	25	4.0	190	15-45	0.8	6.95	4.85
2N 1410	A	2.0	45	30	4.0	190	30-90	0.8	7.65	5.10
2N 1420	A	2.0	60	30	5.0	190	100-300	1.5	7.95	5.30
2N 1564	A	.....	80	60*	5.0	190	15-50	1.0	8.00	6.00
2N 1565	A	.....	80	60*	5.0	190	30-100	1.0	8.00	6.00
2N 1566	A	.....	80	60*	5.0	190	60-200	1.0	8.00	6.00
2N 1613	A	3.0	75	50	7.0	190	40-120	1.5	8.00	6.00
2N 1711	A	3.0	75	50	7.0	190	100-300	1.5	8.50	6.30
2N 1837	A	2.0	80	50	8.0	190	40-120	0.8	11.95	8.95
2N 1837A	A	2.8	80	50	8.0	190	40-120	0.8	23.25	15.35
2N 1838	A	2.0	45	30	5.0	190	40-150	1.4	8.50	6.25
2N 1839	A	2.0	45	30	4.5	190	12-50	1.4	8.25	6.00
2N 1840	A	2.0	25	20	5.0	190	10 min	1.4	7.00	4.50
2N 1889	A	3.0	100	80	7.0	190	40-120	5.0	12.00	9.00
2N 1890	A	3.0	100	80	7.0	190	100-300	5.0	15.00	11.30
2N 1893	A	3.0	120	100	7.0	190	40-120	5.0	12.00	9.00
2N 1893A	A	3.0	140	100	7.0	190	40-120	2.0	10.00	7.50
2N 1972	A	2.0	60	30	5.0	190	110-350	2.0	15.00	11.30
2N 1973	A	3.0	100	80	7.0	190	75 min	1.2	8.00	6.00
2N 1974	A	3.0	100	80	7.0	190	35 min	1.2	6.70	5.00
2N 1975	A	3.0	100	80	7.0	190	15 min	1.2	5.30	4.00
2N 1983	A	2.0	50	30	5.0	190	70-210	0.25	7.50	5.00
2N 1984	A	2.0	50	30	5.0	190	35-100	0.25	5.10	3.40
2N 1985	A	2.0	50	30	5.0	190	15-45	0.25	3.90	2.60
2N 1986	A	2.0	50	40	5.0	190	60-240	1.5	4.80	3.70
2N 1987	A	2.0	50	40	5.0	190	20-80	1.5	4.20	3.25
2N 1988	A	2.0	100	60	5.0	190	35-120	2.0	8.10	5.40
2N 1989	A	2.0	100	60	5.0	190	20-60	2.0	5.40	3.60
2N 1990	A	2.0	100	.....	3.0	180	20 min	0.5	3.90	2.60
PT850	A	2.0	120	80	5.0	190	40-120	2.0	11.95	8.95

### COMMUNICATIONS TRANSISTORS

Type No.	Fig.	$P_t$ (w)	$V_{CBO}$	$V_{CER}$	$V_{EBO}$	$f_t$ (mc)	$G_p$ (db) Min.	$P_o/f$ (mc)	EACH	
									1-99	100-999
2N 1903	E	125.0	140	100	5	50	10.0	100/10	120.00	99.50
2N 1900	C	125.0	140	100	5	50	10.0	100/10	120.00	99.50
PT 665A	E	20.0	100	90	5	210	10.0	5/30	75.00	58.00
2N 2783	B	15.0	100	100	5	210	5.0	3/125	100.00	75.00
2N 2782	B	15.0	100	100	5	210	5.0	3/125	59.90	44.40
2N 2781	B	15.0	75	75	5	210	5.0	3/125	52.90	39.90
2N 2874	B	13.0	75	60	4	210	10.0	3/70	50.00	37.50

### COMMUNICATIONS TRANSISTORS (Cont'd)

Type No.	Fig.	$P_t$ (w)	$V_{CBO}$	$V_{CER}$ $V_{CEO}^*$	$V_{EBO}$	$f_t$ (mc)	$G_p$ (db) Min.	$P_o/f$ (mc)	EACH	
									1-99	100-999
2N 1709	B	13.0	75	60	4	210	10.0	5/30	80.00	60.00
PT 612	B	13.0	75	60	5	210	10.0	5/30	49.90	37.50
2N 1710	B	13.0	60	45	3	210	8.0	5/30	45.00	33.00
PT 1558	A	4.0	80	80	5	190	10.0	1/125	49.50	42.50
2N 1506A	A	3.5	80	80	5	190	10.0	1.3/70	36.50	27.50
PT 1515	A	3.0	80	80	4	190	10.0	1.3/100	42.50	35.00
2N 1506	A	3.0	60	40	4	190	9.0	1/70	24.50	16.50
2N 1505	A	3.0	50	40	3	190	7.0	1/70	12.25	8.25
2N 1335	A	2.8	120	90	4	150	2.2	25/70	24.00	16.00
2N 1336	A	2.8	120	90	4	150	3.0	5/70	21.00	15.65
2N 1337	A	2.8	120	90	4	150	2.4	7/70	39.50	29.00
2N 1338	A	2.8	80	50	3	150	2.2	25/70	26.75	20.25
2N 1339	A	2.8	120	100	3	150	2.2	25/70	25.00	18.75
2N 1340	A	2.8	120	100	3	150	3.0	5/70	30.00	22.50
2N 1341	A	2.8	120	100	3	150	2.4	75/70	40.00	30.00
2N 1342	A	2.8	150	125	5	150	8.3	7/70	28.75	21.60
PT 886	A	1.6	22	25	5	190	.....	15/27	3.50	2.95
PT 887	A	1.6	45	50	5	190	5.7	2/27	4.25	3.75
PT 888	A	1.6	45	50	5	190	2.0	4/27	4.50	3.95
2N 2656	D	1.2	25	15*	5	300	10.0	.05/100	4.00	3.00
PT 720	D	1.2	25	15*	5	250	.....	.05/100	4.00	3.00

### HIGH-FREQUENCY HIGH-POWER TRANSISTORS

Type No.	Fig.	$V_{CBO}$	$V_{CER}$	$V_{EBO}$	$h_{fe}$	10 mc hfe	$f_t$ (mc) Min.	EACH	
								1-99	100-999
2N 1899	C	140	100	5	5	5	50	95.40	79.50
2N 1901	C	140	100	5	5	5	50	130.00	105.00
2N 1902	E	140	100	5	5	5	50	95.40	79.50
2N 1904	C	140	100	5	5	5	50	130.00	105.00
PT 900	E	80	50	5	5	5	50	85.00	72.00

### 250-MA SUBMINIATURE RECTIFIERS

Type No.	@ 100°C				@ 25°C		EACH	
	PIV	$V_{rms}$	$I_o$ (ma)	IMR ( $\mu$ a)	$I_o$ (ma)	Min. $V_{sat}$	1-99	100-999
PS005	50	35	140	100	250	75	1.07	.80
PS010	100	70	140	100	250	130	1.47	1.10
PS015	150	105	140	100	250	180	1.87	1.40
PS020	200	140	140	100	250	240	2.33	1.75
PS025	250	175	140	100	250	285	2.75	1.81
PS030	300	210	140	100	250	340	2.80	1.85
PS035	350	245	140	100	250	400	3.00	2.00
PS040	400	280	140	100	250	450	3.10	2.10
PS050	500	350	140	100	250	560	3.20	2.20
PS060	600	420	140	100	250	675	3.30	2.30

### 400-MA SUBMINIATURE RECTIFIERS

Type No.	@ 25°C				@ 150°C				EACH	
	$I_o$ (ma)	$V_{sat}$	PIV	$V_{rms}$	$I_o$ (ma)	IMR ( $\mu$ a)	1-99	100-999		
PS405	400	75	50	35	150	500	1.20	.90		
PS410	400	130	100	70	150	500	1.67	1.25		
PS415	400	180	150	105	150	500	2.13	1.60		
PS420	400	240	200	140	150	500	2.60	1.80		
PS425	400	285	250	175	150	500	2.80	1.85		
PS430	400	340	300	210	150	500	2.85	1.95		
PS435	400	400	350	245	150	500	3.00	2.00		
PS440	400	450	400	280	150	500	3.10	2.10		



# Pacific NPN Silicon Semiconductors

SEE PREVIOUS PAGE FOR ILLUSTRATIONS AND EXPLANATION OF COLUMN HEADINGS

## G MILITARY-TYPE SUBMINIATURE RECTIFIERS

Type No.	Military Spec.	PIV	I <sub>o</sub> (ma)		V <sub>sat</sub> @ 100°C	EACH	
			25°C	100°C		1-99	100-999
IN645/AF	MIL-E-1/1143	225	400	150	275	1.55	1.00
IN645M/JAN	MIL-S-19500/240		400	150	275	1.55	1.00
IN646/AF	MIL-E-1/1143	300	400	150	360	1.80	1.20
IN647/AF	MIL-E-1/1143	400	400	150	480	1.95	1.30
IN647M/JAN	MIL-S-19500/240		400	150	480	1.95	1.30
IN648/AF	MIL-E-1/1143	500	400	150	600	2.75	1.95
IN649/AF	MIL-E-1/1143	600	400	150	720	3.50	2.40
IN649M/JAN	MIL-S-19500/240		400	150	720	3.50	2.40

## H VERY-HIGH-VOLTAGE CARTRIDGE RECTIFIERS

Type No.	PIV	I <sub>o</sub>		V <sub>rms</sub>	V <sub>fwd</sub> @ 100 ma	EACH	
		25°C	100°C			1-99	100-999
IN1730	1000	200	100	700	5	5.95	
IN1731	1500	200	100	1050	5	6.90	
IN1731/Sig C	Mil-S-195000/142					7.75	
IN1732	2000	200	100	1400	9	8.75	
IN1733	3000	150	75	2100	12	12.75	
IN1733/Sig C	Mil-S-19500/142					13.75	
IN1734	5000	100	50	3500	18	15.00	
IN1734/Sig C	Mil-S-19500/142					16.00	
IN2382	4000	150	75	2800	18	14.00	
IN2383	6000	100	50	4200	27	19.00	
IN2384	8000	70	35	5000	27	25.00	
IN2385	10,000	70	35	7000	39	30.00	
IN3052	12,000	100	50	8450	70	42.00	
IN3053	14,000	100	50	9900	75	45.00	
IN3054	16,000	100	50	11,300	80	52.00	
IN3055	18,000	100	50	12,700	85	60.00	
IN3056	20,000	100	50	14,150	90	62.50	
IN3057	22,000	100	50	15,500	95	75.00	
IN3058	24,000	100	50	17,000	100	85.00	
IN3059	26,000	100	50	18,350	105	95.00	
IN3060	28,000	100	50	19,750	120	110.00	
IN3061	30,000	100	50	21,150	125	120.00	

## G COMPUTER DIODES

Type No.	V <sub>sat</sub> @ 100µa	IFWD @ 1 v.	IMR (µa)		R <sub>r</sub> Ohms	T <sub>r</sub> µs	EACH	
			25°C	100°C			1-99	100-999
IN625	30	4 @ 1.5V	1(20V)	30(20V)	400K	1	.60	.41
IN626	50	4 @ 1.5V	1(35V)	30(35V)	400K	1	.65	.42
IN627	100	4 @ 1.5V	1(75V)	30(75V)	400K	1	.70	.46
IN628	150	4 @ 1.5V	1(125V)	30(125V)	400K	1	.90	.50
IN629	200	4 @ 1.5V	1(175V)	30(175V)	400K	1	.95	.55
IN643	200	10	.025(10V)	5(10V)	200K	.3	3.50	2.55
IN643/SIG C	MIL-E-1/1171					.3	3.50	2.55
IN643A	200	100	.025(10V)	5(10V)	200K	.3	3.50	2.55
IN658	120	100	.05(50V)	25(50V)	80K	.3	3.75	2.73
IN658/SIG C	MIL-E-1/1160					.3	3.75	2.73
IN659	60	6	5(50V)	25(50V)	400K	.3	1.30	.70
IN660	120	6	5(100V)	50(100V)	400K	.3	1.50	.75
IN661	240	6	10(200V)	100(200V)	400K	.3	2.00	1.32
IN662	100	10	1(10V)	20(10V)	100K	.5	1.20	.60
IN662/SIG C	MIL-E-1/1139					.5	1.20	.60
IN662A	100	100	20(50V)	100(50V)	.....	.....	1.20	.60
IN663	100	100	5(75V)	50(75V)	200K	.5	1.60	1.15
IN663/SIG C	MIL-E-1/1140					.5	1.60	1.15
IN663A	100	100	1(75V)	15(75V)	200K	.3	1.60	1.15
IN789	30	10	1(20V)	30(20V)	200K	.5	1.40	1.08
IN790	30	10	5(20V)	30(20V)	200K	.25	1.40	1.08
IN791	30	50	5(20V)	30(20V)	200K	.5	1.70	1.30
IN792	30	100	5(20V)	30(20V)	100K	.5	2.15	1.65
IN793	60	10	1(50V)	30(50V)	200K	.5	1.70	1.30
IN794	60	10	5(50V)	30(50V)	200K	.25	1.70	1.30
IN795	60	50	5(50V)	30(50V)	200K	.5	2.15	1.65
IN796	60	100	5(50V)	30(50V)	100K	.5	2.70	2.00
IN797	120	10	1(100V)	30(100V)	200K	.5	2.30	1.75
IN798	120	10	5(100V)	30(100V)	200K	.25	2.00	1.50
IN799	120	50	5(100V)	30(100V)	200K	.5	2.70	2.00
IN800	120	100	5(100V)	30(100V)	100K	.5	3.60	2.70
IN801	150	10	1(125V)	30(125V)	200K	.5	2.45	1.82
IN802	150	50	5(125V)	50(125V)	200K	.5	3.00	2.25
IN803	200	10	5(175V)	50(175V)	200K	.5	2.80	2.10
IN804	200	50	10(175V)	50(175V)	200K	.5	3.60	2.70

## G GENERAL-PURPOSE DIODES

Type No.	V <sub>sat</sub> @ 100µa	IFWD @ 1 v.	IMR @ PIV µa @ v.		I <sub>o</sub> (ma)		EACH	
			25°C	150°C	25°C	150°C	1-99	100-999
IN456	30	40	.025 @ 25	5 @ 25	90	40	.53	.40
IN456A	30	100	.025 @ 25	5 @ 25	200	70	.63	.47
IN457	70	20	.025 @ 60	5 @ 60	75	33	.60	.45
IN457/JAN	MIL-E-1/1026						.74	.55

## G GENERAL-PURPOSE DIODES (Cont'd)

Type No.	V <sub>sat</sub> @ 100µa	IFWD @ 1 v.	IMR @ PIV µa @ v.		I <sub>o</sub> (ma)		EACH	
			25°C	150°C	25°C	150°C	1-99	100-999
IN457A	70	100	.025 @ 60	5 @ 60	200	70	.60	.45
IN458	150	7	.025 @ 125	5 @ 125	55	25	.65	.49
IN458/JAN	MIL-E-1/1027						.79	.59
IN458A	150	100	.025 @ 125	5 @ 125	200	70	.65	.49
IN459	200	3	.025 @ 125	5 @ 175	40	18	.80	.60
IN459/JAN	MIL-E-1/1028						.93	.70
IN459A	200	100	.025 @ 175	5 @ 175	200	70	.80	.60
IN461	30	15	.5 @ 25	30 @ 25	60	27	.53	.40
IN461A	30	100	.5 @ 25	30 @ 25	200	70	.60	.45
IN462	70	5	.5 @ 60	30 @ 60	50	22	.60	.45
IN462A	70	100	.5 @ 60	30 @ 60	200	70	.64	.48
IN463	200	1	.5 @ 175	30 @ 175	30	13.5	.67	.50
IN463A	200	100	.5 @ 175	30 @ 175	200	70	.71	.53
IN464	150	3	.5 @ 125	30 @ 125	40	18	.72	.54
IN464A	150	100	.5 @ 125	30 @ 125	200	70	.74	.55
IN483BM/USN	Mil-S-19500/118A						1.00	.75
IN485BM/USN	Mil-S-19500/118A						1.60	1.20
IN486BM/USN	Mil-S-19500/118A						2.00	1.50

## G HIGH-CONDUCTANCE DIODES

Type No.	V <sub>sat</sub> @ 100 µa	V <sub>fwd</sub> @ 100 ma	IMR @ PIV µa @ v.		I <sub>o</sub> (ma)		EACH	
			25°C	150°C	25°C	150°C	1-99	100-999
IN482	40	1.1	.25 @ 30	30	125	50	.60	.45
IN482A	40	1.0	.025 @ 30	15	200	70	.65	.49
IN482B	40	1.0	.025 @ 30	5	200	70	.65	.49
IN483	80	1.1	.25 @ 60	30	125	50	.67	.50
IN483A	80	1.0	.025 @ 60	15	200	70	.67	.50
IN483B	80	1.0	.025 @ 60	5	200	70	.67	.50
IN484	150	1.1	.25 @ 125	30	125	50	.67	.50
IN484A	150	1.0	.025 @ 125	15	200	70	.80	.60
IN484B	150	1.0	.025 @ 125	5	200	70	.80	.60
IN485	200	1.1	.25 @ 175	30	125	50	.80	.60
IN485A	200	1.0	.025 @ 175	15	200	70	1.00	.75
IN485B	200	1.0	.025 @ 175	5	200	70	1.00	.75
IN486	250	1.1	.25 @ 225	50	125	50	1.20	.90
IN486A	250	1.0	.05 @ 225	25	200	70	1.43	1.07
IN486B	250	1.0	.05 @ 225	10	200	70	1.71	1.28
IN487	330	1.1	.25 @ 300	50	125	50	2.00	1.50
IN487A	330	1.0	.10 @ 300	25	200	70	2.37	1.78
IN488	420	1.1	.25 @ 380	50	125	50	2.12	1.59
IN488A	420	1.0	.10 @ 380	25	200	70	2.53	1.90

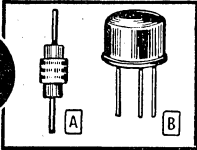
## F MICRO-RECTIFIERS

Type No.	BV (V.)	IFWD (ma)	IMR (µa)	EACH	
				1-99	100-999
PD110	400	5	1 @ 300V	3.00	2.25
PD111	500	5	1 @ 400V	4.50	3.40
PD112	600	5	1 @ 500V	5.00	3.75
PD113	700	5	1 @ 575V	5.50	4.12
PD114	800	5	1 @ 650V	6.00	4.50
PD115	900	5	1 @ 750V	6.50	4.85
PD132	50	10	1 @ 30V	1.10	.81
PD133	100	10	1 @ 60V	1.50	1.13
PD134	200	10	1 @ 120V	2.00	1.50
PD135	300	10	1 @ 240V	2.50	1.87

## F MICRO-MESA DIODES

Type No.	BV (V.)	IFWD (ma)	IMR (µa)	C <sub>o</sub> (µµf)	T <sub>r</sub> (ns)	EACH	
						1-99	100-999
PD301	50	10	.025 @ 20V	4	4	4.75	2.85
PD302	50	10	.1 @ 20V	4	4	3.30	2.15
PD303	50	10					

# Pacific 1/2-Watt Zeners, Varicaps, Micro Diodes



## EXPLANATION OF COLUMN HEADINGS

C, capacitance. BV, breakdown voltage.  $I_{fwd}$ , minimum forward current.  $I_{MR}$ , maximum reverse current.  $I_p$ , peak point current.  $I_{test}$ , test current. Q, quality factor.  $T_r$ , rise time.  $V_{sat}$ , saturated voltage.  $V_z$ , zener v. Z, zener imp.

### GENERAL COMPUTER MICRO-DIODES

Type No.	BV (V)	$I_{fwd}$ (ma)	IMR ( $\mu$ a)	$T_r$ ( $\mu$ sec)	EACH	
					1-99	100-999
PD101	50	5	1.0 @ 10V	1.0	1.25	.89
PD102	50	20	.5 @ 10V	.3	2.40	1.80
PD103	50	100	.5 @ 10V	.3	3.50	2.65
PD104	100	5	.5 @ 10V	.3	2.50	1.88
PD105	100	20	.5 @ 10V	.3	3.75	2.80
PD106	100	50	.5 @ 10V	.3	4.25	3.20
PD107	100	100	.5 @ 10V	.3	5.00	3.75
PD108	200	10	.5 @ 10V	.3	3.60	2.70
PD109	200	10	.025 @ 10V	.3	3.60	2.70
PD124	60	6	5.0 @ 50V	.3	3.24	2.45
PD125	70	20	.025 @ 60V	..	3.00	2.25
PD126	100	10	1.0 @ 10V	.5	1.90	1.35
PD127	100	100	5.0 @ 75V	.5	4.20	3.15
PD128	120	100	.05 @ 50V	.3	4.25	3.40
PD129	150	7	.025 @ 125V	..	3.93	3.03
PD130	200	3	.025 @ 175V	..	4.19	3.23

### A HIGH-Q "VARICAP" VOLTAGE-VARIABLE CAPACITORS

Type No.	@ 4 VDC		WVDC	$V_{sat}$ @ 100 $\mu$ a	IMR (ma)	EACH	
	C ( $\mu$ mf)	Q (50 mc)				1-99	100-999
PC107	6.5±1.5	150	30	37	0.5 @ 10V	30.00	22.50
PC112	10	50	80	90	0.5 @ 50V	9.00	6.75
PC113	22	50	80	90	0.5 @ 50V	9.00	6.75
PC114	47	50	80	90	0.5 @ 50V	12.00	9.00
PC115	10	100	100	110	0.5 @ 75V	12.00	9.00
PC116	22	100	100	110	0.5 @ 75V	12.00	9.00
PC117	47	100	100	110	0.5 @ 75V	30.00	22.50
PC122	47	75	100	110	0.5 @ 75V	20.00	15.00
PC123	15	50	25	30	0.5 @ 10V	7.35	5.50
PC124	15	125	50	60	0.5 @ 30V	10.00	7.50
PC125	15	50	80	90	0.5 @ 50V	9.00	6.75
PC126	15	100	100	110	0.5 @ 75V	12.00	9.00
PC127	33	50	25	30	0.5 @ 10V	7.35	5.50
PC128	33	125	50	60	0.5 @ 30V	10.00	7.50
PC129	33	50	80	90	0.5 @ 50V	10.00	7.50
PC130	33	100	100	110	0.5 @ 75V	20.00	15.00
PC132	10	50	25	30	0.5 @ 10V	7.35	5.50
PC133	22	50	25	30	0.5 @ 10V	7.35	5.50
PC134	47	50	25	30	0.5 @ 10V	10.00	7.50
PC135	10	150	50	60	0.5 @ 30V	12.00	9.00
PC136	22	125	50	60	0.5 @ 30V	10.00	7.50
PC137	47	100	50	60	0.5 @ 30V	18.00	13.50
PC139	6.5±1.5	150	50	60	0.5 @ 30V	20.00	15.00
PC140	6.5±1.5	75	80	90	0.5 @ 50V	25.00	18.75
PC141	6.5±1.5	125	100	110	0.5 @ 75V	35.00	25.00

### A 5.6-36 VOLT 1/2-WATT ZENERS ±5% Vz TOLERANCE

Type No.	$V_z$ (V)	$I_{test}$ (ma)	Z (Ohms)	EACH	
				1-99	100-999
IN708A	5.6	25	3.6	2.90	2.15
IN709A	6.2	25	4.1	2.90	2.15
SC IN709	Per MIL-E-1/1238			2.10	1.60
IN710A	6.8	25	4.7	2.90	2.15
IN711A	7.5	25	5.3	2.90	2.15
IN712A	8.2	25	6.0	2.90	2.15
IN713A	9.1	12	7.0		
IN714A	10	12	8.0		
IN715A	11	12	9.0		
IN716A	12	12	10.0		
SC IN716	Per MIL-E-1/1238			2.10	1.60
IN717A	13	12	11.0	2.90	2.15
IN718A	15	12	13.0	2.90	2.15
SC IN718	Per MIL-E-1/1238			2.10	1.60
IN719A	16	12	15.0	2.90	2.15
IN720A	18	12	17.0	2.90	2.15
SC IN720	Per MIL-E-1/1238			2.10	1.60
IN721A	20	4	20.0	2.90	2.15
IN722A	22	4	24.0	2.90	2.15
SC IN722	Per MIL-E-1/1238			2.10	1.60
IN723A	24	4	28.0	2.90	2.15
IN724A	27	4	35.0		
IN725A	30	4	42.0		
IN726A	33	4	50.0		
IN727A	36	4	60.0		

### A MILITARY 1/2-WATT ZENERS ±5% Vz TOLERANCE (Cont'd)

Type No.	$V_z$ (V)	$I_{test}$ (ma)	Z (Ohms)	EACH	
				1-99	100-999
IN974B	36	3.4	70.0	3.45	2.75
USN IN974B	Per MIL-S-19500/117			4.00	3.00
IN975B	39	3.2	80.0	3.45	2.75
USN IN975B	Per MIL-S-19500/117			4.00	3.00

### LOW-VOLTAGE 1/2-WATT ZENERS

Type No.	$V_z$ (V)		$I_r$ (ma)	Z (Ohms)	EACH	
	Min.	Max.			1-99	100-999
IN702	2.0	3.2	75	60	2.10	1.60
IN703	3.0	3.9	50	55		
IN704	3.7	4.5	5	45		
IN705	4.3	5.4	5	35		
IN706	5.2	6.4	5	20		
IN707	6.2	8.0	5	10		

### A LOW-VOLTAGE MILITARY 1/2-WATT ZENERS (MIL-S-19500/127A)

Type No.	$V_z$ (V)	$I_r$ (ma)	Z (Ohms)	NET		Type No.	$V_z$ (V)	$I_r$ (ma)	Z (Ohms)	EACH	
				1-99	100-999					1-99	100-999
USN IN746A	3.3	10	28	3.00	2.25	USN IN753A	6.2	0.1	7	3.00	2.25
USN IN747A	3.6	10	24			USN IN754A	6.8	0.1	5		
USN IN748A	3.9	10	23			USN IN755A	7.5	0.1	6		
USN IN749A	4.3	2	22	3.00	2.25	USN IN756A	8.2	0.1	8		
USN IN750A	4.7	2	19			USN IN757A	9.1	0.1	10		
USN IN751A	5.1	1	17			USN IN758A	10.0	0.1	17		
USN IN752A	5.6	1	11			USN IN759A	12.0	0.1	30		

### A NEW ULTRA-LOW-LEAKAGE "VARICAP" VOLTAGE-VARIABLE CAPACITORS

Silicon P-N junction device provides means of changing circuit capacitance through bias control. It is useful from low audio to UHF frequencies, and from -65°C to

+150°C. Also for automatic frequency control, voltage tuning, and frequency modulation. Hermetically sealed. Tinned copper leads, 1/4" long (min.), .020" dia.

#### 15 TO 25 WVDC—FOR LOW AUDIO TO UHF FREQUENCIES

Type No.	@ 4 VDC		Max. WV DC	EACH	
	C ( $\mu$ mf)	Typ. Q (50 mc)		1-99	100-999
V7	7	18	25	3.05	2.30
V10	10	18	25		
V12	12	18	25		
V15	15	18	25		
V20	20	18.7	20	2.75	2.05
V27	27	15.7	20		
V33	33	14.6	20		
V39	39	15.1	20		
V47	47	15.4	20		
V56	56	13.5	15	3.05	2.30
V68	68	14.0	15		
V82	82	13.0	15		
V100	100	11.0	15		

Type No.	@ 4 VDC		Max. WV DC	EACH	
	C ( $\mu$ mf)	Typ. Q (50 mc)		1-99	100-999
V900	100	11.0	15	3.50	2.50
V907	7	18	25		
V910	10	18	25		
V912	12	18	25		
V915	15	18	25	3.50	2.50
V920	20	18.7	20		
V927	27	15.7	20		
V933	33	14.6	20		
V939	39	15.1	20		
V947	47	15.4	20	3.50	2.50
V956	56	13.5	15		
V968	68	14.0	15		
V982	82	13.0	15		

#### 40 TO 100 WVDC—FOR LOW AUDIO TO UHF FREQUENCIES

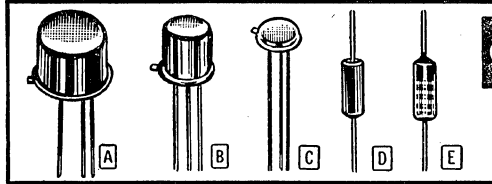
Type No.	$V_z$ (V)	$I_r$ (ma)	Z (Ohms)	EACH	
				1-99	100-999
V7E	7	4.5	100	3.05	2.30
V10E	10	5.5	100		
V12E	12	6.5	100		
V15E	15	7.5	100		
V20E	20	18.7	70		
V27E	27	15.7	65	3.05	2.30
V33E	33	14.6	60		
V39E	39	15.1	55		
V47E	47	15.4	50		
V56E	56	13.5	40		

Type No.	$V_z$ (V)	$I_r$ (ma)	Z (Ohms)	EACH	
				1-99	100-999
V907E	7	4.5	100	3.75	2.75
V910E	10	5.5	100		
V912E	12	6.5	100		
V915E	15	7.5	100		
V920E	20	18.7	70		
V927E	27	15.7	65	3.75	2.75
V933E	33	14.6	60		
V939E	39	15.1	55		
V947E	47	15.4	50		
V956E	56	13.5	40		

# Raytheon Semiconductors

## EXPLANATION OF COLUMN HEADINGS

**V<sub>CB0</sub>**, coll-base breakdown v., open input. **V<sub>VE0</sub>**, emitter to base breakdown v., open input. **C<sub>ob</sub>**, output cap. **E<sub>F</sub>**, max. DC fwd. v. drop. **f<sub>ab</sub>**, alpha cutoff freq. **G<sub>p</sub>**, power gain in db. **I<sub>CB0</sub>**, coll. current with rev. junction bias, open emitter. **I<sub>CO</sub>**, coll. to base cutoff current. **I<sub>F</sub>**, fwd current. **N<sub>F</sub>**, noise figure. **I<sub>B</sub>**, DC base current. **P<sub>ce</sub>**, power diss. **V<sub>c</sub>**, max. coll v. **V<sub>CB</sub>**, coll-base DC v. **V<sub>CE0</sub>**, coll-base v., open input. **V<sub>EC</sub>**, coll-emitter v. **V<sub>CE0</sub>**, coll-emitter v., open input.



- Factory OEM Prices
- Factory-Fresh Stocks
- Fastest Shipment

## SILICON PLANAR TRANSISTORS

### HIGH-CURRENT FAST-SWITCHING

**V<sub>C</sub>** = 10 v. **f** = 50 mc. Case types: Fig. A, TO-5 style; Fig. B, TO-18 style; Fig. C, TO-46 style.

Type No.	Fig.	BV <sub>EB0</sub> (v)	I <sub>CB0</sub> (μa)	BV <sub>CB0</sub> (v)	h <sub>FE</sub>		EACH	
					Min.	Max.	1-99	100-999
2N497	A	8	.002	60	12	36	8.85	5.90
JAN 2N497	A	MIL-S-19500/74C					9.30	6.20
2N498	A	8	.002	100	12	36	11.00	7.55
JAN 2N498	A	MIL-S-19500/74C					11.75	7.85
2N656	A	8	.10	60	30	90	9.70	6.55
JAN 2N656	A	MIL-S-19500/74C					10.10	6.85
2N657	A	8	.10	100	30	90	10.05	6.70
JAN 2N657	A	MIL-S-19500/74C					10.50	7.00
2N696	A	5	.1	60	2	.....	1.57	1.05
JAN 2N696M	A	MIL-S-19500/99C					2.20	1.48
2N697	A	5	.1	60	40	120	2.06	1.38
JAN 2N697M	A	MIL-S-19500/99B					2.75	1.85
2N698	A	7	.005	120	15	.....	4.95	3.30
2N699	A	5	.2	120	40	120	4.95	3.30
2N1420	A	5	.1	60	2.5	.....	6.00	4.00
2N1613	A	7	.10	75	40	120	7.01	4.68
USN 2N1613	A	MIL-S-19500/181					7.01	4.68
2N1711	A	7	.01	75	40	120	8.25	5.50
USN 2N1711M	A	MIL-S-19500/225A					12.50	8.30
2N1890	A	7	.01	100	100	300	18.45	12.30
USN 2N1890M	A	MIL-S-19500/225A					18.45	12.30
2N1893	A	7	.01	120	30	100	10.60	6.85
USN 2N1893	A	MIL-S-19500/182					10.60	6.85
2N706	B	3	.5	25	20	.....	1.57	1.05
USA 2N706	B	MIL-S-19500/120					1.57	1.05
2N708	B	5	.025	40	30	120	2.89	1.93
2N717	B	5	.1	60	2	.....	1.87	1.25
2N718	B	5	.1	60	40	120	2.36	1.58
2N718A	B	7	.01	75	30	100	7.31	4.88
2N720	B	5	.2	120	40	120	5.25	3.50
2N720A	B	7	.01	120	.....	.....	10.60	6.85
2N731	B	1	.5	60	2.5	.....	6.50	4.35
2N914	B	5	.025	40	30	120	5.75	3.85
2N2310	C	8	2	60	12	36	6.35	4.25
2N2311	C	8	5	100	12	36	7.90	5.25
2N2312	C	8	2	60	30	90	7.15	4.75
2N2313	C	8	5	100	30	90	9.00	6.00
2N2314	C	5	1	60	2	.....	5.25	2.75
2N2315	C	5	1	60	40	120	6.25	3.30
2N2316	C	5	2	120	40	120	8.50	5.65
2N2317	C	7	.01	75	40	120	10.85	7.25
RT698M	C	5	.2	120	15	.....	7.15	4.75
RT708M	C	5	.025	40	30	120	7.50	5.00
RT731M	C	1	.5	60	2.5	.....	10.20	6.80
RT914M	C	5	.025	40	30	120	7.80	5.20
RT1420M	C	5	.1	60	2.5	.....	7.95	5.30
RT1890M	C	7	.01	100	100	300	23.90	15.40
RT1893M	C	7	.01	120	40	120	10.60	6.85

### HIGH VOLTAGE

Temperature range, -65 to +175°C. In TO-5 case.

2N2008	A	8	2	175	20	100	16.90	10.90
--------	---	---	---	-----	----	-----	-------	-------

### LOW-STORAGE HIGH-CURRENT SWITCHES

**h<sub>FE</sub>** measured at **V<sub>CE</sub>** = 10 v, **I<sub>C</sub>** = 150 ma. Temperature range, -65 to +200°C. All in TO-5 case.

2N1252	A	5	10	30	15	45	6.90	4.55
2N1253	A	5	10	30	30	90	11.95	7.95

### SMALL-SIGNAL TYPES

**h<sub>FE</sub>** measured at **V<sub>CE</sub>** = 10 v, **I<sub>C</sub>** = 10 ma. TO-18 case, except \*TO-5.

Type No.	Fig.	†Min. h <sub>FE</sub>	BV <sub>CB0</sub> (v)	BV <sub>EB0</sub> (v)	I <sub>CB0</sub> (μa)	EACH	
						1-99	100-999
2N910	B	75	100	7	.025	8.50	5.60
2N911	B	35	100	7	.025	7.90	5.25
2N912	B	10	100	7	.025	6.20	4.15
2N1973	A*	75	100	7	.025	10.50	7.00
2N1974	A*	35	100	7	.025	7.90	5.25
2N1975	A*	15	100	7	.025	6.20	4.15

### A INDUSTRIAL TYPES

Type No.	BV <sub>EB0</sub> (v)	I <sub>CB0</sub> (μa)	BV <sub>CB0</sub> (v)	h <sub>FE</sub>		EACH	
				Min.	Max.	1-99	100-999
2N1983	5	5	50	80	240	6.30	4.85
2N1984	5	5	50	40	120	4.30	3.31
2N1985	5	5	50	20	80	3.30	2.54
2N1986	5	5	50	2	.....	4.60	3.54
2N1987	5	5	50	2	.....	4.15	3.20
2N1988	5	5	100	20	100	6.65	5.12
2N1989	5	5	100	10	.....	4.35	3.35
2N1990	3	.....	100	.....	.....	3.60	2.60
RT482	5	2	20	20	.....	3.20	2.45
RT483	5	2	40	20	60	3.40	2.60
RT484	5	2	40	40	120	4.05	3.10
RT5151	5	1	45	30	60	3.90	3.00
RT5152	5	1	45	30	60	3.00	2.31
RT5203	5	2	40	.....	.....	2.00	1.54
RT5204	5	1	30	40	120	2.30	1.77
RT5212	5	1	60	40	120	5.20	4.00

### A LOW-NOISE TRANSISTORS

2N2049	7	.010	75	60	.....	21.00	14.00
2N2309	5	.005	30	25	.....	16.00	10.65

### SILICON RECTIFIERS

High-voltage type rectifiers. Maximum DC reverse current at rated PIV: 10μa at 25°C; 10μa at 100°C. Maximum surge current, 25 amps. Operating temperature range, -55 to +150°C. \*Indicates resistive or inductive load.



Type No.	PIV (v)	I <sub>F</sub> (ma)		Max. RMS Input† (v)	E <sub>F</sub> @ 100 ma 25°C (v)	EACH	
		@ 25°C	@ 100°C			1-99	100-999
1N1730	1000	200	100	700	5	5.90	4.80
1N1731	1500	200	100	1050	5	6.90	5.80
1N1732	2000	200	100	1400	9	7.70	6.50
1N1733	3000	150	75	2100	12	12.70	10.50
1N1734	5000	100	50	3500	18	14.80	12.50
1N2382	4000	150	75	2800	18	13.80	11.50
1N2383	6000	100	50	4200	27	18.90	16.40
1N2384	8000	70	35	5600	27	24.70	20.50
1N2385	10000	70	35	7000	39	29.70	24.90

### B HIGH-FREQUENCY AMPLIFIER TRANSISTOR

NPN silicon epitaxial type for use up to 1.5 gc. TO-18 case with 4 leads. **V<sub>CB0</sub>**, 30 v. **V<sub>CE0</sub>**, 10 v. **V<sub>EB0</sub>**, 3 v. **I<sub>CB0</sub>** @ **V<sub>CB</sub>** = 15 v, 10 ma. **BV<sub>CB0</sub>** @ **I<sub>C</sub>** = 10 μa, 30 v. **BV<sub>CE0</sub>** @ **I<sub>C</sub>** = 2 ma and **V<sub>CE</sub>** = 1 v, 10 v. **h<sub>FE</sub>** @ **I<sub>C</sub>** = 2 ma, 20 min., 120 max. **V<sub>CE(sat)</sub>** @ **I<sub>C</sub>** = 4 ma and **I<sub>B</sub>** = 4 ma, .25 v. **h<sub>FE</sub>** @ **I<sub>C</sub>** = 2 ma and **V<sub>CE</sub>** = 6 v, 5. **C<sub>ob</sub>** @ **V<sub>CB</sub>** = 6 v, .7 pf. **N<sub>F</sub>** @ **I<sub>C</sub>** = 2 ma and **V<sub>CE</sub>** = 6 ma, 7.5 db. 2N2808. 1-99.....EACH 50.00 100-999.....EACH 33.50

### SILICON ALLOY TRANSISTORS

#### B SWITCHING TYPES

Type No.	I <sub>CO</sub> (ua)	BV <sub>CE0</sub> (v)	f <sub>ab</sub> (mc)	EACH	
				1-99	100-999
2N327A	.005	40	.200	3.70	2.80
2N328A	.005	35	.300	6.50	5.00
JAN2N328AM	MIL-S-19500/110A			6.50	5.00
2N329A	.005	30	.500	13.00	10.00
JAN2N329AM	MIL-S-19500/110A			13.00	10.00

#### C SMALL-SIGNAL TYPES

2N1034	.005	40	.200	3.66	2.75
2N1035	.005	35	.300	6.10	4.69
2N1036	.005	30	.500	13.30	10.00
2N1037	.005	35	.300	6.30	4.75
2N1623	.005	20	.300	2.16	1.65



# Transistors and Diodes

SEE PAGE 61 FOR ILLUSTRATIONS AND FACING PAGE FOR EXPLANATION OF COLUMN HEADINGS

## SILICON ALLOY TRANSISTORS (Cont'd)

### A HIGH-VOLTAGE TYPES

Type No.	IcBo (ua)	BVCE0 (v)	Nf (db)	fab (ko)	EACH	
					1-99	100-999
2N1275	.005	-80	18	200	6.50	5.00
2N1654	.005 @ 80V	-80	18	250	10.65	8.20
2N1655	.005 @ 100V	-100	18	200	14.30	11.00
2N1656	.005 @ 100V	-100	18	250	39.00	26.00

## GERMANIUM TRANSISTORS

### A GENERAL PURPOSE ALLOY-JUNCTION AUDIO TYPES

Type No.	VCE V	hfe Av.	Gp	Ico ua	EACH	
					1-99	100-999
2N422	20	50	40	6	1.95	1.30
2N464	40	26	40	6	1.50	1.00
2N465	30	45	42	6	1.50	1.00
2N466	20	90	44	6	1.65	1.10
2N467	15	180	45	6	2.09	1.39

### A GENERAL PURPOSE RADIO-FREQUENCY TYPES

Type No.	VCE0 V	fab mc	hfe Av.	Ic ma	EACH	
					1-99	100-999
2N413	18	2.5	30	200	.61	.40
2N414	15	7	60	200	.62	.41
2N416	12	10	80	200	1.50	1.00
2N417	10	20	140	200	1.75	1.15

### AUDIO ENTERTAINMENT TYPES

Designed for use as power output transistors in radios, TV sets, hi-fw amplifiers, etc. \*Indicates class A output, 50 mw; †class B, 450 mw. Supply voltage, 22 v., except #9 v.

Type No.	Class A amplification		Class B amplification		EACH	
	Db Gain	% Distortion	Db Gain	% Distortion	1-99	100-999
2N359	37*	5	30†	8	1.40	.93
2N360	34*	5	27†	8	1.23	.82
2N361	30*	5	24†	8	1.06	.77
2N362	42#	.....	.....	.....	.83	.55
2N363	40#	.....	.....	.....	.72	.48

### ALLOY-JUNCTION COMPUTER SWITCHING TYPES

Type No.	VCE0	Ic ma	fab mc	hfe Av.	Rsat	EACH	
						1-99	100-999
2N388	20	200	5	60	.....	.60	.40
2N396A	20	200	8.0	60	2.1	.61	.41
2N404	24	100	12	60	.....	.50	.33
2N425	30	400	4	30	2.2	.75	.50
2N428	15	400	17	80	1.1	1.24	.82
2N438A	25	400	2.5	25	3.0	1.50	1.00
2N439A	20	400	5.0	45	3.0	1.87	1.25
2N440A	15	400	10.0	70	3.0	3.00	2.00
2N658	18	1A	5	50	.....	1.95	1.30
2N659	16	1A	10	70	.....	2.70	1.80
2N660	14	1A	15	90	.....	3.21	2.14
2N661	9	1A	20	120	.....	4.68	3.12
2N662	14	1A	8	30	.....	2.10	1.40
2N1017	15	400	20	100	0.9	4.65	3.10
2N1302	25	300	3.0	20	5.0	.49	.33
2N1303	25	300	3.0	20	0.2	.49	.33
2N1605	24	200	4	40	5.0	.72	.48

### ECONOMY ENTERTAINMENT TYPES

Type No.	Pc mw	VCE V	Ic ma	fab mc	EACH
CK721	180	15	10	0.8	2.40
CK722	180	22	10	0.6	.90
CK768	150	15	100	3.5	1.50

## SILICON DIODES

### E HIGH-CONDUCTANCE FAST-RECOVERY TYPES

Type No.	Vsat (v)	IF @ 1.5 VDC (ma)	IR @ VDC (ua)	EACH	
				1-99	100-999
1N625	30	4	1 @ -20	.54	.33
1N626	50	4	1 @ -35	.59	.34
1N627	100	4	1 @ -75	.67	.39
1N628	150	4	1 @ -125	.81	.47

## SILICON DIODES (Cont'd)

### E HIGH-CONDUCTANCE FAST-RECOVERY TYPES

Type No.	Vsat (v)	IF @ 1.5 VDC (ma)	IR @ VDC (ua)	EACH	
				1-99	100-999
1N629	200	4 @ 1.5V	1 @ 175	.88	.59
1N643	200	10	.025 @ -10	1.33	1.00
USA 1N643	Per MIL-E-1/1171			1.33	1.00
1N643A	200	10	.025 @ -10	1.50	1.00
1N658	120	100	.05 @ -50	1.91	1.28
USA 1N658	Per MIL-E-1/1160			1.91	1.28
1N658A	120	100	.025 @ 50	2.25	1.76
1N659	60	6	5 @ -50	.78	.44
1N659A	60	10	.025 @ 50	1.50	1.17
1N660	120	6	5 @ -100	.98	.46
1N660A	120	10	.025 @ 100	1.75	1.37
1N661	230	6	10 @ -200	1.95	1.32
1N661A	225	10	.025 @ 200	3.00	2.34
1N662	100	10	1 @ -10	.92	.44
USA 1N662	Per MIL-E-1/1139			.92	.44
1N662A	100	100	1 @ 50	1.25	.98
1N663	100	100	5 @ -75	1.20	.80
USA 1N663	Per MIL-E-1/1140			1.54	1.13
1N663A	100	100	.1 @ -75	1.55	1.21
1N778	125	10	.5 @ -100	.95	.74
1N779	200	10	.5 @ -175	1.05	.82
1N789	30	10	1 @ -20	.65	.51
1N790	30	10	5 @ -20	.65	.51
1N791	30	50	5 @ -20	.65	.51
1N792	30	100	5 @ -20	.79	.62
1N793	60	10	1 @ -50	.79	.62
1N794	60	10	5 @ -50	.79	.62
1N795	60	50	5 @ -50	.79	.62
1N796	60	100	5 @ -50	.95	.74
1N797	120	10	1 @ -100	.95	.74
1N798	120	10	5 @ -100	.95	.74
1N799	120	50	5 @ -100	.95	.74
1N934	60	30	.025 @ -60	1.70	1.15
RD2121	50	50	.5 @ -50	.85	.66
RD2122	120	50	.5 @ -100	1.06	.83
RD2123	175	50	.5 @ -150	1.35	1.05
RD2124	225	50	.5 @ -200	1.55	1.21

### E FAST-RECOVERY PLANARS

1N251	30	5	1 @ -10	1.20	.80
JAN 1N251	Per MIL-S-19500-188			1.20	.80
1N251A	125	5	.1 @ 10	1.20	.80
1N252	20	10	.1 @ -5	1.20	.80

### E GENERAL PURPOSE PLANARS

1N676	100	200	1 @ 100	.79	.62
1N678	230	200	1 @ 200	.96	.80
1N681	340	200	1 @ 300	1.20	.90
1N683	400	200	1 @ 400	1.41	1.06
1N685	500	200	1 @ 500	1.65	1.23
1N687	600	200	1 @ 600	1.88	1.41

### E LOW-CAPACITANCE NANOSECOND SWITCHING PLANARS

1N903	40	10	.1 @ 40	2.83	1.89
1N904	30	10	.1 @ 30	2.92	1.92
1N905	20	10 @ 1.1V	.1 @ 20	2.47	1.62
1N906	20	10	.1 @ 20	2.47	1.62
1N907	30	10	.1 @ 30	1.50	1.00
1N908	40	10	.1 @ 40	1.50	1.20
1N914	100	10	.025 @ 20	2.40	1.90
USN 1N914	Per MIL-S-19500-116			2.40	1.90
1N914A	100	20	.025 @ 20	3.20	2.19
1N916	100	10	.025 @ 20	3.20	2.60
1N916A	100	20	.025 @ 20	3.80	3.15
1N925	40	5	1 @ 10	2.25	1.50
1N926	40	5	.1 @ 10	2.75	1.85
1N927	65	10	.1 @ 10	3.00	2.00
1N928	120	10	.1 @ 10	3.50	2.35
1N3063	50	10 @ .85V	.1 @ 50	2.85	2.15
1N3064	75	10	.1 @ 50	2.70	1.80
USN 1N3064	Per MIL-S-19500-144			2.70	1.80
1N3067	20	5	.1 @ 20	1.20	.90
1N3068	20	5	.1 @ 20	1.12	.82
1N3069	50	50	.1 @ 50	1.20	.90

### E LOW-CAPACITANCE NANOSECOND SWITCHING ULTRA LOW LEAKAGE PLANARS

1N999	100	50	.001 @ 75	4.15	3.15
RD900	60	500 @ 1.2V	.005 @ 50	4.25	3.25

# Diodes and Darlington Amplifiers



## EXPLANATION OF COLUMN HEADINGS

**VCBO**, collector to base breakdown voltage. **VEBO**, emitter-base breakdown voltage. **BVCEO**, collector to emitter breakdown voltage. **Cob**, output capacitance. **f<sub>β</sub>**, minimum alpha cutoff frequency. **GP**, gate power. **hFE**, DC gain. **ICBO**, collector cutoff current. **ICD**, DC collector current. Open input. **IC**, DC collector current. **ICEO**, dark current. **IE**, emitter current. **ICES**, collector current with common emitter. **IR**, reverse current. **IB**, base current. **IEBO**, emitter cut-

off current. **IF**, forward current. **IO**, max. forward current. **IMR**, max. reverse current. **ISUR**, surge current. **PC**, power dissipation of collector. **R<sub>sat</sub>**, saturation resistance. **N<sub>p</sub>**, noise figure. **T**, temperature. **V<sub>CB</sub>**, collector to base voltage. **V<sub>BE</sub>**, base saturation voltage. **VCBO**, collector to base breakdown voltage open input. **V<sub>sat</sub>**, saturation voltage. **V<sub>CE</sub>**, coll. saturation voltage. **VEBO**, emitter-base v. open input. **VEB**, emitter-base v. **VF**, max. fwd. v.

## SILICON DIODES

### HIGH-CONDUCTANCE FAST-RECOVERY MESA TYPES

Type No.	V <sub>sat</sub> @ 100 μA (v)	IF @ 1 v. (ma)	IMR @ VDC (μA)	Io (ma)	EACH	
					1-99	100-999
IN690	40	400	.25 @ 30	250	2.86	1.92
IN691	80	400	.25 @ 60	250	3.38	2.25
USAI N691	Per MIL-S-19500/132					
IN692	120	400	.25 @ -90	250	4.28	2.85
IN693	150	400	.25 @ 120	250	7.72	6.02
IN920	40	500	.25 @ 30	250	4.38	3.42
IN921	80	500	.25 @ 60	250	5.28	4.12
IN922	120	500	.25 @ 90	250	7.72	5.95
IN923	150	500	.25 @ 120	250	9.03	6.96
IN3730	80	750	.10 @ 60	500	3.50	2.65

### GENERAL PURPOSE TYPES

IF measured at 1 V. IO and IMR measured at 25°C.

Type No.	PIV	IF (ma)	Io (ma)	IMR @ VDC (μA)	ISUR (a)	EACH	
						1-99	100-999
IN456	30	40	90	.025 @ 25	.7	.47	.37
IN457	70	20	75	.025 @ 60	.6	.54	.42
JANI N457	Per MIL-S-19500/193A						
IN458	150	7	55	.025 @ 125	.5	.58	.45
JANI N458	Per MIL-S-19500/193A						
IN459	200	3	40	.025 @ 175	.4	.83	.65
JANI N459	Per MIL-S-19500/193A						
IN461	.30	15	60	.5 @ 25	.7	.35	.28
IN462	70	5	50	.5 @ 60	.6	.38	.30
IN463	200	1	30	.5 @ 175	.4	.46	.36
IN464	150	3	40	.5 @ 125	.5	.45	.35

### GENERAL PURPOSE HIGH-CONDUCTANCE TYPES

VF measured at 100 ma. IO and IMR measured at 25°C.

Type No.	PIV	VF (v)	Io (ma)	IMR @ VDC (μA)	ISUR (a)	EACH	
						1-99	100-999
IN456A	30	1	200	.025 @ 25	1.5	.47	.37
IN457A	70	1	200	.025 @ 60	1.5	.54	.42
IN458A	150	1	200	.025 @ 125	1.5	.58	.45
IN459A	200	1	200	.025 @ 175	1.5	.83	.65
IN461A	30	1	200	.5 @ 25	1.5	.35	.28
IN462A	70	1	200	.5 @ 60	1.5	.38	.30
IN463A	200	1	200	.5 @ 175	1.5	.46	.36
IN464A	150	1	200	.5 @ 125	1.5	.45	.35
IN482	40	1.1	100	.25 @ 30	1	.59	.46
IN483	80	1.1	100	.25 @ 60	1	.61	.47
IN484	150	1.1	100	.25 @ 125	1	.71	.51
IN485	200	1.1	100	.25 @ 175	1	.79	.62
IN486	250	1.1	100	.25 @ 225	1	1.25	.98
IN487	330	1.1	100	.25 @ 300	1	2.05	1.60
IN488	420	1.1	100	.25 @ 380	1	2.50	1.95

### GENERAL PURPOSE UNIVERSAL TYPES

Type No.	Min. V <sub>sat</sub> @ 100 μA (v)	Min. IF @ 1V (ma)	IMR @ VDC (μA)	Io (ma)	EACH	
					1-99	100-999
IN3728	550	400 @ 1.2 v	.005 @ 20	200	1.32	1.04

### HIGH-CONDUCTANCE, HIGH-RESISTANCE TYPES

All have maximum one second surge current of 2 amps.

Type No.	PIV	VF (v)	Io (ma)	IMR @ VDC (μA)	EACH	
					1-99	100-999
IN482A	40	1	200	.025 @ 30	.59	.46
IN482B	40	1	200	.025 @ 30	.59	.46
IN483A	80	1	200	.025 @ 60	.61	.47
IN483B	80	1	200	.025 @ 60	.61	.47
USNI N483B	Per MIL-S-19500/118					
IN484A	150	1	200	.025 @ 125	.71	.55
IN484B	150	1	200	.025 @ 125	.71	.55
IN485A	200	1	200	.025 @ 175	.85	.72
IN485B	200	1	200	.025 @ 175	1.05	.82
USNI N485B	Per MIL-S-19500/118					
IN486A	250	1	200	.1 @ 300	1.41	1.18
IN486B	250	1	200	.05 @ 225	1.59	1.20
USNI N486B	Per MIL-S-19500/118					
IN487A	330	1	200	.1 @ 300	2.85	2.15
IN488A	420	1	200	.1 @ 380	3.29	2.51

## SILICON DIODES (Cont'd)

### 600 VOLT SWITCHING TYPES

Type No.	Min. V <sub>sat</sub> @ 100 μA (v)	Min. IF @ 1V (ma)	IMR @ VDC (μA)	Io (ma)	EACH	
					1-99	100-999
IN3729	600	5	.1 @ 500	100	4.45	3.48

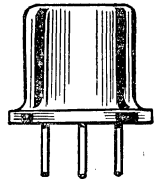
## GERMANIUM DIODES

General purpose types. Operating temperature range, -65°C to +90°C. \*Ratings measured at 75°C; all others measured at 25°C.

Type No.	PIV V	Io ma	IF ma	IMR @ VDC μA	EACH	
					1-99	100-999
IN34A	75	50	5	30 @ 10	.32	.22
IN38A	125	50	4	6 @ 3	.75	.57
IN55B	150	30	5	500 @ 150	.96	.81
IN66A	60	30	5	50 @ 10	.39	.30
IN67A	80	30	4	50 @ 50	.55	.47
IN68A	100	30	3	625 @ 100	.70	.54
IN90	60	30	5	500 @ 50	.34	.26
IN95	60	30	10	500 @ 50	.44	.34
IN97	80	30	10	100 @ 50	.61	.46
IN100	100	60	20	5 @ 5	.51	.40
IN116	60	30	5	100 @ 50	.53	.40
IN126	60	30	5	50 @ 10	.43	.34
IN127	100	30	3	25 @ 10	.87	.65
IN128	40	30	3	10 @ 10	.37	.33
JANI N128	Per MIL-E-1158B					
IN191	90	30	5	25 @ 10	.52	.40
IN198	80	30	4	*75 @ 10	.51	.39
JANI N198	Per MIL-E-1/700					
IN270	100	60	200	100 @ 50	.50	.39
JANI N270	Per MIL-E-1/992A					
IN276	100	40	40	20 @ 10	.43	.34
JANI N276	Per MIL-S-19500/192					
IN277	125	50	100	10 @ 10	.59	.46
JANI N277	Per MIL-E-1/993A					
IN281	75	75	100	500 @ 50	.50	.40
JANI N281	Per MIL-E-1/961					
IN283	25	70	200	20 @ 10	.50	.39
IN294A	60	30	5	10 @ 10	.45	.35
IN297A	80	30	3.5	100 @ 50	.72	.55

## DARLINGTON COMPOUND AMPLIFIERS

Compound amplifier types—two semiconductors in one compact case. Ideally suited for circuits where size and reliability are prime factors in selection. Have JEDEC TO-18 cases, three lead configuration, low noise and high gain characteristics. Lead one is emitter, two is base, and three is collector (electrically connected to case). RM3002 is a photo sensitive Darlington compound amplifier—has a lens window with an integral light sensing amplifier. Specifications listed are measured at 25°C.



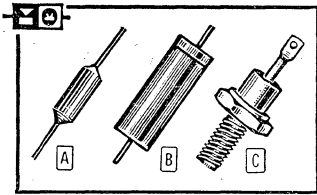
Type RM3001. NPN silicon planar Darlington compound amplifier. Specifications: VCBO, 80 v.; collector to emitter voltage, 50 v.; VEBO, 5 v.; P<sub>1</sub>, 1 watt; ICBO @ VCB = 50 v., .025 μA; IEBO @ VEB = 5 v., .025 μA; VCE, @ IC = 50 ma and IB = 5 ma, 2 v.; hFE @ VCE = 5 v. and IC = 1 ma, 900 min., 10,000 max.; Cob @ VCB = 5 v., 40 μF. RM3001. 1-99.....EACH 16.00 100-999.....EACH 10.40

Type RM3002. Photo sensitive NPN silicon planar Darlington compound amplifier. Specifications: VCBO, 60 v.; VCEO, 30 v.; VEBO, 7 v.; ICBO @ VCE = 20 v., 10 μA; IEBO @ VCE = 20 v. and T = 150°C, 100 μA; ICBO @ VCB = 30 v. and T = 150°C, 15 μA; light current sensitivity @ VCE = 12, 25 μA/ft. candle. RM3002. 1-99.....EACH 25.70 100-999.....EACH 16.40

Type RM3010. Ultra high gain, low noise NPN silicon planar compound amplifier. Specifications: VCBO, 80 v.; VCEO, 60 v.; P<sub>1</sub>, 1 watt; BV<sub>CEO</sub> @ IC = 100 μA, 80 v. min.; BV<sub>CEO</sub> @ IC = 20 ma, 60 v. min.; ICBO @ VCB = 80 v., 10 ma; IEBO @ VEB = 5 v., 20 ma; ICES @ VCE = 60 v. and REE = 0, 1 μA. RM3010. 1-99.....EACH 18.00 100-999.....EACH 12.00

Type RM3022. Contains two interconnected high gain silicon planar transistors. Specifications: P<sub>1</sub>, 1.8 watts; V<sub>CEO</sub>, 100 v.; VCBO, 60 v.; VEBO, 15 v.; hFE @ IC = 10 ma and VCB = 5 v., 1600 min., 2500 typical and 10,000 max.; V<sub>BE</sub> @ IC = 50 ma and IB = 5 ma, 1.2 v.; Cob @ VCB = 10 v., 30 pf; BV<sub>CEO</sub> @ IC = 0 and IE = 100 μA, 15 v. RM3022. 1-99.....EACH 17.00 100-999.....EACH 11.20

# Hughes Semiconductors



## ALLIED...

**YOUR SEMICONDUCTOR HEADQUARTERS**

- All Types in Stock
- Same-Day Shipment

### INDUSTRY-STANDARD COLUMN HEADINGS

- BVCBO**—collector-to-base breakdown voltage, open input
- IFWD**—minimum forward current
- IMR**—max. rev. current at PIV, except where stated
- I<sub>o</sub>**—maximum average rectified forward current
- I<sub>sur</sub>**—surge current (1 cycle) **I<sub>test</sub>**—test current
- PIV**—peak inverse voltage @ 25°C, except #75°C
- V<sub>Z</sub>**—nominal zener voltage @ **I<sub>test</sub>**
- Z**—zener dynamic impedance

Allied stocks all Hughes Silicon Voltage Regulator Diodes. See the Allied Semiconductor Directory (pages 6 thru 23)

for OEM prices. Allied can supply the entire Hughes semiconductor line; use one order to fill all your needs.

### MILITARY SPEC TYPES

Allied maintains large stocks of Government Source Inspected MIL Spec semiconductors—ready for immediate shipment. When ordering MIL Spec units, two (2) copies of your purchase order must be sent to Allied.

Type No.	MIL-	EACH	
		1-99	100-999
JAN IN126A	E-1/156C	.45	.34
JAN IN127A	E-1/157C	.89	.68
JAN IN128	E-1/158B	.55	.41
JAN IN198	E-1/700	.51	.39
JAN IN270M	S-19500/200	.75	.56
JAN IN276M	S-19500/192	.70	.53
JAN IN277M	E-1/993A	.93	.70
JAN IN457M	S-19500/193A	1.00	.75
JAN IN458M	S-19500/193A	1.25	.94
JAN IN459M	S-19500/193A	1.50	1.13
USN IN483BM	S-19500/118	1.44	1.08
USN IN485BM	S-19500/118	2.40	1.80
USN IN486BM	S-19500/118	2.88	2.16
USN IN746AM	S-19500/127	3.20	2.40
USN IN747AM	S-19500/127		
USN IN748AM	S-19500/127		
USN IN749AM	S-19500/127		
JAN IN750AM	S-19500/127		
USN IN751AM	S-19500/127	3.20	2.40
USN IN752AM	S-19500/127		
USN IN753AM	S-19500/127		
USN IN754AM	S-19500/127		
USN IN755AM	S-19500/127		
USN IN756AM	S-19500/127	3.20	2.40
USN IN757AM	S-19500/127		
USN IN758AM	S-19500/127		
USN IN759AM	S-19500/127		
JAN IN933M	S-19500/119		
USAF IN1199	E-1/1108	4.40	2.95
USAF IN1200	E-1/1108	4.95	3.32
USAF IN1201	E-1/1108	5.95	3.99
USAF IN1202	E-1/1108	7.00	4.69
USAF IN1203	E-1/1108	9.00	6.03
USA IN1731	S-19500/142	8.98	7.93
USA IN1733	S-19500/142	15.98	14.00
USA IN1734	S-19500/142	18.50	16.00
USA IN2153	S-19500/91	18.00	12.06
JAN IN3666M	S-19500/226	.70	.53
JAN IN2328AM	S-19500/110A	6.65	5.00
JAN IN2329AM	S-19500/110A	13.35	10.00
USN 2N1131	S-19500/177A	6.45	4.84
USN 2N1132	S-19500/177A	13.08	9.81
USA 2N1234M	S-19500/179	25.30	19.00

### VOLTAGE-VARIABLE SILICON CAPACITORS

Efficient variable-voltage capacitors in DO-7 package. "Q" shown in table below is typical Q at 5 mc at maximum voltage. Range is given for 0-1 V to maximum voltage. Capacitance variation is 300 ppm/°C over the operating range (-65°C to 150°C). Maximum leakage current (from bias voltage supply) is 1  $\mu$ A at 25°C, 50  $\mu$ A at 150°C.  $\mu$ Measured in  $\mu$ F at -4 VDC at ambient temperature of 25°C.

Type No.	Cap. ±20%	Max. VDC	Range ( $\mu$ F)	Q	EACH	
					1-99	100-999
IN950	35	130	6-88	360	3.80	2.85
IN951	50	80	12-120	330	3.50	2.63
IN952	70	60	20-170	270	2.90	2.18
IN953	100	25	46-240	200	3.00	2.25
IN954	35	25	14-88	175	1.80	1.35
IN955	50	25	22-120	175	2.00	1.50
IN956	70	25	32-170	175	2.40	1.80

### POINT-CONTACT GERMANIUM DIODES

Quality point-contact diodes for all general purpose applications. Housed in DO-7 packages or equivalents. Ratings shown in table below are given for ambient temperature of 25°C.

Type No.	PIV (V)	IFWD (ma @ +1V)	IMR (ma @ V)	EACH	
				1-99	100-999
IN34A	75	5	.5 @50	.43	.32
IN67A	100	4	.05 @50	.61	.46
IN68A	120	3	.625 @100	1.00	.75
IN90	75	5	.5 @50	.38	.29
IN95	75	10	.5 @50	.52	.39
IN96	75	20	.5 @50	.59	.44
IN97	100	10	.1 @50	.69	.52
IN98	100	20	1 @50	.66	.50
IN99	100	10	.05 @50	.88	.66
IN100	100	20	.05 @50	.96	.72
IN116	75	5	.1 @50	.56	.42
IN117	75	10	.1 @50	.58	.44
IN118	75	20	.1 @50	.61	.46
IN128	50	3	.1 @10	.50	.38
IN191	60	5	1.25 @50	.58	.44
HN192	60	5	.25 @50	.53	.40
HD2120	75	5	.5 @50	.59	.44
HD2125	100	5	.05 @50	.89	.67
HD2135	60	5	.1 @50	.64	.48

### GOLD-BONDED GERMANIUM DIODES

Type No.	PIV (V)	IFWD (ma @ V)	IMR (ma @ V)	EACH	
				1-99	100-999
IN96A	75	40 @1	.500 @50	.59	.44
IN98A	100	40 @1	1.100 @50	.66	.50
IN100A	100	40 @1	0.050 @50	1.00	.75
IN118A	75	40 @1	1.100 @50	.63	.47
IN273	100	30 @1	.020 @20	.68	.51
IN278	60#	20 @1	1.125 @50	1.03	.77
IN279	30	100 @1	2.200 @20	.71	.53
IN283	200	200 @1	.020 @10	.60	.45
IN287	60	20 @1	1.500 @50	.88	.66
IN288	85	40 @1	.350 @50	.88	.66
IN289	85	20 @1	.050 @50	.90	.68
IN291	120	40 @1	1.100 @100	.95	.71
IN292	75	100 @1	2.200 @50	.60	.45
IN695	20	100 @1	.020 @10	.77	.59
IN770	30	15 @.5	.015 @10	.78	.58
IN835	30	100 @1	2.200 @30	.85	.64
HD2150	80	100 @1	.5 @50	.80	.60
HD2155	60	50 @1	.5 @50	.84	.64

### SILICON LOW-POWER RECTIFIERS

Type No.	PIV (V)	I <sub>o</sub> (A)	I <sub>sur</sub> (V)	EACH	
				1-99	100-999
IN3241	600	0.75	20	2.00	1.34
IN3242	800	0.75	20	4.00	2.68
IN3243	1000	0.75	20	6.00	4.02
IN3244	1200	0.75	20	8.50	5.70
IN3245	1500	0.75	20	12.50	8.38
IN3246	50	1	20	3.00	2.01
IN3247	100	1	20	3.00	2.01
IN3248	200	1	20	3.75	2.51
IN3249	400	1	20	5.25	3.52
IN3250	600	1	20	6.75	4.52
IN3251	800	1	20	8.25	5.53
IN3252	1000	1	20	12.00	8.04

### SILICON ULTRA-FAST DIODES PLANAR COMPUTER TYPES

†At 5 microamperes. §Measured at +1 volt. \* Indicates types available in "Microseal" packages.

Type No.	BVCBO† (V)	IFWD§ (ma)	Max. Cap. (mmf)	EACH	
				1-99	100-999
IN251	40	5	.....	1.35	1.01
IN252	30	10	.....	1.35	1.01
IN903	50	10	1	1.35	1.01
IN903A	50	20	1	1.95	1.46
IN904	40	10	1	1.20	.90
IN904A	40	20	1	1.80	1.35
IN905	30	10	1	1.20	.90
IN905A	30	20	1	1.80	1.35
IN906	30	10	2.5	1.20	.90
IN906A	30	20	2.5	1.80	1.35
IN907	40	10	2.5	1.20	.90
IN907A	40	20	2.5	1.80	1.35
IN908	50	10	2.5	1.35	1.01
IN908A	50	20	2.5	1.95	1.46
IN914	100*	10	4	2.25	1.69
IN914A	100*	20	4	2.40	1.80
IN916	100*	10	2	2.55	1.91
IN916A	100*	20	2	2.70	2.03
IN3064	75*	10	2	3.15	2.36
IN3067	30*	5	4	1.80	1.35
IN3068	30*	5	6	1.05	.79

### HIGH-CONDUCTANCE SILICON DIODES

Type No.	PIV (V)	IFWD (ma @ V)	IMR (ma @ V)	EACH	
				1-99	100-999
IN482	40	100 @1.1	.25 $\mu$ A @30	.89	.67
IN482A	40	200 @1	.025 $\mu$ A @30	.91	.68
IN482B	40	200 @1	.025 $\mu$ A @30	.95	.71
IN483	80	100 @1.1	.25 $\mu$ A @60	1.00	.75
IN483A	80	200 @1	.025 $\mu$ A @60	1.14	.86
IN483B	80	200 @1	.025 $\mu$ A @60	1.20	.90
IN484	150	100 @1.1	.25 $\mu$ A @125	1.25	.94
IN484A	150	200 @1	.025 $\mu$ A @125	1.34	1.01
IN484B	150	200 @1	.025 $\mu$ A @125	1.42	1.07
IN485	200	100 @1.1	.25 $\mu$ A @175	1.45	1.09
IN485A	200	200 @1	.025 $\mu$ A @175	1.50	1.13
IN485B	200	200 @1	.025 $\mu$ A @175	2.00	1.50
IN486	250	100 @1.1	.25 $\mu$ A @225	2.00	1.50
IN486A	250	200 @1	.05 $\mu$ A @225	2.10	1.58
IN487	330	100 @1.1	.25 $\mu$ A @300	2.50	1.88
IN487A	330	200 @1	.1 $\mu$ A @300	2.75	2.06

### GEN. PURPOSE SILICON DIODES

IN456	30	40 @1	.025 $\mu$ A @25	.62	.47
IN457	70	20 @1	.025 @60	.74	.56
IN458	150	7 @1	.025 @125	.86	.65
IN459	200	3 @1	.025 @175	1.12	.84
IN461	30	15 @1	.5 $\mu$ A @25	.62	.47
IN462	70	5 @1	.5 $\mu$ A @60	.70	.53
IN463	200	1 @1	.5 $\mu$ A @175	.80	.60
IN464	150	3 @1	.5 $\mu$ A @125	1.05	.79

### GERMANIUM FAST-SWITCHING HIGH-CONDUCTANCE DIODES

Type No.	PIV (V)	IFWD (ma)	T <sub>REC</sub> (nsec)	EACH	
				1-99	100-999
HD1810	50	100	9	.98	.74
HD1811	30	100	9	.77	.58
IN695A	25	100	6	.98	.74

# Hughes Zener Diodes and Rectifiers

## HIGH-TEMPERATURE STUD MOUNTED RECTIFIERS

New, fast switching types. Have typical recovery time of 120 nanoseconds. Insulated base types are also available on special order—phone or write Allied for information.

Type No.	PIV (V)	I <sub>o</sub> (A)	EACH	
			1-99	100-999
IN3879	50	6	18.00	13.50
IN3880	100	6	21.20	15.90
IN3881	150	6	24.45	18.34
IN3882	200	6	27.80	20.85
IN3883	300	6	31.00	23.25
IN3889	50	12	21.00	15.75
IN3890	100	12	24.65	18.49
IN3891	200	12	28.40	21.30
IN3892	300	12	32.20	24.15
IN3893	400	12	36.00	27.00
IN3899	50	20	25.00	18.75
IN3900	100	20	32.00	24.00
IN3901	200	20	40.00	30.00
IN3902	300	20	45.00	33.75
IN3903	400	20	50.00	37.50
IN3909	50	30	50.00	37.50
IN3910	100	30	65.00	48.75
IN3911	200	30	80.00	60.00
IN3912	300	30	90.00	67.50
IN3913	400	30	100.00	75.00

## SILICON HIGH-VOLTAGE RECTIFIERS

Have I<sub>MR</sub> of 10 mamps, full cycle operational average. Op. temp. range, -55° to +150°C.

Type No.	PIV (V)	I <sub>o</sub> (A)	1-99	100-999
IN1730	1000	.2	6.83	5.95
IN1731	1500	.2	7.98	6.93
IN1732	2000	.2	10.22	8.89
IN1733	3000	.15	14.98	13.00
IN1734	5000	.1	17.50	15.00
IN2382	4000	.15	16.50	14.25
IN2383	6000	.1	22.00	19.50
IN2384	8000	.07	30.00	27.00
IN2385	10,000	.07	39.00	34.00
IN2385	12,000	.1	48.80	42.75
IN3053	14,000	.1	53.25	46.50
IN3054	16,000	.1	61.75	53.50
IN3055	18,000	.1	70.00	61.00
IN3056	20,000	.1	73.50	64.00
IN3057	22,000	.1	88.25	77.00
IN3058	24,000	.1	99.50	86.50
IN3059	26,000	.1	112.00	97.00
IN3060	28,000	.1	122.50	111.00
IN3061	30,000	.1	140.00	122.00

## HIGH-TEMPERATURE SILICON STUD-MOUNTED RECTIFIERS

Type No.	PIV (V)	I <sub>o</sub> (A)	EACH	
			1-99	100-999
IN1199	50	12	3.00	2.01
IN1200	100	12	3.35	2.24
IN1201	150	12	4.35	2.91
IN1202	200	12	5.20	3.48
IN1203	300	12	7.00	4.69
IN1204	400	12	10.00	6.70
IN1205	500	12	14.00	9.38
IN1206	600	12	17.00	11.39
IN1341	50	6	2.64	1.77
IN1342	100	6	2.95	1.98
IN1343	150	6	3.90	2.61
IN1344	200	6	4.50	3.02
IN1345	300	6	6.15	4.12
IN1346	400	6	8.25	5.53
IN1347	500	6	10.20	6.83
IN1348	600	6	12.30	8.24
IN1612	50	5	2.64	1.77
IN1613	100	5	2.95	1.98
IN1614	200	5	4.50	3.02
IN1615	400	5	8.25	5.53
IN1616	600	5	12.30	8.24
IN2246	50	3	3.00	2.01
IN2248	100	3	3.35	2.24
IN2250	200	3	5.20	3.48
IN2252	300	3	7.00	4.69
IN2254	400	3	10.00	6.70
IN2256	500	3	13.05	8.74
IN2258	600	3	15.95	10.69
IN2446	50	20	3.80	2.55
IN2447	100	20	4.51	3.02

## HIGH-TEMPERATURE SILICON STUD MOUNTED RECTIFIERS (Cont'd)

Type No.	PIV (V)	I <sub>o</sub> (A)	EACH	
			1-99	100-999
IN2448	150	20	5.20	3.48
IN2449	200	20	5.89	3.95
IN2450	250	20	7.10	4.76
IN2451	300	20	8.30	5.56
IN2452	350	20	9.95	6.67
IN2453	400	20	11.63	7.79
IN2458	50	30	4.00	2.68
IN2459	100	30	4.75	3.18
IN2460	150	30	5.50	3.69
IN2461	200	30	6.20	4.15
IN2462	250	30	7.50	5.03
IN2463	300	30	8.75	5.86
IN2464	350	30	10.50	7.04
IN2465	400	30	12.25	8.21

## 250-MW ZENER DIODES

Type No.	V <sub>Z</sub> (V)	I <sub>test</sub> (ma)	Z (ohms)	EACH	
				1-99	100-999
IN702	2.6	5	60	2.10	1.58
IN702A	2.6	5	60	3.21	2.41
IN703	3.45	5	60	2.10	1.58
IN703A	3.45	5	60	2.53	1.89
IN704	4.1	5	45	2.10	1.58
IN704A	4.1	5	45	2.53	1.90
IN705	4.85	5	35	2.10	1.58
IN705A	4.85	5	35	2.42	1.82
IN706	5.8	5	20	2.10	1.58
IN706A	5.8	5	20	2.42	1.82
IN707	7.1	5	10	2.10	1.58
IN707A	7.1	5	10	2.42	1.82
IN708	5.6	25	3.6	2.64	1.98
IN708A	5.6	25	3.6	3.21	2.41
IN709	6.2	25	4.1	2.10	1.58
IN709A	6.2	25	4.1	2.42	1.82
IN710	6.8	25	4.7	2.10	1.58
IN710A	6.8	25	4.7	2.42	1.82
IN711	7.5	25	5.3	2.10	1.58
IN711A	7.5	25	5.3	2.42	1.82
IN712	8.2	25	6.0	2.10	1.58
IN712A	8.2	25	6.0	2.42	1.82
IN713	9.1	12	7.0	2.10	1.58
IN713A	9.1	12	7.0	2.29	1.72
IN714	10	12	8.0	2.10	1.58
IN714A	10	12	8.0	2.29	1.72
IN715	11	12	9.0	2.10	1.58
IN715A	11	12	9.0	2.66	2.00
IN716	12	12	10	2.10	1.58
IN716A	12	12	10	2.66	2.00
IN717	13	12	11	2.10	1.58
IN717A	13	12	11	2.29	1.72
IN718	15	12	13	2.10	1.58
IN718A	15	12	13	2.53	1.90
IN719	16	12	15	2.10	1.58
IN719A	16	12	15	2.53	1.90
IN720	18	12	17	2.10	1.58
IN720A	18	12	17	3.21	2.41
IN721	20	4	20	1.98	1.49
IN721A	20	4	20	2.53	1.90
IN722	22	4	24	2.31	1.73
IN722A	22	4	24	2.53	1.90
IN723	24	4	28	2.20	1.65
IN723A	24	4	28	2.42	1.82
IN724	27	4	35	2.75	2.06
IN724A	27	4	35	3.04	2.28
IN725	30	4	42	2.75	2.06
IN725A	30	4	42	3.04	2.28
IN726	33	4	50	2.64	1.98
IN1929	5.65	5	8	2.20	1.65
IN1930	6.85	5	7	2.20	1.65
IN1931	8.3	5	15	2.09	1.57
IN1932	10	5	22	2.09	1.57
IN1933	12	1	30	2.09	1.57
IN1934	14.5	1	50	1.98	1.49
IN1935	18	1	70	1.98	1.49
IN1936	22	1	100	2.20	1.65
IN1937	27	1	300	2.20	1.65

## 400-MW ZENER DIODES

Type No.	V <sub>Z</sub> (V)	I <sub>o</sub> (A)	Z (ohms)	1-99	100-999
IN746	3.3	20	28	2.15	1.61
IN746A	3.3	20	28	3.00	2.25
IN747	3.6	20	24	2.15	1.61
IN747A	3.6	20	24	3.00	2.25
IN748	3.9	20	23	2.15	1.61
IN748A	3.9	20	23	3.00	2.25
IN749	4.3	20	22	2.15	1.61

## 400-MW ZENER DIODES (Cont'd)

Type No.	V <sub>Z</sub> (V)	I <sub>test</sub> (ma)	Z (ohms)	EACH	
				1-99	100-999
IN749A	4.3	20	22	3.00	2.25
IN750	4.7	20	19	2.15	1.61
IN750A	4.7	20	19	3.00	2.25
IN751	5.1	20	17	2.15	1.61
IN751A	5.1	20	17	3.00	2.25
IN752	5.6	20	11	2.15	1.61
IN752A	5.6	20	11	3.00	2.25
IN753	6.2	20	7	2.15	1.61
IN753A	6.2	20	7	3.00	2.25
IN754	6.8	20	5	2.15	1.61
IN754A	6.8	20	5	3.00	2.25
IN755	7.5	20	6	2.15	1.61
IN755A	7.5	20	6	3.00	2.25
IN756	8.2	20	8	2.15	1.61
IN756A	8.2	20	8	3.00	2.25
IN757	9.1	20	10	2.15	1.61
IN757A	9.1	20	10	3.00	2.25
IN758	10	20	17	2.15	1.61
IN758A	10	20	17	3.00	2.25
IN759	12	20	30	2.15	1.61
IN759A	12	20	30	3.00	2.25
IN760	11	11.5	9.5	3.15	2.36
IN963B	12	10.5	11.5	3.15	2.36
IN964B	13	9.5	13	3.15	2.36
IN965B	15	8.5	16	3.15	2.36
IN966B	16	7.8	17	3.15	2.36
IN967B	18	7.0	21	3.15	2.36
IN968B	20	6.2	25	3.15	2.36
IN969B	22	5.6	29	3.15	2.36
IN970B	24	5.2	33	3.15	2.36
IN971B	27	4.6	41	3.15	2.36
IN972B	30	4.2	49	3.45	2.59
IN973B	33	3.8	58	3.45	2.59
IN974B	36	3.4	70	3.45	2.59
IN975B	39	3.2	80	3.45	2.59

## 500-MW "MICROSEAL" ZENER DIODES

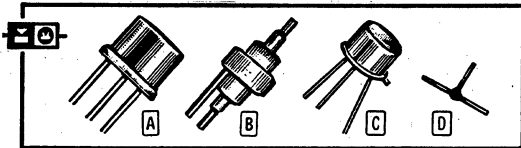
Type No.	V <sub>Z</sub> (V)	I <sub>o</sub> (A)	Z (ohms)	1-99	100-999
MD746	3.3	20	28	5.33	4.00
MD747	3.6	20	24	5.33	4.00
MD748	3.9	20	23	5.33	4.00
MD749	4.3	20	22	5.33	4.00
MD750	4.7	20	19	5.33	4.00
MD751	5.1	20	17	5.33	4.00
MD752	5.6	20	10	5.33	4.00
MD753	6.2	20	7	5.33	4.00
MD754	6.8	20	5	5.33	4.00
MD755	7.5	20	6	5.33	4.00
MD756	8.2	20	8	5.33	4.00
MD757	9.1	20	10	5.33	4.00
MD758	10	20	17	5.33	4.00
MD759	12	20	30	5.33	4.00

## ZENER DIODES—250-MW TYPES

Type No.	V <sub>Z</sub> (V)	I <sub>o</sub> (A)	Z (ohms)	1-99	100-999
IN761	4.85	10	55	2.31	1.73
IN762	5.8	10	20	2.20	1.65
IN763	7.1	10	8	2.20	1.65
IN764	8.75	10	15	2.09	1.57
IN765	10.5</				



# Hughes Silicon Transistors



## PNP JUNCTION—GENERAL PURPOSE TYPES

Quality PNP alloy junction transistors for general purpose applications. Ideal for use in radios, phonos, switching devices, etc. Operating temperature range is from +65° to -160°C. \*Minimum AC forward current transfer ratio.

Type No.	hFE	Case Style	P <sub>t</sub> (W)	V <sub>CE(SAT)</sub> (V)	BV <sub>CEO</sub> (V)	f <sub>T</sub> (mc)	EACH	
							1-99	100-999
2N327A	11	A	.385	0.2	50	0.6	4.00	3.00
2N328A	18	A	.385	0.2	50	0.6	5.75	4.31
2N329A	26	A	.385	0.2	50	0.6	12.55	9.41
2N1228	14*	A	.4	0.2	15	0.8	3.10	2.33
2N1229	30*	A	.4	0.2	15	0.8	3.10	2.33
2N1230	14*	A	.4	0.2	35	0.8	8.65	6.50
2N1231	30*	A	.4	0.2	35	0.8	10.65	8.00
2N1232	14*	A	.4	0.2	60	0.8	16.00	12.00
2N1233	30*	A	.4	0.2	60	0.8	18.35	13.75
2N1234	14*	A	.4	0.2	110	0.8	24.67	18.50
2N1238	14*	B	1.0	0.2	15	0.8	5.00	3.75
2N1239	30*	B	1.0	0.2	15	0.8	7.00	5.25
2N1240	14*	B	1.0	0.2	35	0.8	9.00	6.75
2N1241	30*	B	1.0	0.2	35	0.8	14.65	11.00
2N1242	14*	B	1.0	0.2	60	0.8	17.60	13.00
2N1243	30*	B	1.0	0.2	60	0.8	20.00	15.00
2N1244	14*	B	1.0	0.2	110	0.8	27.65	20.75
2N1275	9*	A	0.4	0.3	100	0.8	6.50	4.88
2N1623	9*	A	0.4	0.3	50	0.8	2.16	1.62
2N2551	15*	A	0.4	1.2	150	0.8	37.54	28.15

## D NPN PLANAR TYPES

Extremely small and compact planar units, ideal for use in a wide variety of miniaturization projects. All units shown below feature unique "Micro-seal" construction. Units measure only .080" in diameter, are .030" thick.

## INTERMEDIATE POWER TYPES

Extremely versatile general purpose units for intermediate power and switching applications. V<sub>CE(SAT)</sub> ratings shown in table below are given @ 100 ma.

Type No.	hFE	P <sub>t</sub> (W)	V <sub>CE(SAT)</sub> (V)	BV <sub>CEO</sub> (V)	f <sub>T</sub> (mc)	EACH	
						1-99	100-999
MT696	20-60	.250	1.5	60	80	9.20	6.90
MT697	40-120	.250	1.5	60	80	9.20	6.90
MT698	20-60	.250	5.0	120	80	12.50	9.38
MT699	40-120	.250	5.0	120	80	15.90	11.93
MT1420	20-60	.250	1.5	60	..	9.45	7.09
MT1613	40-120	.250	1.5	75	80	15.50	11.63
MT1711	100-300	.250	1.5	75	80	15.90	11.93
MT6512	100-300	.250	1.5	30	..	7.80	5.85
MT6520	100-300	.250	5.0	120	..	20.55	15.41
MT6521	20	.250	5.0	75	..	6.00	4.50
MT6522	40-120	.250	5.0	75	..	6.50	4.88
MT6523	100-300	.250	5.0	75	..	6.50	4.88

## HIGH SPEED SWITCHING TYPES

\*For use as high frequency amplifier and oscillator. †Charged storage time constant in nanoseconds.

Type No.	hFE	P <sub>t</sub> (W)	V <sub>CE(SAT)</sub> (V)	BV <sub>CEO</sub> (V)	f <sub>T</sub> (mc)	EACH	
						1-99	100-999
MT706	20	.250	0.6	25	60†	8.20	6.15
MT706A	20-60	.250	0.6	25	25	8.35	6.26
MT706B	20-60	.250	0.4	25	25	8.50	6.38
MT707	9*	.250	0.6	56	..	10.00	7.50
MT708	30-120	.250	0.4	40	20	10.60	7.95
MT753	40-120	.250	0.6	25	30	8.45	6.34
MT8040	20	.250	0.6	20	..	6.00	4.50
MT8100	30-120	.250	0.3	40	20	13.80	10.35

## MT1893 GENERAL PURPOSE TYPE

Type MT1893. Highly versatile, general purpose planar unit ideal for use in RF and IF amplifiers, oscillators, mixer circuits, etc. Has h<sub>FE</sub> of 40 minimum, 120 maximum; power dissipation (P<sub>t</sub>) of .25 watt; V<sub>CE(SAT)</sub> of 5 volts; BV<sub>CEO</sub> of 120 volts; f<sub>T</sub>, unity gain frequency, of 100 mc.

MT 1893. 1-99....EACH 20.05 100-999.....EACH 15.04

## EXPLANATION OF COLUMN HEADINGS

Column headings for semiconductors in this catalog are industry standard, including h<sub>FE</sub>, large signal DC gain; P<sub>t</sub>, total dissipation; V<sub>CE(SAT)</sub>, max. collector-to-emitter saturation voltage; f<sub>T</sub>, unity gain frequency. See preceding pages for explanation of other column headings. Case styles: Fig. A, TO-5; Fig. B, coaxial; Fig. C, TO-18; Fig. D, Microseal .080" dia., .030" thick. Note: Microseal units can be put into larger packages if desired.

## PNP PLANAR—GENERAL PURPOSE TYPES

Rugged, high-quality planar units for general purpose applications. All have operating temperature range of from -65° to +175°C., except Type 2N995, -65° to +200°C. \*Measured at I<sub>c</sub> = -150 ma, V<sub>CE</sub> = -10 VDC. †At 100 microamperes.

Type No.	hFE*	Case Style	P <sub>t</sub> (W)	V <sub>CE(SAT)</sub> (V)	BV <sub>CEO</sub> † (V)	Typ. f <sub>T</sub> (mc)	EACH	
							1-99	100-999
2N1131	20-45	A	.75	.....	50	80	6.06	4.55
2N1131A	20-45	A	.75	.....	60	80	10.00	7.50
2N1132	30-90	A	.75	.....	50	80	11.15	8.36
2N1132A	30-90	A	.75	.....	60	80	16.65	12.50
2N1132B	30-90	A	.75	.....	70	80	26.00	19.50
2N721	20-45	C	.4	.....	50	80	6.06	4.55
2N722	30-90	C	.4	.....	50	80	11.15	8.36
2N1991	15-60	A	.75	.....	30	80	4.25	3.19

## PNP PLANAR—HIGH-FREQUENCY TYPES

High-frequency units for high-speed switching applications. All have operating temperature range of from -65° to +175°C.

2N1254	25-50	A	.275	0.3	30	100	7.80	5.85
2N1255	40-80	A	.275	0.3	30	100	10.27	7.70
2N1256	25-50	A	.275	0.3	40	100	12.67	9.50
2N1257	40-80	A	.275	0.3	40	100	12.67	9.50
2N1258	75-150	A	.275	0.6	30	100	13.00	9.75
2N1259	25-100	A	.275	0.3	50	100	12.85	9.64
2N2303	75-200	A	2.0	1.5	50	80	31.33	23.50

## A PNP SILICON ALLOY DUAL TRANSISTORS FOR CHOPPER APPLICATIONS

Types 2N2871 and 2N2872. Both units feature maximum V<sub>CE</sub> of 1.5 millivolts; ΔV<sub>CE</sub> of 0.2 mc; total dissipation (P<sub>t</sub>) of 400 mw; I<sub>CEO</sub> of 0.1 microamperes; and typical I<sub>BB</sub> of 500 kc. Type 2N2871 has BV<sub>CEO</sub> of 60 volts; Type 2N2872 has BV<sub>CEO</sub> of 110 volts.

2N2871. 1-99.....EACH 45.00 100-999.....EACH 33.75  
2N2872. 1-99.....EACH 60.00 100-999.....EACH 45.00

## PNP ALLOY JUNCTION—INDUSTRIAL TYPES

A selection of rugged alloy junction units especially designed for use in industrial applications.

Type No.	hFE	Case Style	P <sub>t</sub> (W)	V <sub>CE(SAT)</sub> (V)	BV <sub>CEO</sub> (V)	Typ. f <sub>T</sub> (mc)	EACH	
							1-99	100-999
HA7520	4	A	1.0	2.0	35	0.8	6.60	4.95
HA7530	4	B	0.4	2.0	35	0.8	4.62	3.47
HA7521	4	B	1.0	2.0	60	0.8	8.45	6.35
HA7531	4	A	.04	2.0	60	0.8	7.65	5.75
HA7523	10	B	1.0	2.0	35	0.8	9.90	7.42
HA7533	10	A	0.4	2.0	35	0.8	9.00	6.75
HA7524	10	B	1.0	2.0	60	0.8	27.70	20.78
HA7534	10	A	0.4	2.0	60	0.8	21.05	15.79
HA7527	16	B	1.0	2.0	35	0.8	16.13	12.10
HA7537	16	A	0.4	2.0	35	0.8	14.65	11.00
HA7528	16	B	1.0	2.0	60	0.8	35.39	27.23
HA7538	16	A	0.4	2.0	60	0.8	20.00	15.00

## A PNP DDM/PLANAR—INDUSTRIAL TYPES

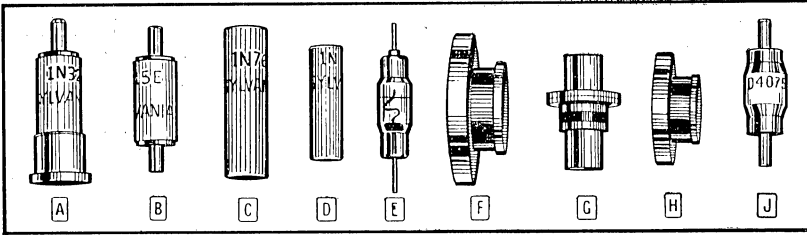
Type HA9048 and HA9049. Both units are rugged, heavy-duty planar units especially designed for industrial applications. Have power dissipation (P<sub>t</sub>) of 275 mw; V<sub>CE(SAT)</sub> of 0.6 volts; BV<sub>CEO</sub> of 25 volts; and typical f<sub>T</sub> of 45 mc. Type HA9048 has DC forward current transfer ratio (h<sub>FE</sub>) of 10-30; Type HA9049 has h<sub>FE</sub> of 25-80.

HA 9048. 1-99....EACH 3.50 100-999.....EACH 2.63  
HA 9049. 1-99....EACH 4.00 100-999.....EACH 3.00

## ATTENTION QUANTITY BUYERS

Allied maintains large stocks of Hughes semiconductor products—ready for immediate shipment in quantity. See the list of nationwide offices on page one of this catalog and find out how convenient it is to call the Allied man nearest you for fast, same day shipment of all your Hughes semiconductor needs. OEM factory prices prevail, of course, and you will be billed at the lowest price in effect at the time your order was shipped.

# Sylvania Diodes and Integrated Circuits



Allied can supply the complete line of Sylvania semiconductors. Phone or write us if the unit you need is not shown.

## EXPLANATION OF COLUMN HEADINGS AND SYMBOLS

B<sub>v</sub>—breakdown voltage  
 f<sub>co</sub>—cutoff frequency  
 I<sub>MR</sub>—max. reverse current  
 C—typ. terminal valley point capacitance  
 I<sub>p</sub>—peak current I<sub>F</sub>—DC forward current  
 I<sub>FWD</sub>—minimum forward current  
 PIV—peak inverse voltage  
 t<sub>rr</sub>—reverse recovery time  
 V<sub>R</sub>—reverse working voltage  
 P<sub>t</sub>—total power dissipation  
 V<sub>MR</sub>—maximum reverse voltage  
 \*\*—comm. anode †, 0 v.; §, 1 v.

### MICROWAVE VIDEO DETECTOR DIODES

Type No.	Fig.	Frequency Band	EACH	
			1-99	100-999
IN31A	C	X	14.10	11.75
IN358A	C	L-X	19.25	17.10
IN358AR	C	L-X	28.90	25.65
IN369A	C	L-X	31.85	25.48
IN369AR	C	L-X	47.80	38.22
IN630	C	L-X	35.70	28.50
IN630R	C	L-X	53.50	42.80
IN830A	A	1000 mc	3.85	3.00
IN833A	E	X	13.95	10.95
IN1611A	A	X	9.15	7.35
IN1611AR	A	X	12.80	11.05
IN3143	A	X	5.60	4.40
IN3143R	A	X	5.60	4.40

### SILICON EPITAXIAL VARACTORS

For use in RF switching, RF tuning, parametric amplifiers, harmonic generators, etc.

Type No.	Fig.	B <sub>v</sub> (v)	f <sub>co</sub> (kmc)	EACH	
				1-9	10-99
D4200H	J	6	100	90.00	77.00
D4201H	J	6	100	90.00	77.00
D4210H	J	15	100	96.00	82.50
D4221H	J	24	100	110.00	95.00
D4232E	J	30	70	100.00	85.75
D4241C	J	45	50	45.00	38.60
D4252A	J	60	30	46.00	39.40
D4252B	J	60	40	64.50	55.00
D4264A	J	90	30	90.00	77.00
D4266-3	J	90	5	46.00	39.40
D4554X	E	60	.....	23.00	19.80
D4556X	E	60	.....	23.00	19.80
D4556Y	E	60	.....	12.50	11.00
D4556Z	E	60	.....	8.00	6.85
D4560X	E	90	.....	23.00	19.80
D4560Y	E	90	.....	12.50	11.00
D4560Z	E	90	.....	8.00	6.85
D4570X	E	120	.....	23.00	19.80
D4570Y	E	120	.....	12.50	11.00
D4570Z	E	120	.....	8.00	6.85
D4600J	G	6	120	138.00	118.00
D4601H	G	6	100	99.00	85.00
D4603F	G	6	80	149.00	128.00
D4611G	G	15	90	88.00	75.50
D4611H	G	15	100	106.00	91.00
D4612G	G	15	90	121.00	104.00
D4621H	G	24	100	121.00	104.00
D4632E	G	30	70	110.00	95.00
D4641E	G	45	70	77.00	66.00
D4643C	G	45	50	121.00	104.00

### GERMANIUM TUNNEL DIODES

Type No.	Fig.	I <sub>p</sub> (ma)	f <sub>co</sub> (kmc)	EACH	
				1-9	10-99
D4961	H	2.0	7	25.00	21.40
D4961C	H	2.0	32	110.00	94.00
D4962	H	5.0	6	20.00	17.15
D4962B	H	5.0	17	50.00	43.00
D4966	H	100	3	12.00	10.60
D4966B	H	100	8	37.50	32.00
D5061	F	2.0	7	30.00	26.00
D5061A	F	2.0	13	48.00	41.00
D5061B	F	2.0	18	90.00	77.00
D5061C	F	2.0	32	130.00	111.00

### INTEGRATED LOGIC CIRCUITS

Not illus. Fast silicon planar epitaxial single chip logic circuits in durable, hermetically sealed TO-5 package. N.G. in Circuit column below indicates NAND Gate circuit. Operating temperature range, -50°C to +125°C.

Type No.	Circuit	Fan In	Fan Out	EACH	
				1-9	10-99
SNG-2	2 N.G.	3	5	60.00	45.00
SNG-3	3 N.G.	3	5	60.00	45.00
SNG-4	4 Dual N.G.	Dual 3	10	150.00	120.00
SNG-5	5 Dual N.G.	Dual 3	25	130.00	104.00
SNG-6	6 N.G.	Dual 3	10	130.00	104.00
SNG-7	7 N.G.	6	25	125.00	100.00
SFF-1	Flip-Flop	.....	25	160.00	128.00
SFF-2	Flip-Flop	.....	20	280.00	244.00
SFF-3	Flip-Flop	.....	20	225.00	180.00

### MULTIPLE DIODES

Not illus. Silicon planar epitaxial high speed diodes. Common cathode, except \*common anode. All in TO-46 pkg.

Type No.	Diodes	V <sub>MR</sub> (v)	I <sub>FWD</sub> (ma)	t <sub>rr</sub> (nsec)	EACH	
					1-9	10-99
M0001	2	40	225	3	3.82	3.42
M0002	3	40	225	3	5.65	5.10
M0003	2	75	225	3	4.75	4.25
M0004	3	75	200	3	7.05	6.30
M0005	2	100	175	3	5.10	4.55
M0006	3	100	175	3	7.65	6.80
M0007	2	40	175	4	3.18	2.84
M0008	3	40	175	4	4.75	4.25
M0009	4	40	175	4	6.35	5.70
M0010	4	40	225	3	7.65	6.90
M0011	4	75	200	3	9.50	8.50
M0012	4	100	175	3	10.20	9.10
M0045	2	100	225	3	6.90	6.20
M0046	3	100	225	3	10.45	9.40
M0047	4	100	225	3	14.00	12.50
M0101	2*	40	175	4	3.18	2.84
M0102	3*	40	175	4	4.75	4.25
M0103	4*	40	175	4	6.35	5.70
M0104	2*	75	200	3	4.75	4.25
M0105	3*	75	200	3	7.05	6.30
M0106	4*	75	200	3	9.50	8.50
M0107	2*	40	225	3	3.82	3.40
M0108	3*	40	225	3	5.65	5.10
M0109	4*	40	225	3	7.65	6.80

Not illus. Silicon planar epitaxial high speed diodes in modified TO-5 pkg. Surge current per diode, 500 ma, 1 sec. Type M0110 has common cathode; Type M0111, common anode.

M0110	8	40	175	4	12.50	11.00
M0111	8	40	175	4	12.50	11.00

### MULTIPLE STEERING DIODES

Not illus. Silicon planar epitaxial high conductivity diodes. TO-47 pkg. I<sub>MR</sub>—250 namp @ 40 v. Common cathode, except \*common anode.

Type No.	No.	V <sub>MR</sub> (v)	I <sub>FWD</sub> @ 1.1 v (ma)	EACH	
				1-9	10-99
M0112	4	60	300	10.20	9.10
M0113	5	60	300	12.70	11.40
M0114	4*	60	300	10.20	9.10
M0115	5*	60	300	12.70	11.40

### DIODE MATRICES

Silicon planar epitaxial diode matrices in molded package. Have gold-plated Kovar ribbon leads. PIV, 35 v. Size: .35x.2x.07".

Type No.	No. Diodes	C† (pf)	I <sub>F</sub> ‡ (ma)	EACH	
				1-9	10-99
MO116	12	3	50	12.00	9.60
MO117	8	3	50	8.00	6.40

### DIODE BRIDGE

Not illus. Silicon planar epitaxial high speed diode bridge in hermetically sealed 4 lead TO-46 package. Designed for use as bridge modulator, instrument detector, low power full wave rectifier, etc.

Type No.	V <sub>R</sub> (v)	Max. I <sub>FWD</sub> (ma)	P <sub>t</sub> (mw)	EACH	
				1-9	10-99
MO119	50	45	250	12.00	10.70

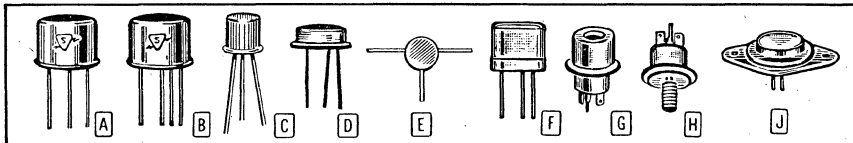
### SILICON UHF DIODES

Type No.	Fig.	V <sub>R</sub> (v)	I <sub>FWD</sub> (ma)	EACH	
				1-99	100-999
IN82	E	3	10-25	.70	.55
IN82A	E	3	10-25	.91	.71
USA1 N82A	E	.....	.....	.91	.71
D3530	.....	3	8-25	.91	.71

### MICROWAVE MIXER DIODES

Type No.	Fig.	Freq. Band	Noise Fig. (db)	EACH	
				1-99	100-999
JAN1N21B	A	S	10.3	.68	.54
IN21BMR	A	S	10.3	2.04	1.61
JAN1N21C	A	S	8.3	1.02	.81
IN21CMR	A	S	7	3.07	2.45
IN21FMR	A	S	6	33.00	26.00
JAN1N21WE	A	S	7	7.65	6.00
IN21EMR	A	S	7	13.50	10.50
JAN1N23B	A	X	11.5	.67	.54
JAN1N23CR	A	X	9.5	1.41	1.12
JAN1N23WE	B	X	7.5	5.90	4.65
IN25	A	L	12.6	3.53	2.74
JAN1N25	A	L	12.6	3.53	2.74
IN25A	A	L	10.3	8.48	6.60
IN26	C	K	13.1	6.50	5.10
JAN1N26	C	K	13.1	6.50	5.10
IN26M	C	K	13.1	16.15	12.75
IN26MR	C	K	13.1	19.45	15.30
IN26R	C	K	13.1	9.90	7.80
IN26A	C	K	11.3	7.75	6.05
IN26AM	C	K	11.3	19.30	15.20
IN53	D	Ka	13.1	23.20	18.60
JAN1N53	D	Ka	13.1	23.20	18.60
IN53M	D	Ka	13.1	58.10	46.55
IN53MR	D	Ka	13.1	72.75	58.20
IN53R	D	Ka	13.1	36.30	29.10
IN53BM	D	Ka	10.0	74.50	64.80
IN53BMR	D	Ka	10	98.45	78.75
IN53C	D	Ka	9	46.79	37.45
IN53CM	D	Ka	9	116.95	93.60
IN53CMR	D	Ka	9	140.40	112.30
IN53CR	D	Ka	9	70.20	57.15
IN53D	D	Ka	9	73.50	57.80
JAN1N78	C	Ku	12	6.50	5.10
IN416F	C	S	10.3	12.25	9.80
IN1132	C	S-X	9.5	43.05	33.85
IN2510	C	X	9.5	18.20	14.30

# Sylvania Transistors



Allied can supply the complete line of Sylvania semi-conductors. Phone or write us if the unit you need is not shown.

## SILICON EPITAXIAL MICRO-POWER PLANAR NPN TRANSISTORS

Fast switching transistors. Plague-free passivated planar construction. All types have 15 v. collector to base voltage.

Type No.	Fig.	ft (mc)	ton + toff (nsec)	EACH	
				1-99	100-999
2N709	C	800	30	11.39	7.59
2N709/46	D	800	30	9.85	6.50
2N709/51	E	800	30	22.50	15.00
2N709A	C	.....	30	13.50	9.00
2N709A/46	D	.....	30	13.65	9.10
2N709A/51	E	.....	30	30.00	20.00
2N2784	C	1200	18	22.50	15.00
2N2784/46	D	1200	18	18.00	12.00
2N2784/51	E	1200	18	37.50	25.00

## GERMANIUM RF TRANSISTORS

Used primarily in AM radio as RF and IF amplifier oscillators, mixers and converters. Closely controlled feedback parameters simplify neutralization. Feature TO-22 outline. P<sub>T</sub>, 150 ma; I<sub>C</sub>, 100 ma; T<sub>J</sub>, +85°C.

Type No.	Application	V <sub>CB</sub> (v)	V <sub>CE</sub> (v)	EACH	
				1-99	100-999
2N94	IF amp.	25	20	1.34	.89
2N94A	IF amp.	25	20	1.50	1.00
2N193	Oscillator	18	18	1.17	.78
2N194	Mixer/Conv.	18	18	1.25	.83
2N194A	Mixer/Conv.	25	20	1.42	.94
2N211	Osc./Mixer	18	18	1.80	1.34
2N212	Mixer/Conv.	20	18	1.50	1.00
2N216	IF amp.	18	18	1.75	1.17
2N233	Gen. Purp.	12	10	.50	.33
2N233A	Gen. purp.	20	18	1.13	.76
2N515	IF amp.	18	18	1.42	.94
2N516	IF amp.	18	18	1.50	1.00
2N517	IF amp.	18	18	1.67	1.11
2N1058	Mixer/Conv.	18	18	1.75	1.17
SYL101	Mixer/Conv.	18	18	2.20	1.40
SYL102	IF amp.	25	20	2.00	1.30

## GERMANIUM AUDIO AND GENERAL PURPOSE TRANSISTORS

NPN types for both amplifier and switching service. TO-22 outline. Rated: P<sub>T</sub>, 180 mw; I<sub>C</sub>, 100 ma; T<sub>J</sub>, maximum is 85°C.

Type No.	Application	V <sub>CB</sub> (v)	V <sub>CE</sub> (v)	EACH	
				1-99	100-999
2N35	Hi gain amp	40	25	1.17	.78
2N213	Driver	40	25	1.25	.83
2N213A	Hi gain driver	40	25	1.59	1.05
2N214	Audio Output	40	25	1.42	.94
2N228	Output Amp.	40	15	1.59	1.05
2N229	Gen. Purp.	12	10	.50	.33
2N306	Gen. Purp.	20	15	.84	.56
2N647/22	Audio Output	25	25	1.16	.77
2N649/22	Audio Output	18	18	1.00	.67
2N1059	Output Amp.	20	15	1.00	.67
2N1101	Output Amp.	20	15	.75	.50
2N1102	Output Amp.	40	25	.84	.56
2N1251	Hi gain amp	20	15	1.00	.67
2N2354	Output Amp.	20	15	.92	.61

## GERMANIUM MEDIUM POWER AND AUDIO PNP TRANSISTORS

Designed for high current switching and amplifier applications. Features modified TO-5 outline. I<sub>C</sub>=3 amperes.

Type No.	V <sub>CB</sub> (v)	hFE	EACH	
			1-99	100-999
2N1038	40	33-200 @ 50 ma	2.85	1.90
2N1039	60	33-200 @ 50 ma	3.75	2.50

## GERMANIUM PNP MEDIUM POWER AND AUDIO TRANSISTORS (Cont'd)

Type No.	V <sub>CB</sub> (v)	hFE	EACH	
			1-99	100-999
2N1040	80	33-200 @ 50 ma	11.25	7.50
2N1041	100	33-200 @ 50 ma	15.75	10.50
2N1042	40	20-60 @ 3 amps	5.25	3.50
2N1043	60	20-60 @ 3 amps	9.00	6.00
2N1044	80	20-60 @ 3 amps	13.50	9.00
2N1045	100	20-60 @ 3 amps	18.00	12.00

## SILICON LARGE SIGNAL NPN

### EPITAXIAL PLANAR TRANSISTORS

Feature fast switching combined with high power dissipation. Plague-free passivated construction. T<sub>J</sub>, 200°C. Have TO-5 outline.

Type No.	V <sub>CB</sub> (v)	P <sub>T</sub> (mw)	EACH	
			1-99	100-999
2N1613	75	800	13.10	8.75
2N1958A	60	600	15.00	9.50
2N1959A	60	600	17.00	11.00
2N2297	80	800	17.00	11.00
2N2410	60	800	10.80	7.20

## SILICON NPN EPITAXIAL

### MESA TRANSISTORS

High speed, low storage time and low saturation voltage. T<sub>J</sub>, 175°C. TO-5 outline.

Type No.	Fig.	V <sub>CB</sub> (v)	P <sub>T</sub> (mw)	EACH	
				1-99	100-999
2N696	A	60	600	1.57	1.05
2N697	A	60	600	2.06	1.38
2N698	A	120	800	10.05	6.95
2N699	A	120	800	14.25	9.50
2N1253	A	30	600	11.95	7.95
2N1958A	A	60	600	6.00	4.00
2N1959A	A	60	600	6.16	4.11
2N1964	D	60	400	6.37	4.35
2N1990	A	100	600	3.60	2.90
2N1990/46	D	100	400	4.05	2.70
2N2618	A	60	600	5.40	3.60
2N2618/46	D	60	400	8.25	5.50

## GERMANIUM NPN AUDIO

### POWER TRANSISTORS

Compact units feature high current and high power capabilities.

Type No.	Fig.	V <sub>CB</sub> (v)	P <sub>T</sub> (w)	EACH	
				1-99	100-999
2N102/13	G	30	4	4.50	3.00
2N144/13	G	60	4	8.14	5.43
2N326	J	35	7	12.60	8.40
2N326 JAN	per MIL-S-19500/40			14.10	9.40
2N1218	J	45	6	7.50	5.00
2N1292	J	35	25	10.05	6.70
2N1294	J	60	25	13.10	8.75
2N1296	J	80	25	17.60	11.75
2N1321	H	35	25	10.10	6.75
2N1323	H	60	25	13.10	8.75
2N1325	H	80	25	17.25	11.50

## GERMANIUM PNP AMPLIFIER TRANSISTORS

Type No.	V <sub>CB</sub> (v)	f (mc)	Application	EACH	
				1-99	100-999
2N247/33	40	1.5	R.F.	3.14	2.09
2N370/33	24	20	R.F.	.81	.54
2N371/33	24	20	Osc.	.79	.53
2N372/33	24	20	Mix.	.79	.53
2N373/33	24	.455	I.F.	1.24	.83
2N384/33	40	50	R.F.	1.65	1.10
2N544/33	24	1.5	R.F.	1.46	.97
2N624	30	12.5	I.F.	8.10	5.40
2N624 USA	MIL-S-19500/82			9.00	6.00
2N1066	40	50	R.F.	1.98	1.32

## GERMANIUM PNP AMPLIFIER TRANSISTORS (Cont'd)

Type No.	V <sub>CB</sub> (v)	f (mc)	Application	EACH	
				1-99	100-999
2N1224	40	12.5	I.F.	1.24	.83
2N1224 USA	MIL-S-19500/189			2.06	1.38
2N1225	40	50	R.F.	1.40	.94
2N1225 USA	MIL-S-19500/189			2.31	1.54
2N1264/33	20	1.5	I.F.	.59	.39
2N1395	40	12.5	I.F.	1.49	.99
2N1396	40	50	R.F.	1.65	1.10
2N1397	40	50	R.F.	2.15	1.43
2N1432	45	.....	Linear Amp.	2.41	1.61
2N1637/33	35	5	R.F.	.90	.60
2N1673	35	1.5	I.F./R.F.	2.85	1.90
SYL2113	40	50	R.F.	3.55	2.35

## GERMANIUM PNP HIGH FREQUENCY AND HIGH SPEED SWITCHING TYPES

Type No.	V <sub>CB</sub> (v)	I <sub>C</sub> (ma)	f <sub>t</sub> (min)	EACH	
				1-99	100-999
2N602	20	10	10	1.92	1.28
2N603	30	10	30	4.05	2.70
2N604	30	10	50	6.15	4.10
2N643	30	100	20	1.40	.94
2N644	30	100	40	1.65	1.10
2N645	30	100	60	2.64	1.76
2N1450	30	100	40	2.06	1.38

## SILICON EPITAXIAL HIGH SPEED SWITCHING AND HIGH FREQUENCY

### AMPLIFIER NPN TRANSISTORS

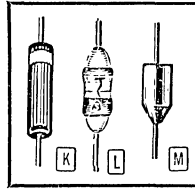
Small signal, plague-free passivated construction. T<sub>J</sub> is 200°C.

Type No.	Fig.	V <sub>CB</sub> (v)	ft (mc)	EACH	
				1-99	100-999
2N703	C	25	.....	16.35	10.90
2N706	C	25	320	1.57	1.05
JAN 2N706	MIL-S-19500/120A			5.40	3.60
2N706/46	D	25	320	4.05	2.70
2N706/51	E	25	320	9.00	6.00
2N706A	C	25	320	1.82	1.21
2N706A/46	D	25	320	4.50	3.00
2N706A/51	E	25	320	9.40	6.25
2N706B	C	25	320	5.40	3.60
2N706B/46	D	25	320	9.75	6.50
2N706B/51	E	25	320	18.75	12.50
2N706C	C	40	320	7.50	5.00
2N706C/46	D	40	320	10.50	7.00
2N706C/51	E	40	320	22.50	15.00
2N708	C	40	400	2.48	1.65
2N708/46	D	40	400	5.40	3.60
2N708/51	E	40	400	11.85	7.90
2N743	C	20	350	6.90	4.60
2N743/46	D	20	350	12.00	8.00
2N743/51	E	20	350	20.25	13.50
2N744	C	20	350	7.50	5.00
2N744/46	D	20	350	12.75	8.50
2N744/51	E	20	350	21.00	14.00
2N753	C	25	320	5.65	3.75
2N753/46	D	25	320	7.30	4.85
2N753/51	E	25	320	9.75	6.50
2N783	C	40	350	7.50	5.00
2N784	C	30	350	8.08	5.39
2N784A	C	40	350	11.25	7.50
2N784A/46	D	40	350	15.00	10.00
2N784A/51	E	40	350	22.50	15.00
2N834	C	40	450	4.13	2.75
2N834/46	D	40	450	10.50	7.00
2N834/51	E	40	450	19.50	13.00
2N835	C	25	425	5.40	3.60
2N835/46	D	25	425	9.75	6.50
2N835/51	E	25	425	18.75	12.50
2N914	C	40	450	5.78	3.85
2N914/46	D	40			

# Precision Sylvania Semiconductors

## EXPLANATION OF COLUMN HEADINGS

The following is an explanation of column headings of tables appearing on this page, and on the preceding page. PIV, peak inverse voltage. I<sub>FWD</sub>, minimum forward current. I<sub>o</sub>, maximum average rectified forward current. V<sub>R</sub>, reverse working voltage. P<sub>T</sub>, total power dissipation. T<sub>j</sub>, maximum junction temperature. f<sub>t</sub>, typical frequency. I<sub>R</sub>, reverse current. t<sub>r</sub>, pulse rise time. V<sub>CB</sub>, maximum collector to base voltage. t<sub>on</sub>, turn-on time. t<sub>off</sub>, turn-off time. V<sub>CE</sub>, collector to emitter voltage. I<sub>C</sub>, average collector current. h<sub>FE</sub>, common emitter DC forward current transfer ratio. f<sub>c</sub>, frequency. f<sub>c</sub>, cutoff frequency.



Uniform Quality

Order Sylvania semiconductors from Allied. Same-day shipment, OEM prices, complete stocks.

## SILICON EPITAXIAL HIGH SPEED SWITCHING AND HIGH FREQUENCY AMPLIFIER TRANSISTORS (Cont'd)

Type No.	Fig.	V <sub>CB</sub> (v)	f <sub>t</sub> (mc)	EACH	
				1-99	100-999
2N915	C	70	...	8.85	5.90
2N929	C	45	...	12.25	8.15
2N930	C	45	...	19.90	13.30
2N1708	E	25	...	4.79	3.19
2N1962	E	40	350	7.87	5.25
2N1963	E	30	350	8.47	5.65
2N2205	C	25	375	4.95	3.30
2N2368	C	40	...	7.65	5.10
2N2369	C	40	...	9.75	6.50
2N2397	E	35	350	10.00	6.75
2N2719	C	25	...	3.75	2.50

## GERMANIUM EPITAXIAL MESA PNP SWITCHING TRANSISTORS

Epitaxial design provides high f<sub>t</sub> and fast switching. P<sub>T</sub> is 150 mw. T<sub>j</sub>, 100°C.

Type No.	Fig.	V <sub>CB</sub> (v)	f <sub>t</sub> (mc)	EACH	
				1-99	100-999
2N501/18	C	15	250	5.17	3.45
2N705	C	15	290	2.62	1.75
2N705USN	MIL-S-19500/			1.57	1.05
2N705A	C	15	300	2.62	1.75
2N710	C	15	300	1.57	1.05
2N711	C	12	300	1.12	.75
2N711A	C	15	300	1.35	.90
2N711B	C	18	330	1.42	.95
2N781	C	15	350	11.72	7.81
2N782	C	12	400	2.40	1.60
2N828	C	15	380	3.30	2.20
2N960	C	15	400	3.30	2.20
2N960/46	D	15	400	6.60	4.40
2N961	D	12	400	2.77	1.85
2N961/46	D	12	400	5.60	3.60
2N962	C	12	400	2.10	1.40
2N962/46	D	12	400	4.15	2.65
2N963	C	12	350	1.42	.95
2N964	C	15	420	3.67	2.45
2N964/46	D	15	420	7.30	4.87
2N965	C	12	420	3.30	2.20
2N966	C	12	420	2.52	1.68
2N967	C	12	350	1.56	1.02
2N968	C	12	350	2.10	1.40
2N985	C	15	360	3.75	2.50
2N1500/18	C	12	400	6.38	4.68
2N1646	C	15	320	6.00	4.00
2N1853/18	C	18	320	1.32	.88
2N1960	D	15	350	15.00	10.00
2N1961	D	12	400	8.25	5.50
2N2455	C	15	800	4.50	3.00
2N2456	C	15	1200	10.00	6.65

## GERMANIUM EPITAXIAL MESA PNP AMPLIFIER TRANSISTORS

T<sub>j</sub> is 100°C. \*Indicates non-epitaxial.

Type No.	Fig.	V <sub>CB</sub> (v)	P <sub>TT</sub> (mw)	f <sub>t</sub> (mc)	EACH	
					1-99	100-999
2N700/18	C	25	150	800	7.35	4.90
2N700A/18	C	25	150	800	11.85	8.70
2N741	C	15	150	360	2.15	1.45
2N741A	C	20	150	360	3.30	2.20
2N1141	B	35	300	...	10.12	6.75
2N1142	B	30	300	...	9.45	6.30
2N1143	B	35	300	...	6.38	4.25
2N2455	C	15	150	800	4.50	3.00
2N3616	C	15	150	1200	22.50	15.00
*SYL353C	C	25	125	800	6.75	4.50
*SYL3926	C	25	125	...	4.20	2.80

## SILICON EPITAXIAL PLANAR DIODES

Feature extremely fast switching, low shunt capacitance and low leakage. T<sub>R</sub>, diode recovery time in nanoseconds.

Type No.	PIV (v)	I <sub>FWD</sub> (ma)	T <sub>R</sub>	EACH	
				1-99	100-999
IN903	40	50	4	1.75	1.40
IN904	30	50	4	1.65	1.30
IN905	20	50	4	1.45	1.15
IN906	20	50	4	1.25	1.00
IN907	30	50	4	1.45	1.15
IN908	40	50	4	1.75	1.40
IN914	100	75	4	1.95	1.55
IN914A	100	75	4	2.20	1.75
IN916	100	75	4	3.00	2.30
IN916A	100	75	4	3.35	2.50
IN3064	50	...	4	2.50	2.00
IN3604	50	...	4	2.50	1.65

## SILICON GENERAL PURPOSE AND FAST SWITCH DIODES

\*Indicates fast switch type.

Type No.	V <sub>R</sub> (v)	I <sub>FWD</sub> (ma)	I <sub>R</sub> (uA)	EACH	
				1-99	100-999
IN456	25	90	.025	.37	.29
IN456A	25	200	.025	.37	.29
IN457	60	75	.025	.45	.36
JANI N457	PerMIL-S-19500/193A			.45	.36
IN458A	60	200	.025	.45	.36
IN458	125	55	.025	.51	.40
JANI N458	PerMIL-S-19500/193A			.51	.40
IN458A	125	200	.025	.51	.40
IN459	175	40	.025	.66	.51
JANI N459	PerMIL-S-19500/193A			.66	.51
IN459A	175	200	.025	.66	.51
IN461	25	60	.5	.35	.28
IN461A	25	200	.5	.35	.28
IN462	60	50	.5	.38	.30
IN462A	60	200	.5	.38	.30
IN463	175	30	.5	.46	.36
IN463A	175	200	.5	.46	.36
IN464	125	40	.5	.45	.35
IN464A	125	200	.5	.45	.35
IN482	36	100	.25	.59	.46
IN482A	36	200	.025	.59	.46
IN482B	36	200	.025	.59	.46
IN483	70	100	.25	.61	.47
IN483A	70	200	.025	.61	.47
IN483B	70	200	.025	.61	.47
USNI N483B	PerMIL-S-19500/118			.61	.47
IN484	130	100	.25	.70	.55
IN484A	130	200	.025	.70	.55
IN484B	130	200	.025	.70	.55
IN485	180	100	.25	.85	.60
IN485A	180	200	.025	.85	.60
IN485B	180	200	.025	.85	.60
IN486	225	100	.25	1.25	.98
IN486A	225	200	.05	1.25	.98
IN486B	225	200	.05	1.25	.98
IN487	300	100	.25	2.05	1.60
IN487A	300	200	.1	2.85	2.15
IN488	380	100	.25	2.50	1.95
IN488A	380	200	.1	3.29	2.51
IN625	20*	20	20	.54	.33
IN626	35*	20	100	.59	.34
IN627	75*	20	100	.67	.39
IN628	125*	20	100	.81	.47
IN629	175*	20	100	.88	.59
IN643A	175*	40	...	1.60	1.12
IN659	50*	100	5	.85	.66

## SILICON BONDED DIODES

For fast switching, VHF detecting.

Type No.	PIV (v)	I <sub>FWD</sub> (ma)	EACH	
			1-99	100-999
IN251	40	30	.90	.75
JANI N251	MIL-S-19500/188		.90	.75
IN252	30	40	.80	.65
IN997	40	50	2.90	2.25

## SILICON "BULLET" EPOXY DIODES

Efficient silicon epoxy power rectifiers.

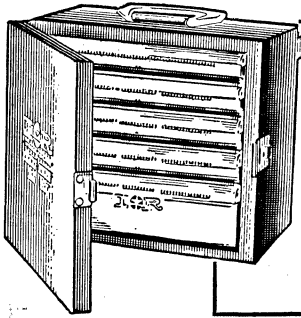
Type No.	PIV (v)	I <sub>o</sub> (ma)	EACH	
			1-99	100-999
IN2069	200	750	.50	.33
IN2069A	200	750	.60	.40
IN2070	400	750	.68	.45
IN2070A	400	750	.75	.50
IN2071	600	750	.87	.58
IN2071A	600	750	1.10	.78
IN2482	200	750	.50	.33
IN2483	400	750	.68	.45
IN2484	600	750	.87	.58
SRI 692	100	600	.45	.30
SRI 693	200	600	.50	.33
SRI 694	300	600	.59	.39
SRI 695	400	600	.68	.45

## GERMANIUM POINT CONTACT DIODES

For use in the audio, IF, RF, and VHF ranges. \*Indicates matched pair; \*\*matched quad.

Type No.	Fig.	PIV (v)	I <sub>FWD</sub> (ma)	EACH	
				1-99	100-999
IN34A	K	75	50	.30	.23
IN35	*	75	50	1.58	1.21
IN38A	K	125	50	.75	.57
IN38B	K	125	50	.75	.57
IN38BL	L	125	50	1.22	.95
JANI N38B	L PerMIL-E-1/492B			1.22	.95
IN39AL	L	220	50	4.00	3.10
IN40	R**	75	50	6.70	5.25
IN48	K	85	50	.30	.23
IN54A	K	75	50	.55	.39
IN55A	K	170	50	1.05	.81
IN55AL	L	170	50	2.52	1.97
USNI N55A	L PerMIL-E-1/497B			2.51	1.97
IN56AL	L	50	60	1.14	.89
IN58A	K	120	50	.77	.55
IN60	K	30	50	.30	.23
IN63	K	125	50	.36	.28
IN64	K	25	50	.30	.23
IN65	K	85	50	.48	.35
IN67A	K	100	30	.61	.48
IN68A	K	125	40	.70	.55
IN69	K	75	40	.30	.23
IN69A	K	75	40	.30	.23
IN69AL	L	75	40	.58	.45
JANI N69A	L PerMIL-E-1/142D			.58	.45
IN70	K	130	30	.48	.38
IN70AL	L	130	30	1.01	.79
JANI N70A	L PerMIL-E-1/154D			1.01	.79
IN81A	K	50	130	.48	.38
IN81AL	L	50	30	.75	.59
JANI N81A	L PerMIL-E-1/155D			.75	.59
IN90	K	75	30	.35	.27
IN116	K	...	45	.53	.41
IN119	K	75	25	.51	.40
IN120	K	75	25	.46	.36
IN126	K	75	30	.30	.24
IN126A	K	75	30	.30	.24
JANI N126A	K PerMIL-E-1/156C			.30	.24
IN127	K	125	30	.83	.65
IN127A	K	125	30	.83	.65
JANI N127A	K PerMIL-E-1/157C			.83	.65
IN128	K	50	30	.32	.25
IN191	K	90	30	.35	.28
IN192	K	75	45	.34	.26
IN198	K	105	30	.35	.28
JANI N198	K PerMIL-E-1/700			.35	.28
IN198A	K	105	30	.35	.28
IN198B	K	105	30	1.03	.80
IN294	K	70	60	.34	.26
IN295	K	50	35	.35	.27
IN297	K	100	35	.70	.55
IN298	K	85	50	.48	.38
IN636	K	75	30	.38	.27
IN805	K	50	35	.34	.27
IN933	K	100	30	1.12	.85

# International Rectifier Silicon Zener Diodes



## NEW "R & D" ZENER-DIODE LABS

The Right Zener When You Need It—Right at Your Fingertips

- Giant Saving Over Individually Purchased Units
- Glass, Flangeless, Top Hat, Stud Types
- All are Highly Stable—5% Tolerance
- Each Lab Includes a Complete IR Engineering Technical Data Zener Handbook, Locator, Curves and Characteristics
- Every Zener Diode is Tagged with Its Voltage, Tolerance, and Test Current

Designed to save you time and money at the breadboard stage. Choose from 3 labs covering the 3.9- to 200-volt range. In a wide variety of packages, power ratings and configurations. Supplied in a 6-drawer metal cabinet with lock (two cabinets with K1000 Kit). Plus, the most complete library of technical data available on zener diodes—furnished with every IR zener lab.

### 24 POPULAR ZENERS

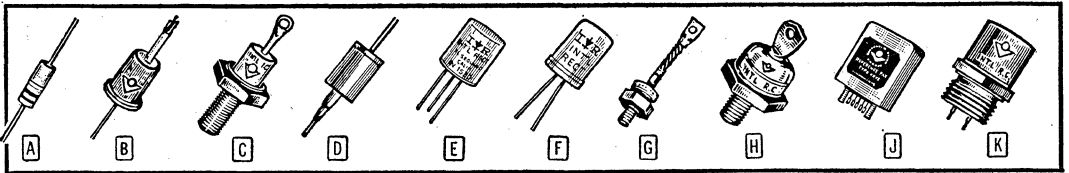
Lab K10W. Purchased separately, units cost \$485.40. Lab contains 24 10-watt stud-mounted zeners from 3.9 to 150 volts. Hermetically-sealed units are 4 ways better through processing that locks in superior electrical characteristics.  
4 U 405.....168.00

### 32 POPULAR ZENERS

Lab K1W. Purchased separately, units cost \$228.25. Lab contains 32 highly stable flangeless zeners covering the voltage range from 3.9 to 200 volts. All devices are process-selected to assure sharp zener knees and excellent regulation.  
4 U 406.....98.50

### 105 POPULAR ZENERS

Lab K1000. Purchased separately, units cost \$885.23. Lab contains all 1- and 10-watt devices in labs K1W and K10W, plus 44 400-mw glass zeners, and the highly stable IN429, IN430, IN1530, IN832A, and IN-3155A reference elements.  
4 U 404.....382.00



### PARTIAL ZENER-DIODE LISTING

Listings on this and facing page represent only part of the wide IR zener line. Allied also stocks such zener series as IN1767-1802, IN1805-1815, IN1351-1375, IN1816-1836, IN2008-2012, IN2498-2500. Contact your Allied office for detailed data.

## A 400-MW GLASS SILICON ZENER DIODES

### EXPLANATION OF COLUMN HEADINGS

ZT, zener test current. Vz, nominal zener voltage. ZzT, max. zener dynamic impedance.

#### "HIGH SPECS," ±5% V. TOLERANCE

Type No.	Vz (V)	Izt (ma)	Zzt (Ohms)	EACH	
				1-99	100-999
FZ3.3T5	3.3	20	27	3.60	2.85
FZ3.6T5	3.6	20	23		
FZ3.9T5	3.9	20	22		
FZ4.3T5	4.3	20	21		
FZ4.7T5	4.7	20	14	3.60	2.85
FZ5.1T5	5.1	20	10		
FZ5.6T5	5.6	20	7		
FZ6.2T5	6.2	20	4		
FZ6.8T5	6.8	20	4	3.60	2.85
FZ7.5T5	7.5	20	5		
FZ8.2T5	8.2	20	6		
FZ9.1T5	9.1	20	7		
FZ10T5	10	20	8	3.60	2.85
FZ11T5	11	5	10		
FZ12T5	12	5	11		
FZ13T5	13	5	13		
FZ14T5	14	5	15	3.60	2.85
FZ15T5	15	5	17		
FZ16T5	16	5	19		
FZ17T5	17	5	21		
FZ18T5	18	5	25	3.60	2.85
FZ19T5	19	5	28		
FZ20T5	20	5	32		
FZ22T5	22	5	35		
FZ24T5	24	5	37	3.60	2.85
FZ25T5	25	5	39		
FZ27T5	27	5	40		
FZ30T5	30	5	45		

#### JEDEC IN746A-748A, ±5% V. TOL.

Type No.	Vz (V)	Izt (ma)	Zzt (Ohms)	EACH	
				1-99	100-999
IN746A	3.3	20	28	2.95	2.20
IN747A	3.6	20	24		
IN748A	3.9	20	23		

#### JEDEC IN749A-759A, ±5% V. TOL.

Type No.	Vz (V)	Izt (ma)	Zzt (Ohms)	EACH	
				1-99	100-999
IN749A	4.3	20	22	2.95	2.20
IN750A	4.7	20	19		
IN751A	5.1	20	17		
IN752A	5.6	20	11		
IN753A	6.2	20	7	2.95	2.20
IN754A	6.8	20	5		
IN755A	7.5	20	6		
IN756A	8.2	20	8		
IN757A	9.1	20	10	2.95	2.20
IN758A	10.0	20	17		
IN759A	12.0	20	30		

#### JEDEC IN957B-973B

##### ±5% VOLTAGE TOLERANCE

Type No.	Vz (V)	Izt (ma)	Zzt (Ohms)	EACH	
				1-99	100-999
IN957B	6.8	20	4.5	2.20	1.65
IN958B	7.5	20	5.5		
IN959B	8.2	20	6.5		
IN960B	9.1	20	7.5		
IN961B	10	20	8.5	2.20	1.65
IN962B	11	11.5	9.5		
IN963B	12	10.5	11.5		
IN964B	13	9.5	13		
IN965B	15	8.5	16	2.20	1.65
IN966B	16	7.8	17		
IN967B	18	7.0	21		
IN968B	20	6.2	25	2.20	1.65
IN969B	22	5.6	29		
IN970B	24	5.2	33	2.20	1.65
IN971B	27	4.6	41		
IN972B	30	4.2	49	2.45	1.90
IN973B	33	3.8	58		

#### JEDEC IN1956-1965, ±10% V. TOL.

Type No.	Vz (V)	Izt (ma)	Zzt (Ohms)	EACH	
				1-99	100-999
IN1956	5.6	5	8	2.60	2.10
IN1957	6.8	5	7		
IN1958	8.2	5	15		
IN1959	10	5	22		
IN1960	12	1	30	2.60	2.10
IN1961	14.5	1	50		
IN1962	18	1	70		
IN1963	22	1	100		
IN1964	27	1	200	3.00	300
IN1965	33	0.2	300		

#### JEDEC IN3510-3530, ±5% V. TOL.

Type No.	Vz (V)	Izt (ma)	Zzt (Ohms)	EACH	
				1-99	100-999
IN3510	4.7	20	16	3.60	2.85
IN3511	5.1	20	14		
IN3512	5.6	20	8		
IN3513	6.2	20	3		
IN3514	6.8	20	3	3.60	2.85
IN3515	7.5	10	4		
IN3516	8.2	10	5		
IN3517	9.1	10	6		
IN3518	10	10	7	3.60	2.85
IN3519	11	10	8		
IN3520	12	10	10	3.60	2.85
IN3521	13	5	12		
IN3522	15	5	14		
IN3523	16	5	16		
IN3524	18	5	18	3.60	2.85
IN3525	20	5	20		
IN3526	22	5	35		
IN3527	24	5	38		
IN3528	27	4	40	3.60	2.85
IN3529	30	4	48		
IN3530	33	3	50		

# International Rectifier Silicon Zener Diodes

## B ¼-WATT AXIAL-LEAD TYPES

Hermetically sealed. ±10% tol. \*±5%.

Type No.	Vz (V)	IzT (ma)	ZzT (Ohms)	EACH	
				1-99	100-999
IN1507	3.9	35	14	4.55	3.65
IN1507A	3.9*	35	14	5.45	4.35
IN1508	4.7	30	12	4.55	3.65
IN1508A	4.7*	30	12	5.45	4.35
IN1509	5.6	26	5.2	3.30	2.65
IN1509A	5.6*	26	5.2	3.95	3.15
M26.2T5	6.2*	26	5.2	3.96	3.15
IN1510	6.8	22	1.5	3.30	2.65
IN1510A	6.8*	22	1.5	3.95	3.15
IN1511	8.2	18	1.5	3.30	2.65
IN1511A	8.2*	18	1.5	3.95	3.15
IN1512	10	15	1.8	3.30	2.65
IN1512A	10*	15	1.8	3.95	3.15
IN1513	12	12	2.8	3.30	2.65
IN1513A	12*	12	2.8	3.95	3.15
IN1514	15	10	5	3.30	2.65
IN1514A	15*	10	5	3.95	3.15
IN1515	18	8	9	3.30	2.65
IN1515A	18*	8	9	3.95	3.15
IN1516	22	6	19	3.30	2.65
IN1516A	22*	6	19	3.95	3.15
IN1517	27	5	50	3.30	2.65
IN1517A	27*	5	50	3.95	3.15

## D 1-WATT JEDEC TYPES (Cont'd)

Type No.	Vz (V)	IzT (ma)	ZzT (Ohms)	EACH	
				1-99	100-999
IN3045	110	2.3	450	No Suffix	
IN3046	120	2.0	550	3.50	2.60
IN3047	130	1.9	700	Suffix A	
IN3048	150	1.7	1,000	5.10	3.85
IN3049	160	1.6	1,100	Suffix B	
IN3050	180	1.4	1,200	7.70	5.85
IN3051	200	1.2	1,500		

## C 3½-WATT STUD-MOUNTED TYPES

Silicon zener voltage regulators with Vz tolerance of ±10%, except \*±5%. All have hermetically sealed cases.

Type No.	Vz (V)	IzT (ma)	ZzT (Ohms)	EACH	
				1-99	100-999
IN1588	3.9	150	2.6	5.30	4.25
IN1588A	3.9*	150	2.6	6.40	5.10
IN1589	4.7	125	2.3	5.30	4.25
IN1589A	4.7*	125	2.3	6.40	5.10
IN1590	5.6	110	1.4	3.85	3.10
IN1590A	5.6*	110	1.4	4.60	3.70
3Z6.2T5	6.2*	110	1.4	4.60	3.70
IN1591	6.8	100	.58	3.85	3.10
IN1591A	6.8*	100	.58	4.60	3.70
IN1592	8.2	80	.5	3.85	3.10
IN1592A	8.2*	80	.5	4.60	3.70
IN1593	10	70	.7	3.85	3.10
IN1593A	10*	70	.7	4.60	3.70
IN1594	12	50	1.4	3.85	3.10
IN1594A	12*	50	1.4	4.60	3.70
3Z13T5	13*	50	1.4	4.60	3.70
IN1595	15	40	3.4	3.85	3.10
IN1595A	15*	40	3.4	4.60	3.70
IN1596	18	35	6	3.85	3.10
IN1596A	18*	35	6	4.60	3.70
IN1597	22	30	9	3.85	3.10
IN1597A	22*	30	9	4.60	3.70
IN1598	27	25	13	3.85	3.10
IN1598A	27*	25	13	4.60	3.70
3Z33T5	33*	27	13	4.60	3.70

## C 10-WATT STUD-MOUNTED TYPES

Hermetically sealed voltage regulators with Vz tol. of ±10%. \*±5%. Same length and stud as 3½-watt types (above).

Type No.	Vz (V)	IzT (ma)	ZzT (Ohms)	EACH	
				1-99	100-999
IN1599	3.9	500	.84	7.45	5.95
IN1599A	3.9*	500	.84	9.70	7.75
IN1600	4.7	400	.68	7.45	5.95
IN1600A	4.7*	400	.68	9.70	7.75
IN1601	5.6	350	.3	6.20	4.95
IN1601A	5.6*	350	.3	8.05	6.45
IN1602	6.8	300	.2	6.20	4.95
IN1602A	6.8*	300	.2	8.05	6.45
IN1603	8.2	250	.25	6.20	4.95
IN1603A	8.2*	250	.25	8.05	6.45
IN1604	10	200	.55	6.20	4.95
IN1604A	10*	200	.55	8.05	6.45
IN1605	12	170	.95	6.20	4.95
IN1605A	12*	170	.95	8.05	6.45
IN1606	15	140	1.5	6.20	4.95
IN1606A	15*	140	1.5	8.05	6.45
IN1607	18	110	2	6.20	4.95
IN1607A	18*	110	2	8.05	6.45
IN1608	22	90	3	6.20	4.95
IN1608A	22*	90	3	8.05	6.45
IN1609	27	70	4.5	6.20	4.95
IN1609A	27*	70	4.5	8.05	6.45

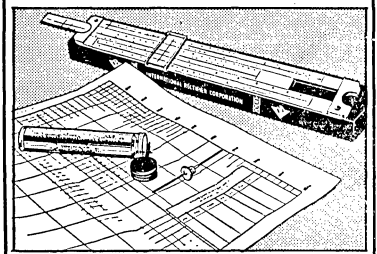
## C 10-WATT JEDEC TYPES

Hermetically sealed silicon zener voltage regulators.

Type Nos. as listed, without suffix letter, are rated Vz ±20% tolerance; add suffix A for 10% tol.; add suffix B for 5% tol.

Type No.	Vz (V)	IzT (ma)	ZzT (Ohms)	EACH	
				1-99	100-999
IN2970	6.8	370	1.2	No Suffix	
IN2971	7.5	335	1.3	5.40	4.10
IN2972	8.2	305	1.5		
IN2973	9.1	275	2		
IN2974	10	250	3		
IN2975	11	230	3	Suffix A	
IN2976	12	210	3	5.90	4.50
IN2977	13	190	3		
IN2979	15	170	3		
IN2980	16	155	4	Suffix B	
IN2982	18	140	4	7.45	5.65
IN2984	20	125	4		

EXPLANATION OF COLUMN HEADINGS: IzT, zener test current. Vz, nominal zener voltage. ZzT, max. zener dynamic impedance.



## X-Y ZENER PLOT FURNISHED WITH ALL IN1500 AND IN1600 ZENERS

At no extra charge, an X-Y plot of reverse breakdown characteristics is packaged with Series IN1500 and IN1600 IR zeners.

## C 10-WATT JEDEC TYPES (Cont'd)

Type No.	Vz (V)	IzT (ma)	ZzT (Ohms)	EACH	
				1-99	100-999
IN2985	22	115	5	No Suffix	
IN2986	24	105	5	5.40	4.10
IN2988	27	95	7		
IN2989	30	85	8		
IN2990	33	75	9		
IN2991	36	70	10		
IN2992	39	65	11		
IN2993	43	60	12		
IN2995	47	55	14		
IN2997	51	50	15	Suffix A	
IN2999	56	45	16	5.90	4.50
IN3000	62	40	17		
IN3001	68	37	18		
IN3002	75	33	22		
IN3003	82	30	25	Suffix B	
IN3004	91	28	35	7.45	5.65
IN3005	100	25	40		
IN3007	110	23	55		
IN3008	120	20	75		
IN3009	130	19	100		
IN3011	150	17	175		
IN3012	160	16	200	No Suffix	
				5.60	4.50
IN3014	180	14	260	Suffix A	
				8.70	6.75
				Suffix B	
IN3015	200	12	300	13.50	10.35

## SILICON VOLTAGE REFERENCE ZENERS

IzT at 25°C, 7.5 ma for Series IN800 and IN429; others, 10 ma. Temp. range, -55 to +100°C, except \* -55 to +150°C. ZzT, 15 ohms, except †20 ohms. ‡Top Hats.

Type No.	Fig.	Volt Range	Temp. Coeff. (%/°C)	EACH	
				1-99	100-999
IN429†	F	5.9-6.5	±.01	5.70	4.35
USN-1N430	K	8.0-8.8	±.002	25.20	21.60
IN430	K	8.0-8.8	±.002	15.50	13.30
IN430A	K	8.0-8.8	±.001	23.20	19.95
IN430B	K	8.0-8.8	±.001	35.60	30.60
IN1530‡	.....	8.0-8.8	±.002	15.60	13.30
IN1530A‡	.....	8.0-8.8	±.001	23.40	19.95
IN821	A	5.9-6.5	±.01	5.10	3.75
IN821A	A	5.9-6.5	±.01	5.65	4.20
IN823	A	5.9-6.5	±.005	6.85	5.10
IN823A	A	5.9-6.5	±.005	7.50	5.60
IN825	A	5.9-6.5	±.002	10.55	7.85
IN825A	A	5.9-6.5	±.002	11.25	8.40
IN827	A	5.9-6.5	±.001	27.00	20.00
IN827A	A	5.9-6.5	±.001	29.35	22.00
IN3154	A	8.0-8.8	±.01	8.10	6.10
IN3154A	A	8.0-8.8	±.01*	8.10	6.10
IN3155	A	8.0-8.8	±.005	11.30	8.45
IN3155A	A	8.0-8.8	±.005*	12.25	9.20
IN3156	A	8.0-8.8	±.002	16.80	12.60
IN3156A	A	8.0-8.8	±.002	18.10	13.60
IN3157	A	8.0-8.8	±.001	25.30	19.00

Specify Mfr's Name and Type No. When Ordering

# International Rectifier Zener Diodes, Rectifiers

## EXPLANATION OF COLUMN HEADINGS ON THIS AND FACING PAGE (ILLUSTRATIONS ON FACING PAGE)

**I<sub>GF</sub>**, gate current to assure firing of rectifiers at max. given operating temperature. **I<sub>L</sub>**, maximum forward and reverse leakage current. **I<sub>o</sub>**, av. rectified forward current (DC output). **I<sub>MR</sub>**, max. reverse current at rated PIV. **I<sub>ZT</sub>**, zener test current. **P**, power dissipation

at 25°C. **PIV**, peak inverse voltage. **PRV**, max. peak reverse volts. **TS**, thermal stability. **V<sub>BO</sub>**, minimum breaker voltage. **V<sub>RMS</sub>**, recommended rms input voltage. **V<sub>Z</sub>**, nominal zener voltage at I<sub>ZT</sub>. **Z<sub>T</sub>** max. zener dynamic impedance.

### F TEMPERATURE-COMPENSATED REFERENCE ELEMENTS

JEDEC No.	Oper. V. @ 7.5 ma	Z <sub>TT</sub> (Ohms)	P (mw)	EACH	
				1-99	100-999
IN1735	6.2	20	200	6.20	4.65
IN1736	12.4	40	400	8.80	6.60
IN1736A	12.4	40	400	14.05	10.55
IN1737	18.6	60	600	13.00	9.75
IN1737A	18.6	60	600	20.50	15.40
IN1738	24.8	80	800	17.20	12.90
IN1738A	24.8	80	800	27.20	20.50
IN1739	31.0	100	1000	21.50	16.20
IN1739A	31.0	100	1000	33.00	24.85
IN1740	37.2	120	1200	25.70	19.30
IN1740A	37.2	120	1200	39.60	29.70
IN1741	43.4	140	1400	29.80	22.40
IN1741A	43.4	140	1400	45.50	34.10
IN1742	49.6	180	1600	34.00	25.10
IN1742A	49.6	180	1600	50.10	37.60

### SILICON VOLTAGE "REF PAKS"

All are Fig. J on page 70, except \*Fig. E. Output, 8.4 v. DC (=5%), except †16.8 v. Typical regulation, ±0.01%, -55 to +125°C, except § -55 to +75°C.

Type No.	Input (V @ W)	Freq. (Cps)	TS (%°C)	EACH
RV8	28V±10%	D.C.	±0.002	52.00
4RV8-A	0.84W	D.C.	±0.001	57.00
4RV8	115V±10%	400	±0.002	75.00
4RV8-A	1.25W	400	±0.001	81.00
6RV8	115V±10%	60	±0.002§	63.00
6RV8-A	1.25W	60	±0.001§	69.00
4RV16†	115V±10%	400	±0.002	100.00
4RV16-A†	2.5W	400	±0.001	107.00
6RV16	115V±10%	60	±0.002§	98.00
6RV16-A	2.5W	60	±0.001§	105.00
RV8-PC*	28V±10%	D.C.	±0.002	45.00
RV8PC-A*	0.84W	D.C.	±0.001	49.00

### G 50-WATT STUD-MOUNTED TYPES

JEDEC No.	V <sub>Z</sub> (V)	I <sub>ZT</sub> (ma)	Z <sub>TT</sub> (Ohms)	EACH	
				1-99	100-999
IN3305	6.8	1850	0.44	6.20	4.65
IN3306	7.5	1700	0.5		
IN3307	8.2	1500	0.6		
IN3308	9.1	1370	0.7		
IN3309	10	1200	0.8		
IN3310	11	1100	0.9	6.20	4.65
IN3311	12	1000	1.0		
IN3312	13	960	1.1		
IN3313	14	890	1.2		
IN3314	15	830	1.4		
IN3315	16	780	1.6	6.20	4.65
IN3316	17	740	1.8		
IN3317	18	700	2.0		
IN3318	19	660	2.2		
IN3319	20	630	2.4		
IN3320	22	570	2.5	6.20	4.65
IN3321	24	520	2.6		
IN3322	25	500	2.7		
IN3323	27	460	2.8		
IN3324	30	420	3.0		
IN3325	33	380	3.2	6.20	4.65
IN3326	36	350	3.5		
IN3327	39	320	4.0		
IN3328	43	290	4.5		
IN3329	45	280	4.5		
IN3330	47	270	5.0	6.20	4.65
IN3331	50	250	5.0		
IN3332	51	245	5.2		
IN3333	52	240	5.5		
IN3334	56	220	6		
IN3335	62	200	7	6.20	4.65
IN3336	68	180	8		
IN3337	75	170	9		
IN3338	82	150	11		
IN3339	91	140	15		
IN3340	100	120	20		

### LOW-VOLTAGE STACKS



Miniature seleniums. All rated at 25 v. rms max., except Q4B, 130 v. rms max. H in Type No. indicates single-plate half-wave; B, full-wave bridge rectifier.

Stock No.	Mfr's Type	Max. DC ma	Size	EACH	
				1-99	100-999
4 U 822	Q1H	65	4 <sup>3</sup> / <sub>16</sub> x4 <sup>3</sup> / <sub>16</sub> x7 <sup>1</sup> / <sub>16</sub> "	.36	.22
4 U 823	A1H	100	1x1x7 <sup>1</sup> / <sub>16</sub> "	.38	.23
4 U 824	B1H	150	1 <sup>1</sup> / <sub>16</sub> x1 <sup>1</sup> / <sub>16</sub> x7 <sup>1</sup> / <sub>16</sub> "	.40	.24
4 U 825	C1H	250	1 <sup>1</sup> / <sub>2</sub> x1 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>16</sub> "	.42	.25
4 U 826	M1H	500	2x2x7 <sup>1</sup> / <sub>16</sub> "	.56	.34
4 U 827	Q1B	100	4 <sup>3</sup> / <sub>16</sub> x4 <sup>3</sup> / <sub>16</sub> x7 <sup>1</sup> / <sub>16</sub> "	.84	.50
4 U 828	Q4B	100	4 <sup>3</sup> / <sub>16</sub> x4 <sup>3</sup> / <sub>16</sub> x15 <sup>1</sup> / <sub>16</sub> "	1.56	.94
4 U 829	A1B	180	1x1x3 <sup>1</sup> / <sub>4</sub> "	1.22	.73
4 U 830	B1B	300	1 <sup>1</sup> / <sub>16</sub> x1 <sup>1</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> "	1.28	.77
4 U 831	C1B	600	1 <sup>1</sup> / <sub>2</sub> x1 <sup>1</sup> / <sub>2</sub> x3 <sup>1</sup> / <sub>4</sub> "	1.46	.88
4 U 832	M1B	1200	2x2x3 <sup>1</sup> / <sub>4</sub> "	1.72	1.03

### HERMETIC AND "QUAD-SEALED" SILICON POWER RECTIFIERS

#### 6 AND 12-AMP TYPES

\*I<sub>o</sub> depends on heat sink, cooling, amb. temp. All are Fig. C on page 70.

Type No.	PIV (V)	V <sub>RMS</sub> (V)	I <sub>o</sub> (A)	EACH	
				1-99	100-999
IN1199	50	35	12	2.64	1.76
IN1200	100	70	12	3.15	2.10
IN1201	150	105	12	4.28	2.85
IN1202	200	140	12	5.55	3.70
IN1203	300	210	12	6.68	4.45
IN1204	400	280	12	9.68	6.45
IN1205	500	350	12	13.80	9.20
IN1341	50	35	6	2.48	1.65
IN1342	100	70	6	2.85	1.90
IN1343	150	105	6	3.60	2.40
IN1344	200	140	6	4.28	2.85
IN1345	300	210	6	5.85	3.90
IN1346	400	280	6	7.88	5.25
IN1347	500	350	6	9.23	6.15

#### 25-45 AMP TYPES

All are Fig. H on page 70.

IN2128A	50	12	*	4.25	3.00
IN2129A	100	24	*	5.05	3.40
IN2131A	200	48	*	7.10	4.90
IN2133A	300	72	*	9.90	6.80
IN2135A	400	96	*	13.95	9.20
IN2137A	500	120	*	19.25	13.70

#### 45-150 AMP TYPES\*

All are Fig. G on page 70.

JEDEC No.	Int'l No.	PIV (V)	V <sub>RMS</sub> (V)	EACH	
				1-99	100-999
IN3111	45L5	50	12	7.75	
IN3085	45L10	100	24	9.55	
IN3086	45L20	200	48	14.20	
IN3087	45L30	300	72	20.80	
IN3088	45L40	400	96	29.80	
IN3089	45L50	500	120	37.80	
IN3090	45L60	600	144	47.75	

#### 70-250 AMP TYPES\*

All are Fig. G on page 70.

IN2054	70U5	50	12	12.40	
IN2055	70U10	100	25	14.90	
IN2057	70U20	200	50	20.80	
IN2059	70U30	300	75	27.10	
IN2061	70U40	400	95	39.65	
IN2063	70U50	500	118	48.00	

### NEW 1000-MA MINIATURE RECTIFIERS

Silicon units similar to Fig. F, but much smaller. Series 10D: .150x.140" dia.; Series 5A: .375x.200" dia. 1000 ma at 50°C. Rev. leakage up to 2 μa at 25°C. V. drop, .90 v. at 25°C. -40 to +150°C.

IR No.	PRV (V)	RMS Input V.	EACH	
			1-99	100-999
10D2	200	140	.73	.58
10D3	300	210	.80	.63

### 1000-MA RECTIFIERS (Cont'd)

IR No.	PRV (V)	RMS Input V.	EACH	
			1-99	100-999
10D4	400	280	.87	.69
10D5	500	350	1.00	.80
10D6	600	420	1.12	.90
10D8	800	560	2.65	1.85
10D10	1000	700	3.25	2.25
5A2	200	140	.73	.58
5A4	400	280	.87	.69
5A5	500	350	1.00	.80
5A6	600	420	1.12	.90
5A8	800	560	2.00	1.60
5A10	1000	700	2.65	2.10

**HIGH-VOLTAGE SILICON RECTIFIERS**  
(Not illus.) Withstand ambient temperature to 150°C. \* At 130°C base temperature.

Type No.	PIV (V)	I <sub>o</sub> (ma)		I <sub>MR</sub> (ma)	EACH
		25°C	75°C		
IN596	600	145	125	.025	5.00
IN597	800	145	125	.025	6.00
IN598	1000	145	125	.025	8.50
IN1406	600	115	100	.001	5.00
IN1407	800	115	100	.001	5.50
IN1408	1000	115	100	.001	8.00
IN1409	1200	115	100	.001	8.00
IN1410	1500	115	100	.001	9.00
IN1411	1800	115	100	.001	11.00
IN1412	2000	115	100	.001	13.50
IN1413	2400	115	100	.001	15.50

**STUD MOUNTED** 5/8" high x 1 1/4" hex.

IN1130	1500	300*	275	.005	11.20
IN1131	1500	300*	275	.005	11.20

### INDUSTRIAL SELENIUM RECTIFIER STACKS



All are bridge-connected, except J14C04, J14C1, J14C5, J14C8—have center-tapped common cathode; JD-4346B—center-tapped common anode. All battery-charger types are single plate for trickle chargers, except JD-4346B—a universal fast-charger replacement. \* Rated 100 amps when fan-cooled at 800 linear feet/minute. † Max. AC input volts. Battery charger-types: DC output v., 0-13. AC input v: 16.5, except †16.5/33 volts.

### HIGH-DENSITY POWER RECTIFIERS

Stock No.	Mfr's Type	DC Output		EACH		
		V	A	1-9	10-99	
4 U 834	J14C04	36	14	0.4	.95	.79
4 U 835	J14C1	36	14	1.5	1.39	1.16
4 U 987	J14C5	36	14	4.8	3.48	2.90
4 U 988	J14C8	36	14	8.4	4.89	4.08
4 U 836	J29B04	36	29	0.4	1.57	1.33
4 U 837	J29B1	36	29	1.5	2.28	1.90
4 U 838	J29B5	36	29	4.8	6.43	5.63
4 U 839	J29B8	36	29	8.4	8.93	7.44
4 U 840	J58B04	72	58	0.4	3.11	2.60
4 U 841	J58B1	72	58	1.5	4.49	3.74
4 U 842	J58B5	72	58	4.8	12.08	10.07
4 U 843	J58B8	72	58	8.4	16.75	13.96
4 U 844	J116B04	144	116	0.4	5.56	4.63
4 U 989	J116B1	144	116	1.5	8.15	6.80
4 U 845	J116B5	144	116	4.8	22.91	19.10
4 U 846	J116B8	144	116	8.4	32.09	26.75
4 U 847	J135B04	180	135	0.4	6.77	5.65
4 U 848	J135B1	180	135	1.5	9.93	8.28
4 U 849	J135B5	180	135	4.8	28.29	23.60
4 U 986	J135B8	180	135	8.4	39.71	33.10

### BATTERY-CHARGING TYPES

Stock No.	Mfr's Type	DC Output Amps	Wt. Lbs.	EACH	
				1-9	10-99
4 U 748	JD-4346B	†30	3	16.75	



# International Rectifier Silicon Rectifiers

SEE FACING PAGE FOR EXPLANATION OF COLUMN HEADINGS

## ECONOMY SILICON RECTIFIERS

All the "Tri-Sealed," epoxy-encapsulated silicon junction cells, except Type SD500, which is a hermetically sealed, top-hat unit.

Type No.	Fig.	PIV (V)	I <sub>o</sub> (ma)	EACH		
				1-9	10-99	100-999
2E4	H	400	200	.70	.68	.49
5E4	H	400	350	.75	.75	.50
5E5	H	500	350	1.15	1.15	.77
5E6	H	600	350	1.20	1.20	.80
SD500	E	400	650	1.05	.97	.70

## 0.32- TO 2-AMP SILICON RECTIFIERS

I<sub>o</sub> ratings are given at 50°C, except \*100°C. IN536 through IN547 and IN1095 and IN1096 are high-temperature top-hat diodes with operating temperature range from -65 to +165°C. IN607 through IN614 are stud-mounted types for temperatures to 150°C. IN1701 through IN1712 are hermetically sealed miniature top hats.

All 5M Types are plug-in rectifiers that may be snapped into radio-TV, motor control, audio-amplifier, industrial power supply, and other circuits using fuse-type clip holders. 10B1 through 10B6 are heavy-duty top-hat types (I<sub>o</sub> ratings for these top hats are for 1½x1½" heat sink). All Fig. B's below are top-hat type rectifiers.

Type No.	Fig.	PIV (V)	I <sub>o</sub> (ma)		EACH		
			Res.	Capac.	1-99	100-999	
IN536	B	50	750	550	.66	.44	
IN537	B	100	750	550	.72	.48	
IN538	B	200	750	550	.76	.51	
IN539	B	300	750	550	.91	.61	
IN540	B	400	750	550	1.07	.71	
IN547	B	600	750	550	1.60	1.07	
IN607	G	50	800	650	1.15	.76	
IN608	G	100	800	650	1.19	.79	
IN609	G	150	800	650	1.22	.81	
IN610	G	200	800	650	1.25	.83	
IN611	G	300	800	650	1.58	1.05	
IN612	G	400	800	650	1.97	1.31	
IN613	G	500	800	650	1.97	1.31	
IN614	G	600	800	650	2.86	1.90	
IN1095	B	500	750	550	.98	.65	
IN1096	B	600	750	550	1.43	.95	
IN1701	B	50	300	200	.75	.50	
IN1702	B	100	300	200	.87	.58	
IN1703	B	200	300	200	1.01	.68	
IN1704	B	300	300	200	1.23	.82	
IN1705	B	400	300	200	1.57	1.05	
IN1706	B	500	300	200	2.59	1.73	
IN1707	B	50	500	.....	1.53	1.02	
IN1708	B	100	500	.....	1.78	1.19	
IN1709	B	200	500	.....	2.15	1.44	
IN1710	B	300	500	.....	2.87	1.91	
IN1711	B	400	500	.....	4.33	2.88	
IN1712	B	500	500	.....	6.50	4.33	

Type No.	Fig.	PIV (V)	I <sub>o</sub> (ma)		EACH		
			Res.	Capac.	1-9	10-99	100-999
5MA2	J	200	625*	500*	.85	.85	.63
5MA4	J	400	625*	500*	1.30	1.30	.90
5MA5	J	500	625*	500*	1.25	1.25	.99
5MA6	J	600	625*	500*	1.70	1.70	1.35
10B1	B	100	1.8A	1.4A	.86	.86	.66
10B2	B	200	1.8A	1.4A	1.24	1.24	.95
10B3	B	300	1.8A	1.4A	1.75	1.75	1.34
10B4	B	400	1.8A	1.4A	2.46	2.46	1.89
10B5	B	500	1.8A	1.4A	3.46	3.46	2.65
10B6	B	600	1.8A	1.4A	4.89	4.89	3.75
SD91A	B	100	750	600	.62	.62	.41
SD92A	B	200	750	600	.72	.72	.48
SD93A	B	300	750	600	.90	.90	.60
SD94A	B	400	750	600	1.01	1.01	.67
SD95A	B	500	750	600	1.12	1.12	.75

## IR RECTIFIERS NOT LISTED

Contact your nearest Allied office for information on IR rectifiers not listed. See page 1 for addresses and phone numbers.

## ALLIED STOCKS EVERY IR CONTROLLED RECTIFIER AS SOON AS ANNOUNCED

Miniature, silicon-controlled, solid-state rectifiers provide complete control of current turn-on at micro-second switching speeds. Units cover nominal av. forward current from 3 to 150 amps., over a PRV

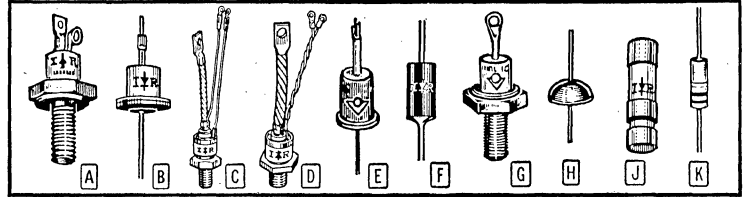
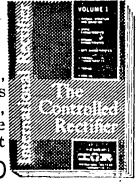
range of 25 to 500 v. Choose from JEDEC 3-, 4.7-, 10-, 16-, 70-, 150-amp types. Series "A" in 4.7- and 10-amp types offers wider temperature range, as well as more sensitive switching characteristics.

## LIGHT-DIMMER AND FAST TURN-OFF TYPES ARE ALSO AVAILABLE

Although not listed in tables below, IR light-dimmer controlled rectifiers for residential light-dimming uses are available in 4.7- and 10-amp series. Fast turn-off types in 4.7-, 16-, 70-amp series are designed for inverters and other DC switching applications. Write for bulletins SR-354, SR-359, and SR-366 on these types.

## HANDBOOK OF CONTROLLED RECTIFIERS

Stresses physical properties, their effect in use. Chapters on structure and operation, static, dynamic and gate characteristics, cooling, test methods. Illus. 144 pp. 37 K 692. Ppd. in U.S. 2.50



3-junction hermetically sealed devices. Gate excitation (I<sub>GF</sub>) values shown in ma are

### A 3-AMP JEDEC 2N1600-1604

I<sub>GF</sub>, 10 ma @ 3 v. -65\* to +125°C. † Peak.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-99	100-999
2N1600	50	1.0†	5.70	3.80
2N1601	100	1.0†	6.60	4.40
2N1602	200	1.0†	10.50	7.00
2N1603	300	1.0†	15.00	10.00
2N1604	400	1.0†	18.00	12.00
3RC50A§	500	1.0†	24.00	16.00

### A 4.7-AMP JEDEC 2N1770-1778

I<sub>GF</sub>, 15 ma @ 1.35 v. -65\* to +125°C.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-99	100-999
2N1770	25	4.5	5.85	3.90
2N1771	50	4.5	6.30	4.20
2N1772	100	4.5	7.20	4.80
2N1773	150	4.0	9.75	6.50
2N1774	200	3.0	10.40	7.60
2N1775	250	2.5	14.25	9.50
2N1776	300	2.0	16.50	11.00
2N1777	400	1.0	19.95	13.30
2N1778	500	1.0	26.70	17.80

### A 4.7-AMP JEDEC 2N1700A-1777A

I<sub>GF</sub>, 15 ma @ 1.35 v. -65\* to +150°C\*.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-99	100-999
2N1770A	25	4.5	6.45	4.30
2N1771A	50	4.5	7.35	4.90
2N1772A	100	4.5	8.55	5.70
2N1773A	150	4.0	11.10	7.40
2N1774A	200	3.0	12.90	8.50
2N1775A	250	2.5	15.75	10.50
2N1776A	300	2.0	18.40	12.25
2N1777A	400	1.0	22.50	15.00
5RC50B§	500	1.0	52.00	34.00

### A 10-AMP JEDEC 2N1842-1850

I<sub>GF</sub>, 90 ma @ 2.5 v. -40\* to +100°C\*.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-99	100-999
2N1842	25	22.5	8.10	5.40
2N1843	50	19.0	8.70	5.80
2N1844	100	12.5	9.30	6.20
2N1845	150	6.5	11.40	7.60
2N1846	200	6.0	12.90	8.60
2N1847	250	5.5	16.05	10.70
2N1848	300	5.0	18.75	12.50
2N1849	400	4.0	22.50	15.00
2N1850	500	3.0	28.35	18.90

required to assure firing of all units. \* JEDEC registered values, except §.

### A 10-AMP JEDEC 2N1842A-1850A

I<sub>GF</sub>, 75 ma @ 2.5 v. -65\* to +125°C.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-99	100-999
2N1842A	25	22.5	8.85	5.90
2N1843A	50	19.0	9.75	6.50
2N1844A	100	12.5	9.90	6.60
2N1845A	150	6.5	12.45	8.30
2N1846A	200	6.0	14.10	9.40
2N1847A	250	5.5	16.55	11.70
2N1848A	300	5.0	20.55	13.70
2N1849A	400	4.0	24.75	16.50
2N1850A	500	3.0	31.20	20.80

### A 16-AMP JEDEC 2N681-689

I<sub>GF</sub>, 40 ma @ 2.0 v. -65\* to +125°C\*.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-99	100-999
2N681	25	6.5	9.00	6.00
2N682	50	6.5	9.90	6.60
2N683	100	6.5	10.20	6.80
2N684	150	6.5	12.75	8.50
2N685	200	6.0	14.25	9.50
2N686	250	5.5	18.00	12.00
2N687	300	5.0	21.00	14.00
2N688	400	4.0	25.50	17.00
2N689	500	3.0	33.00	22.00

### C 70-AMP JEDEC 2N1909-1916

I<sub>GF</sub>, 70 ma @ 2.5 v. -40\* to +125°C\*.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-24	25-99
2N1909	25	6.5	22.80	17.80
2N1910	50	6.5	31.00	24.50
2N1911	100	6.5	37.50	29.00
2N1912	150	6.5	46.00	36.00
2N1913	200	6.0	48.25	36.50
2N1914	250	5.5	64.00	50.00
2N1915	300	5.0	75.00	59.00
2N1916	400	4.0	81.00	63.00
70RC50A§	500	3.0	105.00	82.00

### D 150-AMP JEDEC 2N2503-2508

I<sub>GF</sub>, 100 ma @ 2.5 v. -40 to +125°C\*.

Type No.	Max. PRV, Min. V <sub>BO</sub> (V*)	I <sub>L</sub> (ma*)	EACH	
			1-99	100-999
2N2503	50	10	65.50	52.00
2N2504	100	10	99.00	77.00
2N2505	200	10	140.25	110.00
2N2506	300	10	195.00	153.00
2N2507	400	8	216.40	170.00
2N2508	500	6	271.75	214.00

# Sarkes Tarzian Rectifiers

## LOW AND MEDIUM CURRENT TYPES

### A J-2 SERIES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	DC Load Amps	EACH		
					1-24	25-99	100-499
1N1621	10J2	100	70	10	2.24	1.92	1.80
1N1622	20J2	200	140	10	2.80	2.40	2.24
1N1623	30J2	300	210	10	3.45	2.96	2.67
1N1624	40J2	400	280	10	4.24	3.62	3.40
50J2	50J2	500	350	10	6.12	5.25	4.90
60J2	60J2	600	420	10	6.80	5.81	5.45

### B F SERIES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	DC Load Amps	1-24	25-99	100-499
1N2482	F-2	200	140	0.75	.50	.43	.40
1N2483	F-4	400	280	0.75	.60	.50	.47
1N2484	F-6	600	420	0.75	.65	.57	.53
2F4	F-4	400	280	0.2	.50	.43	.40
F-8	F-8	800	480	0.75	1.00	.86	.80

### C H SERIES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	DC Load Amps	1-24	25-99	100-499
1N2486	30H	300	210	0.75	.63	.55	.51
1N2487	40H	400	280	0.75	.65	.57	.53
1N2489	60H	600	420	0.75	.75	.65	.60
80H	80H	800	480	0.75	1.10	.93	.87

### D LA SERIES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	DC Load Amps	1-24	25-99	100-499
1N1085A	10LA	100	70	2.0	3.34	2.86	2.66
1N1086A	20LA	200	140	2.0	4.00	3.43	3.20
1N1087A	30LA	300	210	2.0	4.67	4.00	3.73
1N1088A	40LA	400	280	2.0	5.35	4.67	4.27
50LA	50LA	500	350	2.0	5.87	5.03	4.70
60LA	60LA	600	420	2.0	6.45	5.52	5.15

### E M SERIES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	DC Load Amps	1-24	25-99	100-499
1N1081	10M	100	70	0.5	.65	.57	.53
1N1082	20M	200	140	0.5	.75	.65	.60
1N1083	30M	300	210	0.5	.85	.72	.67
M-150	M-150	360	260	0.15	.65	.57	.53
1N1084	40M or M-500	400	280	0.5	.95	.83	.77
50M	50M	500	350	0.5	1.05	.90	.84
60M	60M	600	420	0.5	1.35	1.15	1.07

### F HIGH VOLTAGE SERIES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	DC Load Amps	1-24	25-99	100-499
1N1108	80SM	800	560	.45	3.15	2.71	2.54
1N1109	120SM	1200	840	.425	4.75	4.07	3.90
1N1110	160SM	1600	1120	.4	6.35	5.44	5.07
1N1111	200SM	2000	1400	.375	7.95	6.82	6.35
1N1112	240SM	2400	1680	.35	9.55	8.20	7.63
1N1113	280SM	2800	1960	.325	11.15	9.55	9.20

### G H3 SERIES—MEDIUM CURRENT TYPES

All are positive base types.

S-T No.	Max. PIV	Max. RMS Volts	EACH		
			1-24	25-99	100-499
10H3P	100	70	2.00	1.71	1.60
20H3P	200	140	2.17	1.86	1.73
30H3P	300	210	2.75	2.36	2.20
40H3P	400	280	3.25	2.79	2.60
50H3P	500	350	4.16	3.57	3.32
60H3P	600	420	4.92	4.22	3.93

### SILICON RECTIFIERS VACUUM TUBE REPLACEMENT SERIES

\*Indicates hermetically sealed unit. When ordering units with two Type Nos., show both.

Type Nos.	Max. PIV	Size (A x B)	EACH		
			1-24	25-99	100-499
1N1150A/S-5011A	1600	2 $\frac{1}{2}$ x $\frac{3}{32}$ x $\frac{1}{4}$ "	12.00	10.30	9.60
1N1237/S-5017	1600	2 $\frac{1}{2}$ x $\frac{3}{32}$ x $\frac{1}{4}$ "	12.00	10.30	9.60
1N1238/S-5018	1600	2 $\frac{1}{2}$ x $\frac{3}{32}$ x $\frac{1}{4}$ "	12.00	10.30	9.60
1N2490/S-5207	1600*	1 $\frac{9}{16}$ x $\frac{1}{16}$ "	12.00	10.30	9.60
S-5347	1600*	2x $\frac{1}{16}$ "	8.65	7.40	6.90
1N2389/S-5251	1600	1 $\frac{3}{4}$ x $\frac{1}{4}$ "	6.10	5.23	4.87
1N1239/S-5019	2800*	3 $\frac{3}{4}$ x $\frac{1}{8}$ "	18.10	15.50	14.45
1N1262/S-5033	4500	3 $\frac{3}{4}$ x $\frac{1}{8}$ "	18.10	15.50	14.45
S-5343	7000	2 $\frac{1}{2}$ x $\frac{1}{32}$ "	18.10	15.50	14.50
S-5130	10,400	4 $\frac{7}{16}$ x $\frac{1}{32}$ "	22.50	19.30	18.00
S-5373	10,000	7 $\frac{7}{16}$ x $\frac{1}{4}$ "	75.55	64.70	60.45
S-5449	15,000	9 $\frac{9}{16}$ x $\frac{1}{4}$ "	89.90	77.00	60.50
S-5367	19,000	6 $\frac{1}{4}$ x $\frac{2}{16}$ "	75.70	64.85	60.50
S-5344	10,000	7 $\frac{7}{16}$ x $\frac{1}{4}$ "	75.55	64.70	60.45

## H SERIES B HERMETICALLY SEALED TYPES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	EACH		
				1-24	25-99	100-499
1N1218A	10B	100	70	.83	.71	.67
1N1220A	20B	200	140	1.07	.91	.86
1N1221A	30B	300	210	1.80	1.54	1.44
1N1222A	40B	400	280	2.27	1.94	1.82
1N1223A	50B	500	350	3.14	2.68	2.51
1N1224A	60B	600	420	3.94	3.37	3.16

## J SERIES ST2 HERMETICALLY SEALED TYPES

Type No.	S-T No.	Max. PIV	Max. RMS Volts	1-24	25-99	100-499
1N1200	ST2-10P	100	70	2.50	2.14	2.00
1N1202	ST2-20P	200	140	3.05	2.61	2.45
1N1203	ST2-30P	300	210	3.70	3.17	2.97
1N1204	ST2-40P	400	280	4.48	3.84	3.60
1N1205	ST2-50P	500	350	5.40	4.56	4.28
1N1206	ST2-60P	600	420	7.05	6.05	5.65

## K SERIES ST9 HERMETICALLY SEALED TYPES

S-T No.	Max. PIV	Max. RMS Volts	EACH		
			1-24	25-99	100-499
ST-910P	100	70	17.10	15.00	14.00
ST-920P	200	140	20.15	17.25	16.10
ST-930P	300	210	22.55	19.35	18.05
ST-940P	400	280	24.60	21.10	19.65
ST-950P	500	350	30.65	26.30	24.55
ST-960P	600	420	38.40	33.00	30.75

## L SILICON CONTROLLED RECTIFIERS

### SERIES 3TCR—3 Amps DC

S-T No.	Max. PIV	EACH		
		1-24	25-99	100-499
3TCRA	25	3.15	2.70	2.54
3TCRB	50	3.40	2.93	2.74
3TCRC	100	3.85	3.28	3.07
3TCRD	150	4.35	3.71	3.47
3TCRE	200	4.85	4.14	3.86
3TCRF	250	5.45	4.64	4.34
3TCRG	300	6.65	5.71	5.34
3TCRH	400	9.60	8.10	7.67
3TCRI	500	13.75	11.80	11.00

### SERIES 5TCR—5 Amps DC

S-T No.	Max. PIV	Max. RMS Volts	EACH		
			1-24	25-99	100-499
5TCRA	25	4.00	3.43	3.20	
5TCRB	50	5.90	5.07	4.74	
5TCRC	100	6.35	5.42	5.07	
5TCRD	150	6.85	5.85	5.47	
5TCRE	200	7.35	6.27	5.86	
5TCRF	250	10.10	8.63	8.07	
5TCRG	300	13.75	11.79	11.00	
5TCRH	400	17.90	15.36	14.35	
5TCRI	500	24.60	21.10	19.69	

## HIGH CURRENT, STUD BASE SERIES

### M R3P TYPES

S-T No.	Max. PIV	Max. RMS Volts	Max. Amp @ 100°C	EACH			
				DC Load	Recur. Peak	1-24	25-99
5R3P	50	35	20	120	3.50	3.00	2.80
10R3P	100	70	20	120	3.86	3.32	3.10
20R3P	200	140	20	120	4.34	3.72	3.46
30R3P	300	210	20	120	5.23	4.57	4.26
40R3P	400	280	20	120	6.00	5.15	4.80
50R3P	500	350	20	120	6.60	5.65	5.28
60R3P	600	420	20	120	7.25	6.23	5.82

### N S3P TYPES

S-T No.	Max. PIV	Max. RMS Volts	Max. Amp @ 100°C	EACH			
				DC Load	Recur. Peak	1-24	25-99
5S3P	50	35	35	210	4.17	3.68	3.34
10S3P	100	70	35	210	4.93	4.23	3.93
20S3P	200	140	35	210	5.46	4.69	4.38
30S3P	300	210	35	210	6.53	5.60	5.23
40S3P	400	280	35	210	6.90	5.93	5.54
50S3P	500	350	35	210	7.62	6.54	6.16
60S3P	600	420	35	210	8.36	7.19	6.71

### P V3P TYPES

S-T No.	Max. PIV	Max. RMS Volts	Max. Amp @ 100°C	EACH			
				DC Load	Recur. Peak	1-24	25-99
5V3P	50	35	100	600	10.80	9.30	8.66
10V3P	100	70	100	600	12.20	10.50	9.80
20V3P	200	140	100	600	15.30	13.15	12.29
30V3P	300	210	100	600	18.00	15.45	14.40
40V3P	400	280	100	600	24.60	21.19	19.73
50V3P	500	350	100	600	27.20	23.30	21.78
60V3P	600	420	100	600	29.90	25.65	23.90

### R ST7P TYPES

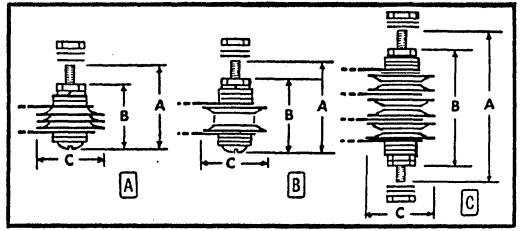
S-T No.	Max. PIV	Max. RMS Volts	Max. Amp @ 100°C	EACH		
				DC Load	Recur. Peak	1-24

# Rectifiers and Semiconductors

## SARKES TARZIAN RECTIFIERS

### A POLARIZED KLIPVOLT SUPPRESSORS

S-T No.	Max. DC Blocking Volts	Max. PIV	Peak Dischg. Amps	Dimensions (AxBxC)	EACH		
					1-9	10-99	100-Up
S-550	27	45	5.5	1½x1½x1	.71	.64	.57
S-550A	27	45	11.0	1½x1½x1½	.94	.85	.75
S-550B	27	45	20.0	1½x1½x1.6	1.12	1.01	.90
S-550C	27	45	33.0	1½x1½x2	1.32	1.19	1.06
S-553	108	180	5.5	1¾x1x1	1.19	1.07	.95
S-553A	108	180	11.0	1¾x1x1½	1.66	1.49	1.33
S-553B	108	180	20.0	1¾x1x1.6	2.08	1.87	1.66
S-553C	108	180	33.0	1¾x1x2	2.73	2.46	2.18
S-556	189	315	5.5	1½x1¼x1	1.67	1.50	1.34
S-556A	189	315	11.0	1½x1¼x1½	2.38	2.14	1.90
S-556B	189	315	20.0	1½x1¼x2	3.04	2.74	2.43
S-556C	189	315	33.0	1½x1¼x2	4.04	3.64	3.23



Klipvolt suppressors are designed to reduce transient voltages to a minimum without changing circuit characteristics. Units should be selected to fully meet circuit requirements—not simply to match silicon rectifiers they are intended to protect.

### B SINGLE PHASE NON-POLARIZED KLIPVOLT SUPPRESSORS

S-T No.	Max. DC Blocking Volts	Max. PIV	Peak Dischg. Amps	Dimensions (AxBxC)	EACH		
					1-9	10-99	100-Up
S-487	50	35	2.5	1¾x1½x1	.87	.78	.70
S-487A	50	35	4.5	1¾x1½x1½	1.18	1.06	.94
S-487B	50	35	8.0	1¾x1½x1.6	1.44	1.30	1.15
S-487C	50	35	13.5	1¾x1½x2	1.79	1.61	1.43
S-490	200	140	2.5	1¾x1½x1	1.83	1.65	1.46
S-490A	200	140	4.5	1¾x1½x1½	2.62	2.36	2.10
S-490B	200	140	8.0	1¾x1½x1.6	3.36	3.02	2.69
S-490C	200	140	13.5	1¾x1½x2	4.61	4.15	3.69
S-493	400	280	2.5	2¾x2x1	3.11	2.80	2.49
S-493A	400	280	4.5	2¾x2x1½	4.58	4.12	3.66
S-493B	400	280	8.0	2¾x2x2	5.92	5.33	4.74
S-493C	400	280	13.5	2¾x2x2	8.37	7.53	6.70
S-495	600	420	2.5	2¾x2¾x1	4.39	3.95	3.51
S-495A	600	420	4.5	2¾x2¾x1½	6.46	5.81	5.17
S-495B	600	420	8.0	2¾x2¾x2	8.48	7.63	6.78
S-495C	600	420	13.5	2¾x2¾x2	12.13	10.92	9.70

### C THREE-PHASE NON-POLARIZED KLIPVOLT SUPPRESSORS

S-T No.	Max. DC Blocking Volts	Max. PIV	Peak Dischg. Amps	Dimensions (AxBxC)	EACH		
					1-9	10-99	100-Up
S-539	50	35	2.5	2½x1½x1	1.03	.93	.82
S-539A	50	35	4.5	2½x1½x1½	1.42	1.28	1.14
S-539B	50	35	8.0	2½x1½x1.6	1.76	1.58	1.41
S-539C	50	35	13.5	2½x1½x2	2.26	2.03	1.81
S-542	200	140	2.5	3¾x3¾x1	2.47	2.22	1.98
S-542A	200	140	4.5	3¾x3¾x1½	3.58	3.22	2.86
S-542B	200	140	8.0	3¾x3¾x1.6	4.64	4.18	3.71
S-542C	200	140	13.5	3¾x3¾x2	6.49	5.84	5.19
S-544	300	210	2.5	4¾x4x1	3.43	3.09	2.74
S-544A	300	210	4.5	4¾x4x1½	5.02	4.52	4.02
S-544B	300	210	8.0	4¾x4x1.6	6.56	5.90	5.25
S-544C	300	210	13.5	4¾x4x2	9.31	8.38	7.45

## MICROWAVE ASSOCIATES DIODES

### EXPLANATION OF COLUMN HEADINGS

$C_{max}$ —maximum capacitance offered by diode to circuit (in pf)  
 $I_R$ —maximum reverse DC current

PIV—peak inverse voltage measured in volts  
 $P_t$ —total power dissipation of diode measured in milliwatts  
 $V_F$ —forward voltage drop



### SILICON MIXER DIODES CARTRIDGE CASE TYPE—1000-4000 MC

Type No.	Description	EACH		
		1-9	10-99	100-999
IN21B	Forward Polarity	.68	.61	.54
IN21BR	Reversed Polarity	1.02	.92	.81
IN21C	Forward Polarity	1.02	.92	.81
IN21CR	Reversed Polarity	1.41	1.27	1.12
IN21D	Forward Polarity	2.45	2.21	1.93
IN21DR	Reversed Polarity	3.68	3.31	2.90
IN21E	Forward Polarity	4.48	4.03	3.52
IN21ER	Reversed Polarity	6.72	6.05	5.30
IN21F	Forward Polarity	11.00	9.90	8.64
IN21WE	Reversible Polarity	7.65	6.89	6.00
IN416E	Reversible Polarity	5.25	4.73	4.12
MA4127	High Burn-out Type	3.80	3.42	2.90

### CARTRIDGE CASE TYPE—4000-10,000 MC

IN23B	Forward Polarity	1.67	.60	.54
IN23BR	Reversed Polarity	1.02	.92	.81
IN23C	Forward Polarity	1.02	.92	.81
IN23CR	Reversed Polarity	1.41	1.27	1.12
IN23D	Forward Polarity	2.45	2.21	1.93
IN23DR	Reversed Polarity	3.68	3.31	2.90
IN23E	Forward Polarity	4.45	4.01	3.50
IN23ER	Reversed Polarity	6.72	6.05	5.30
IN23F	Forward Polarity	13.20	11.88	10.50
IN23WE	Reversible Polarity	5.90	5.31	4.65
IN23WEM	Matched Pair	14.75	13.28	11.60
IN149	Forward Polarity	3.07	2.76	2.45
IN150	Forward Polarity	3.13	2.82	2.50
IN150R	Reversed Polarity	4.70	4.23	3.76
IN160	Forward Polarity	2.78	2.50	2.22
IN415E	Reversible Polarity	5.25	4.73	4.12
MA4133	High Burn-out Type	4.20	3.78	3.30

### COAXIAL CASE TYPE—10,000-18,000 MC

IN78	Forward Polarity	5.50	4.95	4.32
IN78A	Forward Polarity	8.10	7.29	6.36
IN78AM	Matched Pair	20.30	18.27	15.90
IN78AMR	Matched Pair	24.30	21.87	19.10
IN78AR	Reversed Polarity	12.10	10.89	9.55
IN78BM	Matched Pair	30.00	27.00	23.60

### SILICON MIXER DIODES 10,000-18,000 MC TYPES (Cont'd)

Type No.	Description	EACH		
		1-9	10-99	100-999
IN78BMR	Matched Pair	36.00	32.40	27.40
IN78BR	Rev. Polarity	18.00	16.20	14.20
IN78C	Fwd. Polarity	45.00	40.50	35.40
IN78CM	Matched Pair	113.00	101.70	89.00
IN78CMR	Matched Pair	135.00	121.50	106.00
IN78CR	Rev. Polarity	67.50	60.75	53.00
IN78M	Matched Pair	13.75	12.38	10.80
IN78MR	Matched Pair	16.50	14.85	13.00

### COAXIAL CASE TYPE—18,000-26,500 MC

IN26	Fwd. Polarity	6.50	5.85	5.10
IN26R	Rev. Polarity	13.70	12.33	11.10
IN26MR	Matched Pair	27.60	24.84	22.36

### COAXIAL CASE TYPE—26,000-40,000 MC

IN53	Fwd. Polarity	23.20	20.88	18.60
IN53A	Fwd. Polarity	25.68	23.11	20.58
IN53BM	Matched Pair	74.48	67.03	64.78

### 150°C. SUBMINIATURE GLASS CASE TYPE

IN831A	1-4000 MC	12.54	11.29	9.80
IN832	4-10,000 MC	8.63	7.74	6.70
IN832A	4-10,000 MC	10.90	9.81	9.35

### SILICON VIDEO DIODES

#### CARTRIDGE CASE TYPE—1000-10,000 MC

Type No.	Description	EACH		
		1-9	10-99	100-999
IN1611	Forward Polarity	4.28	3.85	3.40
IN1611A	Forward Polarity	9.15	8.24	7.35
MA4128	High Burn-out Type	7.50	6.75	5.90

### 150°C. SUBMINIATURE GLASS CASE TYPE

IN830	100 MC Test Freq.	2.95	2.66	2.35
IN830A	100 MC Test Freq.	3.85	3.47	3.00
IN833	9375 MC Test Freq.	4.70	4.23	3.65
IN833A	9375 MC Test Freq.	11.40	12.69	11.28

### RF POWER MONITORING DIODES

For test equipment. Provide reproducible microwave power and voltage measurements.

Type No.	Description	EACH		
		1-9	10-99	100-999
IN2771	Cartr., 100-1000 mc	10.00	9.00	8.00
IN3143	Cartr., 9375 mc	5.60	5.04	4.40
MA425	As IN3143, but rvsl.	6.70	6.03	5.25
MA4135	Coax., 16,000 mc	17.50	15.75	13.80

### SILICON COMPUTER DIODE

Type MA4121. Glass case, point contact, subnanosec. switching, low cap. C, 0.5 pf @ 0 v.;  $V_F$ , 1.0 v. @ 30 ma;  $I_R$ , 200  $\mu$ a @ -4 v. MA4121. 1-99. EA. 5.00 100-999. EA. 4.00

### PLANAR EPITAXIAL DIODES

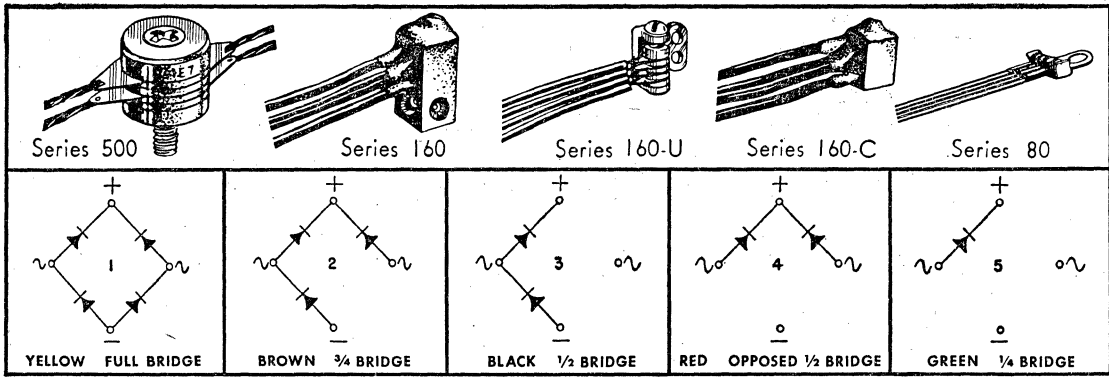
#### LOW CAPACITANCE HIGH CONDUCTANCE

Type No.	PIV (v)	$C_{max}$ (pf)	$P_t$ (mw)	EACH	
				1-99	100-999
IN914	75	4.0 @ 0V	250	1.95	1.55
IN914A	75	4.0 @ 0V	250	2.20	1.75
IN914B	75	4.0 @ 0V	250	2.50	2.00
IN916	75	2.0 @ 0V	250	3.00	2.40
IN916A	75	2.0 @ 0V	250	3.40	2.70
IN916B	75	2.0 @ 0V	250	3.75	3.00
IN920	40	7.5 @ -9V	400	3.50	2.80
IN921	80	7.5 @ -9V	400	4.80	3.85

### DIFFUSED SILICON MESA, LOW CAPACITANCE, FAST SWITCHING DIODES

IN903	40	1.0 @ -6V	250	1.75	1.40
IN904	30	1.0 @ -6V	250	1.65	1.30
IN907	30	2.5 @ -6V	250	1.45	1.15
IN908	40	2.5 @ -6V	250	1.75	1.40

# Instrument Rectifiers by Conant

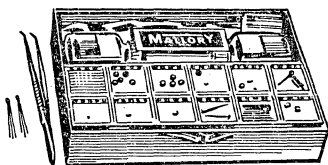


Ideal for incorporation in new equipment, or as exact-replacement instrument rectifiers in virtually any relay or meter. All are copper oxide, and have 24K gold anode contact. All are color coded for easy recognition of terminal inputs and outputs, and for simplified identification of rectifier by color and physical form.

Series 500 is designed for application where dependability is a general instrument rectifier is a necessity. Series 160, 160-C, and 160-U (differ only in construction) are especially suitable for use as rectifier replacement in VTVM's, VOM's, etc. Series 80 is micro-miniaturized—weighs less than half a gram.

Stock No.	Type	Circuit	Cell Size	Active Area	Input	Output	Mounting	Finish	EACH
4 U 171	M	Series 1				100 ma			2.10
4 U 172	TH	Series 2				75 ma			1.86
4 U 173	HS	500 3	.500"	.125 sq. in.	5V	50 ma	6-32 stud	Lacquer	1.53
4 U 174	T	4				100 ma			1.53
4 U 175	H	5				50 ma			1.20
4 U 176	B	Series 1				10 ma			2.10
4 U 177	BTH	Series 2				7 ma			1.86
4 U 178	BHS	160 3	.166"	.012 sq. in.	5V	5 ma	#2 screw	Solid fill	1.53
4 U 179	BT	4				10 ma			1.53
4 U 180	BH	5				5 ma			1.20
4 U 181	B-U	Series 1				10 ma			1.98
4 U 182	BTH-U	Series 2				7 ma			1.74
4 U 183	BHS-U	160-U 3	.166"	.012 sq. in.	5V	5 ma	#2 screw	Solid fill	1.41
4 U 184	BT-U	4				10 ma			1.41
4 U 185	BH-U	5				5 ma			1.08
4 U 186	B-C	Series 1				10 ma			2.10
4 U 187	BTH-C	Series 2				7 ma			1.86
4 U 188	BHS-C	160-C 3	.166"	.012 sq. in.	5V	5 ma	Fuse clip	Solid fill	1.53
4 U 189	BT-C	4				10 ma			1.53
4 U 190	BH-C	5				5 ma			1.20
4 U 191	A	Series 1				1 ma			2.10
4 U 192	ATH	Series 2				1 ma			1.86
4 U 193	AHS	80 3	.080"	.0012 sq. in.	5V	500 $\mu$ a	#2 screw	Bonded vinyl	1.53
4 U 194	AT	4				500 $\mu$ a			1.53
4 U 195	AH	5				500 $\mu$ a			1.20

## P. R. MALLORY "MICROKITS"



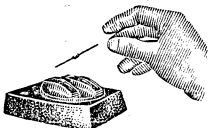
6928-KB "A" Kit. Build a complete 22-component, 10-kc flip-flop circuit with set and reset capabilities. Occupies only 0.179 cu. in. of space when completed.

4 U 129. . . . . 44.95

6928-KB "B" Kit. As above, but with more materials for more circuits. Assemble flip-flops, amplifiers, "and" and "or" gates, bridge circuits, many others.

4 U 130. . . . . 139.95

## TERADYNE DIODE CLIP



A practical magnetic clip for all small parts with magnetic leads. Reliable contact for fast accurate testing; permanent DC magnetic field does not affect tests.

4 U 147. . . . . 57.50

## I.T.T. HI-DENSITY SELENIUMS

Rectifiers for replacement use in radios, TV sets, high-fidelity components, etc. Maximum rms input, 130 volts. Maximum peak inverse voltage, 380 volts. Internal voltage-drop is approximately 7 volts. All have locking lugs. All are shipped individually boxed.

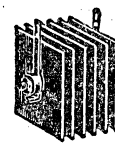
Stock No.	Mfr's Type	DC Ma	Size	EACH	
				1-99	100-999
4 U 144	1234A-H	65-75	3/4 x 3/4 x 3/4"	.59	.53
4 U 145	1235A-H	100-150	1x1x3/4"	.68	.61
4 U 146	1237A-H	300-500	1 1/2 x 1 1/2 x 1 1/2"	1.29	1.16

## I.T.T. "PACKAGED POWER" TYPES

Exceptionally-rugged, high current-output selenium rectifiers. All are single phase, full-wave bridge type. Ratings shown below are for an ambient temperature of 35° C.

Stock No.	Mfr's Type	Max. DC Output		Max. AC Input	Size	EACH	
		V.	A.			1-9	10-99
4 U 227	210	20	1.5	26	2x1 1/2 x 2"	2.09	1.74
4 U 207	211	20	3	26	3x3x2 1/4"	3.76	3.13
4 U 208	213	20	6	26	4x4x2 3/4"	5.29	4.41
4 U 209	215	20	12	26	6x5x2 3/4"	11.22	11.04
4 U 210	310	40	3	52	3x3x3 1/2"	7.45	6.24
4 U 213	711	10k	1	130	2x2x5 1/2"	8.84	8.32
4 U 214	712	100	2.4	130	3x3x6 3/8"	16.49	15.52
4 U 228	811	120	3.6	156	1 1/2 x 4 7/8 x 1 1/2"	6.79	5.66

## I.T.T. RECTIFIER STACKS



• Compact, Efficient and Reliable

Types 1013 and 1512 are for use in battery chargers. Type 1013 is excellent for charging small 2 and 6-volt batteries of the type found in photoflash equipment and portable radios. Type 1512 is ideally suited for trickle charging of 6-volt auto batteries. All units have locking lugs. \*Tubular type (not illustrated); paper enclosed. Have 1/2" leads for easy installation.

Stock No.	Mfr's Type	DC Ma	Rms Volts	Size	EACH	
					1-99	100-999
4 U 131	1159	20	130	1/2" dia. x 3/4"	.65	.53
4 U 132	1002A	65	130	1x1x3/4"	.64	.52
4 U 133	1003A	75	130	1x1x3/4"	.71	.57
4 U 134	1001	75	20	1x1x3/8"	.44	.36
4 U 135	1007	75	160	1x1x2 1/8"	2.32	1.86
4 U 136	1014	100	160	1 1/4 x 1 1/4 x 1"	1.59	1.28
4 U 137	1004A	100	130	1 1/4 x 1 1/4 x 3/4"	.79	.63
4 U 138	1001A	100	130	1x1x1 1/2"	.94	.76
4 U 139	1005A	150	130	1 1/4 x 1 1/4 x 1"	.94	.76
4 U 140	1016	300	25	1 1/4 x 1 1/4 x 3/8"	1.35	1.08
4 U 141	1017	650	25	1 1/2 x 1 1/2 x 3/8"	1.56	1.25
4 U 142	1013	450	18	1 1/2 x 1 1/2 x 3/8"	.73	.59
4 U 143	1512	1800	26	2 1/2 x 2 1/2 x 3/8"	2.20	1.76

Conant Instrument Rectifier Handbook. 37 K 170. Postpaid in U.S.A. . . . . 15

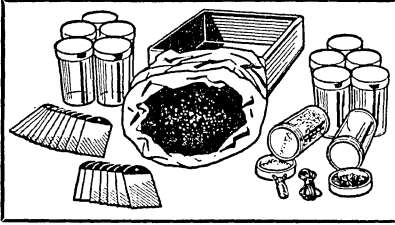
# Lab Kits, Circuit Controls, Fan, and Stencils

## BIOLOGICAL FUEL CELL EXPERIMENTAL KIT by ELECTRON MOLECULE RESEARCH

The Fuel Cell...  
an Unlimited  
Source of Power  
for the Future

Conduct Fasci-  
nating, Practical  
Experiments

Kit Is Complete  
—Everything  
Is Provided



An educational kit demonstrating the operation of biological fuel cells. Ideal for science classes. Consists of 12 cells, each containing harmless bacteria that feed on brown, powdered rice husks. The energy absorbed by the bacteria is chemically transformed into electricity (via anode and cathode) capable of powering a transistor radio, light bulb, etc. Offers opportunity to investigate this battery-of-the-future in industrial, home and military use. Easy to assemble and use. All material and parts, plus easy-to-follow instructions are included.

7 E 658.....16.95

## RAYTHEON "RAYSISTORS"

Basic  
Circuit  
Devices



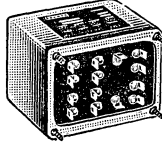
Replace relays, switches and pots for low-noise commutation, switching and circuit control. 4-terminal device lowers semiconductor resistance in signal circuit, allowing AC-DC signal to pass. About 2 1/4" long; 1/4" dia. P in Type No. designates non-cylindrical units for PC use. CK 1108 is high-voltage isolator.

Stock No.	Mfr's Type	Control Voltage	Light Source Used	EACH	
				1-9	10-24
7 E 641	CK1101	120 min.	Gas Discharge	11.00	9.00
7 E 642	CK1101P	120 min.	Gas Discharge	10.75	8.80
7 E 643	CK1102	1.0	Incandescent	11.00	9.00
7 E 644	CK1102P	1.0	Incandescent	10.75	8.80
7 E 645	CK1103	5.0	Incandescent	11.00	9.00
7 E 646	CK1103P	5.0	Incandescent	10.75	8.80
7 E 647	CK1104	25.0	Incandescent	11.00	9.00
7 E 648	CK1104P	25.0	Incandescent	10.75	8.80
7 E 649	CK1108	5.0	Both Types	24.50	20.00
7 E 650	CK1111	120 min.	Gas Discharge	11.00	9.00
7 E 651	CK1111P	120 min.	Gas Discharge	10.75	8.80
7 E 652	CK1112	10.0	Incandescent	11.00	9.00
7 E 653	CK1112P	10.0	Incandescent	10.75	8.80
7 E 654	CK1114	1.0	Incandescent	8.75	7.15

## VECTROL "SILICONTROL"

### FIRING DEVICES FOR SILICON-CONTROLLED RECTIFIERS

Apply AC pulses of constant amplitude to rectifier gates, varying phase angle 180° and controlling output from 0 to maximum. Linear relation of firing angle to control voltage. Cuts off rectifier output when control signal is removed. 4 isolated control windings, series or parallel connected for one signal; or use independently for 2 to 4 independent signals. Tested at 1600 v., rms. Solder terminals. 3/4x4 1/4x3 3/8", plus terminals. For 110-120 v., AC. 2 lbs.



Stock No.	Mfr's Type	Input Cycles	Description	EACH
4 U 222	VS6002A	60	High Resist.	85.00
4 U 223	VS6002C	60	Med. Resist.	85.00
4 U 224	VS40001A	400	Med. Resist.	91.00
4 U 225	VS40001C	400	Low Resist.	91.00

Mounting Bracket, For above.

4 U 226.....1.50

## "LETRASET" DRY-TRANSFER STENCIL SETS

Dry-transfer marking sheet sets. Transfer to any surface—wood, paper, glass, metal, plastics, etc. Place transfer sheet on surface to be marked, with desired word in position. Rub ball-point pen or soft pencil over the word. Lift away sheet. Not a decal: needs

Stock No.	Mfr's Type	No. of Sheets	Set Contains	Color	PER SET
37 K 780	958	24	Words, letters, numerals.	Black	4.95
37 K 781	959	24	Words, letters, numerals.	White	4.95
37 K 782	960	12	Alphabet only.	Black	2.50

## F. W. BELL "HALL PAK" KIT

Permits Many Experiments  
with the Hall Effect

The "Hall Pak" kit lets you become acquainted with, demonstrate, and make interesting experiments involving the Hall effect in the lab, home, industry or classroom. The development of a voltage potential between the two edges of a strip of metal in which an electric current is flowing longitudinally, is a phenomenon that may prove to be the key to many difficult magnetic-field applications. The "Hall Pak" kit lets you examine the Hall effect at an opportune time. Kit includes: Hall-effect device; circuit board for easy hook-up and application—contains balancing network and DC transistorized amplifier (voltage gain of 50); magnet to provide stable DC field; instruction booklet that explains the Hall effect in detail, gives instructions for testing and demonstrating and illustrates many practical applications that are easily accomplished.

7 E 659.....19.95



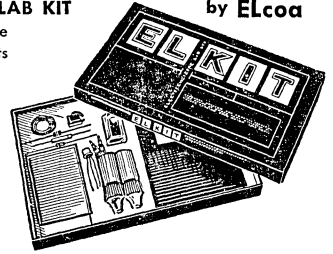
## ELECTROLUMINESCENT LAB KIT

by ELco

- A New Type of Light Source
- Many Instructive Experiments

A kit that instructs you in the application of electroluminescence—a new way to produce "cold" artificial light. Offers some present, and many future, applications in industries, homes, and institutions. Electroluminescence provides true area-light (covers an entire surface—not generated by an incandescent point or fluorescent line) by converting electrical energy directly into light—there are no intermediate steps. This complete lab kit allows you to study and experiment with the present uses made of the new light source, and to experiment with new possibilities. A sure-fire way to discover EL's potential for widespread practical application. The kit contains two green and one white EL lamps, plus parts to build a transistorized oscillator to power the lamps. Detailed instruction manual suggests many interesting experiments to confirm the advantages of EL. For AC only.

7 E 657.....9.95

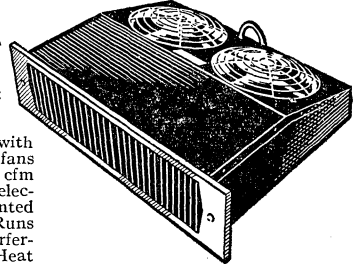


## ROTRON TWINPAX-2 CABINET COOLING PANEL

- 2 Fans Deliver 400 CFM
- Pre-lubricated Motors
- Easily Mounts in 19" Rack

Cabinet cooling panel with two Rotron Feather fans that deliver up to 400 cfm of clean, filtered air to electronic components mounted in standard 19" racks. Runs quietly—speech interference level only 55 db. Heat dissipation: 1.9 kw with 15° temperature rise. Washable aluminum filter. Ambient temperature range: -55° C to 65° C. Steel cabinet; cadmium plated grill. Size, 5 1/4x19". For 110-120 volts, 50-60 cycle AC.

7 EX 655. 1-4.....EACH 88.90 5-9.....EACH 85.50  
10-24.....EA. 82.10 25-49.....EA. 75.25 50-99.....EA. 68.40  
7 E 071, Filtercoat. Water-soluble coat for Twinpax-2 filter. Applied after washing.....EACH 7.95



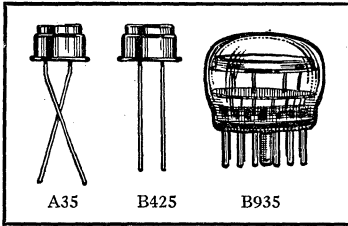
no water or tapes; goes on instantly and stays on. Contains most words used in electronic panel marking, in multiples of 100. 3x5" sheets. Also alphabet and numerals. Av. wt., 4 oz.



Stock No.	Mfr's Type	No. of Sheets	Set Contains	Color	PER SET
37 K 783	961	12	Alphabet only.	White	2.50
37 K 784	962	12	Numerals only.	Black	2.50
37 K 785	963	12	Numerals only.	White	2.50

# Selected Photocells and Phototubes

## NEW GENERAL ELECTRIC CADMIUM SULFIDE PHOTOCELLS



Extremely reliable cadmium sulfide photoconductive cells. Moisture controlled and hermetically sealed, pass exacting operating-life tests of over one million cell-hours. Find a variety of applications in annunciators, burglar alarms, camera aperture control systems, counters, card sorters, etc. All are end-illuminated types. Operate in any position. Offer peak spectral

response of 6100 Angstrom units except Types A33 and A35, 5500 Angstrom units. Ambient temperature range for all types is  $-40^{\circ}$  to  $+65^{\circ}$  C. Max. current is 10 ma except Types B425 and B425B, 20 ma; Types B935 and B1035, 50 ma. Glass and metal envelopes, radial leads, except Type B935, T-9 glass envelope and 12-pin socket termination.

Stock No.	Type No.	Rated V.	Max. P(mw)	EACH	
				1-249	250-499
7 E 586	A33	30	30	1.35	.96
7 E 587	A35	50	50	1.35	.96
7 E 588	B425	250	250	1.45	1.02

Stock No.	Type No.	Rated V.	Max. P(mw)	EACH	
				1-249	250-499
7 E 589	B425B	250	250	1.60	1.15
7 E 590	B935	350	400	1.75	1.25
7 E 591	B1035	350	300	1.70	1.20

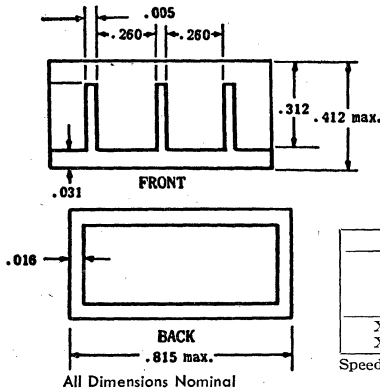
## CETRON PHOTOTUBES AND LEAD SULFIDE CELLS



Wide variety of phototubes and photocells. Phototubes offer long life, high output, extremely low dark current. Gas-filled except Types CE-34R, CE-91R, and types with suffix "V", vacuum filled. Spectral response is S1 except \*S4, †S10. Dark current is 0.1  $\mu$ a except ‡ 0.01  $\mu$ a, § 0.05  $\mu$ a.

Lead sulfide cells have over 190 mv./ft.-candle sensitivity, dark resistance over 600K ohms.

A-701



All Dimensions Nominal

Stock No.	Type CE-	Max. V.	EACH
7 E 601	1C	90	3.32
7 E 602	1VC†	500	4.91
7 E 603	2C	110	7.08
7 E 604	3C	110	9.04
7 E 605	4C	110	9.04
7 E 606	23C	90	4.08

Stock No.	Type CE-	Max. V.	EACH
7 E 607	25C	90	4.90
7 E 608	25VC†	500	4.80
7 E 609	B25C	90	4.90
7 E 610	26C	95	9.04
7 E 611	30C	90	2.93
7 E 612	30VC	500	3.54

### LEAD SULFIDE CELLS

7 E 618	A701	...	7.80
7 E 619	E701	...	7.80

7 E 620	A702	...	7.80
7 E 621	E702	...	7.80

Stock No.	Type CE-	Max. V.	EACH
7 E 613	34R*‡	250	5.34
7 E 614	36C	90	6.72
7 E 615	84R*§	250	5.78
7 E 616	86C	90	4.96
7 E 617	92*§	100	23.00

## NEW RCA DEVELOPMENTAL GALLIUM ARSENIDE SOLAR CELLS

For use in satellite, high temperature, and sensing applications. Offer many advantages over corresponding silicon solar cells—higher resistance to 19 Mev and 0.8 Mev protons, deliver more power at 180° C., approximately 60 to 70% higher output voltage.

### CHARACTERISTICS:

Higher Radiation Resistance; Less Sensitive to Temperature; Higher Output Voltages.

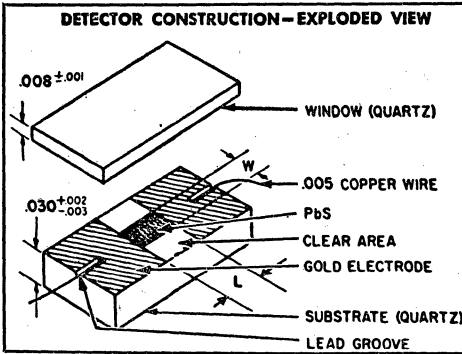
7 E 624, Type XSC100.....EACH 100.00  
7 E 625, Type XSC101.....EACH 200.00

### ELECTRICAL CHARACTERISTICS—(nominal values)

Type No.	Characteristics Under 100 mw/cm <sup>2</sup> Illumination				Short Circuit Current (ma)	Open Circuit Voltage (mw)
	With Matched Load					
	Efficiency Limits (%)*	Current (ma)	Voltage (mv)	Power (mw)		
XSC100	7.5-9	23	680	15.9	28	840
XSC101	9-11	26	730	19	31	870

Speed of response—less than 1  $\mu$ sec Spectral response—Range—4000-8000R Peak—8000R  
Operating Temperature:  $-65^{\circ}$  C to  $180^{\circ}$  C

## NEW IR "INFRATRON" LEAD-SULFIDE INFRARED PHOTOCELLS



- Sealed Against Humidity Problems
- Offer Extremely High Sensitivity
- Extended Long Wavelength Response
- Reliable at Temperature Extremes

Low-cost lead-sulfide infrared detectors in the form of a flat plate on a quartz substrate. Sealed package eliminates all humidity problems. Advantages include: extremely high sensitivity, short time constant, wide wavelength response, low noise, and low impedance. Performance is highly

- Non-Polarizing, Extremely Stable
- Low Noise Level, Low Impedance
- Guaranteed to Meet Specifications
- Extremely Low Unit Cost

reliable, even at extreme temperatures, and exceptionally stable with varying environmental conditions. Non-polarizing even after prolonged voltage exposure. Optical filter types minimize interference from visible background radiation.

Stock No.	Type No.	Sensitive Area (in.)	Overall Size (in.)	Dark Resistance	EACH	
					1-3	4-9
7 E 627	B3-SA19	.020 x .020	.125 x .250	1-4.5 megs	4.25	3.18
7 E 628	B3-SA19MF	With 3° D.	optical Infratron filter		5.75	4.77
7 E 629	T3-SA20	.060 x .060	.125 x .250	.05 meg max	5.25	4.46
7 E 630	T3-SA20MF	With 3° D.	optical Infratron filter		6.75	5.94
7 E 631	B3-SA22	.200 x .200	.375 x .375	2-2 megs	5.75	4.77

## NEW SYLVANIA CADMIUM SULFIDE PHOTOCCELL



For industrial control, furnace safety and lighting applications. Features hermetically sealed glass construction. "Blue-dot" indicator responds if envelope becomes damaged and moisture enters the component. Hydrogen filling gives high dissipation and voltage safety factors. Rated 250 v. DC or AC peak. Dissipation, 250 mw @ 25° C or 70° C. Ambient temperature range,  $-40^{\circ}$  to  $+70^{\circ}$  C. Resistance: 5000 ohms under 2 ft./candles @ 2870° Kelvin. Dark resistance is 200K ohms min. after 20 seconds. Dark interelectrode capacitance is 3.6 puf. 1/2" T-4 case.  
7 E 626, Type 8100.....1.40



## ELECTRO-NUCLEAR SILICON PHOTO DIODES

Hermetically sealed phosphorus-diffused silicon photo-voltaic detectors. Sensitive to visible and near-infrared spectrum. Wide-angle coverage, sides as well as top. For laser detectors, light beam communications systems, optical relays, punch card readers, etc. Crystal, 60x40 mils diameter. Impedance, 1/2 megohm.

Stock No.	Mfr's Type	Detectivity	EACH	
			1-999	1000-Up
7 E 632	PD-9000-1	10 <sup>11</sup>	5.00	4.00
7 E 633	PD-9000-2	10 <sup>12</sup>	10.00	8.00
7 E 634	PD-9000-3	5x10 <sup>12</sup>	15.00	12.00

# Light and Humidity Sensitive Devices

## SOLAR SYSTEMS SILICON CELLS

Stock No.	SS Type	Output		Size	EA.
		Ma	Mw		
7 E 566	10-4L	18.0	7.2	.8x.4"	1.95
7 E 567	10-6L	27.0	10.8	.8x.4"	2.40
7 E 568	10-8L	36.0	14.4	.8x.4"	3.60
7 E 569	11-1L	12.0	4.8	.4x.4"	1.95
7 E 570	12-1L	5.0	2.0	.4x.2"	1.50
7 E 571	20-1L	12.0	4.8	.8x.2"	3.50
7 E 572	21-1L	5.0	2.0	.4x.2"	2.20
7 E 573	22-1L	2.5	1.0	.2x.2"	1.40
7 E 574	23-1L	1.3	0.52	.2x.1"	1.00
7 E 575	30-1L	60.0	24.0	1.125" dia.	6.75
7 E 576	31-1L	15.0	6.0	0.281" dia.	2.25
7 E 577	40-1L	60.0	24.0	.8x.8"	9.50

## "POWER-PACKS"

Stock No.	Type No.	Output		EACH	
		V	Ma	1-99	100-999
7 E 555	SSM-510	2.0	36	13.75	11.50
7 E 556	SSM-410	1.6	36	11.00	9.00
7 E 557	SSM-1020	4.0	17	18.00	15.00
7 E 558	SSM-920	3.6	17	16.25	13.50

## SILICON READOUT CELLS

Stock No.	Type No.	Cells	EACH	
			1-24	25-49
7 E 578	SSR-4-001	4	11.50	11.00
7 E 579	SSR-5-001	5	14.25	13.75
7 E 580	SSR-6-001	6	17.50	16.50
7 E 581	SSR-7-001	7	20.25	19.25
7 E 582	SSR-8-001	8	23.25	22.00
7 E 583	SSR-9-001	9	26.00	24.75
7 E 584	SSR-10-001	10	29.00	27.50
7 E 585	SSRC Case		5.75	5.00

## MULLARD PHOTOCELLS

Stock No.	Type No.	Description	EACH
8 E 688	ORP10	Uncooled Indium Antimonide cell.	88.00
8 E 689	OCP71	PNP Type Phototransistor	5.50
8 E 690	58CG	Gas Photocell	7.00
8 E 691	90CG	Gas Photocell	6.50
8 E 692	90AG	Gas Photocell	15.00
8 E 693	58CV	Vac. Photocell	7.00
8 E 694	90CV	Vac. Photocell	6.50
8 E 695	90AV	Vac. Photocell	15.00
8 E 696	61SV	PbS Photocell	22.00
8 E 697	BPY10	Si Photocell	5.50

## INTERNATIONAL RECTIFIER PHOTOELECTRIC DEVICES

### PHOTOCELLS AND SUN BATTERIES

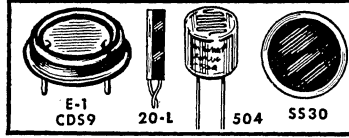
Selenium cells (B2M, B3M) have a spectral response similar to that of the human eye. Silicon cells (S1M, S3M, S5M) are used as solar batteries. B2M is 1/2x3/4"; others, 1/8x1/8x3/16". 24-page handbook.

Stock No.	Mfr's Type	Output		EACH	
		Volts	Ma	1-9	10-99
7 E 876	B2M	.33-.4	2	1.50	1.35
7 E 877	B3M	.33-.4	1.5-2.5	1.75	1.55
7 E 879	S1M	.3-.45	10-16	2.25	2.00
6 E 494	S3M	.6-.85	10-16	3.95	3.51
6 E 495	SSM	.6-.85	18-25	4.95	4.40

### INDUSTRIAL SELENIUM PHOTOCELLS

Spectral response similar to that of the human eye. "PL" types 6" leads; "M" types stud terminals; DP3 plug-in pins; DP5 solder terminals. Output at 100 FC into 100-ohm load. \*Unmounted, †mounted. 2 oz.

Stock No.	Mfr's Type	Size	Output (µa)	EACH	
				1-99	100-999
6 E 401	A5PL	*1 1/8" dia.	250	2.40	1.80
6 E 402	A10PL	*1 3/4" dia.	600	4.75	3.42
6 E 403	A15PL	*2" dia.	770	6.20	4.40
6 E 404	A15M	†.3x2 1/8" dia.	700	10.40	7.15
6 E 406	B10PL	*1.69x.88"	380	2.90	2.12
7 E 740	B10M	†2.2x1.1x4"	320	6.65	4.55
6 E 407	B15PL	*1.69x1.69"	640	6.20	4.40
6 E 408	DP3	*.75x.35x.36"	66	9.50	6.50
6 E 409	DP5	*2x2x2 3/8"	600	13.30	9.10



## RCA PHOTOCONDUCTIVE CELLS

Light-controlled variable resistors. All have S-115 spectral responses, except 6694A, S-12 "µa/ft" is illum. sens.

Stock No.	Type No.	Max. Ma	µa/ft	Diss. (W)	EACH		
					1-4	5-49	50-Up
7 E 435	4403	50	11,500	.3	1.75	1.57	1.30
7 E 436	4404	50	3700	.3	1.75	1.57	1.30
7 E 437	4408	50	2000	.5	1.85	1.70	1.27
7 E 438	4423	20	500	.2	1.80	1.70	1.27
7 E 439	4425	50	6000	.2	1.90	1.76	1.32
7 E 440	4442	50	3700	.3	2.15	2.00	1.50
7 E 441	6694A	.....	4	.03	5.40	4.86	3.75
7 E 442	6957	50	4000	.5	3.20	2.90	2.40
7 E 443	7163	50	2000	.3	1.65	1.44	1.27
7 E 444	7412	1	300	.05	2.10	1.86	1.53
7 E 445	7536	1	300	.05	2.10	1.86	1.53

## PIONEER POWERMASTER CELLS

Cadmium-sulphide variable resistor photocells. CDS-7: 250 mw diss.; 300 v. DC max. CDS-9: 1/2-watt diss.; 500 v. DC max. Dark resistances over 1 megohm.

Stock No.	Type No.	EACH				
		1-4	5-24	25-49	50-99	100-999
7 E 446	CDS-7	1.50	1.25	1.15	1.10	1.00
7 E 447	CDS-9	1.75	1.50	1.40	1.25	1.10

## HYGROPAK HUMIDITY SENSORS

Range: 30% to 100% relative humidity. 1x 1/8x1/4". 3/4" pin spacing.

Stock No.	Type	Description	EACH
7 E 746	HA	Under 100K to over 100 megs	3.00
7 E 747	HA-26	50 ohms to 100 ohms	3.00
7 E 748	.....	Socket for HA or HA-26	.30

## POLARIS "MAJ-I" PHOTOCCELL

Cds cell. 200 ohms @ 92.9 ft-candles; 10 meg in total darkness. 0.2 meg/sec max. change. Max. diss., 0.2 W @ 40°C. Max. v., 110 AC (peak) or DC. 1/2" dia., 3/16" thick, 3 oz.

7 E 565 .....95

## CLAIREX PHOTOCONDUCTIVE CELLS

Stock No.	CL Type	Peak (A)	Max. V.	Light Res. Ohms
7 E 448	402S	5150	300	1M
7 E 449	403S	7350	300	133K
7 E 450	403A	7350	300	75K
7 E 451	403AS	7350	300	75K
7 E 452	403ASL	7350	60	3.5K
7 E 453	404S	6900	300	30K
7 E 454	404SL	6900	60	1.5K
7 E 455	407S	6150	300	133K
7 E 456	504	6900	250	1.5K
7 E 457	504L	6900	60	0.25K
7 E 458	505	5500	250	9K
7 E 459	505L	5500	60	1.5K
7 E 460	602	5150	300	1M
7 E 461	603	7350	300	133K
7 E 462	603A	7350	300	75K
7 E 463	603AL	7350	60	3.5K
7 E 464	604	6900	300	30K
7 E 465	604L	6900	60	1.5K
7 E 466	605	5500	300	166K
7 E 467	605L	5500	60	7.5K
7 E 468	607	6150	300	133K
7 E 469	503	7350	250	7.2K
7 E 470	507	6150	250	7.2K
7 E 471	702	5150	300	1M
7 E 472	702L	5150	60	20K
7 E 473	703	7350	300	133K
7 E 474	703L	7350	60	2.7K
7 E 475	704	6900	300	30K
7 E 476	704L	6900	60	.6K
7 E 477	705	5500	300	166K
7 E 478	705L	5500	60	3.5K
7 E 479	707	6150	300	133K
7 E 480	707L	6150	60	2.7K
7 E 481	802	5150	300	10K
7 E 482	803	7350	300	1.4K
7 E 483	804	6900	300	.3K
7 E 484	805	5500	300	1.7K
7 E 485	807	6150	300	1.4K
7 E 486	902	5150	250	1M
7 E 487	902N	5150	75	500K
7 E 488	903	7350	250	133K
7 E 489	903N	7350	75	66K
7 E 490	904	6900	250	30K
7 E 491	904N	6900	75	15K
7 E 492	905	5500	250	166K
7 E 493	905N	5500	75	83K
7 E 494	907	6150	250	133K
7 E 495	907N	6150	75	66K

1-9..... EACH 4.00 10-29.... EACH 3.50  
30-99..... EACH 3.00

## INDUSTRIAL SELENIUMS (Contd.)

Stock No.	Mfr's Type	Size	Output (µa)	EACH
7 E 496	B17PL	*6x.5"	710	6.20 4.40
7 E 497	B20PL	*2x2"	900	8.10 5.70
6 E 405	B2PL	*.72x.44"	77	1.50 1.20

## CADMIUM-SULFIDE PHOTOCELLS

Size: CS-020-G8, 1/2x1x1/8"; CS-120-V6, 1/2x3/4x1/16"; CS-120-M6, 1/8x1/8x3/16"; CS-120-V16, 2x1x1/16". Pigtail leads. 3 oz.

Stock No.	Type No.	Max. V.	Ohms		EA.
			Dark	100 FC	
6 E 410	CS-020-G8	120	5 Meg	1000	4.50
6 E 411	CS-120-V6	120	1.5 Meg	2000	1.95
7 E 878	CS-120-M6	120	1.5 Meg	2000	2.35
6 E 413	CS-120-V16	120	.5 Meg	1000	3.50

## SILICON READOUT CELLS

Offer fast response time and stable characteristics. All 9-299" wide. \*Indicates length in inches.

Stock No.	Type No.	Cells	L*	1-99 EACH	
				1-99	100-999
7 E 499	SPR-5-08BPL	5	.415	13.05	
7 E 167	SPR-6-08BPL	6	.502	15.10	
7 E 168	SPR-8-08BPL	8	.676	20.10	
7 E 169	SPR-9-08BPL	9	.763	22.75	
7 E 170	SPR-10-08BPL	10	.850	25.00	
7 E 171	SPR-5-10BPL	5	.480	14.15	

## SILICON READOUTS (Contd.)

Stock No.	Type No.	Cells	L*	1-99 EACH
7 E 172	SPR-6-10BPL	6	.580	15.20
7 E 173	SPR-8-10BPL	8	.780	20.30
7 E 174	SPR-9-10BPL	9	.880	24.35

## STANDARD UNMOUNTED CELLS

Last number in Type No. indicates conversion efficiency. Active area (Cm<sup>2</sup>) \*1.8, †0.8, †0.4. Overall size (Cm), \*1x2, †0.5x2, †0.5x1.

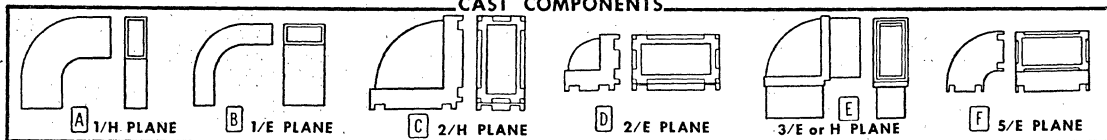
Stock No.	Type No.	Output (Mw)	EACH 1-99
7 E 175	S1020E4*	7.2	2.70
7 E 176	S1020E5*	9.0	2.70
7 E 177	S1020E6*	10.8	2.70
7 E 178	S1020E7*	12.6	3.10
7 E 179	S1020E8*	14.4	3.60
7 E 180	S1020E9*	16.2	4.75
7 E 181	S0520E4†	3.2	2.00
7 E 182	S0520E5†	4.0	2.00
7 E 183	S0520E6†	4.8	2.00
7 E 184	S0520E7†	5.6	2.25
7 E 185	S0520E8†	6.4	3.10
7 E 186	S0520E9†	7.2	3.95
7 E 187	S0510E4†	1.6	2.00
7 E 188	S0510E5†	2.0	2.00
7 E 189	S0510E6†	2.4	2.00
7 E 190	S0510E7†	2.8	2.20
7 E 191	S0510E8†	3.2	2.60
7 E 192	S0510E9†	3.6	2.80



# Microwave Components and Solid-State Devices

## MICROWAVE ASSOCIATES

### CAST COMPONENTS



### WAVEGUIDE COMPONENTS

Now a complete line of cast waveguide components is available from Microwave Associates, Inc. Units for use at frequencies from 5.85 to 40 kmc are electrically and mechanically interchangeable with similar units you may be using now. All are in stock and available at factory OEM prices.

SUFFIX A, ALUMINUM; SUFFIX B, BERYLLIUM COPPER OR BRASS

### E AND H COMPENSATED BENDS—VSWR 1.05

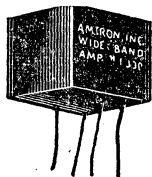
Stock No.	Mfr's Type	Freq. (Kmc)	WG (WR)	Plane	Fig.	EACH		
						1-24	25-49	50-99
7 E 700	MA5305B	5.85- 8.2	137	H	C	6.75	5.95	5.65
7 E 701	MA5405B	5.85- 8.2	137	E	D	6.90	6.00	5.75
7 E 702	MA5303A	8.2-12.4	90	H	C	5.75	5.10	4.85
7 E 703	MA5303B	8.2-12.4	90	H	C	5.75	5.10	4.85
7 E 704	MA5403A	8.2-12.4	90	E	D	5.25	4.60	4.40
7 E 705	MA5403B	8.2-12.4	90	E	D	5.25	4.60	4.40
7 E 706	MA5362A	8.2-12.4	90	H	A	5.75	5.10	4.85
7 E 707	MA5362B	8.2-12.4	90	H	A	5.75	5.10	4.85
7 E 708	MA5462A	8.2-12.4	90	E	B	7.00	6.15	5.90
7 E 709	MA5462B	8.2-12.4	90	E	B	7.00	6.15	5.90
7 E 710	MA5302A	12.4-18.0	62	H	C	5.75	5.10	4.85
7 E 711	MA5302B	12.4-18.0	62	H	C	5.75	5.10	4.85
7 E 712	MA5402A	12.4-18.0	62	E	D	5.25	4.60	4.40
7 E 713	MA5402B	12.4-18.0	62	E	D	5.25	4.60	4.40
7 E 714	MA5361A	12.4-18.0	62	H	A	5.75	5.10	4.85
7 E 715	MA5361B	12.4-18.0	62	H	A	5.75	5.10	4.85
7 E 716	MA5452A	12.4-18.0	62	E	F	7.00	6.20	5.90
7 E 717	MA5452B	12.4-18.0	62	E	F	7.00	6.20	5.90
7 E 718	MA5300B	30.0-40.0	28	H	C	7.00	6.20	5.90
7 E 719	MA5400B	30.0-40.0	28	E	D	6.50	5.70	5.45
7 E 720	MA5320B	30.0-40.0	28	H	E	7.00	6.20	5.90
7 E 721	MA5450B	30.0-40.0	28	E	F	8.00	7.05	6.70

### SIDEWALL HYBRID COUPLERS (3 DB)

Stock No.	Mfr's Type	Freq. (Kmc)	G (WR)	EACH	
				1-9	10-24
7 E 722	MA5003A	8.5- 9.6	90	40.00	30.00
7 E 723	MA5003B	8.5- 9.6	90	40.00	30.00
7 E 724	MA5031A	12.4-14.0	62	30.00	22.50
7 E 725	MA5031B	12.4-14.0	62	30.00	22.50
7 E 726	MA5025A	15.0-17.0	62	40.00	30.00
7 E 727	MA5025B	15.0-17.0	62	40.00	30.00
7 E 728	MA5002A	15.5-17.5	62	30.00	22.50
7 E 729	MA5002B	15.5-17.5	62	30.00	22.50
7 E 730	MA5000B	34.0-36.0	28	40.00	30.00

## "MILI MIN" COMPONENTS by AMTRON INC.

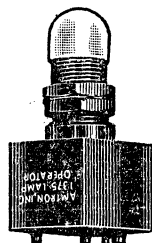
### WIDEBAND ENCAPSULATED AMPLIFIER



Model 1339. Miniature, epoxy encapsulated amplifier utilizing semiconductor and precision components. Engineered for long-term stability. Maximum output is +5 dbm (3 mw into 600 ohms). Power gain, 38 db. Input impedance, approximately 4.5 kc. Coupling capacitor at input permits up to 10 v. at terminal. Response, 1/2 db, 100 cps to 100 kc. Draws about 7 ma. Requires neg. 12 VDC. 0.8x0.65x0.562".

7 E 562. 1-9 EA. 44.25 10-49 ..... EA. 38.75  
50-99..... EA. 31.25 100-999..... EA. 23.75

### LAMP OPERATOR

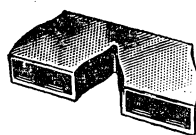


Model 1375. Operates a lamp in response to low-level switching signals of either plus or minus polarity. By connecting an external jumper, unit becomes a one-shot which extends duration of short pulses to give visual indication. Output terminal is provided for external leads. Sealed against moisture and damage by epoxy encapsulation. Mtg. provided by self-contained lampholder in 1/2" dia. hole. Input: ±3.5 to ±15 v.; 4 K. Solder terminals. Requires neg. 12 VDC. at 4.5 ma "off", 85 ma "on". With No. 330 G.E. lamp, white lens. 0.77x0.85x0.672".

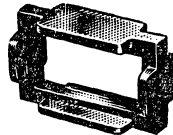
7 E 564. 1-9. EACH 24.50 10-49. EACH 21.30  
50-99..... EACH 18.25 100-999 EA. 15.10

### H-PLANE FOLDED HYBRID TEES

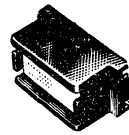
Stock No.	Mfr's Type	Freq. (Kmc)	WG (WR)	Isolation (DB)		EACH	
				E to H Arms	Parallel Arms	1-9	10-24
7 E 741	MA5103A	8.5- 9.6	90	40	28	60.00	45.00
7 E 742	MA5103B	8.5- 9.6	90	40	28	60.00	45.00
7 E 743	MA5102A	15.5-17.5	62	40	28	75.00	56.25
7 E 744	MA5102B	15.5-17.5	62	40	28	75.00	56.25
7 E 745	MA5100B	34.0-36.0	28	35	22	95.00	71.25



Adapters



Wave Guide Couplings



Transitions

### ADAPTERS

Stock No.	Mfr's Type	Freq. (Kmc)	WG (WR)	Fig.	EACH 1-24
7 E 760	MA5643A	8.2-12.4	90	G	12.00
7 E 761	MA5643B	8.2-12.4	90	G	12.00
7 E 762	MA5644A	8.2-12.4	90	G	12.00
7 E 763	MA5644B	8.2-12.4	90	G	12.00

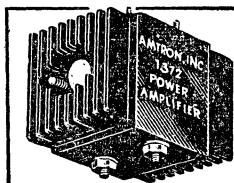
### WAVEGUIDE COUPLINGS

Stock No.	Mfr's Type	Freq. (Kmc)	WG (WR)	Fig.	EACH 1-24
7 E 764	MA5904A	7.05-10.0	112	H	5.00
7 E 765	MA5904B	7.05-10.0	112	H	5.00
7 E 766	MA5903A	8.2-12.4	90	H	4.00
7 E 767	MA5903B	8.2-12.4	90	H	4.00
7 E 768	MA5902A	12.4-18.0	62	H	3.00
7 E 769	MA5902B	12.4-18.0	62	H	3.00

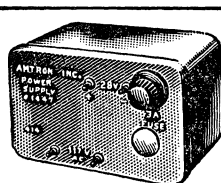
### TRANSITIONS

Stock No.	Mfr's Type	Freq. (Kmc)	WG (WR)	Fig.	EACH 1-24
7 E 770	MA5912A	8.5- 9.6	90-112	J	6.00
7 E 771	MA5912B	8.5- 9.6	90-112	J	6.00

### AMPLIFIER AND POWER SUPPLY



Mini Min Amplifier



Power Supply

1372 Amplifier. For audio and servo applications. Within 3/4 db from 10 cps to 20 kc. Max. sine wave power is 5 watts into a 16-ohm load at 1 kc; 3 watts at 4 ohms. Up to 50 db gain. Input, 0.31 VRMS max. with 16-ohm load. Max. DC at input terminal, +25 v. Requires +15 to +28 VDC depending on load (4, 8, or 16 ohms). Encased in epoxy. Mtg., two 6-32 holes on 1" ctrs. 1.6x1.6x2.5".  
7 E 563. 1-9..... EACH 56.25 10-49..... EACH 49.25  
50-99..... EACH 41.75 100-999..... EACH 36.25

1447 Power Supply. For above. Completely sealed. Silicon rectifiers give extremely long life. Output, 28 VDC max. at 0.3 amps; 0.9 VRMS ripple at 300 ma. Solder terminals. Mtg., two 6-32x1/2" studs on 2" ctrs. Fused. For 117 v., 60 cycle AC. 2 1/4x3 3/4x2 3/4".  
8 E 722. 1-9..... EACH 30.80 10-49..... EACH 27.00  
50-99..... EACH 20.00 100-999..... EACH 17.50

# Lasers, Vacuum Components, Memory Planes



## LATEST OPTICAL COMPONENTS

### GALLIUM ARSENIDE OPTICAL DIODES

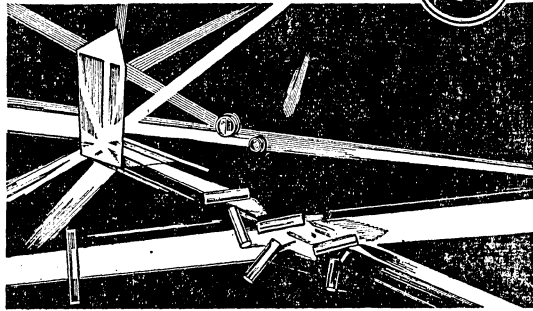
Just developed! Open up previously unimagined possibilities in communication, telemetry, etc. Generate a modulated infra-red signal directly from an electrical signal up to 1 kmc! Biased in the forward direction, diodes generate a modulated infra-red light through the recombination of carriers injected at the p-n junction. Internal quantum efficiency is in the range of 50 to 100 percent. Emitted light is in a narrow band centered around 8500 angstroms at liquid nitrogen temperatures. All operate on low voltage—slightly higher than 1.5 volts. Shipped from Somerville, N. J. or Chicago.

Mfr's Type	Active Area	Operating Current	Light Output (@ -200°C)	EACH
40044	10 <sup>-3</sup>	0.1 amp	15 mw	100.00
40045	0.05	0.5 amp	37 mw	110.00
40046	0.10	1 amp	75 mw	125.00
40047	0.15	3 amps	110 mw	150.00
40048	0.20	5 amps	150 mw	180.00

### CALCIUM FLUORIDE LASER CRYSTALS

Available in wavelengths from 7080 angstroms to 26,100 angstroms. Numerous features include: extremely low strain and light scattering—levels so low as to be undetectable; low laser threshold—as low as 0.5 joule; exceptionally high doping uniformity; excellent control of valence states. Each and every crystal is tested under actual operating conditions. \*Indicates actual threshold supplied with crystal. †For CW operation. ‡For pulsed operation. Shipped from Somerville, N. J. or Chicago.

Stock No.	Mfr's Type	Dopant	Output Wavelength (Angstroms)	Typical Threshold* (Joules)	EACH
8 E 723	‡XLC100	SM++	7080	10	450.00
8 E 724	‡XLC101	U+++	25,100 26,100	15 5	450.00
8 E 725	‡XLC102	Tm++	11,160	15	450.00
8 E 726	‡XLC103	Nd++	10,410	80	450.00
8 E 727	†XLC105	D++	23,600	5	450.00



### GALLIUM ARSENIDE INJECTION LASER

Type TA-2440. For direct-conversion of electrical input to coherent emission. Typical values given at 77° Kelvin. Threshold current, 20 amps. Wavelength at max. energy at threshold, 8400 angstroms. Line width at threshold, 8 angstroms. Laser radiation power, 0.1 watt (specific values with each laser). Shipped from Somerville, N. J. or Chicago.

8 E 728.....1125.00

### COPPER CHLORIDE LASER MODULATOR CRYSTALS

Type TA-2345. Designed for light-shutter and modulator applications operating from DC to tens of kilomegacycles—span the entire range of laser operation and beyond, up to wavelengths of 20 microns. These polished parallelepipeds offer maximum purity and clarity. Have wide transparency range of 0.4 to 20.5 microns. Require extremely low operating power—the best substitute available demands at least 50 times as much power. Have transverse electro-optic operation, and the electro-optic modulus is  $1.8 \times 10^{-7}$  cm/stat volt. Half-wave retardation voltage rated at 6.2 KV. Shipped from Somerville, N. J. or Chicago.

8 E 729.....1000.00

## NEW RCA VACUUM COMPONENTS

### ELECTRON-BEAM GUNS

Type J1857. Designed for uses that require an accurately directed beam in poor vacuums. Have puncturable aluminum end-window for passing beam through end flange into test chamber.

8 E 730.....2000.00

Type J1694. Designed for applications requiring an electron beam of high intensity—welding, machining, evaporating, phosphor emission, etc. Replaceable cathode. Supplies 1500 watts at 75 KV.

8 E 731.....1440.00

### OPTICAL GLASS WINDOWS

For visible and near infra-red, high-vacuum observation. Withstand pressures below  $10^{-10}$  torr. Bakable to 450° C. With gold seal mtg. flange.

8 E 732. J1637, 2" Dia.....600.00

8 E 733. J1638, 4" Dia.....800.00

8 E 734. J1639, 7" Dia.....900.00

### SAPPHIRE VACUUM WINDOWS

For high-vacuum observation where ultra-violet and infra-red transmission properties are important. Applications in research work, plasma physics, photo and conversion testing devices. Withstand pressures of  $10^{-12}$  torrs. Bakable to 450° C.

8 E 735. J1633, 1" Dia.....650.00

8 E 736. J1634, 2" Dia.....900.00

8 E 737. J1635, 3" Dia.....1400.00

8 E 738. J1636, 4" Dia.....1800.00

### DOUBLE GOLD-SEAL FLANGES

J1699-2. Male 2" double-gold-seal flange. Mates with J1699A-2. 500° C bakable, withstands  $10^{-12}$  torr pressure. Non-mag.

8 E 739.....75.00

8 E 740. J1699-4, 4" Male.....100.00

8 E 741. J1699-6, 6" Male.....125.00

8 E 742. J1699A-2, 2" Female.....75.00

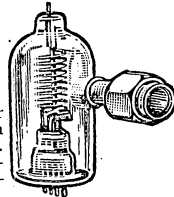
8 E 743. J1699A-4, 4" Female.....100.00

8 E 744. J1699A-6, 6" Female.....125.00

### IONIZATION

#### GAUGE TUBES

Vacuum gauges for improved reliability in space test systems. Offer positive and accurate means of gas-pressure measurement.



J1856. Nude ionization gauge, kovar to glass seal type. Bakable to 450° C. Pressure read-in to the  $10^{-10}$  torr scale.

8 E 745.....125.00

J1856A. As above, but gold seal flange type.

8 E 746.....175.00

J1859A. As above, but gold-seal Parker fitting for external connection.

8 E 747.....125.00

J1859A. As above. Gold seal flange fitting for external connection. Non-burn-out fil.

8 E 748.....125.00

Above items shipped from Harrison, N. J., or Chicago.

### NEW SHARKTOOTH-TYPE SILICON TRANSISTORS

For use as core or line drivers in high-speed memory circuits, and in other high-frequency, high-current applications (excellent for driving Memory Planes at right). New "sharktooth" geometry achieves a much larger emitter periphery and a much reduced emitter area, providing high beta over a wide range of collector currents, and fast switching speeds at high currents.  $V_{CE}$  (SAT) is 0.75 v, max. for the 2N2476, and 0.65 for the 2N2477 at  $I_c$  of 500 ma,  $I_B$  of 50 ma. Gain-bandwidth product of 250 mc.

2 N2476, 1-99. EA. 3.71 100-999. EA. 2.48

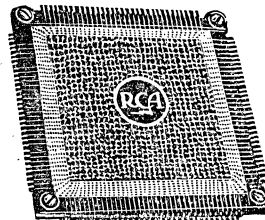
2 N2477, 1-99. EA. 6.19 100-999. EA. 4.13



### NEW FERRITE-CORE MEMORY PLANES

- Designed to Meet Military Requirements
- High Switching Speeds—Compact, Rugged Construction

For high-speed, coincident current magnetic memory systems. Types N7165-1 and N7097-1 for operation at temperatures around 25° C., or may also be used with current compensation over broad temperature ranges. Types N7166-1 and N7190-1 employ special cores that permit operation, without current compensation or temperature control, over the exceptionally wide range of -55° C to +85° C. Frames are diallyl phthalate—provide excellent insulation resistance. Sense windings arranged for maximum noise cancellation. Core mats and wiring supported by shock-resistant glass epoxy material.



Mfr's Type	Type of Core	No. of Cores	EACH
N7165-1	230M1	1024	80.00
N7166-1	233M1	1024	90.00
N7190-1	233M1	4096	210.00
N7097-1	230M1	4096	195.00

# Lasers, Pilot Lights, Varactors, Surge Protectors

## G.E. COHERENT/NON-COHERENT INFRA-RED & VISIBLE LIGHT LASERS



Choose from two types. Infra-red non-visible—light is generated directly by applying electric current to gallium arsenide crystal. Visible—electrons and holes are injected into the plane of the junction-region in the middle of a gallium arsenide-phosphide diode.

\*Indicates Gallium arsenide. Indicates G. A.-phosphide.

Stock No.	Type	Description	EACH
7 E 100	LED-1*	Non-coherent	130.00
7 E 101	LED-2*	Coherent	1300.00
7 E 102	LED-3†	Non-coherent	260.00
7 E 103	LED-4†	Coherent	2600.00

Laser Experimental Kit. For laboratory research. Consists of one each, LED-1, 2, 3 and 4, laser pulser. With sample experiments. Special Order only.  
7 E 111..... 4500.00

## SECO FIRING CIRCUIT



For firing silicon controlled-rectifiers over wide range of voltages. Phase can be varied by use of 500K variable resistor. Circuit is potted in epoxy resin. Operating v., 28-240 VAC. Maximum peak pulse v., 7 v. Maximum peak pulse current, 200 ma. Rise time, 3/10 usec. Temperature range, -20° C to 85° C.

4 U 025. 1-49..... EACH 5.40  
50-149..... EACH 5.10 150-249..... EACH 4.85

## LEECRAFT SNAPLITE NEON PILOT LIGHTS



"Snap-fit" into 1/2" dia. holes in panels of any thickness. White nylon housing. Butyrate lens cap for 110-200° C. 1/2 watt. Series 32-2100 for 110 v.; up to 15,000-hr. life. 35-2100, 220 v.; up to 25,000-hr. life. U. L. Listed.

### CYLINDRICAL-CAP PILOT LIGHT ASSEMBLIES

Stock No.	Type	Color	1-24, EA.	25-99, EA.	100-999, EA.
7 E 921	32-2111-6	Red			
7 E 922	32-2113-6	Amber	.70	.55	.35
7 E 923	32-2117-6	Clear			
8 E 124	32-2115-6	White			
7 E 925	35-2111-6	Red			
7 E 926	35-2113-6	Amber	.70	.55	.35
7 E 927	35-2117-6	Clear			
8 E 125	35-2115-6	White			

### DOME-SHAPE-CAP PILOT LIGHT ASSEMBLIES

Stock No.	Type	Color	1-24, EA.	25-99, EA.	100-999, EA.
8 E 126	32-2211-6	Red			
8 E 127	32-2213-6	Amber	.70	.55	.35
8 E 128	32-2217-6	Clear			
8 E 129	32-2215-6	White			
8 E 130	35-2211-6	Red			
8 E 131	35-2213-6	Amber	.70	.55	.35
8 E 132	35-2217-6	Clear			
8 E 133	35-2215-6	White			

## LEECRAFT "TINEON" INDICATOR LIGHTS



Long-life, high brightness neon lamps that press-fit into 3/16" dia. hole. Durable nylon housing and plastic

lens in specified colors. With speed nut. Series 36N is rated at 110-125 volts; 36HN at 210-250 volts. Both have built-in resistor. Series 41N uses external resistor (not supplied).

### 110-120 VOLT INDICATOR LIGHTS

Stock No.	Type	Color	1-24, EA.	25-99, EA.	100-999, EA.
8 E 698	36N-2311-6	Red			
8 E 699	36N-2313-6	Amber	.65	.50	.33
8 E 700	36N-2315-6	White			
8 E 701	36N-2317-6	Clear			

### 210-250 VOLT INDICATOR LIGHTS

Stock No.	Type	Color	1-24, EA.	25-99, EA.	100-999, EA.
8 E 702	36HN-2311-6	Red			
8 E 703	36HN-2313-6	Amber	.65	.50	.33
8 E 704	36HN-2315-6	White			
8 E 705	36HN-2317-6	Clear			

### INDICATOR LIGHTS WITHOUT RESISTOR

Stock No.	Type	Color	1-24, EA.	25-99, EA.	100-999, EA.
8 E 706	41N-2311-6	Red			
8 E 707	41N-2313-6	Amber	.60	.45	.295
8 E 708	41N-2315-6	White			
8 E 709	41N-2317-6	Clear			

## MICROWAVE ASSOCIATES VHF-UHF VARACTORS

For doubler, tripler, and quadrupler service. Stud mount.

### 90 VOLTS BREAKDOWN

Mfr's Type	Jctn. Cap. (pf)		Series Res. Max. Ohms
	Min.	Max.	
MA4060A	40	80	2.0
MA4060B	20	40	2.5
MA4060C	10	20	3.0
MA4060D	5	10	3.5

### PRICES EACH, OF ABOVE VARACTORS

1-4	5-9	10-24	25-49	50-99	100-499	500-999
35.00	17.00	14.00	12.00	10.50	9.25	8.00

### 120 VOLTS BREAKDOWN

Mfr's Type	Jctn. Cap. (pf)	Max. Ohms
MA4061A	40	80
MA4061B	20	40
MA4061C	10	20
MA4061D	5	10

### PRICES EACH, OF ABOVE VARACTORS

1-4	5-9	10-24	25-49	50-99	100-499	500-999
50.00	25.00	20.00	16.00	14.00	12.00	10.00

## MEDIUM-POWER VHF-UHF VARACTORS

Reversible cartridge case. MA4346, 60 v. MA4347, 90 v.

Mfr's Type	Jctn. Cap. (pf)		Max. Ohms	EACH	
	Min.	Max.		1-99	100-999
MA4346C	0.8	1.6	3.5	55.00	44.00
MA4346D	1.6	3.0	2.3	65.00	52.00
MA4346E	3.0	6.0	1.7	75.00	60.00
MA4346F	6.0	12.0	1.3	85.00	68.00
MA4347C	0.4	0.8	6.0	55.00	44.00
MA4347D	0.8	1.6	3.5	55.00	44.00
MA4347E	1.6	3.0	2.3	75.00	60.00

## MICROWAVE VARACTORS

For harmonic generation with 1000 mc-12,000 mc drivers. MA4351, 6 v.; 4352, 12 v.; 4354, 24 v.; 4355, 48 v. Pill case.

Mfr's Type	Jctn. Cap. (pf)	Max. Ohms	1-99	100-999
MA4351AA1	0.2	0.4	11.0	80.00 64.00
MA4352A1	0.4	0.8	4.0	63.30 50.64
MA4354A1	0.2	0.4	11.0	52.00 41.60
MA4354B1	0.4	0.8	4.0	63.30 50.64
MA4355A1	0.2	0.4	8.0	52.00 41.60

## LOW-VOLTAGE HIGH-Q VARACTORS, CARTRIDGE STYLE

6 v. 50 Gc cutoff freq. 150 mw diss. \*Reversible base. †Fixed.

Mfr's Type	Jctn. Cap. (pf)	Max. Ohms	1-99	100-999
MA450C*	0.8	3.6	...	15.00 10.00
MA460C†	0.8	3.6	...	15.00 10.00

Type MA785 Heat Sink Mount. For reversible base cartridge varactor, above. Increases wattage rating of varactor.

4 U 027. 1-99..... EACH 11.50 100-999..... EACH 9.20

## INTERNATIONAL RECTIFIER "KLIP-SEL" VOLTAGE-SURGE PROTECTORS

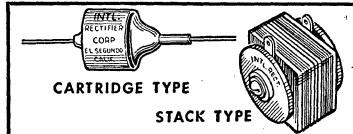
### CARTRIDGE TYPES

Stock No.	Type K—	RMS V.	Clamp Volts	Lgth. (in.)	EACH	
					1-9	10-99
4U 250	Y10PF	26	63	.56	1.31	1.08
4U 251	Y20PF	52	125	.56	1.46	1.20
4U 252	Y50PF	130	310	.88	1.85	1.53
4U 253	Y60PF	156	375	.88	1.96	1.61
4U 254	Y100PF	260	625	.88	2.52	2.07
4U 255	Z10PF	26	63	.63	1.70	1.40
4U 256	Y20PF	52	125	.63	1.91	1.57
4U 257	Z50PF	130	310	.88	2.41	1.98
4U 258	Z60PF	156	375	.88	2.55	2.10
4U 259	Z90PF	234	565	.88	3.06	2.52
4U 260	Z100PF	260	625	.88	3.26	2.69
4U 261	Z140PF	364	890	.88	4.07	3.38

PRV rating of rectifier must be greater than the clamping voltage of both types of "Klip-Sels."

### STACK TYPES

Stock No.	Type K—	RMS V.	Clamp Volts	Lgth. (in.)	EACH	
					1-9	10-99
4U 262	A1DAF	26	63	1.35	2.21	1.82
4U 263	A2DAF	52	125	1.45	2.46	2.03
4U 264	A5DAF	130	310	1.72	3.14	2.59
4U 265	A6DBF	156	375	1.82	3.31	2.73
4U 266	A8DBF	208	500	2.00	3.74	3.08
4U 267	A9DBF	234	565	2.00	4.00	3.29
4U 268	A10DBF	260	625	2.28	4.25	3.50
4U 269	A14DBF	364	890	2.20	5.34	4.40
4U 270	L1DAF	26	63	1.55	5.42	4.55
4U 271	L2DAF	52	125	1.65	6.17	5.08
4U 272	L5DAF	130	310	1.92	7.87	6.48
4U 273	L6DBF	156	375	2.00	8.30	6.83
4U 274	L8DBF	208	500	2.20	9.35	7.70
4U 275	L10DBF	260	625	2.40	10.62	8.75

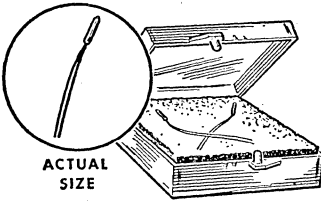


Specially processed selenium cells which exhibit a change from high to very low impedance when applied voltage exceeds a specified value. Protect silicon rectifier and controlled-rectifier circuits. Non-polarized. Max. op. temp., 100° C. Current at clamp voltages: Series KY, 0.25; KZ, 1.0; KA, 3.0; KL, 15.0. Stud or lead size: KY and KZ, 20 AWG; KA, 8-32; KL, 1/4-20. Height (inches): KY, .56; KZ, .69; KA, 1 1/4; KL, 2 1/2. See page 384 for "Klip-Sel" selector.

# Newest Lamps and Light-Activated Devices

## SYLVANIA MINIATURE MITE-T-LITE

Model ML-202A. New and improved miniature incandescent lamp to provide a compatible light source for micro-miniature equipment and systems. Suitable for photoelectric logic systems, high-speed punch card and tape readout devices, compact matrix displays, airborne electronic equipment, commercial displays, optical point sources, medical and industrial probes, miniature cameras, push-button lighting, miniaturized light sources, etc. Can even be used with a photodiode to produce a high-resolution miniaturized detection device, for counting small objects in servo and general instrumentation systems, as well as high-speed readout of punched cards and tapes. The ML 202A lamp is long-lived, and has exceptional physical ruggedness. Extremely low power consumption permits operation directly from the output of a transistor. This single-ended lead lamp has body diameter of .055" maximum, with overall length of .176" maximum. Tungsten-wire filament. Designed for operation between 1.0 and 1.2 volts, maximum. Cold resistance, 8 ohms minimum; hot resistance, 77 ohms minimum at 15.5 ma. Lamp current, about 15.5 ma at 1.2 VDC. Light output, 20.0 millilumens at 1.2 VDC (for clearly visible light in any normally illuminated room). .05" by .050" long. At full 1.2 VDC, lasts approximately 500 hours under pulsed conditions.



ACTUAL SIZE

8 E 710, 1 to 999.....91  
1000 to 4999.....76

## G.E. LIGHT-ACTIVATED UNITS

Tiny solid-state units that remain electrically isolated from their triggering source, while actuating solenoids, contactors and other sizable loads. Light source for triggering is as little as 50 foot-candles of intensity. This new triggering technique makes the light-activated unit ideal for card and tape reading, character recognition, logic circuitry, relay replacement, appliance controls, counting, sorting, precision indexing, etc. \*At 25° C. T.J., 6 VDC, in watts/cm<sup>2</sup>.



### SERIES L6

Mfr's Type	PRV V <sub>Bo</sub>	Max. Temp. C°		Max. Light to Fire*	EACH	
		Oper.	Stor.		1-99	100-999
L6X12	12	75	125	0.022	2.50	1.67
L6U	25	75	125	0.022	3.00	2.00
L6F	50	75	125	0.022	5.00	3.33
L6A	100	75	125	0.022	7.50	5.00
L6B	200	75	125	0.022	10.00	6.65
L6C	300	75	125	0.022	15.00	10.00
L6D	400	75	125	0.022	25.00	16.65

### SERIES L7

Mfr's Type	PRV V <sub>Bo</sub>	Max. Temp. C°		Max. Light to Fire*	EACH	
		Oper.	Stor.		1-99	100-999
L7X12	12	75	125	0.0075	2.50	1.67
L7U	25	75	125	0.0075	3.00	2.00
L7F	50	75	125	0.0075	5.00	3.33
L7A	100	75	125	0.0075	7.50	5.00
L7B	200	75	125	0.0075	10.00	6.65
L7C	300	75	125	0.0075	15.00	10.00
L7D	400	75	125	0.0075	25.00	16.65

## SYLVANIA "PANELESCENT" METAL AND PLASTIC LAMPS

• Lamps that Employ no Tubes or Bulbs  
• Provide Diffused, Glareless Area Light  
New kind of lighting with many industrial applications. "Panescent" lamps are sheets of steel or laminated plastic, with a special electrified coating that produces a soft, diffused green light. These true area light sources provide virtually glareless illumination. Excellent for vehicle and aircraft instrumentation, safety devices, signs, display devices, test equipment, and many novelty applications. "Panescent" lamps operate completely cold, with all emission in the visible range. And there's never a problem of sudden burnouts; brightness decreases gradually over a period of many years.

- Electrified coating Produces Green Light
- Ideal for Instrumentation, Signs, etc.

Exceptionally rugged, lightweight, and compact—only 1/8" thick. Lamps are unaffected by variations and extremes of temperature and humidity. Provide an excellent contrast for high readability at a considerable distance when used with overlays. U.L. Listing can be secured for devices using "Panescent" lamps that employ correct installation techniques. Blank lamps listed below are designed only for prototype applications; cannot be cut or drilled since they are finished devices. All units listed below are supplied with lead wire and clip assembly. All prices for lamps include 10% F.E.T.

### METAL LAMPS

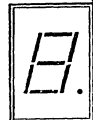
Stock No.	Size (In.)	EACH	
		1-99	100-249
8 E 672	2x2 1/2	1.38	1.14
8 E 673	2x6	1.65	1.36
8 E 674	4x4	2.20	1.82
8 E 675	4x6	2.97	2.44
8 E 676	6x6	3.74	2.99
8 E 677	6x12	7.79	5.90
8 E 678	12x12	13.30	9.83

### PLASTIC-LAMINATED LAMPS

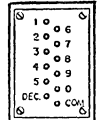
Stock No.	Size (In.)	EACH	
		1-99	100-249
8 E 679	2x2 1/2	5.50	4.11
8 E 680	2x6	6.54	5.43
8 E 681	4x4	9.20	7.12
8 E 682	4x6	11.00	8.65
8 E 683	6x6	12.82	10.39
8 E 684	6x12	18.35	15.15
8 E 685	12x12	32.95	26.60

## DIALCO SERIES R-100 NUMERIC READOUTS

Each single-plane numeric readout module has line segments that form any number from 0-9, 0-9 plus decimal point, or + and - plus decimal point. Superior legibility is obtained by high brightness, great contrast, defined shape and proportion. Dependability is ensured by use of long life neon lights and moderate driving current. Modules mount easily on black, cast metal frame of one-piece, solid aluminum construction (not supplied; see table below) with plastic window. \*Indicates the number of modules that can be mounted on the frame. For 115 VAC or 160 VDC.



FRONT



BACK

### NUMERIC READOUTS

Stock No.	Mfr's Type	Description	EACH			
			1-24	25-49	50-99	100-199
8 E 660	R-100	0-9 w/dec. point	23.50	21.50	19.50	18.00
8 E 661	R-101	0-9 less point	22.65	20.80	18.90	17.45
8 E 662	R-102	+ and - w/point	9.50	7.95	6.60	5.90
8 E 663	R-103	+ and - less point	8.70	7.20	6.00	5.35

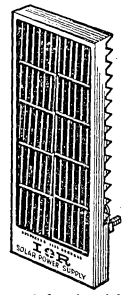
### METAL PANEL FRAMES

Stock No.	Mfr's Type	*	EACH	Stock No.	Mfr's Type	*	EACH
8 E 665	RF-100-2	2	7.00	8 E 669	RF-100-6	6	9.00
8 E 666	RF-100-3	3	7.50	8 E 670	RF-100-7	7	9.50
8 E 667	RF-100-4	4	8.00	8 E 671	RF-100-8	8	10.00

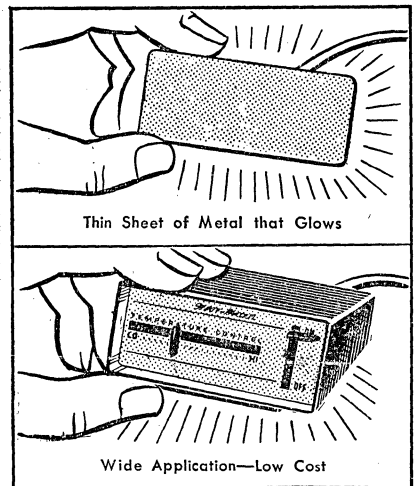
## INTERNATIONAL RECTIFIER

### SOLAR POWER SUPPLIES

IR's newly developed solar power supply, the "Solarpack," converts sunlight directly into electricity by means of space-satellite-type silicon solar cells. Housed in anodized aluminum castings, with active cell area encased in weather and heat-resistant epoxy, the "Solarpack" gives lengthy, dependable service. Adjustable exposure angle. Three corrosion-resistant terminals are provided with the "Solar pack"—two connect directly to cells; one connects to the negative terminal through a blocking diode, for use in battery charging (required to prevent discharge of battery when the cells are not illuminated). Higher voltages or greater current can be obtained by connecting several units in series or in parallel. SCP-100 and SCP-101 are used for charging 2 NiCd cells in series, or one lead-acid cell; SCP-105 and SCP-106 are used for charging 4 or 5 NiCd cells, or 3 lead-acid cells; SCP-108 used for all 12-v. batteries. With mtg. hardware.



Stock No.	Type SCP-	Output		Size	EACH	
		V	ma		1-9	10-99
7 E 112	100	3.5-4	60	5x2x1 1/2"	28.00	26.70
7 E 166	101	3.5-4	120	5x4x1 1/2"	55.00	52.40
7 E 108	105	7.5-8	30	5x2x1 1/2"	29.75	28.00
7 E 109	106	7.5-8	60	5x4x1 1/2"	57.50	54.00
7 E 110	108	15-16	30	5x4x1 1/2"	57.50	54.00



Thin Sheet of Metal that Glows

Wide Application—Low Cost

# Special-Purpose Tube Directory

## KEY TO NAMES OF MANUFACTURERS

AMP-E4	Amperex Elect. Corp.	NU-E19	National Union
CE-E15	Cetron	PEN-E16	Penta Lab, Inc.
DUM-E6	Dumont	RCA-E1	Radio Corp. America
EIM-E9	Eitel McCullough	RAY-E2	Raytheon Mfg. Co.
ELEC-E11	Electrons, Inc.	SVL-E12	Sylvania Electric
GE-E3	General Electric	THER-E18	Thermosen, Inc.
ML-E13	Machlett Lab.	TUNG-E14	Tungsol
MULL-E21	Mullard Products	VIC-E20	Victoreen Instrument
NAT-E10	Nat'l Electronics, Inc.	WP-E5	Waterman Products

- Over 1300 Tube Types in Stock from 18 Manufacturers
- Full Warranty Protection on All Tubes
- Over 90 Military Tube Types Available

Complete selection of high-reliability tubes for almost every purpose. \*Tubes with asterisk are listed on the following pages with specs and additional information. MP indicates matched pair; DI means directly interchangeable. To assure speedy service, give Dept. and Tube Type thus: E3-1B85. *Quantity purchases of individual tube types are billed at current OEM prices.*

## IMMEDIATE DELIVERY FROM WIDEST STOCKS

### See Page 91 for Military Type Tubes from Navy Stock Facility

Stock No.			EACH				Stock No.			EACH			
Dept.	Tube Type	Mfr.	1-4	5-18	19-49	50-Up	Dept.	Tube Type	Mfr.	1-4	5-18	19-49	50-Up
E1	OA2	RCA	1.32	1.18	1.08	.94	E1	2E24	RCA	5.25	4.60	4.20	3.70
E3	OA2	GE	1.50	1.24	1.13	.99	E1	2E26	RCA	3.75	3.22	3.02	2.60
E1	OA2 WA	RCA	3.65	3.12	2.92	2.58	E2	2E32	RCA	3.35	3.00	2.72	.....
E1	OA3	RCA	1.54	1.33	1.24	1.10	EZ1	2F21*	RAY	275.00	235.00	.....	.....
E3	OA4G	GE	1.90	1.58	1.43	1.26	EZ3	2H21	GE	288.00	.....	.....	.....
E12	OA5	SYL	6.96	.....	.....	.....	EU2	RK2J42*	RAY	204.00	.....	.....	.....
E1	OB2	RCA	1.37	1.23	1.12	.98	EU2	RK2J55*	RAY	204.00	.....	.....	.....
E3	OB2	GE	1.45	1.23	1.12	.98	EU2	RK2J70A*	RAY	204.00	.....	.....	.....
E1	OB2 WA	RCA	2.40	2.11	1.92	1.69	E2	2K25*	RAY	32.25	28.20	.....	.....
E2	OB3	RAY	2.35	2.07	1.88	1.66	E1	2K26	RCA	65.00	61.50	55.00	.....
E3	OB3	GE	2.35	2.20	2.00	1.75	E2	2K28A*	RAY	75.00	.....	.....	.....
E1	OC2	RCA	1.50	1.28	1.20	1.06	E18	2S M15	THER	10.00	8.00	7.00	.....
E1	OC3	RCA	1.50	1.30	1.21	1.07	E3	2X2A	GE	3.30	2.77	2.52	2.23
E1	OD3	RCA	1.44	1.24	1.16	1.03	E1	2X2A*	RCA	3.35	2.94	2.67	2.35
E3	OD3	GE	1.45	1.23	1.12	.98	EU12	2X100A	SYL	144.00	.....	.....	.....
E4	OG3/85A2	AMP	2.30	2.03	1.84	1.62	EX9	3-400Z*	EIM	34.00	.....	.....	.....
E1	OZ4A	RCA	1.16	1.04	.94	.....	EX9	3-100Z*	EIM	119.00	.....	.....	.....
E11	C1A*	ELEC	13.65	11.95	10.85	.....	E1	3A4*	RCA	1.25	1.04	.97	.86
E12	VG1A	SYL	32.60	27.40	.....	.....	E1	3A5*	RCA	2.03	1.76	1.64	1.45
E2	1AD4	RAY	2.80	2.50	2.27	2.00	E12	3ACP1A	SYL	37.00	33.20	28.30	.....
E2	1AG4	RAY	3.05	2.68	2.44	.....	E11	3B*	ELEC	11.40	10.00	9.10	.....
E11	C1B*	ELEC	15.40	13.75	12.55	.....	E1	3B4 WA	RCA	4.35	3.80	3.10	.....
E11	C1B/A*	ELEC	19.20	17.15	15.60	.....	E15	3B22*	CE	8.40	7.35	6.70	5.90
E20	1B85*	VIC	9.60	8.50	7.35	6.25	E3	3B24 W	GE	10.55	9.90	9.00	.....
E11	1C*	ELEC	10.85	9.40	8.55	.....	E2	3B24 WA	RAY	11.05	9.95	9.05	.....
E1	1C21	RCA	4.15	3.54	3.31	2.93	E15	3B24 WA*	CE	10.00	7.50	6.84	6.00
E12	1D21/SN4	SYL	6.30	5.50	5.00	.....	E1	3B25	RCA	8.50	7.45	5.95	.....
E19	1DP1*	NU	20.00	20.00	20.00	19.35	E1	3B28*	RCA	6.00	5.44	5.08	4.20
E1	1EP1	RCA	23.60	18.15	.....	.....	E12	3BGP1	SYL	38.10	34.90	32.50	.....
E1	1EP11	RCA	26.00	20.00	.....	.....	E12	3B MP1	SYL	50.85	43.00	38.00	.....
E11	C1J*	ELEC	14.85	13.80	12.08	.....	E11	3C*	ELEC	11.80	10.33	9.40	.....
E11	C1J/A*	ELEC	15.10	13.50	12.30	.....	E11	3C/L*	ELEC	13.00	11.30	10.30	.....
E11	C1K*	ELEC	13.10	11.30	10.25	.....	E1	3C23	RCA	11.98	8.40	.....	.....
E1	C1K/6014	RCA	13.10	11.30	10.05	.....	E3	3C23	GE	11.98	10.50	9.55	.....
E1	1L4*	RCA	1.37	1.19	1.11	.98	E1	3C33*	RCA	28.75	27.00	22.10	.....
E3	1L21	GE	25.00	.....	.....	.....	E1	3C45	RCA	17.80	14.20	.....	.....
E3	1L36	GE	18.50	.....	.....	.....	E9	3CPN10A5/7815*	EIM	32.00	24.00	.....	.....
E1	1P21	RCA	54.50	47.60	41.90	.....	E9	3CX100A5/7289*	EIM	32.00	24.00	.....	.....
E1	1P22	RCA	15.80	13.50	12.15	.....	E1	3D22A	RCA	28.00	25.30	21.55	.....
E1	1P28*	RCA	21.60	18.85	16.60	.....	E1	3E29*	RCA	20.85	18.85	16.05	.....
E2	1P31	RAY	9.04	7.95	7.25	.....	E11	C3J*	ELEC	13.80	11.45	10.40	.....
E1	1P37	RCA	4.50	3.95	3.15	.....	E1	C3J/5632	RCA	13.80	11.35	9.65	.....
E1	1P39*	RCA	2.80	2.43	2.20	1.95	E11	C3J/A*	ELEC	14.50	12.60	11.10	.....
E1	1P40*	RCA	3.75	3.25	2.95	2.60	E10	C3J/AL-NE	NAT	18.40	17.20	15.60	13.55
E3	1P40	GE	3.75	3.25	2.96	2.60	E1	C3J-A/5684	RCA	14.50	12.70	11.25	.....
E1	1P41	RCA	4.75	4.12	3.75	3.30	E11	C3J/L*	ELEC	15.25	13.35	12.60	.....
E1	1P42	RCA	13.95	12.20	11.00	9.75	E1	3JP1	RCA	21.45	16.50	.....	.....
E14	1Z2	TUNG	6.40	6.40	5.70	.....	E1	3KP1	RCA	20.35	15.65	.....	.....
E9	2-01C*	EIM	18.00	14.70	13.50	.....	E1	3RP1	RCA	13.45	9.40	.....	.....
E9	2-25A*	EIM	24.00	18.25	.....	.....	E1	3RP1A	RCA	21.80	16.75	.....	.....
E9	2-50A*	EIM	27.00	20.50	.....	.....	EU9	3 W5000A1*	EIM	280.00	240.00	.....	.....
EZ9	2-450A*	EIM	138.00	117.00	.....	.....	EU9	3 W5000A3*	EIM	245.00	210.00	.....	.....
E1	2AP1A	RCA	16.45	12.65	.....	.....	EU9	3 W5000F1*	EIM	260.00	220.00	.....	.....
E18	2AS15A	THER	9.00	7.20	6.30	.....	EU9	3 W5000F3*	EIM	250.00	210.00	.....	.....
E3	2B22	GE	31.00	.....	.....	.....	E1	3 WP1	RCA	26.15	20.10	.....	.....
E3	2B23	GE	68.20	.....	.....	.....	E5	3XP1	WP	26.40	23.20	21.10	.....
E1	2BP1	RCA	20.15	15.50	.....	.....	EZ9	3X2500A3*	EIM	200.00	170.00	.....	.....
E1	2BP11	RCA	21.60	16.60	.....	.....	EZ9	3X2500F3*	EIM	205.00	175.00	.....	.....
E12	2C36	SYL	36.90	.....	.....	.....	EZ9	3X3000A1*	EIM	210.00	180.00	.....	.....
E12	2C37	SYL	37.50	.....	.....	.....	EU9	3X3000F1*	EIM	220.00	185.00	.....	.....
E1	2C39A	RCA	22.50	16.60	.....	.....	E4	4-65A	AMP	27.00	21.00	.....	.....
E9	2C39A*	EIM	20.75	17.10	15.50	.....	E1	4-65A*	EIM	27.00	20.50	.....	.....
E1	2C39 WA*	RCA	30.00	21.50	.....	.....	E9	4-125A/4D21	RCA	36.00	27.00	.....	.....
E9	2C39 WA*	EIM	32.00	24.00	.....	.....	E9	4-125A/4D21	EIM	36.00	27.00	.....	.....
E13	2C39 WA*	ML	30.00	21.50	.....	.....	E1	4-250A/5D22	RCA	46.50	34.87	.....	.....
E1	2C40A	RCA	33.00	26.00	.....	.....	E9	4-250A/5D22	EIM	46.50	35.00	.....	.....
E1	2C43	RCA	26.95	21.50	.....	.....	E9	4-400A*	EIM	48.00	36.00	.....	.....
E14	2C51	TUNG	3.65	3.25	2.95	2.60	E16	4-400A*	PEN	48.00	36.00	.....	.....
E19	2C53	NU	9.15	9.15	8.85	8.40	EZ9	4-1000A*	EIM	131.50	112.00	.....	.....
E1	2D21	RCA	1.29	1.05	.92	.....	E15	4B31	CE	17.90	16.25	14.75	12.99
E4	2D21	AMP	1.29	1.15	1.05	.92	E9	4CN15A*	EIM	58.50	44.00	.....	.....
E3	2D21	GE	1.30	1.09	.99	.87	E9	4CX250B/7203*	EIM	39.00	29.50	.....	.....
E1	2D21 W	RCA	2.90	2.48	2.31	2.04	E9	4CX250K*	EIM	64.00	48.50	.....	.....

# Special-Purpose Tubes (Cont'd)

Stock No.		Mfr.	EACH				Stock No.		Mfr.	EACH			
Dept.	Tube Type		1-4	5-18	19-49	50-Up	Dept.	Tube Type		1-4	5-18	19-49	50-Up
E9	4CX300A*	EIM	58.50	51.70	44.00	.....	E1	6J4	RCA	4.19	3.73	3.37	2.99
E9	4CX350A*	EIM	55.50	.....	.....	.....	E12	6J4 WA	SYL	5.60	5.00	4.54	3.99
E9	4CX350F*	EIM	60.00	.....	.....	.....	E1	6J6 WA*	RCA	5.35	4.75	4.32	3.80
EU9	4CX1000A*	EIM	181.00	154.00	.....	.....	E6	6Q5G	DUM	3.30	.....	.....	.....
EU9	4CX1000K*	EIM	218.00	.....	.....	.....	E12	6SJ7 WGT	SYL	2.70	2.40	2.12	.....
E29	4CX3000A*	EIM	420.00	.....	.....	.....	E1	6SJ7Y*	RCA	1.95	1.73	1.58	1.39
E29	4CX5000A*	EIM	495.00	.....	.....	.....	E12	6SL7 WGT	SYL	3.15	2.80	2.55	.....
E29	4CX10000D*	EIM	550.00	.....	.....	.....	E2	6SN7 WGT	RAY	2.34	2.09	1.90	1.67
E16	4D21*	PEN	36.00	28.50	.....	.....	E14	6SU7GT	TUNG	4.90	4.38	3.98	3.50
E16	4D21A*	PEN	37.50	30.00	.....	.....	E12	6V6GT	SYL	1.45	1.31	1.19	.....
E2	4D22*	RAY	32.76	29.20	26.60	.....	E2	6X4 W	SYL	1.60	1.43	1.30	.....
E2	4D32*	RAY	32.76	29.20	26.60	.....	E2	6X5 WGT	RAY	1.51	1.35	1.23	.....
E16	4E27A*	PEN	45.00	34.00	.....	.....	E26	78CP15	DUM	300.00	.....	.....	.....
E9	4E27A/5-125B*	EIM	45.00	34.00	.....	.....	E12	78P7A	SYL	39.10	34.20	31.20	.....
E4	4EH7	AMP	1.45	1.29	.....	.....	E23	7D21	GE	647.00	.....	.....	.....
E4	4EJ7	AMP	1.45	1.29	.....	.....	E4	7HG8	AMP	1.60	1.44	1.31	.....
E11	C4H-1*	ELEC	23.25	20.38	18.50	.....	EX12	7JP1/7VP1	SYL	33.00	30.25	28.20	.....
E11	C4H-2*	ELEC	24.35	21.30	19.40	.....	E21	7TP4*	RCA	70.80	54.45	.....	.....
E11	C4H-3*	ELEC	24.35	21.30	19.40	.....	E4	7VP1	RCA	25.30	22.10	19.45	.....
E29	4PR60B*	EIM	107.00	94.45	80.00	.....	E21	9A8	AMP	1.70	1.55	.....	.....
E9	4PR65A*	EIM	43.00	.....	.....	.....	E21	9C21	RCA	1610.00	.....	.....	.....
E9	4W300B*	EIM	57.00	43.00	.....	.....	E21	9C22	RCA	2155.00	.....	.....	.....
E29	4W2000A*	EIM	1950.00	.....	.....	.....	E21	9C25	RCA	1690.00	.....	.....	.....
E9	4X150A/7034*	EIM	25.00	18.50	.....	.....	E21	TD03-10*	MULL	33.75	28.70	26.10	23.00
E9	4X150D/7035*	EIM	27.90	21.00	.....	.....	E21	10SP4	RCA	77.25	61.50	.....	.....
E9	4X250B*	EIM	36.50	34.65	29.50	.....	E1	12A6	RCA	3.36	2.89	2.71	2.40
E21	4X500A	RCA	128.50	108.50	.....	.....	E1	12AT7 WA*	RCA	2.53	2.13	1.81	.....
E221	QY5-3000A*	MULL	315.00	.....	.....	.....	E4	15CW5	AMP	1.43	1.20	1.09	.....
E21	5ABP1	RCA	31.50	24.20	.....	.....	E4	16AQ3	AMP	1.45	1.19	1.08	.....
E26	5ADP1	DUM	28.30	24.90	.....	.....	E11	16F*	ELEC	35.20	31.35	28.50	.....
E26	5ADP2	DUM	35.00	30.00	26.25	.....	E11	C16H*	ELEC	62.00	54.40	49.40	.....
E26	5ADP7	DUM	39.50	34.00	.....	.....	E11	C16J*	ELEC	52.50	45.80	41.70	.....
E12	5AHP7	SYL	34.40	30.10	27.40	.....	E1	C16J/5665	RCA	56.90	45.25	.....	.....
E12	5AMP1A	SYL	51.40	46.30	42.80	.....	E9	KY21A*	EIM	26.75	23.50	20.00	.....
E26	5AQP1A	DUM	40.00	35.25	.....	.....	E10	KY21A	NAT	26.75	23.45	20.05	.....
E12	5BGP1	SYL	75.00	68.75	62.60	.....	E9	RX21A*	EIM	25.75	23.00	20.00	.....
E12	5BHP1	SYL	92.50	82.50	73.40	.....	E10	RX21A	NAT	25.75	23.00	19.30	.....
E26	5BHP2*	DUM	92.50	77.50	.....	.....	E9	25T*	EIM	28.50	21.50	.....	.....
E21	5BP1A	RCA	30.50	25.20	.....	.....	E1	26A6*	RCA	3.70	3.10	2.63	.....
E26	5BP1A	DUM	23.30	21.10	.....	.....	E1	26A7GT*	RCA	7.00	5.87	4.99	.....
E21	5CP1A	RCA	22.55	17.35	.....	.....	E1	26C6*	RCA	3.05	2.70	2.45	2.16
E16	5D22*	PEN	46.50	37.00	.....	.....	E1	26D6*	RCA	3.05	2.70	2.45	2.16
E21	5FP4A	RCA	25.75	19.80	.....	.....	E3	FG27A	GE	52.00	46.45	41.40	.....
E26	5LP1A	DUM	40.00	35.40	.....	.....	E4	27GB5	AMP	2.05	1.85	1.67	1.51
E3	5R4GYA	GE	2.05	1.73	1.57	1.38	E3	28D7	GE	4.95	4.20	3.82	.....
E1	5R4GYB*	RCA	2.03	1.76	1.45	.....	E4	EL34(6CA7)	AMP	2.90	2.62	2.39	.....
E21	5UP1	RCA	13.10	9.15	.....	.....	E21	EL34(6CA7)DI	MULL	2.90	2.62	2.39	.....
E12	5Y3 WGTA	SYL	4.05	3.57	3.23	.....	E21	EL34 MP	MULL	6.86	5.70	5.17	.....
E1	6AG7Y*	RCA	2.80	2.33	1.98	.....	E4	EL34/6CA7 MP	AMP	6.30	5.75	.....	.....
E2	6AJ5	RAY	3.95	3.44	3.12	2.75	E21	GZ34(5AR4)	MULL	2.10	1.94	1.76	.....
E1	6AK6*	RCA	1.40	1.22	1.13	1.00	E4	GZ34/5AR4	AMP	2.10	1.94	1.76	.....
E4	6AL3/EY8	AMP	1.45	1.19	1.08	.....	E9	35T*	EIM	33.00	25.00	.....	.....
E2	6AN5	RAY	4.17	3.72	3.39	.....	E21	EL37(6L6)	MULL	3.24	2.83	2.67	.....
E2	6AN5 WA	RAY	16.80	9.65	8.75	.....	E21	EL37 MP	MULL	6.74	5.89	5.37	.....
E14	6AR6	TUNG	5.75	5.65	5.00	4.50	E21	EF40	MULL	2.16	1.89	1.72	.....
E1	6AS6*	RCA	3.42	2.97	2.77	2.45	E15	T40*	CE	8.50	8.14	7.14	.....
E3	6AS6	GE	3.45	2.90	2.64	2.33	E15	TZ40	CE	10.20	8.95	8.13	7.14
E1	6AS7C*	RCA	4.93	4.15	3.52	.....	E21	E551*	MULL	13.25	12.40	10.50	.....
E2	6AS7GA	RAY	4.95	4.40	4.00	3.52	E15	T55	CE	11.50	10.75	9.80	8.63
E3	6AS7GA	GE	4.95	4.16	3.80	3.34	E20	VX55*	VIC	24.20	22.60	19.70	17.40
E1	6AU6 WA*	RCA	2.70	2.25	1.91	.....	E24	56AVP	AMP	325.00	.....	.....	.....
E11	6AU6 WB	RCA	2.70	2.25	1.91	.....	E20	VR57*	VIC	4.50	4.00	3.50	2.95
E11	6B*	ELEC	13.00	11.35	10.35	.....	E20	VX68	VIC	10.00	8.00	7.75	7.50
E12	6B/L*	ELEC	13.50	11.80	10.75	.....	E21	DM70(1M3)	MULL	1.00	.88	.80	.....
E12	6BL6	SYL	40.00	26.00	.....	.....	E21	75C1*	MULL	5.70	4.73	4.25	3.40
E12	6B M5	SYL	51.00	34.00	32.50	.....	E9	75TH*	EIM	43.00	32.00	.....	.....
E11	6C6*	ELEC	58.90	51.00	45.80	.....	E1	75TL*	EIM	43.00	32.00	.....	.....
E11	6C*	ELEC	21.40	19.10	17.30	.....	E21	EABC80(6AK8)	MULL	1.72	1.50	1.37	.....
E29	6C21*	FIM	93.00	70.00	.....	.....	E21	EBF80(6N8)	MULL	1.52	1.33	1.21	.....
E12	6D4	SYL	2.85	2.50	2.27	2.00	E21	ECF80(6BL8)	MULL	1.93	1.69	1.54	.....
E4	6DJ8/ECC88	AMP	1.89	1.72	.....	.....	E21	EF80(6BX6)	MULL	1.57	1.38	1.25	.....
E4	6EH7	AMP	1.45	1.28	.....	.....	E21	EZ80(6V4)	MULL	.77	.68	.62	.....
E4	6EJ7*	AMP	1.45	1.28	.....	.....	E4	ECC81(12AT7)	AMP	1.53	1.30	1.20	1.11
E11	6F*	ELEC	14.15	12.40	11.30	.....	E21	ECC81(12AT7)DI	MULL	1.47	1.29	1.17	.....
E1	6F4	RCA	13.10	11.70	10.65	9.35	E21	ECH81(6AJ8)	MULL	1.52	1.41	1.27	1.15
E4	6HA5	AMP	1.25	1.07	.97	.....	E21	EM81(6DA5)	MULL	1.35	1.18	1.07	.....
E11	6G6-1*	ELEC	29.10	25.50	23.20	.....	E21	EZ81(6CA4)	MULL	1.14	.99	.93	.87
E11	6G6-2*	ELEC	30.25	26.50	24.20	.....	E4	EZ81	AMP	1.05	.95	.87	.81
E11	6G6-3*	ELEC	30.25	26.50	24.20	.....	E3	F581A	GE	32.50	28.90	26.10	.....
E11	6CJ*	ELEC	28.10	24.70	22.50	.....	E4	ECC82(12AU7)	AMP	1.23	1.05	.97	.89
E15	6CJ*	CE	25.40	24.60	22.50	19.75	E21	ECC82(12AU7)DI	MULL	1.23	1.05	.97	.....
E1	6CJ/5C21	RCA	28.10	22.30	.....	.....	E21	ECF82(6U8)	MULL	1.93	1.69	1.54	.....
E11	6CJ/A*	ELEC	29.00	25.20	22.70	.....	E21	ECL82(6BM8)	MULL	1.52	1.33	1.21	.....
E11	6CJ/F*	ELEC	30.00	26.25	23.90	.....	E21	ECL82 MP	MULL	3.48	3.40	2.77	.....
E11	6CJ/K*	ELEC	28.30	24.70	22.60	.....	E21	UCL82(50BM8)	MULL	1.49	1.31	1.19	.....
E11	6CJ/KL*	ELEC	29.45	25.70	23.40	.....	E21	UCL92 MP	MULL	3.48	3.40	2.77	.....
E10	6CJ/K-NE	NAT	32.50	30.50	27.25	23.90	E1	83*	RCA	1.89	1.64	1.52	1.35
E11	6CJ/L*	ELEC	29.40	25.40	23.10	.....	E3	83	GE	1.75	1.60	1.45	1.28

Please Specify Department and Tube Type When Ordering

# Special-Purpose Tubes (Cont'd)

Stock No.		Mfr.	EACH				Stock No.		Mfr.	EACH			
Dept.	Tube Type		1-4	5-18	19-49	50-Up	Dept.	Tube Type		1-4	5-18	19-49	50-Up
E4	ECC83(12AX7)	AMP	1.28	1.09	1.00	.93	E12	GB408A	SYL	4.95	4.21	3.94	3.48
E21	ECC83(12AX7)DI	MULL	1.28	1.09	.98	.....	E23	414	GE	231.00	225.00	.....	.....
E4	EL84(6BQ5)	AMP	1.30	1.05	.93	.86	E1	417A	RCA	7.35	5.25	.....	.....
E4	EL84(6BQ5)MP	AMP	2.63	2.35	2.16	2.00	E9	450TH*	EIM	85.00	64.50	.....	.....
E21	EL84(6BQ5)DI	MULL	1.19	1.04	.95	.....	E29	450TL*	EIM	85.00	64.50	.....	.....
E21	EL84 MP	MULL	2.70	2.36	2.15	.....	E22	QK456*	RAY	543.00	.....	.....	.....
E21	EM84(6FG6)	MULL	1.61	1.41	1.27	.....	E1	502A	RCA	2.28	1.94	1.63	.....
E21	UL84(4B5-5)	MULL	1.39	1.22	1.11	.....	E3	502A	GE	2.30	1.97	1.77	1.55
E21	85A1	MULL	2.50	.....	.....	.....	E2	512AX	RAY	2.90	2.58	2.35	.....
E21	85A2*	MULL	2.30	2.16	1.85	1.62	E2	526AX	RAY	4.59	4.10	3.74	.....
E21	ECC85(6AQ8)	MULL	1.35	1.18	1.08	.....	E2	QK531*	RAY	68.00	62.50	.....	.....
E4	ECC85(6AQ8)	AMP	1.35	1.19	1.09	1.01	E2	QK532*	RAY	68.00	62.50	.....	.....
E21	EF85(6BY7)	MULL	1.58	1.38	1.25	.....	E2	533AX	RAY	3.01	2.69	2.45	.....
E21	ECL86	MULL	1.58	1.38	1.25	.....	E2	534AX	RAY	3.01	2.69	2.45	.....
E21	EF86(6267)	MULL	1.32	1.15	1.05	.....	E2	QK549*	RAY	68.00	62.50	.....	.....
E21	EL86(6CW5)	MULL	1.39	1.22	1.11	.....	E4	Z550 M	AMP	14.50	14.50	14.50	12.00
E21	EL86 MP	MULL	3.15	2.76	2.51	.....	E1	575A	RCA	20.15	17.60	15.50	.....
E21	UF86	MULL	1.68	1.47	1.34	.....	E3	575A	GE	20.15	17.60	15.50	.....
E21	E88CC*	MULL	4.75	4.50	4.10	3.60	E1	579B	RCA	20.50	18.00	15.35	.....
E4	ECC88(6DJ8)	AMP	1.89	1.65	1.55	.....	E9	592/3-200A3*	EIM	46.00	34.50	.....	.....
E21	ECC88(6DJ8)	MULL	2.10	1.83	1.67	.....	E12	592/3-200A3	SYL	46.00	34.50	.....	.....
E21	EBF89(6DC8)	MULL	1.58	1.38	1.25	.....	E10	604	NAT	11.80	10.30	9.40	.....
E21	EF89(6DA6)	MULL	1.48	1.29	1.18	.....	E10	604L	NAT	13.00	11.30	10.30	.....
E21	90C1*	MULL	3.50	3.20	2.87	2.61	E10	606	NAT	21.40	19.10	17.15	.....
E4	90NB3/900V	AMP	27.00	23.20	20.20	18.00	E10	606L	NAT	23.50	21.00	19.30	.....
E21	EC90(6C4)DI	MULL	1.75	1.53	1.39	.....	E10	615	NAT	10.05	9.00	7.85	7.15
E21	EL90(6AQ5)	MULL	1.10	.97	.88	.....	E10	616	NAT	10.35	9.50	8.55	7.75
E21	EL90 MP	MULL	2.60	2.28	2.07	.....	E10	619	NAT	10.00	9.00	8.00	7.30
E21	EZ90(6X4)	MULL	.83	.73	.66	.....	E10	623	NAT	13.35	12.00	10.70	9.10
E21	ECC91(6J6)DI	MULL	1.37	1.20	1.10	.....	E2	QK623*	RAY	68.00	.....	.....	.....
E21	EF91/6AM6	MULL	1.62	1.42	1.29	.....	E1	627	RCA	31.50	27.70	23.60	.....
E21	EF94(6AU6)DI	MULL	1.03	.90	.82	.....	E2	627	RAY	31.50	27.00	.....	.....
E21	EF95	MULL	2.10	1.83	1.66	.....	E1	629	RCA	18.25	14.35	.....	.....
E21	EL95(6DL5)	MULL	1.13	.99	.90	.....	E1	632B	RCA	33.00	27.15	23.10	.....
E21	EL95 MP	MULL	2.60	2.28	2.08	.....	E10	635/7019	NAT	13.00	11.40	10.40	.....
E3	FG97	GE	62.00	59.00	54.00	.....	E10	635L/7020	NAT	13.50	11.80	10.80	.....
E3	FG98A	GE	77.00	72.50	66.00	.....	E10	635P/6930	NAT	14.15	12.40	11.25	.....
E9	100TH*	EIM	23.50	17.50	.....	.....	E10	649/5834	NAT	10.20	8.95	8.15	.....
E9	100TL*	EIM	23.65	17.50	.....	.....	E10	660	NAT	13.00	11.35	10.35	.....
EU13	102A*	ML	186.00	153.00	.....	.....	E10	660L/7786	NAT	13.50	11.80	10.75	.....
E4	AX105/FG105	AMP	53.33	46.82	43.00	39.80	E10	660P	NAT	14.15	12.30	11.20	.....
E3	FG105	GE	59.00	52.50	48.00	.....	E10	664L*	NAT	26.00	22.80	20.75	.....
E12	FT118	SYL	7.90	7.15	6.32	5.65	E10	664P*	NAT	27.30	23.90	21.75	.....
E19	122P1*	NU	23.35	23.35	23.35	22.65	E1	672A	RCA	39.85	31.70	.....	.....
E19	123P1*	NU	33.35	33.35	33.35	32.00	EX1	673	RCA	20.15	17.60	15.50	.....
E19	129P1*	NU	24.65	24.65	24.65	24.00	E1	676	RCA	63.80	54.25	.....	.....
EX13	141*	ML	117.00	.....	.....	.....	E1	677	RCA	63.80	54.25	.....	.....
E13	142*	ML	78.50	.....	.....	.....	E3	678	GE	49.50	46.20	42.80	39.00
E19	142P1*	NU	40.00	36.60	34.10	.....	E2	710/6011	RAY	13.00	12.05	10.95	9.65
EU13	148*	ML	162.00	.....	.....	.....	E10	710/6011*	NAT	13.00	12.05	10.95	9.65
EX4	152AVP	AMP	130.00	.....	.....	.....	E10	710L/7518*	NAT	15.25	13.38	12.15	10.70
EX3	FG154	GE	108.00	99.00	.....	.....	E10	714	NAT	10.00	8.75	7.95	.....
EX1	172	RCA	122.00	116.00	.....	.....	E10	716	NAT	12.50	10.95	9.95	.....
EX3	FG172	GE	122.00	115.50	.....	.....	EU12	SYK-720A-G	SYL	145.00	135.00	130.00	125.00
E16	175A*	PEN	50.00	45.40	40.00	.....	E212	SYK-720Z	SYL	325.00	305.00	285.00	265.00
E16	177A*	PEN	29.00	26.20	23.00	.....	EU12	SYK-722A-G	SYL	150.00	140.00	135.00	130.00
E16	177 WA*	PEN	33.50	30.10	26.50	.....	E212	SYK-722Z	SYL	330.00	310.00	290.00	270.00
E21	E180F*	MULL	6.80	6.35	5.60	.....	EU2	RK-725A	RAY	211.00	.....	.....	.....
EZ13	199*	ML	370.00	301.00	.....	.....	EU10	732	NAT	120.00	109.50	.....	.....
E15	T200*	CE	32.45	28.40	24.80	22.72	E10	734/5544	NAT	22.50	19.90	18.10	.....
E4	200NB/900V	AMP	58.50	49.20	45.15	41.95	E2	740	RAY	20.80	18.50	16.56	.....
E15	203*	CE	12.80	10.40	9.20	8.20	E10	740L	NAT	21.40	18.80	17.10	.....
E15	206	CE	8.00	7.20	6.55	5.75	E10	740P	NAT	21.60	18.90	17.20	.....
EZ1	207	RCA	330.00	280.00	.....	.....	E29	750TL*	EIM	169.00	143.00	.....	.....
EU12	SK-220A-G	SYL	140.00	130.00	125.00	120.00	E10	760	NAT	28.10	24.70	22.40	.....
EZ12	SK-220Z	SYL	315.00	295.00	275.00	255.00	E2	760L	RAY	29.40	26.25	23.95	.....
EU12	SK-221A	SYL	160.00	150.00	145.00	140.00	E2	760L	NAT	29.40	25.40	23.00	.....
EU12	SK-221B-G	SYL	145.00	135.00	130.00	125.00	E2	760P	RAY	29.40	26.25	23.95	.....
EU12	SK-222A-G	SYL	145.00	135.00	130.00	125.00	E10	760P	NAT	29.40	26.20	23.90	.....
EZ12	SK-222Z	SYL	320.00	300.00	280.00	260.00	E10	770L	NAT	45.25	40.00	36.40	.....
E15	249C	CE	10.68	9.35	8.50	7.48	E1	801A*	RCA	13.00	10.70	9.10	.....
E16	250R*	PEN	36.00	32.40	28.50	.....	E1	802	RCA	13.00	10.70	9.10	.....
EZ9	250R*	EIM	36.00	27.00	.....	.....	E1	804	RCA	27.20	24.60	20.90	.....
EZ9	250TH*	EIM	38.50	29.00	.....	.....	E1	805	RCA	22.10	17.00	.....	.....
EZ9	250TL*	EIM	38.50	29.00	.....	.....	E1	807*	RCA	3.00	2.47	2.10	.....
E16	254 W*	PEN	25.00	22.80	20.00	.....	E3	807	GE	2.95	2.50	2.28	2.00
E23	FG280	GE	105.00	98.50	.....	.....	E1	809	RCA	7.95	6.52	5.55	.....
EZ2	QK291*	RAY	407.00	.....	.....	.....	E1	810	RCA	26.95	23.50	20.70	.....
E15	T300*	CE	39.00	34.00	31.00	27.30	E15	810*	CE	18.00	17.00	15.80	13.90
E9	304TH*	EIM	75.00	57.00	.....	.....	E1	811A*	RCA	6.90	6.00	5.45	4.80
E9	304TL*	EIM	75.00	57.00	.....	.....	E3	811A	GE	6.90	6.00	5.45	.....
E12	SA309	SYL	20.40	18.50	16.30	15.25	E1	812A*	RCA	6.90	6.00	5.45	4.80
E13	322*	ML	27.00	24.70	.....	.....	E1	813	RCA	23.15	20.90	17.80	.....
E15	323B	CE	13.00	11.40	10.35	9.10	E1	814	RCA	28.35	21.80	.....	.....
EZ13	356*	ML	675.00	563.00	.....	.....	E1	815	RCA	28.35	24.75	21.80	.....
E3	393A	GE	13.25	11.50	10.50	.....	E1	816*	RCA	2.95	2.56	2.33	2.05
E1	404A	RCA	9.55	6.79	.....	.....	E1	828*	RCA	32.95	25.35	.....	.....
E12	GB407A	SYL	5.90	5.10	4.77	4.21	E1	829B*	RCA	19.00	16.60	14.60	.....



# Special-Purpose Tubes (Cont'd)

Stock No.		Mfr.	EACH				Stock No.		Mfr.	EACH			
Dept.	Tube Type		1-4	5-18	19-49	50-Up	Dept.	Tube Type		1-4	5-18	19-49	50-Up
E3	829B	GE	19.00	16.60	14.60	.....	E12	GB-1252/6U8A	SYL	2.00	1.79	1.63	.....
E1	830B	RCA	17.35	13.35	.....	.....	E14	1258	TUNG	31.80	22.70	.....	.....
E15	830B	CE	11.90	11.00	10.00	.....	E21	ME1400*	MULL	6.70	6.20	5.78	5.10
E1	832A	RCA	15.90	13.90	12.20	.....	E1	1612	RCA	5.77	5.00	4.66	4.12
EZ1	833A*	RCA	53.65	48.50	41.25	.....	E1	1613	RCA	3.00	2.65	2.40	2.12
EZ4	833A	AMP	53.65	48.55	41.25	.....	E1	1614	RCA	4.93	4.25	3.98	3.52
E1	834	RCA	21.25	16.35	.....	.....	E1	1616	RCA	13.90	12.10	11.00	9.70
E1	836	RCA	11.10	9.10	7.75	.....	E1	1619	RCA	5.67	7.90	4.57	4.05
E1	837	RCA	10.30	9.00	8.20	7.20	E1	1620	RCA	7.55	6.51	6.10	5.39
E3	838	GE	20.00	17.50	14.00	.....	E1	1621*	RCA	3.50	3.00	2.80	2.48
E1	845*	RCA	25.00	19.20	.....	.....	E1	1622*	RCA	4.85	4.19	3.90	3.46
EU1	857B*	RCA	218.50	187.00	.....	.....	E1	1624	RCA	6.25	5.42	4.93	4.35
E1	860	RCA	48.10	37.00	.....	.....	E1	1625*	RCA	4.75	4.10	3.75	3.30
E1	866A*	RCA	2.65	2.18	1.85	.....	E1	1629	RCA	1.86	1.62	1.51	1.33
E3	866A	GE	2.65	2.32	2.12	1.85	E1	1635	RCA	3.82	3.30	3.08	2.73
E4	866AX	AMP	2.65	2.31	2.10	1.85	E1	1699*	RCA	Price and delivery data on request			
E15	868	RCA	4.45	3.87	3.52	3.10	E1	1947	RCA	18.30	14.05	.....	.....
E3	868*	CE	3.75	3.24	2.96	2.60	E1	1949	RCA	15.20	11.70	.....	.....
E3	868/PJ23	GE	4.50	3.88	3.53	3.10	E1	2022	RCA	3.60	3.12	2.84	2.50
EX1	869B	RCA	138.00	118.00	.....	.....	EZ1	2041*	RCA	7825.00	.....	.....	.....
EX4	869BL	AMP	138.00	118.00	.....	.....	EZ1	2048A	RCA	720.00	.....	.....	.....
EX15	869B/BW	CE	168.50	147.00	144.00	.....	E1	2050	RCA	2.37	2.04	1.91	1.69
E1	872A*	RCA	9.90	8.45	6.95	.....	E3	2050	GE	2.40	2.02	1.83	1.61
E3	872A	GE	9.90	8.45	6.95	.....	E2	2050A	RAY	2.21	1.98	1.80	1.58
E15	872A	CE	8.50	7.25	6.60	5.80	E3	2050A	GE	2.25	1.98	1.79	1.58
E4	872AX	AMP	9.90	8.20	6.95	.....	E2	2050 W	RAY	7.50	6.70	6.10	5.35
E15	873	CE	18.31	16.00	14.60	12.87	EZ4	ZB3200	AMP	440.00	402.00	372.00	.....
E15	875A	GE	22.26	19.50	17.75	15.58	EZ1	4009	RCA	1755.00	.....	.....	.....
E3	880	CE	595.00	527.00	.....	.....	EZ1	4011A	RCA	1585.00	.....	.....	.....
E1	884	RCA	2.28	1.97	1.84	1.63	EZ1	4012	RCA	1425.00	.....	.....	.....
EZ1	889A	RCA	235.00	200.00	.....	.....	EZ1	4013	RCA	1425.00	.....	.....	.....
EZ1	891	RCA	275.00	240.00	.....	.....	E12	CT4251	SYL	11.10	10.00	.....	.....
EZ1	891R	RCA	430.00	380.00	.....	.....	EZ12	SYT4260	SYL	1065.00	.....	.....	.....
EZ1	892*	RCA	270.00	235.00	.....	.....	EZ12	SYT4268	SYL	1065.00	.....	.....	.....
EZ1	892R	RCA	425.00	375.00	.....	.....	EZ12	SYT4273	SYL	1250.00	.....	.....	.....
EZ13	892R	ML	425.00	375.00	.....	.....	EZ12	SYT4278	SYL	1250.00	.....	.....	.....
E1	917	RCA	7.00	6.10	5.55	4.90	E12	R4307	SYL	5.60	5.10	4.48	4.00
E1	918*	RCA	4.45	3.87	3.52	3.10	E21	4401-V1	RCA	1320.00	.....	.....	.....
E1	919	RCA	7.15	6.25	5.67	5.00	E1	4402	RCA	2.30	2.00	1.82	1.60
E15	919*	CE	4.50	3.85	.....	.....	E1	4403*	RCA	1.75	1.57	1.47	1.20
E1	921	RCA	3.50	3.05	2.78	2.45	E1	4408*	RCA	1.85	1.58	1.44	1.27
E1	922*	RCA	3.10	2.68	2.44	2.15	EZ1	4415*	RCA	1400.00	.....	.....	.....
E1	923*	RCA	3.40	2.93	2.67	2.35	EZ1	4416*	RCA	1400.00	.....	.....	.....
E3	923	GE	3.40	2.94	2.66	2.35	E1	4420*	RCA	6.40	5.55	5.05	4.45
E1	925*	RCA	3.65	3.14	2.94	2.55	E1	4423*	RCA	1.80	1.58	1.44	1.27
E1	926*	RCA	3.75	3.22	3.00	2.60	E1	4425*	RCA	1.90	1.65	1.50	1.32
E2	927*	RCA	4.25	3.68	3.35	2.95	EZ1	4427	RCA	585.00	.....	.....	.....
E1	927	RAY	3.75	3.25	2.96	2.60	E1	4438	RCA	105.00	82.50	.....	.....
E1	928*	RCA	6.00	5.25	4.78	4.20	E1	4439	RCA	105.00	82.50	.....	.....
E1	929*	RCA	2.35	2.06	1.87	1.65	E1	4440	RCA	105.00	82.50	.....	.....
E2	929	RAY	2.15	1.88	1.71	1.50	E1	4448	RCA	1.65	1.44	1.31	1.15
E15	929*	CE	2.13	2.00	1.76	.....	EZ1	4600A*	RCA	330.00	280.00	.....	.....
E1	930*	RCA	3.65	3.18	2.90	2.55	E1	4604	RCA	8.00	7.00	5.60	.....
E3	930	GE	3.65	3.19	2.90	2.55	EZ1	4605V2*	RCA	8845.00	.....	.....	.....
E1	931A*	RCA	12.40	10.80	9.85	8.65	EZ1	4614	RCA	310.00	265.00	.....	.....
E1	931VA	RCA	13.00	11.37	10.03	9.10	E1	4615	RCA	75.00	58.00	.....	.....
E1	934*	RCA	4.15	3.57	3.33	3.00	EZ3	5513	GE	525.00	.....	.....	.....
E15	934*	CE	4.15	3.57	3.30	.....	E15	5514*	CE	11.90	10.40	9.50	8.33
E1	935	RCA	11.90	10.40	9.40	8.30	E2	5517	RAY	3.80	3.36	3.06	.....
E1	955	RCA	7.05	6.30	5.70	5.02	EZ3	5518	GE	1060.00	.....	.....	.....
E1	959	RCA	13.85	11.25	.....	.....	EZ13	5530	ML	350.00	294.00	.....	.....
E1	991	RCA	.87	.80	.75	.62	EZ12	5530	SYL	350.00	294.00	.....	.....
EZ9	1000T*	EIM	169.00	143.00	.....	.....	EZ13	5530H*	ML	350.00	294.00	.....	.....
EU10	1009A	AMP	155.00	.....	.....	.....	EZ13	5531*	ML	660.00	.....	.....	.....
E4	XP1010	AMP	76.00	.....	.....	.....	EZ13	5541*	ML	560.00	470.00	.....	.....
E2	1020	RAY	11.86	10.52	9.65	.....	E3	5544	GE	32.50	.....	.....	.....
E2	1021	RAY	11.86	10.52	9.65	.....	E4	5545	AMP	29.30	25.00	23.10	.....
EU10	1022A	NAT	116.00	.....	.....	.....	EZ3	5549	GE	653.50	.....	.....	.....
E2	1026	RAY	4.34	3.88	3.52	.....	E1	5550	RCA	49.00	.....	.....	.....
E4	Z M1030*	AMP	9.95	9.95	9.95	8.00	E3	5550*	GE	49.00	46.50	.....	.....
E4	Z M1032*	AMP	9.95	9.95	9.95	8.00	E10	5550	NAT	49.00	.....	.....	.....
EZ10	1051A*	NAT	65.00	.....	.....	.....	E1	5551A	RCA	65.00	.....	.....	.....
EZ10	1051AP	NAT	65.00	.....	.....	.....	E3	5551A*	GE	65.00	61.30	.....	.....
EZ10	1052A*	NAT	99.00	.....	.....	.....	E3	5551A/PC	GE	65.00	61.30	.....	.....
E10	1061*	NAT	65.00	.....	.....	.....	EZ1	5552A	RCA	99.00	.....	.....	.....
E10	1061P	NAT	65.00	.....	.....	.....	EZ3	5552A*	GE	99.00	93.75	.....	.....
E10	1052	NAT	99.00	.....	.....	.....	EZ1	5553B	RCA	245.00	.....	.....	.....
E10	1062P	NAT	99.00	.....	.....	.....	EZ3	5553B*	GE	245.00	231.00	.....	.....
EZ10	1063	NAT	284.00	.....	.....	.....	EZ3	5555	GE	316.00	300.00	.....	.....
E12	R1111	SYL	12.70	.....	.....	.....	E3	5556/PJ8	GE	39.00	36.60	33.40	.....
E12	R1130B	SYL	20.80	19.00	16.70	15.60	E1	5557	RCA	9.50	7.80	6.65	.....
E12	R1131C	SYL	19.60	17.91	15.70	14.75	E3	5557/FG17	GE	9.50	8.30	7.55	6.65
E12	R1168	SYL	24.50	22.40	19.60	18.90	E15	5557/FG17*	CE	9.50	8.30	7.55	6.65
E12	GB-1219/5670	SYL	3.70	3.28	2.99	2.63	E10	5557/715	NAT	9.50	8.30	7.55	6.65
E12	GB-1220/5654	SYL	3.05	2.70	2.46	2.16	E1	5558	RCA	17.50	.....	.....	.....
E12	1222A	SYL	2.45	2.13	1.94	.....	E2	5558/FG32	RAY	17.50	15.30	13.95	.....
E12	1229	SYL	5.35	4.75	4.32	.....	E3	5558/FG32	GE	17.50	15.30	13.95	.....
E18	1236C	THER	12.00	9.60	8.40	.....	E1	5559	RCA	23.00	.....	.....	.....

Please Specify Department and Tube Type When Ordering

# Special-Purpose Tubes (Cont'd)

Stock No.		Mfr.	EACH				Stock No.		Mfr.	EACH			
Dept.	Tube Type		1-4	5-18	19-49	50-Up	Dept.	Tube Type		1-4	5-18	19-49	50-Up
E3	5559/FG57	GE	23.00	21.60	20.25	.....	E1	5726/6A15 W	RCA	1.55	1.29	1.10	.....
E1	5560	RCA	33.00	27.20	23.10	.....	E3	5726/6A15 W	GE	1.55	1.33	1.19	1.05
E3	5560/FG95	GE	33.00	28.80	26.20	23.10	E1	5727*	RCA	2.90	2.40	2.04	.....
E3	5561	RCA	59.00	.....	.....	.....	E1	5727/2D21 W*	RCA	2.90	2.40	2.04	.....
EZ1	5563A	RCA	50.00	42.50	37.40	.....	E3	5727/2D21 W*	GE	2.90	2.47	2.21	1.94
EZ3	5564	GE	850.00	.....	.....	.....	E1	5734*	RCA	22.05	19.04	17.59	15.73
EZ13	5575/100*	ML	250.00	235.00	.....	.....	EU3	5736	GE	205.00	166.00	.....	.....
E1	5576/200*	ML	280.00	266.00	.....	.....	EU13	5736*	ML	190.00	.....	.....	.....
E1	5581	RCA	3.45	3.00	2.73	2.40	E1	5749*	RCA	2.20	1.85	1.57	.....
E1	5582	RCA	5.40	4.76	4.45	3.75	E3	5749/6BA6 W	GE	2.20	1.90	1.70	1.49
E1	5583*	RCA	4.80	4.22	3.94	3.35	E1	5750*	RCA	3.45	2.87	2.44	.....
E15	5583*	CE	4.90	4.24	3.86	3.40	E3	5750/6BE6 W	GE	3.45	2.90	2.64	2.32
E1	5584	RCA	7.15	5.80	5.38	5.00	E1	5751*	RCA	2.55	2.13	1.81	.....
EZ1	5592	RCA	1615.00	.....	.....	.....	E3	5751*	GE	2.55	2.15	1.96	1.72
EZ3	5593	GE	310.00	.....	.....	.....	E1	5751 WA*	RCA	2.95	2.47	2.10	.....
EZ13	5604*	ML	600.00	495.00	.....	.....	E2	5755	RAY	8.45	7.55	6.85	.....
EZ13	5606*	ML	305.00	247.00	.....	.....	EU1	5762/7C24*	RCA	230.00	205.00	.....	.....
E1	5618*	RCA	6.75	6.00	5.45	4.81	EZ1	5762A*	RCA	230.00	205.00	.....	.....
E3	5623	GE	30.00	.....	.....	.....	E1	5763*	RCA	2.53	2.13	1.81	.....
EZ3	5630	GE	1900.00	.....	.....	.....	E3	5763	GE	2.55	2.15	1.96	1.72
E3	5632/C3J	GE	13.80	12.05	10.73	.....	E12	5768	SYL	31.15	.....	.....	.....
E15	5632/C3J*	CE	13.80	12.05	10.95	9.65	EZ1	5770	RCA	1250.00	.....	.....	.....
E1	5636*	RCA	6.10	5.10	4.35	.....	EU3	5779	GE	200.00	.....	.....	.....
E3	5636*	GE	6.10	5.15	4.68	4.13	EU1	5786	RCA	220.00	190.00	.....	.....
E1	5639*	RCA	5.25	4.40	3.74	.....	E1	5796	CE	16.90	14.40	13.10	11.45
E2	5639	RAY	5.22	4.66	4.23	3.73	E1	5814A*	RCA	2.35	1.98	1.68	.....
E12	5641	SYL	7.55	6.75	6.15	5.39	E3	5814A*	GE	2.34	1.99	1.81	1.59
E1	5642*	RCA	3.85	.....	.....	.....	E1	5814 WA*	RCA	2.40	1.98	1.68	.....
E3	5651*	RCA	1.78	1.49	1.27	.....	E1	5819	RCA	56.50	51.00	43.45	.....
E1	5651	GE	1.78	1.52	1.38	1.21	EZ1	5820A*	RCA	1070.00	.....	.....	.....
E1	5651 WA*	RCA	3.80	3.17	2.69	.....	EU3	5820A*	GE	1070.00	.....	.....	.....
E1	5653	RCA	2.25	2.09	1.94	1.55	E3	5822A	GE	116.00	.....	.....	.....
E2	5653	RAY	2.25	1.94	1.76	1.55	E1	5823	RCA	1.72	1.54	1.40	1.23
E1	5654*	RCA	2.41	2.02	1.72	.....	E3	5824	GE	3.60	3.05	2.78	2.44
E2	5654	RAY	2.41	2.08	1.97	1.72	E1	5825	RCA	22.90	20.00	17.60	.....
E1	5654/6AK5W*	RCA	2.45	2.02	1.72	.....	E2	5837	RAY	69.00	.....	.....	.....
E3	5654/6AK5W	GE	2.45	2.04	1.86	1.63	E1	5840*	RCA	5.35	4.45	3.79	.....
E1	5654/6AK5 W/6096	RCA	4.35	3.63	3.09	.....	E3	5840*	GE	5.35	4.50	4.10	3.60
EZ12	5658	SYL	630.00	.....	.....	.....	E20	5841	VIC	7.35	6.50	5.60	4.75
E3	5663	GE	2.10	1.79	1.63	1.43	E2	5842	RAY	7.40	6.25	5.28	.....
E10	5665/C16J	NAT	52.50	46.00	41.80	.....	E4	5842	AMP	7.45	6.25	5.30	.....
EZ12	5666	SYL	295.00	.....	.....	.....	E1	5842/417A	RCA	7.35	5.25	.....	.....
EZ13	5667*	ML	390.00	315.00	.....	.....	E3	5844	GE	2.30	1.93	1.75	1.54
EZ13	5668*	ML	350.00	281.00	.....	.....	E12	5845	SYL	9.95	8.90	8.10	.....
E1	5670*	RCA	2.45	2.06	1.75	.....	E4	5847	AMP	9.65	8.10	6.90	.....
E3	5670*	GE	2.45	2.08	1.89	1.66	EU3	5847/404A*	RCA	9.55	6.79	.....	.....
E1	5670 WA*	RCA	3.00	2.48	2.11	.....	E1	5855	GE	85.00	.....	.....	.....
EZ1	5671	RCA	1760.00	.....	.....	.....	E4	5866A	AMP	23.30	21.40	19.50	.....
E2	5672	RAY	2.27	2.03	1.84	.....	E4	5867A	AMP	32.45	30.00	28.00	25.95
EZ3	5674	GE	225.00	.....	.....	.....	EZ4	5868	AMP	60.00	55.75	52.00	48.00
E1	5675	RCA	16.05	13.45	11.45	.....	E4	5869	AMP	25.00	23.10	21.25	20.00
E2	5676	RAY	3.05	2.68	2.44	.....	E4	5870	AMP	100.00	93.00	86.50	80.00
E2	5678	RAY	2.27	2.03	1.84	.....	E1	5876	RCA	10.25	8.97	8.15	7.17
E2	5684/C3J/A	RAY	14.50	12.10	11.00	.....	E1	5876A	RCA	23.10	19.40	16.50	.....
E10	5684/C3JA	NAT	14.50	12.70	11.25	.....	E3	5879	GE	1.85	1.65	1.52	.....
E2	5684-NE	RAY	17.90	16.45	14.95	13.15	E2	5879	RAY	1.95	1.62	1.47	.....
E10	5684-NE	NAT	16.70	15.30	14.00	12.30	E3	5881	GE	3.50	2.62	2.38	2.09
E2	5684A-NE	RAY	16.70	15.30	14.00	12.30	E14	5881	TUNG	3.50	2.98	2.50	2.20
E10	5684A-NE	NAT	17.90	16.40	14.90	13.15	E14	5881 MP	TUNG	7.85	6.75	5.55	.....
E2	5685/C6JK	RAY	28.30	24.40	22.60	.....	E2	5886	RAY	5.00	4.42	4.02	.....
E3	5686*	GE	3.40	2.88	2.62	2.29	E2	5889	RAY	14.66	13.10	11.90	.....
E1	5686*	RCA	3.37	2.84	2.41	.....	E15	5892/6B	CE	13.00	11.40	10.35	9.10
E1	5687*	RCA	4.05	3.48	2.86	.....	E4	5894	AMP	25.00	23.20	21.80	19.00
E3	5687	GE	4.00	3.40	3.10	2.72	E1	5896	GE	3.75	3.19	2.90	2.55
E3	5687 WA	GE	6.13	4.80	4.38	3.84	E3	5896A	SYL	4.15	3.68	3.35	2.95
E14	5687 WA	TUNG	5.65	5.03	4.58	4.03	E1	5899*	RCA	5.55	4.62	3.93	.....
E1	5691*	RCA	8.75	7.55	7.05	6.23	E3	5899	GE	5.50	4.66	4.24	3.73
E2	5691	RAY	8.75	7.80	7.05	6.23	E12	5899A	SYL	6.05	5.40	4.92	4.32
E1	5692*	RCA	8.25	7.12	6.64	5.88	E2	5902*	RCA	4.80	4.00	3.41	.....
E2	5692	RAY	8.25	7.35	6.67	5.88	E3	5902	GE	4.80	4.04	3.68	3.24
E3	5693*	RCA	6.60	5.70	5.31	4.70	E12	5902A	SYL	5.25	4.69	4.26	3.75
E3	5693	GE	6.60	5.60	5.10	4.47	E2	5915	RCA	1.62	1.40	1.31	1.16
E2	5696	RCA	2.05	1.74	1.63	1.44	E1	5915	RAY	1.65	1.45	1.31	1.16
E2	5702	RAY	4.20	3.73	3.40	.....	E2	GB-5931	SYL	6.80	6.05	5.50	.....
E2	5702 WA	RAY	6.48	5.80	5.25	.....	E12	GB-5932	SYL	11.30	10.10	9.20	.....
F2	5703	RAY	2.65	2.37	2.06	.....	E12	GB-5933	SYL	12.35	11.10	10.00	.....
F2	5703 WA	RAY	7.07	6.30	5.75	.....	EZ1	5946*	RCA	125.00	105.00	.....	.....
EZ1	5713	RCA	340.00	290.00	.....	.....	E2	5962	RAY	9.95	8.85	8.05	.....
E3	5718*	GE	3.65	3.06	2.78	2.45	E1	5963	RCA	1.36	1.14	.97	.....
E1	5718*	RCA	3.65	3.02	2.58	.....	E3	5963	GE	1.50	1.24	1.13	.99
E1	5719*	RCA	3.15	2.65	2.25	.....	E1	5964	RCA	1.55	1.33	1.24	1.10
E3	5719*	GE	3.15	2.65	2.41	2.12	E1	5965	RCA	1.92	1.61	1.37	.....
EU2	5721*	RAY	116.00	.....	.....	.....	E3	5965*	GE	1.90	1.61	1.47	1.29
E12	5722	SYL	6.60	5.90	5.35	.....	E3	5965A*	GE	1.90	1.61	1.47	1.29
E1	5725	RCA	3.15	2.65	2.23	.....	E2	5965A	RAY	1.90	1.70	1.55	1.36
E2	5725/6A56 W	RAY	3.11	2.78	2.53	2.22	EU2	5966	SYL	42.00	36.60	33.40	.....
E3	5725/6A56 W	GE	3.15	2.65	2.41	2.12	E3	5973	GE	495.00	.....	.....	.....
E1	5726*	RCA	1.55	1.29	1.10	.....	E2	5976*	RAY	68.00	66.00	62.50	.....

# Special-Purpose Tubes (Cont'd)

Stock No.		Mfr.	EACH				Stock No.		Mfr.	EACH			
Dept.	Tube Type		1-4	5-18	19-49	50-Up	Dept.	Tube Type		1-4	5-18	19-49	50-Up
E14	5998	TUNG	12.95	11.60	10.50	9.24	E1	6346	GE	70.00	.....	.....	.....
E3	5998A	GE	12.95	11.00	10.00	8.78	E4	6350	RCA	1.85	1.65	1.50	1.32
E1	6005	RCA	3.93	3.30	2.81	.....	E3	6350	GE	2.35	2.00	1.82	1.60
E3	6005*	GE	3.95	3.33	3.03	2.67	E4	6360	AMP	5.15	4.78	4.28	4.00
E4	6007	AMP	1.25	1.17	1.12	.....	E4	6360A*	AMP	5.85	5.18	4.85	4.55
E3	6011/710	GE	13.00	12.10	10.95	9.65	EU6	6362	DUM	125.00	100.00	.....	.....
E1	6012	RCA	7.65	6.63	6.28	5.46	EU6	6363	DUM	115.00	105.00	.....	.....
E1	6014	RCA	13.10	.....	.....	.....	E3	6386	GE	7.40	6.25	5.70	5.01
E2	6014/C1K	RAY	13.10	11.30	10.30	.....	E1	6386*	RCA	7.38	6.20	5.27	.....
E15	6014/C1K*	CE	13.10	11.30	10.30	9.03	E2	6397	RAY	8.30	7.40	6.75	.....
E1	6021*	RCA	3.50	2.94	2.50	.....	E3	6414*	GE	3.65	3.10	2.82	2.48
E3	6021	GE	3.50	2.98	2.71	2.38	E1	6417*	RCA	3.04	2.60	2.43	2.17
E3	6046*	GE	1.55	1.33	1.20	1.05	E2	6418	RAY	3.05	2.68	2.44	2.15
E1	6072	RCA	3.90	3.26	2.77	.....	E13	6442*	ML	39.25	.....	.....	.....
E3	6072A*	GE	3.90	3.50	3.20	.....	E21	6448	RCA	5675.00	.....	.....	.....
E1	6073*	RCA	3.00	2.57	2.34	2.06	E3	6463*	GE	1.90	1.58	1.43	1.26
E1	6073/0A2	RCA	3.35	2.88	2.68	2.37	E4	6463	AMP	2.95	2.53	2.18	1.90
E1	6074*	RCA	3.45	2.94	2.67	2.35	EU6	6467	DUM	55.00	46.75	.....	.....
E1	6074/0B2	RCA	3.70	3.19	2.97	2.63	E12	6476A	SYL	14.95	12.56	11.42	.....
EZ4	6076	AMP	305.00	.....	.....	.....	E15	6478	CE	15.80	14.70	13.65	11.98
E1	6080*	RCA	5.33	4.47	3.81	.....	E12	6481	SYL	30.25	.....	.....	.....
E1	6080 WA	RCA	10.80	9.63	8.75	7.71	E12	6483	SYL	3.09	.....	.....	.....
E2	6080 WA*	RAY	10.80	9.65	8.75	7.70	E15	6484/3C	CE	11.80	10.32	9.40	8.26
E2	6080 WB*	RAY	29.78	26.80	24.10	.....	E2	6485	RAY	2.05	1.87	1.69	.....
E1	6082*	RCA	5.60	4.95	4.51	3.99	E12	6503	SYL	60.50	.....	.....	.....
E3	6087/5Y3WG7B	GE	5.75	4.84	4.42	3.88	E2	6519	RAY	5.00	4.48	4.06	.....
E2	6088	RAY	2.75	2.46	2.24	1.97	EZ1	6521	RCA	700.00	.....	.....	.....
E3	6100*	GE	2.50	2.12	1.92	1.69	E1	6524	RCA	17.90	16.11	13.75	.....
E1	6101*	RCA	5.35	4.60	4.30	3.80	E1	6528*	RAY	21.55	19.00	17.40	15.37
E1	6111*	RCA	3.70	3.09	2.63	.....	E2	6533	RAY	13.25	11.75	10.80	.....
E3	6111*	GE	3.70	3.12	2.84	2.50	EZ13	6544*	ML	960.00	.....	.....	.....
E1	6112	RCA	4.15	3.45	2.93	.....	E16	6549*	PEN	29.00	26.20	23.00	.....
E3	6112*	GE	4.10	3.48	3.16	2.78	E1	6550*	RCA	4.59	3.85	3.28	.....
E1	6130/3C45	RCA	17.80	.....	.....	.....	E14	6550	TUNG	4.30	3.82	3.39	3.05
E1	6136*	RCA	2.70	2.25	1.91	.....	E14	6550 MP	TUNG	9.25	8.25	7.52	.....
E3	6136*	GE	2.70	2.26	2.06	1.81	E1	6562/5794A	RCA	8.15	7.10	6.47	5.70
E1	6146	RCA	4.35	3.58	3.05	.....	E16	6569*	PEN	37.50	34.05	30.00	.....
E3	6146	GE	4.35	3.63	3.30	2.90	E1	6571	RCA	77.95	59.95	.....	.....
E12	6146A	SYL	4.35	3.80	3.46	3.05	E16	6580*	PEN	45.00	41.00	36.00	.....
E1	6146A*	RCA	4.35	3.58	3.05	.....	E1	6626/0A2 WA*	RCA	4.45	3.84	3.58	3.17
E1	6146 W/7212	RCA	6.75	5.52	4.70	.....	E2	6627/0B2 WA	RAY	2.35	2.10	1.91	.....
E1	6155/4-125A	RCA	36.00	27.00	.....	.....	E1	6655A	RCA	54.35	41.80	.....	.....
E1	6159	RCA	4.80	3.94	3.35	.....	E1	6661/68H6	RCA	1.34	1.13	.96	.....
E1	6159 W/7357	RCA	6.90	5.64	4.80	.....	E1	6663/6AL5	RCA	.92	.78	.66	.....
E3	6161	GE	125.00	117.00	105.00	.....	E1	6677/6CL6	RCA	1.85	1.55	1.32	.....
EZ1	6166*	RCA	850.00	.....	.....	.....	E1	6678/6U8A	RCA	1.62	1.37	1.16	.....
EZ1	6166A/7007*	RCA	1020.00	865.00	.....	.....	E3	6678/6U8A	GE	1.62	1.40	1.24	1.10
E1	6173	RCA	15.05	13.40	12.20	10.74	E1	6679/12AT7	RCA	1.50	1.26	1.07	.....
E1	6181	RCA	1110.00	.....	.....	.....	E1	6680/12AU7A	RCA	1.22	1.02	.87	.....
E1	6186/6AG5 WA*	RCA	3.85	3.34	3.11	2.75	E3	6688A*	GE	8.75	7.40	6.75	5.92
E1	6189/12AU7 WA*	RCA	3.70	3.08	2.62	.....	E4	6688A	AMP	6.86	6.42	6.02	5.66
E1	6197	RCA	2.48	2.21	2.01	1.77	E4	6693	AMP	25.00	21.80	18.50	.....
E1	6199	RCA	47.30	42.75	36.40	.....	E1	6694A*	RCA	13.20	11.95	10.15	.....
E1	6201*	RCA	2.95	2.47	2.10	.....	EZ13	6697	ML	1400.00	1155.00	.....	.....
E3	6201*	GE	2.95	2.50	2.28	2.00	E3	6771	GE	71.90	65.00	59.70	.....
E3	6202*	GE	2.85	2.42	2.20	1.93	E12	6802	SYL	15.70	14.00	12.70	.....
E3	6203	GE	4.10	3.46	3.14	2.77	E1	6806	RCA	6975.00	.....	.....	.....
E3	6205	GE	5.35	4.52	4.12	3.62	E3	6807	GE	29.30	27.20	25.60	.....
E3	6206	GE	7.25	6.15	5.58	4.91	E3	6808	GE	30.50	28.70	27.00	.....
E1	6211	RCA	2.15	1.78	1.51	.....	E3	6809	GE	31.00	29.50	27.25	.....
E3	6211*	GE	2.35	1.78	1.63	1.43	EZ1	6810A	RCA	225.00	190.00	.....	.....
E3	6211A*	GE	2.35	1.78	1.63	1.43	E2	6814	RAY	5.01	4.48	4.07	3.58
E3	6216	GE	3.47	3.40	3.10	2.72	E3	6814	GE	5.05	4.26	3.86	3.41
E2	6216	RAY	3.96	3.53	3.22	2.83	E1	6816	RCA	52.00	39.90	.....	.....
EZ1	6217	RCA	72.00	55.00	.....	.....	E3	6829	GE	6.10	5.15	4.68	4.12
E3	6222	GE	7.35	6.25	5.70	.....	E19	6842	NU	14.70	14.70	14.35	14.00
EZ3	6228	GE	3696.25	.....	.....	.....	E20	6842	VIC	14.00	13.00	12.00	11.00
EZ3	6251	GE	2400.00	.....	.....	.....	EZ3	6848	GE	1740.00	.....	.....	.....
E4	6252	AMP	25.00	23.08	21.10	19.00	E1	6850	RCA	17.90	16.15	13.75	.....
E1	6263A	RCA	21.50	18.00	15.34	.....	E3	6858/760	GE	28.10	25.00	22.00	.....
E1	6264A	RCA	21.50	18.00	15.34	.....	E3	6859/760P	GE	29.80	27.40	24.25	.....
E3	6265*	GE	4.10	3.46	3.15	2.77	EZ1	6866	RCA	1280.00	.....	.....	.....
E4	6267/EF86	AMP	1.38	1.15	1.06	.98	E1	6883*	RCA	4.45	3.65	3.10	.....
E4	6268	AMP	32.50	.....	.....	.....	E1	6884*	RCA	60.00	45.00	.....	.....
E15	6278/CSF14	CE	40.90	37.80	33.15	.....	E1	6887	RCA	1.25	1.11	1.01	.89
E4	6279	AMP	45.00	.....	.....	.....	EX1	6894	RCA	25.00	21.00	18.50	.....
EZ3	6283	GE	500.00	.....	.....	.....	E10	6895	NAT	25.00	22.60	21.00	18.50
E6	6291	DUM	55.00	46.75	.....	.....	E15	6895/673	CE	19.50	17.10	15.55	13.65
E6	6292	DUM	55.00	46.75	.....	.....	E3	6897	GE	32.15	29.20	27.40	.....
E1	6293	RCA	5.95	4.87	4.15	.....	E15	6901*	CE	13.00	11.35	10.35	9.10
E3	6299	GE	56.00	.....	.....	.....	E3	6907	GE	25.00	.....	.....	.....
E20	6306	VIC	11.30	10.00	8.65	7.35	E4	6907	AMP	25.00	23.20	21.10	19.00
EZ1	6326*	RCA	515.00	440.00	.....	.....	EZ13	6908	ML	740.00	.....	.....	.....
E1	6328	RCA	12.65	11.05	10.05	8.85	E2	6909	RAY	11.43	.....	.....	.....
EZ4	6333	AMP	345.00	275.00	.....	.....	E2	6910	RAY	13.37	.....	.....	.....
E1	6336A*	RCA	19.04	13.60	.....	.....	EU6	6911	DUM	110.00	95.00	.....	.....
E2	6336A*	RAY	19.00	13.60	.....	.....	EZ1	6914	RCA	140.00	107.00	.....	.....
E1	6342A*	RCA	57.20	44.00	.....	.....	EZ1	6914A	RCA	150.00	126.00	.....	.....

Please Specify Department and Tube Type When Ordering

# Special-Purpose Tubes (Cont'd)

Stock No.		Mfr.	EACH				Stock No.		Mfr.	EACH			
Dept.	Tube Type		1-4	5-18	19-49	50-Up	Dept.	Tube Type		1-4	5-18	19-49	50-Up
E3	6919	GE	1.35	1.13	1.03	.90	E3	7391	GE	67.00	.....	.....	.....
E1	6922*	RCA	4.87	4.35	3.95	3.48	E15	7410	CE	13.10	11.89	.....	.....
E2	6922	RAY	4.75	4.50	4.10	3.60	E1	7412*	RCA	2.10	1.86	1.73	1.45
E4	6922M	AMP	5.25	4.60	4.26	.....	E3	7427	GE	2.65	2.44	2.34	.....
E4	6922/E88CC	AMP	4.75	4.40	4.10	3.60	E1	7457*	RCA	65.25	50.20	.....	.....
EU1	6929	RCA	130.00	111.00	.....	.....	EZ4	7459	AMP	230.00	205.00	.....	.....
E1	6939	RCA	11.90	10.60	9.65	8.50	E1	7467*	RCA	10.00	8.75	7.95	7.00
E2	6939	RAY	12.00	10.60	9.65	8.50	EZ1	7513*	RCA	1320.00	.....	.....	.....
EZ3	6942	GE	875.00	.....	.....	.....	E1	7513/V1*	RCA	1400.00	.....	.....	.....
EZ1	6950/2039*	RCA	39,490.00	.....	.....	.....	E1	7536*	RCA	2.10	1.86	1.72	1.45
EZ1	6952*	RCA	7690.00	.....	.....	.....	E1	7551	RCA	3.49	3.02	2.82	2.49
E1	6957	RCA	3.20	2.81	2.55	2.25	E1	7554	RCA	50.05	45.25	38.50	.....
EU4	6960	AMP	150.00	138.00	.....	.....	E10	7556A-NE	NAT	19.60	18.00	16.40	14.40
E4	6977	AMP	2.50	2.32	2.15	2.00	E1	7558*	RCA	3.49	3.02	2.82	2.49
E14	6977	TUNG	2.50	2.32	2.15	2.00	E4	7580W*	AMP	45.00	34.00	.....	.....
E15	6988/C6JL	CE	20.45	17.90	16.30	.....	E1	7586*	RCA	3.35	2.88	2.68	2.37
E10	6989/C6J/KL	NAT	29.45	25.80	23.40	.....	E1	7587*	RCA	5.20	4.46	4.16	3.68
E10	6989-NE	NAT	33.90	31.00	28.20	24.90	E3	7588	GE	63.25	59.10	55.00	.....
EZ3	7007	GE	1020.00	865.00	.....	.....	E4	7609	AMP	29.35	27.15	25.50	.....
EZ13	7007*	ML	1020.00	.....	.....	.....	E3	7625	GE	28.75	26.50	25.00	.....
E21	7025	MULL	1.35	1.18	1.07	.....	EZ3	7629	GE	1800.00	.....	.....	.....
EZ1	7029	RCA	605.00	515.00	.....	.....	E3	7629A*	GE	1800.00	.....	.....	.....
E4	7034 W	AMP	25.00	18.75	.....	.....	E3	7644	GE	65.00	.....	.....	.....
E1	7034/4X150A*	RCA	25.00	19.25	.....	.....	E1	7649*	RCA	70.00	53.00	.....	.....
E9	7034/4X150A*	EIM	25.00	22.00	18.50	.....	EZ1	7650*	RCA	290.00	245.00	.....	.....
E4	7035 W	AMP	27.90	21.00	.....	.....	EZ1	7651*	RCA	305.00	260.00	.....	.....
E9	7035/4X150D*	EIM	27.90	24.70	21.00	.....	E3	7669*	GE	65.00	.....	.....	.....
E3	7036*	GE	1.50	1.27	1.15	1.01	E3	7669PC	GE	65.00	.....	.....	.....
EZ1	7038*	RCA	205.00	175.00	.....	.....	E3	7670	GE	77.20	.....	.....	.....
E1	7043*	RCA	4.40	3.81	3.46	3.05	E3	7671*	GE	99.00	.....	.....	.....
E3	7044*	GE	3.20	2.72	2.47	2.17	E3	7671PC	GE	99.00	.....	.....	.....
E1	7054	RCA	1.54	1.33	1.24	1.10	EU3	7672	GE	116.00	.....	.....	.....
E1	7055	RCA	1.00	.86	.80	.71	EU3	7673*	GE	245.00	.....	.....	.....
E1	7056	RCA	1.06	.95	.86	.76	EU3	7681*	GE	155.00	.....	.....	.....
E1	7059	RCA	1.72	1.48	1.39	1.23	E1	7697*	RCA	205.00	175.00	.....	.....
E1	7060	RCA	1.95	1.70	1.55	1.36	EX13	7698	ML	110.00	105.00	96.00	84.50
E1	7061	RCA	1.29	1.15	1.05	.92	E3	7701	GE	2.50	2.10	1.70	.....
E3	7061	GE	1.30	1.09	.99	.87	EU3	7703	GE	190.00	.....	.....	.....
E4	7062	AMP	2.10	1.99	1.80	1.69	E3	7716	GE	1.75	1.54	1.40	.....
E3	7077	GE	28.75	26.50	25.00	.....	E10	7723/610-NE	NAT	13.10	12.00	10.90	9.60
E1	7094*	RCA	32.25	29.20	24.80	.....	E3	7724/14GT8	GE	1.50	1.25	1.14	.....
EZ1	7102*	RCA	110.00	82.50	.....	.....	E3	7725	GE	13.50	.....	.....	.....
E1	7117	RCA	12.65	11.05	10.05	8.85	E3	7726	GE	16.30	.....	.....	.....
E4	7119	AMP	2.95	2.63	2.39	2.10	E2	7729	RAY	1.95	1.74	1.56	1.39
E4	7136	AMP	25.00	18.50	.....	.....	E2	7730	RAY	1.93	1.73	1.55	1.38
E12	GB-7137	SYL	7.10	6.70	.....	.....	E2	7731	RAY	2.49	2.23	2.02	1.78
EZ3	7151*	GE	750.00	.....	.....	.....	E2	7732	RAY	1.78	1.59	1.45	1.27
E12	7155	SYL	13.37	.....	.....	.....	E2	7733	RAY	2.53	2.27	2.06	1.81
E1	7163*	RCA	1.65	1.44	1.31	1.15	EZ1	7735A*	RCA	205.00	175.00	.....	.....
E3	7167	GE	1.50	1.20	1.09	.96	E4	7737	AMP	7.20	6.60	6.10	.....
E3	7171	GE	81.50	.....	.....	.....	E4	7737 M	AMP	7.26	6.65	6.16	.....
E4	7189	AMP	1.80	1.40	1.18	1.02	EU1	7746	RCA	200.00	170.00	.....	.....
E21	7189	MULL	1.60	1.40	1.18	.....	EU1	7764	RCA	125.00	105.00	.....	.....
E21	7189 MP	MULL	3.36	2.94	2.68	.....	EU1	7767	RCA	135.00	115.00	.....	.....
EZ1	7198	RCA	2095.00	.....	.....	.....	E3	7768	GE	74.75	69.50	65.00	.....
EZ1	7200	RCA	205.00	175.00	.....	.....	E3	7784	GE	65.00	.....	.....	.....
E4	7203 W	AMP	39.00	29.50	.....	.....	E10	7786/660L-NE	NAT	15.50	14.25	12.95	11.40
E4	7203/4CX250B*	RCA	39.35	30.25	.....	.....	E4	7788	AMP	10.50	9.70	9.00	8.50
E9	7203/4CX250B*	EIM	39.00	29.50	.....	.....	E1	7801*	RCA	95.00	72.60	.....	.....
E4	7204 W	AMP	39.00	29.50	.....	.....	E9	7815/3CPN10A5*	EIM	32.00	24.00	.....	.....
E1	7204/4CX250F*	RCA	39.35	30.25	.....	.....	EZ1	7835*	RCA	47,475.00	.....	.....	.....
EZ1	7213*	RCA	465.00	395.00	.....	.....	E1	7841	GE	24.75	23.00	21.50	.....
EZ1	7214*	RCA	485.00	415.00	.....	.....	E1	7842*	RCA	65.25	50.20	.....	.....
E3	7233	GE	2.40	2.02	1.84	1.61	E1	7843*	RCA	60.00	45.00	.....	.....
E19	7234*	NU	15.65	15.65	15.35	15.00	E1	7844*	RCA	52.00	39.90	.....	.....
E19	7235*	NU	10.00	10.00	9.80	9.65	EZ1	7850	RCA	240.00	205.00	.....	.....
E3	7239*	GE	6.25	5.30	4.82	4.24	E4	7854	AMP	29.00	26.80	24.60	.....
E21	7247	MULL	1.48	1.29	1.18	.....	EU6	7860	DUM	125.00	114.00	.....	.....
EZ13	7248*	ML	900.00	.....	.....	.....	E3	7861	GE	3.50	3.00	2.73	2.38
EZ1	7262A*	RCA	280.00	240.00	.....	.....	E1	7870*	RCA	95.00	72.60	.....	.....
EZ1	7263A	RCA	430.00	367.50	.....	.....	E1	7895*	RCA	3.35	2.88	2.68	2.37
E3	7266	GE	24.75	23.00	21.50	.....	E1	7898	RCA	1.34	1.20	1.09	.....
E3	7289	GE	32.15	26.40	24.00	.....	EU4	7900	AMP	250.00	200.00	.....	.....
E9	7289/3CX100A5*	EIM	Same as 3CX100A5	.....	.....	.....	E1	7905*	RCA	3.85	3.43	3.12	2.75
EZ3	7293*	GE	1300.00	.....	.....	.....	E3	7964	GE	72.00	.....	.....	.....
EZ1	7293A*	RCA	1300.00	.....	.....	.....	E3	7984	GE	5.35	4.52	4.12	3.62
EZ1	7295B*	RCA	1440.00	.....	.....	.....	E1	8000*	CE	29.15	26.30	22.40	.....
E3	7296	GE	35.65	33.40	31.00	.....	E15	8000	RCA	26.45	22.90	20.85	18.35
E4	7308	AMP	5.20	4.84	4.50	3.96	E1	8005*	RCA	17.85	16.10	13.70	.....
E4	7316	AMP	1.40	1.25	1.14	1.00	E1	8008	RCA	9.90	8.45	6.95	.....
E15	7319/C1KB	CE	15.10	14.70	13.35	11.55	E4	8008AX	AMP	10.65	8.80	7.45	.....
EU12	7325	SYL	230.00	185.00	.....	.....	E1	8013A	RCA	17.05	15.00	13.10	.....
EZ1	7326	RCA	410.00	350.00	.....	.....	E9	8020	RCA	24.00	16.80	.....	.....
E1	7358*	RCA	8.30	7.25	6.58	5.80	E1	8020*	EIM	16.00	14.10	12.00	.....
E1	7360*	RCA	3.77	3.26	3.04	2.69	E15	8020 W/578A	CE	17.00	15.85	14.30	13.00
E15	7363	CE	12.90	11.40	10.35	9.10	E1	8032	RCA	5.25	4.56	4.15	3.65
E3	7370	GE	10.80	9.15	8.30	7.32	E12	8035*	SYL	11.10	10.20	.....	.....
EZ1	7389A	RCA	1440.00	.....	.....	.....	EZ1	8051	RCA	575.00	.....	.....	.....

# Special-Purpose Tubes (Cont'd)

Stock No.		Mfr.	EACH				Stock No.		Mfr.	EACH			
Dept.	Tube Type		1-4	5-18	19-49	50-Up	Dept.	Tube Type		1-4	5-18	19-49	50-Up
EX1	8053	RCA	107.25	82.80	.....	.....	E12	8142	SYL	1.40	1.23	1.12	.98
EX1	8054*	RCA	125.00	96.80	.....	.....	E12	8143	SYL	1.40	1.23	1.12	.98
EU1	8055	RCA	170.00	131.25	.....	.....	E3	8156	GE	4.10	3.48	3.16	2.78
E1	8056*	RCA	5.00	4.15	3.54	.....	E16	8165/4-65A	PEN	27.00	24.40	21.50	.....
E1	8058*	RCA	13.25	9.46	.....	.....	EU16	8166/4-1000A*	PEN	132.00	112.00	.....	.....
E3	8068	GE	3.60	3.05	2.78	2.44	EZ1	8184*	RCA	1890.00	.....	.....	.....
E1	8072	RCA	18.75	16.90	14.40	.....	E1	8226	RCA	83.00	63.80	.....	.....
E1	8077/7054	RCA	1.55	1.37	1.25	1.10	E1	8227	RCA	90.10	69.30	.....	.....
E3	8081	GE	29.90	27.50	26.00	.....	E4	8228	AMP	2.90	2.68	2.44	2.15
E3	8082	GE	29.90	27.50	26.00	.....	E4	8233*	AMP	13.25	12.00	10.50	.....
E3	8083	GE	29.90	27.50	26.00	.....	E4	8254/EC1000	AMP	15.50	14.75	13.30	.....
EZ3	8092A*	GE	1975.00	.....	.....	.....	EU16	8295A*	PEN	152.00	129.00	.....	.....
EZ3	8092/ZL-7802	GE	1975.00	.....	.....	.....	EU16	8295/172*	PEN	135.00	115.00	.....	.....
EZ3	8093*	GE	1350.00	.....	.....	.....	E12	8345	SYL	1.40	1.23	1.12	.98
EZ1	8093A*	RCA	1320.00	.....	.....	.....	E12	8346	SYL	1.40	1.23	1.12	.98
E12	8100	SYL	1.40	1.23	1.12	.98	E12	8347	SYL	1.40	1.23	1.12	.98
E3	8102	GE	1.45	1.23	1.11	.98	E12	8353	SYL	11.10	10.20	.....	.....
E3	8106	GE	1.55	1.31	1.19	1.05	EU16	8432*	PEN	152.00	129.00	.....	.....
E4	8117	AMP	29.00	23.15	.....	.....	E1	9001	RCA	5.38	4.80	4.35	3.84
E1	8121	RCA	25.90	23.40	19.90	.....	E1	9002	RCA	4.14	3.59	3.35	2.96
E1	8122	RCA	31.60	28.50	24.30	.....	E1	9003	RCA	5.38	4.60	4.20	3.84
E3	8136	GE	1.20	1.02	.92	.81							

## LATEST MILITARY-TYPE TUBES

Over 90 military-type tubes are available from Allied's Navy stock facilities. They include JAN, USN, JRC, USA and USAF. All tube types listed are in stock, ready for immediate shipment.

As military specifications are revised, Allied will stock the latest MIL spec. Full warranty protection on all tubes. When ordering, two copies of your purchase order must be sent to Allied.

Stock No.		Mfr.	Mil Spec	MIL-E-	EACH		Stock No.		Mfr.	Mil Spec	MIL-E-	EACH	
Dept.	Tube Type				1-49	50-99	Dept.	Tube Type				1-49	50-99
E1	JANO A3	RCA	1/17B		1.54	1.10	E1	JAN-CRC 815	RCA	1/929		25.75	21.80
E1	JANO A4G	RCA	1/790A		1.86	1.33	E1	JAN-CRC 816	RCA	JAN SPEC.		2.95	2.05
E1	JAN-CRC OC3	RCA	1/193		1.50	1.07	E1	JAN-CRC 829B	RCA	1/853		17.10	14.60
E1	JAN-CRC OD3	RCA	1/196		1.44	1.03	E1	JAN-CRC 832A	RCA	1/215		14.30	12.20
E1	JAN-CRC 1C21	RCA	1/791A		4.15	2.93	E1	JAN-CRC 833A	RCA	1/933		48.55	41.25
E1	USN-CRC 1EP1	RCA	1/1342(NAVY)		21.45	18.15	E1	JAN-CRC 836	RCA	1/912		11.10	7.75
E15	JAN C1K	CE	1/103C		11.12	9.09	E1	JAN-CRC 837	RCA	1/934		10.30	7.20
E1	JAN-CRC 1P21	RCA	1/28D		49.40	41.90	E1	JAN-CRC 868	RCA	1/561		4.45	3.10
E15	JAN 1P30	CE	1/556		6.08	5.02	E1	JAN-CRC 884	RCA	1/894B		2.28	1.63
E1	JAN-CRC 1P37	RCA	1/401		4.50	3.15	E1	JAN-CRC 902A	RCA	1/593		18.10	15.30
E15	JAN 1P37	CE	1/401		4.11	3.41	E1	JAN-CRC 918	RCA	1/562		4.45	3.10
E1	JAN-CRC 1P39	RCA	1/402		2.80	1.95	E1	JAN-CRC 920	RCA	1/408		7.30	5.10
E15	JAN 1P39	CE	1/402		1.89	1.56	E1	JAN-CRC 923	RCA	1/411		3.40	2.35
E1	JAN-CRC 1P40	RCA	1/403		3.75	2.60	E15	JAN-CRC 925	RCA	1/412B		3.65	2.55
E15	JAN 1P40	CE	1/403		3.11	2.56	E1	JAN 927	CE	1/414		3.24	2.66
E1	JAN-CRC 2AP1A	RCA	1/588		14.95	12.65	E1	JAN-CRC 929	RCA	1/416		2.35	1.65
E1	JAN-CRC 2BP1	RCA	1/272B		18.20	15.50	E1	JAN-CRC 930	RCA	1/417		3.65	2.55
E1	JAN-CRC 2E24	RCA	1/336		5.25	3.70	E1	JAN-CRC 931VA	RCA	1/597C		13.00	9.10
E1	JAN-CRC 2E26	RCA	1/338D		3.75	2.60	E1	JAN 5684/C3J/A	CE	1/375B		11.26	9.46
E1	JAN-CRC 2X2A	RCA	1/749A		3.35	2.35	E1	JAN 5685/C6J	CE	1/150D		17.96	15.91
E1	JAN-CRC 3AP1A	RCA	1/589		17.50	.....	E1	JAN-CRC 5690	RCA	1/489B		14.10	10.06
E15	JAN 3B24 WA	CE	1/110		8.06	6.06	E1	JAN-CRC 5691	RCA	1/133A		8.75	6.23
E1	JAN-CRC 3B28	RCA	1/753D		6.00	4.20	E1	JAN-CRC 5692	RCA	1/134B		8.25	5.88
E1	JAN-CRC 3BP1A	RCA	1/594		15.50	13.10	E1	JAN-CRC 5693	RCA	1/81A		6.60	4.70
E1	JAN-CRC 3C33	RCA	1/799		26.00	22.10	E1	JAN-CRC 5819	RCA	1/943B		56.50	43.45
E9	JAN 3CX100A5	EIM	1/1107C		31.00	23.00	E1	USN-CRC 5963	RCA	1/1035 (NAVY)		1.36	.97
E1	JAN-CRC 3D22A	RCA	1/798A		25.40	21.55	E1	JAN 5964	RCA	1/472B		1.55	1.10
E1	JAN-CRC 3E29	RCA	1/212		18.85	16.05	E1	USN-CRC 6012	RCA	1/714C (NAVY)		7.65	5.46
E15	JAN 4B31	CE	1/615		15.51	13.05	E1	JAN-CRC 6080	RCA	1/209		5.33	3.81
E1	JAN-CRC 4CX250B	RCA	1/889A		35.75	30.25	E1	JAN-CRC 6080 WA	RCA	1/510C		10.80	7.71
E9	JAN 4CX250B	EIM	1/889B		39.00	29.50	E1	USN-CRC 6082	RCA	BuShips		5.60	3.99
E9	JAN 4CX250R	EIM	1/1385A		45.00	34.00	E1	JAN 6146	RCA	1/380C		4.35	3.05
E9	JAN 4CX300A	EIM	1/1313A		58.50	44.00	E1	USN-CRC 6159	RCA	1/863 (NAVY)		4.80	3.35
E9	JAN 4PR60B	EIM	1/41G		107.00	80.00	E1	USN-CRC 6197	RCA	1/904B (NAVY)		2.48	1.77
E9	JAN 4X150A	EIM	1/160H		25.00	18.50	E1	USN-CRC 6211	RCA	1/905C (NAVY)		2.15	1.51
E9	JAN 4X150G	EIM	1302		58.00	43.50	E1	JAN 6293	RCA	1/381B		5.95	4.15
E1	JAN-CRC 5BP1A	RCA	1/592		29.80	25.20	E1	US ARMY-CRC 6816	RCA	1/1239 (SigC)		47.10	39.90
E1	JAN-CRC 5CP1A	RCA	1/273E		20.50	17.35	E1	USN-CRC 6914A	RCA	1/1049A (NAVY)		140.00	126.00
E1	JAN-CRC 5CP7A	RCA	1/273E		22.00	.....	E1	US ARMY 7533	RCA	1/1311 (SigC)		10.75	7.50
E1	JAN-CRC 5R4GY	RCA	1/344A		2.03	1.45	E1	USAF 7580	RCA	1/1318 (USAF)		40.95	34.65
E1	JAN-CRC 5UP1	RCA	1/498A		10.10	9.15	E1	USN-CRC 7586	RCA	1/1397 (SigC)		3.35	2.37
E1	JAN-CRC 5UP7	RCA	1/498A		22.10	18.70	E1	JAN-CRC 8005	RCA	JAN SPEC.		16.05	13.70
E15	JAN 6C	CE	1/54A		16.71	13.77	E1	JAN-CRC 8013A	RCA	JAN SPEC.		15.40	13.10
E1	JAN-CRC 801A	RCA	1/926		13.00	9.10	E1	JAN 9001	RCA	1/652A		3.84	.....
E1	JAN-CRC 805	RCA	1/921		20.00	17.00	E1	JAN 9002	RCA	1/653A		4.14	2.96
E1	JAN-CRC 807	RCA	1/99A		3.00	2.10	E1	JAN 9003	RCA	1/654A		5.38	3.84
E1	JAN-CRC 811A	RCA	1/871A		6.90	4.80	E1	JAN 9005	RCA	1/655A		8.05	.....
E1	JAN-CRC 813	RCA	1/928A		20.95	17.80	E1	JAN 9006	RCA	1/476A		2.70	.....

Please Specify Department and Tube Type When Ordering

**ALLIED • 91**



# RCA Industrial Tubes

## EXPLANATION OF CLASS OF SERVICE

In tables, typical operating values for RCA vacuum power tubes and Cermolox-type beam power tubes are given for CCS (Continuous Commercial Service) unless otherwise indicated. Abbreviations used in Class of Service column in these tables are: AB<sub>1</sub> and AB<sub>2</sub>, class AB<sub>1</sub> or AB<sub>2</sub> push-pull AF modulator service; B, class B push-pull AF modulator service; BPP, class B plate-pulsed amplifier service; BT, class B television service; CP, class C plate-modulated telephone service; CPP, class C plate-pulsed amplifier service; CTA, class C telegraph/amplifier service; CTF, class C telegraph or FM telephone service; PPA, plate-pulsed amplifier service; PPO, plate-pulsed oscillator service; PSP, plate and screen-pulsed amplifier service; SSB, linear RF power amplifier, single-sideband, suppressed-carrier service. Specify Dept. E1 on all orders.

## VACUUM POWER TUBES FOR CW APPLICATIONS

All are natural-cooled types except \*forced-air and †water. Typical frequency and output ratings for appropriate Classes of Service are listed for CCS (Continuous Commercial Service) except †CAS (Intermittent Commercial and Amateur Service). Class BT operating data is for synchronizing-level conditions per tube at bandwidths of: 6 mc for type 5762A, 8.5 mc for types 6166 and 6166A/7007, and 5 mc for types 7203/4CX250B and 7204/4CX250F. ‡Special order.

Tube Type	Description	Class of Service	Freq. (Mc)	Output (Watts)	EACH 1-4
<b>2C39WA</b> triode* MIL-E-1778C (Navy) 30.00					
2E26	beam pwr*	AB <sub>2</sub> /CP/CTF†	.../.../125	54/18/27	3.75
4-125A/4D21	beam pwr*	CP/CTF	120/120	300/375	36.00
4-250A/5D22	beam pwr*	AB <sub>2</sub> /CP/CTF	.../110/110	1040/510/1K	46.50
801A	triode	CTA	...	25	13.00
807	beam pwr	AB <sub>2</sub> /CP/CTF†	.../.../60	120/44/54	3.00
811A	triode	B/CP/CTA†	...	130/135/200	6.90
812A	triode	B/CP/CTA†	...	340/130/190	6.90
828	beam pwr	AB <sub>2</sub> /CP/CTA†	...	385/150/200	32.95
829B	twin beam	AB <sub>2</sub> /CP/CTA†	...	44/70/90	19.00
833A	triode	B/CP/CTA†	...	1900/800/1150	53.65
845	triode*	B/CP/CTA†	...	2700/1500/1600	25.00
892	triode†	AB <sub>1</sub>	...	115	270.00
1625	beam pwr	B/CP/CTA	...	22K/6K/14K	4.75
Same as 807					
5762/7C24	triode*	B/CP/CTF	.../30/30	8800/4200/7K	230.00
5762A	triode*	BT/CP/CTF	216/30/30	6350/4200/7K	230.00
6146A	beam pwr	AB <sub>2</sub> /CP/CTF	.../.../60	131/52/70	4.35
6166†	beam pwr*	BT/CP/CTF	216/60/60	12K/5.5K/11.6K	850.00
6166A/7007†	beam pwr*	BT/CP/CTF	216/60/216	14K/6K/10K	1020.00
6883	beam pwr	AB <sub>2</sub> /CP/CTF	.../.../60	131/52/70	4.45
7034/4X150A	beam pwr*	AB <sub>2</sub> /CP/CTF	.../150/150	630/230/370	25.00
7094	beam pwr*	AB <sub>2</sub> /CP/CTF	.../60/60	560/240/340	32.25
7203/4CX250B	beam pwr*	BT/CP/CTF	216/175/500	440/235/250	39.35
7204/4CX250F	beam pwr*	Same as 7203/4CX/250B	...	...	39.35
8000	triode	B/CP/CTA†	...	725/380/575	29.15
8005	triode	B/CP/CTA†	...	330/170/220	17.85

## RECEIVING TUBES WITH 26.5-VOLT HEATERS

For aircraft receivers operating from 12-cell storage batteries

Tube Type	Description	Application	Heater (Ma)	Max. Plate Diss. (W.)	EACH 1-4
26A6	remote-cutoff pent.	RF/IF am	70	3	3.70
26A7GT	twin beam power	p.p./par. AF	600	2	7.00
26C6	twin diode/triode	det./AVC	70	2.5	3.05
26D6	pentagrid converter	osc./mixer	70	1	3.05
6082	twin power triode	regulator	600	13	5.60

## HARD-TUBE MODULATORS

Natural-cooled tubes. Typical ratings in table are for Continuous Commercial Service, 7358 is ruggedized beam-power type.

Tube Type	Description	Pulse Dur. (μsec.)	Duty Factor	Peak Power Output (Kw)	EACH 1-4
3E29	twin beam pwr.	1.2	0.001	40	20.85
6293	beam pwr.	100	0.01	3.4	5.95
7358	beam pwr.	100	0.01	3.4	8.30

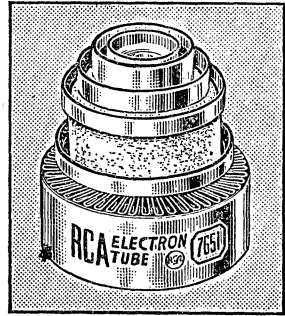
## VACUUM POWER TUBES FOR SPECIAL APPLICATIONS

Voltage-regulator power tubes. Type 3C33 is natural-cooled; 4600A, forced-air. Values for 3C33 are given in table per triode section; grid-circuit resistance is 30,000 ohms.

Tube Type	Description	Max. Plate Voltage	Max. Plate Diss.	Plate Current	EACH 1-4
3C33	twin triode	±2000	15 watts	120 ma av.	28.75
4600A	Cermolox	3500 VDC	1750 watts	1 amp DC max.	330.00

## CERMOLOX TUBES

Beam power tubes featuring precision-aligned grids, ceramic metal structure and unitized electrode and terminal construction. Ideally suited for UHF applications such as CW, pulsed RF and SSB, Cermolox tubes have been performance-proved in hundreds of installations from land mobiles to space communications. Ratings given in table are for CCS; 7457, 7650 and 7842 are ruggedized. For further Cermolox tube listings, see "Vacuum Power Tubes for Special Applications" (left, below) and "Vacuum Power Tubes for RF-Pulse Applications" (below).



Tube Type	Cooling	Class of Service	Freq. (Mc)	Output (Watts)	EACH 1-4
6816	forced-air	AB <sub>2</sub> /CP/CTF	.../400/1215	140/45/40	52.00
6884	forced-air	AB <sub>2</sub> /CP/CTF	.../400/1215	140/35/40	60.00
7213	forced-air	CP/CTF	600/600	800/1350	465.00
7457	forced-air	SSB/CP/CTF	60/400/1215	40/45/40	65.25
7650	forced-air	SSB/CP/CTF	30/400/400	680/600/800	290.00
7801	conduction	CP/CTF	3000/1200	1.7/15	95.00
7842	conduction	SSB/CP/CTF	60/400/1215	40/45/40	65.25
7843	conduction	SSB/CP/CTF	60/400/1215	40/45/40	60.00
7844	conduction	SSB/CP/CTF	60/400/1215	40/45/40	52.00
7870	conduction	CP/CTF	3000/1200	1.7/15	95.00

## VACUUM POWER TUBES FOR RF-PULSE APPLICATIONS

Typical operating conditions are shown for CCS (Continuous Commercial Service). \*C column in table indicates cooling: N is natural; L, liquid; W, water; FA, forced-air. Types 7649 and 7651 are ruggedized Cermolox tubes. †Special order.

Tube Type	Description	*C	Class Serv.	Mc	Pulse Dur. (μsec.)	Duty Factor	Peak Pwr. (Kw)	EACH 1-4
<b>2C40A</b> Lighthouse triode N PPO 3000 1 .001 0.3 33.00								
2041†	beam power	L	BPP BPP	450 450	200 .01	300 .06	180	7825.00
4605V2‡	beam power triode	L	BPP CPP	425 1250	13 .004 5	2000 .01	14	8845.00
6950/2039†	shielded-grid beam triode	W	PPA	200	2000	.05	1500	39,490.00
6952	beam power	L	BPP	425	200	13 .004	2000	7690.00
7214	Cermolox	FA	PSP	1215	10 .01	65	4.5	485.00
7649	Cermolox	FA	PSP	1215	10 .01	4.5	39	70.00
7651	Cermolox	FA	PSP	1215	10 .01	39	305.00	
7835†	triode	W	BPP BPP	250 250	25 .006 2000	10000 .06	5000	47,475.00
8184†	Cermolox	FA	PSP	500	10	10 .005	10	1890.00

## RECTIFIER TUBES

Selection of widely used vacuum, mercury-vapor and gas-filled rectifiers. All are half-wave rectifiers except type 83, full-wave. Mercury-vapor rectifier ratings depend on condensed-mercury temperatures varying from 20 to 70°C. Ratings for 3B28 gas rectifier are for ambient temperature range of -75 to +90°C. \*Design-center values; †per plate; ‡values shown for quadrature operation; §values shown for in-phase operation.

Tube	Type	Peak Inv. Volts	Peak Amps	Average Amps	Fault Amps	EACH 1-4
2X2A	vacuum	12500*	0.06*	0.0075*†	.....	3.35
83	merc.-vapor	1550*	1†	0.225*†	.....	1.89
575A	merc.-vapor	15000-10000‡	6-7§	1.5-1.75§	100-100‡	20.15
		15000-10000‡	10-10‡	2.5-2.5‡	100-100‡	
816	merc.-vapor	7500	0.5	0.125	5	2.95
857B	merc.-vapor	22000-10000	40-40	10-10	400-400	218.50
866A	merc.-vapor	10000-2500	1-2	0.25-0.5	20-20	2.65
872A	merc.-vapor	10000-5000	5-5	1.25-1.25	50-50	9.90
3B28	gas	10000-5000	1-2	0.25-0.5	20-20	6.00

## MONOSCOPES

Type 2F21 is 5" electrostatic-focus, magnetic-deflection model with Indian Head pattern. Supplies video test signal for TV equipment. Pattern-electrode signal current (p-p), 0.3 to 0.7 mamps. Type 1699 is custom version of Type 2F21 and is available on special order; write for price and delivery information.

2F21.....1-4, EACH 275.00

For information on ordering and quantity prices available on all RCA industrial tubes listed on this page, see the Special-Purpose Tube Directory on pages 84-91 of this catalog.

# RCA Premium Receiving Tubes



Industrial receiving tubes for virtually every known application. All meet conditions requiring greater shock resistance, longer life, greater power, more reliability and higher signal-to-noise ratios

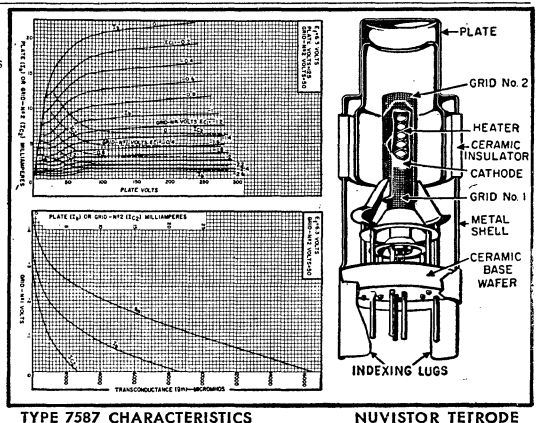
than conventional tubes. Other features: compactness, weight reduction, and high resistance to heat, cold, altitude and radiation. Specify Dept. E-1 and tube type when ordering.

Stock No.		Description	Heater or Filament		Max. Plate Diss.	Trans-cond. $\mu$ mhos	Amp. Factor	Out-put Watts	Freq. (Mc)	EACH			
Dept.	Type		V.	A.						1-4	5-18	19-49	50-Up
E1	0A2WA	Voltage regulator. 7-pin miniature.	cold cathode		Operates at 150 VDC, 5 to 30 ma.				3.65	3.12	2.92	2.58	
E1	0B2WA	Voltage regulator. 7-pin miniature.	cold cathode		Operates at 108 VDC, 5 to 30 ma.				2.40	2.11	1.92	1.69	
E1	2D21W	Thyratron tetrode. 7-pin miniature.	6.3	0.6	1.5w.	5300			2.90	2.48	2.31	2.04	
E1	6AU6WA	Sharp-cutoff pentode. 7-pin miniature.	6.3	0.3	1.5w.	5300			2.70	2.25	1.91	1.69	
E1	6J6WA	Medium-mu triode. 7-pin miniature.	6.3	0.45	2.5w.	5500			5.35	4.75	4.32	3.80	
E1	12AT7WA	High-mu twin triode. 9-pin miniature.	6.3	0.3	Max. peak fwd., 650 v.; max. peak inv., 1300 v.				2.53	2.13	1.81	1.69	
E1	5651	Voltage reference tube. 7-pin miniature. For use in equipment requiring extreme voltage stability.	cold cathode		Approx. DC starting volts, 107 Approx. DC operating volts, 87				1.78	1.55	1.45	1.27	
E1	5654	Sharp-cutoff pentode. 7-pin min. For RF/IF amp. in HF broadband receivers.	6.3	0.175	1.65w.	5100			2.41	2.02	1.72	1.69	
E1	5654/ 6AK5W	Sharp-cutoff pentode. 7-pin miniature.	6.3	0.175	1.65w.	5100			2.45	2.02	1.72	1.69	
E1	5670	Medium-mu twin triode. 9-pin miniature.	6.3	0.35	For data refer to MIL-E-1/5E				2.45	2.16	1.75	1.69	
E1	5676WA	Medium-mu twin triode. 9-pin miniature.	6.3	0.35	For data refer to MIL-E-1/247				3.00	2.48	2.11	1.69	
E1	5686	Beam power tube. 9-pin miniature. For AF or RF power-amplifier service.	6.3	0.35	7.5w.	3100		2.7	160	3.37	2.84	2.41	
E1	5718	Medium-mu triode. Subminiature. For UHF amplifier and oscillator circuits.	6.3	0.15	3.3w.	5800		27	1 watt (500 mc)	1000	3.65	3.02	2.58
E1	5725	Sharp-cutoff pentode. 7-pin miniature. For use in gated amplifier, delay, gain-controlled amplifier, mixer circuits.	6.3	0.175	1.65w.	3200					3.15	2.65	2.23
E1	5726	Twin diode. 7-pin miniature. For detector and rectifier service.	6.3	0.3	PIV, 360 volts max. DC output per plate, 10 ma				1.55	1.29	1.10	1.00	
E1	5727	Thyratron tetrode. 7-pin min. For relay and grid-controlled rectifier uses.	6.3	0.6	Max. anode PIV, 1300 Av. cathode amp., 0.1				2.90	2.40	2.04	1.69	
E1	5749	Remote-cutoff pentode. 7-pin min. For high-gain RF or IF amplifier service.	6.3	0.3	3w.	4300					2.20	1.85	1.57
E1	5751	High-mu twin triode. 9-pin miniature.	6.3	0.35	.8w.	1600					2.55	2.13	1.81
E1	5751WA	High-mu triode. 9-pin miniature.	6.3	0.35	.8w.	1600					2.95	2.47	2.10
E1	5814A	Medium-mu twin triode. 9-pin miniature.	6.3	0.35	.3w.	2200					2.35	1.98	1.68
E1	5814WA	Medium-mu twin triode. 9-pin miniature.	6.3	0.35	.3w.	2200					2.40	1.98	1.68
E1	5842/ 417A	Medium-mu triode. 9-pin min. For grounded-grid inputs of broadband VHF amp.	6.3	0.3	4w.	27000	44				7.35	5.25	4.69
E1	5847/ 404A	Sharp-cutoff pentode. 9-pin min. For use in high-gain UHF amplifiers.	6.3	0.3	3w.	13000					9.55	6.79	5.99
E1	6005	Beam power. 7-pin min. For AF power amp.	6.3	0.45	11w.	4100		4.5			3.93	3.30	2.81
E1	6072	Medium-mu twin triode. 9-pin min. For low-level stages of high-gain AF amps.	6.3	0.35	1.5w.	1750	44				3.90	3.26	2.77
E1	6073	Voltage regulator. 7-pin min. Glow discharge tube critical to shock/vibration.	cold cathode		DC starting, 156 v. DC operating range, 5-30 ma				3.00	2.57	2.34	2.06	
E1	6073/ 0A2	Voltage regulator. 7-pin min. Glow discharge tube critical to shock/vibration.	cold cathode		DC starting, 156 v. DC operating range, 5-30 ma				3.35	2.88	2.68	2.37	
E1	6074	Voltage regulator. 7-pin min. Glow discharge tube critical to shock/vibration.	cold cathode		DC starting, 115 v. DC operating range, 5-30 ma				3.45	2.94	2.67	2.35	
E1	6080WA	Low-mu twin power triode. Glass-octal.	6.3	2.5	.13w.	7000					10.80	9.63	8.75
E1	6101	Medium-mu twin triode. 7-pin min. For Class A amp. in mobile/aircraft eqpt.	6.3	0.45	0.85w.	6000	38				5.35	4.60	4.30
E1	6112	High-mu twin triode. Subminiature.	6.3	0.3	.55w.	2500					4.15	3.45	2.93
E1	6136	Sharp-cutoff pentode. 7-pin min. For HF broadband applications.	6.3	0.3	3w.	5200					2.70	2.25	1.91
E1	6201	High-mu twin triode. Subminiature. For mixer, oscillator, amplifier circuits.	6.3	0.3	2.5w.	5500	60		300		2.95	2.47	2.10
E1	6626/ 0A2WA	Voltage regulator. 7-pin miniature.	cold cathode		Av. starting current 75 ma. Cathode current min. 5 ma; max. 30 ma.				4.45	3.84	3.58	3.17	

## RCA NUVISTORS

Low-Noise, High-Gain RF-IF-Osc. Triodes

Type	Description	Htr. / Fil.		Mu	Freq. Mc.	EA. 1-4
		V.	Ma			
7586	Medium-mu triode. General-purpose for oscillator and amplifier circuits.	6.3	135	35	osc. 1000 amp. 350	3.35
7587	Sharp-cutoff tetrode. General-purpose. For IF, RF, video amplifier/mixer service.	6.3	150	...	osc. 850 amp. 250	5.20
7895	High-mu triode. General-purpose. Useful in oscillator and amplifier circuits.	6.3	135	64	osc. 1000 amp. 350	3.35
8056	Medium-mu triode. For low plate voltages, especially in RF/IF amp., multi-vibrator, cathode-follower ckts critical to shock/vibration.	6.3	135	11 1/2	osc. 800 amp. 300	5.00
8058	High-mu triode. For oscillator and cathode-drive amp. ckts.	6.3	135	70	osc. 2000 amp. 1200	13.25







# Photosensitive Tubes and Devices

## VACUUM, GAS AND MULTIPLIER PHOTOTUBES

Vacuum phototubes are best suited for use in light-measuring equipment because of extreme stability and the strict linearity existing between incident light of a given spectral distribution and the photocurrent produced by the tube. Gas types, 3 to 5 times more sensitive than vacuum types, are used in light-operated relay equipment

or in sound-from-film reproduction systems. Multiplier phototubes, the most sensitive, operate with extremely low light levels; excellent frequency response and linearity, plus tremendous current gain, make them ideal for scientific measuring equipment or other very low light level applications.

### SINGLE AND TWIN-UNIT GAS TYPES

Stock No.		Description	Spectral Response	Anode Supply DC Volts	Sensitivity		Max. Gas Amplification Factor	EACH			
Dept.	Type				Radiant $\mu\text{a}/\mu\text{watt}$	Luminous $\mu\text{a}/\text{lumen cps}$		1-4	5-18	19-49	50-Up
E1	1P40	Similar to 930 but has non-hygroscopic base. For sound reproduction. For renewal applications. In new equipment design, use 1P40 or 930.	S-1	90	0.013	135	10.0	3.75	3.25	2.95	2.60
E1	918		S-1	90	0.014	150	10.5	4.45	3.87	3.52	3.10
E1	923		S-1	90	0.013	135	10.0	3.40	2.93	2.67	2.35
E1	927	For 16mm sound equipment.	S-1	90	0.012	125	10.0	4.25	3.68	3.35	2.95
E1	928	Non-directional type. For relay applications.	S-1	90	0.0061	65	10.0	6.00	5.25	4.78	4.20
E1	930	For sound reproduction and relay applications.	S-1	90	0.013	135	10.0	3.65	3.18	2.90	2.55
E1	5583	For sound reproduction involving dye-image sound track with incandescent light source.	S-4	90	0.13	135	5.5	4.80	4.22	3.94	3.35

### SINGLE AND TWIN-UNIT VACUUM TYPES

Stock No.		Description	Spectral Response	Anode Supply DC Volts	Sensitivity		Max. Anode Dark $\mu\text{a}$ at 25°C	EACH			
Dept.	Type				Radiant $\mu\text{a}/\mu\text{watt}$	Luminous $\mu\text{a}/\text{lumen}$		1-4	5-18	19-49	50-Up
E1	1P39	Similar to 929 but has non-hygroscopic base.	S-4	250	0.044	45	0.005	2.80	2.43	2.20	1.95
E1	922	Cartridge type. For relay applications.	S-1	250	0.0019	20	0.005	3.10	2.68	2.44	2.15
E1	925	Short-bulb type. For relay applications.	S-1	250	0.0019	20	0.0125	3.65	3.14	2.94	2.55
E1	926	Cartridge type. For colorimetric applications.	S-3	250	0.0019	6.5	0.005	3.75	3.22	3.00	2.60
E1	929	For light-measuring and relay applications.	S-4	250	0.044	45	0.0125	2.35	2.06	1.87	1.65
E1	934	For sound and facsimile equipment.	S-4	250	0.029	30	0.005	4.15	3.57	3.33	2.90
E1	7043	Non-directional type. For sound reproduction.	S-4	250	0.044	45	0.0125	4.40	3.81	3.46	3.05

### MULTIPLIER PHOTOTUBES

Stock No.		Description	Spectral Response	Supply Volts Between Anode and Cathode	Sensitivity		Current Amplification	Max. Equiv. Anode Dark Current Input Lumen	Equiv. Noise Input Lumen	EACH			
Dept.	Type				Radiant $\mu\text{a}/\mu\text{watt}$	Luminous Amps/Lumen				1-4	5-18	19-49	50-Up
E1	1P21	9-stage type for uses involving extremely low light levels.	S-4	1000	78000	80	$2 \times 10^6$	$5 \times 10^{-10}$	$5 \times 10^{-3}$	54.50	47.60	41.90	.....
E1	1P28	9-stage type for uses involving very low ultraviolet radiation levels.	S-5	1000	61800	50	$1.25 \times 10^6$	$1.25 \times 10^{-9}$	$7.5 \times 10^{-13}$	21.60	18.85	16.60	.....
E1	931-A	9-stage type for use in light-operated relays, X-ray exposure control, and facsimile transmission.	S-4	1000	24000	24	$0.8 \times 10^6$	$2.5 \times 10^{-9}$	$9.5 \times 10^{-13}$	12.40	10.80	9.85	8.65
E1	6342-A	10-stage, head-on, flat-face type with focusing electrode. Especially useful for fast coincidence scintillation counting.	S-11	1250	11000	14	$1.75 \times 10^5$	$2 \times 10^{-9}$	$7 \times 10^{-12}$	57.20	44.00	.....	.....
EZ1	7102	10-stage, head-on, flat-face type. Especially useful for detection and measurement of red and near infrared radiation.	S-1	1250	420	4.5	$1.5 \times 10^5$	$5 \times 10^{-6}$	$1.5 \times 10^{-10}$	110.00	82.50	.....	.....
E1	8054	10-stage, head-on, flat-face, 3" dia. type. Venetian blind structure. For scintillation counters.	S-11	1500	15000	19	250000	$4.4 \times 10^{-12}$ (median)	$2.7 \times 10^{-12}$	125.00	96.80	.....	.....

### PHOTOCONDUCTIVE CELLS

Solid-state photocells for light-operated relay control applications. Operating characteristics are given at 25° C.

Stock No.		Description	Spectral Response	Voltage Between Terminals	Illumination Sens. $\mu\text{a}/\text{fc}$	Max. Decay Current $\mu\text{a}$	EACH			
Dept.	Type						1-4	5-18	19-49	50-Up
E1	4403	Cadmium-sulfide, head-on type.	S-15	50	11500	78	1.75	1.57	1.47	1.20
E1	4408	Cadmium-sulfide, head-on type; flexible leads.	S-15	50	2000	40	1.85	1.58	1.44	1.27
E1	4423	Small cadmium-sulfide, head-on type; flexible leads.	S-15	12	500	10	1.80	1.58	1.44	1.27
E1	4425	Small cadmium-sulfide, head-on type; flexible leads.	S-15	12	6000	35	1.90	1.65	1.50	1.32
E1	6694A	Tiny cadmium-sulfide, head-on type.	S-12	90	4	0.1	13.20	11.95	10.15	.....
E1	7163	Cadmium-sulfide, head-on type.	S-15	50	2000	40	1.65	1.44	1.31	1.15
E1	7412	Small cadmium-sulfide, head-on type; flexible leads.	S-15	12	110	1	2.10	1.86	1.73	1.45
E1	7536	Small cadmium-sulfide, side-on type; flexible leads.	S-15	12	110	1	2.10	1.86	1.72	1.45

### PHOTOJUNCTION CELLS

Solid-state photocells for use in sound reproduction from film. Operating characteristics are given at 25° C.

Stock No.		Description	Spectral Response	Polarizing Voltage Between Terms.	Illumination Sens. $\mu\text{a}/\text{fc}$	Max. Dark Current $\mu\text{a}$	EACH			
Dept.	Type						1-4	5-18	19-49	50-Up
E1	4420	Small side-on type; germanium p-n alloy junction.	S-14	45	0.7	35	6.40	5.55	5.05	4.45
E1	7467	Very small photojunction cell; side-on type employing a germanium p-n alloy junction.	S-14	45	0.7	35	10.00	8.75	7.95	7.00

# RCA Camera and Display Tubes



## IMAGE ORTHICONS

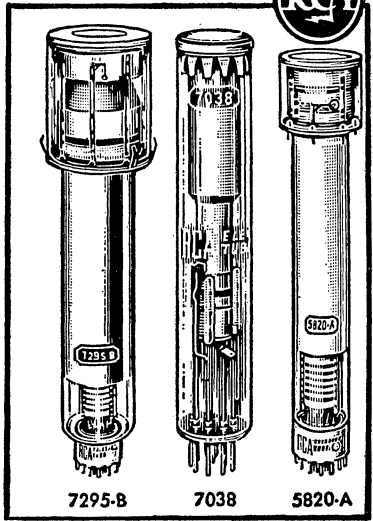
Stock No.		Dia.	Operating Point	Faceplate Illum. for Op. Point	Amplitude Response @400 Lines	Sig.-to-Noise Ratio for 4.5-mc Bdwth	EACH 1-4
Dept.	Type						
EZ1	8093-A	3"	+1 to +2	0.040 fc	50%	45:1	1320.00
EZ1	7293-A	3"	+1 to +2	0.024 fc	40%	37:1	1300.00
EZ1	5820-A	3"	+1 to +2	0.020 fc	50%	40:1	1070.00
EZ1	7513	3"	0	0.030 fc	45%	55:1	1320.00
EZ1	7513/VI	3"	0	0.030 fc	45%	55:1	1400.00
EZ1	4415	3"	0	0.010 fc	40%	37:1	1400.00
EZ1	4416	3"	0	.....	40%	37:1	1400.00
EZ1	7295-B	4 1/2"	+1	0.060 fc	60%	70:1	1440.00

## VIDICONS

Type	Normal Application	Max. Lgth. (Overall)	Description	EACH 1-4
6326	BC film pickup	6.5"	For B&W or color; being replaced by 7038.	515.00
7038	BC film pickup	6.5"	Like 6326; very uniform photocond. surface.	205.00
7262-A	industrial	5.18"	Low-lag, high sens.; .6 w. heater.	280.00
7697	industrial	6.3"	B&W cameras with ASC sys./low target v.	205.00
7735-A	industrial	6.5"	For B&W-color; low-lag, high sensitivity.	205.00

## MONITOR KINESCOPE

Type	Overall Lgth.	Envel-ope Dia.	Final HV Electrode Volts	Grid #3 Voltage for Focus (approx.)	Grid #2 Volts	Grid #1 V. for Visual Cutoff	Deflection Angle	EA. 1-4
7TF4	13 1/2"	7 5/16"	10000	1170-1590	200	-48 max.	50° approx.	70.80



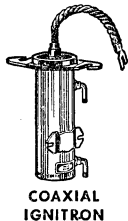
## PREMIUM TUBES FOR MISCELLANEOUS APPLICATIONS

Premium-type industrial tubes for a wide variety of applications in receivers, transmitters, television equipment, computers and other electronic devices. Miniature types for mobile or aircraft

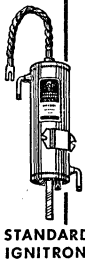
communications equipment are included. For complete information on quantity prices available on all RCA industrial tubes, see the directory on pages 84-91 of this catalog.

Stock No.	Description	Heater or Filament		Max. Plate Diss.	Trans- cond. μmhos	Amp. Factor	Out-put Watts	Freq. (Mc)	EACH				
		V.	A.						1-4	5-18	19-49	50-Up	
E1	1L4	1.4	0.05	.....	925	.....	.....	.....	1.37	1.19	1.11	.98	
E1	3A4	2.8	0.1	2w.	1900	.....	0.7	.....	1.25	1.04	.97	.86	
E1	3A5	2.8	0.11	1.4	0.22	A1: pl. diss., 5 w. 1800 μmho. 15 mu. P-p class C: pl. diss., 1 w. 2 w. (40 mc)		.....	2.03	1.76	1.64	1.45	
E1	5R4GYB	5	2	Max. rms/pl: 750-800 v. Max. PIV: 2650 v. Max. out. (both pl.): 250 ma.		.....	.....	.....	2.03	1.76	1.45	.....	
E1	6AG7Y	6.3	0.65	9w.	11000	.....	3	.....	2.80	2.33	1.98	.....	
E1	6AK6	6.3	0.15	2.75w.	2300	.....	1.1	.....	1.40	1.22	1.13	1.00	
E1	6A56	6.3	0.175	1.7w.	3200	.....	.....	.....	3.43	2.97	2.77	2.45	
E1	6A57G	6.3	2.5	13w.	7000	.....	2	.....	4.93	4.15	3.52	.....	
E1	6SJ7Y	6.3	0.3	2.5w.	1650	.....	.....	.....	1.95	1.73	1.58	1.39	
E1	1621	6.3	0.7	7.9w. (Values for 2 tubes)		5	.....	.....	3.50	3.00	2.80	2.48	
E1	1622	6.3	0.9	13.8w. (Values for 2 tubes)		10	.....	.....	4.85	4.19	3.90	3.46	
E1	5618	6	0.23	3	0.46	5w.	3600	1.4/2.7	100	6.75	6.00	5.45	4.81
E1	5642	1.25	0.2	Max. PIV: 10000 v. Max. DC Plate: .25 ma Max. peak plate cur.: 5 ma.		.....	.....	.....	3.85	.....	.....	.....	
E1	5687	12.6	0.9	4.2w.	11500	18	.....	.....	4.05	3.48	2.86	.....	
E1	5734	6.3	0.15	4w.	Defl. sens.: 40 v/°, 2300 v./rad. Min. free cant. res.: 1200 cps		.....	.....	22.05	19.04	17.59	15.73	
E1	5763	6	0.75	12w.	.....	1.3/10	175	.....	2.53	2.13	1.81	.....	
E1	6080	6.3	2.5	Max. plate volts: 250 v. Max. plate current: 125 ma. Max. plate dissipation: 13w.		.....	.....	.....	5.33	4.47	3.81	.....	
E1	6336A	6.3	5	30w.	16000	3.4	.....	.....	19.04	13.60	.....	.....	
E1	6386	6.3	0.35	.....	4000	17	.....	.....	7.38	6.20	5.27	.....	
E1	6417	12.6	0.375	Refer to 5763 for other characteristics				.....	.....	3.04	2.60	2.43	2.17
E1	6550	6.3	1.6	35w.	9000	7.5	20	.....	4.59	3.85	3.28	.....	
E1	6922	6.3	0.3	1.5w.	11500	33	.....	.....	4.87	4.35	3.95	3.48	
E1	7360	6.3	0.35	Bal. Mod. and/or Bal. Mixer: V./plate, 150; Ma/plate, 1.5 P.p. p-to-p DSB output (bal. mod.), 4 v. P.p. p-to-p SSB out. (bal. mixer), 40 v.				.....	.....	3.77	3.26	3.04	2.69
E1	7558	6.3	0.8	10w.	.....	.....	to 20.5	.....	3.49	3.02	2.82	2.49	
E1	7905	6.3	0.65	10w.	.....	.....	to 7	.....	3.85	3.43	3.12	2.75	

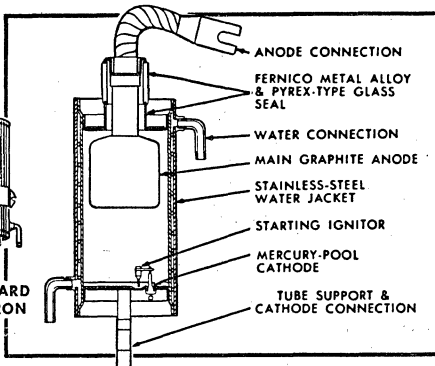
# Broadcast and Industrial Tubes



COAXIAL IGNITRON



STANDARD IGNITRON



## IGNITRONS

**6 Reasons Why G.E. Ignitrons  
Protect Your Production  
Schedules**

- Highly Reliable, Positive-Firing Ignitrons
- Extremely Durable, Long Service-Life Anodes
- Pure, Triple-Distilled Mercury in Cathode Pool
- Advanced Water-Bath Cooling Design
- Rugged, Welded and Brazed Terminals

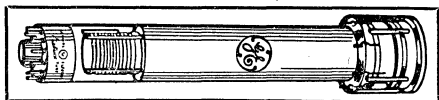
Highly dependable ignitron units for exact control of industrial power sources. Operate in 3 main fields of applications—resistance welding, power rectification, and power conversion or transmission. Units shown in table below are intended for resistance welding control service; control primary current supplied to resistance welding transformers. Operate as contactors and may be arranged to provide one, two, or a dozen cycles of current in conjunction with suitable thyratrons and other controls. Ignitron units are also used to provide DC power for machine shops, elevators, mines, electrolytic reduction plants, and similar types of service. Suitable voltage regulating equipment may be provided to give practically constant output voltage from zero to full load. In high voltage DC power transmission, or conversion of power at one frequency to power at another, ignitrons are grouped to form units of 2000 to

20,000 kilowatt capacity. These electronic power converters provide a non-synchronous tie between two power systems and are able to transmit a constant amount of power independent of the usual variations in frequencies and voltages. Units shown in table below include both standard and coaxial types of ignitron units. Coaxial ignitrons are specifically designed to provide highly dependable operation in the control of unusually high peak currents. In the standard ignitron unit, strong magnetic forces created through current flow can cause instability in tube operation. With coaxial ignitron construction a magnetic sheath is created around the tube which cancels the adverse effects of the magnetic field. Below is a partial listing of some of the many ignitron units carried in stock at Allied. For complete listings see the Special Purpose Tube Directory, Pages 84 through 91 of this catalog.

Type No.	Welder Size	Maximum Dimensions		Description	EACH	
		Length	Diameter		1-4	5-18
5550	A	9 <sup>1</sup> / <sub>16</sub> "	2 <sup>3</sup> / <sub>4</sub> "	Two tubes in inverse-parallel control 300 kva at 250-600 volts; 25-60 cycles; ratings are per tube.	49.00	46.50
5551-A	B	13"	2 <sup>3</sup> / <sub>4</sub> "	Replaces GL-5551/FG-271. Provides more effective control of water temperature and flow.	65.00	61.30
7669	B	8 <sup>1</sup> / <sub>16</sub> "	2 <sup>3</sup> / <sub>4</sub> "	Coaxial version of GL-5551-A. Electrical ratings and characteristics are similar.	65.00	.....
5552-A	C	14"	4 <sup>1</sup> / <sub>4</sub> "	Replaces GL-5552/FG-235-A. Provides more effective control of water temperature and flow.	99.00	93.75
7671	C	9 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>4</sub> "	Coaxial version of GL-5552-A. Electrical ratings and characteristics are similar.	99.00	.....
7681	C <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>4</sub> "	Two tubes in inverse-parallel control 1800 kva at 250-600 volts; 25-60 cycles; ratings are per tube.	155.00	.....
5553-B	D	19 <sup>1</sup> / <sub>2</sub> "	5 <sup>7</sup> / <sub>8</sub> "	Replaces GL-5553-A. Provides more effective control of water temperature and flow.	245.00	231.00
7673	D	12 <sup>1</sup> / <sub>16</sub> "	5 <sup>7</sup> / <sub>8</sub> "	Coaxial version of GL-5553-B. Electrical ratings and characteristics are similar.	245.00	.....
7151	E	19 <sup>3</sup> / <sub>4</sub> "	9 <sup>1</sup> / <sub>8</sub> "	Two tubes in inverse-parallel control 4800 kva at 250-600 volts; ratings are per tube.	750.00	.....

## IMAGE ORTHICONS

**PROVIDE LONGER LIFE, HIGHEST SENSITIVITY, UNSURPASSED OPERATING PERFORMANCE**



G.E. image orthicons are available in a variety of types designed to meet specific broadcasting applications, including "live" studio pickup, video taping, low light level remotes, etc.

G.E.'s family of "station designed" image orthicons cover the complete spectrum of commercial and educational television applications. Individual types incorporate certain *value analyzed* benefits which optimize performance for any given program requirement, whether specialized or broad. These benefits can extend operating life to a period as long as 8000 hours, and provide signal-to-noise ratios up to 55:1. Units are highly sensitive and allow high resolution pickups at 1 foot-candle for black and white transmissions; 40 foot-candles for color transmissions.

Type No.	Recommended Applications	Features	Target	Field-Mesh	Photocathode	Signal-to-Noise Ratio Peak-to-Peak Signal vs. RMS Noise		Knee of Transfer Photocathode Illum. in ft-c at Knee	Amplitude Resp. @ 400 Lines w/ .02 ft-c on Photocathode	EACH 1-4
						Min.	Avg.			
5820A	B/W Studio Remote	High Quality Good Gray Scale Stable Performance	Glass	No	S-10	40	48	.010	26%	1070.00
7293	B/W Studio Remote	Flatter Field Improved Definition No Orth Spot	Glass	Yes	S-10	35	45	.010	36%	1300.00
7629A	B/W Color Remote Special Use	Supersensitivity Large Dynamic Range Very Long Life Very High Resolution	Semiconductor (MgO)	No	S-10	.....	48	.0025	48%	1800.00
8092A	Color B/W Remote Special Use	Same as 7629 Plus: Flatter Field Reduced Beam Bending No Orth Spot	Semiconductor (MgO)	Yes	S-10	.....	37	.0025	48%	1975.00
8093	B/W Studio Color	High Signal-to-Noise Ratio Plus Features of 7923	Glass	Yes	S-10	42	55	.018	36%	1350.00

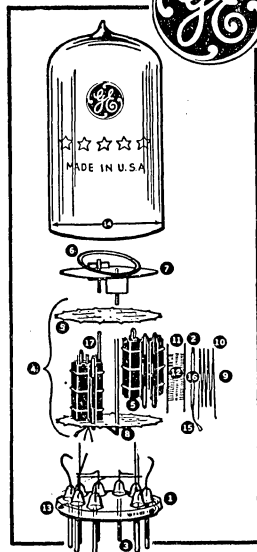
# G.E. Five-Star High-Quality Tubes



## 18 VALUE-ANALYZED CONSTRUCTION FEATURES

### SPECIFICALLY DESIGNED TO IMPROVE G.E. 5-STAR TUBE RELIABILITY

1. Controlled inside diameter on bulbs reduces vibrational output and microphonics.
2. Highly efficient getter performs throughout tube life and guides flash to avoid inter-element leakage.
3. A getter flash shield improves initial leakage characteristics.
4. Two double mica spacers, with additional anti-leakage slots, brace internal parts, provide superior inter-element insulation and improve vibration characteristics. 12 or 16 contact points give firmer fit between bulb and mount.
5. Short, sturdy cages increase rigidity of tube structure.
6. Plate ears are embossed for added strength and improved mica fit.
7. U-bolt construction through top and bottom micas firmly secures the cage assembly.
8. Smooth grid legs prevent a "sawing" action on the mica, reducing grid vibration and microphonic noise.
9. Critical grids are plated with gold or silver to minimize grid emission.
10. Passive cathode alloys assure reliability and long life in low-duty cycle circuits where interface develops.
11. Outside diameter and density of cathode coating are controlled statistically.
12. Low thermal-conductivity cathode-tab reduces heat loss.
13. Cataphoretic coating of all heater bends after forming insures complete heater-cathode insulation.
14. Folded heater design proved most reliable under shock, vibration and heater cycling conditions. Heater is temperature-controlled to further improve reliability and lengthen life.
15. Rhenium-tungsten heater material increases tensile strength, reduces brittleness, and allows larger-diameter heater wire.
16. Lead glass stems help ward off glass electrolysis.
17. Pins are annealed to prevent glass strain of socket insertion.
18. Stem design minimizes welds—fewer points of possible failure—less chance of short-causing particles from weld splash.



### G.E. HIGH-RELIABILITY RECEIVING TUBES FOR CRITICAL APPLICATIONS

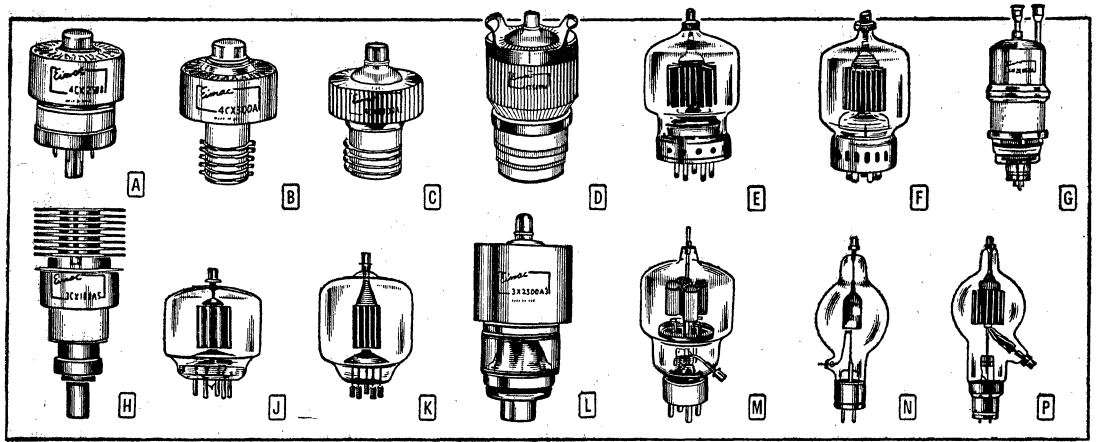
Among the special materials recently developed and now featured in some G.E. 5-Star High-Reliability Receiving Tube types are: 3 or 5-ply anode materials for lower power-input requirements and uniform heat distribution; high-temperature, high resistivity glass to eliminate electrolysis, reduce leakage, and provide higher temperature tolerance; and rhenium-tungsten heater material that improves tube operating reliability up to 4½ times. Listed below

is a selection of G.E. 5-Star Receiving Tubes and the corresponding standard types they replace. Symbols included in table indicate the following information concerning tubes: \*—Reduced peak and output current ratings. †—Unipotential cathode and lower tube drop. ‡—Heater current approximately 17% lower. §—Subminiature. #—Glass, octal base. \*\*—Higher mu. ††—G, tied internally to K. §§—shorter envelope.

### INTERCHANGEABILITY AND REPLACEMENT GUIDE

G.E. 5-Star Tube Type	Replaces Standard Tube Type	Tube Function and Classification	EACH 1-4	G.E. 5-Star Tube Type	Replaces Standard Tube Type	Tube Function and Classification	EACH 1-4
5636 §	none	Dual-control pentode; gated amplifier or mixer.	6.10	6100	6C4	Medium-mu triode; RF amplifier or oscillator.	2.50
5654	6AK5W	Sharp-cutoff RF pentode.	2.45	6111 §	none	Medium-mu twin triode; general purpose.	3.70
5670	2C51 †	Medium-mu twin triode; general purpose.	2.45	6112 §	none	High-mu twin triode; AF voltage amplifier.	4.10
5686	none	Beam power amplifier.	3.40	6136	6AU6	Sharp-cutoff RF pentode.	2.70
5718 §	none	Medium-mu triode; RF amplifier or oscillator.	3.65	6201	12AT7	High frequency twin triode; RF amplifier and oscillator.	2.95
5719 §	none	High-mu triode; AF voltage amplifier.	3.15	6202*	6X4	Twin diode; full wave rectifier.	2.85
5725	6AS6W	Dual-control pentode; gated amplifier or mixer.	3.15	6203	none	Twin diode; full wave rectifier.	4.10
5726	6AL5W	Twin-diode; detector or low-current rectifier.	1.55	6205 §	5840 ††	Sharp-cutoff RF pentode	5.35
5727	2D21W	Thyratron; grid-controlled rectifier or pulse modulator.	2.90	6206 §	5899 ††	Semi-remote-cutoff RF pentode.	7.25
5749	6BA6W	Remote-cutoff RF pentode.	2.20	6211	none	Medium-mu twin triode; computer service.	2.35
5750	6BE6W	Pentagrid converter.	3.45	6211A	none	Medium-mu twin triode; computer service.	2.35
5751	12AX7 †**	High-mu twin triode; AF voltage amplifier.	2.55	6222 §	none	High-mu triode; AF preamplifier.	7.35
5814A	12AU7 †	Medium-mu twin triode; general purpose.	2.34	6265	6BH6 †	Sharp-cutoff RF pentode.	4.10
5840 §	none	Sharp-cutoff RF pentode.	5.35	6350	none	Medium-mu twin triode; computer service.	2.35
5844	none	Medium-mu twin triode; computer service.	2.30	6386	none	Medium-mu remote-cutoff twin triode; RF amplifier or mixer service.	7.40
5896 §	none	Twin diode; detector or low-current rectifier.	3.75	6414	none	Medium-mu twin triode; computer service.	3.65
5899 §	none	Semi-remote-cutoff RF pentode.	5.50	6463	none	Medium-mu twin triode; computer service.	1.90
5902 §	none	Beam power amplifier.	4.80	6688A	none	Sharp-cutoff RF pentode.	8.75
5963	none	Medium-mu twin triode; computer service.	1.50	6814 §	none	Medium-mu twin triode; computer service.	5.05
5965	none	Medium-mu twin triode; computer service.	1.90	6829	5965	Medium-mu twin triode; general purpose use.	6.10
5965A	none	Medium-mu twin triode; computer service.	1.90	6919	none	Twin diode; for gate and clamping service.	1.35
6005	6AQ5	Beam power amplifier.	3.95	7036	5919A §§	Heptode; designed for use as gated amplifier.	1.50
6021 §	none	Medium-mu twin triode; general purpose.	3.50	7044	none	Medium-mu twin triode; computer service.	3.20
6046	25LG-GT	Beam power amplifier; relay energizer.	1.55	7239	none	Beam pentode; designed for use as high-voltage pulse amplifier or shunt regulator.	6.25
6072A	12AY7 †	Medium-mu twin triode; AF preamplifier.	3.90				
6087 †	5Y3WGTB	Twin diode; full-wave rectifier.	5.75				

# Eimac Power Tubes and Accessories



## TETRODE AND PENTODE TUBES

Type No.	Dis. †(W)	Plate Volts	Plate Ma	Screen Volts	Filament		EACH 1-4
					V	A	
4-65A	65	3000	150	400	6.0	3.5	27.00
4-125A/4D21	125	3000	225	400	5.0	6.5	36.00
4-250A/5D22	250	4000	350	600	5.0	14.5	46.50
4-400A	400	4000	350	600	5.0	14.5	48.00
4-1000A	1000	6000	700	1000	7.5	21.0	131.50
4CN15A	15	2500	250*	400	6.0	3.0	58.50
4CX250B/7203	250	2000	250	300	6.0	2.6	39.00
4CX250K	250	2000	250	300	6.0	2.6	64.00
4CX300A	300	2000	250	300	6.0	2.7	58.50
4CX350A	350	2000	250	400	6.0	3.0	55.50
4CX350F	350	2000	250	400	26.5	0.7	60.00
4CX1000A	1000	3000	1000	400	6.0	10.5	181.00
4CX1000K	1000	3000	1000	400	6.0	10.5	218.00
4CX3000A	3000	7000	2000	600	10.0	45.0	420.00
4CX5000A	5000	7500	3000	1500	7.5	75.0	495.00
4CX10000D	10,000	7500	3000	1500	7.5	75.0	550.00
4E27A/5-125B	125	4000	200	750	5.0	7.5	45.00
4PR60B	60	20,000	18,000*	1500	26.0	2.1	107.00
4PR65A	65	15,000	1000*	2000	6.0	3.5	43.00
4W300B	300	2000	250	300	6.0	2.6	57.00
4W20000A	20,000	8000	15,000	1500	10.0	30.0	1950.00
4X150A/7034	250	2000	250	300	6.0	2.6	25.00
4X150D/7035	250	2000	250	300	26.5	.5	27.90
4X250B	250	2000	250	300	6.0	2.6	36.50
7034/4X150A							25.00
7035/4X150D							27.90
7203/4CX250B							39.00

For OEM quantity prices on amounts over four pieces, see Special Purpose Tube Directory, Pages 84 through 91. In the tables on this page, †indicates plate dissipation expressed in watts; \*indicates pulsed plate current ratings expressed in milliamperes.

## DIODE AND RECTIFIER TUBES

Type No.	Dis. †(W)	Peak Inv. Volts	Peak Plate Cur. (A)	Av. Plate Cur. (A)	Fil. Volts	Fil. Cur. (A)	EACH 1-4
2-01C	.1	1000	.01	1	5.0	.35	18.00
2-25A	15	25,000	1	50	6.3	3.0	24.00
2-50A	30	30,000	1	75	5.0	4.0	27.00
2-450A	450	30,000	8	1000	7.5	26.5	138.00
250R	150	60,000	2.5	250	5.0	10.5	36.00
8020	60	40,000	1.5	100	5.0	6.5	16.00
KY21A	...	11,000	3.0	750	2.5	10.0	26.75
RX21A	...	11,000	3.0	750	2.5	10.0	25.75

## AIR SYSTEM SOCKETS AND CHIMNEYS

Tube Type	RECOMMENDED SOCKET		EACH	RECOMMENDED CHIMNEY		EACH
	Stock No.	Type No.		Stock No.	Type No.	
4CX500A	42 H 139	SK-300A	105.00	42 H 048	SK-306	6.50
4-125A, 4-250A, 4-400A, 3-400Z	42 H 031	SK-400	17.50	42 H 049	SK-406	6.50
	42 H 163	SK-410	6.50			
4-1000A	42 H 034	SK-500	20.00	42 H 054	SK-506	12.00
3-1000Z	42 H 159	SK-510	6.50			
4X150/7034	42 H 039	SK-600A	11.50			
4CX250B	42 H 040	SK-610	11.50			
Family of Tubes	42 H 124	SK-640	7.50	42 H 055	SK-606	.75
	42 H 127	SK-650	8.50			
4CX300A	42 H 041	SK-700	23.00			
Family of Tubes	42 H 042	SK-710	23.00	42 H 055	SK-606	.75
	42 H 043	SK-740	10.00			
	42 H 045	SK-770	10.00			
4CX1000A	42 H 046	SK-810	56.00	42 H 056	SK-806	8.50

## HEAT DISSIPATING CONNECTORS

Stock No.	Type No.	Tubes Used With	Hole Size	EACH
42 H 058	HR-1	2-25A, 25T Plate	.052-.055"	1.10
42 H 059	HR-2	75TH-TL, 100TH-TL Grid	.062-.065"	1.20
42 H 093	HR-3	2-50A, KY21A, RX21A, 75TH-TL Plate	.072-.075"	1.20
42 H 063	HR-5	4E27A/5-125B Plate, 592/3-200A3 Grid	.127-.130"	1.20
42 H 096	HR-6	2-240A, 4-65A, 4-125A, 4-250A, 4-400A, 100TH-TL, 250TH-TL, 250R Plate	.367-.370"	1.20
42 H 064	HR-7	304TH-TL Plate	.127-.130"	1.65
42 H 073	HR-8	2-2000A, 4PR60B, 4-1000A, 6C21, 450TH-TL, 750TL Grid and Plate	.575-.578"	1.65
42 H 074	HR-9	1000T Grid and Plate	.569-.572"	2.80
42 H 078	HR-10	592/3-200A3	.510-.514"	1.65

## PREFORMED FINGER STOCK—36" LENGTHS

Stock No.	Mfr's Type	Width of Stock	EACH
42 H 086	CF-100	1 7/8"	5.35
42 H 087	CF-300	3 5/8"	5.80
42 H 088	CF-500	1 3/8"	6.20

## TRIODE TUBES

Type No.	Dis. †(W)	Plate Volts	Plate Cur. (Ma)	Amplif. Factor	Fil. Volts	Fil. Cur. (A)	EACH 1-4
2C39WA	100	1000	125	100	6.3	1.0	32.00
3-400Z	400	4000	350	200	5.0	14.5	34.00
3-1000Z	1000	6000	800	200	7.5	21.3	119.00
3CPN10A5/7815	10	3500	3500*	100	6.0	1.0	32.00
3CX100A5/7289	100	1000	125	100	6.0	1.0	32.00
3W5000A1	5000	6000	2500	5	7.5	51.0	280.00
3W5000A3	5000	6000	2500	20	7.5	51.0	245.00
3W5000F1	5000	6000	2500	5	7.5	51.0	260.00
3W5000F3	5000	6000	2500	20	7.5	51.0	250.00
3X2500A3	2500	6000	2500	20	7.5	51.0	200.00
3X2500F3	2500	6000	2500	20	7.5	51.0	205.00
3X3000A1	3000	6000	2500	5	7.5	51.0	210.00
3X3000F1	3000	6000	2500	5	7.5	51.0	220.00
6C21	300	30,000	15,000*	30	8.2	17.0	93.00
25T	25	2000	75	24	6.3	3.0	28.50
35T	50	2000	150	39	5.0	4.0	33.00
75TH	75	3000	225	20	5.0	6.25	43.00
75TL	75	3000	225	12	5.0	6.25	43.00
100TH	100	3000	225	38	5.0	6.3	23.50
100TL	100	3000	225	14	5.0	6.3	23.50
250TH	250	4000	350	37	5.0	10.5	38.50
250TL	250	4000	350	14	5.0	10.5	38.50
304TH	300	3000	900	20	5 or 10	25 or 12.5	75.00
304TL	300	3000	900	12	5 or 10	25 or 12.5	75.00
450TH	450	6000	600	38	7.5	12.0	85.00
450TL	450	6000	600	18	7.5	12.0	85.00
592/3-200A3	200	3500	250	25	10.0	5.0	46.00
750TL	750	10,000	1000	15	7.5	21.0	169.00
1000T	1000	7500	750	35	7.5	15.5	169.00

# Special-Purpose Tubes

## SPECIAL-PURPOSE TUBES by CETRON ELECTRONICS

Manufactured to high tolerances. Recommended for difficult applications where quality and performance are of prime consideration. Triodes (Fig. A) are designed for RF amplification—excellent for Class C telegraphy or plate-modulated phone. Thyratrons (Fig. B) are ruggedly constructed controlled-rectifiers capable of withstanding

high-current surges common to industrial processes. Rectifiers (also Fig. B) are particularly suitable for application in systems where extreme resistance to shock (some types up to 375g), vibration, and filament fatigue is required. Photocells (Fig. C) are either gas-filled for higher sensitivity, or vacuum for calibration purposes.

### TRIODES

Dept.	Tube Type	Maximum Ratings			Plate Volts	Filament		EACH 1-4
		Plate (ma)	Grid (ma)	Plate Diss. (Watts)		Volts	Amps	
E15	T40	.....	40	40	1500	7.5	2.5	8.50
E15	T200	350	60	200	2500	10.0	5.75	32.45
E15	T300	400	75	300	3000	11.0	6.0	39.00
E15	810	300	75	175	2500	10.0	4.5	18.00
E15	5514	175	60	65	1250	7.5	3.0	11.90

### THYRATRONS

Dept.	Tube Type	Class	Peak Voltage		Cathode Amps		Filament		EACH			
			Forward	Inverse	Peak	Average	Volts	Amps	1-4	5-18	19-49	50-Up
E15	C6J	XE	750	1250	77.0	6.4	2.5	21.0	25.40	24.60	22.50	19.75
E15	5557/FG17	HG	2500	5000	2.0	0.5	2.5	5.0	9.50	8.30	7.55	6.65
E15	5632/C3J	XE	900	1250	30.0	2.5	2.5	9.0	13.80	12.05	10.95	9.65
E15	6014/C1K	XE	1000	1250	8.0	1.0	2.5	6.3	13.10	11.30	10.30	9.03
E15	6901	HG-A	1700	1700	6.0	1.5	2.5	7.0	13.00	11.35	10.35	9.10

### RECTIFIERS

E15	Tube Type	FW-XE	725	.....	4.0	1.0	2.5	6.25	8.40	7.35	6.70	5.90
E15	3B22	FW-XE	725	.....	4.0	1.0	2.5	6.25	8.40	7.35	6.70	5.90
E15	3B24WA	HW-V	(20,000)	.....	0.150	0.030	2.5	3.0	10.00	8.85	7.45	.....
E15	203	HW-HG	500	.....	45.0	15.0	2.5	20.0	12.80	10.40	9.20	8.20
E15	872A	HW-HG	10,000	.....	5.0	1.25	5.0	7.5	8.50	7.25	6.60	5.80

### PHOTOCELLS

Dept	Tube Type	Gas or Vac	Spectral Response	Usable Cathode Area	Peak Volts	Dark Current at Test Voltage		Sensitivity Range		EACH			
						µa	V.	Min Ua/Lum.	Max Ua/Lum.	1-4	5-18	19-49	50-Up
E15	868	Gas	S1	0.95" sq.	100	0.1	90	50	145	3.75	3.24	2.96	2.60
E15	919	Vac	S1	0.95" sq.	500	0.005	250	12	32	4.50	3.85	.....	.....
E15	929	Vac	S4	0.51" sq.	250	0.0125	250	25	70	2.13	2.00	1.76	.....
E15	934	Gas	S4	0.34" sq.	250	0.005	250	15	70	4.15	3.57	3.30	.....
E15	5583	Gas	S4	0.38" sq.	100	0.05	90	75	205	4.90	4.24	3.86	3.40



### SYLVANIA SPECIAL COUNTER TUBES

Designed for a variety of purposes, including scaling, frequency dividing, matrixing, multiplexing, addition, and subtraction. Type 8035 is designed to operate in high-speed computers from 0 to 50 kc. Produced for

low-speed computers, Type 8353 operates from 0 to 4 kc. Both have 10 cathodes—permit multiple or sequential pulses. Both have 13-pin glass base. Internal construction permits readout from the top.

Dept.	Tube Type	Anode Supply Voltage	Nominal Tube Drop	Minimum Guide Basis	Maximum Cathode Load Resistor	EACH	
						1-4	5-18
E12	8035	400 Vdc	235 V	35 Vdc	50K	11.10	10.20
E12	8353	350 Vdc	187 V	35 Vdc	150K	11.10	10.20

### ELECTRONS, INC. XEON POWER-CONTROL TUBES

Xeon gas has practically the same space-charge neutralizing power as mercury, yet is unaffected by surrounding temperatures. Xeon-filled tubes require no temperature control, and have no temperature effects on control characteristics, rating or life, thereby greatly enhancing reliability. Will easily withstand many thousands of hours of useful service, as the main

cause of limited tube life—evaporation—has been so drastically reduced that it is no longer a factor! Specially-designed, tough cathode-coatings will withstand the heavy ion-bombardment encountered in industrial applications. Sturdy mechanical construction permits use in severe environments of shock and vibration.

### THYRATRONS

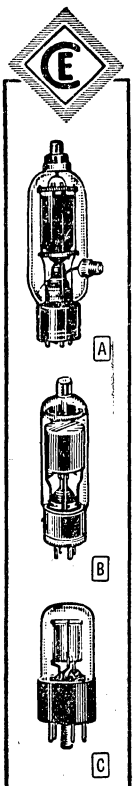
Dept.	Tube Type	Anode Current (DC Amps)	Filament		Max. Peak In-verse Volt.	Max. Peak Forward Volt.	EACH		
			V	A			1-4	5-18	19-49
E11	C1A	1.0	2.5	6.3	340	170	13.65	11.95	10.85
E11	C1B	1.0	2.5	6.3	700	525	15.40	13.75	12.55
E11	C1B/A	1.0	2.5	6.3	1250	750	19.20	17.15	15.60
E11	C1J	1.0	2.5	6.3	700	450	14.85	13.30	12.08
E11	C1J/A	1.0	2.5	6.3	1250	750	15.10	13.50	12.30
E11	C1K	1.0	2.5	9.0	1250	1000	13.10	11.30	10.25
E11	C3J	2.5	2.5	9.0	1250	900	13.80	11.45	10.40
E11	C3J/A	2.5	2.5	9.0	1250	1000	14.50	12.60	11.10
E11	C3J/L	2.5	2.5	9.0	1250	900	15.25	13.35	12.60
E11	C4H-1	4.0	2.5	17	1700	1700	23.25	20.38	18.50
E11	C4H-2	4.0	2.5	17	1700	1700	24.35	21.30	19.40
E11	C4H-3	4.0	2.5	17	1700	1700	24.35	21.30	19.40
E11	C6C	6.4	2.5	24	4000	2000	58.90	51.00	45.80
E11	C6H-1	6.4	2.5	21	1700	1700	29.10	25.50	23.20
E11	C6H-2	6.4	2.5	21	1700	1700	30.25	26.50	24.20
E11	C6H-3	6.4	2.5	21	1700	1700	30.25	26.50	24.20
E11	C6J	6.4	2.5	21	1250	750	28.10	24.70	22.50
E11	C6J/A	6.4	2.5	21	1250	1000	29.00	25.20	22.70
E11	C6J/F	6.4	2.5	21	1250	1000	30.00	26.25	23.90
E11	C6J/K	6.4	2.5	21	1250	1000	28.30	24.70	22.60

### THYRATRONS (Cont'd)

Dept.	Tube Type	Anode Current (DC Amps)	Filament		Max. Peak In-verse Voltage	Max. Peak Forward Voltage	EACH		
			Volts	Amps			1-4	5-18	19-49
E11	C6J/L	6.4	2.5	21	1250	1000	29.40	25.40	23.10
E11	C6J/KL	6.4	2.5	21	1250	1000	29.45	25.70	23.40
E11	C16H	16.0	2.5	31	1700	1700	62.00	54.40	49.40
E11	C16J	16.0	2.5	31	1250	1000	52.50	45.80	41.70

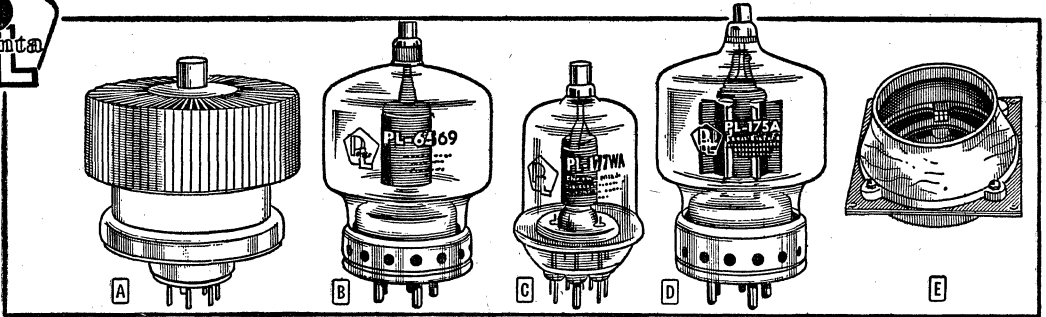
### RECTIFIERS

Dept.	Tube Type	Anode Current (DC Amps)	Filament		Max. Peak In-verse Volt.	Cathode Heating Time (sec.)	EACH		
			Volts	Amps			1-4	5-18	19-49
E11	1C	1.0	2.5	6.0	725	20	10.85	9.40	8.55
E11	3B	2.5	2.5	9.0	920	30	11.40	10.00	9.10
E11	3C	2.5	2.5	11.5	725	30	11.80	10.33	9.40
E11	3C/L	2.5	2.5	11.5	725	30	13.00	11.30	10.30
E11	6B	6.4	2.5	21	920	60	13.00	11.35	10.35
E11	6B/L	6.4	2.5	21	920	60	13.50	11.80	10.75
E11	6C	6.4	2.5	17	725	40	21.40	19.10	17.30
E11	6F	6.4	2.5	21	920	60	14.15	12.40	11.30
E11	16F	16	2.5	36	620	180	35.20	31.35	28.50



# New Special-Purpose Tubes

PENTA LABORATORIES



Power tetrodes, except: § power triodes, #high vacuum rectifier, †beam pentodes. Beam pentodes feature patented Penta vane-type suppressor grid—used by leading manufacturers of commercial, military, and Amateur single-sideband equipment. PL-177WA is

ruggedized; PL-8295A and PL-8432 are ceramic for increased reliability, decreased cooling requirements, ability to tolerate high temperatures, severe shock and vibration. Figures: A—8295A; B—6569; C—177WA; D—175A. Specify Dept. E-16.

Tube Type	Fil. V.	Fil. Amps.	Plate Diss. Max. W.	Plate Volts Max.	Plate Ma Max.	Screen V. Max.	EACH	
							1-4	
4-400A	5.0	14.5	400	4000	350	800	48.00	
4D21	5.0	6.5	125	3000	225	600	36.00	
4D21A	5.0	6.5	175	3000	225	600	37.50	
4E27A†	5.0	7.5	125	4000	200	750	45.00	
5D22	5.0	14.5	250	4000	350	800	46.50	
175A†	5.0	14.5	400	4000	350	800	50.00	
177A†	6.0	3.2	75	2000	175	600	29.00	
177WA†	6.0	3.2	75	2000	175	600	33.50	
250R#	5.0	10.5	60,000		250		36.00	

Tube Type	Fil. V.	Fil. Amps.	Plate Diss. Max. W.	Plate Volts Max.	Plate Ma Max.	Screen V. Max.	EACH	
							1-4	
254W§	5.0	7.5	100	4000	225	*25	25.00	
6549†	6.0	3.2	75	2000	175	600	29.00	
6569§	5.0	14.5	250	4000	300	*45	37.50	
6580§	5.0	14.5	400	4000	350	*45	45.00	
8165/4-65A	6.0	3.5	65	2000	150	600	27.00	
8166/4-1000A	7.5	21	1000	6000	700	1000	132.00	
8295/172†	6.0	8.2	1000	3000	1000	600	135.00	
8295A†	6.0	8.2	1000	3000	1000	600	152.00	
8432†	6.0	8.2	1000	3000	1000	600	152.00	

## ACCESSORIES

- 8 E 711. PL-C1 Glass Chimney. For 4-400A, 175A, 6580..... 6.50
- 8 E 712. PL-C184 Plastic Chimney. For 172. Same chimney as used on PL-184 and PL-184A sockets..... 5.00
- 8 E 713. PL-184A Socket and Chimney. For 172. Same as PL-184, except suppressor-grid contacts are grounded..... 48.00

- E PL-184 Socket and Chimney. For 172. Built-in screen grid and suppressor grid bypass capacitors. Contact provisions for all base pins and screen grid and suppressor grid ring terminals. Provides proper air distribution for correct cooling of 172 at full plate dissipation rating.
- 8 E 714..... 53.00



## NATIONAL UNION TUBES

### MINIATURE CATHODE-RAY TUBES



National Union's miniature cathode-ray tubes with electrostatic focus and deflection are used for space-saving monitoring operations, data presentations, and film recording operations. Types listed in table below have flat faces; use standard sockets. Tubes produce high brilliance and small spots (less than .010") at low plate voltages. Heater power only 1/4-watt. Specify Dept. E-19.

Tube Type	Description	Plate Volts	Fil. V.	Dia.	L.	EACH	
						1-4	
1DPI	Standard Miniature	1000	6.3	7/8"	3"	20.00	
122PI	High Deflection Sensitivity	1000	6.3	7/8"	4"	23.35	
123PI	Post Accelerator Type	3000	6.3	7/8"	4"	33.35	
129PI	Medium Dia. Standard	1000	6.3	1 1/4"	4"	24.65	
142PI	Post Accelerator Type	3000	6.3	1 1/4"	4"	40.00	

### TYPE 7235 HIGH-MU TRIODE



Electrically interchangeable with octal Type 2C53, but is in a miniature bulb. Operates to 8000 volts with 10 watts plate dissipation. Very efficient as a high-voltage series or shunt regulator, or as a voltage amplifier. Efficient service in series or shunt voltage regulator supplies. 6.3-volt, 0.3-amp heater. 5-ma plate current. Carbonized anode permits cool operation. Specify Dept. E-19.

7235..... 10.00

### TYPE 7234 HIGH-VOLTAGE PENTODE



Up to 8000 volts regulation. Screen grid element permits close regulation independent of line voltage variations. Adaptable to high-voltage sweep circuits, voltage amplifiers, or may be used as a passing tube. Performance range beyond NU's Type 6842. Uses 6.3-volt, 0.15-amp max. heater; 5-ma plate current. Plate diss., 10 watts. Rugged and dependable—for severe environs. Specify Dept. E-19.

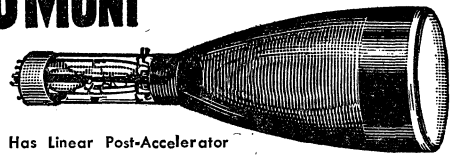
7234..... 15.65

## QUANTITY PRICES—ORDERING INFORMATION

See Tube Directory on pages 84-91 for ordering information and OEM quantity prices on tubes you need. Same-day shipment.



## TYPE 5BHP2 HIGH-VOLTAGE 5" CATHODE-RAY TUBE



Has Linear Post-Accelerator

Improved direct-replacement CRT for Techtronix T54P2 oscilloscope. Has high deflection sensitivity, coupled with high writing rate, and separate astigmatism and pattern adjustment electrodes to ensure distortionless displays. Electrostatic focus and deflection. Features a linear post-accelerator—a spiral resistance winding that extends from tube face to deflection plate region allowing a gradual voltage gradient. Aluminized screen.

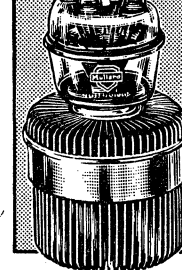
Used as instrument indicator or in oscillography for high-frequency display, fast transients, and fast pulses. Vertical response, 220 mc, ±3 db. Third anode, 10 kv; second anode, 1.65 kv. Deflection factors: horizontal—70 to 85 volts per inch; vertical—15 to 18 volts per inch. Filament, 6.3 volts, 0.6 amps. Post accelerator, 12,000 volts max. Accelerator, 200 volts max. Specify Dept. E-6.

5BHP2, 1-4, EACH..... 92.50



## MULLARD INDUSTRIAL TUBES

Specify, Dept. E-21 and Tube Type.



Tube Type	EIA Cross Ref.	Description	EACH 1-4
TD03-10	5861	Disc Seal Triode	33.75
QY5-3000A	6076	Tetrode	315.00
E55L	8233	High Slope Wide-Band Pentode	13.25
75C1	.....	Voltage Reg.	5.70
85A2	0G3	Voltage Reg.	2.30
E88CC	6922	Frame Grid Twin Triode	4.75
90C1	.....	Voltage Reg.	3.50
E180F	6688	High Slope RF Pentode	6.80
ME1400	.....	Electrometer	6.70



# New Special-Purpose Tubes

## AMPEREX

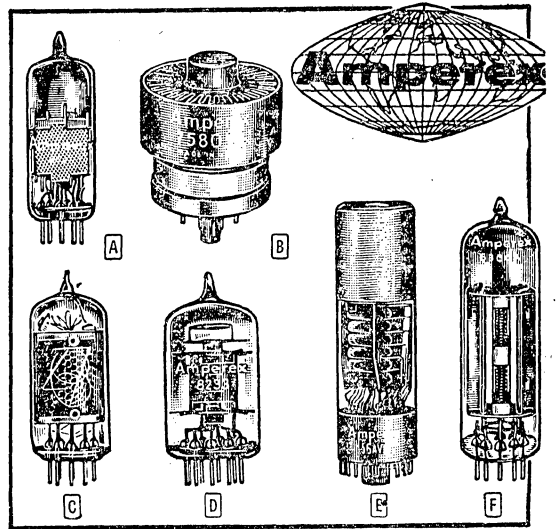
**A** Type 6EJ7 "Ampliframe" TV-IF Sharp Cut-Off Pentode. Frame-grid—35% higher gain and bandwidth. New construction: higher  $G_m$  per ma; tighter  $G_m$  and plate-current tolerance; lower transit time, capacitance, and microphonics; increased ruggedness. 9-pin construction; 2 cathode leads; internally shielded; internally neutralized screen grid.  $G_m$ , 15,000  $\mu$ hos at 10 ma. Grid v. for 625  $\mu$ hos, 9.5 v. Fil., 6.3 v., 300 ma. 10 mmf input; 3mmf output; plate to control grid, less than .005 mmf. . . . . 1.45  
6EJ7, 1-4 EACH

**B** 7580W Ruggedized Ceramic Tetrode (Replaces 4CX250R). Manufactured to military specifications. Ceramic—yet costs no more than glass versions. Forced-air cooled. Filament, 6 v., 2.6 amps. 250-watt plate dissipation. For single sideband and other linear amplifier applications up to 500 mc. . . . . 45.00  
7580W, 1-4, EACH

**C** Types ZM-1030 and ZM-1032 Biqinary Numerical 0-9 Indicators. 20,000-hour life, 150° angle viewing. Compact—for transistorized circuitry. Red lacquer ZM-1030. Clear ZM-1032. Anode supply, 200 v. Anode-cathode ignition, 160 v. Maintains 140 v. at 4 ma. Min. plate supply, 170 v. Min. cathode current, 3 ma; max., 5 ma. Max. extinguishing v., 110 v. 15K plate limiting resistor at 200 v.,  $\pm 3\%$ . 100K shield-grid limiting resistor. . . . . 8.00  
ZM-1030, 1-49, EACH . . . . . 9.95 50-Up, EACH . . . . . 8.00  
ZM-1032, 1-49, EACH . . . . . 9.95 50-Up, EACH . . . . . 8.00

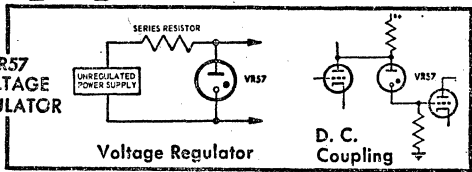
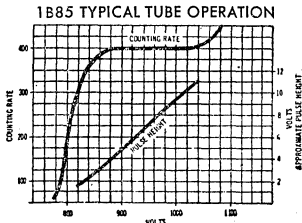
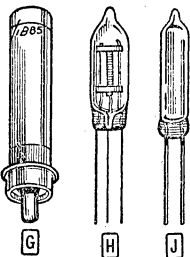
**D** Type 8233 Miniature Double-Frame-Grid Wideband Power Pentode. 10,000-hour life. For exacting military and industrial service. High  $G_m$ , 45,000  $\mu$ hos at 50 ma and 10 watts dissipation. Frame grid—reduced microphonics, minimum spread-in characteristics. Lower screen-grid current—unusually high ratio of plate-to-screen current, even at reduced v. Magnavol base. . . . . 13.25  
8233, 1-4, EACH

**E** Type 56AVP Photomultiplier. Extremely fast rise-time. High gain (guaranteed minimum 108). Large anode currents without loss of linearity. Pulse in less than 2 nsec. Outstanding for: fast coincidence and Cerenkov counting; time-of-flight and short-lived isotope measurements; study of photo emissions from semi-conductors. 14 stages. Typical sensitivity, 60  $\mu$ a/lm; maximum spectral response in blue region. Photocathode dia., 42mm. . . . . 325.00  
56AVP, 1-4, EACH



**F** Type 6360A Twin Tetrode. Improved and interchangeable with Type 6360. Expected life, 3 times that of 6360. Improved anode material increases life, RF conductance, and tank efficiency. Gttering action is also enhanced. Useful as class C RF amplifier, oscillator frequency modulator, and modulator in mobile equipment up to 200 mc. Other outstanding features: internal neutralization; oxide-coated, indirectly heated cathode; heater that withstands battery v. fluctuations of mobile service. Plate dissipation, 14 watts ICAS; 16 watts at 200 mc ICAS. . . . . 5.85  
6360A, 1-4, EACH

## VICTOREEN

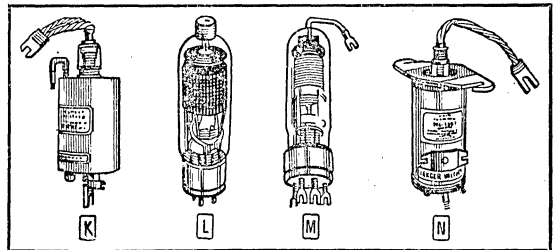


**G** Type 1B85 Geiger-Counter Tube. Aluminum walled—shock and vibration resistance much greater than glass walled types. Organically squelched. Oper., 850-950 v. Amb. temp., -30 to +75°C. Rel. humidity, 95% max. Beta energy, 160 Kev min. Threshold, 800 v. max. Recovery time, 100  $\mu$ sec. Background ( $V_0$ , 900 v.) 40 c/m. Life (6000 c/m) 10<sup>8</sup> counts. Std. RETMA A1-82 base. . . . . 9.60  
1B85, 1-4, EACH

**H** Type VX55 Electrometer Triode. May be used in many circuits as direct substitute for popular 5803. New design features permit most VX55's to fall near design center of tolerable parameter limits. Typical ratings: Fil., 1.25 v., 10 ma. Plate to fil., 7.5 v. Grid, -2.2 v. Plate current, 95  $\mu$ a. Transconductance, 110  $\mu$ hos. Grid current, 5x10<sup>-14</sup> amps. Mu, 2.1. . . . . 24.20  
VX55, 1-4, EACH

**J** Type VR57 Subminiature Voltage Regulator. Glow discharge type for relatively low power regulation. Also for use as voltage reference and sawtooth generator. DC striking v., 75 v. max. DC operating v.: 54 v. min. at 200  $\mu$ a; 59 v. max. at 800  $\mu$ a. V. reg., (200-800  $\mu$ a) 1.8 v. Amb. temp., -55 to 85°C. . . . . 4.50  
VR57, 1-4, EACH

## NATIONAL ELECTRONICS



**IGNITRONS:** Types below are typical of the many sizes of ignitrons available including the new coaxial ignitrons (as Type NL-1061). All are interchangeable with ignitrons of other manufacture.

Specific ignitrons listed below are metal, water-cooled, mercury-pool tubes. Specially designed for welder control and similar AC uses. Inner can, all-copper cooling coil, and thermostat mount are brazed together in a single unit to assure exceptional cooling efficiency, and a dependable and adjustment-free temperature control system that operates directly on inner can temperature.

**K** Type 1052A. 140 amps DC. Equivalent to 600-amp magnetic contactor. Slotted-terminal, quick-change. 1-4, EACH. . . . . 99.00

**N** Types 1051A and 1061. 56 amps DC. Equivalent to 300-amp magnetic contactor. NL-1061 (not illus.) is electrically same as NL-1051A, but has new coaxial base. 1-4, EACH. . . . . 65.00

**THYRATRON AND RECTIFIER TUBES:** Complete line of mercury, mercury-gas, and gas types stocked. "Life Indicating" tubes that change color as end of useful life approaches also available. For information on indicating types, write *Industrial Customer Service Department. Ask for bulletin SB-15.*

**L** Types 710/6011 and 710L/7518 Quick-Heating Thyatron Tubes. 2.5 amps DC, 30 amps peak. Especially designed for ignitor firing and regulated rectifier applications. Gas and mercury filled for quick starts. 710L/7518 has lug type base. . . . . 15.25  
710/6011, 1-4, EACH . . . . . 13.00 710L/7518, 1-4, EACH

**M** Types 664L and 664P Rectifier Tubes. 10 amps DC, 120 amps peak. Specially designed for industrial power rectifier applications up to 250 volts. Mercury and gas-filled to withstand high inverse voltages. 664L has lug base. 664P has bracket base. . . . . 27.30  
664L, 1-4, EACH . . . . . 26.00 664P, 1-4, EACH

# "Reliable Plus" Industrial Tubes

Allied presents a selection of Raytheon Approved Electron Tubes especially designed for industrial applications requiring a high degree of reliability. The use of uncompromising quality control methods and pro-

cedures further insures tubes of greater than average efficiency and power handling capabilities—tubes that provide maximum protection against costly production breakdowns and work stoppages.

## A TRANSMITTING TUBES

Type No.	Filament		Max. Plate Volts	Max. Grid 1 Volts	Max. Grid 2 Volts	Max. Plate Ma	Max. Grid 1 Ma	Max. Grid 2 Ma	Plate Diss. Watts	Power Drive Watts	Power Output Watts	Max. Freq. Mc	EACH 1-4
	Volts	Amps											
4D22	25.2 12.6 6.3	0.8 1.6 3.75	600	-200	350	300	15	35	50	1.5	135	60	32.76
4D32			600	-200	350	300	15	35	50	1.5	135	60	32.76

## B REFLEX KLYSTRON OSCILLATORS

Use of reflex klystrons is indicated where very low cost, wide mechanical tuning, vernier voltage tuning, compact size and long operating life are desired features. Available in self-contained and external cavity types. Types 2K28A and 5721 are external cavity types for use in coaxial cavities for CW or pulsed

operation over frequency ranges of an octave or more. Extremely wide range ideally suits them for signal generator or special oscillator use. Types QK-531, QK-532, QK-549 and QK-623 are for low-band communications. Types 2K25 and 5976 are low-cost local oscillator types; Type QK-291 is for high frequency use.

Type No.	Max. Freq. Range Mc	Power Output Milliwatts Av. Min.	Reso. Poten. DC Volts	Focus Poten. DC Volts	Max. Temperature Coefficient Mc/°C	Filament Current @ 6.3 V. Amperes	EACH 1-4
2K28A	1500-3750	140 95 150 50 125 100 40 20	300 1000 1000 1250	300	±.15 ±.040 ±.025 ±.040	0.650	75.00
5721	2000-12,000			4 to 18		0.580	116.00
QK-549	5925-6450	120 100	300	.....	-1 to +1	0.440	68.00
5976	6200-7425	110 85	300	.....	-1 to +1	0.440	68.00
QK-531	6575-6875	110 85	300	.....	-1 to +1	0.440	68.00
QK-532	6875-7125	110 85	300	.....	-1 to +1	0.440	68.00
QK-623	7125-7650	110 85	300	.....	-1 to +1	0.440	68.00
2K25	8500-9660	32 20 22 15 18 5	300 2250	.....	0 to -.20 To be specified	0.440 0.580	32.25 407.00
QK-291	33,520-36,250			-20 to -250			

## C MAGNETRON OSCILLATORS

Lightweight, compact units. High efficiency and low operating voltages required by these units reduce necessary power supply size. Units afford the means of having a one-tube system, with the absolute minimum of connections and associated equipment. Type RK2J70 is a medium-power S-band type, ideal for general purpose

radar systems. Types RK2J55 and RK2J42 are fixed frequency, medium-power X-band units especially suitable for airborne radar applications. RK2J42 is designed for jet aircraft environments—operates at altitudes up to 60,000 feet without the need for external pressurization.

Type No.	Heater		Range Mc	Class	Anode Kv	Anode Amps	Duty Cycle	Min. Po. Pk. Kw	EACH 1-4
	Volts	Amps							
RK2J70A	6.3	1.25	3030-3110	2	7.0	8.0	.001	20.0	204.00
QK-456	6.3	1.50	5360-5400	2	14.0	14.0	.001	75.0	543.00
RK2J55	6.3	1.0	9345-9405	2	12.8	12.0	.001	40.0	204.00
RK2J42	6.3	0.5	9345-9405	2	5.5	4.5	.002	7.0	204.00

## MEDIUM AND HIGH POWER TRIODES

Rugged, long-lived triodes for use in transmitter and PA system output stages. In "Cooling" column of table below, "W" indicates water-cooled types; "F-A" indicates forced-air cooled types.

Type No.	Cathode		Max. Anode		Input Watts	Full Input Freq. Mc	Cooling	EACH 1-4
	Volts	Amps	Volts	Amps				
ML-356	7.5	170	12,500	6.0	60,000	25	W	675.00
ML-892R	22.0	60	12,500	2.0	18,000	1.6	F-A	425.00
ML-5530-H	5.0	55	8500	1.75	10,000	30	F-A	350.00
ML-5531	6.3	92	10,500	3.75	30,000	30	F-A	660.00
ML-5541	7.5	57	8500	2.75	23,000	110	F-A	560.00
ML-5604	11.0	176	12,500	3.0	32,500	25	F-A	600.00
ML-5606	22.0	60	14,000	2.0	25,000	1.6	W	305.00
ML-5667	11.0	120	10,000	2.0	20,000	22.5	F-A	390.00
ML-5668	22.0	60	14,000	2.0	28,000	5	W	350.00
ML-5736	6.0	60	5000	1.4	5000	60	F-A	190.00

## MEDIUM POWER TETRODE

Type No.	Cathode		Max. Anode		Input Watts	Full Input Freq. Mc	Cooling	EACH 1-4
	Volts	Amps	Volts	Amps				
ML-7007	5.0	180	7500	4	24,000	220	F-A	1020.00

## UHF TRIODES

Rugged triodes for UHF power output applications. Ideal for UHF transmitters, ovens, etc. In "Cooling" column of table below, F-A indicates cooling by forced air; C, cooling by convection.

Type No.	Cathode		Max. Anode		Input Watts	Full Input Freq. (mc)	Cooling	EACH 1-4
	Volts	Amps	Volts	Amps				
ML-2C39WA	6.0	1.0	1000	0.1	100	2500	F-A	30.00
ML-6442	6.3	0.9	300	2.5	7.5	5000	C	39.25

Allied carries a large inventory of Raytheon Industrial tubes, ready for immediate, same-day shipment on receipt of your order. Call the Allied Office nearest you for all your electronic needs—see page one of this catalog for locations.

## HARD PULSE MODULATOR TUBES

Heavy-duty modulator tubes for use in pulse modulation applications in commercial and military radar systems. In "Cooling" column of table below, F-A indicates tube is forced-air cooled; R-C indicates tube uses radiation and convection method of cooling.

Type No.	Cathode Ratings		Max. Voltage Peak-ky	Max. Current Pulse-amps	Plate Diss. Kw	Cooling Method	EACH 1-4
	Volts	Amps					
ML-6544	6.0	60	25	75	1	F-A	960.00
ML-7248	6.3	11.7	125	2.0	0.2	R-C	900.00

## HIGH VACUUM RECTIFIER-CLIPPER DIODES

Heavy-duty diodes for use in power supplies as rectifiers or in high power modulators as clipper units. In "Cooling" column of table below, R-C indicates tube is cooled by both radiation and convection; C indicates tube is cooled by convection alone.

Type No.	Cathode		Anode Inv. PKV	Peak Ma	Insulation	Cooling	EACH 1-4
	Volts	Amps					
ML-102A	20	19.0	75	750	Air	C	186.00
ML-141	5.5	6.5	125	750	Oil	R-C	117.00
ML-142	3.8	6.6	100	300	Oil	R-C	78.50
ML-148	5.7	6.6	150	1000	Oil	R-C	162.00
ML-199	12	23	110	10,000	Air	C	370.00
ML-322	6.3	.95		600	Air	C	27.00
ML-5575/100	20	24	150	1000	Air	C	250.00
ML-5576/200	20	32	150	2500	Air	C	280.00
ML-6908	12	23	150	10,000	Oil	R-C	740.00

## SERIES REGULATOR TUBES

Maintain voltage applied to circuit at a practically constant value regardless of supply regulation or variations in load circuit.

Type No.	Heater		Max. Plate Volts	Max. Watts (Per Plate)	Amplification Factor	EACH 1-4
	Volts	Amps				
6336A	6.3	5.0	400	30	2.7	19.00
6528	6.3	5.0	400	30	9	21.55
6080WA	6.3	2.5	250	13	2	10.80
6080WB	6.3	2.5	250	13	2	29.76

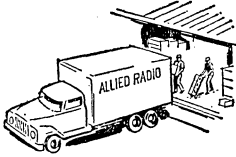
# RCA Quality Receiving Tubes



**RCA TUBES  
FOR THE OEM**



Don't risk expensive assembly line stoppages because of tube shortages. Call, write, wire or TWX the Allied facility nearest you for fastest delivery of all the tubes you need. Allied maintains the world's largest stocks of factory-fresh RCA tubes. Stock up now—at lowest prices.



Call Allied . . . for Personalized Service . . . Fastest Shipment

You can be sure of complete satisfaction when you order finest, premium-quality RCA tubes from Allied. Full one-year guarantee—we will replace any tube that does not provide efficient performance for 12 months from date of purchase. (This does not apply to broken tubes.) New tube types are added as soon as they are released by the manufacturer. Call your Allied office for personalized service and same-day shipment of tubes in any quantity. We are as near to you as your telephone—see Page 1 for addresses and phone numbers of Allied facilities.

\*Not RCA—other well-known brands supplied

Tube Type	MAY BE ASSORTED EACH in Quantities of			Not Asst'd 100-Up, EACH	Tube Type	MAY BE ASSORTED EACH in Quantities of			Not Asst'd 100-Up, EACH
	1 to 9	10 to 49	50 or More			1 to 9	10 to 49	50 or More	
	EM84/6FG6	1.63	1.46			1.30	1.17	3BZ6	
OZ4	1.20	1.08	.96	.86	3CB6	1.15	1.04	.92	.83
OZ4G	1.30	1.17	1.04	.94	3CE5	1.18	1.06	.94	.85
1A3	3.28	2.95	2.62	2.36	3CF6	1.35	1.21	1.08	.97
1A5GT	2.13	1.91	1.70	1.53	3CS6	1.33	1.19	1.06	.95
1A7GT	2.88	2.59	2.30	2.07	3CY5	1.63	1.46	1.30	1.17
1AD2	1.50	1.35	1.20	1.08	3DG4	1.83	1.64	1.46	1.31
1AX2	1.53	1.37	1.22	1.10	3DK6	1.20	1.08	.96	.86
1B3GT	1.45	1.31	1.16	1.04	3DT6A	1.10	.99	.88	.79
1C5GT	2.65	2.39	2.12	1.91	3EA5	1.43	1.28	1.14	1.03
1DN5	1.93	1.64	1.46	1.31	3EH7*	1.58	1.42	1.26	1.13
1G3GT/1B3GT	1.45	1.31	1.16	1.04	3EJ7*	1.58	1.42	1.26	1.13
1H5GT	2.08	1.87	1.66	1.49	3ER5	1.75	1.58	1.42	1.26
1J3	1.45	1.31	1.16	1.04	3FS5*	1.53	1.37	1.22	1.10
1K3	1.45	1.31	1.16	1.04	3GK5	2.03	1.82	1.62	1.46
1L6	3.40	3.06	2.72	2.45	3GS8/3BU8	1.55	1.40	1.24	1.12
1LA6	3.10	2.79	2.48	2.23	3LF4	3.20	2.88	2.56	2.30
1LB4	4.33	3.90	3.46	3.11	3Q4	1.78	1.60	1.42	1.28
1LC6	4.15	3.74	3.32	2.99	3Q5GT	2.83	2.54	2.26	2.03
1LE3	3.50	3.15	2.80	2.52	3S4	1.60	1.44	1.28	1.15
1LG5	3.40	3.06	2.72	2.45	3V4	1.25	1.13	1.00	.90
1LH4	4.03	3.63	3.22	2.90	4AU6	1.18	1.06	.94	.85
1LN5	4.08	3.67	3.26	2.93	4AV6	.93	.83	.74	.67
1N2A	2.33	2.09	1.86	1.67	4BC5	1.18	1.06	.94	.85
1N5GT	2.60	2.34	2.08	1.87	4BC8	2.03	1.82	1.62	1.46
1R5	1.53	1.37	1.22	1.10	4BL8	1.28	1.15	1.02	.92
1S2A*	1.55	1.40	1.24	1.12	4BN6	1.93	1.73	1.54	1.39
1S4	2.18	1.96	1.74	1.57	4BQ7A	2.00	1.80	1.60	1.44
1S5	1.45	1.31	1.16	1.04	4BS8	1.93	1.73	1.54	1.39
1T4	1.45	1.31	1.16	1.04	4BU8	1.68	1.51	1.34	1.21
1U4	1.45	1.31	1.16	1.04	4BZ6	1.13	1.01	.90	.81
1U5	1.33	1.19	1.06	.95	4BZ7	2.03	1.82	1.62	1.46
1V	2.93	2.63	2.34	2.11	4CB6	1.15	1.04	.92	.83
1V2	1.05	.95	.84	.76	4CS6	1.18	1.06	.94	.85
1X2A	1.53	1.37	1.22	1.10	4CY5	1.43	1.28	1.14	1.03
1X2B	1.53	1.37	1.22	1.10	4DE6	1.33	1.19	1.06	.95
2A3	5.25	4.73	4.20	3.78	4DT6A	1.13	1.01	.90	.81
2AF4B	2.03	1.82	1.62	1.46	4EH7	1.90	1.71	1.52	1.37
2AH2	1.60	1.44	1.28	1.15	4EJ7	1.90	1.71	1.52	1.37
2AS2	1.60	1.44	1.28	1.15	4ES8	2.30	2.07	1.84	1.66
2BN4A	1.28	1.15	1.02	.92	4EW6	1.33	1.19	1.06	.95
2CW4 Nuvistor	2.23	2.00	1.78	1.60	4GK5	2.08	1.87	1.66	1.49
2CY5	1.53	1.37	1.22	1.10	4GS8/4BU8	1.55	1.40	1.24	1.12
2DS4 Nuvistor	2.23	2.00	1.78	1.60	4GZ5	1.25	1.13	1.00	.90
2DV4 Nuvistor	3.13	2.81	2.50	2.25	4HM6	1.20	1.08	.96	.86
2DZ4	2.03	1.82	1.62	1.46	4HS8	1.60	1.44	1.28	1.15
2EN5	1.70	1.53	1.36	1.22	4JC6	1.75	1.58	1.40	1.26
2ER5	1.75	1.58	1.40	1.26	4JD6	1.75	1.58	1.40	1.26
2FH5	1.53	1.37	1.22	1.10	5AM8	1.78	1.60	1.42	1.28
2FS5	1.55	1.40	1.24	1.12	5AN8	2.00	1.80	1.60	1.44
2GK5	2.03	1.82	1.62	1.46	5AQ5	1.18	1.06	.94	.85
3A2	2.43	2.18	1.94	1.75	5AS4A	1.65	1.49	1.32	1.19
3A3	1.70	1.53	1.36	1.22	5AS8	2.08	1.87	1.66	1.49
3AF4A	2.03	1.82	1.62	1.46	5AT8	1.83	1.64	1.46	1.31
3AL5	1.03	.92	.82	.74	5AU4	1.70	1.53	1.36	1.22
3AT2	1.60	1.44	1.28	1.15	5AV8	2.03	1.82	1.62	1.46
3AU6	1.18	1.06	.94	.85	5AW4	1.40	1.26	1.12	1.01
3AV6	.95	.86	.76	.68	5AZ4	2.83	2.54	2.26	2.03
3AW3	1.70	1.53	1.36	1.22	5B8	2.65	2.39	2.12	1.91
3B2	4.93	4.44	3.94	3.55	5BC3 Novar	1.15	1.04	.92	.83
3BA6	1.25	1.13	1.00	.90	5BE8	1.65	1.49	1.32	1.19
3BC5	1.18	1.06	.94	.85	5BK7A	1.70	1.53	1.36	1.22
3BE6	1.13	1.01	.90	.81	5BQ7A	2.03	1.82	1.62	1.46
3BN4A	1.53	1.37	1.22	1.10	5BR8	1.83	1.64	1.46	1.31
3BN6	1.93	1.73	1.54	1.39	5BT8	1.65	1.49	1.32	1.19
3BU8	1.68	1.51	1.34	1.21					
3BY6	1.45	1.31	1.16	1.04					

RECEIVING TUBES CONTINUED ON NEXT PAGE



# RCA Receiving Tubes (Cont'd)

CALL THE ALLIED OFFICE NEAREST YOU FOR SAME-DAY SERVICE

Tube Type	MAY BE ASSORTED			Not Ass't'd 100-Up, EACH	Tube Type	MAY BE ASSORTED			Not Ass't'd 100-Up, EACH
	EACH in Quantities of					EACH in Quantities of			
	1 to 9	10 to 49	50 or More			1 to 9	10 to 49	50 or More	
5B8W	1.70	1.53	1.36	1.22	6B8	3.65	3.29	2.92	2.63
5C8S	1.68	1.51	1.34	1.21	6B10	1.75	1.58	1.40	1.26
5CL8A	1.75	1.58	1.40	1.26	6BA3 Novar	1.38	1.24	1.10	.99
5CM8	1.90	1.71	1.52	1.37	6BA6	1.00	.90	.80	.72
5CQ8	2.03	1.82	1.62	1.46	6BA7	2.98	2.68	2.38	2.14
5CZ5	2.18	1.96	1.74	1.57	6BA8A	1.93	1.73	1.54	1.39
5DH8	2.55	2.30	2.04	1.84	6BA11	1.85	1.67	1.48	1.33
5DJ4	1.33	1.19	1.06	.95	6BC4	2.68	2.41	2.14	1.93
5EA8	1.68	1.51	1.34	1.21	6BC5	1.18	1.06	.94	.85
5EU8	1.68	1.51	1.34	1.21	6BC7	1.90	1.71	1.52	1.37
5EW6	1.33	1.19	1.06	.95	6BC8	2.00	1.80	1.60	1.44
5FG7	1.38	1.24	1.10	.99	6BD6	1.23	1.10	.98	.88
5FV8	1.58	1.42	1.26	1.13	6BE3	1.50	1.35	1.20	1.08
5GH8	1.98	1.78	1.58	1.42	6BE6	1.10	.99	.88	.79
5GM6	1.33	1.19	1.06	.95	6BF5	1.78	1.60	1.42	1.28
5GX6	1.33	1.19	1.06	.95	6BF6	.95	.86	.76	.68
5J6	1.43	1.28	1.14	1.03	6BG6G	3.23	2.90	2.58	2.32
5KE8	2.53	2.27	2.02	1.82	6BH3 Novar	1.48	1.33	1.18	1.06
5T4	6.05	5.45	4.84	4.36	6BH6	1.35	1.21	1.08	.97
5T8	1.83	1.64	1.46	1.31	6BH8	1.83	1.64	1.46	1.31
5U4G	1.05	.95	.84	.76	6BJ6	1.30	1.17	1.04	.94
5U4GB	1.05	.95	.84	.76	6BJ7	1.58	1.42	1.26	1.13
5U8	1.65	1.49	1.32	1.19	6BJ8	1.75	1.58	1.40	1.26
5V3A	1.93	1.73	1.54	1.39	6BK4	4.00	3.60	3.20	2.88
5V4GA	1.90	1.71	1.52	1.37	6BK5	1.85	1.67	1.48	1.33
5V6GT	1.20	1.08	.96	.86	6BK7B	1.70	1.53	1.36	1.22
5X4G	1.68	1.51	1.34	1.21	6BL7GTA	2.10	1.89	1.68	1.51
5X8	1.73	1.55	1.38	1.24	6BL8	1.98	1.78	1.58	1.42
5Y3GT	.88	.79	.70	.63	6BM8*	1.53	1.37	1.22	1.10
5Y4GA	1.30	1.17	1.04	.94	6BN4A	1.53	1.19	1.06	.95
5Y4GT	1.33	1.19	1.06	.95	6BN6	1.60	1.44	1.28	1.15
5Z3	1.65	1.49	1.32	1.19	6BN8	1.53	1.37	1.22	1.10
5Z4	4.18	3.76	3.34	3.01	6BQ5	1.20	1.08	.96	.86
6A7	4.25	3.82	3.40	3.06	6BQ6GTB/6CU6	2.18	1.96	1.74	1.57
6A8	3.43	3.08	2.74	2.47	6BQ7A	1.98	1.78	1.58	1.42
6A8G	4.30	3.87	3.44	3.10	6BR8A	1.90	1.71	1.52	1.37
6A8GT	4.30	3.87	3.44	3.10	6BS3 Novar	1.75	1.58	1.40	1.26
6A84	1.08	.97	.86	.77	6BS8	1.88	1.69	1.50	1.35
6A85/6N5	4.03	3.63	3.22	2.90	6BU8	1.55	1.40	1.24	1.12
6A87	4.13	3.72	3.30	2.97	6BV8	1.58	1.42	1.26	1.13
6AC5GT	3.13	2.81	2.50	2.25	6BW4	1.45	1.31	1.16	1.04
6AC7	2.75	2.48	2.20	1.98	6BW8	1.75	1.58	1.40	1.26
6AD7G	4.70	4.23	3.76	3.38	6BX7GT	2.18	1.96	1.74	1.57
6AF3	1.45	1.31	1.16	1.04	6BY5GA	2.55	2.30	2.04	1.84
6AF4	2.00	1.80	1.60	1.44	6BY6	1.33	1.19	1.06	.95
6AF4A	2.00	1.80	1.60	1.44	6BY8	1.33	1.19	1.06	.95
6AF6G	3.10	2.79	2.48	2.23	6BZ6	1.13	1.01	.90	.81
6AF11	2.50	2.25	2.00	1.80	6BZ7	2.00	1.80	1.60	1.44
6AG5	1.38	1.24	1.10	.99	6BZ8	2.23	2.00	1.78	1.60
6AG7	3.10	2.79	2.48	2.23	6C4	.93	.83	.74	.67
6AH4GT	1.73	1.55	1.38	1.24	6C5	2.13	1.91	1.70	1.53
6AH6	2.35	2.12	1.88	1.69	6C6	4.15	3.74	3.32	2.99
6AK5	2.20	1.98	1.76	1.58	6C8G	4.43	3.99	3.54	3.19
6AL3	1.48	1.33	1.18	1.06	6C9	2.90	2.61	2.32	2.09
6AL5	.93	.83	.74	.67	6CA4	1.05	.95	.84	.76
6AL7GT	2.88	2.59	2.30	2.07	6CA5	1.58	1.42	1.26	1.13
6AL11	2.20	1.98	1.76	1.58	6CB5A	4.28	3.85	3.42	3.08
6AM4	2.95	2.66	2.36	2.12	6CB6A	1.13	1.01	.90	.81
6AM8A	1.73	1.55	1.38	1.24	6CD6GA	2.90	2.61	2.32	2.09
6AN4	3.28	2.95	2.62	2.36	6CE5	1.18	1.06	.94	.85
6AN8A	2.00	1.80	1.60	1.44	6CF6	1.28	1.15	1.02	.92
6AQ5A	1.08	.97	.86	.77	6CG7	1.23	1.10	.98	.88
6AQ6	1.30	1.17	1.04	.94	6CG8A	1.65	1.49	1.32	1.19
6AQ7GT	2.00	1.80	1.60	1.44	6CH8	2.60	2.34	2.08	1.87
6AQ8	1.58	1.42	1.26	1.13	6CK4	1.50	1.35	1.20	1.08
6AR5	1.33	1.19	1.06	.95	6CL6	1.88	1.69	1.50	1.35
6AR11	2.18	1.96	1.74	1.57	6CL8A	1.68	1.51	1.34	1.21
6AS5	1.45	1.31	1.16	1.04	6CM6	1.65	1.49	1.32	1.19
6AS8	1.90	1.71	1.52	1.37	6CM7	1.45	1.31	1.16	1.04
6AS11	2.50	2.25	2.00	1.80	6CM8	2.13	1.91	1.70	1.53
6AT6	.95	.86	.76	.68	6CN7	1.45	1.31	1.16	1.04
6AT8A	1.90	1.71	1.52	1.37	6CQ4	1.60	1.44	1.28	1.15
6AU4GTA	1.80	1.62	1.44	1.30	6CQ8	1.75	1.58	1.40	1.26
6AU5GT	2.15	1.94	1.72	1.55	6CR6	1.20	1.08	.96	.86
6AU6A	1.05	.95	.84	.76	6CS6	1.33	1.19	1.06	.95
6AU8A	1.90	1.71	1.52	1.37	6CS7	1.48	1.33	1.18	1.06
6AV5GA	2.33	2.09	1.86	1.67	6CU5	1.33	1.19	1.06	.95
6AV6	.83	.74	.66	.59	6CU6		Use 6BQ6	GTB/6CU6	
6AW8A	1.85	1.67	1.48	1.33	6CU8	2.18	1.96	1.74	1.57
6AX3	1.35	1.21	1.08	.97	6CW4 Nuvistor	2.23	2.00	1.78	1.60
6AX4GTB	1.33	1.19	1.06	.95	6CX8	1.93	1.73	1.54	1.39
6AX5GT	1.55	1.40	1.24	1.12	6CY5	1.43	1.28	1.14	1.03
6AX8	1.85	1.67	1.48	1.33	6CY7	1.60	1.44	1.28	1.15
6AY3 Novar	1.38	1.24	1.10	.99	6CZ5	2.05	1.85	1.64	1.48
6AZ8	2.78	2.50	2.22	2.00	6D6	3.90	3.51	3.12	2.81

# RCA Receiving Tubes

ALLIED CAN SERVE YOUR NEEDS FROM COAST TO COAST



You can be sure of complete satisfaction when you order from our giant stocks of electron tubes. Allied will replace any receiving tube that does not give efficient performance for 12 months from date of purchase.

(This does not apply to broken tubes.) Call, wire, or TWX your order to the nearest Allied facility. See Page 1 for listing of Allied facilities. \*Not made by RCA—other well-known brands supplied.

Tube Type	MAY BE ASSORTED				Not Ass't'd 100-Up, EACH	Tube Type	MAY BE ASSORTED				Not Ass't'd 100-Up, EACH
	EACH in Quantities of			100-Up, EACH			EACH in Quantities of			100-Up, EACH	
	1 to 9	10 to 49	50 or More				1 to 9	10 to 49	50 or More		
6DA4	1.45	1.31	1.16	1.04	6GE5	2.05	1.85	1.64	1.48		
6DB5	2.65	2.39	2.12	1.91	6GF5	1.85	1.67	1.48	1.33		
6DC6	1.70	1.53	1.36	1.22	6GF7 Novar	2.28	2.05	1.82	1.64		
6DC8	1.60	1.44	1.28	1.15	6GH8	1.58	1.42	1.26	1.13		
6DE4	1.43	1.28	1.14	1.03	6GJ5 Novar	2.28	2.05	1.82	1.64		
6DE6	1.28	1.15	1.02	.92	6GJ7	1.80	1.62	1.44	1.30		
6DE7	1.70	1.53	1.36	1.22	6GK5	2.03	1.82	1.62	1.46		
6DG6GT	1.28	1.15	1.02	.92	6GK6	1.45	1.31	1.16	1.04		
6DK6	1.18	1.06	.94	.85	6GL7	2.55	2.30	2.04	1.84		
6DM4	1.43	1.28	1.14	1.03	6GM6	1.45	1.31	1.16	1.04		
6DN6	3.73	3.36	2.98	2.68	6GN8	1.98	1.78	1.58	1.42		
6DN7	1.75	1.58	1.40	1.26	6GT5 Novar	2.10	1.89	1.68	1.51		
6DQ4	1.33	1.19	1.06	.95	6GU7	1.48	1.33	1.18	1.06		
6DQ5	4.18	3.76	3.34	3.01	6GV5	2.20	1.98	1.76	1.58		
6DQ6B	2.08	1.87	1.66	1.49	6GV8	1.65	1.49	1.32	1.19		
6DR4*	.93	.83	.74	.67	6GW6	2.08	1.87	1.66	1.49		
6DR7	1.83	1.64	1.46	1.31	6GX6	1.25	1.13	1.00	.90		
6DS4 Nuvistor	2.23	2.00	1.78	1.60	6GY6	1.25	1.13	1.00	.90		
6DS5	1.75	1.58	1.40	1.26	6GY8	1.90	1.71	1.52	1.37		
6DT5	1.63	1.46	1.30	1.17	6H6	2.00	1.80	1.60	1.44		
6DT6A	1.08	.97	.86	.77	6HB6	1.55	1.40	1.24	1.12		
6DT8	1.90	1.71	1.52	1.37	6HE5	1.98	1.78	1.58	1.42		
6DV4 Nuvistor	3.13	2.81	2.50	2.25	6HF5	3.88	3.49	3.10	2.79		
6DW4 Novar	1.85	1.67	1.48	1.33	6HF8	1.98	1.78	1.58	1.42		
6DW5	2.03	1.82	1.62	1.46	6HG8	2.18	1.96	1.74	1.57		
6DX8	1.55	1.40	1.24	1.12	6HJ8	1.65	1.49	1.32	1.19		
6DZ4	2.00	1.80	1.60	1.44	6HL8	1.63	1.46	1.30	1.17		
6DZ7	4.23	3.81	3.38	3.04	6HR6	1.45	1.31	1.16	1.04		
6E5	2.55	2.30	2.04	1.84	6HS6	1.45	1.31	1.16	1.04		
6EA6	1.90	1.71	1.52	1.37	6HS8	1.60	1.44	1.28	1.15		
6EA7	1.90	1.71	1.52	1.37	6HZ6	1.33	1.19	1.06	.95		
6EA8	1.60	1.44	1.28	1.15	6HZ8*	2.18	1.96	1.74	1.57		
6EB8	2.10	1.89	1.68	1.51	6J5	1.83	1.64	1.46	1.31		
6EH5	1.53	1.37	1.22	1.10	6J5GT	1.83	1.64	1.46	1.31		
6EH7	2.03	1.82	1.62	1.46	6J6A	1.40	1.26	1.12	1.01		
6EH8	1.58	1.42	1.26	1.13	6J7	2.48	2.23	1.98	1.78		
6EJ7	1.90	1.71	1.52	1.37	6J7GT	2.90	2.61	2.32	2.09		
6EM5	1.70	1.53	1.36	1.22	6JB6 Novar	2.28	2.05	1.82	1.64		
6EM7	2.55	2.30	2.04	1.84	6JC6	1.75	1.58	1.40	1.26		
6EQ7	1.45	1.31	1.16	1.04	6JC8	1.53	1.37	1.22	1.10		
6ER5	1.90	1.71	1.52	1.37	6JE6 Novar	4.50	4.05	3.60	3.24		
6ES5	1.53	1.37	1.22	1.10	6JE8	1.98	1.78	1.58	1.42		
6ES8	2.90	2.61	2.32	2.09	6JH6	1.30	1.17	1.04	.94		
6EU7	1.35	1.21	1.08	.97	6JH8	2.18	1.96	1.74	1.57		
6EU8	1.65	1.49	1.32	1.19	6JK8	1.78	1.60	1.42	1.28		
6EV5	1.50	1.35	1.20	1.08	6JT8	2.13	1.91	1.70	1.53		
6EV7	1.45	1.31	1.16	1.04	6JU8	1.60	1.44	1.28	1.15		
6EW6	1.25	1.13	1.00	.90	6K6GT	1.33	1.19	1.06	.95		
6EW7 Novar	2.90	2.61	2.32	2.09	6K7	2.48	2.23	1.98	1.78		
6EX6	3.98	3.58	3.38	2.86	6K7GT	2.48	2.23	1.98	1.78		
6EY6	1.70	1.53	1.36	1.22	6K8	3.75	3.38	3.00	2.70		
6EZ5	1.80	1.62	1.44	1.30	6K11	1.93	1.73	1.54	1.39		
6EZ8	1.90	1.71	1.52	1.37	6KA8	2.03	1.82	1.62	1.46		
6F5	2.30	2.07	1.84	1.66	6KD8	1.33	1.19	1.06	.95		
6F6	2.93	2.63	2.34	2.11	6KL8	1.38	1.24	1.10	.99		
6F6G	2.93	2.63	2.34	2.11	6KM8	1.70	1.53	1.36	1.22		
6F6GT	2.93	2.63	2.34	2.11	6KT8	1.63	1.46	1.30	1.17		
6F7	5.85	5.27	4.68	4.21	6L6	4.30	3.87	3.44	3.10		
6F8G	4.48	4.03	3.58	3.22	6L6GC	2.18	1.96	1.74	1.57		
6FA7	1.45	1.31	1.16	1.04	6L7	3.68	3.31	2.94	2.65		
6FD7	2.53	2.27	2.02	1.82	6N5	Use 6AB5/6N5					
6FG6	1.45	1.31	1.16	1.04	6N7	2.50	2.25	2.00	1.80		
6FG7	1.45	1.31	1.16	1.04	6N7GT	2.63	2.36	2.10	1.89		
6FH5	1.45	1.31	1.16	1.04	6Q7	2.65	2.39	2.12	1.91		
6FH8	1.83	1.64	1.46	1.31	6Q7GT	2.83	2.54	2.26	2.03		
6FJ7	1.83	1.64	1.46	1.31	6Q11	1.75	1.58	1.40	1.26		
6FM7	1.73	1.55	1.38	1.24	6R7	2.73	2.45	2.18	1.96		
6FM8	1.50	1.35	1.20	1.08	6S4A	1.23	1.10	.98	.88		
6FQ5A	2.03	1.82	1.62	1.46	6S7	3.60	3.24	2.88	2.59		
6FQ7	1.15	1.04	.92	.83	6S8GT	2.20	1.98	1.76	1.58		
6FS5	1.53	1.37	1.22	1.10	6SA7	2.15	1.94	1.72	1.55		
6FV6	1.98	1.78	1.58	1.42	6SA7GT	2.15	1.94	1.72	1.55		
6FV8	1.58	1.42	1.26	1.13	6SB7Y	3.15	2.84	2.52	2.27		
6FV8A	1.58	1.42	1.26	1.13	6SC7	2.25	2.03	1.80	1.62		
6FW5	2.05	1.85	1.64	1.48	6SF5	1.85	1.67	1.48	1.33		
6FW8	5.08	4.57	4.06	3.65	6SF6GT	1.60	1.44	1.28	1.15		
6FY7	1.70	1.53	1.36	1.22	6SF7	3.13	2.81	2.50	2.25		
6G6G	3.60	3.24	2.88	2.59	6SG7	2.30	2.07	1.84	1.66		
6G11	2.18	1.96	1.74	1.57							
6GC5	1.83	1.64	1.46	1.31							

RECEIVING TUBES CONTINUED ON NEXT PAGE



# RCA Receiving Tubes (Cont'd)

ORDERS RECEIVED TODAY ARE SHIPPED TODAY

Tube Type	MAY BE ASSORTED				Not Ass't'd 100-Up, EACH	Tube Type	MAY BE ASSORTED				Not Ass't'd 100-Up, EACH
	EACH in Quantities of						EACH in Quantities of				
	1 to 9	10 to 49	50 or More				1 to 9	10 to 49	50 or More		
6SH7	2.33	2.09	1.86	1.67	10GN8	1.90	1.71	1.52	1.37		
6SJ7	2.08	1.87	1.66	1.49	10HF8	2.33	2.09	1.86	1.67		
6SJ7GT	2.08	1.87	1.66	1.49	11AR11	2.18	1.96	1.74	1.57		
6SK7	1.98	1.78	1.58	1.42	11CY7	1.63	1.46	1.30	1.17		
6SK7GT	2.10	1.89	1.68	1.51	11JE8	2.03	1.82	1.62	1.46		
6SL7GT	1.75	1.58	1.40	1.26	11KV8	3.13	2.81	2.50	2.25		
6SN7GTB	1.30	1.17	1.04	.94	12A8GT	4.43	3.99	3.54	3.19		
6SQ7	1.88	1.69	1.50	1.35	12AB5	1.75	1.58	1.40	1.26		
6SQ7GT	1.90	1.71	1.52	1.37	12AC6	1.10	.99	.88	.79		
6SR7	1.95	1.76	1.56	1.40	12AD6	1.20	1.08	.96	.86		
6SS7	2.75	2.48	2.20	1.98	12AE6A	1.20	1.08	.96	.86		
6T4	2.73	2.45	2.18	1.96	12AE7	1.88	1.69	1.50	1.35		
6T8A	1.70	1.53	1.36	1.22	12AF3	1.45	1.31	1.16	1.04		
6U5	2.78	2.50	2.22	2.00	12AF6	1.38	1.24	1.10	.99		
6U8A	1.65	1.49	1.32	1.19	12AH7GT	2.78	2.50	2.22	2.00		
6V3A	2.28	2.05	1.82	1.64	12AJ6	1.28	1.15	1.02	.92		
6V6	3.38	3.04	2.70	2.43	12AL5	.95	.86	.76	.68		
6V6GTA	1.10	.99	.88	.79	12AL8	3.28	2.95	2.62	2.36		
6W4GT	1.20	1.08	.96	.86	12AL11	2.23	2.00	1.78	1.60		
6W6GT	1.43	1.28	1.14	1.03	12AQ5	1.30	1.17	1.04	.94		
6X4	.83	.74	.66	.59	12AT6	.93	.83	.74	.67		
6X5GT	1.05	.95	.84	.76	12AT7	1.53	1.37	1.22	1.10		
6X8	1.58	1.42	1.26	1.13	12AU6	1.08	.97	.86	.77		
6Y6G	2.15	1.94	1.72	1.55	12AU7A	1.23	1.10	.98	.88		
6Y6GA	2.15	1.94	1.72	1.55	12AV5GA	2.03	1.82	1.62	1.46		
6Z4		Use 84/6Z4			12AV6	.83	.74	.66	.59		
7A4	3.75	3.38	3.00	2.70	12AV7	1.83	1.64	1.46	1.31		
7A5	3.00	2.70	2.40	2.16	12AW6	1.65	1.49	1.32	1.19		
7A6	3.70	3.33	2.96	2.66	12AX3	1.38	1.24	1.10	.99		
7A7	3.78	3.40	3.02	2.72	12AX4GTB	1.35	1.21	1.08	.97		
7A8	4.13	3.72	3.30	2.97	12AX7A	1.28	1.15	1.02	.92		
7AF7	3.30	2.97	2.64	2.38	12AY3 Novar	1.40	1.26	1.12	1.01		
7AG7	4.20	3.78	3.36	3.02	12AY7	2.38	2.14	1.90	1.71		
7AH7	3.20	2.88	2.56	2.30	12AZ7A	1.38	1.24	1.10	.99		
7AU7	1.30	1.17	1.04	.94	12B4A	1.43	1.28	1.14	1.03		
7B4	3.60	3.24	2.88	2.59	12BA6	.83	.74	.66	.59		
7B5	4.43	3.99	3.54	3.19	12BA7	2.98	2.68	2.38	2.14		
7B6	2.80	2.52	2.24	2.02	12BD6	1.23	1.10	.98	.88		
7B7	4.05	3.65	3.24	2.92	12BE6	1.88	.79	.70	.63		
7B8	2.98	2.68	2.38	2.14	12BF6	1.10	.99	.88	.79		
7C5	1.75	1.58	1.40	1.26	12BH7A	1.53	1.37	1.22	1.10		
7C6	3.88	3.49	3.10	2.79	12BK5	2.00	1.80	1.60	1.44		
7C7	1.80	1.62	1.44	1.30	12BL6	1.33	1.19	1.06	.95		
7E7	3.35	3.02	2.68	2.41	12BQ6GTB/ 12CU6	2.23	2.00	1.78	1.60		
7EY6	1.58	1.42	1.26	1.13	12BR7	1.60	1.44	1.28	1.15		
7F7	3.98	3.58	3.18	2.86	12BS3 Novar	1.78	1.60	1.42	1.28		
7F8	4.38	3.94	3.50	3.15	12BV7	1.75	1.58	1.40	1.26		
7G7	3.20	2.88	2.56	2.30	12BW4	1.45	1.31	1.16	1.04		
7H7	3.20	2.88	2.56	2.30	12BY7A	1.60	1.44	1.28	1.15		
7J7	3.63	3.27	2.90	2.61	12BZ6	1.13	1.01	.90	.81		
7K7	4.30	3.87	3.44	3.10	12BZ7	2.20	1.98	1.76	1.58		
7N7	3.78	3.40	3.02	2.72	12C5		Use 12CU5/12C5				
7Q7	3.10	2.79	2.48	2.23	12C8	4.85	4.37	3.88	3.49		
7R7	3.33	2.99	2.66	2.39	12CA5	1.43	1.28	1.14	1.03		
7V7	2.45	2.21	1.96	1.76	12CN5	1.73	1.55	1.38	1.24		
7W7	3.50	3.15	2.80	2.52	12CR6	1.38	1.24	1.10	.99		
7X7	4.05	3.65	3.24	2.92	12CT8	2.13	1.91	1.70	1.53		
7Y4	3.58	3.22	2.86	2.57	12CU5/12C5	1.23	1.10	.98	.88		
7Z4	3.45	3.11	2.76	2.48	12CU6		Use 12BQ6GTB/12CU6				
8AU8	2.03	1.82	1.62	1.46	12CX6	1.45	1.31	1.16	1.04		
8AW8A	1.85	1.67	1.48	1.33	12D4	1.45	1.31	1.16	1.04		
8B10	1.78	1.60	1.42	1.28	12DB5	1.38	1.24	1.10	.99		
8BA8A	1.83	1.64	1.46	1.31	12DE8	1.65	1.49	1.32	1.19		
8BH8	1.78	1.60	1.42	1.28	12DK6	1.20	1.08	.96	.86		
8BN8	1.63	1.46	1.30	1.17	12DK7	1.48	1.33	1.18	1.06		
8BQ5	1.45	1.31	1.16	1.04	12DL8	2.90	2.61	2.32	2.09		
8CG7	1.25	1.13	1.00	.90	12DM4A*	1.43	1.28	1.14	1.03		
8CM7	1.45	1.31	1.16	1.04	12DQ6B	2.10	1.89	1.68	1.51		
8CN7	1.40	1.26	1.12	1.01	12DQ7	1.73	1.55	1.38	1.24		
8CS7*	1.48	1.33	1.18	1.06	12DS7	1.98	1.78	1.58	1.42		
8CX8	2.18	1.96	1.74	1.57	12DT5	1.53	1.37	1.22	1.10		
8EB8	2.00	1.80	1.60	1.44	12DT8	1.90	1.71	1.52	1.37		
8EM5	1.73	1.55	1.38	1.24	12DU7	2.03	1.82	1.62	1.46		
8ET7	2.20	1.98	1.76	1.58	12DV8	1.78	1.60	1.42	1.28		
8FQ7	1.38	1.24	1.10	.99	12DW7	1.63	1.46	1.30	1.17		
8GN8	1.98	1.78	1.58	1.42	12DW8*	1.78	1.60	1.42	1.28		
8KA8	2.05	1.85	1.64	1.48	12DY8	2.30	2.07	1.84	1.66		
9AU7	1.40	1.26	1.12	1.01	12DZ6	1.38	1.24	1.10	.99		
9BR7	1.68	1.51	1.34	1.21	12EA6	1.33	1.19	1.06	.95		
9CL8	1.58	1.42	1.26	1.13	12EC8	1.80	1.62	1.44	1.30		
9U8A	1.65	1.49	1.32	1.19	12ED5	1.43	1.28	1.14	1.03		
10C8	2.13	1.91	1.70	1.53	12EG6	1.60	1.44	1.28	1.15		
10DE7	1.70	1.53	1.36	1.22	12EH5	1.45	1.31	1.16	1.04		
10DR7	2.18	1.96	1.74	1.57	12EK6	1.45	1.31	1.16	1.04		
10DX8	1.63	1.46	1.30	1.17	12EL6	1.00	.90	.80	.72		
10EG7	2.30	2.07	1.84	1.66	12EN6	1.53	1.37	1.22	1.10		
10EM7	2.38	2.14	1.90	1.71							

# RCA Receiving Tubes



CALL THE ALLIED OFFICE NEAREST YOU FOR PERSONALIZED SERVICE

Tube Type	MAY BE ASSORTED			Not Ass't'd 100-Up, EACH	Tube Type	MAY BE ASSORTED			Not Ass't'd 100-Up, EACH
	EACH in Quantities of					EACH in Quantities of			
	1 to 9	10 to 49	50 or More			1 to 9	10 to 49	50 or More	
12EQ7	1.45	1.31	1.16	1.04	17GT5 Novar	2.13	1.91	1.70	1.53
12F8	1.53	1.37	1.22	1.10	17GV5	2.23	2.00	1.78	1.60
12FK6	1.15	1.04	.92	.83	17GW6	2.13	1.91	1.70	1.53
12FM6	1.15	1.04	.92	.83	17H3	1.25	1.13	1.00	.90
12FQ8	1.60	1.44	1.28	1.15	17JB6 Novar	2.30	2.07	1.84	1.66
12FR8	2.40	2.16	1.92	1.73	18A5	2.08	1.87	1.66	1.49
12FV7	1.83	1.64	1.46	1.31	18FW6	1.08	.97	.86	.77
12FX5	1.33	1.19	1.06	.95	18FW6A	1.08	.97	.86	.77
12FX8	2.03	1.82	1.62	1.46	18FX6A	1.18	1.06	.94	.85
12FX8A	2.03	1.82	1.62	1.46	18FY6A	.95	.86	.76	.68
12GA6	1.28	1.15	1.02	.92	18GD6A	1.08	.97	.86	.77
12GC6	2.10	1.89	1.68	1.51	19AU4	1.90	1.71	1.52	1.37
12GE5	1.90	1.71	1.52	1.37	19AU4GTA	1.90	1.71	1.52	1.37
12GJ5 Novar	2.30	2.07	1.84	1.66	19BG6GA	3.25	2.93	2.60	2.34
12GN7	2.08	1.87	1.66	1.49	19CL8A	1.75	1.58	1.40	1.26
12GT5 Novar	2.13	1.91	1.70	1.53	19EA8	1.70	1.53	1.36	1.22
12H6	1.98	1.78	1.58	1.42	19HR6	1.23	1.10	.98	.88
12J5GT	2.18	1.96	1.74	1.57	19HS6	1.28	1.15	1.02	.92
12J7GT	3.70	3.33	2.96	2.66	19HV8	1.90	1.71	1.52	1.37
12J8	2.30	2.07	1.84	1.66	19J6	1.98	1.78	1.58	1.42
12JB6 Novar	3.00	2.70	2.40	2.16	19JN8	1.60	1.44	1.28	1.15
12K5	1.83	1.64	1.46	1.31	19T8	1.75	1.58	1.40	1.26
12K7GT	3.50	3.15	2.80	2.52	19X8	2.18	1.96	1.74	1.57
12K8	4.35	3.92	3.48	3.13	20EZ7	1.83	1.64	1.46	1.31
12KL8	1.30	1.17	1.04	.94	21GY5	2.45	2.21	1.96	1.76
12L6GT	1.38	1.24	1.10	.99	22BH3 Novar	1.53	1.37	1.22	1.10
12Q7GT	2.90	2.61	2.32	2.09	22DE4	1.55	1.40	1.24	1.12
12R5	1.55	1.40	1.24	1.12	22JG6 Novar	3.05	2.75	2.44	2.20
12SA7	2.15	1.94	1.72	1.55	24A	3.30	2.97	2.64	2.38
12SA7GT	2.15	1.94	1.72	1.55	25AV5GA	2.33	2.09	1.86	1.67
12SC7	2.75	2.48	2.20	1.98	25AX4GT	1.60	1.44	1.28	1.15
12SF5	2.05	1.85	1.64	1.48	25BK5	1.83	1.64	1.46	1.31
12SF7	3.30	2.97	2.64	2.38	25BQ6GT/25CU6	2.33	2.09	1.86	1.67
12SG7	2.33	2.09	1.86	1.67	25C5	1.08	.97	.86	.77
12SH7	2.88	2.59	2.30	2.07	25CA5	1.55	1.40	1.24	1.12
12SJ7	2.10	1.89	1.68	1.51	25CD6GB	3.05	2.75	2.44	2.20
12SK7	1.98	1.78	1.58	1.42	25CU6	Use 25BQ6GT/25CU6			
12SK7GT	1.98	1.78	1.58	1.42	25DN6	3.18	2.86	2.54	2.29
12SL7GT	1.88	1.69	1.50	1.35	25EC6	2.85	2.57	2.28	2.05
12SN7GTA	1.35	1.21	1.08	.97	25EH5	1.25	1.13	1.00	.90
12SQ7	1.88	1.69	1.50	1.35	25F5A	2.03	1.82	1.62	1.46
12SQ7GT	1.88	1.69	1.50	1.35	25L6	Use 25L6GT			
12SR7	2.73	2.45	2.18	1.96	25L6GT	1.33	1.19	1.06	.95
12T7	1.33	1.19	1.06	.95	25W4GT	1.35	1.21	1.08	.97
12V6GT	1.45	1.31	1.16	1.04	25Z5	2.30	2.07	1.84	1.66
12W6GT	1.60	1.44	1.28	1.15	25Z6GT	1.53	1.37	1.22	1.10
12X4	.95	.86	.76	.68	27	2.70	2.43	2.16	1.94
13CW4 Nuvistor	2.23	2.00	1.78	1.60	29GK6*	1.68	1.51	1.34	1.21
13DE7	1.48	1.33	1.18	1.06	32ET5A	1.28	1.15	1.02	.92
13DR7	1.70	1.53	1.36	1.22	34GD5A	1.18	1.06	.94	.85
13EM7	2.58	2.32	2.06	1.85	35A5	3.00	2.70	2.40	2.16
13FD7	2.43	2.18	1.94	1.75	35B5	1.70	1.53	1.36	1.22
13GB5	1.98	1.78	1.58	1.42	35C5	1.08	.97	.86	.77
13GF7 Novar	2.30	2.07	1.84	1.66	35DZ8	1.73	1.55	1.38	1.24
13J10	2.68	2.41	2.14	1.93	35EH5	1.15	1.04	.92	.83
14A7	2.95	2.66	2.36	2.12	35GL6	1.25	1.13	1.00	.90
14AF7	3.03	2.72	2.42	2.18	35L6GT	1.20	1.08	.96	.86
14B6	2.80	2.52	2.24	2.02	35W4	.55	.50	.44	.40
14C7	3.30	2.97	2.64	2.38	35Y4	2.40	2.16	1.92	1.73
14F7	4.48	4.03	3.58	3.22	35Z3	2.50	2.25	2.00	1.80
14F8	3.35	3.02	2.68	2.41	35Z4GT	1.35	1.21	1.08	.97
14GT8	1.60	1.44	1.28	1.15	35Z5GT	.93	.83	.74	.67
14Q7	3.10	2.79	2.48	2.23	36AM3B	.80	.72	.64	.58
14R7	3.60	3.24	2.88	2.59	41	2.90	2.61	2.32	2.09
15AF11	2.53	2.27	2.02	1.82	42	2.58	2.32	2.06	1.85
15EW6*	1.38	1.24	1.10	.99	43	3.80	3.42	3.04	2.74
15FY7	1.73	1.55	1.38	1.24	47	4.58	4.12	3.66	3.29
15HB6	1.65	1.49	1.32	1.19	50A5	3.13	2.81	2.50	2.25
15KY8 Novar	2.53	2.27	2.02	1.82	50B5	1.38	1.24	1.10	.99
17AX4GTA	1.45	1.31	1.16	1.04	50C5	1.08	.97	.86	.77
17AY3 Novar	1.40	1.26	1.12	1.01	50DC4	.95	.86	.76	.68
17BH3 Novar	1.53	1.37	1.22	1.10	50EH5	1.15	1.04	.92	.83
17BQ6GTB	2.78	2.50	2.22	2.00	50FE5	2.18	1.96	1.74	1.57
17BS3 Novar	1.75	1.58	1.40	1.26	50FK5	1.15	1.04	.92	.83
17C9	3.08	2.77	2.46	2.21	50HK6	1.15	1.04	.92	.83
17CU5	1.23	1.10	.98	.88	50L6GT	1.28	1.15	1.02	.92
17D4	1.45	1.31	1.16	1.04	50X6	3.10	2.79	2.48	2.23
17DE4	1.70	1.53	1.36	1.22	50Y6GT	2.30	2.07	1.84	1.66
17DM4	1.60	1.44	1.28	1.15	50Y7GT	2.25	2.03	1.80	1.62
17DQ6B	2.10	1.89	1.68	1.51	60FX5	1.38	1.24	1.10	.99
17GE5	2.08	1.87	1.66	1.49	70L7GT	5.08	4.57	4.06	3.65
17GJ5 Novar	2.30	2.07	1.84	1.66					

RECEIVING TUBES CONTINUED ON NEXT PAGE





# RCA, Genalex and Mullard Tubes

## RCA RECEIVING TUBES (Cont'd)

Tube Type	MAY BE ASSORTED			Not Ass't'd 100-Up, EACH	Tube Type	MAY BE ASSORTED			Not Ass't'd 100-Up, EACH
	EACH in Quantities of					EACH in Quantities of			
	1 to 9	10 to 49	50 or More			1 to 9	10 to 49	50 or More	
75	3.40	3.06	2.72	2.45	7025	1.48	1.33	1.18	1.06
78	3.60	3.24	2.88	2.59	7027A	3.30	2.97	2.64	2.38
80	2.10	1.89	1.68	1.51	7167*	1.66	1.49	1.33	1.20
84/6Z4	1.83	1.64	1.46	1.31	7189	1.43	1.28	1.14	1.03
117L7/117M7GT	5.08	4.57	4.06	3.65	7199	2.03	1.82	1.62	1.46
117M7GT		Use 117L7/117M7GT			7247	1.53	1.37	1.22	1.10
117N7GT	6.80	6.12	5.44	4.90	7355	1.53	1.37	1.22	1.10
117P7GT	6.80	6.12	5.44	4.90	7408	1.33	1.19	1.06	.95
117Z3	2.18	1.96	1.74	1.57	7543	1.55	1.40	1.24	1.12
117Z6GT	3.55	3.20	2.84	2.56	7591	1.48	1.33	1.18	1.06
5879	1.88	1.69	1.50	1.35	7695	2.20	1.98	1.76	1.58
5881	3.20	2.88	2.56	2.30	7868 Novar	1.83	1.64	1.46	1.31
6973	2.25	2.03	1.80	1.62					



### Gold Lion

## HIGH-PERFORMANCE, HAND-CRAFTED TUBES BY GENALEX

• Deluxe Replacement Tubes—Meet MIL-E-1 Specs • Individually Made to Rigid Standards

Deluxe replacement tubes for high-fidelity components. Offer ultra-reliable, distortion-free design. Each tube is carefully quality controlled during manufacture and actually measures up to prototype laboratory standards. Made in the finest tradition of British craftsmanship by General Electric Co., Ltd., of England. 100% checked for operational tests, noise and microphonics. Secondary characteristics

tested in accordance with U.S. MIL-E-1 procedures; each tube includes individual test report. 1000-hour life tests are conducted on randomly selected tubes, with some tested to 10,000 hours. All components used are microscopically examined, ultrasonically cleaned, and assembled at pressurized dust-free benches. In table, MP after tube type indicates matched pair. Av. wt., 4 oz.

StockNo.	Type	Replaces	EACH	StockNo.	Type	Replaces	EACH
96 A 000	GL-U52	5U4G, 5T4, 5931	2.90	96 A 009	GL-N709	6BQ5, EL84	3.80
96 A 001	GL-KT66	EL35, EL36, EL37, EL39, 1614, 1622, 5881	4.50	96 A 010	GL-N709-MP	6BQ5, EL84	8.60/pr.
96 A 002	GL-KT66-MP	EL35, EL36, EL37, EL39, 1614, 1622, 5881	10.00/pr.	96 A 011	GL-U709	6CA4, EZ81	3.20
96 A 003	GL-KT77	6L6GB, 6CA7, EL34, 7581	5.50	96 A 012	GL-D717	6AL5, D77, EB91, 5726, 6058, 6097, 6663	3.80
96 A 004	GL-KT77-MP	6L6GB, 6CA7, EL34, 7581	12.00/pr.	96 A 013	GL-Z729	6CF8, EF86, 6267	3.00
96 A 005	GL-U77	SAR4, 5V4, 5Z4, GZ30, GZ32, GZ33, GZ34	3.70	96 A 014	GL-B739	12AT7, ECC81, B309, 6060, 6201, 6679	3.20
96 A 006	GL-KT88	6L6GC, 6550, 7027A	6.95	96 A 015	GL-B749	12AU7, ECC82, 5814, 6067, 6189, 6680	2.80
96 A 007	GL-KT88-MP	6L6GC, 6550, 7027A	14.90/pr.	96 A 016	GL-B759	12AX7, ECC83, 5751, 6681, 7025, 7247	3.00
96 A 008	GL-U707	6X4, 6BX4, U78, EZ90, 5993, 6063, 6202, 6203	3.40				



## MULLARD MASTER 10M SERIES ELECTRON TUBES—INDIVIDUALLY TESTED

EACH TUBE IS INDIVIDUALLY TESTED FOR:

- Contact Potential
- Matched Sections
- Cathode Stability
- Grid Cutoff
- Heater Current
- Transconductance
- Microphonics
- Distortion
- Life; Noise

Mullard's 10M Series is a special range of carefully selected and precision-designed tubes, individually laboratory tested to meet the most exacting standards. Each tube is guaranteed for 10,000 hours of efficient, effective performance within a two-year period from date of purchase. Multiple tests on each tube assure long life and ultra-reliable operation, plus tube-to-tube and section-to-section uniformity—highly recommended

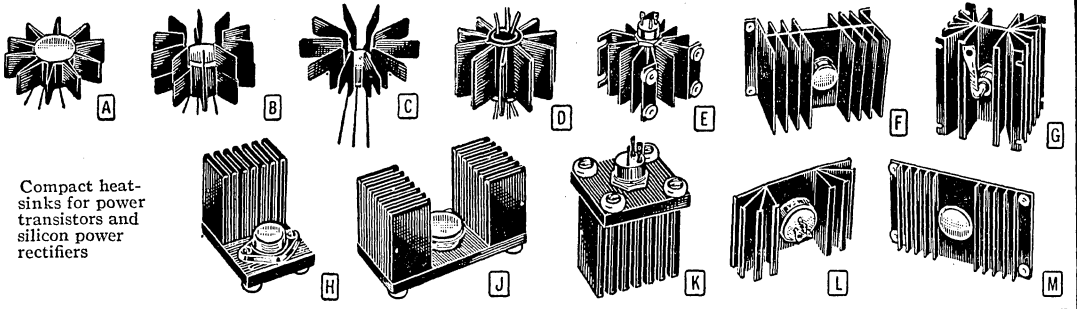
for critical circuit usage in any industrial or commercial application. Ideal for broadcast and antenna systems, instrumentation, computer and communications systems, radar, public-address systems, etc. All employ gold-protected pins, and are individually cartoned and sealed in plastic-foam cushion for protection during handling and shipment from England. Av. wt., 5 oz.

Stock No.	Type	EACH		Stock No.	Type	EACH		Stock No.	Type	EACH	
		1-49	50-Up			1-49	50-Up			1-49	50-Up
96 A 017	6AB8	2.75	2.47	96 A 044	6EU7	2.35	2.11	96 A 071	PL84/15CW5	2.50	2.25
96 A 018	6AJ8	2.65	2.38	96 A 045	6FY5	2.35	2.11	96 A 072	ECC85/6AQ8	2.40	2.16
96 A 019	6AK5	3.25	2.92	96 A 046	6GK5	2.40	2.16	96 A 073	ECC86/6HG8	3.10	2.79
96 A 020	6AK8	2.80	2.52	96 A 047	6HG8	3.00	2.70	96 A 074	EF86/6267	2.50	2.25
96 A 021	6AL5	1.90	1.71	96 A 048	6J6	2.55	2.29	96 A 075	PCF86/7HG8	2.65	2.38
96 A 022	6AQ5	2.15	1.93	96 A 049	6J6A	2.55	2.29	96 A 076	ECC88/6DJ8	3.10	2.79
96 A 023	6AQ5A	2.15	1.93	96 A 050	6T8A	2.80	2.52	96 A 077	EBF89/6DC8	2.65	2.38
96 A 024	6AQ8	2.40	2.16	96 A 051	7HG8	3.65	3.38	96 A 078	EF89/6DA6	2.55	2.29
96 A 025	6AT6	2.00	1.80	96 A 052	9A8	2.25	2.92	96 A 079	EC90/6C4	2.85	2.56
96 A 026	6AU6	2.05	1.84	96 A 053	12AT7	2.55	2.29		EK90/6BE6	Use 6BE6	
96 A 027	6AU6A	2.05	1.84	96 A 054	12AU7	2.20	1.98		EL90/6AQ5	Use 6AQ5	
96 A 028	6AV6	1.95	1.75	96 A 055	12AU7A	2.20	1.98		EB91/6AL5	Use 6AL5	
96 A 029	6BA6	1.95	1.75	96 A 056	12AV6	1.95	1.75	96 A 080	EB91/6AV6	1.95	1.75
96 A 030	6BE6	2.10	1.89	96 A 057	12AX7	2.20	1.98	96 A 081	ECC91/6J6	2.55	2.29
96 A 031	6BL8	3.05	2.74	96 A 058	12AX7A	2.20	1.98	96 A 082	HBC91/12AV6	1.95	1.75
96 A 032	6BQ5	2.15	1.93	96 A 059	12DW7	2.55	2.29	96 A 083	EF93/6BA6	2.00	1.80
96 A 033	6BQ5A	2.15	1.93	96 A 060	15CW5	2.50	2.25	96 A 084	EF94/6AU6	2.05	1.84
96 A 034	6C4	2.85	2.56	96 A 061	EABC80/6AK8	2.80	2.52	96 A 085	EC95/6ER5	2.40	2.16
96 A 035	6DA6	2.55	2.29	96 A 062	ECF80/6BL8	3.05	2.74	96 A 086	EF95/6AK5	3.25	2.92
96 A 036	6DC8	2.65	2.38	96 A 063	ECL80/6AB8	2.75	2.47	96 A 087	EL95/6DL5	2.55	2.29
96 A 037	6DJ8	3.00	2.70	96 A 064	PCF80/9A8	3.25	2.92	96 A 088	EC97/6FY5	2.35	2.11
96 A 038	6DL5	2.55	2.29	96 A 065	ECC81/12AT7	2.55	2.29	96 A 089	EF183/6EH7	2.60	2.34
96 A 039	6DX8	2.85	2.56	96 A 066	ECH81/6AJ8	2.65	2.38	96 A 090	EF184/6EJ7	2.60	2.34
96 A 040	6EH7	2.60	2.34	96 A 067	ECC82/12AU7	2.20	1.98	96 A 091	ECC189/6ES8	3.45	3.10
96 A 041	6EJ7	2.60	2.34	96 A 068	ECC83/12AX7	2.20	1.98	96 A 092	6267	2.50	2.25
96 A 042	6ER5	2.40	2.16	96 A 069	ECL84/6DX8	2.85	2.56	96 A 093	7025	2.35	2.11
96 A 043	6ES8	3.45	3.10	96 A 070	EL84/6BQ5	2.15	1.93	96 A 094	7247	2.55	2.29



# Wakefield Engineering Semiconductor-Coolers

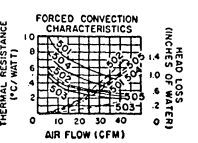
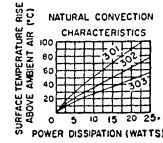
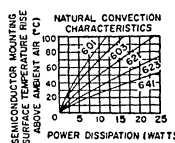
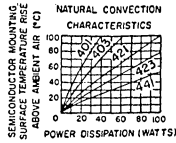
A COMPLETE LINE OF SEMICONDUCTOR COOLERS



Compact heat-sinks for power transistors and silicon power rectifiers

### RISE (°C) FOR 1 WATT

Type	Nat. Conv.	250 Ft./Min.	Fits Jeduc Case Styles	
			TO 18, 24, 28 (222 accepts 2 cases)	TO 5, 9, 11, 12, 16 (224 accepts 2 cases)
201	66	27	TO 8	
203	56	19		
222	56	19		
205	61	24	TO 8	
207	49	17		
209	34	10		
224	49	17		
211	56	20	TO 8	
213	44	13		
215	31	8		



### FORCED CONVECTION CHARACTERISTICS

TO-3  
TO-6  
2N1015 ETC.

TYPE SUFFIX DENOTES MOUNTING  
DOUBLE SUFFIX DENOTES 2 MOUNTINGS

BLANK (NO HOLES)

L-8-32X1/2 DEEP  
M-10-32X5/8 DEEP  
N-14-28X5/8 DEEP

TO-8

\*H, J & W HOLES FREE OF ANODIZE, 1-1/8, 1-1/8, 1-5/16 DIAS RESPECTIVELY, BOTH SIDES

### FEATHERWEIGHT UNITS FOR MILLIWATT TRANSISTORS

Stock No.	Mfr's Type	Fig.	Dia.	Lgth.	Fits Case Dia.	EACH			
						1-49	50-499	500-999	1000-4999
6 E 527	NF201	A	.64	.19	.161/.195	.27	.21	.16	.11
6 E 528	NF203	B	.64	.38	.161/.195	.29	.22	.17	.12
6 E 529	NF205	A	.72	.19	.275/.335	.27	.21	.16	.11
6 E 530	NF207	B	.72	.38	.275/.335	.29	.22	.17	.12
6 E 531	NF209	C	1.26	.44	.275/.335	.34	.29	.23	.18
7 E 074	NF211	A	.82	.19	.444/.524	.27	.21	.16	.11
7 E 073	NF213	B	.82	.38	.444/.524	.29	.22	.17	.12
7 E 075	NF215	C	1.38	.44	.444/.524	.34	.29	.23	.18
7 E 042	NF222	D	.64	.38	.161/.195	.38	.30	.24	.19
7 E 043	NF224	D	.72	.44	.275/.335	.38	.30	.24	.19

Installation tool for Models 201, 3, 5, 7, 9, ..... 1.00

### NATURAL CONVECTION UNITS

Stock No.	Mfr's Type	Inches			EACH				
		Fig.	H	W	D	1-49	50-99	100-249	250-499
7 E 076	NC301L	E	.75	2.00	2.00	1.55	1.30	1.05	.90
7 E 077	NC301M					1.55	1.30	1.05	.90
7 E 078	NC301N					1.55	1.30	1.05	.90
7 E 079	NC301R					1.55	1.30	1.05	.90
7 E 080	NC301RR					1.85	1.55	1.25	1.10
7 E 044	NC301K				1.25	1.05	.85	.70	
7 E 081	NC302L	E	1.50	2.00	2.00	1.65	1.40	1.15	1.00
7 E 082	NC302M					1.65	1.40	1.15	1.00
7 E 083	NC302N					1.65	1.40	1.15	1.00
7 E 084	NC302R					1.65	1.40	1.15	1.00
7 E 045	NC302K					1.35	1.15	.95	.80
7 E 085	NC302MM				1.95	1.65	1.35	1.20	
7 E 086	NC302NN				1.95	1.65	1.35	1.20	
7 E 087	NC302RR				1.95	1.65	1.35	1.20	
7 E 088	NC303L	E	3.00	2.00	2.00	1.90	1.60	1.30	1.15
7 E 089	NC303M					1.90	1.60	1.30	1.15
7 E 090	NC303N					1.90	1.60	1.30	1.15
7 E 091	NC303R					1.90	1.60	1.30	1.15
7 E 046	NC303K					1.60	1.35	1.10	.95
7 E 047	NC303MM				2.20	1.85	1.50	1.35	
7 E 092	NC303NN				2.20	1.85	1.50	1.35	
7 E 093	NC303RR				2.20	1.85	1.50	1.35	
6 E 501	NC401A	F	1.50	4.81	1.25	1.90	1.55	1.30	1.10
6 E 502	NC401B					1.90	1.55	1.30	1.10
6 E 094	NC401E					1.90	1.55	1.30	1.10
6 E 503	NC401K					1.60	1.30	1.10	.90
6 E 504	NC403A	F	3.00	4.81	1.25	2.10	1.70	1.35	1.15
6 E 505	NC403B					2.10	1.70	1.35	1.15

### NATURAL AND FORCED CONVECTION UNITS

Stock No.	Mfr's Type	Fig.	Inches			EACH			
			H	W	D	1-49	50-99	100-249	250-499
7 E 096	NC403C	F	3.00	4.81	1.25	2.10	1.70	1.35	1.15
6 E 506	NC403K	F	3.00	4.81	1.25	1.80	1.45	1.15	.95
6 E 507	NC421A	F	3.00	4.81	2.63	3.05	2.75	2.30	2.10
6 E 508	NC421B	F	3.00	4.81	2.63	3.05	2.75	2.30	2.10
7 E 098	NC421C	F	3.00	4.81	2.63	3.05	2.75	2.30	2.10
6 E 509	NC421K	F	3.00	4.81	2.63	2.75	2.50	2.10	1.90
6 E 510	NC423A	F	5.50	4.81	2.63	4.15	3.55	3.00	2.80
6 E 511	NC423B	F	5.50	4.81	2.63	4.15	3.55	3.00	2.80
6 E 512	NC423K	F	5.50	4.81	2.63	3.85	3.30	2.80	2.60
7 E 106	NC441J	G	5.50	4.75	4.50	5.75	4.95	4.25	3.95
7 E 107	NC441W	G	5.50	4.75	4.50	5.75	4.95	4.25	3.95
6 E 533	NC441K	G	5.50	4.75	4.50	5.45	4.70	4.05	3.75
6 E 513	FC501A	H	1.75	1.75	2.25	5.10	4.55	4.25	4.00
6 E 514	FC501B	H	1.75	1.75	2.25	5.10	4.55	4.25	4.00
6 E 515	FC501K	H	1.75	1.75	2.25	4.60	4.10	3.85	3.60
6 E 516	FC502A	I	1.75	3.50	1.75	7.30	6.55	6.15	5.70
6 E 517	FC502B	I	1.75	3.50	1.75	7.15	6.40	6.00	5.55
6 E 518	FC502K	I	1.75	3.50	1.75	6.80	6.10	5.75	5.30
7 E 050	FC503A	I	1.75	3.50	3.50	14.10	12.65	11.90	11.00
7 E 051	FC503B	I	1.75	3.50	3.50	13.95	12.50	11.75	10.85
7 E 095	FC503K	I	1.75	3.50	3.50	13.60	12.20	11.50	10.60
7 E 097	FC504K	J	1.75	1.75	1.75	4.20	3.80	3.50	3.35
7 E 099	FC505K	J	1.75	1.75	2.00	6.10	5.35	5.00	4.75
7 E 054	NC601K	K	1.25	2.24	.56	1.10	.90	.70	.55
7 E 049	NC603T	K	2.00	2.24	.56	1.50	1.20	.95	.80
7 E 055	NC603K	K	2.00	2.24	.56	1.20	.95	.75	.60
7 E 056	NC621A	L	1.50	4.81	.46	1.65	1.35	1.10	.95
7 E 057	NC621B	L	1.50	4.81	.46	1.65	1.35	1.10	.95
7 E 058	NC621K	L	1.50	4.81	.46	1.35	1.10	.90	.75
7 E 059	NC623A	L	3.00	4.81	.46	1.80	1.50	1.20	1.05
7 E 060	NC623B	L	3.00	4.81	.46	1.80	1.50	1.20	1.05
7 E 061	NC623K	L	3.00	4.81	.46	1.50	1.25	1.00	.85
7 E 062	NC641A	K	3.00	4.12	1.00	1.95	1.60	1.30	1.10
7 E 063	NC641B	K	3.00	4.12	1.00	1.95	1.60	1.30	1.10
7 E 064	NC641K	K	3.00	4.12	1.00	1.65	1.35	1.10	.90

### TEFLON INSULATORS

Stock No.	Type	For Heat-Sink Type	No. Req'd.	EACH	
6 E 520	101	501	6	8	.07
		502, 503, 504, 505			
6 E 519	103	401	3	4	.05
		402, 403, 421, 423			
		621, 623, 641			
7 E 067	105	441	4		.20

Additional curves sent upon request with your next order.

Look to Allied for the Latest in Industrial Electronics

ALLIED • 109

# RESISTORS And CONTROLS

*Take Advantage of  
the Fastest Service  
in the Industry!*

**AVAILABLE IN QUANTITY  
AT FACTORY PRICES...  
SAME DAY SHIPMENT**

## QUICK INDEX

### Resistors

MANUFACTURER	PAGE	WHERE APPLICABLE		OEM TO:
		MIL SPEC	MIL TYPE	
Continental Wirt	118			ANY
Dale	118, 119	R-26C	RW56G, RW67G, RW68G, RW69G, RE65, RE70, RE75	499
		R-18546C		499
IRC: Carbon	111	R-11	RC07, RC20, RC32, RC42	4999
Precision 1%	112, 113	R-10509	RN55B/D, RN60B/D, RN65B/D, RN70B/D, RN60C, RN65C, RN70C, RN20X	999
Wirewound	114, 115	R-93A	RW69G, RW67G, RW68G	499
Ohmite	116-118	R-11D	RC07, RC20, RC32, RC42	1000
Sprague	121	R-26C		999
Texas Instruments	120	R-10509	RN55B/D/G, RN60B/D/G, RN65B/D/G	999

### Controls

MANUFACTURER	PAGE	WHERE APPLICABLE		OEM TO:
		MIL SPEC	MIL TYPE	
Borg	128			199
Bourns	130-136	STD-202B	RT10 RT11 RT12	500
Centralab	139	R-19A R-94B2 R-94B	RV6 RV1, RV4	249
Clarostat	129	R-19		249
IRC-CTS: Circuitrim	122, 123	STD-202B		999
Industrial	125			ANY
Precision	124			499
Military	126	R-94B	RV2 RV4 RV5 RV6	249
		R-19A	RA20 RA30	249
Jensen	138			ANY
Mallory	140-142			499
Ohmite	136-138	R-94B	RV6 RV4	ANY

# ALLIED ELECTRONICS

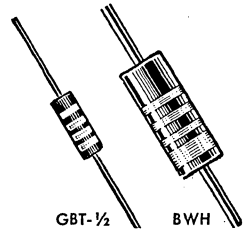
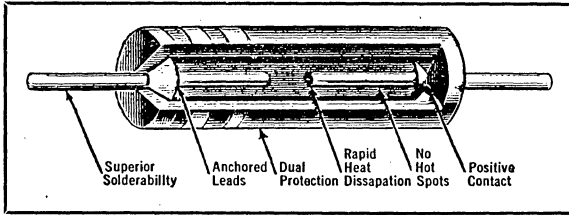
INDUSTRIAL SUBSIDIARY OF ALLIED RADIO



# IRC Carbon and Wirewound Insulated Resistors



**FREE** . . . . Color Code Guide with purchase of 20 or more resistors. Specify Stock No. 2M770.



## IRC TYPE GBT FIXED CARBON COMPOSITION RESISTORS

Type GBT and SR Fixed Composition. Choose from 10% (Table A) or 5% (Table B) tolerances. Meet or exceed MIL-R-11 specifications. Withstand 50-100% overloads for short periods of time. EIA (RETMA) coded. Has well-anchored, positive-contact leads with no hot spots and rapid heat dissipation. Sizes: SR-1/4, 1/4x3/32"; GBT-1/2, 25/64x3/32"; GBT-1, 1/16x3/32"; SR-2, 1/16x3/16". Shpg. wt., 2 oz.

Type BWH-2-Watt Fixed Wire-Wound. Values to 1000 Ohms. Choose from 10% (Table A) or 5% (Table B) tolerances. Rated @ 2-watts to 158°F ambient temp.; 1-watt @ 239°F; and 1/2-watt @ 279°F. Meet MIL-R-11C specs. EIA (RETMA) coded; wide first band. Inductance .04-4.5 μh from .24-1000 ohms respectively. Same size as 1-watt composition resistors. Shpg. wt., 2 oz.

## 10% INSULATED GBT, SR AND BWH TYPES

### TYPE GBT, SR 10% FIXED COMPOSITION—SPECIFY VALUES WANTED

Stock No.	Mfr's Type	MIL Equiv.	Watts	Values See Table "A"	May Be Assorted			May Be Assorted—At Least 100 of Each Value			
					1-4, EA.	5-49, EA.	50-Up, EA.	100-249, EA.	250-499, EA.	500-999, EA.	1000-4999, EA.
27 MM 150	SR-1/4	RC07	1/4	10Ω to 1 meg	.13	.09	.06	.048	.045	.038	.034
1 MM 000	GBT-1/2	RC20	1/2	2.7Ω to 22 meg	.12	.09	.055	.050	.035	.030	.028
1 MM 020	GBT-1	RC32	1	10Ω to 22 meg	.18	.11	.085	.055	.050	.045	.042
1 MM 070	SR-2	RC42	2	10Ω to 22 meg	.24	.19	.140	.105	.090	.080	.075

### TYPE BWH 10% 2-WATT FIXED WIRE-WOUND—SPECIFY VALUES WANTED—TO 1000 OHMS ONLY

1 MM 076	BWH	2	2.7Ω to 8.2Ω	.24	.18	.18	.14	.096	.064	
1 MM 077	BWH	2	10Ω to 1000Ω	.18	.15	.15	.108	.072	.058	

### TABLE "A"—10% EIA (RETMA) VALUES—SPECIFY RESISTANCE WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
0.27	0.82	2.7	8.2	27	82	270	820	2700	8200	27K	82K	270K	820K	2.7 meg	8.2 meg
0.33	1.0	3.3	10	33	100	330	1000	3300	10K	33K	100K	330K	1.0 meg	3.3 meg	10 meg
0.39	1.2	3.9	12	39	120	390	1200	3900	12K	39K	120K	390K	1.2 meg	3.9 meg	12 meg
0.47	1.5	4.7	15	47	150	470	1500	4700	15K	47K	150K	470K	1.5 meg	4.7 meg	15 meg
0.56	1.8	5.6	18	56	180	560	1800	5600	18K	56K	180K	560K	1.8 meg	5.6 meg	18 meg
0.68	2.2	6.8	22	68	220	680	2200	6800	22K	68K	220K	680K	2.2 meg	6.8 meg	22 meg

## 5% INSULATED GBT, SR AND BWH TYPES

### TYPE GBT, SR 5% FIXED COMPOSITION—SPECIFY VALUES WANTED

Stock No.	Mfr's Type	MIL Equiv.	Watts	Values See Table "B"	May Be Assorted			May Be Assorted—At Least 100 of Each Value			
					1-4, EA.	5-49, EA.	50-Up, EA.	100-249, EA.	250-499, EA.	500-999, EA.	1000-4999, EA.
27 MM 155	SR-1/4	RC07	1/4	10Ω to 1 meg	.26	.19	.11	.09	.085	.071	.062
1 MM 005	GBT-1/2	RC20	1/2	2.7Ω to 22 meg	.24	.19	.115	.070	.065	.060	.055
1 MM 025	GBT-1	RC32	1	10Ω to 22 meg	.36	.28	.175	.120	.115	.105	.095
1 MM 045	SR-2	RC42	2	10Ω to 22 meg	.48	.37	.23	.18	.175	.170	.155

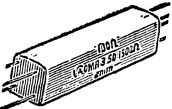
### TYPE BWH 5% 2-WATT FIXED WIRE-WOUND—SPECIFY VALUES WANTED—TO 1000 OHMS ONLY

1 MM 078	BWH	2	2.4Ω to 9.1Ω	.47	.40	.40	.285	.189	.143	
1 MM 079	BWH	2	10Ω to 1000Ω	.30	.25	.25	.18	.12	.09	

### TABLE "B"—5% EIA (RETMA) VALUES—SPECIFY RESISTANCE WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
0.24	0.91	3.6	13	51	200	750	3000	11K	43K	160K	620K	2.4 meg	9.1 meg		
0.27	1.0	3.9	15	56	220	820	3300	12K	47K	180K	680K	2.7 meg	10 meg		
0.30	1.1	4.3	16	62	240	910	3600	13K	51K	200K	750K	3.0 meg	11 meg		
0.33	1.2	4.7	18	68	270	1000	3900	15K	56K	220K	820K	3.3 meg	12 meg		
0.36	1.3	5.1	20	75	300	1100	4300	16K	62K	240K	910K	3.6 meg	13 meg		
0.39	1.5	5.6	22	82	330	1200	4700	18K	68K	270K	1.0 meg	3.9 meg	15 meg		
0.43	1.6	6.2	24	91	360	1300	5100	20K	75K	300K	1.1 meg	4.3 meg	16 meg		
0.47	1.8	6.8	27	100	390	1500	5600	22K	82K	330K	1.2 meg	4.7 meg	18 meg		
0.51	2.0	7.5	30	110	430	1600	6200	24K	91K	360K	1.3 meg	5.1 meg	20 meg		
0.56	2.2	8.2	33	120	470	1800	6800	27K	100K	390K	1.5 meg	5.6 meg	22 meg		
0.62	2.4	9.1	36	130	510	2000	7500	30K	110K	430K	1.6 meg	6.2 meg			
0.68	2.7	10	39	150	560	2200	8200	33K	120K	470K	1.8 meg	6.8 meg			
0.75	3.0	11	43	160	620	2400	9100	36K	130K	510K	2.0 meg	7.5 meg			
0.82	3.3	12	47	180	680	2700	10K	39K	150K	560K	2.2 meg	8.2 meg			

## MULTI-RANGE 10-WATT WIRE-WOUND RESISTORS



Type MR, Versatile resistors combining 4 separate 10-watt elements in a single, compact steatite housing. With instructions for connecting element leads to provide up to 47 different resistance values within ranges listed below. 1 1/2"x1/2". Shpg. wt., 3 oz. 2 per pkg.

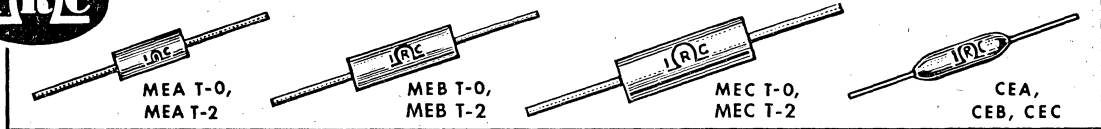


Type 55 Power Resistor Assortment, A complete power resistor kit consisting of 10 Type MR multi-range resistors. Kit includes 2 of each Type MR resistor listed in the table at left. Highly recommended for schools and laboratories, experimenters, Amateurs, etc. 200 different resistance values can be obtained from these 10 multi-range units by making the proper series, parallel or series-parallel hook-ups. This assortment provides complete 10-watt resistance coverage right at your fingertips—resistance values range all the way from 0.5 ohms to 50K ohms. Steatite housings provide excellent insulation. Supplied in convenient plastic box which can be used as a permanent storage bin. Size, 1 1/4"x3/4"x3 1/2". Shpg. wt., 1 lb.

Stock No.	Type	Range	Res. (Ohms)	PER PKG.
31 M580	MR1	47 values; 0.5-15 ohms	1, 2, 4, 8	1.20
31 M581	MR2	47 values; 5.0-150 ohms	10, 20, 40, 80	1.20
31 M582	MR3	47 values; 50-1500 ohms	100, 200, 400, 800	1.20
31 M583	MR4	47 values; 500-15K ohms	1000, 2000, 4000, 8000	1.20
31 M584	MR5	12 values; 3000-50K ohms	10K, 10K, 15K, 15K	1.80

31 M 585..... 6.60

# 1% Metal-Film MIL Type 10509 Resistors



MEA T-O, MEB T-O, MEC T-O. Precision-made, 1% tolerance, molded metal-film resistors. Feature stability and thermal noise characteristics comparable to precision wire-wound resistors; have lower noise and better temperature coefficient than deposited carbon or oxide film types. High temperature plastic case provides moisture

resistance. Voltage coefficient is less than 5 PPM/V. Temperature coefficient characteristic of  $0 \pm 100$  PPM/°C over a temperature range of  $-55^\circ\text{C}$  to  $+165^\circ\text{C}$ . \*Wattage for Characteristic B @  $70^\circ\text{C}$  ambient. †Wattage for Characteristic D at  $70^\circ\text{C}$  ambient. Also meets Characteristic B at  $125^\circ\text{C}$  ambient.

## TYPE ME T-O MOLDED METAL-FILM RESISTORS

Stock No.	Mfr's Type	MIL Type	Watts		Max. Cont. Volts	Values—See Table "A" Below	EACH ASSORTED		EACH ASSORTED MIN. 50 PER VALUE		
			B*	D†			1-24	25-Up	100-249	250-499	500-999
1 MM 002	MEA T-O	RN60B/D	1/8	1/4	300	30.1 to 97.6 ohms	1.18	.63	.46	.28	.23
1 MM 003	MEA T-O	RN60B/D	1/8	1/4	300	100 ohms to 499K	.96	.52	.38	.22	.20
1 MM 006	MEB T-O	RN65B/D	1/4	1/2	350	51.1 to 97.6 ohms	.99	.52	.38	.22	.19
1 MM 007	MEB T-O	RN65B/D	1/4	1/2	350	100 ohms to 1 meg	.94	.49	.35	.20	.18
1 MM 009	MEC T-O	RN70B/D	1/2	1	500	51.1 to 97.6 ohms	.91	.48	.35	.20	.18
1 MM 011	MEC T-O	RN70B/D	1/2	1	500	100 ohms to 1.5 meg	.85	.45	.32	.19	.17

## TYPE ME T-2 MOLDED METAL FILM RESISTORS

MEA T-2, MEB T-2, MEC T-2. 1% precision-made metal film resistors easily meet Type RN60C of MIL-R-10509D specifications. Have temperature coefficient characteristics of  $0 \pm 50$  PPM/°C over a

temperature span of  $-55^\circ\text{C}$  to  $+165^\circ\text{C}$ . Rated for full load (1/2 watt) at  $125^\circ\text{C}$ ; for zero load at  $175^\circ\text{C}$ . Feature voltage coefficient of less than 5 PPM/V. Specify values when ordering. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	MIL Type	Watts @ 125°C	Max. Cont. Volts	Values—See Table "A" Below	EACH ASSORTED		EACH ASSORTED MIN. 50 PER VALUE		
						1-24	25-Up	100-249	250-499	500-999
1 MM 456	MEA T-2	RN60C	1/8	250	30.1 ohms to 200K	1.63	1.20	.95	.81	.74
1 MM 457	MEA T-2	RN60C	1/8	250	205K to 499K	1.77	1.30	1.06	.88	.81
27 MM 151	MEB T-2	RN65C	1/4	250	51.1 ohms to 200K	1.56	1.13	.88	.74	.67
27 MM 152	MEB T-2	RN65C	1/4	250	205K to 1 meg	1.69	1.23	.99	.81	.74
27 MM 153	MEC T-2	RN70C	1/2	250	51.1 ohms to 499K	1.41	1.03	.81	.67	.60
27 MM 154	MEC T-2	RN70C	1/2	250	511K to 1.5 meg	1.56	1.09	.88	.74	.67

## TYPE CE T-O EVAPORATED METAL-FILM RESISTORS

CEA T-O, CEB T-O, CEC T-O. Precision 1% evaporated metal-film resistors with M-coat—a special moisture proofing identified by its gray color. Extremely stable with conservative ratings. Noise is less than 0.1 v./v. with a voltage coefficient of less than 5 PPM/v.

Temperature coefficient characteristic of  $0 \pm 100$  PPM/°C over a temperature span of  $-55^\circ\text{C}$  to  $+165^\circ\text{C}$ . Power ratings based on  $125^\circ\text{C}$  ambient. Alloy coated leads improve solderability. Specify values desired when ordering—see Table "A" below. Wt., 2 oz.

Stock No.	Mfr's Type	MIL Type	Watts	Max. Cont. Volts	Values—See Table "A" Below	EACH ASSORTED		EACH ASSORTED MIN. 50 PER VALUE		
						1-24	25-Up	100-249	250-499	500-999
1 MM 014	CEA T-O	RN55B/D	1/8	250	30.1 to 97.6 ohms	.99	.44	.44	.27	.23
1 MM 016	CEA T-O	RN55B/D	1/8	250	100 ohms to 499K	.99	.44	.36	.21	.19
1 MM 012	CEB T-O	RN60B/D	1/4	300	51.1 to 97.6 ohms	.99	.44	.36	.21	.19
1 MM 013	CEB T-O	RN60B/D	1/4	300	100 ohms to 1 meg	.99	.44	.26	.20	.17
1 MM 017	CEC T-O	.....	1/2	350	51.1 to 97.6 ohms	.64	.37	.27	.18	.15
1 MM 018	CEC T-O	.....	1/2	350	100 ohms to 1.5 meg	.54	.28	.21	.13	.11

1-99 quantities may be assorted for quantity price. For quantity price on an assortment of over 100 resistors, a minimum of 50 must be of one value.

## TABLE "A"—MIL-OHM VALUES—SPECIFY RESISTANCE WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs
30.1	60.4	121	243	487	976	1960	3920	7870	15.8K	31.6K	63.4K	127K	255K	511K	1.00	
30.9	61.9	124	249	499	1000	2000	4020	8060	16.2K	32.4K	64.9K	130K	261K	523K	1.02	
31.6	63.4	127	255	511	1020	2050	4120	8250	16.5K	33.2K	66.5K	133K	267K	536K	1.05	
32.4	64.9	130	261	523	1050	2100	4220	8450	16.9K	34K	68.1K	137K	274K	549K	1.07	
33.2	66.5	133	267	536	1070	2150	4320	8660	17.4K	34.8K	69.8K	140K	280K	562K	1.10	
34.0	68.1	137	274	549	1100	2210	4420	8870	17.8K	35.7K	71.5K	143K	287K	576K	1.13	
34.8	69.8	140	280	562	1130	2260	4530	9090	18.2K	36.5K	73.2K	147K	294K	590K	1.15	
35.7	71.5	143	287	576	1150	2320	4640	9310	18.7K	37.4K	75K	150K	301K	604K	1.18	
36.5	73.2	147	294	590	1180	2370	4750	9530	19.1K	38.3K	76.8K	154K	309K	619K	1.21	
37.4	75.0	150	301	604	1210	2430	4870	9760	19.6K	39.2K	78.7K	158K	316K	634K	1.24	
38.3	76.8	154	309	619	1240	2490	4990	10K	20K	40.2K	80.6K	162K	324K	649K	1.27	
39.2	78.7	158	316	634	1270	2550	5110	10.2K	20.5K	41.2K	82.5K	165K	332K	665K	1.30	
40.2	80.6	162	324	649	1300	2610	5230	10.5K	21K	42.2K	84.5K	169K	340K	681K	1.33	
41.2	82.5	165	332	665	1330	2670	5360	10.7K	21.5K	43.2K	86.6K	174K	348K	698K	1.37	
42.2	84.5	169	340	681	1370	2740	5490	11K	22.1K	44.2K	88.7K	178K	357K	715K	1.40	
43.2	86.6	174	348	698	1400	2800	5620	11.3K	22.6K	45.3K	90.9K	182K	365K	732K	1.43	
44.2	88.7	178	357	715	1430	2870	5760	11.5K	23.2K	46.4K	93.1K	187K	374K	750K	1.47	
45.3	90.9	182	365	732	1470	2940	5900	11.8K	23.7K	47.5K	95.3K	191K	383K	768K	1.50	
46.4	93.1	187	374	750	1500	3010	6040	12.1K	24.3K	48.7K	97.6K	196K	392K	787K		
47.5	95.3	191	383	768	1540	3090	6190	12.4K	24.9K	49.9K	100K	200K	402K	806K		
48.7	97.6	196	392	787	1580	3160	6340	12.7K	25.5K	51.1K	102K	205K	412K	825K		
49.9	100	200	402	806	1620	3240	6490	13K	26.1K	52.3K	105K	210K	422K	845K		
51.1	102	205	412	825	1650	3320	6650	13.3K	26.7K	53.6K	107K	215K	432K	866K		
52.3	105	210	422	845	1690	3400	6810	13.7K	27.4K	54.9K	110K	221K	442K	887K		
53.6	107	215	432	866	1740	3480	6980	14K	28K	56.2K	113K	226K	453K	909K		
54.9	110	221	442	887	1780	3570	7150	14.3K	28.7K	57.6K	115K	232K	464K	931K		
56.2	113	226	453	909	1820	3650	7320	14.7K	29.4K	59K	118K	237K	475K	953K		
57.6	115	232	464	931	1870	3740	7500	15K	30.1K	60.4K	121K	243K	487K	976K		
59.0	118	237	475	953	1910	3830	7680	15.4K	30.9K	61.9K	124K	246K	499K			

# MIL Type Resistors, Resistor Assortments



## TYPE DCC EPOXY-COATED DEPOSITED-CARBON RESISTORS



Precision 1% tolerance resistors. Meet all performance and stability requirements for specification MIL-R-10509D, Style RN70B; also meet all requirements of style RN20X. Extra-heavy epoxy "M" coat withstands 30 cycles of MIL moisture test and protects against mechanical damage from soldering and wiring. Type

designation, resistance value, tolerance, and code date of manufacture are stamped on each unit. Rated at 1/2-watt at 70°C ambient; derate to zero at 150° C. Specify values from Table "A" when ordering. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	MIL Type	Watts	Max. Cont. Volts	Values—See Table "A" Below	EACH, ASSORTED		EACH, NOT ASSORTED		
						1-24	25-Up	100-249	250-499	500-999
1 MM 492	DCC	RN20X	1/2	350	10 to 97.6 ohms	.64	.37	.27	.18	.15
1 MM 493	DCC	RN20X	1/2	350	100 ohms to 2.49 megs	.54	.28	.21	.13	.11

1-99 quantities may be assorted for quantity price. 100 and over must be of one value for quantity price. Specify values when ordering.

### TABLE "A"—MIL-OHM VALUES—SPECIFY RESISTANCE WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
10.0	34.0	105	301	604	1400	2490	4120	6980	14.3K	24.9K	42.2K	71.5K	140K	287K	562K			
12.1	34.8	110	316	619	1470	2550	4220	7320	14.7K	25.5K	43.2K	73.2K	143K	301K	619K			
12.4	36.5	121	332	649	1500	2610	4320	7500	15K	25.1K	44.2K	75K	147K	309K	631K			
14.0	37.4	124	348	665	1540	2670	4420	7680	15.4K	26.7K	45.3K	80.6K	150K	316K	715K			
14.7	42.2	130	357	681	1620	2740	4530	7870	15.8K	27.4K	46.4K	82.5K	162K	332K	732K			
15.0	46.4	133	374	698	1650	2800	4640	8060	16.2K	28K	47.5K	84.5K	169K	340K	750K			
16.9	47.5	147	383	715	1690	2870	4750	8250	16.5K	28.7K	48.7K	86.6K	174K	348K	825K			
19.6	49.9	150	392	750	1780	2940	4900	8450	16.9K	29.4K	49.9K	90.9K	178K	357K	909K			
20.0	51.1	162	402	787	1820	3010	5110	8660	17.4K	30.1K	51.1K	93.1K	182K	365K	1.00 meg			
20.5	56.2	178	422	806	1870	3090	5230	9090	17.8K	31.6K	53.6K	95.3K	196K	374K	1.05 meg			
21.5	61.9	182	432	825	1910	3160	5360	9310	18.2K	32.4K	54.9K	97.6K	200K	402K	1.10 meg			
22.1	68.1	196	453	909	1960	3240	5490	9530	19.6K	33.2K	56.2K	100K	215K	412K	1.21 meg			
23.2	69.8	200	464	1000	2000	3320	5620	9760	20K	34.8K	59K	110K	221K	422K	1.30 meg			
23.7	75.0	215	475	1050	2050	3400	5760	10K	20.5K	35.7K	60.4K	115K	226K	442K	1.50 meg			
24.9	80.6	221	499	1100	2100	3480	5900	10.7K	21K	36.5K	61.9K	121K	237K	464K	1.82 meg			
26.1	82.5	237	511	1130	2150	3570	6040	11K	21.5K	37.4K	63.4K	124K	243K	475K	1.96 meg			
28.7	90.9	243	523	1150	2210	3650	6190	12.1K	22.1K	38.3K	64.9K	127K	255K	487K	2.00 meg			
30.1	93.1	249	536	1210	2260	3740	6340	12.4K	22.6K	39.2K	66.5K	130K	261K	499K	2.15 meg			
30.9	97.6	255	562	1240	2320	3830	6490	13K	23.7K	40.2K	68.1K	133K	267K	511K	2.21 meg			
31.6	100	261	576	1300	2370	3920	6650	13.3K	24.3K	41.2K	69.8K	137K	274K	536K	2.49 meg			
33.2	102	274	590	1330	2430	4020	6810	14K										

### 5 AND 10-WATT POWER RESISTORS

Popular axial-lead power resistors. Compact shape fits easily among other components. Precisely-wound element has glass fiber core, and is sealed in a rectangular ceramic case. Tolerance is ±10%. Power ratings are at 25° C ambient. 1 1/2" leads. Shpg. wt., 2 oz.

### TABLE "B"

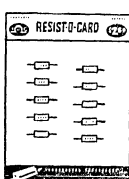
#### VALUES AVAILABLE—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	10	50	200	600	1200	2500	5000	8500	20K
2	15	75	250	700	1250	3000	6000	9000	25K
3	20	100	300	750	1500	3300	7000	10K	
4	25	120	350	800	1750	3500	7500	12K	
5	30	125	400	900	2000	4000	8000	12.5K	
7.5	40	150	500	1000	2250	4500	8200	15K	

Type PW-5 10 Watt. Size, 7/8x3/8x1 1/2". Available in values of 1 to 6000 only. Specify values from Table "B" above. Write for prices on quantities of 1000 or more. Wt., 2 oz.  
 1 M 175, 1-99.....EACH .25  
 100-499.....EACH .17 500-999.....EACH .13

Type PW-10 10 Watt. Size, 1 1/8x3/8x1 1/2". Specify values when ordering—see Table "B" above. Write for prices on quantities of 1000 or more. Shpg. wt., 2 oz.  
 1 M 190, 1-99.....EACH .36  
 100-499.....EACH .25 500-999.....EACH .11

### 5 AND 10 WATT "RESIST-O-CARD" ASSORTMENTS

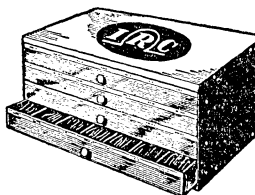


Type PW-5X10, 5-watt, 1 ea.; 10, 20, 25, 50, 100, 500, 1000, 2000, 4000, & 5000.  
 1 M 176.....2.50  
 Type PW-5X20, 5-watt, 1 ea.; 1, 5, 7.5, 10, 15, 20, 25, 50, 100, 150, 500, 750, 1000, 1250, 1500, 2000, 2500, 3000, 4000, 5000.  
 1 M 177.....5.00  
 Type 20-A, 10w, 1 ea.; 50, 75, 100, 250, 500, 750, 1000, 1500, 2000, 2500, 3000, 3300, 3900, 4000, 5000, 6000, 7500, 8200, 10K, 15K.  
 1 M 191.....7.20

### ALLIED COLOR-CODE GUIDE



Easy way to read color-code. Includes tolerance code and listing of EIA-JAN 10% standard stock values. Only 2 3/4" x 3 3/4". (FREE with order for 20 or more resistors.) 2 oz.  
 2 M 770......15



### METAL RESIST-O-CABINETS

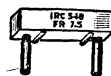
Keep your resistor stocks complete, orderly, and easily accessible with IRC metal Resist-O-Cabinets. Have four drawers and 28 compartments, and are available with a choice of four resistor assortments, all with a tolerance of 10%. Each resistance value is in a separate compartment. Size, 5 1/2"x10 1/2"x5 5/8".

Assortment No. 3A. Contains 120 2-watt resistors as follows: 7 each: 8200, 10K, 22K, 47K; 5 each: 1000, 6800, 15K, 100K; 4 each: 100, 330, 470, 1500, 2200, 3300, 4700, 27K, 1.0 meg; 3 each: 47, 82, 150, 220, 270, 3900, 220K, 470K; 2 each: 4.7, 10, 22, 68; 1 each: 15, 27, 33, 39. Complete with metal Resist-O-Cabinet. 4 1/2 lbs.  
 2 M 776.....28.80

Assortment No. 4A. Contains 150 IRC 1/2-watt resistors. 8 each: 1000, 47K, 100K, 270K, 470K, 1.0 meg; 7 each: 3700, 10K, 220K, 2.2 meg; 5 each: 3300, 22K, 27K, 33K, 330K, 4.7 meg; 4 each: 100, 470, 1500, 2200, 2700, 56K, 68K, 3.3 meg; 3 each: 47, 220, 270, 10 meg. Supplied complete with metal Resist-O-Cabinet. 4 1/2 lbs.  
 2 M 777.....18.00

Assortment No. 5A. Contains 125 IRC 1-watt resistors. 7 each: 1000, 10K, 27K, 47K, 100K, 270K, 470K, 1.0 meg; 5 each: 2200, 4700, 22K; 4 each: 33K, 39K, 68K; 3 each: 47, 100, 150, 220, 270, 470, 1500, 2700, 3300, 15K, 150K, 220K, 2.2 meg, 4.7 meg. With metal Resist-O-Cabinet. 4 1/2 lbs.  
 2 M 778.....22.50

Combination Assortment No. 6A. 139 IRC insulated and Type DCF resistors. 1/2 Watt, 4 each: 1000, 47K, 100K, 270K, 470K, 1.0 meg; 3 each: 4700, 10K, 220K, 2.2 meg; 2 each: 47, 100, 150, 220, 270, 470, 1500, 2200, 2700, 3300, 15K, 22K, 27K, 33K, 39K, 68K, 150K, 4.7 meg, 1 Watt, 4 each: 1000, 10K, 27K, 100K, 1.0 meg; 3 each: 47K, 470K, 2.2 meg; 2 each: 3300, 15K, 22K, 68K, 150K, 270K; 1 each: 47, 100, 150, 220, 270, 470, 1500, 2200, 2700, 4700, 33K, 39K, 220K, 4.7 meg, 2 Watt, 1 each: 47, 100, 470, 4700, 10K, 22K, 47K, Type DCF, 1 each: 1000, 10K, 100K, 1.0 meg, 5.0 meg. With Resist-O-Cabinet, 5 lbs.  
 2 M 779.....23.22

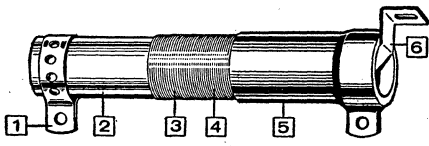


### FUSE-RESISTORS

Plug-in unit functions as resistor under normal conditions, fuse under overload conditions. Extensively used in TV sets. Ceramic body, 1 1/2"x3/8"x3/8". 3 oz.

Stock No.	Type	Ohms	1-9, EA.	10-Up, EA.
2 M 773	FR5.0	5.0		
2 M 772	FR5.6	5.6	.45	.35
2 M 771	FR7.5	7.5		

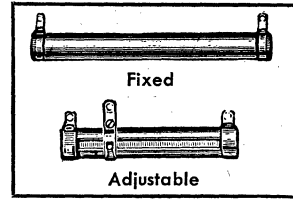
# IRC Wirewound Power Resistors



1. Clean, easy-to-solder terminals.
2. Quality, selected ceramic cores.
3. Premium, heavy-gauge windings.
4. Uniform spacing - no hot spots.
5. Chip-resistant Resisteg coating.
6. Mtg. brackets with most units.

Fixed: Units of 25 watts or more have mtg. brackets. \*Others have 1/4" leads and lugs. Tol., ±5%. Adjustable: Units of 25 watts or more

have silver contacts. All have mtg. brackets. Tol., ±10%. Specify resistance value when ordering. 5-50 watts, 4 oz.; 100 watts up, 1 lb.



**TABLE "A"—FOR FIXED AND ADJUSTABLE RESISTORS**

STOCK VALUES (OHMS)—SPECIFY VALUES DESIRED												
1	10	40	225	600	1100	2500	6000	11K	18K	45K	80K	175K
1.5	12	50	250	650	1200	2750	7000	12K	20K	50K	85K	200K
2	15	75	300	700	1250	3000	7500	12.5K	22.5K	55K	90K	250K
3	20	100	350	750	1500	3500	8000	13.5K	25K	60K	95K	
4	25	125	400	800	1750	4000	8500	15K	30K	65K	100K	
5	30	150	450	900	2000	4500	9000	16K	35K	70K	125K	
7.5	35	200	500	1000	2250	5000	10K	17.5K	40K	75K	150K	

**FIXED POWER RESISTORS**  
\*TYPE 1A 5-8 WATTS—1x3/16"

Stock No.	Values Available In Ohms See Table "A" Above	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 250	1 to 1000 except 650	.52	.44	.36	.31	.26
I MM 251	1100 to 5000 except 2750	.55	.47	.39	.33	.28
I MM 252	6000 to 10K except 8500	.58	.49	.41	.35	.29
I MM 253	12.5K to 20K except 13.5K, 16K, 18K	.65	.55	.46	.39	.33
I MM 254	22.5K and 25K only	.68	.58	.48	.41	.34

\*TYPE 1 1/4 A 10-12 WATTS—1 3/4x5/16"

Stock No.	Values Available In Ohms See Table "A" Above	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 270	1 to 1000 except 650	.57	.48	.40	.34	.29
I MM 271	1100 to 5000 except 2750	.61	.52	.43	.37	.31
I MM 272	6000 to 10K	.70	.60	.49	.42	.35
I MM 273	11K to 20K	.79	.67	.55	.47	.40
I MM 274	22.5K to 40K	.83	.71	.58	.50	.42
I MM 268	45K and 50K only	.93	.79	.65	.56	.47

\*TYPE 2C 20 WATTS—2x7/16"

Stock No.	Values Available In Ohms See Table "A" Above	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 278	1 to 1000 except 1.5, 7.5, 12, 20, 30-40, 125, 225, 450, 600	.68	.58	.48	.41	.34
I MM 279	1200 to 5000	.70	.60	.49	.42	.35
I MM 280	6000 to 10K except 8500	.83	.71	.58	.50	.42
I MM 281	12.5K to 20K except 13.5K, 16K, 17.5K and 18K	.85	.72	.60	.51	.43
I MM 282	25K to 40K	.99	.84	.69	.59	.50
I MM 283	45K to 60K	1.15	.98	.81	.69	.58
I MM 258	65K to 80K	1.37	1.16	.96	.82	.69
I MM 259	85K to 100K	1.57	1.33	1.10	.94	.79

TYPE 2D 25 WATTS—2x7/16"

Stock No.	Values Available In Ohms See Table "A" Above	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 203	1-1000 except 1.5, 7.5, 12, 20, 30-40, 125, 225, 300-450, 600-700, 900	.72	.61	.50	.43	.36
I MM 204	1500 to 5000 except 1750, 2250, 2750, and 4500	.75	.64	.53	.45	.38
I MM 205	6000, 7500, 10K only	.85	.72	.60	.51	.43
I MM 206	12K, 15K, 20K only	.90	.77	.63	.54	.45
I MM 207	25K to 40K	1.04	.88	.73	.62	.52
I MM 208	50K and 60K only	1.21	1.03	.85	.73	.61
I MM 209	70K and 80K only	1.42	1.21	.99	.85	.71
I M 210	100K only	1.64	1.39	1.15	.98	.82

TYPE 4D 50 WATTS—4x7/16"

Stock No.	Values Available In Ohms See Table "A" Above	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 290	1-1000 except 1.5, 7.5, 12, 20, 30-40, 125, 225, 300-450, 600-700, 900	1.11	.94	.78	.67	.56
I MM 291	1500 to 5000 except 1750, 2250, 2750, 3500 and 4500	1.14	.97	.80	.68	.57
I MM 292	7500, 8000, and 10K only	1.23	1.05	.86	.74	.62
I MM 293	12K, 15K, and 20K only	1.35	1.15	.95	.81	.68
I MM 225	25K and 35K only	1.54	1.31	1.08	.92	.77
I M 226	50K only	1.72	1.46	1.20	1.03	.86
I M 227	75K only	1.97	1.67	1.38	1.18	.99
I M 228	100K only	2.13	1.81	1.49	1.28	1.07
I M 229	125K only	2.57	2.18	1.80	1.54	1.29
I M 330	150K only	2.70	2.30	1.89	1.62	1.35
I M 331	175K only	2.79	2.37	1.95	1.67	1.40
I M 332	200K only	2.89	2.46	2.02	1.73	1.45
I M 333	250K only	3.24	2.75	2.27	1.94	1.62

**FIXED POWER RESISTORS (Cont'd)**

TYPE 6 1/2 E 100 WATTS—6 1/2x3/4"

Stock No.	Values Available In Ohms See Table "A" at Left	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 309	1 to 1000 except 1.5, 7.5, 12-20, 30-40, 200, 225, 300-450, 600-700, 800 and 900	1.54	1.31	1.08	.92	.77
I MM 310	1500, 2000, 2500, 3000, 5000 only	1.60	1.36	1.12	.96	.80
I MM 311	7500 and 10K only	1.73	1.47	1.21	1.04	.87
I MM 235	15K and 20K only	1.87	1.59	1.31	1.12	.94
I MM 236	25K, 30K and 40K only	2.13	1.81	1.49	1.28	1.07
I MM 237	50K and 60K only	2:21	1.88	1.55	1.33	1.11
I M 238	75K only	2.45	2.08	1.72	1.47	1.23
I M 239	100K only	2.75	2.34	1.93	1.65	1.38

TYPE 8 1/2 H 160-175 WATTS—8 1/2x1 1/4"

Stock No.	Values Available In Ohms See Table "A" at Left	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 385	1 to 1000 except 1.5, 7.5, 12-20, 30-40, 200, 225, 300-450, 600-700, 800, 900, 5000 only	2.28	1.94	1.60	1.37	1.14
I MM 386	1500, 2000, 2500, 3000, 5000 only	2.32	1.97	1.62	1.39	1.16
I MM 387	7500 and 10K only	2.53	2.15	1.77	1.52	1.27
I MM 388	15K and 20K only	2.71	2.30	1.90	1.63	1.36
I MM 389	25K, 30K and 40K only	2.80	2.38	1.96	1.68	1.40
I MM 390	50K and 60K only	2.89	2.46	2.02	1.73	1.45
I M 391	75K only	3.08	2.62	2.16	1.85	1.54
I M 392	100K only	3.26	2.77	2.28	1.96	1.63

TYPE 10 1/2 H 200-225 WATTS—10 1/2x1 1/4"

Stock No.	Values Available In Ohms See Table "A" at Left	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 441	1-1000 except 1.5, 7.5, 12-20, 30-40, 125, 200, 225, 300-450, 600-700, 800, 900	2.46	2.09	1.72	1.48	1.23
I MM 442	1500, 2000, 2500, 3000, 5000 only	2.53	2.15	1.77	1.52	1.27
I MM 443	7500 and 10K only	2.71	2.30	1.90	1.63	1.36
I MM 444	15K and 20K only	2.89	2.46	2.02	1.73	1.45
I MM 445	25K, 30K and 40K only	2.98	2.53	2.09	1.79	1.49
I MM 446	50K and 60K only	3.08	2.62	2.16	1.85	1.54
I M 447	75K only	3.26	2.77	2.28	1.96	1.63
I M 448	100K only	3.46	2.94	2.42	2.08	1.73

**ADJUSTABLE POWER RESISTORS**

TYPE 1 3/4 AA 10-12 WATTS—1 3/4x5/16"

Stock No.	Values Available In Ohms See Table "A" at Left	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 275	1 to 1000 except 1.5, 4, 12, 30-40, 125, 225, 450, 650, 700, 900	1.14	.97	.80	.68	.57
I MM 276	1250 to 5000 except 1750 and 2750	1.18	1.00	.83	.71	.59
I MM 277	6000 to 10K	1.27	1.08	.89	.76	.64

TYPE 2DA 25 WATTS—2x7/16"

Stock No.	Values Available In Ohms See Table "A" at Left	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 284	1 to 1000 except 1.5, 4, 12, 30-40, 125, 225, 350, 450, 600-700, 900	1.29	1.10	.90	.77	.65
I MM 285	1250 to 5000 except 1750 and 2750	1.32	1.12	.92	.79	.66
I MM 286	6000 to 10K except 8500	1.42	1.21	.99	.85	.71
I MM 287	12K, 15K and 20K only	1.47	1.25	1.03	.88	.74
I M 288	25K only	1.61	1.37	1.13	.97	.81

TYPE 4DA 50 WATTS—4x7/16"

Stock No.	Values Available In Ohms See Table "A" at Left	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 294	1 to 1000 except 1.5, 7.5, 12-20, 30-40, 125, 225, 350, 600-700, 900	1.68	1.43	1.18	1.01	.84
I MM 295	1250 to 5000 except 1750, 2750	1.71	1.45	1.20	1.03	.86
I MM 296	6000 to 10K except 8500	1.80	1.53	1.26	1.08	.90
I MM 297	12K, 15K and 20K only	1.92	1.63	1.34	1.15	.96
I MM 298	25K, 30K and 40K only	2.11	1.79	1.48	1.27	1.06
I MM 299	50K and 60K only	2.29	1.95	1.60	1.37	1.15
I M 269	80K only	2.54	2.16	1.78	1.52	1.27
I M 308	100K only	2.70	2.30	1.89	1.62	1.35

TYPE 5EA 75 WATTS—5x3/4"

Stock No.	Values Available In Ohms See Table "A" at Left	EACH				
		1-9	10-24	25-99	100-249	250-499
I MM 211	1, 2.5, 10, 25, 50, 100, 250, 500, 1000	1.86	1.58	1.30	1.12	.93
I MM 212	1500, 2500, and 5000 only	1.95	1.66	1.37	1.17	.98
I M 213	10K only	2.09	1.78	1.46	1.25	1.05
I M 214	15K and 20K only	2.22	1.89	1.55	1.33	1.11
I M 215	25K, 30K and 40K only	2.41	2.05	1.69	1.45	1.21

(ADJUSTABLE RESISTORS CONT'D NEXT PAGE)



# IRC Wirewound Power Resistors

## ADJUSTABLE RESISTORS (Cont'd)

### TYPE 5EA—75 WATTS—5x3/4"

Stock No.	Values Available In Ohms. See Table "A" on Facing Page	EACH				
		1-9	10-24	25-99	100-249	250-499
1 M 216	50K only	2.60	2.21	1.82	1.56	1.30
1 M 217	75K only	2.87	2.44	2.01	1.72	1.44
1 M 218	100K only	3.10	2.64	2.17	1.86	1.55

### TYPE 6 1/2 EA—100 WATTS—6 1/2 x 3/4"

Stock No.	Values Available In Ohms. See Table "A" on Facing Page	EACH				
		1-9	10-24	25-99	100-249	250-499
1 MM 312	1, 2-5, 10, 25, 50, 100, 250, 500, 1000	2.11	1.79	1.48	1.27	1.06
1 MM 313	1500, 2500, and 5000 only	2.17	1.84	1.52	1.30	1.09
1 M 314	10K only	2.30	1.96	1.61	1.38	1.15
1 MM 315	15K and 20K only	2.44	2.07	1.71	1.46	1.22
1 MM 316	25K, 30K and 40K only	2.70	2.30	1.89	1.62	1.35
1 M 317	50K only	2.78	2.36	1.95	1.67	1.39
1 M 318	75K only	3.02	2.57	2.11	1.81	1.51
1 M 319	100K only	3.32	2.82	2.32	1.99	1.66

### TYPE 8 1/2 HA—160-175 WATTS—10 1/2 x 1 1/8"

Stock No.	Values Available In Ohms. See Table "A" on Facing Page	EACH				
		1-9	10-24	25-99	100-249	250-499
1 MM 356	1, 2-5, 10, 25, 50, 100, 250, 500, 1000	3.16	2.69	2.21	1.90	1.58
1 MM 357	1500, 2500, and 5000 only	3.20	2.72	2.24	1.92	1.60
1 M 358	10K only	3.41	2.90	2.39	2.05	1.71
1 MM 359	15K and 20K only	3.59	3.05	2.51	2.15	1.80

### TYPE 8 1/2 HA—160-175 WATTS—10 1/2 x 1 1/8"

Stock No.	Values Available In Ohms. See Table "A" on Facing Page	EACH				
		1-9	10-24	25-99	100-249	250-499
1 MM 360	25K, 30K and 40K only	3.68	3.13	2.58	2.21	1.84
1 M 362	50K only	3.77	3.20	2.64	2.26	1.89
1 M 363	75K only	3.96	3.37	2.77	2.38	1.98
1 M 364	100K only	4.14	3.52	2.90	2.48	2.07

### TYPE 10 1/2 HA—200-225 WATTS—10 1/2 x 1 1/8"

Stock No.	Values Available In Ohms. See Table "A" on Facing Page	EACH				
		1-9	10-24	25-99	100-249	250-499
1 MM 377	1, 2-5, 10, 25, 50, 100, 250, 500, 1000	3.34	2.84	2.34	2.00	1.67
1 MM 378	1500, 2500, and 5000 only	3.41	2.90	2.39	2.05	1.71
1 M 379	10K only	3.59	3.05	2.51	2.15	1.80
1 MM 380	15K and 20K only	3.77	3.20	2.64	2.26	1.89
1 MM 381	25K, 30K and 40K only	3.86	3.28	2.70	2.32	1.93
1 M 382	50K only	3.96	3.37	2.77	2.38	1.98
1 M 383	75K only	4.14	3.52	2.90	2.48	2.07
1 M 384	100K only	4.34	3.69	3.04	2.60	2.17

Extra Sliders. For adjustable resistors. Shpg. wt., 3 oz.

2 M 600.	For Type 1 1/4 AA.....	1.4
2 M 604.	For Types 2DA, 4DA.....	1.4
2 M 605.	For Types 5EA, 6 1/2 EA.....	1.4
2 M 603.	For Types 8 1/2 HA, 10 1/2 HA.....	2.3

## WIREWOUND 1% PRECISION RESISTORS

Precision resistors surpassing MIL-R-93A specs. Designed for high reliability with extremely conservative specifications—power ratings at 85° C. WW4J 1/2-Watt. Wound in four sections, 700 v. max. breakdown voltage. Rated 1.20-watts at 40° C ambient, 0.50-

watts at 85° C. Lug terminals. Size, 1/16x1". WW10J 0.15-Watt. Wound in 1 section, 200 v. max. breakdown voltage. Rated 1.00-watt at 40° C ambient, 0.15-watts at 85° C. 2" wire leads, Size, 1/32x1 1/2". Shpg. wts.: WW4J, 3 oz.; WW10J, 2 oz.



WW4J WW10J

### TYPE WW4J

Stock No.	Ohms	EACH
2 M 541	0.1	1.32
2 M 549	0.2	
2 M 542	0.5	
2 M 500	1	
2 M 546	5	
2 M 501	10	
2 M 502	25	
2 M 503	50	
2 M 504	100	
2 M 505	200	1.41
2 M 506	250	
2 M 543	300	
2 M 507	500	
2 M 508	1000	
2 M 509	1500	1.53
2 M 510	2000	
2 M 511	2500	
2 M 547	3000	

### TYPE WW4J (Cont'd)

Stock No.	Ohms	EACH	
2 M 512	4000	1.53	
2 M 513	5000		
2 M 514	7500	1.62	
2 M 515	10K		
2 M 516	12.5K		
2 M 517	15K	2.10	
2 M 518	20K		
2 M 544	22.5K		
2 M 519	25K		
2 M 520	30K		
2 M 521	40K		
2 M 522	50K		
2 M 523	60K		2.37
2 M 524	75K		
2 M 525	100K		
2 M 526	125K	2.61	
2 M 527	150K		
2 M 528	175K		

### TYPE WW4J (Cont'd)

Stock No.	Ohms	EACH
2 M 529	200K	2.61
2 M 530	225K	2.88
2 M 531	250K	
2 M 532	300K	
2 M 533	400K	3.39
2 M 534	500K	3.87
TYPE WW10J		
2 M 550	10	1.35
2 M 551	25	
2 M 552	50	
2 M 553	100	1.29
2 M 554	200	
2 M 555	250	
2 M 556	300	
2 M 557	500	
2 M 558	1000	

### TYPE WW10J

Stock No.	Ohms	EACH	
2 M 559	1500	1.32	
2 M 560	2000		
2 M 561	2500		
2 M 562	3000		
2 M 563	3500		
2 M 564	4000		
2 M 565	5000	1.38	
2 M 566	7500		
2 M 567	10K		
2 M 568	12.5K	1.62	
2 M 569	15K		
2 M 570	20K		
2 M 571	25K		
2 M 572	30K		
2 M 573	40K		
2 M 574	50K		
2 M 575	60K		1.80
2 M 576	75K		
2 M 577	100K		

## TYPE AS 1% AND 5% POWER RESISTORS

Miniature wirewound resistors with silicone Thermancoat—carry full rated power at 125° C ambient.

Max. working voltages: AS-2, 150 v.; AS-5, 400 v.; AS-10, 1000 v. 1 1/2" leads. Wt., 2 oz.



### TABLE "B"

#### STOCK VALUES (OHMS)—SPECIFY VALUES WANTED

.1	1.5	6.8	33	150	680	3300	15K
.12	1.6	7.5	36	160	750	3600	16K
.15	1.8	8.2	39	180	820	3900	18K
.18	2.0	9.1	43	200	910	4300	20K
.22	2.2	10	47	220	1000	4700	22K
.27	2.4	11	51	240	1100	5100	24K
.33	2.7	12	56	270	1200	5600	27K
.39	3.0	13	62	300	1300	6200	30K
.47	3.3	15	68	330	1500	6800	33K
.56	3.6	16	75	360	1600	7500	36K
.68	3.9	18	82	390	1800	8200	39K
.82	4.3	20	91	430	2000	9100	43K
1.0	4.7	22	100	470	2200	10K	47K
1.1	5.1	24	110	510	2400	11K	51K
1.2	5.6	27	120	560	2700	12K	56K
1.3	6.2	30	130	620	3000	13K	

### 1%—TYPE AS-2 2-WATT (1/2x1/4")

Stock No.	Values Available In Ohms See Table "B" Above	EACH				
		1-9	10-24	25-49	50-99	100-249
1 MM 867	1.0 to 1000	.98	.73	.57	.54	.50
1 MM 868	1100 to 4700	1.07	.81	.64	.60	.55
1 MM 869	5100 to 10K	1.10	.84	.66	.62	.57
1 MM 870	11K to 15K	1.12	.86	.68	.64	.60
1 MM 031	16K to 20K	1.19	.90	.72	.67	.63

### 1%—TYPE AS-5 5-WATT (1 1/2x1 1/2")

1 MM 873	1.0 to 1000	1.00	.75	.59	.56	.52
1 MM 874	1100 to 4700	1.09	.83	.66	.62	.57
1 MM 875	5100 to 10K	1.12	.86	.68	.64	.59
1 MM 876	11K to 15K	1.14	.88	.70	.66	.62

### 1%—TYPE AS-5 5-WATT (Cont'd)

Stock No.	Values Available In Ohms See Table "B", Left	EACH				
		1-9	10-24	25-49	50-99	100-249
1 MM 032	16K to 20K	1.21	.92	.74	.69	.65
1 MM 878	22K to 39K	1.28	.98	.78	.74	.68
1 MM 879	43K to 51K	1.39	1.05	.85	.79	.74
1 M 034	56K	1.54	1.16	.92	.87	.81

### 1%—TYPE AS-10 10-WATT (1 1/2x1 1/2")

1 MM 882	1.0 to 1000	1.03	.78	.62	.59	.55
1 MM 883	1100 to 4700	1.12	.86	.69	.65	.60
1 MM 884	5100 to 10K	1.15	.89	.71	.67	.62
1 MM 885	11K to 15K	1.17	.91	.73	.69	.65
1 MM 033	16K to 20K	1.24	.95	.77	.72	.68
1 MM 887	22K to 39K	1.31	1.01	.81	.77	.71
1 MM 888	43K to 51K	1.42	1.08	.88	.82	.77

### 5%—TYPE AS-2 2-WATT—MIL RW69 (1/2x1/4")

1 MM 036	.1 to .82	.75	.64	.58	.52	.45
1 MM 037	1.0 to 910	.55	.47	.41	.38	.33

### 5%—TYPE AS-5 5-WATT—MIL RW67 (1 1/2x1 1/2")

1 MM 042	1.0 to .82	.78	.67	.61	.55	.47
1 MM 043	1.0 to 1000	.56	.48	.43	.39	.34
1 MM 044	1100 to 3600	.59	.50	.46	.41	.35

### 5%—TYPE AS-10 10-WATT—MIL RW68 (1 1/2x1 1/2")

1 MM 053	.22 to .82	.86	.73	.67	.60	.51
1 MM 054	1.0 to 1000	.61	.52	.48	.43	.37
1 MM 055	1100 to 4700	.67	.57	.51	.47	.40
1 MM 056	5100 to 8200	.76	.65	.59	.53	.46

# Ohmite Resistors and Resistor Assortments

## "LITTLE DEVIL" RESISTORS



Molded composition resistors. Meet MIL-R-11D specs. Can be used at full wattage ratings at 158° F. Breakdown ratings: 1/10 w., 150 v.; 1/4 w., 250 v.; 1/2 w., 350 v.; 1 w., 500 v.; 2 w., 750 v.

CONFORMS TO STYLES OF MIL-R-10D

1/4-Watt, RC07	1/2-Watt, RC20	1-Watt, RC32	2-Watt, RC42
----------------	----------------	--------------	--------------

### 10% RESISTORS—SEE TABLE "A" BELOW FOR VALUES

Stock No.	Watts	Values—See Table "A" Below	EACH							
			May Be Asstd			Not Asstd				
			1-4	5-49	50-Up	100-249	250-499	500-999	1000-Up	
2 MM 050	1/40	10 ohms to 1 meg	.24	.20	.16	.14	.122	.112	.105	
2 MM 451	1/4	2.7 ohms to 22 ohms	.20	.17	.105	.075	.075	.06	.05	
2 MM 450	1/4	27 ohms to 22 meg	.13	.11	.07	.05	.05	.04	.034	
2 MM 040	1/2	2.7 ohms to 22 meg	.12	.10	.06	.04	.04	.032	.03	
2 MM 060	1	2.7 ohms to 22 meg	.18	.15	.09	.06	.055	.050	.045	
2 MM 080	2	10 ohms to 22 meg	.24	.20	.15	.11	.096	.088	.082	

### TABLE "A" 10% RESISTORS—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs
2.7	10	39	150	560	2200	8200	33K	120K	470K	1.8	6.8
3.3	12	47	180	680	2700	10K	39K	150K	560K	2.2	8.2
3.9	15	56	220	820	3300	12K	47K	180K	680K	2.7	10
4.7	18	68	270	1000	3900	15K	56K	220K	820K	3.3	12
5.6	22	82	330	1200	4700	18K	68K	270K	1.0 meg	3.9	15
6.8	27	100	390	1500	5600	22K	82K	330K	1.2 meg	4.7	18
8.2	33	120	470	1800	6800	27K	100K	390K	1.5 meg	5.6	22

### 5% RESISTORS—SEE TABLE "B" BELOW FOR VALUES

Stock No.	Watts	Values—See Table "B" Below	EACH							
			May Be Asstd			Not Asstd				
			1-4	5-49	50-Up	100-249	250-499	500-999	1000-Up	
2 MM 456	1/4	2.7 ohms to 24 ohms	.40	.34	.21	.13	.11	.102	.086	
2 MM 455	1/4	2.7 ohms to 22 meg	.26	.22	.14	.095	.091	.073	.062	
2 MM 045	1/2	2.7 ohms to 22 meg	.24	.20	.12	.075	.073	.065	.056	
2 MM 065	1	2.7 ohms to 22 meg	.36	.30	.18	.125	.123	.11	.09	
2 MM 085	2	10 ohms to 22 meg	.48	.40	.24	.19	.185	.175	.16	

### TABLE "B"—5% TOLERANCE RESISTORS—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs
2.7	10	39	150	560	2200	8200	33K	120K	470K	1.8	6.8
3.0	11	43	160	620	2400	9100	36K	130K	510K	2.0	7.5
3.3	12	47	180	680	2700	10K	39K	150K	560K	2.2	8.2
3.6	13	51	200	750	3000	11K	43K	160K	620K	2.4	9.1
3.9	15	56	220	820	3300	12K	47K	180K	680K	2.7	10
4.3	16	62	240	910	3600	13K	51K	200K	750K	3.0	11
4.7	18	68	270	1000	3900	15K	56K	220K	820K	3.3	12
5.1	20	75	300	1100	4300	16K	62K	240K	910K	3.6	13
5.6	22	82	330	1200	4700	18K	68K	270K	1.0 meg	3.9	15
6.2	24	91	360	1300	5100	20K	75K	300K	1.1 meg	4.3	16
6.8	27	100	390	1500	5600	22K	82K	330K	1.2 meg	4.7	18
7.5	30	110	430	1600	6200	24K	91K	360K	1.3 meg	5.1	20
8.2	33	120	470	1800	6800	27K	100K	390K	1.5 meg	5.6	22
9.1	36	130	510	2000	7500	30K	110K	430K	1.6 meg	6.2	...

## "BROWN DEVIL" WIREWOUND RESISTORS



High-quality, compact wirewound resistors. For voltage dropping, bias supplies, bleeders, etc. Have thick vitreous enamel coating for excellent heat conduction and insulation, as well as for protection against the harmful effects of humidity and moisture.

Have standard resistance tolerance of ±5%. Sizes: 5-watt units, 1x 3/16"; 10-watt units, 1 1/4x 3/16"; 20-watt units, 2x 3/16". Resistors have tinned leads for easy soldering. Lead length, 1 1/2". Av. shpg. wt., 3 oz. Available in values shown in Table "C" below—specify values wanted.

### TABLE "C"—"BROWN DEVIL" RESISTORS

#### VALUES AVAILABLE—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	30*	350	1250	7000	45K
1.5*	35*	400	1500	7500	50K
2	40*	450*	1750	8000	55K
3	50	500	2000	9000	60K
4	75	600*	2250	10K	65K
5	100	700	2500	12.5K	70K
7.5*	125*	750	3000	15K	75K
10	150	800	3500	20K	80K
12*	200	900	4000	25K	85K
15*	225*	1000	4500	30K	90K
20*	250	1100*	5000	35K	95K
25	300	1200	6000	40K	100K

## "LITTLE DEVIL" ASSORTMENTS

FREE Cabinet



- Most-Popular Values
- Handy Plastic Cabinet

Designed to provide a handy inventory of popular-value resistors. Available in a selected supply of either 150 1/4- or 1/2-watt resistors, or 125 1- or 2-watt resistors in most-often-needed resistance values for replacement or original equipment design use. Provided in a handsome plastic cabinet, 4 3/4x9x5 1/4", at no extra charge. Cabinet has 5 drawers and 40 compartments. Has dovetail top and bottom. Shpg. wt., 7 lbs.

Stock No.	Mfr's Type	Description	EACH
2 M 767	CAB-4	150 1/4-watt resistors	19.50
2 M 761	CAB-10	150 1/2-watt resistors	18.00
2 M 754	CAB-2	125 1-watt resistors	22.50
2 M 762	CAB-3	125 2-watt resistors	30.00

### TYPE FR FUSE RESISTOR



Dependable 7 1/2-ohm fuse resistor. Intended for use as a replacement for many fuse resistors used in television receivers. Widely used in series-string filament circuits. 1 1/2" tinned wire leads make replacement both simple and quick.

Supplied with convenient plug-in bakelite mounting strip. Can also be wired directly into circuit of television set. Length, 1 3/8". Shpg. wt., 3 oz.  
2 M 063.....45

### ATTENTION INDUSTRIAL BUYERS

Write, wire or phone us for prompt price quotations. Allied maintains the most complete stock of electronic components in the world and can supply your electronic needs in industrial quantities. You can depend on Allied.

5-WATT SIZE  
Available in all values listed in table at left, to 10K.

Stock No.	Values in Ohms See Table "C" at Left	EACH			
		1-9	10-24	25-99	100-249
I MM 730	1 to 1000	.52	.44	.36	.31
I MM 731	1100 to 5000	.55	.47	.39	.33
I MM 732	6000 to 10K	.58	.49	.41	.35

10-WATT SIZE  
Available in all values to 50K.

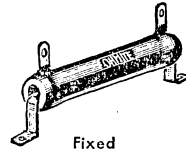
I MM 700	1 to 1000	.57	.48	.40	.34
I MM 701	1100 to 5000	.61	.52	.43	.37
I MM 702	6000 to 10K	.70	.60	.49	.42
I MM 703	12.5K to 20K	.79	.67	.55	.47
I MM 706	25K to 40K	.83	.71	.58	.50
I MM 707	45K to 50K	.93	.79	.65	.56

20-WATT SIZE  
Available in all values except those marked \* in table at left.

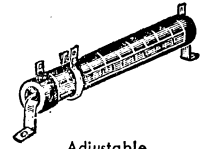
I MM 720	1 to 1000	.68	.58	.48	.41
I MM 721	1200 to 5000	.70	.60	.49	.42
I MM 722	6000 to 10K	.83	.71	.58	.50
I MM 723	12.5K to 20K	.85	.72	.60	.51
I MM 724	25K to 40K	.99	.84	.69	.59
I MM 725	45K to 60K	1.15	.98	.81	.69
I MM 726	65K to 80K	1.37	1.16	.96	.82
I MM 727	85K to 100K	1.57	1.33	1.10	.94

# Ohmite Wirewound Power Resistors

Fixed units for use as voltage droppers, bias resistors, bleeders, etc., in applications where resistance need not be varied. Resistance tolerance is  $\pm 5\%$  for values 1 ohm or higher;  $\pm 10\%$  for values below 1 ohm. Adjustable types are for voltage dividing networks, power supplies—or anywhere adjustable resistance is required. Accuracy is  $\pm 10\%$ . With slider and mounting brackets. Feature wire of the finest alloy, wound on quality ceramic cores, protected and insulated by thick vitreous enamel coatings. In adjustable types, wattage rating applies only when entire resistance is in circuit; with center lug at an intermediate point, rating is reduced in same proportion. Wattage ratings are for free-air mounting. Av. shpg. wt.,  $\frac{1}{2}$  lb.



Fixed



Adjustable

## FIXED POWER RESISTORS

### 10 WATT— $1\frac{3}{4} \times \frac{5}{16}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 770	.51, 1.0, 1.5, 2.2, 3.3, 4.7, 6.8, 10, 12, 15, 18, 22, 27, 33, 39, 47, 56, 68, 82, 100, 120, 150, 180, 220, 270, 330, 390, 470, 560, 680, 820, 1000	.57	.48	.40	.34
I MM 771	1200, 1500, 1800, 2200, 2700, 3300, 3900, 4700	.61	.52	.43	.37
I MM 772	5600, 6800, 8200, 10K	.70	.60	.49	.42
I MM 773	12K, 15K, 18K	.79	.67	.55	.47
I MM 774	22K, 27K, 33K, 39K	.83	.71	.58	.50
I MM 775	47K and 51K only	.93	.79	.65	.56

### 25 WATT— $2 \times \frac{3}{16}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 776	1, 2, 3, 4, 5, 10, 15, 25, 50, 75, 100, 150, 200, 250, 500, 750, 800, 1000	.72	.61	.50	.43
I MM 777	1500, 2000, 2500, 3000, 3500, 4000, 5000	.75	.64	.53	.45
I MM 835	6000, 7500, 10K	.85	.72	.60	.51
I MM 778	12K, 15K, 20K	.90	.77	.63	.54
I MM 779	25K, 30K, 35K, 40K	1.04	.88	.73	.62
I MM 780	50K and 60K	1.21	1.03	.85	.73
I MM 781	70K and 80K	1.42	1.21	.99	.85
I MM 782	100K only	1.64	1.39	1.15	.98

### 50 WATT— $4 \times \frac{3}{16}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I M 769	1	1.55	1.32	1.09	.93
I MM 783	2, 3, 4, 5, 10, 25, 50, 75, 100, 150, 200, 250, 500, 750, 800, 1000	1.11	.94	.78	.67
I MM 784	1500, 2000, 2500, 3000, 4000, 5000	1.14	.97	.80	.68
I MM 785	7500, 8000, 10K	1.23	1.05	.86	.74
I MM 836	12K, 15K, 20K	1.35	1.15	.95	.81
I MM 786	25K and 35K	1.54	1.31	1.08	.92
I M 787	50K only	1.72	1.46	1.20	1.03
I M 788	75K only	1.97	1.67	1.38	1.18
I M 789	100K only	2.13	1.81	1.49	1.28
I M 790	125K only	2.57	2.18	1.80	1.54
I M 791	150K only	2.70	2.30	1.89	1.62

### 10 WATTS— $1\frac{3}{4} \times \frac{5}{16}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 804	1, 2, 3, 5, 10, 25, 50, 75, 100, 150, 250, 500, 750, 1000	1.14	.97	.80	.68
I MM 805	1500, 2500, 5000	1.18	1.00	.83	.71
I MM 806	7500 and 10K	1.27	1.08	.89	.76
3I M 946.	Extra Slider. Shpg. wt., 2 oz.	1.4			

### 25 WATTS— $2 \times \frac{3}{16}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 807	1, 3, 5, 10, 15, 25, 50, 75, 100, 250, 500, 750, 1000	1.29	1.10	.90	.77
I MM 808	1500, 2000, 2500, 3000, 5000	1.32	1.12	.92	.79
I MM 809	7500 and 10K	1.42	1.21	.99	.85
I MM 810	12K, 15K, and 20K	1.47	1.25	1.03	.88
I M 811	25K only	1.61	1.37	1.13	.97
3I M 947.	Extra Slider. Shpg. wt., 2 oz.	1.4			

### 50 WATTS— $4 \times \frac{3}{16}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I M 812	1 only	2.12	1.80	1.48	1.27
I MM 813	2, 3, 4, 10, 25, 50, 75, 100, 150, 200, 250, 500, 750, 1000	1.68	1.43	1.18	1.01
I MM 814	1500, 2000, 2500, 5000	1.71	1.45	1.20	1.03
I M 815	10K only	1.80	1.53	1.26	1.08
I MM 816	15K and 20K only	1.92	1.63	1.34	1.15
I MM 817	25K, 30K, 40K	2.11	1.79	1.48	1.27
I M 818	50K only	2.29	1.95	1.60	1.37
I M 819	100K only	2.70	2.30	1.89	1.62
3I M 947.	Extra Slider. Shpg. wt., 2 oz.	1.4			

### 75 WATTS— $6 \times \frac{3}{16}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 856	1 and 2	2.39	2.03	1.67	1.43
I MM 857	3, 4, 5, 10, 15, 25, 50, 100, 200, 250, 300, 400, 500, 750, 800, 1000	1.87	1.59	1.31	1.12

### 50 WATTS— $4 \times \frac{3}{16}$ " (Cont'd)

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I M 792	175K only	2.79	2.37	1.95	1.67
I M 793	200K only	2.89	2.46	2.02	1.73
I M 794	250K only	3.24	2.75	2.27	1.94

### 100 WATT— $6\frac{1}{2} \times \frac{3}{4}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 768	1, 2, 3	2.16	1.84	1.51	1.30
I MM 795	4, 5, 10, 25, 50, 75, 100, 125, 150, 250, 500, 750, 1000	1.54	1.31	1.08	.92
I MM 796	1500, 2000, 2500, 3000, 5000	1.60	1.36	1.12	.96
I MM 797	7500 and 10K	1.73	1.47	1.21	1.04
I MM 798	15K and 20K	1.87	1.59	1.31	1.12
I MM 799	25K, 30K and 40K	2.13	1.81	1.49	1.28
I MM 801	50K and 60K	2.21	1.88	1.55	1.33
I M 802	75K only	2.45	2.08	1.72	1.47
I M 803	100K only	2.75	2.34	1.93	1.65

### 160 WATTS— $8\frac{1}{2} \times 1\frac{1}{8}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 837	1, 2, 3, 4, 5	3.19	2.71	2.23	1.91
I MM 838	10, 25, 50, 75, 100, 125, 150, 250, 500, 750, 1000	2.28	1.94	1.60	1.37
I MM 839	1500, 2000, 2500, 3000, 5000	2.32	1.97	1.62	1.39
I MM 841	7500 and 10K	2.53	2.15	1.77	1.52
I MM 842	15K and 20K	2.71	2.30	1.90	1.63
I MM 843	25K, 30K and 40K	2.80	2.38	1.96	1.68
I MM 844	50K and 60K	2.89	2.46	2.02	1.73
I M 845	75K only	3.08	2.62	2.16	1.85
I M 846	100K only	3.26	2.77	2.28	1.96

### 200 WATTS— $10\frac{1}{2} \times 1\frac{1}{8}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 847	1, 2, 3, 4, 5	3.44	2.92	2.41	2.06
I MM 848	10, 25, 50, 75, 100, 150, 250, 500, 750, 1000	2.46	2.09	1.72	1.48
I M 849	1500, 2000, 2500, 3000, 5000	2.53	2.15	1.77	1.52
I MM 850	7500 and 10K	2.71	2.30	1.90	1.63
I MM 851	15K and 20K	2.89	2.46	2.02	1.73
I MM 852	25K, 30K, 40K	2.98	2.53	2.09	1.79
I MM 853	50K and 60K	3.08	2.62	2.16	1.85
I M 854	75K only	3.26	2.77	2.28	1.96
I M 855	100K only	3.46	2.94	2.42	2.08

## DIVIDOHM ADJUSTABLE RESISTORS

### 75 WATTS— $6 \times \frac{3}{16}$ " (Cont'd)

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 858	1250, 1500, 2000, 2250, 2500, 3000, 3500, 4000, 4500, 5000	1.92	1.63	1.34	1.15
I MM 859	6000, 7000, 7500, 8000, 9000	2.01	1.71	1.41	1.21
I MM 861	12K, 15K, 20K	2.13	1.81	1.49	1.28
I MM 862	25K, 30K, 35K, 40K	2.32	1.97	1.62	1.39
I MM 863	45K, 50K, 60K	2.52	2.14	1.76	1.51
I M 864	80K only	2.78	2.36	1.95	1.67
I M 865	100K only	2.93	2.49	2.05	1.76
3I M 947.	Extra Slider. Shpg. wt., 2 oz.	1.4			

### 100 WATTS— $6\frac{1}{2} \times \frac{3}{4}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 821	1, 2, 3	2.73	2.32	1.91	1.64
I MM 822	4, 5, 10, 25, 50, 100, 250, 500, 1000	2.11	1.79	1.48	1.27
I M 823	5000 only	2.17	1.84	1.52	1.30
I M 824	10K only	2.30	1.96	1.61	1.38
I MM 825	15K and 20K only	2.44	2.07	1.71	1.46
I MM 826	25K and 40K only	2.70	2.30	1.89	1.62
I M 827	50K only	2.78	2.36	1.95	1.67
I M 828	100K only	3.32	2.82	2.32	1.99
3I M 948.	Extra Slider. Shpg. wt., 2 oz.	1.4			

### 200 WATTS— $10\frac{1}{2} \times 1\frac{1}{8}$ "

Stock No.	Resistance (Ohms)	EACH			
		1-9	10-24	25-99	100-249
I MM 829	1, 2, 3, 4, 5	4.32	3.67	3.02	2.59
I MM 830	10, 25, 50, 100, 250, 500, 1000	3.34	2.84	2.34	2.00
I M 831	5000 only	3.41	2.90	2.39	2.05
I M 832	10K only	3.59	3.05	2.51	2.15
I M 833	50K only	3.96	3.37	2.77	2.38
I M 834	100K only	4.34	3.69	3.04	2.60
3I M 949.	Extra Slider. Shpg. wt., 2 oz.	2.3			

# Resistors, Thermistors, Fuse-Resistors, Surgistors

## DALE SERIES RSE WIREWOUND RESISTORS



Designed to meet the toughest environmental conditions. Vibration and mechanical-shock proof—resistance unit is encapsulated in shock-absorbing material. Metal encased for full protection against moisture and salt spray. Can be lead or clip-mounted. 1000 v. dielectric strength. In 2 or 10-watt power ratings.

### TABLE "A"

#### STOCK VALUES—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	10	40	110	330	650	1400	4000	10K	27.5K
1.5	12	45	125	350	700	1500	4500	11K	30K
2	12.5	47	150	375	750	1600	4700	12K	35K
2.5	13	50	175	390	800	1750	5000	12.5K	40K
3	14	60	180	400	850	1800	6000	13K	47K
4	15	70	200	450	900	2000	6800	14K	50K
4.5	17.5	75	220	470	1000	2200	7000	15K	55K
5	20	80	225	500	1100	2500	7500	17.5K	60K
6	25	85	250	560	1200	3000	8000	20K	68K
7.5	30	90	270	600	1250	3100	8200	22.5K	70K
8	35	100	300	620	1300	3500	9000	25K	80K

### RSE-2A 2-WATT

±1% tolerance; Max. working voltage 200 v. AC or DC; Max. continuous operating temp., 275°C.; Temp. coefficient, 0.00002 per degree C.; Size: 3/32" dia., 1 1/16" long. Wt., 1 oz. Be certain to specify values from Table "A" above.

Stock No.	Values—See Table "A" Above	EACH				
		1-24	25-49	50-99	100-249	250-499
2 MM 989	1 to 5000 ohms	1.09	1.00	.90	.81	.73
2 MM 990	6000 to 10K	1.12	1.02	.94	.84	.75
2 MM 991	11K to 15K	1.16	1.06	.96	.87	.77
2 MM 992	17.5K to 20K	1.19	1.09	.99	.89	.79
2 MM 993	22.5K to 27.5K	1.25	1.14	1.05	.94	.84

### RSE-10 10-WATT

±1% tolerance; Max. WV, 1000 v. AC or DC; Max. continuous operating temp., 275°C.; Temp. coeff., 0.00002 per degree C.; Size: 3/8" dia., 1 1/16" long. 2 oz. MIL-R-26 type RW56G. Be certain to specify values from Table "A" above when ordering.

Stock No.	Values—See Table "A" Above	EACH				
		1-24	25-49	50-99	100-249	250-499
2 MM 411	10 to 5000 ohms	1.09	1.00	.90	.81	.73
2 MM 412	6000 to 10K	1.12	1.02	.94	.84	.75
2 MM 413	11K to 15K	1.16	1.06	.96	.87	.77
2 MM 414	17K to 20K	1.19	1.09	.99	.89	.79
2 MM 415	22K to 40K	1.25	1.14	1.05	.94	.84
2 MM 416	47K to 55K	1.32	1.21	1.10	.99	.88
2 MM 417	60K to 75K	1.45	1.33	1.21	1.09	.97
2 MM 418	80K to 100K	1.59	1.46	1.33	1.20	1.06
2 M 420	150K	1.94	1.77	1.62	1.45	1.29

## CONTINENTAL-WIRT 1-WATT 1% RESISTORS



Metal film resistors having low inductance, initial accuracy, and excellent resistance stability. Vitreous enameled body withstands temperatures to 200°F. Rating, 500 v. 1 1/2" leads. Size, 1 5/16 x 1/4" dia. Wt., 2 oz.

### TYPE NR-25—1 WATT 1% METAL FILM

Stock No.	Resistances Available See Table "B" Below	EACH			
		1-24	25-99	100-499	500-U p
2 MM 300	1 ohm to 1.0 meg	.74	.50	.42	.31
2 MM 301	2.0 megs to 5.0 megs	.93	.62	.51	.39

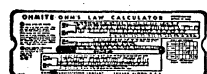
### TABLE "B"

#### VALUES FOR CONT'L-WIRT NR-25

#### STOCK VALUES—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs
1	25	300	4000	15K	50K	250K	1.0
5	50	400	5000	20K	75K	300K	2.0
10	100	500	8500	25K	100K	400K	5.0
15	150	1000	10K	30K	150K	500K	
20	200	2000	13.5K	40K	200K	800K	

## OHMITE HANDY OHM'S LAW CALCULATOR



Easy-to-use rapid calculator. Quickly solves any electrical problems involving various applications of Ohm's Law—even has a parallel-resistance calculator. Handy pocket size, 9x3". Wt., 3 oz.

- 2 M 780. Varnished Cardboard.....25
- 2 M 781. Deluxe Plastic Model.....1.50

## OHMITE AXIAL-LEAD WIREWOUND RESISTORS



Axial-lead ceramic-core resistors. Covered with vitreous enamel to withstand high temperature. Tolerance ±5%. Wattage ratings are based on temperature rise of 300°C. 1 1/2" leads. Shpg. wt., 4 oz.

### SPECIFY VALUES FROM TABLE "C" BELOW

Stock No.	Ohms See Table "C" Below	Watts	Size	EACH			
				1-9	10-24	25-99	100-249
2 MM 090	1-1000	3		.59	.50	.41	.35
2 MM 095	1200-5000	3	3/16x1/4"	.62	.53	.43	.37
2 MM 110	5600-10K	3		.66	.56	.46	.40
2 MM 115	1-1000	5		.62	.53	.43	.37
2 MM 130	1200-5000	5		.66	.56	.46	.40
2 MM 135	5600-10K	5	1 1/16x1 1/32"	.70	.60	.49	.42
2 MM 145	12K-20K	5		.78	.66	.55	.47
2 MM 146	22K-25K	5		.82	.70	.57	.49
2 MM 122	1-1000	10		.68	.58	.48	.41
2 MM 123	1200-5000	10		.73	.62	.51	.44
2 MM 124	5600-10K	10		.84	.71	.59	.50
2 MM 125	12K-20K	10	1 1/16x1 1/32"	.95	.81	.67	.57
2 MM 126	22K-40K	10		1.00	.85	.70	.60
2 MM 127	47K-50K	10		1.12	.95	.78	.67

### TABLE "C"

#### STOCK VALUES—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.0	15	120	500	1800	4700	8200
1.5	20	150	600	2000	5000	9000
2.0	25	200	700	2200	5600	10K
3.0	30	220	750	2500	6000	12K
4.0	33	250	800	2700	6800	15K
5.0	40	300	900	3000	7000	18K
7.5	50	330	1000	3300	7500	20K
10.0	75	400	1200	3900	8000	22K
12.0	100	470	1500	4000		50K



## G-C GLO-BAR THERMISTORS

For series-string filament circuits of RCA, Admiral, Philco, and other TV receivers. A necessary service item. \*Matched pair; replace filament resistors of G.E., Motorola, Philco, etc. Wt., 2 oz.

Stock No.	Mfr's Type	Ohms		Replaces	EACH	
		Hot	Cold		1-9	10-U p
2 M 066	25-912	20	250	G.E. RRW051	.88	.79
2 M 067	25-914	75	950	G.E. RRW041	1.29	1.16
2 M 068	25-916	31	260	G.E. RRW097	1.12	1.01
2 M 053	25-920	11	600	M'rola 6A73541	1.47	1.34
2 M 054	25-922	50	150	Philco 33-1343-3	.94	.85
2 M 055	25-924	10.5K at 125V.		G.E. RRW052	1.88	1.67
2 M 070	25-926	43	600	Crosley	1.47	1.32
2 M 071	25-928	9	600	RCA 100118	.93	.84
2 M 072	25-910	40	375	*(see above)	1.76	1.58

## G-C TV FUSE-RESISTORS



Replace similar units in Raytheon, RCA, Motorola, Sylvania, Zenith and other TV receivers. All units are less than an inch in length; tinned leads for quick and easy installation.

Stock No.	Mfr's Type	Ohms	Oz.	EACH			
				1-9	10-49	50-49	100-U p
2 M 021	25-980-BU	4.7	2				
2 M 022	25-984-BU	5.6	2				
2 M 023	25-988-BU	7.5	2	.29	.24	.18	.16
2 M 024	25-990-BU	9.0	2				
2 M 025	25-994-BU	22.0	3				

Type 25-996 Fuse-Resistor Kit. Contains: 6—7.5, 1—4.7, 1—5.6, 1—9.0, 1—22 ohms. 10 oz.

2 M 026.....1.95

## WUERTH SURGISTORS



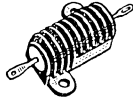
Limit harmful initial voltage surge to 25% of normal, yet allow full voltage after warm-up. Connect directly into the power line. For use with 110-120 v., AC-DC. Av. shpg. wt., 7 oz.

Stock No.	Mfr's Type	Watts	EACH			
			1-9	10-49	50-99	100-U p
28 M 552	4100-2	100-275	1.17	1.05	.97	.88
28 M 553	8050-4	250-400	1.77	1.59	1.47	1.33
28 M 560	8035-5	300-500	1.98	1.78	1.64	1.49

# Dale Wirewound 1% Resistors

## SERIES RH POWER RESISTORS

Sealed in silicone and housed in radiator-finned aluminum housings that mount on chassis for maximum heat dissipation. Completely impervious to moisture and salt spray. Welded construction. Temp. coeff. of 0.0002/°C. Meet MIL-R-18546C, 1% tolerance. Tolerances less than 1% are available on Special Order. For .5% tolerance, add 100% to prices shown; for .25%, add 150%; for .1%, add 200%; for .05%, add 300%. Specify values from Table "A" when ordering.



TYPE RH-5—5-WATT.  $\frac{5}{16} \times \frac{21}{64} \times \frac{3}{64}$ "

Stock No.	Values—See Table "A" at Right	EACH				
		1-24	25-49	50-99	100-249	250-499
2 MM 925	1 ohm to 1000 ohms	1.92	1.55	1.46	1.37	1.28
2 MM 926	1100 to 5000	2.01	1.63	1.54	1.44	1.34
2 MM 927	6000 to 10K	2.18	1.76	1.66	1.55	1.45
2 MM 928	11K and 12K	2.34	1.89	1.78	1.66	1.55
2 MM 929	12.5K to 15K	2.54	2.05	1.93	1.81	1.68
2 MM 930	17.5K to 20K	2.72	2.49	2.28	2.05	1.84

TYPE RH-10—10-WATT. MIL-TYPE RE65  $\frac{1}{32} \times \frac{1}{16} \times \frac{1}{8}$ "

Stock No.	Values—See Table "A" at Right	EACH				
		1-24	25-49	50-99	100-249	250-499
2 MM 352	1 to 1000	1.82	1.45	1.36	1.27	1.18
2 MM 353	1100 to 5000	1.91	1.53	1.44	1.34	1.24
2 MM 354	6000 to 10K	2.08	1.66	1.56	1.45	1.35
2 MM 355	11K and 12K	2.24	1.79	1.68	1.56	1.45
2 MM 356	12.5K to 15K	2.44	1.95	1.83	1.71	1.58
2 MM 357	17.5K to 25K	2.62	2.39	2.18	1.95	1.74
2 MM 358	27.5K and 30K	2.90	2.65	2.41	2.17	1.93

TYPE RH-25—25-WATT. MIL-TYPE RE70  $\frac{9}{16} \times \frac{1}{32} \times \frac{11}{16}$ "

Stock No.	Values—See Table "A" at Right	EACH				
		1-24	25-49	50-99	100-249	250-499
2 M 932	.5 ohm	3.60	3.30	3.00	2.70	2.40
2 MM 360	1 to 1000	1.82	1.45	1.36	1.27	1.18
2 MM 361	1100 to 5000	1.91	1.53	1.44	1.34	1.24
2 MM 362	6000 to 10K	2.08	1.66	1.56	1.45	1.35
2 MM 363	11K and 12K	2.24	1.79	1.68	1.56	1.45
2 MM 364	12.5K to 15K	2.44	1.95	1.83	1.71	1.58
2 MM 365	17.5K to 25K	2.62	2.39	2.18	1.95	1.74
2 MM 366	27.5K to 40K	2.90	2.65	2.41	2.17	1.93
2 MM 367	47K to 50K	3.19	2.91	2.64	2.42	2.11
2 MM 368	55K and 60K	3.48	3.17	2.87	2.54	2.26

TYPE RH-50—50-WATT. MIL-TYPE RE75  $\frac{1}{8} \times \frac{1}{32} \times \frac{25}{16}$ "

Stock No.	Values—See Table "A" at Right	EACH				
		1-24	25-49	50-99	100-249	250-499
2 M 933	.5 ohm	3.77	3.45	3.14	2.83	2.51
2 MM 369	1 to 5	3.23	2.59	2.42	2.26	2.10
2 MM 370	6 to 1000	2.23	1.78	1.67	1.56	1.45
2 MM 371	1100 to 5000	2.34	1.87	1.76	1.64	1.52
2 MM 372	6000 to 10K	2.53	2.02	1.89	1.77	1.64

## SERIES RS 1% MINIATURE POWER RESISTORS

Designed to meet precision power requirements at high ambient temperatures. Silicone coating protects against moisture and salt spray, maintains stable performance under other severe environmental conditions. Dielectric strength 1000 v., AC. Tolerance  $\pm 1\%$ . Complete welded construction. Wt., 2 oz.



TABLE "A"  
STOCK VALUES (OHMS)—SPECIFY VALUES WANTED

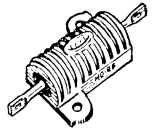
.5	8	35	100	300	620	1300	3500	9000	25K	80K	750K
1	10	40	110	330	650	1400	4000	10K	27.5K	85K	900K
1.5	12	45	125	350	700	1500	4500	11K	30K	100K	1 meg
2	12.5	47	150	375	750	1600	4700	12K	35K	120K	.....
2.5	13	50	175	390	800	1750	5000	12.5K	40K	150K	.....
3	14	60	180	400	850	1800	6000	13K	47K	160K	.....
4	15	70	200	450	900	2000	6800	14K	50K	175K	.....
4.5	17.5	75	220	470	1000	2200	7000	15K	55K	200K	.....
5	20	80	225	500	1100	2500	7500	17.5K	60K	300K	.....
6	25	85	250	560	1200	3000	8000	20K	68K	500K	.....
7.5	30	90	270	600	1250	3100	8200	22.5K	75K	600K	.....

TYPE RH-50—50-WATT. (CONT'D)

Stock No.	Values—See Table "A" Above	EACH				
		1-24	25-49	50-99	100-249	250-499
2 MM 373	11K to 20K	2.75	2.20	2.06	1.93	1.78
2 MM 374	22.5K to 55K	3.00	2.40	2.24	2.10	1.95
2 MM 375	60K to 75K	3.26	2.61	2.44	2.28	2.11
2 M 376	80K to 100K	3.50	2.79	2.63	2.45	2.28
2 M 377	120K	3.80	3.04	2.85	2.66	2.46
2 M 378	150K	4.09	3.28	3.07	2.86	2.66
2 MM 379	160K to 175K	4.38	3.50	3.29	3.07	2.85

## SERIES HG MINIATURE POWER RESISTORS

Precision wirewound power resistors. Exceed requirements of MIL-R-18546C (RE-70)—more than double the MIL spec power requirements with no increase in size. Designed to operate under the most severe environs. Mount on chassis for maximum heat dissipation. Molded in an aluminum housing (radiator-finned) that's impervious to moisture. 1% tolerance. Temp. coeff., 0.00002/°C. Terminals are gold-plated copper. Size,  $\frac{1}{16} \times \frac{25}{32}$ ". Shpg. wt., 8 oz. Select from Table "A" above.



Stock No.	Values—See Table "A" Above	EACH				
		1-24	25-49	50-99	100-249	250-499
27 MM 178	1 to 1000 ohms	3.37	2.68	2.52	2.35	2.18
27 MM 179	1100 to 5000	3.53	2.83	2.66	2.48	2.29
27 MM 180	6000 to 10K	3.85	3.07	2.89	2.68	2.50
27 MM 181	11K and 12K	4.14	3.31	3.11	2.89	2.68
27 MM 182	12.5K to 15K	4.51	3.61	3.39	3.16	2.92
27 MM 183	17.5K to 25K	4.85	4.42	4.03	3.61	3.22
27 MM 184	27.5K to 40K	5.37	4.90	4.46	4.01	3.57
27 MM 185	47K and 50K	5.90	5.38	4.88	4.48	3.90
27 MM 186	55K and 60K	6.44	5.86	5.31	4.70	4.18

## SERIES RS 1% MINIATURE POWER RESISTORS

RS-1A (1 watt),  $\frac{1}{32} \times \frac{3}{32}$ " dia. RS-2C (2.5 watt),  $\frac{1}{2} \times \frac{7}{32}$ " dia.  
RS-1B (1 watt),  $\frac{17}{32} \times \frac{3}{32}$ " dia. RS-2 (3 watt),  $\frac{5}{8} \times \frac{1}{4}$ " dia.  
RS-2A (2 watt),  $\frac{13}{16} \times \frac{3}{16}$ " dia. RS-5 (5 watt),  $\frac{7}{8} \times \frac{5}{16}$ " dia.  
RS-10 (10 watt),  $1\frac{25}{32} \times \frac{3}{8}$ " dia.

Specify values from Table "B" below.

TABLE "B" STOCK VALUES (OHMS)—SPECIFY VALUES WANTED

.5	4	10	17.5	45	80	150	250	390	600	850	1300	2000	4000	7000	11K	17.5K	35K	68K	150K
1	4.5	12	20	47	85	175	270	400	620	900	1400	2200	4500	7500	12K	20K	40K	75K	160K
1.5	5	12.5	25	50	90	180	300	450	650	1000	1500	2500	4700	8000	12.5K	22.5K	47K	80K	175K
2	6	13	30	60	100	200	330	470	700	1100	1600	3000	5000	8200	13K	25K	50K	85K	.....
2.5	7.5	14	35	70	110	220	350	500	750	1200	1750	3100	6000	9000	14K	27.5K	55K	100K	.....
3	8	15	40	75	125	225	375	560	800	1250	1800	3500	6800	10K	15K	30K	60K	120K	.....

RS-2A 2-Watts Stock No.	MIL RW69G RS-2C 2 1/2-Watts Stock No.	RS-2 3-Watts Stock No.	MIL RW67G RS-5 5-Watts Stock No.	MIL RW68G RS-10 10-Watts Stock No.	Values (Ohms)—See Table "B" Above	EACH				
						1-24	25-49	50-99	100-249	250-499
2 MM 841	2 MM 381	2 MM 909	2 MM 388	2 MM 828	1 to 1000	.75	.59	.56	.52	.48
2 MM 842	2 MM 382	2 MM 910	2 MM 389	2 MM 829	1100 to 5000	.83	.66	.62	.57	.53
2 MM 843	2 MM 383	2 MM 911	2 MM 390	2 MM 830	6000 to 10K	.86	.68	.64	.59	.56
2 MM 844	2 MM 384	2 MM 912	2 MM 391	2 MM 831	11K to 15K	.88	.70	.66	.62	.57
2 MM 845	2 MM 385	2 MM 913	2 MM 392	2 MM 832	17.5K to 20K	.92	.74	.69	.65	.59
2 MM 846	No values above 20K	2 MM 914	2 MM 393	2 MM 833	22.5K to 27.5K	.98	.78	.74	.68	.64
		2 MM 914	2 MM 393	2 MM 833	30K to 40K	.98	.78	.74	.68	.64
		No values above 30K	2 MM 394	2 MM 834	47K to 55K	1.05	.85	.79	.74	.68
			2 M 395	2 MM 835	60K	1.16	.92	.87	.81	.75
			No values above 60K	2 MM 835	68K to 75K	1.16	.92	.87	.81	.75
				2 MM 836	80K to 100K	1.28	1.02	.96	.89	.83
				2 M 837	120K	1.40	1.11	1.05	.98	.91
				2 M 838	150K	1.53	1.21	1.14	1.07	.99
				2 MM 839	160K to 175K	1.67	1.33	1.25	1.17	1.09

## WRITE, WIRE OR PHONE

Wherever you are, it's faster to do business with Allied. Use the services of the facility nearest you—see page 1—for your industrial electronic requirements.

RS-1A 1-Watt Stock No.	RS-1B 1-Watt Stock No.	Values (Ohms)—See Table "B" Above	EACH				
			1-24	25-49	50-99	100-249	250-499
1 M 071	2 M 902	.5	2.08	1.91	1.74	1.56	1.39
1 M 072	2 MM 904	1 to 1000	.98	.77	.73	.68	.63
1 M 073	2 MM 905	1100 to 4000	1.08	.86	.81	.75	.69
1 M 074	2 MM 906	4500 to 5000	1.84	1.65	1.61	1.56	1.53
	2 MM 906	6000 to 7500	1.84	1.65	1.61	1.56	1.53

# Texas Instruments Resistors

TI manufactures a broad line of precision resistors for the discriminating user.

CG 1/4

## 1% PRECISION RESISTORS—1/8, 1/4, 1/2-WATT

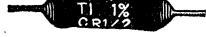
### TYPE CG PRECISION CARBON-FILM RESISTORS HERMETICALLY SEALED IN GLASS

Impervious to moisture. Meet or exceed all requirements of MIL-R-10509D for characteristics B, D, and G. Alloy end-caps high-temperature-sealed to glass shell; direct glass-to-end-cap seal is

strain-free from flexing leads. Sizes (including end caps): CG 1/8, .240x.125"; CG 1/4, .360x.140"; CG 1/2, .560x.225". 1 1/2" #22 leads. Wt., 2 oz. Specify resistance values when ordering.

Stock No.	Mfr's Type	MIL TYPE				Stock Values See Table Below	EACH NOT ASSORTED				
		1/10 watt	1/8 watt	1/4 watt	1/2 watt		1-24	25-99	100-249	250-499	500-999
1 MM 479	CG 1/8	RN55G	RN55D	.....	.....	10 to 24.9 ohms	1.88	1.02	.77	.54	.50
1 MM 482	CG 1/8	RN55G	RN55D	.....	.....	26.1 to 49.9 ohms	1.40	.75	.56	.39	.36
1 MM 483	CG 1/8	RN55G	RN55D	.....	.....	51.1 ohms to 100K	1.22	.66	.50	.35	.32
1 MM 484	CG 1/4	.....	RN60B&G	RN60D	.....	24.9 to 49.9 ohms	1.40	.75	.56	.39	.36
1 MM 485	CG 1/4	.....	RN60B&G	RN60D	.....	51.1 ohms to 100K	1.22	.66	.50	.35	.32
1 MM 477	CG 1/4	.....	RN60B&G	RN60D	.....	110K to 1 meg	1.47	.78	.60	.42	.39
27 MM 349	CG 1/2	.....	RN65B&G	RN65D	.....	10 to 97.6 ohms	1.40	.75	.56	.39	.36
27 MM 339	CG 1/2	.....	RN65B&G	RN65D	.....	100 ohms to 348K	1.19	.62	.48	.34	.31
27 MM 350	CG 1/2	.....	RN65B&G	RN65D	.....	357K to 1.5 meg	1.42	.75	.58	.41	.38

## TYPE CR EPOXY PLUS RESISTORS



Replace CD Molded and CDM Film Types. Ideal for military and industrial ap-

plications calling for inexpensive RN55, RN60 and RN65 package sizes. Special epoxy encapsulation insures high moisture character-

istic over the complete temperature range of -65° C to 165° C; offer excellent mechanical protection. Sizes: CR 1/8, .250x.095"; CR 1/4, .375x.105"; CR 1/2, .600x.175". Specify resistance values desired when ordering. Av. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	MIL TYPE			Stock Values See Table "A" Below	EACH		EACH ASSORTED MIN. 100 PER VALUE			
		1/8 watt	1/4 watt	1/2 watt		1-24	25-99	100-249	250-499	500-999	
27 MM 340	CR 1/8	RN55D	.....	.....	10 to 49.9 ohms	.99	.44	.43	.25	.22	
27 MM 341	CR 1/8	RN55D	.....	.....	51.1 ohms to 100K	.99	.44	.36	.21	.19	
27 MM 342	CR 1/4	RN60B	RN60D	.....	24.9 to 97.6 ohms	.99	.44	.36	.21	.19	
27 MM 343	CR 1/4	RN60B	RN60D	.....	100 ohms to 200K	.48	.34	.22	.17	.15	
27 MM 348	CR 1/4	RN60B	RN60D	.....	215K to 1 meg	.55	.41	.26	.20	.17	
27 MM 337	CR 1/2	.....	RN65B	RN65D	24.9 to 97.6 ohms	.64	.37	.27	.18	.15	
27 MM 338	CR 1/2	.....	RN65B	RN65D	100 to 2 megs	.54	.28	.21	.13	.11	

## TYPE MM MOLDED METAL-FILM RESISTORS

Molded, precision metal-film resistors meet or exceed all applicable requirements of MIL-R-10509D for characteristics C & E. Carry full rated load at 125° C ambient. Have high degree of sta-

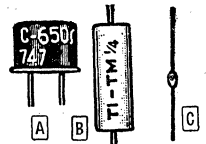
bility and reliability due to rugged cap and lead construction. Tough molded coating helps protect and insulate resistor from damaging heat and mechanical shock. Sizes: MM60, .400x.135"; MM65, .575x.200". Temp. coefficient, ±50 ppm. 2 oz. Specify resistance.

Stock No.	Mfr's Type	MIL TYPE	Stock Values See Table "A" Below	EACH		EACH ASSORTED MIN. 100 PER VALUE			
				1-24	25-99	100-249	250-499	500-999	
27 MM 344	MM60-T2	RN60C&E	49.9 ohms to 200K	1.63	1.20	.95	.81	.74	
27 MM 345	MM60-T2	RN60C&E	215K to 499K	1.77	1.30	1.06	.88	.81	
27 MM 346	MM65-T2	.....	49.9 ohms to 200K	1.56	1.13	.88	.74	.67	
27 MM 347	MM65-T2	.....	215K to 1 meg	1.69	1.23	.99	.81	.74	

## TABLE "A"—MIL-OHM VALUES—SPECIFY RESISTANCE WANTED

10.0	34.0	105	301	604	1400	2490	4120	6980	14.3K	25.5K	44.2K	80.6K	162K	332K	909K
12.1	34.8	110	316	619	1470	2550	4220	7320	14.7K	26.1K	45.3K	82.5K	169K	348K	1.00 meg
12.4	36.5	121	332	649	1500	2610	4320	7500	15K	26.7K	46.4K	84.5K	174K	357K	1.05 meg
14.0	37.4	124	348	665	1540	2670	4420	7680	15.4K	27.4K	47.5K	86.6K	178K	365K	1.10 meg
14.7	42.2	130	357	681	1620	2740	4530	7870	15.8K	28K	48.7K	90.9K	182K	374K	1.21 meg
15.0	46.4	133	374	698	1650	2800	4640	8060	16.2K	28.7K	49.9K	93.1K	196K	402K	1.30 meg
16.9	47.5	147	383	715	1690	2870	4750	8250	16.5K	29.4K	51.1K	95.3K	200K	422K	1.50 meg
19.6	49.9	150	392	750	1780	2940	4990	8450	16.9K	30.1K	53.6K	97.6K	215K	442K	1.82 meg
20.0	51.1	162	402	787	1820	3010	5110	8660	17.4K	31.6K	54.9K	100K	221K	464K	1.96 meg
20.5	56.2	178	422	806	1870	3090	5230	9090	17.8K	32.4K	56.2K	110K	226K	475K	2.00 meg
21.5	61.9	182	432	825	1910	3160	5360	9310	18.2K	33.2K	59K	115K	237K	487K	
22.1	68.1	196	453	909	1960	3240	5490	9530	19.6K	34.8K	60.4K	121K	243K	499K	
23.2	69.8	200	464	1000	2000	3320	5620	9760	20K	35.7K	61.9K	124K	249K	511K	
23.7	75.0	215	475	1050	2050	3400	5760	10K	20.5K	36.5K	63.4K	127K	255K	536K	
24.9	80.6	221	499	1100	2100	3480	5900	10.7K	21K	37.4K	64.9K	130K	261K	562K	
26.1	82.5	237	511	1130	2150	3570	6040	11K	21.5K	38.3K	66.5K	133K	267K	619K	
28.7	90.9	243	523	1150	2210	3650	6190	12.1K	22.1K	39.2K	68.1K	137K	274K	681K	
30.1	93.1	249	536	1210	2260	3740	6340	12.4K	22.6K	40.2K	69.8K	140K	287K	715K	
30.9	97.6	255	562	1240	2320	3830	6490	13K	23.7K	41.2K	71.5K	143K	301K	732K	
31.6	100	261	576	1300	2370	3920	6650	13.3K	24.3K	42.2K	73.2K	147K	309K	750K	
33.2	102	274	590	1330	2430	4020	6810	14K	24.9K	43.2K	75K	150K	316K	825K	

## TEMPERATURE SENSING "SENSISTORS"



Useful in servo systems, thermometry, computers, missiles, etc. Feature positive TC of +7%/°C for temperature compensation and sensing. 10% tolerance. TM 1/4 (Fig. B) rated 1/4-watt; TM 1/2 (also Fig. B) and TC 1/2 (Fig. A) are rated 1/2-watt; TG-01 (Fig. C) rated 1/100-watt. TM 1/4 and TM 1/2 have molded cases; TC 1/2 has round welded case with glass-to-metal seal between case and leads. Sizes: TM 1/4, .200x.378"; TM 1/2, .406x.140"; TC 1/2, TO-5 case; TG-01, .060x.040". Wt., 2 oz. Specify mfr's type and resistance.

Stock No.	Mfr's Type	Stock Values See Table "B" Right	EACH			
			1-49	50-249	250-499	500-999
31 MM 561	TM 1/4	10 ohms to 10K	4.00	3.50	3.00	2.50
31 MM 563	TM 1/2	10 ohms to 5.6K	5.00	4.50	4.00	3.20
31 MM 562	TC 1/2	10 ohms to 5.6K	5.00	4.50	4.00	3.20

TABLE "B" (OHMS)—SPECIFY VALUES WANTED									
10	33	82	270	680	2200	5600			
12	39	100	330	820	2700	6800			
15	47	120	390	1000	3300	8200			
18	50	150	470	1200	3900	10K			
22	56	180	500	1500	4700				
27	68	220	560	1800	5000				

## MICRO-SENSISTORS

Stock No.	Mfr's Type	Stock Values See Table "B"	EACH					
			1-24	25-49	50-100	100-250	250-500-999	
27 MM 334	TG-01	10 to 82 ohms	5.20	4.35	4.10	3.90	3.70	3.50
27 MM 335	TG-01	100 to 470 ohms	5.95	5.00	4.75	4.50	4.25	4.00
27 MM 336	TG-01	500 to 1000 ohms	6.75	5.70	5.40	5.10	4.80	4.50

# SPRAGUE Wirewound Power Resistors

## "KOOLOHM" WIREWOUND POWER RESISTORS



Improved versions of the famous "KT" and "NIT" series. Feature final "burn-in" test which stabilizes resistance value on full load. Have smaller size than older units. Ceramic insulated wire and outer shells provide a completely insulated surface against any contact as well as complete moisture-proofing—an important factor in extending resistor-life. Units have  $\pm 5\%$  tolerance; handle hot-spot temperatures up to 340°C. Shpg. wt., 2 oz.

### TYPE 450E—3 WATT (STANDARD) $\frac{1}{2} \times \frac{1}{4}$ " dia.

Stock No.	Stock Values See Table "A" Above, Right	EACH			
		1-24	25-49	50-99	100-249
I MM 901	1 to 1000 except 35, 350, 450 ohms	.35	.248	.230	.212
I MM 902	1200, 1400, 1500, 1800, 2000 ohms	.38	.266	.247	.228
I MM 903	2200, 2500, 3000 ohms	.39	.276	.256	.236
I MM 904	3300, 3900, 4000 ohms	.41	.287	.267	.246
I M 906	6000 ohms only	.43	.307	.285	.263
I M 908	9000 ohms only	.48	.337	.313	.289
I M 909	10K ohms only	.48	.349	.324	.299

### TYPE 452E—5 WATT (STANDARD) $1 \times \frac{1}{4}$ " dia.

Stock No.	Stock Values See Table "A" Above, Right	EACH			
		1-24	25-49	50-99	100-249
I MM 910	1 to 1000 ohms	.36	.256	.238	.220
I MM 911	1100 to 2000 ohms	.37	.265	.246	.227
I MM 912	2200 to 3000 ohms	.38	.272	.252	.233
I MM 913	3500 and 4000 ohms only	.39	.277	.257	.238
I MM 914	4500 and 5000 ohms only	.40	.286	.265	.245
I M 915	6000 ohms only	.41	.293	.272	.251
I MM 917	7500 and 8000 ohms only	.44	.309	.287	.265
I M 919	10K ohms only	.47	.333	.309	.286
I M 921	12K ohms only	.50	.354	.329	.304
I M 923	15K ohms only	.55	.386	.359	.331
I M 924	20K ohms only	.66	.468	.434	.401

### TYPE 453E—5 WATT (NON-INDUCTIVE) $1 \times \frac{1}{4}$ " dia.

Stock No.	Stock Values See Table "A" Above, Right	EACH			
		1-24	25-49	50-99	100-249
I MM 925	1 to 1000 ohms	.54	.379	.352	.325
I MM 926	1100 to 2000 ohms	.57	.403	.374	.346
I MM 927	2200, 2500, 3000 ohms only	.61	.428	.398	.367
I MM 928	3500 and 4000 ohms only	.68	.479	.445	.410

## TABLE "A"—VALUES FOR "KOOLOHM" RESISTORS

STOCK VALUES (OHMS)—SPECIFY VALUES WANTED											
1	5	20	50	200	400	800	1400	2500	4000	7500	15K
1.5	7.5	25	75	220	450	900	1500	3000	4500	8000	20K
2	10	30	100	250	500	1000	1800	3300	5000	9000	25K
3	12	35	120	300	600	1100	2000	3500	6000	10K	30K
4	15	40	150	350	700	1200	2200	3900	7000	12K	

### TYPE 456E—10 WATT (STANDARD) $1\frac{1}{2} \times \frac{1}{2}$ " dia.

Stock No.	Stock Values See Table "A" Above	EACH			
		1-24	25-49	50-99	100-249
I MM 929	1 to 1000 ohms	.44	.308	.286	.264
I MM 930	1100 to 2000 ohms	.45	.321	.298	.275
I MM 931	2200, 2500, 3000 ohms	.47	.329	.306	.282
I MM 932	3300 to 4000 ohms	.48	.339	.315	.290
I MM 933	4500 and 5000 ohms only	.49	.349	.324	.299
I M 934	6000 ohms only	.51	.357	.332	.306
I MM 936	7500 and 8000 ohms only	.53	.374	.347	.320
I M 938	10K ohms only	.56	.393	.365	.337
I M 939	12K ohms only	.59	.416	.386	.356
I M 940	15K ohms only	.63	.442	.411	.379
I M 941	20K ohms only	.70	.491	.456	.421
I M 942	25K ohms only	.77	.540	.502	.463
I M 943	30K ohms only	.83	.587	.545	.503

### TYPE 457E—10 WATT (NON-INDUCTIVE) $1\frac{1}{2} \times \frac{1}{2}$ " dia.

Stock No.	Stock Values See Table "A" Above	EACH			
		1-24	25-49	50-99	100-249
I MM 948	1 to 1000 ohms	.63	.441	.410	.378
I MM 949	1100 to 2000 ohms	.66	.466	.433	.400
I MM 953	2200, 2500, 3000 ohms only	.70	.490	.455	.420
I MM 954	3300 to 4000 ohms	.72	.510	.473	.437
I MM 955	4500 and 5000 ohms only	.77	.542	.503	.464
I M 956	6000 ohms only	.79	.559	.519	.479
I M 957	7000 ohms only	.84	.592	.550	.508
I MM 958	7500 and 8000 ohms only	.89	.627	.582	.538
I M 961	9000 ohms only	.96	.678	.629	.581
I M 962	10K ohms only	1.07	.752	.698	.644

## "BLUE JACKET" MINIATURIZED POWER RESISTORS

### SEE TABLE "B" BELOW FOR VALUES

#### TYPE 242E—3 WATT, $\frac{1}{2} \times \frac{1}{2}$ " dia.

Stock No.	Stock Values (Ohms) See Table "B" Below for Values	EACH					
		1-9	10-24	25-99	100-249	250-499	500-996
27 MM 200	1 to 10	.53	.46	.38	.32	.28	.20
I MM 092	12 to 1000 except 35, 350, 450, 750	.52	.44	.36	.31	.27	.25
I MM 093	1200 to 5000 except 3500 and 4500	.55	.47	.38	.33	.27	.26
I MM 094	5600 to 10K except 7000	.58	.49	.41	.35	.29	.27

#### TYPE 243E—5 WATT, $\frac{1}{2} \times \frac{3}{2}$ " dia.

Stock No.	Stock Values (Ohms) See Table "B" Below for Values	EACH					
		1-9	10-24	25-99	100-249	250-499	500-996
27 MM 201	1 to 10	.56	.49	.40	.35	.29	.28
I MM 095	12 to 1000 except 18, 22, 27, 33, 39, 47, 56, 68, 82, 180, 270, 330, 390, 450, 470, 560, 680, and 820	.55	.47	.38	.33	.27	.26
I MM 081	1100 to 5000 except 2700, 3300, 3900 and 4700	.58	.49	.41	.35	.29	.27
I MM 082	6000 to 10K except 6800 and 8200	.62	.53	.43	.37	.31	.29
I MM 083	12K to 20K except 16K and 17K	.69	.58	.49	.41	.34	.32
I MM 084	22K to 30K	.75	.65	.53	.46	.39	.37

#### TYPE 247E—10 WATT, $1\frac{1}{2} \times \frac{3}{2}$ " dia.

Stock No.	Stock Values (Ohms) See Table "B" Below for Values	EACH					
		1-9	10-24	25-99	100-249	250-499	500-996
27 MM 202	1 to 10	.62	.53	.44	.38	.32	.30
I MM 086	12 to 1000 except 18, 22, 27, 33, 39, 47, 56, 68, 82, 180, 270, 330, 390, 450, 470, 560, 680 and 820	.60	.51	.42	.36	.30	.28
I MM 087	1100 to 5000 except 2700 and 4700	.65	.54	.45	.39	.32	.30
I MM 088	6000 to 10K except 6800 and 8200	.74	.63	.52	.44	.37	.34
I MM 089	11K to 20K except 17K	.84	.71	.59	.50	.42	.40
I MM 090	22K to 40K	.93	.80	.66	.57	.48	.45
I MM 091	45K to 50K	.99	.84	.69	.59	.50	.47

## TABLE "B"—VALUES FOR "BLUE JACKET" RESISTORS

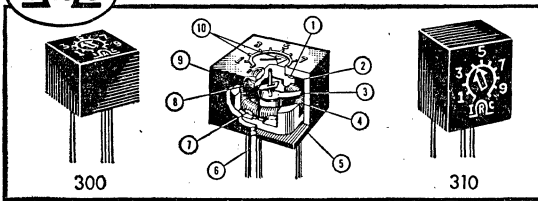
STOCK VALUES (OHMS)—SPECIFY VALUES WANTED											
1	12	33	75	250	470	820	2000	4000	7500	15K	35K
1.5	15	35	82	270	500	900	2200	4500	8000	16K	40K
2	18	39	100	300	560	1000	2500	4700	8200	17K	45K
3	20	40	120	330	600	1100	2700	5000	9000	18K	50K
4	22	47	150	350	680	1200	3000	5600	10K	20K	
5	25	50	180	390	700	1400	3300	6000	11K	22K	
7.5	27	56	200	400	750	1500	3500	6800	12K	25K	
10	30	68	220	450	800	1800	3900	7000	14K	30K	

### OEM PRICES

At Allied you get factory OEM prices and same-day "off-the-shelf" shipment. See Page One for the location of the Allied office nearest you.



# Circuitrim Controls



## 300 AND 310 SUBMINIATURE TRIMMING POTENTIOMETERS—.60 WATTS @ 60°C

- Save Board Space—Permits Maximum Component-Density
- Simplified Design for Greater Reliability and Lower Cost

Types 300 and 310. Ultra-compact for miniaturization. Single-turn, slotted-rotor controls with direct trimming action for close, fast response to adjustment. .016" pins are on 0.1" grid for printed cir-

## NEW! 1/16" CUBE TRIMMERS

- 1 SEAL TO PREVENT DIRT AND MOISTURE FROM ENTERING
- 2 WIPER BLOCK MAINTAINS PROPER WIPER TENSION
- 3 PRECIOUS METAL WIPER-SPRING
- 4 PRECISION WIREWOUND ELEMENT, HEATER-CORE PROCESS
- 5 REAR HEADER
- 6 GOLD FLASHED WELDABLE PRINTED CIRCUIT PINS
- 7 DURABLE SILVER BRAZED TERMINATIONS
- 8 SOLID, POSITIVE-STOP SYSTEM
- 9 HOUSING—COMPLETELY SEALED CONSTRUCTION
- 10 POINTER, ADJUSTMENT SLOT, SCALE FOR FAST SETTINGS

uits. Have resistance tolerance of  $\pm 5\%$ ; operating temperature range,  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$ . \*Type 300 has screwdriver top adjust; †Type 310, side adjust. .350x $\frac{3}{16}$ " diameter. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Terminal Style	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
27 MM 158	300*	PC	50, 100, 200, 500, 1000, 2000, 5000	3.80	3.42	3.17	2.98	2.85	2.72	2.60
27 M 159	300*	PC	10K only	4.80	4.32	4.00	3.76	3.60	3.43	3.28
27 M 160	300*	PC	20K only	5.80	5.21	4.83	4.54	4.35	4.15	3.97
27 MM 161	310†	PC	50, 100, 200, 500, 1000, 2000, 5000	3.95	3.56	3.29	3.10	2.96	2.83	2.70
27 M 162	310†	PC	10K only	4.95	4.45	4.12	3.88	3.71	3.55	3.38
27 M 163	310†	PC	20K only	5.95	5.36	4.95	4.67	4.47	4.27	4.07

## CT-201 PRECISION MINIATURE TRIMMERS—1 WATT @ 60°C



Types CT-201-00 and CT-201-01.  $\frac{1}{2}$ " square precision wirewound potentiometers designed for maximum component density in handwired, printed circuit and encapsulated assemblies. Replace former Type CT-200. All Type CT-201 styles meet performance and environmental requirements of proposed MIL-R-27208 specifications. 25-turn, self-locking, anti-backlash construction provides outstanding setability and stability with noise-free rotation over high resolution element. Slip-clutch at ends of rotation protects stops from damage. All

CT-201 types have anodized aluminum cases, completely sealed with compression loaded teflon and epoxy seals. Precious metal alloy contacts are used throughout. Have resistance tolerance of  $\pm 5\%$ , dielectric strength 1000 VRMS, temperature coefficient  $\pm .007\%/^\circ\text{C}$  max. over operating temp. range of  $-55^\circ\text{C}$  to  $\pm 150^\circ\text{C}$ . All meet MIL rating of  $\frac{3}{4}$  watt  $\frac{7}{8}$  85°C. \*Type CT-201-00 has screwdriver slot adjustment; †Type CT-201-01 has .050" Allen head adjustment. Both CT-201-00 and CT-201-01 use three #30, teflon insulated leads, 10" long; .093 inch diameter thru-holes on .520" centers for mounting. Size,  $\frac{1}{2} \times \frac{1}{2} \times \frac{3}{16}$ ". Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Terminal Style	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
28 MM 971	CT-201-00*	Tef. leads	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	5.40	4.86	4.50	4.23	4.05	3.87	3.69
28 M 972	CT-201-00*	Tef. leads	20K only	6.00	5.40	5.00	4.70	4.50	4.30	4.10
28 M 973	CT-201-00*	Tef. leads	50K only	6.60	5.94	5.50	5.17	4.95	4.73	4.51
28 MM 974	CT-201-01†	Tef. leads	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	5.50	4.95	4.58	4.31	4.12	3.93	3.77
28 M 975	CT-201-01†	Tef. leads	20K only	6.10	5.48	5.08	4.78	4.57	4.36	4.18
28 M 976	CT-201-01†	Tef. leads	50K only	6.70	6.03	5.58	5.25	5.02	4.79	4.59

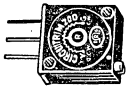


## CT-201 PRINTED-CIRCUIT POTENTIOMETER MOUNTED FLAT—1 WATT @ 60°C

Types CT-201-10, CT-201-11. Electrically similar to CT-201-00 and CT-201-01 precision trimmers described above, but with different terminal styling—with printed circuit pins configuration arranged for mounting on flat side. Pins are located

on 0.1 inch radius for possible mounting in conventional transistor sockets. \*Type CT-201-10 has a screwdriver slot adjustment; †Type CT-201-11 uses a hex socket for Allen-head adjustment. Both types have thru holes of .073 inch diameter on .520 inch centers for mounting. Size,  $\frac{1}{2}$ " square by  $\frac{1}{4}$ " high. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Terminal Style	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
28 MM 980	CT-201-10*	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	6.00	5.40	5.00	4.70	4.50	4.30	4.10
28 M 981	CT-201-10*	PC	20K only	6.60	5.94	5.50	5.17	4.95	4.73	4.51
28 M 982	CT-201-10*	PC	50K only	7.20	6.48	6.00	5.64	5.40	5.16	4.92
28 MM 983	CT-201-11†	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	6.10	5.48	5.08	4.78	4.57	4.36	4.18
28 M 984	CT-201-11†	PC	20K only	6.70	6.03	5.58	5.25	5.02	4.79	4.59
28 M 985	CT-201-11†	PC	50K only	7.30	6.57	6.08	5.73	5.47	5.22	5.00

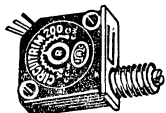


## CT-201 PRINTED CIRCUIT EDGE-MOUNTED POT—1 WATT @ 60°C

Types CT-201-20 and CT-201-201. Similar to CT-201 types described above, except with printed circuit pins arranged to permit edge mounting. Have flash copper clad dument  $1\frac{1}{2}$ " leads. \*Type

CT-201-20 has side located screwdriver slotted shaft for adjustment plane parallel to board; †Type CT-201-201 (not illus.), has top located slotted shaft for adjustment plane vertical to board. Size,  $\frac{1}{2} \times \frac{1}{2} \times \frac{3}{16}$ ". Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Terminal Style	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
28 MM 989	CT-201-20*	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	6.00	5.40	5.00	4.70	4.50	4.30	4.10
28 M 990	CT-201-20*	PC	20K only	6.60	5.94	5.50	5.17	4.95	4.73	4.51
28 M 991	CT-201-20*	PC	50K only	7.20	6.48	6.00	5.64	5.40	5.16	4.92
29 MM 003	CT-201-201†	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	6.00	5.40	5.00	4.70	4.50	4.30	4.10
29 M 004	CT-201-201†	PC	20K only	6.60	5.94	5.50	5.17	4.95	4.73	4.51
29 M 005	CT-201-201†	PC	50K only	7.20	6.48	6.00	5.64	5.40	5.16	4.92



## CT-201-60 PANEL MOUNTED POTENTIOMETER—1 WATT @ 60°C

Type CT-201-60. Completely sealed construction of all CT-201 Series potentiometers may be fully utilized where entire circuitry must be vacuum encapsulated and still allow trimmer adjustment from exterior. Encapsulant cannot penetrate trimmer housing or seals. One-piece header and side flange is

riveted and sealed to an anodized aluminum case. Occupies a minimal amount of panel space, only .276-inches by .588-inches, with depth behind panel of .540-inches. Mounts by a  $\frac{1}{4}$ -inch long, No. 10-32 bushing. All mounting hardware is included. Has screwdriver-type slotted shaft for quick adjustment. Use teflon insulated leads for standard point-to-point wiring. Other specifications are the same as CT-201 Types, described above. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Terminal Style	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
28 MM 992	CT-201-60	Tef. leads	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	6.40	5.76	5.34	5.01	4.80	4.57	4.38
28 M 993	CT-201-60	Tef. leads	20K only	7.00	6.30	5.83	5.49	5.25	5.00	4.79
28 M 994	CT-201-60	Tef. leads	50K only	7.60	6.84	6.34	5.95	5.70	5.44	5.20

Allied Electronics can make speedy shipment on IRC Circuitrim Trimmers at factory OEM prices. Phone,

wire or write the Allied facility nearest you. See page 1 for locations and telephone numbers.

# Circuitrim Controls



## 102-5 PRECISION SUBMINIATURE TRIMMER—1 WATT @ 50°C

Type 102-5. Bushing-mounted unit in nicked brass housing. Extends only 1/32" before panel. 3/16" long, 5/8-32 NEF flatted mounting

stud, hex nut. Gold-flashed terminals. See Type 103-6, below for additional specs. 3 oz.

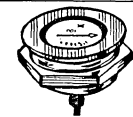


Stock No.	Mfr's Type	Terminal Style	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
29 MM 009	102-5	Solder	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	4.05	3.65	3.38	3.18	3.04	2.90	2.78
29 M 010	102-5	Solder	20K only	4.65	4.18	3.88	3.64	3.48	3.32	3.18
29 M 011	102-5	Solder	50K only	5.25	4.73	4.37	4.11	3.94	3.75	3.60

## 103-6 TRIMMING POTENTIOMETER BUSHING-MOUNTED—1 WATT @ 50°C

Type 103-6. Compact, precision wire wound trimming pots with 1/4-inch long mounting stud. Has positive stops on 320° rotation, ±5%. Convenient screwdriver slot permits quick, accurate adjustment. Has operating temperature range from -55°C to +150°C. Stand-

ard resistance tolerance, ±5%. Meets all environmental specifications of MIL-R-27208A. Includes 10-inch, No. 30 AWG teflon-insulated leads for standard wiring. Shpg. wt., 3 oz.

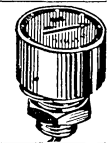


Stock No.	Mfr's Type	Tef. leads	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
29 MM 012	103-6	Tef. leads	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	4.55	4.10	3.79	3.56	3.41	3.25	3.12
29 M 013	103-6	Tef. leads	20K only	5.15	4.64	4.30	4.04	3.86	3.68	3.53
29 M 014	103-6	Tef. leads	50K only	5.75	5.17	4.80	4.50	4.31	4.11	3.94

## 104-6 SUBMINIATURE POTENTIOMETER BUSHING-MOUNTED—1 WATT @ 50°C

Type 104-6. Tiny precision trimmer in nicked brass housing. Similar to Type 103-6, described above, but extends only 1/16" before mounting panel. Features unique mechanical design that eliminates complex and costly mechanical linkage—a slotted rotor takes the place of gearing. This direct trimming action gives close, fast re-

sponse to adjustment. Screwdriver slot located on cover top for easy accessibility. Has 3/8-inch long, 1/4-32 NEF thread mounting stud, hex nut. Includes three 10-inch, No. 30 AWG teflon-insulated leads for standard point-to-point wiring. Shpg. wt., 3 oz.

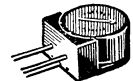


Stock No.	Mfr's Type	Tef. leads	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
29 MM 015	104-6	Tef. leads	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	4.55	4.10	3.79	3.56	3.41	3.25	3.12
29 M 016	104-6	Tef. leads	20K only	5.15	4.64	4.30	4.04	3.86	3.68	3.53
29 M 017	104-6	Tef. leads	50K only	5.75	5.17	4.80	4.50	4.31	4.11	3.94

## 106-2 PRINTED CIRCUIT POTENTIOMETER EDGE-MOUNTED—1 WATT @ 50°C

Type 106-2. Precision wirewound, single-turn trimmers. For printed circuit applications where circuit boards are stacked and adjustment from the edge of the board is required. Subminiature, only 3/16x1/2x

3/16" deep when mounted. Housed in diallyl phthalate case. Gold-plated pins, .020" diameter on 0.10" spacing. Wt., 3 oz.

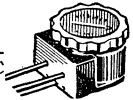


Stock No.	Mfr's Type	PC	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
29 MM 018	106-2	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	3.80	3.42	3.17	2.98	2.85	2.72	2.60
29 M 019	106-2	PC	20K only	4.40	3.96	3.67	3.45	3.30	3.15	3.01
29 M 020	106-2	PC	50K only	5.00	4.50	4.17	3.92	3.75	3.52	3.43

## 108-2 FINGERTIP ADJUST PC POT EDGE-MOUNTED—1 WATT @ 50°C

Type 108-2. Similar to Type 106-2, but has convenient fingertip adjustment as well as screwdriver slot adjust. Also has positive stops on 320° rotation, ±5%; standard resistance tolerance, ±5%.

Meets or exceeds all environmental specs of MIL-R-27208A. Knob diameter, 0.552". Gold-plated PC pins, .020" diameter. Shpg. wt., 3 oz.

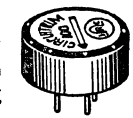


Stock No.	Mfr's Type	PC	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
29 MM 021	108-2	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	4.25	3.82	3.54	3.33	3.19	3.04	2.91
29 M 022	108-2	PC	20K only	4.85	4.36	4.05	3.80	3.64	3.47	3.32
29 M 023	108-2	PC	50K only	5.45	4.90	4.55	4.27	4.09	3.90	3.74

## CT-100 DIRECT-DRIVE SLIDER POTENTIOMETER—1 WATT @ 50°C

Types CT-100 and CT-100-1. Miniature wirewound trimmers with direct-drive screwdriver slot adjustment and moisture sealed diallyl phthalate case and rotor. Both types have PC pins on 1" radius—CT-100 pins are .187" long for insertion in standard 3 or 4-pin transistor socket; CT-100-1 pins are .300" long for direct insertion into PC board and crimping. Meet all environmental requirements of

MIL-R-2708 specs and shock, vibration and moisture resistance standards of MIL-STD-202B. Oper. temp., -55°C to +150°C. Dielectric strength 1500 VRMS; temp. coeff. ±.007%/°C maximum. Resistance tolerance ±5%. Molded stops @ 320° ±5%. .225x1/2" dia. Shpg. wt., 3 oz.

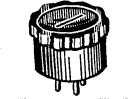


Stock No.	Mfr's Type	Tr. Socket	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
29 MM 185	CT-100	Tr. Socket	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	3.30	3.00	2.70	2.45	2.30	2.20	2.05
29 M 186	CT-100	Tr. Socket	20K only	3.90	3.55	3.19	2.89	2.72	2.60	2.42
29 M 187	CT-100	Tr. Socket	50K only	4.50	4.10	3.68	3.34	3.13	3.00	2.79
29 MM 006	CT-100-1	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	3.30	3.00	2.70	2.45	2.30	2.20	2.05
29 M 007	CT-100-1	PC	20K only	3.90	3.55	3.19	2.89	2.72	2.60	2.42
29 M 008	CT-100-1	PC	50K only	4.50	4.10	3.68	3.34	3.13	3.00	2.79

## CT-110 FINGER ADJUSTABLE POTENTIOMETER—1-WATT @ 25°C

Type CT-110. Same as Type CT-100 described above, except with knurled knob rotor to permit convenient finger adjustment in addition to the standard type of screwdriver adjustment. Has 0.187" long, 0.0285" diameter conventional printed-circuit pins located on a

0.1-inch radius, and moisture-sealed diallyl phthalate case and rotor. Compact size—only 0.325" high by 1/2" diameter. Meet MIL-R-2708 and MIL-STD-202B specifications. Shpg. wt., 3 oz.



Stock No.	Mfr's Type	PC	Resistance Values (Ohms) Specify Values Wanted	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	500-999
29 MM 000	CT-110	PC	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	3.50	3.18	2.86	2.60	2.30	2.20	2.05
29 M 001	CT-110	PC	20K only	4.10	3.73	3.35	3.04	2.72	2.60	2.42
29 M 002	CT-110	PC	50K only	4.70	4.28	3.84	3.49	3.13	3.00	2.79

## SINGLE-TURN ROTARY TRIMMERS

Types 7501 and 151. Quality construction features ensure reliability. One-piece bushing, front header and case machined of nickel-plated half-hard brass. Rear headers seated and roll bonded to case for moisture and dust protection with "O" ring

seal on shaft. Type 303 stainless steel shaft with clear passivation. Wire alloys and precious metal contactors for high stability noise-free operation in motor driven applications. Continuous rotation—stops available on Special Order. Av. wt., 3 oz.

### TYPE 7501—1 WATT

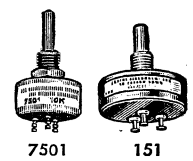
Miniature trimmers with 3/4" dia. x 3/8" deep case. 1/8" dia. shaft extends 1/2" beyond 1/4"-32x3/8" long bushing.

3/4" turret terminals. Electrical rotation angle 345° ±5%. Resist. tolerance—3 watt ±10%; linearity, ±1%.

### TYPE 151—3 WATT

Have high resolution adjustment. Case size 1 1/2" dia. x 1/2" deep with 1/2" terminals. 1/4" dia. shaft extends 1/2"

beyond 3/8"-32x1/2" bushing. Electrical rotation angle 350° (±4°, 0°). Resist. tol., ±5%; linearity, ±5%.



Stock No.	Type	Resistance Values (Ohms)	EACH				
			1-9 EA.	10-24 EA.	25-99 EA.	100-199 EA.	200-499 EA.
31 MM 529	7501	100, 250, 500, 1000, 5000, 10K	8.75	8.31	7.88	7.44	7.00
31 MM 550	151	100, 500, 1000, 2500, 5000, 10K, 25K	8.75	8.31	7.88	7.44	7.00

# IRC Precision Potentiometers

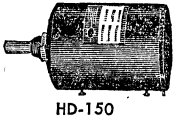
High stability controls meet requirements of industrial, military and computer instrumentation. Resistance elements have temp. coefficient of  $\pm 0.002\%/^{\circ}\text{C}$  or less with noise-free rotation. Element contacts of either high palladium-platinum or gold-silver alloy with common contacts of gold alloy run on coin silver collectors. Include gold plated turret terminals with welded internal terminations

to assure high reliability and ease of soldering or welding. All other hardware and metal finishes of heavy nickel plate or stainless steel. Power ratings are based on  $40^{\circ}\text{C}$  ambient with operating range  $-55^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$  except as noted otherwise. Maximum starting and running torque is 2 ounce-inches on 10-turn controls and 4 ounce-inches on single-turn controls.

## LABORATORY AND INSTRUMENT POTENTIOMETERS

**Type HD-150.** 10-turn 5-watt controls featuring high resolution winding and available in high precision linearity of  $\pm 0.1\%$ . Resistance tolerance  $\pm 3\%$ . Patented metal-to-metal stop system within mtg. bushing

prevents damage if excessive force is applied against stops. Case is  $1\frac{1}{4}''$  dia. x  $2''$  long.  $\frac{1}{4}''$  dia. brass shaft  $\frac{1}{2}''$  long beyond  $\frac{3}{8}''$ -32 $\times\frac{3}{16}''$  long bushing. Use with RD-1 or RD-6 Revodex dial below, if desired. Shpg. wt., 5 oz.



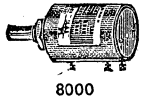
HD-150

Stock No.	Mfr's Type	Linearity	Resistance Values (Ohms) Specify Values Wanted	EACH				
				1-9	10-24	25-99	100-199	200-499
31 MM 530	HD-150	$\pm 0.25\%$	500, 1000, 2000, 5000, 10K, 20K, 30K, 50K, 100K, 200K	10.00	9.50	9.00	8.50	8.00
31 MM 531	HD-150	$\pm 0.1\%$	1000, 2000, 5000, 10K, 20K, 30K, 50K, 100K, 200K	12.00	11.40	10.80	10.20	9.60

## MOISTURE SEALED POTENTIOMETERS

**Types 8000 and 8100.** 10-turn controls with 3-watt power rating in a compact design. Epoxy sealed front and rear headers and special shaft seal assure max. moisture resistance and prevent wire oxidation. Op. temp.,  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Resistance

values 500 and above have tol.  $\pm 3\%$ , linearity  $\pm .25\%$  and temp. coeff.  $\pm .002\%$  max. 250 values are  $\pm 5\%$ , linearity  $\pm .5\%$  with temp. coeff. of  $.13\%/^{\circ}\text{C}$ . 100Q values are  $\pm 5\%$ , linearity  $\pm .5\%$  with temp. coeff.  $.05\%/^{\circ}\text{C}$ .  $1\frac{1}{4}''$  dia. Av. wt., 3 oz.



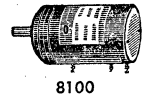
8000

### TYPE 8000

Has precision ground stainless steel shaft  $\frac{1}{4}''$  in dia. Shaft extends  $\frac{1}{2}''$  beyond  $\frac{3}{16}''$  long bushing which is  $\frac{3}{8}''$ -32 dia. With hardware. Use with Revodex dial types RD-1, RD-6, 411, 412, 461, 462 (below), if desired.

### TYPE 8100

Has precision ground stainless steel shaft with  $\frac{1}{8}''$  dia. Shaft extends  $\frac{3}{8}''$  beyond  $\frac{1}{4}''$ -32 bushing. Bushing is  $\frac{3}{16}''$  long. With hardware. Use with Revodex dial types 421, 422, 471 and 472 (below), if desired.



8100

Stock No.	Mfr's Type	Resistance Values (Ohms) Specify Values Wanted	EACH				
			1-9	10-24	25-99	100-199	200-499
31 MM 527	8000	25, 100, 500, 1000, 2000, 5000, 10K, 20K, 50K, 100K, 125K	10.75	10.21	9.68	9.14	8.60
31 MM 528	8100	25, 100, 500, 1000, 2000, 5000, 10K, 20K, 50K, 100K, 125K	10.75	10.21	9.68	9.14	8.60

## METAL CASED POTENTIOMETERS

**Types 5000, 7500 and 1000.** Extraordinarily rugged, metal encased 10-turn controls designed specifically for use in airborne and mobile equipment that is subject to extreme shock and vibration. Feature one-piece bushing and front header of nickel plated brass with moisture and dust resistant bonding of case to

headers. Shaft is moisture sealed by means of an "O" ring. Patented stop system prevents damage at ends of travel of contactor. If desired, use with Revodex dials below for  $\frac{1}{4}''$  shafts. Types 411, 412, 461 and 462. Types RD-1 and RD-6 may be used for larger dials. Shpg. wt., 3 oz.



5000

### TYPE 5000

Miniature, high-resolution 10-turn potentiometer with  $1\frac{1}{2}$ -watt power rating. Only  $\frac{1}{2}''$  dia. by  $1\frac{1}{2}''$  long. Resistance tolerance  $\pm 10\%$ , linearity  $\pm 1.0\%$ .  $\frac{1}{4}''$  dia. shaft extending  $\frac{1}{2}''$  beyond  $\frac{3}{8}''$ -32 by  $\frac{1}{2}''$  bushing.

### TYPE 7500

10-turn potentiometer with 3-watt power rating.  $\frac{3}{4}''$  dia. by  $1\frac{1}{2}''$  long. Resistance tolerance  $\pm 5\%$ .  $\frac{1}{4}''$  dia. shaft extending  $\frac{1}{2}''$  beyond  $\frac{3}{8}''$ -32 bushing. Bushing is  $\frac{1}{2}''$  long for mounting on thick panels.



7500

### TYPE 1000

10-turn potentiometer with 4-watt power rating.  $1''$  diameter by  $1\frac{5}{8}''$  long. Resistance tolerance is  $\pm 5\%$

and linearity is  $\pm 5\%$ . Has  $\frac{1}{4}''$  dia. shaft extending  $\frac{1}{2}''$  beyond  $\frac{3}{8}''$ -32 bushing. Bushing is  $\frac{1}{2}''$  long.



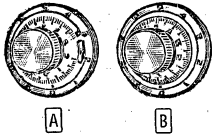
1000

Stock No.	Mfr's Type	Resistance Values (Ohms) Specify Values Wanted	EACH				
			1-9	10-24	25-99	100-199	200-499
31 MM 635	5000	100, 500, 1000, 5000, 10K, 25K, 50K	12.50	11.88	11.25	10.63	10.00
31 MM 630	7500	100, 250, 500, 1000, 5000, 10K, 25K, 50K, 100K					
31 MM 625	1000	500, 1000, 2500, 5000, 10K, 25K, 50K, 100K, 200K					

## REVODEX DIALS FOR PRECISION POTENTIOMETERS

### SERIES 400

$1''$  diameter miniature dial for controls with shafts of  $\frac{1}{8}''$  or  $\frac{1}{4}''$  diameter. Optional brake system allows positive locking without dial shift. Body mounts rigidly on panel and knob attaches to shaft extension up to  $.8''$  away from panel. Av. shpg. wt., 5 oz.



### SERIES RD-1 AND RD-6

$1\frac{7}{8}''$  dials with numbers grouped for easy reading. Calibrated 000-999 with zero backlash—locks without shift of dial setting. Mtg. plate fastens to pot mtg. nut; knob fastens with set-screw to pot shaft. Black or clear anodized aluminum finish. Use on  $\frac{1}{4}''$  dia. shafts with up to  $1''$  shaft length from front of panel. 5 oz.



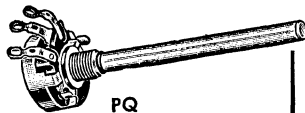
Stock No.	Mfr's Type		Fig.	Fits Shaft	Finish	EACH				
	With Brake	Without Brake				1-9	10-24	25-99	100-199	200-499
31 M 551	RD-1	...	C	$\frac{1}{4}''$	Black	5.75	5.46	5.18	4.89	4.60
31 M 552	RD-6	...	C	$\frac{1}{4}''$	Clear	5.75	5.46	5.18	4.89	4.60
31 M 541	...	411	B	$\frac{1}{4}''$	Black	7.75	7.36	6.98	6.59	6.20
31 M 542	...	412	A	$\frac{1}{4}''$	Black	8.95	8.50	8.06	7.61	7.16
31 M 543	...	421	B	$\frac{1}{8}''$	Black	7.75	7.36	6.98	6.59	6.20
31 M 544	...	422	A	$\frac{1}{8}''$	Black	8.95	8.50	8.06	7.61	7.16
31 M 546	...	461	B	$\frac{1}{4}''$	Clear	7.75	7.36	6.98	6.59	6.20
31 M 547	...	462	A	$\frac{1}{4}''$	Clear	8.95	8.50	8.06	7.61	7.16
31 M 548	...	471	B	$\frac{1}{8}''$	Clear	7.75	7.36	6.98	6.59	6.20
31 M 549	...	472	A	$\frac{1}{8}''$	Clear	8.95	8.50	8.06	7.61	7.16

# Quality Designed IRC-CTS Controls

## TYPE 76 ATTACHABLE SWITCHES FOR PQ, RQ, RQL AND M CONTROLS

Can be easily attached to controls listed at right by bending down four metal tabs. Switch housings are made of arc-resistant material. Terminals are hydraulically staked—no openings for solder to run into switch. Units have silver-plated alloy contacts. Type 76-4 is make-one, break-one type for CRT spot killing. Type 76-1 handles up to 5 amps @ 125 v.; Type 76-2 is rated 1 amp @ 125 v. Shpg. wt., 2 oz.

30 M 359. Type 76-1. SPST.....EACH .60  
 30 M 591. Type 76-2. DPST.....EACH .60  
 30 M 888. Type 76-4. SPDT.....EACH .75

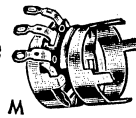


PQ

## INDUSTRIAL CONTROLS



RQ  
RQL



M  
Multi-sections

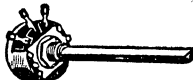
These versatile controls have a smooth carbon base element and "two-finger" wiper arm of thin, high-stress alloy—assures good contact and low noise. Type M multi-sections can easily be added to PQ, RQ or RQL types; permit exact "tailoring" of dual, triple and quadruple units. Special-purpose controls can be made up by using a Type PQ, RQ or RQL with several M multi-sections and a Type 76 switch (listed at left). Types PQ, RQ and RQL have 3/8" threaded bushing. Body diameter less terminals is 1 1/16" maximum; body diameter including terminals is 1 1/8" maximum; depth behind panel, 3 3/4". Each Type M multisection

adds 1 1/2" to the depth. Type PQ, RQ, RQL and M sections feature 300 degree arc of rotation—with or without switch. Power rating is 1/2 watt, 500 volt maximum. PQ types have shaft 3" long, 1/4" diameter. RQ and RQL types have short shaft with screwdriver slot; shaft extends 1/8" beyond threaded bushing. Types RQ and RQL are identical except RQL has split bushing and locking nut—for permanent, vibration-proof settings. Tolerance of all types is ±10%. Tinned terminals. Ground plate on Types PQ, RQ and RQL has 2 locating tabs that may be bent down if not needed. Av. shpg wt., 4 oz. See Explanation of Tapers at left.

### EXPLANATION OF TAPERS

- Taper A.** Linear for uniform res. change.
- Taper C.** Logarithmic for audio circuit or antenna shunt control.
- Taper H.** Tapped logarithmic. Audio level control for bass compensation.
- Taper P.** Semi-logarithmic with reverse taper. For TV contrast.
- Taper Q.** Logarithmic with reverse taper for TV contrast and picture.

### UNIVERSAL 4-WATT WIRE-WOUND CONTROLS



Linear taper, except: types with L after ohms have left-hand log taper for TV focus, types with R have right-hand log taper for picture contrast. 1 1/4" dia., 2 3/32" deep; threaded bushing is 3/8" dia. and 3/8" long. 1/4" dia. shafts. WP has 3" round shaft. WPK has 3" "Knob Master" shaft—fits variety of knobs. WPS has 3/4" shaft, knurled at end and slotted. WM multisections attach to all controls. Specify Type and Ohms. 4 oz.

### TYPE WPK CONTROLS

Ohms	Ohms	Ohms	Ohms	Ohms
10	300	750R	2000L	5000L
20	400	1000	2250L	6000
30	500	1350	2500	6000L
50	600	1350R	2500R	7500
100	650	1500	3000	7500L
200	750	1500L	4000L	10K
250	750L	2000	5000	

30 MM 216.....EACH 1.32

12.5K | 15K | 20K | 25K | .....

30 MM 199.....EACH 1.59

30K | 40K | 50K | .....

30 MM 856.....EACH 1.83

### TYPE WPS CONTROLS

Ohms	Ohms	Ohms	Ohms	Ohms
25	500	1500	2250L	4000
40	500L	2000	2500	4000L
60	1000	2250	3000	5000
250				

30 MM 217.....EACH 1.32

### TYPE WP CONTROLS

Ohms	Ohms	Ohms	Ohms	Ohms
2	15	60	400	2500
3	20	75	500	3000
5	25	100	750	4000
6	30	200	1000	5000
8	40	250	1500	7500
10	50	300	2000	10K

30 MM 215.....EACH 1.32

15K | 20K | 25K | .....

30 MM 857.....EACH 1.59

30K | 40K | 50K | .....

30 MM 858.....EACH 1.83

Mfr's Type	Ohms	Taper	Stock No. PQ	Stock No. RQ	Stock No. RQL	Stock No. M
11-103	500	A	30 M 510	30 M 542	29 M 271	30 M 592
11-108	1000	A	30 M 511	30 M 543	29 M 272	30 M 574
11-110	2000	A	30 M 512	30 M 544	29 M 273	30 M 593
11-112	3000	A	30:M 513	30 M 545	29 M 274	30 M 598
11-114	5000	A	30 M 514	30 M 546	29 M 275	30 M 575
11-115	7500	A	30 M 515			
11-116	10K	A	30 M 516	30 M 548	29 M 276	30 M 576
13-116	10K	C	30 M 517			
17-116	10K	Q				30 M 599
11-119	20K	A	30 M 519		29 M 277	
11-120	25K	A	30 M 520		29 M 278	30 M 577
11-121	30K	A	30 M 522		29 M 279	30 M 596
11-123	50K	A	30 M 523	30 M 555	29 M 280	30 M 578
13-123	50K	C	30 M 524			
11-128	100K	A	30 M 526	30 M 558	29 M 282	30 M 579
13-128	100K	C	30 M 527	30 M 559		30 M 580
11-129	200K	A			29 M 283	
11-130	250K	C	30 M 528	30 M 560	29 M 284	30 M 581
13-130	250K	C	30 M 529			30 M 582
11-133	500K	A	30 M 530	30 M 562	29 M 286	30 M 583
13-133	500K	C	30 M 531	30 M 563	29 M 287	30 M 584
11-137	1.0 meg	A	30 M 532	30 M 564	29 M 288	30 M 585
13-137	1.0 meg	C	30 M 533	30 M 565	29 M 289	30 M 586
11-138	1.5 meg	A	30 M 534	30 M 566	29 M 290	
11-139	2.0 meg	A	30 M 535	30 M 567	29 M 291	30 M 587
11-140	3.0 meg	A	30 M 538	30 M 570		
13-140	3.0 meg	C	30 M 539			30 M 594
17-140	3.0 meg	Q				30 M 597
11-141	5.0 meg	A	30 M 540	30 M 572	29 M 295	30 M 589
11-143	10.0 meg	A	30 M 541	30 M 573	29 M 296	30 M 590

PQ and RQ Controls.....EACH 1.44

M Multisections.....EACH 1.35

RQL Controls.....EACH 1.56

### TYPE WM MULTISECTION CONTROLS

Ruggedly constructed 4-watt "add-on" control sections. Can be attached to the WPK, WPS, WP controls listed at left or the WPRL controls, listed at right, to form dual control units. All have linear taper, except type 7500L, which has left-hand logarithmic taper for TV focus control. Rotation, 300°. Multisection adds 3/8" to depth. Specify Type and Ohms. Shpg. wt., 2 oz.

Ohms	Ohms	Ohms	Ohms	Ohms
50	250	1500	3000	7500L
100	500	2000	5000	10K
200	1000	2500		

30 MM 860.....EACH 1.32

### SWITCHES FOR WPK, WPS, WP AND WPRL CONTROLS

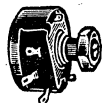
Easily attached switches for use with Model WPK, WPS, WP and WPRL controls, listed at left and right. Shpg. wt., 2 oz.

30 M 218. Type 76-11. SPST.....EACH .75

30 M 219. Type 76-12. DPST.....EACH .75

### TYPE WPRL CONTROLS

Selection of controls with screwdriver-slot shafts. Shafts are 1/4" in diameter, approximately 1/2" long from mounting face. With 3/8" locking-type bushing and locking nut. Can be set and locked—ideal for TV set controls that need only infrequent adjustment. All have linear taper. Specify Type and Ohms. 4 oz.



Ohms	Ohms	Ohms	Ohms	Ohms
2	15	60	400	2500
3	20	75	500	3000
5	25	100	750	4000
6	30	200	1000	5000
8	40	250	1500	7500
10	50	300	2000	10K

30 MM 859.....EACH 1.56

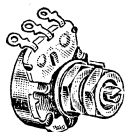
15K | 20K | 25K | .....

30 MM 889.....EACH 1.83

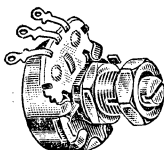
30K | 40K | 50K | .....

30 MM 890.....EACH 2.04

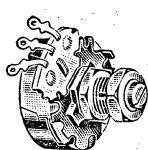
# IRC-CTS Composition and Wirewound Controls



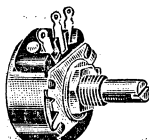
65, 65LT



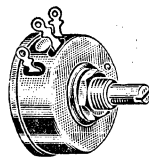
90, 90LT



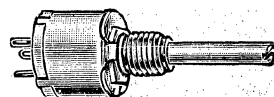
96, 96LT



252, 252LT



25, 25LT



300, 300LT

## IRC-CTS MILITARY-GRADE VARIABLE RESISTORS

Composition and wirewound variable resistors with power ratings from 1/2 to 4 watts. Shipment can be made from stock on all units. In tables below, the Military Style No. is only partially complete. The full military no. can be obtained by adding the first two digits of the resistance value the desired unit is to have (one digit if value is under 10 ohms), plus a digit to indicate the number of zeros necessary (multiplier) to form the exact resistance value. A final letter indicates the tolerance rating; A is

±10%; B is ±20%. As an example: Military Style Number RV5NAXSD with a resistance of 25K (25,000 ohms), ±10%, would be RV5NAXSD253A. Letter X in mil. style no. indicates average resistance change of ±10% in moisture and thermocycling tests; Y in style number indicates average change of ±6% in moisture and thermocycling tests. X and Y operate to 120° C. Av. shpg. wt., 5 oz. Specify resistance value desired when ordering controls. See table below.

TABLE OF VALUES—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
3	25	75	200	500	2500	7500	15K	50K	250K	500K	†1 Meg	†2.5 Meg	†5 Meg
10	RV	100	250	1000	5000	10K	25K	100K	500K				

### MIL-R-94B STYLE RV5 1/2-WATT COMPOSITION CTS TYPE 65 AND 65LT

Miniature, high-temperature composition, variable resistors. Only 3/4" dia. and 3/8" deep behind panel. 1/8" dia. slotted shafts and 1/4"-32 threaded bushings. Type 65 has 7/8" long shaft and 1/4" long bushing; 65LT has 1/2" long shaft and 3/8" long locking bushing. Linear taper. All available from 250 ohms to 2.5 megs, except 7.5K and 15K. ±10% tolerance except † ±20%. Be certain to specify resistance when ordering.

Stock No.	Mfr's Type	Mil. Style	EACH					
			1-24	25-34	35-49	50-64	65-99	100-249
31 MM 565	65	RV5NAXSD	3.00	2.58	2.05	1.66	1.45	1.20
31 MM 667	65	RV5NAYSD	3.00	2.61	2.08	1.69	1.48	1.23
31 MM 566	65LT	RV5LAXSB	3.00	2.66	2.13	1.74	1.53	1.28
31 MM 668	65LT	RV5LAYSB	3.00	2.69	2.16	1.77	1.56	1.31

### MIL-R-94B STYLE RV2 1-WATT COMPOSITION CTS TYPES 90 AND 90LT

3/8" diameter and 23/64" behind panel. 1/4" diameter shafts and 3/8"-32 threaded bushings. Type 90 has 7/8" slotted shaft, 3/8" long bushing. 90LT has 3/8" slotted shaft, 1/2" long locking bushing. Linear taper. 100 ohms to 2.5 megs, except 200, 7.5K and 15K. ±10% tolerance except † ±20%. Specify resistance when ordering.

Stock No.	Mfr's Type	Mil. Style	EACH					
			1-24	25-34	35-49	50-64	65-99	100-249
31 MM 567	90	RV2NAXSD	3.00	2.63	2.10	1.71	1.50	1.25
31 MM 669	90	RV2NAYSD	3.00	2.66	2.13	1.74	1.53	1.28
31 MM 568	90LT	RV2LAXSA	3.00	2.71	2.18	1.79	1.58	1.33
31 MM 670	90LT	RV2LAYSA	3.00	2.74	2.21	1.82	1.61	1.36

### MIL-R-94B STYLE RV4 2-WATT COMPOSITION CTS TYPES 96 AND 96LT

Variable resistors measuring 1 1/8" dia., 23/64" behind panel. Have 1/4" dia. slotted shafts and 3/8"-32 threaded bushings. RV4NAXSD has 7/8" long shaft and 3/8" long bushing; RV4LAYSA has 5/8" long shaft and 1/2" long bushing; RV4AYSD has 7/8" long shaft and 1/2" long bushing. Linear taper. From 100 ohms to 5.0 megs, except 200, 7.5K and 15K. \*Available up to 500K only. ±10% tolerance except † ±10%. Be sure to specify resistance value when ordering. See table of values above.

Stock No.	Mfr's Type	Mil. Style	EACH					
			1-34	35-49	50-64	65-99	100-249	
31 MM 569	96	RV4NAYSD	1.95	1.95	1.71	1.50	1.25	
31 MM 570	96LT	RV4LAYSA	2.55	2.18	1.79	1.58	1.33	
31 MM 673	96LT	RV4LAYSD*	2.55	2.18	1.79	1.58	1.33	

### MIL-R-19A STYLE RA30 4-WATT WIREWOUND CS TYPES 25 AND 25LT

1 1/2" diameter wirewound variable resistors. Require 1 1/8" behind panel. Have 1/4" diameter slotted shafts and 3/8"-32 threaded bushings. Type 25 has 7/8" long shaft and 3/8" long bushing; Type 25LT has 5/8" long shaft and 1/2" long locking bushing. Linear taper. Both types available in values from 10 ohms to 25,000 ohms except 75 ohms; ±10% tolerance. Be sure to specify resistance value when ordering. See table of values above.

Stock No.	Mfr's Type	Mil. Style	EACH					
			1-24	25-34	35-49	50-64	65-99	100-249
31 MM 573	25	RA30NASD	3.00	2.72	2.19	1.80	1.59	1.34
31 MM 574	25LT	RA30LASB	3.00	2.80	2.27	1.88	1.67	1.42

### MIL-R-19A STYLE RA20 2-WATT WIREWOUND CTS TYPES 252 AND 252LT

Wirewound variable resistors in insulated housings. 1 1/8" dia. and 5/8" behind panel. Have 1/4" dia. slotted shafts and 3/8"-32 threaded bushings. RA20NASD has 7/8" long shaft and 3/8" long bushing; RA20LASB has 5/8" long shaft and 1/2" long bushing; RA20LASD has 7/8" long shaft and 1/2" long bushing. Linear taper. Both types available from 3 ohms to 15,000 ohms except \* not available in 10, 75 and 200 ohms. ±10% tolerance. Specify resistance value when ordering. See table of values above.

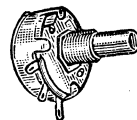
Stock No.	Mfr's Type	Mil. Style	EACH					
			1-24	25-34	35-49	50-64	65-99	100-249
31 MM 571	252	RA20NASD	3.00	2.54	2.01	1.62	1.41	1.16
31 MM 572	252LT	RA20LASB	3.00	2.62	2.09	1.70	1.49	1.24
31 MM 674	252LT	RA20LASD*	3.00	2.62	2.09	1.70	1.49	1.24

### MIL-R-94B STYLE RV6 1/2-WATT COMPOSITION CTS TYPES 300 AND 300LT

Miniature composition, 1/8" diameter variable resistors. Require 3/8" mounting space behind panel. Have 1/8" diameter slotted shafts and 1/4"-32 threaded bushings. Type 300 has 7/8" long plain shaft and 1/4" long bushing. Type 300LT has a 5/8" long slotted shaft and 1/2" long locking bushing. Both types have a linear resistance taper. Available in resistance values ranging from 100 ohms through 2.5 megohms except 7.5K and 15K. Tolerance is ±10% except † ±20%. Be sure to specify desired resistance values when ordering. See table of values above.

Stock No.	Mfr's Type	Mil. Style	EACH					
			1-34	35-49	50-64	65-99	100-249	
31 MM 671	300	RV6NAYSD	4.95	4.05	3.29	2.81	2.38	
31 MM 672	300LT	RV6LAYSA	5.10	4.08	3.43	2.98	2.46	

### NEW 2-WATT MIL-R-94B INDUSTRIAL CONTROL—CTS TYPE 321 AND 321LT



New control features carbon-ceramic element with long life and low noise. Rated 3 watts at 70° C or 2 watts at 95° C. Linear taper. Requires 1/2" behind panel. 0.250" shaft. Type 321—plain 1/2" shaft with 3/8"-32 bushing. Type 321LT—slotted 5/8" shaft with 1/2" long locking bushing. ±10% except † ±20%. Available in resistance values shown in table below.

TABLE OF VALUES—SPECIFY VALUES WANTED

Ohms	Ohms	Ohms	Ohms	Megs
250	2500	25K	250K	†2.5 Meg
500	5000	50K	500K	.....
1000	10K	100K	†1 Meg	.....

Stock No.	Mfr's Type	EACH					
		1-9	10-24	25-49	50-99	100-249	
27 MM 156	321	1.76	1.63	1.47	1.40	1.30	
27 MM 157	321LT	2.03	1.88	1.70	1.62	1.50	

Allied can make speedy shipment on IRC-CTS controls in quantities at OEM prices. Phone, write, or wire the Allied facility nearest you. See page one for locations and phone numbers. You'll receive prompt attention.

# IRC-CTS Controls—Mallory Accessories

## SERIES 45 1/2-WATT CONTROLS

Choice of 12,631,500 Combinations



Select the control you need from a choice of 12,631,500 possible combinations. Available with up to 4 sections through 10K, 1/2-watt through 100K ohms, and 1/4-watt over 100K ohms up to a maximum of 500 VDC across end-terminals. Switches rated 3 amps at 125 v., 1 amp at 250 v.; DPST switch also rated 5 amps at 20 v. U.L. Listed. Have 1/4"-diameter brass shafts, 3/8-diameter threaded bushings. Size behind panel: single sections, 3 1/4"; dual sections, 1 1/4"; triple sections, 1 7/8"; quadruple sections, 1 5/8". Add 3/16" for switch. Av. shpg. wt., per section, 3 oz.

### TYPE NUMBER SELECTION CHART

\*Screwdriver slot; length from mounting surface. Instructions at left describe the use of this chart and the Stock No. chart below in ordering Series 45 controls.

Ohms (First Section)	A		Ohms (Additional Sections)	B		C	Shaft Description		
	Single Control or First Section			Second, Third, and Fourth Section			Shaft No. (Select One)	Length FMS#	End Trim
	Select One			Select One, Two, or Three					
	Log Taper	Linear Taper		Log Taper	Linear Taper				
500	.....	D501	500	.....	MD501	01	1/2"	*SD Slot	
1000	.....	D102	1000	.....	MD102	02	5/8"	*SD Slot	
2000	.....	D202	2000	.....	MD202	03	3/4"	*SD Slot	
3000	.....	D302	3000	.....	MD302	04	7/8"	*SD Slot	
5000	.....	D502	5000	.....	MD502	05	1"	*SD Slot	
10K	A103	D103	10K	.....	MD103	06	7/8"	Flatted	
20K	.....	D203	20K	.....	.....	07	1"	Flatted	
25K	.....	D253	25K	.....	MD253	08	1 1/8"	Flatted	
50K	A503	D503	50K	.....	MD503	09	1 1/4"	Flatted	
100K	A104	D104	100K	MA104	MD104	10	1 3/8"	Flatted	
200K	.....	D204	200K	.....	.....	11	1 1/2"	Flatted	
250K	A254	D254	250K	MA254	MD254	12	1 5/8"	Flatted	
500K	A504	D504	500K	MA504	MD504	13	1 3/4"	Flatted	
1 Meg.	A105	D105	1 Meg.	MA104	MD105	14	1 7/8"	Flatted	
2 Meg.	A205	D205	2 Meg.	MA205	MD205	15	2"	Flatted	
3 Meg.	A305	.....	3 Meg.	.....	.....	16	2"	Round	
5 Meg.	.....	D505	5 Meg.	.....	MD505	17	3"	Round	
10 Meg.	.....	D106	10 Meg.	.....	MD106	18	1"	Knurled	
						19	1 1/4"	Knurled	
						20	1 1/2"	Knurled	

### ORDERING INSTRUCTIONS

TO EXPEDITE SERVICE, YOUR ORDER SHOULD INCLUDE BOTH ALLIED'S STOCK NO. AND THE COMPLETE TYPE NO.

#### TO CONSTRUCT TYPE NO.:

1. Begin with 45 to identify Series 45 controls.
2. Indicate part number of desired value and taper for single control, or first (panel) section of multi-section control, from "A" columns at right.
3. Indicate part numbers of desired values and tapers for second, third and fourth sections of multi-section control, from "B" columns at right—one number for each section. Use only as many part numbers as sections desired. A 3-section control, for example, would have two part numbers from "B" columns, one from "A" columns.
4. Indicate S, for SPST switch, or D, for DPST switch. Omit if no switch is desired.
5. Indicate part number of shaft having desired length and end trim, from "C" column at right.

#### TO FIND STOCK NO.:

##### EXAMPLES:

Stock No. 28 M 889, Type No. 45 D 501 D 07. This is a Series 45 single control, 500 ohms, linear taper, with DPST switch and 1" flatted shaft.

Stock No. 28 M 892, Type No. 45 A 103 MD 102 MA 205 18 This is a Series 45 triple-section control; 10K log taper first section, 1000-ohm linear taper second section, 2-meg log taper third section; with no switch and a 1" knurled shaft.

### STOCK NUMBERS

Stock No.	Control	Switch	EACH			
			1-9	10-24	25-49	50-299
28 M 888	Single	None	1.16	.99	.94	.87
28 M 889	Single	SPST or DPST	1.68	1.46	1.37	1.26
28 M 890	Dual	None	2.08	1.77	1.67	1.56
28 M 891	Dual	SPST or DPST	2.60	2.24	2.10	1.95
28 M 892	Triple	None	3.00	2.55	2.40	2.25
28 M 893	Triple	SPST or DPST	3.28	3.02	2.83	2.64
28 M 894	Quadruple	None	3.92	3.33	3.13	2.94
28 M 895	Quadruple	SPST or DPST	4.20	3.80	3.56	3.33

## LABORATORY KITS OF SERIES 45 CONTROLS



Type ELS-2 Controls Kit. Meet all your control needs, from single-section, no-switch to quadruple section, with switch, plus 20 shaft-styles. Over 12,631,500 different control combinations can be constructed with this single, complete kit. Resistance coverage includes 18 of the most-often-used ranges from 500 ohms to 10 megs (see "Type Number Selection Chart" above, right). Two compact, gray metal cabinets stack or hang. 24 transparent plastic spill-proof drawers with labels and

separators 102 CTS-IRC single and multiple-section controls, 64 shafts, 20 switches, 44 dust covers, and 2 metal cabinets. Cabinets are 13x20x6" deep. Shpg. wt., 16 1/4 lbs.  
2 M 793..... 99.50

Type ELS-1 Controls Kit. Similar to lab kit above, but with a single cabinet and stock of 42 CTS-IRC single controls, 41 shafts, 12 switches, 42 dust covers. Cabinet is 6 1/2x10x6"; has 12 transparent spill-proof plastic drawers. Shpg. wt., 7 1/4 lbs.  
2 M 794..... 49.95

## MALLORY CONTROL MOUNTING ACCESSORIES



E Adjustable mounting brackets in 2 sizes, universal extension  
F

shafts in 2 sizes. Coupling couples 1/4" shafts to 1/4", or 1/4" to 3/16" shafts. Extender extends body of controls 3/8" away from mounting surface. Bushing is used for panel mounting. Wrench fits standard volume-control hex nuts, 1/2" and 3/8" dia. Av. shpg. wts.: brackets, 3 oz.; shafts, couplers, bushings, extender, wrench, 2 oz.

Stock No.	Type	Fig.	Description	EACH
29 M 676	RB249	A	Mtg. bracket, mtg. ctrs. 2 1/2"	.05
29 M 675	RB248	A	Mtg. bracket, mtg. ctrs. 1 3/4"	.05
29 M 672	EC240	B	Coupling	.43
29 M 390	EB247	C	Extender	.15
44 H 096	UB241	D	1/4" bushing	.15
29 M 665	178	E	Wrench for 1/2"x3/16" v.c. hex nuts	.51
29 M 655	RS242	F	Ext. shaft, 4x1/4x3/32" flat.	.57
29 M 656	RS243	F	Ext. shaft, 4x1/4x3/32" flat.	.57

## L AND T-PAD SPEAKER CONTROLS

Handle 10 watts of audio (3 watts DC). L-pad attenuators provide constant input impedance; T-pad attenuators provide constant input and output impedance. Diameter, 1 1/4"; depth behind panel required, 1 1/2" (L pad) and 1 7/8" (T pad). 7/8" bushing for mounting on panels up to 3/4" thick. With knob. Shpg. wt., 6 oz.



L PAD				T PAD			
Stock No.	Type	Ohms	EACH	Stock No.	Type	Ohms	EACH
30 M 880	LP4	4	3.21	30 M 884	TP4	4	3.63
30 M 881	LP8	8		30 M 885	TP8	8	
30 M 882	LP15	15		30 M 886	TP15	15	
30 M 883	LP500	500		30 M 887	TP500	500	

## TV SIGNAL ATTENUATOR

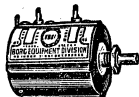
Type QJ-3. L-pad signal attenuator for all TV sets with 300-ohm twin-line antenna input. Reduces inter-station interference, definition loss, and sound bars due to excessive signal strength. Diminishes buzz or hum due to high signal-level in intercarrier sets. In many cases, corrects horizontal or vertical jitter. Maintains nearly constant impedance match. 7/8" dia., 1" deep. Shaft, 1/4" dia., 1/2" long. With mtg. bracket. Wt., 3 oz.  
29 M 915..... 2.64



Make Allied Electronics your headquarters for prompt, off-the-shelf deliveries in industrial quantities at OEM prices.

# Borg and IRC Controls

## BORG "MICROPOTS" AND "MICRODIALS"



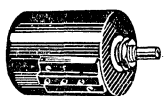
Model 205 "Micropots". 10-turn linear pots—resistance proportional to shaft rotation. Linearity  $\pm 0.1\%$ . Resistance tol.,  $\pm 3\%$  except  $\pm 10\%$ , 5 watts @ 40° C. Size  $2\frac{1}{2} \times 1\frac{3}{4}$ " dia. with  $\frac{1}{4} \times \frac{3}{8}$ " bushing,  $\frac{1}{4}$ " shaft.  $\frac{1}{2}$  lbs.

Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms
29 M 467	*25	29 M 682	1000	29 M 686	50K
29 M 677	50	29 M 683	5000	29 M 687	100K
29 M 680	100	29 M 684	10K		
29 M 681	500	29 M 685	20K		

1-9.....EACH 16.86      10-24.....EACH 15.81  
25-99.....EACH 14.75      100-199.....EACH 14.05

As above, but infinite resolution type with one continuous slide wire. Resistance tolerance,  $\pm 10\%$ .

Stock No.	Ohms	1-9, EA.	10-24, EA.	25-99, EA.	100-199, EA.
29 M 468	1.15	16.20	15.19	14.18	13.50
29 M 469	2.9	16.20	15.19	14.18	13.50



Model 2201B "Micropots." Ten-turn, precision potentiometer. Independent linearity  $\pm 0.25\%$ ; resistance tolerance  $\pm 3\%$ , except  $\pm 0.5\%$  and  $\pm 5\%$ , respectively. Torque is over 2 in.-oz. running, 3 in.-oz. starting. 10 in.-lb. stop strength. Ave. life, 2 million revs. Body,  $2\frac{1}{8} \times 1\frac{1}{8}$ " dia. Wt.,  $\frac{1}{2}$  lbs.

Stock No.	Ohms	Stock No.	Ohms
31 M 123	*25	31 M 128	5000
31 M 124	*50	31 M 129	10K
31 M 125	100	31 M 130	20K
31 M 126	500	31 M 131	50K
31 M 127	1000	31 M 132	100K

1-9.....EACH 10.00      10-24.....EACH 9.50  
25-99.....EACH 8.90      100-199.....EACH 8.00



Series 1320 Ten-Turn Concentric-Scale "Microdials". Mounts on "Micropots". Two concentric dials—one counts turns, other indicates part of a turn on scale from 1 to 100. Indexed accuracy 0.1%. Built-in fingertip brake. Type 1320 has chrome cover and dial; Type 1327 is black. Dia.,  $\frac{1}{4}$ " and  $\frac{1}{8}$ " deep. Shpg. wt., 4 oz.

Stock No.	Type	1-9, EA.	10-24, EA.	25-99, EA.	100-199, EA.
29 M 696	1320	5.82	5.46	5.09	4.85
29 M 697	1327	5.82	5.46	5.09	4.85



Series 1360 Ten-Turn Concentric-Scale "Microdials." Dials for "Micropots". Like 1320 and 1327 at left, but molded plastic and multi-colored. All have white turns-dial with black numerals. Dia.  $\frac{1}{4}$ "; depth 1". 4 oz.

Type	Large Dial	Cover
1361	Dark gray; white numerals	Dark gray
1362	Light gray; black numerals	Light gray
1363	Black; white numerals	Red
1364	Dark gray; white numerals	Red
1365	Light gray; black numerals	Red

Stock No.	Mfr's Type	EACH			
		1-9	10-24	25-99	100-199
29 M 473	1361	5.82	5.46	5.09	4.85
29 M 474	1362				
29 M 475	1363				
29 M 476	1364				
29 M 477	1365				



Series 1300 Direct-Reading "Microdials." In-line, digital-type dials for "Micropots" and other rotary devices. Large, easy-to-read numerals. Indexed accuracy is 1 part in 1000. For use with panels up to  $\frac{3}{16}$ " thick. 3-digit types are  $1\frac{1}{2} \times 1\frac{1}{2}$ " dia.; 4-digit types are  $1\frac{5}{8} \times \frac{1}{4}$ " dia. \*With fingertip brake. Av. shpg. wt., 4 oz.

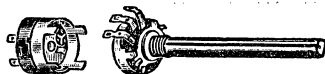
Stock No.	Mfr's Type	Digs	Turns	EACH				
				1-9	10-24	25-49	50-99	100-249
29 M 472	*1309	3	10	14.00	13.30	12.60	11.55	10.80
29 M 499	1310	3	10	13.00	12.35	11.70	10.75	10.10
31 M 133	1304	4	100	18.00	17.10	16.20	14.85	13.95
31 M 134	*1314	4	100	19.50	18.53	17.55	16.10	15.10



Series 3000 Ten-Turn Concentric-Scale Miniature "Microdials." For use with "Micropots". Only  $\frac{1}{32}$ " in diameter;  $\frac{1}{16}$ " projection from panel. 10-division dial counts turns; 100-division dial registers increments of each turn. With brake. Numerals are white on black; brake knob is black. For use with  $\frac{1}{16}$ " to  $\frac{1}{8}$ " panels. Dial face angled to avoid direct reflections. All materials except set screw are non-magnetic and corrosion-resistant. Av. Shpg. wt., 2 oz.

Stock No.	Mfrs Type	Shaft Accommodated	EACH			
			1-9	10-24	25-99	100-199
31 M 135	3021-2	$\frac{1}{8}$ " dia.	8.75	8.25	7.85	7.40
31 M 136	3041-2	$\frac{1}{4}$ " dia.	7.75	7.30	6.95	6.55

## IRC-CTS Q CONTROLS WITH UNIVERSAL SHAFTS



Knurled, flattened and slotted 3" shaft can be cut to desired length. Body dia.  $\frac{1}{16}$ ";  $\frac{1}{4}$ " long bushing. \*Includes 270-ohm bias resistor. Less switches (at right). Wt., 4 oz. See p. 125 for explanation of tapers and "WM" multisections.

Stock No.	Type	Ohms	Taper	Stock No.	Type	Ohms	Taper
30 M 395	Q11-201	250	A	30 M 388	Q11-228	125K	A
30 M 300	Q11-103	500	A	30 M 374	Q11-129	200K	A
30 M 377	Q11-105	750	A	30 M 319	Q11-130	250K	A
30 M 441	Q17-105	750	P	30 M 320	Q13-130	250K	C
30 M 301	Q11-108	1000	A	30 M 445	Q11-131	300K	A
30 M 442	Q11-109	1500	A	30 M 321	Q13-132	350K	C
30 M 302	Q11-110	2000	A	30 M 322	Q11-133	500K	A
30 M 373	Q13-111	2500	C	30 M 323	Q13-133	500K	C
30 M 303	Q11-112	3000	A	30 M 324	Q14-133	500K	D
30 M 304	Q11-114	5000	A	30 M 397	Q17-133	500K	Q
30 M 383	Q13-114	5000	C	30 M 398	Q11-134	600K	A
30 M 384	Q17-114	5000	Q	30 M 390	Q11-136	750K	A
30 M 305	Q11-115	7500	A	30 M 325	Q11-137	1 meg	A
30 M 306	Q11-116	10K	A	30 M 326	Q13-137	1 meg	C
30 M 307	Q13-116	10K	C	30 M 327	Q14-137	1 meg	D
30 M 308	Q14-116*	10K	D	30 M 877	Q17-137	1 meg	Q
30 M 385	Q17-116	10K	Q	30 M 328	Q11-138	1.5 meg	A
30 M 309	Q11-119	20K	A	30 M 329	Q11-139	2 meg	A
30 M 311	Q11-120	25K	A	30 M 330	Q13-139	2 meg	C
30 M 443	Q13-120	25K	C	30 M 331	Q11-239	2.5 meg	A
30 M 314	Q11-123	50K	C	30 M 332	Q11-140	3 meg	A
30 M 315	Q13-123	50K	C	30 M 333	Q13-140	3 meg	C
30 M 316	Q14-123*	50K	D	30 M 446	Q17-140	3 meg	Q
30 M 387	Q11-125	75K	A	30 M 334	Q11-141	5 meg	A
30 M 317	Q11-128	100K	A	30 M 393	Q17-141	5 meg	Q
30 M 318	Q13-128	100K	C	30 M 335	Q11-143	10 meg	A

EACH.....1.02

## IRC-CTS TAPPED Q CONTROLS WITH UNIVERSAL SHAFTS

Same as controls at left but with taps as shown in table. Less switches (below). Wt., 4 oz. See p. 125 for "WM" multisections and explanation of tapers.

Stock No.	Mfr's Type	Ohms $\pm$ Megs	Taps Ohms	Taper
30 M 879	Q13-118X	15K	10K	Spec.
30 M 337	Q18-130X	250K	60K	H
30 M 342	Q17-133X	500K	25K	Spec.
30 M 343	Q18-133X	500K	50K	Spec.
30 M 344	Q19-133X	500K	250K	Spec.
30 M 345	Q18-133XX	500K	100K/200K	Spec.
30 M 346	Q13-137X	1.0†	250K	H
30 M 349	Q18-137X	1.0†	100K	Spec.
30 M 350	Q18-137XX	1.0†	250K/500K	Spec.
30 M 351	Q19-137X	1.0†	500K	Spec.
30 M 352	QVC-539X	1.0†	500K	Spec.
30 M 357	Q18-139XX	2.0†	250K/500K	Spec.
30 M 353	Q13-139X	2.0†	500K	H
30 M 356	Q18-139X	2.0†	1 Meg	Spec.

EACH.....1.44

## SWITCHES FOR Q CONTROLS

Easily attached to controls. Type 76-4 is make-one, break-one. U.L. Approved. 2 oz.

Stock No.	Type	Description	EACH
30 M 359	76-1	SPST	.60
30 M 591	76-2	DPST	.60
30 M 888	76-4	SPDT	.75



# Clarostat Controls

## MINIATURE POTENTIOMETERS

For circuits requiring compact controls. Available with composition or wirewound elements. Tolerance, Type 48M-9,  $\pm 10\%$  except \*  $\pm 20\%$ ; Type 49M-9,  $\pm 5\%$ . Linear taper. Mechanical and electrical rotation of 300°. Locking bushings  $\frac{1}{4}$ " dia.,  $\frac{3}{8}$ " long; slotted shafts  $\frac{1}{8}$ " dia.,  $\frac{1}{16}$ " long. Av. shpg. wt., 5 oz.



## TYPE 48M-9 COMPOSITION POTS

Composition elements. Power rating, 0.2 watts. Insulation tested at 1000 v. AC (terminals to ground). Control size:  $1\frac{1}{2} \times \frac{5}{8}$ " dia.

**TABLE "A" RESISTANCES AVAILABLE—SPECIFY WHEN ORDERING**

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1000	2500	7500	25K	100K	500K*	2.5 meg.*
1500	5000	10K	50K	250K*	1 meg.*	

Stock No.	Mfr's Type	Ohms (See Table "A" Above)	EACH				
			1-9	10-24	25-49	50-99	100-249
31 MM 243	48M-9	1000 to 2.5 meg.	4.90	3.68	3.15	2.63	2.28

## MIL-R-19, TYPE 49M-9 WIREWOUND POTS

Wire-wound elements. Power rating, 1.5 watts. Insulation tested at 1000 v. AC (terminals to ground). Control size:  $1\frac{1}{2} \times \frac{3}{4}$ " dia.

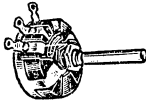
**TABLE "B" RESISTANCES AVAILABLE—SPECIFY WHEN ORDERING**

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
5	25	200	1000	2500	10K
10	50	250	1500	5000	20K
20	100	500	2000	7500	

Stock No.	Mfr's Type	Ohms (See Table "B" Above)	EACH				
			1-9	10-24	25-49	50-99	100-249
31 M 299	49M-9	5	9.72	7.29	6.25	5.21	4.51
31 MM 235	49M-9	10 to 10K	7.98	5.99	5.13	4.28	3.71
31 M 233	49M-9	20K	9.72	7.29	6.25	5.21	4.51

## TYPE 58 4-WATT WIREWOUND CONTROLS

Designed to provide extremely smooth, quiet operation as voltage dividers, bias controls, etc. Have linear windings; resistance tolerance of  $\pm 10\%$ . Insulation tested to 1000 v. A.C. Control size:  $2\frac{3}{32} \times 1\frac{1}{32}$ " dia. Shaft size:  $2\frac{1}{4} \times \frac{1}{4}$ " dia. Molded phenolic body. Av. shpg. wt., 4 oz.



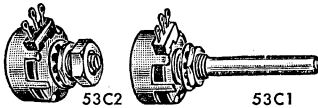
**TABLE "C" RESISTANCES AVAILABLE—SPECIFY WHEN ORDERING**

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	15	50	300	1500	7500	25K
2	20	60	400	2000	10K	30K
4	25	75	500	2500	15K	40K
6	30	100	750	3000	20K	50K
10	40	200	1000	5000		

Stock No.	Mfr's Type	Resistances Available (See Table "C" Above)	EACH
31 MM 120	58	1 ohm to 10K	.93
31 MM 121	58	15K; 20K; 25K	1.20
31 MM 122	58	30K; 40K; 50K	1.62

## 2-WATT MOLDED COMPOSITION POTS

Molded composition-element controls, completely sealed against moisture. 53C1 has  $\frac{1}{4}$ " dia. shaft  $1\frac{1}{8}$ " long and  $\frac{3}{8}$ " dia. bushing  $\frac{3}{8}$ " long. 53C2 has  $\frac{1}{4}$ " dia. slotted shaft  $\frac{1}{8}$ " long and  $\frac{3}{8}$ " locking bushing  $\frac{1}{2}$ " long.  $\pm 10\%$  tol. through 750K;  $\pm 20\%$  above 750K. Linear taper.  $\frac{1}{16} \times 1\frac{1}{16}$ " dia. Certified to MIL-R-94, style RV4. Shpg. wt., 4 oz.

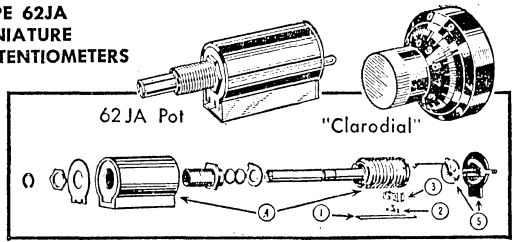


**TABLE "D" RESISTANCES AVAILABLE—SPECIFY**

Ohms	Ohms	Ohms	Ohms
50	2500	75K	1.5 meg
100	5000	100K	2 meg
250	7500	150K	2.5 meg
500	10K	200K	3 meg
750	15K	250K	4 meg
1000	20K	500K	5 meg
1500	25K	750K	10 meg
2000	50K	1 meg	

Stock No.	Mfr's Type	Resistances Available (See Table "D" Above)	EACH
31 MM 110	53C1	50 ohms to 10 meg	1.95
31 MM 115	53C2	50 ohms to 10 meg	2.55

## TYPE 62JA MINIATURE POTENTIOMETERS



Extra quality features diagrammed above:

- (1) Collector rail of gold-plated alloy
- (2) High conductivity, low noise contact
- (3) 4-finger carrier reduces wobble
- (4) Tough, thermal plastic construction for Case, Contact Carrier and Drum
- (5) Slip rings have 2 contact fingers at 180° position for positive contact

Accurate 10-turn pot with resistance tolerance of  $\pm 5\%$ . High power rating in a miniature size—2 watts @ 25° C. Has dielectric strength of 1000 volts, RMS with absolute linearity of  $\pm 0.25\%$ ; except 100 ohm is  $\pm 0.5\%$ . Overall length,  $2\frac{1}{16}$ " with  $\frac{3}{8}$ " mtg. bushing  $\frac{3}{8}$ -32 threaded. Shaft is  $\frac{1}{4}$ " dia. x  $\frac{9}{16}$ " long. 3 oz.

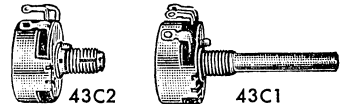
Stock No.	Mfr's Type	Resistances (Ohms) Specify When Ordering	EACH			
			1-9	10-24	25-99	100-499
31 MM 102	62JA	100, 500, 1000, 2000, 5000, 10K, 20K, 30K, 50K, 100K	7.50	6.50	6.00	5.50

Clarodials. For pots above.  $\frac{5}{8}$ " knob, 1" dial. 2 oz.

Stock No.	Mfr's Type	Description	EACH			
			1-9	10-24	25-99	100-249
31 M 104	411	Black, no lock	7.75	7.30	6.95	6.55
31 M 105	412	Black, with lock	8.95	8.50	8.05	7.60
31 M 106	461	Clear, no lock	8.25	7.80	7.40	7.00
31 M 107	462	Clear, with lock	9.45	8.95	8.50	8.00

## 43C1 AND 43C2 2-WATT WIREWOUND POTENTIOMETERS

Have corrosion-proof finish, moisture and dust-proof construction. Resistance tol.  $\pm 5\%$ . Linearity  $\pm 2\%$ . C1 in Type No. indicates  $\frac{1}{4}$ " dia. shaft  $1\frac{1}{8}$ " long.  $\frac{3}{8}$ " bushing with  $\frac{3}{8}$ -32-NEF-2 thread. C2 indicates  $\frac{1}{4}$ " slotted shaft with  $\frac{3}{8}$ " dia. locking bushing,  $\frac{1}{2}$ " long. All have  $1\frac{1}{32}$ " O.D.;  $\frac{1}{2}$ " depth behind mtg surface. Av. shpg. wt., 5 oz.



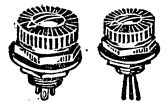
**TABLE "E" RESISTANCES AVAILABLE—SPECIFY WHEN ORDERING**

Ohms	Ohms	Ohms	Ohms	Ohms
5	50	400	2500	15K
10	75	500	3000	20K
20	100	750	4000	25K
25	150	1000	5000	30K
30	200	1500	7500	40K
40	300	2000	10K	50K

Stock No.	Mfr's Type	Resistances Available (See Table "E" Above)	EACH
29 MM 489	43C1	5 ohms to 10K ohms	1.35
29 MM 490	43C1	15K to 25K ohms	2.80
29 MM 491	43C1	30K to 50K ohms	2.01
29 MM 492	43C2	5 ohms to 10K ohms	2.25
29 MM 493	43C2	15K to 25K ohms	2.55
29 MM 494	43C2	30K to 50K ohms	3.00

## CAP-POTS POTENTIOMETERS

Sealed, water-proof and explosion-proof potentiometers. May be used in pressurized equipment. 0.8 watts @ 40° C.  $\pm 10\%$  tol. Black knob.  $\frac{1}{2}$ " dia.; projects  $\frac{3}{2}$ " from mounting surface. Av. shpg. wt., 3 oz.



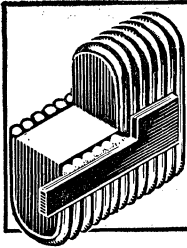
**TABLE "F" RESISTANCES AVAILABLE—SPECIFY WHEN ORDERING**

Ohms	Ohms	Ohms	Ohms	Ohms
10	50	250	1000	5000
25	100	500	2500	10K

Stock No.	Mfr's Type	Ohms (See Table "F" Above)	Con-nection	EACH				
				1-9	10-24	25-49	50-99	100-249
31 MM 100	60MJA	10 ohms to 10K ohms	Lugs	5.60	4.20	3.60	3.00	2.60
31 MM 101	60MJB	10K ohms	Leads	5.60	4.20	3.60	3.00	2.60

# Bourns Multi-Turn Potentiometers

## BOURNS TRIMPOT® POTENTIOMETERS FEATURE...



### Indestructible Termination

The exclusive Bourns Silverweld® termination, alloyed with multiple turns of the resistance element, is indestructible under thermal or mechanical stress. It eliminates termination breakage, a major cause of potentiometer failure.

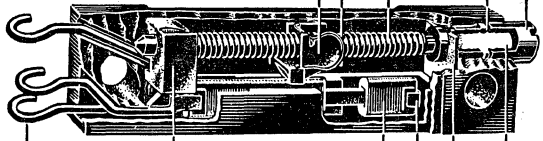
**SPRING**—Carriage spring provides positive no-slip performance during rotation, plus a reliable idling feature at mechanical limits of travel

**LEADSCREW**—Stainless steel lead screw is corrosion-resistant, withstands salt spray.

**O-RING**—Silicone rubber O-ring seals potentiometer against humidity, withstands high temperature.

**SHAFT HEAD**—Stainless steel with machined slot for screwdriver adjustment. Meets military salt spray requirements.

**WIPER CARRIAGE**—Gold-plated carriage is welded to precious metal wiper for low noise.



**SOLDER TERMINALS**—Tinned terminals are compact, yet large enough for easy soldering. Teflon-insulated leads and printed circuit pins are also available.

**SILVERWELD® TERMINATION**—This exclusive Bourns feature is unequalled in ruggedness. There is a metal-to-metal bond from the terminal to the resistance wire.

**PICK-OFF**—Gold-plated beryllium copper pick-off maintains constant pressure on lead screw.

**ELEMENT**—Special ceramic element card for maximum reliability is precision wound with low-temperature-coefficient resistance wire.

**SHAFT RETAINER**—Shaft is locked in place for top performance under extreme shock, vibration and acceleration.

**SHAFT INSULATOR**—High-dielectric-strength, ceramic insulator isolates shaft head from internal circuits.

- INDUSTRIAL
- MILITARY    ■ COMMERCIAL
- WIREWOUND    ■ RECTANGULAR
- PRECISION ROTARY
- HUMIDITY-PROOF
- HIGH-TEMPERATURE
- SPECIAL-PURPOSE

### TRIMPOT® SUBMINIATURE POTENTIOMETERS



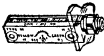
Insulated Leads



P.C. Pins



Solder Lugs



Panel Mount

Precision-made, multi-turn, subminiature potentiometers. Highly resistant to shock, vibration and acceleration. Self-locking screwdriver adjustments. All models have 22 to 25-turn adjustments. Panel mounts require panel thickness max. 13" with .228" hole.

Standard mounts have two #2 holes on 1" ctrs. Resistance tolerance: carbon models, ±20%; wirewound models, ±10%. Quantity prices are for one resistance value only. Av. shgp. wt., 2 oz. Specify Stock No. and resistance when ordering.

### ¼-WATT GENERAL-PURPOSE WIREWOUND. Size, 1¼x¼x5/16". Temp. range -65° C to +105° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 380	200L	Insul. leads	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	4.86	4.50	4.05	3.85	3.60	3.42
31 MM 381	200L	Insul. leads	Standard	20K, 25K	6.48	6.00	5.40	5.13	4.80	4.56
31 M 675	200L	Insul. leads	Standard	50K only	7.56	7.00	6.30	5.98	5.60	5.32
31 M 676	200L-2	Insul. leads	Standard	100K only	9.18	8.50	7.65	7.27	6.80	6.46
31 MM 005	200L	Insul. leads	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	5.67	5.25	4.73	4.49	4.20	3.99
31 MM 006	200L	Insul. leads	Panel	20K, 25K	7.29	6.75	6.08	5.77	5.40	5.13
31 M 007	200L	Insul. leads	Panel	50K only	8.37	7.75	6.98	6.62	6.20	5.89
31 M 008	200L-2	Insul. leads	Panel	100K only	9.99	9.25	8.33	7.91	7.40	7.03
31 MM 383	200S	Solder lugs	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	4.86	4.50	4.05	3.85	3.60	3.42
31 MM 384	200S	Solder lugs	Standard	20K, 25K	6.48	6.00	5.40	5.13	4.80	4.56
31 M 677	200S	Solder lugs	Standard	50K only	7.56	7.00	6.30	5.98	5.60	5.32
31 MM 010	200S	Solder lugs	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	5.67	5.25	4.73	4.49	4.20	3.99
31 MM 011	200S	Solder lugs	Panel	20K, 25K	7.29	6.75	6.08	5.77	5.40	5.13
31 M 012	200S	Solder lugs	Panel	50K only	8.37	7.75	6.98	6.62	6.20	5.89
31 MM 600	200P	P.C. pins	Printed circuit	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	4.86	4.50	4.05	3.85	3.60	3.42
31 MM 601	200P	P.C. pins	Printed circuit	20K, 25K	6.48	6.00	5.40	5.13	4.80	4.56
31 M 602	200P	P.C. pins	Printed circuit	50K only	7.56	7.00	6.30	5.98	5.60	5.32

### ¼-WATT CARBON. Size, 5/16x¼x1¼". Temp. range, -65° C to +125° C. (\*Humidity-proof)

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 376	215L	Insul. leads	Standard	20K, 50K, 100K, 200K, 500K, 1 meg	4.86	4.50	4.05	3.85	3.60	3.42
31 MM 013	215L	Insul. leads	Panel	20K, 50K, 100K, 200K, 500K, 1 meg	5.67	5.25	4.73	4.49	4.20	3.99
31 MM 606	215S	Solder lugs	Standard	20K, 50K, 100K, 200K, 500K, 1 meg	4.86	4.50	4.05	3.85	3.60	3.42
31 MM 014	215S	Solder lugs	Panel	20K, 50K, 100K, 200K, 500K, 1 meg	5.67	5.25	4.73	4.49	4.20	3.99
31 MM 605	215P	P.C. pins	Printed circuit	20K, 50K, 100K, 200K, 500K, 1 meg	4.86	4.50	4.05	3.85	3.60	3.42
31 MM 678	235L*	Insul. leads	Standard	20K, 50K, 100K, 200K, 500K, 1 meg	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 015	235L*	Insul. leads	Panel	20K, 50K, 100K, 200K, 500K, 1 meg	7.83	7.25	6.53	6.20	5.80	5.51
31 MM 679	235P*	P.C. pins	Printed circuit	20K, 50K, 100K, 200K, 500K, 1 meg	7.02	6.50	5.85	5.56	5.20	4.94

# Bourns Multi-Turn Potentiometers



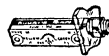
Insulated Leads



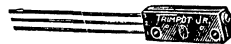
P. C. Pins



Solder Lugs



Panel Mount



Uninsulated Wires

## TRIMPOT® SUBMINIATURE POTENTIOMETERS

Precision, subminiature potentiometers except 208, \*which is a rheostat. Use for initial or occasional adjustment, or where a non-standard resistance value is required. Power rating at 50° or 70°C. Humidity-proof types meet MIL specs. Require 22 to 25 turns from zero to full value; wirewound types have resolution varying from 2% @ 10 ohms to less than 0.2% @ full value. Carbon types have resistance tolerance ±20%; wirewound types are ±10% except

224, ±5%. Outstanding shock, vibration stability. Model 220 is Style RT10; Model 224 is Style RT11—both meet Mil. Spec. MIL-R-27208A. Standard mounts have two #2 threaded holes on 1" cts. except 220 has 3/4" ctrs.; 207 and 208, 4 holes on 1x1/2" sq. Panel mount types require max. .13" panel thickness with .228" hole except 220, 224, and 3051, .194" hole. Quantity prices are for one resistance value only. 2 oz. Specify Stock No. and resistance.

### 1-WATT HIGH TEMPERATURE HUMIDITY-PROOF WIREWOUND. Size: 1/4x3/16x5/16". Temp. range, -65° C to +175° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 366	224L	Insul. leads	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 367	224L	Insul. leads	Standard	20K, 25K	8.64	8.00	7.20	6.84	6.40	6.08
31 M 368	224L	Insul. leads	Standard	50K only	9.18	8.50	7.65	7.27	6.80	6.46
31 M 362	224L-2	Insul. leads	Standard	100K only	11.34	10.50	9.45	8.98	8.40	7.98
31 MM 038	224L	Insul. leads	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.83	7.25	6.53	6.20	5.80	5.51
31 MM 039	224L	Insul. leads	Panel	20K, 25K	9.45	8.75	7.88	7.48	7.00	6.65
31 M 040	224L	Insul. leads	Panel	50K only	9.99	9.25	8.33	7.91	7.40	7.03
31 M 041	224L-2	Insul. leads	Panel	100K only	12.15	11.25	10.13	9.62	9.00	8.55
31 MM 369	224S	Solder lugs	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 371	224S	Solder lugs	Standard	20K, 25K	8.64	8.00	7.20	6.84	6.40	6.08
31 M 372	224S	Solder lugs	Standard	50K only	9.18	8.50	7.65	7.27	6.80	6.46
31 M 363	224S-2	Solder lugs	Standard	100K only	11.34	10.50	9.45	8.98	8.40	7.98
31 MM 042	224S	Solder lugs	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.83	7.25	6.53	6.20	5.80	5.51
31 MM 043	224S	Solder lugs	Panel	20K, 25K	9.45	8.75	7.88	7.48	7.00	6.65
31 M 044	224S	Solder lugs	Panel	50K only	9.99	9.25	8.33	7.91	7.40	7.03
31 M 045	224S-2	Solder lugs	Panel	100K only	12.15	11.25	10.13	9.62	9.00	8.55
31 MM 373	224P	P.C. pins	Printed circuit	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 374	224P	P.C. pins	Printed circuit	20K, 25K	8.64	8.00	7.20	6.84	6.40	6.08
31 M 375	224P	P.C. pins	Printed circuit	50K only	9.18	8.50	7.65	7.27	6.80	6.46
31 M 361	224P-2	P.C. pins	Printed circuit	100K only	11.34	10.50	9.45	8.98	8.40	7.98

### 1/4-WATT HIGH-TEMPERATURE HUMIDITY-PROOF CARBON. Size: 1/4x5/16x3/16". Temp. range, -65° C to +150° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values	1-9	10-24	25-49	50-99	100-249	250-500
31 MM 357	3051L	Insul. leads	Standard	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 046	3051L	Insul. leads	Panel	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.83	7.25	6.53	6.20	5.80	5.51
31 MM 358	3051S	Solder lugs	Standard	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 047	3051S	Solder lugs	Panel	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.83	7.25	6.53	6.20	5.80	5.51
31 MM 359	3051P	P.C. pins	Printed circuit	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.02	6.50	5.85	5.56	5.20	4.94

### 2-WATT HIGH-RESISTANCE WIREWOUND. Size: 1/4x1/16x3/32". Temp. range, -65° C to +175° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values	1-9	10-24	25-49	50-99	100-249	250-500
31 MM 603	207L	Insul. leads	Standard	100, 200, 500, 1000, 2000, 5000, 10K, 20K, 50K	10.26	9.50	8.55	8.12	7.60	7.22
31 M 604	207L	Insul. leads	Standard	100K only	11.88	11.00	9.90	9.40	8.80	8.36
31 MM 048	207L	Insul. leads	Panel	100, 200, 500, 1000, 2000, 5000, 10K, 20K, 50K	11.07	10.25	9.23	8.76	8.20	7.79
31 M 049	207L	Insul. leads	Panel	100K only	12.69	11.75	10.58	10.04	9.40	8.93

### 2-WATT WIREWOUND RHEOSTAT (HIGH-RESISTANCE). Size: 1/4x1/16x3/32". Temp. range, -65° C to +175° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values	1-9	10-24	25-49	50-99	100-249	250-500
31 M 050	208L*	Insul. leads	Standard	150K only	11.34	10.50	9.45	8.98	8.40	7.98
31 M 051	208L*	Insul. leads	Standard	200K only	12.96	12.00	10.80	10.26	9.60	9.12
31 M 060	208L*	Insul. leads	Panel	150K only	12.15	11.25	10.13	9.62	9.00	8.55
31 M 061	208L*	Insul. leads	Panel	200K only	13.77	12.75	11.48	10.90	10.20	9.69

### 1-WATT MICRO-MINIATURE HUMIDITY-PROOF WIREWOUND. Size: 5/16x1/16x1". Temp. range, -65° C. to +175° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values	1-9	10-24	25-49	50-99	100-249	250-500
31 MM 607	220L	Insul. leads	Standard	100, 200, 500, 1000, 2000, 5000, 10K	8.64	8.00	7.20	6.84	6.40	6.08
31 MM 608	220L	Insul. leads	Standard	20K, 30K	10.26	9.50	8.55	8.12	7.60	7.22
31 MM 016	220L	Insul. leads	Panel	100, 200, 500, 1000, 2000, 5000, 10K	9.45	8.75	7.88	7.48	7.00	6.65
31 MM 017	220L	Insul. leads	Panel	20K, 30K	11.07	10.25	9.23	8.76	8.20	7.79
31 MM 395	220W	Uninsul. leads	Standard	100, 200, 500, 1000, 2000, 5000, 10K	8.64	8.00	7.20	6.84	6.40	6.08
31 MM 396	220W	Uninsul. leads	Standard	20K, 30K	10.26	9.50	8.55	8.12	7.60	7.22
31 MM 018	220W	Uninsul. leads	Panel	100, 200, 500, 1000, 2000, 5000, 10K	9.45	8.75	7.88	7.48	7.00	6.65
31 MM 019	220W	Uninsul. leads	Panel	20K, 30K	11.07	10.25	9.23	8.76	8.20	7.79

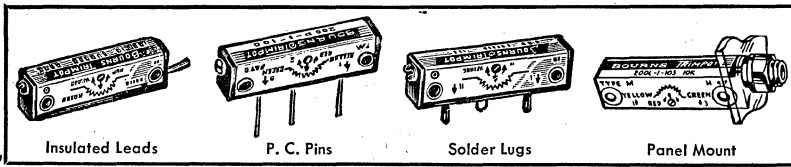
### 1/4-WATT TWINPOT®—DUAL SUBMINIATURE WIREWOUND POTS. Size: 1/4x1/2x5/16". Temp. range, -65° C to +105° C.

Dual wirewound pots—one shaft controls both potentiometers. Both elements are of identical value and each dissipates 1/4 watt @ 70° C. Tracking is 5% from 200 ohms to 50K, 8% from 10 ohms

to 100 ohms. ±10% tolerance. Standard mounts have two #2 mtg. holes on 1" ctrs. Panel mount types require max. .13" panel thickness and .228" hole. 4 oz. Specify Stock No. and resistance when ordering.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance: Each Section (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 615	209L	Insul. leads	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	12.96	12.00	10.80	10.26	9.60	9.12
31 M 616	209L	Insul. leads	Standard	20K only	14.58	13.50	12.15	11.54	10.80	10.26
31 M 691	209L	Insul. leads	Standard	50K only	16.20	15.00	13.50	12.82	12.00	11.40
31 MM 057	209L	Insul. leads	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	15.12	14.00	12.60	11.98	11.20	10.64
31 M 058	209L	Insul. leads	Panel	20K only	16.74	15.50	13.90	13.26	12.40	11.78
31 M 059	209L	Insul. leads	Panel	50K only	18.36	17.00	15.30	14.54	13.60	12.92

# Bourns Potentiometers



Use TRIMPOT® potentiometers wherever a resistance or voltage divider requires initial or occasional adjustment to optimize a particular circuit or where a non-standard resistance value is needed.

## TRIMPOT® SUBMINIATURE POTENTIOMETERS

Subminiature potentiometers with precision construction and design. Meet all applicable MIL specs for humidity-proof types plus outstanding shock, vibration and acceleration stability. Power: Rating shown is at 50-70° C. Turns: 22 to 25, zero to full value. Resistance Tolerance: Type 3011, ±20%. Type 3100, ±5%. Resolu-

tion: Type 3010 (Wirewound), 2% at 10 ohms to .17% at 100K ohms. Mounting: Standard mounts have two #2 threaded holes on 1" ctrs. Panel mounts require .228" hole; max. panel thickness, .13". Av. shpg. wt., 2 oz. Quantity prices are for one resistance value only. Specify Stock No. and resistance value when ordering.

### 1-WATT HUMIDITY-PROOF WIREWOUND. Size: 1¼x5/16x3/32". Temp. range. -65° C. to 175° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 624	3010L	Insul. leads	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 626	3010L	Insul. leads	Standard	20K, 25K	8.64	8.00	7.20	6.84	6.40	6.08
31 M 627	3010L	Insul. leads	Standard	50K only	9.18	8.50	7.65	7.27	6.80	6.46
31 M 628	3010L-2	Insul. leads	Standard	100K only	11.34	10.50	9.45	8.98	8.40	7.98
31 MM 052	3010L	Insul. leads	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.83	7.25	6.53	6.20	5.80	5.51
31 MM 053	3010L	Insul. leads	Panel	20K, 25K	9.45	8.75	7.88	7.48	7.00	6.65
31 M 054	3010L	Insul. leads	Panel	50K only	9.99	9.25	8.33	7.91	7.40	7.03
31 M 055	3010L	Insul. leads	Panel	100K only	12.15	11.25	10.13	9.62	9.00	8.55
31 MM 644	3010P	P.C. pins	Printed circuit	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 645	3010P	P.C. pins	Printed circuit	20K, 25K	8.64	8.00	7.20	6.84	6.40	6.08
31 M 646	3010P	P.C. pins	Printed circuit	50K only	9.18	8.50	7.65	7.27	6.80	6.46
31 M 647	3010P-2	P.C. pins	Printed circuit	100K only	11.34	10.50	9.45	8.98	8.40	7.98

### ¼-WATT HUMIDITY-PROOF CARBON. Size: 1¼x5/16x3/32". Temp. range. -65° C. to 150° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 629	3011L	Insul. leads	Standard	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.02	6.50	5.85	5.56	5.20	4.94
31 MM 056	3011L	Insul. leads	Panel	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.83	7.25	6.53	6.20	5.80	5.51
31 MM 631	3011P	P.C. pins	Printed circuit	20K, 50K, 100K, 200K, 500K, 750K, 1 meg	7.02	6.50	5.85	5.56	5.20	4.94

## TRIMIT® SUBMINIATURE POTENTIOMETERS

Low-cost subminiature potentiometers which take up remarkably little space—body is only 5/32x3/16x1/4". Several units may be stacked with screws passed through mounting holes. Have 25-turn screwdriver adjustment, zero to full value, with self-locking shaft. Similar in appearance to units illustrated above. Power rating

shown is at 50-70° C. Operating temperature range, -55 to ±85° C. Panel mounting requires .228" hole with max. thickness, .13". Standard mounts have two #2 holes on 1" centers. Av. shpg. wt., 2 oz. Quantity prices are for one resistance value only. Specify Stock No. and resistance value when ordering.

### ¼-WATT, WIREWOUND TYPE. Size: 5/16x1/4x1/4".

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 397	271	Insul. leads	Standard	100, 200, 500, 1000, 2000, 5000, 10K	3.18	2.95	2.65	2.52	2.36	2.25
31 MM 034	271	Insul. leads	Panel	100, 200, 500, 1000, 2000, 5000, 10K	3.99	3.70	3.33	3.16	2.96	2.82
31 MM 398	273	Solder lugs	Standard	100, 200, 500, 1000, 2000, 5000, 10K	3.18	2.95	2.65	2.52	2.36	2.25
31 MM 035	273	Solder lugs	Panel	100, 200, 500, 1000, 2000, 5000, 10K	3.99	3.70	3.33	3.16	2.96	2.82
31 MM 399	275	P.C. pins	Printed circuit	100, 200, 500, 1000, 2000, 5000, 10K	3.18	2.95	2.65	2.52	2.36	2.25

### 1/5-WATT CARBON TYPE. Size: 3/32x5/16x1/4".

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 377	272	Insul. leads	Standard	20K, 50K, 100K, 200K, 500K, 1 meg	3.78	3.50	3.15	2.99	2.80	2.66
31 MM 036	272	Insul. leads	Panel	20K, 50K, 100K, 200K, 500K, 1 meg	4.59	4.25	3.83	3.63	3.40	3.23
31 MM 378	274	Solder lugs	Standard	20K, 50K, 100K, 200K, 500K, 1 meg	3.78	3.50	3.15	2.99	2.80	2.66
31 MM 037	274	Solder lugs	Panel	20K, 50K, 100K, 200K, 500K, 1 meg	4.59	4.25	3.83	3.63	3.40	3.23
31 MM 379	276	P.C. pins	Printed circuit	20K, 50K, 100K, 200K, 500K, 1 meg	3.78	3.50	3.15	2.99	2.80	2.66

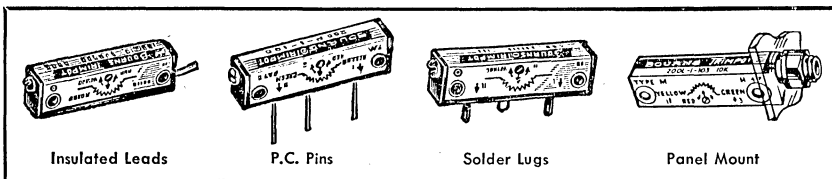
## MOUNTING ACCESSORIES

Mounting screws and end, side and panel mount brackets for use with types shown. Av. shpg. wt., 1 oz.

Stock No.	Mfr's Type	Used with These Types	Description	EACH		
				1-24	25-99	100-Up
31 M 393	H-01	All types	1½", 2-56 round head screws; for mtg., 4 or 5 units	.02	.02	.02
31 M 617	H-02	All types	12" long, 2-56 stainless rod; for group mtg., any number units	.80	.80	.80
31 M 391	H-11E	200, 207, 208, 209, 215, 224, 235, 236, 260, 271, 272, 273, 274, 3010, 3011, 3051	End mounting bracket for types having 1" mtg. ctrs.	.20	.15	.....
31 M 392	H-12S	200, 207, 208, 209, 215, 224, 235, 236, 260, 271, 272, 273, 274, 3010, 3011, 3051	Side mounting bracket for types having 1" mtg. ctrs.	.20	.15	.....
31 M 618	H-13P	271, 272, 273, 274	Panel mounting bracket, clip type, for 1" mtg. ctrs.	.20	.15	.....
31 M 619	H-21E	220	End mounting bracket for types having ¾" mtg. ctrs.	.20	.15	.....
31 M 620	H-22S	220	Side mounting bracket for types having ¾" mtg. ctrs.	.20	.15	.....
31 M 000	H-25	3250, 3251	Stainless stacking straps. For ½" square types.	.05	.04	.....
31 M 001	H-26S	3250, 3251	Stainless side mounting bracket. For ½" square types.	.20	.15	.....
31 M 002	H-90	All types	Screwdriver for setting panel-mount models. With clip.	.35	.30	.....

# Bourns Potentiometers

THERE'S A TRIMPOT® to meet any adverse operating condition of high temperature and humidity and any mounting requirement—printed circuit, panel mount, standard mount (with mounting holes), insulated leads and solder lugs.



## TRIMPOT® SUBMINIATURE POTENTIOMETERS

Power rating shown is at 50-70°C. Humidity-proof and high temperature types meet applicable MIL specs for these characteristics. Require 22 to 25 turns from zero to full value; have resolution varying from 2% at 10 ohms to less than 0.2% @ full value. Resistance

tolerance, ±10%. Standard mounts have two #2 threaded holes on 1" centers. Panel mounts require .228" hole with max. panel thickness .13". Shpg. wt., 2 oz. Quantity prices are for one resistance value only. Specify Stock No. and value when ordering.

**4/5-WATT HUMIDITY-PROOF WIREWOUND.** Size, 2<sup>3</sup>/<sub>64</sub>x1<sup>9</sup>/<sub>64</sub>x1<sup>11</sup>/<sub>32</sub>". Temp. range, -55° C. to 135° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 389	236L	Insul. leads	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 M 390	236L	Insul. leads	Standard	20K only	8.64	8.00	7.20	6.84	6.40	6.08
31 M 681	236L	Insul. leads	Standard	50K only	9.18	8.50	7.65	7.27	6.80	6.46
31 M 682	236-L2	Insul. leads	Standard	100K only	11.34	10.50	9.45	8.98	8.40	7.98
31 MM 020	236L	Insul. leads	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.83	7.25	6.53	6.20	5.80	5.51
31 M 021	236L	Insul. leads	Panel	20K only	9.45	8.75	7.88	7.48	7.00	6.65
31 M 022	236L	Insul. leads	Panel	50K only	9.99	9.25	8.33	7.91	7.40	7.03
31 M 023	236L-2	Insul. leads	Panel	100K only	12.15	11.25	10.13	9.62	9.00	8.55
31 MM 686	236S	Solder lugs	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 M 687	236S	Solder lugs	Standard	20K only	8.64	8.00	7.20	6.84	6.40	6.08
31 M 688	236S	Solder lugs	Standard	50K only	9.18	8.50	7.65	7.27	6.80	6.46
31 MM 024	236S	Solder lugs	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.83	7.25	6.53	6.20	5.80	5.51
31 M 025	236S	Solder lugs	Panel	20K only	9.45	8.75	7.88	7.48	7.00	6.65
31 M 026	236S	Solder lugs	Panel	50K only	9.99	9.25	8.33	7.91	7.40	7.03
31 MM 683	236P	P.C. pins	Printed circuit	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	7.02	6.50	5.85	5.56	5.20	4.94
31 M 684	236P	P.C. pins	Printed circuit	20K only	8.64	8.00	7.20	6.84	6.40	6.08
31 M 685	236P	P.C. pins	Printed circuit	50K only	9.18	8.50	7.65	7.27	6.80	6.46

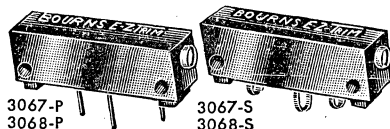
**1-WATT HIGH-TEMPERATURE WIREWOUND.** Size, 5<sup>1</sup>/<sub>64</sub>x3<sup>1</sup>/<sub>32</sub>x1<sup>1</sup>/<sub>4</sub>". Temp. range, -55° C. to 175° C.

Stock No.	Mfr's Type	Terminal Connections	Mounting	Resistance Values (Ohms)	EACH					
					1-9	10-24	25-49	50-99	100-249	250-500
31 MM 388	260L	Insul. leads	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	5.94	5.50	4.95	4.70	4.40	4.18
31 MM 394	260L	Insul. leads	Standard	20K, 25K	7.56	7.00	6.30	5.98	5.60	5.32
31 M 689	260L	Insul. leads	Standard	50K only	8.10	7.50	6.75	6.41	6.00	5.70
31 M 690	260L-2	Insul. leads	Standard	100K only	9.72	9.00	8.10	7.69	7.20	6.84
31 MM 027	260L	Insul. leads	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	6.75	6.25	5.63	5.34	5.00	4.75
31 MM 028	260L	Insul. leads	Panel	20K, 25K	8.37	7.75	6.98	6.62	6.20	5.89
31 M 029	260L	Insul. leads	Panel	50K only	8.91	8.25	7.43	7.05	6.60	6.27
31 M 030	260L-2	Insul. leads	Panel	100K only	10.53	9.75	8.78	8.33	7.80	7.41
31 MM 609	260S	Solder lugs	Standard	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	5.94	5.50	4.95	4.70	4.40	4.18
31 MM 610	260S	Solder lugs	Standard	20K, 25K	7.56	7.00	6.30	5.98	5.60	5.32
31 M 611	260S	Solder lugs	Standard	50K only	8.10	7.50	6.75	6.41	6.00	5.70
31 MM 031	260S	Solder lugs	Panel	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	6.75	6.25	5.63	5.34	5.00	4.75
31 MM 032	260S	Solder lugs	Panel	20K, 25K	8.37	7.75	6.98	6.62	6.20	5.89
31 M 033	260S	Solder lugs	Panel	50K only	8.91	8.25	7.43	7.05	6.60	6.27
31 MM 612	260P	P.C. pins	Printed circuit	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K	5.94	5.50	4.95	4.70	4.40	4.18
31 MM 613	260P	P.C. pins	Printed circuit	20K, 25K	7.56	7.00	6.30	5.98	5.60	5.32
31 M 614	260P	P.C. pins	Printed circuit	50K only	8.10	7.50	6.75	6.41	6.00	5.70

## E-Z TRIM® POTENTIOMETERS

Types 3067, 3068. Type 3067 1/2-watt 15-turn and 3068 1/2-watt 15-turn potentiometers are designed specifically for commercial applications. 3068 has a Resistor carbon resistance element. 3067 has precision wire-wound element. 15-turn adjustment and self-locking shafts for stable

and precise electrical settings. Wipers idle at both ends of travel. \*Printed circuit pin. †Solder lugs. Mounting centers, 5<sup>3</sup>/<sub>64</sub>", 3<sup>1</sup>/<sub>8</sub>x1<sup>1</sup>/<sub>8</sub>". Specify resistance values when ordering. Write for prices on quantities over 500. Av. shpg. wt., 1 oz.



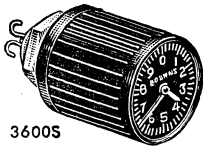
Stock No.	Mfr's Type	Values Available (Ohms)—Specify Values	1-9, EA.	10-24, EA.	25-49, EA.	50-99, EA.	100-249, EA.	250-500, EA.
31 MM 636	†3067-S	100, 200, 500, 1000, 2000, 5000, 10K, 20K	1.65	1.53	1.37	1.31	1.22	1.16
31 MM 637	*3067-P	100, 200, 500, 1000, 2000, 5000, 10K, 20K						
31 MM 638	†3068-S	20K, 50K, 100K, 200K, 500K, 750K, 1 meg.						
31 MM 639	*3068-P	20K, 50K, 100K, 200K, 500K, 750K, 1 meg.						

Allied Electronics' tremendous stocks and buying power assure you of the fastest delivery of industrial quantities— at OEM prices—the same prices the manufacturer would charge on a direct order.

# Bourns Precision Potentiometers

## KNOBPOT®, TRIMPOT®, MICROMINIATURE POTENTIOMETERS, ACCESSORIES

### TYPE 3600S KNOBPOT® POTENTIOMETER



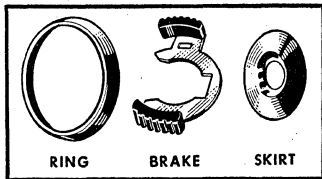
3600S

Quality potentiometer embodying new, precision concepts. 10-turn unit; has readout dial with small hand that indicates number of completed turns, and large hand that cycles once every turn. Clock face has excellent readability with settings repeatable within a 0.1% voltage ratio. Phasing of readout to pot is  $\pm 0.5\%$ . Requires virtually no back-of-panel space—only bushing and terminals are located behind panel.

Front panel space required is only  $\frac{3}{4}$ " dia. by 1" deep. Unit uses only two holes for mounting;  $\frac{1}{32}$ " hole for bushing and  $\frac{5}{64}$ " hole for locking pin. Power ratings:  $1\frac{1}{2}$  watts @ 25°C and  $\frac{3}{4}$  watt @ 55°C. Constructed for reliability, long mechanical life and excellent stability even under conditions of vibration and shock. Meets MIL-STD-202B specs for humidity, dielectric strength, etc. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Values Available—Specify	Values Wanted	1-9, EA.	10-24, EA.	25-49, EA.	50-99, EA.	100-249, EA.	250-500, EA.
31 MM 065	3600S	1000, 2000 5000, 10K, 20K, 50K, 100K ohms		20.52	19.00	17.10	16.22	15.20	14.44

### ACCESSORIES FOR KNOBPOT®



RING

BRAKE

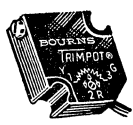
SKIRT

H-93 Color Snap Rings. For 3600S Knobpot®. Durable, high temperature plastic. Available in red, yellow, blue, green or white—specify. Shpg. wt., 2 oz.  
 31 MM 087, 1-24 EACH .35  
 25-99.....EACH .30  
 100-500.....EACH .25

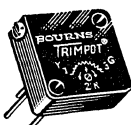
H-96 Brake. For use with 3600S Knobpot® listed above. Locks control setting. Snaps on easily—prevents control from slipping. Shpg. wt., 2 oz.  
 31 M 089, 1-24... EACH 1.25  
 25-99.....EACH 1.07  
 100-500.....EACH .97

H-95 Skirt. For use with 3600S Knobpot® above. Highly polished, stainless steel. Lends highly attractive appearance to assembly. Shpg. wt., 2 oz.  
 31 M 088, 1-24... EA. 1.50  
 25-99.....EACH 1.25  
 100-500.....EACH 1.00

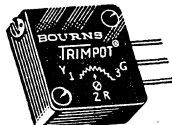
### TRIMPOT® SUB-MINIATURE HUMIDITY-PROOF POTENTIOMETERS



3250L  
3251L



3250P  
3251P



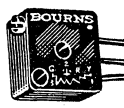
3250W  
3251W

Types 3250, 3251. Humidity-proof, high temp. potentiometers, employing  $\frac{1}{2}$ " square case configuration. Permit critical adjustment of all types of circuits. Have 25-turn, self-locking screwdriver adjustment with idling wiper at ends of travel to prevent damage. Type 3250 is a wirewound pot usable to 175°C, rated 1 w. to 70°C. Resolution varies from 0.72% to 0.1%, 100 to 50K ohms respectively. Tol.,  $\pm 5\%$ .

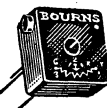
Type 3251 is a carbon pot usable to 150°C, rated @  $\frac{1}{2}$  w. to 50°C,  $\frac{1}{4}$  w. to 100°C. Infinite resolution. Tol.,  $\pm 20\%$ . Both types meet MIL-STD-202B and MIL-E-5272 specs for humidity, shock, vibration and dielectric strength. \*L indicates Teflon insulated leads; †P and W indicate printed circuit pins with different locations—see illustrations. Size: L-Type,  $\frac{1}{2} \times \frac{1}{2} \times \frac{3}{16}$ "; P and W,  $\frac{1}{2} \times \frac{1}{2} \times \frac{3}{32}$ ". 3 oz.

Stock No.	Mfr's Type	Values Available (Ohms)—Specify	Values	1-9, EA.	10-24, EA.	25-49, EA.	50-99, EA.	100-249, EA.	250-500, EA.
31 MM 692	3250L*	100, 200, 500, 1000, 2000, 5000, 10K		6.71	6.22	5.60	5.32	4.97	4.72
31 M 693	3250L*	20K only		7.56	7.00	6.30	5.98	5.60	5.32
31 M 694	3250L*	50K only		10.01	9.27	8.34	7.92	7.41	7.04
31 MM 936	3251L*	20K, 50K, 100K, 200K, 500K, 750K, 1 Meg.		7.83	7.25	6.53	6.19	5.80	5.51
31 MM 695	3250P†	100, 200, 500, 1000, 2000, 5000, 10K		7.23	6.69	6.02	5.72	5.35	5.08
31 M 696	3250P†	20K only		7.97	7.38	6.64	6.31	5.90	5.61
31 M 697	3250P†	50K only		10.53	9.75	8.78	8.34	7.80	7.41
31 MM 937	3251P†	20K, 50K, 100K, 200K, 500K, 750K, 1 Meg.		7.83	7.25	6.53	6.19	5.80	5.51
31 MM 066	3250W†	100, 200, 500, 1000, 2000, 5000, 10K		7.23	6.69	6.02	5.72	5.35	5.08
31 M 067	3250W†	20K only		7.97	7.38	6.64	6.31	5.90	5.61
31 M 068	3250W†	50K only		10.53	9.75	8.78	8.34	7.80	7.41
31 MM 938	3251W†	20K, 50K, 100K, 200K, 500K, 750K, 1 Meg.		7.83	7.25	6.53	6.19	5.80	5.51

### MICROMINIATURE HUMIDITY-PROOF WIREWOUND POTENTIOMETERS



3280L



3280P



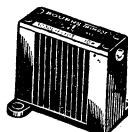
3280W

Type 3280. Humidity-proof Trimspot® in a very small package—only  $\frac{3}{8}$ " square. Incorporate relatively high power handling capabilities for their small size. Rated @ 1 watt to 70°C,  $\frac{1}{2}$  watt to 125°C. Usable to 175°C. Type 3280 pots are wirewound with high resolution—0.83 to 0.11% from 100 to 50K ohms respectively. Have 25-turn screwdriver adjustment with positive acting end

stops and clutch feature to eliminate any possibility of damage due to forced adjustment. Meet MIL-STD-202B and MIL-E-5272C specifications for humidity, shock, vibration and dielectric strength. \*L in Type No. indicates Teflon insulated leads. †P and W in Type No. indicate printed circuit pins (see illustrations at left). Size,  $\frac{3}{8} \times \frac{1}{8} \times \frac{1}{4}$ ". Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Values Available (Ohms)—Specify	Values	1-9, EA.	10-24, EA.	25-49, EA.	50-99, EA.	100-249, EA.	250-500, EA.
31 MM 069	3280L*	100, 200, 500, 1000, 2000, 5000, 10K		7.56	7.00	6.30	5.98	5.60	5.32
31 MM 070	3280L*	20K, 25K		9.18	8.50	7.65	7.27	6.80	6.46
31 M 071	3280L*	50K only		9.72	9.00	8.10	7.69	7.20	6.84
31 MM 072	3280P†	100, 200, 500, 1000, 2000, 5000, 10K		7.56	7.00	6.30	5.98	5.60	5.32
31 MM 073	3280P†	20K, 25K		9.18	8.50	7.65	7.27	6.80	6.46
31 M 074	3280P†	50K only		9.72	9.00	8.10	7.69	7.20	6.84
31 MM 075	3280W†	100, 200, 500, 1000, 2000, 5000, 10K		7.56	7.00	6.30	5.98	5.60	5.32
31 MM 076	3280W†	20K, 25K		9.18	8.50	7.65	7.27	6.80	6.46
31 M 077	3280W†	50K only		9.72	9.00	8.10	7.69	7.20	6.84

### TYPE 3030L HIGH POWER WIREWOUND TRIMPOT®



3030L

High power Trimspot® with metal case for excellent heat dissipation. Will replace many adjustable resistors. Rated @ 15 w. to 25°C, 10 w. to 100°C, usable to 265°C. Especially designed for power supply or other electrical circuit applications. 25-turn screwdriver adjustment with clutch at end of travel to prevent damage. Resolution varies 4.60% to 0.6% from 10 to 10K ohms respectively. Meets MIL-STD-202A and MIL-E-5272C specs for vibration, shock, dielectric strength, etc. Tol.,  $\pm 10\%$ . Has 3 Teflon insulated leads.  $1\frac{1}{16} \times \frac{1}{2} \times 1\frac{1}{4}$ ". Units are available in the

following resistance values (ohms): 10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10K. Be sure to specify values wanted. Av. shpg. wt., 3 oz.  
 31 MM 632, 1-9.....EACH 12.96  
 10-24.....EACH 12.00  
 25-49.....EACH 10.80  
 50-99.....EACH 10.26  
 100-249.....EACH 9.60  
 250-500.....EACH 9.12

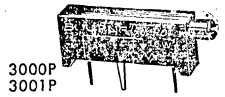
# Bourns Precision Potentiometers

## SUBMINIATURE AND MICROMINIATURE TRIMPOT®

### 5-TURN MICROMINIATURE, HIGH-TEMPERATURE, HUMIDITY-PROOF TRIMPOT® POTENTIOMETERS

Types 3000P, 3001P. Micro-miniature Trimpot® with high temp. plastic case. Meet MIL-STD-202B specs for humidity, vibration and shock. Both types have 5-turn screwdriver adjustment and wiper which idles at end of travel. Type 3000P is wirewound; usable to

175°C, rated ½ watt @ 70°C. Resolution varies from 1.7% to 0.29% from 50 to 20K ohms respectively. Tol., ±10%. Type 3001P is carbon usable to 150°C, rated 0.2 w. @ 70°C. Infinite resolution. Tol., ±20%. Both types have PC mtg. ¼x⅜x⅙", 3 oz.

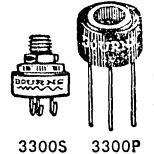


Stock No.	Mfr's Type	Values Available (Ohms)—Specify Values Wanted	1-9, EA.	10-24, EA.	25-49, EA.	50-99, EA.	100-249, EA.	250-500, EA.
MM 621	3000P	50, 100, 200, 500, 1000, 2000, 5000, 10K	9.72	9.00	8.10	7.69	7.20	6.84
MM 622	3000P	20K only	10.80	10.00	9.00	8.55	8.00	7.60
MM 064	3001P	20K, 50K, 100K, 200K, 500K, 750K, 1 Meg.	9.18	8.50	7.65	7.27	6.80	6.46

### 1-TURN MICROMINIATURE TRIMPOT®

Type 3300. Humidity-proof, single-turn wirewound potentiometers. Power rating: ½ watt @ 70°C ambient; ¼ watt @ 110°C ambient. Provide excellent shock and vibration stability. Meet MIL-STD-202B and MIL-E-5272C specifications. Stops are provided at each end of travel—units have low residual end setting resistance (0 to 1.0%). Continuity is maintained throughout full mechanical range. Silverweld® termination eliminates

vulnerable single-wire termination. All have resistance tolerance of ±5%. Electrical adjustment slot is .025" wide. Type 3300P has No. 26 gold-plated printed circuit pins .016" dia. Type 3300S has gold-plated solder lugs ⅝" long; accept No. 20 wires. Body size ⅜x⅝" dia. with ¼" long #10-32 bushing on Type 3300S. Specify desired resistance values from table below. Phone or write for prices on quantities over 500. Av. shpg. wt., 2 oz.

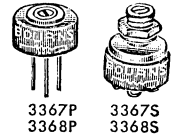


Stock No.	Mfr's Type	Values Available (Ohms)—Specify Values Wanted	EACH					
			1-9	10-24	25-49	50-99	100-249	250-500
MM 931	3300P	50, 100, 200, 500, 1000, 2000, 5000, 10K	5.94	5.50	4.95	4.70	4.40	4.18
MM 932	3300P	20K only	7.56	7.00	6.30	5.98	5.60	5.32
MM 933	3300S	50, 100, 200, 500, 1000, 2000, 5000, 10K	8.91	8.25	7.43	7.05	6.60	6.27
MM 934	3300S	20K only	10.53	9.75	8.78	8.33	7.80	7.41

### 1-TURN SUBMINIATURE TRIMPOT®

Types 3367, 3368. Single turn, subminiature pots in lightweight, all-plastic case. Individually inspected for guaranteed electrical and physical characteristics. Type 3367 is a wirewound pot rated @ ½ w. to 70°C, usable to 105°C ambient. Resolution 0.70 to 0.12% from 100 to 20,000 ohms respectively. Tolerance, ±5%. Type 3368 is a Resistor® carbon pot rated @ ¼ w. to 50°C,

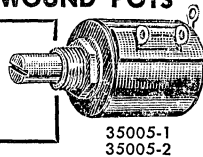
1/10 w. @ 82°C, usable to 105°C. Infinite resolution. Tolerance, ±20%. Both types meet steady state humidity test with less than 1% wiper shift under extreme vibration. \*S indicates solder lug terminals, †P, ½" printed circuit leads. Body size (both types), ⅜x⅝" dia. S types have #12-28 bushing and nut, ⅜" long. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Values Available (Ohms)—Specify Values Wanted	EACH					
			1-9	10-24	25-49	50-99	100-249	250-500
MM 640	3367S*	100, 200, 500, 1000, 2000, 5000, 10K, 20K	5.67	5.25	4.73	4.48	4.20	3.99
MM 083	3368S*	20K, 50K, 100K, 200K, 500K, 750K, 1 Meg.	6.75	6.25	5.63	5.34	5.00	4.75
MM 642	3367P†	100, 200, 500, 1000, 2000, 5000, 10K, 20K	4.86	4.50	4.05	3.85	3.60	3.42
MM 084	3368P†	20K, 50K, 100K, 200K, 500K, 750K, 1 Meg.	5.94	5.50	4.95	4.70	4.40	4.18

### 10-TURN PRECISION WIREWOUND POTS

- Rated @ 2-Watts to 70°C Ambient
- Outstanding Humidity Resistance
- Available in Two Shaft Lengths



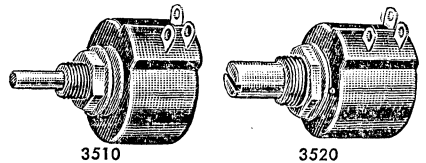
Types 3500S-1, 3500S-2. Humidity-proof, 10-turn precision-made potentiometers. Power rating, 2 watts @ 70°C ambient temperature. Operating temperature range, -65° to +125°C. Resist effects of shock, vibration, sand, dust, fungus, etc. Resistance tolerance, ±3%; end settings, 1 per cent or less. Mechanisms maintain 100% contact pressure control to insure high mechanical life. Reliability controlled by individual inspection. Have molded all-plastic, moisture-resistant case with shaft seal. Resolution is exceptionally good—varies from .03% to .01% from 500 to 125K ohms respectively.

Units are available in two shaft lengths. Type 3500S-1 has 1 1/16" long shaft including bushing; Type 3500S-2 has 1 3/16" long shaft including bushing. Both have 1/4" shaft diameters with ⅜-32 bushing and body size 1" long by 1/2" diameter. Also have Silverweld® terminations, .032" wide adjustment slot, and solder lug terminals. Be sure to specify value wanted when ordering. Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	Values (Ohms)	EACH					
			1-9	10-24	25-49	50-99	100-249	250-500
MM 935	3500S-1	500, 1000, 2000, 5000, 10K, 20K, 50K, 100K, 125K	10.00	9.50	9.00	8.50	8.00	7.50
MM 078	3500S-2	500, 1000, 2000, 5000, 10K, 20K, 50K, 100K, 125K	10.00	9.50	9.00	8.50	8.00	7.50

### 3 AND 5-TURN BUSHING MOUNT POTS

- Humidity Resistant
- Temp. Range -65 to +125°C
- Individually Inspected



Types 3510S, 3520S. Compact, sealed wirewound pots with high humidity resistance. Meet MIL-STD-202 specifications for humidity, vibration and shock; meet MIL-E-5272C for sand, dust, fungus. Have operating temperature range of -65°C to 125°C. Individual inspection of each potentiometer is carried out to guarantee physical and electrical characteristics.

Type 3510S is a 3-turn pot rated @ 1 watt to 70°C ambient. Resolution is .1 to .028% from 200 to 50K ohm models respectively. 7/8" dia. body is .549" long with 1/16" long bushing and shaft. 1/4" dia. shaft with 1/4" bushing. Type 3520S is a 5-turn pot rated @ 1 1/2 watts to 70°C. Resolution is .07 to .015% from 200 to 75K ohm models respectively. 7/8" dia. body is .678" long with 1/16" long bushing and shaft. 1/4" dia. shaft with 3/8" bushing. Both types have resistance tolerance of ±3%. Both types have solder lugs. Specify values wanted when ordering. Shpg. wt., 4 oz.

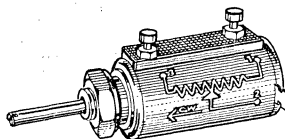
Stock No.	Mfr's Type	Values (Ohms)	EACH				
			1-9	10-24	25-99	100-249	250-500
31 MM 079	3510S	200, 500, 1000, 2000, 5000, 10K, 20K, 50K	14.99	14.24	13.49	12.74	11.99
31 MM 080	3520S	200, 500, 1000, 2000, 5000, 10K, 20K, 50K, 75K	13.50	13.10	12.30	11.10	9.90

Save time, minimize paperwork—make Allied Electronics headquarters for all your control needs. Our tremendous stocks assure prompt, off-the-shelf deliveries of orders in industrial quantities at OEM prices. Call the Allied facility nearest you—see Page 1 for locations.



# Bourns Potentiometers/Dials and Ohmite Pots

## BOURNS SERIES 3700 10-TURN 1/2" PRECISION POTENTIOMETERS



- Miniature Size, Only 1/2" by 1"
- Independent Linearity ±0.25%

Steady-state humidity-resistant, 10-turn bushing mount pots. Rated, 1 watt @ 70°C ambient. Operating temperature range

-65° to +125°C. Resistance tolerance, ±5%; end settings, 1% or less. Special rotor design assures excellent wiper stability. Molded all-plastic case with shaft seal; solder lugs. Silverweld® termination eliminates vulnerable single-wire termination. Av. wt., 2 oz.

Res. Ohms	Mfr's Type	Max. % Resolution	Res. Ohms	Mfr's Type	Max. % Resolution
500	3700S-1-501	.060	10K	3700S-1-103	.035
1000	3700S-1-102	.050	20K	3700S-1-203	.025
2000	3700S-1-202	.040	50K	3700S-1-503	.020
5000	3700S-1-502	.040	100K	3700S-1-104	.020

Stock No.	Specify Values and Mfr's Type No. Wanted				
	1-9, EA.	10-24, EA.	25-99, EA.	100-249, EA.	250-500, EA.
31 M 091	24.50	23.28	22.05	19.60	18.38



Black-with brake



Clear-less brake

Space-saving counting dials for Bourns precision potentiometers. In black or clear finish with knurled knob and anodized aluminum dial that matches any panel. Dials can be easily read and set to less than a tenth percent of total travel. Reliable locking device on units with brake, positively secures dial without shift in

setting. Show no appreciable wear after more than 1/4-million cycles of life testing. Dials are easily mounted—no extra panel holes required. Knob fastens directly to pot shaft to eliminate backlash. Types H-431, H-432, H-481, and H-482 fit 3/32" dia. shaft on Series 3700 pots. Av. shpg. wt., 2 oz.

### 1" DIAMETER 10-TURN COUNTING DIALS

Stock No.	Mfr's Type		Fits Shaft	Finish	EACH				
	With Brake	Without Brake			1-9	10-24	25-99	100-199	200-500
31 M 587	.....	H-411	1/4" dia.	Black	7.75	7.36	6.98	6.59	6.20
31 M 588	H-412	.....	1/4" dia.	Black	8.95	8.50	8.06	7.61	7.16
31 M 589	.....	H-461	1/4" dia.	Clear	7.75	7.36	6.98	6.59	6.20
31 M 590	H-462	.....	1/4" dia.	Clear	8.95	8.50	8.06	7.61	7.16
31 M 591	.....	H-421	1/8" dia.	Black	7.75	7.36	6.98	6.59	6.20
31 M 592	H-422	.....	1/8" dia.	Black	8.95	8.50	8.06	7.61	7.16
31 M 593	.....	H-471	1/8" dia.	Clear	7.75	7.36	6.98	6.59	6.20
31 M 594	H-472	.....	1/8" dia.	Clear	8.95	8.50	8.06	7.61	7.16
31 M 595	.....	H-431	3/32" dia.	Black	8.10	7.70	7.29	6.89	6.48
31 M 596	H-432	.....	3/32" dia.	Black	9.30	8.84	8.37	7.91	7.44
31 M 597	.....	H-481	3/32" dia.	Clear	8.10	7.70	7.29	6.89	6.48
31 M 598	H-482	.....	3/32" dia.	Clear	9.30	8.84	8.37	7.91	7.44

## OHMITE POTENTIOMETERS AND RHEOSTATS

### "AS" 1/2-WATT MINIATURE POTS

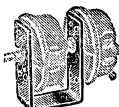


- Molded Composition Element
- Lasting Gold-Plated Terminals
- Screwdriver Slotted Shaft

Linear-taper controls ideal for miniaturized assemblies. Molded composition resistance and collector tracks, dust-proof sealed enclosures, gold-plated terminals. Screwdriver-slotted, locking-type shafts. Rated at 350 volts. 1/2" dia., 1 1/16" long. Shaft, 3/8" long. Meet QQ-M-151, MIL-R-94, MIL Type RV6LAYSA and EIA specs. Types 3613 through 3615, ±20% tolerance; others ±10%. Wt. 2 oz.

Stock No.	Mfr's Type	Ohms	1-99, EA.	100-Up, EA.
28 M 580	3601	100	5.10	3.58
28 M 581	3602	250		
28 M 582	3603	500		
28 M 583	3604	1000		
28 M 584	3605	2500		
28 M 585	3606	5000	5.10	3.58
28 M 586	3607	10K		
28 M 587	3608	25K		
28 M 588	3609	50K		
28 M 589	3610	100K		
28 M 590	3611	250K		
28 M 591	3612	500K		
28 M 592	3613	1.0 meg		
28 M 593	3614	2.5 meg		
28 M 594	3615	5.0 meg		

### TANDEM COUPLING KIT



Type 6591 Tandem Coupling Kit. For assembling two Type E rheostats (above right). Consists of a steel "U" frame, mica washer, coupling, Allen wrench and complete assembly instructions. Max. panel thickness 1/16". Frame 1 1/16" long and 3/4" wide. Shpg. wt., 5 oz.  
28 M 595..... 2.01

### DIAL PLATE AND KNOB

Type 5007 Dial Plate. For Type E rheostats. 1 1/4" diameter. Has black background. Shpg. wt., 1 oz.  
31 M 939..... .29  
Type 5151 Knob. 3/4" finger-grip type for E rheostats. 2 oz.  
31 M 940..... .29

### TYPE E 12 1/2-WATT MINIATURE RHEOSTATS



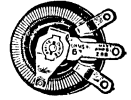
Compact power rheostats for limited space applications. Rugged, ceramic and metal construction. For high temperature applications; operate at maximum hot spot temperature of 340°C. Resistance tolerance is ±10%. Only 1/8" diameter. Require 1 1/16" behind panel. Have 1/4" by 32 threaded bushing (1/4" long). 1/8" diameter shaft, 3/8" long. Less knob below left. Av. shpg. wt., 2 oz.

Stock No.	Type	Ohms	1-4, EA.	5-9, EA.	10-24, EA.	25-49, EA.				
31 M 200	0101	1	4.63	3.94	3.10	2.55				
31 M 201	0102	2								
31 M 202	0103	3								
31 M 203	0104	6								
31 M 204	0105	8								
31 M 205	0106	10								
31 M 206	0107	15	4.11	3.49	2.75	2.26				
31 M 207	0108	25								
31 M 208	0109	35								
31 M 209	0110	50								
31 M 210	0111	75								
31 M 211	0112	100								
31 M 212	0113	125	4.11	3.49	2.75	2.26				
31 M 213	0114	175								
31 M 214	0115	250								
31 M 215	0116	350								
31 M 216	0117	500								
31 M 217	0118	750								
31 M 218	0119	1000					4.63	3.94	3.10	2.55
31 M 219	0120	1500								
31 M 220	0121	2500								
31 M 221	0122	3500	4.90	4.17	3.28	2.70				
31 M 222	0123	5000								
31 M 155	4190	7500	5.06	4.30	3.39	2.78				
31 M 156	4191	10K	5.06	4.30	3.39	2.78				
31 M 157	4192	12.5K	5.50	4.68	3.69	3.03				
31 M 158	4193	15K	5.50	4.68	3.69	3.03				

### FAST DELIVERY—OEM PRICES

Make Allied Electronics your headquarters for prompt, off-the-shelf deliveries of Bourns and Ohmite controls in industrial quantities at OEM prices.

# Ohmite Wirewound Rheostats



Selected wirewound rheostats; all are vitreous-enameled, (except Types 4200, -1, -2, -3 and -4), silicone-ceramic. Cannot smoke, char, shrink or shift. All have copper-graphite brushes, except \*silver-graphite brushes. Ratings are at full setting, all U.L. Listed except types indicated by †. Types H, J, K and L mount on panels up to 1/4" thick; Type N on

panels up to 1 1/4" thick. Specifications: Type H, dia. 1 9/16", depth behind panel, 1 3/8"; Type J, dia. 2 5/16", depth behind panel, 1 3/8"; Type K, dia. 3 1/4", depth behind panel, 1 3/8"; Type L, dia. 4", depth behind panel, 2"; Type N, dia. 6", depth behind panel, 2 3/8". Less knobs; see knobs, dial plates, and coupling kits at bottom of page. Av. wt., 10 oz.

## 25 WATT—TYPE H

Stock No.	Type	Ohms	1-4, EA.	5-9, EA.	10-24, EA.	25-49, EA.
31 M 223	0140*	1				
31 M 224	0141	2				
31 M 225	0142	3	4.63	3.94	3.10	2.55
31 M 226	0143	6				
31 M 227	0144	9				
31 M 228	0145	10				
31 M 229	0146	15				
31 M 230	0147	25				
31 M 231	0148	35	4.11	3.49	2.75	2.26
31 M 232	0149	50				
31 M 234	0150	75				
31 M 236	0151	100				
31 M 237	0152	125				
31 M 238	0153	175				
31 M 239	0154	250	4.11	3.49	2.75	2.26
31 M 240	0155	350				
31 M 241	0156	500				
31 M 242	0157	750				
31 M 244	0158	1000				
31 M 245	0159	1500	4.63	3.94	3.10	2.55
31 M 246	0160	2500				
31 M 247	0161	3500	4.90	4.17	3.28	2.70
31 M 248	0162	5000				
31 M 150	4200†	7500	5.06	4.30	3.39	2.78
31 M 151	4201†	10K	5.06	4.30	3.39	2.78
31 M 152	4202†	15K	5.50	4.68	3.69	3.03
31 M 153	4203†	20K	6.16	5.24	4.13	3.39
31 M 154	4204†	25K	6.82	5.80	4.57	3.75

## 50 WATT—TYPE J

Stock No.	Type	Ohms	1-2, EA.	3-4, EA.
31 M 249	0308*	0.5		
31 M 250	0309*	1	5.15	4.38
31 M 251	0310*	2		
31 M 252	0311	4		
31 M 253	0312	6		
31 M 254	0313	8		
31 M 255	0314	12		
31 M 256	0315	16	4.63	3.94
31 M 257	0316	22		
31 M 258	0317	35		
31 M 259	0318	50		
31 M 260	0319	80		
31 M 261	0320	125		
31 M 262	0321	150	4.63	3.94
31 M 263	0322	225		
31 M 264	0323	300		
31 M 265	0324	500		
31 M 266	0325	800		
31 M 267	0326	1000	4.90	4.17
31 M 268	0327	1600		
31 M 269	0328	2500		
31 M 270	0329	3500		
31 M 271	0330	5000	5.15	4.38
31 M 272	0331	8000		
31 M 273	0332	10K		

## 100 WATT—TYPE K

Stock No.	Type	Ohms	1-2, EA.	3-4, EA.
31 M 274	0440*	0.5		
31 M 275	0441*	1		
31 M 276	0442*	2		
31 M 277	0443*	3	7.72	6.56
31 M 278	0444*	5		
31 M 279	0445	7.5		
31 M 280	0446	10		
31 M 281	0447	16		
31 M 282	0448	25		
31 M 283	0449	50	7.21	6.13
31 M 284	0450	75		
31 M 285	0451	100		
31 M 286	0452	200		
31 M 287	0453	300		
31 M 288	0454	400	7.21	6.13
31 M 289	0455	500		
31 M 290	0456	750		
31 M 291	0457	1000		
31 M 292	0458	1500	7.72	6.56
31 M 293	0459	2000		
31 M 294	0460	2500		
31 M 295	0461	5000	8.24	7.00
31 M 296	0462	7500	8.76	7.45
31 M 297	0463	10K	9.26	7.87

## 150 WATT—TYPE L

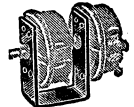
Stock No.	Type	Ohms	1-4, EA.	5-9, EA.	10-24, EA.	25-49, EA.
31 M 298	0524*	0.5				
31 M 300	0525*	1	9.78	8.31	6.55	5.38
31 M 301	0526*	2				
31 M 302	0527*	3				
31 M 303	0528*	5				
31 M 304	0529*	7.5	9.78	8.31	6.55	5.38
31 M 305	0530	10				
31 M 306	0531	15				
31 M 307	0532	25				
31 M 308	0533	35				
31 M 309	0534	50	9.26	7.87	6.20	5.09
31 M 310	0535	75				
31 M 311	0536	100				
31 M 312	0537	150				
31 M 313	0538	200				
31 M 314	0539	250	9.26	7.87	6.20	5.09
31 M 315	0540	350				
31 M 316	0541	500				
31 M 317	0542	750	9.78	8.31	6.55	5.38
31 M 318	0543	1250				
31 M 319	0544	1800				
31 M 320	0545	2250	10.30	8.76	6.90	5.67
31 M 321	0546	3000				
31 M 322	0547	4500	10.81	9.19	7.24	5.95
31 M 323	0548	7500	11.33	9.63	7.59	6.23
31 M 324	0549	10K	12.35	10.50	8.27	6.79

## 300 WATT—TYPE N

Stock No.	Type	Ohms	1-2, EA.	3-4, EA.
31 M 325	0650*	1		
31 M 326	0651*	2	15.29	13.00
31 M 327	0652*	3		
31 M 328	0653*	4		
31 M 329	0654*	5		
31 M 330	0655*	7.5	15.29	13.00
31 M 331	0656*	10		
31 M 332	0657*	15		
31 M 333	0658	25		
31 M 334	0659	50	15.29	13.00
31 M 335	0660	75		
31 M 336	0661	100		
31 M 337	0662	150		
31 M 338	0663	200	15.29	13.00
31 M 339	0664	300		
31 M 340	0665	400		
31 M 341	0666	700	15.29	13.00
31 M 342	0667	900		
31 M 343	0668	1200		
31 M 344	0669	1500		
31 M 345	0670	1750	15.29	13.00
31 M 346	0671	2500		

## TANDEM COUPLING KITS

Handy kits for assembling Ohmite rheostats in tandem. Each kit consists of a steel "U" frame, mica washer, coupling, Allen wrench and complete instructions for easy assembly.



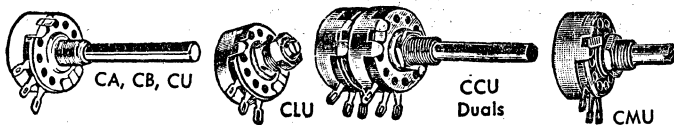
Type 6533 Tandem Coupling Kit. Large frame for Type K or L rheostats. Will accommodate Model H or J in rear position. Maximum panel thickness for Ohmite knobs (below), 1/8". Frame is 2 3/16" long, 1 1/4" wide. Shpg. wt., 4 oz.  
 31 M 941..... 2.51  
 Type 6532 Tandem Coupling Kit. Small frame designed for Type H or J, and will accommodate K or L in the rear position. Maximum panel thickness, 5/32". Frame 2 5/32" long and 1 1/4" wide. 5 oz.  
 31 M 942..... 2.01

## DIAL PLATES AND KNOB

Type 5000 Dial Plate. For Type H, J, K and L rheostats. 2 3/16" diameter. Handsomely finished with bright figures and lines on etched black background. 0-100 scale. Shpg. wt., 2 oz.  
 31 M 945..... 2.9  
 Type 5001 Dial Plate. For Type N. 5 1/2" dia. 0-100. 3 oz.  
 31 M 943..... .70  
 Type 5104 Handwheel. With pointer. For Type N. 3 1/4" dia. 2 oz.  
 31 M 969..... 1.38  
 Type 5150 Knob. 1 1/2" finger-grip type for H, J, K and L. 2 oz.  
 31 M 944..... 2.9

# Ohmite and Jensen Potentiometers

## OHMITE "AB" MOLDED COMPOSITION CARBON-CONTACT 2-WATT POTENTIOMETERS



Single units are  $\frac{5}{8} \times 1\frac{1}{2}$ " dia.; double units are  $1\frac{1}{4} \times 1\frac{1}{2}$ " dia. Mount in  $\frac{3}{8}$ " hole in panels to  $\frac{1}{4}$ " thick. 2" long  $\frac{1}{4}$ " round shafts except CLU, slotted shaft and locking nut; CMU,  $\frac{7}{8}$ " slotted shaft. CU, CCU, CMU and CLU Types linear taper; CA Types, CW log; CB Types, CCW log.  $\pm 10\%$  tol. except \*  $\pm 20\%$ . Wt., 5 oz.

### TYPES CA, CB, CU

Stock No.	Mfr's Type	Ohms	EACH		Stock No.	Mfr's Type	Ohms	EACH	
			1-99	100-Up				1-99	100-Up
28 M 500	CU5001	50	1.95	1.46	28 M 512	CB5031	50K	2.25	1.69
28 M 501	CU1011	100			28 M 604	CU7531	75K	1.95	1.46
28 M 596	CU1511	150			28 M 513	CU1041	100K	1.95	1.46
28 M 502	CU2511	250			28 M 514	CA1041	100K	2.25	1.69
28 M 597	CU3511	350			28 M 605	CU1541	150K	1.95	1.46
28 M 503	CU5011	500	1.95	1.46	28 M 515	CU2541	250K	1.95	1.46
28 M 598	CU7511	750			28 M 516	CA2541	250K	2.25	1.69
28 M 504	CU1021	1000			28 M 606	CU3541	350K	1.95	1.46
28 M 599	CU1521	1500			28 M 517	CU5041	500K	1.95	1.46
28 M 505	CU2521	2500			28 M 518	CA5041	500K	2.25	1.69
28 M 600	CU3521	3500	1.95	1.46	28 M 607	CU7542	750K	1.95	1.46
28 M 506	CU5021	5000	1.95	1.46	28 M 519	CU1052	1 meg*	1.95	1.46
28 M 601	CU7521	7500	1.95	1.46	28 M 520	CA1052	1 meg*	2.25	1.69
28 M 507	CU1031	10K	1.95	1.46	28 M 608	CU1552	1.5 meg*	1.95	1.46
28 M 508	CB1031	10K	2.25	1.69	28 M 548	CU2052	2.0 meg*	1.95	1.46
28 M 602	CU1531	15K	1.95	1.46	28 M 521	CU2552	2.5 meg*	1.95	1.46
28 M 509	CU2531	25K	1.95	1.46	28 M 522	CA2552	2.5 meg*	2.25	1.69
28 M 510	CB2531	25K	2.25	1.69	28 M 609	CU3552	3.5 meg*	1.95	1.46
28 M 603	CU3531	35K	1.95	1.46	28 M 523	CU5052	5 meg*	1.95	1.46
28 M 511	CU5031	50K	1.95	1.46					

### CLU LOCKING-SHAFT TYPES—MEET MIL-R-94B

Stock No.	Type	MIL Type	Ohms	Stock No.	Type	MIL Type	Ohms
28 M 525	CLU5001	RV4LAYS500A	50	28 M 534	CLU5031	RV4LAYS503A	50K
28 M 526	CLU1011	RV4LAYS101A	100	28 M 535	CLU1041	RV4LAYS104A	100K
28 M 527	CLU2511	RV4LAYS251A	250	28 M 536	CLU2541	RV4LAYS254A	250K
28 M 528	CLU5011	RV4LAYS501A	500	28 M 537	CLU5041	RV4LAYS504A	500K
28 M 529	CLU1021	RV4LAYS102A	1000	28 M 538	CLU1052	RV4LAYS105B	1 meg*
28 M 530	CLU2521	RV4LAYS252A	2500	28 M 549	CLU2052	RV4LAYS205B	2 meg*
28 M 531	CLU5021	RV4LAYS502A	5000	28 M 539	CLU2552	RV4LAYS255B	2.5 meg*
28 M 532	CLU1031	RV4LAYS103A	10K	28 M 540	CLU5052	RV4LAYS505B	5 meg*
28 M 533	CLU2531	RV4LAYS253A	25K				

1-99.....EACH 2.55 100-Up.....EACH 1.90 1-99.....EACH 2.55 100-Up.....EACH 1.90

### CMU SLOTTED-SHAFT TYPES—MEET MIL-R-94B

Stock No.	Type	MIL Type	Ohms	Stock No.	Type	MIL Type	Ohms
28 M 612	CMU5001	RV4NAYS500A	50	28 M 621	CMU5031	RV4NAYS503A	50K
28 M 613	CMU1011	RV4NAYS101A	100	28 M 622	CMU1041	RV4NAYS104A	100K
28 M 614	CMU2511	RV4NAYS251A	250	28 M 623	CMU2541	RV4NAYS254A	250K
28 M 615	CMU5011	RV4NAYS501A	500	28 M 624	CMU5041	RV4NAYS504A	500K
28 M 616	CMU1021	RV4NAYS102A	1000	28 M 625	CMU1052	RV4NAYS105B	1 meg*
28 M 617	CMU2521	RV4NAYS252A	2500	28 M 626	CMU2052	RV4NAYS205B	2 meg*
28 M 618	CMU5021	RV4NAYS502A	5000	28 M 627	CMU2552	RV4NAYS255B	2.5 meg*
28 M 619	CMU1031	RV4NAYS103A	10K	28 M 628	CMU5052	RV4NAYS505B	5 meg*
28 M 620	CMU2531	RV4NAYS253A	25K				

1-99.....EACH 1.95 100-Up.....EACH 1.46 1-99.....EACH 1.95 100-Up.....EACH 1.46

### TYPE CCU DUALS

28 M 541	CCU1031	10K	28 M 545	CCU2541	250K
28 M 542	CCU2531	25K	28 M 546	CCU5041	500K
28 M 543	CCU5031	50K	28 M 547	CCU1052	1 meg*
28 M 544	CCU1041	100K			

1-99.....EACH 5.85 100-Up.....EACH 4.40 1-99.....EACH 5.85 100-Up.....EACH 4.40

### TYPE CS-1 SPST SWITCH FOR "AB" SERIES

Single-pole single-throw switch for Ohmite "AB" potentiometers listed above. Easy to mount on potentiometer—supplies on-off

function. For single-unit types only. Shpg. wt., 3 oz.  
28 M 524, 1-99.....EACH .66 100-Up.....EACH .55



### JENSEN SPEAKER CONTROLS

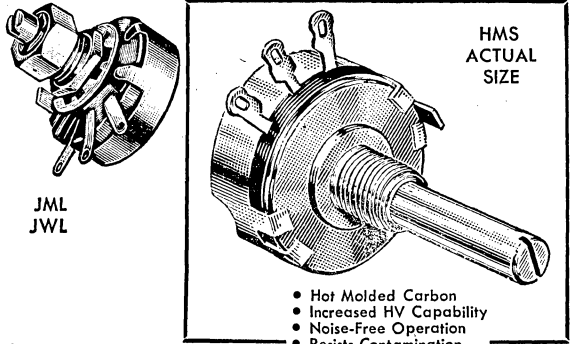
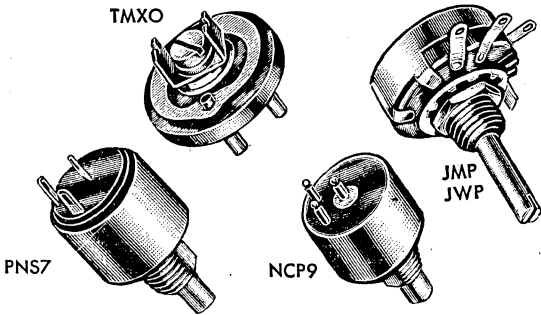
Two-section L pads for smooth, gradual control of volume at individual speakers. Does not effect the volume of other speakers or total system impedance. For use in voice coil or line circuits in P.A., intercom, high-fidelity systems, etc. With nut, knob and escutcheon plate. Av. shpg. wt., 1 lb.

Stock No.	Mfr's Type	Ohms	Watts	EACH
33 M 942	ST-760	3.2	15	2.85
33 M 940	ST-276	8	15	1.91
33 M 938	ST-837	16	35	3.38

### BUY AT OEM PRICES

- Commercial, Industrial and Military Types are Stocked in Depth at Allied Electronics
- You Buy from a Dependable, Centrally Located Source and Receive Personalized Service
- Fast, Safe Shipment of Your Merchandise on the Same Day Your Order is Received

# Centralab Potentiometers



## MINIATURE WIREWOUND CONTROLS (MIL-R-19A) JWP PLAIN TYPE and JWL LOCKING BUSHINGS

These miniature wire-wound controls are excellent for military and industrial applications. Ideal for compact equipment or for applications where space is limited. Available in two models: Type JWL with locking bushing, and Type JWP with plain bushing. Rated at 1½ watts at 40° Centigrade; derated to 0 watts at 125°C. Breakdown: 900 volts, AC-RMS at normal atmospheric pressure.

Resistance element is completely enclosed. Size, 4¾", ±1/64" diameter. Bushings: for Type JWP (plain type bushing), ¼" 32NEF 2 A thread, ¼" long; for Type JWL (locking type bushing), ¼" 32NEF 2 A thread, ¾" long. Slotted stainless steel shafts are: ⅜" diameter, 7/8" long from mounting surface for Type JWP; ½" dia., 7/16" long from mounting surface for Type JWL.

Mechanical rotation: 250°, ±3°. Type JWP comes complete with mounting nut and lockwasher; Type JWL is complete with mounting nut, lockwasher and locking nut. Left side locating lug. Linear taper only. Tolerance ±5%. Specify resistance values (from table directly below) when ordering. Average shpg. wt., 4 oz.

TABLE OF VALUES FOR JWP AND JWL—SPECIFY VALUES

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
50	200	500	1000	2000	3000	5000	10K	20K	30K
100	300	750	1500	2500	4000	7500	15K	25K	

Stock No.	Mfr's Type	Resistance (Ohms)Ω	EACH				
			1-9	10-24	25-49	50-99	100-249
28 MM 637	JWP	50Ω-10K	6.00	5.40	4.50	3.60	3.24
28 MM 638	JWP	15K-25K	8.40	7.56	6.30	5.04	4.54
28 M 639	JWP	30K	10.11	9.10	7.59	6.07	5.46
28 MM 640	JWL	50Ω-10K	6.00	5.40	4.50	3.60	3.24
28 MM 641	JWL	15K-25K	8.40	7.56	6.30	5.04	4.54
28 M 642	JWL	30K	10.11	9.10	7.59	6.07	5.46

## PNS7 HOT-MOLDED POTS (MIL-R-94B2, STYLE RV4)

Rated ½ watt at 70° Centigrade. ½" diameter, 15/32" deep. Panel and shaft seal bushing. Slotted shaft, ½" diameter, 7/8" long from mounting surface. Bushing ¼" 32NEF 2 A thread. ¼" long. Linear taper only. Tolerance, ±10% except \*±20%. Specify resistance from NCP9 table at right. Shpg. wt., 4 oz.

28 MM 634, 1-9	EACH 5.10
10-24	EACH 4.59 25-49
50-99	EACH 4.04 100-249

## JML—JMP CONTROLS (MIL-R-94B, STYLE RV1)

Miniature composition types rated ½-watt at 70° Centigrade; derated to 0 watts at 120° Centigrade. Breakdown: 900 volts, AC-RMS to ground. Bushing ¼" 32NEF 2 A thread; ¾" long from mounting surface for locking type bushing JML; ¼" long for plain type bushing JMP. Mechanical rotation: 260° ±3°. Slotted shaft, ⅜" diameter; 7/8" long from mounting surface for JML; 7/8" long for JMP. Size: 4¾" ±1/64" diameter. Linear taper. Tolerance, ±10%. Specify resistance from table below. Shpg. wt., 4 oz.

TABLE OF VALUES FOR JML AND JMP—SPECIFY VALUES

Ohms	Ohms	Ohms	Ohms	Ohms	Megs
500	2500	10K	50K	250K	1.0
1000	5000	25K	100K	500K	

Stock No.	Mfr's Type	EACH				
		1-9	10-24	25-49	50-99	100-249
28 MM 635	JMP	4.20	3.78	3.15	2.52	2.27
28 MM 636	JML	4.50	4.05	3.38	2.70	2.43

## HOT-MOLDED CARBON POTS (MIL-R-94B, STYLE RV4) HMS (PLAIN BUSHING) and HML (LOCKING BUSHING)

Offer greatly increased high voltage stability due to wide clearance between bushing and collector track. Exceptionally long, noise-free operation. Completely enclosed construction permits encapsulation or potting without affecting operation. Rated 2.25 watts at 70°C., 500 volts. Tolerance ±10% except \*±20%. 1½" dia., 37/64" deep. Rotation 312°, ±3°. ¼" dia. slotted steel shafts. Bushings ¾"-32 NEF-2A thread—¾" long. HMS shaft 2½" long. HML shaft 5/8" long. Specify resistance values below. Av., 4 oz.

TABLE OF VALUES FOR TYPES HMS and HML

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs
50	350	1500	7500	35K	150K	750K*	2.5*
100	500	2500	10K	50K	250K	1 meg*	3.5*
150	750	3500	15K	75K	350K	1.5 meg*	5*
250	1000	5000	25K	100K	500K	2 meg*	.....

Stock No.	Mfr's Type	Taper	EACH				
			1-9	10-24	25-49	50-99	100-249
28 MM 570	HMS	Linear	1.95	1.76	1.63	1.47	1.20
28 MM 571	HML	Linear	2.55	2.30	2.13	1.92	1.35

## NCP9 HOT-MOLDED POTS (MIL-R-94B, STYLE RV4)

Rated at ¾ watt at 70° Centigrade. Completely enclosed construction. Size: 23/32" diameter, ½" deep behind panel. Plain round stainless steel shaft: ¼" diameter, 2½" long from mounting surface. Standard bushing: ¾" 32NEF 2 A thread—¾" long. Available in linear taper only. Mechanical rotation: 300°, ±3°. Tolerance, ±10% except \*±20%. Be sure to specify resistance values (from table directly below) when ordering. Wt., 4 oz.

28 MM 632, 1-9	EACH 2.10
10-24	EACH 1.89 25-49
50-99	EACH 1.66 100-249

TABLE OF VALUES FOR TYPES NCP9 and PNS7

Ohms	Ohms	Ohms	Ohms	Ohms	Megs
500	2500	10K	50K	250K	1*
1000	5000	25K	100K	500K	2.5*

## TYPE TMXO ½-WATT COMPOSITION TRIMMER POTENTIOMETERS

Composition trimmer-potentiometers resistant to shock, vibration and acceleration—suitable for heavy-duty, high-stress applications. Small size of these trimmer pots makes it easy to add to existing circuits or to design new ones. Rugged open construction permits potting of all types. Rated ½ watt at 70°C. Size: 1½" diameter, 1½" deep from mounting surface. Have U-shaped, screwdriver-adjustable shafts. Easily mounted by threaded stud through center of unit. Mechanical rotation: 300°, ±3°. Linear taper only. Tolerance, ±20%. Be sure to specify resistance values (from table directly below) when ordering. Shpg. wt., 4 oz.

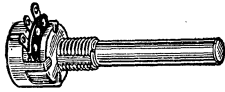
28 MM 643, 1-9	EACH 2.10
10-24	EACH 1.89 25-49
50-99	EACH 1.66 100-249

TABLE OF VALUES FOR TMXO—SPECIFY VALUES

Ohms	Ohms	Ohms	Ohms	Ohms	Megs
500	2500	10K	50K	250K	1
1000	5000	25K	100K	500K	2.5

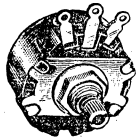
# Mallory Potentiometers and Rheostats

## TYPE VW WIREWOUND 5-WATT CONTROLS



Miniature 5-watt potentiometers. Very small size for this rating; ideal for limited space applications. Only  $\frac{3}{4}$ " dia.,  $\frac{7}{16}$ " deep. Bushing:  $\frac{3}{8} \times \frac{3}{8}$ " dia. and length.  $\frac{1}{4}$ " plain round shaft,  $\frac{1}{2}$ " long from mtg. surface. Linear taper.  $\pm 5\%$  tol.  $305^\circ$  mechanical rotation;  $275^\circ$  electrical rotation. High-quality construction. Av. shpg. wt., 4 oz.

Stock Number	Mfr's Type	Ohms	EACH				
			1-9	10-49	50-99	100-249	250-499
28 M 087	VW-1	1					
28 M 088	VW-2	2					
28 M 089	VW-3	3	1.38	1.24	1.15	1.04	.92
28 M 090	VW-5	5					
28 M 091	VW-6	6					
28 M 092	VW-8	8					
28 M 093	VW-10	10					
28 M 094	VW-15	15	1.38	1.24	1.15	1.04	.92
28 M 095	VW-20	20					
28 M 096	VW-25	25					
28 M 097	VW-30	30					
28 M 098	VW-40	40					
28 M 099	VW-50	50	1.38	1.24	1.15	1.04	.92
28 M 100	VW-60	60					
28 M 101	VW-75	75					
28 M 102	VW-100	100					
28 M 103	VW-200	200	1.38	1.24	1.15	1.04	.92
28 M 104	VW-250	250					
28 M 105	VW-300	300					
28 M 106	VW-400	400					
28 M 107	VW-500	500					
28 M 108	VW-600	600					
28 M 109	VW-750	750	1.38	1.24	1.15	1.04	.92
28 M 110	VW-1K	1000					
28 M 111	VW-1P5K	1500					
28 M 112	VW-2K	2000					
28 M 113	VW-2P5K	2500					
28 M 114	VW-3K	3000	1.44	1.30	1.20	1.08	.96
28 M 115	VW-4K	4000					
28 M 116	VW-5K	5000					
28 M 117	VW-7P5K	7500	1.50	1.35	1.25	1.13	1.00
28 M 118	VW-10K	10K	1.50	1.35	1.25	1.13	1.00
28 M 119	VW-15K	15K	1.56	1.40	1.30	1.17	1.04
28 M 120	VW-20K	20K	1.56	1.40	1.30	1.17	1.04
28 M 121	VW-25K	25K	1.65	1.49	1.38	1.24	1.10



## 3-WATT CONTROLS

Three-watt wirewound potentiometers. Excellent for use as voltage dividers and bias controls. Insulated-contact arm type, linear taper. Special dual-contact mechanism. 900 volts AC insulation between resistance element and chassis.  $297^\circ$  rotation. Taper 4.  $1\frac{1}{2}$ " dia. Knurled stub shaft. \*Center-tapped.  $\frac{3}{8}$ " bushing. Av. wt., 4 oz.

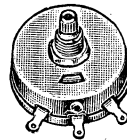
Stock Number	Mfr's Type	Ohms	EACH				
			1-9	10-49	50-99	100-249	250-499
29 M 835	R20L	20					
29 M 836	R20CT*	20					
29 M 837	R25L	25	.93	.84	.78	.70	.62
29 M 838	R30L	30					
29 M 839	R30CT*	30					
29 M 840	R50L	50					
29 M 864	R100L	100					
29 M 841	R250L	250	.93	.84	.78	.70	.62
29 M 834	R500L	500					
29 M 842	R1000L	1000					
29 M 843	R1500L	1500					
29 M 844	R2500L	2500	.93	.84	.78	.70	.62
29 M 846	R3000L	3000					
29 M 845	R5000L	5000					
29 M 692	R7500L	7500					
29 M 693	R10ML	10K	1.08	.97	.90	.81	.72
29 M 694	R15ML	15K					
29 M 695	R20ML	20K					

29 M 985. DS-36 Special 3" Extension Shaft. For tubular shaft TV 2-watt controls, and Type "M" pots. Wt., 2 oz. .... 38

29 M 987. EB-214 Special Bushing. Dimensions  $\frac{1}{2}$ "—28 thread,  $2\frac{3}{16}$ " long with .403" milled flat. Shpg. wt., 2 oz. .... 75

### OEM PRICES

Allied has world's largest stock of controls for commercial, industrial and military use. Current factory prices prevail.



## "M" and "MT" WIREWOUND CONTROLS

For use as bias controls and voltage dividers. Also for replacement of TV receiver controls. 4 watts. Arm insulated from shaft.  $294^\circ$  rotation. Knurled  $\frac{1}{4}$ " shaft is  $\frac{3}{8}$ " long; screwdriver slot. "M" shaft is hollow to accept DS-36 shafts (below, left). MT types center-tapped TV units.  $1\frac{1}{2}$ " dia. x  $\frac{3}{8}$ ". Mount in  $\frac{3}{8}$ " hole. Linear taper. Av., 4 oz.

## POTENTIOMETERS

Stock Number	Mfr's Type	Ohms	EACH				
			1-9	10-49	50-99	100-249	250-499
29 M 424	M1PK	1					
29 M 425	M3PK	3					
29 M 426	M6PK	6	1.35	1.22	1.12	1.01	.90
29 M 427	M10PK	10					
29 M 428	MT10PK	10					
29 M 400	M15PK	15					
29 M 401	M20PK	20	1.35	1.22	1.12	1.01	.90
29 M 429	MT20PK	20					
29 M 402	M25PK	25					
29 M 403	M30PK	30					
29 M 430	MT30PK	30	1.35	1.22	1.12	1.01	.90
29 M 404	M40PK	40					
29 M 405	M50PK	50					
29 M 406	M60PK	60					
29 M 407	M75PK	75					
29 M 408	M100PK	100	1.35	1.22	1.12	1.01	.90
29 M 409	M200PK	200					
29 M 410	M400PK	400					
29 M 411	M500PK	500					
29 M 412	M600PK	600					
29 M 413	M1MPK	1000	1.35	1.22	1.12	1.01	.90
29 M 431	M1.5MPK	1500					
29 M 414	M2MPK	2000					
29 M 432	M2.5MPK	2500					
29 M 415	M3MPK	3000					
29 M 416	M4MPK	4000	1.35	1.22	1.12	1.01	.90
29 M 417	M5MPK	5000					
29 M 418	M10MPK	10K					
29 M 419	M15MPK	15K					
29 M 420	M20MPK	20K	1.47	1.32	1.23	1.10	.98
29 M 421	M25MPK	25K					
29 M 422	M50MPK	50K					
29 M 423	M70MPK	70K	1.74	1.57	1.45	1.31	1.16
29 M 433	M75MPK	75K					
29 M 434	M100MPK	100K	2.46	2.21	2.05	1.85	1.64

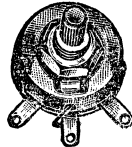
## RHEOSTATS

Have open or off position counter-clockwise

Stock No.	Type	Ohms	Amps
29 M 451	M05RK	$\frac{1}{2}$	2.80
29 M 452	M1RK	1	2.00
29 M 453	M2RK	2	1.40
29 M 454	M3RK	3	1.15
29 M 455	M4RK	4	1.00
29 M 456	M6RK	6	.82
29 M 457	M10RK	10	.63
29 M 458	M15RK	15	.52
29 M 459	M20RK	20	.45
29 M 460	M25RK	25	.40
29 M 461	M30RK	30	.37
29 M 462	M40RK	40	.32
29 M 463	M50RK	50	.28
29 M 464	M60RK	60	.26
29 M 465	M75RK	75	.23
29 M 466	M100RK	100	.20

1-9.....EACH .93 10-49.....EACH .84 50-99.....EACH .78  
100-249.....EACH .70 250-499.....EACH .62  
29 M 651. Type 395 Dial Plate. For "M" controls. 2 oz. ....EACH .21

## THEATER SPEAKER CONTROLS



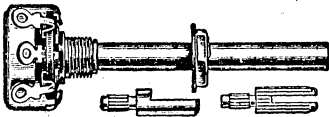
Made specially for drive-in theaters. Weather-proofed to withstand severe conditions. Type TSA-10 L-pad has steel construction, 10-ohm input, 4-ohm output. Type TSA-35 Series-type Pot has steel construction, 35-ohm impedance. Type TSA-6 Shunt-type Attenuator has brass construction, 6-ohm impedance. All have  $1\frac{1}{2}$ " diameter cases;  $\frac{1}{2}$ " long shafts. With mtg. nut. Av. shpg. wt., 4 oz.

Stock Number	Mfr's Type	EACH					
		1-9	10-24	25-49	50-99	100-249	250-499
29 M 847	TSA-10	1.35	1.26	1.13	1.02	.97	.90
29 M 848	TSA-35	1.35	1.26	1.13	1.02	.97	.90
29 M 849	TSA-6	1.14	1.06	.95	.86	.82	.76

# Mallory "Midgetrols", L and T-Pads

## SERIES U MIDGETROL CONTROLS

For audio, tone and similar control circuits in home receivers, audio amplifiers, portables, TV sets, and industrial electronic equipment. Available in a full line of resistances, tapers, and taps. Round, hollow shaft—easily cut to desired length. Two spline-shank knob adapters furnished with each Midgetrol—see illustration above. With nut and lockwasher. 1 5/16" diameter. Brass shaft, 2 1/8" long, 1/4" dia. Less switch (at right). Wt. 3 oz.



Stock No.	Type	Ohms	Taper*	Stock No.	Type	Ohms	Taper*
29 M 714	U-1	100	4	29 M 764	U-36	75K	1
29 M 715	U-52R	500	2	29 M 765	U-39	100K	1
29 M 709	U-2	500	4	29 M 766	U-40	100K	2
29 M 638	U-751R	750	2	29 M 767	U-41	100K	4
29 M 796	U-3	1000	2	29 M 795	U-415	125K	4
29 M 785	U-4	1000	4	29 M 768	U-42	150K	1
29 M 797	U-5	1500	2	29 M 769	U-43	200K	4
29 M 786	U-6	2000	4	29 M 770	U-44	250K	1
29 M 798	U-7	2500	2	29 M 771	U-45	250K	2
29 M 787	U-8	3000	4	29 M 772	U-46	250K	4
29 M 717	U-9	3000	2	29 M 773	U-48	500K	1
29 M 751	U-12	5000	1	29 M 774	U-50	500K	4
29 M 752	U-14	5000	4	29 M 775	U-51	750K	1
29 M 753	U-18	10K	1	29 M 713	U-52	1 meg	2
29 M 754	U-19	10K	2	29 M 776	U-53	1 meg	1
29 M 755	U-20	10K	4	29 M 777	U-54	1 meg	4
29 M 756	U-21	15K	1	29 M 790	U-155	1.5 meg	4
29 M 757	U-22	15K	2	29 M 778	U-55	2 meg	1
29 M 758	U-24	20K	1	29 M 781	U-56	2 meg	4
29 M 783	U-26	20K	4	29 M 784	U-255	2.5 meg	4
29 M 759	U-28	25K	2	29 M 779	U-57	3 meg	1
29 M 712	U-28A	25K	1	29 M 782	U-59	3 meg	4
29 M 760	U-29	25K	4	29 M 699	U-63	5 meg	2
29 M 698	U-30	30K	4	29 M 780	U-65	5 meg	1
29 M 761	U-33	50K	1	29 M 788	U-67	5 meg	4
29 M 762	U-34	50K	2	29 M 789	U-82	10 meg	4
29 M 763	U-35	50K	4				

1-24.....EACH 1.02 25-49.....EACH .92 50-99.....EACH .85  
100-174....EACH .77 175-299....EACH .73 300-499....EACH .68

### \*EXPLANATION OF TAPERS

Taper No. 1: For use in audio or antenna shunt circuits.  
Taper No. 2: For series circuits or cathode voltage controls.  
Taper No. 4: Linear. For voltage control.

## TYPE UT SINGLE-TAPPED MIDGETROLS

Same as U-types above, but tapped for tone compensation.

Stock No.	Type	Ohms	Tap
29 M 718	UT-153	15K	10K
29 M 585	UT-415	30K	25K
29 M 802	UT-420	250K	50K
29 M 586	UT-421	250K	150K
29 M 803	UT-425	350K	70K
29 M 816	UT-429	500K	50K
29 M 804	UT-427	500K	100K
29 M 860	UT-430	500K	150K
29 M 805	UT-431	500K	225K
29 M 861	UT-440	1 meg	200K
29 M 862	UT-438	1 meg	300K
29 M 806	UT-443	1 meg	450K
29 M 807	UT-450	2 meg	125K
29 M 808	UT-448	2 meg	250K
29 M 809	UT-454	2 meg	400K
29 M 863	UT-449	2 meg	600K
29 M 810	UT-451	2 meg	900K
29 M 817	UT-457	3 meg	900K

1-24.....EACH 1.26 25-49.....EACH 1.13 50-99.....EACH 1.05  
100-174....EACH .95 175-299....EACH .90 300-499....EACH .84

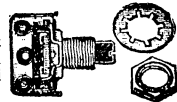
## TYPE UDT DOUBLE-TAPPED MIDGETROLS

Stock No.	Type	Ohms	Taps
29 M 988	UDT-283	500K	100K/200K
29 M 989	UDT-289	1 meg	250K/500K
29 M 990	UDT-291	1.5 meg	225K/500K
29 M 991	UDT-295	2.25 meg	250K/500K
29 M 992	UDT-296	2.25 meg	500K/1 meg
29 M 719	UDT-303	3.3 meg	300K/1.5 meg

1-24.....EACH 1.26 25-49.....EACH 1.13 50-99.....EACH 1.05  
100-174....EACH .95 175-299....EACH .90 300-499....EACH .84

## INSULATED-SHAFT MIDGETROLS

Size and construction same as Midgetrol at left, but have 1/4" dia. fixed, knurled and slotted phenolic shaft protruding 1/4" beyond bushing. Linear taper. Washer, nut, 3 oz.



Stock No.	Type	Ohms	Stock No.	Type	Ohms
29 M 646	SU-6	1500	29 M 814	SU-50	500K
29 M 647	SU-8	3000	29 M 829	SU-54	1 meg
29 M 832	SU-14	5000	29 M 830	SU-56	2 meg
29 M 826	SU-20	10K	29 M 833	SU-565	2.5 meg
29 M 812	SU-29	25K	29 M 831	SU-59	3 meg
29 M 827	SU-35	50K	29 M 815	SU-67	5 meg
29 M 813	SU-41	100K	29 M 587	SU-69	7.5 meg
29 M 828	SU-46	250K			

1-24.....EACH .93 25-49.....EACH .84 50-99.....EACH .78  
100-174....EACH .70 175-299....EACH .66 300-499....EACH .62

## SWITCHES and ACCESSORIES FOR MIDGETROLS

"Push-on, stay-on" switches for Midgetrols. Shpg. wt., 2 oz.  
29 M 620. US-26 SPST Switch, 1-24.....EACH .42  
25-49.....EACH .38 50-99.....EACH .35 100-174....EACH .32  
175-299....EACH .30 300-499....EACH .28  
29 M 621. US-26T SPST. With dummy terminal. 1-24.....EACH .51  
25-49.....EACH .46 50-99.....EACH .43 100-174....EACH .38  
175-299....EACH .36 300-499....EACH .34  
29 M 622. US-27 DPST Switch, 1-24.....EACH .51  
25-49.....EACH .46 50-99.....EACH .43 100-174....EACH .38  
175-299....EACH .36 300-499....EACH .34  
29 M 623. US-28 SPDT Switch, 1-24.....EACH .51  
25-49.....EACH .46 50-99.....EACH .43 100-174....EACH .38  
175-299....EACH .36 300-499....EACH .34

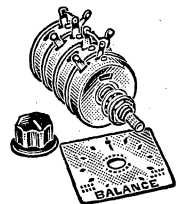
29 M 985. DS-36 Special 3" Extension Shaft, For tubular shaft Midgetrols, TV and industrial 3-watt controls, and Type "M" pots. Also couples front and rear sections together. 2 oz.....38

29 M 882. DS-37 3/16" Diameter Shaft, For use with round-shaft Midgetrols for knobs requiring 3/16" shaft. Wt., 2 oz.....33

29 M 987. EB-214 Special Bushing, Dimensions: 1/2"—28 thread, 2 3/16" long with .403" milled flat. Shpg. wt., 2 oz.....75

## STEREO L PADS—MONOPHONIC L, T PADS

Type "LL" Pads, Rated 4 watts, continuous DC; 15 watts peak. For stereo balance or master volume in low level, low impedance audio circuits. Consist of two "L" pads mounted in tandem and operated by a common shaft—permits adjustment of 2 channels with one control. 1 3/8x2 1/8". Type "LA" L Pads, Rated 4 watts; 15 watts peak. For level control in monophonic equipment. Maintain constant impedance between control and amplifier. 1 3/8x1 1/8". Type "RL" L Pads, Rated 3 watts; 10 watts peak. For monophonic use. 1 3/8x1 1/4". Type "RT" T Pads, Rated 3 watts; 10 watts peak. Maintains equal input and output impedances. 1 3/8x1 1/8". All types have 3/8x1" bushing; include knob, dial plate.



## SERIES "LL" and "LA" L PADS

Shpg. wt. series "LL", 6 oz. Shpg. wt. series "LA", 4 oz.

Stock Number	Mfr's Type	Imp., Ohms	EACH					
			1-9	10-24	25-49	50-99	100-249	250-499
29 M 097	LL8	8	5.70	5.42	5.13	4.75	4.28	3.80
29 M 098	LL16	16	5.70	5.42	5.13	4.75	4.28	3.80
29 M 099	LL50	50	5.70	5.42	5.13	4.75	4.28	3.80
29 M 071	L8A	8	2.85	2.71	2.57	2.38	2.14	1.90
29 M 072	L16A	16	2.85	2.71	2.57	2.38	2.14	1.90

## SERIES "RL" L PADS Shpg. wt., 4 oz.

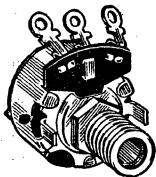
29 M 100	RL4	4						
29 M 101	RL8	8						
29 M 102	RL16	16	2.52	2.39	2.27	2.10	1.89	1.68
29 M 103	RL50	50						
29 M 104	RL250	250						
29 M 105	RL500	500						

## SERIES "RT" T PADS. Shpg. wt., 5 oz.

29 M 106	RT4	4						
29 M 107	RT8	8						
29 M 108	RT16	16	3.33	3.16	3.00	2.78	2.50	2.22
29 M 109	RT50	50						
29 M 110	RT250	250						
29 M 111	RT500	500						

# Mallory Composition and Wirewound Controls

## STA-LOC UA UNIVERSAL CONTROLS



Designed to eliminate the headache and expense of maintaining a large inventory of original replacement controls, the "Sta-Loc" system makes possible on-the-spot assembly of exact-replacement controls. With this system it is possible to join shaft and control together, and attach a switch when necessary—and all in 10 seconds without any tools. Order shafts and switches separately—a wide choice of shafts is available in column at right. Switches listed below. Virtually any control desired is possible, from 100 ohms to 10 megohms, untapped, tapped, and double-tapped, with choice of three tapers, switched or un-switched, 1/2-watt sprayed carbon elements fulfill requirements for radio, TV, hi-fi, and other home electronic equipment, as well as many industrial applications. Replaces

older style U, UT, UDT, and SU types. Provided with 3/8"-32 bushing with mounting nut. Less shaft (see listings at right) and switch (see listings below). Av. shgp. wt., 2 oz.

### UNTAPPED (Less Shaft)

Stock No.	Type	Ohms	Taper	Stock No.	Type	Ohms	Taper
28 M 000	UA12L	100	4	28 M 015	UA54R	50K	2
28 M 001	UA52L	500	4	28 M 016	UA753A	75K	1
28 M 002	UA52R	500	2	28 M 017	UA15A	100K	1
28 M 003	UA751R	750	2	28 M 018	UA15L	100K	4
28 M 004	UA13L	1000	4	28 M 019	UA15R	100K	2
28 M 005	UA13R	1000	2	28 M 020	UA1253L	125K	4
28 M 006	UA152L	1500	4	28 M 021	UA154A	150K	4
28 M 007	UA152R	1500	2	28 M 022	UA15L	200K	1
28 M 008	UA23L	2000	4	28 M 023	UA254A	250K	1
28 M 009	UA252R	2500	2	28 M 024	UA254L	250K	4
28 M 010	UA33L	3000	4	28 M 025	UA254R	250K	2
28 M 011	UA33R	3000	2	28 M 026	UA55A	500K	1
28 M 012	UA53A	5000	1	28 M 027	UA55L	500K	4
28 M 013	UA53L	5000	4	28 M 028	UA754A	750K	1
28 M 014	UA14A	10K	1	28 M 029	UA16A	1 Meg	1
28 M 030	UA14L	10K	4	28 M 042	UA16L	1 Meg	4
28 M 031	UA14R	10K	2	28 M 043	UA16R	1 Meg	2
28 M 032	UA153A	15K	1	28 M 044	UA155L	1.5 Meg	4
28 M 033	UA153R	15K	2	28 M 045	UA26A	2 Meg	1
28 M 034	UA24A	20K	1	28 M 046	UA26L	2 Meg	4
28 M 035	UA24L	20K	4	28 M 047	UA255L	2.5 Meg	4
28 M 036	UA253A	25K	1	28 M 048	UA36A	3 Meg	1
28 M 037	UA253L	25K	4	28 M 049	UA36L	3 Meg	4
28 M 038	UA253R	25K	2	28 M 050	UA56A	5 Meg	1
28 M 039	UA34L	30K	4	28 M 051	UA56L	5 Meg	4
28 M 040	UA54A	50K	1	28 M 052	UA56R	5 Meg	2
28 M 041	UA54L	50K	4	28 M 053	UA17L	10 Meg	4

Less shaft (listed above, right).....EACH .63

### EXPLANATION OF TAPERS

Taper No. 1: For use in audio or antenna shunt circuits.  
Taper No. 2: For series circuits or cathode voltage controls.  
Taper No. 4: Linear. For voltage control.

### TAPPED (Less Shaft)

Stock No.	Type	Ohms	Tap	Stock No.	Type	Ohms	Tap
28 M 054	UA153T14	15K	10K	28 M 064	UA16T35	1 Meg	300K
28 M 055	UA34T253	30K	25K	28 M 065	UA16T454	1 Meg	450K
28 M 056	UA254T54	250K	50K	28 M 066	UA26T1253	2 Meg	125K
28 M 057	UA254T154	250K	150K	28 M 067	UA26T254	2 Meg	250K
28 M 058	UA354T74	350K	70K	28 M 068	UA26T45	2 Meg	400K
28 M 059	UA55T54	500K	50K	28 M 069	UA26T65	2 Meg	600K
28 M 060	UA55T15	500K	500K	28 M 070	UA26T95	2 Meg	900K
28 M 061	UA55T154	500K	150K	28 M 071	UA36T95	3 Meg	900K
28 M 062	UA55T253	500K	500K	28 M 072	UA3254T35	3.25 Meg	300K
28 M 063	UA16T25	1 Meg	200K				

Less shaft (listed above, right).....EACH .85

### DOUBLE-TAPPED (Less Shaft)

Stock No.	Type	Ohms	Tap #1	Tap #2
28 M 073	UA55DT25	500K	100K	200K
28 M 074	UA16DT55	1 Meg	250K	500K
28 M 075	UA155DT55	1.5 Meg	225K	500K
28 M 076	UA2254DT55	2.25 Meg	250K	500K
28 M 077	UA2254DT16	2.25 Meg	500K	1 Meg
28 M 078	UA335DT155	3.3 Meg	300K	1.5 Meg

Less shaft (listed above, right).....EACH .85

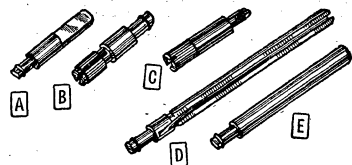
### SWITCHES FOR UA CONTROLS

Quality switches for direct mounting on any of the above controls. Three types are available: US41 (SPST), US42 (DPST), and US43 (SPDT). Switches attach firmly

and easily with locking collar included with each switch. Can be readily removed in service and replaced without unsoldering control leads on UA controls. Shgp. wt., 2 oz.

Stock No.	Mfr's Type	Action	EACH
28 M 084	US41	SPST	.42
28 M 085	US42	DPST	.51
28 M 086	US43	SPDT	.51

### SHAFTS FOR UA CONTROLS

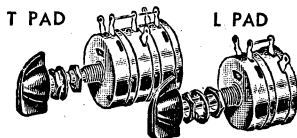


Fit any of the Sta-Loc controls described at left. Types SL2500 and SL3500 are universal shafts—easily cut to shorter lengths. SN1000 is made of nylon—for insulated TV controls. All shafts are 1/4" dia. Dimensions in description column of table are lengths from assembled mounting surface. Shgp. wt., 2 oz.

Stock No.	Type	Fig.	Description
28 M 079	SF1000	A	1" (Flatted)
28 M 080	SK1000	B	1" (Knurled)
28 M 081	SN1000	C	1" (Nylon)
28 M 082	SL2500	D	2 1/2" (Plain Round)
28 M 083	SL3500	E	3 1/2" (Universal)

EACH.....39

### CONSTANT-LOAD ATTENUATORS



Control the level of low-impedance audio circuits in sound systems. Rated 4 watts, continuous DC; 15 w., peak audio. Have 2 shafts, 3/8" dia. bushing. With knob, 0-10 dial plate, instructions. Wt., 7 oz.

T-Pad Attenuators. Present a constant source-impedance as well as constant load. Size, 1 1/8" dia. x 1 1/16".

Ohms	Stock No.	Type
2	29 M 868	T2
4	29 M 869	T4
6	29 M 870	T6
8	29 M 871	T8
15	29 M 872	T15
50	29 M 873	T50
100	29 M 865	T100
200	29 M 874	T200
250	29 M 875	T250
500	29 M 876	T500
600	29 M 866	T600
1000	29 M 867	T1000
2000	29 M 877	T2000
3000	29 M 878	T3000

1-9.....EACH 3.54 10-24.....EACH 3.36  
25-49.....EACH 3.19 50-99.....EACH 2.95  
100-249.....EACH 2.66 250-499.....EACH 2.36

L-Pad Attenuators. Present a constant load-impedance at all control settings. Size, 1 5/8" dia. x 1 1/8" long.

Ohms	Stock No.	Type
2	29 M 883	L2
4	29 M 884	L4
6	29 M 885	L6
8	29 M 892	L8
15	29 M 886	L15
50	29 M 887	L50
100	29 M 920	L100
200	29 M 888	L200
250	29 M 889	L250
500	29 M 890	L500
600	29 M 921	L600
1000	29 M 922	L1000
2000	29 M 891	L2000
3000	29 M 923	L3000
4000	29 M 708	L4000

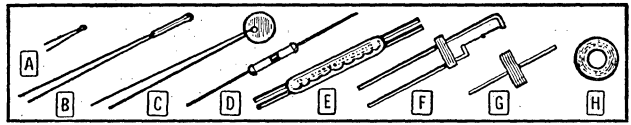
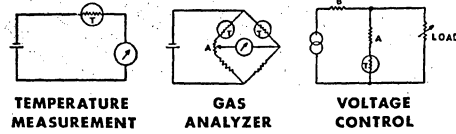
1-9.....EACH 2.73 10-24.....EACH 2.59  
25-49.....EACH 2.46 50-99.....EACH 2.28  
100-249.....EACH 2.05 250-499.....EACH 1.82



# Fenwal Electronics Inc. Thermistors

Use glass-coated beads where smallness, fast response, high precision, stability, and temp. to 600°F are required. Medium-small glass probes are similar to beads, but more rugged, mount more easily; useful in liquid media. (\*) Iso-Curve interchangeable glass probe

—follows standard curves over wide range (curve matched as close as 1/2% of resistance). Discs—for medium power and time response. Rods and washers—for high dissipation. Discs and rods to 125°C; washers to 150°C. See "Engineering Package" below.



Stock No.	Mfr's Type	Fig.	Style	Ohms @ 25°C	Tol. (±%)	Res. Ratio 0°C: 50°C	Diss. Const. (mw/°C)	Time Const. (secs.)	Lead Lgth. (in.)	Dia. (in.)	Lgth. or Thick. (in.)	EACH		
												1-9	10-24	25-99
8 E 621	GD25J1	A	Bead	500	20	5.1:1	.7	2	1/4	.043	.....	3.24	2.60	2.11
8 E 622	GB31J1	A	Bead	1000	20	7.3:1	.7	2	1/4	.043	.....	2.70	2.16	1.76
9 E 911	GB32J2	A	Bead	2000	20	7.3:1	.7	2	1/4	.043	.....	2.70	2.16	1.76
8 E 623	GB35J1	A	Bead	5000	20	7.3:1	.7	2	1/4	.043	.....	3.24	2.60	2.11
8 E 624	GB41J1	A	Bead	10K	20	7.5:1	.7	2	1/4	.043	.....	3.24	2.60	2.11
8 E 625	GA45J1	A	Bead	50K	20	10.3:1	.7	2	1/4	.043	.....	2.67	2.14	1.74
9 E 909	GA51J1	A	Bead	100K	15	10.3:1	.7	2	1/2	.043	.....	2.70	2.16	1.76
7 E 113	GA52J2	A	Bead	200K	20	10.9:1	.7	2	3/8	.043	.....	2.70	2.16	1.76
8 E 626	GA55J1	A	Bead	500K	20	11.8:1	.7	2	1/4	.043	.....	3.24	2.60	2.11
7 E 114	GA61J1	A	Bead	1000K	20	14.0:1	.7	2	3/8	.043	.....	3.78	3.03	2.46
8 E 627	GB31P2	B	Probe	1000	20	7.3:1	1	25	2	.1	1/2	2.00	1.60	1.30
8 E 628	GB32P2	B	Probe	2000	20	7.3:1	1	25	2	.1	1/2	2.00	1.60	1.30
9 E 912	GB32P8	B	Probe	2000	20	7.3:1	1	25	2	.1	2	2.35	1.88	1.53
8 E 629	GB34P2	B	Probe	4000	20	7.3:1	1	25	2	.1	1/2	2.00	1.60	1.30
7 E 115	GB34P92	E	Probe*	4000	2	7.04:1	1.9	25	2	.180	1/4	40.00	32.00	26.00
8 E 630	GB41P2	B	Probe	10K	20	7.5:1	1	25	2	.1	1/2	2.40	1.92	1.56
8 E 631	GB42P2	B	Probe	20K	20	7.5:1	1	25	2	.1	1/2	2.40	1.92	1.56
7 E 116	GA45P2	B	Probe	50K	20	10.3:1	1	25	2	.1	1/2	2.20	1.76	1.43
7 E 117	GA45P8	B	Probe	50K	15	10.3:1	1	25	2	.1	2	2.59	2.08	1.69
9 E 910	GA51P2	B	Probe	100K	15	10.3:1	1	25	2	.1	1/2	2.00	1.60	1.30
9 E 967	GA51P8	B	Probe	100K	15	10.3:1	1	25	2	.1	2	2.35	1.88	1.53
8 E 632	GA52P2	B	Probe	200K	20	10.9:1	1	25	2	.1	1/2	2.00	1.60	1.30
8 E 633	GA55P2	B	Probe	500K	20	11.8:1	1	25	2	.1	1/2	2.40	1.92	1.56
8 E 634	GA61P2	B	Probe	1000K	20	14.0:1	1	25	2	.1	1/2	2.80	2.24	1.82
8 E 635	JB25J1	C	Disc	500	10	6.9:1	3	10	1	.1	.0345	1.00	.80	.65
8 E 636	JB31J1	C	Disc	1000	10	6.9:1	4	10	1	.1	.069	1.00	.80	.65
8 E 637	JA33J1	C	Disc	3000	10	9.1:1	3	10	1	.1	.029	1.00	.80	.65
9 E 975	JA35J1	C	Disc	5000	10	9.1:1	4	10	1	.1	.048	1.00	.80	.65
7 E 118	JA38J1	C	Disc	8000	10	9.1:1	4	10	1	.1	.076	1.00	.80	.65
8 E 638	JA41J1	C	Disc	10K	10	9.1:1	4	10	1	.1	.095	1.00	.80	.65
8 E 639	KB21J1	C	Disc	100	10	6.9:1	4	16	1/4	.2	.028	.85	.68	.56
8 E 640	KB22J1	C	Disc	200	10	6.9:1	5	18	1/4	.2	.056	.85	.68	.56
8 E 641	KB23J1	C	Disc	300	10	6.9:1	6	20	1/4	.2	.083	.85	.68	.56
8 E 642	KB25J1	C	Disc	500	10	6.9:1	6	25	1/4	.2	.138	.85	.68	.56
9 E 914	KA31L1	G	Disc	1000	10	9.1:1	6	20	1/4	.2	.038	.85	.68	.56
7 E 119	KA33J1	C	Disc	3000	10	9.1:1	6	22	1/4	.2	.114	.85	.68	.56
8 E 643	KA35J3	C	Disc	5000	10	9.1:1	7	35	1/4	.2	.190	.85	.68	.56
8 E 644	LB12J2	C	Disc	18.6	10	6.9:1	6	26	3/4	.4	.021	.97	.78	.64
7 E 120	LB15J1	C	Disc	50	10	6.9:1	7	40	3/4	.4	.055	.85	.68	.56
9 E 915	LB21J1	C	Disc	100	10	6.9:1	8	65	3/4	.4	.110	.85	.68	.56
8 E 645	LB22L1	G	Disc	200	10	6.9:1	11	110	3/4	.4	.220	.85	.68	.56
8 E 646	LA25L2	G	Disc	500	10	9.1:1	8	60	3/4	.4	.078	.85	.68	.56
8 E 647	LA31J1	C	Disc	1000	10	9.1:1	10	70	3/4	.4	.150	.85	.68	.56
8 E 648	MB13J1	C	Disc	25	10	6.9:1	25	85	3/4	.6	.064	.85	.68	.56
8 E 649	MA21J1	C	Disc	100	10	9.1:1	20	80	3/4	.6	.036	.85	.68	.56
7 E 121	MA23J1	C	Disc	300	10	9.1:1	50	115	3/4	.6	.108	.85	.68	.56
8 E 650	NB11J1	C	Disc	10	10	6.9:1	20	90	3/4	.77	.041	.85	.68	.56
8 E 651	NA21J1	C	Disc	100	10	9.1:1	16	100	3/4	.77	.056	.85	.68	.56
8 E 652	NA22J1	C	Disc	250	10	9.1:1	30	140	3/4	.77	.140	.85	.68	.56
8 E 653	QB41J1	D	Rod	10K	10	7.1:1	2.5	20	1/8	.053	1/2	1.25	1.00	.82
9 E 916	QA51J1	D	Rod	100K	10	9.1:1	2.5	20	1/8	.053	1/2	1.25	1.00	.82
9 E 917	RB33L1	D	Rod	3150	10	7.1:1	4	70	1/8	.11	7/8	1.20	.96	.78
9 E 918	RB41L1	D	Rod	10K	10	9.1:1	6	90	1/8	.11	1 1/8	1.20	.96	.78
9 E 878	RA43L1	D	Rod	31.5K	10	9.1:1	4	70	1/8	.11	7/8	1.20	.96	.78
8 E 654	RA51L1	D	Rod	100K	10	9.1:1	6	90	1/8	.11	1 1/8	1.35	1.08	.88
8 E 655	TB31L1	D	Rod	10K	10	7.1:1	15	110	2	.173	1 1/4	1.35	1.08	.88
8 E 656	TA45L1	D	Rod	50K	10	9.1:1	24	125	2	.173	1 3/4	1.60	1.28	1.04
9 E 925	WB11W1	H	Washer	10	10	6.9:1	860	12	.....	.77	.038	1.25	1.00	.82
8 E 657	WB13W1	H	Washer	31.5	10	6.9:1	500	16	.....	.77	.112	1.25	1.00	.82
9 E 919	WA21W1	H	Washer	100	10	9.1:1	800	13	.....	.77	.048	1.25	1.00	.82
8 E 686	WA23W1	H	Washer	315	10	9.1:1	350	18	.....	.77	.151	1.25	1.00	.82

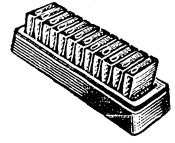
**EXPERIMENTER'S THERMISTOR KITS**

Model G-200. Contains 12 different thermistors (2 glass probes, 3 beads, 2 discs, 3 rods, 2 washers). Each thermistor is packed with specification sheets showing complete operating characteristics—resistance-temperature curves, etc.

9 E 926.....19.95

8 E 658. G-700 Economy Kit. (Not illus.) Includes 4 glass beads and probes for a variety of basic applications. With manual and thermistor data-and-curve computer.....4.95

8 E 659. G-701 Economy Kit. (Not illus.) Includes 10 glass beads and probes in a wider range of resistance values. With manual and thermistor data-and-curve computer.....9.95



**THERMISTOR ENGINEERING PACKAGE**

Includes resistance-temperature computer card and thermistor manual giving specifications of all thermistors.

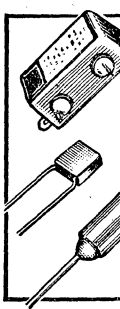
9 E 877..... No charge when requested with your next order.

**F THERMISTOR ASSEMBLIES**

Hermetically-sealed, bead-mounted assemblies for use in gas analysis and chromatography. Lead length, 1/4" O.D., .380". Time constant, 1.0 Diss. constant: MW/°C, G126—0.1; G112, G128—0.1.

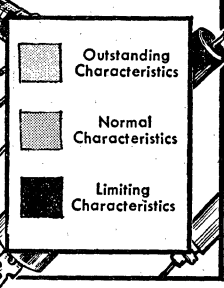
Stock No.	Mfr's Type	Description	R <sub>0</sub> @ 25°C	Tol. (±%)	Ratio 0°C: 50°C	EACH	
						1-9	10-Up
7 E 122	G126	2-GC32L3	2000	25	5.7:1	14.42	11.54
9 E 961	G112	2-GB38L1	8000	20	7.3:1	26.00	20.80
9 E 962	G128	2-GA51LA	100K	15	10.3:1	33.00	26.40

# Convenient Capacitor Selection Chart and Index



**INDEX TO MANUFACTURERS**

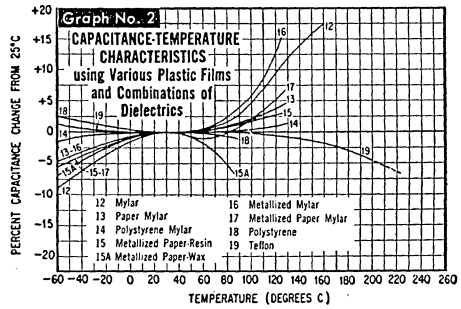
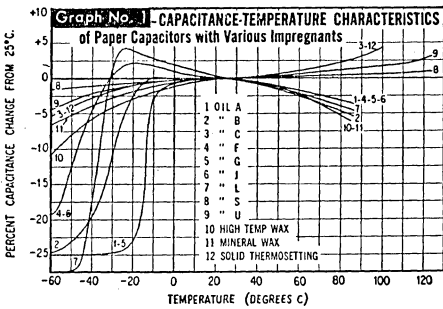
PAGE NO.	MFR. (or *Type)	OEM Prices to
175, 176	Arco-Elmenco	999
178-180	Centralab	999
166-170	C-D	999
171-173	Good-All	999
180-183	JFD	299
150, 151	Kemet	999
151, 162-165	Mallory	999
177	Plastic Cap.	499
146-148, 152-161	Sprague	999
146-151	*Tantalum	999
149	Texas Inst.	999
160-163	*Twist Prong	249
180-186	*Variable	299
174, 175	Vitramon	999



CHARACTERISTIC OF CAPACITOR		DIELECTRICS							
		ELECTROLYTIC Aluminum	TANTALUM Wet Anode & Foil	TANTALUM Dry Anode	PAPER	MYLAR†	PAPER-MYLAR (Comb.)	POLY-STYRENE MYLAR (Comb.)	METALLIZED PAPER
PAGE NUMBERS		154-157, 159-167	148, 151	146, 147, 149-151	153, 169, 177	168, 171-173	154-156, 168	170	152-153, 170
CAP.	CAPACITANCE Range—Mfd.	.5—150,000	2—1250	25—330	.001—200	.01—20	.01—30	.001—1	.01—20
	TOLERANCE Standard %	+50, +100, +150—10	+10, +20, +75—10	±20	±20	±20	±20	±10	±20
	TOLERANCE Minimum %	±25	±15	±5	±2	±1	±2	±1	±5
VOLTS	DC OPERATING	2.5—500	3—150	6—35	50—200,000	50—1000	100—15,000	50—1000	50—600
	AC 60 CPS. OPERATING	40—320 Intermittent Duty	Limited	Limited	50—75,000	Seldom used	Seldom used	Seldom used	25—250
D.F.	DISSIPATION FACTOR % at 60 CPS.	.6—35, depending on voltage	(120cps) 10%/vol, varies with C & V	At 120 cps, 10% max.	2—5	3	3	.1	4—6
	% at 1000 CPS.	—	—	—	2—5	5	5	2	6—8
	% at 1MC Low Capacitance Values	—	—	—	Higher, varies with type	Relatively High	Relatively High	.75	Relatively High
I.R.	INSULATION RESISTANCE Megohm/Mfd. at 25°C	Leakage current (mA): .006 x V	Leakage at 25°C: .02 µA/mfd/volt	Leakage at 25°C: .02 µA/mfd/volt	3000—20,000	50,000	20,000	> 50,000	600—1200
	INSULATION RESISTANCE at 85°C compared to 25°C	Leakage current 4 x 25°C value	Leakage current 4 x 25°C value	Leakage current 10 x 25°C value	1/100	1/25	1/40	1/20	1/60
TEMP.	OPERATING RANGE °C	-40—+85	-55—+125	-55—+125	See graph 1	-55—+150	-55—+125	-55—+125	-55—+125
	Coefficient TC in % or PPM	Cap. drops from 30-60% at -40°C	Cap. drops from 12-50% at -55°C	Cap. drops 12% max. at -55°C	See graph 1	See graph 2	See graph 2	See graph 2	See graph 2
STABILITY	CAPACITANCE CHANGE with Temp. Aging	Relatively Large	Large ±25	Medium ±10	Medium	Medium	Medium	Medium	Medium
	% Dielectric Absorption at 25°C	—	—	—	6—8, depending on impreg.	5	5	3—5	—
SIZE	Varies as	CV approx.	CV approx.	CV approx.	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>	CV <sup>2</sup>
	For Equivalent CV Rating	Very small	Very small	Very small	Medium Small	Small	Medium Small	Large	Small
	Per KVA 60 CPS.	Small for intermittent duty	Small for intermittent duty	Small for intermittent duty	Small	Seldom used	Seldom used	Seldom used	Not used
	Per KVA 1MC	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
COST	Relative Cost for Equiv. CV Rating	Very low	Moderate	Moderate	Low	Moderately High	Moderately High	Moderately High	Moderately High
	Relative Cost per KVA 60 CPS.	Low for intermittent duty	Not used	Not used	Low	Seldom used	Seldom used	Seldom used	Not used
	Relative Cost per KVA 1MC	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
MIL. SPECS.	MIL-C-	62	3965	26655	25	19978	14157	None	11693
	MIL-C-	3871			91	27287	19978		18312
	MIL-C-				11693	†DU PONT Trademark.			
	MIL-C-				12889				

©1962 CORNELL-DUBILIER, NEWARK, N.J. Reprinted by permission.

# Shows What You Need and Where to Find It



CHARACTERISTIC OF CAPACITOR		DIELECTRICS						CHARACTERISTIC
		METALLIZED MYLAR	Low-Voltage CERAMIC	General-Purpose CERAMIC	Temperature Compensated CERAMIC	POLY- STYRENE	MICA RECEIVING	
PAGE NUMBERS		170, 173, 177	158, 159, 178	158, 175, 178, 179	159, 179	176, 180	169, 175, 176	
CAP.	CAPACITANCE Range—Mfd.	.01—20	.005—2.2	.000001—.02	.000001—.0025	.01—10	.000001—.05	CAP.
	TOLERANCE Standard %	±20	±20 to GMV	±5 to GMV	±5 to ±20	±10	±10	
	TOLERANCE Minimum %	±2	±20	±5	±.25 mmf.	±1	±1	
VOLTS	DC OPERATING	50—600	3—50	500—5000	500—5000	100—2000	50—2500	VOLTS
	AC 60 CPS. OPERATING	25—250	Not used	Seldom used	Seldom used	50—350	Seldom used	
D.F.	DISSIPATION FACTOR % at 60 CPS.	2—3	—	—	—	<.1	Seldom used	D.F.
	% at 1000 CPS.	4—5	2.5—10	2—2.5	—	.02—.05	<.1	
	% at IMC Low Capacitance Values	Relatively High	—	—	.05—.2	.05—.1	<.1	
I.R.	INSULATION RESISTANCE Megohm./Mfd. at 25°C	5000—50,000	Variable with Voltage	>30,000 meg./unit	>50,000 meg./unit	>100,000	20,000—50,000 meg./unit	I.R.
	INSULATION RESISTANCE at 85°C compared to 25°C	1 40	1 20	1 60	1 50	1 15	1 5	
TEMP.	OPERATING RANGE °C	-55 +125	-55 +85	-55 +125	-55 +125	-55 +85	-55 +150	TEMP.
	Coefficient TC in % or PPM	See graph 2	Variable	Variable	NPO-N4700 PPM/°C	See graph 2	0 to +70 Normal PPM controllable	
STABILITY	CAPACITANCE CHANGE with Temp. Aging	Medium	Medium	Small to Medium	Small	Small	Very Small; Excellent	STABILITY
	D.A. % Dielectric Absorption at 25°C	—	—	—	—	.02—.05	.3	
SIZE	Varies as	CV <sup>2</sup>	CV <sup>2</sup> & K	CV <sup>2</sup> & K	CV <sup>2</sup> & K	CV <sup>2</sup>	CV <sup>2</sup>	SIZE
	For Equivalent CV Rating	Small	Very small	Small	Small	Medium Large	Large	
	Per KVA 60 CPS.	Not used	Not used	Not used	Not used	Medium Large	Seldom used	
	Per KVA IMC	Not used	Not used	Not used	Not used	Small	Small	
COST	Relative Cost for Equiv. CV Rating	Moderately High	Low	Low	Low	Moderately High	High	COST
	Relative Cost per KVA 60 CPS.	Not used	Not used	Not used	Not used	Moderately High	Seldom used	
	Relative Cost per KVA IMC	Not used	Not used	Not used	Not used	Low	Low	
MIL. SPECS.	MIL-C-	26487 (Proposed)	None	11015	20	19978	5	MIL. SPECS.
	MIL-C-							
	MIL-C-							
	MIL-C-							



Subminiature Tantalex units meet MIL-C-26655A—for transistorized circuitry in most military applications. Hermetically sealed in metal cases. Cannot leak or corrode even if hermetic

seal is broken accidentally. Extremely high insulation resistance. Insulating sleeve.—80 to +85°C. 2 oz. For price and size, see Case Size (\*), then refer to "Locator" table.

## 10% TOLERANCE

### PRICE AND SIZE LOCATOR

Case Size*	Diameter x Length	EACH				
		1-24	25-49	50-99	100-499	500-999
A	3/64x5/16"	1.34	1.08	.75	.62	.53
B	3/64x3/4"	1.37	1.11	.98	.81	.66
C	3/64x5/16"	2.48	1.99	1.68	1.45	1.31
D	3/64x3/4"	1.57	1.27	.77	.64	.54
E	3/16x1/2"	2.62	2.10	1.77	1.52	1.39
F	3/32x3/4"	2.23	2.01	1.36	1.12	.94
G	3/32x3/4"	2.57	2.07	1.42	1.16	.98
H	3/32x3/4"	4.28	3.43	2.90	2.47	2.26
J	1/32x5/16"	4.50	3.56	2.34	1.91	1.60
K	1/32x5/16"	4.60	3.66	2.53	2.06	1.73
L	1/32x5/16"	4.75	3.81	2.81	2.29	1.91
M	1/32x5/16"	7.98	6.39	5.39	4.60	4.20

Stock No.	Type 150D-	Mfd	WV DC	Case Size*
10 L 026	472X9035A2	.0047	35	B
10 L 027	562X9035A2	.0056	35	B
13 L 315	103X9035A2	.01	35	B
13 L 316	153X9035A2	.015	35	B
13 L 317	223X9035A2	.022	35	B
13 L 318	333X9035A2	.033	35	A
13 L 319	393X9035A2	.039	35	A
13 L 320	473X9035A2	.047	35	A
10 L 081	473X9050A2	.047	50	C
13 L 321	563X9035A2	.056	35	A
13 L 322	683X9035A2	.068	35	A
13 L 323	104X9035A2	.1	35	A
14 L 150	104X9050A2	.1	50	C
13 L 324	124X9035A2	.12	35	A
13 L 325	154X9035A2	.15	35	A
10 L 079	154X9050A2	.15	50	C
13 L 326	184X9035A2	.18	35	A
10 L 055	184X9050A2	.18	50	C
13 L 327	224X9035A2	.22	35	A
14 L 151	224X9050A2	.22	50	C
13 L 328	274X9035A2	.27	35	A
13 L 329	334X9035A2	.33	35	A
14 L 171	334X9050A2	.33	50	C
10 L 029	394X9035A2	.39	35	A
10 L 059	394X9050A2	.39	50	C
13 L 330	474X9035A2	.47	35	A
14 L 172	474X9050A2	.47	50	C

Stock No.	Type 150D-	Mfd	WV DC	Case Size*
13 L 331	564X9035A2	.56	35	A
13 L 332	684X9035A2	.68	35	A
13 L 333	824X9035A2	.82	35	A
10 L 863	824X9050A2	.82	50	C
13 L 334	105X9035A2	1.0	35	A
14 L 173	105X9050A2	1.0	50	C
13 L 335	125X9020A2	1.2	20	A
13 L 336	125X9035B2	1.2	35	D
14 L 174	125X9050B2	1.2	50	E
13 L 337	155X9035B2	1.5	35	D
14 L 175	155X9050B2	1.5	50	E
13 L 338	185X9035B2	1.8	35	D
10 L 067	185X9050B2	1.8	50	E
13 L 339	225X9020A2	2.2	20	A
13 L 340	225X9035B2	2.2	35	D
14 L 176	225X9050B2	2.2	50	E
13 L 341	275X9035B2	2.7	35	D
10 L 069	275X9050B2	2.7	50	E
10 L 013	335X9015A2	3.3	15	A
13 L 342	335X9035B2	3.3	35	D
14 L 177	335X9050B2	3.3	50	E
13 L 343	395X9010A2	3.9	10	A
13 L 344	395X9035B2	3.9	35	D
10 L 071	395X9050B2	3.9	50	E
13 L 345	475X9010A2	4.7	10	A
13 L 346	475X9035B2	4.7	35	D
14 L 185	475X9050B2	4.7	50	E

Stock No.	Type 150D-	Mfd	WV DC	Case Size*
14 L 152	565X9035B2	5.6	35	D
13 L 347	685X9006A2	6.8	5	A
13 L 348	685X9035B2	6.8	35	D
10 L 080	685X9050R2	6.8	50	H
10 L 030	825X9035R2	8.2	35	G
13 L 349	106X9020B2	10	20	D
10 L 031	106X9035R2	10	35	G
14 L 186	106X9050R2	10	50	H
13 L 350	126X9020B2	12	20	D
14 L 153	126X9035R2	12	35	G
10 L 077	126X9050R2	12	50	H
13 L 351	156X9020B2	15	20	D
10 L 033	156X9035R2	15	35	G
14 L 187	156X9050R2	15	50	H
14 L 154	186X9015B2	18	15	D
10 L 034	186X9035R2	18	35	G
14 L 188	186X9050S2	18	50	H
14 L 155	226X9015B2	22	15	D
10 L 035	226X9035R2	22	35	G
14 L 189	226X9050S2	22	50	M
14 L 156	276X9010B2	27	10	D
10 L 018	276X9020R2	27	20	F
10 L 036	276X9035R2	27	35	K
10 L 019	336X9020R2	33	20	F
14 L 160	336X9035S2	33	35	K
13 L 353	396X9010B2	39	10	D
10 L 038	396X9035S2	39	35	L
10 L 007	406X9010B2	40	10	D
14 L 163	476X9006B2	47	6	D
10 L 021	476X9020R2	47	20	F
10 L 039	476X9035S2	47	35	L
10 L 000	566X9006B2	56	6	D
10 L 014	566X9015R2	56	15	F
10 L 022	566X9020S2	56	20	J
10 L 001	606X9006B2	60	6	D
14 L 164	606X9020S2	60	20	J
10 L 008	826X9010R2	82	10	F
10 L 024	826X9020S2	82	20	J
10 L 009	107X9010R2	100	10	F
10 L 025	107X9020S2	100	20	J
14 L 165	127X9020S2	120	20	J
14 L 166	157X9015S2	150	15	J
10 L 011	187X9010S2	180	10	J
14 L 168	227X9010S2	220	10	J
10 L 006	337X9006S2	330	6	J

## 20% TOLERANCE

### PRICE AND SIZE LOCATOR

Case Size*	Diameter x Length	EACH				
		1-24	25-49	50-99	100-499	500-999
N	3/64x5/16"	1.31	1.05	.72	.59	.50
P	3/64x3/4"	1.32	1.06	.93	.76	.61
R	3/64x5/16"	1.92	1.54	1.30	1.11	1.02
S	3/16x1/2"	1.54	1.24	.74	.61	.51
T	3/16x1/2"	2.02	1.62	1.37	1.17	1.07
U	3/32x3/4"	2.20	1.98	1.33	1.09	.91
V	3/32x3/4"	2.54	2.04	1.39	1.13	.95
W	3/32x3/4"	3.30	2.64	2.24	1.91	1.75
X	1/32x5/16"	4.47	3.53	2.31	1.88	1.57
Y	1/32x5/16"	4.57	3.63	2.50	2.03	1.70
Z	1/32x5/16"	4.72	3.78	2.78	2.26	1.88

Stock No.	Type 150D-	Mfd	WV DC	Case Size*
13 L 300	472X0035A2	.0047	35	P
13 L 301	103X0035A2	.01	35	P
10 L 040	103X0050A2	.01	50	R
13 L 302	153X0035A2	.015	35	P
10 L 042	153X0050A2	.015	50	R
13 L 303	223X0035A2	.022	35	P
10 L 044	223X0050A2	.022	50	R
13 L 304	333X0035A2	.033	35	N
13 L 305	473X0035A2	.047	35	N
10 L 048	473X0050A2	.047	50	R
13 L 306	104X0035A2	.1	35	N
10 L 052	104X0050A2	.1	50	R
13 L 283	154X0035A2	.15	35	N
10 L 054	154X0050A2	.15	50	R
13 L 307	224X0035A2	.22	35	N
10 L 056	224X0050A2	.22	50	R

Stock No.	Type 150D-	Mfd	WV DC	Case Size*
13 L 308	334X0035A2	.33	35	N
10 L 058	334X0050A2	.33	50	R
13 L 309	474X0035A2	.47	35	N
10 L 060	474X0050A2	.47	50	R
13 L 310	684X0035A2	.68	35	N
10 L 062	684X0050A2	.68	50	R
13 L 311	105X0035A2	1.0	35	N
10 L 064	105X0050A2	1.0	50	R
13 L 295	155X0020A2	1.5	20	N
10 L 066	155X0050B2	1.5	50	T
13 L 296	225X0020A2	2.2	20	N
13 L 312	225X0035B2	2.2	35	S
10 L 068	225X0050B2	2.2	50	T
13 L 293	335X0015A2	3.3	15	N
10 L 070	335X0050B2	3.3	50	T
13 L 313	335X0035B2	3.3	35	S

Stock No.	Type 150D-	Mfd	WV DC	Case Size*
13 L 290	475X0010A2	4.7	10	N
13 L 314	475X0035B2	4.7	35	S
10 L 072	475X0050B2	4.7	50	T
13 L 288	685X0006A2	6.8	6	N
13 L 297	685X0020B2	6.8	20	S
13 L 284	685X0035B2	6.8	35	S
10 L 074	685X0050R2	6.8	50	W
13 L 298	106X0020B2	10	20	S
13 L 285	106X0035R2	10	35	V
10 L 076	106X0050R2	10	50	W
13 L 299	156X0020B2	15	20	S
13 L 286	156X0035R2	15	35	V
10 L 078	156X0050R2	15	50	W
13 L 294	226X0015B2	22	15	S
13 L 287	226X0035R2	22	35	V
13 L 281	336X0020R2	33	20	U
13 L 352	336X0035S2	33	35	U
13 L 292	406X0010B2	40	10	S
13 L 282	476X0020R2	47	20	U
13 L 354	476X0035S2	47	35	Z
13 L 276	476X0006B2	47	6	S
13 L 289	606X0006B2	60	6	S
13 L 280	686X0015R2	68	15	U
13 L 355	686X0020S2	68	20	X
13 L 278	107X0010R2	100	10	U
13 L 356	107X0020S2	100	20	X
13 L 279	127X0010R2	120	10	U
13 L 357	157X0015S2	150	15	X
13 L 277	187X0006R2	180	6	U
13 L 358	227X0010S2	220	10	X
10 L 004	277X0006S2	270	6	X
13 L 359	337X0006S2	330	6	X

# Military CS13 Solid-Tantalum Electrolytics **SPRAGUE**

## WHY YOU SHOULD USE TANTALUM CAPACITORS

When it comes to high capacity-values in subminiature size, practically no capacitors can compare with tantalums. As demonstrated in the illustration, tantalums are at least twice as small as other electrolytics with similar ratings. This small size is particularly important to designers of transistorized equipment. And, the tantalums' solid

electrolyte means greater reliability and dependability. They cannot, will not, leak or corrode—it's impossible, even if hermetic seals are fractured. Tantalums are inherently capable of withstanding high shock such as experienced under missile use or shell firing. Exhibit excellent non-aging characteristics—long shelf life.

### CS13 SUBMINIATURE HERMETICALLY SEALED TANTALUMS

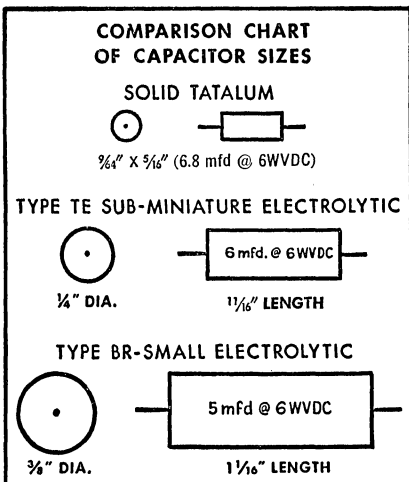
Meet MIL-C-26655A. Life test, 15,000 hours with stable capacitance, low dissipation factor, and low DC leakage. High frequency performance—impedance remains low at frequencies in excess of 1 mc. Withstand 2000-cycle vibration test and 50g shock test without evidence of deleterious effects. Her-

metic seal—withstanding severe humidity. Plastic insulating sleeve. NOTE: CS12 with uninsulated bare can available on Special Order in values below. Deduct 2¢ for each from prices shown. Av. shpg. wt., 2 oz.  
For price and size, see Case Size (\*), then refer to table.

### NOTE ON ORDERING

Values listed below combine highest voltages with smallest case size. For example, on a 6-volt, .33 mfd unit, it pays to order the 35-volt unit. You get

added protection at no extra cost because case sizes of both the 6-volt and 35-volt units are the same, and prices are based on case size.



## 10% TOLERANCE

Size*	Dia. x Lgth.	1-24 EA.	25-49 EA.	50-99 EA.	100-499 EA.	500-999 EA.
A	$\frac{9}{64} \times \frac{3}{16}''$	1.34	1.08	.75	.62	.53
B	$\frac{9}{64} \times \frac{3}{16}''$	2.48	1.99	1.68	1.45	1.31
C	$\frac{3}{16} \times \frac{1}{2}''$	1.57	1.27	.77	.64	.54
D	$\frac{3}{16} \times \frac{1}{2}''$	2.62	2.10	1.77	1.52	1.39
E	$\frac{9}{32} \times \frac{3}{4}''$	2.23	2.01	1.36	1.12	.94
F	$\frac{9}{32} \times \frac{3}{4}''$	2.57	2.07	1.42	1.16	.98
G	$\frac{1}{32} \times \frac{3}{8}''$	4.50	3.56	2.34	1.91	1.60
H	$\frac{1}{32} \times \frac{3}{8}''$	4.60	3.66	2.53	2.06	1.73
J	$\frac{1}{32} \times \frac{3}{8}''$	4.75	3.81	2.81	2.29	1.91

Stock No.	MIL CS13—	Mfd	WVDC	Size*
12 L 165	AFR33K	.33	35	A
12 L 166	AFR39K	.39	35	A
12 L 167	AFR47K	.47	35	A
12 L 168	AFR68K	.68	35	A
12 L 169	AFR82K	.82	35	A
12 L 170	AFO10K	1.0	35	A
12 L 171	AGO10K	1.0	50	B
12 L 172	AEIR2K	1.2	20	A
12 L 173	AFIR2K	1.2	35	C
12 L 174	AGR2K	1.2	50	D
12 L 175	AEIR5K	1.5	20	A
12 L 176	AFIR5K	1.5	35	C
12 L 185	AGIR5K	1.5	50	D
12 L 186	AEIR8K	1.8	20	A
12 L 187	AFIR8K	1.8	35	C
12 L 188	AGIR8K	1.8	50	D
12 L 189	AE2R2K	2.2	20	A
12 L 190	AF2R2K	2.2	35	C
12 L 191	AG2R2K	2.2	50	D
12 L 192	AD2R7K	2.7	15	A
12 L 193	AF2R7K	2.7	35	C
12 L 194	AG2R7K	2.7	50	D

Stock No.	MIL CS13—	Mfd	WVDC	Size*
12 L 195	AD3R3K	3.3	15	A
12 L 200	AF3R3K	3.3	35	D
12 L 201	AG3R3K	3.3	50	D
12 L 202	AC3R9K	3.9	10	A
12 L 203	AF3R9K	3.9	35	C
12 L 204	AG3R9K	3.9	50	D
12 L 205	AC4R7K	4.7	10	A
12 L 206	AF4R7K	4.7	35	C
12 L 207	AG4R7K	4.7	50	D
12 L 208	AB5R6K	5.6	6	A
12 L 209	AF5R6K	5.6	35	C
12 L 210	AB6R8K	6.8	6	A
12 L 211	AF6R8K	6.8	35	C
12 L 212	AE8R2K	8.2	20	C
12 L 213	AF8R2K	8.2	35	F
12 L 214	AE100K	10.0	20	C
12 L 215	AF100K	10.0	35	F
12 L 216	AE120K	12.0	20	C
12 L 217	AF120K	12.0	35	F
12 L 218	AE150K	15.0	20	C
12 L 219	AF150K	15.0	35	F
12 L 220	AD180K	18.0	15	C

Stock No.	MIL CS13—	Mfd	WVDC	Size*
12 L 221	AF180K	18.0	35	F
12 L 222	AD220K	22.0	15	C
12 L 223	AF220K	22.0	35	F
12 L 224	AC270K	27.0	10	C
12 L 225	AE270K	27.0	20	E
12 L 226	AF270K	27.0	35	H
12 L 227	AC330K	33.0	10	C
12 L 228	AE330K	33.0	20	E
12 L 229	AF330K	33.0	35	H
12 L 233	AC390K	39.0	10	C
12 L 234	AE390K	39.0	20	E
12 L 235	AF390K	39.0	35	F
12 L 236	AB470K	47.0	6	C
12 L 237	AE470K	47.0	20	E
12 L 238	AF470K	47.0	35	J
12 L 239	AB560K	56.0	6	C
12 L 240	AD560K	56.0	15	E
12 L 241	AE560K	56.0	20	E
12 L 242	AD680K	68.0	15	E
12 L 243	AE680K	68.0	20	E
12 L 244	AC820K	82.0	10	E
12 L 245	AE820K	82.0	20	E
12 L 246	AC101K	100.0	10	E
12 L 247	AE101K	100.0	20	E
12 L 248	AC121K	120.0	10	E
12 L 250	AD121K	120.0	15	G
12 L 251	AB151K	150.0	6	E
12 L 252	AD151K	150.0	15	E
12 L 253	AB181K	180.0	6	G
12 L 254	AC181K	180.0	10	G
12 L 255	AC221K	220.0	10	G
12 L 256	AB271K	270.0	6	G
12 L 257	AB331K	330.0	6	G

## 20% TOLERANCE

Size*	Dia. x Lgth.	1-24 EA.	25-49 EA.	50-99 EA.	100-499 EA.	500-999 EA.
K	$\frac{9}{64} \times \frac{3}{16}''$	1.31	1.05	.72	.59	.50
L	$\frac{9}{64} \times \frac{3}{16}''$	1.92	1.54	1.30	1.11	1.02
M	$\frac{3}{16} \times \frac{1}{2}''$	1.54	1.24	.74	.61	.51
N	$\frac{3}{16} \times \frac{1}{2}''$	2.02	1.62	1.37	1.17	1.07
P	$\frac{9}{32} \times \frac{3}{4}''$	2.20	1.98	1.33	1.09	.91
R	$\frac{9}{32} \times \frac{3}{4}''$	2.54	2.04	1.39	1.13	.95
S	$\frac{1}{32} \times \frac{3}{8}''$	4.47	3.53	2.31	1.88	1.57
T	$\frac{1}{32} \times \frac{3}{8}''$	4.57	3.63	2.50	2.03	1.70
U	$\frac{1}{32} \times \frac{3}{8}''$	4.72	3.78	2.78	2.26	1.88

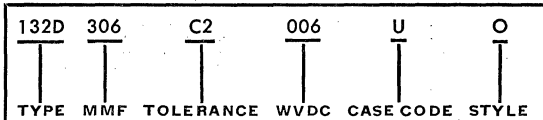
Stock No.	MIL CS13—	Mfd	WVDC	Size*
12 L 258	AFR33M	.33	35	K
12 L 259	AFR47M	.47	35	K
12 L 260	AFR68M	.68	35	K
12 L 261	AFO10M	1.0	35	K
12 L 262	AGO10M	1.0	50	L
12 L 263	AEIR5M	1.5	20	K
12 L 264	AFIR5M	1.5	35	M
12 L 265	AGIR5M	1.5	50	N
12 L 266	AE2R2M	2.2	20	K

Stock No.	MIL CS13—	Mfd	WVDC	Size*
12 L 267	AF2R2M	2.2	35	M
12 L 268	AG2R2M	2.2	50	N
12 L 269	AD3R3M	3.3	15	K
12 L 270	AF3R3M	3.3	35	M
12 L 271	AG3R3M	3.3	50	N
12 L 275	AC4R7M	4.7	10	K
12 L 276	AF4R7M	4.7	35	M
12 L 277	AG4R7M	4.7	50	N
12 L 278	AB6R8M	6.8	6	K

Stock No.	MIL CS13—	Mfd	WVDC	Size*
12 L 279	AF6R8M	6.8	35	M
12 L 280	AE100M	10.0	20	M
12 L 281	AF100M	10.0	35	R
12 L 282	AE150M	15.0	20	M
12 L 283	AF150M	15.0	35	R
12 L 284	AD220M	22.0	15	M
12 L 285	AF220M	22.0	35	R
12 L 286	AC330M	33.0	10	M
12 L 287	AE330M	33.0	20	P
12 L 288	AF330M	33.0	35	T
12 L 289	AB470M	47.0	6	M
12 L 290	AE470M	47.0	20	P
12 L 291	AF470M	47.0	35	U
12 L 292	AD680M	68.0	15	P
12 L 299	AE680M	68.0	20	S
12 L 391	AC101M	100.0	10	P
12 L 392	AE101M	100.0	20	P
12 L 399	AB151M	150.0	6	S
12 L 412	AD151M	150.0	15	S
12 L 417	AC221M	220.0	10	S
12 L 425	AB361M	330.0	6	S

### ORDERING AND TYPE NO. INFORMATION

TYPE NO. EXAMPLE (MFR'S TYPE 132D306C2006UO)†



†Numbering system not applicable to special military Type CL25.

Prices of These Capacitors Are Based on Case Size. For prices, note Case Size (\*) and refer to Price and Size Table.

Explanation of Type Nos. See example at left which illustrates the numbering system. 132D is Sprague's Type No.; 306 is the capacitance in micro-microfarads—the first two digits are significant figures, the third is the number of zeros. C2 denotes tolerance; C2, -15%, +75%; C3, -15%, +30%; C5, -15%, +50%; C7, -15%, +75%. 006 denotes WVDC. U denotes Case Size. 0 denotes style; 0 for no outer wrap; 1 for outer plastic film wrap; 2 denotes removable plastic sleeve.

### 132D "CUP TYPE" TANTALEX CAPACITORS



High Capacitance in a Tiny Size

"Cup type" tantalex capacitors conforming to MIL 3965-B specs. Provide exceptionally large capacitance for such a small physical size. Withstand severe military vibration tests. Operate from -55°C to +85°C at full rating. Also operate at up to +100°C with only 15% derating. Stable performance characteristics over entire temperature range. Maintain an appreciable portion of their room-temperature capacitance at low operating temperatures—may be used where aluminum-foil electrolytics will not operate. Low leakage current permits use where aluminum-foil designs are unsatisfactory. Av. shpg. wt., 2 oz. For sizes and prices, refer to Case Size (\*), then refer to Price and Size Table.

#### PRICE AND SIZE TABLE

Case Size*	Dia. x L.	EACH				
		1-24	25-49	50-99	100-499	500-999
U	7/32x15/32"	1.78	1.42	1.20	1.02	.93
V	5/32x11/16"	2.74	2.19	1.85	1.58	1.44
T	3/8x9/64"	4.30	3.44	2.90	2.47	2.26

Stock No.	Mfr's Type	Mfd	WV DC	Case Size*	Stock No.	Mfr's Type	Mfd	WV DC	Case Size*	Stock No.	Mfr's Type	Mfd	WV DC	Case Size*
12 L 930	132D306C2006UO	30	6	U	12 L 940	132D106C2025UO	10	25	U	12 L 950	132D355C2075UO	3.5	75	U
12 L 931	132D147C2006V0	140	6	V	12 L 941	132D805C2030UO	8	30	U	12 L 951	132D156C2075V0	15	75	V
12 L 932	132D327C2006T0	320	6	T	12 L 942	132D406C2030V0	40	30	V	12 L 952	132D406C2075T0	40	75	T
12 L 933	132D256C2008U0	25	8	U	12 L 943	132D107C2030T0	100	30	T	12 L 953	132D205C2100U0	2	100	U
12 L 934	132D206C2010U0	20	10	U	12 L 944	132D505C2050U0	5	50	U	12 L 954	132D116C2100V0	11	100	V
12 L 935	132D107C2010V0	100	10	V	12 L 945	132D256C2050V0	25	50	V	12 L 955	132D306C2100T0	30	100	T
12 L 936	132D257C2010T0	250	10	T	12 L 946	132D606C2050T0	60	60	T	12 L 956	132D175C2125U0	1.7	125	U
12 L 937	132D156C2015U0	15	15	U	12 L 947	132D405C2060U0	4	60	U	12 L 957	132D905C2125V0	9	125	V
12 L 938	132D706C2015V0	70	15	V	12 L 948	132D206C2060V0	20	60	V	12 L 958	132D256C2125T0	25	125	T
12 L 939	132D177C2015T0	170	15	T	12 L 949	132D506C2060T0	50	60	T					

### 109D SINTERED-ANODE TANTALEX CAPACITORS



Used in Missile Guidance and Airborne Radar and Communications

For applications where superior quality and reliable design in military equipment are required. Meet 2000 cycle missile vibration requirements. Design permits higher capacitance for given physical size—permitting use in equipment where limited space is available. Exhibit optimum characteristics with respect to frequency and temperature-coefficient of capacitance. Operate to +85°C at rated voltage; to +105°C with 15% voltage derating. TFE-Fluorocarbon elastomer end-seals and insulating plastic sleeve. Shpg. wt., 2 oz. For prices, see Case Size (\*), then refer to Price and Size Table.

#### PRICE AND SIZE TABLE

Case Size*	Dia. x L.	EACH				
		1-24	25-49	50-99	100-499	500-999
C	13/64x33/64"	1.83	1.47	1.25	1.07	.98
F	19/64x49/64"	2.79	2.24	1.90	1.63	1.49

Stock No.	Mfr's Type	Mfd	WV DC	Case Size*	Stock No.	Mfr's Type	Mfd	WV DC	Case Size*	Stock No.	Mfr's Type	Mfd	WV DC	Case Size*
12 L 959	109D306C2006C2	30	6	C	12 L 965	109D706C2015F2	70	15	F	12 L 971	109D405C2060C2	4	60	C
12 L 960	109D147C2006F2	140	6	F	12 L 966	109D106C2025C2	10	25	C	12 L 972	109D206C2060F2	20	60	F
12 L 961	109D256C2008C2	25	8	C	12 L 967	109D805C2030C2	8	30	C	12 L 973	109D355C2075C2	3.5	75	C
12 L 962	109D206C2010C2	20	10	C	12 L 968	109D406C2030F2	40	30	F	12 L 974	109D156C2075F2	15	75	F
12 L 963	109D107C2010F2	100	10	F	12 L 969	109D505C2050C2	5	50	C	12 L 975	109D116C2100F2	11	100	F
12 L 964	109D156C2015C2	15	15	C	12 L 970	109D256C2050F2	25	50	F					

### 112D AND CL25 TANTALEX CAPACITORS

Type 112D. (Not illus.) Polarized etched-foil tantalum capacitors with virtually leakproof fluorocarbon elastomer end seals, low leakage current, and high stability even at low operating temperatures. Operating range is -55°C to +85°C at up to 150 WVDC. Have sealed tubular aluminum cases and nickel wire leads. Type CL25. A military version of type 112D—meet MIL-C-3965B specs. Have

floating design for higher insulation resistance, ultra-low leakage current, and a longer service life. Have tubular aluminum cases and an outer plastic insulating sleeve. Average shpg. wt., 2 oz. For prices and sizes, see Case Size\*, then refer to the Price and Size Table, below at left.



#### PRICE AND SIZE TABLE

Case Size*	Dia. x L.	EACH					
		1-9	10-24	25-49	50-99	100-499	500-999
D	13/64x3/4"	4.30	3.43	2.52	1.80	1.29	1.13
G	15/64x19/16"	7.65	5.04	3.90	2.80	1.97	1.82
J	25/64x1 1/2"	12.70	8.75	6.75	4.83	3.37	3.08
M	25/64x2 1/4"	20.65	14.21	10.93	7.80	5.41	4.96
P	25/64x2 13/16"	27.45	18.86	14.54	10.36	7.20	6.57

Stock No.	Mfr's Type 112-D.	Mfd	WV DC	Case Size*	Stock No.	Mfr's Type CL25-	Mfd	WV DC	Case Size*
12 L 900	156C7015D1	15	15	D	12 L 986	BH080UP3	8	30	D
12 L 901	606C7015G1	60	15	G	12 L 988	BH320UP3	32	30	G
12 L 902	207C7015J1	200	15	J	12 L 999	BH110UP3	110	30	J
12 L 903	407C7015M1	400	15	M	13 L 000	BH221UP3	220	30	M
12 L 904	587C7015P1	580	15	P	13 L 001	BH301UP3	300	30	P
12 L 905	106C7025D1	10	25	D	12 L 915	BJ4R5UP3	4.5	50	D
12 L 906	406C7025G1	40	25	G	12 L 916	BJ180UP3	18	50	G
12 L 907	127C7025J1	120	25	J	12 L 917	BJ600UP3	60	50	J
12 L 908	257C7025M1	250	25	M	12 L 918	BJ101UP3	100	50	M
12 L 909	357C7025P1	350	25	P	12 L 919	BJ151UP3	150	50	P
12 L 976	BE150UP3	15	15	D	12 L 920	305C5075D1	3	75	D
12 L 977	BE600UP3	60	15	G	12 L 921	126C5075G1	13	75	G
12 L 978	BE201UP3	200	15	J	12 L 922	306C5075J1	13	75	J
12 L 979	BE401UP3	400	15	M	12 L 923	706C5075M1	13	75	M
12 L 980	BE581UP3	580	15	P	12 L 924	107C5075P1	13	75	P
12 L 981	BG100UP3	10	25	D	12 L 925	205C3100D1	2	100	D
12 L 982	BG400UP3	40	25	G	12 L 926	805C3100G1	8	100	G
12 L 983	BG121UP3	120	25	J	12 L 927	256C3100J1	13	100	J
12 L 984	BG251UP3	250	25	M	12 L 928	105C3150D1	1	150	D
12 L 985	BG351UP3	350	25	P	12 L 929	405C3150G1	4	150	G

# Texas Instruments Solid Tantalum Electrolytics

### PARENT DEVICE SYSTEM

Enjoy a VOLTAGE SAFETY MARGIN at no increase in cost. For example: If you need a 1 mfd 6-volt capacitor, purchase the 35-volt type—at no extra charge. Use parent types for voltages equal to or "less than" indicated in tables. Prices are based on Case Size. To determine prices, note the Case Size (\*) and refer to Price and Size Table.



Extremely Small Size

Extremely compact solid tantalum electrolytics for miniaturized circuitry. Feature long life, stable operation and low DC leakage. Operate at temperatures from -80°C to +85°C at rated voltage; operate to 125°C at 2/3 rated voltage. Solid electrolytic eliminates leakage and dehydration. All are hermetically sealed in corrosion resistant cases. Absence of external weld allows either lead to be bent next to case. Surge voltage rating is 130% of rated working voltage at +85°C. Meet electrical and mechanical specifications of MIL-C-26653A/2B. Shpg. wt., 2 oz.

## COMMERCIAL-TYPE SCM—UNINSULATED CASE—10% TOLERANCE

PRICE AND SIZE LOCATOR TABLE

EACH						EACH						EACH						
Case Size*	Dia. x Length	1-24	25-49	50-99	100-499	500-999	Case Size*	Dia. x Length	1-24	25-49	50-99	100-499	500-999	Stock No.	Type SCM—	Mfd	Max. WVDC	Case Size*
A	.125x.250"	1.35	1.09	.96	.79	.64	G	.279x.650"	2.55	2.05	1.40	1.14	.96	14 L 751	126BP020A2	12	20	D
B	.125x.250"	1.32	1.06	.73	.60	.51	H	.279x.650"	4.22	3.38	2.85	2.43	2.22	14 L 752	126GP035A2	12	35	F
C	.125x.250"	2.44	1.95	1.64	1.42	1.28	I	.341x.750"	4.48	3.54	2.32	1.89	1.58	14 L 887	126GP050A2	12	50	H
D	.175x.438"	1.55	1.25	.75	.62	.52	J	.341x.750"	4.58	3.64	2.51	2.04	1.71	14 L 753	156BP020A2	15	20	D
E	.175x.438"	2.57	2.06	1.73	1.48	1.36	K	.341x.750"	4.73	3.79	2.79	2.27	1.89	14 L 754	156GP035A2	15	35	F
F	.279x.650"	2.21	1.99	1.34	1.10	.92	L	.341x.750"	7.88	6.31	5.32	4.53	4.14	14 L 888	156GP050A2	15	50	H
														14 L 755	186BP015A2	18	15	D
														14 L 891	186GP050A2	18	50	H
														14 L 756	186GP035A2	18	35	F
														14 L 757	226BP015A2	22	15	D
														14 L 758	226GP035A2	22	35	F
														14 L 892	226GP050A2	22	50	H
														14 L 759	276BP010A2	27	10	D
														14 L 760	276GP020A2	27	20	F
														14 L 761	276HP035A2	27	35	J
														14 L 762	336BP010A2	33	10	D
														14 L 763	336GP020A2	33	20	G
														14 L 764	336HP035A2	33	35	J
														14 L 765	396BP010A2	39	10	D
														14 L 766	396GP020A2	39	20	G
														14 L 767	396HP035A2	39	35	K
														14 L 768	476BP006A2	47	6	D
														14 L 769	476GP020A2	47	20	G
														14 L 770	476HP035A2	47	35	K
														14 L 771	566BP006A2	56	6	D
														14 L 772	566GP015A2	56	15	G
														14 L 773	566HP020A2	56	20	I
														14 L 774	686GP015A2	68	15	G
														14 L 775	686HP020A2	68	20	I
														14 L 776	826GP010A2	82	10	G
														14 L 777	826HP020A2	82	20	I
														14 L 778	107GP010A2	100	10	G
														14 L 779	107HP020A2	100	20	I
														14 L 780	127GP010A2	120	10	G
														14 L 781	127HP020A2	120	20	I
														14 L 782	157GP006A2	150	6	G
														14 L 788	157HP015A2	150	15	I
														14 L 789	187GP006A2	180	6	G
														14 L 783	187HP010A2	180	10	I
														14 L 790	227HP010A2	220	10	I
														14 L 784	227HP006A2	270	6	I
														14 L 785	337HP006A2	330	6	I
14 L 700	472FP035A2	.0047	35	A	14 L 730	155FP020A2	1.5	20	B	14 L 758	226GP035A2	22	35	F				
14 L 701	562FP035A2	.0056	35	A	14 L 731	155BP035A2	1.5	35	D	14 L 892	226GP050A2	22	50	H				
14 L 702	682FP035A2	.0068	35	A	14 L 848	155BP050A2	1.5	50	E	14 L 759	276BP010A2	27	10	D				
14 L 703	822FP035A2	.0082	35	A	14 L 732	185FP020A2	1.8	20	B	14 L 760	276GP020A2	27	20	F				
14 L 704	103FP035A2	.01	35	A	14 L 733	185BP035A2	1.8	35	D	14 L 761	276HP035A2	27	35	J				
14 L 705	123FP035A2	.012	35	A	14 L 849	185BP050A2	1.8	50	E	14 L 762	336BP010A2	33	10	D				
14 L 706	153FP035A2	.015	35	A	14 L 734	225FP020A2	2.2	20	B	14 L 763	336GP020A2	33	20	G				
14 L 707	183FP035A2	.018	35	A	14 L 735	225BP035A2	2.2	35	D	14 L 764	336HP035A2	33	35	J				
14 L 708	223FP035A2	.022	35	A	14 L 878	225BP050A2	2.2	50	E	14 L 765	396BP010A2	39	10	D				
14 L 709	273FP035A2	.027	35	A	14 L 736	275FP015A2	2.7	15	B	14 L 766	396GP020A2	39	20	G				
14 L 710	333FP035A2	.033	35	B	14 L 737	275BP035A2	2.7	35	D	14 L 767	396HP035A2	39	35	K				
14 L 711	393FP035A2	.039	35	B	14 L 879	275BP050A2	2.7	50	E	14 L 768	476BP006A2	47	6	D				
14 L 712	473FP035A2	.047	35	B	14 L 738	335FP015A2	3.3	15	B	14 L 769	476GP020A2	47	20	G				
14 L 713	563FP035A2	.056	35	B	14 L 739	335BP035A2	3.3	35	D	14 L 770	476HP035A2	47	35	K				
14 L 714	683FP035A2	.068	35	B	14 L 880	335BP050A2	3.3	50	E	14 L 771	566BP006A2	56	6	D				
14 L 715	823FP035A2	.082	35	B	14 L 740	395FP010A2	3.9	10	B	14 L 772	566GP015A2	56	15	G				
14 L 716	104FP035A2	.1	35	B	14 L 787	395BP035A2	3.9	35	D	14 L 773	566HP020A2	56	20	I				
14 L 717	124FP035A2	.12	35	B	14 L 881	395BP050A2	3.9	50	E	14 L 774	686GP015A2	68	15	G				
14 L 718	154FP035A2	.15	35	B	14 L 741	475FP010A2	4.7	10	B	14 L 775	686HP020A2	68	20	I				
14 L 719	184FP035A2	.18	35	B	14 L 742	475BP035A2	4.7	35	D	14 L 776	826GP010A2	82	10	G				
14 L 720	224FP035A2	.22	35	B	14 L 882	475BP050A2	4.7	50	E	14 L 777	826HP020A2	82	20	I				
14 L 721	274FP035A2	.27	35	B	14 L 743	565FP006A2	5.6	6	D	14 L 778	107GP010A2	100	10	G				
14 L 722	334FP035A2	.33	35	B	14 L 744	565BP035A2	5.6	35	D	14 L 779	107HP020A2	100	20	I				
14 L 723	394FP035A2	.39	35	B	14 L 883	565GP050A2	5.6	50	G	14 L 780	127GP010A2	120	10	G				
14 L 724	474FP035A2	.47	35	B	14 L 745	685FP006A2	6.8	6	D	14 L 781	127HP020A2	120	20	I				
14 L 725	564FP035A2	.56	35	B	14 L 746	685BP035A2	6.8	35	D	14 L 782	157GP006A2	150	6	G				
14 L 726	684FP035A2	.68	35	B	14 L 884	685GP050A2	6.8	50	H	14 L 788	157HP015A2	150	15	I				
14 L 727	824FP035A2	.82	35	B	14 L 747	825BP010A2	8.2	20	F	14 L 789	187GP006A2	180	6	G				
14 L 786	105FP035A2	1.0	35	B	14 L 748	825GP035A2	8.2	35	F	14 L 783	187HP010A2	180	10	I				
14 L 846	105FP050A2	1.0	50	C	14 L 885	825GP050A2	8.2	50	H	14 L 790	227HP010A2	220	10	I				
14 L 728	125FP020A2	1.2	20	F	14 L 749	106BP020A2	10.	20	D	14 L 784	227HP006A2	270	6	I				
14 L 729	125BP035A2	1.2	35	A	14 L 750	106GP035A2	10.	35	F	14 L 785	337HP006A2	330	6	I				
14 L 847	125BP050A2	1.2	50	F	14 L 886	106GP050A2	10.	50	H									

## MILITARY STYLE CS13—INSULATED CASE—10% TOLERANCE

PRICE AND SIZE LOCATOR						PRICE AND SIZE LOCATOR						PRICE AND SIZE LOCATOR					
Case Size*	Dia. x Length	1-24	25-49	50-99	100-499	500-999	Stock No.	Mil. No.	Mfd	WVDC	Case Size*	Stock No.	Mil. No.	Mfd	WVDC	Case Size*	
M	.135x.286"	1.34	1.08	.75	.62	.53	14 L 908	CS13AD2R7K	2.7	15	M	14 L 952	CS13AC330K	33	10	N	
N	.185x.474"	1.57	1.27	.77	.64	.54	14 L 909	CS13AF2R7K	2.7	35	N	14 L 953	CS13AE330K	33	20	O	
O	.289x.686"	2.23	2.01	1.36	1.12	.94	14 L 910	CS13AD3R3K	3.3	15	M	14 L 954	CS13AF330K	33	35	S	
P	.289x.686"	2.57	2.07	1.42	1.16	.98	14 L 911	CS13AF3R3K	3.3	35	N	14 L 955	CS13AC390K	39	10	N	
R	.351x.786"	4.50	3.56	2.34	1.91	1.60	14 L 912	CS13AC3R9K	3.9	10	M	14 L 956	CS13AE390K	39	20	O	
S	.351x.786"	4.60	3.66	2.53	2.06	1.73	14 L 913	CS13AF3R9K	3.9	35	N	14 L 957	CS13AF390K	39	35	T	
T	.351x.786"	4.75	3.81	2.81	2.29	1.91	14 L 914	CS13AC4R7K	4.7	10	M	14 L 958	CS13AB470K	47	6	N	
							14 L 915	CS13AF4R7K	4.7	35	N	14 L 959	CS13AE470K	47	20	O	
							14 L 916	CS13AB5R6K	5.6	6	M	14 L 960	CS13AF470K	47	35	T	
							14 L 920	CS13AF5R6K	5.6	35	N	14 L 961	CS13AB560K	56	6	N	
							14 L 925	CS13AB6R8K	6.8	6	M	14 L 962	CS13AD560K	56	15	O	
							14 L 926	CS13AF6R8K	6.8	35	N	14 L 963	CS13AE560K	56	20	R	

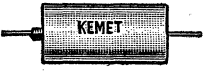




# Commercial and Military Solid Tantalums

## NEW COMMERCIAL J-SERIES AND MILITARY CS13-SERIES

All Are Hermetically Sealed, Insulated, and Polarized; 10% Tolerance



New solid tantalum capacitors combine very small size with exceptionally high resistance to mechanical shock and vibration. All J-series commercial units meet or exceed performance requirements of MIL-C-26655/2C. In addition, 100-volt capacitors exhibit exceptionally low dissipation factor, low leakage, and high stability with respect to temperature variations.

Encapsulated in miniature, solder-coated brass cases. Hermetic glass-to-metal end-seals maintain capacitor stability under humid conditions. Absence of liquid electrolyte eliminates all risk of physical leakage. At full rated voltage, units will operate continuously through a temperature range of -80°C to 85°C; derated to 2/3 of nameplate voltage, capacitors can be operated at 125°C. CS13 military types meet MIL-C-26655A in all respects. Price of capacitor depends on case size, Av. wt., 2 oz.

### PRICE AND SIZE LOCATOR

*Case Size	Diameter x Length	EACH					*Case Size	Diameter x Length	EACH				
		1-24	25-49	50-99	100-499	500-999			1-24	25-49	50-99	100-499	500-999
A	.135x.260"	1.37	1.11	.98	.81	.66	K	.289x.660"	2.23	2.01	1.36	1.12	.94
B	.135x.260"	1.34	1.08	.75	.62	.53	L	.289x.660"	2.57	2.07	1.42	1.16	.98
C	.135x.260"	2.48	1.99	1.68	1.45	1.31	M	.289x.660"	4.28	3.43	2.90	2.47	2.26
D	.135x.375"	6.14	3.53	2.66	2.11	1.96	N	.289x.660"	10.58	6.05	4.56	3.63	3.35
E	.135x.375"	7.98	4.58	3.45	2.74	2.54	P	.351x.760"	4.50	3.56	2.34	1.91	1.60
F	.185x.448"	1.57	1.27	.77	.64	.54	R	.351x.760"	4.60	3.66	2.53	2.06	1.73
G	.185x.448"	2.62	2.10	1.77	1.52	1.39	S	.351x.760"	4.75	3.81	2.81	2.29	1.91
H	.185x.448"	6.48	3.71	2.80	2.23	2.05	T	.351x.760"	7.98	6.39	5.39	4.60	4.20
J	.185x.448"	8.42	4.82	3.63	2.89	2.66	U	.351x.760"	19.77	11.30	8.48	6.75	6.23

Commer. J-Series Stk. No.	Military		Mfd	VV DC	*
	Stock No.	MIL CS13-			
17 L 107			.0047	35	A
17 L 108			.0047	50	C
17 L 109			.0056	35	A
17 L 110			.0056	50	C
17 L 111			.0068	35	A
17 L 112			.0068	50	C
17 L 113			.0082	35	A
17 L 114			.0082	50	C
17 L 115			.01	35	A
17 L 116			.01	50	C
17 L 117			.012	35	A
17 L 118			.012	50	C
17 L 119			.015	35	A
17 L 120			.015	50	C
17 L 121			.018	35	A
17 L 122			.018	50	C
17 L 123			.022	35	A
17 L 124			.022	50	C
17 L 125			.027	35	A
17 L 126			.027	50	C
17 L 127			.033	35	A
17 L 128			.033	50	C
17 L 129			.039	35	A
17 L 130			.039	50	C
17 L 131			.047	35	A
17 L 132			.047	50	C
17 L 133			.056	35	A
17 L 134			.056	50	C
17 L 135			.068	35	A
17 L 136			.068	50	C
17 L 137			.082	35	A
17 L 138			.082	50	C
17 L 139			.1	35	A
17 L 140			.1	50	C
17 L 141			.1	75	D
17 L 142			.1	100	E
17 L 147			.12	35	A
17 L 148			.12	50	C
17 L 149			.12	75	D
17 L 150			.12	100	E
17 L 155			.15	35	A
17 L 156			.15	50	C
17 L 157			.15	75	D
17 L 158			.15	100	E
17 L 163			.18	35	A
17 L 164			.18	50	C
17 L 165			.18	75	D
17 L 166			.18	100	E
17 L 171			.22	35	A
17 L 172			.22	50	C
17 L 173			.22	75	D
17 L 174			.22	100	E
17 L 179			.27	35	B
17 L 180			.27	50	C
17 L 181			.27	75	D
17 L 182			.27	100	E
17 L 187	17 L 191	AFR33K	.33	35	B
17 L 188			.33	50	C
17 L 189			.33	75	D
17 L 190			.33	100	E
17 L 196	17 L 200	AFR39K	.39	35	B

Commer. J-Series Stk. No.	Military		Mfd	VV DC	*
	Stock No.	MIL CS13-			
17 L 197			.39	50	C
17 L 198			.39	75	D
17 L 199			.39	100	E
17 L 206	17 L 211	AFR47K	.47	35	B
17 L 207			.47	50	C
17 L 208			.47	75	D
17 L 210			.47	100	E
17 L 216	17 L 220	AFR56K	.56	35	B
17 L 217			.56	50	C
17 L 218			.56	75	D
17 L 219			.56	100	E
17 L 225	17 L 229	AFR68K	.68	35	B
17 L 226			.68	50	C
17 L 227			.68	75	D
17 L 228			.68	100	E
17 L 234	17 L 238	AFR82K	.82	35	B
17 L 235			.82	50	C
17 L 236			.82	75	H
17 L 237			.82	100	J
17 L 252	17 L 256	AF010K	1.0	35	B
17 L 253	17 L 257	AG010K	1.0	50	C
17 L 254			1.0	75	H
17 L 255			1.0	100	J
17 L 262	17 L 267	AE1R2K	1.2	20	B
17 L 263	17 L 268	AF1R2K	1.2	35	F
17 L 264	17 L 269	AG1R2K	1.2	50	G
17 L 265			1.2	75	H
17 L 266			1.2	100	J
17 L 275	17 L 280	AE1R2K	1.5	20	B
17 L 276	17 L 281	AF1R2K	1.5	35	F
17 L 277	17 L 282	AG1R2K	1.5	50	G
17 L 278			1.5	75	H
17 L 279			1.5	100	J
17 L 288	17 L 293	AE1R8K	1.8	20	B
17 L 289	17 L 294	AF1R8K	1.8	35	F
17 L 290	17 L 295	AG1R8K	1.8	50	G
17 L 291			1.8	75	H
17 L 292			1.8	100	J
17 L 301	17 L 306	AE2R2K	2.2	20	B
17 L 302	17 L 307	AF2R2K	2.2	35	F
17 L 303	17 L 308	AG2R2K	2.2	50	G
17 L 304			2.2	75	H
17 L 305			2.2	100	J
17 L 314	17 L 319	AD2R7K	2.7	15	B
17 L 315	17 L 320	AF2R7K	2.7	35	F
17 L 316	17 L 321	AG2R7K	2.7	50	G
17 L 317			2.7	75	H
17 L 318			2.7	100	J
17 L 328	17 L 332	AD3R3K	3.3	15	B
17 L 329	17 L 333	AF3R3K	3.3	35	F
17 L 330	17 L 335	AG3R3K	3.3	50	G
17 L 331			3.3	75	H
17 L 341	17 L 345	AC3R9K	3.9	10	B
17 L 342	17 L 346	AF3R9K	3.9	35	F
17 L 343	17 L 347	AG3R9K	3.9	50	G
17 L 344			3.9	75	H
17 L 354	17 L 358	AC4R7K	4.7	10	B
17 L 355	17 L 359	AF4R7K	4.7	35	F
17 L 356	17 L 360	AG4R7K	4.7	50	G
17 L 357			4.7	75	N

Commer. J-Series Stk. No.	Military		Mfd	VV DC	*
	Stock No.	MIL CS13-			
17 L 367	17 L 371	AB5R6K	5.6	6	F
17 L 368	17 L 372	AF5R6K	5.6	35	B
17 L 369	17 L 373	AG5R6K	5.6	50	M
17 L 370			5.6	75	N
17 L 380	17 L 384	AB6R8K	6.8	6	B
17 L 381	17 L 385	AF6R8K	6.8	35	F
17 L 382	17 L 387	AG6R8K	6.8	50	M
17 L 383			6.8	75	N
17 L 394	17 L 398	AE8R2K	8.2	20	F
17 L 395	17 L 399	AF8R2K	8.2	35	L
17 L 396	17 L 400	AG8R2K	8.2	50	M
17 L 397			8.2	75	N
17 L 650	17 L 654	AE100K	10	20	F
17 L 651	17 L 655	AF100K	10	35	L
17 L 652	17 L 656	AG100K	10	50	M
17 L 653			10	75	N
17 L 663	17 L 667	AE120K	12	20	F
17 L 664	17 L 668	AF120K	12	35	L
17 L 665	17 L 669	AG120K	12	50	M
17 L 666			12	75	N
17 L 677	17 L 681	AE150K	15	20	F
17 L 678	17 L 682	AF150K	15	35	L
17 L 679	17 L 683	AG150K	15	50	M
17 L 680			15	75	N
17 L 691	17 L 694	AD180K	18	15	F
17 L 692	17 L 695	AF180K	18	35	L
17 L 693	17 L 696	AG180K	18	50	M
17 L 704	17 L 708	AD220K	22	15	F
17 L 706	17 L 709	AF220K	22	35	L
17 L 707	17 L 710	AG220K	22	50	M
17 L 718	17 L 721	AC270K	27	10	F
17 L 719	17 L 722	AE270K	27	20	F
17 L 720	17 L 723	AF270K	27	35	R
17 L 729	17 L 732	AC330K	33	10	F
17 L 730	17 L 733	AE330K	33	20	K
17 L 731	17 L 734	AF330K	33	35	R
17 L 740	17 L 743	AC390K	39	10	F
17 L 741	17 L 744	AE390K	39	20	K
17 L 742	17 L 745	AF390K	39	35	R
17 L 751	17 L 754	AB470K	47	6	F
17 L 752	17 L 755	AE470K	47	20	K
17 L 753	17 L 756	AF470K	47	35	S
17 L 762	17 L 765	AB560K	56	6	F
17 L 763	17 L 766	AD560K	56	15	K
17 L 764	17 L 767	AE560K	56	20	P
17 L 773	17 L 775	AD680K	68	15	K
17 L 774	17 L 776	AE680K	68	20	P
17 L 781	17 L 783	AC820K	82	10	K
17 L 782	17 L 784	AE820K	82	20	P
17 L 788	17 L 790	AC101K	100	10	K
17 L 789	17 L 791	AE101K	100	20	P
17 L 795	17 L 797	AC121K	120	10	K
17 L 796	17 L 798	AD121K	120	15	P
17 L 802	17 L 804	AB151K	150	6	K
17 L 803	17 L 806	AD151K	150	15	P
17 L 812	17 L 814	AB181K	180	6	K
17 L 813	17 L 815	AC181K	180	10	P
17 L 819	17 L 821	AC221K	220	10	P
17 L 824	17 L 825	AB271K	270	6	P
17 L 827	17 L 828	AB331K	330	6	P

# Kemet and Mallory Tantalum Capacitors

## KEMET NEW C- AND P- SERIES 10% TOLERANCE POLARIZED SOLID TANTALUMS

C-Series. Bullet shaped, epoxy molded. For better grade entertainment devices, two-way radio, etc. Peak performance under severe shock and vibration. Low DC leakage and high capacitance-stability at temperatures from -55°C to +85°C. Price depends upon case size. Shpg. wt., 2 oz.



P-Series. Encapsulated in a unique, rectangular, precision-molded epoxy case with excellent moisture resistance, and dielectric properties. Withstands severe shock and vibration. Maximum capacitance per unit of chassis area. Designed for space saving applications. Epoxy case permits use with automatic insertion equipment. Polarity symbol molded in case. -55°C to +85°C. Price depends on size, 2 oz.



### PRICE AND SIZE LOCATOR

*Case Size	Diameter x Length	EACH				
		1-24	25-49	50-99	100-499	500-999
A	.138x.390"	.88	.71	.63	.52	.42
B	.195x.562"	1.14	.91	.81	.67	.54
C	.195x.562"	1.02	.82	.73	.60	.49
D	.195x.562"	1.32	1.06	.94	.77	.63
E	.303x.710"	1.45	1.17	1.03	.85	.69
F	.303x.710"	1.67	1.34	1.18	.97	.78
G	.303x.710"	2.16	1.73	1.53	1.25	1.01
H	.368x.875"	2.92	2.34	2.06	1.69	1.36
J	.368x.875"	2.99	2.40	2.12	1.74	1.40
K	.368x.875"	3.09	2.48	2.19	1.80	1.45
L	.368x.875"	4.01	3.22	2.84	2.33	1.88

### PRICE AND SIZE LOCATOR

*Case Size	Physical Size (HWD)	EACH				
		1-24	25-49	50-99	100-499	500-999
A	.170x.225x.290"	1.90	1.52	1.28	.95	.90
B	.170x.225x.290"	2.47	1.98	1.68	1.24	1.17
C	.170x.325x.360"	1.98	1.58	1.34	.98	.93
D	.170x.325x.360"	2.57	2.07	1.74	1.27	1.20
E	.195x.375x.600"	3.28	2.62	2.21	1.63	1.55
F	.195x.375x.600"	4.26	3.42	2.87	2.09	2.02

Stock No.	Mfr's Type	Mfd	WV DC	*	Stock No.	Mfr's Type	Mfd	WV DC	*
17 L 145	KR1C35K	.10	35	A	17 L 391	K6R8C6K	6.8	6	A
17 L 146	KR1C50K	.10	50	B	17 L 392	K6R8C35K	6.8	35	C
17 L 161	KR15C35K	.15	35	A	17 L 393	K6R8C50K	6.8	50	C
17 L 162	KR15C50K	.15	50	B	17 L 660	K10C20K	10	20	C
17 L 177	KR22C35K	.22	35	A	17 L 661	K10C35K	10	35	F
17 L 178	KR22C50K	.22	50	B	17 L 662	K10C50K	10	50	G
17 L 194	KR33C35K	.33	35	A	17 L 688	K15C20K	15	20	C
17 L 195	KR33C50K	.33	50	B	17 L 689	K15C35K	15	35	F
17 L 214	KR47C35K	.47	35	A	17 L 690	K15C50K	15	50	G
17 L 215	KR47C50K	.47	50	B	17 L 715	K22C15K	22	15	C
17 L 232	KR68C35K	.68	35	A	17 L 716	K22C35K	22	35	F
17 L 233	KR68C50K	.68	50	B	17 L 717	K22C50K	22	50	L
17 L 260	K1C35K	1.0	35	A	17 L 737	K33C10K	33	10	C
17 L 261	K1C50K	1.0	50	B	17 L 738	K33C20K	33	20	E
17 L 285	K1R5C20K	1.5	20	A	17 L 739	K33C35K	33	35	J
17 L 286	K1R5C35K	1.5	35	C	17 L 759	K47C6K	47	6	C
17 L 287	K1R5C50K	1.5	50	D	17 L 760	K47C20K	47	20	E
17 L 311	K2R2C20K	2.2	20	A	17 L 761	K47C35K	47	35	K
17 L 312	K2R2C35K	2.2	35	C	17 L 779	K68C15K	68	15	E
17 L 313	K2R2C50K	2.2	50	D	17 L 780	K68C20K	68	20	H
17 L 338	K3R3C15K	3.3	15	A	17 L 793	K100C10K	100	10	E
17 L 339	K3R3C35K	3.3	35	C	17 L 794	K100C20K	100	20	H
17 L 340	K3R3C50K	3.3	50	D	17 L 808	K150C6K	150	6	E
17 L 364	K4R7C10K	4.7	10	A	17 L 809	K150C15K	150	15	H
17 L 365	K4R7C35K	4.7	35	C	17 L 823	K220C10K	220	10	H
17 L 366	K4R7C50K	4.7	50	D	17 L 829	K330C6K	330	6	H

Stock No.	Mfr's Type	Mfd	WV DC	*	Stock No.	Mfr's Type	Mfd	WV DC	*
17 L 143	KR21P35K	.1	35	A	17 L 388	K6R8P15K	6.8	15	A
17 L 144	KR1P50K	.1	50	B	17 L 389	K6R8P35K	6.8	35	C
17 L 159	KR15P35K	.15	35	A	17 L 390	K6R8P50K	6.8	50	C
17 L 160	KR15P50K	.15	50	B	17 L 403	K8R2P35K	8.2	35	C
17 L 175	KR22P35K	.22	35	A	17 L 657	K10P10K	10	10	A
17 L 176	KR22P50K	.22	50	B	17 L 658	K10P35K	10	35	C
17 L 192	KR33P35K	.33	35	A	17 L 659	K10P50K	10	50	F
17 L 193	KR33P50K	.33	50	B	17 L 672	K12P35K	12	35	E
17 L 212	KR47P35K	.47	35	A	17 L 684	K15P10K	15	10	A
17 L 213	KR47P50K	.47	50	B	17 L 685	K15P25K	15	25	C
17 L 230	KR68P35K	.68	35	A	17 L 686	K15P35K	15	35	E
17 L 231	KR68P50K	.68	50	B	17 L 687	K15P50K	15	50	F
17 L 258	K1P35K	1.0	35	A	17 L 699	K18P35K	18	35	E
17 L 259	K1P50K	1.0	50	B	17 L 700	K18P50K	18	50	F
17 L 270	K1R2P35K	1.2	35	A	17 L 711	K22P6K	22	6	A
17 L 283	K1R5P35K	1.5	35	A	17 L 712	K22P15K	22	15	C
17 L 284	K1R5P50K	1.5	50	B	17 L 714	K22P35K	22	35	E
17 L 296	K1R8P35K	1.8	35	A	17 L 725	K27P35K	27	35	E
17 L 309	K2R2P35K	2.2	35	A	17 L 735	K33P10K	33	10	C
17 L 310	K2R2P50K	2.2	50	B	17 L 736	K33P35K	33	35	E
17 L 322	K2R7P35K	2.7	35	A	17 L 757	K47P6K	47	6	C
17 L 336	K3R3P35K	3.3	35	A	17 L 758	K47P25K	47	25	E
17 L 337	K3R3P50K	3.3	50	B	17 L 777	K68P6K	68	6	C
17 L 349	K3R9P35K	3.9	35	C	17 L 778	K68P15K	68	15	E
17 L 361	K4R7P25K	4.7	25	A	17 L 785	K82P15K	82	15	E
17 L 362	K4R7P35K	4.7	35	A	17 L 792	K100P10K	100	10	B
17 L 363	K4R7P50K	4.7	50	D	17 L 807	K150P10K	150	10	E
17 L 375	K5R6P35K	5.6	35	C	17 L 822	K220P6K	220	6	E

## MALLORY TANTALUM CAPACITORS

### TNT-SERIES SUBMINIATURE TYPES

Subminiature electrolytics with relatively high capacitance values despite tiny size. Polarized. Used in communications equipment, computers, transistorized circuits, and control systems. Have silver cases with epoxy-sealed axial leads. Excellent salt spray and humidity resistance. Temperature range: -55°C to +85°C. Tolerance: -15% to +75% at 85°C. Price depends on size, 2 oz.



### TAP-SERIES MINIATURE WET-SLUG TANTALUMS

Extremely small sintered-anode capacitors. Have corrosion-and moisture-resistant silver cases with epoxy resin end-seals and 1/2" leads. Low DC leakage. For military and commercial aircraft control, communications equipment, hearing aids, and PC's. Tolerance, -15% to +75%. -55°C to +85°C. Price depends on case size. Shpg. wt., 5 oz.



### PRICE AND SIZE LOCATOR

Case Code	Size Diameter x Length	EACH				
		1-24	25-49	50-99	100-499	500-999
A	1 1/16x1/32"	1.46	1.17	.99	.84	.766
B	1 1/8x2 1/32"	2.46	1.97	1.66	1.415	1.29

### PRICE AND SIZE LOCATOR

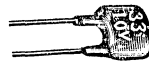
Case Code	Size Dia. x L	EACH				
		1-24	25-49	50-99	100-499	500-999
A	1 1/16x1 1/32"	1.24	.99	.84	.714	.651
B	1 1/8x2 1/32"	1.46	1.17	.99	.84	.766

Stock No.	Mfr's Type	Mfd	WV DC	Case Code
18 L 960	TNT205U050POA	2	50	A
18 L 961	TNT1405U050POA	4	50	A
18 L 962	TNT665U035POA	6	35	A
18 L 963	TNT805U050POA	8	50	B
18 L 955	TNT126U015POB	12	15	A
18 L 944	TNT126U035POB	12	35	B
18 L 956	TNT156U030POB	15	30	B
18 L 964	TNT256U006POA	25	6	A
18 L 957	TNT256U015POB	25	15	B
18 L 947	TNT356U012POB	35	12	B
18 L 956	TNT406U003POA	40	3	A
18 L 958	TNT506U006POB	50	6	B
18 L 959	TNT806U003POB	80	3	B

Stock No.	Mfr's Type	Mfd	WV DC	Case Code	Stock No.	Mfr's Type	Mfd	WV DC	Case Code
18 L 796	TAP205U090POA	2	90	A	18 L 841	TAP156U0075POB	15	75	B
18 L 441	TAP355U075POA	3.5	75	A	18 L 449	TAP250U010POA	20	10	A
18 L 442	TAP405U060POA	4	60	A	18 L 840	TAP206U060POB	20	60	B
18 L 443	TAP505U050POA	5	50	A	18 L 839	TAP256U050POB	25	50	B
18 L 444	TAP605U040POA	6	40	A	18 L 438	TAP366U006POA	30	6	A
18 L 445	TAP805U030POA	8	30	A	18 L 838	TAP306U040POB	30	40	B
18 L 446	TAP106U025POA	10	25	A	18 L 837	TAP406U030POB	40	30	B
18 L 842	TAP116U090POB	11	90	B	18 L 836	TAP706U015POB	70	15	B
18 L 447	TAP126U020POA	12	20	A	18 L 835	TAP107U010POB	100	10	B
18 L 448	TAP156U015POA	15	15	A	18 L 834	TAP147U006POB	140	6	B

### TAM-SERIES PRINTED-CIRCUIT SLID ELECTROLYTICS

Sintered pellet anode in plastic case. Grid-spaced leads per EIA standards for PC's. From -55°C to +85°C. Tolerance, 20%. Case size, only .175x.325x.410". Leads, 0.2" dia. x 1 1/2". 2 oz.



Stock No.	Mfr's Type	Mfd	WV DC
18 L 286	TAM685M025P5C	6.8	25
18 L 287	TAM106M025P5C	10	25
18 L 288	TAM156M025P5C	15	25
18 L 289	TAM226M015P5C	22	15
18 L 290	TAM336M010P5C	33	10
18 L 291	TAM396M010P5C	39	10
18 L 292	TAM566M006P5C	56	6

# SPRAGUE

# Metallized Paper Capacitors

## TYPE 118P HERMETICALLY SEALED "DIFILM" CAPACITORS



Dual-Dielectric—Solder Sealed

Hermetically sealed with glass-to-metal solder-seal terminals. Feature Sprague's unique dual dielectric—a combination of metallized paper and polyester film, impregnated with high-temperature mineral wax. Rated for operation

at 125°C without voltage derating. High insulation resistance and special self-healing properties. Meet latest MIL-C-25 specs. All are ungrounded-case units without outer insulating sleeves. Tolerance, ±10%. Av. Shpg. wt., 5 oz.

### 200 WVDC

Stock No.	Type 118P	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
13 L 068	10392S2	.01	1½x3¼"	1.95	1.14	.88	.78	.72
13 L 069	12392S2	.012	1½x3¼"					
13 L 070	15392S2	.015	1½x3¼"					
13 L 071	18392S2	.018	1½x3¼"					
13 L 072	22392S2	.022	1½x3¼"					
13 L 073	27392S2	.027	1½x3¼"	1.95	1.14	.88	.78	.72
13 L 074	33392S2	.033	1½x3¼"	1.95	1.14	.88	.78	.72
13 L 075	39392S2	.039	5/16x1/8"	1.96	1.15	.89	.79	.72
13 L 076	47392S2	.047	5/16x1/8"	1.97	1.15	.89	.79	.73
13 L 077	56392S2	.056	5/16x1/8"	1.98	1.16	.90	.80	.73
13 L 078	68392S2	.068	5/16x7/8"	2.02	1.18	.91	.81	.74
13 L 079	82392S2	.082	5/16x7/8"	2.03	1.19	.92	.81	.75
13 L 080	10492S2	.1	5/16x7/8"	2.04	1.19	.92	.82	.75
13 L 081	12492S2	.12	5/16x1½"	2.04	1.19	.92	.82	.75
13 L 082	15492S2	.15	5/16x1½"	2.07	1.21	.94	.83	.76
13 L 083	22492S2	.22	13/32x7/8"	2.07	1.21	.94	.83	.76
13 L 084	27492S2	.27	13/32x1½"	2.15	1.26	.97	.86	.79
13 L 085	33492S2	.33	13/32x1½"	2.22	1.30	1.00	.89	.82
13 L 086	39492S2	.39	1/2x1½"	2.28	1.33	1.03	.92	.84
13 L 087	47492S2	.47	1/2x1½"	2.33	1.36	1.05	.93	.86
13 L 088	56492S2	.56	1/2x1½"	2.37	1.39	1.07	.95	.87
13 L 089	68492S2	.68	1/2x1½"	2.40	1.40	1.08	.96	.88
13 L 090	82492S2	.82	5/8x1½"	2.48	1.45	1.12	.99	.91
13 L 091	10592S2	1.0	5/8x1½"	2.55	1.49	1.15	1.02	.94
13 L 092	15592S2	1.5	5/8x1½"	3.62	2.11	1.63	1.45	1.33
13 L 093	20592S2	2.0	4/3x1½"	4.29	2.51	1.94	1.72	1.58
13 L 094	30592S2	3.0	4/3x1½"	4.50	2.63	2.03	1.80	1.65
13 L 095	40592S2	4.0	3/4x1½"	4.80	2.80	2.16	1.92	1.76
13 L 096	50592S2	5.0	1x1½"	5.25	3.07	2.37	2.10	1.93

### 200 WVDC (Cont'd)

Stock No.	Type 118P	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
13 L 097	60592S2	6.0	1x1½"	6.00	3.50	2.70	2.40	2.20
13 L 098	80592S2	8.0	1x1½"	6.15	3.59	2.77	2.46	2.26
13 L 099	10692S2	10.0	1x2½"	6.57	3.84	2.96	2.63	2.41
13 L 100	12692S2	12.0	1x2½"	7.41	4.33	3.34	2.97	2.72

### 400 WVDC

13 L 101	22392S2	.022	5/16x7/8"	2.01	1.17	.91	.81	.74
13 L 102	15492S2	.15	1/2x1½"	2.37	1.39	1.07	.95	.87
13 L 103	10594S2	1.0	3/4x1½"	3.40	1.98	1.53	1.36	1.25
13 L 104	20594S2	2.0	1x1½"	4.95	2.89	2.23	1.98	1.82
13 L 105	30592S2	3.0	1x2½"	5.85	3.42	2.64	2.34	2.15

### 600 WVDC

13 L 106	10396S2	.01	5/16x7/8"	2.01	1.18	.91	.81	.74
13 L 107	15396S2	.015	5/16x7/8"	2.03	1.19	.92	.81	.75
13 L 108	22392S2	.022	5/16x1½"	2.04	1.19	.92	.82	.75
13 L 109	33396S2	.033	5/16x1½"	2.04	1.19	.92	.82	.75
13 L 110	47396S2	.047	13/32x1½"	2.07	1.21	.93	.83	.76
13 L 111	68396S2	.068	13/32x1½"	2.16	1.26	.98	.87	.80
13 L 112	10496S2	.1	1/2x1½"	2.34	1.37	1.06	.94	.86
13 L 113	15496S2	.15	5/16x1½"	2.43	1.42	1.10	.98	.90
13 L 114	22496S2	.22	3/8x1½"	2.57	1.50	1.16	1.03	.95
13 L 115	33496S2	.33	5/16x1½"	2.85	1.67	1.29	1.14	1.05
13 L 116	47496S2	.47	43/64x1½"	3.08	1.80	1.39	1.23	1.13
13 L 117	68496S2	.68	43/64x1½"	3.33	1.95	1.50	1.34	1.23
13 L 118	10596S2	1.0	1x1½"	4.35	2.54	1.96	1.74	1.60
13 L 119	15596S2	1.5	1x1½"	4.59	2.68	2.07	1.84	1.69
13 L 120	20596S2	2.0	1x2½"	5.55	3.24	2.50	2.22	2.04
13 L 121	25596S2	2.5	1x2½"	6.30	3.68	2.84	2.52	2.31

## TYPES 155P AND 156P METALLIZED PAPER CAPACITORS IN MOLDED CASES



In terms of cost, safety, and performance under conditions of high humidity, these capacitors are superior to most paper-jacketed or film-wrapped metallized capacitors. The molded phenolic case supplies excellent resistance to high humidity. At

85°C, the minimum product of insulation resistance and capacitance is 40 megohm-microfarads. Safety feature—capacitors withstand an overvoltage of twice the rated voltage. Circuit designers can use them at extremely low voltages where other metallized paper capacitors are unsatisfactory. Operating temperature range, -40°C to +85°C. Tolerance, ±20%. Av. shpg. wt., 3 oz.

Stock No.	Mfd	WVDC	Size	EACH			
				1-24	25-49	50-99	100-499
10 L 200	.01	200	3/16x1"	.42	.26	.20	.18
10 L 201	.015	200	3/16x1"	.42	.26	.20	.18
10 L 202	.02	200	3/16x1"	.42	.26	.20	.18
10 L 203	.022	200	3/16x1"	.42	.26	.20	.18
10 L 204	.03	200	3/16x1"	.45	.27	.21	.18
10 L 205	.033	200	3/16x1"	.45	.27	.21	.18
10 L 206	.047	200	3/16x1"	.45	.27	.21	.18
10 L 207	.05	200	3/16x1"	.45	.27	.21	.19
10 L 208	.068	200	3/16x1"	.45	.28	.22	.19
10 L 209	.1	200	3/16x1"	.45	.28	.22	.19
10 L 210	.15	200	3/8x1¼"	.45	.28	.22	.19
10 L 211	.22	200	3/8x1¼"	.45	.28	.22	.20
10 L 212	.25	200	1/16x1¼"	.66	.39	.30	.27
10 L 213	.33	200	1/16x1¼"	.66	.39	.30	.27
10 L 214	.47	200	1/16x1¼"	.66	.40	.31	.28
10 L 215	.5	200	1/2x1½"	.78	.60	.46	.41
10 L 216	.67	200	1/2x1½"	.78	.60	.46	.41
10 L 217	1.0	200	1/2x1½"	1.05	.63	.48	.43
10 L 218	1.5	200	5/8x1½"	1.20	.70	.54	.48
10 L 219	2.0	200	5/8x1½"	1.41	.85	.66	.59
10 L 220	2.5	200	3/4x2¼"	1.65	.97	.75	.66
10 L 221	3.0	200	3/4x2¼"	1.80	1.05	.81	.72
10 L 222	3.5	200	3/4x2¼"	2.10	1.23	.95	.84
10 L 223	4.0	200	3/4x2¼"	2.22	1.30	1.00	.89
10 L 224	4.5	200	1/2x2½"	2.40	1.40	1.08	.96
10 L 225	5.0	200	1/2x2½"	2.55	1.49	1.15	1.02
10 L 226	5.5	200	1/2x2½"	2.70	1.58	1.22	1.08
10 L 227	6.0	200	1/2x2½"	3.00	1.75	1.35	1.20
10 L 228	6.5	200	1/2x2½"	3.15	1.84	1.42	1.26
10 L 229	7.0	200	7/8x2½"	3.33	1.95	1.50	1.34
10 L 230	7.5	200	7/8x2½"	3.51	2.05	1.58	1.41
10 L 231	8.0	200	1x2½"	3.75	2.19	1.69	1.50
10 L 232	8.5	200	1x2½"	3.90	2.28	1.76	1.56
10 L 233	9.0	200	1x2½"	4.05	2.37	1.83	1.62
10 L 234	9.5	200	1x2½"	4.20	2.45	1.89	1.68
10 L 235	.01	400	5/16x1"	.42	.26	.20	.18
10 L 236	.015	400	5/16x1"	.42	.26	.20	.18
10 L 237	.02	400	5/16x1"	.42	.27	.21	.18
10 L 238	.022	400	5/16x1"	.42	.27	.21	.18
10 L 239	.025	400	5/8x1¼"	.42	.27	.21	.19
10 L 240	.03	400	5/8x1¼"	.42	.27	.21	.19

Stock No.	Mfd	WVDC	Size	EACH			
				1-24	25-49	50-99	100-499
10 L 241	.033	400	3/8x1¼"	.42	.27	.21	.19
10 L 242	.04	400	3/8x1¼"	.42	.28	.22	.19
10 L 243	.047	400	3/8x1¼"	.42	.28	.22	.20
10 L 244	.05	400	3/8x1¼"	.45	.29	.23	.20
10 L 245	.068	400	7/16x1½"	.45	.29	.23	.20
10 L 246	.1	400	7/16x1½"	.51	.30	.23	.21
10 L 247	.15	400	1/2x1½"	.66	.39	.30	.27
10 L 248	.2	400	1/2x1½"	.69	.44	.35	.30
10 L 249	.22	400	1/2x1½"	.69	.44	.35	.30
10 L 250	.25	400	5/8x1½"	.72	.48	.37	.33
10 L 251	.33	400	5/8x1½"	.72	.48	.37	.33
10 L 252	.47	400	5/8x1½"	.90	.55	.43	.38
10 L 253	.5	400	3/4x1½"	.93	.62	.48	.42
10 L 254	.68	400	13/32x2¼"	1.05	.62	.48	.42
10 L 255	1.0	400	3/4x2¼"	1.29	.77	.60	.53
10 L 256	1.5	400	7/8x2½"	1.59	.93	.72	.64
10 L 257	2.0	400	7/8x2½"	1.80	1.09	.84	.75
10 L 258	2.5	400	1x2½"	2.25	1.32	1.02	.90
10 L 259	.01	600	5/16x1"	.45	.27	.21	.19
10 L 260	.015	600	5/16x1"	.45	.28	.21	.19
10 L 261	.02	600	3/8x1¼"	.45	.28	.22	.19
10 L 262	.022	600	3/8x1¼"	.45	.28	.22	.19
10 L 263	.03	600	3/8x1¼"	.48	.29	.23	.20
10 L 264	.033	600	3/8x1¼"	.48	.29	.23	.20

# Quality Capacitors by . . . **SPRAGUE**

## SERIES 96P "VITAMIN Q" SUBMINIATURE TYPES

Features positive hermetic glass-to-metal end seals. Style S-2—insulated section, plain metal case. Impregnated with "Vitamin Q" for higher insulation resistance and long life. Exceed

MIL-C-25 specs. Inserted-tab construction. Temp. range, —55°C to +125°C. Tolerance is ±10%. Av. shgp. wt., 2 oz. Write for prices on quantities of 500-999.



### 100 WVDC

Stock No.	Type 96P	Mfd	Size Dia. x L.	EACH				
				1-9	10-24	25-49	50-99	100-499
16 L 756	10291	.001	3/16x3/4"	1.49	1.12	.84	.56	.45
16 L 757	15291	.0015	3/16x3/4"	1.49	1.12	.84	.56	.45
16 L 758	22291	.0022	3/16x3/4"	1.49	1.12	.84	.56	.45
16 L 759	33291	.0033	3/16x3/4"	1.49	1.12	.84	.56	.45
16 L 760	47291	.0047	3/16x3/4"	1.51	1.13	.85	.57	.46
15 L 911	10391	.01	3/16x3/4"	1.51	1.13	.85	.57	.46
16 L 763	22391	.022	3/16x3/4"	1.51	1.13	.83	.57	.46
16 L 765	47391	.047	3/16x1/2"	1.47	1.10	.83	.55	.44
16 L 766	68391	.068	3/16x1/2"	1.55	1.16	.87	.58	.47
15 L 926	10491	.1	5/16x1/2"	1.59	1.19	.90	.60	.48
16 L 767	22491	.22	1/2x1 1/8"	1.67	1.25	.94	.63	.50
15 L 925	47491	.47	9/16x1 1/8"	2.02	1.52	1.14	.76	.61
15 L 044	10591	1.0	9/16x1 1/8"	2.54	1.91	1.43	.96	.77

### 200 WVDC

Stock No.	Type 96P	Mfd	Size Dia. x L.	EACH				
				1-9	10-24	25-49	50-99	100-499
16 L 771	10292	.001	3/16x3/4"	1.43	1.07	.81	.54	.43
16 L 772	15292	.0015	3/16x3/4"	1.43	1.07	.81	.54	.43
16 L 773	22292	.0022	3/16x3/4"	1.43	1.07	.81	.54	.43
16 L 774	33292	.0033	3/16x3/4"	1.47	1.10	.83	.55	.44
16 L 775	47292	.0047	3/16x3/4"	1.47	1.10	.83	.55	.44
15 L 912	10392	.01	3/16x3/4"	1.47	1.10	.83	.55	.44
16 L 777	15392	.015	3/16x3/4"	1.49	1.12	.84	.56	.45
15 L 913	22392	.022	3/16x3/4"	1.49	1.12	.84	.56	.45
15 L 914	47392	.047	5/16x1/2"	1.55	1.16	.87	.58	.47
15 L 924	10492	.1	1/2x1 1/8"	1.63	1.22	.92	.61	.49
16 L 780	15492	.15	1/2x1 1/8"	1.65	1.24	.93	.62	.50
15 L 915	22492	.22	1/2x1 1/8"	1.81	1.36	1.02	.68	.55
15 L 923	47492	.47	9/16x1 1/8"	2.06	1.55	1.16	.78	.62
16 L 782	68492	.68	9/16x1 1/8"	2.18	1.64	1.23	.82	.66
15 L 916	10592	1.0	2/32x1 1/8"	2.62	1.96	1.47	.98	.79

### 300 WVDC

Stock No.	Type 96P	Mfd	Size Dia. x L.	1-9	10-24	25-49	50-99	100-499
15 L 045	47393	.047	5/16x7/8"	1.63	1.22	.92	.61	.49

### 300 WVDC (Cont'd)

Stock No.	Type 96P	Mfd	Size Dia. x L.	EACH				
				1-9	10-24	25-49	50-99	100-499
16 L 793	68393	.068	1/2x2 3/8"	1.67	1.25	.94	.63	.50
15 L 046	10493	.1	1/2x2 1/8"	1.67	1.25	.94	.63	.50
16 L 796	33493	.33	9/16x1 3/8"	2.02	1.52	1.14	.76	.61
15 L 047	47493	.47	9/16x1 1/8"	2.46	1.85	1.39	.93	.74
15 L 048	10593	1.0	3/4x2 1/16"	3.37	2.53	1.90	1.27	1.01

### 400 WVDC

Stock No.	Type 96P	Mfd	Size Dia. x L.	EACH				
				1-9	10-24	25-49	50-99	100-499
16 L 797	10294	.001	3/16x3/4"	1.49	1.12	.84	.56	.45
16 L 800	33294	.0033	3/16x3/4"	1.53	1.15	.86	.58	.46
16 L 801	47294	.0047	3/16x3/4"	1.53	1.15	.86	.58	.46
15 L 917	10394	.01	3/16x3/4"	1.55	1.16	.87	.58	.47
16 L 803	15394	.015	5/16x1/2"	1.58	1.19	.90	.60	.48
15 L 918	22394	.022	5/16x1/2"	1.61	1.21	.91	.61	.49
16 L 804	33394	.033	5/16x1/2"	1.61	1.21	.91	.61	.49
15 L 919	47394	.047	1/2x1 1/8"	1.67	1.25	.94	.63	.50
15 L 922	10494	.1	1/2x1 1/8"	1.75	1.31	.98	.66	.53
16 L 807	15494	.15	9/16x1 1/8"	1.91	1.43	1.07	.72	.58
15 L 920	22494	.22	9/16x1 1/8"	2.02	1.52	1.14	.76	.61
16 L 806	33494	.33	9/16x1 1/8"	2.06	1.55	1.25	.78	.62
15 L 921	47494	.47	2/32x1 1/8"	2.46	1.85	1.39	.93	.74
15 L 049	10594	1.0	1x1 1/8"	3.39	2.54	1.91	1.27	1.02

### 600 WVDC

Stock No.	Type 96P	Mfd	Size Dia. x L.	EACH				
				1-9	10-24	25-49	50-99	100-499
15 L 927	22296	.0022	1/2x3/4"	1.51	1.13	.85	.57	.46
15 L 902	47297	.0047	1/2x3/4"	1.55	1.16	.87	.58	.47
15 L 903	68296	.068	1/2x3/4"	1.55	1.16	.87	.58	.47
15 L 904	10396	.01	5/16x7/8"	1.59	1.19	.90	.60	.48
15 L 905	22396	.022	5/16x7/8"	1.63	1.22	.92	.61	.49
15 L 906	47396	.047	1/2x2 3/8"	1.71	1.28	.96	.64	.52
15 L 907	68396	.068	1/2x2 3/8"	1.79	1.34	1.01	.67	.54
15 L 908	10496	.1	9/16x1 1/8"	1.91	1.43	1.07	.72	.58
15 L 910	47496	.47	3/4x2 1/8"	2.68	2.01	1.51	1.01	.81

## MIL TYPE CP 53 CAPACITORS

Non-inductive oil-filled bathtub capacitors; hermetically sealed, silicone rubber compression terminals. Have mtg. flanges. Exceed MIL-C-25A. Suffix K has tolerance of ±10%; V, +20%, -10%. For use up to 85°C. 600 WVDC, except \*1000 WVDC. Av. wt., 5 oz.



Stock No.	MIL No. CP53	Mfd	Size	EACH				
				1-9	10-24	25-49	50-99	100-499
15 L 727	B1EF503K	.05	1 1/32x1x3/4"	1.79	1.19	1.01	.74	.65
15 L 736	B1EF104K	.1	1 1/32x1x3/4"	1.84	1.23	1.04	.77	.67
15 L 737	B1EF254K	.25	1 1/32x1x3/4"	1.91	1.27	1.08	.79	.70
15 L 738	B1EF504K	.5	1 1/32x1x1"	2.06	1.37	1.17	.86	.75
15 L 739	B1EF105K	1.0	2x1 1/4x1"	2.41	1.60	1.36	1.00	.88
15 L 740	B1EF205K	2.0	2x2x1 1/2"	3.21	2.14	1.82	1.34	1.17
15 L 741	B4EF104V	1-1	1 1/32x1x3/4"	2.50	1.67	1.42	1.04	.92
15 L 742	B1EF254V	25-.25	1 1/32x1x1"	2.58	1.72	1.46	1.07	.94
15 L 743	B4EF504V	5-.5	2x1 3/4x1"	2.94	1.96	1.67	1.22	1.08
15 L 744	B5EF104V	1-1-.1	1x1 1/4x3/8"	2.87	1.91	1.63	1.19	1.05
15 L 745	B1EG254K*	.25	1 1/32x1x1"	2.02	1.34	1.14	.84	.74
15 L 735	B1EG104K*	.1	1 1/32x1x3/4"	1.95	1.30	1.10	.81	.71
15 L 746	B4EG254K*	25-.25	2x1 1/4x1"	2.83	1.88	1.60	1.18	1.03
15 L 747	B1EG504K*	.5	2x1 1/4x3/8"	2.16	1.41	1.22	.90	.79
15 L 748	B1EG105K*	1.0	2x2x1 1/2"	2.90	1.93	1.64	1.20	1.06

## TYPE 121P METALLIZED PAPER CAPACITORS

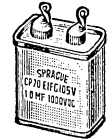
Operate at 125°C without derating. Have ungrounded cases. Hermetically sealed, glass-to-metal solder-seal terminals. Tol., ±10%. 150 WVDC. 2 oz.



Stock No.	Type 121P	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
13 L 122	15591RS2	2.0	9/16x1 1/8"	2.73	1.60	1.23	1.10	1.01
13 L 123	20591RS2	2.5	9/16x1 3/8"	3.00	1.75	1.35	1.20	1.10
13 L 124	25591RS2	2.5	9/16x1 1/2"	3.09	1.81	1.40	1.24	1.14
13 L 125	30591RS2	3.0	3/4x1 1/8"	3.45	2.02	1.56	1.38	1.28
13 L 126	35591RS2	3.5	4/8x1 1/8"	3.66	2.14	1.65	1.47	1.35
13 L 127	40591RS2	4.0	4/8x1 1/8"	3.72	2.17	1.68	1.49	1.37
13 L 128	50591RS2	5.0	4/8x1 1/8"	4.08	2.38	1.84	1.64	1.50
13 L 129	60591RS2	6.0	3/4x1 1/2"	4.44	2.59	2.00	1.78	1.63
13 L 130	80591RS2	8.0	3/4x2 1/8"	5.16	3.01	2.33	2.07	1.90
13 L 131	10691RS2	10.0	3/4x2 3/8"	5.97	3.49	2.69	2.39	2.19
13 L 132	12691RS2	12.0	1x1 1/8"	6.75	3.94	3.04	2.70	2.48
13 L 133	14691RS2	14.0	1x2 1/8"	7.53	4.40	3.39	3.02	2.77
13 L 134	16691RS2	16.0	1x2 3/8"	8.01	4.68	3.61	3.21	2.94
13 L 135	18691RS2	18.0	1x2 3/8"	9.12	5.32	4.11	3.65	3.35

## TYPE CP-70 CAPACITORS

Rectangular, oil-filled paper capacitors for power supply filter application. Meet MIL-C-25A and JAN-C25 specs shown in table. Tolerance ±10%. Terminals have ceramic pillar insulators (Type E) or rubber compression seals (Type B). Impregnated with specially processed mineral oil to withstand severe operating conditions. Hermetically sealed in metal cases with crimped and soldered seams. Built for long life and reliable service under high ambient temperatures, surge voltages, and ripple currents. Operate dependably and efficiently in temperatures ranging from —35°C to +85°C. Av. shgp. wt., 12 oz.



Type B

Type E

### TYPE B—RUBBER COMPRESSION SEALS

Stock No.	JAN No. CP 70	Mfd	WV DC	Size	EACH			
					1-9	10-24	25-49	50-99
16 L 164	B1EF105K	1.0	600	1 1/32x1 1/2x2 1/4"	3.06	1.22	1.05	1.02
15 L 262	B1EF205K	2.0	600	1 1/32x1 1/2x3 1/4"	3.96	1.58	1.40	1.37
15 L 263	B1EF405K	4.0	600	2 1/2x1 1/2x3 3/8"	5.53	2.19	1.94	1.89
15 L 264	B1EF605K	6.0	600	3 1/4x1 1/2x3 3/8"	6.55	2.61	2.33	2.26
16 L 165	B1EF805K	8.0	600	3 3/4x1 1/4x3 1/4"	8.14	3.23	2.90	2.83
15 L 265	B1EF106K	10.0	600	3 3/4x1 1/4x3 1/4"	8.79	3.49	3.21	3.15
15 L 166	B1EG504K	.5	1000	1 1/32x1 1/2x2 1/4"	3.11	1.35	1.18	1.14
15 L 266	B1EG105K	1.0	1000	1 1/32x1 1/2x2 1/8"	3.68	1.46	1.33	1.30
15 L 267	B1EG205K	2.0	1000	1 1/32x1 1/2x3 3/4"	4.73	1.88	1.71	1.68
15 L 268	B1EG405K	4.0	1000	3 3/4x1 1/4x3 3/8"	6.39	2.60	2.33	2.27
16 L 167	B1EG805K	8.0	1000	3 3/4x1 1/4x3 3/8"	8.93	3.81	3.39	3.42
16 L 168	B1EG106K	10.0	1000	3 3/4x2 1/4x3 3/4"	10.83	4.41	4.07	3.99
16 L 169	B1EG126K	12.0	1000	3 3/4x2 1/4x5 1/8"	11.75	4.99	4.64	4.57

### TYPE E—CERAMIC PILLAR INSULATORS

Stock No.	Type 121P	Mfd	Size	E				
-----------	-----------	-----	------	---	--	--	--	--



## TE "LITTL-LYTIC" (30D) SUBMINIATURE ELECTROLYTICS

Ultra-small 30D series electrolytics, dependable for transistorized and printed circuit applications, such as, radios, hearing aids, wireless microphones. Hermetically sealed and metal enclosed. Clear plastic outer insulating sleeves resist corrosion in hot, humid conditions. Withstand temperatures to 85°C

without derating. Extremely low leakage current; long shelf life. All-welded construction, no pressure joints. For sizes, first refer to column with asterisk (\*) in tables below, then to size code table at left. Size indicated in table is diameter by length. Av. wt., 1 oz.

*Code	Size	*Code	Size
A	1/4x1 1/16"	E	3/8x1 3/16"
B	3/16x1 1/16"	F	3/8x1 1/4"
C	3/8x1 1/16"	G	3/8x1 1/2"
D	3/8x1 3/16"		

### 3 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 735	1050	1	A	.75	.51	.40	.32
11 L 736	1051	2	A	.75	.51	.40	.32
11 L 737	1052	3	A	.75	.51	.40	.32
11 L 738	1052.1	4	A	.75	.51	.40	.32
11 L 739	1052.2	5	A	.75	.51	.40	.32
11 L 000	1052.3	6	A	.75	.51	.40	.32
11 L 001	1052.5	8	A	.75	.51	.40	.32
11 L 742	1053	10	A	.75	.51	.40	.32
11 L 743	1053.5	15	A	.75	.51	.40	.32
11 L 744	1054	20	A	.75	.53	.42	.33
16 L 028	1055	25	A	.75	.53	.42	.33
11 L 002	1056	35	A	.75	.53	.42	.33
11 L 746	1057	40	A	.75	.53	.42	.33
11 L 747	1058	50	A	.75	.53	.42	.33
11 L 748	1059	75	B	.84	.56	.43	.35
11 L 749	1059.5	100	B	.84	.61	.48	.38
16 L 029	1060	110	C	.84	.61	.48	.38
11 L 003	1061	150	C	.87	.61	.48	.38
11 L 654	1064	200	D	.90	.61	.48	.38
11 L 004	1065	250	E	.96	.61	.48	.38
11 L 656	1066	300	E	.99	.66	.51	.41
11 L 005	1067	400	F	1.00	.70	.55	.44
16 L 658	1068	500	G	1.05	.75	.58	.47

### 6 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
16 L 030	1080	1	A	.75	.51	.40	.32
16 L 031	1081	2	A	.75	.51	.40	.32
16 L 032	1082	3	A	.75	.51	.40	.32
16 L 033	1083	4	A	.75	.51	.40	.32
16 L 034	1084	5	A	.75	.51	.40	.32
11 L 750	1085	6	A	.75	.51	.40	.32
16 L 035	1086	8	A	.81	.51	.40	.32
16 L 036	1087	10	A	.81	.51	.40	.32
16 L 037	1089	15	A	.81	.53	.42	.33
11 L 751	1090	20	A	.81	.53	.42	.33
16 L 038	1091	25	A	.81	.53	.42	.33
16 L 039	1092	30	A	.84	.53	.42	.33
11 L 752	1093	35	A	.84	.53	.42	.33
11 L 006	1095	40	A	.84	.56	.43	.36
16 L 041	1100	50	B	.84	.56	.43	.36
16 L 026	1101	60	B	.84	.61	.48	.38
16 L 659	1101.5	75	C	.87	.61	.48	.38
11 L 753	1102	100	C	.90	.61	.48	.38
11 L 754	1103	150	E	.93	.61	.48	.38
11 L 007	1104	200	F	.96	.63	.49	.40
11 L 008	1105	250	F	1.02	.66	.51	.41
16 L 661	1106	300	G	1.08	.69	.54	.43

### 192P "PACER" MINIATURE 200WVDC CAPACITORS

Nearly 3 times smaller than conventional paper-film tubulars. Fit tight spots in small electronic assemblies that require high temperature operation and good humidity performance. Sizes are same as composition

Stock No.	Type 192P	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
10 L 334	47192	.00047	A	.33	.23	.18	.15
10 L 360	56192	.00056	A	.30	.22	.17	.14
10 L 361	68192	.00068	A	.30	.22	.17	.14
10 L 362	82192	.00082	A	.30	.22	.17	.14
10 L 335	10292	.001	A	.27	.19	.15	.12
10 L 336	12292	.0012	A				
10 L 337	15292	.0015	A				
10 L 338	18292	.0018	B				
10 L 339	22292	.0022	B	.27	.19	.15	.12
10 L 340	27292	.0027	B				
10 L 341	33292	.0033	B	.27	.19	.15	.12
10 L 342	39292	.0039	C	.27	.19	.15	.12
10 L 343	47292	.0047	C	.27	.20	.15	.12
10 L 344	56292	.0056	C	.27	.20	.15	.12
10 L 345	68292	.0068	C	.27	.20	.16	.13
10 L 346	82292	.0082	D	.30	.21	.16	.13

### 10 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 756	1114	10	A	.81	.53	.42	.33
11 L 009	1116	15	A	.81	.53	.42	.33
16 L 043	1118	25	A	.81	.56	.43	.35
16 L 621	1119	50	C	.92	.61	.48	.38
16 L 622	1119.3	100	D	1.02	.61	.48	.38
16 L 623	1119.6	200	F	1.20	.69	.54	.43

### 12 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 757	1120	1	A	.75	.51	.40	.32
11 L 010	1121	2	A	.75	.51	.40	.32
11 L 759	1122	3	A	.75	.51	.40	.32
11 L 011	1123	4	A	.75	.51	.40	.32
16 L 044	1127	5	A	.81	.51	.40	.32
11 L 012	1127.1	6	A	.81	.51	.40	.32
11 L 762	1127.3	8	A	.81	.53	.42	.33
16 L 045	1128	10	A	.81	.53	.42	.33
11 L 763	1129	15	A	.84	.53	.42	.33
11 L 013	1130	20	A	.84	.53	.42	.33
11 L 765	1131	25	A	.84	.56	.43	.35
11 L 014	1132	35	B	.87	.56	.43	.35
11 L 767	1133	50	C	.93	.61	.48	.38
11 L 768	1134	75	D	.99	.61	.48	.38
11 L 769	1135	100	D	1.05	.61	.48	.38
11 L 770	1136	150	F	1.14	.65	.50	.40
11 L 771	1137	200	F	1.23	.69	.54	.43
11 L 772	1138	250	G	1.32	.72	.56	.45

### 15 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 773	1148	1	A	.75	.51	.40	.32
11 L 774	1149	2	A	.75	.51	.40	.32
11 L 015	1150	3	A	.75	.51	.40	.32
11 L 776	1151	4	A	.78	.51	.40	.32
16 L 624	1152	5	A	.84	.51	.40	.32
11 L 777	1153	6	A	.84	.51	.40	.32
11 L 018	1154	8	A	.84	.53	.42	.33
16 L 625	1155	10	A	.84	.53	.42	.33
16 L 626	1156	15	A	.87	.53	.42	.33
11 L 019	1157	20	A	.87	.53	.42	.33
16 L 628	1157.1	25	B	.87	.53	.42	.33
16 L 629	1158	30	B	.90	.56	.43	.35
16 L 630	1159	35	C	.93	.56	.43	.35
16 L 631	1160	50	C	.96	.61	.48	.38
11 L 020	1161	75	D	1.02	.61	.48	.38
16 L 633	1162	100	E	1.08	.61	.48	.38
16 L 634	1163	150	F	1.17	.66	.51	.41
16 L 635	1164	200	G	1.26	.72	.56	.45

### 25 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 779	1200	1	A	.75	.51	.40	.32
11 L 780	1201	2	A	.78	.51	.40	.32
11 L 021	1201.1	3	A	.78	.51	.40	.32
11 L 022	1201.2	4	A	.78	.51	.40	.32
16 L 046	1202	5	A	.84	.53	.42	.33
16 L 047	1203	6	A	.84	.53	.42	.33
11 L 023	1203.5	8	A	.87	.53	.42	.33
16 L 048	1204	10	A	.87	.53	.42	.33
16 L 049	1205	15	B	.87	.56	.43	.35
16 L 636	1206	20	C	.90	.61	.48	.38
16 L 637	1207	25	C	.93	.61	.48	.38
16 L 638	1208	35	D	.99	.61	.48	.38
16 L 639	1209	50	E	1.08	.61	.48	.38
11 L 024	1210	75	F	1.17	.65	.50	.40
16 L 641	1211	100	G	1.26	.67	.52	.42

### 50 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 784	1300	1	A	.78	.59	.46	.37
16 L 642	1301	2	A	.81	.59	.46	.37
11 L 785	1302	3	A	.81	.59	.46	.37
16 L 643	1302.1	4	A	.81	.59	.46	.37
11 L 786	1303	5	A	.87	.59	.46	.37
11 L 025	1303.1	6	B	.87	.59	.46	.37
11 L 788	1303.3	8	B	.90	.60	.47	.37
11 L 789	1304	10	B	.90	.60	.47	.37
11 L 790	1304.2	15	C	.90	.61	.48	.38
16 L 644	1305	20	D	.90	.61	.48	.38
16 L 662	1306	35	F	1.02	.63	.49	.40
16 L 645	1307	50	G	1.11	.65	.51	.41

### 100 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 026	1400	1	E	.81	.60	.47	.37
11 L 792	1401	2	E	.84	.60	.47	.37
11 L 793	1402	3	E	.84	.60	.47	.37
11 L 794	1403	4	E	.84	.60	.47	.37
16 L 646	1404	5	E	.90	.60	.47	.38
11 L 795	1405	6	E	.90	.60	.47	.38
11 L 027	1406	8	E	.93	.61	.47	.38
16 L 647	1407	10	E	.93	.61	.47	.38
11 L 028	1408	15	F	.93	.62	.48	.39
16 L 649	1409	20	G	.96	.63	.49	.39

### 150 WVDC

Stock No.	Type TE	Mfd	*	EACH			
				1-24	25-49	50-99	100-249
11 L 797	1500	1	E	.84	.63	.49	.39
11 L 798	1501	2	E	.87	.63	.49	.39
11 L 029	1502	3	E	.87	.63	.49	.39
11 L 799	1503	4	E	.87	.63	.49	.39
16 L 651							

# Tubular and Electrolytic Capacitors SPRAGUE

## 'BLACK BEAUTY' (160P) 'MYLAR' PAPER TUBULAR CAPACITORS

Molded tubular capacitors specially built for long life under high humidity and heat conditions. Rugged, completely insulated tubulars will not leak or drip. Dual dielectric (Mylar and paper) combines best features of both Mylar polyester film and paper capacitors. Exclusive HCX® solid impregnant construction produces rock hard capacitor section. 200 to 1000-volt types operate to 105°C without derating; 1600-volt and up, to 85°C. 1600-6000-volt types are oil-impregnated. ±10% tolerance except §, ±20%. Av. wt., 3 oz. See page 156 for a selection of "Black Beauty" kit assortments.

### SIZE CHART

*Code	Size	*Code	Size
A	3/8x1 1/4"	G	1x2 1/2"
B	5/8x1"	H	7/8x1 5/8"
C	7/8x1 1/4"	J	1 1/2x1 5/8"
D	1 1/2x1 1/2"	K	3/4x1 7/8"
E	5/8x1 7/8"	L	1 1/4x2 1/4"
F	3/4x2 1/4"	M	3/4x2 1/8"



### 200 WVDC

Stock No	Mfr's Type	Mfd	EACH			
			*1-24	25-49	50-99	100-249
5L 120	2TM-S20	.02	A .15	.12	.09	.07
5L 000	2TM-S22	.022	A .15	.12	.09	.07
5L 149	2TM-S47	.047	C .15	.13	.10	.08
5L 121	2TM-S50	.05	C .15	.13	.10	.08
5L 122	2TM-P10	.1	D .21	.14	.11	.09
5L 145	2TM-P15	.15	D .21	.16	.13	.10
5L 146	2TM-P22	.22	E .24	.21	.16	.13
5L 147	2TM-P25	.25	E .24	.21	.17	.13
5L 148	2TM-P47	.47	F .36	.34	.31	.25
5L 123	2TM-P50	.5	F .36	.35	.33	.27
5L 124	2TM-M1§	1.0	F .63	.54	.42	.34

### 400 WVDC

Stock No	Mfr's Type	Mfd	EACH			
			*1-24	25-49	50-99	100-249
5L 125	4TM-S10	.01	A .15	.11	.09	.07
5L 001	4TM-S15	.015	A .15	.12	.09	.07
5L 126	4TM-S20	.02	A .15	.12	.09	.08
5L 143	4TM-S22	.022	A .18	.12	.09	.08
5L 002	4TM-S25	.025	C .18	.12	.10	.08
5L 003	4TM-S30	.03	C .18	.12	.10	.08
5L 004	4TM-S40	.04	C .18	.13	.10	.08
5L 014	4TM-S47	.047	C .18	.13	.10	.08
5L 127	4TM-S60	.05	C .18	.14	.11	.09
5L 015	4TM-S68	.068	D .21	.16	.11	.09
5L 128	4TM-P10	.1	D .21	.16	.12	.10
5L 011	4TM-P15	.15	E .24	.21	.17	.13
5L 521	4TM-P20	.2	E .27	.23	.18	.14
5L 012	4TM-P22	.22	E .27	.23	.18	.14
5L 129	4TM-P25	.25	F .30	.28	.26	.21
5L 005	4TM-P47	.47	F .45	.40	.31	.25
5L 010	4TM-P50	.5	F .45	.43	.34	.27
5L 009	4TM-M1	1.0	G .75	.69	.62	.49

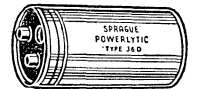
### 600 WVDC

Stock No	Mfr's Type	Mfd	EACH			
			*1-24	25-49	50-99	100-249
6L 250	6TM-T10	.0001 B	B .15	.11	.09	.07
6L 251	6TM-T25	.00025 B	B .15	.11	.09	.07
6L 252	6TM-T40	.0004 B	B .15	.11	.09	.07
6L 253	6TM-T50	.0005 B	B .15	.11	.09	.07
5L 070	6TM-D10	.001	B .15	.11	.09	.07
5L 084	6TM-D15	.0015	B .15	.11	.09	.07
5L 071	6TM-D20	.002	B .15	.11	.09	.07
5L 092	6TM-D22	.0022	B .15	.11	.09	.07

### TYPE 36D "POWERLYTIC" INSULATED COMPUTER-GRADE ALUMINUM ELECTROLYTICS

Digital computer quality—for applications requiring maximum capacitance in a given size. "Powerlytic" capacitors have low ESR and leakage currents and extremely long life. With rigid plastic insulating tube which will withstand military environmental conditions including -55°C storage tests. Aluminum can is crimped onto a rubber gasket recessed in the clear molded cover. Pressure-type

safety vents employing silicone rubber are used on case covers. 5/8" terminals tapped for 10-32 screws. Temperature range, -20°C to +65°C. Tolerance: 10 to 50 WVDC, -10% to +100%; 51 to 450 WVDC, -10% to +75%. Av. shpg. wt., 4 oz.



Stock No.	Type 36 D	Mfd	WV DC	Size (Dia. x L.)	EACH		
					1-24	25-49	50-99
10 L 281	1026T	3600	10	1 7/8x2 1/2"	3.31	1.93	1.49
10 L 282	1027T	7300	10	1 7/8x3 1/2"	3.92	2.29	1.77
10 L 283	1029T	11000	10	1 7/8x4 1/2"	4.46	2.61	2.01
10 L 284	1033T	27000	10	2 3/8x3 3/2"	8.61	5.03	3.88
10 L 285	1039T	2600	15	1 7/8x2 1/2"	3.32	1.94	1.50
10 L 286	1040T	5300	15	1 7/8x3 1/2"	3.93	2.30	1.77
10 L 287	1042T	8000	15	1 7/8x4 1/2"	4.49	2.62	2.02
10 L 288	1045T	17000	15	2 1/8x4 1/2"	7.38	4.31	3.33
10 L 289	1046T	20000	15	2 3/8x3 1/2"	8.67	5.06	3.91
10 L 290	1048T	30000	15	2 3/8x4 1/2"	10.74	6.27	4.84
10 L 291	1049T	35000	15	2 3/8x5"	12.06	7.04	5.43
10 L 292	1065T	1500	25	1 7/8x2 1/2"	3.34	1.95	1.50
10 L 293	1066T	3100	25	1 7/8x3 1/2"	3.95	2.31	1.78
10 L 294	1068T	4700	25	2 1/8x4 1/2"	4.52	2.64	2.03
10 L 295	1070T	7000	25	2 1/8x3 1/2"	6.14	3.58	2.77
10 L 296	1071T	10000	25	2 1/8x4 1/2"	7.40	4.32	3.33
10 L 297	1074T	17000	25	2 3/8x4 1/2"	10.80	6.30	4.86
10 L 298	1077T	32000	25	3 1/8x5"	17.04	9.94	7.67
10 L 299	1089T	23000	30	3 1/8x4 1/2"	15.54	9.07	7.00
10 L 300	1090T	27000	30	3 1/8x5"	17.07	9.96	7.69
10 L 301	1094T	2000	40	1 7/8x4 1/2"	4.56	2.66	2.06
10 L 302	1096T	4000	40	2 1/8x4 1/2"	6.33	3.70	2.85
10 L 303	1097T	6000	40	2 1/8x4 1/2"	7.44	4.34	3.35
10 L 304	1100T	10000	40	2 3/8x4 1/2"	10.94	6.38	4.93

Stock No.	Type 36 D	Mfd	WV DC	Size (Dia. x L.)	EACH		
					1-24	25-49	50-99
10 L 305	1101T	12000	40	2 3/8x5"	12.33	7.20	5.55
10 L 306	1104T	750	50	1 7/8x2 1/2"	3.36	1.96	1.52
10 L 307	1105T	1500	50	1 7/8x3 1/2"	4.00	2.33	1.80
10 L 308	1107T	2200	50	1 7/8x4 1/2"	4.60	2.68	2.07
10 L 309	1109T	3300	50	2 1/8x3 1/2"	6.21	3.63	2.80
10 L 310	1110T	5000	50	2 1/8x4 1/2"	7.47	4.36	3.37
10 L 311	1113T	8600	50	2 3/8x4 1/2"	11.01	6.43	4.96
10 L 312	1122T	2000	75	2 1/8x3 1/2"	6.30	3.68	2.84
10 L 313	1127T	6200	75	2 3/8x5"	12.51	7.30	5.63
10 L 314	1133T	1000	100	1 7/8x4 1/2"	4.63	2.70	2.08
10 L 315	1139T	4000	100	2 3/8x4 1/2"	11.10	6.48	5.00
10 L 316	1146T	900	150	1 7/8x4 1/2"	4.68	2.73	2.11
10 L 317	1148T	2000	150	2 1/8x4 1/2"	7.59	4.43	3.42
10 L 318	1150T	3400	150	2 3/8x4 1/2"	11.18	6.52	5.03
10 L 319	1151T	5300	150	3 1/8x4 1/2"	16.14	9.42	7.27
10 L 320	1154T	400	200	1 7/8x3 1/2"	4.12	2.41	1.86
10 L 321	1159T	1600	200	2 3/8x3 1/2"	9.24	5.39	4.16
10 L 322	1166T	530	250	1 7/8x4 1/2"	4.77	2.78	2.15
10 L 323	1168T	1100	250	2 1/8x4 1/2"	7.64	4.46	3.44
10 L 324	1174T	240	300	1 7/8x3 1/2"	4.16	2.43	1.88
10 L 325	1184T	190	350	1 7/8x3 1/2"	4.18	2.44	1.88
10 L 326	1190T	1000	350	2 3/8x4 1/2"	11.33	6.61	5.10
10 L 327	1208T	330	450	2 1/8x4 1/2"	7.68	4.48	3.46
10 L 328	1211T	860	450	3 1/8x4 1/2"	16.56	9.66	7.46

## "ORANGE DROP" (220P) PRINTED CIRCUIT "MYLAR" PAPER CAPACITORS

Small tubular capacitors for exact replacement use. Significant amounts of space can be saved by the compact "Orange Drops." All have dual dielectric—combines best features of Mylar and special capacitor tissue. Rock-hard case has space-saving radial leads. Wire leads are crimped for correct spacing when mounted on printed circuit boards. Double-

dipped in orange epoxy resin to give extra protection against heat and moisture. Coating prevents leaking or dripping—prevents damage to other parts of circuitry. Outside foils identified by black striping. Capacitance tolerance,  $\pm 10\%$  for universal operation. Working voltages from 200-1000 VDC. Av. wt., 2 oz.



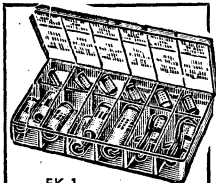
Stock No.	Type	Mfd	WVDC	Size	EACH			
					1-24	25-49	50-99	100-249
13 L 017	2PS-S20	.02	200	3/8x7/8"	.15	.11	.09	.07
13 L 139	2PS-S22	.022	200	25/64x7/8"	.15	.11	.09	.07
13 L 018	2PS-S47	.047	200	29/64x7/8"	.15	.13	.10	.08
13 L 019	2PS-S50	.05	200	13/32x7/8"	.15	.13	.10	.08
13 L 020	2PS-P10	.1	200	31/64x13/16"	.21	.15	.12	.09
17 L 915	2PS-P15	.15	200	9/16x13/16"	.21	.17	.13	.11
13 L 138	2PS-P20	.2	200	19/64x15/16"	.24	.20	.16	.13
17 L 916	2PS-P22	.22	200	33/64x15/16"	.24	.20	.16	.13
13 L 021	2PS-P25	.25	200	5/8x15/16"	.24	.20	.16	.13
17 L 917	2PS-P33	.33	200	5/8x15/16"	.30	.23	.18	.15
17 L 912	2PS-P47	.47	200	49/64x15/8"	.36	.26	.21	.17
13 L 022	2PS-P50	.5	200	23/32x15/8"	.36	.27	.21	.17
13 L 023	4PS-S10	.01	400	19/32x11/16"	.15	.10	.08	.07
13 L 137	4PS-S15	.015	400	29/64x11/16"	.15	.11	.08	.07
13 L 024	4PS-S20	.02	400	19/32x7/8"	.15	.12	.09	.07
17 L 920	4PS-S22	.022	400	27/64x7/8"	.18	.12	.09	.08
17 L 921	4PS-S25	.025	400	7/16x7/8"	.18	.12	.10	.08
13 L 025	4PS-S30	.03	400	29/64x7/8"	.18	.13	.10	.08
17 L 918	4PS-S33	.033	400	15/32x7/8"	.18	.13	.10	.08
17 L 919	4PS-S40	.04	400	27/64x13/16"	.18	.14	.11	.09
13 L 026	4PS-S47	.047	400	29/64x13/16"	.18	.14	.11	.09
13 L 027	4PS-S50	.05	400	29/64x13/16"	.18	.15	.11	.09
17 L 922	4PS-S56	.056	400	31/64x13/16"	.21	.15	.12	.10
17 L 911	4PS-S68	.068	400	39/64x13/16"	.21	.15	.12	.10
17 L 923	4PS-S75	.075	400	39/64x13/16"	.21	.16	.13	.10
13 L 028	4PS-P10	.1	400	37/64x13/16"	.21	.17	.13	.11
13 L 136	4PS-P15	.15	400	39/64x15/16"	.24	.21	.16	.13
13 L 029	4PS-P20	.2	400	19/32x15/16"	.27	.25	.20	.16
13 L 030	4PS-P22	.22	400	39/64x15/16"	.27	.25	.20	.16
13 L 031	4PS-P25	.25	400	41/64x15/16"	.30	.26	.20	.16
13 L 032	6PS-D10	.001	600	21/64x11/16"	.15	.10	.08	.07
17 L 925	6PS-D12	.0012	600	27/64x11/16"	.15	.10	.08	.07
13 L 033	6PS-D15	.0015	600	27/64x11/16"	.15	.10	.08	.07
17 L 924	6PS-D18	.0018	600	29/64x11/16"	.15	.10	.08	.07
13 L 034	6PS-D20	.002	600	27/64x11/16"	.15	.10	.08	.07
13 L 036	6PS-D22	.0022	600	27/64x11/16"	.15	.10	.08	.07
17 L 926	6PS-D25	.0025	600	27/64x11/16"	.15	.10	.08	.07
17 L 927	6PS-D27	.0027	600	11/32x11/16"	.15	.10	.08	.07
13 L 029	6PS-D30	.003	600	11/32x11/16"	.15	.10	.08	.07
17 L 914	6PS-D33	.0033	600	23/64x11/16"	.15	.10	.08	.07
17 L 928	6PS-D39	.0039	600	3/8x11/16"	.15	.10	.08	.07

Stock No.	Type	Mfd	WVDC	Size	EACH			
					1-24	25-49	50-99	100-249
13 L 042	6PS-D40	.004	600	3/8x11/16"	.15	.10	.08	.07
13 L 043	6PS-D47	.0047	600	25/64x11/16"	.15	.10	.08	.07
13 L 049	6PS-D50	.005	600	25/64x11/16"	.15	.10	.08	.07
17 L 929	6PS-D56	.0056	600	25/64x11/16"	.15	.10	.08	.07
13 L 050	6PS-D50	.006	600	13/32x11/16"	.15	.11	.08	.07
13 L 051	6PS-D68	.0068	600	13/32x11/16"	.18	.11	.08	.07
17 L 900	6PS-D75	.0075	600	23/64x7/8"	.18	.11	.09	.07
13 L 144	6PS-D80	.008	600	23/64x7/8"	.18	.11	.09	.07
17 L 930	6PS-D82	.0082	600	3/8x7/8"	.18	.11	.09	.07
13 L 052	6PS-S10	.01	600	25/64x7/8"	.18	.11	.09	.07
17 L 933	6PS-S12	.012	600	25/64x7/8"	.18	.11	.09	.07
13 L 053	6PS-S15	.015	600	27/64x7/8"	.18	.11	.09	.07
13 L 054	6PS-S20	.02	600	31/64x7/8"	.18	.13	.10	.08
13 L 055	6PS-S22	.022	600	31/64x7/8"	.18	.13	.10	.08
17 L 901	6PS-S25	.025	600	19/32x7/8"	.21	.13	.11	.09
17 L 932	6PS-S27	.027	600	7/16x13/16"	.21	.13	.11	.09
13 L 056	6PS-S30	.03	600	7/16x13/16"	.21	.14	.11	.09
17 L 935	6PS-S33	.033	600	15/32x13/16"	.21	.14	.11	.09
17 L 903	6PS-S35	.035	600	15/32x13/16"	.21	.14	.11	.09
17 L 936	6PS-S39	.039	600	31/64x13/16"	.21	.14	.11	.09
13 L 057	6PS-S40	.04	600	1/2x13/16"	.21	.15	.12	.10
13 L 058	6PS-S47	.047	600	17/32x13/16"	.24	.15	.12	.10
13 L 059	6PS-S50	.05	600	17/32x13/16"	.24	.15	.12	.10
17 L 904	6PS-S56	.056	600	35/64x13/16"	.24	.15	.12	.10
13 L 142	6PS-S60	.06	600	9/16x13/16"	.24	.18	.14	.11
17 L 905	6PS-S68	.068	600	37/64x13/16"	.27	.18	.14	.11
17 L 907	6PS-S75	.075	600	37/64x15/16"	.27	.18	.14	.12
13 L 143	6PS-S82	.082	600	37/64x15/16"	.27	.18	.14	.12
13 L 060	6PS-P10	.1	600	5/8x13/16"	.27	.19	.15	.12
17 L 913	6PS-P15	.15	600	43/64x13/16"	.30	.23	.18	.15
13 L 061	6PS-P20	.2	600	3/4x15/8"	.39	.27	.21	.17
13 L 062	6PS-P22	.22	600	25/32x13/8"	.42	.27	.21	.17
13 L 068	6PS-P25	.25	600	13/16x13/8"	.45	.27	.21	.17
13 L 063	10PS-D10	.001	1000	27/64x11/16"	.30	.09	.07	.06
13 L 141	10PS-D15	.0015	1000	11/32x11/16"	.30	.10	.08	.06
13 L 064	10PS-D20	.002	1000	3/8x11/16"	.30	.10	.08	.06
13 L 140	10PS-D22	.0022	1000	3/8x11/16"	.30	.10	.08	.06
13 L 065	10PS-D30	.003	1000	11/32x7/8"	.30	.10	.08	.06
17 L 909	10PS-D40	.004	1000	3/8x7/8"	.30	.11	.08	.07
13 L 066	10PS-D47	.0047	1000	13/32x7/8"	.30	.11	.08	.07
13 L 067	10PS-D50	.005	1000	13/32x7/8"	.30	.11	.08	.07

### CAPACITOR KITS

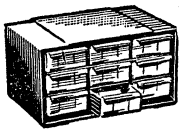
Contain popular assortments of Atom electrolytics, Black Beauty, or Orange Drop capacitors. Perfect for service shop or laboratory. Supplied in compartmented steel cabinets or plastic cases. You know just where capacitors are—when you need them.

#### ATOM ELECTROLYTIC CAPACITOR KITS



EK-1

EK-1. Handy kit of Atom electrolytic capacitors. Meets 93% of all tubular electrolytic replacement requirements. Ideal for the service shop or lab—insures having the proper capacity value at all times. Consists of the following TVA types (listed in table on facing page): 1 each—#1205, 1303, 1304, 1410, 1704, 1711, 1716, 2450, 2453; 2 each—#1705, 1709, 1712. Supplied in crystal-clear compartmented plastic case; each capacitor is immediately accessible. Capacitors are small in size; rated at 80°C. Case size is 6 1/2x1x1 1/4". Wt., 2 lbs. **13 L 508.....13.70**



EK-9

Contain capacitors of most popular values packed in handy cases for quick access.

EK-9. Deluxe assortment of Atom electrolytics. Perfect for shop or lab—insures always having the correct electrolytic capacitor available when needed. Contains one each of the following TVA types (listed in table on facing page): #1205, 1207, 1303, 1304, 1306, 1308, 1310, 1410, 1413, 1422, 1704, 1705, 1709, 1711, 1712, 1716, 2450, and 2453. Supplied in a blue plastic cabinet with nine clear plastic drawers, complete with adjustable dividers. Cabinet size (HWD), 5x9x4 3/4". Shpg. wt., 3 lbs. **19 L 280.....16.14**

### "BLACK BEAUTY" KITS

TK-1. Molded tubulars. 72 of the most common values. From .001 to .25 mfd. All are 600 WVDC. In plastic case with compartments size, 1 3/4x1 1/2x6 1/2". 2 1/2 lbs. **13 L 507.....14.70**

TK-3. Buffer capacitors. 36 of the most used ratings. From .001 to .03 mfd. 1600 WVDC. In handy compartmented plastic case. Size, 1 3/4x1 1/2x6 1/2". Shpg. wt., 2 1/2 lbs. **13 L 509.....14.25**

TK-5. Sturdy, single-drawer steel cabinet contains 59 molded tubulars in 9 popular ratings. From .001 to .25 mfd at 600 WVDC. Size, 4 1/2x3 1/2x9 1/4". Shpg. wt., 5 lbs. **19 L 645.....12.75**

TK-6. Handsome two-drawer steel cabinet contains 119 molded tubulars in 10 popular ratings. From .001 to .25 mfd at 600 WVDC. Size, 4 1/2x7x9 1/4". Shpg. wt., 8 lbs. **19 L 646.....24.00**

TK-26. A handy plastic storage tray containing 40 molded tubulars—5 each of 8 popular values from .001 to .1 mfd. All are rated 600 WVDC. Size, 9x6x1 1/2". Shpg. wt., 1 1/2 lbs. **19 L 291.....7.80**

### "ORANGE DROP" KITS

TK-12. 70 "Orange Drop" "Mylar" paper capacitors in 10 most popular ratings from .001 to .1 mfd at 600 WVDC. Supplied in handy plastic case with individual compartments. Dimensions 1 3/4x1 1/2x6 1/2". Shpg. wt., 2 1/2 lbs. **11 LX 168.....13.83**

TK-24. Rugged 2-drawer steel cabinet contains 124 "Orange Drops" in the 13 most popular ratings from .001 to .25mfd at 600 WVDC. Cabinet size, 7x4 1/2x9 1/4". Wt., 8 lbs. **11 LX 169.....24.90**

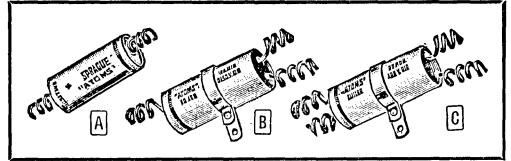
TK-27. Contains 40 "Orange Drop" capacitors in 8 popular values. All are rated at 600 WVDC. Assortment features values from .001 to .1 mfd. Supplied in handy plastic tray. Dimensions, 9x6x1 1/2". Shpg. wt., 1 1/2 lbs. **19 L 292.....7.80**



# TVA, TU Atom Midget Electrolytics

# SPRAGUE

Sprague Atom electrolytics offer dependable performance, compact size and the ability to operate at high temperatures. Ultra-compact size makes these dry electrolytics excellent for use in circuits for television, AC-DC home radios, auto radios, and radio-phonograph combinations. Easy to install—even in crowded chassis. Capacitors will perform efficiently at temperatures up to 85°C(185°F) and withstand high surge voltages and ripple currents as found in television circuits. All have extremely low leakage and long shelf life. \*In table below indicates separate negative leads. Have metal cases with outer cardboard insulating case except those indicated by †, cardboard. Av. shpg. wt., 6 oz.



**A SINGLE SECTION TYPE TVA**

Stock No.	Type TVA	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
15 L 981	1100	50	6	3/8x1 1/4"	.57	.41	.32	.26
16 L 230	1101	100	6	1/2x1 1/8"	.72	.50	.39	.32
16 L 231	1102	250	6	3/8x1 1/8"	.81	.64	.50	.40
16 L 232	1103	500	6	3/8x2 3/16"	.93	.73	.57	.46
16 L 233	1105	1500	6	1 3/16x2 1/16"	1.26	.98	.76	.61
15 L 861	1106	2000	6	1 3/16x2 1/16"	1.38	1.08	.84	.67
16 L 234	1130	100	12	3/16x1 3/8"	.72	.52	.40	.32
15 L 862	1131	250	12	3/8x1 1/16"	.87	.68	.53	.43
15 L 863	1132	500	12	3/4x1 1/16"	1.02	.79	.62	.49
16 L 235	1133	1000	12	3/16x2 3/16"	1.35	1.05	.82	.65
16 L 236	1160	100	15	3/8x1 3/8"	.75	.52	.41	.33
16 L 237	1161	250	15	3/8x1 1/16"	.93	.74	.60	.46
16 L 238	1162	500	15	1/16x2 3/16"	1.05	.83	.64	.52
16 L 239	1163	1000	15	3/8x2 3/16"	1.38	1.07	.84	.67
15 L 207	1203	5	25	3/8x1 1/4"	.60	.42	.32	.26
15 L 205	1204	10	25	3/8x1 1/4"	.60	.42	.33	.27
15 L 206	1205	25	25	3/8x1 1/4"	.60	.44	.35	.28
15 L 208	1206	50	25	3/16x1 3/8"	.66	.47	.37	.30
15 L 867	1207	100	25	3/16x1 1/16"	.81	.58	.45	.36
15 L 868	1208	250	25	3/4x1 1/16"	1.02	.79	.61	.49
15 L 869	1209	500	25	3/8x2 3/16"	1.38	1.07	.84	.67
15 L 870	1300	1	50	3/8x1 1/4"	.54	.39	.31	.25
15 L 871	1301	2	50	3/8x1 1/4"	.54	.39	.31	.25
15 L 200	1303	5	50	3/8x1 1/4"	.60	.42	.32	.26
15 L 201	1304	10	50	3/8x1 1/4"	.60	.42	.33	.27
15 L 183	1305.5	20	50	3/16x1 3/8"	.60	.43	.34	.27
15 L 202	1306	25	50	3/16x1 3/8"	.63	.44	.35	.28
15 L 203	1308	50	50	3/16x1 1/16"	.72	.52	.40	.32
15 L 876	1310	100	50	3/4x1 1/16"	.84	.60	.47	.40
15 L 858	1311	150	50	3/4x1 1/16"	.93	.66	.51	.41
15 L 859	1312	250	50	1 3/16x1 1/16"	1.05	.83	.64	.52
15 L 192	1402	4	150	3/8x1 1/4"	.60	.43	.33	.27
16 L 241	1403	5	150	3/8x1 1/4"	.60	.43	.34	.27
15 L 193	1405	8	150	3/8x1 3/4"	.63	.45	.35	.28
15 L 226	1406	10	150	3/8x1 3/4"	.63	.46	.36	.29
15 L 194	1407	12	150	1/2x1 5/8"	.66	.47	.37	.29
15 L 195	1409	16	150	3/16x1 1/16"	.69	.49	.38	.31
15 L 196	1410	20	150	3/16x1 1/16"	.72	.50	.39	.32
16 L 242	1411	25	150	3/8x1 1/16"	.75	.53	.41	.33
15 L 197	1412	30	150	3/8x1 1/16"	.78	.55	.43	.35
15 L 198	1413	40	150	3/4x1 1/16"	.81	.58	.45	.36
15 L 199	1414	50	150	1 3/16x1 1/16"	.84	.60	.47	.38
16 L 243	1415	60	150	7/8x1 1/16"	.90	.63	.49	.40

**B DUAL SECTION TYPE TVA (Except \*TU)**

Stock No.	Type TVA	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
15 L 255	2315	10-10	50	7/8x1 1/16"	.84	.73	.57	.46
15 L 245	2415	8-8	150	7/8x1 1/16"	.90	.75	.58	.47
15 L 254	2420	16-16	150	7/8x1 1/16"	1.08	.78	.61	.49
15 L 247	2428	20-20	150	7/8x1 1/16"	.99	.80	.62	.50
15 L 253	2421	30-20	150	7/8x1 1/16"	1.02	.82	.64	.51
15 L 252	2438	40-20	150	7/8x1 1/16"	1.05	.84	.65	.52
15 L 251	2434	30-30	150	7/8x1 1/16"	1.08	.85	.66	.53
15 L 249	420	*40-20	150	1 1/16x2 5/8"	1.32	.83	.65	.52
15 L 250	2442	40-30	150	7/8x1 1/16"	1.08	.86	.67	.54
15 L 243	2445	40-40	150	7/8x1 1/16"	1.11	.88	.69	.55
15 L 244	2450	50-30	150	7/8x1 1/16"	1.17	.88	.69	.55
15 L 305	2453	50-50	150	7/8x2 1/16"	1.26	.93	.72	.58
15 L 306	2460	80-30	150	7/8x2 1/16"	1.32	.94	.73	.59
16 L 259	2462	80-50	150	7/8x2 3/16"	1.41	.99	.77	.62
16 L 262	2464	100-100	150	1 3/8x3 3/8"	1.92	1.11	.87	.69
16 L 263	2467	200-5	150	1x3 3/8"	1.59	1.17	.91	.73
18 L 221	†2640	140-5	350	1 1/4x3 7/8"	2.49	1.66	1.29	1.03
15 L 220	2720	8-8	450	7/8x1 1/16"	1.12	.88	.69	.55
15 L 221	†788	*8-8	450	1 1/16x3 3/8"	1.29	.89	.69	.55
15 L 222	2725	16-8	450	7/8x2 1/16"	1.20	.98	.76	.61
15 L 884	2722	10-10	450	7/8x1 1/16"	1.11	.92	.72	.58
15 L 215	1616	*16-16	450	1 3/8x3 1/2"	1.68	1.10	.85	.68
15 L 227	2730	20-20	450	7/8x2 1/16"	1.50	1.19	.92	.74
15 L 986	2735	30-30	450	1x3 3/8"	1.80	1.46	1.13	.91
15 L 987	2740	40-40	450	1x3 3/8"	2.04	1.79	1.40	1.12
18 L 220	†2711	80-100	450-50	1 3/8x4 3/8"	2.22	1.70	1.32	1.06

**C TRIPLE SECTION TYPE TVA**

Stock No.	Type TVA	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
15 L 307	3440	20-20-20	150	7/8x1 1/16"	1.50	1.27	.99	.79
15 L 308	3448	40-30-20	150	7/8x2 3/16"	1.56	1.34	1.04	.84
15 L 309	3451	40-40-40	150	1x2 1/16"	1.68	1.40	1.09	.87
18 L 222	3453	50-30-20	150	1x2 1/16"	1.62	1.36	1.06	.85
15 L 327	3455	80-40-20	150	1x2 3/16"	1.74	1.45	1.13	.90
15 L 989	3419	30-30-100	150-12	7/8x2 1/16"	1.38	1.31	1.02	.82
15 L 988	3415	20-20-20	150-25	7/8x1 1/16"	1.47	1.25	.97	.78
15 L 312	3423	40-30-20	150-25	7/8x1 1/16"	1.50	1.30	1.02	.81
15 L 328	3427	40-40-100	150-25	7/8x2 1/16"	1.68	1.39	1.08	.87
15 L 313	3430	50-30-20	150-25	7/8x2 1/16"	1.59	1.34	1.04	.83
15 L 329	3433	50-30-200	150-25	1x2 3/16"	1.65	1.46	1.14	.91
15 L 314	3436	50-50-20	150-25	1 5/8x2 3/16"	1.65	1.37	1.07	.86
18 L 223	3437.1	80-40-20	150-25	1x1 1/16"	1.68	1.40	1.09	.87
15 L 990	3716	12-12-20	450-25	1x1 1/16"	1.38	1.37	1.07	.86

**QUADRUPLE SECTION TYPE TVA**

Stock No.	Type TVA	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
16 L 284	4576	140-5 200-30	350-300 200-150	1 1/2x4 7/8"	3.63	2.56	1.99	1.59
16 L 288	4659	80-10 40-100	400-400 300-50	3/8x4 1/8"	3.27	1.98	1.54	1.23
18 L 224	4708	10-80 40-40	450-300 250-250	1 3/8x4 3/8"	2.97	1.85	1.44	1.15
18 L 225	4748	40-20-20-10	450	1 3/8x4 3/8"	2.82	1.90	1.48	1.19
15 L 856	4570	40-40-20-20	450	1 1/2x4 1/4"	3.27	2.23	1.74	1.39

## "CERA-MITE" DISC CERAMIC CAPACITORS

In standard EIA and other popular values. Moisture-proof coating. Tolerances: 1000 WVDC types  $\pm 20\%$ ;

### PRICES FOR SERIES 5GA 1000 WVDC

* Code	EACH		In Multiples of 100 Only	
	1-24	25-99	100-400	
A	.15	.12	4.90 per 100	
B	.15	.12	5.10 per 100	
C	.15	.12	5.90 per 100	
D	.15	.12	6.40 per 100	
E	.39	.31	25.00 per 100	

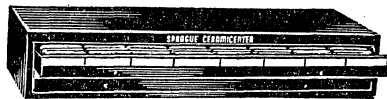
†Designates Mfd.

Stock No.	Type 5GA-	Mmf	*	Stock No.	5GA-	Mmf	*
16 L 300	V50	5	C	16 L 333	T33	330	A
16 L 301	V60	6	C	16 L 334	T35	350	A
16 L 302	V75	7.5	C	16 L 335	T36	360	C
16 L 303	V80	8	C	16 L 336	T39	390	C
16 L 304	Q10	10	C	16 L 337	T40	400	C
16 L 305	Q12	12	C	16 L 338	T47	470	A
16 L 306	Q15	15	C	16 L 339	T50	500	A
16 L 307	Q18	18	C	16 L 340	T56	560	A
16 L 308	Q20	20	C	16 L 341	T60	600	C
16 L 309	Q22	22	C	16 L 342	T68	680	A
16 L 310	Q25	25	C	16 L 343	T75	750	A
16 L 311	Q27	27	C	16 L 344	T80	800	A
16 L 312	Q30	30	C	16 L 345	T82	820	A
16 L 313	Q33	33	C	15 L 670	D10	.001†	A
16 L 314	Q39	39	C	16 L 347	D12	.0012†	A
16 L 315	Q47	47	C	16 L 348	D13	.0013†	C
16 L 316	Q50	50	C	15 L 671	D15	.0015†	A
16 L 317	Q56	56	C	16 L 350	D16	.0016†	C
16 L 318	Q68	68	C	16 L 351	D18	.0018†	A
16 L 319	Q75	75	C	16 L 352	D20	.0020†	A
16 L 320	Q82	82	C	16 L 353	D22	.0022†	A
16 L 321	Q91	91	C	16 L 354	D25	.0025†	C
16 L 322	T10	100	C	16 L 355	D27	.0027†	C
16 L 323	T12	120	C	16 L 356	D30	.0030†	C
16 L 324	T13	130	C	16 L 357	D33	.0033†	A
16 L 325	T15	150	A	16 L 358	D39	.0039†	A
16 L 326	T18	180	C	16 L 359	D40	.0040†	C
16 L 327	T20	200	C	16 L 360	D43	.0043†	C
16 L 328	T22	220	A	16 L 361	D47	.0047†	B
16 L 329	T24	240	C	16 L 362	D50	.005†	B
16 L 330	T25	250	C	16 L 363	S10	.01†	D
16 L 331	T27	270	C	16 L 364	S20	.02†	E
16 L 332	T30	300	C				

### SERIES 5HK—1000 WVDC (\*500 WVDC)

Stock No.	Type 5HK-	Mfd	EACH		In Multiples of 100 Only	
			1-24	25-99	100-400	
18 L 650	D10	.001	.15	.12	4.70 per 100	
18 L 651	D15	.0015	.15	.12	4.70 per 100	
15 L 672	D20	.002	.15	.12	4.70 per 100	
18 L 654	D22	.0022	.15	.12	4.70 per 100	
18 L 659	D25	.0025	.15	.12	5.70 per 100	
18 L 661	D33	.0033	.15	.12	4.70 per 100	
18 L 665	D47	.0047	.15	.12	4.90 per 100	
15 L 673	D50	.005	.15	.12	4.90 per 100	
18 L 666	D68	.0068	.15	.12	5.40 per 100	
15 L 674	S10	.010	.15	.12	5.40 per 100	
18 L 667	S15	*.015	.15	.12	7.00 per 100	
19 L 950	S20	*.020	.15	.12	7.60 per 100	
18 L 668	S22	*.022	.15	.12	7.60 per 100	
18 L 669	S25	*.025	.15	.12	7.60 per 100	
19 L 951	S30	*.030	.27	.21	18.00 per 100	
19 L 952	S40	*.040	.27	.21	18.00 per 100	
19 L 953	S50	*.050	.27	.21	18.00 per 100	
19 L 954	P10	*.1	.78	.62	51.40 per 100	

### J-135 "CERAMICENTER" CERAMIC CAPACITOR KIT



Saves Time and Effort—Eliminates Searching Through Scattered Boxes

Contains 710 capacitors of 57 different values, packaged in handy reusable "Kleer-Pak" plastic boxes and conveniently arranged in a two-drawer, metal sliding-tray cabinet. Kit includes: 290 Type 5GA, 1000 WVDC ceramic disc capacitors in 31 different capacitance values from 5 mfm to 20,000 mfm; 145 Type 5HK "High K" bypass and coupling capacitors in 7 different values from .001 mfd to .01 mfd @ 1000 WVDC, and .02 mfd to .1 mfd @ 500 WVDC; 100 Type 10TS, 1000 WVDC temperature stable capacitors in 12 different values from 100 mfm to 20,000 mfm; and 175 Type TG, 50 WVDC miniaturized disc capacitors in 7 different values from .005 to .1 mfd. Cabinet, 30 $\frac{3}{4}$ x5 $\frac{1}{2}$ x11 $\frac{3}{4}$ " 29 lbs. 172.50

3000 WVDC types 1.5 mfm,  $\pm 25$  mfm; 4.7 mfm,  $\pm 5$  mfm; 10 thru 68 mfm,  $\pm 10\%$ ; 100 thru 500 mfm,  $\pm 20\%$ .

### PRICES FOR SERIES 30GA AND SERIES 10TS BELOW

* Code	EACH		In Multiples of 100 Only	
	1-24	25-99	100-400	
A	.15	.12	8.90 per 100	
B	.15	.12	9.30 per 100	
C	.18	.14	11.00 per 100	
D	.21	.17	13.00 per 100	
E	.15	.12	8.50 per 100	
F	.15	.12	7.50 per 100	
G	.15	.12	7.90 per 100	
H	.15	.12	8.30 per 100	
J	.18	.14	12.00 per 100	
K	.24	.19	15.10 per 100	
L	.33	.26	20.40 per 100	

### SERIES 30GA—3000 WVDC

Stk. No.	Type	Mmf	*	Stk. No.	Type	Mmf	*
16 L 387	30GA-V15	1.5	A	16 L 377	30GA-T10	100	A
16 L 370	30GA-V47	4.7	A	16 L 378	30GA-T12	120	A
16 L 371	30GA-Q10	10	A	16 L 379	30GA-T15	150	B
16 L 372	30GA-Q15	15	A	16 L 380	30GA-T18	180	B
16 L 373	30GA-Q25	25	A	16 L 381	30GA-T20	200	B
16 L 374	30GA-Q30	30	A	16 L 382	30GA-T22	220	B
16 L 389	30GA-Q39	39	A	16 L 383	30GA-T25	250	B
16 L 375	30GA-Q50	50	A	16 L 384	30GA-T27	270	B
16 L 390	30GA-Q60	60	A	16 L 385	30GA-T30	300	C
16 L 376	30GA-Q68	68	A	16 L 386	30GA-T50	500	D

### TEMPERATURE-STABLE SERIES 10TS

1000 WVDC.  $\frac{1}{2}$ Mfd. Tolerance,  $\pm 10\%$ .

Stk. No.	Type	Mmf	*	Stk. No.	Type	Mmf	*
13 L 201	10TS-V33	3.3	E	13 L 225	10TS-T33	330	F
13 L 202	10TS-V50	5	E	13 L 226	10TS-T35	350	E
13 L 203	10TS-V60	6	E	13 L 227	10TS-T36	360	E
13 L 204	10TS-V68	6.8	E	13 L 228	10TS-T39	390	E
13 L 205	10TS-V75	7.5	E	13 L 229	10TS-T40	400	E
13 L 206	10TS-V80	8	E	13 L 230	10TS-T47	470	F
13 L 207	10TS-Q10	10	E	13 L 231	10TS-T50	500	F
13 L 208	10TS-Q12	12	E	13 L 232	10TS-T56	560	F
13 L 209	10TS-Q15	15	E	13 L 233	10TS-T60	600	E
13 L 210	10TS-Q18	18	E	13 L 234	10TS-T68	680	F
13 L 211	10TS-Q20	20	E	13 L 235	10TS-T75	750	F
13 L 212	10TS-Q22	22	E	13 L 236	10TS-T80	800	F
13 L 213	10TS-Q25	25	E	13 L 237	10TS-T82	820	F
13 L 214	10TS-Q27	27	E	13 L 238	10TS-D10	.001§	G
13 L 215	10TS-Q30	30	E	13 L 239	10TS-D12	.0012§	G
13 L 216	10TS-Q33	33	E	13 L 240	10TS-D13	.0013§	A
13 L 217	10TS-Q39	39	E	13 L 252	10TS-D15	.0015§	A
13 L 218	10TS-Q47	47	E	13 L 253	10TS-D16	.0016§	A
13 L 219	10TS-Q50	50	E	13 L 254	10TS-D18	.0018§	H
13 L 220	10TS-Q56	56	E	13 L 255	10TS-D20	.002§	H
13 L 241	10TS-Q68	68	E	13 L 256	10TS-D22	.0022§	H
13 L 242	10TS-Q75	75	E	13 L 257	10TS-D25	.0025§	B
13 L 243	10TS-Q82	82	E	13 L 258	10TS-D27	.0027§	B
13 L 244	10TS-Q91	91	E	13 L 259	10TS-D30	.003§	C
13 L 245	10TS-T10	100	E	13 L 260	10TS-D33	.0033§	B
13 L 246	10TS-T12	120	E	13 L 261	10TS-D39	.0039§	J
13 L 247	10TS-T13	130	E	13 L 262	10TS-D40	.004§	D
13 L 248	10TS-T15	150	F	13 L 263	10TS-D43	.0043§	D
13 L 249	10TS-T18	180	E	13 L 264	10TS-D47	.0047§	J
13 L 250	10TS-T20	200	E	13 L 265	10TS-D50	.005§	J
13 L 251	10TS-T22	220	F	13 L 266	10TS-D56	.0056§	K
13 L 221	10TS-T24	240	E	13 L 267	10TS-D68	.0068§	K
13 L 222	10TS-T25	250	E	13 L 272	10TS-D75	.0075§	L
13 L 223	10TS-T27	270	E	13 L 273	10TS-S10	.01§	L
13 L 224	10TS-T30	300	E				

Series TG—50 WVDC. Tol.: +80 to -20%, except \*+80 to -30%.

Stock No.	Mfr's Type	Mfd	EACH		In Multiples of 100 Only	
			1-24	25-99	100-500	
15 L 995	TG-D50	.005	.15	.12	8.00 per 100	
15 L 996	TG-S10	.01	.15	.12	7.40 per 100	
15 L 997	TG-S25*	.025	.15	.12	9.50 per 100	
15 L 998	TG-S50	.05	.30	.24	18.80 per 100	
15 L 999	TG-P10	.1	.39	.31	25.00 per 100	

Series HY—capacitances are GMV's. 3 WVDC, except \*12 WVDC.

Stk. No.	Type	Mmf	*	Stk. No.	Type	Mmf	*
16 L 671	HY-120	.10	.39	.31	26.00 per 100		
16 L 672	HY-125	.22	.24	.19	15.00 per 100		
16 L 673	HY-130	.47	.24	.19	15.00 per 100		
16 L 674	HY-135	1.00	.30	.24	20.00 per 100		
16 L 675	HY-150	2.20	.39	.31	25.00 per 100		
16 L 394	HY-310*	.047	.15	.12	9.00 per 100		
16 L 395	HY-320*	.1	.15	.12	9.40 per 100		
16 L 396	HY-325*	.22	.24	.19	15.00 per 100		
16 L 397	HY-330*	.47	.36	.29	24.00 per 100		

# Electrolytic and Ceramic Capacitors by SPRAGUE

## SERIES TL TRANSI-LYTIC (31D) CAPACITORS

Transi-lytic capacitors are miniature units specially designed for transistorized circuit applications. Ideal for use in pocket radios, walkie-talkies, intercoms, etc. Utilize special low-leakage current construction to meet requirements of transistor circuitry. Have plastic case with thermo-setting resin end-seals for excellent resistance to high humidity conditions. All values are clearly marked

on capacitor case—leads are marked as to polarity. Have operating temperature range of  $-20^{\circ}\text{C}$ . to  $+65^{\circ}\text{C}$ . Tolerance is  $-10\%$  to  $+100\%$  of rated capacitance measured at 120 cps and  $25^{\circ}\text{C}$ .

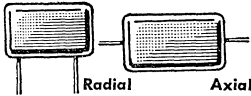


Stock No.	Mfr's Type	Mfd	WV DC	Size Dia. x L.	EACH			
					1-24	25-49	50-99	100-249
14 L 072	TL1050	1	3	.180x.57				
14 L 073	TL1051	2	3	.180x.57				
14 L 074	TL1052.2	5	3	.180x.57	.42	.32	.25	.20
14 L 075	TL1052.5	8	3	.180x.57				
14 L 076	TL1053	10	3	.180x.57				
14 L 077	TL1055	25	3	.250x.82	.42	.32	.25	.20
14 L 078	TL1058	50	3	.250x.82	.42	.32	.25	.20
14 L 079	TL1059.5	100	3	.250x.82	.45	.33	.26	.21
14 L 080	TL1061.	150	3	.375x1.07	.54	.41	.32	.25
14 L 081	TL1064	200	3	.375x1.07	.54	.41	.32	.25
14 L 082	TL1065	250	3	.375x1.07	.66	.49	.38	.30
14 L 083	TL1080	1	6	.180x.57				
14 L 084	TL1081	2	6	.180x.57				
14 L 085	TL1084	5	6	.180x.57	.42	.32	.25	.20
14 L 086	TL1086	8	6	.180x.57				
14 L 087	TL1087	10	6	.210x.70				
14 L 088	TL1091	25	6	.250x.82	.42	.32	.25	.20
14 L 089	TL1100	50	6	.312x.82	.42	.32	.25	.20
14 L 090	TL1102	100	6	.375x1.07	.45	.33	.26	.21
14 L 091	TL1103	150	6	.375x1.07	.60	.44	.35	.28
14 L 092	TL1103.5	175	6	.375x1.07	.60	.44	.35	.28
14 L 093	TL1120	1	12	.180x.57				
14 L 094	TL1121	2	12	.180x.57				
14 L 095	TL1127	5	12	.180x.57	.42	.32	.25	.20
14 L 096	TL1127.3	8	12	.210x.70				
14 L 097	TL1128	10	12	.210x.70				

Stock No.	Mfr's Type	Mfd	WV DC	Size Dia. x L.	EACH			
					1-24	25-49	50-99	100-249
14 L 098	TL1131	25	12	.250x.82	.42	.32	.25	.20
14 L 099	TL1133	50	12	.312x.82	.42	.32	.25	.20
14 L 100	TL1135	100	12	.375x1.07	.45	.34	.27	.21
14 L 101	TL1148	1	16	.180x.57	.42	.32	.25	.20
14 L 103	TL1149	2	16	.180x.57	.42	.32	.25	.20
14 L 104	TL1152	5	16	.218x.57	.42	.32	.25	.20
14 L 105	TL1154	8	16	.210x.70	.42	.32	.25	.20
14 L 106	TL1155	10	16	.250x.82	.45	.33	.26	.21
14 L 107	TL1157.1	25	16	.250x.82	.45	.34	.27	.21
14 L 108	TL1160	50	16	.375x1.07	.45	.34	.27	.21
14 L 109	TL1162	100	16	.375x1.07	.48	.36	.28	.23
14 L 110	TL1170	1	20	.180x.57	.42	.32	.25	.20
14 L 111	TL1171	2	20	.180x.57	.42	.32	.25	.20
14 L 112	TL1174	5	20	.210x.70	.45	.33	.26	.21
14 L 113	TL1176	8	20	.210x.70	.45	.33	.26	.21
14 L 114	TL1177	10	20	.250x.82	.45	.33	.26	.21
14 L 115	TL1180	25	20	.312x.82	.54	.40	.31	.25
14 L 116	TL1182	50	20	.375x1.07	.54	.41	.32	.25
14 L 117	TL1200	1	25	.180x.57	.42	.32	.25	.20
14 L 118	TL1201	2	25	.180x.57	.42	.32	.25	.20
14 L 119	TL1202	5	25	.250x.82	.45	.33	.26	.21
14 L 120	TL1203.5	8	25	.250x.82	.45	.33	.26	.21
14 L 121	TL1204	10	25	.250x.82	.45	.33	.26	.21
14 L 122	TL1207	25	25	.375x1.07	.54	.41	.32	.25
14 L 123	TL1209	50	25	.375x1.07	.54	.41	.32	.25

## HIGH-K MONOLYTHIC CAPACITORS

Series C-23. For VHF and UHF equipment, low RF and audio frequency use. Temperature range of  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . Tolerance  $\pm 20\%$ . No anti-resonance points to 1000 mc. Withstand test potential of 100 VDC for at least 1 second at  $25^{\circ}\text{C}$ .



### RADIAL LEADS 25 WVDC

Stock No.	Mfr's Type	Mfd	Size (LxWxT)	EACH			
				1-49	50-99	100-249	250-499
13 L 370	3C3	.01	.390x.202x.125				
13 L 371	3C6	.015	.390x.202x.125				
13 L 372	3C9	.022	.390x.202x.125	1.74	1.31	.98	.87
13 L 373	3C12	.033	.390x.202x.125				
13 L 374	3C15	.047	.390x.202x.125				
13 L 375	3C18	.068	.390x.202x.125	1.84	1.38	1.04	.92
13 L 376	3C21	.1	.390x.202x.140	1.92	1.44	1.08	.96
13 L 377	4C38	.15	.515x.296x.150	2.18	1.64	1.23	1.09
13 L 378	4C41	.22	.515x.296x.150	2.38	1.79	1.34	1.19
13 L 379	4C44	.33	.515x.296x.150	3.02	2.27	1.70	1.51
13 L 380	4C47	.47	.535x.340x.234	4.07	3.05	2.29	2.04
13 L 381	4C50	.68	.535x.340x.234	5.14	3.86	2.89	2.57
16 L 589	5C7	.1	.500x.500x.125	.80	.60	.45	.40
13 L 382	5C8	.15	.500x.500x.125	.92	.69	.52	.46
16 L 698	5C9	.22	.500x.500x.125	1.06	.80	.60	.53
16 L 699	5C10	.33	.500x.500x.125	1.20	.90	.68	.60
16 L 825	5C11	.47	.500x.500x.125	1.38	1.04	.78	.69
16 L 823	5C12	.68	.500x.500x.140	1.48	1.11	.84	.74
16 L 824	5C13	.1	.500x.500x.140	1.96	1.47	1.11	.98
16 L 697	5C14	1.5	.500x.500x.238	3.00	2.25	1.69	1.50
16 L 695	5C15	2.2	.500x.500x.238	3.96	2.97	2.23	1.98

### RADIAL LEADS 50 WVDC

Stock No.	Mfr's Type	Mfd	Size	1-49	50-99	100-249	250-499
16 L 660	5C50	.1	.500x.500x.125	1.06	.80	.60	.53
16 L 663	5C51	.15	.500x.500x.125	1.20	.90	.68	.60
16 L 667	5C52	.22	.500x.500x.140	1.38	1.04	.78	.69
16 L 668	5C53	.33	.500x.500x.238	2.00	1.50	1.13	1.00
16 L 669	5C54	.47	.500x.500x.238	2.52	1.89	1.42	1.26

### AXIAL LEADS 25 WVDC

Stock No.	Mfr's Type	Mfd	Size	1-49	50-99	100-249	250-499
13 L 360	3C1	.01	.390x.202x.125				
13 L 361	3C4	.015	.390x.202x.125				
13 L 362	3C7	.022	.390x.202x.125	1.82	1.37	1.03	.91
13 L 363	3C10	.033	.390x.202x.125				
13 L 364	3C13	.047	.390x.202x.125				
13 L 365	3C16	.068	.390x.202x.125	1.92	1.44	1.08	.96
13 L 366	3C19	.1	.390x.202x.140	2.00	1.50	1.13	1.00
13 L 367	4C36	.15	.515x.296x.156	2.26	1.70	1.28	1.13
13 L 368	4C39	.22	.515x.296x.156	2.46	1.85	1.39	1.23
13 L 369	4C42	.33	.515x.296x.156	3.10	2.33	1.75	1.55

## CERAMIC DISC CAPACITORS



### SERIES 10TCC NPO CERAMICS

Zero temperature-coefficient capacitors. 1000 WVDC. Tolerance:  $\pm 5\%$ ,  $6.8 \mu\text{f}$  and above;  $\pm .25 \mu\text{f}$ ,  $4.7 \mu\text{f}$  and below.

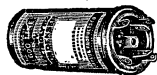
Stock No.	Mfr's Type	Mmf	EACH		In Multiples of 100 Only 100-400
			1-24	25-99	
19 L 955	10TCC-V10	1.0			
19 L 956	10TCC-V15	1.5			
19 L 957	10TCC-V22	2.2	.15	.12	5.00 per 100
19 L 958	10TCC-V33	3.3			
19 L 959	10TCC-V47	4.7			
19 L 960	10TCC-V68	6.8			
19 L 961	10TCC-V100	10.0			
19 L 962	10TCC-Q15	15.0	.15	.12	5.00 per 100
19 L 963	10TCC-Q20	20.0			
19 L 964	10TCC-Q22	22.0			
19 L 965	10TCC-Q25	25.0	.15	.12	5.00 per 100
19 L 966	10TCC-Q33	33.0	.15	.12	5.00 per 100
19 L 967	10TCC-Q39	39.0	.15	.12	5.00 per 100
19 L 968	10TCC-Q47	47.0	.15	.12	6.20 per 100
19 L 969	10TCC-Q50	50.0	.15	.12	6.20 per 100
19 L 970	10TCC-Q68	68.0			
19 L 971	10TCC-Q75	75.0			
19 L 972	10TCC-T10	100.0	.15	.12	6.20 per 100
19 L 973	10TCC-T12	120.0			
19 L 974	10TCC-T15	150.0	.15	.12	9.00 per 100
19 L 975	10TCC-T175	175.0	.15	.12	10.00 per 100
19 L 976	10TCC-T22	220.0	.18	.15	10.60 per 100
19 L 977	10TCC-T27	270.0	.24	.19	15.30 per 100

### SERIES 10TCU N750 CERAMICS

Negative temperature coefficient capacitors with a negative change of 750 parts per million per degree Centigrade. All are rated 1000 WVDC Tolerance,  $\pm 5\%$ .

Stock No.	Mfr's Type	Mmf	1-24	25-99	In Multiples of 100 Only 100-400
19 L 978	10TCU-V50	5			
19 L 979	10TCU-Q10	10			
19 L 980	10TCU-Q15	15	.15	.12	5.00 per 100
19 L 981	10TCU-Q20	20			
19 L 982	10TCU-Q22	22			
19 L 983	10TCU-Q25	25			
19 L 984	10TCU-Q33	33	.15	.12	5.00 per 100
19 L 985	10TCU-Q47	47			
19 L 986	10TCU-Q68	68			
19 L 987	10TCU-Q75	75			
19 L 988	10TCU-T10	100	.15	.12	6.20 per 100
19 L 989	10TCU-T15	150			
19 L 990	10TCU-T20	200	.15	.12	6.20 per 100
19 L 991	10TCU-T22	220	.15	.12	9.00 per 100
19 L 992	10TCU-T33	330	.15	.12	10.00 per 100
19 L 993	10TCU-T47	470	.24	.19	15.30 per 100
19 L 994	10TCU-T68	680	.27	.21	17.03 per 100

# SPRAGUE Twist-Prong Electrolytic Capacitors



circuits. \*PCL types, for use in printed circuits. With both bake-

“Twist-Lok” hermetically sealed, aluminum can capacitors. Withstand extremely high temperatures, ripple currents and surge voltages. Excellent for use in selenium rectifier circuits.

## TVL AND PCL MIDGET CAN CAPACITORS

lite and metal mounting washers. All types rated +85°C. Up to 150 WVDC, capacity tolerance is -10% to +100%; above 150 WVDC, -10% to +50%. Can is common negative. Terminals are welded to capacitor cathodes and tinned for easy soldering. Values clearly marked to eliminate error. Av. wt., 6 oz.

### TWIST-PRONG CAPACITOR SIZE CHART

Code	Dia. x L	Code	Dia. x L	Code	Dia. x L	Code	Dia. x L	Code	Dia. x L	Code	Dia. x L
A	$\frac{3}{4}x2"$	C	$1x2\frac{1}{2}"$	E	$1x3\frac{1}{2}"$	G	$1\frac{1}{2}x3"$	J	$1\frac{1}{2}x3\frac{3}{4}"$	L	$1\frac{3}{8}x4"$
B	$1x2"$	D	$1x3"$	F	$1x4"$	H	$1\frac{1}{2}x2\frac{1}{2}"$	K	$1\frac{1}{2}x3\frac{1}{2}"$		

### SINGLE SECTION

Stock No.	Cap. Mfd	DC WV	Type TVL- *PCL-	Size	EACH				Stock No.	Cap. Mfd	DC WV	Type TVL- *PCL-	Size	EACH			
					1-24	25-49	50-99	100-249						1-24	25-49	50-99	100-249
19 L 367	2000	6	1115	G	1.83	1.30	1.01	.81	19 L 334	80	300	1573	E	1.53	.90	.70	.56
19 L 364	1000	15	1165	C	1.53	.94	.74	.59	19 L 335	100	300	1578	F	1.74	.98	.76	.61
19 L 365	2000	15	1168	G	2.07	1.44	1.12	.89	19 L 300	125	300	1580	M	2.10	1.25	.97	.78
19 L 366	3000	15	1170	J	2.55	1.82	1.42	1.14	19 L 336	150	300	1584	K	2.10	1.34	1.05	.84
19 L 362	500	25	1220	B	1.53	.87	.68	.54	19 L 337	250	300	1590	L	3.33	1.74	1.35	1.08
19 L 363	1000	25	1230	G	2.13	1.30	1.01	.81	19 L 329	40	350	1621	B	1.20	.77	.60	.48
19 L 357	100	50	1317	A	.99	.58	.45	.36	19 L 330	50	350	1622	B	1.26	.82	.64	.51
19 L 358	500	50	1330	H	1.59	1.09	.85	.68	19 L 331	80	350	1630	G	1.71	1.10	.86	.69
19 L 359	1000	50	1338	K	2.25	1.49	1.16	.93	19 L 332	125	350	1638	K	2.37	1.37	1.06	.85
19 L 360	1500	50	1341	L	2.64	1.87	1.45	1.16	19 L 333	150	350	1642	L	2.37	1.50	1.17	.93
19 L 344	50	150	1415	B	.99	.66	.51	.41	19 L 314	10	450	1705	B	.93	.65	.51	.41
19 L 345	80	150	1420	C	1.11	.71	.56	.45	19 L 315	15	450	1709	B	1.02	.69	.54	.43
19 L 346	100	150	1423	C	1.20	.75	.58	.47	19 L 316	20	450	1714	B	1.08	.72	.56	.45
19 L 347	120	150	1425	C	1.29	.78	.61	.49	19 L 317	30	450	1720	C	1.17	.80	.63	.50
19 L 348	140	150	1428	D	1.29	.81	.63	.51	19 L 324	40	450	1725	D	1.23	.88	.68	.55
19 L 349	150	150	1429	D	1.29	.83	.65	.52	19 L 325	50	450	1728	D	1.41	.95	.74	.59
19 L 350	150	150	1430	J	1.29	.99	.77	.62	19 L 326	80	450	1735	H	1.83	1.31	1.02	.81
19 L 351	200	150	1431	L	1.47	1.10	.86	.69	19 L 327	100	450	1750	J	2.07	1.47	1.15	.92
19 L 352	300	150	1434	K	1.68	1.25	.97	.78	19 L 328	125	450	1760	L	2.31	1.69	1.31	1.05
19 L 343	160	200	1473	J	1.89	1.10	.86	.69	19 L 307	10	500	1940	B	1.02	.68	.53	.42
19 L 338	20	250	1509	B	.96	.64	.50	.40	19 L 308	20	500	1943	C	1.11	.78	.61	.49
19 L 339	40	250	1519	B	1.08	.70	.54	.44	19 L 309	30	500	1947	D	1.20	.89	.69	.55
19 L 340	100	250	1535	D	1.62	.89	.69	.55	19 L 310	40	500	1950	E	1.50	.99	.77	.62
19 L 341	150	250	1540	H	1.86	1.17	.91	.73	19 L 311	80	500	1958	J	2.16	1.54	1.20	.96
19 L 342	200	250	1547	K	2.19	1.36	1.06	.83	19 L 312	90	500	1960	K	2.10	1.66	1.29	1.03

### DUAL SECTION

19 L 120	1000-1000	15	2160	E	2.64	1.40	1.09	.87	19 L 398	100-100	350	2641	L	3.69	1.80	1.40	1.12
19 L 001	800-200	16	2179.5	C	1.83	1.02	.80	.64	19 L 394	80-60	400	2677	J	2.82	1.73	1.35	1.08
19 L 116	50-50	50	2320	B	1.02	.73	.57	.46	19 L 376	10-10	450	2750	B	1.14	.81	.63	.50
19 L 117	100-100	50	2326	B	1.26	.81	.63	.50	19 L 377	20-10	450	2754	C	1.35	.88	.69	.55
19 L 406	20-20	150	2415	B	1.02	.73	.57	.45	19 L 378	15-15	450	2753	C	1.35	.89	.69	.55
19 L 407	30-30	150	2422	B	1.11	.76	.59	.47	19 L 379	20-20	450	2755	D	1.53	.96	.75	.60
19 L 408	40-20	150	2425	B	1.11	.76	.59	.47	19 L 380	30-10	450	2757	D	1.44	.96	.75	.60
19 L 102	40-40	150	2428	C	1.14	.80	.62	.50	19 L 381	30-30	450	2759	H	1.83	1.26	.98	.78
19 L 103	50-30	150	2432	C	1.20	.80	.62	.50	19 L 382	40-20	450	2762	H	1.95	1.26	.98	.78
19 L 104	50-30	150	2432*	B	1.20	.79	.62	.49	19 L 383	40-40	450	2764	J	2.07	1.42	1.10	.88
19 L 105	50-50	150	2435	C	1.29	.83	.64	.52	19 L 384	50-50	450	2767	J	2.31	1.56	1.22	.97
19 L 106	70-30	150	2439	C	1.32	.83	.64	.52	19 L 385	60-40	450	2770	K	2.37	1.57	1.23	.98
19 L 002	80-30	150	2441*	C	1.35	.84	.65	.52	19 L 386	60-60	450	2772	K	2.70	1.72	1.34	1.07
19 L 107	80-40	150	2442	H	1.38	1.02	.79	.63	19 L 387	80-10	450	2776	J	2.16	1.49	1.16	.93
19 L 003	80-40	150	2442*	D	1.38	.86	.67	.54	19 L 388	80-20	450	2776.5	J	2.34	1.56	1.22	.97
19 L 108	80-50	150	2442.1	C	1.44	.88	.68	.55	19 L 389	80-40	450	2778	K	3.03	1.72	1.34	1.07
19 L 114	200-5	150	2444	J	1.62	1.24	.96	.77	19 L 390	100-40	450	2780	L	2.91	1.88	1.46	1.17
19 L 115	200-200	150	2447	L	2.40	1.50	1.17	.94	19 L 393	10-20	450-25	2701	B	1.02	.75	.58	.47
19 L 405	200-5	200	2470	G	1.83	1.37	1.07	.85	19 L 392	80-100	450-50	2711	J	2.25	1.49	1.16	.93
19 L 402	20-20	250	2515	B	1.14	.78	.61	.49	19 L 373	15-15	475	2820	C	1.41	.92	.72	.58
19 L 403	40-40	250	2520	E	1.50	.90	.70	.56	19 L 374	30-10	475	2824	D	1.56	1.02	.79	.63
19 L 404	150-150	250	2535	L	3.09	1.76	1.37	1.09	19 L 246	80-40	475	2850	L	3.78	1.88	1.47	1.17
19 L 400	40-40	300	2575	H	2.25	1.13	.88	.71	19 L 375	80-50	475	2851	L	3.12	1.97	1.53	1.23
19 L 401	80-80	300	2585	J	2.43	1.45	1.13	.90	19 L 368	10-10	500	2933	C	1.17	.87	.67	.54
19 L 395	15-15	350	2625	B	1.35	.81	.63	.50	19 L 369	20-20	500	2935	H	1.71	1.22	.95	.76
19 L 396	20-20	350	2626	D	1.74	.87	.68	.54	19 L 370	30-30	500	2937	J	1.95	1.43	1.11	.89
19 L 397	30-30	350	2628	D	1.74	.96	.75	.60	19 L 371	40-40	500	2940	J	2.58	1.63	1.27	1.02
19 L 004	80-40	350	2634	L	2.46	1.41	1.10	.88	19 L 372	60-40	500	2944	K	2.76	1.84	1.43	1.15

### TRIPLE SECTION

19 L 305	20-20-20	25	3210	B	1.17	.78	.60	.48	19 L 188	40-40-40	150	3430	E	1.56	.95	.74	.59
19 L 306	40-40-40	25	3230	B	1.92	.81	.63	.51	19 L 189	50-40-30	150	3441.2*	C	1.62	.94	.73	.59
19 L 302	70-30-100	150-150-10	3411*	B	1.68	.93	.73	.58	19 L 190	50-50-50	150	3442	D	1.80	.99	.77	.62
19 L 303	80-60-230	150-150-10	3414.3*	C	2.04	1.05	.82	.66	19 L 191	60-40-20	150	3443	D	1.65	.94	.74	.59
19 L 304	90-40-400	150-150-10	3414.5	H	2.10	1.25	.97	.78	19 L 192	80-40-20	150	3444	D	1.74	.98	.76	.61
19 L 195	40-20-100	150-150-25	3423	D	1.50	.91	.71	.57	19 L 193	120-120-40	150	3448.2	J	2.43	1.37	1.07	.85
19 L 196	40-40-20	150-150-25	3426	B	1.44	.88	.69	.55	19 L 194	200-100-60	150	3450	K	2.73	1.51	1.18	.94
19 L 197	40-20-200	150-150-25	3423.2	C	1.62	1.08	.84	.67	19 L 184	60-200-140	200-150-150	3461.4	L	2.88	1.63	1.27	1.02
19 L 005	40-40-200	150-150-25															

# SPRAGUE Twist-Prong Electrolytic Capacitors

### TWIST-PRONG CAPACITOR SIZE CHART

Code	Dia. x L	Code	Dia. x L	Code	Dia. x L	Code	Dia. x L	Code	Dia. x L	Code	Dia. x L
A	3/4x2"	C	1x2 1/2"	E	1x3 1/2"	G	1 3/8x2 3/4"	J	1 3/8x3 3/4"	L	1 3/8x4"
B	1x2"	D	1x3"	F	1x4"	H	1 3/8x2 1/2"	K	1 3/8x3 1/2"		

### TRIPLE SECTION (Cont'd)

Stock No.	Cap. Mfd	DC WV	Type TVL- *PCL	Size	EACH				Stock No.	Cap. Mfd	DC WV	Type TVL- *PCL	Size	EACH			
					1-24	25-49	50-99	100-249						1-24	25-49	50-99	100-249
19L 006	80-40-40	300-300-300	3583	K	2.85	1.52	1.18	.95	19L 157	80-20-100	450-450-50	.757	L	2.88	1.75	1.36	1.09
19L 175	120-50-40	300	3585	L	3.51	1.76	1.37	1.09	19L 154	40-40-40	450-450-150	3751	K	2.49	1.58	1.23	.99
19L 176	150-100-30	300	3586*	L	3.81	2.03	1.58	1.26	19L 152	40-10-80	450-450-200	3768	J	2.34	1.46	1.14	.91
19L 016	10-50-100	350-150-50	3608	E	1.71	.96	.75	.60	19L 153	40-40-100	450-450-200	3764	L	2.97	1.75	1.37	1.09
19L 173	30-30-20	350-300-25	3620	D	1.89	1.02	.80	.64	19L 129	10-10-10	450	3776	D	1.56	.97	.76	.61
19L 169	15-10-20	350-350-25	3630	C	1.50	.88	.69	.55	19L 130	15-15-10	450	3778	E	2.67	1.05	.82	.66
19L 171	20-10-20	350-350-25	3634	C	1.53	.90	.70	.56	19L 131	20-10-10	450	3779	D	1.74	1.04	.81	.65
19L 170	20-20-20	350-350-25	3635	B	1.74	.94	.74	.59	19L 132	20-20-20	450	3780	H	2.16	1.34	1.04	.84
19L 172	30-30-20	350-350-25	3636.3	G	2.04	1.19	.93	.74	19L 133	30-30-20	450	3781	J	2.31	1.43	1.11	.89
19L 168	100-60-20	350-350-200	3639.2	L	3.30	1.76	1.37	1.10	19L 134	30-30-30	450	3782	K	2.61	1.59	1.24	.99
19L 167	20-10-5	350-350-250	3639.4	C	1.53	.91	.71	.57	19L 135	40-30-20	450	3784	J	2.58	1.57	1.23	.98
19L 165	30-20-10	350	3639.8	C	1.95	1.04	.81	.65	19L 136	40-40-10	450	3785	H	2.49	1.56	1.21	.97
19L 166	40-40-20	350	3640	L	2.55	1.53	1.19	.95	19L 137	40-40-20	450	3786	J	2.67	1.65	1.28	1.03
19L 164	20-20-20	400-400-25	3678	D	1.71	1.02	.79	.64	19L 138	40-40-40	450	3787	K	2.94	1.81	1.41	1.13
19L 163	100-10-80	400-400-350	3689.3	L	3.66	2.04	1.59	1.27	19L 139	60-20-20	450	3789	J	2.76	1.65	1.28	1.03
19L 162	40-90-50	450-150-150	3708	J	2.40	1.44	1.12	.90	19L 141	60-30-10	450	3790	J	2.70	1.65	1.28	1.03
19L 007	80-40-40	450-250-250	3713.4	L	2.88	1.77	1.38	1.10	19L 150	60-40-20	450	3791	K	3.00	1.81	1.41	1.13
19L 158	10-10-20	450-450-25	3731	B	1.44	.90	.70	.56	19L 151	80-40-20	450	3793	L	3.24	1.97	1.53	1.22
19L 159	20-10-20	450-450-25	3735	D	1.62	1.02	.80	.64	19L 126	30-30-20	475	3840	J	2.67	1.60	1.25	1.00
19L 160	20-20-20	450-450-25	3739	D	1.83	1.05	.82	.66	19L 127	40-10-10	475	3841	J	3.48	1.43	1.12	.89
19L 161	40-40-20	450-450-25	3744	H	2.34	1.50	1.17	.93	19L 128	40-30-30	475	3843	L	3.09	1.80	1.40	1.12
19L 155	20-10-50	450-450-50	3751	D	1.71	1.01	.78	.63	19L 124	40-40-100	500-500-200	3935	L	3.48	1.97	1.53	1.23
19L 015	30-15-150	450-450-50	3753	J	2.22	1.32	1.03	.82	19L 121	10-10-10	500	3952	D	1.62	1.05	.82	.66
19L 156	40-10-100	450-450-50	3754.2	J	2.58	1.36	1.06	.85	19L 122	30-20-20	500	3956	J	2.52	1.62	1.26	1.01
									19L 123	40-40-10	500	3965	K	3.03	1.83	1.42	1.14

### FOUR SECTION

19L 092	50-40-160-40	150-150-25-25	4410.7	G	2.13	1.22	.95	.76	19L 201	10-10-10-20	450-450-450-25	4723	G	1.89	1.19	.93	.74
19L 091	60-40-20-200	150-150-150-10	4414	G	2.07	1.22	.95	.76	19L 042	20-20-20-20	450-450-450-25	4724.2	H	2.49	1.43	1.11	.89
19L 082	30-30-30-40	150-150-150-25	4415	G	1.86	1.13	.88	.71	19L 043	40-30-10-20	450-450-450-25	4734	-K	2.70	1.60	1.25	1.00
19L 083	40-40-30-20	150-150-150-25	4420	G	1.86	1.15	.90	.72	19L 044	40-20-20-40	450-450-450-25	4732	J	2.79	1.60	1.24	1.00
19L 086	80-40-30-100	150-150-150-25	4430	H	3.33	1.28	1.00	.80	19L 045	40-40-10-20	450-450-450-25	4736	K	2.82	1.68	1.30	1.04
19L 087	80-40-40-20	150-150-150-25	4431	G	2.13	1.23	.96	.77	19L 046	40-40-40-40	450-450-450-25	4739	J	3.30	1.89	1.47	1.18
19L 088	80-40-40-100	150-150-150-25	4434	H	2.25	1.29	1.01	.81	19L 012	80-40-40-40	450-450-450-25	4739.6	L	3.87	2.21	1.72	1.38
19L 097	250-200-10-25	150-150-150-50	4440	L	3.21	1.78	1.39	1.11	19L 040	30-30-15-30	450-450-450-50	4742	J	2.73	1.56	1.22	.97
19L 079	40-40-40-30	150	4441	G	1.98	1.20	.94	.75	19L 039	40-40-10-100	450-450-450-100	4747	K	3.33	1.79	1.40	1.12
19L 078	100-80-60-40	150	4445	J	2.79	1.44	1.12	.90	19L 030	5-5-5-5	450	4759.7	G	1.80	1.11	.86	.69
19L 075	100-40-10-100	250-250-250-50	4516	K	3.09	1.53	1.19	.96	19L 031	10-10-10-10	450	4760	G	2.01	1.25	.98	.78
19L 070	40-40-40-20	300-300-300-150	4575	L	2.94	1.49	1.16	.93	19L 032	20-10-10-10	450	4761	G	2.22	1.33	1.03	.83
19L 072	100-10-200-30	300-300-150-150	4561	L	3.54	1.82	1.42	1.13	19L 033	20-20-20-20	450	4763	J	2.82	1.58	1.23	.98
19L 099	150-10-200-30	300-300-150-150	4561.3	L	3.75	1.97	1.53	1.23	19L 034	30-30-20-20	450	4769.4	J	3.12	1.72	1.34	1.07
19L 722	40-40-20-10	300	4579	K	2.73	1.43	1.12	.89	19L 035	35-35-10-5	450	4771	K	2.76	1.63	1.27	1.02
19L 008	100-60-60-40	350-350-200-75	4608.9*	L	3.83	1.97	1.53	1.23	19L 036	40-40-20-20	450	4773	J	3.33	1.90	1.48	1.18
19L 066	60-40-60-20	350-350-200-150	4609	K	3.03	1.61	1.25	1.00	19L 037	40-40-30-30	450	4774	L	3.63	2.04	1.59	1.27
19L 063	40-40-20-20	350-350-350-25	4621.6	J	2.79	1.49	1.16	.93	19L 038	40-40-40-40	450	4775	L	3.87	2.19	1.70	1.36
19L 009	90-30-5-100	350-350-350-75	4625	K	3.69	1.70	1.33	1.04	19L 013	60-20-20-20	450	4778	L	3.39	1.84	1.44	1.15
19L 055	80-69-40-20	350	4635.7	L	3.84	1.99	1.55	1.26	19L 029	20-40-100-80	475-300-50-25	4800	J	2.67	1.44	1.12	.90
19L 052	40-80-100-25	400-350-200-50	4634	L	3.57	1.91	1.49	1.19	19L 027	15-15-80-40	475-475-300-50	4815	J	2.88	1.59	1.24	.99
19L 010	100-10-30-20	400-400-50-50	4653	K	3.06	1.75	1.36	1.09	19L 026	50-30-10-20	475-475-475-300	4827	K	3.36	1.86	1.44	1.16
19L 049	80-40-10-20	400-400-400-25	4669	L	3.18	1.87	1.46	1.17	19L 023	20-20-10-10	475	4832	H	2.61	1.49	1.16	.93
19L 050	80-40-40-20	400-400-400-25	4670	L	3.57	2.01	1.57	1.25	19L 024	20-20-20-20	475	4834	J	3.06	1.51	1.17	.94
19L 048	40-40-40-20	450-300-300-150	4703.7	J	2.94	1.62	1.26	1.01	19L 025	40-20-10-10	475	4840	J	3.06	1.68	1.31	1.05
19L 011	80-10-40-30	450-400-300-300	4710.2	L	3.48	1.94	1.51	1.21	19L 022	30-10-150-30	500-450-50-50	4917	J	2.52	1.49	1.16	.93
19L 047	20-15-20-20	450-450-25-25	4712	G	2.07	1.24	.97	.77	19L 020	10-10-10-10	500	4940	G	2.10	1.36	1.06	.85
									19L 021	40-40-8-8	500	4944	L	3.42	1.98	1.54	1.23

### TYPE AM MOTOR-STARTING CAPACITORS

A metal-encased electrolytic capacitor designed especially for intermittent duty with 110 volt capacitor-start AC motors. Carefully engineered to pass the correct amount of current for the maximum possible starting torque. In a hermetically sealed aluminum can with insulating outer cardboard tube for high efficiency and dependability. Provided with lug terminals for quick, easy installation. Screws are removable for solder connections if desired. When any

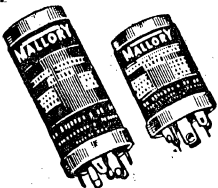
question as to proper size should arise, it is always safer to choose the next larger value of capacitance. \*Indicates minimum-maximum capacitance values replaceable with these units. Type AM-1109 is for 1/2 hp motors; AM-1110, 1/8 hp; AM-1113 and AM-1116, 1/4 hp; AM-1125, 1/2 hp; AM-1131, 1/2 hp; AM-1146, 3/4 and 1 hp. Wt., 10 oz.



Stock No.	Mfr's Type	* Mfd	Size	EACH		Stock No.	Mfr's Type	* Mfd	Size	EACH	
				1-24	25-49					1-24	25-49
15L 948	AM-1105	43-53	1x2 1/8"	.76	.66	15L 572	AM-1131	216-259	1 3/8x3 1/8"	1.22	1.09
15L 579	AM-1106	47									



# Twist-Prong Electrolytic Capacitors



Types FP, FPP, WP. For filter, audio by-pass, TV circuits. Stable under high ripple current, surge voltages and temperatures (+85°C). FP types have fabricated plates. FWP types have etched-plate

anodes. \*FPP types are for PC's. Tol.: 0-50 WVDC, -10 to +250%; 100-350 WVDC, -10 to 100%; over 350 WVDC, -10 to +50%. With insulating washer. *See* table refers to size. Av. wt., 6 oz.

## TWIST-PRONG CAPACITOR SIZE CHART

§	Dia. x L	§	Dia. x L	§	Dia. x L	§	Dia. x L	§	Dia. x L	§	Dia. x L
A	3/4 x 2"	C	1 x 1 3/4"	E	1 x 2 1/2"	G	1 3/8 x 2"	J	1 3/8 x 3"	L	1 3/8 x 4"
B	1 x 1 1/2"	D	1 x 2"	F	1 x 3"	H	1 1/2 x 2 1/2"	K	1 1/2 x 3 1/2"		

### SINGLE SECTION (FP, Except $\dagger$ WP, \*FPP)—Specify Stock No. and Type When Ordering

Stock No.	Mfr's Type	Cap. Mfd	DC WV	EACH					Stock No.	Mfr's Type	Cap. Mfd	VW DC	EACH						
				§	1-9	10-24	25-49	50-99					100-249	§	1-9	10-24	25-49	50-99	100-249
19 L 554	039A†	1000	15	B	1.53	1.25	.94	.73	.58	19 L 539	129.1A	100	300	E	1.74	1.29	.97	.75	.60
19 L 555	041A†	2000	15	G	2.07	1.92	1.44	1.12	.90	19 L 666	132†	200	300	H	2.58	1.99	1.49	1.16	.93
19 L 556	042A†	3000	15	G	2.10	2.10	1.82	1.42	1.13	19 L 572	135A	30	350	B	1.14	.96	.72	.56	.45
19 L 663	055A†	100	25	B	.96	.85	.63	.49	.39	19 L 536	137A	50	350	G	1.26	1.10	.82	.64	.51
19 L 552	057A†	500	25	B	1.53	1.16	.87	.68	.54	19 L 667	138A	80	350	D	1.71	1.48	1.11	.86	.69
19 L 553	059†	1000	25	G	2.13	1.73	1.30	1.01	.81	19 L 537	140A	125	350	H	2.37	1.80	1.35	1.05	.84
19 L 664	064A†	100	50	B	.99	.86	.65	.50	.40	19 L 668	140.6A	150	350	H	2.55	1.96	1.47	1.14	.91
19 L 549	065†	500	50	G	1.59	1.44	.88	.84	.67	19 L 669	141	320	350	L	4.05	3.10	2.32	1.81	1.45
19 L 550	068†	1600	50	J	2.31	2.31	1.83	1.42	1.11	19 L 529	142	10	450	A	.93	.77	.57	.45	.36
19 L 542	115A	50	150	B	.99	.87	.66	.51	.41	19 L 530	143A	15	450	B	1.02	.91	.68	.53	.43
19 L 543	116A	100	150	E	1.20	.99	.74	.58	.46	19 L 531	144	20	450	D	1.08	.96	.72	.56	.50
19 L 544	116.5A	120	150	L	2.23	1.04	.78	.60	.48	19 L 532	145	30	450	E	1.17	1.07	.80	.62	.50
19 L 545	116.8*	140	150	F	1.44	1.11	.83	.65	.52	19 L 533	146	40	450	E	1.23	1.16	.87	.68	.54
19 L 546	117A	150	150	L	2.29	1.10	.83	.64	.51	19 L 534	149	80	450	H	1.83	1.74	1.30	1.01	.81
19 L 547	118A	200	150	G	1.47	1.39	1.04	.81	.65	19 L 535	150	100	450	J	2.07	1.96	1.47	1.14	.91
19 L 548	119A	300	150	G	1.68	1.63	1.22	.95	.76	19 L 524	171A	10	500	B	.96	.90	.67	.52	.42
19 L 540	121	120	200	G	1.41	1.31	.98	.76	.61	19 L 525	173	20	500	D	1.11	1.03	.77	.60	.48
19 L 541	122*	160	200	H	1.91	1.47	1.10	.86	.69	19 L 526	175	30	500	E	1.20	1.17	.88	.68	.55
19 L 665	123A†	500	200	J	2.19	2.19	1.90	1.48	1.18	19 L 527	177	40	500	F	1.50	1.31	.98	.76	.61
19 L 538	128A	80	300	E	1.53	1.19	.89	.69	.55	19 L 528	187	90	500	J	2.10	2.10	1.64	1.27	1.02

### DUAL SECTION (FP, except $\dagger$ WP, \*FPP)—Specify Stock No. and Type When Ordering

19 L 459	200†	1000-1000	15	G	2.64	2.03	.53	1.19	.95	19 L 654	227.3A	30-30	350	E	1.74	1.28	.96	.75	.60
19 L 671	200.7A†	500-200	20	B	1.80	1.42	.07	.83	.66	19 L 676	227.5A	80-40	350	H	2.16	.88	1.41	1.10	.88
19 L 670	201.5†	1000-1000	35	H	3.93	3.01	2.26	1.76	1.42	19 L 677	227.6A	80-80	350	J	2.82	1.88	1.83	1.27	1.02
19 L 455	202.1A†	50-50	50	B	1.02	.98	.73	.57	.45	19 L 655	227.7A	100-100	350	H	2.69	2.43	1.83	1.42	1.14
19 L 456	202.5A†	100-100	50	B	1.26	1.07	.80	.62	.50	19 L 678	228.3	150-20	350	J	2.73	2.21	1.65	1.29	1.03
19 L 660	208A	20-20	150	B	1.02	.96	.72	.56	.45	19 L 679	229.3	75-75	400	L	2.91	2.43	1.83	1.42	1.14
19 L 671	211A	30-30	150	B	1.11	1.01	.75	.59	.47	19 L 680	229.5	120-40	400	L	3.15	2.52	1.89	1.47	1.18
19 L 662	210A	40-20	150	B	1.08	1.01	.75	.59	.47	19 L 587	231	10-10	450	D	1.14	1.07	.80	.62	.50
19 L 446	212A	40-40	150	B	1.14	1.05	.79	.61	.49	19 L 590	231.3	20-10	450	E	1.32	1.18	.88	.69	.55
19 L 447	213A	50-30	150	B	1.29	1.05	.79	.61	.49	19 L 591	234A	20-20	450	E	1.53	1.28	.96	.75	.60
19 L 448	213.1*	50-30	150	D	1.40	1.08	.81	.63	.50	19 L 592	237	30-30	450	H	1.83	1.67	1.26	.98	.78
19 L 449	214A	50-50	150	E	1.56	1.10	.82	.64	.51	19 L 593	238A	40-40	450	H	2.07	1.89	1.41	1.10	.88
19 L 450	214.3*	70-30	150	D	1.46	1.12	.84	.65	.52	19 L 681	239	50-40	450	J	2.19	1.98	1.49	1.16	.92
19 L 451	216.2A	80-40	150	C	1.38	1.14	.86	.67	.53	19 L 594	240	50-50	450	J	2.31	2.08	1.56	1.21	.97
19 L 672	215A	125-100	150	G	2.04	1.58	1.19	.92	.74	19 L 598	242.5A	60-60	450	K	2.70	2.31	1.73	1.35	1.08
19 L 452	216.1A	200-5	150	G	1.65	1.65	1.28	1.00	.80	19 L 650	245.2	80-20	450	J	2.34	2.08	1.56	1.21	.97
19 L 673	216.3A	200-150	150	G	2.25	1.89	1.42	1.10	.88	19 L 682	245.3A	80-30	450	K	2.49	2.21	1.66	1.29	1.03
19 L 674	216.4A	200-200	150	H	2.40	2.00	1.50	1.17	.93	19 L 683	247	100-40	450	L	2.91	2.50	1.88	1.46	1.17
19 L 454	216.4*	200-200	150	J	2.59	2.00	1.50	1.16	.93	19 L 564	258	15-15	475	E	1.41	1.23	.92	.72	.57
19 L 657	217A	20-20	250	B	1.14	1.04	.78	.60	.48	19 L 565	259	30-10	475	F	1.56	1.35	1.01	.79	.63
19 L 658	221A	40-40	250	C	1.50	1.21	1.21	.91	.71	19 L 580	262	40-40	475	J	2.58	2.02	1.52	1.18	.94
19 L 659	217.7A	150-150	250	H	3.09	2.34	1.76	1.37	1.09	19 L 582	264.5	80-40	475	L	3.03	2.51	1.88	1.47	1.17
19 L 675	217.7AA	200-200	250	J	3.60	2.74	2.06	1.60	1.28	19 L 584	266	80-50	475	L	3.12	2.63	1.97	1.53	1.23
19 L 656	217.8†	40-40	300	E	1.77	1.48	1.11	.87	.69	19 L 684	282A	10-10	500	D	1.17	1.14	.86	.67	.53
19 L 652	225A	15-15	350	C	1.35	1.07	.80	.62	.50	19 L 560	284	30-30	500	H	1.95	1.89	1.42	1.10	.88
19 L 653	227A	20-20	350	D	1.38	1.14	.86	.67	.53	19 L 562	288	40-40	500	J	2.58	2.17	1.63	1.27	1.01

### TRIPLE SECTION (FP, except $\dagger$ WP, \*FPP)—Specify Stock No. and Type When Ordering

19 L 720	300.85†	500-500-100	16	D	2.40	1.51	1.13	.88	.70	19 L 692	333.95	100-30-20	400	L	3.30	2.55	1.91	1.49	1.19
19 L 523	320A†	40-40-40	25	B	1.29	1.07	.81	.63	.50	19 L 693	333.6	20-20-10	400-400-350	F	1.80	1.41	1.06	.82	.66
19 L 520	302.38†	70-30-100	150-150-10	E	1.67	1.28	.96	.75	.60	19 L 694	333.7	60-30-20	400-400-350	J	2.73	2.13	1.59	1.24	.99
19 L 521	302.5A	80-60-250	150-150-10	E	2.04	1.41	1.06	.82	.66	19 L 695	333.8	80-20-10	400-400-350	J	2.58	2.14	1.61	1.25	1.00
19 L 522	302.75†	90-40-100	150-150-10	F	1.93	1.48	1.11	.86	.64	19 L 477	333.85	100-10-80	400-400-350	L	3.66	2.72	2.04	1.59	1.27
19 L 518	309A	50-30-100	150-150-25	C	1.62	1.24	.93	.72	.58	19 L 473	345.2	10-10-20	450-450-25	D	1.44	1.13	.85	.66	.53
19 L 519	311A	50-50-20	150-150-25	C	1.59	1.23	.92	.72	.57	19 L 474	345.8	20-20-20	450-450-25	E	1.83	1.40	1.05	.81	.65
19 L 509	311.2A	20-20-20	150	B	1.38	1.11	.83	.65	.52	19 L 475	346	40-40-20	450-450-25	J	2.37	2.02	1.51	1.18	.94
19 L 510	311.4A	40-20-20	150	B	1.44	1.16	.87	.68	.54	19 L 472	366A	20-10-50	450-450-50	E	1.71	1.34	1.00	.78	.62
19 L 511	311.5A	40-40-40	150	C	1.56	1.25	.94	.73	.58	19 L 471	375	40-40-100	450-450-200	L	2.97	2.34	1.75	1.36	1.09
19 L 512	311.63*	50-40-30	150	E	1.67	1.28	.96	.75	.60	19 L 696	375.6A	60-20-40	450-450-350	K	2.94	2.30	1.72	1.34	1.07
19 L 685	311.65A	50-50-50	150	D	1.80	1.32	.99	.77	.61	19 L 461	375.8	15-15-10	450	E	1.56	1.29	.97	.75	.60
19 L 513	311.7	80-40-20	150	G	1.74	1.48	1.11	.87	.69	19 L 462	376.1	10-40-10	450	F	1.77	1.39	1.04	.81	.65
19 L 687	311.95A	150-50-50	150	G	2.22	1.74	1.31	1.01	.81	19 L 463	376.3	20-10-10	450	F	1.74	1.39	1.04	.81	.65
19 L 507	320	40-20-20	250	G	1.74	1.51	1.13	.88	.70	19 L 464	376.5	20-20-20	450	H	2.16	1.79	1.34	1.04	.83
19 L 506	326.3A	100-200-60	300-150-150	J	3.27	2.33													

# Electrolytic Capacitors

# MALLORY

### TWIST-PRONG ELECTROLYTIC CAPACITORS (Cont'd)

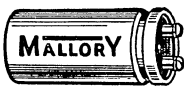
#### TWIST-PRONG CAPACITOR SIZE CHART

Size	Diameter x Length	Size	Diameter x Length	Size	Diameter x Length
G	1 3/8 x 2"	J	1 3/8 x 3"	L	1 3/8 x 4"
H	1 3/8 x 2 1/2"	K	1 3/8 x 3 1/2"		

**FOUR SECTION (FP, Except †WP)—Specify Stock No. and Type When Ordering**

Stock No.	Mfr's Type	Capacity Mfd	WVDC	Size	EACH				
					1-9	10-24	25-49	50-99	100-249
19 L 439	408	60-40-20-200	150-150-150-10	G	2.07	1.63	1.22	.95	.76
19 L 436	412A	100-80-60-40	150	J	2.73	1.92	1.44	1.12	.90
19 L 706	412.1A†	200-200-60-30	175	G	3.12	2.83	2.12	1.65	1.32
19 L 707	417.3A	10-200-140-30	300-150-150-150	H	3.06	2.21	1.66	1.29	1.03
19 L 708	419.4A	100-10-20-30	300-300-150-150	J	3.54	2.42	1.82	1.41	1.13
19 L 709	419.55A	150-100-10-10	300	H	3.96	2.75	2.06	1.60	1.28
19 L 710	419.65A	160-60-10-4	350-300-300-300	K	3.84	2.78	2.08	1.62	1.30
19 L 433	419.67A	60-100-60-40	350-350-200-75	K	3.93	2.63	1.97	1.53	1.22
19 L 711	419.66A	60-40-60-20	350-350-250-150	H	3.24	2.29	1.72	1.34	1.07
19 L 712	420.35A	40-20-20-10	350	G	2.61	1.88	1.41	1.10	.88
19 L 713	420.38A	40	350	J	3.60	2.40	1.80	1.40	1.12
19 L 714	420.4A	80-60-40-20	350	K	3.84	2.65	1.99	1.55	1.24
19 L 715	420.39A	100-40-25-25	350	K	4.20	2.59	1.94	1.51	1.21
19 L 431	420.45A	40-80-100-50	400-350-200-50	K	3.63	2.55	1.91	1.49	1.19
19 L 716	425.6	40-100-20-10	450-350-350-350	L	3.84	2.59	1.94	1.51	1.21
19 L 428	426	20-15-20-20	450-450-25-25	G	2.07	1.65	1.24	.96	.77
19 L 717	428.4A	40-40-30-30	450-450-350-350	K	3.54	2.53	1.90	1.47	1.18
19 L 426	429	40-30-10-20	450-450-450-25	J	2.70	2.11	1.59	1.23	.99
19 L 420	434	10	450	G	2.01	1.67	1.25	.97	.78
19 L 421	434.5	20-10-10-10	450	J	2.22	1.77	1.32	1.03	.82
19 L 422	444	20	450	J	2.82	2.10	1.57	1.22	.98
19 L 423	444.8	30-30-20-20	450	J	3.12	2.29	1.72	1.34	1.07
19 L 424	445	35-35-10-5	450	J	2.76	2.15	1.61	1.25	1.00
19 L 425	447A	40-40-20-20	450	K	3.33	2.53	1.90	1.47	1.18
19 L 718	452	20-80-20-10	475-300-300-300	J	3.00	2.12	1.59	1.23	.99
19 L 416	474.5	20-20-10-10	475	H	2.61	1.99	1.49	1.16	.93
19 L 417	475	20	475	J	3.12	2.24	1.68	1.30	1.04
19 L 719	475.5	40-10-10-10	475	J	2.79	2.12	1.59	1.24	.99
19 L 418	476	40-20-10-10	475	J	3.06	2.24	1.68	1.30	1.04
19 L 723	495A	40-40-8-8	500	K	3.42	2.64	1.98	1.54	1.23

### TYPE CG COMPUTER-GRADE ELECTROLYTICS



Aluminum electrolytics for high reliability in power supplies of military and commercial computers. Pressure-sensitive safety-vent design for extended life—no electrolytic leakage. Range, -20 to +85°C. Capacity tolerance: -10 to +75% of units rated to 150 WVDC; to 450 WVDC, -10 to +50%. 4 1/2" high except \*5 1/2". (Vertical mtg. clamps on page 164; 2" dia. electrolytic uses VR-8, 3" dia. uses VR-12.) 1 lb.

### TYPES HC AND NP DRY ELECTROLYTICS

Size	Clamp	Size	Clamp
A 1 1/16 x 2 3/4"	VR-3	F 1 7/16 x 4 3/8"	VR-3
B 1 7/16 x 3 3/8"	VR-3	G 1 7/16 x 2 3/4"	VR-3
C 1 1/2 x 4 1/8"	VR-3	H 1 13/16 x 4 3/8"	VR-6
D 1 7/16 x 4 3/8"	VR-8	J 3 x 4 1/8"	VR-12
E 1 13/16 x 3 3/8"	VR-6		



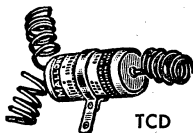
Moisture-resistant, plastic-cased electrolytics; screw terminals. Temperature range: -40°C to +85°C. †Aluminum case, full terminals—for fence control. \*NP nonpolarized types for intermittent AC use only. Others are HC polarized types for high-capacity, low-v. uses. †For photoflash. \*\*Dual section. See page 164 for mounting clamps. Tolerances: NP—±25%, except 3003A, ±15%; HC—-10% to +100% up to 150 VDC; -10% to +50% above 150.

Stock No.	Mfr's Type	Mfd	WV DC	Surge VDC	Dia.	EACH	
						1-49	50-99
18 L 120	CG363U3D1	36,000	3	5	3"	3.79	3.37
18 L 121	CG753U3F1	75,000	3	5	3"	6.05	5.38
18 L 107	CG1153U3G1*	115,000	3	5	3"	7.67	6.82
18 L 122	CG2752U5D1	27,500	5	7	2"	3.69	3.28
18 L 123	CG653U5F1	65,000	5	7	3"	5.99	5.33
18 L 108	CG15U5G1*	100,000	5	7	3"	8.03	7.14
18 L 124	CG183U10D1	18,000	10	15	2"	3.65	3.24
18 L 125	CG4352U10F1	43,500	10	15	3"	6.89	6.12
18 L 109	CG683U40G1*	68,000	10	15	3"	8.10	7.20
18 L 126	CG143U15D1	14,000	15	20	2"	3.70	3.29
18 L 127	CG343U15F1	34,000	15	20	3"	5.99	5.32
18 L 128	CG852U25D1	8,500	25	40	2"	3.34	2.97
18 L 129	CG24U25F1	20,000	25	40	3"	5.60	4.98
18 L 110	CG3152U25G1*	31,500	25	40	3"	7.47	6.64
18 L 130	CG452U50D1	4,500	50	75	2"	2.97	2.64
18 L 131	CG14U50F1	10,000	50	75	3"	5.74	5.10
18 L 132	CG345U175D1	3,450	75	100	2"	3.45	3.07
18 L 133	CG822U75F1	8,200	75	100	3"	6.40	5.69
18 L 111	CG1252U75G1*	12,500	75	100	3"	8.10	7.20
18 L 134	CG2251U100D1	2,250	100	135	2"	3.50	3.11
18 L 135	CG532U100F1	5,300	100	135	3"	5.91	5.26
18 L 136	CG1551U150D1	1,550	150	190	2"	3.48	3.09
18 L 137	CG362U150F1	3,600	150	190	3"	6.02	5.35
18 L 112	CG562U150G1*	5,600	150	190	3"	8.44	7.50
18 L 138	CG13T200D1	1,000	200	250	2"	3.87	3.44
18 L 139	CG2451T200F1	2,450	200	250	3"	5.83	5.18
18 L 113	CG382T200G1*	3,800	200	250	3"	8.57	7.62
18 L 140	CG82T250D1	800	250	300	2"	4.05	3.60
18 L 141	CG192T250F1	1,900	250	300	3"	6.49	5.77
18 L 114	CG33T250G1*	3,000	250	300	3"	8.71	7.74
18 L 142	CG72T300D1	700	300	350	2"	4.06	3.61
18 L 143	CG1651T300F1	1,650	300	350	3"	7.17	6.37
18 L 144	CG551T350D1	550	350	400	2"	4.31	3.83
18 L 145	CG132T350F1	1,300	350	400	3"	6.98	6.20
18 L 115	CG23T350G1*	2,300	350	400	3"	9.11	8.10
18 L 146	CG3250T400D1	325	400	475	2"	3.24	2.88
18 L 147	CG24T450D1	240	450	525	2"	3.11	2.77

Stock No.	Mfr's Type	Mfd	WVDC	§	EACH				
					1-9	10-24	25-49	50-99	100-249
19 L 934	1020A	2000	10	A	3.36	2.88	1.68	1.30	1.05
17 L 577	1040A	4000	10	B	4.60	3.95	2.30	1.78	1.44
17 L 579	1060A†	6000	10	C	5.20	4.46	2.60	2.00	1.62
18 L 429	10100	10000	10	D	7.82	6.70	3.90	3.02	2.59
17 L 580	1520A	2000	15	A	3.47	2.97	1.74	1.34	1.08
17 L 581	1540A	4000	15	F	5.37	4.61	2.69	2.07	1.68
17 L 589	1560A	6000	15	E	5.62	4.82	2.81	2.17	1.75
19 L 935	2050-50	5000**	20**	D	8.00	6.86	4.00	3.09	2.17
19 L 936	2060A	6000	20	H	6.11	5.24	3.05	2.36	2.29
19 L 923	2025†	25,000	20	J	12.88	11.04	6.44	4.96	4.02
17 L 582	2510A	1000	25	B	3.19	2.73	1.59	1.23	.99
17 L 583	2520A	2000	25	G	4.15	3.56	2.07	1.60	1.29
17 L 584	2540A	4000	25	E	5.58	4.79	2.79	2.15	1.74
19 L 937	4040A	4000	40	H	6.98	6.00	3.49	2.69	2.18
19 L 938	5050A	500	50	A	3.33	2.85	1.66	1.28	1.04
17 L 586	5010A	1000	50	B	4.25	3.65	2.13	1.64	1.33
17 L 590	5020A	2000	50	E	5.06	4.34	2.53	1.95	1.58
18 L 098	5040	4000	50	D	7.32	6.27	3.66	2.82	2.28
19 L 940	1225A*	-200	125	B	4.04	3.47	2.02	1.56	1.46
19 L 941	1235A	300	125	E	4.87	4.17	2.43	1.88	1.65
17 L 805	1255A*	500	125	H	6.30	5.40	3.15	2.42	1.90
19 L 944	20005	500	200	D	5.97	5.12	2.99	2.30	1.86
18 L 428	3003A*	15	300	G	2.87	2.46	1.44	1.11	.96
19 L 939	15010A	1000	150	H	6.44	5.52	3.22	2.48	2.01
17 L 592	20005A	500	200	E	5.53	4.74	2.77	2.13	1.73
19 L 942	3008A*	50	300	B	5.25	4.50	2.63	2.03	1.76
19 L 943	3014A*	100	300	E	6.13	5.25	3.06	2.36	1.84
17 L 588	3025*	200	300	D	7.00	6.00	3.50	2.70	2.10
17 L 810	4505*	50	450	E	6.30	5.40	3.15	2.42	1.87
17 L 811	4510*	100	450	D	7.70	6.60	3.85	2.97	2.64
17 L 820	45003†	300	450	D	8.47	7.26	4.24	3.27	2.64



**METAL-CASED TUBULAR ELECTROLYTICS**



Electrolytics that are rated up to 150 WVDC have tolerance of -10% to +100%. Units above 150 WVDC, capacity tolerance is -10% to +50%. Rated at 85°C, except TC83, 650°C. All capacitors have external insulating sleeves. Type TC

has 3" tinned copper leads; Type TCD has 8" insulated wire leads. TCD duals are common-negative. \* Indicates non-polarized type. All units, except TC capacitors of less than 1 3/16" diameter, have fixed mounting straps. Av. shgp. wt., 4 oz.

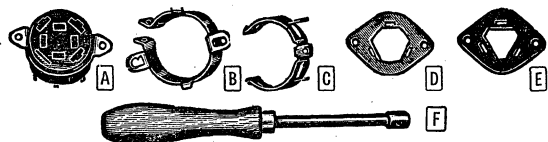
**TYPE TC SINGLE-SECTION**

Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH					Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH				
					1-9	10-24	25-49	50-99	100-249						1-9	10-24	25-49	50-99	100-249
18 L 804	304	200	3	1 1/2x1 1/4"	.69	.69	.53	.41	.33	17 L 627	51	8	250	1 1/2x1 3/4"	.69	.69	.53	.42	.33
17 L 549	305	500	3	1 1/2x1 1/2"	.84	.84	.66	.51	.41	17 L 457	52	10	250	1 1/2x1 3/4"	.72	.72	.55	.43	.34
17 L 463	310	1000	3	1 1/2x1 3/4"	1.02	1.02	.82	.64	.51	19 L 930	53	12	250	1 1/2x2 1/8"	.75	.75	.60	.46	.37
17 L 461	605	500	6	1 1/2x1 3/4"	.93	.93	.75	.59	.47	17 L 629	54	16	250	1 1/2x1 3/4"	.78	.78	.63	.49	.39
17 L 462	610	1000	6	1 1/2x1 3/4"	1.14	1.14	.92	.71	.57	17 L 505	55	20	250	1 1/2x1 3/4"	.81	.81	.66	.52	.41
17 L 642	1502	200	15	1 1/2x1 1/2"	.84	.84	.68	.53	.42	17 L 633	58	40	250	1 1/2x1 3/4"	.93	.93	.76	.59	.47
17 L 460	1505	500	15	1 1/2x1 1/2"	1.05	1.05	.85	.66	.53	17 L 243	59	50	250	1 1/2x1 3/4"	1.02	1.02	.83	.64	.52
17 L 209	1501	1000	15	1 1/2x2 1/4"	1.38	1.38	1.10	.85	.68	17 L 249	1265	100	250	1 1/2x2 1/8"	1.47	1.31	.98	.76	.61
17 L 600	22	10	25	1 1/2x3/4"	.60	.56	.42	.33	.26	19 L 927	595	2	350	2 1/2x1 1/2"	1.26	.63	.47	.36	.29
17 L 601	26	25	25	1 1/2x3/4"	.60	.59	.44	.34	.27	17 L 634	60	5	350	1 1/2x1 3/4"	.63	.63	.50	.39	.31
17 L 602	29	50	25	1 1/2x1 1/2"	.66	.62	.47	.36	.29	17 L 635	61	8	350	1 1/2x1 3/4"	.72	.72	.58	.45	.36
17 L 500	2501	100	25	1 1/2x1 3/4"	.81	.76	.57	.45	.36	17 L 455	62	10	350	1 1/2x1 3/4"	.75	.75	.61	.48	.38
19 L 933	25015	150	25	1 1/2x1 3/4"	.87	.83	.62	.48	.39	17 L 484	63	12	350	1 1/2x1 3/4"	.78	.78	.63	.49	.39
17 L 466	2505	500	25	1 1/2x2 1/4"	1.38	1.38	1.10	.85	.68	19 L 929	64	16	350	1 1/2x1 3/4"	.84	.84	.68	.53	.43
19 L 932	31	1	50	1 1/2x1 1/8"	.54	.52	.39	.30	.24	17 L 456	65	20	350	1 1/2x1 3/4"	.87	.87	.70	.55	.44
17 L 639	302	2	50	1 1/2x3/4"	.54	.52	.39	.30	.24	17 L 465	66	40	350	1 1/2x2 1/4"	1.44	1.11	.83	.65	.52
17 L 623	30	5	50	1 1/2x3/8"	.60	.55	.41	.32	.26	17 L 244	68	60	350	1 1/2x1 3/4"	1.17	1.17	.94	.73	.58
17 L 603	32	10	50	1 1/2x3/4"	.60	.56	.42	.33	.26	18 L 801	69	100	350	1 1/2x1 3/4"	1.86	1.86	1.51	1.17	.94
17 L 604	36	25	50	1 1/2x1 1/4"	.63	.59	.44	.34	.27	17 L 418	692	150	350	1 1/2x3/8"	3.16	2.43	1.82	1.42	1.13
17 L 605	39	50	50	1 1/2x1 1/4"	.72	.72	.54	.42	.34	19 L 928	695	2	450	1 1/2x1 1/2"	.66	.60	.52	.40	.32
17 L 641	3501	100	50	1 1/2x1 3/4"	.84	.79	.60	.46	.37	17 L 469	697	4	450	1 1/2x1 3/4"	.97	.75	.56	.44	.35
18 L 342	50025	250	50	1 1/2x1 3/4"	1.05	1.05	.85	.66	.53	17 L 452	70	5	450	1 1/2x1 3/4"	.72	.72	.56	.43	.35
17 L 451	50050	500	50	1 1/2x2 1/4"	1.92	1.48	1.11	.86	.69	17 L 619	71	8	450	1 1/2x1 3/4"	.75	.75	.62	.48	.38
17 L 464	50100	1000	50	1 1/2x1 3/4"	2.91	2.24	1.68	1.31	1.05	17 L 620	72	10	450	1 1/2x1 3/4"	.78	.78	.64	.50	.40
17 L 458	40	5	150	1 1/2x3/8"	.60	.57	.43	.33	.27	17 L 638	73	12	450	1 1/2x1 3/4"	.81	.81	.67	.52	.41
17 L 624	41	8	150	1 1/2x1"	.63	.59	.44	.35	.28	17 L 622	74	16	450	1 1/2x1 3/4"	.84	.84	.70	.55	.44
17 L 459	42	10	150	1 1/2x1 1/4"	.63	.61	.45	.35	.28	17 L 453	75	20	450	1 1/2x1 3/4"	.93	.93	.75	.59	.47
17 L 419	43	12	150	1 1/2x1 1/4"	.66	.62	.47	.36	.29	17 L 454	77	30	450	1 1/2x1 3/4"	1.02	1.02	.83	.64	.51
17 L 608	44	16	150	1 1/2x1 1/2"	.69	.65	.49	.38	.30	17 L 508	78	40	450	1 1/2x2 1/4"	1.08	1.08	.86	.67	.53
17 L 502	45	20	150	1 1/2x1 1/2"	.72	.70	.53	.41	.33	19 L 925	79	50	450	1 1/2x2 1/8"	1.26	1.26	1.00	.78	.62
17 L 610	47	30	150	1 1/2x1 1/2"	.78	.77	.57	.45	.36	18 L 800	795	60	450	1 1/2x2 1/8"	1.38	1.38	1.06	.82	.66
17 L 611	48	40	150	1 1/2x1 3/4"	.81	.81	.61	.47	.38	17 L 204	80	80	450	1 1/2x1 3/4"	1.68	1.68	1.42	1.10	.88
17 L 504	49	50	150	1 1/2x1 3/4"	.84	.83	.62	.48	.39	19 L 926	805	100	450	1 1/2x3"	1.92	1.92	1.92	1.51	1.21
17 L 640	492	80	150	1 1/2x2"	.96	.95	.71	.55	.44	17 L 245	81	10	500	1 1/2x1 3/4"	.81	.81	.66	.51	.41
18 L 802	493	100	150	1 1/2x2 1/4"	1.05	1.03	.77	.60	.48	17 L 246	83	20	500	1 1/2x1 3/4"	.96	.96	.77	.60	.48
17 L 242	495	150	150	1 1/2x2 1/4"	1.14	1.12	.84	.65	.52	17 L 247	84	30	500	1 1/2x1 3/4"	1.05	1.05	.86	.67	.54
17 L 519	496	200	150	1 1/2x2 1/8"	1.58	1.22	.91	.71	.57	17 L 467	90	4	600	3/4x2 1/2"	2.30	1.77	1.32	1.03	.82
19 L 931	499	300	150	1 1/2x3"	1.53	1.41	1.05	1.05	1.05	17 L 450	92	10	600	1 1/2x2 1/8"	1.77	1.77	1.35	1.05	.84
17 L 626	50X	5	250	1 1/2x1 1/4"	.63	.63	.48	.37	.30										

**TYPE TCD DUAL SECTION**

Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH					Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH				
					1-9	10-24	25-49	50-99	100-249						1-9	10-24	25-49	50-99	100-249
18 L 081	*16	500-100	16	1 1/2x2"	.78	.78	.78	.78	.78	18 L 344	498	80-50	150	1 1/2x2 1/4"	1.41	1.41	1.18	.92	.74
17 L 479	26	25-25	25	1 1/2x1 1/4"	.84	.84	.84	.72	.57	17 L 475	52	10-10	250	1 1/2x2"	.99	.99	.98	.76	.61
17 L 503	45	20-20	150	1 1/2x1 3/4"	.99	.99	.99	.76	.61	17 L 476	55	20-20	250	1 1/2x2"	1.11	1.11	1.08	.84	.67
17 L 477	47	30-30	150	1 1/2x1 3/4"	1.08	1.08	1.04	.81	.64	17 L 474	65	20-20	350	1 1/2x2 3/8"	1.35	1.35	1.24	.96	.77
17 L 480	485	40-20	150	1 1/2x1 3/4"	1.05	1.05	1.03	.80	.64	17 L 470	71	8-8	450	1 1/2x2"	1.02	1.02	1.02	.83	.67
17 L 478	48	40-40	150	1 1/2x2"	1.11	1.11	1.08	.84	.67	17 L 507	72	10-10	450	1 1/2x2"	1.11	1.11	1.11	.87	.70
17 L 482	497	50-30	150	1 1/2x2"	1.17	1.17	1.07	.83	.67	17 L 472	75	20-20	450	1 1/2x3 1/8"	1.50	1.50	1.39	1.08	.87
17 L 481	49	50-50	150	1 1/2x2 1/4"	1.26	1.26	1.13	.88	.70	17 L 468	78	40-40	450	1 1/2x4"	2.04	2.04	1.87	1.45	1.16

**CAPACITOR MOUNTING HARDWARE**



Mounting accessories for easy installation of Mallory capacitors. For FP or WP types, use MP, BP and PS units. For TC, FP, WP, HC, CG and other tubular capacitors, use VR brackets for vertical mounting or TH spring clips for horizontal mounting. \*Metal mounting wafer; †Phenolic mounting wafer. MW-100 tool is for use with FP and WP capacitors. Av. shgp. wt., 3 oz.

CE FIBER INSULATING SLEEVES. For FP electrolytics. Wt., 2 oz.

Stock No.	Mfr's Type	Size	EACH	Stock No.	Mfr's Type	Size	EACH
17 L 510	1	3/4x2"	.06	17 L 515	7	1x2 1/2"	.06
17 L 511	3	1x2"	.06	17 L 516	8	1x4"	.09
17 L 512	4	1x3"	.06	17 L 517	9	1 1/2x2 1/2"	.06
17 L 513	5	1 1/2x2"	.06	17 L 518	10	1 1/2x4"	.09
17 L 514	6	1 1/2x3"	.06				

Stock No.	Mfr's Type	Fig.	Size	EACH
17 L 531	PS-4	A	1"	.42
17 L 532	PS-6	A	1 3/8"	.54
17 L 402	VR-1	B	1 to 1 1/16"	.09
17 L 413	VR-3	B	1 3/8 to 1 1/16"	.09
17 L 414	VR-4	B	1 1/2 to 1 1/16"	.12
17 L 415	VR-6	B	1 3/4 to 1 1/16"	.13
17 L 416	VR-8	B	2 to 2 1/16"	.17
17 L 420	VR-10	B	2 1/2"	.20
17 L 421	VR-12	B	3"	.48
17 L 494	TH-13	C	3 3/8"	.03
17 L 496	TH-15	C	1/2 to 3/16"	.03
17 L 497	TH-17	C	5/8 to 1 1/16"	.03
17 L 498	TH-19	C	3/4 to 1 1/16"	.03
17 L 499	TH-21	C	7/8 to 1 1/16"	.03
17 L 412	TH-25	C	1 3/8 to 1 1/16"	.06
17 L 486	MP-2	D*	3/4"	.03
17 L 488	MP-4	D*	1"	.03
17 L 489	MP-6	D*	1 3/8"	.03
17 L 490	BP-2	E†	3/4"	.03
17 L 492	BP-4	E†	1"	.03
17 L 493	BP-6	E†	1 3/8"	.03
17 L 417	MW-100	F	Mtg. wrench	1.05



# Industrial-Quality Capacitors



## MALLORY PVC "MYLAR" CAPACITORS

Exhibit exceptionally low drift characteristics and are highly recommended for circuits demanding the ultimate in reliability and moisture resistance. Flexible encapsulation allows leads to be bent in any manner for

mounting without cracking. Polyvinyl chloride case unaffected by soldering iron heat. High purity aluminum foil used throughout. Leads are solid copper radial-type. -40°C to +105°C. Tolerance, ±10%. Av. wt., 2 oz.

Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
18 L 150	1118	.018	100	3/16x3/8x2 1/2"	.15	.11	.10	.09
13 L 145	1122	.022	100	3/16x3/8x2 1/2"	.15	.11	.10	.09
13 L 146	1133	.033	100	3/16x3/8x2 1/2"	.15	.11	.10	.09
13 L 147	114	.04	100	23/32x3/4x1 3/2"	.15	.11	.10	.09
13 L 148	1147	.047	100	7/32x1 1/2x2 1/2"	.16	.12	.10	.09
18 L 151	1156	.056	100	13/64x2 1/2x2 1/2"	.16	.12	.11	.09
18 L 152	1168	.068	100	7/32x2 1/2x2 1/2"	.17	.13	.11	.10
13 L 149	101	10	100	1/4x1 1/2x2 1/2"	.18	.14	.12	.11
18 L 153	1015	15	100	9/32x3/4x1 3/2"	.21	.16	.14	.12
18 L 154	1022	.22	100	11/32x3/4x1 3/2"	.24	.18	.16	.14
13 L 150	1025	.25	100	11/32x3/4x1 1/2"	.25	.19	.17	.15
18 L 155	1033	.33	100	23/64x3/4x1 1/2"	.28	.21	.19	.16
18 L 156	104	40	100	23/64x3/4x1 1/2"	.30	.23	.20	.17
18 L 157	1047	.47	100	13/32x3/4x1 1/2"	.31	.24	.21	.18
13 L 151	105	5	100	13/32x3/4x1 1/2"	.33	.25	.22	.19
18 L 158	1056	.56	100	13/32x3/4x1 1/2"	.34	.26	.23	.20
18 L 165	1068	.68	100	7/16x2 1/2x1 1/2"	.38	.29	.25	.22
13 L 152	11	10	100	1/2x2 1/2x1 1/2"	.46	.35	.31	.27
13 L 153	11P5	1.5	100	19/32x3/4x1 1/2"	.58	.45	.39	.34
13 L 154	12	2.0	100	49/64x1 1/2x2 1/2"	.72	.56	.49	.43
13 L 155	211	.01	200	3/16x3/8x2 1/2"	.15	.11	.09	.08
13 L 156	2115	.015	200	3/16x3/8x2 1/2"	.15	.11	.09	.08
13 L 157	212	.02	200	3/16x3/8x2 1/2"	.16	.12	.10	.09
18 L 173	2122	.022	200	3/16x3/8x2 1/2"	.16	.12	.10	.09
13 L 158	2133	.033	200	3/16x3/8x2 1/2"	.16	.12	.10	.09
18 L 171	214	.040	200	7/32x27/64x2 1/2"	.16	.12	.11	.09
18 L 172	2147	.047	200	7/32x27/64x2 1/2"	.16	.14	.11	.09
13 L 159	215	.05	200	1/4x1 1/2x2 1/2"	.16	.14	.11	.09
18 L 167	2156	.056	200	1/4x1 1/2x2 1/2"	.17	.13	.11	.10
18 L 170	2168	.068	200	17/64x1 1/2x2 1/2"	.18	.14	.12	.10
13 L 160	201	10	200	9/32x31/64x1 1/2"	.22	.16	.13	.10
13 L 161	2015	.15	200	21/64x1 1/2x1 1/2"	.22	.18	.14	.12
18 L 166	2022	.22	200	3/8x37/64x1 1/2"	.25	.21	.17	.14
13 L 162	2025	.25	200	3/8x37/64x1 1/2"	.25	.21	.17	.14
13 L 163	2033	.33	200	13/32x3/4x1 1/2"	.31	.24	.19	.16
18 L 180	204	40	200	7/64x2 1/2x1 1/2"	.35	.27	.22	.18
18 L 181	2047	.47	200	15/32x3/4x1 1/2"	.37	.27	.22	.18
13 L 164	205	5	200	15/32x3/4x1 1/2"	.37	.27	.22	.18
18 L 174	2056	.56	200	31/64x3/4x1 1/2"	.41	.32	.28	.24

Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
18 L 183	2068	.68	200	33/64x2 1/2x1 1/2"	.45	.35	.30	.27
13 L 165	21	1.0	200	5/8x55/64x1 23/32"	.56	.43	.37	.33
18 L 182	21P5	1.5	200	3/4x1 1/2x1 1/2"	.73	.57	.49	.43
13 L 166	22	2.0	200	7/8x1 1/2x1 23/32"	.95	.75	.65	.57
13 L 167	4222	.0022	400	11/64x2 3/4x2 3/2"	.15	.11	.09	.08
13 L 168	4247	.0047	400	3/16x3/8x2 1/2"	.15	.11	.09	.08
13 L 169	411	.01	400	3/16x3/8x2 1/2"	.16	.11	.09	.08
13 L 170	412	.02	400	7/32x2 1/2x2 1/2"	.16	.13	.10	.08
13 L 171	415	.05	400	3/16x1/2x2 1/2"	.19	.15	.12	.10
13 L 172	401	10	400	11/32x3/4x1 1/2"	.22	.18	.14	.12
13 L 173	4025	.25	400	7/64x2 1/2x1 1/2"	.31	.27	.21	.17
13 L 174	405	5	400	7/64x1 1/2x1 1/2"	.47	.36	.32	.28
13 L 175	621	.001	600	11/64x2 3/4x2 3/2"	.16	.11	.09	.08
13 L 176	622	.002	600	11/64x2 3/4x2 3/2"	.16	.11	.09	.08
13 L 177	6222	.0022	600	11/64x2 3/4x2 3/2"	.16	.11	.09	.08
13 L 178	623	.003	600	11/64x2 3/4x2 3/2"	.16	.11	.09	.08
13 L 179	6233	.0033	600	11/64x2 3/4x2 3/2"	.16	.11	.09	.08
13 L 180	624	.004	600	3/16x3/8x2 1/2"	.16	.11	.09	.08
13 L 181	6247	.0047	600	3/16x3/8x2 1/2"	.16	.11	.09	.08
13 L 182	625	.005	600	3/16x3/8x2 1/2"	.16	.11	.09	.08
13 L 183	626	.006	600	3/16x3/8x2 1/2"	.16	.12	.09	.08
13 L 184	6275	.0075	600	13/64x2 1/2x2 1/2"	.19	.12	.10	.08
13 L 185	611	.01	600	13/64x2 1/2x2 1/2"	.19	.12	.10	.08
13 L 186	6115	.015	600	1/4x1 1/2x2 1/2"	.19	.12	.10	.08
13 L 187	612	.02	600	1/4x1 1/2x2 1/2"	.19	.14	.11	.09
13 L 188	6122	.022	600	17/64x1 1/2x2 1/2"	.19	.14	.11	.09
13 L 189	613	.03	600	9/32x3 1/4x1 1/2"	.22	.15	.12	.10
13 L 190	6133	.033	600	9/32x3 1/4x1 1/2"	.22	.15	.12	.10
13 L 191	614	.04	600	5/16x1 1/2x1 1/2"	.22	.16	.13	.11
13 L 192	6147	.047	600	13/32x3/4x1 1/2"	.25	.16	.13	.11
13 L 193	615	05	600	23/64x1 1/2x1 1/2"	.25	.16	.13	.11
13 L 194	6168	.068	600	23/64x3/4x1 1/2"	.28	.19	.15	.12
13 L 195	601	10	600	23/64x1 1/2x1 1/2"	.28	.20	.16	.13
13 L 196	602	20	600	1/2x2 3/2x1 1/2"	.40	.28	.22	.18
13 L 197	6022	.22	600	1/2x2 3/2x1 1/2"	.43	.28	.22	.18
13 L 198	6025	.25	600	33/64x 7/8x1 23/32"	.46	.28	.22	.18
13 L 199	6033	.33	600	19/32x53/64x1 23/32"	.48	.37	.32	.18
13 L 200	6047	.47	600	37/32x31/32x1 23/32"	.62	.48	.42	.37

## TYPE TT TUBULAR ELECTROLYTICS FOR TRANSISTOR CIRCUITS

Extremely small, aluminum-case capacitors. With etched-foil design and high-purity aluminum construction for very low leakage current. Temp. range -20°C to +85°C. Tolerance is -10% to +150% to 50 WVDC. Above 50 WVDC, -10% to +100%. Av. wt., 2 oz.



Stock No.	Mfr's Type	Mfd	*	WV DC	EACH			
					1-9	10-24	25-49	50-99
18 L 768	6x2	2	A	.75	.672	.504	.392	.313
18 L 769	6x5	5	A	.81	.672	.504	.392	.313
18 L 771	6x10	10	A	.81	.672	.504	.392	.313
18 L 773	6x25	25	A	.84	.708	.531	.413	.330
18 L 775	6x40	40	C	.84	.738	.553	.430	.344
18 L 776	6x50	50	C	.84	.738	.553	.430	.344
18 L 778	6x100	100	F	.90	.807	.605	.470	.376
18 L 741	6x150	150	G	.93	.807	.605	.470	.376
18 L 742	6x250	250	J	1.02	.867	.650	.506	.405
18 L 782	12x1	1	A	.75	.672	.504	.392	.313
18 L 783	12x2	2	A	.75	.672	.504	.392	.313
18 L 784	12x5	5	A	.81	.672	.504	.392	.313
18 L 785	12x10	10	A	.81	.708	.531	.413	.330
18 L 743	12x20	20	A	.84	.708	.531	.413	.330
18 L 744	12x35	35	C	.87	.738	.553	.430	.344
18 L 745	12x100	100	G	1.05	.807	.605	.470	.376
18 L 746	12x250	250	K	1.26	.960	.720	.560	.448
18 L 786	15x10	10	A	.84	.708	.531	.413	.330
18 L 787	15x20	20	C	.87	.708	.531	.413	.330
18 L 748	15x35	35	B	.87	.738	.553	.430	.344
18 L 788	15x20	30	C	.90	.738	.553	.430	.344
18 L 913	15x40	40	E	.96	.738	.553	.430	.344
18 L 914	15x50	50	D	.96	.807	.605	.470	.376
18 L 915	15x100	100	J	1.05	.807	.605	.470	.376
18 L 752	15x200	200	K	1.20	.921	.691	.537	.430

	Size		Size		Size
A	1/4x1 1/8"	E	3/8x1 1/8"	H	3/8x1 1/8"
B	1/4x1 1/8"	F	3/8x1 1/8"	J	3/8x1 1/8"
C	3/16x1 1/8"	G	3/8x1 1/8"	K	3/8x1 1/8"
D	3/16x1 3/8"				

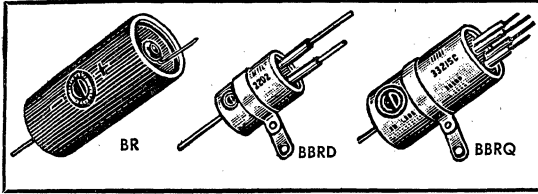
Stock No.	Mfr's Type	Mfd	*	WV DC	EACH			
					1-9	10-24	25-49	50-99
19 L 909	25x6	6	A	.84	.708	.531	.413	.330
18 L 754	25x10	10	A	.87	.708	.531	.413	.330
18 L 791	25x15	15	C	.87	.738	.553	.430	.344
19 L 912	25x25	25	E	.93	.807	.605	.471	.377
18 L 776	25x50	50	G	1.05	.807	.605	.471	.377
18 L 784	25x100	100	K	1.17	.882	.662	.515	.412

Stock No.	Mfr's Type	Mfd	*	WV DC	EACH			
					1-9	10-24	25-49	50-99
18 L 756	50x2	2	A	.81	.798	.599	.466	.372
18 L 793	50x5	5	B	.87	.798	.599	.466	.372
18 L 760	50x8	8	B	.90	.807	.605	.471	.377
18 L 794	50x10	10	E	.90	.807	.605	.471	.377
18 L 795	50x20	20	F	.90	.813	.610	.474	.379
19 L 908	50x35	35	H	1.02	.855	.641	.499	.399
18 L 763	50x50	50	J	1.11	.867	.650	.506	.405

Stock No.	Mfr's Type	Mfd	*	WV DC	EACH			
					1-9	10-24	25-49	50-99
18 L 767	100x10	10	F	.93	.801	.601	.467	.374
18 L 774	100x20	20	H	.96	.837	.628	.488	.391

Stock No.	Mfr's Type	Mfd	*	WV DC	EACH			
					1-9	10-24	25-49	50-99
19 L 911	150x1	1	A	.84	.831	.623	.485	.388
19 L 902	150x2	2	B	.87	.			

# Cornell-Dubilier "Blue Beaver" Capacitors



Tubular electrolytic capacitors, designed for economical circuit applications. All are sealed in aluminum cans with cardboard sleeves for protection against heat and humidity. Types BR and BBR have negative terminal grounded to can. Type BBR is a miniature version of Type BR, ideal for limited space applications. Anodes and cathodes of BR and BBR units up to and including 150-volt types, are etched for use with junction rectifiers. Types BBRD, BBRQ and BBRQ have 7" flexible vinyl-covered leads with color-coded positive and common negative. All "Blue Beavers" are rated for operation up to 85°C, except 500-volt types—up to 65°C. Sizes shown in tubular listings indicate size of cans only. Av. shgp. wt., 4 oz.

## TYPES BR/BBR SINGLE SECTION

Stock No.	Mfr's Type	Mfd.	WVDC	Size Inches	EACH		
					1-49	50-99	100-249
19 L 203	BBR 25-6	25	6	3/8x1 1/16	.51	.36	.29
19 L 204	BBR 50-6	50	6	3/8x1 1/16	.57	.39	.31
19 L 205	BBR 100-6	100	6	1/2x1 1/16	.72	.46	.37
19 L 206	BBR 250-6	250	6	1/2x1 1/16	.81	.55	.44
19 L 285	BR 500-6	500	6	1/2x1 1/16	.93	.63	.50
19 L 286	BR 1000-6	1000	6	5/8x1 1/16	1.14	.79	.63
19 L 287	BR 2000-6	2000	6	3/4x2	1.38	.96	.77
19 L 207	BBR 100-15	100	15	1/2x1 1/16	.75	.47	.38
19 L 272	BR 250-15	250	15	1/2x1 1/16	.93	.63	.51
19 L 273	BR 500-15	500	15	1/2x1 1/16	1.05	.74	.59
19 L 274	BR 1000-15	1000	15	5/8x1 1/16	1.38	.93	.75
19 L 284	BR 2000-15	2000	15	3/4x2	1.92	1.10	.88
19 L 216	BBR 10-25	10	25	3/8x1 1/16	.60	.33	.26
19 L 217	BBR 20-25	20	25	3/8x1 1/16	.60	.33	.27
19 L 218	BBR 25-25	25	25	3/8x1 1/16	.60	.34	.27
19 L 219	BBR 50-25	50	25	1/2x1 1/16	.66	.36	.29
19 L 208	BBR 100-25	100	25	1/2x1 1/16	.81	.44	.36
19 L 270	BR 250-25	250	25	1/2x1 1/16	1.02	.61	.49
19 L 271	BR 500-25	500	25	5/8x1 1/16	1.38	.83	.66
19 L 209	BBR 1-50	1	50	3/8x1 1/16	.54	.30	.24
19 L 210	BBR 2-50	2	50	3/8x1 1/16	.54	.30	.24
19 L 211	BBR 4-50	4	50	3/8x1 1/16	.60	.32	.26
19 L 222	BBR 5-50	5	50	3/8x1 1/16	.60	.32	.26
19 L 223	BBR 10-50	10	50	3/8x1 1/16	.60	.33	.26
19 L 224	BBR 25-50	25	50	1/2x1 1/16	.63	.34	.27
19 L 147	BR 100-50	100	50	1/2x1 1/16	.84	.46	.37
19 L 148	BR 150-50	150	50	5/8x1 1/16	.93	.51	.41
19 L 149	BR 250-50	250	50	3/4x1 1/16	1.05	.66	.51
19 L 269	BR 500-50	500	50	7/8x1 1/16	1.44	.86	.69
19 L 212	BBR 10-90	10	90	1/2x1 1/16	.66	.34	.27
19 L 214	BBR 4-150	4	150	3/8x1 1/16	.60	.33	.26
19 L 211	BBR 8-150	8	150	3/8x1 1/16	.63	.34	.27
19 L 226	BBR 10-150	10	150	1/2x1 1/16	.63	.35	.28
19 L 247	BBR 12-150	12	150	1/2x1 1/16	.66	.36	.29
19 L 248	BBR 16-150	16	150	1/2x1 1/16	.69	.38	.30
19 L 225	BBR 20-150	20	150	1/2x1 1/16	.72	.39	.31
19 L 145	BR 25-150	25	150	3/4x1 1/16	.75	.41	.33
19 L 146	BR 30-150	30	150	3/4x1 1/16	.78	.43	.34
19 L 146	BR 40-150	40	150	3/4x1 1/16	.81	.45	.36
19 L 147	BR 50-150	50	150	3/4x1 1/16	.84	.46	.37
19 L 146	BR 60-150	60	150	7/8x1 1/16	.90	.49	.39
19 L 146	BR 80-150	80	150	7/8x1 1/16	.96	.54	.43
19 L 146	BR 100-150	100	150	7/8x2	1.05	.58	.46
19 L 146	BR 150-150	150	150	1x2 3/16	1.14	.63	.51
19 L 542	BR 20015	200	150	1x3	1.32	.76	.62

Stock No.	Mfr's Type	Mfd.	WVDC	Size Inches	EACH		
					1-49	50-99	100-249
14 L 543	BR 300-150	300	150	1x3 3/16	1.53	1.04	.84
19 L 227	BBR 4-250	4	250	1/2x1 1/16	.60	.37	.30
19 L 228	BBR 8-250	8	250	1/2x1 1/16	.69	.41	.33
19 L 229	BBR 12-250	12	250	1/2x1 1/16	.75	.44	.35
14 L 033	BR 16-250	16	250	3/4x1 1/16	.78	.47	.38
14 L 034	BR 20-250	20	250	3/4x1 1/16	.81	.49	.40
19 L 142	BR 30-250	30	250	3/4x1 1/16	.87	.53	.42
14 L 035	BR 40-250	40	250	3/4x2	.93	.57	.46
19 L 143	BR 50-250	50	250	7/8x1 1/16	1.02	.62	.50
19 L 144	BR 60-250	60	250	1x1 1/16	1.08	.65	.52
14 L 020	BR 4-350	4	350	3/8x1 1/16	.63	.38	.30
14 L 021	BR 8-350	8	350	3/8x1 1/16	.72	.43	.34
14 L 022	BR 12-350	12	350	3/4x1 1/16	.78	.47	.38
14 L 023	BR 16-350	16	350	3/4x1 1/16	.84	.51	.41
14 L 018	BR 20-350	20	350	3/4x1 1/16	.87	.52	.42
14 L 019	BR 30-350	30	350	3/4x2	.99	.60	.48
14 L 026	BR 40-350	40	350	7/8x2	1.05	.62	.50
14 L 544	BR 60-350	60	350	1x2	1.17	.71	.57
14 L 545	BR 80-350	80	350	1x3	1.26	.78	.63
14 L 546	BR 100-350	100	350	1x3	1.38	.86	.69
14 L 008	BR 145	1	450	5/8x1 1/16	.66	.39	.31
14 L 009	BR 245	2	450	5/8x1 1/16	.66	.40	.32
14 L 010	BR 4-450	4	450	3/8x1 1/16	.69	.42	.34
14 L 011	BR 8-450	8	450	3/8x1 1/16	.75	.46	.37
14 L 012	BR 1045	10	450	3/4x1 1/16	.78	.47	.38
14 L 013	BR 12-450	12	450	3/4x1 1/16	.81	.50	.40
14 L 014	BR 16-450	16	450	3/4x1 1/16	.84	.53	.42
14 L 015	BR 20-450	20	450	7/8x1 1/16	.93	.56	.45
14 L 016	BR 3045	30	450	1x2	1.02	.62	.50
14 L 017	BR 40-450	40	450	1x2 3/16	1.08	.64	.52
14 L 004	BR 60-450	60	450	1x3	1.41	.83	.67
14 L 005	BR 80-450	80	450	1x3 9/16	1.68	.99	.79
14 L 547	BR 100-450	100	450	1x3 3/16	1.92	1.15	.92
19 L 215	BR 450	4	500	3/8x1 1/16	.72	.43	.34
14 L 000	BR 850	8	500	3/4x1 1/16	.78	.47	.38
14 L 001	BR 1650	16	500	7/8x1 1/16	.90	.54	.43
14 L 002	BR 2050	20	500	7/8x2	1.06	.60	.48
14 L 003	BR 3050	30	500	1x2	1.05	.64	.52
14 L 534	BR 8-600	8	600	1 3/16x3 3/16	1.26	.75	.60
14 L 535	BR 10-600	10	600	1 3/16x3 3/16	1.32	.77	.62
14 L 537	BR 16-600	16	600	1 1/16x3 3/16	1.53	1.04	.84
14 L 538	BR 8-700	8	700	1 3/16x3 3/16	1.32	.77	.62
14 L 539	BR 10-700	10	700	1 1/16x3 3/16	1.41	.82	.65
14 L 541	BR 16-700	16	700	1 1/16x4 1/16	1.59	1.15	.93

## TYPE BBRD DUAL SECTION

19 L 220	2202	20-20	25	3/4x1 1/16	.84	.55	.44
19 L 250	115	10-10	50	3/4x1 1/16	.84	.55	.44
19 L 252	2215	20-20	150	3/4x1 1/16	.99	.60	.48
19 L 254	3315	30-30	150	7/8x1 1/16	1.08	.64	.51
19 L 255	4215	40-20	150	7/8x1 1/16	1.05	.63	.51
19 L 256	4315	40-30	150	7/8x2	1.08	.65	.52
19 L 257	4415	40-40	150	7/8x2	1.11	.66	.53
19 L 258	5315	50-30	150	7/8x2	1.17	.67	.53
19 L 259	5515	50-50	150	1x2	1.26	.73	.59
19 L 260	8415	80-40	150	1x2 3/16	1.35	.77	.61
18 L 609	0183.7	100-50	150	1x3	1.80	.83	.67
19 L 288	101015	100-100	150	1x3	1.92	.91	.73

19 L 289	8D25	8-8	250	3/4x1 1/16	.96	.56	.45
19 L 263	225	20-20	250	1x1 1/16	1.11	.70	.56
19 L 296	3325	30-30	250	1x2 3/16	1.35	.78	.62
19 L 264	7V225	75-20	250	1x3	1.56	.90	.72
18 L 614	0286	150-100	300	1 3/8x4 3/16	3.15	1.84	1.47
19 L 265	8D45	8-8	450	7/8x1 1/16	1.02	.69	.55
19 L 266	16845	16-8	450	1x2 3/16	1.20	.78	.63
19 L 267	16D45	16-16	450	1x2 1/2	1.35	.85	.68
19 L 268	2245	20-20	450	1x3	1.50	.94	.75
19 L 297	3345	30-30	450	1 1/8x3 3/16	1.80	1.14	.91
19 L 221	4445	40-40	450	1x4 1/16	2.04	1.32	1.06
18 L 617	0652	40, 50	450-50	1x3 9/16	1.80	1.00	.80

## TYPE BBRD TRIPLE SECTION

19 L 230	22215	20-20-20	150	7/8x1 1/16	1.32	.94	.75
19 L 231	32V215	30-25-20	150	7/8x2	1.35	.97	.78
19 L 232	33315	30-30-30	150	1x2	1.41	.99	.79
19 L 233	42215	40-20-20	150	1x1 1/16	1.35	1.02	.81
19 L 234	43215	40-30-20	150	1x2	1.41	.99	.79
19 L 235	44215	40-40-20	150	1x2	1.41	1.00	.80
19 L 236	44415	40-40-40	150	1x2 3/16	1.47	1.04	.83
19 L 298	84215	80-40-20	150	1x3	1.65	1.08	.86
18 L 620	0126.5	150-150-150	150	1 3/8x4 3/16	2.85	1.75	1.40
19 L 238	3315C	30-30, 20	150, 25	7/8x2	1.32	.96	.76
19 L 239	4215C	40-20, 20	150, 25	1x1 1/16	1.29	.96	.76
19 L 241	4415C	40-40, 20	150, 25	1x1 1/16	1.35	.99	.79
19 L 242	4415X25	40-40, 250	150, 10	1x2 3/16	1.56	1.06	.85
19 L 243	5315C	50-30, 20	150, 25	1x1 1/16	1.41	1.16	.93
19 L 245	8415C	80-40, 20	150, 25	1x2 1/2	1.59	1.05	.84
18 L 621	0185	40-40-40	300	1 1/8x3	2.76	1.30	1.04
19 L 282	16T45	16-16-16	450	1 1/8x3	1.86	1.20	.96
19 L 283	2245C	20-20, 20	450, 25	1x3	1.74	1.15	.92
18 L 626	1411	30, 50, 100	450, 150, 25	1 1/8x3	2.22	1.36	1.09

## TYPE BBRQ QUADRUPLE SECTION

19 L 290	33215C	30-30-20, 20	150, 25	1x2	1.74	1.14	.91
19 L 293	44315C	40-40-30, 20	150, 25	1x2 1/2	1.80	1.18	.94
19 L 294	55515C	50-50-50, 20	150, 25	1x3	2.07	1.24	.99
18 L 628	0789.4	140-5, 200-30	300, 150	1 1/2x4 3/16	3.09	1.94	1.56
18 L 634	0170.5	40-20-20-10	450	1 3/8x3 3/16	2.82	1.68	1.34
18 L 635	0174	40-40-20-20	450	1 3/8x4 3/16	3.27	1.89	1.51

# Cornell-Dubilier Electrolytic Capacitors



## TYPE NLW "ELECTOMITE" SUBMINIATURE CAPACITORS

Aluminum foil capacitors, hermetically sealed into ultra-small tubular aluminum cans tightly fitted with an outer transparent plastic sleeve to insure freedom from "shorts." All terminal connections are securely welded. For use in transistorized and printed circuits. Surge voltages exceed working voltages by 20%. Operating temperature range, -40°C to +85°C. Tolerance, -10% to +150%. Grounded negative lead. Av. shgp. wt., 2 oz.

### SIZE CHART

Code	Size	Code	Size	Code	Size	Code	Size
A	3/16x1/2"	E	3/16x1/2"	H	3/8x3/8"	L	3/8x1"
B	1/4x1/2"	F	5/16x3/8"	J	3/8x3/4"	M	3/8x1 1/2"
C	1/4x3/8"	G	3/8x3/4"	K	3/8x7/8"	N	3/8x1 1/2"
D	1/4x3/4"						

### 3 WVDC

Stock No.	Type NLW	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
10 L 373	10-3	10	A	.75	.51	.39	.32
18 L 640	25-3	25	B	.75	.53	.41	.33
19 L 612	50-3	50	D	.75	.53	.41	.33
19 L 774	75-3	75	G	.84	.55	.43	.34
10 L 375	100-3	100	H	.84	.61	.47	.38
19 L 595	125-3	125	H	.84	.61	.47	.38
10 L 375	150-3	150	J	.87	.61	.47	.38
18 L 641	200-3	200	K	.90	.61	.47	.38
19 L 776	250-3	250	L	.96	.61	.47	.38
10 L 376	300-3	300	L	.99	.65	.51	.41
10 L 377	350-3	350	L	.99	.68	.53	.42
19 L 777	450-3	450	N	1.05	.72	.56	.45

### 12 WVDC

Stock No.	Type NLW	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
10 L 388	15-12	15	B	.84	.53	.41	.33
10 L 389	35-12	35	F	.87	.55	.43	.34
10 L 390	100-12	100	J	1.05	.61	.47	.38
10 L 391	200-12	200	M	1.23	.68	.53	.42
10 L 905	250-12	250	N	1.32	.71	.55	.44

### 50 WVDC

Stock No.	Type NLW	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
10 L 915	1-50	1	A	.78	.59	.46	.36
19 L 754	2-50	2	A	.81	.59	.46	.36
10 L 916	3-50	3	B	.81	.59	.46	.36
19 L 755	4-50	4	B	1.05	.64	.50	.40
18 L 662	5-50	5	B	.87	.59	.46	.36
10 L 917	6-50	6	C	.87	.59	.46	.36
10 L 394	8-50	8	E	.90	.59	.46	.36
18 L 663	10-50	10	F	.90	.59	.46	.36
10 L 919	15-50	15	H	.90	.61	.47	.38
18 L 664	20-50	20	H	.90	.61	.47	.38
10 L 920	25-50	25	J	.93	.61	.47	.38
10 L 395	30-50	30	J	.96	.61	.47	.38
10 L 921	35-50	35	K	1.02	.63	.49	.39
19 L 756	40-50	40	L	1.05	.64	.50	.40
19 L 757	50-50	50	M	1.11	.65	.50	.40
10 L 396	75-50	75	N	1.20	.65	.51	.41

### 6 WVDC

Stock No.	Type NLW	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
10 L 378	1-6	1	A	.75	.51	.39	.32
18 L 645	10-6	10	A	.81	.51	.39	.32
15 L 994	15-6	15	B	.81	.53	.41	.33
10 L 379	20-6	20	B	.81	.53	.41	.33
19 L 774	30-6	30	C	.84	.53	.41	.33
10 L 901	40-6	40	F	.84	.53	.41	.33
10 L 380	50-6	50	G	.84	.55	.43	.34
19 L 597	125-6	125	J	.90	.61	.47	.38
10 L 381	150-6	150	K	.93	.61	.47	.38
10 L 382	250-6	250	M	1.02	.65	.51	.41
10 L 383	300-6	300	N	1.08	.69	.54	.43

### 10 WVDC

Stock No.	Type NLW	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
10 L 384	8-10	8	A	.81	.51	.39	.32
18 L 652	25-10	25	C	.87	.55	.43	.34
18 L 653	50-10	50	G	.93	.61	.47	.38
10 L 385	75-10	75	H	.99	.61	.47	.38
19 L 773	125-10	125	K	1.11	.63	.49	.39
10 L 386	150-10	150	L	1.14	.64	.50	.40
10 L 387	225-10	225	M	1.26	.70	.54	.43

### FB HIGH CAPACITY TYPES

Sealed in aluminum cans with wax impregnated insulating sleeves for high capacity, low voltage applications. Range to 85°C. 6 oz.



Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
19 L 443	FB 1040	4000	10	1 3/8x4 1/8"	2.85	1.94	1.50	1.33
19 L 444	FB 1050	5000	10	1 1/2x4 1/8"	3.09	2.10	1.62	1.44
19 L 353	FB 1520	2000	15	1 3/8x3 1/8"	2.82	1.63	1.26	1.12
19 L 355	FB 2510	2000	25	1 3/8x3 1/8"	2.88	1.57	1.22	1.08
19 L 356	FB 2520	2000	25	1 3/8x4 1/8"	3.45	1.85	1.43	1.27
19 L 441	FB 3010	1000	30	1 3/8x4 1/8"	2.94	1.66	1.28	1.14
19 L 320	FB 5005	500	50	1 3/8x3 1/8"	2.34	1.84	1.42	1.26
19 L 321	FB 5010	1000	50	1 3/8x3 1/8"	4.20	1.84	1.42	1.26
19 L 322	FB 5020	2000	50	1 3/8x3 1/8"	5.46	2.29	1.77	1.57
19 L 323	FB 5040	4000	50	2 1/2x4 1/8"	7.50	4.90	3.78	3.36

### CAPACITOR MOUNTING HARDWARE

For C-D can enclosed and tubular capacitors. Universal clip (Fig. E) adjusts to fit cans or tubulars; Figs. A, B, C for 2 oz.



Stock No.	Fig.	Description	EACH			
			1-99	100-999	1000-U p	1000-249
12 L 880	A	Mtg. Ring: 1 1/4"	.18	.15	.13	.13
12 L 881	A	Mtg. Ring: 1 3/8"	.18	.15	.13	.13
12 L 882	A	Mtg. Ring: 1 1/2"	.18	.15	.13	.13
12 L 883	B	Mtg. Clip: 3/4"	.12	.08	.06	.06
12 L 884	B	Mtg. Clip: 1"	.12	.09	.07	.07
12 L 885	B	Mtg. Clip: 1 3/8"	.18	.15	.13	.13
12 L 886	C	"C" Clamp: 5/8-3/4"	.12	.10	.08	.08
12 L 887	C	"C" Clamp: 7/8-1"	.12	.10	.08	.08
12 L 888	D	Mtg. Strap; I.D. 5/8"	.09	.07	.05	.05
12 L 889	D	Mtg. Strap; I.D. 3/4"	.09	.07	.05	.05
12 L 890	D	Mtg. Strap; I.D. 7/8"	.12	.10	.08	.08
12 L 891	E	3/8-7/16"	.12	.10	.08	.08
12 L 895	E	1/2-3/8"	.12	.10	.08	.08
12 L 896	E	5/8-1/2"	.12	.10	.08	.08
12 L 897	E	3/4-13/16"	.15	.11	.09	.09
12 L 899	E	7/8-15/16"	.15	.11	.09	.09
13 L 400	E	1-1 1/16"	.15	.12	.10	.10
13 L 401	E	1 3/8-1 1/8"	.15	.12	.10	.10

### SERIES ECSP "SQUARE" MINIATURE ELECTROLYTICS

Unique miniature square capacitors solve costly design problems. Capacitors butt squarely against each other - no wasted space. Leads are firmly welded for minimum contact resistance. Units are side-filled with epoxy resin to eliminate voids and misalignment of capacitor elements.

**SIZE CHART**

Code	Size
A	3/8x3/8x3/8"
B	3/8x3/8x7/8"
C	1/2x1/2x1"

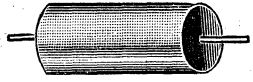
Molded phenolic case is moisture proof and heat resistant. Range: -20°C to +65°C. Tolerance: -10% to +150%. Av. shgp. wt., 2 oz.

Stock No.	Mfr's Type	Mfd	WV DC	Size	EACH			
					1-24	25-49	50-99	100-249
12 L 110	ECSP 50-3	50	3	A	.69	.51	.40	.34
12 L 111	ECSP 100-3	100	3	B	.69	.53	.41	.35
12 L 112	ECSP 250-3	250	3	C	.75	.57	.44	.38
12 L 113	ECSP 35-10	35	10	A	.69	.51	.40	.34
12 L 114	ECSP 50-10	50	10	B	.69	.52	.40	.35
12 L 120	ECSP 150-10	150	10	C	.72	.55	.43	.37
12 L 121	ECSP 5-15	5	15	A	.66	.50	.39	.33
12 L 122	ECSP 10-15	10	15	A	.66	.50	.39	.34
12 L 123	ECSP 25-15	25	15	A	.69	.51	.40	.34
12 L 124	ECSP 30-15	30	15	A	.69	.51	.40	.34
12 L 125	ECSP 35-15	35	15	B	.69	.51	.40	.34
12 L 126	ECSP 50-15	50	15	B	.69	.52	.40	.35
12 L 127	ECSP 100-15	100	15	C	.72	.54	.42	.36
12 L 128	ECSP 125-15	125	15	C	.72	.54	.42	.36
12 L 130	ECSP 10-25	10	25	A	.69	.51	.39	.34
12 L 131	ECSP 15-25	15	25	A	.69	.51	.40	.34
12 L 135	ECSP 25-25	25	25	B	.69	.52	.40	.34
12 L 140	ECSP 75-25	75	25	C	.72	.54	.42	.36
12 L 141	ECSP 10-50	10	50	A	.69	.51	.40	.34
12 L 150	ECSP 15-50	15	50	B	.69	.51	.40	.34
12 L 151	ECSP 20-50	20	50	C	.69	.52	.40	.34
12 L 152	ECSP 30-50	30	50	C	.69	.52	.41	.35
12 L 153	ECSP 50-50	50	50	C	.72	.54	.42	.36
12 L 154	ECSP 3-75	3	75	A	.66	.50	.39	.34
12 L 155	ECSP 5-75	5	75	B	.69	.51	.39	.34
12 L 156	ECSP 15-75	15	75	C	.69	.52	.40	.34



# Cornell-Dubilier Tubular Capacitors

## WMF "MYLAR" DIELECTRIC TUBULARS



Compact "Mylar" dielectric tubular capacitors encased in "Mylar" film and end-sealed with a high-density thermosetting plastic. Outstanding features are high resistance to humidity, excellent

capacitance stability, wide temperature range and long life. Operating range:  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Full rated voltage at  $85^{\circ}\text{C}$ . Derate voltage 10% at  $100^{\circ}\text{C}$ , 50% at  $125^{\circ}\text{C}$ . Tolerance,  $\pm 10\%$ . Av. shpg. wt., 3 oz.

### 100 WVDC

Stock No.	Type WMF	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
16 L 975	1D1	.001	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.08
16 L 976	1D15	.0015	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.08
16 L 977	1D22	.0022	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.08
16 L 978	1D33	.0033	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.09
16 L 979	1D47	.0047	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.09
16 L 980	1D68	.0068	$\frac{1}{4} \times \frac{1}{4}$ "	.21	.15	.12	.09
16 L 981	1S1	.01	$\frac{1}{4} \times \frac{1}{4}$ "	.21	.15	.12	.09
16 L 982	1S15	.015	$\frac{1}{4} \times \frac{1}{4}$ "	.21	.15	.12	.09
16 L 983	1S22	.022	$\frac{3}{32} \times \frac{3}{8}$ "	.24	.16	.13	.10
16 L 984	1S33	.033	$\frac{1}{8} \times \frac{3}{4}$ "	.24	.16	.13	.10
16 L 985	1S47	.047	$\frac{1}{8} \times \frac{3}{4}$ "	.27	.17	.14	.11
16 L 986	1S68	.068	$\frac{3}{32} \times \frac{3}{4}$ "	.27	.18	.14	.11
16 L 987	1P1	.1	$\frac{1}{8} \times \frac{7}{8}$ "	.36	.19	.15	.11
16 L 988	1P15	.15	$\frac{1}{8} \times \frac{7}{8}$ "	.36	.19	.15	.14
16 L 989	1P22	.22	$\frac{2}{5} \times \frac{1}{2}$ "	.39	.21	.16	.14
16 L 990	1P33	.33	$\frac{2}{5} \times \frac{1}{2}$ "	.45	.23	.18	.16
16 L 991	1P47	.47	$\frac{1}{5} \times \frac{3}{4}$ "	.51	.26	.21	.19
16 L 992	1P68	.68	$\frac{3}{8} \times \frac{1}{4}$ "	.57	.38	.30	.24
16 L 993	1W1	1.0	$\frac{5}{8} \times \frac{1}{2}$ "	.87	.56	.44	.35
16 L 995	1W1P5	1.5	$\frac{2}{5} \times \frac{3}{4}$ "	1.23	.81	.63	.50
16 L 996	1W2	2.0	$\frac{6}{16} \times \frac{1}{4}$ "	1.50	.98	.76	.61

### 200 WVDC

Stock No.	Type WMF	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
16 L 877	2D1	.001	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.08
16 L 878	2D15	.0015	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.08
16 L 879	2D22	.0022	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.08
16 L 880	2D33	.0033	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.09
16 L 881	2D47	.0047	$\frac{3}{32} \times \frac{1}{2}$ "	.21	.14	.11	.09
16 L 882	2D68	.0068	$\frac{1}{4} \times \frac{1}{4}$ "	.21	.15	.12	.09
16 L 883	2S1	.01	$\frac{1}{4} \times \frac{1}{4}$ "	.21	.15	.12	.09
16 L 884	2S15	.015	$\frac{1}{4} \times \frac{1}{4}$ "	.21	.15	.12	.09
16 L 885	2S22	.022	$\frac{3}{32} \times \frac{3}{8}$ "	.24	.16	.13	.10
16 L 886	2S33	.033	$\frac{1}{8} \times \frac{3}{4}$ "	.24	.16	.13	.10
16 L 887	2S47	.047	$\frac{2}{16} \times \frac{3}{4}$ "	.27	.17	.14	.11
16 L 888	2S68	.068	$\frac{1}{8} \times \frac{3}{4}$ "	.27	.18	.14	.11
16 L 889	2P1	.1	$\frac{1}{8} \times \frac{7}{8}$ "	.36	.23	.18	.14
16 L 890	2P15	.15	$\frac{1}{8} \times \frac{7}{8}$ "	.36	.24	.19	.15
16 L 891	2P22	.22	$\frac{1}{8} \times \frac{7}{8}$ "	.39	.26	.20	.16
16 L 892	2P33	.33	$\frac{3}{5} \times \frac{1}{2}$ "	.45	.29	.22	.18
16 L 893	2P47	.47	$\frac{1}{8} \times \frac{3}{4}$ "	.51	.33	.26	.21
16 L 894	2P68	.68	$\frac{2}{16} \times \frac{1}{8}$ "	.57	.38	.30	.24
16 L 895	2W1	1.0	$\frac{3}{4} \times \frac{1}{4}$ "	.87	.56	.44	.35
16 L 897	2W1P5	1.5	$\frac{2}{5} \times \frac{3}{4}$ "	1.23	.81	.63	.50
16 L 898	2W2	2.0	$\frac{6}{16} \times \frac{1}{8}$ "	1.50	.98	.76	.61

### 400 WVDC

Stock No.	Type WMF	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
16 L 832	4S1	.01	$\frac{1}{8} \times \frac{5}{8}$ "	.27	.17	.13	.10
16 L 833	4S15	.015	$\frac{2}{5} \times \frac{3}{4}$ "	.27	.17	.13	.10
16 L 834	4S22	.022	$\frac{3}{8} \times \frac{3}{4}$ "	.27	.18	.14	.11
16 L 835	4S33	.033	$\frac{1}{2} \times \frac{7}{8}$ "	.27	.18	.14	.11
16 L 836	4S47	.047	$\frac{1}{2} \times \frac{7}{8}$ "	.30	.19	.15	.12
16 L 837	4S68	.068	$\frac{2}{5} \times \frac{1}{2}$ "	.33	.21	.16	.13
16 L 838	4P1	.1	$\frac{1}{8} \times \frac{3}{4}$ "	.33	.21	.17	.13
16 L 839	4P15	.15	$\frac{3}{16} \times \frac{1}{4}$ "	.36	.23	.18	.14
16 L 840	4P22	.22	$\frac{9}{16} \times \frac{1}{8}$ "	.42	.26	.21	.16
16 L 841	4P33	.33	$\frac{1}{2} \times \frac{1}{8}$ "	.66	.43	.33	.27
16 L 842	4P47	.47	$\frac{4}{16} \times \frac{1}{8}$ "	.78	.51	.39	.32
16 L 843	4P68	.68	$\frac{1}{16} \times \frac{1}{4}$ "	.96	.62	.49	.39
16 L 844	4W1	1.0	$\frac{7}{8} \times \frac{2}{4}$ "	1.20	.78	.60	.48
16 L 846	4W1P5	1.5	$\frac{3}{16} \times \frac{2}{4}$ "	1.56	1.01	.80	.63
16 L 847	4W2	2.0	$\frac{1}{4} \times \frac{2}{4}$ "	2.04	1.33	1.04	.83

### 600 WVDC

Stock No.	Type WMF	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
12 L 715	6S1	.01	$\frac{1}{8} \times \frac{5}{8}$ "	.30	.19	.15	.12
12 L 716	6S15	.015	$\frac{5}{16} \times \frac{7}{8}$ "	.30	.19	.15	.12
12 L 717	6S22	.022	$\frac{2}{16} \times \frac{1}{2}$ "	.30	.20	.15	.12
12 L 718	6S33	.033	$\frac{1}{2} \times \frac{1}{2}$ "	.30	.20	.16	.12
12 L 719	6S47	.047	$\frac{2}{5} \times \frac{1}{2}$ "	.33	.21	.16	.13
12 L 720	6S68	.068	$\frac{1}{2} \times \frac{1}{2}$ "	.36	.22	.17	.14
12 L 721	6P1	.1	$\frac{3}{16} \times \frac{1}{8}$ "	.42	.28	.22	.18
12 L 722	6P15	.15	$\frac{5}{8} \times \frac{1}{8}$ "	.45	.30	.23	.19
12 L 723	6P22	.22	$\frac{2}{32} \times \frac{1}{8}$ "	.51	.34	.27	.21
12 L 724	6P33	.33	$\frac{1}{16} \times \frac{2}{4}$ "	.90	.58	.45	.36
12 L 725	6P47	.47	$\frac{5}{16} \times \frac{2}{4}$ "	1.14	.75	.59	.47
12 L 726	6P68	.68	$\frac{3}{16} \times \frac{2}{4}$ "	1.53	1.00	.78	.62
12 L 727	6W1	1.0	$\frac{1}{16} \times \frac{2}{2}$ "	2.55	1.66	1.29	1.03

## PKM "BLACK CAT" 125°C KRAFT-"MYLAR" CAPACITORS

Type PKM "Black Cat" tubular capacitors are dual dielectric—combine "Mylar" and Kraft dielectrics to make highly reliable, extremely moisture resistant units. Ideal for the most exacting and rugged applications. Feature Cornell-Dubilier's exclusive impregnant "Fixfill", a solid thermosetting end-seal compound which completely seals units against the deteriorating effects of humidity and moisture. All have durable, molded plastic cases. Designed to operate efficiently at temperatures from  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . No voltage derating is necessary. Tolerance,  $\pm 10\%$ . Av. shpg. wt., 2 oz.



### 200 WVDC

Stock No.	Type PKM	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
14 L 300	2D1	.001	$\frac{3}{8} \times 1"$	.17	.13	.10	.08
14 L 301	2D22	.0022	$\frac{3}{8} \times 1"$	.17	.13	.10	.08
14 L 302	2D47	.0047	$\frac{3}{8} \times 1"$	.17	.13	.10	.08
14 L 303	2S1	.01	$\frac{3}{8} \times 1"$	.15	.11	.09	.07
14 L 304	2S15	.015	$\frac{1}{8} \times \frac{1}{4}"$	.15	.11	.09	.07
14 L 200	2S22	.022	$\frac{1}{8} \times \frac{1}{4}"$	.15	.12	.09	.07
14 L 201	2S47	.047	$\frac{1}{8} \times \frac{1}{4}"$	.18	.13	.10	.08
14 L 202	2P1	.1	$\frac{1}{2} \times \frac{1}{2}"$	.21	.16	.12	.10
14 L 307	2P15	.15	$\frac{1}{2} \times \frac{1}{2}"$	.24	.19	.16	.13
14 L 203	2P22	.22	$\frac{5}{8} \times \frac{1}{8}"$	.27	.21	.18	.14
14 L 205	2P47	.47	$\frac{1}{16} \times \frac{1}{5/16}"$	.45	.35	.31	.25
14 L 207	2W1	1.0	$1 \times \frac{2}{8}"$	.75	.60	.52	.48

### 400 WVDC

Stock No.	Type PKM	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
14 L 308	4D1	.001	$\frac{5}{8} \times 1"$	.17	.13	.10	.08
14 L 208	4D22	.0022	$\frac{5}{8} \times 1"$	.17	.13	.10	.08
14 L 209	4D47	.0047	$\frac{5}{8} \times 1"$	.17	.13	.10	.08
14 L 210	4S1	.01	$\frac{5}{8} \times 1"$	.15	.11	.09	.07
14 L 211	4S15	.015	$\frac{3}{8} \times \frac{1}{4}"$	.15	.11	.09	.07
14 L 212	4S22	.022	$\frac{3}{8} \times \frac{1}{4}"$	.18	.12	.09	.07
14 L 214	4S47	.047	$\frac{3}{8} \times \frac{1}{4}"$	.18	.12	.09	.07
14 L 216	4P1	.1	$\frac{1}{2} \times \frac{1}{2}"$	.21	.16	.12	.10
14 L 217	4P15	.15	$\frac{1}{2} \times \frac{1}{2}"$	.24	.19	.16	.13
14 L 218	4P22	.22	$\frac{5}{8} \times \frac{1}{8}"$	.27	.21	.18	.14
14 L 220	4P47	.47	$\frac{1}{16} \times \frac{1}{5/16}"$	.45	.35	.31	.25
14 L 222	4W1	1.0	$1 \times \frac{2}{8}"$	.75	.60	.52	.48

### 600 WVDC

Stock No.	Type PKM	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
14 L 223	6D1	.001	$\frac{5}{8} \times 1"$	.15	.11	.09	.07
14 L 224	6D15	.0015	$\frac{5}{8} \times 1"$	.15	.11	.09	.07
14 L 224	6D22	.0022	$\frac{5}{8} \times 1"$	.15	.11	.09	.07
14 L 225	6D47	.0047	$\frac{3}{8} \times \frac{1}{4}"$	.15	.11	.09	.07
14 L 226	6S1	.01	$\frac{3}{8} \times \frac{1}{4}"$	.18	.12	.10	.08
14 L 227	6S15	.015	$\frac{3}{8} \times \frac{1}{4}"$	.18	.12	.10	.08
14 L 228	6S22	.022	$\frac{3}{8} \times \frac{1}{4}"$	.18	.13	.10	.08
14 L 230	6S47	.047	$\frac{1}{2} \times \frac{1}{2}"$	.24	.15	.12	.10
14 L 232	6P1	.1	$\frac{9}{16} \times \frac{1}{8}"$	.27	.20	.16	.13
14 L 233	6P15	.15	$\frac{5}{8} \times \frac{1}{8}"$	.30	.23	.20	.18
14 L 235	6P22	.22	$\frac{1}{16} \times \frac{1}{5/16}"$	.42	.33	.29	.24
14 L 239	6P47	.47	$1 \times \frac{2}{8}"$	.75	.60	.52	.42

### 1000 WVDC

Stock No.	Type PKM	Mfd	Size	EACH			
				1-24	25-49	50-99	100-249
14 L 245	10D1	.001	$\frac{5}{8} \times 1"$	.30	.14	.11	.09
14 L 328	10D15	.0015	$\frac{5}{8} \times 1"$	.30	.14	.11	.09
14 L 326	10D22	.0022	$\frac{3}{8} \times \frac{1}{4}"$	.30	.14	.11	.09
14 L 247	10D47	.0047	$\frac{3}{8} \times \frac{1}{4}"$	.30	.14	.11	.09
14 L 248	10S1	.01	$\frac{1}{16} \times \frac{1}{4}"$	.30	.16	.13	.10
14 L 315	10S15	.015	$\frac{1}{2} \times \frac{1}{2}"$	.30	.18	.14	.11
14 L 316	10S22	.022	$\frac{1}{2} \times \frac{1}{2}"$	.30	.21	.16	.13
14 L 249	10S47	.047	$\frac{9}{16} \times \frac{1}{8}"$	.36	.25	.19	.16
14 L 250	10S68	.068	$\frac{5}{8} \times \frac{1}{8}"$	.39	.26	.20	.16
14 L 251	10P1	.1	$\frac{1}{16} \times \frac{1}{5/16}"$	.45	.35	.31	.26

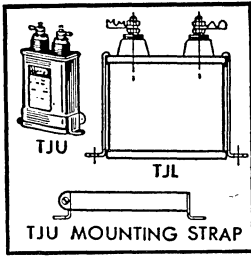
### 1600 WVDC

# Cornell-Dubilier Paper and Mica Capacitors



## TJU-TJL HERMETICALLY SEALED CAPACITORS

Quality transmitting capacitors for power supply filters. Similar to MIL CP-70. \*Type TJL; all others are Type TJU. Have threaded terminals with high voltage insulators. TJU supplied with universal mounting strap; TJL has mounting foot brackets. TJL Types 20100, 20120, 25040, 30040 and 40040 indicated by †, have extra-wide mounting brackets with dual mounting holes on each side; all other TJL units have standard-width brackets, single holes. Temperature range, -55°C to +85°C. Tolerance, ±10%. Av. shpg. wt., 5 lbs.



### 600 WVDC

Stock No.	Mfr's Type	Mfd	Size Inches	EACH					
				1-9	10-24	25-49	50-99	100-499	500-999
13L710	6005	.5	2 1/8x1 3/16x1 1/16	2.56	1.30	1.17	1.14	1.11	1.05
13L706	6010	1	2 1/8x1 3/16x1 1/16	2.73	1.43	1.34	1.32	1.21	1.18
13L707	6020	2	2 7/8x1 3/16x1 1/16	3.27	1.71	1.56	1.52	1.49	1.40
13L708	6040	4	3 3/8x2 1/2x1 3/16	4.41	2.28	2.05	2.00	1.95	1.83
13L736	6060	6	4 5/8x2 1/2x1 3/16	5.15	2.66	2.40	2.35	2.29	2.18
13L709	6080	8	3 1 3/8x3 3/4x1 1/4	6.31	3.22	2.92	2.85	2.78	2.54
13L725	6100	10	4 3/8x3 3/4x1 1/4	6.78	3.45	3.20	3.15	3.09	2.92

### 1000 WVDC

Stock No.	Mfr's Type	Mfd	Size Inches	EACH					
				1-9	10-24	25-49	50-99	100-499	500-999
13L715	10001	1	2x1 1/16x1 1/16	2.31	1.39	1.28	1.26	1.24	1.18
13L716	100025	.25	2 1/8x1 3/16x1 1/16	2.65	1.45	1.32	1.29	1.26	1.20
13L717	10005	.5	2 1/8x1 3/16x1 1/16	2.72	1.49	1.34	1.31	1.28	1.22
13L711	10010	1	2 1/8x1 3/16x1 1/16	2.94	1.54	1.42	1.40	1.37	1.30
13L712	10020	2	4x1 1/16x1 1/16	3.68	1.92	1.77	1.74	1.71	1.59
13L714	10040	4	4 5/8x2 1/2x1 3/16	4.94	2.54	2.30	2.25	2.20	2.05
13L713	10080	8	3 7/8x3 3/4x1 1/4	7.06	3.61	3.32	3.25	3.19	2.96
13L726	10100	10	4 5/8x3 3/4x1 3/8	8.09	4.11	3.82	3.75	3.69	3.43
13L735	10120	12	3 1 3/8x3 3/4x2 1/4	8.86	4.62	4.34	4.27	4.21	3.94
13L730	10150	15	4 3/4x3 3/4x2 1/2	11.04	5.80	5.47	5.40	5.33	5.07

### 2000 WVDC

Stock No.	Mfr's Type	Mfd	Size Inches	EACH					
				1-9	10-24	25-49	50-99	100-499	500-999
13L721	20001	.1	2 1/8x1 3/16x1 1/16	3.78	1.87	1.74	1.71	1.68	1.58
13L722	20005	.5	2 7/8x1 3/16x1 1/16	4.21	2.07	1.90	1.86	1.83	1.75
13L718	20010	1	3 3/8x2 1/2x1 3/16	4.73	2.55	2.36	2.32	2.10	2.03
13L719	20020	2	4x3 3/4x1 1/4	5.85	2.95	2.74	2.69	2.65	2.55
13L720	20040	4	3 1 3/8x3 3/4x2 1/4	8.16	4.10	3.90	3.85	3.81	3.67
13L737	20080*	8	4 3/4x3 3/4x3 3/8	12.34	6.43	6.12	6.06	5.68	5.49
13L734	20100*	10	4 3/4x3 3/4x4 9/16	14.34	7.46	7.11	7.03	6.95	6.72
13L738	20120*	12	5 3/8x3 3/4x4 9/16	16.58	8.57	8.15	8.06	7.97	7.72

### 3000 WVDC

Stock No.	Mfr's Type	Mfd	Size Inches	EACH					
				1-9	10-24	25-49	50-99	100-499	500-999
13L731	30001	1	2x2 1/2x1 3/16	7.10	3.62	3.26	3.13	3.10	2.95
13L732	300025	.25	2 1/2x2 1/2x1 3/16	7.55	3.84	3.42	3.33	3.24	3.16
13L733	30005	.5	3 7/8x2 1/2x1 3/16	8.25	4.20	3.73	3.63	3.53	3.42
13L723	30010	1	3 1 3/8x3 3/4x2 1/4	9.81	5.03	4.51	4.40	4.29	4.15
13L724	30020*	2	4 1/8x3 3/4x3 3/8	13.01	6.80	6.09	5.94	5.79	5.61
13L727	30040*	4	4 3/4x3 3/4x4 9/16	18.19	9.30	8.29	8.07	7.86	7.60

### 4000 WVDC

Stock No.	Mfr's Type	Mfd	Size Inches	EACH					
				1-9	10-24	25-49	50-99	100-499	500-999
13L728	40010	1	5x3 3/4x2 3/4	11.59	5.94	5.25	5.11	4.95	4.78
13L729	40040A*	4	8x3 3/4x4 9/16	25.17	12.88	11.27	10.93	10.58	10.26

## TYPE DYR PAPER-OIL "BATH-TUB" CAPACITORS



Designed for aircraft, submarine, marine and tropical applications or wherever components must operate under severe heat and humidity conditions. Have "bathtub" type metal shells; solder terminals. Capacity tolerance: +20%, -10%. All capacitors are rated at 600 WVDC, except \*1000 volts. Satisfy MIL-C-25A performance and test requirements. Similar to JAN CP53. Dual section units have common case. Operating temperature range: from -55°C to +85°C. Av. shpg. wt., 6 oz.

Stock No.	Type DYR	Mfd	Size	EACH					
				1-9	10-24	25-49	50-99	100-499	500-999
14L621	6010	.1	1 1/16x1x3 3/4	1.78	1.20	1.01	.75	.66	.63
14L622	6025	.25	1 1/16x1x3 3/4	1.85	1.23	1.04	.77	.67	.65
14L623	6050	.5	1 1/16x1x3 3/4	1.95	1.31	1.12	.82	.72	.69
14L624	6100	1.0	2x1 3/4x7 1/2	2.29	1.52	1.29	.95	.83	.80
14L625	6200	2.0	2x2x1 1/2	3.05	2.03	1.72	1.26	1.12	1.07
14L626	60055	.05-.05	1 1/16x1x3 3/4	2.36	1.57	1.33	.98	.86	.83
14L627	6011	-.1-.1	1 1/16x1x3 3/4	2.44	1.63	1.38	1.01	.89	.85
14L628	6022X	.25-.25	1 1/16x1x3 3/4	2.50	1.67	1.41	1.04	.91	.88
14L629	6055	.5-.5	2x1 3/4x7 1/2	2.80	1.88	1.59	1.17	1.03	.99
14L630	6110	1.0-1.0	2x2x1 1/2	3.42	2.24	1.94	1.42	1.25	1.20
14L631	6111	1.1-1.1	1 1/16x1x3 3/4	2.73	1.85	1.57	1.15	1.01	.97
14L615	10025*	.25	1 1/16x1x3 3/4	1.89	1.28	1.09	.79	.70	.68
14L616	10050*	.5	2x1 3/4x7 1/2	2.06	1.37	1.16	.86	.75	.72

## "SILVER MIKE" DIPPED MICA CAPACITORS

Multi-coated with epoxy, meet EIA and Mil-C-5B specs. Range (0 to +70 ppm/°C). Maximum drift, ±.05% +.1 mmf. Operate from -55°C to +150°C without derating. Tolerance ±5% or .5 mmf, whichever is greater—also available in 2% tolerance, 500 WVDC except \*300 WVDC. 1 1/4" tinned brass wire leads: CD 10, No. 26 gauge; CM05 (CD15), No. 22.



### TYPE CD 10

Stock No.	Mfr's Type	Mmf	Size	EACH				
				1-24	25-99	100-249	250-499	500-999
12L728	C020M	2		.18	.17	.09	.06	.047
12L729	C050K	5		.18	.17	.09	.07	.054
12L730	C100J	10	2 3/8x2 1/4x3 1/8"	.21	.19	.11	.07	.06
12L731	C120J	12		.24	.22	.12	.07	.062
12L732	C150J	15		.24	.22	.12	.07	.062
12L733	C180J	18	2 3/8x2 1/4x3 1/8"	.24	.22	.12	.07	.062
12L734	C220J	22	2 3/8x2 1/4x3 1/8"	.24	.22	.12	.07	.062
12L735	E240J	24	3 3/8x1 1/2x3 1/8"	.24	.22	.12	.08	.063
12L736	E270J	27	3 3/8x1 1/2x3 1/8"	.24	.22	.12	.08	.063
12L737	E300J	30	3 3/8x1 1/2x3 1/8"	.24	.22	.12	.08	.063
12L738	E330J	33	3 3/8x1 1/2x3 1/8"	.24	.22	.12	.08	.063
12L739	E390J	39	3 3/8x1 1/2x3 1/8"	.24	.22	.12	.08	.066
12L740	E470J	47	3 3/8x1 1/2x3 1/8"	.27	.25	.14	.08	.067
12L741	F510J	51	2 5/8x1 1/2x3 1/8"	.27	.25	.14	.08	.067
12L742	F560J	56	2 5/8x1 1/2x3 1/8"	.27	.25	.14	.08	.068
12L743	F620J	62		.27	.25	.14	.08	.068
12L744	F680J	68		.27	.25	.14	.08	.07
12L745	F820J	82	2 5/8x3 3/8x7 1/2"	.27	.25	.14	.09	.072
12L746	F101J	100		.27	.25	.14	.09	.075
12L747	F121J	120		.30	.28	.15	.10	.079
12L748	F151J	150		.33	.30	.17	.11	.091
12L749	F181J	180		.39	.36	.20	13	.105
12L758	F201J	200		.39	.36	.20	14	1.13
12L759	F221J	220		.42	.39	.21	14	1.17
12L760	F241J	240		.45	.42	.23	15	1.26
12L763	F271J	270*		.45	.42	.23	15	1.21

### TYPE CD 15 (Style CM05)

Stock No.	Mfr's Type	Mmf	Size	EACH				
				1-24	25-99	100-249	250-499	500-999
19L996	C020M	2		.15	.14	.08	.05	.04
12L666	C050K	5		.15	.14	.08	.05	.04
12L667	C100K	10	7/16x2 3/8x3 1/8"	.15	.14	.08	.05	.04
12L668	C120K	12		.15	.14	.08	.05	.04
12L671	C180K	18		.15	.14	.08	.05	.04
12L672	E220J	22		.18	.17	.09	.06	.047
12L673	E240J	24		.18	.17	.09	.06	.047
12L674	E270J	27		.18	.17	.09	.06	.047
12L675	E300J	30		.18	.17	.09	.06	.047
12L676	E330J	33	2 9/8x2 1/2x3 1/8"	.18	.17	.09	.06	.047
12L664	E360J	36		.18	.17	.09	.06	.047
12L667	E390J	39		.18	.17	.09	.06	.047
12L678	E470J	47		.18	.17	.09	.06	.047
12L680	F510J	51		.18	.17	.09	.06	.047
12L681	F560J	56		.18	.17	.09	.06	.047
12L682	F620J	62	1 5/8x1 3/8x3 1/2"	.18	.17	.09	.06	.047
12L683	F680J	68		.18	.17	.09	.06	.05
12L661	F750J	75		.18	.17	.09	.06	.05
12L684	F820J	82		.18	.17	.09	.06	.052
12L685	F101J	100		.18	.17	.09	.06	.052
12L686	F121J	120		.21	.19	.11	.07	.067



# Metalized Capacitors

## MPY 125°C METALLIZED PAPER



Lightweight, space-saving units for high-grade equipment. Feature superior moisture resistance, a wide temperature range, high insulation resistance, no derating, and self-healing properties of metallized dielectric capacitors. Resin impregnated Triclad tube with resin end-fill is wax-free for clean-handling; virtually unaffected by hot irons. Range, -55°C to +125°C. Tolerance, ±20%. Av. shpg. wt., 2 oz.

## MTY 125°C HERMETICALLY SEALED METALLIZED PAPER



For use where high capacitance values in extremely small case sizes are needed. Have high insulation resistance, low dissipation and capacitance-temperature variation. These metallized, sealed units are vibration resistant per MIL requirements, and offer excellent resistance to humidity. Both terminals are insulated from case. Operating temperature range, -55°C to +125°C. Tolerance, ±20%. Av. shpg. wt., 2 oz.

### 200 WVDC

Stock No.	Mfr's Type MPY	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
14 L 470	2S22	.022	1/4x5/8"	.45	.26	.20	.18	.162
14 L 471	2532	.033	1/4x5/8"	.45	.26	.20	.18	.164
14 L 402	2547	.047	1/4x5/8"	.45	.26	.20	.18	.165
14 L 485	2P1	.1	3/8x3/8"	.48	.30	.23	.20	.186
14 L 486	2P22	.22	15/32x1 1/8"	.63	.37	.28	.25	.231
14 L 403	2P47	.47	3/4x1 1/8"	.75	.44	.34	.30	.277
14 L 488	2W1	1.0	3/4x1 1/8"	1.08	.62	.48	.43	.391
14 L 404	2W2	2.0	3/8x1 1/8"	1.47	.85	.66	.58	.535

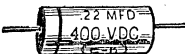
### 400 WVDC

Stock No.	Mfr's Type MPY	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
14 L 400	4S15	.015	1/4x5/8"	.45	.26	.20	.18	.164
14 L 474	4S27	.022	5/8x3/8"	.45	.26	.20	.18	.164
14 L 475	4S33	.033	3/8x3/8"	.45	.26	.20	.18	.165
14 L 405	4S47	.047	7/16x3/8"	.48	.28	.21	.19	.174
14 L 491	4P1	.1	3/8x1 1/8"	.57	.33	.26	.23	.208
14 L 401	4P15	.15	7/16x1 1/8"	.63	.37	.29	.26	.235
14 L 492	4P22	.22	1 1/2x1 1/8"	.72	.42	.32	.29	.264
14 L 406	4P47	.47	3/8x1 1/8"	.96	.55	.43	.38	.347
14 L 494	4W1	1.0	1 1/16x1 3/16"	1.32	.77	.60	.53	.485
14 L 407	4W2	2.0	13/16x2 3/8"	1.74	1.02	.78	.70	.638

### 600 WVDC

Stock No.	Mfr's Type MPY	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
14 L 495	6S1	.01	1/4x5/8"	.45	.26	.20	.18	.165
14 L 478	6S22	.022	3/8x3/8"	.48	.28	.21	.19	.174
14 L 479	6S33	.033	3/8x3/8"	.51	.30	.23	.20	.193
14 L 408	6S47	.047	15/32x3/8"	.54	.31	.24	.21	.193
14 L 496	6P1	.1	3/8x1 1/8"	.60	.34	.26	.23	.215
14 L 497	6P22	.22	3/8x1 1/8"	.81	.47	.36	.32	.297
14 L 409	6P47	.47	2 3/32x1 1/8"	1.14	.67	.52	.46	.421
14 L 499	6W1	1.0	2 3/32x1 3/16"	1.44	.83	.64	.57	.525
14 L 410	6W2	2.0	2 3/32x2 3/8"	2.10	1.23	.95	.84	.770

## MMW MINIATURE METALLIZED FILM TUBULARS



Ideal for transistorized circuits—use in conventional manner or imbedded/potted in sub-assemblies. Constructed of metallized polyester film dielectric, tightly wound and encased in polyester film-tape wrap; sealed with high-density thermosetting resin. Resistant to humidity and moisture. Temperature range, -55°C to +85°C. Tolerance, ±10%. Av. Shpg. wt., 2 oz. Write for prices on quantities of 500-999.

### 200 WVDC

Stock No.	Mfr's Type MMW	Mfd	Size	EACH					
				1-9	10-24	25-49	50-99	100-249	250-499
14 L 411	2S33	.033	.180x9/16"	.90	.68	.51	.39	.32	.27
14 L 412	2S47	.047	.200x9/16"	.93	.70	.52	.41	.33	.28
14 L 413	2P1	.1	.240x1 1/16"	.99	.75	.57	.44	.35	.301
14 L 414	2P22	.22	.340x1 1/16"	1.17	.89	.67	.52	.41	.355
14 L 415	2P33	.33	.390x1 1/16"	1.35	1.01	.76	.59	.47	.406
14 L 416	2P47	.47	.370x1"	1.38	1.04	.78	.61	.48	.415
14 L 417	2W1	1.0	.500x1"	1.83	1.37	1.02	.80	.64	.546
14 L 418	2W2	2.0	.620x1 1/4"	2.61	1.96	1.47	1.15	.92	.785

### 400 WVDC

Stock No.	Mfr's Type MMW	Mfd	Size	EACH					
				1-9	10-24	25-49	50-99	100-249	250-499
14 L 419	4S1	.01	.180x9/16"	.90	.67	.50	.39	.31	.268
14 L 420	4S22	.022	.210x1 1/16"	.93	.70	.53	.41	.33	.281
14 L 421	4S33	.033	.250x1 1/16"	.96	.72	.54	.42	.34	.287
14 L 422	4S47	.047	.300x1 1/16"	.99	.75	.56	.44	.35	.299
14 L 423	4P1	.1	.325x1"	1.11	.84	.63	.49	.39	.337
14 L 424	4P22	.22	.400x1 1/4"	1.35	1.02	.77	.60	.48	.409
14 L 425	4P33	.33	.450x1 1/2"	1.53	1.16	.87	.68	.54	.463
14 L 426	4P47	.47	.520x1 1/2"	1.80	1.35	1.01	.79	.63	.539
14 L 427	4W1	1.0	.675x1 3/4"	2.70	2.03	1.52	1.19	.95	.812
14 L 428	4W2	2.0	.950x1 3/4"	4.14	3.10	2.32	1.81	1.45	1.24

### 600 WVDC

Stock No.	Mfr's Type MMW	Mfd	Size	EACH					
				1-9	10-24	25-49	50-99	100-249	250-499
14 L 429	6S1	.01	.200x3/4"	.93	.69	.52	.40	.32	.276
14 L 430	6S22	.022	.300x3/4"	.99	.75	.57	.44	.35	.301
14 L 431	6S33	.033	.370x3/4"	1.02	.77	.58	.45	.36	.307
14 L 432	6S47	.047	.325x1 1/16"	1.11	.83	.62	.48	.39	.330
14 L 433	6P1	.1	.450x1 1/16"	1.29	.96	.72	.56	.45	.384
14 L 434	6P22	.22	.575x1 1/4"	1.68	1.26	.95	.74	.59	.504
14 L 435	6P33	.33	.560x1 3/4"	2.07	1.55	1.17	.91	.73	.622
14 L 436	6P47	.47	.675x1 3/4"	2.52	1.89	1.42	1.10	.88	.756
14 L 437	6W1	1.0	.950x1 3/4"	4.29	3.21	2.41	1.87	1.50	1.29

### TYPE MTYNIC-200 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
14 L 438	103M	.01	.235x1 3/16"	1.35	.81	.60	.53	.50
14 L 439	223M	.022	.235x1 3/16"	1.35	.81	.60	.53	.50
14 L 440	473M	.047	.235x1 3/16"	1.41	.85	.63	.55	.52
14 L 441	104M	.1	.312x1 3/16"	1.47	.88	.66	.58	.54
14 L 442	224M	.22	.312x1 1/8"	1.49	.95	.67	.59	.55
14 L 443	474M	.47	.400x1 1/8"	1.70	1.02	.76	.67	.63
14 L 444	105M	1.0	.562x1 1/8"	1.91	1.15	.86	.76	.71
14 L 445	205M	2.0	.562x1 3/16"	2.72	1.64	1.22	1.07	1.00

### TYPE MTYNI-400 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
14 L 446	103M	.01	.235x1 3/16"	1.41	.85	.63	.55	.52
14 L 447	223M	.022	.312x1 3/16"	1.42	.86	.64	.56	.53
14 L 448	473M	.047	.312x1 1/8"	1.42	.86	.64	.56	.53
14 L 449	104M	.1	.400x1 1/8"	1.54	.93	.69	.61	.57
14 L 450	224M	.22	.500x1 1/8"	1.63	.98	.73	.64	.60
14 L 451	474M	.47	.562x1 1/8"	1.93	1.16	.87	.76	.71
14 L 452	105M	1.0	.670x1 3/16"	2.30	1.38	1.03	.91	.85
14 L 453	205M	2.0	1x1 1/16"	3.50	2.10	1.57	1.38	1.28

### TYPE MTYNI-600 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH				
				1-24	25-49	50-99	100-499	500-999
14 L 454	103M	.01	.235x1 3/16"	1.44	.86	.64	.57	.53
14 L 455	223M	.022	.312x1 3/16"	1.47	.88	.66	.58	.54
14 L 456	473M	.047	.400x1 3/16"	1.49	.90	.67	.59	.55
14 L 457	104M	.1	.400x1 1/8"	1.60	.96	.72	.64	.59
14 L 458	224M	.22	.562x1 3/16"	1.87	1.12	.84	.74	.69
14 L 459	474M	.47	.562x1 3/16"	2.20	1.33	.99	.86	.81
14 L 460	105M	1.0	.750x2 1/8"	2.48	1.49	1.11	.98	.91
14 L 461	205M	2.0	1x2 1/8"	3.53	2.12	1.58	1.39	1.30

## DMP 125°C DIPPED METALLIZED PAPER



Space-saving, radial-lead type for close work, PC circuits, or point-to-point wiring. Extremely small-sized, with rock-hard epoxy-phenolic dip case—withstands 95-100% relative humidity test and MIL-C-18312A vibration test. Resin-impregnated; have high insulation resistance. Temperature range, -55°C to +125°C. Tolerance, ±20%. Av. shpg. wt., 2 oz.

### 200 WVDC

Stock No.	Type DMP	Mfd	Size	EACH					
				1-9	10-49	50-99	100-249	250-499	500-999
14 L 462	2S47	.047	.32x.63	.63	.46	.35	.22	.19	.17
14 L 463	2P1	.1	.39x.63	.96	.72	.54	.34	.29	.27
14 L 464	2P15	.15	.44x.63	1.14	.85	.64	.40	.34	.31
14 L 465	2P22	.22	.51x.63	1.32	.99	.74	.46	.40	.36
14 L 466	2P33	.33	.41x1.08	1.50	1.11	.83	.52	.45	.41
14 L 467	2P47	.47	.46x1.08	1.68	1.25	.94	.58	.50	.46
14 L 468	2P68	.68	.52x1.08	1.83	1.37	1.03	.64	.55	.50
14 L 520	2W1	1.0	.61x1.08	2.01	1.50	1.13	.70	.60	.55
14 L 469	2W2	2.0	.69x1.39	2.37	1.77	1.33	.83	.71	.65

### 400 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH					
				1-9	10-49	50-99	100-249	250-499	500-999
14 L 500	4S22	.022	.37x.68	.60	.44	.33	.20	.18	.16
14 L 501	4S33	.033	.44x.68	.81	.60	.45	.28	.24	.22
14 L 502	4S47	.047	.48x.68	.99	.74	.56	.35	.30	.27
14 L 503	4P1	.1	.43x1.12	1.38	1.03	.78	.48	.41	.38
14 L 504	4P15	.15	.47x1.12	1.59	1.18	.89	.55	.47	.43
14 L 505	4P22	.22	.57x1.12	1.77	1.32	.99	.62	.53	.49
14 L 506	4P33	.33	.66x1.12	1.95	1.47	1.10	.69	.59	.54
14 L 507	4P47	.47	.66x1.44	2.16	1.62	1.21	.76	.65	.59
14 L 521	4P68	.68	.69x1.81	2.37	1.77	1.33	.82	.71	.65
14 L 508	4W1	1.0	.73x1.81	2.55	1.91	1.43	.89	.76	.70

### 600 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH					
				1-9	10-49	50-99	100-249	250-499	500-999
14 L 509	6S1	.01	.32x.68	.60	.45	.33	.21	.18	



# Good-All Subminiature Capacitors



## TYPE 663UW "MYLAR" CAPACITORS

"Mylar"-dielectric subminiatures in "skin-tight" cases. Ideal for maximum space-saving designs. Offer long stable life, high insulation resistance, low dissipation factor. Epoxy end-fills assure high humidity-resistance. Range: -55°C to +85°C; to +125°C with 50% derating. Tolerance: ±10%. Av. shpg. wt., 2 oz.



- Subminiature
- Plastic Film Case
- Instrument Quality

### 100 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
11 L 079	.001	5/32x1/2"	.50	.36	.27	.24	.22	.20
11 L 080	.0015	5/32x1/2"	.50	.36	.27	.24	.22	.20
11 L 081	.0022	5/32x1/2"	.51	.37	.28	.25	.22	.21
11 L 082	.0033	5/32x1/2"	.52	.37	.28	.25	.22	.21
11 L 083	.0047	5/32x1/2"	.53	.38	.29	.26	.23	.21
11 L 084	.0068	5/32x1/2"	.54	.39	.29	.26	.23	.22
11 L 085	.0082	5/32x1/2"	.55	.40	.30	.27	.24	.22
11 L 086	.01	5/32x1/2"	.56	.41	.30	.27	.24	.22
11 L 087	.015	5/16x1/8"	.57	.41	.31	.28	.25	.23
11 L 088	.022	1/8x1/8"	.58	.42	.31	.28	.25	.23
11 L 089	.033	7/32x5/8"	.59	.42	.32	.29	.25	.24
11 L 090	.047	1/8x3/4"	.60	.44	.33	.29	.26	.24
11 L 091	.068	1/8x3/4"	.61	.44	.33	.30	.26	.24
11 L 092	.10	3/16x3/8"	.63	.45	.34	.31	.27	.25
11 L 093	.22	1/4x1"	.68	.49	.37	.33	.29	.27
11 L 094	.33	3/4x1 1/8"	.73	.53	.40	.36	.32	.29
11 L 095	.47	1 1/2x1 1/4"	.79	.57	.42	.38	.34	.31
11 L 096	.68	9/16x1 1/4"	.86	.60	.47	.42	.38	.34
11 L 097	.82	7/8x1 1/2"	.89	.65	.48	.44	.39	.36
11 L 098	1.0	1 1/2x1 1/2"	.94	.68	.51	.46	.41	.38
11 L 099	2.0	1 3/4x1 3/4"	1.27	.92	.69	.62	.55	.51

### 200 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
11 L 300	.001	5/32x1/2"	.50	.36	.27	.24	.22	.20
11 L 301	.0015	5/32x1/2"	.50	.36	.27	.24	.22	.20
11 L 302	.0022	5/32x1/2"	.51	.37	.28	.25	.22	.21
11 L 303	.0033	5/32x1/2"	.52	.37	.28	.25	.22	.21
11 L 304	.0047	5/32x1/2"	.53	.38	.29	.26	.23	.21
11 L 305	.0068	5/32x1/2"	.54	.39	.29	.26	.23	.22
11 L 306	.0082	5/32x1/2"	.55	.40	.30	.27	.24	.22
11 L 307	.01	5/32x1/2"	.56	.41	.30	.27	.24	.22
11 L 308	.015	5/16x1/8"	.57	.41	.31	.28	.25	.23
11 L 309	.022	1/4x5/8"	.58	.42	.31	.28	.25	.23
11 L 310	.033	1/4x3/4"	.59	.42	.32	.29	.25	.24
11 L 311	.047	1/8x3/4"	.60	.44	.33	.30	.26	.24
11 L 312	.068	1/8x3/4"	.61	.44	.33	.30	.26	.24
11 L 313	.10	3/8x1/8"	.63	.45	.34	.31	.27	.25
11 L 314	.22	7/16x1/8"	.68	.49	.37	.33	.29	.27
11 L 315	.33	3/4x1 1/8"	.73	.53	.40	.36	.32	.29
11 L 316	.47	3/8x1 1/4"	.79	.57	.42	.38	.34	.31
11 L 317	.68	3/8x1 1/8"	.86	.60	.47	.42	.38	.34
11 L 318	.82	4/8x1 1/8"	.89	.65	.48	.44	.39	.36
11 L 319	1.0	1 1/8x1 1/4"	.94	.68	.51	.46	.41	.38
11 L 320	2.0	7/8x1 3/8"	1.27	.92	.69	.62	.55	.51

## TYPE 617 "EXTENDED LIFE" HERMETICALLY-SEALED SUBMINIATURES

Extended-foil "Mylar"-dielectric capacitors in hermetically-sealed metal cases. Designed for long stable life in limited-space applications. Life test: 500 hours at 125°C and 125% of rated voltage. Temperature range: -55°C to +125°C; to +150°C with 50% derating. Tolerance: ±10%. Av. wt., 2 oz.



- 500-Hour Life Test
- Metal Case
- "Mylar" Dielectric

### 50 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 455	.001	1/8x3/4"	2.91	1.74	1.26	1.13	1.01	.93
15 L 456	.0022	1/8x3/4"	2.91	1.74	1.26	1.13	1.01	.93
15 L 457	.0047	3/16x3/4"	2.95	1.77	1.28	1.15	1.02	.94
15 L 458	.01	3/16x3/4"	2.98	1.79	1.29	1.16	1.03	.95
15 L 459	.022	1/8x1 3/8"	3.22	1.93	1.39	1.26	1.12	1.03
15 L 460	.047	5/16x3/4"	3.43	2.06	1.49	1.34	1.19	1.10
15 L 461	.1	1 3/32x7/8"	3.72	2.23	1.61	1.45	1.29	1.19
15 L 462	.22	1 3/32x1 9/16"	3.97	2.38	1.72	1.55	1.38	1.27
15 L 463	.47	9/16x1 1/4"	4.30	2.58	1.86	1.68	1.49	1.38
15 L 464	1.0	3/4x1 3/4"	5.12	3.07	2.22	2.01	1.77	1.64

### 150 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 465	.001	1/8x3/4"	3.07	1.84	1.33	1.20	1.07	.98
15 L 466	.0022	1/8x3/4"	3.07	1.84	1.33	1.20	1.07	.98
15 L 467	.0047	3/16x3/4"	3.16	1.90	1.37	1.23	1.10	1.01
15 L 468	.01	3/16x3/4"	3.28	1.97	1.42	1.28	1.14	1.05
15 L 469	.022	1/8x1 1/8"	3.62	2.17	1.57	1.41	1.26	1.16
15 L 470	.047	5/16x7/8"	3.74	2.24	1.62	1.46	1.30	1.20
15 L 471	.1	1 3/32x1 1/16"	4.03	2.42	1.74	1.57	1.40	1.29
15 L 472	.22	1 1/2x1 1/8"	4.41	2.65	1.91	1.72	1.53	1.41
15 L 473	.47	9/16x1 1/8"	4.83	2.90	2.10	1.89	1.67	1.54
15 L 474	1.0	3/4x2 1/4"	5.69	3.42	2.48	2.23	1.97	1.82

### 400 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
11 L 321	.001	5/32x5/8"	.51	.37	.28	.25	.22	.21
11 L 322	.0022	5/32x5/8"	.52	.38	.29	.26	.23	.21
11 L 323	.0033	5/32x5/8"	.54	.39	.29	.26	.23	.22
11 L 324	.0047	5/32x5/8"	.55	.40	.30	.27	.24	.22
11 L 325	.01	1/4x5/8"	.58	.42	.31	.28	.25	.23
11 L 326	.022	5/16x3/8"	.61	.44	.33	.30	.27	.25
11 L 327	.033	1/8x7/8"	.63	.46	.34	.31	.27	.25
11 L 328	.047	1/32x7/8"	.65	.47	.35	.31	.28	.26
11 L 329	.10	3/16x1"	.69	.50	.38	.34	.30	.28
11 L 330	.22	7/16x1 1/8"	.79	.57	.42	.38	.34	.31
11 L 331	.33	1 1/2x1 1/8"	.86	.62	.47	.42	.37	.34
11 L 332	.47	1 3/8x1 1/2"	.96	.69	.52	.47	.42	.38
11 L 333	1.0	1 1/2x2"	1.38	1.00	.75	.67	.60	.55
11 L 334	2.0	1 3/4x2 1/4"	1.88	1.36	1.02	.92	.82	.75

### 600 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
11 L 334	.001	5/32x3/4"	.51	.37	.28	.25	.22	.21
11 L 335	.0022	5/32x3/4"	.53	.38	.29	.26	.23	.21
11 L 336	.0033	1/8x3/4"	.54	.39	.29	.26	.23	.22
11 L 337	.0047	1/8x3/4"	.55	.40	.30	.27	.24	.22
11 L 338	.01	5/16x3/4"	.59	.43	.32	.29	.26	.24
11 L 339	.022	3/8x1/8"	.63	.46	.34	.31	.27	.25
11 L 340	.033	1 3/32x1"	.66	.48	.36	.32	.28	.26
11 L 341	.047	2 3/32x1"	.70	.50	.38	.34	.30	.28
11 L 342	.10	9/16x1 3/8"	.80	.58	.43	.39	.34	.32
11 L 343	.22	2 3/32x1 5/8"	.94	.68	.51	.46	.41	.38
11 L 344	.47	5/8x2"	1.26	.91	.68	.61	.54	.50
11 L 345	1.0	1 1/2x2 1/2"	1.72	1.25	.93	.84	.74	.69

### 1000 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
11 L 346	.001	7/32x3/4"	.54	.40	.30	.27	.24	.22
11 L 347	.0022	1/8x3/4"	.57	.41	.32	.28	.25	.23
11 L 348	.0033	1/4x1/8"	.58	.42	.32	.28	.25	.23
11 L 349	.0047	9/32x7/8"	.59	.43	.33	.29	.26	.24
11 L 350	.01	3/8x1/8"	.71	.51	.38	.35	.31	.28
11 L 351	.022	1 1/32x1 1/8"	.74	.53	.40	.36	.32	.29
11 L 352	.033	1 1/32x1 1/4"	.77	.56	.42	.38	.33	.31
11 L 353	.047	1 3/32x1 1/4"	.81	.59	.44	.40	.35	.32
11 L 354	.10	7/8x1 1/2"	.97	.70	.53	.47	.42	.39

### 400 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 475	.001	3/16x3/4"	3.26	1.95	1.39	1.26	1.12	1.03
15 L 476	.0022	3/16x3/4"	3.26	1.95	1.39	1.26	1.12	1.03
15 L 477	.0047	1/8x1 1/8"	3.40	2.04	1.47	1.33	1.18	1.09
15 L 478	.01	3/16x1 1/8"	3.59	2.16	1.56	1.40	1.25	1.15
15 L 479	.022	1 3/32x7/8"	3.76	2.26	1.63	1.47	1.30	1.20
15 L 480	.047	1 3/32x1 1/4"	3.91	2.35	1.69	1.52	1.36	1.25
15 L 481	.1	9/16x1 1/4"	4.25	2.55	1.85	1.67	1.47	1.36
15 L 482	.22	4 3/4x1 1/2"	4.70	2.82	2.04	1.84	1.63	1.50
15 L 483	.47	3/4x2 1/8"	5.24	3.14	2.28	2.05	1.82	1.68
15 L 484	1.0	1x2 1/8"	6.23	3.74	2.71	2.44	2.16	1.99

### 600 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 485	.001	3/16x3/4"	3.36	2.02	1.46	1.31	1.16	1.03
15 L 486	.0022	3/16x3/4"	3.36	2.02	1.46	1.31	1.16	1.03
15 L 487	.0047	1/8x1 1/8"	3.47	2.08	1.51	1.36	1.20	1.11
15 L 488	.01	3/16x1 1/8"	3.75	2.25	1.63	1.46	1.30	1.20
15 L 489	.022	1 3/32x1"	4.05	2.42	1.74	1.57	1.40	1.29
15 L 490	.047	1 1/2x1 1/8"	4.17	2.50	1.81	1.63	1.44	1.33
15 L 491	.1	3/8x1 3/8"	4.66	2.80	2.03	1.83	1.62	1.49



# Good-All Micro and Ultra-miniature Capacitors

## MICROLAR 608 MICROMINIATURE FOIL-WOUND "MYLAR" CAPACITORS

Take advantage of the new order of component-density offered by the Microlar 608 series. Provide the answer you've been waiting for to meet micro-miniature design problems. As small as mica units, they offer more heat tolerance and superior stability. As small as tantalums (case size "A") to .01 mfd, but offer less leakage, better insulation resistance—and at only 1/2 the cost.

Temperature range is -55°C to +85°C; to +125°C with 50% derating. Dissipation factor is less than 0.1% when measured at 1000 (±20) cps at 25° (±5°C) C. Life test: 250 hours at +85°C and 125% of rated voltage. Humidity resistance exceeds MIL-C-27287 paragraph 3.12 when tested at 40°C for 96 hours. Tolerance; ±10%. 100 WVDC. All are .375" in length. Av. shpg. wt., 2 oz.

Stock No.	Mfd	Dia. (in.)	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
1 L 342	.001	.081	1.39	1.01	.75	.68	.60	.55
1 L 343	.0015	.088	1.40	1.02	.76	.69	.61	.56
1 L 344	.0022	.095	1.42	1.03	.77	.70	.62	.57
1 L 345	.0032	.102	1.44	1.04	.78	.70	.62	.57
1 L 346	.0047	.109	1.45	1.06	.79	.71	.63	.58
1 L 347	.0068	.121	1.47	1.07	.80	.72	.64	.59

Stock No.	Mfd	Dia. (in.)	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
1 L 364	.0082	.128	1.49	1.08	.81	.73	.64	.59
1 L 365	.01	.135	1.49	1.08	.81	.73	.64	.59
1 L 366	.015	.155	1.52	1.10	.83	.74	.66	.61
1 L 367	.022	.176	1.52	1.10	.83	.74	.66	.61
1 L 385	.033	.215	1.58	1.15	.86	.78	.69	.63
1 L 386	.047	.252	1.62	1.18	.88	.79	.70	.65



Special-purpose Type 663F capacitors are the same as Type 663UW (on page 169), but can be butted together where chassis area is limited. This design has wide acceptance in military and high-quality instrument applications. Space-

saving "Mylar" dielectric and tough plastic film case. Temperature range: -55°C to +85°C; to +125°C with 50% derating. Excellent for military use where hermetic sealing is not required. Tolerance: ±10%. Av. shpg. wt., 2 oz.

### TYPE 663F "MYLAR" CAPACITORS

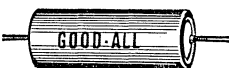
#### 100 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
1 L 900	.022	7/32x1 9/64x5/8"	.80	.48	.35	.31	.28	.26
1 L 901	.033	3/16x2 1/64x5/8"	.81	.49	.35	.31	.28	.26
1 L 902	.047	1/32x2 1/64x3/4"	.83	.50	.36	.32	.29	.26
1 L 903	.10	3/32x2 3/64x7/8"	.86	.52	.38	.34	.30	.27
1 L 904	.22	21/64x3 3/64x1"	.94	.56	.41	.37	.32	.30
1 L 905	.33	25/64x3 3/64x1 1/8"	1.01	.60	.44	.39	.35	.32
1 L 906	.47	23/64x4 3/64x1 1/4"	1.08	.65	.47	.42	.37	.35
1 L 907	1.00	25/64x5 5/64x1 1/2"	1.30	.78	.56	.51	.45	.41

#### 200 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
1 L 908	.01	7/32x1 9/64x5/8"	.77	.46	.33	.30	.27	.25
1 L 909	.015	7/32x1 9/64x5/8"	.78	.47	.34	.30	.27	.25
1 L 910	.022	1/16x2 1/64x5/8"	.80	.48	.35	.31	.28	.26
1 L 911	.033	3/16x1 9/64x3/4"	.81	.49	.35	.31	.28	.26
1 L 912	.047	7/32x2 3/64x3/4"	.83	.50	.36	.32	.29	.26
1 L 913	.10	19/64x3 3/64x1"	.86	.52	.38	.34	.30	.27
1 L 914	.22	21/64x3 3/64x1 1/8"	.94	.56	.41	.37	.32	.30
1 L 915	.33	27/64x4 3/64x1 1/8"	1.01	.60	.44	.39	.35	.32

## ULTRA-MINIATURE METAL ENCLOSED "MYLAR" CAPACITORS



Metal enclosed, hermetically sealed "Mylar"-dielectric capacitors. Designed and assembled to ultra-miniature standards. Two types are similar in performance characteristics—differ only in construction and size. Type 613G is extended-foil

construction; Type 615G is tab construction. Offer high insulation resistance, low dissipation factor and long stable life. Temperature range: -55°C to +85°C; derate 50% for +125°C. Meet MIL-C-25C. Tolerance: ±10%. Av. shpg. wt., 2 oz.

### TYPE 613G EXTENDED-FOIL CONSTRUCTION

#### 200 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 410	.001	1 1/64x2 3/32"	3.21	1.93	1.40	1.26	1.11	1.03
15 L 412	.0047	1 1/64x2 3/32"	3.26	1.96	1.42	1.28	1.13	1.04
15 L 413	.01	1 1/64x2 3/32"	3.41	1.74	1.48	1.34	1.18	1.09
15 L 414	.022	1 1/64x2 3/32"	3.46	2.08	1.50	1.36	1.20	1.11
15 L 415	.033	1 1/64x2 3/32"	3.49	2.09	1.51	1.37	1.21	1.12
15 L 416	.047	5/16x2 3/32"	3.55	2.13	1.54	1.39	1.23	1.14
15 L 417	.1	5/16x2 3/32"	3.61	2.17	1.57	1.42	1.25	1.16
15 L 418	.22	1 3/32x1 1/16"	4.04	2.43	1.76	1.59	1.40	1.29
15 L 419	.33	1 3/32x1 1/8"	4.29	2.58	1.87	1.68	1.49	1.37
15 L 420	.47	1 2x1 3/16"	4.54	2.72	1.97	1.78	1.57	1.45
15 L 421	1.00	9/16x1 1/32"	5.98	3.59	2.60	2.35	2.07	1.91

#### 400 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 422	.001	1 1/64x2 3/32"	3.31	1.99	1.44	1.30	1.15	1.06
15 L 423	.0047	1 1/64x2 3/32"	3.39	2.01	1.46	1.31	1.16	1.07
15 L 424	.01	1 1/64x2 3/32"	3.49	2.10	1.52	1.37	1.21	1.12
15 L 425	.022	1 1/64x2 3/32"	3.63	1.18	1.58	1.42	1.26	1.16
15 L 426	.033	1 1/64x2 3/32"	3.67	2.20	1.60	1.44	1.27	1.17
15 L 427	.047	1 3/32x2 7/32"	3.71	2.23	1.61	1.46	1.29	1.19
15 L 428	.1	1 3/32x1 1/8"	4.04	2.42	1.76	1.58	1.40	1.29
15 L 429	.22	9/16x1 1/8"	4.49	2.69	1.95	1.76	1.56	1.44
15 L 430	.33	3/16x1 3/8"	4.95	2.97	2.15	1.94	1.71	1.58
15 L 431	.47	3/4x1 3/8"	5.23	3.14	2.27	2.05	1.81	1.67
15 L 432	1.00	3/4x2 1/16"	5.96	3.58	2.59	2.34	2.07	1.91

### TYPE 615G TAB CONSTRUCTION

#### 200 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 433	.001	1 1/64x9/16"	3.13	1.88	1.36	1.23	1.09	1.00
15 L 434	.0047	1 1/64x9/16"	3.17	1.90	1.38	1.24	1.10	1.02
15 L 435	.01	1 1/64x9/16"	3.21	1.93	1.40	1.26	1.11	1.03
15 L 436	.022	1 3/64x2 3/32"	3.23	1.93	1.40	1.26	1.11	1.03
15 L 437	.033	1 3/64x2 3/32"	3.33	2.00	1.45	1.30	1.15	1.06
15 L 438	.047	1 5/64x2 3/32"	3.39	2.03	1.47	1.33	1.17	1.08
15 L 439	.1	7/16x2 3/32"	3.49	2.09	1.51	1.36	1.21	1.11
15 L 440	.22	1 3/32x1 5/16"	3.73	2.24	1.62	1.46	1.29	1.19
15 L 441	.33	1 3/32x1 1/8"	3.98	2.39	1.73	1.56	1.38	1.27
15 L 442	.47	1 2x1 1/16"	4.23	2.54	1.84	1.66	1.47	1.35
15 L 443	1.00	9/16x1 1/32"	4.93	2.96	2.14	1.93	1.71	1.58

#### 400 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 444	.001	1 1/64x3/16"	3.19	1.92	1.39	1.25	1.11	1.02
15 L 445	.0047	1 1/64x3/16"	3.23	1.94	1.41	1.27	1.12	1.04
15 L 446	.01	1 1/64x3/16"	3.28	1.97	1.42	1.28	1.14	1.05
15 L 447	.022	1 3/64x2 3/32"	3.28	1.97	1.42	1.28	1.14	1.05
15 L 448	.033	1 3/64x2 3/32"	3.38	2.03	1.47	1.33	1.17	1.08
15 L 449	.047	5/64x2 7/32"	3.44	2.07	1.50	1.35	1.19	1.10
15 L 450	.1	3/32x1"	3.59	2.15	1.56	1.40	1.24	1.15
15 L 451	.22	9/16x1"	3.99	2.40	1.74	1.57	1.38	1.28
15 L 452	.33	3/8x1 1/2"	4.23	2.54	1.84	1.66	1.47	1.35
15 L 453	.47	3/4x1 1/8"	4.44	2.66	1.93	1.74	1.54	1.42
15 L 454	1.00	3/4x1 1/16"	5.33	3.20	2.32	2.09	1.85	1.71

# Space-Saver Capacitors by Good-All



## HERMETICALLY-SEALED "MYLAR"-DIELECTRIC CAPACITORS

Subminiature "Mylar"-dielectric capacitors in hermetically-sealed metal cases. Ideal for transistorized circuitry. Exceed all environmental requirements of MIL-C-25C. Provide long stable life. Operating temperature range: -55°C to +85°C; derate 50% for +125°C. Tolerance: ±10%. Av. shpg. wt., 2 oz.



- Lightweight
- Choice of Construction

### TYPE 683 EXTENDED-FOIL

100 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 330	.001	1/16x2 3/32"	3.09	1.86	1.35	1.21	1.07	.99
15 L 331	.0022	1/16x2 3/32"	3.09	1.86	1.35	1.21	1.07	.99
15 L 332	.0047	1/16x2 3/32"	3.11	1.87	1.35	1.22	1.08	1.00
15 L 333	.01	1/16x2 3/32"	3.21	1.93	1.40	1.26	1.11	1.03
15 L 334	.022	1/16x2 3/32"	3.36	2.02	1.46	1.32	1.17	1.08
15 L 335	.047	3/16x2 3/32"	3.41	2.05	1.48	1.34	1.18	1.09
15 L 336	.1	3/16x2 3/32"	3.49	2.10	1.52	1.37	1.21	1.12
15 L 337	.22	1/2x1 1/16"	3.70	2.23	1.61	1.45	1.28	1.18
15 L 338	.47	1/2x1 1/16"	4.22	2.53	1.83	1.65	1.46	1.35
15 L 339	1.0	3/4x1 1/32"	5.00	3.00	2.17	1.96	1.73	1.60

200 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 340	.001	1/16x2 3/32"	3.21	1.93	1.40	1.26	1.11	1.03
15 L 341	.0022	1/16x2 3/32"	3.21	1.93	1.40	1.26	1.11	1.03
15 L 342	.0047	1/16x2 3/32"	3.26	1.96	1.42	1.28	1.13	1.04
15 L 343	.01	1/16x2 3/32"	3.41	2.04	1.48	1.34	1.18	1.09
15 L 344	.022	1/16x2 3/32"	3.46	2.08	1.50	1.36	1.20	1.11
15 L 345	.047	3/16x2 3/32"	3.55	2.13	1.54	1.39	1.23	1.14
15 L 346	.1	3/16x2 3/32"	3.61	2.17	1.57	1.42	1.25	1.16
15 L 347	.22	1/2x1 1/16"	4.04	2.43	1.76	1.59	1.40	1.29
15 L 348	.47	1/2x1 1/16"	4.54	2.72	1.97	1.78	1.57	1.45
15 L 349	1.0	3/4x1 1/32"	5.52	3.31	2.40	2.16	1.91	1.76

400 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 350	.001	1/16x2 3/32"	3.31	1.99	1.44	1.30	1.15	1.06
15 L 351	.0022	1/16x2 3/32"	3.39	2.01	1.46	1.31	1.16	1.07
15 L 352	.0047	1/16x2 3/32"	3.49	2.10	1.52	1.37	1.21	1.12
15 L 353	.01	1/16x2 3/32"	3.63	2.18	1.58	1.42	1.26	1.16
15 L 354	.022	3/16x2 3/32"	3.67	2.20	1.60	1.44	1.27	1.17
15 L 355	.047	1/32x2 3/32"	3.71	2.23	1.61	1.46	1.29	1.19
15 L 356	.1	1/32x1 1/4"	4.04	2.42	1.76	1.58	1.40	1.29
15 L 357	.22	3/16x1 1/8"	4.49	2.69	1.95	1.76	1.56	1.44
15 L 358	.47	3/4x1 1/8"	5.23	3.14	2.27	2.05	1.81	1.67
15 L 359	1.0	3/4x2 1/16"	5.96	3.58	2.59	2.34	2.07	1.91

600 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 360	.001	1/16x2 3/32"	3.41	2.05	1.48	1.34	1.18	1.09
15 L 361	.0022	1/16x2 3/32"	3.41	2.05	1.48	1.34	1.18	1.09
15 L 362	.0047	1/16x2 3/32"	3.44	2.07	1.50	1.35	1.19	1.10
15 L 363	.01	1/16x2 3/32"	3.58	2.15	1.56	1.40	1.24	1.15
15 L 364	.022	3/16x2 3/32"	3.80	2.28	1.65	1.49	1.32	1.22
15 L 365	.047	1/32x2 3/32"	3.87	2.32	1.68	1.52	1.34	1.24
15 L 366	.1	1/32x1 1/4"	4.46	2.68	1.94	1.75	1.55	1.43
15 L 367	.22	3/16x1 1/8"	4.93	2.96	2.14	1.93	1.71	1.58
15 L 368	.47	3/4x1 1/8"	5.92	3.55	2.46	2.32	2.05	1.89
15 L 369	1.0	3/4x2 1/16"	6.41	3.84	2.78	2.51	2.22	2.05

### TYPE X663F METALLIZED "MYLAR" CAPACITORS

- Ultra-Miniature, Lightweight
- "Mylar" Dielectric and Cases
- Instrument Quality, 200 WVDC



Thin, oval case design. Extended-foil metallized "Mylar"-dielectric is self-healing; provides long stable life, high insulation-resistance, low dissipation factor. NOTE: the 200 WVDC units listed below are identical in price and size to 100 WVDC units (not listed)—you get this higher voltage-rating at no extra cost. Temperature range: -55°C to +100°C; derate 50% for +125°C. Life test: 250 hours at 100°C and 125% of rated voltage. Tolerance: ±10%. Average shpg. wt., 2 oz.

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
11 L 929	.01	5/32x1 3/4x7/16"	1.41	.84	.62	.56	.49	.45
11 L 930	.022	1/32x1 3/4x7/16"	1.31	.79	.58	.53	.46	.42
11 L 931	.033	1/32x1 3/4x7/16"	1.22	.73	.54	.49	.42	.39
11 L 932	.047	1/32x1 3/4x7/16"	1.13	.68	.50	.45	.39	.36
11 L 933	.10	1/4x2 3/4x3/16"	1.04	.62	.46	.41	.36	.33
11 L 934	.22	1/64x2 3/8x1/16"	1.17	.70	.51	.47	.41	.37
11 L 935	.33	1/64x3 1/4x1/16"	1.42	.85	.62	.57	.49	.45
11 L 936	.47	2/64x3 1/4x1/16"	1.63	.98	.72	.65	.57	.52
11 L 937	.68	1/32x3 1/4x1/16"	1.80	1.08	.79	.72	.62	.58
11 L 938	1.00	2/64x1 9/16x1/16"	1.84	1.10	.81	.74	.64	.59
11 L 939	2.00	2/64x2 3/32x1/4"	2.52	1.51	1.10	1.01	.87	.82

### TYPE 685 TAB CONSTRUCTION

100 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 370	.001	1/64x9/16"	3.01	1.80	1.31	1.18	1.04	.96
15 L 371	.0022	1/64x9/16"	3.01	1.80	1.31	1.18	1.04	.96
15 L 372	.0047	1/64x9/16"	3.03	1.82	1.32	1.19	1.05	.97
15 L 373	.01	1/64x9/16"	3.07	1.84	1.33	1.20	1.06	.98
15 L 374	.022	1/64x2 3/32"	3.09	1.85	1.34	1.21	1.07	.99
15 L 375	.047	1/64x2 3/32"	3.28	1.97	1.43	1.29	1.14	1.05
15 L 376	.1	3/16x2 3/32"	3.36	2.02	1.46	1.32	1.17	1.07
15 L 377	.22	1/32x1 1/16"	3.46	2.08	1.50	1.36	1.20	1.11
15 L 378	.47	1/2x1 1/16"	3.91	2.35	1.70	1.53	1.36	1.25
15 L 379	1.0	3/4x1 1/32"	4.41	2.65	1.92	1.73	1.53	1.41

200 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 380	.001	1/64x9/16"	3.13	1.88	1.36	1.23	1.09	1.00
15 L 381	.0022	1/64x9/16"	3.13	1.88	1.36	1.23	1.09	1.00
15 L 382	.0047	1/64x9/16"	3.17	1.90	1.38	1.24	1.10	1.02
15 L 383	.01	1/64x9/16"	3.21	1.93	1.40	1.26	1.11	1.03
15 L 384	.022	1/64x2 3/32"	3.21	1.93	1.40	1.26	1.11	1.03
15 L 385	.047	1/64x2 3/32"	3.39	2.03	1.47	1.33	1.17	1.08
15 L 386	.1	3/16x2 3/32"	3.48	2.09	1.51	1.36	1.21	1.11
15 L 387	.22	1/32x1 1/16"	3.73	2.24	1.62	1.46	1.29	1.19
15 L 388	.47	1/2x1 1/16"	4.23	2.54	1.84	1.66	1.47	1.35
15 L 389	1.0	3/4x1 1/32"	4.93	2.96	2.14	1.93	1.71	1.58

400 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 390	.001	1/64x9/16"	3.19	1.92	1.39	1.25	1.11	1.02
15 L 391	.0022	1/64x9/16"	3.19	1.92	1.39	1.25	1.11	1.02
15 L 392	.0047	1/64x9/16"	3.23	1.94	1.41	1.27	1.12	1.04
15 L 393	.01	1/64x2 3/32"	3.28	1.97	1.42	1.28	1.14	1.05
15 L 394	.022	1/64x2 3/32"	3.28	1.97	1.42	1.28	1.14	1.05
15 L 395	.047	1/32x2 3/32"	3.44	2.07	1.50	1.35	1.19	1.10
15 L 396	.1	1/32x1 1/8"	3.59	2.15	1.56	1.40	1.24	1.15
15 L 397	.22	3/16x1 1/8"	3.99	2.40	1.74	1.57	1.38	1.28
15 L 398	.47	3/4x1 1/8"	4.44	2.66	1.93	1.74	1.54	1.42
15 L 399	1.0	3/4x1 1/16"	5.33	3.20	2.32	2.09	1.85	1.71

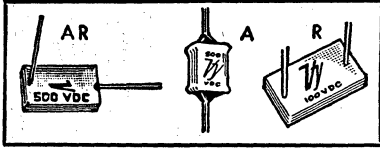
600 WVDC

Stock No.	Mfd	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15 L 400	.001	1/64x9/16"	3.26	1.96	1.42	1.28	1.13	1.04
15 L 401	.0022	1/64x9/16"	3.26	1.96	1.42	1.28	1.13	1.04
15 L 402	.0047	1/64x9/16"	3.30	1.98	1.43	1.28	1.14	1.06
15 L 403	.01	1/64x2 3/32"	3.34	2.01	1.45	1.31	1.16	1.07
15 L 404	.022	1/64x2 3/32"	3.34	2.01	1.45	1.31	1.16	1.07
15 L 405	.047	1/32x2 3/32"	3.50	2.10	1.52	1.37	1.21	1.12
15 L 406	.1	1/32x1 1/8"	3.69	2.21	1.60	1.45	1.28	1.18
15 L 407	.22	3/16x1 1/8"	4.26	2.55	1.85	1.67	1.48	1.36
15 L 408	.47	3/4x1 1/8"	4.64	2.78	2.02	1.82	1.61	1.49
15 L 409	1.0	3/4x1 1/16"	5.74	3.45	2.50	2.25	1.99	1.84

### TYPE 601PE "MYLAR" CAPACIT

# Vitramon Porcelain Capacitors

## TYPES "VY" CY—SERIES AR, A, AND R PORCELAIN CAPACITORS



Stable low-loss units ideally suited for use in tuned circuits, high-power RF applications, high-frequency designs, or in other applications where high stability, reliability, or complete predictability of electrical characteristics are desired. Unaffected by humidity; maintain insulation resistance after immersion. Meet shock requirements of MIL-STD-202; exceed

vibration requirements of MIL-C-11272 B; meet requirements of 2000-cps vibration at 20g acceleration. For centrifugal accelerations over 40,000g. 500 WVDC, except \*300, †100, §50. Tolerance, ±5%, except †0.25 mmf. (1% or 2% tolerance available on special order.) No drift—over 10,000 hours at 80°C at 500 VDC. Av. shpg. wt., 2 oz.

### CAPACITANCE RANGE—SPECIFY MMF DESIRED

0.5	3.3	5.6	10	18	33	56	100	180	330	560	1000	1800	3300	5600
1.0	3.6	6.2	11	20	36	62	110	200	360	620	1100	2000	3600	6200
1.5	3.9	6.8	12	22	39	68	120	220	390	680	1200	2200	3900	6800
2.2	4.3	7.5	13	24	43	75	130	240	430	750	1300	2400	4300	
2.7	4.7	8.2	15	27	47	82	150	270	470	820	1500	2700	4700	
3.0	5.1	9.1	16	30	51	91	160	300	510	910	1600	3000	5100	

### AXIAL-RADIAL (AR) SERIES AND SIZES—Specify MMF from Table Above

VY12C, CY12C— $\frac{3}{8}x\frac{3}{16}x\frac{3}{32}$ " to  $\frac{3}{8}x\frac{1}{16}x\frac{1}{32}$ " | VY21C, CY21C— $\frac{25}{32}x\frac{29}{64}x\frac{5}{32}$ " to  $\frac{25}{32}x\frac{29}{64}x\frac{7}{32}$ "  
 VY16C, CY16C— $\frac{3}{16}x\frac{3}{32}x\frac{3}{32}$ " to  $\frac{3}{16}x\frac{3}{32}x\frac{1}{4}$ " | VY31C, CY31C— $\frac{5}{16}x\frac{13}{16}x\frac{3}{32}$ " to  $\frac{5}{16}x\frac{13}{16}x\frac{1}{4}$ "

### TYPE VY—COMMERCIAL

### TYPE CY—MILITARY

Stock No.	Mfr's Type	EACH					Mmf	Stock No.	Mfr's Type	EACH				
		1-49	50-99	100-249	250-499	500-999				1-49	50-99	100-249	250-499	500-999
12 LL 000	VY12C	1.70	1.62	1.36	1.29	1.06	0.5 to 4.7#	12 LL 049	CY12C	1.75	1.67	1.41	1.33	1.11
12 LL 001	VY12C	1.10	1.05	.88	.83	.69	5.1 to 10	12 LL 050	CY12C	1.15	1.10	.93	.88	.74
12 LL 002	VY12C	.88	.84	.70	.66	.55	11 to 91	12 LL 051	CY12C	.93	.89	.75	.71	.60
12 LL 003	VY12C	1.10	1.05	.88	.83	.69	100 to 200	12 LL 052	CY12C	1.15	1.10	.93	.88	.74
12 LL 004	VY12C	1.10	1.05	.88	.83	.69	220 to 300*	12 LL 053	CY12C	1.15	1.10	.93	.88	.74
12 LL 005	VY16C	1.10	1.05	.88	.83	.69	220 to 430	12 LL 054	CY16C	1.15	1.10	.93	.88	.74
12 LL 006	VY16C	1.44	1.37	1.15	1.08	.90	470	12 LL 055	CY16C	1.49	1.42	1.20	1.13	.95
12 LL 007	VY16C	1.44	1.37	1.15	1.08	.90	510 to 620*	12 LL 056	CY16C	1.49	1.42	1.20	1.13	.95
12 LL 008	VY16C	1.54	1.46	1.23	1.16	.96	680 to 1000*	12 LL 057	CY16C	1.59	1.51	1.28	1.21	1.01
12 LL 009	VY21C	2.10	2.00	1.68	1.58	1.31	510 to 910	12 LL 058	CY21C	2.15	2.05	1.73	1.63	1.36
12 LL 010	VY21C	2.38	2.26	1.90	1.79	1.49	1000	12 LL 059	CY21C	2.43	2.31	1.95	1.84	1.54
12 LL 011	VY21C	2.38	2.26	1.90	1.79	1.49	1100 to 2400*	12 LL 060	CY21C	2.43	2.31	1.95	1.84	1.54
12 LL 012	VY31C	2.86	2.72	2.29	2.15	1.79	1100 to 2000	12 LL 061	CY31C	2.91	2.77	2.34	2.20	1.84
12 LL 013	VY31C	4.40	4.18	3.52	3.30	2.75	2200 to 3000	12 LL 062	CY31C	4.45	4.23	3.57	3.35	2.80
12 LL 014	VY31C	5.94	5.64	4.75	4.46	3.71	3300	12 LL 063	CY31C	5.99	5.69	4.80	4.51	3.76
12 LL 015	VY31C	5.94	5.64	4.75	4.46	3.71	3600 to 4300*	12 LL 064	CY31C	5.99	5.69	4.80	4.51	3.76
12 LL 016	VY31C	8.48	8.06	6.78	6.36	5.30	4700 to 5600*	12 LL 065	CY31C	8.53	8.11	6.83	6.41	5.35

### AXIAL (A) SERIES AND SIZES—Specify MMF from Table Above

VY13C, CY13C— $\frac{3}{8}x\frac{7}{32}x\frac{3}{16}$ " to  $\frac{3}{8}x\frac{7}{32}x\frac{1}{32}$ " | VY22C, CY22C— $\frac{29}{32}x\frac{1}{16}x\frac{3}{16}$ " to  $\frac{29}{32}x\frac{1}{16}x\frac{1}{32}$ "  
 VY17C, CY17C— $\frac{3}{16}x\frac{1}{4}x\frac{3}{16}$ " to  $\frac{3}{16}x\frac{1}{4}x\frac{1}{32}$ " | VY32C, CY32C— $\frac{29}{32}x\frac{2}{32}x\frac{3}{16}$ " to  $\frac{29}{32}x\frac{2}{32}x\frac{1}{32}$ "

### TYPE VY—COMMERCIAL

### TYPE CY—MILITARY

Stock No.	Mfr's Type	EACH					Mmf	Stock No.	Mfr's Type	EACH				
		1-49	50-99	100-249	250-499	500-999				1-49	50-99	100-249	250-499	500-999
12 LL 045	VY13C	1.55	1.47	1.24	1.16	.97	0.5 to 4.7#	12 LL 046	CY13C	1.60	1.52	1.29	1.21	1.02
12 LL 017	VY13C	1.00	.95	.80	.75	.63	5.1 to 10	12 LL 066	CY13C	1.05	1.00	.85	.80	.68
12 LL 018	VY13C	.62	.59	.50	.47	.39	11 to 43	12 LL 067	CY13C	.67	.64	.55	.52	.44
12 LL 019	VY13C	.70	.67	.56	.53	.44	47 to 91	12 LL 068	CY13C	.75	.72	.61	.58	.49
12 LL 020	VY13C	1.00	.95	.80	.75	.63	100 to 200	12 LL 069	CY13C	1.05	1.00	.85	.80	.68
12 LL 021	VY13C	1.00	.95	.80	.75	.63	220 to 300*	12 LL 070	CY13C	1.05	1.00	.85	.80	.68
12 LL 022	VY17C	1.00	.95	.80	.75	.63	220 to 430	12 LL 071	CY17C	1.05	1.00	.85	.80	.68
12 LL 023	VY17C	1.30	1.24	1.04	.98	.81	470	12 LL 072	CY17C	1.35	1.29	1.09	1.03	.86
12 LL 024	VY17C	1.30	1.24	1.04	.98	.81	510 to 620*	12 LL 073	CY17C	1.35	1.29	1.09	1.03	.86
12 LL 025	VY17C	1.40	1.33	1.12	1.05	.88	680 to 1000*	12 LL 074	CY17C	1.45	1.38	1.17	1.10	.93
12 LL 026	VY22C	1.90	1.81	1.52	1.43	1.19	510 to 910	12 LL 075	CY22C	1.95	1.86	1.57	1.48	1.24
12 LL 027	VY22C	2.16	2.05	1.73	1.62	1.35	1000	12 LL 076	CY22C	2.21	2.10	1.78	1.67	1.40
12 LL 028	VY22C	2.16	2.05	1.73	1.62	1.35	1100 to 2000*	12 LL 077	CY22C	2.21	2.10	1.78	1.67	1.40
12 LL 029	VY32C	2.60	2.47	2.08	1.95	1.63	1100 to 2000	12 LL 078	CY32C	2.65	2.52	2.13	2.00	1.68
12 LL 030	VY32C	4.00	3.80	3.20	3.00	2.50	2200 to 3000	12 LL 079	CY32C	4.05	3.85	3.25	3.05	2.55
12 LL 031	VY32C	5.40	5.13	4.32	4.05	3.38	3300	12 LL 080	CY32C	5.45	5.18	4.37	4.10	3.43
12 LL 032	VY32C	5.40	5.13	4.32	4.05	3.38	3600 to 4300*	12 LL 081	CY32C	5.45	5.18	4.37	4.10	3.43
12 LL 033	VY32C	7.70	7.32	6.16	5.78	4.81	4700 to 6800*	12 LL 082	CY32C	7.75	7.37	6.21	5.83	4.86

### RADIAL (R) SERIES AND SIZES—Specify MMF from Table Above

VY04C— $\frac{3}{8}x\frac{3}{16}x\frac{5}{64}$ " to  $\frac{3}{8}x\frac{3}{16}x\frac{7}{64}$ " | VY05C— $\frac{3}{16}x\frac{3}{32}x\frac{5}{64}$ " to  $\frac{3}{16}x\frac{3}{32}x\frac{7}{64}$ "

Stock No.	Mfr's Type	Mmf	EACH					Stock No.	Mfr's Type	Mmf	EACH				
			1-49	50-99	100-249	250-499	500-999				1-49	50-99	100-249	250-499	500-999
12 LL 044	VY04C	0.5 to 5.1#	1.08	1.03	.86	.81	.68	12 LL 038	VY04C	240 to 430§	1.00	.95	.80	.75	.63
12 LL 034	VY04C	5.6 to 22	.70	.67	.56	.53	.44	12 LL 039	VY04C	470 to 510§	1.44	1.37	1.15	1.08	.90
12 LL 035	VY04C	24 to 100*	.70	.67	.56	.53	.44	12 LL 040	VY05C	300 to 430†	1.10	1.05	.88	.83	.69
12 LL 036	VY04C	110 to 200†	.84	.80	.67	.63	.53	12 LL 041	VY05C	470 to 620†	1.44	1.37	1.15	1.08	.90
12 LL 037	VY04C	220†	1.00	.95	.80	.75	.63	12 LL 042	VY05C	680 to 1200§	1.54	1.46	1.23	1.16	.96

# Vitramon and Arco-Elmenco Capacitors

## VITRAMON MICRO-MINIATURE CERAMICS

## CAPACITIES—SPECIFY MMF DESIRED

Meet MIL-C-11015C specs—highly resistant to shock, vibration, moisture. Meet MIL-STD-202 temperature, immersion specs. Precision-molded cases are flame-resistant. Standard 0.2" lead spacing simplifies circuit design. Handle 200 WVDC without derating; surge voltage up to 400% of rated voltage. Range, -55° C. to +150° C. Up to 1000 mmf, .2x.2x.1"; over 1000 mmf, .3x.3x.1". 2 oz.

10	27	68	180	470	1200	3300	8200
12	33	82	220	560	1500	3900	10 K
15	39	100	270	680	1800	4700	
18	47	120	330	820	2200	5600	
22	56	150	390	1000	2700	6800	



### TYPE VK—COMMERCIAL—Specify MMF from Table Above

#### TYPES VK20, VK30—10% TOLERANCE

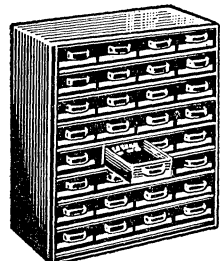
#### TYPES VK20, VK30—20% TOLERANCE

Stock No.	Mfr's Type	EACH					Mmf	Stock No.	Mfr's Type	EACH				
		1-49	50-99	100-249	250-499	500-999				1-49	50-99	100-249	250-499	500-999
12 LL 091	VK 20	1.16	1.10	.93	.87	.73	10 to 100	12 LL 096	VK20	.80	.76	.64	.60	.50
12 LL 092	VK 20	.80	.76	.64	.60	.50	120 to 1000	12 LL 097	VK20	.68	.65	.54	.51	.43
12 LL 093	VK 30	1.10	1.05	.88	.83	.69	1200 to 4700	12 LL 098	VK30	.94	.89	.75	.71	.59
12 LL 094	VK 30	2.70	2.57	2.16	2.03	1.69	5600 to 10,000	12 LL 099	VK30	2.24	2.13	1.79	1.68	1.40

#### TYPES CK05, CK06 MILITARY—10% TOL.

#### TYPES CK05, CK06 MILITARY—20% TOL.

Stock No.	Mfr's Type	EACH					Mmf	Stock No.	Mfr's Type	EACH				
		1-49	50-99	100-249	250-499	500-999				1-49	50-99	100-249	250-499	500-999
12 LL 083	CK05	1.21	1.15	.98	.92	.78	10 to 100	12 LL 087	CK05	.85	.81	.69	.65	.55
12 LL 084	CK05	.85	.81	.69	.65	.55	120 to 1000	12 LL 088	CK05	.73	.70	.59	.56	.48
12 LL 085	CK06	1.15	1.10	.93	.88	.74	1200 to 4700	12 LL 089	CK06	.99	.94	.80	.76	.64
12 LL 086	CK06	2.75	2.62	2.21	2.08	1.74	5600 to 10,000	12 LL 090	CK06	2.29	2.18	1.84	1.73	1.45



- Packaged Individually
- In Most-Often-Used Values
- In Handy, Convenient Cabinet

## VITRAMON CAPACITOR LABSTOCK KITS

### "VY" SERIES PORCELAIN CAPACITOR KITS

General-Purpose Kit. Features "Vitramon" axial-radial "VY" Porcelain Capacitors for prototype and bread-board use. Contains 576 units of 18 pieces each of VY 12 and VY 16 case sizes in all values between 100 and 1000 mmf and the following lower values: 10, 22, 33, 39, 47, 68, and 82 mmf. For specifications see page 174. In 13 1/4 x 12 1/2 x 6" enameled metal cabinet with 32 labeled drawers. Shpg. wt., 15 lbs.

11 LU 183.....380.00

RF Capacitor Kit. A specially selected assortment of highly reliable porcelain capacitors in VY 12 cases particularly suited to high-frequency applications. Contains 18 each of the following values: 1.0, 1.5, 2.7, 3.3, 3.9, 4.7, 5.6, 6.8, 8.2, 10, 12, 15, 18, 22, 33, and 47 mmf. In 7 1/4 x 12 1/2 x 6" enameled cabinet with 16 labeled drawers. 9 lbs.

11 LU 184.....180.00

### "VK" SERIES CERAMIC CAPACITOR KIT

General-Purpose Kit. Wide assortment of over 600 "VK" Ceramic Capacitors—10 each, in both 10% and 20% tolerances of all values in Table "A" above. Units are packaged and sorted by value in 32 individual, labeled drawers for fast, easy selection. Compact, sturdy, 13 1/4 x 12 1/2 x 6" cabinet takes up less than 1/2-foot of bench space. Shpg. wt., 12 lbs.

11 LU 163.....349.00

Popular Value Kit. Special selection of the most-often-used "VK" series Ceramic Capacitors. Would cost far more if bought separately. All have 10% tolerance. 10 each of the following values: 100, 150, 220, 330, 470, 680, 1000, 1500, 2200, 3300, 4700, and 10,000 mmf. All are sorted by value and packaged in 10x6x6" enameled cabinet with 12 labeled drawers. Shpg. wt., 4 lbs.

11 LU 164.....75.00

## ARCO—ELMENCO CM MOLDED SILVERED MICAS—±5% TOLERANCE

Reliability, dielectric strength, resistance to puncture and moisture—all combined into tiny capacitors. Meet Mil-C-5 and EIA spec RS-153. In low-loss phenolic cases. All are 500 WVDC except †300 WVDC. Tem-

perature coefficient depends on middle letter of Mfr's Type number; letter C, ±200 parts/million/°C; letter D, ±100 parts; letter E, -20, +100 parts. Av. wt., 1 oz. Write for prices on quantities over 100.



### TYPE CM-15—1/22x1/2x3/16"

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 424	CM-15-C-010M	1	.18	.16
10 L 425	CM-15-C-020M	2	.18	.16
10 L 426	CM-15-C-030M	3	.18	.16
10 L 427	CM-15-C-050IC	5	.18	.16
10 L 428	CM-15-C-100J	10	.18	.16
10 L 429	CM-15-C-120J	12	.18	.16
10 L 436	CM-15-C-150J	15	.18	.16
10 L 437	CM-15-C-180J	18	.18	.16
10 L 438	CM-15-C-200J	20	.18	.16
10 L 439	CM-15-C-220J	22	.18	.16
10 L 466	CM-15-E-240J	24	.18	.16
10 L 467	CM-15-E-270J	27	.18	.16
10 L 468	CM-15-E-300J	30	.18	.16
10 L 469	CM-15-E-330J	33	.18	.16
10 L 470	CM-15-E-360J	36	.18	.16
10 L 471	CM-15-E-390J	39	.18	.16
10 L 472	CM-15-E-430J	43	.18	.16
10 L 473	CM-15-E-470J	47	.18	.16
10 L 474	CM-15-E-500J	50	.18	.16
10 L 475	CM-15-E-510J	51	.18	.16
10 L 476	CM-15-E-560J	56	.18	.16
10 L 477	CM-15-E-620J	62	.18	.16
10 L 480	CM-15-E-680J	68	.18	.16
10 L 478	CM-15-E-750J	75	.18	.16
10 L 479	CM-15-E-820J	82	.18	.16
10 L 496	CM-15-E-910J	91	.18	.16
10 L 497	CM-15-E-101J	100	.18	.16
10 L 498	CM-15-E-111J	110	.21	.18
10 L 499	CM-15-E-121J	120	.21	.18
10 L 514	CM-15-E-131J	130	.21	.18
10 L 515	CM-15-E-151J	150	.21	.18
10 L 516	CM-15-E-161J	160	.24	.21

### TYPE CM-15—1/22x1/2x3/16" (Cont'd)

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 517	CM-15-E-181J	180	.24	.21
10 L 518	CM-15-E-201J	200	.24	.21
10 L 519	CM-15-E-221J	220	.27	.24
10 L 542	CM-15-E-241J	240	.27	.24
10 L 543	CM-15-E-251J	250	.27	.24
10 L 544	CM-15-E-271J	270	.30	.27
10 L 545	CM-15-E-301J	300	.30	.27
10 L 546	CM-15-E-331J	330	.33	.29
10 L 547	CM-15-E-361J	360	.36	.32
10 L 548	CM-15-E-391J	390	.39	.35
10 L 549	CM-15-E-431J†	430	.42	.37
10 L 554	CM-15-E-471J†	470	.45	.40
10 L 555	CM-15-E-501J†	500	.48	.43
10 L 556	CM-15-E-511J†	510	.48	.43

### TYPE CM-20—1/16x3/32x1/16"

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 557	CM-20-D-561J	560	.33	.29
10 L 558	CM-20-D-621J	620	.36	.32
10 L 566	CM-20-D-681J	680	.36	.32
10 L 567	CM-20-D-751J	750	.39	.35
10 L 568	CM-20-D-821J	820	.42	.37
10 L 569	CM-20-D-911J	910	.42	.37
10 L 583	CM-20-E-102J	1000	.45	.40
10 L 584	CM-20-E-112J	1100	.45	.40
10 L 585	CM-20-E-122J	1200	.48	.43
10 L 586	CM-20-E-132J	1300	.48	.43
10 L 587	CM-20-E-152J	1500	.51	.45
10 L 588	CM-20-E-162J	1600	.54	.48
10 L 589	CM-20-E-182J	1800	.60	.54
10 L 594	CM-20-E-202J	2000	.66	.59
10 L 595	CM-20-E-222J	2200	.72	.64
10 L 596	CM-20-E-242J	2400	.75	.67

### TYPE CM-20—1/16x3/32x1/16" (Cont'd)

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 422	CM-20-E-252J	2500	.78	.70
10 L 423	CM-20-E-272J	2700	.84	.75

### TYPE CM-20—7/16x3/32x25/32"

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 599	CM-20-E-302J	3000	.90	.81
10 L 619	CM-20-E-332J	3300	.96	.86
10 L 620	CM-20-E-362J†	3600	1.02	.91
10 L 621	CM-20-E-392J†	3900	1.08	.97
10 L 622	CM-20-E-432J†	4300	1.14	1.02
10 L 623	CM-20-E-472J†	4700	1.20	1.08
10 L 624	CM-20-E-502J†	5000	1.26	1.13
10 L 638	CM-20-E-512J†	5100	1.26	1.13

### TYPE CM-30—1/16x1/2x3/32"

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 639	CM-30-E-562J	5600	1.26	1.13
10 L 640	CM-30-E-622J	6200	1.32	1.18

### TYPE CM-35—1/16x1/2x1/32"

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 641	CM-35-E-682J†	6800	1.32	1.18
10 L 642	CM-35-E-752J†	7500	1.44	1.29
10 L 643	CM-35-E-822J†	8200	1.56	1.40
10 L 644	CM-35-E-912J†	9100	1.68	1.51
10 L 645	CM-35-E-103J†	10000	1.86	1.67
10 L 646	CM-35-E-123J†	12000	2.16	1.94
10 L 647	CM-35-E-153J†	15000	2.58	2.32
10 L 648	VCM-35-E-682J	6800	1.44	1.29
10 L 649	VCM-35-E-752J	7500	1.56	1.40
10 L 684	VCM-35-E-822J	8200	1.68	1.51
10 L 685	VCM-35-E-912J	9100	1.86	1.67
10 L 686	VCM-35-E-103J	10000	2.04	1.83

# Arco Capacitors

## ARCO-ELMENDO "DUR-MICA" SILVERED MICA CAPACITORS—±5% TOLERANCE

Special plastic coating on mica capacitors resists extreme humidity and moisture. All are 500 WVDC, except 1300 WVDC and 1100 WVDC. Operate in temperatures from -55°C to +150°C without derating. Compact size makes them especially suitable for use in delay lines, computers, test equipment, guided missiles, etc. Low temperature coefficient—

near NPO. Meet or exceed MIL-C-5B and RETMA specifications for mica capacitors. Capacitance tolerance: ±5% except \* ±.5 mmf. Approx. sizes: DM-10, 7/8x1 1/2x3/16" to 7/32" thick; DM-15, 7/16x1 1/2x3/32" to 7/32" thick; DM-19, 5/8x1 1/2x3/32" to 7/32" thick; DM-30, 25/32x29/32x7/32" to 7/32" thick. Wt., 1 oz. Write for prices in quantities over 100.



### TYPE DM-10

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
12 L 350	DM-10-010K*	1	.18	.16
12 L 351	DM-10-020K*	2	.18	.16
12 L 352	DM-10-030K*	3	.18	.16
12 L 353	DM-10-050J	5	.18	.16
12 L 354	DM-10-100J	10	.19	.17
12 L 355	DM-10-120J	12		
12 L 356	DM-10-150J	15		
12 L 357	DM-10-180J	18	.23	.21
12 L 358	DM-10-200J	20		
12 L 359	DM-10-220J	22		
12 L 360	DM-10-240J	24		
12 L 361	DM-10-270J	27		
12 L 362	DM-10-300J	30	.23	.21
12 L 363	DM-10-330J	33		
12 L 364	DM-10-360J	36		
12 L 365	DM-10-390J	39	.23	.21
12 L 366	DM-10-430J	43	.23	.21
12 L 367	DM-10-470J	47	.26	.23
12 L 368	DM-10-500J	50	.26	.23
12 L 369	DM-10-510J	51	.26	.23
12 L 370	DM-10-560J	56		
12 L 371	DM-10-620J	62		
12 L 372	DM-10-680J	68	.26	.23
12 L 373	DM-10-750J	75		
12 L 374	DM-10-820J	82		
12 L 375	DM-10-910J	91	.26	.23
12 L 376	DM-10-101J	100	.26	.23
12 L 377	DM-10-111J	110	.26	.23
12 L 378	DM-10-121J	120	.30	.27
12 L 379	DM-10-131J	130	.30	.27
12 L 380	DM-10-151J	150	.33	.30
12 L 381	DM-10-161J	160	.37	.33
12 L 382	DM-10-181J	180	.40	.36
12 L 383	DM-10-201J	200	.40	.36
12 L 384	DM-10-221J	220	.43	.39
12 L 385	DM-10-241J	240	.46	.41
12 L 386	DM-10-251J	250	.46	.41
12 L 387	DM-10-271J	270†	.46	.41
12 L 388	DM-10-301J	300†	.50	.45
12 L 389	DM-10-331J	330§	.50	.45
12 L 400	DM-10-361J	360§	.53	.48
12 L 401	DM-10-391J	390§	.56	.50

### TYPE DM-15

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 716	DM-15-010K*	1		
10 L 717	DM-15-020K*	2	.15	.14
10 L 718	DM-15-030K*	3		
10 L 719	DM-15-050J*	5		
10 L 720	DM-15-100J	10		
10 L 721	DM-15-120J	12		
10 L 722	DM-15-150J	15	.17	.15
10 L 723	DM-15-180J	18		
10 L 724	DM-15-200J	20		
10 L 725	DM-15-220J	22		
10 L 726	DM-15-240J	24		
10 L 727	DM-15-270J	27	.17	.15
10 L 728	DM-15-300J	30		
10 L 729	DM-15-330J	33		
10 L 730	DM-15-360J	36		
10 L 731	DM-15-390J	39	.17	.15
10 L 732	DM-15-430J	43		
10 L 733	DM-15-470J	47		
10 L 734	DM-15-500J	50		
10 L 735	DM-15-510J	51	.17	.15
10 L 736	DM-15-560J	56		
10 L 737	DM-15-620J	62		
10 L 738	DM-15-680J	68		
10 L 739	DM-15-750J	75		
10 L 740	DM-15-820J	82	.17	.15
10 L 741	DM-15-910J	91		
10 L 742	DM-15-101J	100		
10 L 743	DM-15-111J	110		
10 L 744	DM-15-121J	120	.20	.18
10 L 745	DM-15-131J	130		
10 L 746	DM-15-151J	150		
10 L 747	DM-15-161J	160		
10 L 748	DM-15-181J	180	.23	.21
10 L 749	DM-15-201J	200		
10 L 750	DM-15-221J	220		
10 L 751	DM-15-241J	240	.26	.23
10 L 752	DM-15-251J	250		
10 L 753	DM-15-271J	270	.30	.27
10 L 754	DM-15-301J	300	.30	.27
10 L 755	DM-15-331J	330	.33	.30
10 L 756	DM-15-361J	360	.33	.30
10 L 757	DM-15-391J	390	.36	.33

### TYPE DM-15—(Cont'd)

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 758	DM-15-431J	430†	.36	.33
10 L 759	DM-15-471J	470†	.39	.36
10 L 760	DM-15-501J	500†	.39	.36
10 L 761	DM-15-511J	510†	.39	.36
10 L 762	DM-15-561J	560†	.43	.39
10 L 763	DM-15-621J	620†	.45	.41
10 L 764	DM-15-681J	680†	.49	.45
10 L 765	DM-15-751J	750†	.52	.48
10 L 766	DM-15-821J	820†	.56	.50
10 L 767	DM-15-911J	910§	.63	.56
10 L 768	DM-15-102J	1000§	.66	.59

### TYPE DM-19

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
10 L 769	DM-19-911J	910	.43	.39
10 L 770	DM-19-102J	1000	.46	.41
10 L 771	DM-19-112J	1100	.46	.41
10 L 772	DM-19-122J	1200	.52	.45
10 L 773	DM-19-132J	1300	.53	.48
10 L 774	DM-19-152J	1500	.56	.50
10 L 775	DM-19-162J	1600	.60	.54
10 L 776	DM-19-182J	1800	.66	.59
10 L 777	DM-19-202J	2000	.74	.66
10 L 778	DM-19-222J	2200	.79	.71
10 L 779	DM-19-242J	2400	.86	.77
10 L 780	DM-19-252J	2500	.89	.81
10 L 781	DM-19-272J	2700	.92	.83
10 L 782	DM-19-302J	3000	.99	.89
10 L 783	DM-19-332J	3300	1.06	.95
10 L 784	DM-19-362J	3600	1.12	1.01
10 L 785	DM-19-392J	3900	1.19	1.07

### TYPE DM-30

Stock No.	Mfr's Type	Mmf	EACH	
			1-24	25-99
12 L 402	DM-30-432J	4300	1.06	.95
12 L 403	DM-30-472J	4700	1.12	1.01
12 L 404	DM-30-502J	5000	1.16	1.04
12 L 405	DM-30-512J	5100	1.16	1.04
12 L 406	DM-30-562J	5600	1.19	1.07
12 L 407	DM-30-622J	6200	1.25	1.13
12 L 408	DM-30-682J	6800	1.39	1.25
12 L 409	DM-30-752J	7500	1.52	1.37
12 L 810	DM-30-822J	8200	1.65	1.48
12 L 821	DM-30-912J	9100	1.78	1.61
12 L 822	DM-30-103J	10,000	1.98	1.79

### NEW TYPE PT HERMETICALLY SEALED TUBULARS



Extremely High Stability and Insulation Resistance

Rated @ 100 VDCV. Special construction uses polystyrene dielectric in nonferrous metallic tube with compression glass end seals. High stability, high insulation resistance, low dielectric absorption, and low dissipation factor. Used in precision filters and tuned circuits, analog computer circuits, servos. Tolerance, ±5%. Stability, ±0.1% max long term capacitance drift. Insulation resistance, 10<sup>5</sup> megohms-mfd. Dielectric absorption, .05% max. Dissipation factor, .02 to .04% max. 25-85°C. Temp. range, -55 to +85°C. Temp. coeff., -120 ppm/°C (±15 ppm). With #20 tinned copper leads, 1/4" min. Vary from 7/8x.312" dia. to 1 1/8x.670" dia. Wt., 2 oz.

Stock No.	Mfr's Type	Mfd	EACH					
			1-9	10-24	25-49	50-99	100-499	500-999
14 L 024	1PT-202J	.002	3.17	2.27	1.81	1.36	1.09	1.00
14 L 025	1PT-332J	.0033	3.17	2.27	1.81	1.36	1.09	1.00
14 L 027	1PT-472J	.0047	3.17	2.27	1.81	1.36	1.09	1.00
14 L 028	1PT-502J	.005	3.17	2.27	1.81	1.36	1.09	1.00
14 L 029	1PT-682J	.0068	3.17	2.27	1.81	1.36	1.09	1.00
14 L 030	1PT-103J	.01	3.17	2.27	1.81	1.36	1.09	1.00
14 L 031	1PT-153J	.015	3.20	2.29	1.83	1.37	1.10	1.01
14 L 032	1PT-203J	.02	3.22	2.30	1.84	1.38	1.11	1.02
14 L 036	1PT-223J	.022	3.24	2.31	1.85	1.39	1.11	1.02
14 L 037	1PT-333J	.033	3.30	2.36	1.89	1.41	1.13	1.04
14 L 038	1PT-473J	.047	3.38	2.42	1.93	1.45	1.16	1.06
14 L 040	1PT-503J	.05	3.40	2.43	1.94	1.46	1.17	1.07
14 L 041	1PT-104J	.1	3.89	2.78	2.22	1.67	1.33	1.22
14 L 042	1PT-154J	.15	4.38	3.13	2.50	1.88	1.50	1.38
14 L 043	1PT-204J	.2	4.90	3.50	2.80	2.10	1.68	1.54
14 L 044	1PT-224J	.22	5.04	3.60	2.88	2.16	1.73	1.58
14 L 048	1PT-334J	.33	5.85	4.18	3.34	2.51	2.00	1.84
14 L 049	1PT-504J	.5	7.18	5.13	4.10	3.08	2.46	2.26

### NEW TYPE PJ HERMETICALLY SEALED TUBULARS



High Stability and Insulation Resistance at Low Cost

Rated @ 100 WVDC. Has polystyrene dielectric in silicone treated fused polyethylene jackets. Similar to the Type PT capacitors at left with lower cost and smaller size. Meets MIL tests for vibration, shock, moisture resistance and immersion. Tolerance, ±5%. Stability, ±0.1% max long term capacitance drift. Insulation resistance, 10<sup>5</sup> megohms-mfd. Dielectric absorption, .05% max. Dissipation factor, .02 to .04% max. 25-85°C. Temp. range, -55 to +85°C. Temp. coeff., -120 ppm/°C (±15 ppm). With #20 tinned copper leads, 1/4" min. Vary from 1 1/8x5/8" dia. to 1 1/2x5/8" dia. Wt., 1 oz.

Stock No.	Mfr's Type	Mfd	EACH					
			1-9	10-24	25-49	50-99	100-499	500-999
14 L 050	1PJ-202J	.002						
14 L 051	1PJ-332J	.0033						
14 L 052	1PJ-472J	.0047	1.49	1.06	.85	.63	.51	.46
14 L 053	1PJ-502J	.005						
14 L 054	1PJ-682J	.0068						
14 L 055	1PJ-103J	.01	1.49	1.06	.85	.63	.51	.46
14 L 058	1PJ-153J	.015	1.51	1.08	.86	.64	.51	.47
14 L 059	1PJ-203J	.02	1.53	1.10	.87	.65	.52	.48
14 L 060	1PJ-223J	.022	1.54	1.10	.88	.66	.52	.48
14 L 061	1PJ-333J	.033	1.60	1.13	.91	.68	.54	.50
14 L 062	1PJ-473J	.047	1.67	1.19	.95	.71	.57	.52
14 L 063	1PJ-503J	.05	1.69	1.21	.96	.72	.57	.53
14 L 064	1PJ-104J	.1	2.09	1.50	1.20	.99	.71	.65
14 L 065	1PJ-154J	.15	2.28	1.63	1.30	.97	.78	.71
14 L 066	1PJ-204J	.2	2.54	1.81	1.45	1.09	.87	.79
14 L 067	1PJ-224J	.22	2.99	2.14	1.71	1.28	1.03	.94
14 L 068	1PJ-334J	.33	3.12	2.23	1.78	1.34	1.07	.97
14 L 069	1PJ-334J	.33	3.82	2.73	2.18	1.64	1.31	1.20
14 L 070	1PJ-504J	.5	4.97	3.55	2.84	2.13	1.70	1.56

# Plastic Capacitors, Inc.

## PLASTIC DIELECTRIC, GLASS-ENCASED CAPACITORS

Capacitors are impregnated with purified mineral oil and have a plastic film dielectric. Useful for high voltage power filter—mount in any position. Extremely long life even under high temperature conditions. Operate 10,000 hours at 85°C at rated voltage. Range: -55°C to +85°C; derate 60% at 105°C. Units meet

or exceed Mil-C-25A specs except for high-altitude flashover. Tolerance: ±10%. Case is a heavy-wall, hard-glass tube with metal ferrules soldered to each end. Mounting terminals: 8-32x $\frac{3}{8}$ " for capacitors with  $\frac{3}{4}$ " dia. or larger; smaller units have No. 18 tinned-copper axial pigtail. Shpg. wt., 2 oz.



### TYPE OF-20 2000 WVDC

Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-9	10-24	25-49	50-99	100-249
16 L 901	103	.01	1 $\frac{1}{2}$ x2x1 $\frac{1}{16}$ "	2.10	2.10	1.93	1.73	1.51
16 L 902	203	.02	1 $\frac{1}{2}$ x2x1 $\frac{1}{16}$ "	2.10	2.10	1.93	1.73	1.51
16 L 903	503	.05	3 $\frac{1}{4}$ x1 $\frac{1}{4}$ "	2.28	2.28	2.09	1.87	1.64
16 L 904	104	.1	3 $\frac{1}{4}$ x2x1 $\frac{1}{4}$ "	2.33	2.33	2.14	1.91	1.67
16 L 925	254	.25	2 $\frac{3}{4}$ x2x2 $\frac{1}{4}$ "	2.69	2.69	2.58	2.30	2.02
16 L 800	504	.5	1 $\frac{1}{2}$ x2x2"	3.22	3.22	3.08	2.75	2.42

### TYPE OF-30 3000 WVDC

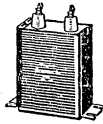
Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-9	10-24	25-49	50-99	100-249
16 L 909	103	.01	1 $\frac{1}{2}$ x2x1 $\frac{1}{16}$ "	2.46	2.46	2.30	2.13	1.62
16 L 910	203	.02	3 $\frac{1}{4}$ x1 $\frac{1}{4}$ "	2.64	2.64	2.46	2.28	1.73
16 L 801	503	.05	3 $\frac{1}{4}$ x2x1 $\frac{1}{4}$ "	2.70	2.70	2.51	2.33	1.77
16 L 911	104	.1	1 $\frac{1}{2}$ x1 $\frac{3}{4}$ "	3.19	3.19	2.97	2.75	2.09
16 L 802	254	.25	1 $\frac{1}{2}$ x2x2"	3.75	3.75	3.48	3.21	2.55
16 L 803	504	.5	1 $\frac{1}{2}$ x2x2 $\frac{1}{4}$ "	4.70	4.70	4.37	4.03	3.02

### TYPE OF-50 5000 WVDC

Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-9	10-24	25-49	50-99	100-249
16 L 912	102	.001	1 $\frac{1}{2}$ x2x1 $\frac{1}{16}$ "	3.25	3.25	2.88	2.70	2.33
16 L 806	202	.002	1 $\frac{1}{2}$ x2x1 $\frac{1}{16}$ "	3.25	3.25	2.88	2.70	2.33
16 L 807	502	.005	1 $\frac{1}{2}$ x2x1 $\frac{1}{8}$ "	3.30	3.30	2.91	2.72	2.35
16 L 913	103	.01	3 $\frac{1}{4}$ x1 $\frac{1}{4}$ "	3.54	3.54	3.14	2.93	2.53
16 L 914	203	.02	3 $\frac{1}{4}$ x2x1 $\frac{1}{4}$ "	3.61	3.61	3.20	2.99	2.58
16 L 915	503	.05	2 $\frac{3}{4}$ x2x2 $\frac{1}{4}$ "	4.17	4.17	3.70	3.45	2.98
16 L 916	104	.1	1 $\frac{1}{2}$ x2x2 $\frac{1}{4}$ "	4.84	4.84	4.53	4.22	3.62
16 L 808	254	.25	1 $\frac{1}{2}$ x2x2"	5.72	5.72	5.35	4.97	4.20
16 L 809	504	.5	1 $\frac{1}{2}$ x2x2"	7.73	7.73	7.22	6.71	5.68

### PLASTIC FILM HIGH VOLTAGE FILTER CAPACITORS

Priced lower—built smaller than comparable CP-70 style. Range: -50°C to +60°C for 10,000 hours. Impregnated with purified mineral oil and aging inhibitor. Insulators are steatite bushings. Mil-C-25A dielectric resistance. Tolerance: -10%, +20%. With footed brackets; nuts and solder lugs on terminals. 3 oz.



### TYPE EP30—3000 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH				
				1-9	10-24	25-49	50-99	100-249
12 L 825	104	.1	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x1 $\frac{1}{8}$ "	4.72	3.37	3.03	2.80	2.47
12 L 826	254	.25	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x1 $\frac{1}{8}$ "	4.96	3.54	3.18	2.95	2.60
12 L 827	504	.5	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x1 $\frac{1}{8}$ "	5.45	3.90	3.52	3.25	2.86
12 L 828	105	1.0	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{3}{4}$ "	6.33	4.52	4.07	3.77	3.32
12 L 829	205	2.0	3 $\frac{3}{4}$ x1 $\frac{1}{2}$ x4x1 $\frac{1}{4}$ "	8.60	6.11	5.50	5.11	4.49
12 L 830	405	4.0	3 $\frac{3}{4}$ x2x1x4x3 $\frac{1}{4}$ "	13.00	9.37	8.40	7.80	6.86
12 L 831	805	8.0	4 $\frac{1}{2}$ x6x3 $\frac{1}{4}$ x4x1 $\frac{1}{4}$ "	23.30	16.70	15.00	13.70	12.40

### TYPE EP50—5000 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH				
				1-9	10-24	25-49	50-99	100-249
12 L 832	104	.1	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{1}{8}$ x2 $\frac{1}{8}$ "	4.85	3.47	3.13	2.90	2.55
12 L 833	254	.25	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{1}{8}$ x2 $\frac{1}{8}$ "	5.46	3.90	3.52	3.25	2.86
12 L 834	504	.50	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ x3 $\frac{1}{4}$ x2 $\frac{1}{4}$ "	6.43	4.60	4.13	3.83	3.37
12 L 835	105	1.0	3 $\frac{3}{4}$ x1 $\frac{1}{2}$ x4x3 $\frac{3}{4}$ "	9.90	7.10	6.35	5.88	5.18
12 L 836	205	2.0	3 $\frac{3}{4}$ x2x1x4x3 $\frac{1}{4}$ "	14.65	10.42	9.40	8.70	7.65
12 L 837	405	4.0	4 $\frac{1}{2}$ x6x3 $\frac{1}{4}$ x4x1 $\frac{1}{4}$ "	24.30	17.35	15.60	14.40	12.70

### TYPE EP80—8000 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH				
				1-4	5-9	10-24	25-49	50-99
12 L 838	104	.1	3 $\frac{3}{4}$ x1 $\frac{1}{2}$ x4x2 $\frac{1}{2}$ "	11.60	8.28	7.46	6.92	6.08
12 L 839	254	.25	3 $\frac{3}{4}$ x1 $\frac{1}{2}$ x4x2 $\frac{1}{2}$ "	13.65	9.75	8.75	8.12	7.16
12 L 840	504	.50	3 $\frac{3}{4}$ x2x1x4x3 $\frac{1}{4}$ "	15.90	11.35	10.22	9.43	8.31
12 L 841	105	1.0	3 $\frac{3}{4}$ x4x3 $\frac{3}{8}$ x5 $\frac{1}{4}$ "	21.50	15.35	13.84	12.75	11.25
12 L 842	205	2.0	4 $\frac{1}{2}$ x6x3 $\frac{1}{4}$ x8x1 $\frac{1}{2}$ "	33.60	24.05	21.60	20.00	17.62

### TYPE EP100—10000 WVDC

Stock No.	Mfr's Type	Mfd	Size	EACH				
				1-4	5-9	10-24	25-49	50-99
12 L 843	254	.25	3 $\frac{3}{4}$ x1 $\frac{1}{2}$ x4x3 $\frac{1}{4}$ "	14.90	10.62	9.56	8.86	7.79
12 L 844	504	.50	3 $\frac{3}{4}$ x2x1x4x3 $\frac{1}{4}$ "	18.40	13.17	11.82	10.98	9.64
12 L 845	105	1.0	4 $\frac{1}{2}$ x6x3 $\frac{1}{4}$ x5 $\frac{1}{2}$ "	28.00	20.00	17.98	16.63	14.62
12 L 846	205	2.0	4 $\frac{1}{2}$ x6x3 $\frac{1}{4}$ x10"	49.50	35.40	31.80	29.40	25.95

Allied Electronics maintains the world's largest stocks of capacitors for fast delivery of industrial quantities at OEM factory prices. Make Allied your one-stop, complete supply source for everything in electronics. For fastest service, use the Allied facility nearest you—see page one of this catalog. Wherever you are, it's always easier to do business with Allied.

### TYPE OF-80 8000 WVDC

Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-9	10-24	25-49	50-99	100-249
16 L 917	102	.001	1 $\frac{1}{2}$ x2x1 $\frac{1}{16}$ "	3.80	3.32	2.95	2.75	2.38
16 L 918	502	.005	3 $\frac{1}{4}$ x1 $\frac{1}{4}$ "	4.12	3.61	3.20	2.99	2.57
16 L 810	103	.01	3 $\frac{1}{4}$ x2 $\frac{1}{4}$ "	4.20	3.68	3.25	3.05	2.62
16 L 919	203	.02	2 $\frac{3}{4}$ x2x2 $\frac{1}{4}$ "	5.00	4.38	3.88	3.62	3.12
16 L 920	503	.05	1 $\frac{1}{2}$ x2x2 $\frac{1}{4}$ "	6.48	5.67	5.00	4.69	4.05
16 L 921	104	.1	1 $\frac{1}{2}$ x2x3 $\frac{1}{8}$ "	7.76	6.63	6.22	5.58	4.77
16 L 922	204	.2	1 $\frac{1}{2}$ x2x2"	10.47	9.05	8.49	7.77	6.50

### TYPE OF-100 10000 WVDC

Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-9	10-24	25-49	50-99	100-249
16 L 923	202	.002	1 $\frac{1}{2}$ x2x1 $\frac{1}{8}$ "	4.44	3.89	3.45	3.22	2.77
16 L 925	103	.01	2 $\frac{3}{4}$ x2x2 $\frac{1}{4}$ "	5.28	4.62	4.09	3.83	3.30
16 L 926	203	.02	1 $\frac{1}{2}$ x2x2 $\frac{1}{4}$ "	5.76	5.05	4.40	4.17	3.60
16 L 927	503	.05	1 $\frac{1}{2}$ x2x2 $\frac{1}{4}$ "	8.16	7.13	6.32	5.92	5.10
16 L 811	104	.1	1 $\frac{1}{2}$ x2x2"	13.32	11.52	10.07	9.72	8.28

### TYPE OF-200 20000 WVDC

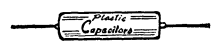
Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-9	10-24	25-49	50-99	100-249
16 L 930	102	.001	3 $\frac{1}{4}$ x3 $\frac{1}{2}$ "	8.63	7.85	7.09	6.47	5.47
16 L 931	202	.002	1 $\frac{1}{2}$ x6x3 $\frac{1}{2}$ "	9.18	8.37	7.54	6.89	5.83
16 L 932	502	.005	1 $\frac{1}{2}$ x6x3 $\frac{1}{2}$ "	11.16	10.14	9.15	8.37	7.17
16 L 812	103	.01	1 $\frac{1}{2}$ x6x4 $\frac{1}{2}$ "	11.20	10.20	9.20	8.40	7.20

### TYPE OF-300 30000 WVDC

Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-9	10-24	25-49	50-99	100-249
12 L 813	502	.005	1 $\frac{1}{2}$ x3x5"	15.85	14.30	13.05	12.12	10.27
12 L 814	103	.01	1 $\frac{1}{2}$ x6x6 $\frac{1}{2}$ "	20.70	18.68	17.05	15.84	13.40
12 L 815	203	.02	1 $\frac{1}{2}$ x6x9"	22.54	21.08	18.70	17.25	14.85

### MINIATURE METALLIZED "MYLAR" CAPACITORS

Metallized mylar's self healing characteristics and elimination of weak dielectric areas result in extreme small size without sacrificing life, reliability or economy. Hermetically sealed solid dielectric capacitors are stable over a vast temperature range: -90°C to +125°C. Terminal to case voltage is 200% of rated voltage. Windings are extended foil non-inductive type. Tolerance: ±20%. Glass-bead solder-seal terminal insulators. Insulation resistance at 25°C: 50,000 megohms. Meet temperature, humidity, vibration and shock tests of Mil-C-25A. Wt., 2 oz.



### TYPE AM2—200 WVDC

Stock No.	Mfr's Type	Mfd	Size (Dia. x L.)	EACH				
				1-24	25-49	50-99	100-249	250-499
12 L 847	103	.01	1 $\frac{1}{2}$ x4x5 $\frac{5}{8}$ "	1.08	.84	.77	.68	.62
12 L 848	223	.022	3 $\frac{1}{2}$ x6x9 $\frac{5}{8}$ "	1.08	.84	.77	.68	.62
12 L 849	333	.033	1 $\frac{1}{2}$ x6x5 $\frac{5}{8}$ "	1.15	.88	.82	.72	.65
12 L 850	473	.047	1 $\frac{1}{2}$ x6x5 $\frac{5}{8}$ "	1.16	.89	.83	.73	.66
12 L 851	104	.10	1 $\frac{1}{2}$ x6x1 $\frac{1}{8}$ "	1.17	.90	.84	.74	.67
12 L 852	224	.22	3 $\frac{1}{2}$ x6x1 $\frac{1}{8}$ "	1.21	.93	.86	.76	.69
12 L 853	334	.33	1 $\frac{1}{2}$ x2x1 $\frac{1}{8}$ "	1.36	1.05	.97	.86	.78
12 L 854	474	.47	1 $\frac{1}{2}$ x2x1 $\frac{1}{8}$ "	1.40	1.08	1.00	.88	.80
12 L 85								



## SERIES DD DISC CERAMICS



Centralab DD Series disc ceramics feature higher dielectric constant, increased working voltage and larger capacitance in less physical space than equivalent paper or mica types. Bypass coupling and filter applications are primary uses.

All types have double coating of "Durez" impregnated with high temperature wax and #22 tinned leads, 1 1/2" minimum length. Designed to withstand temperature varia-

tion, humidity and vibration. Types DD, DD30 and DD60 have power factor of 2% max at 1 KC. High voltage types DD30 and DD60 are tested at twice their voltage rating and have temperature range, -50° to +85°C. Types DD and DD16 vary capacitance +22% to -56%, from 10<sup>6</sup> to 85°C. Range of diameters: DD .290-.969"; DD16 .969"; DD30 .290-.969"; DD60 .590-1.000". Thickness: DD .156"; DD16 .172"; DD30 .218"; DD60 .340". Specify Mfr's Type No. and capacitance when ordering. Wt., 2 oz.

### DD 1000 VOLTS (\*600 V)

Tolerance, ±10%

Stock No.	Type DD	Mmf	Stock No.	Type DD	Mmf
11 L 407	050	5	11 L 421	121	120
11 L 520	060	6	11 L 531	131	130
11 L 408	6R8	6.8	11 L 422	151	150
11 L 409	100	10	11 L 423	181	180
11 L 410	150	15	11 L 424	201	200
11 L 411	200	20	11 L 425	221	220
11 L 525	220	22	11 L 426	251	250
11 L 412	250	25	11 L 427	271	270
11 L 527	270	27	11 L 428	301	300
11 L 528	300	30	11 L 429	331	330
11 L 413	330	33	11 L 430	391	390
11 L 415	470	47	11 L 431	471	470
11 L 416	500	50	11 L 432	501	500
11 L 417	560	56	11 L 433	561	560
11 L 418	680	68	11 L 434	681	680
11 L 419	750	75	11 L 435	751	750
11 L 533	910	91	11 L 537	821	820
11 L 420	101	100			

Following types are guaranteed minimum value except Types 102 and 152, ±10% tolerance; Types 472, 5022 and 1032, ±20%.

Stock No.	Type DD	Mfrd	Stock No.	Type DD	Mfrd
11 L 437	102	.001	11 L 602	402	.004
11 L 707	102G	.001	11 L 441	472	.0027
11 L 438	152	.0015	11 L 442	5022	.005
11 L 439	202	.002	11 L 437	502	.005
11 L 542	222	.0022	11 L 605	682	.0068
11 L 440	302	.003	11 L 615	1037	.01
11 L 600	332	.0033	11 L 106	1032	.01

Any type except 103 and 1032 1-24, EACH. 15 25-99, EACH. .12 100-249, EACH. .10 250-499, EACH. .075 500-999, EACH. .056

Type 103 and 1032 only. .1-24, EACH. .24 25-99, EACH. .19 100-249, EACH. .16 250-499, EACH. .12 500-999, EACH. .09



Type CE. Provide exceptional stability through an extended temperature range. Capacitors are especially engineered for applications requiring a minimum capacity change as temperature varies between -55°C and +85°C. Phenolic vacuum

insulation is impregnated with high melting point wax. All are 500 WVDC. Life test: 1000 hours at 1000 volts at +85°C. Leakage resistance initial: 10,000 megohms minimum; after humidity: over 100 megohms.

Power factor: 2% maximum at 1 KC. Tolerance: ±10%. 1 1/2" minimum lead length. All are 3/32" thick. \*1/16" dia.; †2/32" dia. No. 22 tinned copper leads. Capacities range from 150 to 1000 micromicrofarads. Av. shpg. wt., 1 oz.

Stock No.	Type CE	Mmf	Stock No.	Type CE	Mmf
10 L 873	151*	150	10 L 878	561*	560
10 L 874	221*	220	10 L 879	681†	680
10 L 875	331*	330	10 L 889	751†	750
10 L 876	471*	470	10 L 890	801†	800
10 L 877	501*	500	10 L 891	102†	1000

1-24, EACH. .18  
25-99, EACH. .14  
100-249, EACH. .12  
250-499, EACH. .09  
500-999, EACH. .07

### DD 600 VOLTS

Tolerance, -20% +80%

Stock No.	Type DD	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 686	153	.015	.24	.19	.16	.12	.09
11 L 042	203	.02	.24	.19	.16	.12	.09
11 L 687	303	.03					
11 L 688	403	.04	.45	.36	.30	.23	.17
11 L 689	503	.05					

### DD16 1600-VOLT BUFFER CAPACITORS

Guaranteed minimum value.

Stock No.	Type DD	Mfrd	1-24	25-99	100-249	250-499	500-999
11 L 371	502	.005	.27	.21	.18	.14	.10
11 L 375	103	.01					

### DD30 3000 VOLTS

Tolerance, ±20%

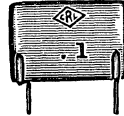
Stock No.	Type DD	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 634	330	.33	.24	.19	.16	.12	.09
11 L 614	101	100	.24	.19	.16	.12	.09
11 L 500	151	150	.24	.19	.16	.12	.09
11 L 619	271	270	.24	.19	.16	.12	.09
11 L 621	501	500	.24	.19	.16	.12	.09
11 L 622	102	1000	.30	.24	.20	.15	.12
11 L 626	502	5000	.30	.24	.20	.15	.12

### DD60 6000 VOLTS

Tolerance ±20%

Stock No.	Type DD	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 680	100	10					
11 L 681	150	15					
11 L 466	390	39	.36	.29	.24	.18	.135
11 L 468	500	50					
11 L 469	560	56					
11 L 470	680	68					
11 L 472	820	82					
11 L 473	101	100	.36	.29	.24	.18	.135
11 L 475	151	150					
11 L 476	181	180					
11 L 682	391	390					
11 L 485	471	470	.36	.29	.24	.18	.135
11 L 486	501	500					
11 L 683	751	750	.36	.29	.24	.18	.135
11 L 445	102	1000	.60	.48	.40	.30	.225
11 L 447	152	1500	.60	.48	.40	.30	.225
11 L 448	202	2000	.60	.48	.40	.30	.225

### TYPE DF FLAT PLATE HI-KAPS



Rated at 600 WVDC. Have high capacity with ceramic stability and permanence. For bypassing, filtering and audio coupling applications. Type DF-503 is guaranteed minimum value; DF-104 is +80-20% tolerance. With #20 tinned leads. DF-503 is 1 1/2"x1 1/2"x3/32". DF-104 is 1 1/2"x1 1/2"x1/16". Wt., 3 oz.

Stock No.	Type DF	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 247	503	.05	.75	.59	.50	.375	.281
11 L 245	104	.1	1.05	.83	.70	.525	.394

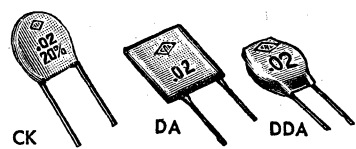
### CERAMIC CAPACITOR KIT



DDK-200 Ceramic Capacitor Kit. 200 most commonly used Type DD discs in a convenient storage tray.

All 1000 WVDC unless otherwise specified. 5 each—5, 10, 25, 33, 47, 50, 68, 120, 150, 180, 220, 250, 270, 300, 330, 390, 470, 500, 680, 1500, 3000, 4700, 10,000 (600 v.) mfm, 10 each—100, 200 mfm. 15 of each—1000, 5000, 20,000 (600 v.) mfm. 20—10,000 mfm. Cabinet size, 4x6x11". Shpg. wt., 6 lbs. 18 L 912. . . . .EACH 34.10

## LOW-VOLTAGE CAPACITORS



High-capacity low-voltage capacitors with Durez resin insulation, except \*\*Type CK are phenolic insulated, vacuum wax impregnated. Designed for transistor applications. Type DA: 1/2"x2/32" thick; tolerance, -20% to +100%; 30 WVDC. Type DDA: 3/8" dia. x 3/32" thick; tolerance -30% to +80%; 75 WVDC. Type DM: 1/32"x3/32" thick; tolerance -20% to +50% and +20% to +80%; 150 WVDC. Type CK are -20 to +80%; 50 WVDC, sizes: 502 and 503, 3/8" dia. x 3/32" thick; 203, 253 and 303 are 3/8" dia. x 5/32"; 503 and 104 are 5/8"x3/32". Av. shpg. wt., 2 oz.

### TYPE DA 30 WVDC

Stock No.	Type DA	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 627	203	.02	.36	.29	.24	.18	.135
11 L 628	503	.05	.81	.64	.54	.405	.304
11 L 629	104	.1	1.35	1.07	.90	.675	.506

### TYPE DDA 75 WVDC

Stock No.	Type DDA	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 630	503	.05	.30	.24	.20	.15	.09
11 L 631	104	.1	.60	.48	.40	.30	.225

### TYPE DM 150 WVDC

Stock No.	Type DM	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 636	102*	.001	.30	.24	.20	.15	.113
11 L 637	202*	.002	.30	.24	.20	.15	.113
11 L 638	302†	.003	.30	.24	.20	.15	.113
11 L 639	502†	.005	.30	.24	.20	.15	.113
11 L 640	103†	.01	.60	.48	.40	.30	.225

### TYPE CK 50 WVDC

Stock No.	Type CK	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 642	502	.005	.21	.166	.14	.105	.079
11 L 643	103	.01	.21	.166	.14	.105	.079
11 L 644	203	.02	.21	.166	.14	.105	.079
11 L 645	253	.025	.21	.166	.14	.105	.079
11 L 646	303	.03	.21	.166	.14	.105	.079
11 L 647	503	.05	.21	.166	.14	.105	.079
11 L 648	104	.1	.60	.475	.40	.30	.225

### UK ULTRA-KAP MINIATURE DISC CAPACITORS



Miniature ceramic disc capacitors for transistor circuitry. For low voltage use requiring high capacities and low power factors. Insulated with double coating of "Durez" and impregnated with high-vacuum wax. Tol.: UK, GMV; UK10, +80 -20%. 5/32" thick; 1/4 to 3/4" dia. No 22 leads. Av. shpg. wt., 1 oz.

### TYPE UK 3 WVDC

Stock No.	Type UK	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 286	502	.005	.75	.59	.50	.38	.28
11 L 297	103	.01	.75	.59	.50	.38	.28
11 L 299	203	.02	.75	.59	.50	.38	.28
11 L 701	104	.1	.54	.43	.36	.27	.203
11 L 293	224	.22	.33	.26	.22	.165	.124
11 L 294	474	.47	.33	.26	.22	.165	.124
11 L 295	105	1.0	.54	.43	.36	.27	.203
11 L 296	225	2.2	.54	.43	.36	.27	.203

### TYPE UK-10 10 WVDC

Stock No.	Type UK	Mfrd	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 702	10-503	.05	.33	.26	.22	.165	.124
11 L 703	10-104	1	.33	.26	.22	.165	.124
11 L 704	10-204	2	.33	.26	.22	.165	.124
11 L 705	10-474	.47	.54	.43	.36	.27	.203

# Ceramic Capacitors

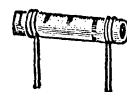
# Centralab

## SERIES TC TEMPERATURE-COMPENSATING CAPACITORS

### TC CAPACITOR SIZES

TYPE TCN			TYPE TCZ		
Cap. Mmf	Size		Cap. Mmf	Size	
3.3 to 100	1/2 x 2/8"		0.5 to 39	1/2 x 2/8"	
120 to 200	1/2 x 1 1/16"		43 to 82	1/2 x 1 1/16"	
240	1 5/16 x 7/8"		91 to 100	1 5/16 x 7/8"	
300 to 510	3/32 x 1 11/64"		120 to 220	3/32 x 1 11/64"	
560 to 750	3/32 x 1 5/8"		240 to 300	3/32 x 1 5/8"	

Limit frequency drift in RF circuits. Meet JAN-C-20A specs. Intermediate temp. coefficients are possible by using TCN and TCZ capacitors in parallel. Type TCN has a negative coefficient of 750 parts/million/°C temperature rise. Left end coded violet. Type TCZ zero temperature coefficient from -20°C to +85°C. Left end coded black. TCN tol.: 5-10 mmf are ±.5 mmf; 12-100 mmf, ±2%; 120-750 mmf, ±5%. TCZ tol.: .5-3.3 mmf, ±.25 mmf; 4.7-10 mmf, ±.5 mmf; 12-100 mmf, ±2%; 120-300 mmf, ±5%. All rated 600 WVDC; test, 1200 VDC. Av. shpg. wt., 2 oz.



### TYPE TCN—NEGATIVE (N750)

Stock No.	Mmf	EACH				
		1-24	25-99	100-249	250-499	500-999
11 L 241	5					
11 L 250	10					
11 L 252	15	.30	.24	.20	.15	.11
11 L 253	18					
11 L 254	20					
11 L 255	22					
11 L 494	25					
11 L 259	33	.30	.24	.20	.15	.11
11 L 495	50					
11 L 265	56					
11 L 267	68					
11 L 269	82					
11 L 271	100	.30	.24	.20	.15	.11
11 L 273	120					
11 L 275	150					
11 L 278	200	.30	.24	.20	.15	.11
11 L 282	300	.45	.35	.30	.22	.17

### TYPE TCN—(N750) (Cont.)

Stock No.	Mmf	EACH				
		1-24	25-99	100-249	250-499	500-999
11 L 283	330	.45	.35	.30	.22	.17
11 L 288	510	.45	.35	.30	.22	.17
11 L 292	750	.60	.47	.40	.30	.22

### TYPE TCZ—ZERO (NPO) (Cont.)

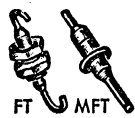
Stock No.	Mmf	EACH				
		1-24	25-99	100-249	250-499	500-999
11 L 213	22					
11 L 492	25					
11 L 215	27	.30	.24	.20	.15	.11
11 L 216	30					
11 L 217	33					
11 L 221	47					
11 L 493	50					
11 L 222	51	.30	.24	.20	.15	.11
11 L 226	75					
11 L 229	100					
11 L 233	150	.45	.36	.30	.22	.17
11 L 236	200					
11 L 237	220					
11 L 240	300	.60	.48	.40	.30	.22

### TYPE TCZ NEGATIVE-POSITIVE-ZERO (NPO)

Stock No.	Mmf	EACH				
		1-24	25-99	100-249	250-499	500-999
11 L 200	.5					
11 L 201	.68					
11 L 202	1.0	.30	.24	.20	.15	.11
11 L 203	1.5					
11 L 204	2.2					
11 L 205	3.3					
11 L 206	4.7					
11 L 207	6.8	.30	.24	.20	.15	.11
11 L 208	10					
11 L 210	15					

### FEED-THRU HI-KAPS

Type FT. Hi-K ceramics designed for and widely used in high-frequency circuits requiring feed-thru capacitors with a capacity ground to chassis or shield. Virtually eliminates lead inductance. Have cadmium-plated brass, double-flatted mounting bushing, .281" long with 12-28 thread bushing and mounting nut; .050" diameter tinned copper wire leads are hooked for easy soldering. Length, 1 1/2".



Type MFT. Miniature version of FT, above. Have 1/4" maximum-diameter flange eyelet for insertion in .160" dia. hole. Solder directly to chassis; #16 wire leads. Maximum length, 1 3/8". All units rated 500 WVDC; 1000 VDC test. Tolerances: \*±20%; †±20 to +50%; §±10%; ‡guaranteed minimum value. Av. shpg. wt., 2 oz.

### TYPE FT

Stock No.	Type FT.	Mmf	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 390	500	*500					
11 L 391	1000	*1000	.75	.59	.50	.375	.281
11 L 392	1500	†1500					
11 L 394	2300	‡2300					

### TYPE MFT

Stock No.	Type MFT.	Mmf	EACH				
			1-24	25-99	100-249	250-499	500-999
11 L 488	50	§50					
11 L 489	100	§100	.30	.24	.20	.15	.113
11 L 490	500	*500					
11 L 491	1000	†1000					

### CENTRALAB 4-STAGE PACKAGED AMPLIFIER



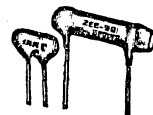
An ultra-miniature, 4-stage unit with 78 db gain (minimum) at 1 kc. Noise, 30 db below 25 μv input at 1 kc. Frequency response, 2-5 db down at 3 kc; output, up to 1/2 mw. Uses 1.34 v. mercury battery. Thoroughly sealed to prevent mechanical and atmospheric damage. 1 1/2" diameter. Less battery. Shpg. wt., 4 oz.  
11 LC 298.....EACH 45.00

### BC TUBULAR CERAMIC "HI-KAPS"—TYPE D6

#### D6 SIZES

Cap. Mmf	Size
3-500	.260x.460"
560-680	.260x.790"
750-1800	.260x.460"
2000-4000	.260x.790"
4700-5600	.280x.900"
10K	.330x1.210"

Compact, moisture-proof Hi-Kaps for use in bypass and coupling circuits. Leads are 1 1/2" long. 600 WVDC—1200-v. flash test. Tolerance: ±10%, except §±20%; \*Guaranteed minimum value. ‡Quality for MIL-C-11015A. Over 10,000 megohms leakage resistance; after humidity, over 1,000 megohms. Power factor 2% max at 1 Kc. Av. shpg. wt., 2 oz.



No.	Type	Mmf	No.	Type	Mmf	No.	Type	Mmf	No.	Type	Mmf
11 L 545	030	3	11 L 556	390	39	11 L 569	221	220†	11 L 583	102	1000§
11 L 546	050	5	11 L 557	470	47	11 L 571	271	270	11 L 585	152	1500§
11 L 547	100	10	11 L 558	500	50	11 L 572	301	300	11 L 588	222	2200§
11 L 549	150	15	11 L 560	680	68	11 L 573	331	330‡	11 L 592	332	3300*
11 L 551	200	20	11 L 561	750	75	11 L 576	471	470‡	11 L 595	502	5000*
11 L 552	220	22	11 L 564	101	100‡	11 L 577	501	500	11 L 599	103	10,000*
11 L 555	330	33	11 L 566	151	150	11 L 582	821	820§			

1-24, EACH..... .15  
25-99, EACH..... .12 100-249, EACH. .10  
250-499, EACH. .075 500-99, EACH. .056  
1-24, EACH..... .15  
25-99, EACH..... .12 100-249, EACH. .10  
250-499, EACH..... .075 500-999, EACH. .056

### 850 SERIES TRANSMITTING CAPACITORS

Designed for transmitters, induction heaters, electronic welding equipment, X-ray, diathermy, and other high voltage, high frequency circuits. Have extremely low power factor, stable retrace characteristics, and long leakage paths. All ±10% tol., except 858 types—±20%. Type nos. with N have temp. coeff. of neg. 750 parts/million/°C, types with Z have zero (NPO) coeff., types with no terminal letter are Hi-K, variable. 850S, 858S have 1/8" axial hex studs tapped 6-32; 853, 854, 855 have 1/2" axial wire leads; 857 has axial studs tapped 10-32 NF-2, 1/4" deep. \*Typical RF characteristics (these are not specific ratings.) Av. shpg. wt., 3 oz.



Types 850S, 858S, 1 1/16" dia. x 5/8" long.

Stock No.	Mfr's Type	Mmf	WVDC	*RF Load 30 Mc	EACH			
					1-9	10-24	25-99	100-249
11 L 100	850S-25Z	25	7500	7 amps				
11 L 101	850S-50Z	50	7500	10 amps				
11 L 104	850S-100N	100	5000	9.8 amps	2.70	2.43	2.14	1.92
11 L 107	858S-500	500	5000					
11 L 108	858S-1000	1000	5000					

Types 853, 854, 855. Type 853, 1/2" dia., 7/16" long; 854, 3/8" dia., 3/8" long; 855, 1/4" dia., 1/2" long.

Stock No.	Type	Mmf	WVDC	*RF Load 30 Mc	EACH			
					1-9	10-24	25-99	100-249
11 L 713	855-5Z	5	5000	1.8 amps				
11 L 715	854-10Z	10	5000	1.8 amps				
11 L 719	853-20Z	20	5000	2.8 amps	1.80	1.62	1.43	1.28
11 L 721	854-20N	20	5000	3.2 amps				
11 L 723	853-40N	40	5000	5.6 amps				

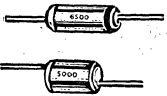
Type 857. 1 1/32" dia., 1 1/8" long.

Stock No.	Type	Mmf	WVDC	*RF Load 30 Mc	EACH			
					1-9	10-24	25-99	100-249
11 L 725	857-25Z	25	15,000	12 amps	8.40	7.56	6.65	5.99
11 L 726	857-50Z	50	15,000	12 amps	8.40	7.56	6.65	5.99
11 L 727	857-100N	100	15,000	14.4 amps	7.20	6.48	5.70	5.13
11 L 728	857-200N	200	7500	18.2 amps	7.20	6.48	5.70	5.13

# CENTRALAB CAPACITORS

## CENTRALAB CAPACITORS

### TYPE CPR POLYSTYRENE CAPACITORS



Provide excellent reliability at very low cost. Lightweight, highly reliable, sealed polystyrene foil capacitors. Designed to replace mica and "Mylar" dielectric capacitors inexpensively. Available in a wide range of capacitances. Ideal for applications where unusually long life expectancy is required.

Outstanding features include: high leakage resistance—greater than 500,000 megohms; very low capacitance drift; "Q" factors of over 2000. Leads are tinned copper wire. All polystyrene capacitors are rated at 500 WVDC; 1500 VDC test. Operating temperature range: -10° C to +70° C. Tolerance: ±5%. Average shpg. wt., 2 oz. Be certain to specify capacitance as well as Stock No. when ordering.

### SIZE CHART

Capacity Mmf	Nominal Length	Diameter
20 thru 250	.394"	.157" to .276"
251 thru 3000	.591"	.197" to .413"
3001 thru 10,000	.787"	.335" to .531"

### CAPACITANCE RANGE CHART

Mmf	Mmf	Mmf	Mmf	Mmf	Mmf	Mmf
20	56	150	390	1000	2500	5600
22	62	160	430	1100	2700	6200
24	68	180	470	1200	3000	6800
27	75	200	510	1300	3300	7500
30	82	220	560	1500	3600	8200
33	91	240	620	1600	3900	9100
36	100	270	680	1800	4300	10,000
39	110	300	750	2000	4700	
43	120	330	820	2200	5000	
47	130	360	910	2400	5100	

### PRICE LOCATOR—SPECIFY MMF FROM TABLE ABOVE

Stock No.	Capacity Mmf	EACH				
		1-24	25-99	100-249	250-499	500-999
12 LL 100	20 to 1000	.15	.119	.10	.075	.056
12 LL 101	1100 to 3000	.18	.143	.12	.09	.068
12 LL 102	3300 to 10,000	.21	.166	.14	.105	.079

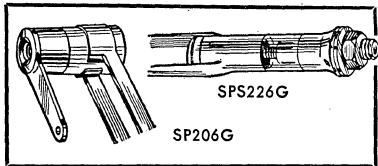
### SERIES 829 TRIMMERS



Small, lightweight ceramic trimmers. Rugged steatite bodies with silver rotor and stator plates. Provide equal stability over 180° rotation, even under adverse environmental conditions. Rated at 500 WVDC; 1000 VDC test. Power factor: less than 0.25% at 1 mc. Supplied with locknut for mounting against metal panel or chassis. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Mmf	Length	EACH				
				1-24	25-99	100-249	250-499	500-999
11 L 400	829-3	0.5-3	1/2"					
11 L 402	829-6	1.0-6	5/8"	.30	.238	.20	.15	.113
11 L 404	829-10	1.5-10	3/4"					

### JFD MINIATURE SPLIT-STATOR TRIMMERS



Miniature glass dielectric trimmers especially designed for use in push-pull RF and similar circuits. The stator is split into 2 equal-area plates. When tuning, capacitance varies simultaneously from each plate to bushing, and/or from plate to plate. Meet or exceed performance and environmental requirements of MIL-C-14409B. Telescopic adjust mechanism allows tuning through entire range

with negligible size change. Available in two styles: regular miniature design and exclusive "Sealcap" design. "Sealcap" has sealed interior and closed end construction. Temp. range: -55° C to +125° C. All are rated at 750 WVDC. Panel mtg. types have 10-32 mtg. stud; PC-Lug types have metal mtg. lug plus 2 flat leads; PC-Wire types have 2 flat leads and 2 pigtail leads. Dia., 1/4". Av. shpg. wt., 2 oz.

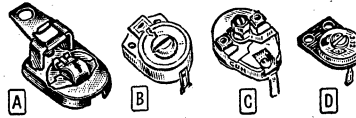
### PANEL MOUNT SERIES

Capacitance Mmf			Regular Miniature Series				EACH				With Sealcaps			EACH			
Plate to Bushing	Plate to Plate	Type Mtg.	Stock No.	Mfr's Type	Length	1-24	25-99	100-199	200-299	Stock No.	Mfr's Type	Length	1-24	25-99	100-199	200-299	
0.8-4.2	0.8-2.0	Bush'g	17 L 012	SP86G	1 25/32"	4.20	3.78	3.50	3.15	17 L 041	SPS226G	2 1/4"	5.40	4.86	4.50	4.05	
0.8-9.0	1.5-4.5	Bush'g	17 L 013	SP87G	2 1/4"	5.25	4.72	4.37	3.94	17 L 042	SPS227G	2 1/2"	6.45	5.80	5.37	4.84	
1.0-14.0	2.0-7.0	Bush'g	17 L 014	SP88G	2 7/8"	5.85	5.26	4.87	4.39	17 L 043	SPS228G	3 5/8"	7.20	6.48	6.00	5.40	

### PRINTED CIRCUIT BOARD SERIES

Capacitance Mmf	Plate to Plate	Type Mtg.	Stock No.	Mfr's Type	Length	1-24	25-99	100-199	200-299	Stock No.	Mfr's Type	Length	1-24	25-99	100-199	200-299
0.8-4.2	0.8-2.0	PC-Lug	17 L 015	SP206G	4 5/8"	3.75	3.37	3.12	2.81	17 L 044	SPS236G	1 1/4"	5.40	4.86	4.50	4.05
0.8-4.2	0.8-2.0	PC-Wire	17 L 016	SP216G	4 5/8"	3.75	3.37	3.12	2.81	17 L 045	SPS246G	1 1/4"	5.40	4.86	4.50	4.05
0.8-9.0	1.5-4.5	PC-Lug	17 L 017	SP207G	1 7/8"	4.80	4.32	4.00	3.60	17 L 046	SPS237G	1 1/2"	6.45	5.80	5.37	4.84
0.8-9.0	1.5-4.5	PC-Wire	17 L 018	SP217G	1 7/8"	4.80	4.32	4.00	3.60	17 L 047	SPS247G	1 1/2"	6.45	5.80	5.37	4.84
1.0-14.0	2.0-7.0	PC-Lug	17 L 019	SP208G	1 3/2"	5.40	4.86	4.50	4.05	17 L 048	SPS238G	2 5/8"	7.20	6.48	6.00	5.40
1.0-14.0	2.0-7.0	PC-Wire	17 L 020	SP218G	1 3/2"	5.40	4.86	4.50	4.05	17 L 049	SPS248G	2 5/8"	7.20	6.48	6.00	5.40

### CERAMIC DIELECTRIC TRIMMERS



Wide selection of trimmer capacitors featuring ceramic dielectric for high insulating strength. Full capacity-range with 180° rotation. Silver is fired to stator and rotor, which make

contact on a flat, ground surface in order to eliminate air space. Simplicity of design makes these trimmers a dependable approach to fine tuning. Ideal for a variety of applications in critical frequency-determining and RF coupling circuits. They are designed to compensate for variations in tube capacities. Rated at 500 WVDC. Power factor: less than 0.2% at 1 mc. Types 820, 822 and 823 have steatite base; 827, phenolic base. Letter N in Type No. indicates negative temperature coefficient; letter Z in Type No. indicates zero temperature coefficient. Mtg. holes of Types 820 and 822 take No. 4 machine screws; Type 823 is tapped for No. 4-40 machine screws; Type 827 has 3/16" mtg. centers. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Mmf	Base Size	EACH			
					1-9	10-24	25-99	100-249
11 L 381	820-D	A	1-3.5					
11 L 382	820-A	A	2.5-6					
11 L 383	820-B	A	5-20	5/8x2 7/32"	.78	.65	.62	.52
11 L 384	820-C	A	7-35					
11 L 651	822-EN	B	4-30					
11 L 125	822-CN	B	4.5-25					
11 L 124	822-BN	B	7-45	4/64x2 7/32"	1.14	.95	.90	.76
11 L 123	822-AN	B	8-50					
11 L 653	822-EZ	B	1.5-7					
11 L 128	822-BZ	B	2.5-13					
11 L 654	822-AZ	B	3-12	4/64x2 7/32"	1.14	.95	.90	.76
11 L 127	822-FZ	B	4.5-25					
11 L 512	823-DN	C	8-50					
11 L 511	823-BN	C	10-100					
11 L 510	823-AN	C	20-125	1 1/16x1 7/32"	3.60	3.00	2.85	2.40
11 L 515	823-DZ	C	6-25					
11 L 513	823-AZ	C	12-62					
11 L 516	827-A	D	2.5-7					
11 L 517	827-B	D	3.5-12					
11 L 518	827-C	D	6-30	1 7/32x3/4"	.75	.63	.59	.50
11 L 519	827-D	D	7-35					

### MIL-C-81A TRIMMERS



Ceramic trimmers meet MIL-C-81A specs. Pure silver stator plate fired on top of low-loss steatite base. Rated at 500 WVDC; 1500 VDC test. Power factor: less than 0.2% at 1 mc. Zero temperature coefficient, except \*negative 650. Body size, 2 7/32x4 1/4". Replace Series 833 trimmers. Av. shpg. wt., 2 oz.

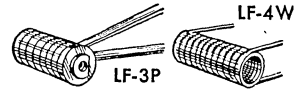
Stock No.	Mfr's Type	Mmf	EACH			
			1-9	10-24	25-99	100-249
12 L 393	825-EZ	1.5-7				
12 L 394	825-FZ	3.0-12				
12 L 395	825-AZ	4.5-25				
12 L 396	825-DN*	2.0-6	1.05	.88	.83	.70
12 L 397	825-EN*	4.0-30				
12 L 398	825-BN*	7.0-45				

# JFD Inductors and Trimmer Capacitors

## MINIATURE FIXED METALLIZED INDUCTORS

New miniature-design inductors offer same construction and operating features as inductors listed below, but in an even smaller package. The diameter of these inductors is little more than a quarter inch. Available in two convenient mounting types—panel mounts and printed-circuit mounts. Inductors utilize a silver film, permanently fired to a tiny glass cylinder of high-dielectric constant—offer remarkable simplicity and stability. Capable of withstanding severe shock and vibration and a wide temperature

variation. Frequency range: below 10 to over 700 mc with high Q, more than 150. Both types of inductors have an O.D. of .290". Panel mounts are from 5/64" to 135/64" long. Printed-circuit mounts are from 19/32" to 11/64" long. Average shpg. wt., 2 oz.



**TYPE LF-3P—PANEL MOUNTS**

Stock No.	Mfr's Type	μh ±5%	EACH			
			1-24	25-99	100-199	200-299
16 L 120	LF-3P005	.05	1.95	1.75	1.62	1.46
16 L 121	LF-3P006	.06				
16 L 122	LF-3P008	.08				
16 L 123	LF-3P009	.09				
16 L 124	LF-3P010	.10				
16 L 130	LF-3P012	.12	1.95	1.75	1.62	1.46
16 L 131	LF-3P014	.14				
16 L 132	LF-3P016	.16				
16 L 133	LF-3P018	.18				
16 L 140	LF-3P020	.20				
16 L 141	LF-3P025	.25	1.95	1.75	1.62	1.46
16 L 142	LF-3P030	.30				
16 L 143	LF-3P035	.35				
16 L 144	LF-3P040	.40				
16 L 150	LF-3P045	.45				
16 L 151	LF-3P050	.50	1.95	1.75	1.62	1.46
16 L 152	LF-3P060	.60				
16 L 153	LF-3P070	.70				
16 L 160	LF-3P080	.80				
16 L 161	LF-3P090	.90				
16 L 162	LF-3P100	1.00				

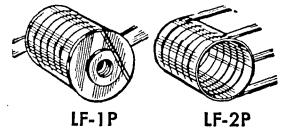
**TYPE LF-4W—PRINTED-CIRCUIT MOUNTS**

Stock No.	Mfr's Type	μh ±5%	EACH			
			1-24	25-99	100-199	200-299
16 L 163	LF-4W005	.05	1.89	1.70	1.57	1.42
16 L 170	LF-4W006	.06				
16 L 171	LF-4W008	.08				
16 L 172	LF-4W009	.09				
16 L 173	LF-4W010	.10				
16 L 174	LF-4W012	.12	1.89	1.70	1.57	1.42
16 L 175	LF-4W014	.14				
16 L 176	LF-4W016	.16				
16 L 177	LF-4W018	.18				
16 L 178	LF-4W020	.20				
16 L 179	LF-4W025	.25	1.89	1.70	1.57	1.42
16 L 180	LF-4W030	.30				
16 L 181	LF-4W035	.35				
16 L 182	LF-4W040	.40				
16 L 183	LF-4W045	.45				
16 L 186	LF-4W050	.50	1.89	1.70	1.57	1.42
16 L 187	LF-4W060	.60				
16 L 188	LF-4W070	.70				
16 L 189	LF-4W080	.80				
16 L 201	LF-4W090	.90				
16 L 212	LF-4W100	1.00				

## STANDARD FIXED METALLIZED INDUCTORS

A complete range of inductances covering a wide variety of circuit application requirements. Fixed inductors employ silver film winding permanently fused to a low-loss dielectric glass cylinder. Provides a new low of temperature-coefficient, of inductance, and distributed capacitance. Frequency range: below 10 to over 600 mc; high Q over broad frequency range. Both types have 19/32" O.D. Panel mounts are from 5/8" to 1 1/2" long. Printed-circuit mounts are

from 2 3/4" to 1 3/2" long. Operating temperature range: -55°C to +125°C. Q at 75 mc from .05 to .5 μh. Q of other types is measured at 25 mc. Average shipping weight, 2 oz.



**TYPE LF-1P—PANEL MOUNTS**

Stock No.	Mfr's Type	μh ±5%	Q Min	EACH			
				1-24	25-99	100-199	200-299
16 L 050	LF-1P005	.05	125	1.95	1.75	1.62	1.46
16 L 051	LF-1P006	.06	130				
16 L 052	LF-1P008	.08	135				
16 L 053	LF-1P009	.09	140				
16 L 054	LF-1P010	.10	145				
16 L 055	LF-1P012	.12	150	1.95	1.75	1.62	1.46
16 L 056	LF-1P014	.14	100				
16 L 057	LF-1P016	.16	100				
16 L 058	LF-1P018	.18	105				
16 L 059	LF-1P020	.20	115				
16 L 060	LF-1P025	.25	135	1.95	1.75	1.62	1.46
16 L 061	LF-1P030	.30	140				
16 L 062	LF-1P035	.35	105				
16 L 063	LF-1P040	.40	105				
16 L 069	LF-1P045	.45	105				
16 L 070	LF-1P050	.50	115	1.95	1.75	1.62	1.46
16 L 071	LF-1P060	.60	115				
16 L 072	LF-1P070	.70	120				
16 L 073	LF-1P080	.80	125				
16 L 074	LF-1P090	.90	130				
16 L 075	LF-1P100	1.00	135				
16 L 076	LF-1P150	1.50	170	2.25	2.02	1.87	1.69
16 L 077	LF-1P200	2.00	180	2.25	2.02	1.87	1.69

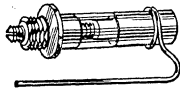
**TYPE LF-2W—PRINTED-CIRCUIT MOUNTS**

Stock No.	Mfr's Type	μh ±5%	Q Min	EACH			
				1-24	25-99	100-199	200-299
16 L 078	LF-2W005	.05	125	1.89	1.70	1.57	1.42
16 L 085	LF-2W006	.06	130				
16 L 086	LF-2W008	.08	135				
16 L 087	LF-2W009	.09	140				
16 L 088	LF-2W010	.10	145				
16 L 089	LF-2W012	.12	150	1.89	1.70	1.57	1.42
16 L 095	LF-2W014	.14	100				
16 L 096	LF-2W016	.16	100				
16 L 097	LF-2W018	.18	105				
16 L 100	LF-2W020	.20	115				
16 L 101	LF-2W025	.25	135	1.89	1.70	1.57	1.42
16 L 103	LF-2W030	.30	140				
16 L 104	LF-2W035	.35	105				
16 L 105	LF-2W040	.40	105				
16 L 106	LF-2W045	.45	105				
16 L 107	LF-2W050	.50	115	1.89	1.70	1.57	1.42
16 L 108	LF-2W060	.60	115				
16 L 109	LF-2W070	.70	120				
16 L 110	LF-2W080	.80	125				
16 L 111	LF-2W090	.90	130				
16 L 112	LF-2W100	1.00	135				
16 L 113	LF-2W150	1.50	170	2.10	1.89	1.75	1.57
16 L 114	LF-2W200	2.00	180	2.10	1.89	1.75	1.57

## TRIMMER CAPACITORS

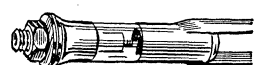
### PC35H SERIES

Highly popular piston-trimmer capacitors. Performance-proven in thousands of applications on land, sea, in the air, and in space. All are panel mounting type; have 1/4-32 mounting bushing. Rated at 500 WVDC. Units meet or exceed performance and environmental requirements of MIL-C-14409B. All have single, 1 1/2" long, No. 22 wire lead. Av. shpg. wt., 2 oz.



### SPLIT-STATOR PANEL MOUNT SERIES

Feature balanced electrode construction. Glass dielectric rated 500 WVDC, Q of 700; have 1/4-32 brass mtg. shank. Quartz rated 750 WVDC, Q of 1000; have 1/4-28 invar mtg. bushing. Temp. range: glass, -55°C to +125°C; quartz, -55°C to +150°C. Mount in 1/4" "D" hole. Wt., 2 oz.



Stock No.	Type No.	Min Mmf	Max Mmf	Body Size Dia. x L.	EACH			
					1-24	25-99	100-199	200-299
17 L 008	PC35H030	0.5	3	3/8x3/4"	3.75	3.37	3.12	2.81
17 L 009	PC35H080	1	8	3/8x1/8"	4.20	3.78	3.50	3.15
17 L 010	PC35H160	1	16	3/8x1 3/8"	4.65	4.18	3.87	3.49
17 L 011	PC35H300	1	30	3/8x1 7/8"	4.95	4.45	4.12	3.71

Stock No.	Type No.	Min Mmf	Max Mmf	Dielectric	Size Dia. x L.	EACH			
						1-24	25-99	100-199	200-299
16 L 064	VC16G	0.8	2.5	Glass	3/8x2 1/16"	3.15	2.83	2.62	2.36
16 L 065	VC17G	1.1	4.5	Glass	3/8x2 3/32"	3.60	3.24	3.00	2.70
16 L 066	VC18G	1.8	7.5	Glass	3/8x3 5/32"	4.05	3.64	3.37	3.04
16 L 067	VC80A	0.5	0.8	Quartz	3/8x2"	5.25	4.72	4.37	3.94
16 L 068	VC81A	0.75	1.3	Quartz	3/8x2 1/2"	6.00	5.40	5.00	4.50
16 L 079	VC82A	0.95	2.5	Quartz	3/8x2 7/8"	6.75	6.07	5.62	5.06
16 L 080	VC83A	3.5	5.5	Quartz	3/8x3 1/2"	8.85	7.96	7.37	6.64

# JFD Piston Trimmer Capacitors

Solid dielectric, precision bore, glass and quartz variable trimmer capacitors have patented telescopic adjust mechanism with anti-backlash assembly and precision piston assures linear tuning for accurate alignment. Operate from  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  in glass,  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$  in quartz, with no derating. Feature high

## SEALCAP MINIATURE SERIES



Permanently sealed construction for unique environmental applications—increases insulation resistance and dielectric strength. Constant internal pressure locks out atmospheric effects; protects against corona and voltage breakdown—ideal for space applications. All are rated 1250 WVDC, except \*750 WVDC. Panel mount types have 10-32 mtg. bushing; PC-lug types have mtg. lug; PC-wire types have 4 leads. Prefix SC in Type No. indicates glass dielectric and Q of 500; QS, quartz dielectric and Q of 1500. All  $\frac{1}{4}$ " in dia. 2 oz.

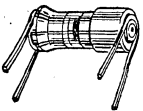
### PANEL MOUNT TYPES

Stock No.	Mfr's Type	Min Mmf	Max Mmf	Type Mtg.	L	EACH			
						1-24	25-99	100-199	200-299
16 L 945	SC131*	0.8	4.5	Bush'g	$\frac{25}{32}$ "	4.95	4.45	4.12	3.71
16 L 946	SC134	0.8	8.5	Bush'g	$\frac{11}{32}$ "	4.80	4.32	4.00	3.60
16 L 947	SC133	0.7	12	Bush'g	$\frac{11}{4}$ "	5.40	4.86	4.50	4.05
16 L 948	SC136	0.8	18	Bush'g	$\frac{11}{32}$ "	5.85	5.26	4.87	4.34
16 L 949	SC139	1	30	Bush'g	$\frac{11}{32}$ "	6.60	5.94	5.50	4.95
16 L 950	QS171*	0.6	1.8	Bush'g	$\frac{25}{32}$ "	7.65	6.88	6.37	5.74
16 L 951	QS173	0.6	5.5	Bush'g	$\frac{11}{32}$ "	8.25	7.42	6.87	6.19
16 L 952	QS176	0.6	9.5	Bush'g	$\frac{11}{32}$ "	10.05	9.04	8.37	7.54
16 L 953	QS179	0.8	16	Bush'g	$\frac{21}{16}$ "	12.45	11.20	10.37	9.34

### PRINTED CIRCUIT BOARD TYPES

Stock No.	Mfr's Type	Min Mmf	Max Mmf	Type Mtg.	L	EACH			
						1-24	25-99	100-199	200-299
16 L 954	SC141*	0.8	4.5	Lug	$\frac{5}{16}$ "	4.95	4.45	4.12	3.71
16 L 955	SC151*	0.8	4.5	Wire	$\frac{5}{16}$ "	4.95	4.45	4.12	3.71
16 L 956	SC143	0.8	8.5	Lug	$\frac{11}{32}$ "	4.80	4.32	4.00	3.60
16 L 957	SC153	0.8	8.5	Wire	$\frac{11}{32}$ "	4.80	4.32	4.00	3.60
16 L 958	SC144	0.8	12	Lug	$\frac{17}{32}$ "	5.40	4.86	4.50	4.05
16 L 959	SC154	0.8	12	Wire	$\frac{17}{32}$ "	5.40	4.86	4.50	4.05
16 L 960	SC146	0.8	18	Lug	$\frac{11}{32}$ "	5.85	5.26	4.87	4.34
16 L 961	SC156	0.8	18	Wire	$\frac{11}{32}$ "	5.85	5.26	4.87	4.34
16 L 962	SC149	0.8	30	Lug	$\frac{21}{16}$ "	6.60	5.94	5.50	4.95
16 L 963	SC159	0.8	30	Wire	$\frac{21}{16}$ "	6.60	5.94	5.50	4.95
16 L 964	QS181*	0.6	1.8	Lug	$\frac{5}{16}$ "	7.20	6.48	6.00	5.40
16 L 965	QS191*	0.6	1.8	Wire	$\frac{5}{16}$ "	7.20	6.48	6.00	5.40
16 L 966	QS183	0.6	5.5	Lug	$\frac{11}{32}$ "	7.80	7.02	6.50	5.85
16 L 967	QS193	0.6	5.5	Wire	$\frac{11}{32}$ "	7.80	7.02	6.50	5.85
16 L 968	QS186	0.6	9.5	Lug	$\frac{11}{32}$ "	9.60	8.64	8.00	7.20
16 L 969	QS196	0.6	9.5	Wire	$\frac{11}{32}$ "	9.60	8.64	8.00	7.20
16 L 970	QS189	0.8	16	Lug	$\frac{21}{16}$ "	12.00	10.80	10.00	9.00
16 L 971	QS199	0.8	16	Wire	$\frac{21}{16}$ "	12.00	10.80	10.00	9.00

## MAX-C TRIMMER SEALCAP CONSTRUCTION



Special process glass provides a 300% increase in the capacitance range over any existing piston trimmer of comparable size. Sealcap construction and an inert dielectric assure long life and superior operation. Meet and exceed 14409B requirements. Panel mtg. types have 10-32 bushing; printed circuit-lug types have metal mounting lug; printed circuit-wire types have four wire leads. All rated 1000 WVDC.  $\frac{3}{16}$ " in diameter. 2 oz.

### PANEL MOUNT TYPES

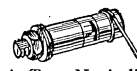
Stock No.	Mfr's Type	Mmf Range	Type Mtg.	L	EACH			
					1-24	25-99	100-199	200-299
16 L 821	MC601	1-14	Bush'g	$\frac{4}{16}$ "	10.20	9.18	8.50	7.65
16 L 822	MC603	1-28	Bush'g	$\frac{15}{32}$ "	10.50	9.45	8.75	7.87
16 L 899	MC604	1-42	Bush'g	$\frac{15}{32}$ "	10.80	9.72	9.00	8.10
16 L 933	MC606	1-60	Bush'g	$\frac{13}{32}$ "	11.40	10.26	9.50	8.55
16 L 934	MC609	1-90	Bush'g	$\frac{21}{16}$ "	12.60	11.34	10.50	9.45

### PRINTED CIRCUIT BOARD TYPES

Stock No.	Mfr's Type	Mmf Range	Type Mtg.	L	EACH			
					1-24	25-99	100-199	200-299
16 L 935	MC611	1-14	Lug	$\frac{5}{16}$ "	10.20	9.18	8.50	7.65
16 L 936	MC613	1-28	Lug	$\frac{11}{32}$ "	10.50	9.45	8.75	7.87
16 L 937	MC614	1-42	Lug	$\frac{11}{4}$ "	10.80	9.72	9.00	8.10
16 L 938	MC616	1-60	Lug	$\frac{13}{16}$ "	11.40	10.26	9.50	8.55
16 L 939	MC619	1-90	Lug	$\frac{23}{32}$ "	12.60	11.34	10.50	9.45
16 L 940	MC621	1-14	Wire	$\frac{5}{16}$ "	10.20	9.18	8.50	7.65
16 L 941	MC623	1-28	Wire	$\frac{11}{32}$ "	10.50	9.45	8.75	7.87
16 L 942	MC624	1-42	Wire	$\frac{11}{4}$ "	10.80	9.72	9.00	8.10
16 L 943	MC626	1-60	Wire	$\frac{13}{16}$ "	11.40	10.26	9.50	8.55
16 L 944	MC629	1-90	Wire	$\frac{23}{32}$ "	12.60	11.34	10.50	9.45

shock and vibration resistance; low temperature coefficient; low loss and low inductance for high-frequency use. Have special alloy anti-corrosion undercoating. Meet or exceed MIL-C-14409B requirements. Available in standard and miniature sizes for panel mount and printed circuit applications.

## MINIATURE SERIES



Ideal for use in miniaturized equipment. All are rated 750 WVDC. Panel mtg. types have 10-32 bushing. PC-lug types have metal mtg. lug. PC wire types have 4 wire leads. Suffix "G" or "GW" in Type No. indicates glass dielectric and Q of 500; others are quartz dielectric and Q of 1500. All have  $\frac{1}{4}$ " dia. 2 oz.

### PANEL MOUNT TYPES

Stock No.	Mfr's Type	Min Mmf	Max Mmf	Type Mtg.	L	EACH			
						1-24	25-99	100-199	200-299
16 L 021	VC20G	0.8	8.5	Bush'g	$\frac{13}{16}$ "	3.60	3.24	3.00	2.70
16 L 022	VC21G	0.8	4.5	Bush'g	$\frac{9}{16}$ "	3.75	3.37	3.12	2.81
16 L 023	VC22G	0.7	12	Bush'g	$\frac{11}{16}$ "	4.35	3.91	3.62	3.26
16 L 024	VC24G	0.8	18	Bush'g	$\frac{11}{4}$ "	4.65	4.18	3.87	3.49
16 L 025	VC24G	1	30	Bush'g	$\frac{17}{8}$ "	5.25	4.72	4.37	3.94
16 L 809	MQ101	0.6	1.8	Bush'g	$\frac{9}{16}$ "	5.55	4.99	4.62	4.16
16 L 810	MQ103	0.6	5.5	Bush'g	$\frac{13}{16}$ "	6.15	5.53	5.12	4.61
16 L 811	MQ106	0.6	9.5	Bush'g	$\frac{11}{4}$ "	7.95	7.15	6.62	5.96
16 L 812	MQ109	0.8	16	Bush'g	$\frac{17}{8}$ "	10.35	9.31	8.62	7.76

### PRINTED CIRCUIT BOARD TYPES

Stock No.	Mfr's Type	Min Mmf	Max Mmf	Type Mtg.	L	EACH			
						1-24	25-99	100-199	200-299
16 L 081	VC9G	0.8	8.5	Lug	$\frac{43}{64}$ "	3.15	2.83	2.62	2.36
16 L 092	VC9GW	0.8	8.5	Wire	$\frac{43}{64}$ "	3.15	2.83	2.62	2.36
16 L 082	VC10G	0.8	4.5	Lug	$\frac{13}{32}$ "	3.45	3.10	2.87	2.59
16 L 093	VC10GW	0.8	4.5	Wire	$\frac{23}{64}$ "	3.45	3.10	2.87	2.59
16 L 083	VC31G	0.8	12	Lug	$\frac{29}{32}$ "	4.05	3.64	3.37	3.04
16 L 094	VC31GW	0.8	12	Wire	$\frac{29}{32}$ "	4.05	3.64	3.37	3.04
16 L 084	VC32G	0.8	18	Lug	$\frac{19}{64}$ "	4.20	3.78	3.50	3.15
16 L 098	VC32GW	0.8	18	Wire	$\frac{19}{64}$ "	4.20	3.78	3.50	3.15
16 L 090	VC42G	1	21	Lug	$\frac{11}{16}$ "	4.35	3.91	3.62	3.26
16 L 099	VC42GW	1	21	Wire	$\frac{11}{16}$ "	4.35	3.91	3.62	3.26
16 L 091	VC43G	0.8	30	Lug	$\frac{147}{64}$ "	4.80	4.32	4.00	3.60
16 L 102	VC43GW	0.8	30	Wire	$\frac{147}{64}$ "	4.80	4.32	4.00	3.60
16 L 813	MQ111	0.6	1.8	Lug	$\frac{13}{32}$ "	5.25	4.72	4.37	3.93
16 L 814	MQ113	0.6	5.5	Lug	$\frac{43}{64}$ "	5.85	5.26	4.87	4.38
16 L 815	MQ116	0.6	9.5	Lug	$\frac{17}{64}$ "	7.65	6.88	6.37	5.73
16 L 816	MQ119	0.8	16	Lug	$\frac{147}{64}$ "	10.05	9.04	8.37	7.54
16 L 817	MQ121	0.6	1.8	Wire	$\frac{13}{32}$ "	5.25	4.72	4.37	3.93
16 L 818	MQ123	0.6	5.5	Wire	$\frac{43}{64}$ "	5.85	5.26	4.87	4.38
16 L 819	MQ126	0.6	9.5	Wire	$\frac{17}{64}$ "	7.65	6.88	6.37	5.73
16 L 820	MQ129	0.8	16	Wire	$\frac{147}{64}$ "	10.05	9.04	8.37	7.54

## NEW REDUCED-COST Y SERIES

Units are interchangeable with most JFD telescopic devices listed on these pages. Capacitors feature "Hi Life" tuning mechanism with 600% increase in adjustment life to exceed MIL-C-14409B requirements. Torque holds constant for 500 cycles with no derating and minimum wear. Have same electrical and physical characteristics as standard JFD parts. All have glass dielectric and are  $\frac{1}{4}$ " in diameter. Shpg. wt., 2 oz.

### PANEL MOUNT TYPES

Stock No.	Mfr's Type	Min Mmf	Max Mmf	Type Mtg.	L	EACH				
						1-24	25-49	50-99	100-199	300-499
16 L 424	21GY	0.8	4.5	Bush'g	$\frac{37}{64}$ "	3.20	2.95	2.50	2.10	2.00
16 L 425	20GY	0.8	8.5	Bush'g	$\frac{5}{16}$ "	3.40	3.05	2.70	2.25	2.15
16 L 426	22GY	0.7	12	Bush'g	$\frac{11}{32}$ "	3.75	3.40	2.95	2.45	2.35
16 L 427	23GY	0.8	18	Bush'g	$\frac{11}{16}$ "	4.35	3.95	3.40	2.85	2.70
16 L 428	24GY	1.0	30	Bush'g	$\frac{17}{8}$ "	4.55	4.15	3.60	3.05	2.90

### PRINTED CIRCUIT BOARD TYPES

Stock No.	Mfr's Type	Min Mmf	Max Mmf	Type Mtg.	L	EACH				
						1-24	25-49	50-99	100-199	300-499
16 L 429	10GY	0.8	4.5	Lug	$\frac{15}{32}$ "	2.80	2.60	2.20	1.85	1.75
16 L 430	10GWY	0.8	4.5	Wire	$\frac{15}{32}$ "	2.80	2.60	2.20	1.85	1.75
16 L 431	9GY	0.8	8.5	Lug	$\frac{23}{32}$ "	3.00	2.75	2.40	2.00	1.90
16 L 433	9GWY	0.8	8.5	Wire	$\frac{23}{32}$ "	3.00	2.75	2.40	2.00	1.90
16 L 435	31GY	0.8	12	Lug	$\frac{31}{32}$ "	3.35	3.05	2.65	2.20	2.10
16 L 436	31GWY	0.8	12	Wire	$\frac{31}{32}$ "	3.35	3.05	2.65	2.20	2.10
16 L 438	32GY	0.8	18	Lug	$\frac{13}{16}$ "	3.95	3.60	3.10	2.60	2.45
16 L 439	32GWY	0.8	18	Wire	$\frac{13}{16}$ "	3.95	3.60	3.10	2.60	2.45
16 L 440	43GY	0.8	30	Lug	$\frac{43}{32}$ "	4.15	3.80	3.30	2.80	2.65
16 L 441	43GWY	0.8	30	Wire	$\frac{43}{32}$ "	4.15	3.80	3.30	2.80	2.65

## NEW "Y" SERIES

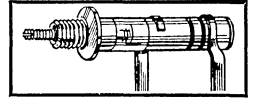
Allied will stock all new "Y" Series, glass and quartz dielectrics as they become available. Inquire for prices on new types.

# JFD Tuners and Trimmer Capacitors

## JFD HIGH-RELIABILITY LC TUNERS

Combine a precision variable-piston capacitor with a coaxial metallized inductor on the same low-loss dielectric glass form. Provide more circuit in less space with higher reliability. Three connections—common, inductor, and adjustable piston of trimmer (through bushing) for either series or parallel reso-

nance. Panel-mount type illustrated at left uses mtg. stud for piston connection. Q is greater than 135. Sizes: panel mounts,  $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ " to  $1 \frac{1}{2} \times \frac{1}{4} \times \frac{1}{4}$ " long with  $\frac{1}{4}$ " mtg. bushing; PC mounts,  $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ " to  $1 \frac{1}{2} \times \frac{1}{4} \times \frac{1}{4}$ " long. \*Indicates self-resonating frequency range in megacycles. Shpg. wt., 2 oz.



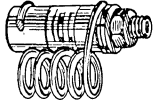
### PANEL MOUNTS

Stock No.	Mfr's Type	Range Mc*	EACH			
			1-24	25-99	100-199	200-299
16 L 214	LC-303	400-725	4.65	4.18	3.87	3.49
16 L 346	LC-304	275-550	4.80	4.32	4.00	3.60
16 L 349	LC-306	200-500	4.95	4.45	4.12	3.71
16 L 393	LC-309	125-375	5.40	4.86	4.50	4.05
16 L 398	LC-333	400-725	3.60	3.24	3.00	2.70
16 L 399	LC-334	275-550	3.75	3.37	3.12	2.81
16 L 401	LC-336	200-500	4.05	3.64	3.37	3.04
16 L 402	LC-339	125-375	4.20	3.78	3.50	3.15

### PRINTED-CIRCUIT MOUNTS

Stock No.	Mfr's Type	Range Mc*	EACH			
			1-24	25-99	100-199	200-299
16 L 405	LC-313	400-725	4.35	3.91	3.62	3.26
16 L 406	LC-314	275-550	4.65	4.18	3.87	3.49
16 L 408	LC-316	200-500	4.80	4.32	4.00	3.60
16 L 409	LC-319	125-375	5.25	4.72	4.37	3.94
16 L 410	LC-323	400-725	4.35	3.91	3.62	3.26
16 L 411	LC-324	275-550	4.65	4.18	3.87	3.49
16 L 414	LC-326	200-500	4.80	4.32	4.00	3.60
16 L 415	LC-329	125-375	5.25	4.72	4.37	3.94

### MINIATURE TANK CIRCUITS

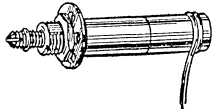


Employ a precision-wound air core coil across a miniature trimmer piston capacitor. Cost is little more than cost of trimmer alone with only one small unit to mount instead of two. Have a nominal Q of 230. Trimmer varies from 0.8 to 8.5 mm. Size: approximately  $\frac{3}{16} \times \frac{1}{2} \times \frac{1}{4}$ " with 10-32x $\frac{1}{4}$ " mtg. bushing and nut. \*Self-resonant frequency range. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Range* Mc	EACH			
			1-24	25-99	100-199	200-299
16 L 115	LC371	450-1000	4.05	3.64	3.37	3.04
16 L 116	LC372	280-765				
16 L 117	LC373	225-580				
16 L 118	LC374	190-485				
16 L 119	LC375	170-415				

### NEW DIRECT TRAVERSE SERIES

Low-cost glass and ceramic dielectric direct-traverse trimmers. Non-rotating direct traverse mechanisms with expanding self-aligning spring-clip pistons. Std. panel mount construction also included. Glass, except \*ceramic dielectric. 2 oz.



#### PANEL MOUNTING TYPES

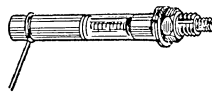
Stock No.	Mfr's Type VC-	Mmf Range	WV DC	Dia. x L (Inches)	EACH			
					1-24	25-99	100-199	200-299
16 L 442	54G	0.8-13.0	2500	$\frac{1}{4} \times 1 \frac{1}{16}$	1.65	1.48	1.37	1.24
16 L 443	55C*	5.0-50.0	1250	$\frac{1}{4} \times 1 \frac{1}{4}$	1.95	1.75	1.62	1.46
16 L 444	57G	1.0-12.0	750	$\frac{1}{4} \times 1 \frac{1}{4}$	.99	.89	.83	.74

#### PRINTED CIRCUIT BOARD TYPES

16 L 445	56C*	5.0-50.0	1250	$\frac{1}{4} \times 1 \frac{29}{64}$	1.95	1.75	1.62	1.46
16 L 446	58G	1.0-12.0	750	$\frac{1}{4} \times 1 \frac{29}{64}$	.99	.89	.83	.74

### STANDARD PANEL MOUNT SERIES

Popular piston trimmers. Lower dielectric constant and greater stability of fused quartz types make them desirable as high-resolution trimmers for critical tuning applications—high Q ideal for UHF. Use glass types for greater range. Glass dielectric, except \*quartz. 2 oz.



16 L 008	1G	0.7-9	1250	$\frac{1}{4} \times 2 \frac{29}{32}$	2.55	2.29	2.12	1.91
16 L 005	2*	0.7-4.5	750	$\frac{1}{16} \times 1 \frac{1}{16}$	4.35	3.91	3.62	3.26
16 L 000	5*	0.6-6	750	$\frac{1}{16} \times \frac{7}{8}$	5.25	4.72	4.37	3.94
16 L 011	5G	0.8-18	750	$\frac{1}{4} \times 1 \frac{1}{4}$	3.00	2.70	2.50	2.25
16 L 001	11*	0.8-10	750	$\frac{3}{16} \times 1 \frac{1}{4}$	6.00	5.40	5.00	4.50
16 L 002	11G	0.6-14	750	$\frac{1}{4} \times 1 \frac{1}{4}$	2.85	2.56	2.37	2.14
16 L 015	11GRA	0.6-14	750	$\frac{1}{4} \times 1 \frac{1}{4}$	2.55	2.29	2.12	1.91
16 L 016	11GRB	0.6-14	750	$\frac{1}{4} \times 1 \frac{1}{4}$	2.40	2.16	2.00	1.80
16 L 017	11GRC	0.8-18	750	$\frac{1}{4} \times 1 \frac{1}{4}$	2.55	2.29	2.12	1.91
16 L 007	12*	9-21	750	$\frac{3}{16} \times 1 \frac{27}{32}$	7.95	7.15	6.62	5.96
16 L 004	30G	0.8-30	750	$\frac{1}{4} \times 1 \frac{27}{32}$	3.45	3.10	2.87	2.59

16 L 454. Model 5284. Adjustment tool..... .85  
 16 L 455. Model 7104-5. Production tool..... .250  
 16 L 456. Model 7104-4. Production tool..... .250

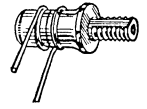
### NEW "Y" SERIES STANDARD PANEL-MOUNT

Exceeds adjustment life requirements of MIL-C-14409B by over 600%. 750 WVDC, except \*1250 WVDC. Glass dielectric.  $\frac{1}{4}$ " dia.

Stock No.	Mfr's Type	Mmf Range	Length (Inches)	EACH				
				1-24	25-49	50-99	100-299	300-499
16 L 447	VC1G C*	0.7-9	$\frac{29}{32}$	1.66	1.50	1.34	1.12	1.07
16 L 448	VC26G	0.7-9	$\frac{29}{32}$	1.74	1.55	1.35	1.14	1.09
16 L 449	VC4G	0.8-18	$\frac{1}{4}$	1.70	1.53	1.35	1.13	1.08
16 L 450	VC27G	0.8-18	$\frac{1}{4}$	1.80	1.60	1.42	1.12	1.12
16 L 451	VC28G	0.8-30	$\frac{127}{32}$	2.00	1.80	1.55	1.30	1.22
16 L 452	VC29G	0.8-30	$\frac{127}{32}$	1.90	1.70	1.48	1.22	1.17
16 L 453	VC25G	0.5-3	$\frac{7}{8}$	1.74	1.55	1.35	1.14	1.09

### SEALED DIFFERENTIAL SERIES

Have two stator-bands with one common piston. As capacity in one section of capacitor increases, capacity in the other section decreases at the same rate. Sum of capacities in both sections remains constant in peak-to-peak area of tuning curve. All rated 1000 WVDC, all are  $\frac{1}{4}$ " dia. Panel mounts have 10-32 bushing. Wt., 2 oz.



#### PANEL MOUNT TYPES

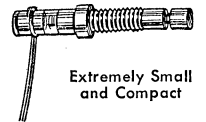
Stock No.	Mfr's Type	Min Mmf	Max Mmf	Mtg. Type	Length	EACH			
						1-24	25-99	100-199	200-299
17 L 060	DS441	0.7; 2.0	3; 3	Bush'g	$\frac{13}{16}$ "	5.55	4.99	4.62	4.16
17 L 061	DS443	0.8; 2.5	8; 8	Bush'g	$\frac{13}{16}$ "	5.40	4.86	4.50	4.05
17 L 062	DS444	0.8; 3.12	12	Bush'g	$\frac{11}{4}$ "	6.00	5.40	5.00	4.50
17 L 063	DS446	0.9; 3.5	16; 16	Bush'g	$\frac{17}{16}$ "	6.45	5.80	5.37	4.84
17 L 065	DS449	1.5; 5.0	28; 28	Bush'g	$\frac{15}{16}$ "	7.20	6.48	6.00	5.40

#### PRINTED CIRCUIT BOARD TYPES

17 L 066	DS451	0.7; 2.0	3; 3	Lug	$\frac{5}{16}$ "	5.55	4.99	4.62	4.16
17 L 067	DS461	0.7; 2.0	3; 3	Wire	$\frac{5}{16}$ "	5.55	4.99	4.62	4.16
17 L 068	DS453	0.8; 2.5	8; 8	Lug	$\frac{1}{32}$ "	5.40	4.86	4.50	4.05
17 L 069	DS463	0.8; 2.5	8; 8	Wire	$\frac{1}{32}$ "	5.40	4.86	4.50	4.05
17 L 070	DS454	0.8; 3.0	12; 12	Lug	$\frac{15}{16}$ "	6.00	5.40	5.00	4.50
17 L 071	DS464	0.8; 3.0	12; 12	Wire	$\frac{15}{16}$ "	6.00	5.40	5.00	4.50
17 L 072	DS456	0.9; 3.5	16; 16	Lug	$\frac{17}{16}$ "	6.45	5.80	5.37	4.84
17 L 073	DS466	0.9; 3.5	16; 16	Wire	$\frac{17}{16}$ "	6.45	5.80	5.37	4.84
17 L 074	DS459	1.5; 5.0	28; 28	Lug	$\frac{15}{16}$ "	7.20	6.48	6.00	5.40
17 L 075	DS469	1.5; 5.0	28; 28	Wire	$\frac{15}{16}$ "	7.20	6.48	6.00	5.40

### PIN TRIM SERIES

Extremely small and compact piston capacitors, approximately  $\frac{1}{4}$ " the weight and less than  $\frac{1}{2}$ " the diameter of regular miniature trimmers. Enable maximum compactness between stacked circuit boards and insure less stray capacitance in a given mounting area when used to replace conventional trimmers. Also enable use of variable capacitors in applications previously limited to fixed ones. Panel mounting types have 3-48 mounting bushing. Printed circuit types have 2 mounting lugs. All are rated 500 WVDC, all are  $\frac{7}{64}$ " in diameter. 2 oz.



Extremely Small and Compact

#### PANEL MOUNT TYPES

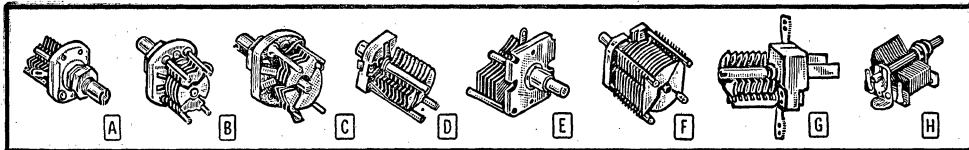
Stock No.	Mfr's Type	Min Mmf	Max Mmf	Length	EACH			
					1-24	25-99	100-199	200-299
17 L 000	PT901	0.5	2.0	$\frac{11}{16}$ "	2.55	2.29	2.12	1.91
17 L 001	PT902	0.5	3.0	$\frac{13}{16}$ "	2.85	2.56	2.37	2.14
17 L 002	PT903	0.5	5.0	$\frac{17}{16}$ "	3.00	2.70	2.50	2.25
17 L 003	PT904	0.5	7.0	$\frac{19}{16}$ "	3.15	2.83	2.62	2.36

#### PRINTED CIRCUIT BOARD TYPES

17 L 004	PT911	0.5	2.0	$\frac{9}{64}$ "	2.55	2.29	2.12	1.91
17 L 005	PT912	0.5	3.0	$\frac{43}{64}$ "	2.85	2.56	2.37	2.14
17 L 006	PT913	0.5	5.0	$\frac{59}{64}$ "	3.00	2.70	2.50	2.25
17 L 007	PT914	0.5	7.0	$\frac{111}{64}$ "	3.15	2.83	2.62	2.36

# Variable Capacitors and Trimmers

E. F. JOHNSON CAPACITORS



- Compact
- Stable
- Dependable

## TYPE M MINIATURE VARIABLES

Small types for compact equipment. Quality constructed. Peak voltage 1250 v., except \*850 v. Panel space  $\frac{3}{4} \times \frac{5}{8}$ ", up to  $1\frac{1}{4}$ " behind.  $\frac{3}{16}$ " dia. slotted shaft with  $\frac{1}{4}$ "-32 mtg. bushing. Av. shpg. wt., 2 oz. except Differential types, 4 oz.

### A SINGLE SECTION

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 758	160-102	5.0-1.5	.90	.83	.76
13 L 759	160-104	8.7-1.8	.95	.88	.80
13 L 760	160-107	14.2-2.3	1.00	.92	.85
13 L 761	160-110	19.6-2.7	1.10	1.00	.92
13 L 766	160-130	32.0-3*	1.20	1.11	1.02

### B BUTTERFLY

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 763	160-205	5.1-1.8	1.30	1.20	1.10
13 L 764	160-208	8.0-2.2	1.45	1.33	1.22
13 L 765	160-211	10.8-2.7	1.60	1.47	1.35

### C DIFFERENTIAL

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 767	160-303	5.0-1.5	1.25	1.16	1.06
13 L 768	160-305	8.7-1.8	1.45	1.34	1.23
13 L 770	160-311	19.6-2.7	1.85	1.72	1.58

## D TYPE S VARIABLES

Compact and rugged. 850 v. peak rating. Slotted hex-nut shaft. Panel space  $2\frac{1}{2} \times 2\frac{1}{2}$ ",  $1\frac{1}{16}$ " behind. Two 4-40 mtg. holes. 1 lb.

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 771	148-1	15-2.3	1.00	.93	.85
13 L 772	148-2	25-3.6	1.05	.97	.89
13 L 773	148-3	35-2.9	1.10	1.00	.92
13 L 774	148-4	50-3.2	1.15	1.03	.95
13 L 776	148-6	100-4.5	1.30	1.20	1.10

## E TYPE L VARIABLES

Extremely stable; vibration- and shock-proof. 1500 v. peak rating. Panel space  $1\frac{1}{2}$ " sq. behind. Wt., 1 lb.

### E SINGLE END PLATE

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 777	167-1	11-2.8	1.80	1.65	1.52
13 L 778	167-2	25-3.6	1.90	1.72	1.58
13 L 779	167-3	51-4.6	2.10	1.93	1.77
13 L 780	167-4	75-5.7	2.30	2.04	1.96

### F BUTTERFLY

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 781	167-21	10.5-2.8	2.15	2.00	1.83
13 L 782	167-22	26-4.3	2.50	2.27	2.09
13 L 783	167-23	51-6.8	3.05	2.82	2.59

## H TYPE R VARIABLES

Extra-heavy rugged construction. Panel or base mtg. Panel space  $1\frac{1}{2} \times 1\frac{1}{2}$ ", up to  $2\frac{1}{2}$ " behind. 1200 v. peak. 1 lb.

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 754	149-3	50-6.5	2.55	2.34	2.15
13 L 756	149-5	102-8.5	2.80	2.62	2.40
13 L 757	149-6	140-13.5	3.00	2.75	2.53

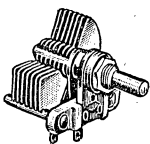
## G TYPE U SUBMINIATURE VARIABLES

Tiny high-quality capacitors. Require only  $\frac{7}{16}$ " sq. panel space, up to  $\frac{3}{4}$ " behind. Offer high Q and low temp. coeff. \*850 v. peak breakdown; †1300 v.  $\frac{3}{16}$ " terminals for wiring in or printed ckt. mtg. 4 oz.

Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-9	10-49	50-99
13 L 697	189-1*	3.5-1.2	.60	.55	.51
13 L 698	189-2*	5.4-1.3	.63	.57	.53
13 L 699	189-3*	7.3-1.4	.65	.59	.55
13 L 700	189-4*	9.1-1.5	.68	.62	.57
13 L 701	189-5*	11-1.7	.70	.65	.60
13 L 702	189-6*	13-1.8	.72	.66	.61
13 L 703	189-2†	4.1-1.3	.72	.66	.61

## BUD VARIABLE CAPACITORS

MC Midgets. Feature small size, sturdy construction, and high mechanical and electrical efficiency. Available with single or \*double bearings. Panel or base mounting. Air gap .024" (1 kv. peak). Steatite insulation. Semi-circular plates. Shpg. wt., 7 oz.



## BUD LC "TINY MITE" CAPACITORS

Compact, three-gang capacitors for HF use. Ideal for converters, pre-selectors, etc. Soldered brass plates. Type 1660 is dual-section. 4 oz.



Stock No.	Mfr's Type	Mmf Max.-Min.	EACH		
			1-49	50-99	100-149
13 L 555	1660	15-3	3.30	2.97	2.73
13 L 552	1845	11-5	5.25	4.73	4.20
13 L 553	1846	17-5	5.85	5.26	4.68
13 L 554	1847	25-6	6.23	5.61	4.98

## BUD MIDGET TRIMMERS

Type MT-833. For antenna coupling, interstage coupling and receiver tracking. Maximum capacity, 36 mmf.; min. cap., 3 mmf. Has ceramic base. 4 oz.



13 L 510. 1 to 49.....	EACH	.15
50-99.....	EACH	.13
100-149.....	EACH	.12
150-199.....	EACH	.11

## RADIO CONDENSER CO. VARIABLE CAPACITORS

### 2-GANG CAPACITORS

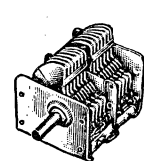


- Trimmers for Each Section
- Spring Brass Wipers
- Rugged Construction
- Slotted End-Plates

For use in superhets without an RF stage, or in 2-stage TRF receivers. Each section has 29 plates. Range of 15.5 mmf to 467.8 mmf, each section. Counter-clockwise rotation increases capacity, clockwise rotation decreases capacity. With trimmers for each section. End plates are slotted—permits easy tracking adjustments. Spring brass wipers. Require series padder for application in oscillator circuits. Have  $\frac{3}{8}$ " diameter shafts. See coil and I.F. transformer section for coils. Size:  $1\frac{1}{2}$ " high,  $1\frac{1}{8}$ " wide,  $2\frac{1}{8}$ " deep. Shpg. wt., 10 oz.

13 L 528. 1 to 9.....	EACH	1.11
10-49.....	EACH	1.00
50-99.....	EACH	.92
100-499.....	EACH	.83

### 2- AND 3-GANG CAPACITORS



- Rugged Design
- Quality Controlled
- Slotted End-Plates
- Compact Size

Compact TRF variable capacitors. Have trimmers on side of frame. Outer rotor plates are slotted for tracking adjustment. Tapped holes in frame provide secure mounting. Range: 12 to 367 mmf. Shaft diameter,  $\frac{3}{8}$ ". Size of 2-gang:  $2\frac{3}{16} \times 1\frac{3}{16} \times 1\frac{1}{2}$ ". Size of 3-gang:  $3\frac{3}{16} \times 1\frac{1}{2} \times 1\frac{1}{2}$ ". Av. shpg. wt., 6 oz.

13 L 521. 2-Gang. 1-9.....	EACH	1.08
10-49.....	EACH	.97
50-99.....	EACH	.90
100-499.....	EACH	.81
13 L 522. 3-Gang. 1-9.....	EACH	1.66
10-49.....	EACH	1.49
50-99.....	EACH	1.38
100-499.....	EACH	1.25

## AMPEREX VACUUM CAPACITORS



Extremely-high-voltage vacuum capacitors—especially suitable for industrial RF applications. Provide high stability in critical bypass, coupling, and neutralizing circuits. May be employed as plate tank capacitors. Breakdown voltage of all capacitors is rated at 32,000 volts, maximum.  $6\frac{1}{2} \times 2\frac{1}{2}$ ". Av. shpg. wt., 10 oz.

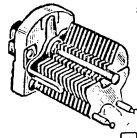
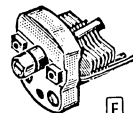
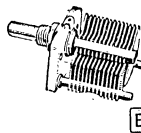
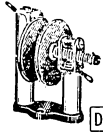
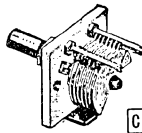
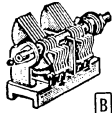
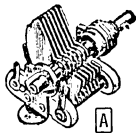
Stock No.	Mfr's Type	Fixed Mmf	EACH
13 L 501	VC-25	25	25.25
13 L 502	VC-50	50	29.50
13 L 503	VC-100	100	35.00

### OEM PRICES—FAST DELIVERY

Allied Electronics maintains the world's largest inventory of industrial electronic components. Call us for prompt shipment.



# Hammarlund Variable Capacitors



**A** Quality variable capacitors feature silicized stearite base, nickel-plated brass plates, silver-plated contacts. For panel or chassis mounting. \*Straight-line capacity characteristic indicated by S suffix; others have mid-line capacity characteristic for nearly linear frequency divisions. Air gap: M and S types, .0245"; SX types, .0715". Tested at 1000 v. and 1750 v., respectively (60 cycle rms). Capacity increases with clockwise rotation. Space required: S and SX types, 1 1/16" sq. M type, 2 1/4" sq. Depth of longest cut: S, 2 1/8"; SX, 4 3/8"; M type, 3 1/4". Shaft is 1/4" dia., 1/2" long with 3/8-32 bushing. Shpg. wt., 10 oz.

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 666	*MC-20-S	20	5.5	2.27
13 L 667	*MC-35-S	35	6.0	2.31
13 L 668	*MC-50-S	50	6.5	2.48
13 L 670	*MC-75-S	80	8.0	2.55
13 L 672	*MC-100-S	100	8.3	2.69
13 L 673	MC-100-M	100	7.7	2.72
13 L 674	MC-140-M	140	9.0	2.88
13 L 675	*MC-140-S	140	10.0	2.85
13 L 676	MC-200-M	200	10.3	3.27
13 L 677	MC-250-M	250	12.0	3.41
13 L 678	MC-325-M	320	13.5	3.90

## DOUBLE-SPACED MC's

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 679	*MC-20-SX	20	6.8	2.63
13 L 682	*MC-35-SX	32	8.5	2.79
13 L 684	*MC-50-SX	53	11.5	3.05
13 L 686	*MC-100-SX	100	16.5	3.87

## TYPE MCD DUALS

**B** Split-stator panel-mounting types with features of MC Types above. Tested at 1000 v. (60 cycle rms). Mid-line capacity characteristic provides nearly linear frequency division. Have shield behind stators, nickel-plated brass plates, silver-plated contacts. Panel space: 2 1/4" square; 3 1/2" required behind panel. 1/4" diameter shaft, 1/2" long; mount by means of 3/8"-32 bushing. Av. shpg. wt., 11 oz.

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 687	MCD-50-M	50	5.5	7.25
13 L 690	MCD-100-M	100	6.3	7.74
13 L 695	MCD-140-M	140	7.8	8.16

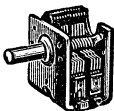
## TRANSISTOR-TYPE CAPACITORS

**Midget Superhet.** Two section capacitor specially designed for use with broadcast band transistorized receivers. Ideal for small table models and portables. Counter-clockwise rotation increases capacity. With trimmers. Oscillator section for 455-kc IF. Capacity ranges: Oscillator section; 7.2 mmf to 66 mmf. RF section; 7.5 mmf to 81 mmf. 1 3/16 x 1 1/16". Av. shpg. wt., 4 oz.

13 L 526.	1-9.....	EACH	1.25
10-49.....		EACH	1.12
50-99.....		EACH	1.00
100-499.....		EACH	.87

**Miniature Superhet.** Similar to above midget superhet, much more compact—ideal for miniature transistorized receivers. Capacity ranges: Oscillator section, 6.1 mmf to 73.4 mmf; RF Section, 7.0 mmf to 123.1 mmf. Size, 1 7/16 x 1 3/4". Shpg. wt., 2 oz.

13 L 527.	1-9.....	EACH	1.30		
10-49.....	EACH	1.17	50-99.....	EACH	1.04
100-499.....		EACH	.91		



**C** Single and split-stator tuning capacitors ideally suited to high frequency applications. \*Double-spaced plates, 1400 v. (60 cycle rms) test; others 600 v. HF. Size, 1 3/16 x 1 1/16" up to 1 1/2" behind panel; HFD, 1 1/2 x 1" up to 3 3/4" behind panel. Shpg. wt., 6 oz.

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 590	HF-15	17.5	2.8	1.14
13 L 591	HF-35	36	3.2	1.25
13 L 592	HF-50	52	3.7	1.31
13 L 593	HF-100	102	5.3	1.49
13 L 594	HF-140	142	6.3	1.74
13 L 595	*HF-15-X	15	3.6	1.29
13 L 596	*HF-30-X	30	5.2	1.43

## HFD SPLIT-STATOR

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
17 L 076	HFD-25	25	2.9	4.37
13 L 648	HFD-50	52	3.6	4.55
13 L 649	HFD-100	102	5.0	4.98
13 L 650	HFD-140	142	6.0	5.15
13 L 651	*HFD-15-X	16	3.8	4.55
13 L 652	*HFD-30-X	28.5	5.0	4.65

## NEUTRALIZING CAPACITOR

**D** Type NZ-10. For use in neutralizing final stages of transmitters. Rotor attaches to fine thread lead screw which may be adjusted with screwdriver and locked with clamping screw. Stop prevents plates shorting at max. capacity. Peak voltage rating 3000 v. at minimum gap. Capacity: 2.3-10 mmf. Size 2 1/16 x 1 3/16 x 2 7/8". Two 1/16" mtg. holes. Wt. 1 lb.

13 L 653.....4.77

## TYPE MAC

(Not illus.) These extremely small variable capacitors provide low minimum capacity essential for use as VHF trimmers. Steatite base; only 3/4 x 5/8". Screwdriver adjustment. Have threaded bushing for convenient panel mounting. Up to 1 3/16" behind panel. Shpg. wt., 4 oz.

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 659	MAC-5	5.4	1.3	1.00
13 L 660	MAC-10	9.6	1.5	1.05
13 L 661	MAC-15	15.8	1.9	1.20
13 L 662	MAC-20	21.5	2.2	1.35

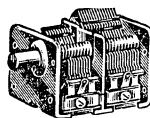
## SUPERHET CAPACITOR AND MATCHING COILS

**Two-Section Superhet Variable.** 19-plate oscillator section with 172.6 max.—10.6 min. mmf; has one 2-17 mmf trimmer. 27-plate RF section with 434 max.—14.5 min. mmf; has one 2-17 mmf trimmer. Provides 455-kc frequency-difference in combination with oscillator coil below. Capacity increases in counter clockwise rotation. Size, 1 3/16 x 1 3/16 x 2 3/16". Shaft, 1/4" diameter; 3/4" long. Shpg. wt., 10 oz.

13 L 529.	1-9.....	EACH	1.06
10-49.....		EACH	.95
50-99.....		EACH	.88
100-499.....		EACH	.80

Oscillator Coil. Provides 455-kc frequency difference when used with above. 4 oz.

13 L 504.	1-49.....	EACH	.36
50-99.....		EACH	.32
100-249.....		EACH	.29
250-499.....		EACH	.26



## TYPE HFA

**E** Sturdy, durable, high quality capacitors, similar to HF, but larger plates and wider air gaps. For general-purpose and transmitting applications. Single-hole panel mounting. Also bracket for base mounting. End letter A in type no. denotes .02" air gap, B—.03", E—.07"; 800, 1200 and 1750 test volts respectively. 1 1/16 x 1 1/2". Up to 1 1/2" behind panel. Wt., 1 lb.

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 599	HFA-10B	9	2.3	1.62
13 L 643	HFA-15B	16	2.8	1.71
13 L 644	HFA-25B	25	3.0	1.74
13 L 645	HFA-50B	50	4.3	1.92
13 L 646	HFA-100B	100	7.5	3.05
13 L 597	HFA-100A	102	4.5	2.13
13 L 598	HFA-140A	145	6.0	2.39

## TYPE APC

**F** Compact high-quality variables. With both screwdriver or hex-wrench adjustment. 1 3/32 x 1 1/16". Up to 1 3/4" behind panel. Shpg. wt., 4 oz.

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 654	APC-25	25	3.0	1.35
13 L 655	APC-50	50	3.9	1.55
13 L 656	APC-75	75	4.6	1.70
13 L 657	APC-100	100	5.5	1.85
13 L 658	APC-140	140	6.7	2.15

## TYPE MAPC

**G** Midget padding, trimming and general-purpose capacitors. Similar to APC, but smaller. Ideal for small space applications. Gap, .0135". Rotors and stators are nickel-plated brass. Nickel-plated beryllium copper wiper contact. Tapped (4-40 thread) brass studs in stearite base permit mounting without grounding rotor. Tested at 600 volts rms, 60 cps. Overall size: 2 3/32" wide, 1 3/16" high; up to 1 1/2" behind panel. All have slotted shafts for screwdriver as well as hex-wrench adjustment. Shpg. wt., 4 oz.

Stock No.	Mfr's Type	Max. Mmf	Min. Mmf	EACH
13 L 584	MAPC-15	15	2.3	1.01
13 L 585	MAPC-25	25	2.6	1.10
13 L 586	MAPC-35	35	2.9	1.10
13 L 587	MAPC-50	50	3.2	1.19
13 L 588	MAPC-75	75	3.9	1.28
13 L 589	MAPC-100	100	4.5	1.44

## MIDGET SUPERHET AND TRF TYPES

**Midget Superhet.** Miniature size without sacrifice of performance makes these 2-gang variables perfect for portable and midget sets. Capacity: RF section, 14.5 mmf to 368 mmf, 27 plates; Oscillator section, 11.6 to 136.6 mmf, 15 plates. Capacity increases counter-clockwise. For use with 455-kc IF. With trimmers. Size, 1 1/16 x 1 1/2 x 1 1/16". 1/4" diameter shaft extends 1" beyond frame. Ball-bearing shaft. 6 oz.

13 L 523.	1-9.....	EACH	1.05		
10-49.....	EACH	.94	50-99.....	EACH	.87
100-499.....		EACH	.79		

**Midget TRF.** Compact, 33-plate, single-gang capacitor. Variable from 15 to 409 mmf. Capacity increases with clockwise rotation. Size, 1 3/16" deep, 1 3/8" wide, 1 3/16" high. 1/4" diameter shaft extends 3/4" beyond frame. Shpg. wt., 5 oz.

13 L 524.	1-9.....	EACH	.80		
10-49.....	EACH	.72	50-99.....	EACH	.64
100-499.....		EACH	.57		



# Trimmers, Padders, Printed Circuit Kits



## TECHNIQUES 5100 KIT

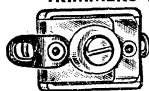
New, Fast Method For Making Prototype Printed Circuits

Convenient, time-saving printed circuit kit incorporating new, ready-to-use, pre-sensitized copper-clad laminate. Cuts to a minimum the time required for making outstanding prototype printed circuits—a real aid for the circuit designer and engineer.

Kit contains: 20 pcs. of single and double-clad XXXP and epoxy fiberglass laminates in assorted sizes, pre-sensitized and uncoated; 20 assorted tube and transistor sockets; 2 rolls of tape resist  $\frac{1}{16}$ " and  $\frac{1}{8}$ " wide; 200 die-cut tape circles; 1 bottle of resist and brush; ball point resist pen; eyelets and terminals; No. 51 drill; layout paper; exposure clamp; etching solution; trays.

Supplied with complete instructions for use. Shpg. wt., 9½ lbs.  
11 LX 145.....29.95

## TRIMMERS AND PADDERS



Mica trimmer and padder capacitors. Treated to assure resistance to humidity and permanence of settings. Low-loss ceramic base. Clear India mica. Adjusting plates rigidly constructed to permit bending solder lugs without affecting capacity. Trimmers rated 350 VDC test—175 WVDC. Padders, 500 VDC test—250 WVDC. Ranges from 3 turns open to tight setting. Av. wt. trimmers, 2 oz.; padders, 3 oz.

### STANDARD TRIMMERS, $\frac{3}{4} \times \frac{3}{8}$ "

Stock No.	Mmf Min-Max	EACH			
		1-49	50-99	100-499	500-999
13 L 518	1.5-15	.20	.16	.12	.10
13 L 511	2.7-30	.20	.16	.12	.10
13 L 512	5-80	.23	.18	.14	.11
13 L 513	9-180	.24	.19	.15	.12
13 L 514	25-280	.27	.22	.17	.14
13 L 515	50-380	.29	.23	.18	.15
13 L 516	80-480	.32	.26	.20	.16
13 L 517	110-580	.36	.29	.22	.18
13 L 519	140-680	.39	.31	.23	.20
13 L 520	170-780	.42	.34	.26	.22

### MIDGET TRIMMERS, $\frac{3}{16} \times \frac{3}{4}$ "

17 L 077	1-12	.20	.16	.12	.10
17 L 078	2-25	.20	.16	.12	.10
17 L 079	4-40	.23	.18	.14	.11
17 L 080	7-100	.24	.19	.15	.12
17 L 081	16-150	.27	.22	.17	.14
17 L 082	24-200	.29	.23	.18	.15
17 L 083	37-250	.32	.26	.20	.16
17 L 084	55-300	.36	.29	.22	.18
17 L 085	70-350	.39	.31	.23	.20
17 L 086	90-400	.42	.34	.26	.22

### MINIATURE TRIMMERS, $\frac{3}{16} \times \frac{3}{16}$ "

17 L 087	.9-7	.20	.16	.12	.10
17 L 088	1.5-20	.23	.18	.14	.11
17 L 089	3-3.5	.24	.19	.15	.12
17 L 090	8-60	.27	.22	.17	.14

### PADDERS, $\frac{7}{8} \times \frac{1}{16}$ "

17 L 093	15-130	.39	.31	.23	.20
17 L 094	65-340	.42	.34	.25	.21
17 L 095	115-550	.44	.35	.26	.22
17 L 096	190-760	.49	.39	.29	.25
17 L 097	275-970	.54	.43	.32	.27
17 L 098	350-1180	.59	.47	.35	.30
17 L 099	450-1390	.62	.50	.37	.31
17 L 100	550-1600	.67	.54	.40	.34
17 L 101	650-1890	.72	.58	.43	.36
17 L 102	780-2110	.76	.61	.46	.38
17 L 103	880-2330	.81	.65	.49	.41
17 L 104	1150-2605	.86	.69	.52	.43
17 L 105	1300-2830	.91	.73	.55	.46
17 L 106	1400-3055	.96	.77	.58	.48

## KEPRO SC-601 SILK SCREEN KIT



An extremely handy kit—containing all the necessary materials for producing one silk screen with print area up to 7x9" plus silk and film emulsion for two additional patterns. Kit produces lacquer-resistant, film type photo stencils. Designed for screen printing production quantities of etched circuit boards, nameplates, instrument panels or decorative panels.

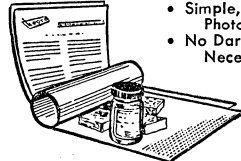
The SC-601 kit is extremely easy and convenient to use—no dark room is required for processing. Includes: 10x12" screen frame with silk; 2 pieces of 14x16" screen silks; 1 roll of 8x30" stencil film; 1—#2 photoflood lamp; stencil developing and stop bath chemicals; developing and stop bath trays; an 8½x11½" print frame; thermometer; black and white screening inks; squeegee; plus all other necessary accessories.

Kit is supplied complete with full instructions for screen printing of various materials. Shpg. wt., 20 lbs.  
11 LU 142.....35.00

## SILK SCREEN SUPPLIES

Stock No.	Type	Description	Size	EACH
13 L 800	SF-1012	Frame w/16XX Silk	10x12"	4.50
13 L 801	S-42	16XX Screen Silk	16x42"	3.40
13 L 802	SSF-830	Photo Stencil	8x30"	3.45
13 L 803	SD-1PT	Stencil Developer	Pint	.95
13 L 804	SB-1PT	Stencil Stop Bath	Pint	.80
13 L 805	SS-4	Stencil Strip Sol.	4 oz.	1.05
13 L 806	SB0-2	Blackout Sol.	2 oz.	1.00
13 L 807	SQ-8	8" Squeegee	.....	1.50
13 L 808	SIB-4	Black Screen Ink	4 oz.	1.20
13 L 809	SIW-4	White Screen Ink	4 oz.	1.20

## KEPRO FK-701 PHOTO REVERSING KIT



- Simple, Two-Step Photo Process
- No Darkroom Work Necessary

Handy kit for effortless photo reversing work. Utilizes simple two-step process to prepare line negatives and positives from taped or ink artwork, or to reverse existing negatives and positives. Photosensitized film is contact exposed, then wiped with developer on a cotton pad. No darkroom work, mixing of chemicals or fixing is required. Kit includes two pieces of 10x24" reversing film, plus all necessary processing chemicals. Shpg. wt., 1½ lbs.  
13 L 810.....7.20

## PHOTO REVERSING SUPPLIES

13 L 811. RF-1024 Film, 10x24".....3.00  
13 L 812. RFD-2 Film Developer, 2 oz.... .60

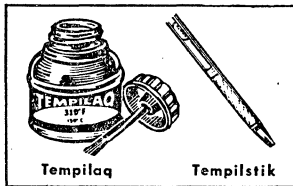
## MICRO-CIRCUITS S21 KIT



- Makes Miniature Components
- Repairs Printed Circuits

Convenient kit that lets you create all types of miniature-sized electronic equipment. Make resistors, capacitors, connecting wires and many other components on a miniature scale. Kit also allows you to paint your own radio circuit and make repairs on existing printed circuits. Includes: brush; silver-conducting paint; low, medium, high and very high resistance paints; insulating lacquer; solvent; brush cleaner; the manual "Design and Repair of Printed Circuits", plus other informative literature. Shpg. wt., 1¾ lbs.  
11 L 146.....18.11

## "ALPHA-TEMPIL" TEMPERATURE INDICATORS



Measure surface heat with better than 1% accuracy—at less than 1c per application. A dab of Tempilaq liquid or a stroke of Tempilstik crayon is placed on surface to be measured—dries instantly to a chalky mark. Within a millisecond of reaching appropriate temperature, indicator becomes transparent. Does not revert to original appearance, even if temperature drops again. Tempilaq and thinner in 2-oz. bottles; Tempilstik is 5/4" long.

### SPECIFY INDICATOR WANTED IN °F FROM TABLE AT RIGHT

Stock No.	Description	EACH
10 LL 709	Tempilaq	2.00
10 LL 711	Tempilstik	2.00
10 L 710	Tempilaq Thinner	1.00
10 L 712	Tempilstik Holder	.50

### INDICATORS AVAILABLE FOR TEMPERATURES LISTED BELOW Specify Indicator Wanted in °F

F° C°	F° C°	F° C°	F° C°	F° C°
175 79	263 128	306 152	338 170	400 204
200 93	275 135	313 156	350 177	425 218
213 101	288 142	319 159	363 184	450 232
225 107	294 146	325 163	375 191	475 246
250 121	300 149	331 166	388 198	500 260

## TEMPERATURE INDICATING KITS

Each kit contains 10—½ oz. bottles of "Tempilaq" in range of temperatures; 20 sample pellets of "Tempilstiks" in same range; 2—½ oz. bottles of thinner. Metal case, 8½x6x1¼". Shpg. wt., 3 lbs.

10 L 713. TEMP-200. 175-294°F.  
10 L 714. TEMP-300. 300-388°F.  
10 L 715. TEMP-400. 400-525°F.  
PER KIT.....18.00

Attention Design Engineers and R and D men! Allied carries a wide selection of printed circuit kits, miniaturization kits, photo layout kits and other aids for those doing de-

sign or research and development work. And remember, because of our large, complete stocks of these items, we can ship your order to you the same day it is received.

# Kepro Printed Circuit, Layout and Nameplate Kits

## ETCHED CIRCUIT MATERIALS AND KITS

### ETCHED CIRCUIT COPPER-CLAD MATERIALS

A quality selection of laminated 1-oz. (.00135) copper-clad materials. Available in both 1/16" XXXP paper base phenolic and 1/16" G-10 glass epoxy with foil on two sides, except types marked with \*, coating on one side only. Fully meet standard NEMA grade tolerances. Supplied unsensitized for screen processed parts and photosensitized for photo processed boards. Photosensitized materials are ready for exposure with no further sensitizing required. Packed 5 pieces per package.

### XXXX PAPER BASE PHENOLIC TYPE

Stock No.	Mfr's Type	Desc.	Size	PKGS. OF 5			
				1-4	5-10	11-15	16-20
13 L 937	P1-335	Unsens.*	3x3"	1.35	1.25	1.20	1.10
13 L 939	P1-365	Unsens.*	3x6"	2.00	1.80	1.70	1.60
13 L 940	P1-12125	Unsens.*	12x12"	10.50	9.40	8.85	8.30
13 L 941	P1-365PB	Unsens.*	3x6"	2.40	2.15	2.00	1.90
13 L 942	P2-335	Unsens.	3x3"	1.65	1.50	1.40	1.30
13 L 943	P2-365	Unsens.	3x6"	2.55	2.30	2.20	2.05
13 L 944	P2-12125	Unsens.	12x12"	14.20	12.30	11.55	9.85
13 L 945	S1-335	Sens.*	3x3"	2.15	1.95	1.80	1.70
13 L 946	S1-365	Sens.*	3x6"	3.55	3.15	3.00	2.80
13 L 947	S1-665	Sens.*	6x6"	6.30	5.65	5.30	4.95
13 L 948	S1-7105	Sens.*	7x10"	11.45	10.25	9.65	9.05
13 L 949	S2-12125	Sens.*	12x12"	22.60	17.25	15.95	.....
13 L 950	S1-335	Sens.*	3x3"	2.95	2.65	2.50	2.35
13 L 952	S2-365	Sens.	3x6"	5.05	4.55	4.25	4.00
13 L 953	S2-665	Sens.	6x6"	9.30	8.35	7.85	7.35
13 L 956	S2-7105	Sens.	7x10"	17.25	14.35	12.70	12.15
13 L 957	S2-12125	Sens.	12x12"	31.65	23.65	22.50	.....

### G-10 GLASS EPOXY TYPE

Stock No.	Mfr's Type	Desc.	Size	PKGS. OF 5			
				1-4	5-10	11-15	16-20
13 L 958	P1-335G	Unsens.*	3x3"	2.65	2.35	2.20	2.05
13 L 960	P1-365G	Unsens.*	3x6"	4.60	4.10	3.85	3.50
13 L 961	P1-12125G	Unsens.*	12x12"	29.90	22.40	21.25	.....
13 L 962	P2-335G	Unsens.	3x3"	2.80	2.55	2.35	2.25
13 L 963	P2-365G	Unsens.	3x6"	4.85	4.35	4.10	3.85
13 L 964	P2-12125G	Unsens.	12x12"	31.60	23.70	22.50	.....
13 L 965	S1-335G	Sens.*	3x3"	3.70	3.30	3.10	2.90
13 L 966	S1-365G	Sens.*	3x6"	6.65	5.95	5.60	5.25
13 L 967	S1-665G	Sens.*	6x6"	12.40	11.15	10.25	9.55
13 L 968	S1-7105G	Sens.*	7x10"	23.55	18.60	16.85	16.30
13 L 969	S1-12125G	Sens.*	12x12"	40.80	31.15	30.00	.....
13 L 970	S2-335G	Sens.	3x3"	4.55	4.05	3.80	3.60
13 L 971	S2-365G	Sens.	3x6"	8.15	7.35	6.90	6.45
13 L 972	S2-665G	Sens.	6x6"	15.75	13.45	11.60	10.75
13 L 973	S2-7105G	Sens.	7x10"	27.90	20.95	19.90	.....
13 L 974	S2-12125G	Sens.	12x12"	50.60	41.80	.....	.....

### PHOTO LAYOUT KITS

PL-2A Photo Layout Kit. Eliminates the necessity of inking and lettering through use of mechanical negative and pressure sensitive characters. Layout time is reduced; errors in artwork easily corrected. Materials may be used directly as a negative when made to 1:1 scale or photographed and reduced to desired scale when produced at 2:1 or 4:1 scale. Supplied materials will produce 2 sheets of 8x10" artwork. Kit includes: tape dots; 2 tape strips; assorted letters and numerals; acetate sheet; mechanical negative; layout paper; instructions. 14 oz.



11 L 139..... 3.95

PL-200 Master Layout Kit. (Not illus.) Uses same time-saving methods as PL-2A kit above, but includes materials to make 18x24" artwork. Contents: 2 pcs.—18x24" matte surface "Mylar"; 2 pcs.—18x24" mechanical negative, "Mylar" base; 4 pcs.—17x21" graph paper; 1500 ea.—1/4" and 1/2" tape dot terminations; 51 yds. ea.—1/8" and 1/4" tape conductor strips; letters; opaques fluid; tools; data. Shpg. wt., 4 lbs.

11 LU 143..... 36.30

### PHOTO LAYOUT SUPPLIES

Stock No.	Mfr's Type	Description	E.A.
13 L 975	MN-1212	12x12" Mechanical Negative	1.25
13 L 976	AS-3	Acetate Layout Film (18x24"; .005" thick)	1.15
13 L 977	MS-3	Matte Surface Mylar Draft. Film (18x24")	1.95
13 L 978	TC-125	Terminal Circles 1/8" O.D. (144 per card)	.55
13 L 979	TC-250	Terminal Circles 1/4" O.D. (96 per card)	.55
13 L 980	TC-500	Terminal Circles 1/2" O.D. (42 per card)	.55
13 L 981	CS-062	Conductor Strips 1/16" wide (216" per card)	.55
13 L 982	CS-125	Conductor Strips 1/8" wide (108" per card)	.55
13 L 983	CSR-250	Conductor Strips 1/4" wide (648" per roll)	1.65
13 L 984	AT-810	Pressure Sensitive Letters and Numerals on transparent base (3 sizes, 4 fonts)	2.50
13 L 985	GP-10	Graph Paper 1/10" grid (22"x10")	2.00
13 L 986	KS-H10	Knife Set, 5" holder, 9 blades, 1 point	3.50
13 L 987	BD-6B	Box Dividers, 6", with 2 KB-67 blades	3.50
13 L 988	KB-67	Knife Blades, .081" shank (pkg. of 4)	1.50
13 L 989	CDC-50	Center Dot Cutter, cuts .050" dia. hole	.60

### ETCHED CIRCUIT KITS

L-505A. Printed Circuit Lab. Meets all circuit board development needs of the design engineer or experimenter. Spans range from single experimental breadboards to high-quality, photo-processed, short-run production boards. Boards up to 70 sq. in. may be processed. Includes PL-2A Photo Layout Kit to satisfy art work requirements. Contains: 15 assorted photosensitized copper-clad phenolic XXXP boards; 4 unsensitized boards; developing and etching trays; printing frame; mechanical negative; accessories and solutions; and instructions. Shpg. wt., 20 lbs.



11 LU 105..... 34.75

L-505A-G Printed Circuit Lab. Same as above, but with G-10 glass epoxy boards instead of XXXP boards. Shpg. wt., 21 lbs.

13 LU 990..... 42.95

P-101A. Professional Etched Circuit Kit. Utilizes photo engraving process to produce professional quality etched circuits. Negative of layout can be produced photographically or mechanically with materials supplied. Contains: 3 sheets of sensitized XXXP phenolic board (2—3x6", 1—3x3"); 2 sheets of mechanical negatives; trays; accessories and solutions; instructions. Shpg. wt., 3 lbs.

11 L 109..... 5.85

P-101A-G Professional Etched Circuit Kit. As above, but with G-10 glass epoxy boards instead of XXXP boards. 3 lbs.

13 L 991..... 7.40

S-101A Standard Etched Circuit Kit. Economy etching kit for development of basic circuit patterns. Liquid or tape resist is manually applied to XXXP phenolic copper-clad sheet in desired pattern, then etched. A perforated copper-clad panel (supplied) speeds component mounting. Will process 3—3x6" panels. 2 lbs.

11 L 119..... 3.95

S-101A-G Standard Etched Circuit Kit. Same as above, but with G-10 glass epoxy instead of XXXP phenolic. 2 lbs.

13 L 992..... 5.25

### ETCHED CIRCUIT PROCESSING CHEMICALS

Stock No.	Type	Description	Size	EACH
11 L 674	R-2	Paint Resist (for unsensitized sheet)	2 oz.	.60
11 L 675	T-2	Resist Thinner	2 oz.	.50
11 L 676	D-1PT	Developing Sol'n (for sensitized sheet)	pint	1.15
11 L 161	D-1G	Developing Sol'n (for sensitized sheet)	gal.	5.00
11 L 677	E-1PT	Etching Sol'n	pint	.85
11 L 160	E-1G	Etching Sol'n	gal.	3.00

### NAMEPLATE KITS

NP-303A Enamel Nameplate and Panel Kit. Utilizes photographic process to produce high contrast nameplates on aluminum panels. Kit includes pressure sensitive opaque letters and numerals in 3 fonts. Characters are arranged on a clear acetate sheet and used as positive film to expose photosensitized blue aluminum plate. Plates require only development—no fixing. In development, the opaqued areas are washed away, producing sharply detailed aluminum letters on a blue background. Materials supplied produce 160 sq. in. of plate. With two 8x10x.007" aluminum plates, accessories and solutions. Wt., 1 lb.



11 L 141..... 7.25

NP-404 Anodized Aluminum Nameplate and Panel Kit. Uses pressure sensitive opaque letters and numerals mounted on a clear acetate sheet to make a positive film. Photosensitized black anodized aluminum panel is exposed through the film. Areas of panel receiving light resist etching solution—process produces detailed aluminum lettering on black anodized background. Kit includes three 3x6x.015" plates, accessories, solutions. Wt., 1 1/2 lbs.

11 L 144..... 6.55

### NP-303A MATERIALS

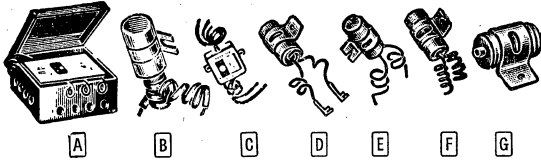
Stock No.	Type	Description	Size	EACH
11 L 136	NP-EP810	Sensitized Enamel Plate	8x10"	1.45
13 L 993	NP-EP1220	Sensitized Enamel Plate	12x20"	4.13
11 L 140	NPD-2A	Developer	2 oz.	.75
13 L 994	NPD-16A	Developer	16 oz.	2.90
11 L 137	NP-AS	Pressure Sens. Adhesive Sheet	8x10"	.70
13 L 995	NP-AS1722	Pressure Sens. Adhesive Sheet	17x22"	2.75

### NP-404 MATERIALS

Stock No.	Type	Description	Size	EACH
11 L 132	NP-SA36	Anodized Aluminum Plate	3x6"	.75
11 L 133	NP-SA1212	Anodized Aluminum Plate	12x12"	4.90
13 L 996	NP-SA1220	Anodized Aluminum Plate	12x20"	7.75
11 L 676	D-1PT	Developer	pint	1.15
11 L 135	NP-E	Etching Powder	pkg.	.40

# Interference Filters, Suppressors, Pressure Paint

## WIRED-IN TYPE INTERFERENCE FILTERS AND AUTO RADIO NOISE-SUPPRESSORS



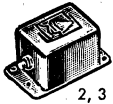
### CORNELL-DUBILIER "QUIETONE" FILTERS

- A** Type IF-7A. Capacitive-inductive filter for severe interference of oil burners, washers, etc. Installs at appliance. For single phase 110-120 v. AC, or DC. 5 amps. 6x6x4", Wt., 9 lbs. 13 L 567..... 9.90
- B** Type IF-24. Industrial filter for permanent installation directly at equipment causing interference. Flex-leads and metal housing with mtg. lug. For 110-120 volts AC or DC. 8 oz. 13 L 566..... .90
- C** Type IF-54. Capacitive-inductive type for moderate interference. Miniature size—installs on most any appliance that causes interference. 2 amps. For 110-120 v AC-DC. 8 oz. 13 L 563..... 1.80

### SPRAGUE INTERFERENCE FILTERS

Type IF. Compact multi-section filters for radio and TV interference. Completely self-contained. For motors, thermostats, etc., up to 220 volts, AC or DC. Easily installed. Av. wt., 8 oz.

Stock No.	Type	Fig.	Size	Sections	EACH
13 L 559	IF-15	D	1x2 $\frac{3}{16}$ "	Triple	1.56
13 L 560	IF-21	F	1x2 $\frac{3}{16}$ "	Dual	1.05
13 L 562	IF-S1	E	3/4x2 $\frac{1}{16}$ "	Single	.69
13 L 561	IF-37	D	1x2"	Triple	1.35



Filterlot Types. Connect in series with power supply lines of industrial equipment. Encased network of chokes and coils acts as one of the terminals. Select filter with higher rating than continuous current rating of the appliance. Type 4 (Fig. G) provides high attenuation above 5 mc. Av. wt., 1 lb.

Stock No.	Type	Amps	V. AC-DC	Size	EACH
13 L 556	2	10	115	1 $\frac{1}{2}$ x2x2"	8.88
13 L 557	3	35	115	1 $\frac{7}{8}$ x2 $\frac{1}{2}$ x3 $\frac{1}{8}$ "	16.44
13 L 558	4	20	115	1" dia. x1 $\frac{1}{2}$ " long	1.83

### C-D NOISE-SUPPRESSOR CAPACITORS



Noise-suppressing capacitors for mounting on generators, ammeters, voltage regulators, fuel pumps, etc. Withstand severe vibration and extremes in temperature and humidity. Shpg. wt., 4 oz.

Stock No.	Mfr's Type	Mfd	WVDC	Size	EACH
19 L 628	HC870E	.5	100	2x3/4x1 $\frac{1}{2}$ "	.64
19 L 629	IC2P5C	.5	200	1 $\frac{7}{8}$ x1 $\frac{1}{16}$ x3 $\frac{1}{2}$ "	.54
19 L 630	INH1P5-3	.5	100	1 $\frac{1}{4}$ x1 $\frac{1}{16}$ x2 $\frac{3}{16}$ "	.64
19 L 631	INH2P5-7	.5	200	1 $\frac{1}{2}$ x1 $\frac{1}{16}$ x2 $\frac{1}{16}$ "	.64
19 L 633	INS2W1-6	1.0	200	2 $\frac{3}{16}$ x $\frac{1}{16}$ x6"	1.26

### SPRAGUE "HYPASS" NETWORK CAPACITORS

Feed-through VHF bypass capacitors. Compact, for easy installation in series with circuit being filtered. Efficient up to 150 mc. Reduce vibrator hash and harmonic radiation. Type 48P18 reduces voltage regulator noise in mobile applications. Type 80P3 is for bulkhead mounting. \*Screw terminals. 1AC volts. Av. shpg. wt., 2 oz.



Stock No.	Type	Mfd	Amps	WVDC	Size	EACH
15 L 688	48P18*	.5	40	50	1x1 $\frac{13}{16}$ "	2.28
15 L 970	48P9*	.1	20	250+	1 $\frac{1}{16}$ x1 $\frac{19}{16}$ "	1.56
15 L 685	48P8*	.1	20	600	1 $\frac{1}{16}$ x1 $\frac{19}{16}$ "	1.56
15 L 683	46P12	.002	15	600	1/4x1 $\frac{3}{8}$ "	1.29
15 L 971	46P8	.005	15	600	1/4x1 $\frac{3}{8}$ "	1.29
15 L 972	47P6	.01	20	600	3/8x1 $\frac{1}{4}$ "	1.41
15 L 689	80P3*	.1	20	600	1 $\frac{1}{16}$ x1 $\frac{13}{16}$ "	1.77
15 L 973	47P12	.005	20	1000	3/8x1 $\frac{1}{4}$ "	1.44
15 L 974	47P13	.01	20	1000	3/8x1 $\frac{1}{2}$ "	1.56
15 L 992	47P14	.005	20	2500	1x1 $\frac{3}{16}$ "	1.74
15 L 993	47P15	.01	20	2500	1x1 $\frac{3}{16}$ "	1.86
15 L 697	47P16	.002	20	5000	1x1 $\frac{3}{16}$ "	1.92

## PLUG-IN TYPE FILTERS FOR RADIO, TV AND APPLIANCES



### CORNELL-DUBILIER "QUIETONE" FILTERS

- H** Type IF-18. Highly effective all-wave capacitive-inductive type of filter for suppression of severe interference. Used where ventilating or air conditioning units, washing machines, or machine tools interfere with reception on radio or television. Bakelite case, 6x3 $\frac{3}{4}$ x2 $\frac{1}{2}$ ", with line cord and plug attached. Has binding post for attachment of ground wire, if used. Rated at 115 volts, AC-DC, 5 amps. Shpg. wt., 4 lbs. 13 L 564..... 6.60
- J** Type IF-19. Effective capacitive-inductive type filter for use where interference is severe. Used to eliminate interference from electric fans, diathermy machines, neon signs, etc. Has mounting holes for permanent attachment to baseboard, back of receiver or any convenient location. Includes terminal for ground connection. Rated 115 volts AC-DC, 5 amps. Bakelite case, 4x2 $\frac{1}{4}$ x2 $\frac{1}{8}$ ". Shpg. wt., 1 $\frac{1}{2}$  lbs. 13 L 565..... 5.55
- K** Type IF-4. Plug-in, cylindrical filter for medium-intensity interference produced by fluorescent lights, electric shavers and similar devices. Well-suited for use with small receivers such as AC-DC midget sets, portable TV, etc. Filter plugs directly into wall; appliance or receiver plugs into filter. Rated 115 volts, AC-DC, 5 amps. 1 $\frac{3}{8}$ " diameter and 2" long. Shpg. wt., 5 oz. 13 L 568..... .90
- K** Type IF-6. Convenient plug-in filter for elimination of moderate interference. Especially suitable for suppression of interference caused by fluorescent lights, electric shavers, and similar devices. Connects between power line and appliance, or between power line and receiver. Rated at 115 volts, AC-DC, 5 amps. Size, 1 $\frac{3}{8}$ " diameter, 2" long. Shpg. wt., 6 oz. 13 L 569..... 1.41



### FEDTRO "TV TROUBLE TRAPPER"

Constant "K" type high-pass filter designed for elimination of television interference caused by signals below 55 mc. Quickly and easily installed at antenna terminals of TV set. Reduces interference caused by ignition systems, Amateur transmitters, appliances, X-ray equipment, diathermy machines, etc. Attenuation of undesired signals is in excess of 40 db. Size, 1 $\frac{1}{2}$ x3x $\frac{1}{2}$ ". Shpg. wt., 12 oz. 13 L 570..... 1.20

## CLARK ELECTRONICS

### "MICRO-DUCER"

- Resistance Varies with Small Force or Pressures
- Offers Unlimited Possibilities for Experimenters



Now you can have a pressure-transducer by just applying one drop of this unique pressure-sensitive paint to any conducting surface. The transducer formed has almost no weight or volume—resistance changes with force, pressure or strain. Requires application between two conducting surfaces. Numerous experiments can be performed—forms barometric pickup when vacuum coated; solid-state relay; magnetometer; amplifier, wind or water-pressure indicator, etc. Shpg. wt., 3 oz.

#### TYPE 5

1 oz. Bottle. High-sensitivity type—over 100,000 ohms resistance change per oz. of force. Range, 0-2 lbs. on 1/2" dia. area. 10 L 869..... 30.00

#### TYPE 9-A

1 oz. Bottle. Low-pressure type, 0-1 lb. Resistance varies from infinity to 30 ohms with 1 lb. force @ 75°F on drop of paint 1/4"x.002" thick. May be preloaded to provide smaller or larger changes of resistance. Operates relays, instruments, directly without amplification—even controls speed of miniature motors. 10 L 868..... 30.00

#### TYPE C-10

1 oz. Bottle. High-pressure type with force of 0-2000 pounds. Temperature range, -100°F to +400°F. 1/8"-diameter spot by .025" thick @ 200 lbs., has resistance change of 10,000 ohms. 10 L 860..... 30.00

# Make **ALLIED** Your Connector Headquarters

**Commercial and  
Military Types**

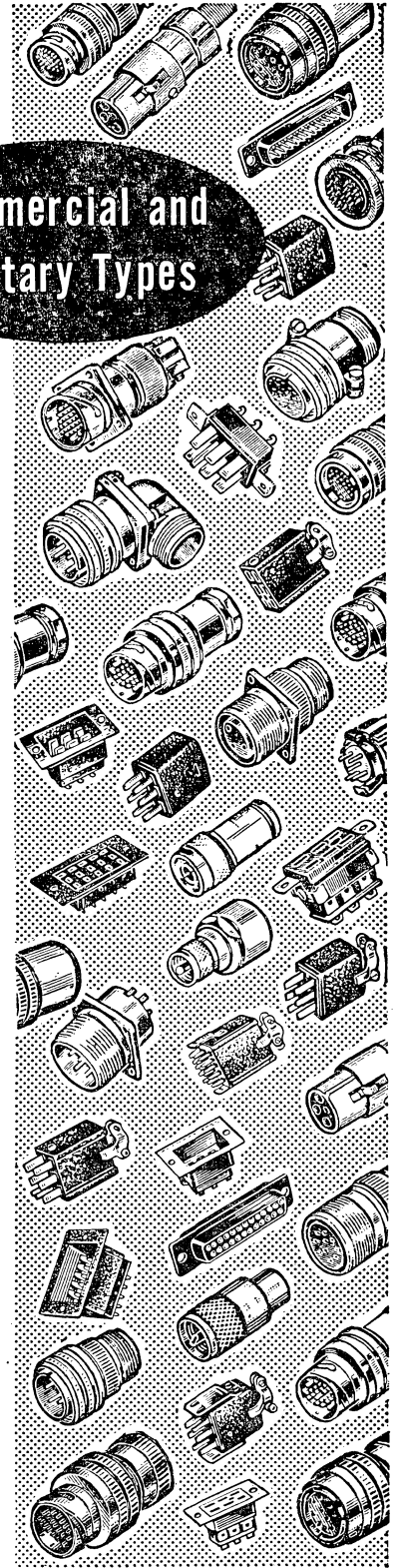
Stocked In Depth For  
**SAME-DAY SHIPMENT** at  
**FACTORY PRICES**

13 LOCATIONS

CALL THE OFFICE NEAREST YOU  
(See Page 1 For Locations)

EVERY ITEM LISTED IN THIS BOOK  
IS STOCKED AT ALLIED  
QUICK-REFERENCE INDEX TO  
CONNECTORS IN THIS CATALOG

Manufacturer	Page	OEM Prices Up To	MIL-Spec
<b>AMPHENOL</b>			
AN/MS.....	190-195	999	C-5015D
Series 67.....	196-197	199	C-5015E
MS-R.....	198	99	C-5015D
Series 48.....	199	99	C-26500
Series 165.....	199	99	C-19572
RF Cable Series.....	200-203	2499	*
*Connectors having prefix UG, MX, PL, SO, M, are under MIL Specs.			
Series 94, 115, 126.....	203	999	
Series 220, 221, 222.....	204	249	
Series 223.....	204	249	8384B
Series 17, 57, 74, 133, 143.....	205	2499	
Series 26, 64, 96.....	206	249	M-19833
Series 350.....	207	2499	STD-242 (Ships)
Audio and Microphone.....	208	999	
<b>CANNON</b> .....	208	99	
<b>CINCH JONES</b>			
Series 101, 201.....	211	999	
Series D.....	211	499	M-14F, STD 202A
Series 140, 141, 142.....	216	999	
Series 160, 161, 162, 170.....	217	999	
Series 300, 400, 500, 2400.....	212-215	999	
<b>ELCO</b> .....	207, 209-211, 257	999	
Series 5006.....	211	249	M-18794
<b>G-C ELECTRORAFT</b> .....	224, 225	499	
<b>HART &amp; HEGEMAN</b> .....	239	999	
<b>HARVEY HUBBELL</b> .....	239	499	
<b>SWITCHCRAFT</b> .....	209, 221, 222	999	
<b>VACO</b> .....	244	Any	



See Page 1 for the Allied Facility Nearest You

**ALLIED ELECTRONICS**  
SUBSIDIARY OF ALLIED RADIO



# Amphenol AN/MS Connector Insert Arrangements

## SERVICE RATINGS

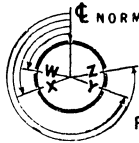
SERVICE.....	①	②	③	④	⑤	⑥
Max. Operating DC....	250	700	1250	1750	2450	4200
Sea Level Volts AC(rms)	200	500	900	1250	1750	3000

## CURRENT RATING

CONTACT SIZE....	20	16	12	8	4	0
AMPERES.....	10	22	41	73	135	245

1 Contact	2 Contact	2 Contact	3 Contact	4 Contact	5 Contact	6 Contact	7 Contact
②	③	③	④	③	②	①	②
②	②	3 Contact	②	②	②	②	②
③	②		②	②	②	①	②
③	③	②	②	②	③	②	②
②	③	②	④	④	③	③	②
③	④	②	③	②	②	④	②
④	②	②	③	③	③	③	③
⑤	②	②	4 Contact	③	③	②	③
②	③	③		①	③	③	③
③	③	③	②	③	③	③	④
⑤	④	③	③	②	④	②	④
⑥	⑤	③	②	5 Contact	④	7 Contact	⑤
③	③	②	②		①		②
③	③	②	②	②	③	①	②
④	②	③	②	②			
④	③	③					
②							
2 Contact							
②							
②							
②							
②							

# Amphenol AN/MS Connector Insert Arrangements



FRONT VIEW OF POSITIONS

See Pages 192-195 for Connector Listings. Contact sizes correspond in number coding to wire sizes.

**CODE OF WIRE SIZES**



ALTERNATE INSERT POSITIONS AVAILABLE

<b>A</b> W, X, Y or Z	<b>C</b> W, Y or Z	<b>E</b> X	<b>G</b> W or Y
<b>B</b> W, X or Y	<b>D</b> X or Y	<b>F</b> W or Z	

8 Contact	9 Contact	11 Contact	14 Contact	16 Contact	23 Contact	30 Contact	47 Contact
18-8	22-17	24-20	28-20	24-7	32-13	40-1	36-7
20-7	22-20	28-14	32-4	36-14	40-2	36-9	36-8
20-9	22-27	24-19	32-9	20-29	40-3	40-9	40-9
22-18	24-11	28-8	32-102	36-13	40-4	28-15	32-409
22-23	28-1	28-9	28-17	22-14	24-28	32-7	36-10
22-36	28-4	28-18	32-12	28-16	28-12	36-15	36-10
22-404	32-3	32-101	36-405	22-11	28-11	28-21	32-414
24-6	32-15	18-1	36-407	36-1	40-10	36-406	36-403
32-15	20-16	18-19	40-5	23-6	32-8	44-1	36-404
20-18	20-18	20-11	20-27	24-5			
20-21	20-18	20-11	20-27				
22-16	20-33	22-19	22-19				
		28-2	28-2				



# Latest Amphenol AN/MS Connectors



3100A Panel Receptacle



3101A Cable Receptacle



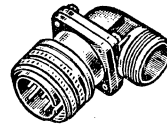
3102A Receptacle



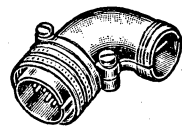
3106A Plug



3106B Plug, Split Rear Shell



3108A Angle Plug



3108B Angle Plug, Split Rear Shell

- Made in Accordance With Latest MIL Specs
- We Can Supply Any AN/MS Connector From Stock

All Positions: W, X, Y, Z Available from Stock—  
5c Extra Per Connector

Explanation of Series Nos. E.g.: 3102A-18-11P. "A" stands for solid shell ("B" split shell). "18" indicates shell size in 16ths of 1". "P"—male; "S"—female. Series to left of line (above) mate with those at right. "AN" and "MS" types are identical. All need cable clamp (see page 195) except 3102A. Av. wt., 6 oz.

**SEE PAGES 190 AND 191 FOR INSERT CONTACT ARRANGEMENTS**

**SEE PAGES 194 AND 195 FOR SERIES 3108A AND 3108B RIGHT-ANGLE PLUG LISTINGS**

Shell Insert	Series 3100A			Series 3101A			Series 3102A			Series 3106A			Series 3106B		
	EACH			EACH			EACH			EACH			EACH		
	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999
8S-1P	1.19	.99	.79	1.14	.95	.76	.77	.64	.51	1.04	.86	.69			
8S-1S	1.17	.98	.78	1.13	.94	.75	.75	.63	.50	1.02	.85	.68			
10S-2P	1.05	.88	.70	.90	.75	.60	.53	.44	.35	.92	.76	.61			
10S-2S	1.05	.88	.70	.90	.75	.60	.53	.44	.35	.92	.76	.61			
10SL-3P	.92	.76	.61	.87	.73	.58	.65	.54	.43						
10SL-3S										.89	.74	.59			
10SL-4P	.84	.70	.56	.80	.66	.53	.57	.48	.38						
10SL-4S										.86	.71	.57			
12-5P	1.07	.89	.71	1.20	1.00	.80	.65	.54	.43	1.07	.89	.71			
12-5S	1.23	1.03	.82	1.37	1.14	.91	.81	.68	.54	1.23	1.03	.82			
12S-2P	.95	.79	.63	1.05	.88	.70	.60	.50	.40	.99	.83	.66			
12S-2S	.99	.83	.66	1.10	.91	.73	.65	.54	.43	1.04	.86	.69			
12S-3P	.87	.73	.58	.98	.81	.65	.53	.44	.35	.92	.76	.61			
12S-3S	.92	.76	.61	1.02	.85	.68	.57	.48	.38	.96	.80	.64			
12S-4P	.95	.79	.63	1.05	.88	.70	.60	.50	.40	.99	.83	.66			
12S-4S	.92	.76	.61	1.02	.85	.68	.57	.48	.38	.96	.80	.64			
12SL-844P							1.20	1.00	.80						
12SL-844S										2.22	1.85	1.48			
14S-1P	.96	.80	.64	1.16	.96	.77	.62	.51	.41	1.02	.85	.68	1.28	1.06	.85
14S-1S	1.01	.84	.67	1.20	1.00	.80	.66	.55	.44	1.07	.89	.71	1.32	1.10	.88
14S-2P	.96	.80	.64	1.16	.96	.77	.62	.51	.41	1.02	.85	.68	1.28	1.06	.85
14S-2S	1.05	.88	.70	1.25	1.04	.83	.71	.59	.47	1.11	.93	.74	1.37	1.14	.91
14S-5P	1.08	.90	.72	1.28	1.06	.85	.74	.61	.49	1.14	.95	.76	1.40	1.16	.93
14S-5S	1.11	.93	.74	1.31	1.09	.87	.77	.64	.51	1.17	.98	.78	1.43	1.19	.95
14S-6P	1.19	.99	.79	1.38	1.15	.92	.84	.70	.56	1.25	1.04	.83	1.50	1.25	1.00
14S-6S	1.19	.99	.79	1.38	1.15	.92	.84	.70	.56	1.25	1.04	.83	1.50	1.25	1.00
14S-7P	.96	.80	.64	1.16	.96	.77	.62	.51	.41	1.02	.85	.68	1.28	1.06	.85
14S-7S	1.01	.84	.67	1.20	1.00	.80	.66	.55	.44	1.07	.89	.71	1.32	1.10	.88
14S-9P	.92	.76	.61	1.11	.93	.74	.57	.48	.38	.98	.81	.65	1.23	1.03	.82
14S-9S	.95	.79	.63	1.14	.95	.76	.60	.50	.40	1.01	.84	.67	1.26	1.05	.84
16-9P	1.26	1.05	.84	1.47	1.23	.98	.90	.75	.60	1.44	1.20	.96			
16-9S	1.34	1.11	.89	1.55	1.29	1.03	.98	.81	.65	1.52	1.26	1.01			
16-10P	1.19	.99	.79	1.40	1.16	.93	.83	.69	.55	1.37	1.14	.91			
16-10S	1.41	1.18	.94	1.62	1.35	1.08	1.05	.88	.70	1.59	1.33	1.06			
16-11P	1.08	.90	.72	1.29	1.08	.86	.72	.60	.48	1.26	1.05	.84			
16-11S	1.26	1.05	.84	1.47	1.23	.98	.90	.75	.60	1.44	1.20	.96			
16-13P	3.29	2.74	2.19	3.50	2.91	2.33	2.93	2.44	1.95	3.47	2.89	2.31			
16-13S	3.84	3.20	2.56	4.05	3.38	2.70	3.48	2.90	2.32	4.02	3.35	2.68			
16S-1P	1.19	.99	.79	1.34	1.11	.89	.81	.68	.54	1.25	1.04	.83	1.52	1.26	1.01
16S-1S	1.26	1.05	.84	1.41	1.18	.94	.89	.74	.59	1.32	1.10	.88	1.59	1.33	.96
16S-4P	1.11	.93	.74	1.26	1.05	.84	.74	.61	.49	1.17	.98	.78	1.44	1.20	.96
16S-4S	1.14	.95	.76	1.29	1.08	.86	.77	.64	.51	1.20	1.00	.80	1.47	1.23	.98
16S-5P	1.11	.93	.74	1.26	1.05	.84	.74	.61	.49	1.17	.98	.78	1.44	1.20	.96
16S-5S	1.17	.98	.78	1.32	1.10	.88	.80	.66	.53	1.23	1.03	.82	1.50	1.25	1.00
16S-8P	1.14	.95	.76	1.29	1.08	.86	.77	.64	.51	1.20	1.00	.80	1.47	1.23	.98
16S-8S	1.20	1.00	.80	1.35	1.13	.90	.83	.69	.55	1.26	1.05	.84	1.53	1.28	1.02
18-1P	1.50	1.25	1.00	1.76	1.46	1.17	1.07	.89	.71	1.67	1.39	1.11	2.06	1.71	1.37
18-1S	1.70	1.41	1.13	1.95	1.63	1.30	1.26	1.05	.84	1.86	1.55	1.24	2.25	1.88	1.50
18-3P	1.20	1.00	.80	1.46	1.21	.97	.77	.64	.51	1.37	1.14	.91	1.76	1.46	1.17
18-3S	1.41	1.18	.94	1.67	1.39	1.11	.98	.81	.65	1.58	1.31	1.05	1.97	1.64	1.31
18-4P	1.23	1.03	.82	1.49	1.24	.99	.80	.66	.53	1.40	1.16	.93	1.79	1.49	1.19
18-4S	1.34	1.11	.89	1.59	1.33	1.06	.90	.75	.60	1.50	1.25	1.00	1.89	1.58	1.26
18-5P	1.65	1.38	1.10	1.91	1.59	1.27	1.22	1.01	.81	1.82	1.51	1.21	2.21	1.84	1.47
18-5S	1.41	1.18	.94	1.67	1.39	1.11	.98	.81	.65	1.58	1.31	1.05	1.97	1.64	1.31
18-8P	1.49	1.24	.99	1.74	1.45	1.16	1.05	.88	.70	1.65	1.38	1.10	2.04	1.70	1.36
18-8S	1.62	1.35	1.08	1.88	1.56	1.25	1.19	.99	.79	1.79	1.49	1.19	2.18	1.81	1.45
18-9P	1.44	1.20	.96	1.70	1.41	1.13	1.01	.84	.67	1.61	1.34	1.07	2.00	1.66	1.33
18-9S	1.61	1.34	1.07	1.86	1.55	1.24	1.17	.98	.78	1.77	1.48	1.18	2.16	1.80	1.44
18-11P	1.52	1.26	1.01	1.77	1.48	1.18	1.08	.90	.72	1.68	1.40	1.12	2.07	1.73	1.38
18-11S	1.70	1.41	1.13	1.95	1.63	1.30	1.26	1.05	.84	1.86	1.55	1.24	2.25	1.88	1.50

# Latest Amphenol AN/MS Connectors

**ATTENTION—OEM PRICES FOR QUANTITY BUYERS**

Allied can supply any Amphenol connector types at OEM quantity prices. And, you are always assured of prompt delivery of your order, too. Write, wire or phone for a price quotation on the connectors you require to meet your particular needs.

**SEE PAGES 190 AND 191 FOR INSERT CONTACT ARRANGEMENTS  
SEE PAGES 194 AND 195 FOR SERIES 3108A AND 3108B RIGHT-ANGLE PLUG LISTINGS**

Shell Insert	Series 3100A			Series 3101A			Series 3102A			Series 3106A			Series 3106B		
	EACH			EACH			EACH			EACH			EACH		
	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999
18-12P	1.43	1.19	.95	1.68	1.40	1.12	.99	.83	.66	1.59	1.33	1.06	1.98	1.65	1.32
18-12S	1.56	1.30	1.04	1.82	1.51	1.21	1.13	.94	.75	1.73	1.44	1.15	2.12	1.76	1.41
18-15P	5.72	4.76	3.81	5.97	4.98	3.98	5.28	4.40	3.52	5.88	4.90	3.92	6.27	5.23	4.18
18-15S	6.74	5.61	4.49	6.99	5.83	4.66	6.30	5.25	4.20	6.90	5.75	4.60	7.29	6.08	4.86
18-16P	1.38	1.15	.92	1.64	1.36	1.09	.95	.79	.63	1.55	1.29	1.03	1.94	1.61	1.29
18-16S	1.62	1.35	1.08	1.88	1.56	1.25	1.19	.99	.79	1.79	1.49	1.19	2.18	1.81	1.45
20-4P	1.47	1.23	.98	1.73	1.44	1.15	1.07	.89	.71	1.74	1.45	1.16	1.95	1.63	1.30
20-4S	1.70	1.41	1.13	1.95	1.63	1.30	1.29	1.08	.86	1.97	1.64	1.31	2.18	1.81	1.45
20-7P	1.47	1.23	.98	1.73	1.44	1.15	1.07	.89	.71	1.74	1.45	1.16	1.95	1.63	1.30
20-7S	1.67	1.39	1.11	1.92	1.60	1.28	1.26	1.05	.84	1.94	1.61	1.29	2.15	1.79	1.43
20-8P	1.77	1.48	1.18	2.03	1.69	1.35	1.37	1.14	.91	2.04	1.70	1.36	2.25	1.88	1.50
20-8S	2.10	1.75	1.40	2.36	1.96	1.57	1.70	1.41	1.13	2.37	1.98	1.58	2.58	2.15	1.72
20-9P	1.77	1.48	1.18	2.03	1.69	1.35	1.37	1.14	.91	2.04	1.70	1.36	2.25	1.88	1.50
20-9S	2.00	1.66	1.33	2.25	1.88	1.50	1.59	1.33	1.06	2.27	1.89	1.51	2.48	2.06	1.65
20-14P	1.85	1.54	1.23	2.10	1.75	1.40	1.44	1.20	.96	2.12	1.76	1.41	2.33	1.94	1.55
20-14S	2.39	1.99	1.59	2.64	2.20	1.76	1.98	1.65	1.32	2.66	2.21	1.77	2.87	2.39	1.91
20-15P	1.62	1.35	1.08	1.88	1.56	1.25	1.22	1.01	.81	1.89	1.58	1.26	2.10	1.75	1.40
20-15S	2.30	1.91	1.53	2.55	2.13	1.70	1.89	1.58	1.26	2.57	2.14	1.71	2.78	2.31	1.85
20-16P	1.59	1.33	1.06	1.85	1.54	1.23	1.19	.99	.79	1.86	1.55	1.24	2.07	1.73	1.38
20-16S	1.91	1.59	1.27	2.16	1.80	1.44	1.50	1.25	1.00	2.18	1.81	1.45	2.39	1.99	1.59
20-17P	1.77	1.48	1.18	2.03	1.69	1.35	1.37	1.14	.91	2.04	1.70	1.36	2.25	1.88	1.50
20-17S	2.03	1.69	1.35	2.28	1.90	1.52	1.62	1.35	1.08	2.30	1.91	1.53	2.51	2.09	1.67
20-18P	1.80	1.50	1.20	2.06	1.71	1.37	1.40	1.16	.93	2.07	1.73	1.38	2.28	1.90	1.52
20-18S	2.00	1.66	1.33	2.25	1.88	1.50	1.59	1.33	1.06	2.27	1.89	1.51	2.48	2.06	1.65
20-21P	1.64	1.36	1.09	1.89	1.68	1.26	1.23	1.03	.82	1.91	1.59	1.27	2.12	1.76	1.41
20-21S	1.83	1.53	1.22	2.09	1.74	1.39	1.43	1.19	.95	2.10	1.75	1.40	2.31	1.93	1.54
20-22P	2.06	1.71	1.37	2.31	1.93	1.54	1.65	1.38	1.10	2.33	1.94	1.55	2.54	2.11	1.69
20-22S	2.45	2.04	1.63	2.70	2.25	1.80	2.04	1.70	1.36	2.72	2.26	1.81	2.93	2.44	1.95
20-23P	1.65	1.38	1.10	1.91	1.59	1.27	1.25	1.04	.83	1.92	1.60	1.28	2.13	1.78	1.42
20-23S	1.98	1.65	1.32	2.24	1.86	1.49	1.58	1.31	1.05	2.25	1.88	1.50	2.46	2.05	1.64
20-24P	1.77	1.48	1.18	2.03	1.69	1.35	1.37	1.14	.91	2.04	1.70	1.36	2.25	1.88	1.50
20-24S	2.12	1.76	1.41	2.37	1.98	1.58	1.71	1.43	1.14	2.39	1.99	1.59	2.60	2.16	1.73
20-27P	1.67	1.39	1.11	1.92	1.60	1.28	1.26	1.05	.84	1.94	1.61	1.29	2.15	1.79	1.43
20-27S	1.98	1.65	1.32	2.24	1.86	1.49	1.58	1.31	1.05	2.25	1.88	1.50	2.46	2.05	1.64
20-29P	1.80	1.50	1.20	2.06	1.71	1.37	1.40	1.16	.93	2.07	1.73	1.38	2.28	1.90	1.52
20-29S	2.18	1.81	1.45	2.43	2.03	1.62	1.77	1.48	1.18	2.45	2.04	1.63	2.66	2.21	1.77
20-33P	1.82	1.51	1.21	2.07	1.73	1.38	1.41	1.18	.94	2.09	1.74	1.39	2.30	1.91	1.53
20-33S	2.00	1.66	1.33	2.25	1.88	1.50	1.59	1.33	1.06	2.27	1.89	1.51	2.48	2.06	1.65
22-2P	1.98	1.65	1.32	2.15	1.79	1.43	1.47	1.23	.98	2.31	1.93	1.54	2.55	2.13	1.70
22-2S	2.37	1.98	1.58	2.54	2.11	1.69	1.86	1.55	1.24	2.70	2.25	1.80	2.94	2.45	1.96
22-4P	2.01	1.68	1.34	2.18	1.81	1.45	1.50	1.25	1.00	2.34	1.95	1.56	2.58	2.15	1.72
22-4S	2.57	2.14	1.71	2.73	2.28	1.82	2.06	1.71	1.37	2.90	2.41	1.93	3.14	2.61	2.09
22-5P	1.80	1.50	1.20	1.97	1.64	1.31	1.29	1.08	.86	2.13	1.78	1.42	2.37	1.98	1.58
22-5S	2.27	1.89	1.51	2.43	2.03	1.62	1.76	1.46	1.17	2.60	2.16	1.73	2.84	2.36	1.89
22-9P	1.64	1.36	1.09	1.80	1.50	1.20	1.13	.94	.75	1.97	1.64	1.31	2.21	1.84	1.47
22-9S	2.06	1.71	1.37	2.22	1.85	1.48	1.55	1.29	1.03	2.39	1.99	1.59	2.63	2.19	1.75
22-10P	1.59	1.33	1.06	1.76	1.46	1.17	1.08	.90	.72	1.92	1.60	1.28	2.16	1.80	1.44
22-10S	1.77	1.48	1.18	1.94	1.61	1.29	1.26	1.05	.84	2.10	1.75	1.40	2.34	1.95	1.56
22-11P	1.47	1.23	.98	1.64	1.36	1.09	.96	.80	.64	1.80	1.50	1.20	2.04	1.70	1.36
22-11S	1.68	1.40	1.12	1.85	1.54	1.23	1.17	.98	.78	2.01	1.68	1.34	2.25	1.88	1.50
22-12P	2.00	1.66	1.33	2.16	1.80	1.44	1.49	1.24	.99	2.33	1.94	1.55	2.57	2.14	1.71
22-12S	2.54	2.11	1.69	2.70	2.25	1.80	2.03	1.69	1.35	2.87	2.39	1.91	3.11	2.59	2.07
22-14P	2.00	1.66	1.33	2.16	1.80	1.44	1.49	1.24	.99	2.33	1.94	1.55	2.57	2.14	1.71
22-14S	2.39	1.99	1.59	2.55	2.13	1.70	1.88	1.56	1.25	2.72	2.26	1.81	2.96	2.46	1.97
22-15P	2.01	1.68	1.34	2.18	1.81	1.45	1.50	1.25	1.00	2.34	1.95	1.56	2.58	2.15	1.72
22-15S	2.39	1.99	1.59	2.55	2.13	1.70	1.88	1.56	1.25	2.72	2.26	1.81	2.96	2.46	1.97
22-17P	1.85	1.54	1.23	2.01	1.68	1.34	1.34	1.11	.89	2.18	1.81	1.45	2.42	2.01	1.61
22-17S	2.21	1.84	1.47	2.37	1.98	1.58	1.70	1.41	1.13	2.54	2.11	1.69	2.78	2.31	1.85
22-18P	1.71	1.43	1.14	1.88	1.56	1.25	1.20	1.00	.80	2.04	1.70	1.36	2.28	1.90	1.52
22-18S	1.86	1.55	1.24	2.03	1.69	1.35	1.35	1.13	.90	2.19	1.83	1.46	2.43	2.03	1.62
22-19P	2.28	1.90	1.52	2.45	2.04	1.63	1.77	1.48	1.18	2.61	2.18	1.74	2.85	2.38	1.90
22-19S	2.27	1.89	1.51	2.43	2.03	1.62	1.76	1.46	1.17	2.60	2.16	1.73	2.84	2.36	1.89
22-22P	2.34	1.95	1.56	2.51	2.09	1.67	1.83	1.53	1.22	2.67	2.23	1.78	2.91	2.43	1.94
22-22S	2.87	2.39	1.91	3.03	2.53	2.02	2.36	1.96	1.57	3.20	2.66	2.13	3.44	2.86	2.29
22-23P	2.12	1.76	1.41	2.28	1.90	1.52	1.61	1.34	1.07	2.45	2.04	1.63	2.69	2.24	1.79
22-23S	2.72	2.26	1.81	2.88	2.40	1.92	2.21	1.84	1.47	3.05	2.54	2.03	3.29	2.74	2.19
22-36P	9.39	7.83	6.26	9.56	7.96	6.37	8.88	7.40	5.92	9.72	8.10	6.48	9.96	8.30	6.64
22-36S	10.29	8.58	6.86	10.46	8.71	6.97	9.78	8.15	6.52	10.62	8.85	7.08	10.86	9.05	7.24

**AN/MS Connectors Are Continued on the Next Page**

# Latest Amphenol AN/MS Connectors

SEE PAGES 190 AND 191 FOR INSERT CONTACT ARRANGEMENTS

Shell Insert	Series 3100A			Series 3101A			Series 3102A			Series 3106A			Series 3106B		
	EACH			EACH			EACH			EACH			EACH		
	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999	1-49	50-99	100-999
24-2P	2.21	1.84	1.47	2.40	2.00	1.60	1.68	1.40	1.12	2.55	2.13	1.70	2.78	2.31	1.85
24-2S	2.63	2.19	1.75	2.82	2.35	1.88	2.10	1.75	1.40	2.97	2.48	1.98	3.20	2.66	2.13
24-5P	2.42	2.01	1.61	2.61	2.18	1.74	1.89	1.58	1.26	2.76	2.30	1.84	2.99	2.49	1.99
24-5S	2.48	2.06	1.65	2.67	2.23	1.78	1.95	1.63	1.30	2.82	2.35	1.88	3.05	2.54	2.03
24-6P	2.27	1.89	1.51	2.46	2.05	1.64	1.74	1.45	1.16	2.61	2.18	1.74	2.84	2.36	1.89
24-6S	2.96	2.46	1.97	3.15	2.63	2.10	2.43	2.03	1.62	3.30	2.75	2.20	3.53	2.94	2.35
24-7P	2.24	1.86	1.49	2.43	2.03	1.62	1.71	1.43	1.14	2.58	2.15	1.72	2.81	2.34	1.87
24-7S	2.60	2.16	1.73	2.79	2.33	1.86	2.07	1.73	1.38	2.94	2.45	1.96	3.17	2.64	2.11
24-10P	3.18	2.65	2.12	3.38	2.81	2.25	2.66	2.21	1.77	3.53	2.94	2.35	3.75	3.13	2.50
24-10S	4.28	3.56	2.85	4.47	3.73	2.98	3.75	3.13	2.50	4.62	3.85	3.08	4.85	4.04	3.23
24-11P	2.79	2.33	1.86	2.99	2.49	1.99	2.27	1.89	1.51	3.14	2.61	2.09	3.36	2.80	2.24
24-11S	3.48	2.90	2.32	3.68	3.06	2.45	2.96	2.46	1.97	3.83	3.19	2.55	4.05	3.38	2.70
24-12P	2.81	2.34	1.87	3.00	2.50	2.00	2.28	1.90	1.52	3.15	2.63	2.10	3.38	2.81	2.25
24-12S	3.41	2.84	2.27	3.60	3.00	2.40	2.88	2.40	1.92	3.75	3.13	2.50	3.98	3.31	2.65
24-20P	2.24	1.86	1.49	2.43	2.03	1.62	1.71	1.43	1.14	2.58	2.15	1.72	2.81	2.34	1.87
24-20S	2.30	1.91	1.53	2.49	2.08	1.66	1.77	1.48	1.18	2.64	2.20	1.76	2.87	2.39	1.91
24-27P	2.03	1.69	1.35	2.22	1.85	1.48	1.50	1.25	1.00	2.37	1.98	1.58	2.60	2.16	1.73
24-27S	2.10	1.75	1.40	2.30	1.91	1.53	1.58	1.31	1.05	2.45	2.04	1.63	2.67	2.23	1.78
24-28P	2.42	2.01	1.61	2.61	2.18	1.74	1.89	1.58	1.26	2.76	2.30	1.84	2.99	2.49	1.99
24-28S	2.85	2.38	1.90	3.05	2.54	2.03	2.33	1.94	1.55	3.20	2.66	2.13	3.42	2.85	2.28
28-2P	2.42	2.01	1.61	2.78	2.31	1.85	1.73	1.44	1.15	2.93	2.44	1.95	2.93	2.44	1.95
28-2S	2.67	2.23	1.78	3.03	2.53	2.02	1.98	1.65	1.32	3.18	2.65	2.12	3.18	2.65	2.12
28-9P	2.58	2.15	1.72	2.94	2.45	1.96	1.89	1.58	1.26	3.09	2.58	2.06	3.09	2.58	2.06
28-9S	2.90	2.41	1.93	3.26	2.71	2.17	2.21	1.84	1.47	3.41	2.84	2.27	3.41	2.84	2.27
28-11P	2.79	2.33	1.86	3.15	2.63	2.10	2.10	1.75	1.40	3.30	2.75	2.20	3.30	2.75	2.20
28-11S	3.30	2.75	2.20	3.66	3.05	2.44	2.61	2.18	1.74	3.81	3.18	2.54	3.81	3.18	2.54
28-12P	2.82	2.35	1.88	3.18	2.65	2.12	2.13	1.78	1.42	3.33	2.78	2.22	3.33	2.78	2.22
28-12S	3.36	2.80	2.24	3.72	3.10	2.48	2.67	2.23	1.78	3.67	3.23	2.58	3.87	3.23	2.58
28-15P	3.27	2.73	2.18	3.63	3.03	2.42	2.58	2.15	1.72	3.78	3.15	2.52	3.78	3.15	2.52
28-15S	3.77	3.14	2.51	4.13	3.44	2.75	3.08	2.56	2.05	4.28	3.56	2.85	4.28	3.56	2.85
28-16P	2.93	2.44	1.95	3.29	2.74	2.19	2.24	1.86	1.49	3.44	2.86	2.29	3.44	2.86	2.29
28-16S	3.17	2.64	2.11	3.53	2.94	2.35	2.48	2.06	1.65	3.68	3.06	2.45	3.68	3.06	2.45
28-17P	2.39	1.99	1.59	2.75	2.29	1.83	1.70	1.41	1.13	2.90	2.41	1.93	2.90	2.41	1.93
28-17S	2.91	2.43	1.94	3.07	2.73	2.18	2.22	1.85	1.48	3.42	2.85	2.28	3.42	2.85	2.28
28-18P	2.72	2.26	1.81	3.08	2.56	2.05	2.03	1.69	1.35	3.23	2.69	2.15	3.23	2.69	2.15
28-18S	2.94	2.45	1.96	3.30	2.75	2.20	2.25	1.88	1.50	3.45	2.88	2.30	3.45	2.88	2.30
28-20P	2.91	2.43	1.94	3.27	2.73	2.18	2.22	1.85	1.48	3.42	2.85	2.28	3.42	2.85	2.28
28-20S	3.20	2.66	2.13	3.56	2.96	2.37	2.51	2.09	1.67	3.71	3.09	2.47	3.71	3.09	2.47
28-21P	3.30	2.75	2.20	3.66	3.05	2.44	2.61	2.18	1.74	3.81	3.18	2.54	3.81	3.18	2.54
28-21S	3.89	3.24	2.59	4.25	3.54	2.83	3.20	2.66	2.13	4.40	3.66	2.93	4.40	3.66	2.93
32-7P	4.25	3.54	2.83	4.40	3.66	2.93	3.27	2.73	2.18	4.88	4.06	3.25	4.83	4.03	3.22
32-7S	4.88	4.06	3.25	5.03	4.19	3.35	3.90	3.25	2.60	5.51	4.59	3.67	5.46	4.55	3.64
32-13P	3.42	2.85	2.28	3.57	2.98	2.38	2.45	2.04	1.63	4.05	3.38	2.70	4.01	3.34	2.67
32-13S	3.86	3.21	2.57	4.01	3.34	2.67	2.88	2.40	1.92	4.49	3.74	2.99	4.44	3.70	2.96
32-17P	4.80	4.00	3.20	4.95	4.13	3.30	3.83	3.19	2.55	5.43	4.53	3.62	5.39	4.49	3.59
32-17S	5.25	4.38	3.50	5.40	4.50	3.60	4.28	3.56	2.85	5.88	4.90	3.92	5.84	4.86	3.89
36-7P	5.40	4.50	3.60	5.67	4.73	3.78	4.13	3.44	2.75	7.52	6.26	5.01	7.78	6.41	5.16
36-7S	5.99	4.99	3.99	6.26	5.21	4.17	4.71	3.93	3.14	8.10	6.75	5.40	8.36	7.00	5.65
36-8P	5.27	4.39	3.51	5.54	4.61	3.69	3.99	3.33	2.66	7.38	6.15	4.92	7.64	6.41	5.16
36-8S	5.64	4.70	3.76	5.91	4.93	3.94	4.37	3.64	2.91	7.76	6.46	5.17	8.02	6.67	5.32
36-10P	4.95	4.13	3.30	5.22	4.35	3.48	3.68	3.06	2.45	7.07	5.89	4.71	6.33	5.16	4.03
36-10S	5.64	4.70	3.76	5.91	4.93	3.94	4.37	3.64	2.91	7.76	6.46	5.17	8.02	6.67	5.32
36-405P	7.92	6.60	5.28	8.19	6.83	5.46	6.65	5.54	4.43	10.04	8.36	6.69	8.30	6.91	5.53
36-405S	10.01	8.34	6.67	10.28	8.56	6.85	8.73	7.28	5.82	12.12	10.10	8.08	10.38	8.65	6.92

Shell Insert	Series 3108A			Series 3108B			Shell Insert	Series 3108A			Series 3108B		
	EACH			EACH				EACH			EACH		
	1-49	50-99	100-999	1-49	50-99	100-999		1-49	50-99	100-999	1-49	50-99	100-999
8S-1P	1.40	1.16	.93	.....	.....	.....	14S-5P	1.88	1.56	1.25	1.20	1.00	.80
8S-1S	1.38	1.15	.92	.....	.....	.....	14S-5S	1.91	1.59	1.27	1.23	1.03	.82
10S-2P	1.56	1.30	1.04	.96	.80	.64	14S-6P	1.98	1.65	1.32	1.31	1.09	.87
10S-2S	1.56	1.30	1.04	.96	.80	.64	14S-6S	1.98	1.65	1.32	1.31	1.09	.87
10SL-3S	1.61	1.34	1.07	1.11	.93	.74	14S-7P	1.76	1.46	1.17	1.08	.90	.72
10SL-4S	1.58	1.31	1.05	1.08	.90	.72	14S-7S	1.80	1.50	1.20	1.13	.94	.75
12-S-P	1.80	1.50	1.20	1.16	.96	.77	14S-9P	1.71	1.43	1.14	1.04	.86	.69
12-S-S	1.97	1.64	1.31	1.32	1.10	.88	14S-9S	1.74	1.45	1.16	1.07	.89	.71
12S-2P	1.91	1.59	1.27	1.31	1.09	.87	16-9P	2.48	2.06	1.65	1.56	1.30	1.04
12S-2S	1.95	1.63	1.30	1.35	1.13	.90	16-9S	2.55	2.13	1.70	1.64	1.36	1.09
12S-3P	1.83	1.53	1.22	1.23	1.03	.82	16-10P	2.40	2.00	1.60	1.49	1.24	.99
12S-3S	1.88	1.56	1.25	1.28	1.06	.85	16-10S	2.63	2.19	1.75	1.71	1.43	1.14
12S-4P	1.91	1.59	1.27	1.31	1.09	.87	16-11P	2.30	1.91	1.53	1.38	1.15	.92
12S-4S	1.88	1.56	1.25	1.28	1.06	.85	16-11S	2.48	2.06	1.65	1.56	1.30	1.04
12SL-844S	3.36	2.80	2.24	.....	.....	.....	16-13P	4.50	3.75	3.00	3.59	2.99	2.39
14S-1P	1.76	1.46	1.17	1.08	.90	.72	16-13S	5.06	4.21	3.37	4.14	3.45	2.76
14S-1S	1.80	1.50	1.20	1.13	.94	.75	16S-1P	2.48	2.06	1.65	1.43	1.19	.95
14S-2P	1.76	1.46	1.17	1.08	.90	.72	16S-1S	2.55	2.13	1.70	1.50	1.25	1.00
14S-2S	1.85	1.54	1.23	1.17	.98	.78	16S-4P	2.40	2.00	1.60	1.35	1.13	.90
							16S-4S	2.43	2.03	1.62	1.38	1.15	.92

# Latest Amphenol AN/MS Connectors

SEE PAGES 190 AND 191 FOR INSERT CONTACT ARRANGEMENTS

Shell Insert	Series 3108A			Series 3108B			Shell Insert	Series 3108A			Series 3108B		
	EACH			EACH				EACH			EACH		
	1-49	50-99	100-999	1-49	50-99	100-999		1-49	50-99	100-999	1-49	50-99	100-999
16S-5P	2.40	2.00	1.60	1.35	1.13	.90	22-17P	3.71	3.09	2.47	2.33	1.94	1.55
16S-5S	2.46	2.05	1.64	1.41	1.18	.94	22-17S	4.07	3.39	2.71	2.69	2.24	1.79
16S-8P	2.43	2.03	1.62	1.38	1.15	.92	22-18P	3.57	2.98	2.38	2.19	1.83	1.46
16S-8S	2.49	2.08	1.66	1.44	1.20	.96	22-18S	3.72	3.10	2.48	2.34	1.95	1.56
18-1P	3.05	2.54	2.03	1.95	1.63	1.30	22-19P	4.14	3.45	2.76	2.76	2.30	1.84
18-1S	3.24	2.70	2.16	2.15	1.79	1.43	22-19S	4.13	3.44	2.75	2.75	2.29	1.83
18-3P	2.75	2.29	1.83	1.65	1.38	1.10	22-22P	4.20	3.50	2.80	2.82	2.35	1.88
18-3S	2.96	2.46	1.97	1.86	1.55	1.24	22-22S	4.73	3.94	3.15	3.35	2.79	2.23
18-4P	2.78	2.31	1.85	1.68	1.40	1.12	22-23P	3.98	3.31	2.65	2.60	2.16	1.73
18-4S	2.88	2.40	1.92	1.79	1.49	1.19	22-23S	4.58	3.81	3.05	3.20	2.66	2.13
18-5P	3.20	2.66	2.13	2.10	1.75	1.40	24-2P	4.43	3.69	2.95	2.64	2.20	1.76
18-5S	2.96	2.46	1.97	1.86	1.55	1.24	24-2S	4.85	4.04	3.23	3.06	2.55	2.04
18-8P	3.03	2.53	2.02	1.94	1.61	1.29	24-5P	4.64	3.86	3.09	2.85	2.38	1.90
18-8S	3.17	2.64	2.11	2.07	1.73	1.38	24-5S	4.70	3.91	3.13	2.91	2.43	1.94
18-9P	2.99	2.49	1.99	1.89	1.58	1.26	24-7P	4.46	3.71	2.97	2.67	2.23	1.78
18-9S	3.15	2.63	2.10	2.06	1.71	1.37	24-7S	4.82	4.01	3.21	3.03	2.53	2.02
18-11P	3.06	2.55	2.04	1.97	1.64	1.31	24-10P	5.40	4.50	3.60	3.62	3.01	2.41
18-11S	3.24	2.70	2.16	2.15	1.79	1.43	24-10S	6.50	5.41	4.33	4.71	3.93	3.14
18-12P	2.97	2.48	1.98	1.88	1.56	1.25	24-11P	5.01	4.18	3.34	3.23	2.69	2.15
18-12S	3.11	2.59	2.07	2.01	1.68	1.34	24-11S	5.70	4.75	3.80	3.92	3.26	2.61
18-15P	7.26	6.05	4.84	6.17	5.14	4.11	24-12P	5.03	4.19	3.35	3.24	2.70	2.16
18-15S	8.28	6.90	5.52	7.19	5.99	4.79	24-12S	5.63	4.69	3.75	3.84	3.20	2.56
18-16P	2.93	2.44	1.95	1.83	1.53	1.22	24-20P	4.46	3.71	2.97	2.67	2.23	1.78
18-16S	3.17	2.64	2.11	2.07	1.73	1.38	24-20S	4.52	3.76	3.01	2.73	2.28	1.82
20-4P	3.33	2.78	2.22	2.03	1.69	1.35	24-27P	4.25	3.54	2.83	2.46	2.05	1.64
20-4S	3.56	2.96	2.37	2.25	1.88	1.50	24-27S	4.32	3.60	2.88	2.54	2.11	1.69
20-7P	3.33	2.78	2.22	2.03	1.69	1.35	24-28P	4.64	3.86	3.09	2.85	2.38	1.90
20-7S	3.53	2.94	2.35	2.22	1.85	1.48	24-28S	5.07	4.23	3.38	3.29	2.74	2.19
20-8P	3.63	3.03	2.42	2.33	1.94	1.55	28-2P	4.73	3.94	3.15	2.87	2.39	1.91
20-8S	3.96	3.30	2.64	2.66	2.21	1.77	28-2S	4.98	4.15	3.32	3.12	2.60	2.08
20-9P	3.63	3.03	2.42	2.33	1.94	1.55	28-9P	4.89	4.08	3.26	3.03	2.53	2.02
20-9S	3.86	3.21	2.57	2.55	2.13	1.70	28-9S	5.21	4.34	3.47	3.35	2.79	2.23
20-14P	3.71	3.09	2.47	2.40	2.00	1.60	28-11P	5.10	4.25	3.40	3.24	2.70	2.16
20-14S	4.25	3.54	2.83	2.94	2.45	1.96	28-11S	5.61	4.68	3.74	3.75	3.13	2.50
20-15P	3.48	2.90	2.32	2.18	1.81	1.45	28-12P	5.13	4.28	3.42	3.27	2.73	2.18
20-15S	4.16	3.46	2.77	2.85	2.38	1.90	28-12S	5.67	4.73	3.78	3.81	3.18	2.54
20-16P	3.45	2.88	2.30	2.15	1.79	1.43	28-15P	5.58	4.65	3.72	3.72	3.10	2.48
20-16S	3.77	3.14	2.51	2.46	2.05	1.64	28-15S	6.08	5.06	4.05	4.22	3.51	2.81
20-18P	3.66	3.05	2.44	2.36	1.96	1.57	28-16P	5.24	4.36	3.49	3.38	2.81	2.25
20-18S	3.86	3.21	2.57	2.55	2.13	1.70	28-16S	5.48	4.56	3.65	3.62	3.01	2.41
20-23P	3.51	2.93	2.34	2.21	1.84	1.47	28-17P	4.70	3.91	3.13	2.84	2.36	1.89
20-23S	3.84	3.20	2.56	2.54	2.11	1.69	28-17S	5.22	4.35	3.48	3.36	2.80	2.24
20-27P	3.53	2.94	2.35	2.22	1.85	1.48	28-18P	5.03	4.19	3.35	3.17	2.64	2.11
20-27S	3.84	3.20	2.56	2.54	2.11	1.69	28-18S	5.25	4.38	3.50	3.39	2.83	2.26
20-29P	3.66	3.05	2.44	2.36	1.96	1.57	28-20P	5.22	4.35	3.48	3.36	2.80	2.24
20-29S	4.04	3.36	2.69	2.73	2.28	1.82	28-20S	5.51	4.59	3.67	3.65	3.04	2.43
20-33P	3.68	3.06	2.45	2.37	1.98	1.58	28-21P	5.61	4.68	3.74	3.75	3.13	2.50
20-33S	3.86	3.21	2.57	2.55	2.13	1.70	28-21S	6.20	5.16	4.13	4.34	3.61	2.89
22-2P	3.84	3.20	2.56	2.46	2.05	1.64	32-7P	7.25	6.04	4.83	5.03	4.19	3.35
22-2S	4.23	3.53	2.82	2.85	2.38	1.90	32-7S	7.88	6.56	5.25	5.66	4.71	3.77
22-4P	3.87	3.23	2.58	2.49	2.08	1.66	32-13P	6.42	5.35	4.28	4.20	3.50	2.80
22-4S	4.43	3.69	2.95	3.05	2.54	2.03	32-13S	6.86	5.71	4.57	4.64	3.86	3.09
22-5P	3.66	3.05	2.44	2.28	1.90	1.52	32-17P	7.80	6.50	5.20	5.58	4.65	3.72
22-5S	4.13	3.44	2.75	2.75	2.29	1.83	32-17S	8.25	6.88	5.50	6.03	5.03	4.02
22-11P	3.33	2.78	2.22	1.95	1.63	1.30	36-7P	8.55	7.13	5.70	6.08	5.06	4.05
22-11S	3.54	2.95	2.36	2.16	1.80	1.44	36-7S	9.14	7.61	6.09	6.66	5.55	4.44
22-12P	3.86	3.21	2.57	2.48	2.06	1.65	36-8P	8.42	7.01	5.61	5.94	4.95	3.96
22-12S	4.40	3.66	2.93	3.02	2.51	2.01	36-8S	8.79	7.33	5.86	6.32	5.26	4.21
22-14P	3.86	3.21	2.57	2.48	2.06	1.65	36-10P	8.10	6.75	5.40	5.63	4.69	3.75
22-14S	4.25	3.54	2.83	2.87	2.39	1.91	36-10S	8.79	7.33	5.86	6.32	5.26	4.21

## DUST CAPS

Protect against live circuits, from dirt and dust when connector is not in use. Have a soft rubber gasket to form a waterproof seal. Attached chain prevents loss. Shpg. wt., 2 oz.

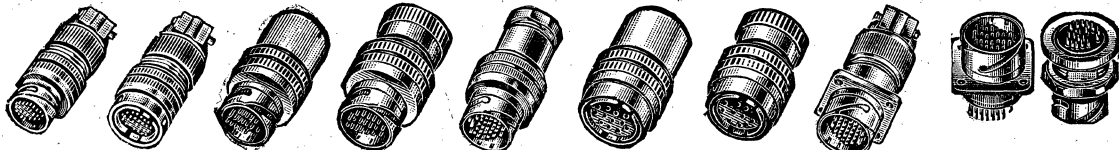
AN/MS Type	Fits Shell	1-49, EA.	50-99, EA.	100-999, EA.
9760-10	10S, 10SL	.50	.41	.33
9760-12	12L, 12S	.56	.46	.37
9760-14	12SL, 14, 14S	.60	.50	.40
9760-16	16, 16S	.66	.55	.44
9760-18	18	.78	.65	.52
9760-20	20	.86	.71	.57
9760-22	22	.98	.81	.75
9760-24	24	1.14	.95	.76
9760-28	28	1.37	1.14	.91
9760-32	32	1.59	1.32	1.06
9760-36	36	1.76	1.46	1.17

## CABLE CLAMPS

Support wire or cable at connector to provide strain relief. \*Step down cable clamp, accommodates smaller cable. Av. wt., 2 oz.

AN/MS Type	Fits Shell	1-49, EA.	50-99, EA.	100-999, EA.
3057-3	8S, 10S	.56	.46	.37
3057-4	10SL, 12, 12S	.57	.48	.38
3057-6	14, 14S	.57	.48	.38
3057-8	16, 16S	.59	.49	.39
3057-10	18	.71	.59	.47
3057-12	20, 22	.75	.63	.50
3057-16	24, 28	.92	.76	.61
3057-20	32	1.13	.94	.75
3057-24	36	1.56	1.20	1.04
3057-28	40	1.94	1.61	1.29
97-3057-10-6*	18	.77	.64	.51
97-3057-12-6*	20, 22	.81	.68	.54

# Amphenol 67 Series Minnie® Connectors



67-01C

67-06C

67-01P

67-01E

67-06J

67-06P

67-06E

67-00C

67-02E

67-03E

Miniature bayonet quick-disconnect connectors, in a variety of types including environmental (E), potting (P), standard wire-bundle cable clamp (C), jacketed cable clamp (J), and hermetic (H). Three bayonet pins prevent wobble. Stainless steel slots are inclined, and are spring-loaded. Full engagement visual indicator. E, P, and H types meet E specs of MIL-C-5015. Available in X and W alternate positions except hermetics. No. 20 contacts rated 7.5 amps, No. 16 contacts 17.0 amps. Voltage rating 500 VRMS at sea level except 14-5 which is 600 V. Av. shpg. wt., 3 oz.

Function—Second Digit of Type	Shell—First Letter of Type
00—Panel Jack	C—With Clamp For Wire Bundle
01—Cable Receptacle	E—Environmental
02—Panel Receptacle	H—Hermetically Sealed
03—One Hole Receptacle, Rear Mtd.	J—Jacketed Cable, Waterproof Clamp
04—One Hole Receptacle, Front Mtd.	P—Potting, Includes Potting Form
06—Cable Plug	

### SIZE 12

Mfr's Type	Contacts			EACH		
	16	20	Coax	1-24	25-99	100-199
00C12-7P	7	7	7	9.06	7.93	6.80
00C12-7S	7	7	7	10.54	9.22	7.91
00E12-7P	7	7	7	9.68	8.47	7.26
00E12-7S	7	7	7	11.16	9.77	8.37
00P12-7P	7	7	7	7.62	6.67	5.72
00P12-7S	7	7	7	9.10	7.96	6.83
01C12-7P	7	7	7	9.00	7.88	6.75
01C12-7S	7	7	7	10.48	9.17	7.86
01E12-7P	7	7	7	9.62	8.42	7.22
01E12-7S	7	7	7	11.10	9.71	8.33
01P12-7P	7	7	7	7.56	6.62	5.67
01P12-7S	7	7	7	9.04	7.91	6.78
02E12-7P	7	7	7	5.54	4.85	4.16
02E12-7S	7	7	7	7.02	6.14	5.27
03E12-7P	7	7	7	6.30	5.51	4.73
03E12-7S	7	7	7	7.78	6.81	5.84
06C12-7P	7	7	7	8.56	7.49	6.42
06C12-7S	7	7	7	10.06	8.80	7.55
06E12-7P	7	7	7	9.18	8.03	6.89
06E12-7S	7	7	7	10.68	9.35	8.01
06J12-7P	7	7	7	7.32	6.41	5.49
06J12-7S	7	7	7	8.14	7.12	6.11
06P12-7P	7	7	7	7.12	6.23	5.34
06P12-7S	7	7	7	8.62	7.54	6.47
00C12-60P	3	3	3	8.96	7.84	6.72
00C12-60S	3	3	3	9.78	8.56	7.34
00E12-60P	3	3	3	9.68	8.47	7.26
00E12-60S	3	3	3	10.50	9.19	7.88
00P12-60P	3	3	3	7.52	6.58	5.64
00P12-60S	3	3	3	8.34	7.30	6.26
01C12-60P	3	3	3	8.90	7.79	6.68
01C12-60S	3	3	3	9.72	8.51	7.29
01E12-60P	3	3	3	9.62	8.42	7.22
01E12-60S	3	3	3	10.44	9.14	7.83
01P12-60P	3	3	3	7.46	6.53	5.60
01P12-60S	3	3	3	8.28	7.25	6.21
02E12-60P	3	3	3	5.42	4.74	4.07
02E12-60S	3	3	3	6.30	5.51	4.73
03E12-60P	3	3	3	6.18	5.41	4.64
03E12-60S	3	3	3	13.24	11.59	9.93
06C12-60P	3	3	3	8.46	7.40	6.35
06C12-60S	3	3	3	9.30	8.14	6.98
06E12-60P	3	3	3	9.18	8.03	6.89
06E12-60S	3	3	3	10.02	8.77	7.52
06J12-60P	3	3	3	7.32	6.41	5.49
06J12-60S	3	3	3	8.14	7.12	6.11
06P12-60P	3	3	3	7.02	6.14	5.27
06P12-60S	3	3	3	7.84	6.86	5.88

### SIZE 14

Mfr's Type	Contacts			EACH		
	16	20	Coax	1-24	25-99	100-199
00C14-5P	5	5	5	9.12	7.98	6.84
00C14-5S	5	5	5	10.00	8.75	7.50
00E14-5P	5	5	5	9.18	8.03	6.89
00E14-5S	5	5	5	10.06	8.80	7.55
00P14-5P	5	5	5	6.94	6.07	5.21
00P14-5S	5	5	5	7.80	6.83	5.85
01C14-5P	5	5	5	9.36	7.32	6.27
01C14-5S	5	5	5	10.22	8.07	6.92
01E14-5P	5	5	5	8.42	7.37	6.32
01E14-5S	5	5	5	9.30	8.14	6.98
01P14-5P	5	5	5	6.18	5.41	4.64
01P14-5S	5	5	5	7.04	6.16	5.28
02E14-5P	5	5	5	4.88	4.27	3.66
02E14-5S	5	5	5	5.74	5.02	4.31
03E14-5P	5	5	5	5.40	4.73	4.05
03E14-5S	5	5	5	6.26	5.48	4.70
06C14-5P	5	5	5	8.16	7.14	6.12
06C14-5S	5	5	5	9.02	7.89	6.77
06E14-5P	5	5	5	8.22	7.19	6.17
06E14-5S	5	5	5	9.08	7.95	6.81
06J14-5P	5	5	5	8.52	7.46	6.39

### SIZE 14 (Cont'd.)

Mfr's Type	Contacts			EACH		
	16	20	Coax	1-24	25-99	100-199
06J14-5S	5	5	5	9.40	8.23	7.05
06P14-5P	5	5	5	5.98	5.23	4.49
06P14-5S	5	5	5	6.84	5.99	5.13
00C14-9P	9	9	9	9.52	8.33	7.14
00C14-9S	9	9	9	10.72	9.38	8.04
00E14-9P	9	9	9	9.90	8.66	7.43
00E14-9S	9	9	9	11.10	9.71	8.53
00P14-9P	9	9	9	7.34	6.42	5.51
00P14-9S	9	9	9	8.52	7.46	6.39
01C14-9P	9	9	9	8.76	7.67	6.57
01C14-9S	9	9	9	9.94	8.70	7.46
01E14-9P	9	9	9	8.82	7.72	6.62
01E14-9S	9	9	9	10.02	8.77	7.52
01P14-9P	9	9	9	6.58	5.76	4.94
01P14-9S	9	9	9	7.76	6.79	5.82
02E14-9P	9	9	9	5.30	4.64	3.98
02E14-9S	9	9	9	6.48	5.67	4.86
03E14-9P	9	9	9	5.80	5.08	4.35
03E14-9S	9	9	9	7.00	6.13	5.25
06C14-9P	9	9	9	8.54	7.47	6.41
06C14-9S	9	9	9	9.74	8.52	7.31
06E14-9P	9	9	9	8.94	7.82	6.71
06E14-9S	9	9	9	10.14	8.87	7.61
06J14-9P	9	9	9	8.92	7.81	6.69
06J14-9S	9	9	9	10.12	8.86	7.59
06P14-9P	9	9	9	6.36	5.57	4.77
06P14-9S	9	9	9	7.56	6.62	5.67
00C14-12P	12	12	12	9.60	8.40	7.20
00C14-12S	12	12	12	11.04	9.66	8.28
00E14-12P	12	12	12	9.46	8.28	7.10
00E14-12S	12	12	12	10.90	9.54	8.18
00P14-12P	12	12	12	7.42	6.49	5.57
00P14-12S	12	12	12	8.86	7.75	6.65
01C14-12P	12	12	12	8.84	7.74	6.63
01C14-12S	12	12	12	10.28	9.00	7.71
01E14-12P	12	12	12	8.70	7.61	6.53
01E14-12S	12	12	12	10.14	8.87	7.61
01P14-12P	12	12	12	6.66	5.83	5.00
01P14-12S	12	12	12	8.10	7.09	6.08
02E14-12P	12	12	12	5.34	4.67	4.01
02E14-12S	12	12	12	7.14	6.25	5.36
03E14-12P	12	12	12	5.86	5.13	4.40
03E14-12S	12	12	12	7.66	6.70	5.75
04H14-12P	12	12	12	22.34	19.55	16.76
04H14-12P (10S)	12	12	12	12.14	10.62	9.11
06C14-12P	12	12	12	8.64	7.56	6.48
06C14-12S	12	12	12	10.08	8.82	7.56
06E14-12P	12	12	12	8.48	7.42	6.36
06E14-12S	12	12	12	9.92	8.68	7.44
06J14-12P	12	12	12	9.00	7.88	6.75
06J14-12S	12	12	12	10.44	9.14	7.83
06P14-12P	12	12	12	6.44	5.64	4.83
06P14-12S	12	12	12	7.88	6.90	5.91
00C14-61P	8	8	8	10.50	9.19	7.88
00C14-61S	8	8	8	14.12	12.36	10.59
00E14-61P	8	8	8	10.96	9.59	8.82
00E14-61S	8	8	8	14.56	12.74	10.92
00P14-61P	8	8	8	8.32	7.28	6.24
00P14-61S	8	8	8	11.92	10.43	8.94
01C14-61P	8	8	8	9.74	8.52	7.31
01C14-61S	8	8	8	13.34	11.67	10.01
01E14-61P	8	8	8	10.20	8.93	7.65
01E14-61S	8	8	8	13.80	12.08	10.35
01P14-61P	8	8	8	7.56	6.62	5.67
01P14-61S	8	8	8	11.16	9.77	8.37
02E14-61P	8	8	8	6.28	5.50	4.72
02E14-61S	8	8	8	9.90	8.66	7.43
03E14-61P	8	8	8	6.80	5.95	5.10
03E14-61S	8	8	8	10.42	9.12	7.82
06C14-61P	8	8	8	9.54	8.35	7.16

### SIZE 14 (Cont'd.)

Mfr's Type	Contacts			EACH		
	16	20	Coax	1-24	25-99	100-199
06C14-61S	8	8	8	13.14	11.50	9.86
06E14-61P	8	8	8	10.00	8.75	7.50
06E14-61S	8	8	8	13.60	11.90	10.20
06J14-61P	8	8	8	9.90	8.66	7.43
06J14-61S	8	8	8	13.52	11.83	10.14
06P14-61P	8	8	8	7.36	6.44	5.52
06P14-61S	8	8	8	10.96	9.59	8.22
00C14-63P	5	5	5	9.70	8.49	7.28
00C14-63S	5	5	5	10.96	9.59	8.22
00E14-63P	5	5	5	9.86	8.63	7.40
00E14-63S	5	5	5	11.12	9.73	8.34
00P14-63P	5	5	5	7.52	6.58	5.64
00P14-63S	5	5	5	8.78	7.68	6.59
01C14-63P	5	5	5	8.94	7.82	6.71
01C14-63S	5	5	5	10.20	8.93	7.65
01E14-63P	5	5	5	9.10	7.96	6.83
01E14-63S	5	5	5	10.36	9.07	7.77
01P14-63P	5	5	5	6.96	6.09	5.22
01P14-63S	5	5	5	8.00	7.00	6.00
02E14-63P	5	5	5	5.46	4.78	4.10
02E14-63S	5	5	5	6.72	5.88	5.04
03E14-63P	5	5	5	5.98	5.23	4.49
03E14-63S	5	5	5	7.24	6.34	5.43
06C14-63P	5	5	5	8.74	7.65	6.56

# Amphenol 67 Series Minnie Connectors

## TYPE 67 MINNIE CONNECTORS (Cont'd)

SIZE 18 (Cont'd.)							SIZE 20 (Cont'd.)							SIZE 22 (Cont'd.)						
Mfr's Type	Contacts			EACH			Mfr's Type	Contacts			EACH			Mfr's Type	Contacts			EACH		
	16	20	Coax	1-24	25-99	100-199		16	20	Coax	1-24	25-99	100-199		16	20	Coax	1-24	25-99	100-199
03E18-62S	19	1	13.18	11.53	9.89		01P20-37S	37		16.22	14.19	12.17	01C22-67P	25		12.74	11.15	9.56		
06C18-62P	19	1	10.66	9.33	8.00		02E20-37P	37		11.08	9.70	8.31	01C22-67S	25		16.96	14.84	12.74		
06C18-62S	19	1	17.84	15.61	13.38		02E20-37S	37		14.58	12.76	10.94	01E22-67P	25		12.46	10.90	9.35		
06E18-62P	19	1	12.48	10.92	9.36		03E20-37P	37		11.84	10.36	8.88	01E22-67S	25		16.68	14.60	12.51		
06E18-62S	19	1	19.68	17.22	14.76		03E20-37S	37		15.38	13.46	11.54	01P22-67P	25		10.82	9.47	8.12		
06J18-62P	19	1	9.78	8.56	7.34		06C20-37P	37		13.44	11.76	10.08	01P22-67S	25		15.04	13.16	11.28		
06J18-62S	19	1	16.98	14.86	12.74		06C20-37S	37		18.30	16.01	13.73	02E22-67P	25		9.78	8.56	7.34		
06P18-62P	19	1	8.76	7.67	6.57		06E20-37P	37		13.80	12.08	10.35	02E22-67S	25		14.06	12.50	10.55		
06P18-62S	19	1	15.94	13.95	11.96		06E20-37S	37		18.66	16.33	14.00	03E22-67P	25		11.34	9.92	8.51		
00C18-64P	14		11.10	9.71	8.33		06J20-37P	37		14.30	12.51	10.73	03E22-67S	25		15.62	13.67	11.72		
00C18-64S	14		12.08	10.57	9.06		06J20-37S	37		19.16	16.77	14.37	06C22-67P	25		12.44	10.89	9.33		
00E18-64P	14		11.78	10.31	8.84		06P20-37P	37		11.34	9.92	8.51	06C22-67S	25		16.66	14.58	12.50		
00E18-64S	14		12.76	11.17	9.57		06P20-37S	37		16.20	14.18	12.15	06E22-67P	25		12.18	10.66	9.14		
00P18-64P	14		9.20	8.05	6.90		00C20-66P	19		12.50	10.94	9.38	06E22-67S	25		16.40	14.35	12.30		
00P18-64S	14		10.18	8.91	7.64		00C20-66S	19		15.68	13.72	11.76	06J22-67P	25		14.48	12.67	10.86		
01C18-64P	14		10.38	9.08	7.79		00E20-66P	19		12.26	10.73	9.20	06J22-67S	25		18.70	16.36	14.03		
01C18-64S	14		11.36	9.94	8.52		00E20-66S	19		15.42	13.49	11.57	06P22-67P	25		10.52	9.21	7.89		
01E18-64P	14		11.06	9.68	8.30		00P20-66P	19		10.40	9.10	7.80	06P22-67S	25		14.74	12.90	11.06		
01E18-64S	14		12.04	10.54	9.03		00P20-66S	19		13.58	11.88	10.19	00C22-68P	2	36	15.66	13.70	11.75		
01P18-64P	14		8.48	7.42	6.36		01C20-66P	19		11.66	10.20	8.75	00C22-68S	2	36	20.88	18.27	15.66		
01P18-64S	14		9.46	8.28	7.10		01C20-66S	19		14.84	12.99	11.13	00E22-68P	2	36	15.64	13.69	11.73		
02E18-64P	14		7.08	6.20	5.31		01E20-66P	19		11.42	9.99	8.57	00E22-68S	2	36	20.86	18.25	15.65		
02E18-64S	14		8.12	7.11	6.09		01E20-66S	19		14.58	12.76	10.94	00P22-68P	2	36	13.74	12.02	10.31		
03E18-64P	14		7.66	6.70	5.75		01P20-66P	19		9.56	8.37	7.17	00P22-68S	2	36	18.98	16.61	14.24		
03E18-64S	14		8.70	7.61	6.53		01P20-66S	19		12.74	11.15	9.56	01C22-68P	2	36	13.60	11.90	10.20		
06C18-64P	14		10.38	9.08	7.79		02E20-66P	19		8.40	7.35	6.30	01C22-68S	2	36	18.82	16.47	14.12		
06C18-64S	14		11.36	9.94	8.52		02E20-66S	19		7.98	6.98	5.99	01E22-68P	2	36	13.58	11.88	10.19		
06E18-64P	14		11.06	9.68	8.30		03E20-66P	19		9.14	8.00	6.86	01E22-68S	2	36	18.80	16.45	14.10		
06E18-64S	14		12.04	10.54	9.03		03E20-66S	19		12.34	10.80	9.26	01P22-68P	2	36	11.68	10.22	8.76		
06J18-64P	14		9.52	8.33	7.14		06C20-66P	19		11.70	10.24	8.78	01P22-68S	2	36	16.92	14.81	12.69		
06J18-64S	14		10.48	9.17	7.86		06C20-66S	19		14.88	13.02	11.16	02E22-68P	2	36	10.88	9.52	8.16		
06P18-64P	14		8.48	7.42	6.36		06E20-66P	19		11.46	10.03	8.60	02E22-68S	2	36	16.30	14.26	12.23		
06P18-64S	14		9.46	8.28	7.10		06E20-66S	19		14.62	12.79	10.97	03E22-68P	2	36	12.40	10.85	9.30		
00C18-65P	4	7	11.94	10.45	8.96		06J20-66P	19		12.56	10.99	9.42	03E22-68S	2	36	17.82	15.59	13.37		
00C18-65S	4	7	11.38	9.96	8.54		06J20-66S	19		15.74	13.77	11.81	06C22-68P	2	36	13.30	11.64	9.98		
00E18-65P	4	7	12.54	10.97	9.47		06P20-66P	19		9.60	8.40	7.20	06C22-68S	2	36	18.54	16.22	13.91		
00E18-65S	4	7	11.96	10.47	8.91		06P20-66S	19		12.78	11.18	9.59	06E22-68P	2	36	13.28	11.62	9.96		
00P18-65P	4	7	10.06	8.80	7.55								06E22-68S	2	36	18.52	16.21	13.89		
00P18-65S	4	7	9.48	8.30	7.11								06J22-68P	2	36	15.34	13.42	11.51		
01C18-65P	4	7	11.22	9.82	8.42								06J22-68S	2	36	20.58	18.01	15.44		
01C18-65S	4	7	10.66	9.33	8.00		00C22-48P	48		16.52	14.46	12.39	06P22-68P	2	36	11.40	9.98	8.57		
01E18-65P	4	7	11.82	10.34	8.87		00C22-48S	48		22.62	19.79	16.97	06P22-68S	2	36	16.62	14.54	12.47		
01E18-65S	4	7	11.24	9.84	8.43		00E22-48P	48		15.82	13.84	11.87	00C22-69P	2	40	16.20	14.18	12.15		
01P18-65P	4	7	9.34	8.17	7.01		00E22-48S	48		21.92	19.18	16.44	00C22-69S	2	40	21.42	18.74	16.07		
01P18-65S	4	7	8.76	7.67	6.57		00P22-48P	48		14.60	12.78	10.95	00E22-69P	2	40	15.82	13.84	11.87		
02E18-65P	4	7	8.02	7.02	6.02		00P22-48S	48		20.70	18.11	15.53	00E22-69S	2	40	21.06	18.43	15.80		
02E18-65S	4	7	7.44	6.51	5.58		01C22-48P	48		14.46	12.65	10.85	00P22-69P	2	40	14.28	12.50	10.71		
03E18-65P	4	7	8.62	7.54	6.47		01C22-48S	48		20.56	17.99	15.42	00P22-69S	2	40	19.50	17.06	14.63		
03E18-65S	4	7	8.02	7.02	6.02		01E22-48P	48		13.76	12.04	10.32	01C22-69P	2	40	14.14	12.37	10.61		
06C18-65P	4	7	11.22	9.82	8.42		01E22-48S	48		19.86	17.38	14.90	01C22-69S	2	40	19.36	16.94	14.52		
06C18-65S	4	7	10.66	9.33	8.00		01P22-48P	48		12.54	10.97	9.41	01E22-69P	2	40	13.76	12.04	10.32		
06E18-65P	4	7	11.82	10.34	8.87		01P22-48S	48		18.64	16.31	13.98	01E22-69S	2	40	9.00	16.63	14.25		
06E18-65S	4	7	11.24	9.84	8.43		02E22-48P	48		11.82	10.34	8.87	01P22-69P	2	40	12.22	10.69	9.17		
06J18-65P	4	7	10.36	9.07	7.77		02E22-48S	48		17.66	15.45	13.25	01P22-69S	2	40	17.44	15.26	13.08		
06J18-65S	4	7	9.78	8.56	7.34		03E22-48P	48		13.34	11.67	10.01	02E22-69P	2	40	11.38	9.96	8.54		
06P18-65P	4	7	9.34	8.17	7.01		03E22-48S	48		19.18	16.78	14.39	02E22-69S	2	40	16.84	14.74	12.63		
06P18-65S	4	7	8.76	7.67	6.57		06C22-48P	48		14.18	12.41	10.64	03E22-69P	2	40	12.92	11.31	9.69		
							06C22-48S	48		20.24	17.71	15.18	03E22-69S	2	40	18.36	16.07	13.77		
							06E22-48P	48		13.48	11.80	10.11	06C22-69P	2	40	13.84	12.11	10.38		
							06E22-48S	48		19.58	17.13	14.69	06C22-69S	2	40	19.08	16.70	14.31		
													06E22-69P	2	40	13.48	11.80	10.11		
													06E22-69S	2	40	18.70	16.36	14.03		
													06J22-69P	2	40	15.88	13.90	11.91		
													06J22-69S	2	40	21.12	18.48	15.84		
													06P22-69P	2	40	11.92	10.43	8.94		
													06P22-69S	2	40	17.16	15.02	12.87		

### SIZE 22

Mfr's Type	Contacts	EACH
	16	20
00C22-48P	48	16.52 14.46 12.39
00C22-48S	48	22.62 19.79 16.97
00E22-48P	48	15.82 13.84 11.87
00E22-48S	48	21.92 19.18 16.44
00P22-48P	48	14.60 12.78 10.95
00P22-48S	48	20.70 18.11 15.53
01C22-48P	48	14.46 12.65 10.85
01C22-48S	48	20.56 17.99 15.42
01E22-48P	48	13.76 12.04 10.32
01E22-48S	48	19.86 17.38 14.90
01P22-48P	48	12.54 10.97 9.41
01P22-48S	48	18.64 16.31 13.98
02E22-48P	48	11.82 10.34 8.87
02E22-48S	48	17.66 15.45 13.25
03E22-48P	48	13.34 11.67 10.01
03E22-48S	48	19.18 16.78 14.39
06C22-48P	48	14.18 12.41 10.64
06C22-48S	48	20.24 17

# Amphenol MS-R Lightweight Connectors

Amphenol's complete line of MS-R Lightweight Environmental Resistant Connectors, in 4 shell styles and 14 sizes. All meet MIL-C 5015D. Ideal for control circuits.

Tinned silver-plated alloy contacts, Type 3106R plus mating with receptacles 3100R, 3101R and 3102R. Add .05 to prices for W, X, Y, or Z positioning. Av. wt., 4 oz.

SEE PAGES 188 AND 189 FOR INSERT ARRANGEMENT



## SERIES 3100R PANEL JACKS

Stock No.	3100R Type	EACH	
		1-49	50-99
32 H 378	8S-1P	1.87	1.49
32 H 379	8S-1S	1.99	1.58
32 H 382	10S-2P	2.12	1.69
32 H 383	10S-2S	2.24	1.78
32 H 380	10SL-3P	2.00	1.60
32 H 381	10SL-4P	2.17	1.73
32 H 384	12S-3P	1.95	1.56
32 H 385	12S-3S	2.19	1.74
32 H 386	14S-1P	1.89	1.50
32 H 387	14S-1S	2.59	2.06
32 H 388	14S-2P	1.80	1.44
32 H 389	14S-2S	2.19	1.74
32 H 390	14S-5P	1.87	1.49
32 H 391	14S-5S	2.34	1.86
32 H 392	14S-6P	2.05	1.64
32 H 393	14S-6S	2.74	2.18
32 H 394	14S-7P	2.04	1.62
32 H 395	14S-7S	2.47	1.97
32 H 396	14S-9P	1.72	1.37
32 H 397	14S-9S	1.92	1.53
32 H 406	16-10P	2.42	1.93
32 H 407	16-10S	2.72	2.17
32 H 408	16-11P	1.90	1.52
32 H 409	16-11S	2.12	1.69
32 H 398	16S-1P	2.27	1.81
32 H 399	16S-1S	3.07	2.45
32 H 400	16S-4P	2.37	1.89
32 H 401	16S-4S	2.57	2.05
32 H 402	16S-5P	2.42	1.93
32 H 403	16S-5S	2.51	2.00
32 H 404	16S-8P	2.44	1.94
32 H 405	16S-8S	3.01	2.39
32 H 410	18-1P	2.49	1.98
32 H 411	18-1S	3.07	2.45
32 H 412	18-4P	3.11	2.47
32 H 413	18-4S	3.42	2.73
32 H 414	18-8P	2.59	2.06
32 H 415	18-8S	3.24	2.58
32 H 416	18-12P	2.52	2.01
32 H 417	18-12S	2.96	2.35
32 H 418	18-20P	2.47	1.97
32 H 419	18-20S	2.86	2.27
32 H 420	20-4P	2.47	1.97
32 H 421	20-4S	2.81	2.23
32 H 422	20-7P	2.64	2.10
32 H 423	20-7S	3.26	2.59
32 H 424	20-15P	2.76	2.19
32 H 425	20-15S	3.46	2.75
32 H 426	20-16P	2.74	2.18
32 H 427	20-16S	3.46	2.75
32 H 428	20-18P	2.77	2.21
32 H 429	20-18S	3.77	3.01
32 H 430	20-27P	2.94	2.34
32 H 431	20-27S	3.97	3.17
32 H 432	20-29P	3.06	2.43
32 H 433	20-29S	4.19	3.34
32 H 434	22-14P	3.36	2.67
32 H 435	22-14S	4.64	3.70
32 H 436	22-19P	3.07	2.45
32 H 437	22-19S	3.86	3.07
32 H 438	24-5P	3.27	2.61
32 H 439	24-5S	4.44	3.54
32 H 440	24-20P	3.12	2.49
32 H 441	24-20S	3.91	3.11
32 H 442	24-28P	3.77	3.01
32 H 443	24-28S	5.04	4.02
32 H 444	28-2P	3.44	2.74
32 H 445	28-2S	4.48	3.56
32 H 446	28-11P	4.01	3.19
32 H 447	28-11S	5.49	4.38
32 H 448	28-12P	4.11	3.27
32 H 449	28-12S	5.69	4.54
32 H 450	28-15P	4.54	3.62
32 H 451	28-15S	6.76	5.39
32 H 452	28-16P	3.69	2.94
32 H 453	28-16S	5.08	4.04
32 H 454	28-21P	4.68	3.72
32 H 455	28-21S	6.56	5.23
32 H 456	32-7P	5.35	4.40
32 H 457	32-7S	8.35	6.65
32 H 458	36-10P	6.40	5.09
32 H 459	36-10S	8.70	6.93



## SERIES 3101R CABLE JACKS

Stock No.	3101R Type	EACH	
		1-49	50-99
32 H 460	8S-1P	1.92	1.53
32 H 461	8S-1S	2.04	1.62
32 H 462	10S-2P	2.00	1.60
32 H 463	10S-2S	2.10	1.68
32 H 464	10SL-3P	1.92	1.53
32 H 465	10SL-4P	2.09	1.66
32 H 466	12S-3P	1.59	1.26
32 H 467	12S-3S	1.82	1.45
32 H 468	14S-1P	1.84	1.46
32 H 469	14S-1S	2.52	2.01
32 H 470	14S-2P	1.82	1.45
32 H 471	14S-2S	2.25	1.76
32 H 472	14S-5P	1.85	1.48
32 H 473	14S-5S	2.39	1.90
32 H 474	14S-6P	2.10	1.68
32 H 475	14S-6S	2.79	2.22
32 H 476	14S-7P	1.74	1.38
32 H 477	14S-7S	2.17	1.73
32 H 478	14S-9P	1.70	1.36
32 H 479	14S-9S	1.97	1.57
32 H 480	16S-1P	2.34	1.86
32 H 481	16S-1S	3.12	2.49
32 H 482	16S-4P	2.39	1.90
32 H 483	16S-4S	2.59	2.06
32 H 484	16S-5P	2.42	1.93
32 H 485	16S-5S	2.49	1.98
32 H 486	16S-8P	2.49	1.98
32 H 487	16S-8S	3.06	2.43
32 H 488	16-10P	2.49	1.98
32 H 489	16-10S	2.79	2.22
32 H 490	16-11P	2.42	1.93
32 H 491	16-11S	2.64	2.10
32 H 492	18-1P	2.47	1.97
32 H 493	18-1S	3.01	2.39
32 H 494	18-4P	2.39	1.90
32 H 495	18-4S	2.71	2.15
32 H 496	18-8P	2.54	2.02
32 H 497	18-8S	3.19	2.54
32 H 498	18-12P	2.45	1.96
32 H 499	18-12S	2.91	2.31
32 H 500	18-20P	2.42	1.93
32 H 501	18-20S	2.81	2.23
32 H 502	20-4P	2.49	1.98
32 H 503	20-4S	2.82	2.25
32 H 504	20-7P	2.67	2.13
32 H 505	20-7S	3.27	2.61
32 H 506	20-15P	2.77	2.21
32 H 507	20-15S	3.49	2.78
32 H 508	20-16P	2.76	2.19
32 H 509	20-16S	3.49	2.78
32 H 510	20-18P	2.79	2.22
32 H 511	20-18S	3.79	3.02
32 H 512	20-27P	2.84	2.26
32 H 513	20-27S	3.82	3.05
32 H 514	20-29P	3.02	2.41
32 H 515	20-29S	3.97	3.17
32 H 516	22-14P	3.34	2.66
32 H 517	22-14S	4.68	3.72
32 H 518	22-19P	3.11	2.47
32 H 519	22-19S	4.14	3.30
32 H 520	24-5P	3.20	2.55
32 H 521	24-5S	4.38	3.48
32 H 522	24-20P	3.22	2.57
32 H 523	24-20S	3.84	3.06
32 H 524	24-28P	3.91	3.11
32 H 525	24-28S	4.96	3.95
32 H 526	28-2P	3.59	2.86
32 H 527	28-2S	4.41	3.51
32 H 528	28-11P	4.11	3.27
32 H 529	28-11S	5.54	4.42
32 H 530	28-12P	4.24	3.38
32 H 531	28-12S	5.63	4.48
32 H 532	28-15P	4.78	3.80
32 H 533	28-15S	6.70	5.33
32 H 534	28-16P	3.87	3.09
32 H 535	28-16S	5.01	3.99
32 H 536	28-21P	4.93	3.92
32 H 537	28-21S	6.51	5.19
32 H 538	32-7P	5.43	4.32
32 H 539	32-7S	7.95	6.33
32 H 540	36-10P	6.41	5.11
32 H 541	36-10S	8.65	6.89



## SERIES 3102R RECEPTACLES

Stock No.	3102R Type	EACH	
		1-49	50-99
32 H 542	8S-1P	.63	.51
32 H 543	8S-1S	.75	.60
32 H 544	10S-2P	.70	.56
32 H 545	10S-2S	.82	.65
32 H 546	10SL-3P	.73	.59
32 H 547	10SL-4P	.77	.61
32 H 548	12S-3P	.70	.56
32 H 549	12S-3S	.92	.73
32 H 550	14S-1P	.65	.52
32 H 551	14S-1S	1.37	1.09
32 H 552	14S-2P	.63	.51
32 H 553	14S-2S	1.07	.85
32 H 554	14S-5P	.67	.52
32 H 555	14S-5S	1.22	.97
32 H 556	14S-6P	.87	.69
32 H 557	14S-6S	1.55	1.24
32 H 558	14S-7P	.58	.47
32 H 559	14S-7S	.99	.78
32 H 560	14S-9P	.55	.44
32 H 561	14S-9S	.78	.63
32 H 570	16-10P	.97	.77
32 H 571	16-10S	1.27	1.01
32 H 572	16-11P	.90	.72
32 H 573	16-11S	1.12	.89
32 H 562	16S-1P	.97	.77
32 H 563	16S-1S	1.75	1.40
32 H 564	16S-4P	.90	.72
32 H 565	16S-4S	1.09	.86
32 H 566	16S-5P	.95	.76
32 H 567	16S-5S	1.04	.82
32 H 568	16S-8P	.95	.76
32 H 569	16S-8S	1.52	1.21
32 H 574	18-1P	1.00	.80
32 H 575	18-1S	1.74	1.38
32 H 576	18-4P	.95	.76
32 H 577	18-4S	1.27	1.01
32 H 578	18-8P	1.10	.88
32 H 579	18-8S	1.75	1.40
32 H 580	18-12P	1.04	.82
32 H 581	18-12S	1.49	1.18
32 H 582	18-20P	1.00	.80
32 H 583	18-20S	1.37	1.09
32 H 584	20-4P	.99	.78
32 H 585	20-4S	1.32	1.05
32 H 586	20-7P	1.15	.92
32 H 587	20-7S	1.75	1.40
32 H 588	20-15P	1.25	1.00
32 H 589	20-15S	1.97	1.57
32 H 590	20-16P	1.24	.98
32 H 591	20-16S	1.95	1.56
32 H 592	20-18P	1.27	1.01
32 H 593	20-18S	2.27	1.81
32 H 594	20-27P	1.40	1.12
32 H 595	20-27S	2.44	1.94
32 H 596	20-29P	1.57	1.25
32 H 597	20-29S	2.81	2.23
32 H 598	22-14P	1.70	1.36
32 H 599	22-14S	3.11	2.47
32 H 600	22-19P	1.17	.93
32 H 601	22-19S	2.19	1.74
32 H 602	24-5P	1.67	1.33
32 H 603	24-5S	2.84	2.26
32 H 604	24-20P	1.35	1.08
32 H 605	24-20S	2.24	1.78
32 H 606	24-28P	1.84	1.46
32 H 607	24-28S	3.44	2.74
32 H 608	28-2P	1.57	1.25
32 H 610	28-2S	2.71	2.15
32 H 609	28-11P	2.00	1.60
32 H 611	28-11S	3.67	2.93
32 H 612	28-12P	2.09	1.66
32 H 613	28-12S	3.87	3.09
32 H 614	28-15P	2.45	1.96
32 H 615	28-15S	4.91	3.91
32 H 616	28-16P	1.79	1.42
32 H 617	28-16S	3.27	2.61
32 H 618	28-21P	2.54	2.02
32 H 619	28-21S	4.89	3.90
32 H 620	32-7P	3.02	2.41
32 H 621	32-7S	5.85	4.66
32 H 622	36-10P	3.57	2.85
32 H 623	36-10S	6.03	4.80



## SERIES 3106R PLUGS

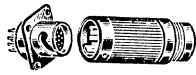
Stock No.	3106R Type	EACH	
		1-49	50-99
32 H 626	10S-2P	2.49	2.00
32 H 627	10S-2S		



# Amphenol Miniature Connectors and Plugs

## SERIES 165 MINIATURE AN CONNECTORS

Pressure-proof and weather-proof miniature AN connectors. Widely used in instrumentation and miniaturized electronic equipment. Eight insert configurations are available in two shell sizes. Contacts are gold over silver plating. Aluminum shells feature quick bayonet coupling. Small receptacles mount in  $\frac{1}{16}$ " hole secured through four .125" holes on  $\frac{2}{32}$ " centers. Large receptacles require  $\frac{1}{16}$ " hole with four .125" holes on  $\frac{1}{16}$ " centers. Plugs are  $\frac{2}{16}$ " long. Small plugs are  $\frac{5}{16}$ " dia.; large plugs are  $\frac{1}{16}$ " in dia. Rated: 500 volts rms, except \*600 volts. All have strain relief clamps except toppling construction. §Positioned shells. Av. shpg. wt., 3 oz.



### SMALL SHELL—5 No. 20 CONTACTS

Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 595	165-33	*5 @ 7.5	Male Plug	3.36	2.67
40 H 596	165-34	*5 @ 7.5	Female Plug	4.59	3.66
40 H 597	165-35	*5 @ 7.5	Male Receptacle	2.40	1.92
40 H 598	165-36	*5 @ 7.5	Female Receptacle	2.91	2.31

### SMALL SHELL—9 No. 20 CONTACTS

Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 579	165-13	9 @ 7.5	Male Plug	3.52	2.81
40 H 580	165-14	9 @ 7.5	Female Plug	5.41	4.31
40 H 581	165-15	9 @ 7.5	Male Receptacle	2.61	2.07
40 H 582	165-16	9 @ 7.5	Female Receptacle	3.34	2.66

### SMALL SHELL—12 No. 20 CONTACTS

Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 575	165-9	12 @ 7.5	Male Plug	3.71	2.95
40 H 576	165-10	12 @ 7.5	Female Plug	5.53	4.40
40 H 577	165-11	12 @ 7.5	§Female Plug	5.73	4.50
40 H 578	165-12	12 @ 7.5	§Female Plug	5.73	4.50
40 H 264	165-11W	12 @ 7.5	§Male Receptacle	2.99	2.32
40 H 265	165-11X	12 @ 7.5	§Male Receptacle	2.99	2.32
40 H 577	165-11	12 @ 7.5	Male Receptacle	2.79	2.22
40 H 578	165-12	12 @ 7.5	Female Receptacle	4.58	3.64

### LARGE SHELL—4 No. 16 & 7 No. 20 CONTACTS

Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 583	165-17	4 @ 17; 7 @ 7.5	Male Plug	4.93	3.92
40 H 584	165-18	4 @ 17; 7 @ 7.5	Female Plug	6.03	4.80
40 H 585	165-19	4 @ 17; 7 @ 7.5	Male Receptacle	3.11	2.47
40 H 586	165-20	4 @ 17; 7 @ 7.5	Female Receptacle	4.19	3.34

### LARGE SHELL—14 No. 16 CONTACTS

Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 591	165-29	14 @ 17	Male Plug	5.03	4.00
40 H 592	165-30	14 @ 17	Female Plug	6.98	5.56
40 H 593	165-31	14 @ 17	Male Receptacle	3.24	2.58
40 H 594	165-32	14 @ 17	Female Receptacle	5.16	4.11

### SMALL SHELL—8 No. 20 Contacts And One Coax Contact

Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 266	165-61	8 @ 7.5; 1 @ 10	Female Plug	7.67	6.10
40 H 267	165-61W	8 @ 7.5; 1 @ 10	§Female Plug	7.87	6.20
40 H 268	165-61X	8 @ 7.5; 1 @ 10	§Female Plug	7.87	6.20

### LARGE SHELL—19 No. 20 Contacts And One Coax Contact

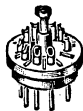
Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 269	165-62	19 @ 7.5; 1 @ 10	Female Plug	11.16	8.88
40 H 270	165-62W	19 @ 7.5; 1 @ 10	§Female Plug	11.36	8.98
40 H 271	165-62X	19 @ 7.5; 1 @ 10	§Female Plug	11.36	8.98

### LARGE SHELL—24 No. 20 CONTACTS

Stock No.	Type No.	Contacts and Ampere Rating	Description	EACH	
				1-49	50-99
40 H 587	165-25	24 @ 7.5	Male Plug	5.83	4.64
40 H 588	165-26	24 @ 7.5	Female Plug	7.65	6.09
40 H 589	165-27	24 @ 7.5	Male Receptacle	4.02	3.21
40 H 590	165-28	24 @ 7.5	Female Receptacle	5.83	4.64

### MINIATURE TYPE CP PLUGS

7 and 9 pin "CP" type plugs for miniature tube sockets. Molded from diallyl phthalate dielectric; incorporates a molded-in strain relief post. Utilizes retainer-ring mounting. Contacts gold over silver-plating. Also available with rubber plug caps in end and side cable outlet styles. Voltage rating: 1500 v. rms at 5 amps. Overall seated height,  $\frac{1}{16}$ ". Overall width: type 86-896, .685"; 86-893, .778"; 86-895, .781"; 86-897, .875"; 86-894, .750". Pin circle diameter: for 7 pin plugs, .375"; 9 pin plugs, .468". Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Description	EACH				
			1-49	50-249	250-499	500-999	1000-2499
42 H 649	86-896	7-Pin	.84	.69	.59	.53	.47
42 H 650	86-893	9-Pin	1.48	1.22	1.04	.93	.83
42 H 651	86-895	7-Pin with Cap	.94	.78	.66	.59	.53
42 H 652	86-897	9-Pin with Cap	1.58	1.30	1.10	.99	.88
42 H 653	86-894	7-Pin Side Outlet Cap	1.12	.92	.78	.70	.63

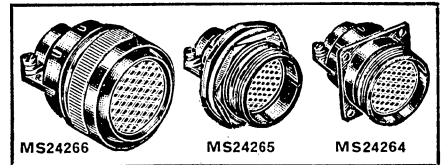
**FAST DELIVERY—OEM PRICES**

## TYPE 48 SERIES CONNECTORS

Extremely Reliable

"Poke Home" Contacts

Rated at 1500 v. Rms Sea Level to 350,000 Ft.



Meet exacting requirements of today's space age. Reliable at high altitudes (up to 350,000 ft.) and in temperature extremes (-67° to +392°F). Support 1500 v. rms from sea level to 350,000 ft. "Poke Home" contacts rhodium over silver plating to meet MIL-C-26636—plus grommet double sealing risers for wire, metal-to-metal bottoming of mated shells, threaded couplings, anti-deflection discs, etc. Type MS24264 is flange-mount type; MS24265, single-hole rear-mount type; MS24266, cable plug. Two digits after "R" in Type No. are shell size in 16ths; last 2 suffix numbers, no. of contacts. P in suffix indicates pin contacts; S, socket contacts. #20 contacts except \*, #16. Meet MIL-C-26500 (USAF). Av. wt., 3 oz.

Stock No.	Type	EACH		
		1-9	10-24	25-99
32 H 854	MS24264R-10-T-5P	16.10	14.49	12.88
32 H 855	MS24264R-10-T-5S	18.81	16.93	15.05
32 H 856	MS24265R-10-T-5P	18.81	16.93	15.05
32 H 857	MS24265R-10-T-5S	21.53	19.37	17.22
32 H 858	MS24266R-10-T-5P	15.93	14.34	12.74
32 H 859	MS24266R-10-T-5S	18.62	16.75	14.89
32 H 860	MS24264R-12-T-12P	18.77	16.89	15.01
32 H 861	MS24264R-12-T-12S	23.12	20.80	18.49
32 H 862	MS24265R-12-T-12P	21.77	19.59	17.41
32 H 863	MS24265R-12-T-12S	26.12	23.50	20.89
32 H 864	MS24266R-12-T-12P	18.47	16.62	14.77
32 H 865	MS24266R-12-T-12S	22.79	20.51	18.25
32 H 866	MS24264R-14-T-7P*	14.57	13.11	11.65
32 H 867	MS24264R-14-T-7S*	16.26	14.63	13.01
32 H 868	MS24265R-14-T-7P*	17.91	16.12	14.33
32 H 869	MS24265R-14-T-7S*	19.59	17.63	15.67
32 H 870	MS24266R-14-T-7P*	14.49	13.04	11.59
32 H 871	MS24266R-14-T-7S*	16.10	14.49	12.88
32 H 872	MS24264R-14-T-15P	19.62	17.66	15.70
32 H 873	MS24264R-14-T-15S	24.35	21.91	19.48
32 H 874	MS24265R-14-T-15P	23.13	20.82	18.50
32 H 875	MS24265R-14-T-15S	27.86	25.07	22.28
32 H 876	MS24266R-14-T-15P	19.55	17.59	15.64
32 H 877	MS24266R-14-T-15S	24.24	21.82	19.39
32 H 878	MS24264R-16-T-24P	22.77	20.49	18.22
32 H 879	MS24264R-16-T-24S	28.11	25.30	22.49
32 H 880	MS24265R-16-T-24P	27.81	25.03	22.25
32 H 881	MS24265R-16-T-24S	33.14	29.82	26.51
32 H 882	MS24266R-16-T-24P	22.80	20.52	18.24
32 H 883	MS24266R-16-T-24S	28.11	25.30	22.49
32 H 884	MS24264R-18-T-31P	23.67	21.30	18.94
32 H 885	MS24264R-18-T-31S	30.41	27.36	24.32
32 H 886	MS24265R-18-T-31P	27.92	25.12	22.33
32 H 887	MS24265R-18-T-31S	34.65	31.19	27.72
32 H 888	MS24266R-18-T-31P	24.62	22.15	19.69
32 H 889	MS24266R-18-T-31S	31.31	28.17	25.04
32 H 890	MS24264R-22-T-55P	27.12	24.41	21.70
32 H 891	MS24264R-22-T-55S	39.71	35.73	31.76
32 H 900	MS24265R-22-T-55P	30.54	27.49	24.43
32 H 892	MS24265R-22-T-55S	43.16	38.84	34.52
32 H 893	MS24266R-22-T-55P	27.30	24.57	21.84
32 H 894	MS24266R-22-T-55S	39.86	35.87	31.88

ACCESSORY TOOLS. Designed for use with Type 48 connectors, listed above. Av. shpg. wt., 1 lb.

Stock No.	Type	Application	EACH
32 H 905	294-88	Insertion tool for #20 contacts.	12.37
32 H 906	294-89	Removal tool for #20 contacts.	13.99
32 H 907	294-96	Insertion tool for #16 contacts.	16.62
32 H 908	294-97	Removal tool for #16 contacts.	14.70
32 H 909	294-85	Crimping tool for #16 contacts.	108.04
32 H 910	294-90	Crimping tool for #20 contacts.	108.04

### SERIES 71 MINIATURE PLUGS

Compact, high-dielectric plugs used for limited space plug-in connections. Nickel-plated brass prongs are recessed. For cables with up to six conductors. Contacts polarized to assure proper connections. Rated 5 amps @ 500 v. Fit Amphenol Series 78-S sockets. 2 oz.



Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 177	71-3S	3	.09	.076	.064	.058	.052
40 H 169	71-4S	4	.11	.094	.08	.071	.064
40 H 149	71-5S	5	.12	.099	.084	.075	.067
40 H 179	71-6S	6	.15	.125	.106	.095	.085

# Amphenol-ipc Coaxial Connectors

## SERIES 82 COAXIAL CONNECTORS

Type N Connectors, Weatherproof. Meet gov. specs. Low voltage. 50 ohms except \*70. Av. shpg. wt., 3 oz.

Stock No.	Military No.	Mfr's Type	Fig.	For RG/U Cables	EACH						
					1-24	25-49	50-99	100-249	250-499	500-999	1000-2499
42 H 459	UG-18B/U	82-86	A	5, 6, 21	1.70	1.47	1.27	1.14	.97	.92	.87
42 H 460	UG-18C/U	82-203	A	5, 6, 21	1.45	1.26	1.09	.98	.83	.79	.75
40 H 313	UG-21B/U	82-61	A	8, 9, 10	1.50	1.31	1.18	1.02	.86	.82	.77
42 H 602	UG-21C/U	82-96	A	8, 9, 10	1.68	1.46	1.26	1.13	.96	.91	.86
42 H 461	UG-21D/U	82-202	A	8, 9, 10	1.31	1.14	.98	.88	.75	.71	.68
40 H 314	UG-22B/U	82-62	J	8, 9, 10	1.42	1.23	1.06	.96	.81	.77	.73
42 H 601	UG-22D/U	82-208	J	8, 9, 10	1.42	1.23	1.06	.96	.81	.77	.73
40 H 315	UG-23B/U	82-63	D	8, 9, 10	1.38	1.20	1.03	.93	.79	.75	.71
42 H 600	UG-23D/U	82-209	D	8, 9, 10	1.40	1.22	1.05	.94	.80	.76	.72
40 H 520	UG-27A/U	82-64	B	.....	2.73	2.37	2.04	1.84	1.56	1.48	1.40
42 H 462	UG-27B/U	82-98	B	.....	2.83	2.46	2.12	1.91	1.62	1.54	1.46
42 H 463	UG-27C/U	82-213	B	.....	3.48	3.03	2.60	2.35	1.99	1.89	1.79
42 H 464	UG-28A/U	82-99	.....	.....	3.06	2.66	2.29	2.06	1.75	1.66	1.58
40 H 521	UG-29A/U	82-65	E	.....	1.65	1.43	1.23	1.11	.94	.89	.85
42 H 604	UG-29B/U	82-101	.....	.....	1.56	1.35	1.17	1.05	.89	.85	.80
42 H 605	UG-30C/U	82-201	H	.....	3.08	2.68	2.30	2.08	1.76	1.67	1.58
40 H 522	UG-30/U	82-66	H	.....	2.42	2.10	1.81	1.63	1.38	1.31	1.24
42 H 108	UG-30D/U	91100	.....	.....	3.24	2.81	2.42	2.18	1.85	1.76	1.67
42 H 603	UG-57B/U	82-100	F	.....	2.26	1.96	1.69	1.52	1.29	1.23	1.16
40 H 499	.....	82-112*	C	.....	2.36	2.05	1.77	1.59	1.35	1.28	1.22
40 H 529	UG-58A/U	82-97	C	.....	.94	.82	.71	.64	.54	.51	.49
40 H 312	UG-58/U	82-24*	C	.....	.96	.84	.72	.65	.55	.52	.50
40 H 316	UG-94A/U	82-84*	A	11, 12, 13	1.77	1.53	1.32	1.19	1.01	.96	.91
42 H 606	UG-95A/U	82-89	D	11, 12, 13	1.65	1.43	1.23	1.11	.94	.89	.85
40 H 523	UG-96A/U	82-90*	J	11, 12, 13	2.26	1.96	1.69	1.52	1.29	1.23	1.16
40 H 519	UG-107A/U	82-36	K	.....	4.38	3.80	3.26	2.95	2.50	2.38	2.25
40 H 558	UG-107B/U	82-102	K	.....	3.38	2.94	2.52	2.28	1.93	1.83	1.74
42 H 116	UG-536/U	34000	A	.....	1.79	1.55	1.34	1.20	1.02	.97	.92
42 H 117	UG-536B/U	34025	A	.....	2.29	1.99	1.72	1.55	1.31	1.24	1.18
42 H 118	UG-603A/U	34525	A	.....	2.15	1.87	1.61	1.45	1.23	1.17	1.11
42 H 465	UG-680/U	82-811	.....	.....	2.10	1.82	1.57	1.41	1.20	1.14	1.08
42 H 466	MX-913/U	82-106	L	.....	.49	.43	.37	.33	.28	.27	.25
40 H 559	UG-167A/U	82-104	G	17, 18	4.30	3.74	3.22	2.90	2.46	2.34	2.21
40 H 560	UG-1185/U	82-312	.....	.....	1.98	1.72	1.48	1.33	1.13	1.07	1.02
40 H 561	UG-1186/U	82-313	.....	.....	1.70	1.47	1.27	1.14	.97	.92	.87
40 H 562	UG-1187/U	82-314	.....	.....	1.80	1.57	1.35	1.21	1.03	.98	.93
42 H 467	.....	82-835	.....	.....	3.99	3.46	2.99	2.69	2.28	2.17	2.05
42 H 609	.....	82-1275	KK	.....	.07	.06	.05	.05	.04	.04	.04
42 H 109	.....	18750	B	.....	.80	.70	.60	.54	.46	.44	.42
42 H 619	.....	82-150	.....	.....	1.20	9.74	8.38	7.55	6.40	6.08	5.76

Type HN Connectors. For high-voltage applications. 50 ohms. Av. shpg. wt., 3 oz.

40 H 375	UG-59A/U	82-38	.....	.....	2.50	2.18	1.87	1.69	1.43	1.36	1.29
40 H 317	UG-59B/U	82-804	.....	.....	2.72	2.36	2.03	1.83	1.55	1.47	1.40
42 H 468	UG-496/U	82-92	.....	.....	1.84	1.60	1.37	1.24	1.05	1.00	.95
40 H 318	UG-560/U	82-805	.....	.....	2.56	2.22	1.91	1.72	1.46	1.39	1.31
40 H 563	UG-1213/U	82-320	.....	.....	3.50	3.04	2.62	2.36	2.00	1.90	1.80
40 H 514	UG-1214/U	82-321	.....	.....	3.87	3.36	2.90	2.60	2.21	2.10	1.99
40 H 515	UG-1215/U	82-324	.....	.....	4.11	3.56	3.08	2.77	2.35	2.23	2.12
42 H 469	MX-564/U	82-48	.....	.....	.66	.58	.50	.45	.38	.36	.34
42 H 470	.....	82-833	.....	.....	3.73	3.24	2.79	2.51	2.13	2.02	1.92
42 H 610	.....	82-816	.....	.....	2.48	2.16	1.86	1.67	1.42	1.35	1.28

Type C and LC Connectors. Av. shpg. wt., 3 oz.

40 H 488	UG-154/U	82-59	.....	.....	8.79	7.64	6.57	5.93	5.02	4.77	4.52
42 H 471	UG-568/U	82-504	.....	.....	1.54	1.34	1.15	1.04	.88	.84	.79
42 H 613	UG-569/U	82-505	.....	.....	2.05	1.78	1.53	1.38	1.17	1.11	1.05
42 H 614	UG-571/U	82-501	.....	.....	1.87	1.62	1.40	1.26	1.07	1.02	.96
40 H 489	UG-573A/U	82-530	A	.....	2.57	2.24	1.92	1.73	1.47	1.40	1.32
42 H 611	UG-643/U	82-514	.....	.....	1.85	1.61	1.39	1.25	1.06	1.01	.95
42 H 612	UG-710A/U	82-531	.....	.....	4.57	3.97	3.42	3.08	2.61	2.48	2.35
42 H 472	MX-1142/U	85-512	.....	.....	.82	.71	.62	.55	.47	.45	.42

Push-On Connectors. Av. shpg. wt., 3 oz.

42 H 473	.....	82-830	.....	.....	.40	.35	.30	.27	.23	.22	.21
42 H 474	.....	82-831	.....	.....	.72	.62	.54	.48	.41	.39	.37
42 H 475	.....	82-832	.....	.....	.42	.36	.31	.28	.24	.23	.22

## SERIES 83 UHF COAXIAL CONNECTORS

Meet government specs. \*Polystyrene insulation. †Mica-filled insert. Av. shpg. wt., 3 oz. UHF Small Single Contact. For any RF application.

40 H 357	UG-106/U M-360	83-1H	M	8, 9, 10, 11	.21	.18	.16	.14	.12	.119	.11
42 H 450	UG-111/U	83-750	N	59, 62, 71	.79	.68	.59	.53	.45	.43	.41
40 H 360	UG-175/U	83-185	W	25, 55, 58	.16	.14	.12	.11	.09	.09	.08
40 H 359	UG-176/U	83-168	.....	59, 62, 71	.16	.14	.12	.11	.09	.09	.08
40 H 351	UG-177/U	83-765	.....	29, 55, 58	.24	.21	.18	.17	.14	.13	.13
40 H 373	UG-203/U, 49482	83-776	.....	55, 59, 62, 71	.89	.77	.67	.60	.51	.48	.46
40 H 356	UG-363/U PL-274	83-1P*	X	.....	1.56	1.35	1.16	1.05	.89	.85	.80
40 H 353	UG-646/U, M-359	83-1AP*	P	.....	1.33	1.15	.99	.90	.76	.72	.68
42 H 451	UG-372/U	83-1HP	.....	.....	.26	.23	.20	.18	.15	.14	.13
40 H 354	M-358, 49199	83-1T*	K	.....	2.08	1.81	1.56	1.40	1.19	1.13	1.07
42 H 452	M-359A, 49192	83-58	P	.....	1.70	1.47	1.27	1.14	.97	.92	.87
40 H 355	PL-258, 49191	83-1J*	R	.....	.91	.79	.68	.61	.52	.49	.47
40 H 350	PL-259, 49190	83-1SP†	N	8-13, 63, 65	.58	.51	.43	.39	.33	.31	.30
42 H 499	.....	83-86	.....	.....	6.26	5.44	4.69	4.22	3.58	3.40	3.22
42 H 454	PL-259A, 49195	83-756	N	8-12	1.12	.97	.84	.75	.64	.61	.58

(SEE NEXT PAGE FOR CONTINUED LISTING OF SERIES 83 CONNECTORS)

# Amphenol-ipc Coaxial Connectors

## SERIES 83 UHF COAXIAL CONNECTORS (Cont'd)

Stock No.	Military No.	Mfr's Type	Fig.	For RG/U Cables	EACH							
					1-24	25-49	50-99	100-249	250-499	500-999	1000-2499	
40 H 372	PL-259A, 49195	83-1SPN	.....	8-13,63,65	.79	.68	.59	.53	.45	.43	.40	
40 H 352	SO-239, 49194	83-1R†	S	.....	.59	.52	.44	.40	.34	.32	.31	
42 H 453	SO-239A	83-798	S	.....	1.44	1.25	1.07	.97	.82	.78	.74	
42 H 358	.....	83-1AC	L	.....	.44	.37	.33	.29	.25	.24	.23	
42 H 455	SO-239, 49194	83-1RTY*	S	.....	.59	.52	.44	.40	.34	.32	.31	
42 H 456	.....	83-59	.....	8-13,63,65	2.05	1.78	1.53	1.38	1.17	1.11	1.05	
42 H 457	PL-259, 49190	83-822	N	8, 9	1.00	.87	.75	.67	.57	.54	.51	

UHF Small Twin Contact. For use with 2-conductor coax cables.

40 H 361	UG-102/U, PL-284	83-22SP	.....	.....	.96	.84	.72	.65	.55	.52	.50
40 H 362	UG-103/U, SO-264	83-22R	.....	.....	.79	.68	.59	.53	.45	.43	.41
40 H 374	UG-104/U, PL-293	83-22AP	.....	.....	1.96	1.70	1.47	1.32	1.12	1.06	1.01
40 H 511	UG-105/U, PL-285	83-22J	.....	.....	1.45	1.26	1.09	.98	.83	.79	.75
40 H 518	PL-275	83-22F	.....	.....	2.29	1.99	1.72	1.54	1.31	1.24	1.18
42 H 458	.....	83-65	.....	.....	.17	.15	.13	.12	.10	.10	.09
42 H 620	.....	83-1BC	.....	.....	.58	.50	.43	.39	.33	.31	.30

Solderless Type UHF Connectors.

40 H 509	.....	83-850	T	.....	1.08	.94	.81	.73	.62	.59	.56
40 H 510	.....	83-851	T	.....	.94	.82	.71	.64	.54	.51	.49

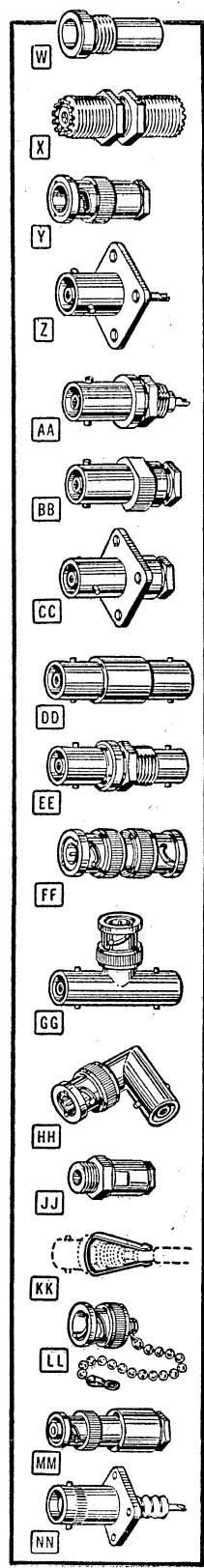
## SERIES 31 COAXIAL CONNECTORS

BNC Types. Small; weatherproof. Low-voltage single-contact types. \*Pressurized. Av. shpg. wt., 3 oz.

Stock No.	Military No.	Mfr's Type	Fig.	For RG/U Cables	EACH							
					1-24	25-49	50-99	100-249	250-499	500-999	1000-2499	
40 H 391	UG-88/U	31-002	Y	55, 58	.87	.76	.65	.59	.50	.48	.45	
40 H 476	UG-88B/U	31-018	Y	55, 58	.93	.80	.69	.63	.53	.50	.48	
42 H 477	UG-88C/U	31-202	Y	55, 58	.77	.67	.58	.52	.44	.42	.40	
40 H 393	UG-89/U	31-005	BB	55, 58	.95	.82	.71	.64	.54	.51	.49	
42 H 621	UG-89B/U	31-205	BB	55, 58	.94	.82	.71	.64	.54	.51	.49	
42 H 123	UG-90/U	1300	.....	.....	1.22	1.06	.92	.83	.70	.67	.63	
42 H 622	CW-159/U	31-017	.....	.....	.74	.64	.55	.50	.42	.40	.38	
42 H 122	UG-185	4500	.....	.....	.91	.79	.68	.61	.52	.49	.47	
42 H 481	UG-254A/U	31-016*	.....	.....	2.48	2.16	1.86	1.67	1.42	1.35	1.28	
40 H 396	UG-260/U	31-012	Y	59, 62, 71	.93	.80	.69	.63	.53	.50	.48	
42 H 478	UG-260A/U	31-021	Y	59, 62, 71	.89	.78	.67	.60	.51	.48	.46	
42 H 479	UG-260B/U	31-212	Y	59, 62, 71	1.14	.99	.85	.77	.65	.62	.58	
42 H 623	UG-261B/U	31-215	BB	59, 62, 71	.96	.84	.72	.65	.55	.52	.50	
40 H 397	UG-261/U	31-015	BB	59, 62, 71	.98	.85	.73	.66	.56	.53	.50	
42 H 624	UG-262A/U	31-023	CC	59, 62, 71	1.05	.91	.79	.71	.60	.57	.54	
42 H 625	UG-262B/U	31-211	CC	59, 62, 71	1.05	.91	.79	.71	.60	.57	.54	
40 H 395	UG-262/U	31-011	CC	59, 62, 71	1.01	.88	.76	.68	.58	.55	.52	
40 H 492	UG-274/U	31-008	GG	.....	2.24	1.93	1.66	1.50	1.27	1.21	1.14	
42 H 482	UG-274A/U	31-208	GG	.....	2.78	2.42	2.08	1.87	1.59	1.51	1.43	
42 H 626	CW-282/U	31-210	.....	.....	.52	.46	.39	.35	.30	.29	.27	
40 H 392	UG-290/U	31-003	Z	.....	.80	.70	.60	.54	.46	.44	.41	
42 H 483	UG-290A/U	31-203	Z	.....	.91	.79	.68	.61	.52	.49	.47	
42 H 627	UG-291B/U	31-201	CC	55, 58	1.19	1.03	.89	.80	.68	.65	.61	
40 H 399	UG-291/U	31-001	CC	55, 58	1.00	.87	.75	.67	.57	.54	.51	
40 H 394	UG-306/U	31-009	HH	.....	2.06	1.79	1.54	1.39	1.18	1.12	1.06	
42 H 119	UG-414/U	47000	.....	.....	1.41	1.23	1.06	.95	.81	.77	.73	
42 H 485	UG-447/U	31-817	Z	.....	.88	.76	.65	.59	.50	.48	.45	
42 H 486	UG-491A/U	31-218	FF	.....	2.04	1.78	1.53	1.38	1.17	1.11	1.05	
40 H 494	UG-492A/U	31-220	EE	.....	2.24	1.95	1.68	1.51	1.28	1.21	1.16	
42 H 131	UG-535/U	5675	.....	.....	1.82	1.58	1.36	1.23	1.04	.99	.94	
42 H 132	UG-625/U	5575	.....	.....	.86	.74	.64	.58	.49	.47	.44	
42 H 133	UG-625B/U	31-236	.....	.....	1.07	.93	.80	.72	.61	.58	.55	
40 H 398	UG-657/U	31-102	AA	.....	1.30	1.12	.97	.87	.74	.70	.67	
42 H 487	UG-909/U	31-206	.....	55, 58	1.57	1.37	1.18	1.06	.90	.86	.81	
42 H 488	UG-910/U	31-207	.....	59, 62, 71	1.42	1.25	1.06	.96	.81	.77	.73	
42 H 137	UG-911A/U	31-237	.....	.....	2.12	1.84	1.58	1.43	1.21	1.15	1.09	
42 H 138	UG-912/U	31-238	.....	.....	1.92	1.67	1.43	1.30	1.10	1.05	.99	
42 H 489	UG-913/U	31-204	.....	55, 58	2.98	2.58	2.23	2.00	1.70	1.62	1.53	
42 H 490	UG-914/U	31-219	DD	.....	1.47	1.20	1.10	.99	.84	.80	.76	
42 H 134	UG-1033/U	84975	.....	.....	1.80	1.57	1.35	1.22	1.03	.98	.93	
42 H 491	UG-1094/U	31-221	AA	.....	.93	.80	.69	.63	.53	.50	.48	
42 H 492	UG-1098/U	31-222	.....	.....	2.19	1.90	1.64	1.47	1.25	1.19	1.12	
40 H 490	CW-123/U	31-006	LL	.....	.40	.35	.30	.27	.23	.22	.21	
42 H 493	CW-123A/U	31-026	LL	.....	.42	.36	.31	.28	.24	.23	.22	
40 H 491	CW-155/U	31-007	LL	.....	.28	.24	.21	.19	.16	.15	.14	
42 H 494	CW-155A/U	31-027	LL	.....	.33	.29	.25	.22	.19	.18	.17	
42 H 495	.....	31-304	.....	.....	1.31	1.14	.98	.88	.75	.71	.68	
42 H 496	.....	31-759	KK	.....	.07	.068	.059	.053	.045	.043	.040	
42 H 628	.....	31-105	Z	.....	1.07	.93	.80	.72	.61	.58	.55	
42 H 629	.....	31-301	.....	.....	1.33	1.15	.99	.90	.76	.72	.68	
42 H 630	.....	31-850	.....	59, 62, 71	3.45	3.00	2.58	2.32	1.97	1.87	1.77	
42 H 631	.....	31-851	JJ	55, 58	.59	.52	.45	.40	.34	.32	.31	
42 H 152	.....	2025	.....	.....	.52	.46	.39	.35	.30	.29	.27	
42 H 153	.....	8525	.....	.....	2.33	2.02	1.74	1.57	1.33	1.26	1.20	
42 H 154	.....	8575	.....	.....	2.80	2.43	2.09	1.89	1.60	1.52	1.45	
42 H 156	.....	15875	.....	.....	1.71	1.49	1.28	1.15	.98	.93	.89	
42 H 157	.....	16300	.....	.....	1.33	1.15	.99	.90	.76	.72	.69	
42 H 158	.....	86225	.....	.....	2.42	2.10	1.81	1.63	1.38	1.31	1.25	

MHV Miniature High Voltage Connectors.

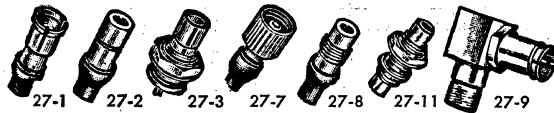
42 H 398	UG-931/U	27000	MM	58, 59	1.52	1.32	1.14	1.03	.87	.83	.79
42 H 399	UG-932/U	28000	NN	58, 59	1.83	1.60	1.38	1.24	1.05	1.00	.95



OEM Prices—Same Day Shipment—Largest Stocks

# Amphenol-ipc RF Connectors

## "SUBMINAX" SUBMINIATURE CONNECTORS



Subminiature connectors for Amphenol subminiature coaxial cable. Low-resistance gold-plated bodies and contacts. Screw-on and push-on types cannot be intermixed; impedances must match. 50-ohm types except, \*75 ohms. 27-801 is for cable termination and is used alone. Require 1227-900 or 1227-901 tool below. 3 oz.

### PUSH-ON TYPES

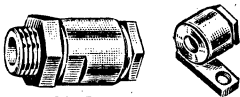
Stock No.	Mfr's Type	EACH							
		1-24	25-49	50-99	100-249	250-499	500-999	1000-2499	
40 H 470	27-1†	.77	.66	.58	.52	.44	.40	.35	
40 H 471	27-2†	.86	.74	.64	.58	.49	.44	.39	
40 H 472	27-3	.70	.61	.52	.47	.40	.36	.32	
40 H 473	27-4†	1.03	.89	.77	.70	.59	.53	.47	
40 H 474	27-5	1.47	1.28	1.10	.99	.84	.76	.67	
40 H 495	27-6†	2.32	2.02	1.74	1.57	1.33	1.20	1.06	
42 H 640	27-30	3.08	2.67	2.30	2.08	1.76	1.58	1.41	
42 H 641	27-31	3.85	3.34	2.88	2.60	2.20	1.98	1.76	
42 H 642	27-32	3.38	2.93	2.53	2.28	1.93	1.74	1.54	
42 H 643	27-33	4.13	3.58	3.09	2.78	2.36	2.12	1.89	
40 H 481	27-13**	.91	.79	.68	.61	.52	.47	.42	
42 H 791	27-14**	1.05	.90	.79	.71	.60	.54	.48	
40 H 458	27-15*	.82	.71	.62	.55	.47	.42	.38	
42 H 792	27-16**	.86	.74	.64	.58	.49	.44	.39	
42 H 793	27-17*	1.12	.97	.84	.75	.64	.58	.51	
40 H 497	27-18**	2.19	1.90	1.64	1.47	1.25	1.13	1.00	
40 H 045	27-80†	.79	.68	.59	.53	.45	.41	.36	
42 H 644	27-804*	.68	.59	.51	.46	.39	.35	.31	

### SCREW-ON TYPES

Stock No.	Mfr's Type	EACH							
		1-24	25-49	50-99	100-249	250-499	500-999	1000-2499	
40 H 475	27-7†	.68	.58	.51	.46	.39	.35	.31	
40 H 476	27-8†	.65	.56	.48	.44	.37	.33	.30	
40 H 477	27-9	.72	.62	.54	.48	.41	.37	.33	
40 H 478	27-10†	.75	.65	.56	.51	.43	.39	.34	
40 H 479	27-11	1.45	1.26	1.09	.98	.83	.75	.66	
40 H 480	27-12	1.35	1.17	1.01	.91	.77	.69	.62	
40 H 496	27-26†	1.94	1.68	1.45	1.31	1.11	1.00	.89	
42 H 645	27-34	1.48	1.29	1.11	1.00	.85	.77	.68	
42 H 646	27-35	2.43	2.22	1.82	1.64	1.39	1.25	1.11	
42 H 647	27-36	3.31	2.88	2.48	2.23	1.89	1.70	1.51	
42 H 648	27-37	2.01	1.75	1.51	1.36	1.15	1.04	.92	
40 H 047	27-800	1.14	.99	.85	.77	.65	.62	.59	
40 H 461	27-19**	.63	.55	.47	.42	.36	.32	.29	
40 H 462	27-20**	1.21	1.05	.90	.81	.69	.62	.55	
40 H 463	27-21*	.73	.63	.55	.50	.42	.38	.34	
40 H 464	27-22**	.98	.85	.73	.66	.56	.50	.45	
42 H 794	27-23*	1.08	.94	.81	.73	.62	.56	.50	
40 H 498	27-25**	1.24	1.08	.93	.84	.71	.64	.57	

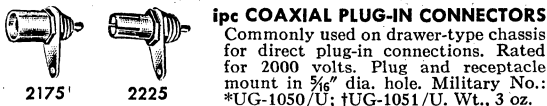
### CRIMPING TOOLS FOR "SUBMINAX" CONNECTORS

Stock No.	Mfr's Type	Use With Connectors Above	EACH
40 H 467	227-900	Subminax Types followed by †	17.00
40 H 468	227-901	Subminax Types followed by ‡	17.00



**ipc CABLE TERMINATIONS**  
Terminate coaxial cable shield without soldering. Permit inner conductor to extend beyond cable termination. Types 1025 and 1050 mount in 3/8" dia. hole. Mountings: †locknut; ‡strap. 3 oz.

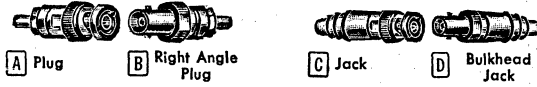
Stock No.	Mil. No.	Mfr's Type	Fit RG/U Cable	EACH				
				1-24	25-49	50-99	100-249	250-499
42 H 575	MX-1530/U	1050*	59, 62, 71	.49	.43	.37	.33	.28
42 H 576	MX-1684/U	1025*	56, 58	.56	.49	.42	.38	.32
42 H 577	MX-1801/U	4025†	59, 62, 71	.49	.42	.37	.33	.28



**ipc COAXIAL PLUG-IN CONNECTORS**  
Commonly used on drawer-type chassis for direct plug-in connections. Rated for 2000 volts. Plug and receptacle mount in 3/8" dia. hole. Military No.: \*UG-1050/U; †UG-1051/U. Wt., 3 oz.

Stock No.	Mfr's Type	Contacts	EACH				
			1-24	25-49	50-99	100-249	250-499
42 H 504	2225*	Male	.72	.62	.54	.48	.41
42 H 505	2175†	Female	.78	.68	.59	.53	.45
42 H 578	2325	Rt. angle hood	.54	.47	.41	.37	.31
42 H 579	3425	Male, gold pl.	.73	.64	.55	.50	.42

## SERIES 31 BNC "QUICK-CRIMP" CONNECTORS



Easy-to-assemble crimp-type connectors offering high reliability. For RF uses. \*Termination connector (not illus.). Wt., 3 oz.

Stock No.	Mfr's Type	Fig.	EACH							
			1-24	25-49	50-99	100-249	250-499	500-999	1000-2499	
42 H 429	31-350	A	2.92	2.54	2.18	1.97	1.67	1.59	1.50	
42 H 430	31-351	A	2.92	2.54	2.18	1.97	1.67	1.59	1.50	
42 H 431	31-352	A	4.53	3.94	3.39	3.06	2.59	2.46	2.33	
42 H 432	31-353	B	4.46	3.88	3.34	3.01	2.55	2.42	2.30	
42 H 433	31-354	B	4.46	3.88	3.34	3.01	2.55	2.42	2.30	
42 H 434	31-355	C	2.56	2.22	1.91	1.72	1.46	1.39	1.31	
42 H 435	31-356	C	2.56	2.22	1.91	1.72	1.46	1.39	1.31	
42 H 436	31-357	D	4.04	3.51	3.03	2.72	2.31	2.19	2.08	
42 H 437	31-358	D	4.04	3.51	3.03	2.72	2.31	2.19	2.08	
42 H 438	31-359	A	2.92	2.54	2.18	1.97	1.67	1.59	1.50	
42 H 439	31-360	A	2.92	2.54	2.18	1.97	1.67	1.59	1.50	
42 H 440	31-361	B	4.46	3.88	3.34	3.01	2.55	2.42	2.30	
42 H 441	31-362	B	4.46	3.88	3.34	3.01	2.55	2.42	2.30	
42 H 442	31-363	C	2.56	2.22	1.91	1.72	1.46	1.39	1.31	
42 H 443	31-364	C	2.56	2.22	1.91	1.72	1.46	1.39	1.31	
42 H 444	31-365	D	4.04	3.51	3.03	2.72	2.31	2.19	2.08	
42 H 445	31-366	D	4.04	3.51	3.03	2.72	2.31	2.19	2.08	
42 H 446	31-367	*	1.94	1.69	1.45	1.31	1.11	1.05	1.00	
42 H 447	31-368	*	1.94	1.69	1.45	1.31	1.11	1.05	1.00	
42 H 561	31-369	D	4.51	3.92	3.38	3.04	2.58	2.45	2.33	
42 H 562	31-371	A	4.90	4.26	3.67	3.30	2.80	2.66	2.53	
42 H 563	31-372	D	4.23	3.68	3.17	2.85	2.42	2.30	2.18	

42 H 448. 227-50 Crimping Tool. For 31-350 to 31-358 and 31-372 connectors, above. Shpg. wt., 1 lb. .... 46.75

42 H 449. 227-75 Crimping Tool. For 31-359 to 31-368 connectors. Shpg. wt., 1 lb. .... 46.75

42 H 564. WT-200 Crimping Tool. For 31-371 and 31-369 connectors. Shpg. wt., 1 lb. .... 35.00

### "BETWEEN-SERIES" ADAPTERS

Provide connection between various RF connector series. Non-constant impedance, but minimize electrical resistance. Av. wt., 3 oz.

Stock No.	Military No. UG-	Mfr's Type	EACH							
			1-24	25-49	50-99	100-249	250-499	500-999	1000-2499	
42 H 480	201/U	31-830	2.10	1.82	1.57	1.42	1.20	1.14	1.08	
42 H 615	201A/U	31-216	2.24	1.95	1.68	1.51	1.28	1.22	1.15	
40 H 493	273/U	31-028	1.52	1.32	1.14	1.03	.87	.83	.78	
42 H 484	349A/U	31-217	2.20	1.92	1.65	1.49	1.26	1.20	1.13	
42 H 616	564/U	82-508	2.29	1.99	1.72	1.54	1.31	1.24	1.18	
42 H 617	505A/U	82-540	3.69	3.21	2.76	2.49	2.11	2.00	1.90	
40 H 046	.....	27-28	1.45	1.26	1.09	.98	.83	.75	.66	
42 H 618	.....	27-41	6.59	5.73	4.92	4.43	3.76	3.35	3.01	
42 H 565	146/U	4400	2.72	2.36	2.03	1.83	1.55	1.47	1.40	
42 H 566	255/U	2900	2.38	2.06	1.78	1.60	1.36	1.29	1.23	
42 H 567	318/U	26700	4.85	4.21	3.63	3.26	2.77	2.63	2.51	
42 H 568	.....	27-29	4.29	3.72	3.20	2.89	2.45	2.21	1.96	
42 H 569	.....	47250	2.61	2.26	1.95	1.76	1.49	1.42	1.35	

### ipc MB COAXIAL CONNECTORS

Miniature, low-cost coaxial connectors. All have bayonet lock. Maximum ratings: 500 mc., 500 volts, 400°F. Av. wt., 3 oz.

Stock No.	Mfr's Type	Description	EACH				
			1-24	25-49	50-99	100-249	250-499
42 H 581	45000	Plug for RG-58/U	.75	.65	.56	.51	.43
42 H 582	45550	Plug for RG-59/U	1.01	.88	.76	.68	.58
42 H 583	45975	Pressurized recept.	3.66	3.18	2.74	2.46	2.09
42 H 584	46000	Receptacle (nylon)	.51	.44	.38	.34	.29
42 H 585	46025	Receptacle (Kel-F)	.49	.43	.37	.33	.28
42 H 586	48825	Plug for RG-187/U	1.35	1.17	1.01	.91	.77
42 H 587	48850	Plug for RG-195/U	1.24	1.08	.93	.84	.71

### ipc TWINAX WEATHER PROOF CONNECTORS

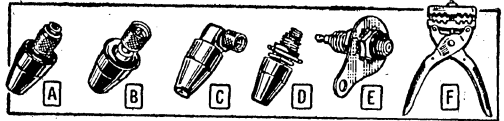
95-ohm twin-conductor weather proof polarized connectors, for use up to 200 mc. Fit RG-22/U. Military No.: \*UG-421/U; †UG-422/U; ‡UG-423/U. 3 oz.

Stock No.	Mfr's Type	Description	EACH				
			1-24	25-49	50-99	100-249	250-499
42 H 588	6275*	RG-22/U plug	2.47	2.14	1.85	1.66	1.41
42 H 589	6225†	Sq. flange recept.	2.80	2.43	2.09	1.89	1.60
42 H 592	6175‡	Sq. flange jack	2.94	2.55	2.20	1.98	1.68

# Amphenol RF and Cable Connectors

## NEW "SUBMINAX" SERIES 5116 SUBMINIATURE RF CONNECTORS

Complete-subminiature RF connector line featuring silver-plated contacts; constant impedance, low VSWR and low insertion loss. Interchangeable with other designs. Rated at 500 volts peak. Figure A, jack; B, plug; C, right-angle plug; D, bulkhead jack; E, receptacle. 3 oz.



Stock No.	Type 5116-	RG Cable	Ohms	Fig.	EACH					
					1-24	25-49	50-99	100-249	250-499	500-999
42 H 320	037475	178A	50	C	1.85	1.67	1.48	1.33	1.11	1.06
42 H 321	037600	178B	50	B	2.44	2.19	1.94	1.75	1.46	1.40
42 H 322	037700	196	50	A	1.85	1.67	1.48	1.33	1.11	1.06
42 H 323	037800	196A	50	D	1.85	1.67	1.48	1.33	1.11	1.06
42 H 324	058350	50	50	E	1.87	1.68	1.49	1.34	1.12	1.07
42 H 325	037575	174	50	B	1.85	1.67	1.48	1.33	1.11	1.06
42 H 326	037675	316	50	C	2.44	2.19	1.94	1.75	1.46	1.40
42 H 327	037775	188	50	A	1.85	1.67	1.48	1.33	1.11	1.06
42 H 328	037875	188A	50	D	1.85	1.67	1.48	1.33	1.11	1.06

Stock No.	Type 5116-	RG Cable	Ohms	Fig.	EACH					
					1-24	25-49	50-99	100-249	250-499	500-999
42 H 330	037525		75	B	1.85	1.67	1.48	1.33	1.11	1.06
42 H 331	037625	179A	75	C	2.44	2.19	1.94	1.75	1.46	1.40
42 H 332	037725	179B	75	A	1.85	1.67	1.48	1.33	1.11	1.06
42 H 333	037825	187	75	D	1.85	1.67	1.48	1.33	1.11	1.06
42 H 334	056825	187A	75	E	1.87	1.68	1.49	1.34	1.12	1.07
42 H 335	037550		95	B	1.85	1.67	1.48	1.33	1.11	1.06
42 H 336	037650	180A	95	C	2.44	2.19	1.94	1.75	1.46	1.40
42 H 337	037750	180B	95	A	1.85	1.67	1.48	1.33	1.11	1.06
42 H 338	037850	195	95	D	1.85	1.67	1.48	1.33	1.11	1.06
42 H 339	057400	195A	95	E	1.87	1.68	1.49	1.34	1.12	1.07

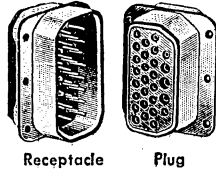
### F TYPE 227-911 CRIMPING TOOL FOR ABOVE CONNECTORS

Type 227-911 tool crimps all Series 5116 connectors. Inexpensive tool handles all cable sizes. Designed for quick, easy operation—

crimps cable braid to connector in seconds. Shpg. wt., 1 lb. 42 H 340.....16.00

## RACK AND PANEL CONNECTORS

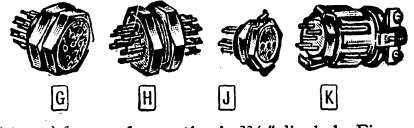
Series 94. Feature "Poke-Home" contacts. Can be inserted into mounted or unmounted connectors. Listed in mating pairs; receptacle, then plug, #16 and #20 contacts are crimp-type (see tools below); \*RG-180/U and \*RG-58U coax contacts are solder type. Mtg. flange 1 3/4" x 1" to 1 5/8" wide with six 4-40 holes. 6 oz.



Stock No.	Mfr's Type	No. of Contacts			EACH			
		#16	#20	Coax	1-9	10-49	50-99	100-249
43 H 000	94-62548-1	4	25	8*	22.51	19.29	14.47	13.50
43 H 001	94-52548-1	4	25	8*	28.57	24.49	18.37	17.14
43 H 002	94-64352-1	5	43	2†	15.21	13.04	9.78	9.13
43 H 003	94-54352-1	5	43	2†	23.02	19.74	14.80	13.81
43 H 004	94-65940-1	4	59	..	14.57	12.49	9.36	8.74
43 H 005	94-55940-1	4	59	..	24.37	20.89	15.67	14.62
43 H 006	94-41722-1	2	17	2†	9.61	8.24	6.18	5.77
43 H 007	94-31722-1	2	17	2†	14.38	12.33	9.25	8.63
43 H 008	94-42530-1	3	25	..	7.92	6.79	5.09	4.75
43 H 010	94-32530-1	3	25	..	13.98	11.99	8.99	8.39
43 H 011	94-21320-1	2	13	..	5.72	4.92	3.73	3.58
43 H 012	94-11320-1	2	13	..	10.36	8.88	6.66	6.22

## MINIATURE RACK PANEL AND CABLE CONNECTORS

Molded of Amphenol Blue 1-501 dielectric. Silver-base-plated contacts are gold-finished to prevent corrosion. Figures



G and H (hex nut types) for panel mounting in 3/8" dia. hole. Figure J (hex nut type with locking clip) mates with Figure K (hood and cable clamp type). Dia. of hex nut types, 5/8"; cable clamp type, 3/4". Overall length of cable clamp type, 1 1/4", 5 oz.

### MALE CONNECTORS

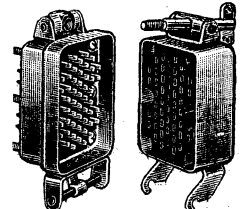
Stock No.	Mfr's Type	Con-tacts	Fig.	EACH			
				1-9	10-49	50-99	100-249
40 H 632	126-010	5	H	.77	.70	.47	.39
40 H 634	126-191	7	H	.92	.70	.55	.46
40 H 636	126-012	9	H	1.06	.83	.65	.54
40 H 644	126-217	5	K	1.81	1.38	1.09	.91
40 H 646	126-195	7	K	1.98	1.51	1.19	.99
40 H 648	126-220	9	K	2.21	1.69	1.33	1.10
40 H 638	126-216	5	J	.82	.63	.50	.41
40 H 640	126-197	7	J	.99	.75	.60	.50
40 H 642	126-219	9	J	1.15	.88	.70	.58

### FEMALE CONNECTORS

Stock No.	Mfr's Type	Con-tacts	Fig.	EACH			
				1-9	10-49	50-99	100-249
40 H 633	126-011	5	G	1.26	.99	.78	.65
40 H 635	126-192	7	G	1.48	1.13	.89	.74
40 H 637	126-013	9	G	2.00	1.53	1.21	1.00
40 H 645	126-223	5	K	1.39	1.06	.84	.70
40 H 647	126-196	7	K	2.58	1.98	1.56	1.31
40 H 649	126-222	9	K	3.00	2.30	1.82	1.50
40 H 639	126-218	5	J	1.34	1.03	.81	.67
40 H 641	126-198	7	J	1.53	1.17	.92	.77
40 H 643	126-221	9	J	2.04	1.57	1.23	1.03

## SERIES 115-50 AND 100-CONTACT CONNECTORS

Viselocked cable connectors accommodate 50 or 100 #16 wires. Viselocked screw lock provides leverage for attaching and disengaging of plug. Inserts have molded-in numbers to facilitate wiring and checking of circuits. Solder-cup contacts are free floating for alignment in mating but cannot rotate. Cable clamps for attaching to each type connector listed at left, below. Approximate size of shells; 100-contact, 3 1/2 x 3 1/2 x 1 1/2"; 50-contact, 2 3/4 x 2 1/4 x 1 1/2". 750 volts, 60 cycle AC at sea level. Wt., 1 lb.



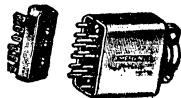
Stock No.	Mfr's Type	Description and Number of Contacts	EACH		
			1-9	10-49	50-99
43 H 017	115-30P-1000	Male Plug—100	27.65	25.14	20.95
43 H 019	115-31S-1000	Female Receptacle—100	35.03	32.07	26.73
43 H 020	115-32S	Female Plug—100	35.49	32.27	26.89
43 H 021	115-32P	Male Receptacle—100	27.19	24.72	20.60
43 H 022	115-114P	Male Plug—50	18.91	17.19	14.33
43 H 024	115-115S	Female Receptacle—50	23.48	21.35	17.79
43 H 030	115-114S	Female Plug—50	22.89	20.81	17.34
43 H 031	115-115P	Male Receptacle—50	19.50	17.73	14.78

## TOOLS FOR CRIMPING AND REMOVING CONTACTS

Stock No.	Type	Description	EACH
32 H 910	294-90	#20 Contact Crimping Tool	108.04
32 H 909	294-85	#16 Contact Crimping Tool	108.04
43 H 015	294-58	#20 Contact Removal Tool	15.86
43 H 016	294-48	#16 Contact Removal Tool	13.83

## MULTI-CONTACT PLUGS AND SOCKETS

Shielded cable and chassis connectors. Non-rotating contacts silver-plated with gold shell. Interlocking barriers prevent shorting. 900 v., 60 cycle AC. \*Insert only; all others with can, "A" in desc. column—cable type, #4, "B"—chassis type, 2 oz.



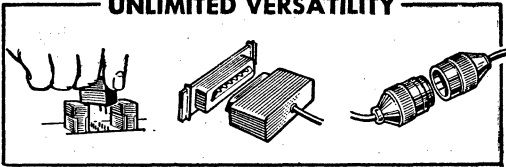
Stock No.	Mfr's Type	Contacts		Desc.	EACH			
		#16	#20		1-9	10-49	50-99	100-249
40 H 530	126-804*	2	9	B—plug	1.18	.90	.71	.59
40 H 531	126-805*	2	9	B—socket	1.15	.88	.69	.58
40 H 532	126-809	2	9	A—plug	2.00	1.53	1.21	1.00
40 H 533	126-808	2	9	A—socket	2.09	1.60	1.26	1.05
40 H 534	126-151*	3	12	B—plug	1.53	1.16	.92	.77
40 H 535	126-150*	3	12	B—socket	1.18	.90	.71	.59
40 H 536	126-152	3	12	A—plug	2.87	2.18	1.73	1.44
40 H 537	126-153	3	12	A—socket	3.00	2.30	1.82	1.51
40 H 538	126-806*	4	16	B—plug	1.98	1.51	1.19	.99
40 H 539	126-807*	4	16	B—socket	1.48	1.13	.89	.74
40 H 540	126-811	4	16	A—plug	3.24	2.48	1.96	1.63
40 H 541	126-810	4	16	A—socket	3.05	2.34	1.85	1.53
40 H 569	126-813*	20	..	B—plug	2.94	2.25	1.77	1.47
40 H 568	126-812*	20	..	B—socket	1.46	1.11	.88	.73

Cable Clamps. Aluminum housings with AN-type clamps for Series 115 connectors at right. Wt.: 115-949, 1 lb.; 115-1391, 6 oz.

Stock No.	Type	Fits	1-9, EA.	10-49, EA.	50-99, EA.
43 H 032	115-949	100 contacts	7.64	6.95	5.79
43 H 038	115-1391	50 contacts	4.88	4.44	3.70

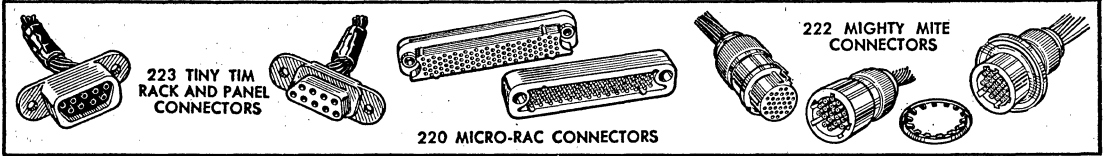
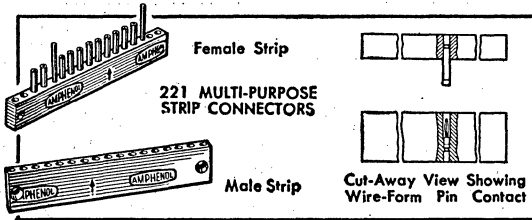
# Amphenol Wire-Form "Poke-Home" Connectors

## UNLIMITED VERSATILITY



Complete line of micro-miniature connectors provides maximum miniaturization and application versatility. Connectors handle almost every contact need imaginable. They not only provide excellent performance, but assemble quickly, easily, and positively. The all-important wire-form pin contacts consist of 4 gold-plated wiper fingers. Contacts maintain continuous tension with low contact resistance. Gold plating resists rust and corrosion. Rated: 3 amps continuous; 600 v. max @ 60 cps.; 0.0025 to 0.0030 ohms.

## CHOOSE FROM THESE MICRO-MINIATURE CONNECTORS FEATURING HIGHLY RELIABLE WIRE-FORM CONTACTS



### SERIES 221 STRIP CONNECTOR KITS

Incorporate Poke-Home wire-form contacts to provide excellent electrical performance. Connectors in each kit can be cut to any length and stacked. When stacked, contact hole spacing is same from strip to strip. 221-6 kit contains: 1-6" male strip; 1-6" female strip; 59 male contacts; 59 female contacts; and 4 guide pins. 221-511 kit contains: 1-4" male strip; 1-4" female strip; 55 male contacts; 55 female contacts; and 4 guide pins. 221-6 is on .100" centers with shrouded male contacts. 221-511 is on .075" centers with unshrouded male contacts. Wt., 7 oz.

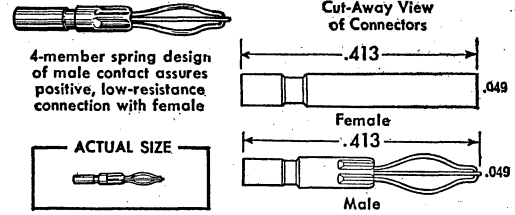
Stock No.	Mfr's Type	PER KIT			
		1-9	10-49	50-99	100-249
42 H 939	221-6	8.18	6.70	5.77	5.02
42 H 940	221-511	7.13	5.83	5.02	4.37

### SERIES 223 TINY TIM RACK AND PANEL CONNECTORS

Ideal interconnection means for circuit modules, either potted-in or surface mounted. Used as micro-miniature cable-to-cable connectors. Contact spacing is on .100" centers on each row. For screw type or metal clip mtg. Meet MIL-C-8384B. Wt., 1/2 oz.

Stock No.	Mfr's Type	Con-tacts	Descrip-tion	Mtg.	Mtg. Ctrs.	EACH			
						1-9	10-49	50-99	100-249
42 H 300	223-1	5	Plug	Screw	.593"	1.19	.97	.84	.73
42 H 301	223-2	5	Recept.		.593"	1.22	1.00	.86	.75
42 H 302	223-3	9	Plug	Screw	.793"	1.37	1.12	.97	.84
42 H 303	223-4	9	Recept.		.793"	1.44	1.18	1.01	.88
42 H 304	223-5	17	Plug	Screw	1.193"	1.73	1.42	1.22	1.06
42 H 305	223-6	17	Recept.		1.193"	1.89	1.55	1.33	1.16
42 H 306	223-7	25	Plug	Screw	1.593"	2.14	1.75	1.57	1.31
42 H 307	223-8	25	Recept.		1.593"	2.34	1.92	1.65	1.44
42 H 308	223-9	33	Plug	Screw	1.993"	2.47	2.02	1.74	1.52
42 H 309	223-10	33	Recept.		1.993"	2.79	2.28	1.96	1.71
42 H 310	223-11	5	Plug	Clip	.526"	1.24	1.01	.87	.76
42 H 311	223-12	5	Recept.		.526"	1.26	1.03	.89	.78
42 H 312	223-13	9	Plug	Clip	.726"	1.42	1.16	1.00	.87
42 H 313	223-14	9	Recept.		.726"	1.48	1.21	1.05	.91
42 H 314	223-15	17	Plug	Clip	1.126"	1.78	1.45	1.25	1.09
42 H 315	223-16	17	Recept.		1.126"	1.94	1.58	1.36	1.19
42 H 316	223-17	25	Plug	Clip	1.526"	2.18	1.79	1.54	1.34
42 H 317	223-18	25	Recept.		1.526"	2.39	1.95	1.68	1.46
42 H 318	223-19	33	Plug	Clip	1.926"	2.51	2.06	1.77	1.54
42 H 319	223-20	33	Recept.		1.926"	2.83	2.32	1.99	1.74

## INDIVIDUAL POKE-HOME WIRE-FORM CONTACTS



Compact micro-miniature contacts fit any connector on this page. 4-member spring design of male contact exerts self-equalizing force on wall of female. Maximum current rating, 3 amps. Contact resistance, .0025 to .0030 ohms. Take No. 22, 24, 26 solid wire; No. 24, 26 stranded. 100 per package. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Descrip-tion	PER PKG. OF 100			
			1-9	10-99	100-999	1000-4999
42 H 885	220-501	Male	5.10	3.60	2.80	2.20
42 H 291	220-679	Female	4.60	4.00	3.20	2.30

### POKE-HOME CONTACT TOOLS

Stock No.	Mfr's Type	Description	Wt., Lbs.	EACH
42 H 181	294-125	Economy Crimp Pliers	1/2	42.00
42 H 182	294-78	Quality Crimp Pliers	4	130.00
42 H 183	294-123	Insertion Tool	1/4	4.49
42 H 184	294-137	Removal Tool	1/4	8.32

### SERIES 220 MICRO-RAC CONNECTORS

High-density micro-miniature rack and panel connectors have reliable, wire-form contacts. Mono-block body is molded resin. Contact identification numbers are molded into connector. Polarization is achieved by a trapezoidal mating area, and accurate keying is obtained by molded-in slot and key arrangements. Cable clamp assemblies are available (see below) for both 52- and 104-contact mtgs. Dimensions: 52-contact type, 1.888" long, 1.492" mtg. centers; 104-contact type, 3.012" long, 2.614" mtg. centers. Both types occupy .682" depth when mated.

Stock No.	Mfr's Type	Con-tacts	Descrip-tion	Wt. Oz.	EACH			
					1-9	10-49	50-99	100-249
42 H 799	220-37-01	52	Receptacle	2	4.07	3.33	2.86	2.50
42 H 848	220-38-01	52	Plug	2	3.81	3.12	2.69	2.34
42 H 849	220-39-01	104	Receptacle	3 1/2	6.93	5.67	4.89	4.26
42 H 887	220-40-01	104	Plug	3 1/2	6.20	5.08	4.37	3.81
42 H 888	220-5	52	Cable Clamp	2	1.95	1.61	1.29	1.17
42 H 889	220-6	104	Cable Clamp	3 1/2	2.00	1.66	1.33	1.19

### SERIES 222 MIGHTY MITE CIRCULAR CONNECTORS

Low-cost, highly reliable micro-miniature connectors for cable-to-cable or cable-to-chassis applications. Available in 19- or 31-contact sizes. Contacts are wire-form Poke-Home type; spacing is on .085" centers. Five keys are molded into connector to insure proper alignment. Two receptacles are available: a square mounting flange type with 4 mounting holes, or a single hole mounting type. Dimensions: 19-contact types, .621" dia. x 2.618" long; 31-contact types, .746" dia. x 3.962" long. Shpg. wt., 1/2 oz.

Stock No.	Mfr's Type	Con-tacts	Descrip-tion	Mtg. Ctrs.	EACH			
					1-9	10-49	50-99	100-249
42 H 140	5-01	19	Plug	.....	2.18	1.78	1.54	1.34
42 H 141	6-01	19	Jack	.....	2.14	1.75	1.51	1.31
42 H 142	7-01	19	4-hole recept.	.875"	2.20	1.80	1.55	1.35
42 H 143	8-01	19	1-hole recept.	.624"	2.31	1.89	1.63	1.42
42 H 144	518		Clamp for 19-contact Plug and Jack		1.45	1.19	1.02	.89
42 H 145	9-01	31	Plug	.....	2.71	2.21	1.91	1.66
42 H 146	10-01	31	Jack	.....	2.86	2.34	2.02	1.76
42 H 147	11-01	31	4-hole recept.	1.000"	2.93	2.40	2.07	1.80
42 H 148	12-01	31	1-hole recept.	.750"	3.03	2.48	2.13	1.86
42 H 149	519		Clamp for 31-contact Plug and Jack		1.73	1.42	1.22	1.06

# Amphenol PC, Rack & Panel, Miniature Connectors

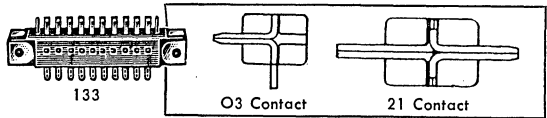
## SERIES 143 PRINTED CIRCUIT CONNECTORS



Mate with any std. .005" to .073" PC board or Series 133 connectors (below). Diallyl phthalate blue dielectric. Gold-plated contacts. When used with Series 133 mating connector, may be polarized by 143-953 key. Last 2 digits in Type No. indicate tail style: Type O1, std. contact; O3, pin contact. 600 v. @ 5 amps. Av. wt., 3 oz.

Stock No.	Mfr's Type	Con-tacts	EACH				
			1-49	50-99	100-249	250-999	1000-2499
41 H 090	143-006-01	6	1.23	1.03	.86	.74	.64
40 H 503	143-010-01	10	.83	.70	.58	.50	.44
42 H 675	143-012-01	12	1.30	1.25	1.05	.90	.78
40 H 500	143-015-01	15	1.08	.90	.76	.65	.57
40 H 501	143-018-01	18	1.31	1.10	.92	.79	.69
40 H 502	143-022-01	22	1.46	1.22	1.02	.88	.76
40 H 553	143-122-01	44	5.15	4.30	3.62	3.12	2.70
42 H 850	143-006-03	6	1.29	1.08	.91	.78	.68
42 H 851	143-010-03	10	.92	.77	.64	.55	.48
42 H 852	143-012-03	12	1.60	1.34	1.12	.96	.84
42 H 853	143-015-03	15	1.19	.99	.83	.71	.62
42 H 854	143-018-03	18	1.44	1.20	1.00	.86	.75
42 H 855	143-022-03	22	1.62	1.36	1.14	.98	.85
42 H 676	143-953	22 Polar Key	.02	.02	.02	.02	.012

## SERIES 133 PRINTED CIRCUIT PLUGS

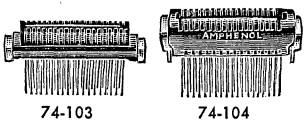


For above connectors—same construction and electrical specs. Last 2 digits in Type No. indicate tail style. Type O3 tail contact, .042" dia. for dip soldering to PC board; Type 21, with conventional eyelet tail, for conductor connection. Two .128" holes permit mtg. to board. Brass contacts with gold over albaloy. 2 oz.

Stock No.	Mfr's Type	Con-tacts	EACH				
			1-49	50-99	100-249	250-999	1000-2499
42 H 856	133-006-21	6	1.77	1.48	1.24	1.06	.93
41 H 085	133-010-21	10	2.00	1.67	1.40	1.20	1.05
42 H 857	133-012-21	12	2.45	2.05	1.72	1.48	1.29
41 H 086	133-015-21	15	2.30	1.93	1.62	1.39	1.21
41 H 087	133-018-21	18	2.45	2.05	1.72	1.48	1.29
41 H 088	133-022-21	22	2.66	2.23	1.87	1.60	1.40
42 H 858	133-006-03	6	1.73	1.44	1.21	1.04	.90
42 H 859	133-010-03	10	1.93	1.62	1.36	1.16	1.01
42 H 860	133-012-03	12	2.04	1.71	1.43	1.23	1.07
42 H 861	133-015-03	15	2.23	1.86	1.56	1.34	1.17
42 H 862	133-018-03	18	2.39	2.00	1.68	1.44	1.25
42 H 863	133-022-03	22	2.52	2.10	1.77	1.51	1.32

## SERIES 74 "MICRO-MIN" CONNECTORS

For micro-miniature circuitry. Low-capacitance contacts on .050" ctrs.; .040" spacing between contacts. Gold-over-silver .010" beryllium copper. Rated 300 v. @ 500 ma. \*Single sided. †Double sided. 2 oz.



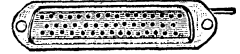
Stock No.	Mfr's Type	Con-tacts	Description	EACH				
				1-9	10-49	50-99	100-249	
42 H 890	74-101*	19	Component mtg. bd.	4.64	3.87	3.09	2.78	
42 H 891	74-102*	19	Mating receptacle	6.82	5.69	4.54	4.09	
42 H 892	74-103†	38	Plug-adaptor	9.32	7.78	6.20	5.59	
42 H 893	74-104†	38	Receptacle	11.66	9.74	7.75	7.00	

## ATTENTION—QUANTITY BUYERS

Allied can supply any Amphenol connector types at OEM quantity prices. And, you can always count on prompt delivery (same-day shipment of industrial quantities). Write, wire or phone for price quotation on the connectors you require.

## SERIES 17 "MIN RAC" RACK AND PANEL CONNECTORS

Miniature connectors with "Poke-Home" contacts—ideal for computers, projectors, or any rack-and-panel or module use. Zytel 101 dielectric. Contacts are gold-over-silver plated. Cadmium-plated steel shells. Rated 5 amps, 0° to 230°F. Tools for crimping, insertion, or removal of contacts below. Av. wt., 2 oz.



### SOLDER-TYPE RECEPTALS

Stock No.	Mfr's Type	Con-tacts	EACH						
			1-9	10-49	50-99	100-249	250-499	500-999	1000-2499
42 H 421	17-10090	9	1.76	1.49	1.23	1.10	.93	.88	.84
42 H 422	17-10150	15	2.33	2.03	1.67	1.49	1.25	1.20	1.14
42 H 423	17-10250	25	3.50	2.97	2.45	2.19	1.84	1.75	1.66
42 H 424	17-10370	37	4.74	4.04	3.32	2.97	2.49	2.37	2.26
42 H 425	17-10500	50	6.10	5.18	4.27	3.81	3.20	3.05	2.90

### SOLDER-TYPE PLUGS

Stock No.	Mfr's Type	Con-tacts	EACH						
			1-9	10-49	50-99	100-249	250-499	500-999	1000-2499
42 H 426	17-20090	9	1.50	1.27	1.05	.94	.79	.75	.68
42 H 427	17-20150	15	1.74	1.48	1.22	1.09	.92	.87	.83
42 H 428	17-20250	25	2.39	2.03	1.67	1.49	1.26	1.20	1.14
42 H 497	17-20370	37	3.14	2.67	2.20	1.96	1.65	1.57	1.49
42 H 498	17-20500	50	3.97	3.38	2.78	2.48	2.09	1.99	1.89

### CRIMP-TYPE RECEPTALS

Stock No.	Mfr's Type	Con-tacts	EACH						
			1-9	10-49	50-99	100-249	250-499	500-999	1000-2499
42 H 864	17-10090-1	9	1.93	1.64	1.35	1.21	1.01	.96	.92
42 H 865	17-10150-1	15	2.66	2.27	1.86	1.67	1.40	1.33	1.27
42 H 866	17-10250-1	25	3.94	3.35	2.76	2.47	2.08	1.97	1.87
42 H 867	17-10370-1	37	5.47	4.66	3.83	3.43	2.87	2.74	2.61
42 H 868	17-10500-1	50	7.08	6.02	4.96	4.42	3.72	3.54	3.37

### CRIMP-TYPE PLUGS

Stock No.	Mfr's Type	Con-tacts	EACH						
			1-9	10-49	50-99	100-249	250-499	500-999	1000-2499
42 H 869	17-20090-1	9	1.46	1.23	1.01	.91	.76	.73	.69
42 H 870	17-20150-1	15	1.66	1.41	1.16	1.04	.87	.83	.79
42 H 871	17-20250-1	25	2.24	1.91	1.57	1.40	1.18	1.12	1.07
42 H 872	17-20370-1	37	2.94	2.50	2.05	1.83	1.54	1.47	1.40
42 H 873	17-20500-1	50	3.71	3.15	2.60	2.32	1.95	1.85	1.76

### CABLE-CLAMP ASSEMBLIES

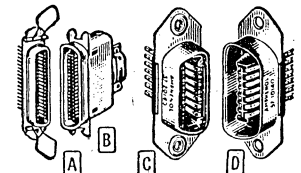
Stock No.	Mfr's Type	Con-tacts	EACH						
			1-9	10-49	50-99	100-249	250-499	500-999	1000-2499
42 H 540	17-310-01	9	1.13	.95	.76	.68	.57	.52	.49
42 H 541	17-311-01	15	1.18	.99	.78	.71	.59	.54	.50
42 H 542	17-312-01	25	1.24	1.02	.82	.74	.62	.57	.53
42 H 543	17-313-01	37	1.28	1.07	.86	.77	.64	.59	.55
42 H 544	17-314-01	50	1.31	1.09	.87	.79	.65	.60	.56

## TOOLS FOR SERIES 17 "MIN RAC" CONNECTORS

42 H 874. Model 294-91 Crimping Tool. Wt., 6 oz. .... 108.04  
42 H 539. Model 294-92 Insertion and Removal Tool. 4 oz. .... 13.28

## SERIES 57 MICRO-RIBBON MINIATURE CONNECTORS

Micro-Ribbons make possible the routing of many circuits through one, or more, small connectors at great saving of space and weight. Bodies are molded of diallyl phthalate with high-impact strength and excellent dielectric features. Self-cleaning contacts are gold-plated over silver. Receptacle shells have float bushings allowing .020" in each direction. Rated 5 amps, 700 v. DC.



A B Cable-to-Chassis Latching Connectors. Cadmium-plated brass shells; clear chromate finish. Description above. 2 oz.

Stock No.	Mfr's Type	Description	EACH			
			1-9	10-49	50-99	100-249
41 H 075	57-30140	14-Contact Plug	3.38	2.50	2.03	1.80
41 H 079	57-40140	14-Contact Socket	2.24	1.66	1.34	1.19
41 H 076	57-30240	24-Contact Plug	3.69	2.73	2.21	1.96
41 H 082	57-40240	24-Contact Socket	2.68	1.98	1.61	1.42
41 H 077	57-30360	36-Contact Plug	4.55	3.37	2.73	2.42
41 H 083	57-40360	36-Contact Socket	2.86	2.12	1.72	1.52
41 H 078	57-30500	50-Contact Plug	5.05	3.74	3.03	2.69
41 H 084	57-40500	50-Contact Socket	3.72	2.75	2.23	1.98

C D Chassis-to-Chassis Connectors. Clear iridite-finished brass shells. Wire up to #22. Description above. 2 oz.

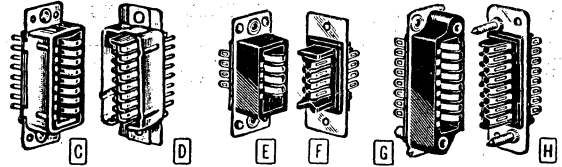
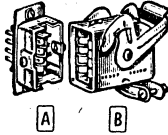
Stock No.	Mfr's Type	Description	EACH			
			1-9	10-49	50-99	100-249
40 H 482	57-10140	14-Contact Plug	1.77	1.31	1.06	.94
40 H 485	57-20140	14-Contact Socket	1.82	1.35	1.09	.97
40 H 483	57-10240	24-Contact Plug	2.37	1.75	1.42	1.26
40 H 486	57-20240	24-Contact Socket	2.39	1.77	1.44	1.27
40 H 484	57-10360	36-Contact Plug	2.70	2.00	1.62	1.44
40 H 487	57-20360	36-Contact Socket	2.73	2.02	1.64	1.45
40 H 098	57-10500	50-Contact Plug	3.54	2.62	2.12	1.88
40 H 099	57-20500	50-Contact Socket	3.59	2.66	2.15	1.91



# Amphenol Blue Ribbon Connectors

## BLUE RIBBON CONNECTORS

- Self-Cleaning Contacts
- Positive Polarization
- Heavy-Duty Applications



Outstanding heavy-duty connectors for multi-circuit connection, switching and re-routing. Exclusive self-cleaning, tarnish proof spring contacts. Easily inserted and withdrawn—always firm, positive contact. Positive polarization prevents mismatching.

Diallyl phthalate blue dielectric bodies; meet gov't specs. Stainless steel mounting plates. \*End cable outlet; †side cable outlet. S in Type No. indicates socket contacts; P indicates plug contacts. For wire up to No. 16. Rated min. 5 amps at 750 v., DC. Av. wt., 5 oz.

### A B SERIES 26 BARRIER POLARIZED CONNECTORS WITH KEYED LATCH SHELLS

(Fig. B) MALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
8	40 H 610	26-4301-8S*	5.80	4.34	3.46	3.14
8	42 H 632	26-4501-8S†	5.80	4.34	3.46	3.14
8	42 H 633	26-4301-8P*	5.14	3.85	3.07	2.79
8	40 H 614	26-4501-8P†	5.14	3.85	3.07	2.79
8	42 H 681	26-4302-8S*	5.80	4.34	3.46	3.14
8	42 H 682	26-4502-8S†	5.80	4.34	3.46	3.14
8	42 H 683	26-4302-8P*	5.14	3.85	3.07	2.79
8	42 H 684	26-4502-8P†	5.14	3.85	3.07	2.79
16	40 H 611	26-4301-16S*	6.94	5.20	4.15	3.76
16	42 H 634	26-4501-16S†	6.94	5.20	4.15	3.76
16	42 H 635	26-4301-16P*	6.45	4.83	3.85	3.49
16	40 H 615	26-4501-16P†	6.45	4.83	3.85	3.49
16	42 H 685	26-4302-16S*	6.94	5.20	4.15	3.76
16	42 H 686	26-4502-16S†	6.94	5.20	4.15	3.76
16	42 H 687	26-4302-16P*	6.45	4.83	3.85	3.49
16	42 H 688	26-4502-16P†	6.45	4.83	3.85	3.49
24	40 H 612	26-4301-24S*	7.86	5.89	4.70	4.26
24	42 H 636	26-4501-24S†	7.86	5.89	4.70	4.26
24	42 H 637	26-4301-24P*	7.23	5.42	4.32	3.92
24	40 H 616	26-4501-24P†	7.23	5.42	4.32	3.92
24	42 H 689	26-4302-24S*	7.86	5.89	4.70	4.26
24	42 H 690	26-4502-24S†	7.86	5.89	4.70	4.26
24	42 H 691	26-4302-24P*	7.23	5.42	4.32	3.92
24	42 H 692	26-4502-24P†	7.23	5.42	4.32	3.92
32	40 H 613	26-4301-32S*	8.80	6.59	5.26	4.77
32	42 H 638	26-4501-32S†	8.80	6.59	5.26	4.77
32	42 H 639	26-4301-32P*	8.04	6.02	4.81	4.36
32	40 H 617	26-4501-32P†	8.04	6.02	4.81	4.36
32	42 H 677	26-4302-32S*	8.80	6.59	5.26	4.77
32	42 H 678	26-4502-32S†	8.80	6.59	5.26	4.77
32	42 H 679	26-4302-32P*	8.04	6.02	4.81	4.36
32	42 H 680	26-4502-32P†	8.04	6.02	4.81	4.36

### C D SERIES 26 BARRIER POLARIZED CONNECTORS—KEYED SHELLS

(Fig. C) FEMALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
8	40 H 671	26-4201-8S	2.30	1.72	1.37	1.25
16	40 H 672	26-4201-16S	3.13	2.35	1.87	1.70
24	40 H 673	26-4201-24S	3.73	2.80	2.23	2.02
32	40 H 674	26-4201-32S	4.36	3.27	2.61	2.36
8	40 H 048	26-4202-8S	2.30	1.72	1.37	1.25
16	40 H 049	26-4202-16S	3.13	2.35	1.87	1.70
24	40 H 051	26-4202-24S	3.73	2.80	2.23	2.02
32	40 H 052	26-4202-32S	4.36	3.27	2.61	2.36

(Fig. D) MALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
8	40 H 650	26-4101-8P	2.01	1.51	1.20	1.09
16	40 H 651	26-4101-16P	3.00	2.25	1.79	1.63
24	40 H 652	26-4101-24P	3.47	2.60	2.08	1.88
32	40 H 653	26-4101-32P	3.99	2.99	2.39	2.16
8	40 H 053	26-4102-8P	2.01	1.51	1.20	1.09
16	40 H 093	26-4102-16P	3.00	2.25	1.79	1.63
24	40 H 094	26-4102-24P	3.47	2.60	2.08	1.88
32	40 H 097	26-4102-32P	3.99	2.99	2.39	2.16

### G H SERIES 26 PIN-POLARIZED CONNECTORS

(Fig. G) FEMALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
16	40 H 545	26-190-16	2.58	1.94	1.54	1.40
24	40 H 547	26-190-24	3.11	2.33	1.86	1.68
32	40 H 549	26-190-32	3.66	2.74	2.18	1.98

(Fig. H) MALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
16	40 H 544	26-159-16	2.05	1.55	1.23	1.12
24	40 H 546	26-159-24	2.48	1.86	1.48	1.34
32	40 H 548	26-159-32	2.92	2.19	1.75	1.58

(Fig. A) FEMALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
8	40 H 618	26-4401-8P	3.11	2.33	1.86	1.68
8	40 H 619	26-4401-8S	3.76	2.82	2.25	2.04
8	42 H 695	26-4402-8P	3.11	2.33	1.86	1.68
8	42 H 696	26-4402-8S	3.76	2.82	2.25	2.04
16	40 H 620	26-4401-16P	4.10	3.07	2.45	2.22
16	40 H 621	26-4401-16S	4.62	3.46	2.76	2.50
16	42 H 697	26-4402-16P	4.10	3.07	2.45	2.22
16	42 H 698	26-4402-16S	4.62	3.46	2.76	2.50
24	40 H 622	26-4401-24P	4.60	3.44	2.75	2.49
24	40 H 623	26-4401-24S	5.22	3.91	3.12	2.83
24	42 H 699	26-4402-24P	4.60	3.44	2.75	2.49
24	42 H 790	26-4402-24S	5.22	3.91	3.12	2.83
32	40 H 630	26-4401-32P	5.12	3.83	3.06	2.77
32	40 H 631	26-4401-32S	5.85	4.38	3.49	3.17
32	42 H 693	26-4402-32P	5.12	3.83	3.06	2.77
32	42 H 694	26-4402-32S	5.85	4.38	3.49	3.17

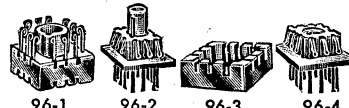
### E F SERIES 26 BARRIER POLARIZED CONNECTORS

(Fig. E) FEMALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
8	40 H 543	26-183	1.75	1.31	1.05	.95
8	40 H 664	26-4200-8S	1.67	1.25	1.00	.91
16	40 H 665	26-4200-16S	2.40	1.80	1.44	1.30
24	40 H 666	26-4200-24S	2.90	2.17	1.73	1.57
32	40 H 667	26-4200-32S	3.42	2.56	2.04	1.85

(Fig. F) MALE

Con-tacts	Stock No.	Mfr's Type	EACH			
			1-9	10-49	50-99	100-249
8	40 H 542	26-182	1.10	.82	.66	.59
8	40 H 660	26-4100-8P	1.02	.76	.61	.55
16	40 H 661	26-4100-16P	1.91	1.43	1.14	1.03
24	40 H 662	26-4100-24P	2.27	1.70	1.36	1.23
32	40 H 663	26-4100-32P	2.66	1.99	1.59	1.44



## 96 "MICRO MOD"

For micro-min. modules, stick circuits, 96-3 mates with 96-4; 96-1 with 96-2. 500 ma-  
\*Not polar. 2 oz.

Stock No.	Mfr's Type	Description	EACH			
			1-9	10-49	50-99	100-249
42 H 894	96-1	Polarized receptacle	3.05	2.53	2.01	1.82
42 H 895	96-2	Polarized plug	6.30	5.26	4.19	3.78
42 H 896	96-3*	Recep. (less contacts)	.54	.45	.36	.32
42 H 897	96-4*	Plug	5.40	4.51	3.59	3.24

### TYPE 64-15 "MICRO EDGE" RECEPTACLE

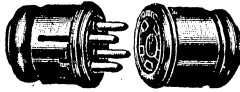


60% smaller than ordinary PC types. 15 contacts are .010" beryllium copper, gold-over silver, on .075" ctrs. Glass-filled diallyl phthalate; MIL-M-19833. Fits 1/32" PC board or wiring receptacle. 1 1/4 x 1 1/2 x 1 3/8". 2 oz.  
42 H 898. 1-9.....EACH 7.26 10-49.....EACH 6.06  
50-99.....EACH 4.83 100-249.....EACH 4.36

# Amphenol and Elco Connectors

## MULTI-WIRE CONNECTORS

Matching male and female cable connectors. Accommodate cables up to 3/8" O.D. Size, 1 1/16 x 1 1/2". 3 oz.



### FEMALE

Stock No.	Mfr's Type	Con-tacts	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 524	78-PF4	4	.32	.27	.23	.20	.18
40 H 525	78-PF5	5	.33	.27	.23	.21	.185
40 H 526	78-PF6	6	.35	.29	.24	.22	.194
40 H 527	78-PF7S	7S	.35	.29	.25	.22	.198
40 H 528	78-PF8	8	.34	.28	.24	.21	.192
40 H 516	78-PF9	9	.37	.30	.26	.23	.21
40 H 517	78-PF11	11	.39	.32	.27	.24	.22

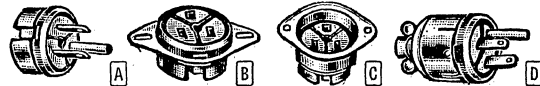
### MALE

Stock No.	Mfr's Type	Con-tacts	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 504	86-PM4	4	.36	.30	.25	.23	.20
40 H 505	86-PM5	5	.37	.30	.26	.23	.21
40 H 506	86-PM6	6	.38	.31	.27	.24	.21
40 H 507	86-PM7S	7S	.39	.32	.27	.24	.22
40 H 508	86-PM8	8	.39	.32	.27	.24	.22
40 H 512	86-PM9	9	.40	.33	.28	.25	.22
40 H 513	86-PM11	11	.42	.35	.29	.26	.24
42 H 655	86-PM12	12	.44	.36	.31	.28	.25
42 H 656	86-PM20	20	.62	.51	.43	.39	.35

Amphenol Cable Clamp Type 79-CC4. For above connectors. Relieves strain on soldered connections. Shpg. wt., 5 oz.

40 H 670. 1-24.....EACH .10 25-99.....EACH .09 100-249.....EA .077 250-499.....EA .069 500-999.....EA .062

## STANDARD AND GROUNDING-TYPE PLUGS, SOCKETS



61 series is 2 pole; 160 series is 2-pole with grounding lug. Black phenolic rated 15 amps at 120 v. AC/DC. U.L. List, except Fig. A types which mount in 1 1/4" keyed hole with retaining ring supplied. Fig. B types have molded-in mtg. plates except, retaining-ring-mounted plate; require 1 1/2" mtg. holes and have 3/32" slotted holes on 1 1/2" to 1 7/8" ctrs., except 61-MIP-61F, 1 3/8" mtg. hole, 5/32" holes on 1 1/2" ctrs. Fig. C types mount in 1 7/8" hole, have two 3/32" holes on 1 3/4" ctrs. †1/16" I. D. grommet instead of 3/8" clamp. Wt., 3 oz.

Stock No.	Type	Fig.	Desc.	EACH				
				1-49	50-249	250-499	500-999	1000-2499
40 H 675	61-M	A	male	.29	.24	.20	.179	.16
40 H 677	61-F	A	female	.27	.22	.186	.166	.149
42 H 522	160-10	A	female	.60	.50	.42	.38	.34
42 H 523	160-11	A	male	1.10	.91	.77	.69	.62
40 H 680	61-M1	B	male	.33	.27	.23	.21	.185
40 H 682	61-F1	B	female	.32	.26	.22	.199	.178
42 H 524	160-2	B	female	.72	.59	.50	.45	.40
42 H 525	160-3	B	male	1.12	.92	.78	.70	.63
40 H 085	61-MIP-61F	B	female	.28	.23	.199	.178	.159
40 H 685	61-M10	C	male	.44	.36	.31	.28	.25
40 H 687	61-F10	C	female	.44	.36	.31	.28	.25
42 H 526	160-4	C	female	.82	.68	.57	.51	.46
42 H 527	160-5	C	male	1.22	1.01	.85	.76	.68
42 H 528	160-6	†D	female	.82	.68	.57	.51	.46
42 H 529	160-7	†D	male	1.18	.97	.83	.74	.66
42 H 535	160-8	D	female	.88	.73	.62	.55	.49
42 H 536	160-9	D	male	1.26	1.04	.88	.79	.71

## STANDARD TYPE CP PLUGS

Bakelite plugs for use as chassis connectors. Retainer-mounting. Use adapter plate below for replacement mtg. With mtg. ring for 1 1/4" holes except \*1 1/4" keyed hole. †Have guide post and aligning key. 2 oz.



Stock No.	Mfr's Type	Pins	EACH				
			1-99	100-249	250-499	500-999	1000-2499
40 H 015	86-CP4	4	.17	.14	.12	.11	.10
40 H 016	86-CP5	5	.18	.15	.13	.11	.10
40 H 017	86-CP6	6	.19	.16	.13	.12	.11
40 H 018	86-CP7L*	7-Large	.22	.18	.15	.14	.12
40 H 019	86-CP7S	7-Small	.20	.17	.14	.13	.11
40 H 020	86-CP8†	Octal	.20	.17	.14	.13	.11
40 H 021	86-CP9†	9	.21	.17	.15	.13	.12
40 H 022	86-CP11†	11	.24	.20	.17	.15	.13
42 H 654	86-CP12†	12	.25	.20	.17	.15	.14

Adapter Plate Type 12-001-03. Nickel-plated steel. For all type CP plugs above except 86-CP7L. 1 1/2" to 1 7/8" centers. 2 oz.

40 H 023.....05

## AC CONNECTOR ASSEMBLIES

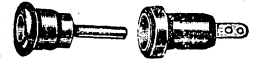


For Amphenol 61, 160, 78S and 86CP plugs and sockets. All are drawn steel except 61-61, cadmium-plated. 61-61 shell fits 17/16" hole and has 1 3/4" ctrs. 3-13 and 3-24 caps permit cable-to-chassis and cable-to-cable applications for 61, 78S and 86CP plugs and sockets. 3-13 has rubber grommet for up to 7/16" dia. cable. 3-24 has cable clamp for up to 3/8" O.D. cable. 3-13 and 3-24 have black japan finish; 3-857 and 3-856 without enameling. Use with 160 series. 2 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH				
				1-49	50-249	250-499	500-999	1000-2499
42H537	3-13	E	Black plug cap	.13	.10	.088	.079	.071
42H545	3-857	E	Above, plain	.14	.12	.099	.089	.08
42H538	3-24	F	Black plug cap	.19	.15	.13	.116	.104
42H546	3-856	F	Above, plain	.20	.16	.139	.124	.111
40H086	61-61	G	Recessing shell	.11	.09	.08	.071	.064

## SINGLE-CONTACT SOCKETS AND PLUGS

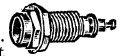
Jacks and plugs have molded phenolic bodies in black or red. Jacks come with Amphenol 2-11 retainer ring. Use standard .080" phone tips for 78-1P. Jack contacts are recessed 1/8". Socket body may be used as a feed-through insulator. In table below, \*red, †black. Shpg. wt., 1 oz.



Stock No.	Mfr's Type	Description	EACH				
			1-49	50-249	250-499	500-999	1000-2499
41H153	71-1L	*Plug for 3/32" socket	.08	.07	.059	.053	.047
41H154	71-1L	†Plug for 3/32" socket	.08	.07	.059	.053	.047
41H156	71-1M	*Plug for 1/8" socket	.08	.07	.059	.053	.047
41H157	71-1M	†Plug for 1/8" socket	.08	.07	.059	.053	.047
41H158	71-1S	*Plug for 3/32" socket	.08	.07	.059	.053	.047
41H159	71-1S	†Plug for 3/32" socket	.08	.07	.059	.053	.047
41H160	78-1L	*Socket for 3/32" plug	.11	.09	.074	.066	.059
41H161	78-1L	†Socket for 3/32" plug	.11	.09	.074	.066	.059
41H162	78-1M	*Socket for 1/8" plug	.11	.09	.074	.066	.059
41H163	78-1M	†Socket for 1/8" plug	.11	.09	.074	.066	.059
41H164	78-1P	*Socket std. phone tip	.11	.09	.074	.066	.059
41H165	78-1P	†Socket std. phone tip	.11	.09	.074	.066	.059
41H166	78-1S	*Socket for 3/32" plug	.11	.09	.074	.066	.059
41H167	78-1S	†Socket for 3/32" plug	.11	.09	.074	.066	.059

## TYPE 29175 TIP JACKS

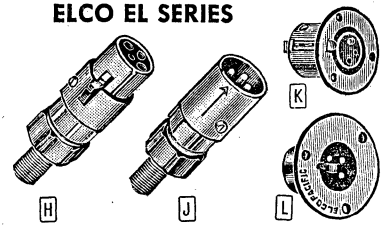
Meet MS16108 and MIL-STD-242 (Ships) specs. Molded nylon body and silver-plated beryllium turret contact. One-piece construction of threaded steel body and upper nut. 1/8" hex nut. Mount in 1/4" hole. Length, 5/16". Maximum ratings: 1000 volts; operating temperature, 400° F. Shpg. wt., 2 oz.



Stock No.	Mfr's Type	Color	EACH				
			1-49	50-249	250-499	500-999	1000-2499
42H959	350-29175-1	Red	.34	.28	.24	.21	.19
42H960	350-29175-2	Black	.34	.28	.24	.21	.19
42H961	350-29175-3	Brown	.34	.28	.24	.21	.19
42H962	350-29175-4	Green	.34	.28	.24	.21	.19
42H963	350-29175-5	Orange	.34	.28	.24	.21	.19
42H964	350-29175-6	White	.34	.28	.24	.21	.19
42H965	350-29175-7	Blue	.34	.28	.24	.21	.19
42H966	350-29175-8	Gray	.34	.28	.24	.21	.19

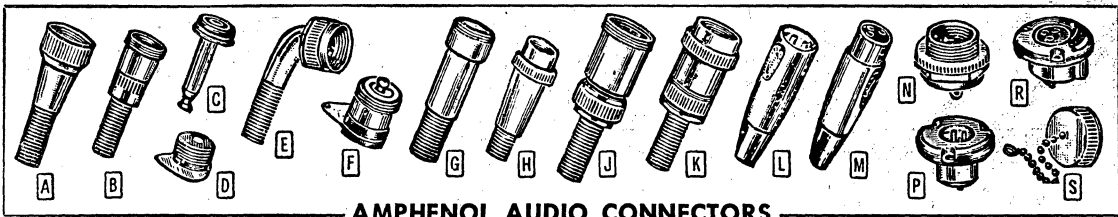
## ELCO EL SERIES

Cable and Panel Audio Connectors. Rugged, low-cost connectors for audio and general-purpose uses. Satin-finished nickel-plated zinc shells feature positive key and groove polarization and push-action latchlock. Silver-plated contacts rated for 300 VAC. All connectors have 3 contacts for #14 wire; rated 15 amps. Cable-type connectors accommodate up to 3/16" dia. wire. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Fig.	Description	EACH			
				1-9	10-24	25-99	100-249
41H145	EL2214-3	H	Cable-type, fem.	.93	.84	.78	.62
41H146	EL2216-3	J	Cable-type, male	.90	.81	.75	.60
41H147	EL2215-3	K	Panel-type, fem.	.93	.84	.78	.62
41H148	EL2213-3	L	Panel-type, male	.72	.65	.60	.48

# Amphenol and Cannon Audio Connectors



## AMPHENOL AUDIO CONNECTORS

All microphones listed in this catalog are supplied less connectors. Choose one to meet your application from complete selection below. Receptacles are for chassis mounting; plugs and jacks are used on

cables. Plugs fit either jacks or receptacles. Type 75-MC1F (Fig. A) fits all Knight public address amplifiers. When splicing two cords, use Type 75-MC1F plug and Type 75-MC1M jack.

### SERIES 75 SINGLE-BUTTON-CONTACT TYPES

Standard connectors 5/8", 27 threads; 3/8" mtg. holes, except miniature connectors are approximately half the size and weight of standard counterparts with same specifications. Av. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH				
				1-24	25-99	100-249	250-499	500-999
41H958	75 MC1F	A	Cable plug	.46	.38	.32	.29	.26
41H955	75 MC1M	B	Cable jack	.42	.35	.29	.26	.24
41H962	75 MC1P	C	Phone plug adap.	.50	.41	.35	.31	.28
41H965	*75 PC1M	D	Receptacle open	.37	.30	.26	.23	.20
41H959	75 MC1FA	E	90° cable jack	1.28	1.06	.90	.80	.72
41H967	*75 CL PC1M	F	Recept., short'g	.52	.43	.36	.33	.29
42H658	†75 1	A	Straight cable plug	.48	.40	.34	.30	.27
42H659	†75 2	B	Cable jack	.29	.24	.21	.184	.165
42H660	†75 3	F	Locknut receptacle	.33	.28	.23	.21	.187

### SERIES 91—3 AND 4-CONTACT TYPES

Microphone connectors for portable equipment. Polarized to eliminate incorrect insertions. Clamps eliminate stress on soldered connections \*3-contact type. †4-contact type. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH				
				1-24	25-99	100-249	250-499	500-999
41H970	*91-MC3F	J	Female cable jack	.84	.69	.59	.53	.47
42H667	*91-MC3F1	K	Female cable plug	.92	.76	.64	.58	.52
41H971	*91-MC3M	K	Male cable plug	.88	.73	.62	.55	.49
42H668	*91-MC3M1	J	Male cable jack	.80	.66	.56	.50	.45
41H972	*91-PC3F	N	Female receptacle	.72	.59	.50	.45	.40
42H669	*91-PC3M	N	Male receptacle	.82	.68	.57	.51	.46
41H977	*91-MC4F	J	Female cable jack	.90	.74	.63	.56	.50
42H670	*91-MC4M	K	Male cable plug	.98	.81	.69	.61	.55
41H976	*91-MC4M	K	Female cable plug	.90	.74	.63	.56	.50
42H672	*91-PC4M1	J	Male cable jack	.82	.68	.57	.51	.46
41H978	*91-PC4F	N	Female receptacle	.74	.61	.52	.46	.41
42H673	†91-PC4M	N	Male receptacle	.82	.68	.57	.51	.46

### SERIES 80 SINGLE AND DOUBLE-PIN-CONTACT TYPES

For shielded cables, single and two conductor coaxial cables, photo cell leads, etc. Center contacts are pin and socket type. \*Single-contact. †Polarized, double-contact. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH				
				1-24	25-99	100-249	250-499	500-999
42H084	*80 C	P	Female receptacle	.60	.50	.42	.38	.34
42H661	*80 C1	P	Male receptacle	.60	.50	.42	.38	.34
42H080	*80 F	G	Female cable jack	.56	.46	.39	.35	.31
42H662	*80-F1	H	Female cable plug	.66	.54	.46	.41	.37
42H081	*80-M	H	Male cable plug	.64	.53	.45	.40	.36
42H663	*80-M1	G	Male cable jack	.52	.43	.36	.33	.29
42H082	†80-MC2F	G	Female cable jack	.52	.43	.36	.33	.29
42H664	†80-MC2F1	H	Female cable plug	.70	.58	.49	.44	.39
42H083	†80-MC2M	H	Male cable plug	.68	.56	.48	.43	.38
42H665	†80-MC2M1	G	Male cable jack	.52	.43	.36	.33	.29
42H085	†80-PC2F	N	Female receptacle	.60	.50	.42	.38	.34
42H666	†80-PC2M	P	Male receptacle	.60	.50	.42	.38	.34

### SERIES 91 "QUIK" 3 AND 4-CONTACT TYPES

Locked connection made by inserting plug in jack; released by light pressure on lock button. Gold-plated (over silver) bronze contacts. \*3-contact type. †4-contact type. Av. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH				
				1-24	25-99	100-249	250-499	500-999
42H065	*91-853	L	Male cable plug	1.34	1.11	.94	.84	.75
42H066	*91-854	M	Female cable plug	1.54	1.27	1.08	.96	.86
42H067	*91-855	P	Male receptacle	1.00	.83	.70	.63	.56
42H068	*91-856	R	Female receptacle	2.23	1.84	1.56	1.39	1.25
42H069	*91-857	L	Male cable plug	1.42	1.17	.99	.89	.80
42H070	*91-858	M	Female cable plug	1.96	1.62	1.37	1.23	1.10
42H071	*91-859	P	Male receptacle	1.04	.86	.73	.65	.58
42H072	*91-860	R	Female receptacle	2.29	1.89	1.60	1.43	1.28

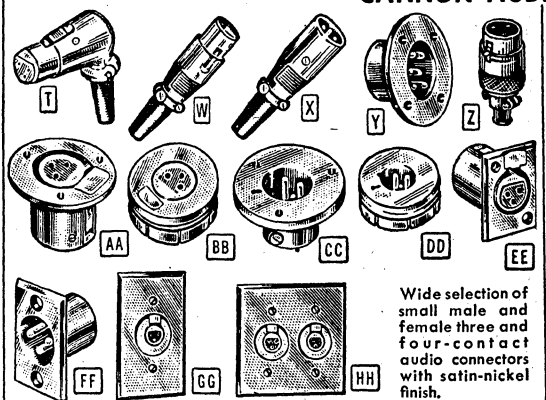
†Type 75-CCC1 Cap and Chain. Seals open chassis units against dirt. Used with Series 75 and 80 receptacles. Wt., 3 oz.

40 H 381. 1-24	EACH .44
25-99	EACH .31
100-249	EACH .36

†Type 91-CCC3 Cap and Chain. Effectively seals open chassis units against harmful dirt and dust. Designed for use with Series 91 connectors. Shpg. wt., 3 oz.

42 H 674. 1-24	EACH .38
25-99	EACH .27
100-249	EACH .32

## CANNON AUDIO CONNECTORS



Wide selection of small male and female three and four-contact audio connectors with satin-nickel finish.

3 and 4-contact connectors with clamp and resilient socket insulator. Integral cable-clamp and push-action latchlock. First digit in type no. shows no. of contacts. 3—15-amp, or 4—10-amp contacts. \*Wall-type receptacles; †panel-type receptacles. Av. wt., 4 oz.

### 90-DEGREE PLUGS

Stock No.	Mfr's Type	Fig.	Description	EACH		
				1-9	10-49	50-99
40 H 948	XLR-3-15	T	Female (socket insert)	3.38	3.10	2.82
40 H 949	XLR-4-15	T	Female (socket insert)	3.41	3.13	2.85

### STRAIGHT CORD PLUGS

Stock No.	Mfr's Type	Fig.	Description	EACH		
				1-9	10-49	50-99
40 H 790	XLR-3-11C	W	Female (socket insert)	1.29	1.18	1.08
40 H 983	XLR-3-11SC	W	As above, steel shell.	3.49	3.20	2.91
41 H 212	XLR-4-11C	W	Female (socket insert)	1.64	1.50	1.37
40 H 984	XLR-4-11SC	W	As above, steel shell.	3.55	3.26	2.96
40 H 791	XLR-3-12C	X	Male (pin insert)	1.13	1.03	.94
40 H 985	XLR-3-12SC	X	As above, steel shell.	2.68	2.55	2.32
41 H 213	XLR-4-12C	X	Male (pin insert)	1.20	1.10	1.00
40 H 986	XLR-4-12SC	X	As above, steel shell.	2.87	2.63	2.39

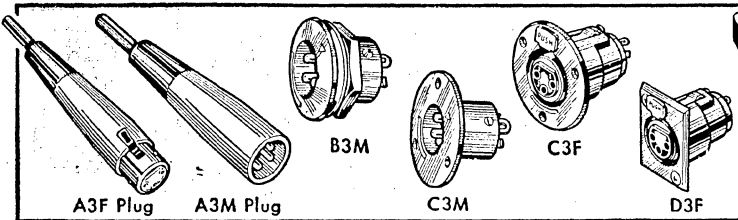
### WALL AND PANEL RECEPTACES

41 H 214	XLR-3-13*	AA	Female (socket insert)	1.85	1.70	1.55
41 H 215	XLR-4-13*	AA	Female (socket insert)	1.93	1.77	1.61
41 H 216	XLR-3-13†	BB	Female (socket insert)	2.14	1.96	1.78
41 H 217	XLR-4-13†	BB	Female (socket insert)	2.20	2.02	1.84
41 H 218	XLR-3-14*	CC	Male (pin insert)	.83	.76	.70
41 H 219	XLR-4-14*	CC	Male (pin insert)	.87	.80	.73
41 H 223	XLR-3-14†	DD	Male (pin insert)	1.73	1.59	1.45
41 H 224	XLR-4-14†	DD	Male (pin insert)	1.87	1.71	1.56
40 H 792	XLR-3-31*	EE	Female (socket insert)	1.93	1.77	1.61
41 H 225	XLR-4-31*	EE	Female (socket insert)	1.99	1.82	1.66
40 H 793	XLR-3-32*	FF	Male (pin insert)	1.10	1.01	.92
41 H 226	XLR-4-32*	FF	Male (pin insert)	1.22	1.12	1.02
40 H 987	XLR-3-35*	GG	Female (socket insert)	4.03	3.70	3.36
40 H 988	XLR-3-35-26*	HH	As above. Dual ganged.	7.42	6.80	6.18

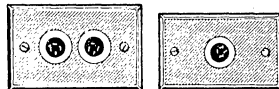
### TYPE P 3-CONTACT RECEPTACES AND PLUGS

For up to No. 10 wires. 15-amp contacts. Av. wt., 4 oz.						
40 H 707	P3-13	Y	Panel socket, female	3.68	3.38	3.07
40 H 757	P3-14	Z	Panel mount, male (pin)	2.19	2.01	1.83
40 H 724	P3-CG-11S	Z	Cable plug, female (skt)	4.16	3.81	3.47
40 H 701	P3-CG-12S	Z	Cable plug, male (pin)	3.40	3.12	2.84

# New Switchcraft and Elco Connectors



## SWITCHCRAFT®



WALL MOUNT PLATES

New "quick-ground" audio connectors featuring a separate "ground terminal" that is electrically integrated with connector shell, and "ground contactors" that always ensure ground continuity between mating plugs. Insert-mounting screws effectively wedge insert-assembly against interior of connector or receptacle shell. Newly designed insert screw cannot be lost during installation.

### "QUICK-GROUND" AUDIO CONNECTORS

Connectors offering four-contact versatility by means of three circuit contacts plus "ground terminal" on the shell. Die-cast zinc alloy construction; satin-nickel finish. Have rubber cable strain relief bushing keyed to shell; ribbed for easy cable entry. Pin and socket contacts: brass and phosphor bronze. Both silver-plated and chromate-dipped. \*Single-hole mounting. Av. wt., 2 oz.

Stock No.	Mfr's Type	Description	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 351	A3F	Female Plug	1.35	1.18	1.01	.888	.835	.789
41 H 352	A3M	Male Plug	1.14	1.03	.886	.775	.729	.689
41 H 353	B3M	*Panel Receptacle	1.74	1.58	1.36	1.19	1.12	1.06
41 H 354	C3M	Wall Receptacle	.84	.767	.657	.575	.541	.511

### FEMALE "QUICK-GROUND" RECEPTACLES

Three-contact receptacles with extra shell-grounding terminal. Have bronze, silver-plated, chromate-dipped pin contacts. Satin-nickel finish. Die-cast zinc shell Nickel-plated nut and washer. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
41 H 355	C3F	1.86	1.65	1.41	1.24	1.17	1.10
41 H 356	D3F	1.92	1.70	1.46	1.28	1.20	1.13

### WALL MOUNTING PLATES

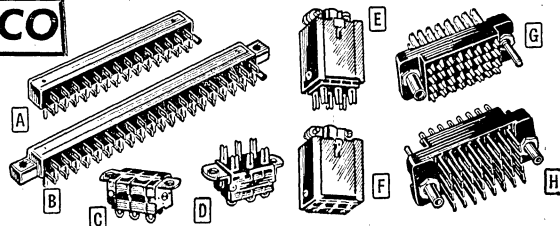
Stainless steel single and two-gang wall mounting plates with B3M male receptacles (described at left). Easy to wire and mount on standard electrical outlet boxes. 4 1/2 x 2 3/4". Av. wt., 3 1/2 oz.

Stock No.	Mfr's Type	Description	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 357	G3MS	1-gang w/Recept	3.30	2.90	2.51	2.20	2.07	1.96
41 H 369	H3MS	2-gang w/2 Recept.	4.80	4.27	3.66	3.20	3.0	2.84

### NEW "VARICON" CONNECTORS

"Varicon" fork-like contacts by Elco are identical in both male and female design. Full length, 45° bevel provides high ratings and positive contact. "Varicon" connectors cannot be over-stressed or overstrained. And they maintain excellent retention capabilities even after thousands of insertions and withdrawals.

## ELCO



### DOUBLE-TIER, MINIATURE CONNECTOR PLUGS

Series 7021, 7022. Molded body protects contacts and minimizes card warpage. Fit PC Boards, 1/16" thick. For Series 7001-7008 receptacles. Series 7022 for receptacles with card guides. Series 7021, Fig. H; 7022, Fig. G. \*With flanges. †For 7009 series. 3 oz.

Stock No.	Mfr's Type	Fig.	Contacts	1-249, EA.	
				1-24	25-49
45 H 592	00-7021-017-000-001*	A	17	1.44	
45 H 593	00-7021-023-000-001*	A	23	1.74	
45 H 594	00-7021-029-000-001*	A	29	2.04	
45 H 595	00-7021-035-000-001*	A	35	2.34	
45 H 596	00-7021-041-000-001*	A	41	2.64	
45 H 597	00-7021-047-000-001*	A	47	2.94	
45 H 598	00-7022-017-000-001	B	17	1.44	
45 H 599	00-7022-023-000-001	B	23	1.74	
45 H 621	00-7022-029-000-001	B	29	2.04	
45 H 622	00-7022-035-000-001	B	35	2.34	
45 H 623	00-7022-041-000-001	B	41	2.64	
45 H 624	00-7022-047-000-001	B	47	2.94	
45 H 625	00-7021-034-000-001†	A	34	2.34	
45 H 626	00-7021-040-000-001†	A	40	2.64	
45 H 627	00-7022-034-000-001†	B	34	2.34	
45 H 628	00-7022-040-000-001†	B	40	2.64	

Panel, Chassis or Cable Connectors. Silver and cadmium-plated contacts. Rated: 20 amps @ 115 v.; 1500 v. test. .002 ohm contact resistance; 25,000 megohm insulation res. "M" in Mfr's. Type indicates Male; (Figs. D, E); "F": Female; (Figs. C, F); "R", "ruggedized ends; first digit indicates no. of tiers. 3 oz.

### COVER and CLAMP WITH TOP OUTLET (\*Side Outlet)

Stock No.	Mfr's Type	Fig.	Contacts	EACH			
				1-49	50-99	100-249	250-499
45 H 578	M10425*	E	4	.52	.43	.34	.33
45 H 579	M10824	E	8	.65	.54	.44	.41
45 H 580	RM11224	E	12	.92	.77	.62	.58
45 H 581	RM11824	E	18	1.35	1.12	.90	.85
45 H 582	RM22424	E	24	1.94	1.62	1.30	1.23
45 H 583	RM22824	E	28	2.29	1.91	1.53	1.45
45 H 584	RM23624	E	36	3.02	2.52	2.02	1.91
45 H 585	F10425*	F	4	.50	.42	.34	.32
45 H 586	F10824	F	8	.63	.52	.42	.40
45 H 587	RF11224	F	12	.88	.73	.59	.56
45 H 588	RF11824	F	18	1.28	1.07	.86	.81
45 H 589	RF22424	F	24	1.87	1.55	1.24	1.18
45 H 590	RF22824	F	28	2.21	1.84	1.47	1.40
45 H 591	RF23624	F	36	2.93	2.44	1.95	1.85

### MICRO-MINIATURE RACK-AND-PANEL CONNECTORS

Series 8125. Uses "Varicon" principle to achieve high contact density. Each connector has four rows of eight contacts. Intervals: .100" between contacts, and .125" between rows of contacts. Have .078" base taper tab with wire hole. Av. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH	
				1-99	100-249
45 H 629	00-8125-032-605-001	G	Plug		
45 H 631	00-8125-032-605-002	H	Receptacle	4.90	3.35

### ACCESSORIES FOR SERIES 8125

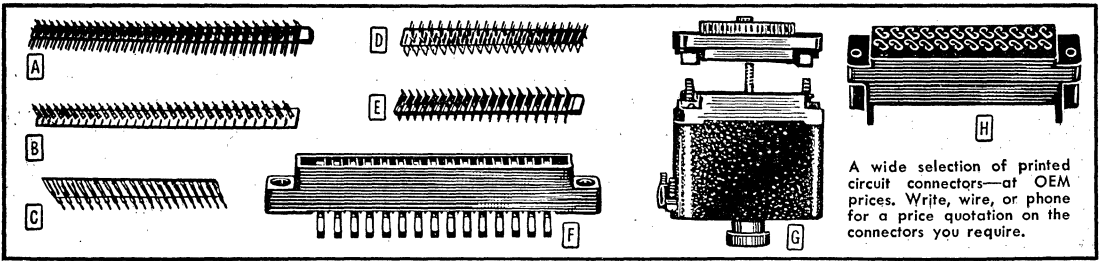
Stock No.	Mfr's Type	Description	EACH	
			1-99	100-249
45 H 633	50-8105.3315	Potting Shell w/Flange		.50
45 H 636	50-8105.3219	Honey Comb Insulator		.50

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-249
45 H 634	50-8105.4011	Side Mt. Cable Clamp	.50	.38
45 H 687	50-8105.4311	Top Mt. Cable Clamp	.50	.38

### STANDARD BRACKET—.125" MOUNTING

Stock No.	Mfr's Type	Fig.	Contacts	EACH			
				1-49	50-99	100-249	250-499
45 H 564	M10420-1	D	4	.27	.22	.18	.17
45 H 565	M10820-1	D	8	.41	.34	.27	.26
45 H 566	RM11220-1	D	12	.58	.48	.38	.36
45 H 567	RM11820-1	D	18	.90	.75	.60	.57
45 H 568	RM22420-1	D	24	1.38	1.15	.92	.87
45 H 569	RM22820-1	D	28	1.69	1.40	1.12	1.07
45 H 570	RM23620-1	D	36	2.32	1.93	1.54	1.47
45 H 571	F10420-1	C	4	.26	.21	.17	.16
45 H 572	F10820-1	C	8	.38	.32	.26	.24
45 H 573	RF11220-1	C	12	.53	.44	.36	.34
45 H 574	RF11820-1	C	18	.83	.69	.55	.52
45 H 575	RF22420-1	C	24	1.30	1.08	.86	.82
45 H 576	RF22820-1	C	28	1.61	1.37	1.07	1.02
45 H 577	RF23620-1	C	36	2.22	1.85	1.48	1.41

# Elco Printed Circuit Connectors and Accessories



A wide selection of printed circuit connectors—at OEM prices. Write, wire, or phone for a price quotation on the connectors you require.

**Series CS-30 Board-to-Board PC Connectors.** Use "Varicon Principle" with fork-like contacts having four mating coined surfaces. Phosphor-bronze, nickel-plated, gold-flashed contacts; with 30 contacts per strip at .200" spacing, 5-amp rating. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH, 1-999
45 H 400	CS-30-A-.200	A	45° for 1/16" board	1.05
45 H 401	CS-30-B-.200	A	45° for 3/32" board	1.05
45 H 402	CS-30-C-.200-5201	B, C	Stand-off for 1/16"	1.05
45 H 403	CS-30-D-.200-5201	B, C	Stand-off for 3/32"	1.05
45 H 404	CS-30-E-.200-5201	B, C	Stand-off for 1/8"	1.05
45 H 405	CS-30-G-.200	D	Lower board 1/16"	1.05
45 H 406	CS-30-H-.200	.....	Lower board 1/16" w/o wire hole	1.05
45 H 407	CS-30-I-.200	D	Lower board 3/32"	1.05
45 H 408	CS-30-J-.200	.....	Lower board 3/32" w/o wire hole	1.05
45 H 409	CS-30-K-.200	E	Upper board 1/16"	1.20
45 H 410	CS-30-L-.200	E	Upper board 3/32"	1.20
45 H 411	CS-30-Q-.200	.....	Lower board 1/16"	1.05
45 H 412	CS-30-R-.200	.....	Lower board 3/32"	1.05

**Guide Pins and Brackets.** Series 5101 brackets are mounted either to the mother or module board with furnished eyelets. Series 5201 brackets are for mounting to mother board, 2 oz.

Stock No.	Mfr's Type	Description	For PC Board	EACH
45 H 637	5101.4012	Guide Bracket	1/16"	.042
45 H 638	5101.4112	Guide Bracket	3/32"	.042
45 H 639	5201.4012	Rt. Guide Bracket	1/16"	.048
45 H 640	5201.4022	Left Guide Bracket	1/16"	.048
45 H 641	5201.4112	Rt. Guide Bracket	3/32"	.048
45 H 642	5201.4122	Left Guide Bracket	3/32"	.048
45 H 643	5301.4012	Female Guide Pin	1/16"	.05
45 H 644	5301.4112	Male Guide Pin	1/16"	.05
45 H 645	5301.4022	Female Guide Pin	3/32"	.05
45 H 646	5301.4122	Male Guide Pin	3/32"	.05
45 H 647	5301.4032	Female Guide Pin	1/8"	.05
45 H 648	5301.4132	Male Guide Pin	1/8"	.05

**Series 7009 Male PC Connector.** 5-amp rating. Hole pattern lies on a .100" grid; ±.003" tolerance, non-accumulative. Hole diameter: .052", plus .002", minus .004". Av. shpg. wt., 6 oz.

Stock No.	Mfr's Type	Contacts	Termination	1-249, EA.
45 H 432	7009-CS-24-GK	24	Wire hole	.90
45 H 433	7009-CS-34-GK	34	Wire hole	1.27
45 H 436	7009-CS-40-GK	40	Wire hole	1.55
45 H 442	Polarizing tab for above			.015

**Series 7009 "Varitwin-Pin" Female PC Connectors.** For 1/16" module card. Connector width is .580" and permits mounting of adjacent connectors on .600" centers. Integral guides ensure perfect mating of PC card with connector. Phosphor-bronze contacts are nickel-plated, gold flashed, 10-amp rating. Diallyl phthalate insulation per MIL-18794-SDG. Connectors, MIL-E-19600A (WEP). Shpg. wt., 5 oz.

Stock No.	Mfr's Type	No. of Contacts	Contact Termination	EACH	
				1-99	100-249
45 H 430	7009-24-5-1-22	24	Varitwin-Pin	5.65	3.15
45 H 431	7009-34-5-1-22	34	Varitwin-Pin	8.70	5.20
45 H 434	7009-40-5-1-22	40	Varitwin-Pin	9.00	5.80

**Series 6007 PC Card-Edge Connectors.** One-piece connectors for 1/16" module boards. Ribbon-type phosphor bronze contacts, gold plated over silver base. 7.5-amp rating. Dual-contact terminations are .046" by .125" straight tab wire hole. Glass-filled diallyl phthalate insulation. Polarization: between contacts, 2 oz.

Stock No.	Mfr's Type	No. of Contacts	EACH		
			1-24	25-249	250-999
45 H 418	6007-36-5-M-8	36	3.60	1.55	1.40
45 H 419	6007-44-5-M-8	44	4.05	1.75	1.55

45 H 443. #6002.3124. Polarizing Tab. Type B. 2 oz. .... EACH .015

**Series 8017 Rack-and-Panel or Cable Connectors.** Offer highest contact density available. Male unit supplied with either actuating screw device or fixed screw. Female unit is available with either fixed or turnable nut. Varilok crimp-type, self-locking contacts accommodate all sizes of wire from 18 to 30 gauge, 5-amp rating. Pin and socket system provides 36 polarization positions and a possibility of over 100 variations. Units with actuating screw or nut are supplied with covers and side cable openings. Types: MS is male with actuating screw; M is male with fixed screw; FS is female with actuating nut; and F is female with fixed nut. Av. shpg. wt., 1 lb. Varilok contacts must be ordered separately.

### FOR VARILOK-TYPE CONTACT (Order contacts separately)

Stock No.	Mfr's Type	Contacts	1-99, EA.	100-249, EA.
45 H 457	MS8017-75-1-CS	75	7.75	4.85
45 H 649	M8017-75-1	75	5.00	2.80
45 H 458	F8017-75-1	75	5.90	3.30
45 H 650	FS8017-75-1-CS	75	10.15	6.35
45 H 464	MS8017-100-1-CS	100	8.00	5.05
45 H 651	M8017-100-1	100	5.25	2.90
45 H 481	F8017-100-1	100	6.15	3.45
45 H 652	FS8017-100-1-CS	100	10.50	6.45

45 H 484. #8017.0313 Varilok Contact. For connectors above. Shpg. wt., 2 oz. .... 1-9999, EACH .06

**Series 7015 Female PC Connectors.** Designed for use with Varilok crimp-type, self-locking contacts. For 1/16" module cards with card guides. Polarizing tab listed below may be located on same center line as even numbered contacts. Av. shpg. wt., 2 oz. Varilok contacts must be ordered separately.

Stock No.	Mfr's Type	Contacts	1-99, EA.	100-249, EA.
45 H 656	7015-17-5-1-27	17	1.90	1.05
45 H 657	7015-23-5-1-27	23	2.00	1.10
45 H 485	7015-29-5-1-27	29	2.10	1.20
45 H 486	7015-35-5-1-27	35	2.25	1.25
45 H 487	7015-41-5-1-27	41	2.35	1.30
45 H 442	5006.3414 Polarizing Tab		.015	.015

45 H 484. #8017.0313 Varilok Contact. For connectors above. Shpg. wt., 2 oz. .... 1-9999, EACH .06

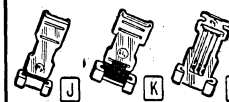
### ELCO ACCESSORIES

**Model HS-1 Hand Staker.** (Not illus.) For staking Elco Varicon contacts. Accommodates most contacts available on model shop or lab basis. 1/4-ton rating. Ram dimensions: 1/2x1/2x2 1/2". Ram stroke: 1 3/8". Height of opening: 1 1/8". Throat depth from center of ram: 1". Working surface: 2x2 7/8". Shpg. wt., 3 lbs.  
45 H 459 ..... 35.00

**Model T-1728-1 Hand Staker.** (Not illus.) For Varilok contacts. Shpg. wt., 3 lbs.  
41 H 071 ..... 98.00

**Model T-1751 Heating Platen.** (Not illus.) For removal of plastic strip from Varicon PC contacts after staking and soldering is completed. 10" long. For 110-120 v. AC-DC. 5 lbs.  
45 H 461 ..... 35.00

### T & B CONNECTORS FOR IRC POLYSTRIP FLAT CABLE



First number in Mfr's Type indicates number of conductors connector accommodates. Type 3PWA and 5PWA adapters are for use in connecting round wire to polystrip flat cable. Other connectors accommodate polystrip cable widths shown in table below. Av. shpg. wt., per 100, 2 lbs.

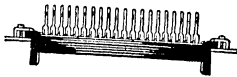
Stock No.	Mfr's Type	Fig.	For Polystrip Cable Width	EACH	
				1-99	100-Up
40 H 896	3PWR	J	.330	.40	.31
40 H 897	5PWR	.....	.630	.48	.37
40 H 887	3PWM	K	.330	.60	.47
40 H 888	5PWM	.....	.630	.70	.55
40 H 898	3PWA	L	.....	.28	.22
40 H 899	5PWA	.....	.....	.32	.25

# Elco and Cinch-Jones Connectors

## ELCO CONNECTORS

### 5006 SERIES

All-molded Varicon PC connectors—feature single row of contacts on .200" spacing. Guides molded in sections of the connector ensure perfect mating. Contact termination: .098" base taper with wire hole (\*Type 11 contacts; see Table) and conventional solder termination for 3 wires (\*\*Type 12 contact; see Table). Polarization accomplished by a polyethylene insert with no loss of contact positions. Rating, 10 amps. Insulator, diallyl phthalate per MIL-M-18794, type SDG. Contact material: phosphor-bronze, nickel-plated, gold-flashed. Insulator accepts  $\frac{1}{16}$ " thick module card, 3 oz.



Stock No.	Mfr's Type	No. of Contacts	*Type of Contact	EACH	
				1-99	100-249
45 H 669	5006-12-11-3-5-1	12	11	1.68	1.30
45 H 670	5006-12-12-3-5-1	12	12	1.68	1.30
45 H 671	5006-15-11-3-5-1	15	11	2.01	1.56
45 H 672	5006-15-12-3-5-1	15	12	2.01	1.56
45 H 673	5006-20-11-3-5-1	20	11	2.59	2.01
45 H 674	5006-20-12-3-5-1	20	12	2.59	2.01
45 H 675	5006-23-11-3-5-1	23	11	2.93	2.28
45 H 676	5006-23-12-3-5-1	23	12	2.93	2.28
45 H 442	5006.3414	Polarizing tab for above		.015	.015

### 5007 SERIES

Similar to series 5006 above, with the exception of the end sections. Series 5007 end sections have guides and mounting holes for direct mounting to chassis. Contact termination; .098" base taper tab with wire hole (\*11) or conventional solder termination for three wires (\*12). The units listed below will accept  $\frac{1}{16}$ " module card. Shpg. wt., 3 oz.



Stock No.	Mfr's Type	No. of Contacts	*Type of Contact	EACH	
				1-99	100-249
45 H 677	5007-12-11-4-5-1	12	11	1.61	1.24
45 H 678	5007-12-12-4-5-1	12	12	1.61	1.24
45 H 679	5007-19-11-4-5-1	19	11	2.36	1.84
45 H 680	5007-19-12-4-5-1	19	12	2.36	1.84
45 H 681	5007-20-11-4-5-1	20	11	2.48	1.92
45 H 682	5007-20-12-4-5-1	20	12	2.48	1.92
45 H 683	5007-24-11-4-5-1	24	11	2.92	2.26
45 H 684	5007-24-12-4-5-1	24	12	2.92	2.26
45 H 442	5006.3414	Polarizing tab for above		.015	.015

### 5006-5007 SERIES

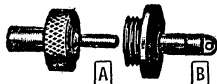
PC module card is punched or drilled, and contacts staked in and soldered, forming the main part of the connector. Hole pattern for the printed circuit lies on a .200" grid, and should be held to  $\pm 3\%$  tolerance, non-accumulative for hole locations. Hole diameter is .052", plus .000", minus .004. Shpg. wt., 2 oz.



Stock No.	Mfr's Type	No. of Contacts	EACH
			1-249
45 H 685	CS-12-Q-200	12	.42
45 H 686	CS-15-Q-200	15	.53
45 H 688	CS-19-Q-200	19	.67
45 H 689	CS-20-Q-200	20	.70
45 H 690	CS-23-Q-200	23	.81

## CINCH-JONES PLUGS AND CONNECTORS

Series 101 and 201. Series 101 plugs (Fig. A) have  $\frac{1}{16} \times \frac{1}{2}$ " prong; match any 101 socket (Fig. B). 201 plug has  $\frac{3}{16} \times \frac{1}{2}$ " prong; fits 201 socket. Prefix "P" in Type No. indicates plug; "S", socket. Suffix in plug Type No. is cable O.D. that plug accepts. S-101 and S-201 are for insulated mtg.; S-101-D Mod has two sides of base milled. Series 101 have  $\frac{3}{16}$ "-18 thread; 201 have  $\frac{3}{16}$ "-27, 3 oz.



Stock No.	Mfr's Type	Length	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22 H 388	P-101- $\frac{1}{4}$ "	$\frac{1}{4}$ "	.65	.522	.435	.348	.331	.313
22 H 389	P-101-.290"	$\frac{1}{4}$ "	.79	.636	.53	.424	.403	.382
22 H 390	P-101- $\frac{5}{16}$ "	$\frac{11}{32}$ "	.79	.636	.53	.424	.403	.382
22 H 391	P-101- $\frac{3}{8}$ "	$\frac{13}{32}$ "	.79	.636	.53	.424	.403	.382
40 H 825	P-101- $\frac{1}{2}$ "	$\frac{1}{8}$ "	.89	.708	.59	.472	.448	.425
22 H 395	P-201- $\frac{3}{8}$ "	$\frac{19}{32}$ "	1.02	.816	.68	.544	.517	.49
40 H 835	S-101	$\frac{1}{16}$ "	.58	.462	.385	.308	.293	.277
22 H 393	S-101-D	$\frac{13}{32}$ "	.88	.708	.59	.472	.448	.425
22 H 394	S-101-D	$\frac{13}{32}$ "	.88	.708	.59	.472	.448	.425
22 H 396	Mod S-201	$\frac{1}{8}$ "	1.09	.876	.73	.584	.555	.526

## CINCH-JONES CONNECTORS—CLAMPS

### "D" SUB-MINIATURE CONNECTORS

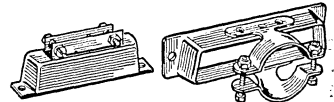
Pin and socket insert. Gold-plated, copper alloy contacts. Cadmium-plated steel shells. \*Digits indicate no. of contacts. M in Type No. indicates insulators are monobloc, diallyl phthalate, glass fiber-filled per MIL-M-14F. Insulation resistance greater than 5000 ohms as per MIL-STD-202A, Method 302. Others have 2-piece nylon insert, 2 oz.



Stock No.	*Mfr's Type	Flange Size	EACH				
			1-9	10-49	50-99	100-249	250-499
40 H 101	DA-15P	$1\frac{17}{32} \times 3\frac{1}{4}$ "	1.06	.97	.89	.80	.71
40 H 102	DA-15S	$1\frac{17}{32} \times 3\frac{1}{4}$ "	1.60	1.47	1.34	1.20	1.07
40 H 104	DB-25P	$2\frac{27}{64} \times 3\frac{1}{4}$ "	1.58	1.45	1.32	1.18	1.05
40 H 105	DB-25S	$2\frac{27}{64} \times 3\frac{1}{4}$ "	2.36	2.16	1.97	1.77	1.57
40 H 106	DC-37P	$2\frac{23}{32} \times 3\frac{1}{4}$ "	2.20	2.02	1.84	1.65	1.47
40 H 107	DC-37S	$2\frac{23}{32} \times 3\frac{1}{4}$ "	3.30	3.03	2.75	2.48	2.20
40 H 108	DD-50P	$2\frac{25}{32} \times 3\frac{39}{64}$ "	2.82	2.59	2.35	2.12	1.88
40 H 109	DD-50S	$2\frac{25}{32} \times 3\frac{39}{64}$ "	4.24	3.88	3.53	3.18	2.82
40 H 110	DE-9P	$1\frac{11}{16} \times 3\frac{1}{4}$ "	.74	.68	.62	.55	.49
40 H 111	DE-9S	$1\frac{11}{16} \times 3\frac{1}{4}$ "	1.10	1.01	.92	.82	.73
40 H 772	DAM-15P	$1\frac{17}{32} \times 3\frac{1}{4}$ "	2.24	2.06	1.87	1.68	1.50
40 H 773	DAM-15S	$1\frac{17}{32} \times 3\frac{1}{4}$ "	3.44	3.16	2.87	2.58	2.30
40 H 774	DBM-25P	$2\frac{27}{64} \times 3\frac{1}{4}$ "	3.40	3.11	2.83	2.55	2.26
40 H 775	DBM-25S	$2\frac{27}{64} \times 3\frac{1}{4}$ "	5.20	4.76	4.33	3.90	3.46
40 H 776	DCM-37P	$2\frac{23}{32} \times 3\frac{1}{4}$ "	4.76	4.37	3.97	3.57	3.18
40 H 777	DCM-37S	$2\frac{23}{32} \times 3\frac{1}{4}$ "	7.15	6.56	5.96	5.36	4.77
40 H 778	DDM-50P	$2\frac{25}{32} \times 3\frac{39}{64}$ "	6.29	5.76	5.24	4.72	4.19
40 H 779	DDM-50S	$2\frac{25}{32} \times 3\frac{39}{64}$ "	9.42	8.64	7.85	7.07	6.28
40 H 770	DEM-9P	$1\frac{11}{16} \times 3\frac{1}{4}$ "	1.60	1.46	1.33	1.20	1.06
40 H 771	DEM-9S	$1\frac{11}{16} \times 3\frac{1}{4}$ "	2.40	2.20	2.00	1.80	1.60

### JUNCTION SHELLS

Low-carbon steel clamp. Cadmium-plated. Pass 50 hr. salt spray test; meet MIL-STD-202A. \*Straight clamps; others, round clamps. 3 oz.



Stock No.	Mfr's Type	EACH				
		1-9	10-49	50-99	100-249	250-499
40 H 780	DA-19678-1*	.46	.42	.38	.34	.30
40 H 781	DB-19678-2*	.47	.43	.39	.35	.31
40 H 782	DC-19678-3*	.65	.59	.54	.49	.43
40 H 783	DD-19678-4*	.66	.61	.55	.50	.44
40 H 784	DA-20961	.73	.67	.61	.55	.49
40 H 785	DB-20962	.82	.75	.68	.61	.54
40 H 786	DC-20963	.90	.83	.75	.68	.60
40 H 787	DD-20964	.98	.90	.82	.74	.66

Screw Lock Assemblies. For junction shells above. Same corrosion-resistant construction. \*Female; †male. Wt., 2 oz.

Stock No.	Mfr's Type	For Shell Size	EACH				
			1-9	10-49	50-99	100-249	250-499
40 H 550	D20418-2*	DA, DB, DC, DD	.22	.20	.18	.16	.14
40 H 551	D20419†	DA, DB, DC, DE	.19	.18	.16	.14	.13
40 H 552	D20420†	DD	.28	.25	.23	.21	.18

### 202 CONNECTORS

Dependable, two-contact polarized connectors with  $\frac{3}{4}$ "-27 threaded fittings. P-202-B and S-202-B have 1" mtg. centers. Prefix "P" denotes male connector. Prefix "S" denotes female. \*Less Cable clamp. †Use with P-202-CCT for cable extension. 3 oz.

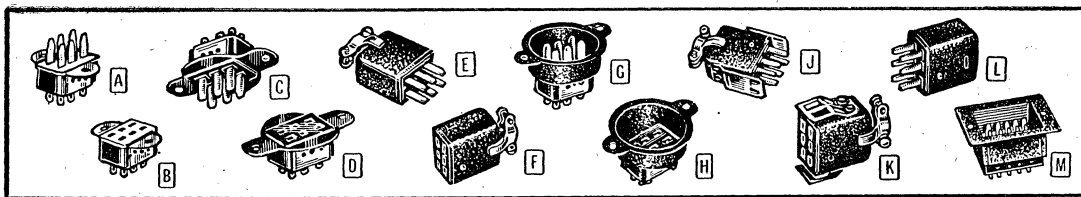


Stock No.	Mfr's Type	Fig.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 980	P-202-CCT	D	.81	.648	.54	.432	.41	.389
22 H 397	S-202-CCT	C	.83	.66	.55	.44	.418	.396
22 H 398	P-202-FHT	D*	.65	.522	.435	.348	.331	.313
22 H 399	S-202-FHT	D*	.67	.534	.445	.356	.338	.32
22 H 400	P-202-B	E	.92	.738	.615	.492	.467	.443
40 H 982	S-202-B	E	.96	.768	.64	.512	.486	.461
40 H 981	S-202-CCT-THR	C†	1.09	.876	.73	.584	.555	.526

Cable Clamps. For fanning strips, terminal strips, etc. Nickel-plated brass; 6-32 round head-screws. Sizes below are I.D. 2 oz.

Stock No.	Mfr's Type	Size	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 852	161-4	$\frac{1}{4}$ "	.15	.12	.10	.08	.076	.072
41 H 853	161-6	$\frac{3}{8}$ "	.16	.126	.105	.084	.08	.076
41 H 854	161-8	$\frac{1}{2}$ "	.17	.132	.11	.088	.084	.079
41 H 857	161-10	$\frac{5}{8}$ "	.17	.138	.115	.092	.087	.083
41 H 858	161-12	$\frac{3}{4}$ "	.18	.144	.12	.096	.091	.086
41 H 859	161-14	$\frac{7}{8}$ "	.19	.15	.125	.10	.095	.09

# Cinch-Jones Series 300 Plugs and Sockets



Compact multi-circuit connectors. Phosphor-bronze "knife-switch" type socket contacts engage both sides of flat plug contacts. All plugs and sockets are polarized to eliminate possibility of incorrect insertion. Plugs having from 24 to 33 contacts have special long polarizing pin in approximate center position to assure correct in-

sertion and removal. Heavy-duty plug and socket contacts are cadmium-plated. Plug contacts are  $\frac{3}{16}$ " wide by  $\frac{3}{64}$ " thick. Black bakelite body is encased in black, crystal-finish metal cap. All caps have fiber insulators. Rated at 730 rms volts at 10 amps. \*2-contact units have round shells; others are rectangular. Av. wt., 3 oz.

## A AB PLUGS FOR CHASSIS MOUNTING

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	40 H 870	P-302	.25	.198	.165	.132	.125	.119
3	40 H 871	P-303	.31	.246	.205	.164	.156	.148
4	40 H 872	P-304	.34	.27	.225	.18	.171	.162
6	40 H 873	P-306	.42	.336	.28	.224	.213	.202
8	40 H 874	P-308	.50	.396	.33	.264	.251	.238
10	40 H 875	P-310	.56	.45	.375	.30	.285	.270
12	40 H 876	P-312	.62	.498	.415	.332	.315	.299
15	40 H 816	P-315	.83	.66	.55	.44	.418	.396
18	40 H 817	P-318	1.02	.82	.685	.548	.521	.493
21	40 H 818	P-321	1.29	1.03	.86	.688	.654	.619
24	40 H 819	P-324	1.56	1.24	1.04	.832	.790	.749
27	40 H 820	P-327	1.84	1.47	1.22	.98	.931	.882
30	40 H 821	P-330	2.10	1.68	1.40	1.12	1.06	1.01
33	40 H 822	P-333	2.37	1.89	1.58	1.26	1.20	1.13

## B AB SOCKETS FOR CHASSIS MOUNTING

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	40 H 880	S-302	.27	.216	.18	.144	.137	.130
3	40 H 881	S-303	.32	.258	.215	.172	.163	.155
4	40 H 882	S-304	.36	.288	.24	.192	.182	.173
6	40 H 883	S-306	.45	.36	.30	.24	.228	.216
8	40 H 884	S-308	.56	.45	.375	.30	.285	.27
10	40 H 885	S-310	.67	.534	.445	.356	.338	.32
12	40 H 886	S-312	.77	.618	.515	.412	.391	.371
15	40 H 864	S-315	.96	.768	.64	.512	.486	.461
18	40 H 865	S-318	1.16	.93	.775	.62	.589	.558
21	40 H 866	S-321	1.43	1.14	.955	.764	.726	.688
24	40 H 867	S-324	1.70	1.36	1.13	.908	.863	.817
27	40 H 868	S-327	1.97	1.57	1.31	1.05	.999	.947
30	40 H 869	S-330	2.26	1.80	1.50	1.20	1.14	1.08
33	40 H 877	S-333	2.52	2.01	1.68	1.34	1.27	1.21

## C FP PLUGS WITH FLUSH PLATE

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 401	P-302	.44	.348	.29	.232	.220	.209
3	22 H 402	P-303	.47	.378	.315	.252	.239	.227
4	22 H 403	P-304	.52	.414	.345	.276	.262	.248
6	22 H 404	P-306	.58	.462	.385	.308	.293	.277
8	22 H 405	P-308	.66	.528	.44	.352	.334	.317
10	22 H 406	P-310	.73	.582	.485	.388	.369	.349
12	22 H 407	P-312	.79	.63	.525	.42	.399	.378

## D FP SOCKETS WITH FLUSH PLATE

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 408	S-302	.44	.354	.295	.236	.224	.212
3	22 H 409	S-303	.50	.396	.33	.264	.251	.238
4	22 H 410	S-304	.53	.426	.355	.284	.270	.256
6	22 H 411	S-306	.61	.486	.405	.324	.308	.292
8	22 H 412	S-308	.73	.582	.485	.388	.369	.349
10	22 H 413	S-310	.83	.666	.555	.444	.422	.400
12	22 H 414	S-312	.94	.75	.625	.50	.475	.450

## E CCT PLUGS WITH CABLE CLAMPS

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	40 H 802	P-302	.57	.456	.38	.304	.289	.274
3	40 H 803	P-303	.61	.486	.405	.324	.308	.292
4	40 H 804	P-304	.66	.534	.445	.356	.338	.320
6	40 H 806	P-306	.73	.588	.49	.392	.372	.353
8	40 H 808	P-308	.81	.648	.54	.432	.410	.389
10	40 H 810	P-310	.91	.726	.605	.484	.460	.436
12	40 H 812	P-312	.99	.792	.66	.528	.502	.475
15	40 H 805	P-315	1.29	1.03	.86	.688	.654	.619
18	40 H 807	P-318	1.56	1.24	1.04	.832	.790	.749
21	40 H 809	P-321	1.84	1.47	1.22	.98	.931	.882
24	40 H 811	P-324	2.17	1.73	1.44	1.15	1.09	1.04
27	40 H 813	P-327	2.46	1.96	1.64	1.31	1.24	1.18
30	40 H 814	P-330	2.87	2.29	1.91	1.52	1.45	1.37
33	40 H 815	P-333	3.07	2.45	2.04	1.63	1.55	1.47

## F CCT SOCKETS WITH CABLE CLAMPS

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	40 H 852	S-302	.58	.462	.385	.308	.293	.277
3	40 H 853	S-303	.62	.498	.415	.332	.315	.299
4	40 H 854	S-304	.67	.54	.45	.36	.342	.324
6	40 H 856	S-306	.77	.618	.515	.412	.391	.371

## F CCT SOCKETS WITH CABLE CLAMPS (Cont'd)

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
8	40 H 858	S-308	.90	.72	.60	.48	.456	.432
10	40 H 860	S-310	1.00	.804	.67	.536	.509	.482
12	40 H 862	S-312	1.16	.924	.77	.616	.585	.554
15	40 H 850	S-315	1.43	1.14	.955	.764	.726	.688
18	40 H 851	S-318	1.70	1.36	1.13	.908	.863	.817
21	40 H 855	S-321	1.97	1.57	1.31	1.05	.999	.947
24	40 H 857	S-324	2.33	1.86	1.55	1.24	1.17	1.11
27	40 H 859	S-327	2.59	2.07	1.73	1.38	1.31	1.24
30	40 H 861	S-330	3.00	2.40	2.00	1.60	1.52	1.44
33	40 H 863	S-333	3.21	2.56	2.14	1.71	1.62	1.54

## G RP PLUGS WITH RECESSED PLATES

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 415	P-302	.50	.402	.335	.268	.255	.241
3	22 H 416	P-303	.54	.432	.36	.288	.274	.259
4	22 H 417	P-304	.59	.474	.395	.316	.30	.284
6	22 H 418	P-306	.68	.54	.45	.36	.342	.324
8	22 H 418	P-308	.78	.624	.52	.416	.395	.374
10	22 H 419	P-310	.90	.72	.60	.48	.456	.432
12	22 H 420	P-312	.99	.792	.66	.528	.502	.475

## H RP SOCKETS WITH RECESSED PLATES

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 421	S-302	.52	.414	.345	.276	.262	.248
3	22 H 422	S-303	.57	.456	.38	.304	.289	.274
4	22 H 423	S-304	.61	.486	.405	.324	.308	.292
6	22 H 424	S-306	.74	.588	.49	.392	.372	.353
8	22 H 425	S-308	.86	.684	.57	.456	.433	.410
10	22 H 426	S-310	.99	.792	.66	.528	.502	.475
12	22 H 427	S-312	1.13	.90	.75	.60	.57	.54

## J CCT-L PLUGS WITH CABLE CLAMPS AND LATCHES

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 440	P-302	.73	.582	.485	.388	.369	.349
3	22 H 441	P-303	.77	.612	.51	.408	.388	.367
4	22 H 442	P-304	.83	.66	.55	.44	.418	.396
6	22 H 443	P-306	.90	.72	.60	.48	.456	.432
8	22 H 444	P-308	.96	.768	.64	.512	.486	.461
10	22 H 445	P-310	1.05	.84	.70	.56	.532	.504
12	22 H 446	P-312	1.16	.93	.775	.62	.589	.558
15	40 H 140	P-315	1.43	1.14	.95	.764	.726	.688
18	40 H 141	P-318	1.70	1.36	1.13	.908	.863	.817
21	40 H 142	P-321	1.97	1.57	1.31	1.05	.999	.947
24	40 H 143	P-324	2.33	1.86	1.55	1.24	1.17	1.11
27	40 H 144	P-327	2.60	2.07	1.73	1.38	1.31	1.24
30	40 H 145	P-330	3.00	2.40	2.00	1.60	1.52	1.44
33	40 H 146	P-333	3.21	2.56	2.14	1.71	1.62	1.54

## K CCT-K SOCKETS WITH KEEPERS

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 447	S-302	.74	.588	.49	.392	.372	.353
3	22 H 448	S-303	.78	.624	.52	.416	.395	.374
4	22 H 449	S-304	.83	.666	.555	.444	.422	.40
6	22 H 450	S-306	.93	.744	.62	.496	.471	.446
8	22 H 451	S-308	1.04	.834	.695	.556	.528	.50
10	22 H 452	S-310	1.17	.936	.78	.624	.593	.562
12	22 H 453	S-312	1.28	1.020	.855	.684	.650	.616

## L FHT PLUGS WITH HOLE IN TOP

Con- tacts	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 460	P-302	.42	.336	.28	.224	.213	.202
3	22 H 461	P-303	.46	.366	.305	.244	.232	.22
4	22 H 462	P-304	.51	.408	.34	.272	.258	.245
6	22 H 463	P-306	.58	.462	.385	.308	.293	.277
8	22 H 464	P-308	.66	.528	.44	.352	.334	.317
10	22 H 465	P-310	.74	.594	.495	.396	.376	.356
12	22 H 466	P-312	.84	.672	.56	.448	.426	.403

## M DB PLUGS WITH DEEP BRACKETS



# Cinch-Jones Connectors, Plugs and Sockets

## 300 SERIES SOCKETS

DB Type Sockets have a deep bracket for recessed mounting; SB Types have shallow bracket for flush mounting. Sockets with 24 to 33 contacts have center-positioned polarizing contact. Rated at 730 volts rms. \*2-contact sockets have round shells; other types are rectangular. Av. shpg. wt., 3 oz.



### A DB SOCKETS—CHASSIS MOUNTING

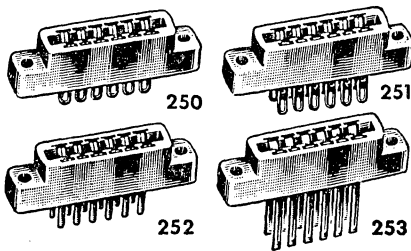
Conts.	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
2*	22 H 454	S-302	.65	.522	.435	.348	.331	.313
3	22 H 455	S-303	.70	.558	.465	.372	.353	.335
4	22 H 456	S-304	.74	.594	.495	.396	.376	.356
6	22 H 457	S-306	.83	.666	.555	.444	.422	.40
8	22 H 458	S-308	.94	.75	.625	.50	.475	.45
12	22 H 459	S-312	1.16	.924	.77	.616	.585	.554
15	22 H 474	S-315	1.37	1.09	.915	.732	.695	.659
18	22 H 475	S-318	1.64	1.30	1.09	.872	828	.785
21	22 H 476	S-321	1.91	1.53	1.27	1.02	.969	.918
24	22 H 477	S-324	2.26	1.80	1.50	1.20	1.14	1.08
27	22 H 478	S-327	2.52	2.01	1.68	1.34	1.27	1.21
30	22 H 479	S-330	2.87	2.29	1.91	1.52	1.45	1.37
33	22 H 480	S-333	3.14	2.50	2.09	1.67	1.58	1.50

### B SB SOCKETS—SHALLOW BRACKETS

Conts.	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
15	22 H 467	S-315	1.37	1.09	.915	.732	.695	.659
18	22 H 468	S-318	1.64	1.30	1.09	.872	.828	.785
21	22 H 469	S-321	1.91	1.53	1.27	1.02	.969	.918
24	22 H 470	S-324	2.26	1.80	1.50	1.20	1.14	1.08
27	22 H 471	S-327	2.52	2.01	1.68	1.34	1.27	1.21
30	22 H 472	S-330	2.87	2.29	1.91	1.52	1.45	1.37
33	22 H 473	S-333	3.14	2.50	2.09	1.67	1.58	1.50

## BIFURCATED CONTACT EDGE CONNECTORS

Bifurcated contact connectors have two flexing surfaces instead of one for positive contact—efficiently accommodate irregularities in PC boards. Insulation is glass filled diallyl phthalate, type SDGF per MIL-M-14F. Contacts are phosphor-bronze with .00003, minimum, SIL-Red gold plate. Types 250 and 251 have wiring tails, with contact positions as listed. Type 252 has contact tails for dip soldering; fit .051" diameter holes. 253 has contact tails for "wra-post" connections. Each connector supplied with unassembled, plastic polarizing key. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Cont. Pos.	No. of Cont.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
40 H 319	6A-20	6	6	1.12	.90	.75	.60	.57	.54
40 H 322	10A-20	10	10	1.50	1.20	1.00	.80	.76	.72
40 H 323	12A-20	12	12	1.68	1.35	1.12	.90	.85	.81
40 H 324	15A-20	15	15	1.97	1.57	1.31	1.05	.999	.947
40 H 327	18A-20	18	18	2.25	1.80	1.50	1.20	1.14	1.08
40 H 329	22A-20	22	22	2.62	2.10	1.75	1.40	1.33	1.26

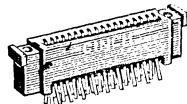
Stock No.	Mfr's Type	Cont. Pos.	No. of Cont.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
40 H 334	12A-30	6	12	1.12	.90	.75	.60	.57	.54
40 H 337	20A-30	10	20	1.50	1.20	1.00	.80	.76	.72
40 H 340	24A-30	12	24	1.68	1.35	1.12	.90	.855	.81
40 H 341	30A-30	15	30	1.97	1.57	1.31	1.05	.999	.947
40 H 342	36A-30	18	36	2.25	1.80	1.50	1.20	1.14	1.08
40 H 343	44A-30	22	44	2.62	2.10	1.75	1.40	1.33	1.26

Stock No.	Mfr's Type	Cont. Pos.	No. of Cont.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
40 H 344	12B-10	6	12	1.26	1.00	.84	.672	.638	.605
40 H 345	20B-10	10	20	1.74	1.39	1.16	.928	.882	.835
40 H 346	24B-10	12	24	1.98	1.58	1.32	1.05	1.00	.95
40 H 347	30B-10	15	30	2.34	1.87	1.56	1.24	1.18	1.12
40 H 348	36B-10	18	36	2.70	2.16	1.80	1.44	1.36	1.29
40 H 349	44B-10	22	44	3.18	2.54	2.12	1.69	1.61	1.52

Stock No.	Mfr's Type	Cont. Pos.	No. of Cont.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
40 H 376	12B-20	6	12	1.91	1.53	1.27	1.02	.969	.918
40 H 377	20B-20	10	20	2.48	1.98	1.65	1.32	1.25	1.19
40 H 378	24B-20	12	24	2.76	2.21	1.84	1.47	1.40	1.32
40 H 379	30B-20	15	30	3.19	2.55	2.13	1.70	1.61	1.53
40 H 380	36B-20	18	36	3.62	2.89	2.41	1.93	1.83	1.73
40 H 383	44B-20	22	44	4.19	3.35	2.79	2.23	2.12	2.01

## NEW TYKON EDGE CONNECTORS

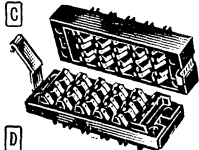
High-density (.050" centers) connectors for .062" PC boards. Designed for modular plug-in units—memory planes (std. and thin film types), diodes on insulating substrates, etc. Phosphor-bronze contacts; wiring tails. 730 volts rms, DC. Av. 2 oz.



Stock No.	Mfr's Type	Cont. Pos.	No. of Cont.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
40 H 554	12A-4	6	12	2.16	1.73	1.44	1.15	1.09	1.04
40 H 555	20A-4	10	20	2.55	2.04	1.70	1.36	1.29	1.22
40 H 556	30A-4	15	30	3.04	2.43	2.03	1.62	1.54	1.46
40 H 557	40A-4	20	40	3.54	2.83	2.36	1.89	1.79	1.70
40 H 564	50A-4	25	50	4.03	3.22	2.69	2.15	2.04	1.93
40 H 565	MC (Mounting Clip)			.04	.030	.025	.020	.019	.018
40 H 566	PK (Polarizing Key)			.08	.066	.055	.044	.042	.040

## HINGE CONNECTORS

Offer maximum number of contacts in minimum space. Designed for easy engagement and disengagement to eliminate contact damage caused by high insertion and extraction forces of ordinary connectors. Socket (Fig. C) or plug body (Fig. D) fit cap. Castings of black bakelite; phosphor-bronze, cadmium-plated contacts. Rated at 4.5 amps. 1 oz.



### PLUG WITH LOCK

Conts.	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
20	40 H 363	37M20L	2.25	1.80	1.50	1.20	1.14	1.08
30	40 H 364	37M30L	2.66	2.13	1.77	1.42	1.35	1.27
40	40 H 365	37M40L	3.08	2.46	2.05	1.64	1.55	1.47
50	40 H 366	37M50L	3.49	2.79	2.32	1.86	1.76	1.67
60	40 H 367	37M60L	3.90	3.12	2.60	2.08	1.97	1.87
70	40 H 368	37M70L	4.31	3.45	2.87	2.30	2.18	2.07
80	40 H 369	37M80L	4.73	3.78	3.15	2.52	2.39	2.26
90	40 H 370	37M90L	5.14	4.11	3.42	2.74	2.60	2.46
100	40 H 371	37M100L	5.55	4.44	3.70	2.96	2.81	2.66

### SOCKET WITH LOCK

Conts.	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
20	40 H 274	37F20L	2.25	1.80	1.50	1.20	1.14	1.08
30	40 H 275	37F30L	2.66	2.13	1.77	1.42	1.34	1.27
40	40 H 276	37F40L	3.08	2.46	2.05	1.64	1.55	1.47
50	40 H 277	37F50L	3.49	2.79	2.32	1.86	1.76	1.67
60	40 H 278	37F60L	3.90	3.12	2.60	2.08	1.97	1.87
70	40 H 282	37F70L	4.31	3.45	2.87	2.30	2.18	2.07
80	40 H 283	37F80L	4.73	3.78	3.15	2.52	2.39	2.26
90	40 H 284	37F90L	5.14	4.11	3.42	2.74	2.60	2.46
100	40 H 285	37F100L	5.55	4.44	3.70	2.96	2.81	2.66

### PLUG WITHOUT LOCK

Conts.	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
20	40 H 303	37M20	2.02	1.62	1.35	1.08	1.02	.972
30	40 H 304	37M30	2.44	1.95	1.62	1.30	1.23	1.17
40	40 H 305	37M40	2.85	2.28	1.90	1.52	1.44	1.36
50	40 H 306	37M50	3.26	2.61	2.17	1.74	1.65	1.56
60	40 H 307	37M60	3.68	2.94	2.45	1.96	1.86	1.76
70	40 H 308	37M70	4.09	3.27	2.73	2.18	2.07	1.96
80	40 H 309	37M80	4.50	3.60	3.00	2.40	2.28	2.16
90	40 H 310	37M90	4.91	3.93	3.27	2.62	2.48	2.35
100	40 H 311	37M100	5.33	4.26	3.55	2.84	2.69	2.55

### SOCKET WITHOUT LOCK

Conts.	Stock No.	Mfr's Type	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
20	40 H 240	37F20	2.03	1.62	1.35	1.08	1.02	.97
30	40 H 243	37F30	2.44	1.95	1.62	1.30	1.23	1.17
40	40 H 244	37F40	2.85	2.28	1.90	1.52	1.44	1.36
50	40 H 248	37F50	3.26	2.61	2.17	1.74	1.65	1.56
60	40 H 250	37F60	3.67	2.94	2.45	1.96	1.86	1.76
70	40 H 251	37F70	4.08	3.27	2.72	2.18	2.07	1.96
80	40 H 253	37F80	4.50	3.60	3.00	2.40	2.28	2.16
90	40 H 257	37F90	4.91	3.93	3.27	2.62	2.48	2.35
100	40 H 259	37F100	5.32	4.26	3.55	2.84	2.69	2.55

## CAPS FOR HINGE CONNECTORS

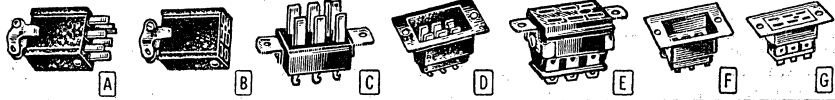
Black wrinkle finished caps and cadmium-plated steel cable clamps. Cap liners of formed fiber. Cable hole size: 20-contact units, 3/4"; 30, 40, 50-contact units, 13/16"; 60, 70, 80, 90, 100-contact units, 1 1/2". Av. wt., 2 oz.



Conts.	Stock No.	Mfr's Type
--------	-----------	------------

# Cinch-Jones Plugs, Sockets and Terminal Strips

## SERIES 400 AND 2400 PLUGS AND SOCKETS



Heavy-duty multiple-circuit plugs and sockets. Series 400 types rated 1100 v. rms @ 15 amps; Series 2400 types rated 1700 v. rms @ 15 amps. All have polarizing pins to assure correct insertion.

Prongs are 1/4" wide, 1/8" thick. Bodies of bakelite. Phosphor-bronze socket contacts. Series 2400 mate with Series 400—interchangeable mechanically—differ only in voltage ratings. 5 oz.

### A CCT PLUGS WITH CABLE CLAMPS

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 910	P-402	2	.98	.78	.65	.52	.494	.468
40 H 911	P-404	4	1.19	.954	.795	.636	.604	.572
40 H 912	P-406	6	1.39	1.11	.93	.744	.707	.67
40 H 913	P-408	8	1.59	1.27	1.06	.848	.806	.763
40 H 914	P-410	10	1.79	1.43	1.19	.956	.908	.86
40 H 915	P-412	12	2.00	1.60	1.33	1.06	1.01	.961
40 H 833	P-2402	2	1.18	.948	.79	.632	.60	.569
40 H 834	P-2404	4	1.34	1.07	.895	.716	.68	.644
40 H 836	P-2406	6	1.50	1.20	1.00	.80	.76	.72
40 H 837	P-2408	8	1.64	1.31	1.09	.876	.832	.788
40 H 838	P-2410	10	1.81	1.45	1.21	.968	.92	.871
40 H 839	P-2412	12	2.00	1.60	1.33	1.06	1.01	.961

### B CCT SOCKETS WITH CABLE CLAMPS

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 920	S-402	2	1.05	.846	.705	.564	.536	.508
40 H 921	S-404	4	1.32	1.05	.88	.704	.669	.634
40 H 922	S-406	6	1.60	1.28	1.07	.856	.813	.77
40 H 923	S-408	8	1.88	1.50	1.25	1.00	.954	.903
40 H 924	S-410	10	2.16	1.73	1.44	1.15	1.09	1.04
40 H 925	S-412	12	2.43	1.95	1.62	1.30	1.23	1.17
22 H 434	S-2402	2	1.27	1.02	.85	.68	.646	.612
22 H 435	S-2404	4	1.42	1.14	.95	.76	.722	.684
22 H 436	S-2406	6	1.58	1.26	1.05	.844	.802	.76
22 H 437	S-2408	8	1.76	1.41	1.17	.94	.893	.846
22 H 438	S-2410	10	1.94	1.55	1.29	1.03	.984	.932
22 H 439	S-2412	12	2.12	1.69	1.41	1.13	1.07	1.01

### C AB PLUGS WITH ANGLE BRACKETS

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 890	P-402	2	.62	.498	.415	.332	.315	.299
40 H 891	P-404	4	.75	.606	.505	.404	.384	.364
40 H 892	P-406	6	.91	.732	.61	.488	.464	.439
40 H 893	P-408	8	1.05	.84	.70	.56	.532	.504
40 H 894	P-410	10	1.19	.954	.795	.636	.604	.572
40 H 895	P-412	12	1.31	1.05	.875	.70	.665	.63

### E AB SOCKETS WITH ANGLE BRACKETS

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 900	S-402	2	.70	.564	.47	.376	.357	.338
40 H 901	S-404	4	.91	.732	.61	.488	.464	.439
40 H 902	S-406	6	1.11	.888	.74	.592	.562	.533

### E AB SOCKETS WITH ANGLE BRACKETS (Cont'd)

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 903	S-408	8	1.31	1.05	.875	.70	.665	.63
40 H 904	S-410	10	1.53	1.23	1.02	.82	.779	.738
40 H 905	S-412	12	1.73	1.38	1.15	.924	.878	.832

### D DB PLUGS FOR CHASSIS MOUNTING

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 950	P-402	2	.75	.606	.505	.404	.384	.364
40 H 955	P-404	4	.97	.78	.65	.52	.494	.468
40 H 951	P-406	6	1.19	.954	.795	.636	.604	.572
40 H 952	P-408	8	1.39	1.11	.93	.744	.707	.67
40 H 953	P-410	10	1.60	1.28	1.07	.856	.813	.77
40 H 954	P-412	12	1.81	1.45	1.21	.968	.92	.871
40 H 156	P-2402	2	.92	.738	.615	.492	.467	.443
40 H 157	P-2404	4	1.06	.852	.71	.568	.54	.511
40 H 158	P-2406	6	1.21	.972	.81	.648	.616	.583
40 H 159	P-2408	8	1.38	1.14	1.02	.736	.699	.662
40 H 160	P-2410	10	1.54	1.23	1.03	.824	.783	.742
40 H 161	P-2412	12	1.72	1.37	1.14	.916	.87	.824

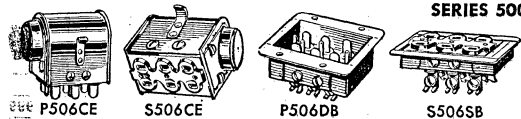
### F DB SOCKETS FOR CHASSIS MOUNTING

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22 H 481	S-2402	2	.98	.786	.655	.524	.498	.472
22 H 482	S-2404	4	1.16	.93	.775	.62	.589	.558
22 H 483	S-2406	6	1.30	1.04	.87	.696	.661	.626
22 H 484	S-2408	8	1.50	1.20	1.00	.80	.76	.72
22 H 485	S-2410	10	1.68	1.34	1.12	.896	.851	.806
22 H 486	S-2412	12	1.84	1.47	1.23	.984	.935	.886

### G SB SOCKETS FOR FLUSH MOUNTING

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22 H 428	S-402	2	.84	.672	.56	.448	.426	.403
22 H 429	S-404	4	1.11	.888	.74	.592	.562	.533
22 H 430	S-406	6	1.39	1.11	.93	.744	.707	.67
22 H 431	S-408	8	1.66	1.33	1.11	.888	.844	.799
22 H 432	S-410	10	1.93	1.54	1.29	1.03	.98	.929
22 H 433	S-412	12	2.21	1.77	1.475	1.18	1.12	1.06
40 H 840	S-2402	2	.92	.738	.615	.492	.467	.443
40 H 841	S-2404	4	1.08	.864	.72	.576	.547	.518
40 H 842	S-2406	6	1.25	1.00	.835	.668	.635	.601
40 H 843	S-2408	8	1.42	1.14	.95	.76	.722	.684
40 H 844	S-2410	10	1.60	1.28	1.07	.856	.813	.77
40 H 845	S-2412	12	1.77	1.42	1.18	.948	.901	.853

## SERIES 500 PLUGS AND SOCKETS



Polarized connectors for heavy-duty applications. Contacts are brass and phosphor-bronze, cadmium plated, rated 3000 v., 25 amps or 5000 watts each. Plug and socket blocks are interchangeable in caps and brackets. Prefix "P" indicates plugs; "S" indicates socket. Suffix "CE" indicates insulated metal cap; "DB" indicates deep-recessed bracket; "SB" indicates shallow bracket. 2 oz.

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 162	P502CE	2	3.15	2.52	2.10	1.68	1.60	1.51
40 H 163	P504CE	4	4.54	3.63	3.03	2.42	2.30	2.18
40 H 164	P506CE	6	5.93	4.74	3.95	3.16	3.00	2.84
40 H 165	P508CE	8	7.32	5.86	4.88	3.90	3.71	3.51
40 H 166	P510CE	10	8.70	6.96	5.80	4.64	4.41	4.18
40 H 168	P512CE	12	10.10	8.08	6.73	5.38	5.11	4.85
40 H 170	S502CE	2	3.16	2.52	2.10	1.68	1.60	1.51
40 H 171	S504CE	4	4.55	3.63	3.03	2.42	2.30	2.18
40 H 172	S506CE	6	5.93	4.74	3.95	3.16	3.00	2.84
40 H 173	S508CE	8	7.33	5.86	4.88	3.90	3.71	3.51
40 H 174	S510CE	10	8.70	6.96	5.80	4.64	4.41	4.18
40 H 183	S512CE	12	10.10	8.08	6.73	5.38	5.11	4.85

Stock No.	Mfr's Type	Con-tacts	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 200	P502DB	2	2.78	2.22	1.85	1.48	1.41	1.33
40 H 201	P504DB	4	3.98	3.18	2.65	2.12	2.01	1.91
40 H 202	P506DB	6	5.18	4.14	3.45	2.76	2.62	2.48
40 H 203	P508DB	8	6.38	5.10	4.25	3.40	3.23	3.06
40 H 204	P510DB	10	7.58	6.06	5.05	4.04	3.84	3.64
40 H 205	P512DB	12	8.78	7.02	5.85	4.68	4.45	4.21
40 H 206	S502SB	2	2.78	2.22	1.85	1.48	1.41	1.33
40 H 207	S504SB	4	3.98	3.18	2.65	2.12	2.01	1.91
40 H 208	S506SB	6	5.18	4.14	3.45	2.76	2.62	2.48
40 H 209	S508SB	8	6.38	5.10	4.25	3.40	3.23	3.06
40 H 214	S510SB	10	7.58	6.06	5.05	4.04	3.84	3.64
40 H 215	S512SB	12	8.78	7.02	5.85	4.68	4.45	4.21

## SERIES 2000 TERMINAL STRIPS



Sturdy junction terminal strips. Extremely useful in assembling electronic equipment, wiring terminal boards, test panels, etc.

Terminals are of .019" thick brass, tin-plated for easy soldering and spaced on 5/8" centers. Insulated strip is rugged, molded bakelite. Cadmium-plated steel mounting base. 2 oz.

Stock No.	Mfr's Type	Term.	Mtg. Ctrs.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 687	2002	2	1"	.08	.066	.055	.044	.042	.04
41 H 688	2003	3	1 1/8"	.09	.072	.06	.048	.046	.043
41 H 689	2004	4	1 1/2"	.11	.084	.07	.056	.053	.05
41 H 690	2005	5	1 3/4"	.11	.09	.075	.06	.057	.054
41 H 691	2006	6	2 1/4"	.13	.102	.085	.068	.065	.061
22 H 274	2007	7	2 3/4"	.14	.108	.09	.072	.068	.065

Stock No.	Mfr's Type	Term.	Mtg. Ctrs.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 693	2008	8	2 7/8"	.15	.12	.10	.08	.076	.072
22 H 275	2009	9	3 1/4"	.17	.132	.11	.088	.084	.079
41 H 695	2010	10	3 1/2"	.17	.138	.115	.092	.087	.083
22 H 276	2011	11	3 3/8"	.19	.15	.125	.10	.095	.09
41 H 697	2012	12	4 1/8"	.20	.156	.13	.104	.099	.094
22 H 277	2013	13	4 7/8"	.21	.168	.14	.112	.106	.101

# Cinch-Jones Terminal Strips for All Applications

## SERIES 500 BARRIER TERMINAL STRIPS



High, wide barriers permit high voltage ratings. Material between terminals at base strengthens strip and maintains same contact-to-contact and contact-to-ground creepage distance. Minimum warp-

Series 540. Have double 5-40x $\frac{3}{16}$ " bh screw terminals. Creepage distance is  $\frac{1}{2}$ ".  $1\frac{1}{8}$ " wide by  $\frac{3}{4}$ " high. Av. shpg. wt., 14 oz.

Stock No.	Mfr's Type	Term	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 384	2-540	2	.20	.156	.13	.104	.099	.094
40 H 385	3-540	3	.27	.216	.18	.144	.137	.13
40 H 386	4-540	4	.35	.276	.23	.184	.175	.166
40 H 387	5-540	5	.42	.336	.28	.224	.213	.202
40 H 388	6-540	6	.48	.39	.325	.26	.247	.234
40 H 389	7-540	7	.56	.45	.375	.30	.285	.27
40 H 390	8-540	8	.64	.51	.425	.34	.323	.306
40 H 400	9-540	9	.71	.57	.475	.38	.361	.342
40 H 401	10-540	10	.79	.63	.525	.42	.399	.378
40 H 402	11-540	11	.85	.678	.565	.452	.429	.407
40 H 410	12-540	12	.92	.738	.615	.492	.467	.443
40 H 411	13-540	13	1.00	.798	.665	.532	.505	.479
40 H 420	14-540	14	1.08	.864	.72	.576	.547	.518
40 H 421	15-540	15	1.16	.924	.77	.616	.585	.554
40 H 422	16-540	16	1.23	.984	.82	.656	.623	.59
40 H 432	17-540	17	1.29	1.03	.865	.692	.657	.623
40 H 435	18-540	18	1.37	1.09	.915	.732	.695	.659
40 H 438	19-540	19	1.44	1.15	.965	.772	.733	.695
40 H 439	20-540	20	1.51	1.21	1.01	.808	.768	.727
40 H 447	21-540	21	1.59	1.27	1.06	.848	.806	.763
40 H 451	22-540	22	1.66	1.33	1.11	.888	.844	.799
40 H 452	23-540	23	1.74	1.39	1.16	.928	.882	.835
40 H 453	24-540	24	1.80	1.44	1.20	.964	.916	.868
40 H 454	25-540	25	1.88	1.50	1.25	1.00	.954	.903
40 H 455	26-540	26	1.95	1.56	1.30	1.04	.992	.94
40 H 456	27-540	27	2.03	1.62	1.35	1.08	1.03	.976
40 H 457	28-540	28	2.10	1.68	1.40	1.12	1.06	1.00
40 H 459	29-540	29	2.17	1.74	1.45	1.16	1.10	1.04
40 H 460	30-540	30	2.25	1.80	1.50	1.20	1.14	1.08
40 H 465	31-540	31	2.32	1.86	1.55	1.24	1.17	1.11

age and shrinkage. Designations can be printed on base. Closed bottoms require no insulation. Knockouts in base can be removed for "Y" terminals.

Series 541. Have double 6-32x $\frac{1}{4}$ " binder head screw terminals. Creepage distance is  $\frac{3}{8}$ ".  $1\frac{1}{8}$ " wide by  $1\frac{1}{16}$ " high. 14 oz.

Stock No.	Mfr's Type	Term	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 702	2-541	2	.25	.204	.17	.136	.129	.122
40 H 703	3-541	3	.34	.276	.23	.184	.175	.166
40 H 704	4-541	4	.44	.354	.295	.236	.224	.212
40 H 705	5-541	5	.54	.432	.36	.288	.274	.259
40 H 706	6-541	6	.62	.498	.415	.332	.315	.299
40 H 708	7-541	7	.72	.582	.485	.388	.369	.349
40 H 710	8-541	8	.81	.654	.545	.436	.414	.392
40 H 711	9-541	9	.90	.726	.605	.484	.46	.436
40 H 712	10-541	10	1.00	.804	.67	.536	.509	.482
40 H 719	11-541	11	1.09	.876	.73	.584	.555	.526
40 H 720	12-541	12	1.18	.948	.79	.632	.60	.569
40 H 721	13-541	13	1.29	1.03	.86	.688	.654	.619
40 H 722	14-541	14	1.38	1.10	.92	.736	.699	.662
40 H 723	15-541	15	1.47	1.17	.98	.784	.745	.706
40 H 726	16-541	16	1.56	1.25	1.04	.836	.794	.752
40 H 727	17-541	17	1.65	1.32	1.10	.884	.84	.796
40 H 728	18-541	18	1.74	1.39	1.16	.932	.885	.839
40 H 729	19-541	19	1.84	1.47	1.23	.984	.935	.886
40 H 730	20-541	20	1.94	1.55	1.29	1.03	.984	.932
40 H 731	21-541	21	2.03	1.62	1.35	1.08	1.03	.976
40 H 732	22-541	22	2.12	1.69	1.41	1.13	1.07	1.01
40 H 733	23-541	23	2.21	1.77	1.47	1.18	1.12	1.06
40 H 734	24-541	24	2.31	1.84	1.54	1.23	1.17	1.10
40 H 735	25-541	25	2.40	1.92	1.60	1.28	1.21	1.15
40 H 736	26-541	26	2.49	1.99	1.66	1.32	1.26	1.19
40 H 737	27-541	27	2.58	2.06	1.72	1.37	1.30	1.23
40 H 738	28-541	28	2.67	2.13	1.78	1.42	1.35	1.28
40 H 739	29-541	29	2.76	2.21	1.84	1.47	1.40	1.32
40 H 740	30-541	30	2.85	2.28	1.90	1.52	1.44	1.37

Series 542. Have double 8-32x $\frac{5}{16}$ " binder head screw terminals. Creepage distance is  $\frac{3}{4}$ ".  $1\frac{1}{8}$ " wide by  $\frac{7}{8}$ " high. 14 oz.

Stock No.	Mfr's Type	Term	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 741	2-542	2	.30	.24	.20	.16	.152	.144
40 H 742	3-542	3	.42	.336	.28	.224	.213	.202
40 H 743	4-542	4	.54	.432	.36	.288	.274	.259
40 H 744	5-542	5	.64	.516	.43	.344	.327	.31
40 H 745	6-542	6	.75	.606	.505	.404	.384	.364
40 H 746	7-542	7	.88	.708	.59	.472	.448	.425
40 H 747	8-542	8	.99	.792	.66	.528	.502	.475
40 H 748	9-542	9	1.10	.882	.735	.588	.559	.529
40 H 749	10-542	10	1.23	.984	.82	.656	.623	.59
40 H 750	11-542	11	1.33	1.06	.89	.712	.676	.641
40 H 751	12-542	12	1.45	1.16	.97	.776	.737	.698
40 H 752	13-542	13	1.56	1.25	1.04	.836	.794	.752
40 H 753	14-542	14	1.68	1.34	1.12	.896	.851	.806

Stock No.	Mfr's Type	Term	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 755	15-542	15	1.80	1.44	1.20	.96	.912	.864
40 H 756	16-542	16	1.91	1.53	1.275	1.02	.969	.918
40 H 758	17-542	17	2.02	1.62	1.35	1.08	1.02	.972
40 H 759	18-542	18	2.14	1.71	1.43	1.14	1.08	1.03
40 H 760	19-542	19	2.25	1.80	1.50	1.20	1.14	1.08
40 H 761	20-542	20	2.37	1.89	1.58	1.26	1.20	1.13
40 H 762	21-542	21	2.49	1.99	1.66	1.32	1.26	1.19
40 H 763	22-542	22	2.60	2.08	1.73	1.38	1.31	1.24
40 H 764	23-542	23	2.71	2.17	1.81	1.44	1.37	1.30
40 H 767	24-542	24	2.83	2.26	1.89	1.51	1.43	1.36
40 H 768	25-542	25	2.94	2.35	1.96	1.57	1.49	1.41
40 H 769	26-542	26	3.06	2.44	2.04	1.63	1.55	1.46

## SERIES 150, 151, 152 SCREW TERMINAL STRIPS

Black bakelite barrier terminal strips. Screws are burnished nickel plated brass. Av. wt., 6 oz.

Series 150. Fit 50-amp solder lugs for #6 stranded wire. 10-32x $\frac{3}{8}$ " terms. on  $1\frac{1}{16}$ " ctrs.  $\frac{3}{4}$ x $1\frac{1}{2}$ ".

Series 151. Fit 70-amp lugs for #4 stranded wire. 12-32x $\frac{3}{8}$ " terms. on  $\frac{7}{8}$ " ctrs. Size,  $1\frac{1}{2}$ x $2\frac{1}{2}$ ".

Series 152. Fit 90-amp lugs for #2 stranded wire.  $\frac{1}{4}$ "-28x $\frac{1}{2}$ " on  $1\frac{1}{8}$ " ctrs. Size,  $1\frac{1}{2}$ x $2\frac{1}{2}$ ".

Stock No.	Mfr's Type	Term	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22 H 210	2-150	2	.71	.564	.47	.376	.357	.338
22 H 211	3-150	3	.99	.792	.66	.528	.502	.475
22 H 212	4-150	4	1.28	1.02	.85	.684	.65	.616
22 H 213	5-150	5	1.57	1.25	1.04	.836	.794	.752
22 H 214	6-150	6	1.86	1.48	1.24	.992	.942	.893
22 H 215	7-150	7	2.15	1.71	1.43	1.14	1.08	1.03
22 H 216	8-150	8	2.44	1.95	1.62	1.30	1.24	1.17
22 H 217	9-150	9	2.72	2.17	1.81	1.45	1.37	1.30
22 H 218	10-150	10	3.02	2.41	2.01	1.60	1.52	1.44
40 H 133	2-151	2	1.28	1.02	.855	.684	.65	.616
40 H 134	3-151	3	1.86	1.48	1.24	.992	.942	.893
40 H 135	4-151	4	2.44	1.95	1.62	1.30	1.23	1.17
40 H 136	5-151	5	3.02	2.41	2.01	1.60	1.52	1.44
40 H 137	6-151	6	3.59	2.87	2.39	1.91	1.82	1.72
40 H 138	7-151	7	4.17	3.33	2.78	2.22	2.11	2.00
40 H 139	8-151	8	4.75	3.79	3.16	2.53	2.40	2.27
40 H 121	2-152	2	1.82	1.45	1.21	.968	.92	.871
40 H 123	3-152	3	2.69	2.14	1.79	1.43	1.36	1.28
40 H 128	4-152	4	3.55	2.83	2.36	1.89	1.79	1.70
40 H 129	5-152	5	4.42	3.53	2.94	2.35	2.23	2.12
40 H 132	6-152	6	5.28	4.22	3.52	2.81	2.67	2.53

## SERIES 171, 172, 173 MINIATURE BARRIER STRIPS

Series 171 sgl. 2-56x $\frac{1}{4}$ " bh screw terms. on  $\frac{1}{4}$ " ctrs.;  $\frac{3}{16}$ x $1\frac{1}{2}$ ". Series 172 2-56x $\frac{1}{4}$ " bhms terms. on  $\frac{1}{4}$ " ctrs.;  $\frac{3}{16}$ x $\frac{5}{8}$ ". Series 173 4-40x $\frac{3}{16}$ " bhms terms. on  $\frac{3}{8}$ " ctrs.;  $\frac{3}{16}$ x $\frac{1}{2}$ ". Av. wt., 5 oz.



Stock No.	Mfr's Type	Term	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22 H 219	2-171	2	.18	.144	.12	.096	.091	.086
22 H 220	3-171	3	.25	.198	.165	.132	.125	.119
22 H 221	4-171	4	.32	.252	.21	.168	.16	.151
22 H 222	5-171	5	.38	.306	.255	.204	.194	.184
22 H 223	6-171	6	.45	.36	.30	.24	.228	.216
22 H 224	7-171	7	.52	.414	.345	.276	.262	.248
22 H 225	8-171	8	.59	.468	.39	.312	.296	.281
22 H 226	2-172	2	.43	.342	.285	.228	.217	.205
22 H 227	3-172	3	.55	.438	.365	.292	.277	.263
22 H 228	4-172	4	.67	.534	.445	.356	.338	.32
22 H 229	5-172	5	.79	.63	.525	.42	.399	.378
22 H 230	6-172	6	.90	.72	.60	.48	.456	.432
22 H 231								

# Cinch-Jones Terminal Strips

## SERIES 140, 141, 142 BARRIER-TYPE TERMINALS



Barriers between each terminal provide increased insulation; follow edge of strips and terminate at base. Insure positive contacts and firm connection.



with fanning strips. Molded bakelite base. Series 140, 5-40x $\frac{3}{16}$ " binder-head screws; 141, 6-32x $\frac{1}{4}$ "; 142, 8-32x $\frac{5}{16}$ ". 5 oz.

Series 140. Leakage path between terminals is  $\frac{3}{8}$ ". Base is  $\frac{7}{8}$ " wide x  $\frac{5}{8}$ " high. Use with Series 160 fanning strips.

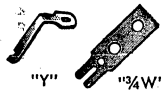
Stock No.	Mfr's Type	Term.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H580	1-140	1	.11	.09	.075	.06	.057	.054
41 H800	2-140	2	.18	.144	.12	.096	.091	.086
41 H801	3-140	3	.25	.198	.165	.132	.125	.119
41 H803	4-140	4	.32	.252	.21	.168	.16	.151
41 H807	5-140	5	.38	.306	.255	.204	.194	.184
41 H802	6-140	6	.44	.354	.295	.236	.224	.212
41 H581	7-140	7	.51	.408	.34	.272	.258	.245
41 H804	8-140	8	.58	.462	.385	.308	.293	.277
41 H582	9-140	9	.65	.516	.43	.344	.327	.31
41 H805	10-140	10	.71	.57	.475	.38	.361	.342
41 H583	11-140	11	.77	.618	.515	.412	.391	.371
41 H806	12-140	12	.84	.672	.56	.448	.426	.403
41 H584	13-140	13	.91	.726	.605	.484	.46	.436
41 H585	14-140	14	.98	.786	.655	.524	.498	.472
41 H586	15-140	15	1.05	.84	.70	.56	.532	.504
41 H587	16-140	16	1.12	.894	.745	.596	.566	.536
41 H588	17-140	17	1.18	.942	.785	.628	.597	.565
41 H589	18-140	18	1.25	.996	.83	.664	.631	.598
41 H590	19-140	19	1.31	1.05	.875	.70	.665	.63
41 H591	20-140	20	1.38	1.104	.92	.736	.699	.662
41 H592	21-140	21	1.45	1.15	.965	.772	.733	.695

Series 141. Leakage path between terminals is  $\frac{7}{16}$ ". Base is  $1\frac{1}{8}$ " wide x  $\frac{1}{2}$ " high. Use with Series 161 fanning strips.

Stock No.	Mfr's Type	Term.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H835	2-141	2	.23	.186	.155	.124	.118	.112
41 H836	3-141	3	.32	.252	.21	.168	.16	.151
41 H837	4-141	4	.41	.324	.27	.216	.205	.194
41 H842	5-141	5	.49	.39	.325	.26	.247	.234
41 H838	6-141	6	.56	.45	.375	.30	.285	.27
22 H200	7-141	7	.66	.528	.44	.352	.334	.317
41 H839	8-141	8	.74	.594	.495	.396	.376	.356
22 H201	9-141	9	.83	.66	.55	.44	.418	.396
41 H840	10-141	10	.92	.732	.61	.488	.464	.439
22 H202	11-141	11	1.00	.798	.665	.532	.505	.479
41 H841	12-141	12	1.08	.864	.72	.576	.547	.518
22 H203	13-141	13	1.17	.936	.78	.624	.593	.562
41 H876	14-141	14	1.25	1.00	.835	.668	.635	.601
22 H204	15-141	15	1.34	1.06	.89	.712	.676	.641
41 H877	16-141	16	1.43	1.14	.95	.76	.722	.684
22 H205	17-141	17	1.51	1.20	1.00	.804	.764	.724
41 H878	18-141	18	1.59	1.27	1.06	.848	.806	.763
22 H206	19-141	19	1.68	1.34	1.12	.896	.851	.806
41 H879	20-141	20	1.76	1.41	1.17	.94	.893	.846

Series 142. Leakage path between terminals is  $\frac{5}{16}$ ". Base is  $1\frac{1}{8}$ " wide x  $\frac{3}{8}$ " high. Use with Series 162 fanning strips.

Stock No.	Mfr's Type	Term.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H670	2-142	2	.27	.216	.18	.144	.137	.13
41 H671	3-142	3	.38	.306	.255	.204	.194	.184
41 H672	4-142	4	.49	.39	.325	.26	.247	.234
41 H673	5-142	5	.59	.468	.39	.312	.296	.281
41 H674	6-142	6	.69	.552	.46	.368	.35	.331
22 H207	7-142	7	.80	.642	.535	.428	.407	.385
41 H676	8-142	8	.90	.72	.60	.48	.456	.432
22 H208	9-142	9	1.01	.804	.67	.536	.509	.482
41 H678	10-142	10	1.12	.894	.745	.596	.566	.536
22 H209	11-142	11	1.22	.972	.81	.648	.616	.583
41 H680	12-142	12	1.32	1.056	.88	.704	.669	.634
41 H881	13-142	13	1.43	1.14	.95	.76	.722	.684
41 H882	14-142	14	1.53	1.224	1.02	.816	.775	.734
41 H883	15-142	15	1.64	1.308	1.09	.872	.828	.785
41 H884	16-142	16	1.74	1.392	1.16	.928	.882	.835
41 H873	17-142	17	1.84	1.47	1.225	.98	.931	.882



## ADAPTER SOLDER TERMINALS

Optional terminals for use with above barrier terminals. Permit top-side or underside solder connections. Types  $\frac{3}{4}$ W and W for top-side; Type Y for underside. Types 141-J and 95B are jumpers (95B not formed). Tinned brass. Wt., per 10, 3 oz.

Stock No.	Mfr's Type	For Series	EACH		
			1-499	500-999	1000-4999
22 H 640	$\frac{3}{4}$ W-140	140	.02	.019	.017
22 H 641	$\frac{3}{4}$ W-141	141	.03	.027	.024
22 H 642	$\frac{3}{4}$ W-142	142	.04	.032	.029
22 H 266	W-140	140	.02	.019	.017
22 H 267	W-141	141	.03	.027	.024
22 H 268	W-142	142	.04	.032	.029
40 H 116	W-150	150	.05	.045	.04
40 H 117	W-151	151	.09	.081	.072
40 H 119	W-152	152	.13	.117	.104
22 H 269	Y-140	140	.03	.019	.017
22 H 270	Y-141	141	.03	.027	.024
22 H 271	Y-142	142	.04	.032	.029
22 H 272	141-J	140&141	.02	.018	.016
22 H 273	95B	142	.11	.084	

Series 140-Y. Identical in construction to Series 140, shown at left, but with solder terminals instead of binder-head screws.

Stock No.	Mfr's Type	Term.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22H278	2-140-Y	2	.24	.192	.16	.128	.122	.115
22H279	3-140-Y	3	.33	.264	.22	.176	.167	.158
22H280	4-140-Y	4	.43	.342	.285	.228	.217	.205
22H281	5-140-Y	5	.52	.414	.345	.276	.262	.248
22H282	6-140-Y	6	.62	.498	.415	.332	.315	.299
22H283	7-140-Y	7	.71	.57	.475	.38	.361	.342
22H284	8-140-Y	8	.81	.648	.54	.432	.41	.389
22H285	9-140-Y	9	.91	.726	.605	.484	.46	.436
22H286	10-140-Y	10	1.00	.798	.665	.532	.505	.479
22H287	11-140-Y	11	1.09	.87	.725	.58	.551	.522
22H288	12-140-Y	12	1.19	.948	.79	.632	.60	.569
22H289	13-140-Y	13	1.28	1.02	.855	.684	.65	.616
22H290	14-140-Y	14	1.38	1.10	.92	.736	.699	.662
22H291	15-140-Y	15	1.47	1.17	.98	.784	.745	.706
22H292	16-140-Y	16	1.57	1.25	1.04	.836	.794	.752
22H293	17-140-Y	17	1.66	1.32	1.10	.884	.84	.796
22H294	18-140-Y	18	1.76	1.40	1.17	.936	.889	.842
22H295	19-140-Y	19	1.85	1.47	1.23	.984	.935	.886
22H296	20-140-Y	20	1.95	1.56	1.30	1.04	.988	.936
22H297	21-140-Y	21	2.04	1.63	1.36	1.08	1.03	.979

Series 141-Y. Identical in construction to Series 141, at left, but have brass solder terminals with hot-tin dipped finish.

Stock No.	Mfr's Type	Term.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22H298	2-141-Y	2	.31	.246	.205	.164	.156	.148
22H299	3-141-Y	3	.43	.342	.285	.228	.217	.205
22H300	4-141-Y	4	.56	.444	.37	.296	.281	.266
22H301	5-141-Y	5	.68	.54	.45	.36	.342	.324
22H302	6-141-Y	6	.80	.642	.535	.428	.407	.385
22H303	7-141-Y	7	.92	.738	.615	.492	.467	.443
22H304	8-141-Y	8	1.05	.84	.70	.56	.532	.504
22H305	9-141-Y	9	1.17	.936	.78	.624	.593	.562
22H306	10-141-Y	10	1.30	1.03	.865	.692	.657	.623
22H307	11-141-Y	11	1.42	1.13	.945	.756	.718	.68
22H308	12-141-Y	12	1.54	1.23	1.03	.824	.783	.742
22H309	13-141-Y	13	1.66	1.33	1.11	.888	.844	.799
22H310	14-141-Y	14	1.79	1.43	1.19	.956	.908	.86
22H311	15-141-Y	15	1.91	1.53	1.27	1.02	.969	.918
22H312	16-141-Y	16	2.04	1.63	1.36	1.08	1.03	.979
22H313	17-141-Y	17	2.16	1.72	1.44	1.15	1.09	1.03
22H314	18-141-Y	18	2.29	1.83	1.52	1.22	1.15	1.09
22H315	19-141-Y	19	2.41	1.92	1.60	1.28	1.22	1.15
22H316	20-141-Y	20	2.54	2.02	1.69	1.35	1.28	1.21

Series 142-Y. Identical in construction to Series 142, shown at left, but have brass solder terminals with hot-tin dipped finish.

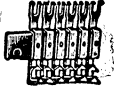
Stock No.	Mfr's Type	Term.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22H317	2-142-Y	2	.38	.30	.25	.20	.19	.18
22H318	3-142-Y	3	.53	.42	.35	.28	.266	.252
22H319	4-142-Y	4	.68	.54	.45	.36	.342	.324
22H320	5-142-Y	5	.83	.666	.555	.444	.422	.40
22H321	6-142-Y	6	.98	.786	.655	.524	.498	.472
22H322	7-142-Y	7	1.14	.912	.76	.608	.578	.547
22H323	8-142-Y	8	1.29	1.03	.86	.688	.654	.619
22H324	9-142-Y	9	1.45	1.15	.965	.772	.733	.695
22H325	10-142-Y	10	1.59	1.27	1.06	.848	.806	.763
22H326	11-142-Y	11	1.75	1.39	1.16	.932	.885	.839
22H327	12-142-Y	12	1.90	1.51	1.26	1.01	.96	.91
22H328	13-142-Y	13	2.06	1.64	1.37	1.09	1.04	.98
22H329	14-142-Y	14	2.21	1.76	1.47	1.17	1.11	1.05
22H330	15-142-Y	15	2.36	1.89	1.57	1.26	1.19	1.13
22H331	16-142-Y	16	2.51	2.00	1.67	1.33	1.26	1.20
22H332	17-142-Y	17	2.66	2.12	1.77	1.41	1.34	1.27

## GC TERMINAL STRIPS

For a variety of connecting applications. Serve as audio amplifier output terminals, antenna terminals

# Cinch-Jones Fanning, Terminal and Marker Strips

## FANNING STRIPS



Insure positive, firm connections; ideal for cable or harness wiring. Facilitate disconnecting subassemblies for servicing or replacement purposes. Laminated  $\frac{3}{8}$ " bakelite strips with a hole in either end of strip for fastening cable with cable clamp or lacing twine—last letter Series 160L. Fit Series 140 barrier terminals on  $\frac{3}{8}$ " ctrs.  $\frac{1}{2}$ " wide.

In Type No. indicates right or left mounting position. Terminals are made of .032" thick cadmium-plated brass. Prefix in Type No. indicates number of terminals. Av. shpg. wt., 3 oz.  
Series 160R. Fit Series 140 barrier terminals on  $\frac{3}{8}$ " ctrs.  $\frac{1}{2}$ " wide.

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
41 H 808	2-160L	.10	.084	.07	.056	.053	.05
41 H 809	3-160L	.16	.132	.11	.088	.084	.079
41 H 812	4-160L	.21	.168	.14	.112	.106	.101
41 H 813	5-160L	.26	.21	.175	.14	.133	.126
41 H 814	6-160L	.32	.258	.215	.172	.163	.155
22 H 248	7-160L	.37	.30	.25	.20	.19	.18
41 H 817	8-160L	.42	.336	.28	.224	.213	.202
22 H 250	9-160L	.47	.378	.315	.252	.239	.227
41 H 818	10-160L	.52	.42	.35	.28	.266	.252
22 H 252	11-160L	.57	.462	.385	.308	.293	.277
41 H 819	12-160L	.63	.504	.42	.336	.319	.302

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
40 H 956	2-160R	.10	.084	.07	.056	.053	.05
40 H 957	3-160R	.16	.132	.11	.088	.084	.079
40 H 958	4-160R	.21	.168	.14	.112	.106	.101
40 H 959	5-160R	.26	.21	.175	.14	.133	.126
40 H 960	6-160R	.32	.258	.215	.172	.163	.155
22 H 249	7-160R	.37	.30	.25	.20	.19	.18
40 H 961	8-160R	.42	.336	.28	.224	.213	.202
22 H 251	9-160R	.47	.378	.315	.252	.239	.227
40 H 962	10-160R	.52	.42	.35	.28	.266	.252
22 H 253	11-160R	.57	.462	.385	.308	.293	.277
40 H 963	12-160R	.63	.504	.42	.336	.319	.302

Series 161L. Fit Series 141 barrier terminals on  $\frac{7}{16}$ " ctrs.  $\frac{5}{8}$ " wide.

Series 161R. Fit Series 141 barrier terminals on  $\frac{7}{16}$ " ctrs.  $\frac{5}{8}$ " wide.

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
41 H 822	2-161L	.11	.09	.075	.06	.057	.054
41 H 823	3-161L	.17	.138	.115	.092	.087	.083
41 H 824	4-161L	.21	.174	.145	.116	.11	.104
41 H 827	5-161L	.27	.216	.18	.144	.137	.13
41 H 828	6-161L	.33	.264	.22	.176	.167	.158
22 H 254	7-161L	.38	.306	.255	.204	.194	.184
41 H 829	8-161L	.42	.342	.285	.228	.217	.205
22 H 256	9-161L	.48	.384	.32	.256	.243	.23
41 H 832	10-161L	.54	.432	.36	.288	.274	.259
22 H 258	11-161L	.59	.474	.395	.316	.30	.284
41 H 833	12-161L	.63	.51	.425	.34	.323	.306

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
40 H 964	2-161R	.11	.09	.075	.06	.057	.054
40 H 965	3-161R	.17	.138	.115	.092	.087	.083
40 H 966	4-161R	.21	.174	.145	.116	.11	.104
40 H 967	5-161R	.27	.216	.18	.144	.137	.13
40 H 968	6-161R	.33	.264	.22	.176	.167	.158
22 H 255	7-161R	.38	.306	.255	.204	.194	.184
40 H 969	8-161R	.42	.342	.285	.228	.217	.205
22 H 257	9-161R	.48	.384	.32	.256	.243	.23
40 H 970	10-161R	.54	.432	.36	.288	.274	.259
22 H 259	11-161R	.59	.474	.395	.316	.30	.284
40 H 971	12-161R	.63	.51	.425	.34	.323	.306

Series 162L. Fit Series 142 barrier terminals on  $\frac{9}{16}$ " ctrs.  $\frac{5}{8}$ " wide.

Series 162R. Fit Series 142 barrier terminals on  $\frac{9}{16}$ " ctrs.  $\frac{5}{8}$ " wide.

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
41 H 834	2-162L	.14	.114	.095	.076	.072	.068
41 H 843	3-162L	.18	.15	.125	.10	.095	.09
41 H 844	4-162L	.24	.192	.16	.128	.122	.115
41 H 845	5-162L	.29	.234	.195	.156	.148	.14
41 H 846	6-162L	.35	.282	.235	.188	.179	.169
22 H 260	7-162L	.39	.318	.265	.212	.201	.191
41 H 847	8-162L	.45	.366	.305	.244	.232	.22
22 H 262	9-162L	.50	.402	.335	.268	.255	.241
41 H 848	10-162L	.56	.45	.375	.30	.285	.27
22 H 264	11-162L	.60	.486	.405	.324	.308	.292
41 H 849	12-162L	.66	.528	.44	.352	.334	.317

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
40 H 972	2-162R	.14	.114	.095	.076	.072	.068
40 H 973	3-162R	.18	.15	.125	.10	.095	.09
40 H 974	4-162R	.24	.192	.16	.128	.122	.115
40 H 975	5-162R	.29	.234	.195	.156	.148	.14
40 H 976	6-162R	.35	.282	.235	.188	.179	.169
22 H 261	7-162R	.39	.318	.265	.212	.201	.191
40 H 977	8-162R	.45	.366	.305	.244	.232	.22
22 H 263	9-162R	.50	.402	.335	.268	.255	.241
40 H 978	10-162R	.56	.45	.375	.30	.285	.27
22 H 265	11-162R	.60	.486	.405	.324	.308	.292
40 H 979	12-162R	.66	.528	.44	.352	.334	.317

## SERIES 170 TERMINAL STRIPS

Have extra heavy-duty solder terminals. Suitable for use in applications requiring a strong, durable terminal strip. Sturdy black molded bakelite base is  $\frac{3}{16}$ " wide,  $\frac{1}{4}$ " thick. Solder terminals are

made of .032" tinned brass; mounted on  $\frac{3}{8}$ " centers. Double notched to insure good mechanical connection. Av. shpg. wt., 5 oz.



Stock No.	Mfr's Type	Terminals	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 990	1-170	1	.19	.156	.13	.104	.099	.094
40 H 991	2-170	2	.24	.198	.165	.132	.125	.119
40 H 992	3-170	3	.28	.228	.19	.152	.144	.137
40 H 993	4-170	4	.33	.27	.225	.18	.171	.162
40 H 994	5-170	5	.39	.318	.265	.212	.201	.191

Stock No.	Mfr's Type	Terminals	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
40 H 995	6-170	6	.44	.354	.295	.236	.224	.212
40 H 996	7-170	7	.48	.384	.32	.256	.243	.23
40 H 997	8-170	8	.52	.42	.35	.28	.266	.252
40 H 998	9-170	9	.58	.468	.39	.312	.296	.281
40 H 999	10-170	10	.62	.498	.415	.332	.315	.299

## MARKER STRIPS

For barrier strips on preceding page. Act as insulators.  $\frac{1}{2}$ " black fiber. Mtg. holes match those in corresponding barrier strips. Middle

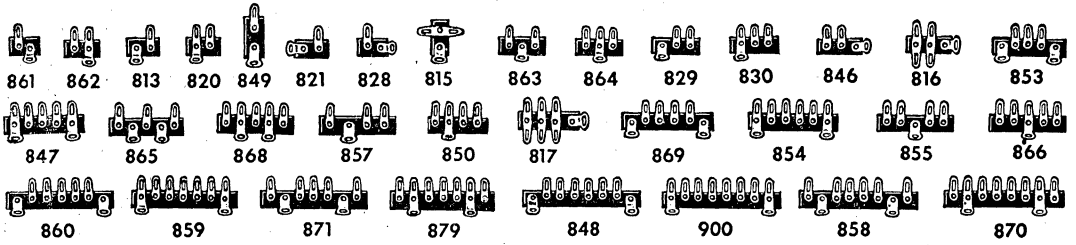
figure in Type No. indicates number of contacts; last three figures indicate corresponding barrier strip series. 5 oz.

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
22 H 333	MS-2-140	.07	.053	.044	.035	.033	.032
22 H 334	MS-3-140	.07	.058	.049	.039	.037	.035
22 H 335	MS-4-140	.08	.064	.054	.043	.041	.039
22 H 336	MS-5-140	.09	.07	.058	.046	.044	.042
22 H 337	MS-6-140	.10	.076	.063	.05	.048	.045
22 H 338	MS-7-140	.10	.081	.068	.054	.051	.049
22 H 339	MS-8-140	.11	.087	.073	.058	.055	.052
22 H 340	MS-9-140	.12	.092	.077	.062	.059	.055
22 H 341	MS-10-140	.16	.128	.107	.086	.081	.077
22 H 342	MS-11-140	.17	.134	.112	.089	.085	.08
22 H 343	MS-12-140	.18	.14	.117	.093	.089	.084
22 H 344	MS-13-140	.18	.145	.121	.097	.092	.087
22 H 345	MS-14-140	.19	.151	.126	.101	.096	.091
22 H 346	MS-15-140	.20	.157	.131	.104	.099	.094
22 H 347	MS-16-140	.24	.193	.161	.128	.122	.116
22 H 348	MS-17-140	.25	.198	.165	.132	.125	.119
22 H 349	MS-18-140	.26	.204	.17	.136	.129	.122
22 H 350	MS-19-140	.26	.209	.175	.14	.133	.126
22 H 351	MS-20-140	.31	.245	.205	.164	.155	.147
22 H 352	MS-21-140	.31	.251	.209	.167	.159	.151
22 H 353	MS-2-141	.07	.056	.047	.038	.036	.034
22 H 354	MS-3-141	.08	.064	.054	.043	.041	.039
22 H 355	MS-4-141	.09	.079	.066	.053	.05	.048
22 H 356	MS-5-141	.10	.079	.066	.053	.05	.048
22 H 357	MS-6-141	.11	.087	.073	.058	.055	.052
22 H 358	MS-7-141	.12	.095	.079	.063	.06	.057
22 H 359	MS-8-141	.13	.102	.085	.068	.065	.061
22 H 360	MS-9-141	.14	.11	.092	.073	.07	.066

Stock No.	Mfr's Type	EACH					
		1-24	25-49	50-99	100-249	250-499	500-999
22 H 361	MS-10-141	.18	.147	.123	.098	.093	.088
22 H 362	MS-11-141	.19	.155	.129	.103	.098	.093
22 H 363	MS-12-141	.20	.163	.136	.108	.103	.098
22 H 364	MS-13-141	.21	.17	.142	.113	.108	.102
22 H 365	MS-14-141	.22	.178	.148	.118	.113	.107
22 H 366	MS-15-141	.27	.215	.18	.144	.136	.129
22 H 367	MS-16-141	.28	.223	.186	.148	.141	.134
22 H 368	MS-17-141	.29	.23	.192	.154	.146	.138
22 H 369	MS-18-141	.30	.238	.199	.159	.151	.143
22 H 370	MS-19-141	.34	.275	.23	.184	.174	.165
22 H 371	MS-20-141	.35	.283	.236	.189	.179	.17
22 H 372	MS-2-142	.08	.061	.051	.04	.038	.036
22 H 373	MS-3-142	.09	.07	.058	.046	.044	.042
22 H 374	MS-4-142	.09	.079	.066	.053	.05	.048
22 H 375	MS-5-142	.11	.089	.074	.059	.056	.053
22 H 376	MS-6-142	.12	.098	.082	.066	.062	.059
22 H 377	MS-7-142	.14	.108	.09	.072	.068	.065
22 H 378	MS-8-142	.15	.117	.098	.078	.074	.07
22 H 379	MS-9-142	.16	.127	.106	.084	.08	.076
22 H 380	MS-10-142	.21	.166	.139	.111	.105	.10
22 H 381	MS-11-142	.22	.176	.147	.117	.111	.106
22 H 382	MS-12-142	.23	.185	.155			

# Terminal Strips, Clips, Lugs, and Connectors

## H. H. SMITH LUG-TYPE TERMINAL STRIPS

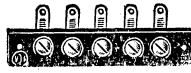


Dark brown bakelite strips, 1/16" thick x 3/8" wide. Solder-coated steel lugs have 3/8" centers. 3/16" dia. mtg. holes. Av. shgp. wt., 2 oz.

Stock No.	Mfr's Type	EACH		Stock No.	Mfr's Type	EACH		Stock No.	Mfr's Type	EACH	
		1-99	100-999			1-99	100-999			1-99	100-999
44 H 061	861	.02	.016	44 H 072	830	.03	.021	44 H 083	854	.05	.038
44 H 062	862	.02	.017	44 H 073	846	.03	.02	44 H 084	855	.03	.025
44 H 063	813	.02	.016	44 H 074	816	.05	.045	44 H 085	866	.04	.027
44 H 064	820	.02	.017	44 H 075	853	.05	.032	44 H 086	860	.05	.038
44 H 065	849	.02	.018	44 H 076	847	.04	.034	44 H 087	859	.05	.041
44 H 066	821	.02	.018	44 H 077	865	.04	.033	44 H 088	871	.05	.038
44 H 067	828	.02	.018	44 H 078	868	.04	.034	44 H 089	879	.05	.041
44 H 068	815	.04	.035	44 H 079	857	.04	.026	44 H 090	848	.06	.045
44 H 069	863	.02	.019	44 H 080	850	.04	.027	44 H 091	900	.06	.047
44 H 070	864	.03	.021	44 H 081	817	.06	.056	44 H 092	858	.05	.044
44 H 071	829	.03	.019	44 H 082	869	.05	.036	44 H 093	870	.06	.047

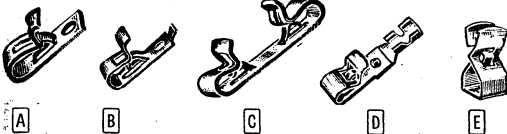
## CINCH-JONES SERIES 17 TERMINAL STRIPS

Sturdy bakelite screw-type terminal strips. Ideal for any equipment that requires multiple outputs. All are 1/16" wide except \*3/2". Have solder-coated brass terminals for easy soldering; terminals are mounted on 7/16" centers. All have 3/16" mounting holes. Av. shgp. wt., 2 oz.



Stock No.	Mfr's Type	Term.	Mtg. Ctrs.	EACH	
				1-99	100-999
22 H 487	17-1	1	7/8"	.04	.02
22 H 649	17-2	2	1 1/16"	.07	.034
22 H 650	17-3	3	1 3/4"	.10	.048
22 H 651	17-4	4	2 1/16"	.13	.062
22 H 652	17-5	5	2 5/8"	.15	.077
22 H 653	17-6	6	3 1/16"	.18	.091
22 H 488	17-7	7	3 1/2"	.23	.113
22 H 489	17-8	8	3 7/8"	.26	.128
22 H 490	17-9	9	4 3/8"	.29	.143
22 H 491	17-10*	10	4 7/16"	.32	.158

## FAHNESTOCK SPRING CLIPS



Spring clips offering positive, reliable contact but extremely easy to connect and disconnect. \*Made of bronze. All others brass. Av. shgp. wt., per pkg., 3 oz. 10 clips per package.

Stock No.	Mfr's Type	Fig.	Length	Width	Max. Wire	Mtg. Hole	PER PACKAGE		
							1-9	10-99	100-Up
41 H 700	2	A	1"	3/8"	#10	#8	.17	.15	.14
41 H 702	3	A	1 1/16"	3/8"	#10	#8	.17	.15	.14
41 H 705	10	A	3/4"	3/8"	#14	#6	.10	.09	.08
41 H 703	5	B	1 1/16"	3/8"	#10	#8	.19	.17	.16
41 H 707	15*	B	1/2"	3/32"	#16	#4	.10	.09	.08
41 H 704	9	C	2 1/16"	3/8"	#10	#8	.69	.62	.57
41 H 710	9C	C	1 3/4"	3/8"	#10	#8	1.50	1.35	1.24
41 H 715	18	C	1 1/2"	3/16"	#14	#6	.50	.45	.41
41 H 708	36*	D	1 5/8"	3/8"	#10	lug	.55	.50	.46
41 H 709	45	E	3/4"	3/8"	#12	#6	.17	.15	.14

## TERMINAL AND FLUSH-MOUNT LUGS\*

Terminal Lugs. Screw-mount to chassis, terminal boards, etc. 2 solder lugs; one with hole, other grooved. 4 oz. 10 per package.  
 41 H 767. 1-9 Pkgs. PER PKG. .51  
 10-49 Pkgs. PER PKG. .46  
 50-99 Pkgs. PER PKG. .43  
 100-499 Pkgs. PER PKG. .39

Nu-Way Flush-Mount Lugs. Fit Nu-Way snaps, above at right. For temporary or permanent connections. Have hole for 6-32 mtg. screw. Wt., per 100, 12 oz. 100 per package.  
 44 H 451. 10 or More Pkgs. PER PKG. 4.30  
 1-9 Pkgs. PER PKG. 5.00

## NU-WAY SNAPS AND STUDS

Make or break contacts for temporary or permanent connections. A quick and simple way to join wires together. Snap connectors fit studs, listed below, or flush-mounting lugs, listed below at left. May be cascaded together for multiple connections. Snaps have solder lug. Stud has threaded screw shaft with nut for panel or chassis mounting. Shgp. wt., per 100, 12 oz. 100 per package.

Stock No.	Fig.	Description	Size	PER PACKAGE	
				1-9	10-Up
44 H 450	F	Snaps	7/16" Dx 7/8" L	7.90	6.50
44 H 452	G	Threaded Stud	6 3/32 x 1/2"	5.00	4.30

## PHONO PIN PLUG AND JACK—BINDING POST

J Shielded RCA-Type Phono Pin Plug for radios, phonos, etc. Pin dia. 1/16", lgth., 3/16". Shgp. wt., 1 oz. 6 per pkg.  
 H Single-Prong Jack for use with pin plug above. On 1/16" bakelite disc. 1/16" mtg. ctrs. Shgp. wt., 1 oz. 6 per pkg.  
 K Battery Binding Post. Hole. tapers 5/8" to 3/4" dia. 5 oz. 1 per pkg.

Stock No.	Description	PER PKG.			
		1-9	10-49	50-99	100-499
46 H 098	Pin Plug	.26	.22	.18	.16
46 H 099	Pin Jack	.32	.28	.24	.20
41 H 785	Bind. Post	.56	.51	.47	.425

## STANDARD PIN PLUGS

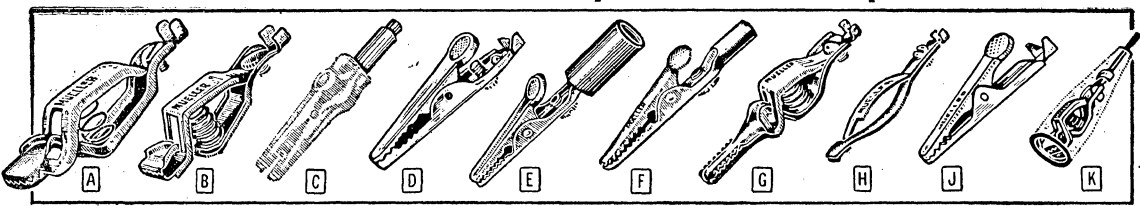
Insulated standard pin plugs. Fit all standard pin plug jacks. Each pin plug has molded black plastic body; nickel-plated steel prong. Wire is inserted at one end of body and secured by soldering. Terminal pin makes a positive electrical connection. Av. shgp. wt. per pkg., 4 oz. 10 per package.  
 41 H 777. 1-49 Pkgs. PER PKG. .54 50-99 Pkgs. PER PKG. .46

## CAMBRIDGE THERMIÖNIC TERMINAL BOARDS

Standard all-set terminal boards made of cotton-fabric phenolic with firmly-mounted terminals. Meet MIL-P-15035B specs. All boards use 23/64" terminals, except \*which use 7/32" terminals. Boards scribed into 5 sections for convenient separation. Each section is drilled for 14 terminals with 10 mounted (.117" holes), except #7 terminals holes per section with 5 mounted. Terminals are precision-machined of brass, silver-plated to 0.0003", and lacquered. Boards 1 1/2" long, 3/32" deep. 4 oz.

Stock No.	Mfr's Type	Width	EACH			
			1-9	10-49	50-99	100-249
44 H 591	X1401A†	1/2"	.89	.83	.77	.73
44 H 592	X1401B	2"	2.00	1.87	1.74	1.66
44 H 593	X1401C	2 1/2"	2.10	1.96	1.80	1.73
44 H 594	X1401D	3"	2.20	2.00	1.87	1.78
44 H 595	X1401E*	1 3/4"	1.84	1.72	1.58	1.50
44 H 596	X1401F	1 1/2"	1.97	1.84	1.71	1.61

# Mueller and Grayhill Test Clips



## 3-SIDED MESH-TEETH CLIPS

**A** §Cadmium-plated steel; \*solid copper jaws; †with insulation piercing needle; ‡solid bronze. 3 oz.

Stock No.	Mfr's Type	Amps	Size	EACH			
				1-9	10-99	100-499	500-Up
45 H 015	§27	20	2 1/16"	.13	.09	.077	.073
45 H 097	§27C	40	2 1/16"	.23	.16	.134	.128
45 H 010	§48B	10	2"	.11	.074	.063	.06
45 H 078	§48C	20	2"	.15	.11	.092	.088
45 H 087	†150C	20	2 1/4"	.28	.20	.166	.158
45 H 088	‡51C	20	2 1/4"	.19	.13	.11	.106

## MESH-TEETH TEST CLIPS

**B** For general purpose applications. \*Solid copper. §Cadmium-plated steel. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Amps	Size	1-9	10-99	100-499	500-Up
45 H 000	§45	5	1 1/2"	.07	.05	.042	.04
45 H 005	§45C	10	1 1/2"	.14	.095	.08	.076

## HEAVY-DUTY SOLID COPPER CLIPS

**B** Heavy-duty, high-conductivity, solid copper clips. Shpg. wts.: 24C, 3 oz.; 21C, 5 oz.; 11C, 8 oz.; 33C, 1 lb.

Stock No.	Mfr's Type	Amps	Marking	Size	EACH			
					1-9	10-99	100-499	500-Up
45 H 028	24C	50	plus sign	2 7/8"	.38	.27	.23	.22
45 H 029	24C	50	unmarked	2 7/8"	.38	.27	.23	.22
45 H 031	21C	100	plus sign	4 1/2"	.97	.68	.58	.55
45 H 032	21C	100	unmarked	4 1/2"	.97	.68	.58	.55
45 H 033	11C	200	plus sign	6"	1.81	1.27	1.08	1.03
45 H 034	11C	200	unmarked	6"	1.81	1.27	1.08	1.03
45 H 050	33C	300	unmarked	7 3/4"	3.35	2.35	2.02	1.92

## LEAD-PLATED BATTERY CLIPS

**B** For moderately heavy current work, including battery charging, electroplating, and light welding. Lead-plated steel for complete protection and long life. Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	Amps	Marking	Size	1-9	10-99	100-499	500-Up
45 H 021	24A	25	plus sign	2 7/8"	.23	.16	.134	.128
45 H 022	24A	25	unmarked	2 7/8"	.23	.16	.134	.128
45 H 023	21A	50	plus sign	4"	.40	.28	.24	.23
45 H 024	21A	50	unmarked	4"	.40	.28	.24	.23
45 H 026	11A	100	plus sign	6"	1.06	.75	.64	.61
45 H 027	11A	100	unmarked	6"	1.06	.75	.64	.61

## INSULATED ALLIGATOR CLIPS

**C** §Cadmium-plated steel; \*solid copper. Completely insulated with vinyl to protect against shocks and shorts. 3 oz.

Stock No.	Mfr's Type	Amps	Color	Size	1-9	10-99	100-499	500-Up
45 H 145	§63	5	Red insul.	2 1/8"	.19	.13	.11	.105
45 H 146	§63	5	Black insul.	2 1/8"	.19	.13	.11	.105
45 H 147	§63C	10	Red insul.	2 1/8"	.22	.15	.13	.124
45 H 148	§63C	10	Black insul.	2 1/8"	.22	.15	.13	.124

## SERIES 70 ALLIGATOR CLIPS

**D** Streamlined, simplified design. No. 70 cadmium-plated steel, solder connection; No. 70S cadmium-plated steel, screw connection. No. 70CS solid copper, screw connection. 3 oz.

Stock No.	Mfr's Type	Amps	Size	1-9	10-99	100-499	500-Up
45 H 170	70	5	1 1/16"	.07	.042	.036	.034
45 H 171	70S	5	1 1/16"	.08	.048	.041	.039
45 H 172	70CS	10	1 1/16"	.11	.075	.064	.06

## INSULATED-BARREL ALLIGATOR CLIPS

**E** Made of cadmium-plated steel, except \*solid copper. Jaws open 3/16". Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Size	Barrel Color	EACH			
				1-9	10-99	100-499	500-Up
45 H 070	60HS	2 1/32"	Red	.11	.075	.064	.061
45 H 075	60HS	2 1/32"	Black	.11	.075	.064	.061
45 H 090	*60CHS	2 1/32"	Red	.15	.10	.086	.082
45 H 095	*60CHS	2 1/32"	Black	.15	.10	.086	.082

## SERIES 60 ALLIGATOR CLIPS

**F** Steel, except \*solid copper. †Solder type; "S"—screw type. Slim jaws for close work. Jaws open 3/16". 2" long. 2 oz.

Stock No.	Mfr's Type	Description	EACH			
			1-9	10-99	100-499	500-Up
45 H 200	†60	Fit banana plugs	.07	.046	.04	.038
45 H 065	60S	Fit banana plugs	.08	.052	.044	.042
45 H 080	*60CS	Fit banana plugs	.12	.08	.069	.066

## CROCODILE CLIPS

**G** \*Solid copper; §cadmium-plated steel. Type 85T has phone tip on one jaw. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Size	Description	EACH			
				1-9	10-99	100-499	500-Up
45 H 060	§85	2 1/8"	Screw Connection	.09	.06	.052	.049
45 H 062	*85C	2 1/8"	Screw Connection	.18	.12	.105	.10
45 H 098	§85T	2 5/8"	Tip-Clip	.22	.15	.13	.124

## NON-FERROUS RF TEST CLIP

**H** Phosphor bronze clip with brass screw. Ideal for tapping small transmitter coils, high-frequency work, and for work in crowded chassis. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Size	1-9	10-99	100-499	500-Up
45 H 055	88	1 1/16" For coils	.22	.15	.13	.124

## "MINI-GATOR" CLIPS

**J** Ideal for testing miniature and sub miniature equipment. 3/16" jaw opening. 1 1/4" O.D. tip. §Cadmium-plated steel; \*solid copper. 2 oz.

Stock No.	Mfr's Type	Amps	Size	EACH			
				1-9	10-99	100-499	500-Up
45 H 142	§30	5	1 1/16"	.06	.04	.034	.032
45 H 143	*30C	10	1 1/16"	.07	.05	.043	.041

## "MICRO-GATOR" CLIPS

Similar to "Mini-gators" but with tiny tip for clipping to small terminals, etc. §Cadmium-plated steel; \*copper. 1 oz.

Stock No.	Mfr's Type	Size	1-9	10-99	100-499	500-Up
45 H 176	§34	1 3/16"	.06	.04	.034	.032
45 H 177	*34C	1 3/16"	.07	.05	.043	.041

## SLIP-ON INSULATORS FOR CLIPS

**K** Tough, flexible plastic insulators for above clips. Offer high dielectric strength; resistant to oils and grease. Cover entire clip except for end of nose. Provide safety when clipping to high voltage sources, prevent shorts. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Color	Use With Series	EACH			
				1-9	10-99	100-499	500-Up
45 H 036	13	Red	11	.80	.56	.48	.45
45 H 037	13	Black	11	.80	.56	.48	.45
45 H 038	23	Red	21	.40	.28	.237	.225
45 H 039	23	Black	21	.40	.28	.237	.225
45 H 041	26	Red	24	.21	.15	.13	.12
45 H 042	26	Black	24	.21	.15	.13	.12
45 H 043	29	Red	27	.13	.09	.076	.072
45 H 044	29	Black	27	.13	.09	.076	.072
45 H 046	32	Red	30	.05	.03	.025	.024
45 H 047	32	Black	30	.05	.03	.025	.024
45 H 048	35	Red	33	2.93	2.05	1.76	1.67
45 H 049	35	Black	33	2.93	2.05	1.76	1.67
45 H 051	36	Red	34	.05	.03	.025	.024
45 H 052	36	Black	34	.05	.03	.025	.024
45 H 053	47	Red	45	.06	.04	.035	.033
45 H 054	47	Black	45	.06	.04	.035	.033
45 H 056	49	Red	48, 50	.09	.065	.054	.052
45 H 057	49	Black	48, 50	.09	.065	.054	.052
45 H 058	62	Red	60, 70	.05	.035	.03	.028
45 H 059	62	Black	60, 70	.05	.035	.03	.028
45 H 061	72	Red	70	.05	.035	.03	.028
45 H 063	72	Black	70	.05	.035	.03	.028
45 H 064	87	Red	85	.06	.04	.035	.033
45 H 066	87	Black	85	.06	.04	.035	.033
45 H 067	93	Red	88	.12	.08	.07	.067
45 H 068	93	Black	88	.12	.08	.07	.067

## GRAYHILL INSULATED TEST CLIPS

Type 16 Test Clips. Completely insulated including hinge pin. Molded parts are phenolic to MIL-M-14 spec. .008" silver overlay at point of contact with contact resistance .0015 ohms. Silver-plated brass terminals. Insulation tested at 500 v. 2" long. Shpg. wt., 2 oz.



45 H 264, Red. 45 H 265, Black. EACH .85

Make Allied Electronics your headquarters for prompt, off-the-shelf deliveries in industrial quantities at OEM prices.



# Switchboard Phone Plugs and Jacks

## "SF-JAX" SHORT FRAME JACK



Ruggedly designed jacks requiring a minimum of panel depth. Short frame supports springs parallel to mtg. surface. Long springs without "forms" assure minimum fatigue. Tubing runs through entire stack and frame. Overall length: Series 20, 1<sup>29</sup>/<sub>32</sub>"; Series 50 and C-50, 1<sup>1</sup>/<sub>2</sub>". Mount in 3/8" dia. hole. 3 oz.

### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 914	21	I	.39	.358	.307	.269	.253	.239
44 H 917	22A	II	.48	.442	.379	.331	.312	.294
44 H 922	23	VII	.57	.533	.457	.40	.376	.356
44 H 930	23A	VIII	.57	.533	.457	.40	.376	.356
44 H 932	25	.....	.78	.742	.636	.556	.524	.494

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 935	22B	III	.48	.442	.379	.331	.312	.294
44 H 937	23B	IV	.57	.533	.457	.40	.376	.356
44 H 939	24	IX	.66	.617	.529	.463	.435	.411
44 H 941	54B	IX	.66	.592	.507	.444	.418	.394
44 H 943	C-54B	IX	.96	.883	.757	.663	.624	.589

## "LF-JAX" LONG FRAME JACKS



Long frame supports springs perpendicular to mtg. surface. Action of mating plug with long springs insures max. spring life. Contacts rated 3 amps max. Tubing press fit through stack for tight assembly. Overall length: 3<sup>3</sup>/<sub>8</sub>". Fit 3/8" hole. With 1/2" hex locknut, washer. 3 oz.

### 2-CONDUCTOR TYPE

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 945	35	.....	.87	.833	.714	.625	.588	.556

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 947	33B	IV	.63	.592	.507	.444	.418	.394
44 H 949	34A	.....	.72	.683	.586	.513	.482	.456
44 H 951	34B	IX	.72	.683	.586	.513	.482	.456

## "LITTLE-JAX" PHONE JACKS



Dependable phone jacks. Take standard 1/4" phone plugs, except \*S-11 which takes S250, S280 and 385 plugs, and \*C-12B which takes 480 military-type "Littel-Plug". All are 3/4" dia., 1<sup>1</sup>/<sub>2</sub>" overall length, and have 3/8" dia. threaded shank, 3/8" long, except 3/8" long. New shielded types (below) have shield assembled into and made part of jack. Av. wt., 3 oz.

### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 955	II	I	.24	.192	.164	.144	.135	.128
44 H 957	C-11	I	.36	.325	.279	.244	.229	.217
44 H 959	L-11§	I	.30	.225	.193	.169	.159	.15
44 H 961	S-11*	II	.27	.233	.20	.175	.165	.156
44 H 963	12A	II	.27	.233	.20	.175	.165	.156
44 H 965	C-12A	II	.45	.35	.30	.263	.247	.233
44 H 967	L-12A§	II	.33	.267	.229	.20	.188	.178

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 969	12B	III	.33	.297	.254	.223	.209	.198
44 H 971	C-12B†	III	.42	.383	.329	.288	.271	.256
44 H 973	13B	III	.45	.417	.357	.313	.294	.278

### "SHIELDED JAX"

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 975	CN-11	I	.48	.417	.357	.313	.294	.278
44 H 977	CN-12A	II	.51	.45	.386	.338	.318	.30
44 H 979	CN-12B	III	.57	.517	.443	.388	.365	.344
44 H 981	CN-13B	IV	.69	.633	.543	.475	.447	.422

## "TINI-JAX" SUB-MINIATURE PHONE JACKS



Extra small, 2-conductor jacks for use with "Tini-Plugs" listed on following page. Sub-miniature types with all features of "Littel-Jax" above. All are 2<sup>1</sup>/<sub>32</sub>" long; fit 1/4" dia. hole. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 983	41	I	.24	.192	.164	.144	.135	.128
44 H 985	42A	II	.27	.233	.20	.175	.165	.156

## "MT-JAX" SWITCHBOARD-TYPE JACKS



Meet military specifications. All 9/16" in width, 37/16" in length. Mount in 1<sup>1</sup>/<sub>32</sub>" diameter hole. All have standard .250" bushing except \*.2085". Av. wt., 3 oz.

### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 603	MT-331	I	.90	.633	.543	.475	.447	.422
41 H 604	MT-332A	II	1.02	.75	.643	.563	.529	.50
41 H 477	MT-332C	VI	1.17	.833	.714	.625	.588	.556
41 H 663	MT-334C	.....	1.20	.917	.786	.688	.647	.611
41 H 665	MT-334E	.....	1.20	.917	.786	.688	.647	.611

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 606	MT-332B	III	1.02	.75	.643	.563	.529	.50
41 H 660	MT-333B	.....	1.17	.883	.757	.663	.624	.589
41 H 478	MT-334B	V	1.20	.917	.786	.688	.647	.611
41 H 675	MT-342B*	III	1.17	.783	.671	.588	.553	.522
41 H 677	MT-344B*	V	1.35	.967	.829	.725	.682	.644

## "M-JAX" MILITARY TYPE JACKS



Long frame jacks for industrial equipment and critical military requirements. Accept standard 1/4" phone plugs, except \*.209" plugs. Mount with 3/8"-32 bushing. Overall length, 3<sup>1</sup>/<sub>8</sub>". With 1/2" hex nut, mtg. washer. Av. wt., 3 oz.

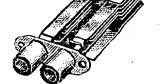
### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 987	M-442A	II	1.02	.90	.771	.675	.635	.60
44 H 989	M-445	.....	1.65	1.22	1.04	.913	.859	.811

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
44 H 991	M-444*	V	1.38	1.12	.957	.838	.788	.744
44 H 993	M-444B	V	1.32	1.07	.914	.80	.753	.711

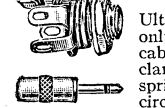
## "TWIN-JAX" DUAL TELEPHONE JACKS



Similar to "MT-JAX" above, except frame is double width with 2 mtg. ears on 1<sup>1</sup>/<sub>2</sub>" ctrs.; bushings on 5/8" ctrs. MT-388 has shorting feature; MT-389 has two 3-conductor jacks interconnected. 1<sup>1</sup>/<sub>16</sub>" wide; 3<sup>1</sup>/<sub>2</sub>" long. Wt., 3 oz.

Stock No.	Mfr's Type	Diag.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 684	MT-388	.....	3.09	2.18	1.87	1.64	1.54	1.46
41 H 685	MT-389	.....	3.39	2.65	2.27	1.99	1.87	1.77

## MICRO-JAX AND MICRO-PLUGS



Ultra-miniature 2-conductor plug and jack. Plugs only 1<sup>1</sup>/<sub>64</sub>" long; Mate TR-2A jack, 1<sup>1</sup>/<sub>32</sub>" long. Take cables to 3/64" dia. Screw-on shield handles and cable clamps. Jack has nylon insulation, nickel alloy springs, solder lugs. Can be used as open or closed circuit. Fits .190" hole. 2 oz.

Stock No.	Mfr's Type	Description	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
42 H 554	850	Plug (black handle)	.45	.383	.329	.288	.271	.256
42 H 555	855	Plug (red handle)	.45	.383	.329	.288	.271	.256
42 H 556	880	Plug (silver handle)	.45	.383	.329	.288	.271	.256
44 H 995	TR-2A	Jack (silver)	.27	.233	.20	.175	.165	.156

## SERIES 500 JACK COVERS

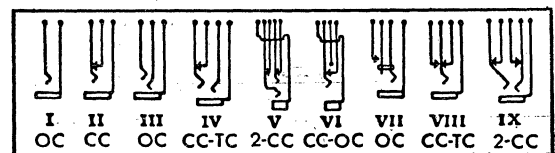


Rugged, spring-loaded covers. Provide dust and moisture-proof seals over jack openings. Use with conventional 3/8"-32 threaded bushing jacks. Special locknut seals into rubber washer inside cover. Wt., 3 oz.

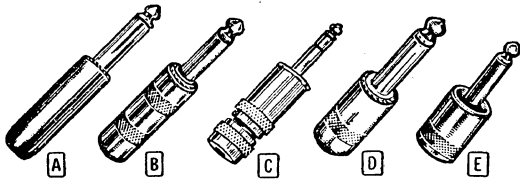
Stock No.	Mfr's Type	Color	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 490	510	Olive	.63	.55	.471	.413	.388	.367
41 H 491	512	Nickel						
41 H 492	515	Black						
41 H 493	520	Gray						

## JACK SCHEMATIC DIAGRAMS

In the schematic diagrams shown below, OC indicates open circuit; CC, closed circuit; and TC, transfer circuit.



# Switchcraft Plugs and Extension Jacks



## "LITTEL-PLUG" PHONE PLUGS

Fit std. 1/4" phone jacks, except S250 and S280 have .206"-dia. sleeve to mate S-11 "Littel-Jax" and are used in Bell and Howell recorders; S280 has short sleeve for Revere recorders. §Screw terminals, others solder terminals. Plugs with solder terminals have cable clamp. Metal (shielded) handles are nickel-plated brass. Handles, 1 1/16" long; 1/2" dia. Av. shgp. wt., 4 oz.

### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	Handle Color	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 553	240§	A	Black	.45	.407	.349	.305	.287	.271
41 H 554	245§	A	Red	.45	.407	.349	.305	.287	.271
41 H 611	250	A	Black	.42	.383	.329	.288	.271	.256
41 H 614	250	A	Black	.45	.408	.35	.306	.288	.272
41 H 612	255	A	Red	.42	.383	.329	.288	.271	.256
41 H 573	270§	B	Metal	.63	.542	.464	.406	.382	.361
41 H 613	280	B	Metal	.60	.50	.429	.375	.353	.333
41 H 556	R280	B	Metal	.75	.575	.493	.431	.406	.383
41 H 719	S280	B	Metal	.60	.533	.457	.40	.376	.356

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	Handle Color	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 555	260§	A	Black	.72	.658	.564	.494	.465	.439
41 H 616	267	A	Black	.63	.583	.50	.438	.412	.389
42 H 967	290§	B	Metal	.84	.758	.65	.569	.535	.506
41 H 617	297	B	Metal	.78	.733	.629	.55	.518	.489

## STANDARD PHONE PLUGS

1/4" plugs. Metal (shielded), red or black bakelite handles; 2 1/16" long, 3/4" dia., except \*1" long. 170 and 190A have 2 1/16"x1 1/16" 2-piece handle with cable clamp for 1/4" cable. Shgp. wt., 5 oz.

### 2-CONDUCTOR TYPES—SCREW TERMINALS

Stock No.	Mfr's Type	Fig.	Handle Color	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 557	40	A	Black	.45	.407	.349	.305	.287	.271
41 H 447	45	A	Red	.45	.407	.349	.305	.287	.271
41 H 559	70	B	Metal	.72	.675	.579	.506	.476	.45
41 H 561	160*	E	Metal	.54	.483	.414	.363	.341	.322
41 H 562	170	C	Metal	.99	.933	.80	.70	.659	.622

### 3-CONDUCTOR TYPES—SOLDER TERMINALS

Stock No.	Mfr's Type	Fig.	Handle Color	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 558	60	A	Black	.63	.558	.479	.419	.394	.372
41 H 560	90*	E	Metal	.78	.717	.614	.538	.506	.478
41 H 563	190A	C	Metal	1.17	1.08	.929	.813	.765	.722

## "LUG-PLUG" PHONE PLUGS

Low-cost, two-conductor phone plugs. All fit 1/4" jacks except, \*fits S-11 Littel-Jax. Have solder terminals. Exterior parts bright nickel plated. Red or black handles 1 1/8" long, 1/2" diameter. Types 380 and 385 have shielded handles, 1" long. Av. shgp. wt., 4 oz.

Stock No.	Mfr's Type	Fig.	Handle Color	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 564	350	A	Black	.33	.297	.254	.223	.209	.198
41 H 565	355	A	Red	.33	.297	.254	.223	.209	.198
41 H 566	380	D	Metal	.42	.367	.314	.275	.259	.244
41 H 448	385*	D	Metal	.60	.45	.386	.338	.318	.30

## "LOCK-PLUGS" AND "LOCK-EXTENSION-JAX"



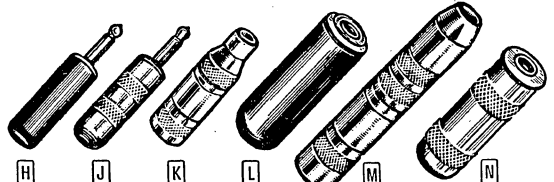
Feature locking device that "locks" connection after plug has been inserted into mating jack. 123 jack mates with 282 plug; 133 jack with 298 plug. Plugs nickel-plated brass; solder lug terminals. Jacks nickel-plated brass; cadmium-plated steel solder lug terminals within sleeve. Jacks also mate properly with standard phone plugs; plugs fit any standard jack with 3/8"-32 thread bushing, 4 oz.

### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 736	123	F	1.05	.983	.843	.738	.694	.656
41 H 732	282	G	.84	.767	.657	.575	.541	.511

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
41 H 738	133	F	1.35	1.25	1.07	.938	.882	.833
41 H 734	298	G	1.05	1.00	.857	.75	.706	.667



## "TINI-PLUGS" SUB-MINIATURE PHONE PLUGS

For use with "Tini-Jax" listed on preceding page. 1 1/8" overall length. 2-conductor. Handles are plastic or nickle-plated brass. §Screw terminals; all others solder terminals. 2 oz.

Stock No.	Mfr's Type	Fig.	Handle	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 518	740§	H	Black	.45	.407	.349	.305	.287	.271
41 H 519	745§	H	Red	.45	.407	.349	.305	.287	.271
41 H 520	750	H	Black	.42	.383	.329	.288	.271	.256
41 H 521	755	H	Red	.42	.383	.329	.288	.271	.256
41 H 522	770§	J	Shielded	.63	.55	.471	.413	.388	.367
41 H 523	780	J	Shielded	.60	.50	.429	.375	.353	.333

□ Type 125 "Tini-Extension Jax," 2-conductor; with solder-lug terminals. Mate with "Tini-Plugs." Shgp. wt., 2 oz.

41 H 472, 1-24...EA. .75 25-49...EA. .667 50-99...EA. .571 100-249...EA. .50 250-499...EA. .471 500-999...EA. .444

## "EXTENSION JAX" CABLE EXTENSION JACKS

□ □ □ Open circuit. Fit std. 1/4" plugs, 1 1/8" O.D. 2 1/2" long; 121 and 131, 1/2" O.D., 2 1/2" long. Black handles, plastic; shielded handles, nickle-plated brass. §Screw terminals, others solder. 3 oz.

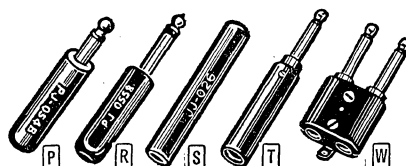
### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	Handle	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 571	80§	L	Black	.69	.625	.536	.469	.441	.417
41 H 718	88	L	Black	.60	.525	.45	.394	.371	.35
41 H 572	120§	N	Shielded	.93	.825	.707	.619	.582	.55
41 H 473	121	M	Shielded	.96	.883	.757	.663	.624	.589

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	Handle	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 474	131	M	Shielded	1.20	1.13	.971	.85	.80	.756
42 H 971	830§	L	Black	.93	.825	.707	.619	.582	.55
41 H 717	1230§	N	Shielded	1.17	1.07	.914	.80	.753	.711

## MILITARY-TYPE "LITTEL-PLUGS" AND EXTENSION JACK



A series of connectors made to meet requirements of military specifications. Terminals pre-tinned brass. All have plural internal interlock; parts will not shift once in position.

Black plastic handles, except \*metal handles. 482 has red handle. All plugs have screw terminals; meet MIL-P-642A specs, except 475, MIL-P-642(1). 820 extension jack meets MIL-J-641A—fits 430 plug. Type 475 has built-in cable clamp. Av. shgp. wt., 5 oz.

### 2-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	JAN Type	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 731	412	W	PJ-289	2.70	2.42	2.07	1.81	1.71	1.61
44 H 997	420	T	PJ-047B	2.90	817	70	.613	.576	.544
44 H 890	430	P	PJ-054B	.84	.70	.60	.525	.494	.467
44 H 892	440	P	PJ-055B	.84	.65	.557	.488	.459	.433
44 H 894	470*	P	PJ-055M	1.20	.917	.786	.688	.647	.611
41 H 461	475*	R	PJ-636	1.17	1.07	.914	.80	.753	.711
44 H 896	820	S	JJ-026	1.20	1.03	.886	.775	.729	.689

### 3-CONDUCTOR TYPES

Stock No.	Mfr's Type	Fig.	JAN Type	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
44 H 898	480	R	PJ-068	2.16	1.42	1.21	1.06	1.00	.944
41 H 730	482	T	PJ-051	2.40	1.58	1.36	1.19	1.12	1.06

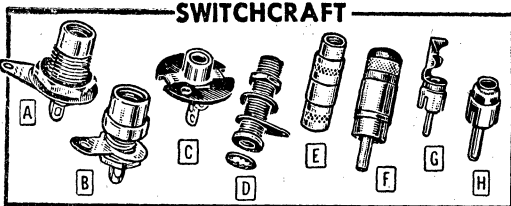
## TYPE 410 PLUG AND TYPE 810 JACK

Miniature, 2-cond. extension jack and mating plug. Plug is Type PJ-291; jack, Type JJ-048. Each is 2-piece, molded construction with EM-1 insulation per MIL-P-3412. Plug has solder-cup terminals; jack, solder lugs. After wiring, shells must be cemented. Overall size (engaged), 2 1/8"x1 3/32"x3/32". 3 oz.



Stock No.	Type	Desc.	1-24	25-49	50-99	100-249	250-499	500-999
44 H 886	410	Plug	.36	.33	.283	.248	.233	.22
44 H 888	810	Jack	.48	.433	.371	.325	.306	.289

# Adapters, Connectors, Jacks and Plugs



## PHONO JACKS AND PLUGS

Easy-to-install phono jacks and pin plugs. 3501FR for rear panel mounting in  $\frac{3}{8}$ " hole—fits panel to  $\frac{13}{16}$ " thick. 3501FP for front panel mtg. in  $\frac{1}{4}$ " hole—fits panel to  $\frac{1}{8}$ ". 3501F and 3501M are std. 2-cond. audio connectors. 371 adapts phono jack for mtg. in panels to  $1\frac{1}{2}$ " thick; use with 3501FP. 3503 extension jack is shielded, has removable  $1\frac{3}{8}$ " O.D. shell with cable clamp. 3502 has  $1\frac{3}{8}$ " O.D. shielded handle. 3501MC is unshielded, has  $\frac{3}{8}$ " O.D. shell with cable clamp. Av. shgp. wt., 3 oz.

Stock No.	Type	Fig.	Description	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
44 H 900	3501FR	A	Jack	.24	.19	.163	.143	.134	.127
44 H 902	3501FP	B	Jack	.21	.145	.124	.109	.102	.097
41 H 904	3501F	C	Jack	.09	.05	.043	.038	.035	.033
44 H 574	371	D	Jack Adapt.	.57	.517	.443	.388	.365	.344
41 H 778	3503	E	Ext. Jack	.36	.325	.279	.244	.229	.217
41 H 762	3502	F	Plug	.30	.258	.221	.194	.182	.172
41 H 763	3501MC	G	Plug	.09	.07	.06	.053	.049	.047
41 H 599	3501M	H	Plug	.06	.033	.029	.025	.024	.022

## THICK-PANEL MOUNTING JACKS

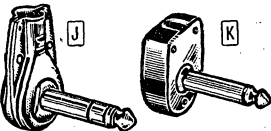


Have extra long bushings for use in panels up to  $1\frac{1}{4}$ " thick. Ideal for wall paneling, hi-f installations, etc. Jacks are shielded for microphone use. Take standard  $\frac{1}{4}$ "

Phone plugs. Require  $1\frac{1}{2}$ " mounting hole. Have solder terminals. Overall length,  $2\frac{5}{8}$ ". Shgp. wt., 2 oz.

Stock No.	Mfr's Type	Cond.	Use With "Littel Plugs"	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
44 H 908	151	2	240, 245, 250, 255, 270, 280	.81	.70	.60	.525	.494	.467
44 H 912	152B	3	260, 267, 269, 297	.90	.783	.671	.588	.553	.522

## FLAT PHONE PLUGS



$\frac{1}{4}$ " flat phone plugs for use where space is limited. Have removable plastic cap for easy connection of wire leads. Tip rods are  $1\frac{3}{8}$ " long. All metallic parts of nickel plated brass. Types 220 and 225 accept standard phone tips. Take

cables from .210" to .250" O.D. Type S-230 has .206" diameter sleeve. All units have screw type terminals except \*solder type. Shgp. wt., 4 oz.

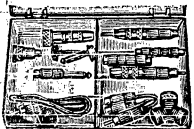
## 2 CONDUCTOR

Stock No.	Mfr's Type	Fig.	Handle Color	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 621	220	K	Black	.54	.483	.414	.363	.341	.322
41 H 567	225	K	Red	.54	.483	.414	.363	.341	.322
42 H 968	228*	K	Metal	.57	.517	.443	.388	.365	.344

## 3 CONDUCTOR

Stock No.	Mfr's Type	Fig.	Handle Color	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
41 H 568	230	K	Black	.78	.717	.614	.538	.506	.478
42 H 970	S-230	K	Black	1.05	.967	.829	.725	.682	.644
41 H 569	235	K	Red	.78	.717	.614	.538	.506	.478
42 H 969	238*	J	Metal	.84	.767	.657	.575	.541	.511

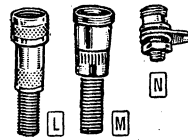
## HANDY ADAPTER KIT



Consists of 11 audio adapters and one interconnecting cable in a plastic box. Includes one each of the following adapter types: 25AF25—36" shielded cable with phone plug each end; 25Y mike-connector Y-adapter; 330F1 flexible Y-adapter with phono connectors; 332A, 2-cond. phono jack input to female mike output; 334A, phono jack input to female mike connector output; 336A, phone jack input to phono plug output; 336B, phone jack input to phono jack output; 345, phono jack input to phone plug output; Two each: Type 44 adapter, male mike input to phone plug output; Type 349 coupler, phono jacks at each end. Shgp. wt., 1 lb.

44 H 906.....8.82

## SWITCHCRAFT MINI-CON MINIATURE CONNECTORS

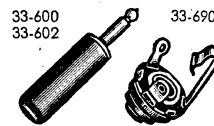


Popular "Mini-Con" microphone-type connectors. About  $\frac{1}{2}$  size of standard mike connectors. For use with single-conductor shielded cables to  $\frac{3}{16}$ " O.D. Nickel-plated brass bodies. Coupling ring on 5501F removable for quick change of female to male type. Cable-braid spring clamped to body by hollow set screw. 5501 MP mounts in  $\frac{3}{16}$ " hole. Av. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
44 H 920	5501F	L	Female	.36	.26	.223	.195	.184	.173
44 H 925	5501M	M	Male	.27	.20	.171	.15	.141	.133
44 H 927	5501MP	N	Panel, male	.21	.17	.146	.128	.12	.113

## G-C ELECTROCRRAFT

### TYPE 33-600 PLUGS AND JACKS



Types 33-600 and 33-602 are std.  $\frac{1}{4}$ " 2-cond. phone plugs. Have screw terminals; plastic handles. Fit 33-690 jack or other std. phone jack; overall length,  $2\frac{7}{8}$ ". 33-690 open-circuit jack has  $\frac{3}{4}$ " dia., threaded shank,  $\frac{3}{8}$ " long; requires 1" behind panel. With hex nut and mtg. washer. Av. wt., 3 oz.

Stock No.	Mfr's Type	Description	EACH			
			1-9	10-49	50-99	100-499
41 H 017	33-600	Phone Plug (black)	.28	.25	.23	.21
41 H 018	33-602	Phone Plug (red)	.28	.25	.23	.21
41 H 019	33-690	Std. Phone Jack	.18	.16	.15	.14

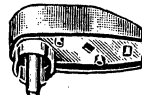
## MOTOROLA-TYPE PLUGS AND JACKS, PHONO JACKS



Type 1740 Motorola-type plug designed to connect coaxial antenna lead-in to auto radio; pin diameter  $\frac{1}{8}$ ". Type 1741 Motorola female connector; mounts in  $1\frac{1}{2}$ " hole. Type 33-800 is 2 phono jacks on a  $1\frac{1}{16}$ "x1" base. Av. shgp. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH			
				1-9	10-49	50-99	100-499
41 H 152	1740	R	Motorola Type Plug	.09	.081	.074	.067
41 H 144	1741	T	Motorola Connector	.11	.096	.089	.08
41 H 179	33-800	S	Double Jack Assembly	.09	.078	.072	.065

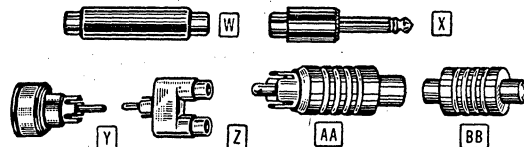
## SOLDERLESS PHONO PLUGS



Right-angle solderless phono plugs for shielded cable with approximately  $\frac{3}{16}$ " O.D. Required only stripping of cable, insertion of cable in shell and tightening of assembly with 2 screws. Length,  $1\frac{1}{2}$ "; tip,  $\frac{1}{8}$ " dia.

Stock No.	Mfr's Type	Color	EACH			
			1-9	10-49	50-99	100-499
46 H 117	33-776	Gray plastic shell	.21	.19	.18	.16
46 H 118	33-778	Black plastic shell				
46 H 119	33-780	Red plastic shell				
46 H 120	33-782	Yellow plastic shell				
46 H 121	33-784	Blue plastic shell				

## LAB-TRONICS JACK ADAPTERS, CONNECTORS

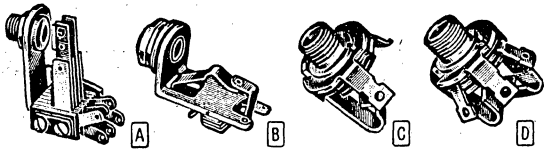


C400 connects two lines with pin plugs. P55A converts pin plug to phone plug. MP, pin plug with mike connector. 4 oz.

Stock No.	Type	Fig.	Description	EA.
44 H 800	C400	W	Double-ended Phono Pin Jack	.59
44 H 801	P55A	X	Phono Pin Jack; Phone Plug	.73
44 H 802	MP	Y	Mic; Phono Pin Plug	.59
44 H 803	A754	Z	2 Phono Pin Jacks; Phono Pin Plug	1.18
44 H 805	A750	AA	Phone Jack; Phono Pin Plug	1.03
44 H 806	A753	BB	Phone Jack; Phono Pin Jack	1.03

# Mallory Plugs and Jacks

## STANDARD PHONE JACKS



### JUNIOR PHONE JACKS

**A** For standard 1/4" phone plugs. Require only 1/16" behind panel. Cadmium-plated frames with nickel-plated brass shank, springs, and hardware. 3/8" dia. threaded shank for panels up to 1/4" thick. Silver contacts. "Cond." indicates number of conductors in mating plug. †See diagrams below. Av. wt., 3 oz.

Stock No.	Mfr's Type	Cond.	† Dia-gram	EACH				
				1-9	10-49	50-99	100-249	250-499
41 H 054	701	2	I	.45	.405	.375	.338	.30
41 H 750	702	2	VII	.51	.459	.425	.383	.34
41 H 751	702A	2	II	.57	.513	.475	.428	.38
41 H 058	702B	3	III	.57	.513	.475	.428	.38
41 H 052	703	2	V	.60	.54	.50	.45	.40
41 H 752	703A	2	VIII	.60	.54	.50	.45	.40
41 H 059	703B	3	IV	.60	.54	.50	.45	.40
41 H 754	703C	3	VII	.60	.54	.50	.45	.40
41 H 755	704	3	VI	.69	.621	.575	.518	.46
41 H 756	704A	3	IX	.69	.621	.575	.518	.46
41 H 060	704B	3	VI	.69	.621	.575	.518	.46
41 H 753	705	2	IX	.75	.675	.625	.563	.50

### MIDGET AND INFANT PHONE JACKS

**B** All take 1/4" phone plugs. "Midget" type jacks require only 1 1/2" mounting space behind panel; "Infant" type requires only 7/8" behind panel. Cadmium-plated steel frames with nickel-plated brass shank, springs, and mounting hardware. 3/8" threaded shank for panels up to 1/4" thick. Column headed "Cond." indicates number of conductors in mating plug. All are "Midget" type except A-1 "Infant" type jack. †Not illustrated. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Cond.	Dia-gram	EACH				
				1-9	10-49	50-99	100-249	250-499
41 H 050	†A-1	2	I	.33	.297	.275	.248	.22
41 H 051	A-2	2	VII	.48	.432	.40	.36	.32
41 H 053	A-2A	2	II	.57	.513	.475	.428	.38
41 H 056	A-3A	2	VIII	.66	.594	.55	.495	.44

### LA JACKS

**C** Have 3/8"-32 threaded bushings. Contacts are silver-plated brass. Mounting behind panel approx. 1". 1/2" dia. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Cond.	Dia-gram	EACH				
				1-9	10-49	50-99	100-249	250-499
41 H 757	LA-1	2	I	.36	.324	.30	.27	.24
41 H 760	LA-2	2	VII	.42	.378	.35	.315	.28
41 H 761	LA-2A	3	II	.48	.432	.40	.36	.32

### MILITARY-TYPE SC JACKS

Commercial equivalents of military types complying with JAN-J-641 specification. Both require 7/8" mounting space behind panel. Type SC-1A has 3/8" dia. threaded shank, 3/8" long. Type SCA-2B has 3/8" dia. threaded shank, 3/16" long. Av. shpg. wt., 2 oz.

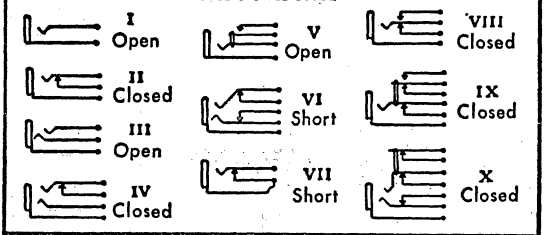
**C** Type SC-1A. Equiv. to military jack JJ-034. Open circuit. 2-cond., see Diagram I. Takes std. 1/4" plugs including Mallory 75; Western Electric Nos. 47A and 47B; Nos. PL-47, PL-48, PL-55, PL-148, PL-155, PL-125, PJ-055, PJ-155, PJ-634, PJ-636, and PJ-047.

41 H 642. 1-9.....EACH .36 10-49.....EACH .32 50-99.....EACH .30 100-249.....EACH .27 250-499.....EACH .24

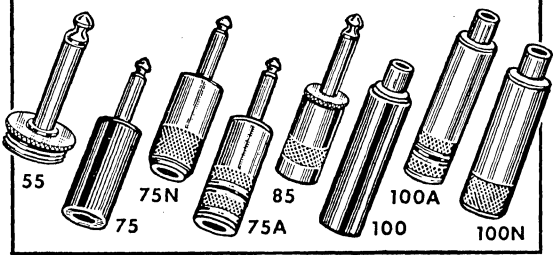
**D** Type SCA-2B. Equivalent to military jack No. JJ-033. Open circuit, 3-conductor jack, see Diagram III. Takes all 3-conductor plugs with .206" diameter sleeves, including Western Electric 109; Military Nos. PL-68, PL-168, PJ-068, PJ-168, and PJ-309.

41 H 643. 1-9.....EACH .42 10-49.....EACH .378 50-99.....EACH .35 100-249.....EACH .315 250-499.....EACH .28

### JACK SCHEMATIC DIAGRAMS



## PLUGS AND JACKS



### STANDARD AND MINIATURE PHONE PLUGS

For headphones, microphones, and other applications. 2-conductor plugs have built-in tie-cord anchor for terminal strain relief. Shielded handles are nickel-plated brass with knurling for sure grip; others are molded phenolic. Screw-type terminals accommodate tip jacks or wire. Type 55 adapts standard microphone connector for conventional jack. Types 75A and 76A have cable clamp built into handle for strain relief. 75, 75N, 75A are 2-way phone plugs; 76 and 76A are 3-way microphone plugs; 85 is 2-way miniature phone plug. \*76 and 76A not illustrated—similar to 75 and 75A, respectively. Av. wt., 3 oz.

#### 2 CONDUCTOR

Stock No.	Mfr's Type	Term.	Handle Type	Lgth.	EACH				
					1-9	10-49	50-99	100-249	250-499
41 H 765	55	Press	None	1 3/16"	.30	.27	.25	.225	.20
41 H 641	75	Screw	Phenolic	1 1/2"	.45	.405	.375	.338	.30
41 H 640	75N	Screw	Shielded	1 3/8"	.66	.594	.55	.495	.44
41 H 937	75A	Screw	Shielded	1 3/16"	1.05	.945	.875	.788	.70
41 H 766	85	Screw	Shielded	1 1/4"	.36	.324	.30	.27	.24

#### 3 CONDUCTOR

Stock No.	Mfr's Type	Term.	Handle Type	Lgth.	EACH				
					1-9	10-49	50-99	100-249	250-499
41 H 941	*76	Solder	Phenolic	1 3/8"	.90	.81	.75	.675	.60
41 H 942	*76A	Solder	Shielded	1 3/16"	1.17	1.05	.975	.878	.78

### STANDARD EXTENSION JACKS

Type 100. 2-conductor, fiber handle for standard 1/4" phone plugs. Length, 3 1/4". Screw terminals. Shpg. wt., 4 oz.

41 H 938. 1-9.....EACH 1.08 10-49.....EACH .972 50-99.....EACH .90 100-249.....EACH .81 250-499.....EACH .72

Type 100A. 2-conductor with shielded, nickel-plated brass handle and built-in cable clamp. Screw terminals. For standard 1/4" phone plugs. Length, 3 3/8". Shpg. wt., 5 oz.

41 H 940. 1-9.....EACH 1.50 10-49.....EACH 1.35 50-99.....EACH 1.25 100-249.....EACH 1.12 250-499.....EACH 1.00

Type 100N. 2-conductor with shielded, nickel-plated brass handle. For standard 1/4" phone plugs. Screw terminals. Length, 3 3/8". Shpg. wt., 6 oz.

41 H 939. 1-9.....EACH 1.08 10-49.....EACH .972 50-99.....EACH .90 100-249.....EACH .81 250-499.....EACH .72

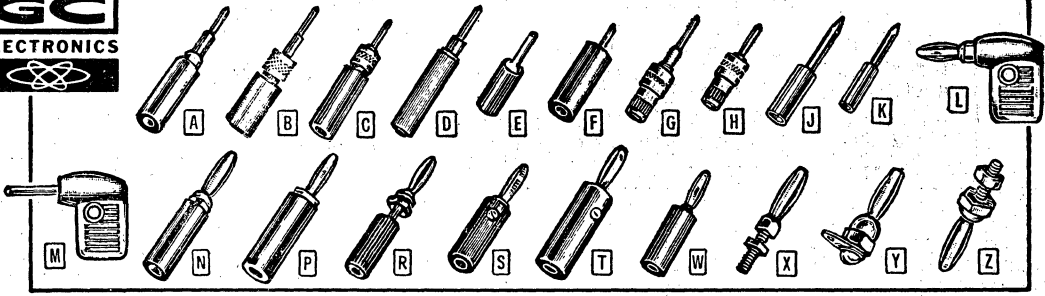
### LONG-FRAME STANDARD PHONE JACKS



All take standard 1/4" phone plugs; all are Fig. E except XP types. Type Nos. 1, 2, 2A and 5 are 3 1/2 x 1 1/2 x 3/16" wide. Mount in panels up to 1/4" thick by means of 3/8" diameter threaded shank. XP types (Fig. F) are 3 1/2 x 2 1/2 x 3/16" wide. Have 7/8" diameter smooth shank 3/8" long and mount with screw and nut. \* Indicates number of conductors in mating plug. †Diagram indicates switching arrangement (below, left). Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	*Cond.	Dia-gram	EACH				
				1-9	10-49	50-99	100-249	250-499
41 H 745	1	2	I	.45	.405	.375	.338	.30
41 H 746	2	2	VII	.57	.513	.475	.428	.38
41 H 747	2A	2	II	.57	.513	.475	.428	.38
41 H 770	2B	3	III	.57	.513	.475	.428	.38
41 H 771	3	2	V	.60	.54	.50	.45	.40
41 H 775	3B	3	IV	.60	.54	.50	.45	.40
41 H 776	4B	3	VI	.75	.675	.625	.563	.50
41 H 055	5	2	IX	.80	.81	.75	.675	.60
41 H 780	6	3	X	1.05	.945	.875	.788	.70
41 H 748	XP1	2	I	.63	.567	.525	.473	.42
41 H 644	XP2B	2	II	.75	.675	.625	.563	.50
41 H 749	XP3B	2	VIII	.90	.81	.75	.675	.60

See index at rear of this catalog for listings of capacitors, controls, switches, modules, power supplies, rectifiers, mercury batteries, vibrators and other top quality Mallory components.



**TIP PLUGS, BANANA PLUGS AND MATCHING JACKS**

**INSULATED TIP PLUGS**

**A** Type 33-110 Heavy-Duty Phone Tip Plug. Molded plastic handle. One-piece, nickel-plated brass. 2 1/8" long. Wt., 3 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 536	Red	.11	.098	.091	.082
41 H 537	Black				
41 H 538	Yellow				
41 H 539	Green				
41 H 540	Blue				

**B** Types 33-106 and 33-108 "Senior" Solderless Phone Tip Plug. Wire fits through sleeve of plug and is wrapped around screw portion. Knurled nut tightens against wire, making soldering unnecessary. Plug is made of nickel-plated brass; insulated molded plastic handle. Type 33-108 has black handle; in table below, plugs with handles of other colors are Type 33-106. Overall length 2 3/8". Shpg. wt., 3 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 250	Red	.12	.109	.10	.091
41 H 255	Black				
41 H 415	Yellow				
41 H 416	Green				
41 H 417	Blue				

**C** Type 33-144 "Junior" Solderless Phone Tip Plug. Has same tightening assembly as Types 33-106 and 33-108, above. Plug has insulated plastic handle; nickel-plated brass tip. Length, 1 7/8". Wt., 3 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 542	Red	.12	.107	.099	.089
41 H 543	Black				
41 H 544	Yellow				
41 H 545	Green				
41 H 546	Blue				

**D** Types 33-112 and 33-114 Subminiature Phone Tip. 1/4" O.D. bone fiber handle. Nickel-plated brass tip. 1 3/8" long. 33-112, red handle; 33-114, black, 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 547	Red	.13	.121	.111	.10
41 H 548	Black				

**E** Type 33-116 Solder-Type Tip Plug. For standard jacks. Drawn hollow tip. Overall length, 1 1/8". 3 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 260	Red	.08	.07	.064	.058
41 H 261	Black				

**F** Types 33-118 and 33-120 Short Phone Tip Plug. Shoulderless tip permits insertion to insulated plastic handle. Nickel-plated brass tip. Lgth, 1 1/2". 33-120 has black handle; 33-118, other colors. 3 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 575	Red	.07	.067	.062	.056
41 H 576	Black				
41 H 577	Yellow				
41 H 578	Green				
41 H 579	Blue				

**NON-INSULATED TIP PLUG**

**G** Type 33-146 "Senior" Solderless Phone Tip Plug. Wire fits through body of tip, is wrapped around screw portion and tightened with knurled nut. 1 1/2" long. 2 oz. 41 H 240. 1-9. EACH .08 10-49. EACH .076 50-99. . . . EACH .07 100-499. . . EACH .064

**H** Type 33-142 "Junior" Solderless Phone Tip Plug. Same design and construction as above, but has overall length of 1 1/8". Nickel-plated brass tip. Wt., 2 oz. 41 H 230. 1-9. EACH .08 10-49. EACH .074 50-99. . . . EACH .068 100-499. . . EACH .061

**J** Type 33-158 Heavy-Duty Cord Tip. Fits std. phone tip jacks. Overall length, 1". Nickel-plated brass. 2 oz. 10 Per Pkg. 41 H 125. 1-9 Pkgs. . . . EACH .24 10-49 Pkgs. EA. .217 50-99 Pkgs. . . EA. .20 100-499 Pkgs. . . . EACH .181

**K** Type 33-156 Standard Cord Tip. Nickel-plated brass, solder-type phone tips. Overall length is 1". 2 oz. 10 Per Pkg. 41 H 104. 1-9 Pkgs. . . . EACH .19 10-49 Pkgs. EA. .168 50-99 Pkgs. . . EA. .155 100-499 Pkgs. . . . EACH .14

**MOLDED METER PLUGS**

**L** Types 33-046 and 33-048 Banana-Type Meter Plug. Four-leaved phosphor-bronze spring insures good contact. Tips are nickel-plated brass. Tip is 1 1/2" long. Type 33-048 has black plastic body; Type 33-046 has red plastic body. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 467	Red	.21	.188	.173	.157
41 H 468	Black				

**M** Types 33-130 and 33-128 Meter Tip Plug. Body molded in two halves for easy assembly with screw and nut. Nickel-plated tip is 1/2" long. Type 33-130, black plastic body; 33-128, red plastic body. Wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 203	Red	.17	.156	.144	.13
41 H 204	Black				

**BANANA PLUGS**

**N** Types 33-000 and 33-002 Insulated, Spring Tip. Has molded plastic handle. Wire can be soldered to brass stud supplied, or directly into plug. Length, 1 3/8". Type 33-002 has black handle; other colors are Type 33-000. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 593	Red	.17	.156	.144	.13
41 H 594	Black				
41 H 595	Yellow				
41 H 596	Green				
41 H 597	Blue				

**P** Type 33-064 All-Metal, Spring Tip. One-piece construction with threaded 6-32 x 3/8" stud for panel mounting. 4-leaved phosphor-bronze spring. With 6-32 hex nut. 1 3/8" long. Shpg. wt., 2 oz. 41 H 489. 1-9. EACH .13 10-49. EA. .115 50-99. . . . EACH .106 100-499. . . EACH .096

**BANANA PLUGS**

**R** Types 33-012 and 33-014 Insulated, Split Tip. Nickel-plated, cross-slotted tip. Wire can be soldered to brass stud supplied or directly into plug. Length 1 3/4". Black handle, 33-014; others, 33-012. 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 428	Red	.14	.124	.115	.104
41 H 427	Black				
41 H 067	Yellow				
41 H 068	Green				
41 H 069	Blue				

**S** Type 33-028 Insulated, Spring Tip. Plastic handle; nickel-plated tip. Fits std. banana jacks. Four leaved spring provides firm contact. Solderless—wire connects through cross-drilled hole in threaded spacer. High current handling capacity. 1 1/2" long. 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 407	Red	.27	.24	.222	.20
41 H 408	Black				

**T** Types 33-006 and 33-008 Insulated, Spring Tip. Solderless type; has set screw in plastic handle. Length is 1 1/2". Type 33-008 has black handle; other colors are Type 33-006. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 406	Red	.15	.131	.12	.109
41 H 410	Black				
41 H 402	Yellow				
41 H 403	Green				
41 H 404	Blue				

**W** Types 33-018 and 33-020 Insulated, Split Tip. Solderless type; set screw in handle. Has overall length of 1 1/2". Type 33-020 has black handle; plugs with other colors in table are Type 33-018. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 425	Red	.13	.116	.107	.097
41 H 430	Black				
41 H 412	Yellow				
41 H 413	Green				
41 H 414	Blue				

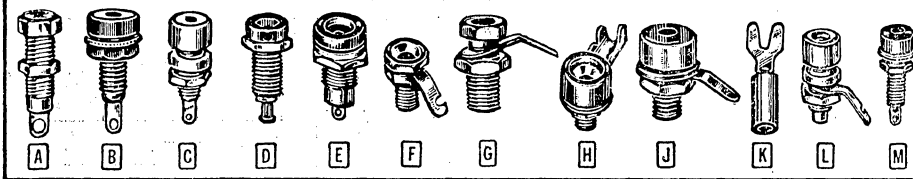
**X** Type 33-032 Insulated, Spring Tip. Nickel-plated brass tip. Spring provides positive contact. Wire can be soldered to brass stud supplied, or directly into plug. Length, 1 5/8". Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 462	Red	.15	.131	.12	.109
41 H 463	Black				
41 H 464	Yellow				
41 H 465	Green				
41 H 466	Blue				

**V** Type 33-062 All-Metal, Spring Tip. Same as above, but internal threads permit use on all panels. Length, 3 1/2". 2 oz. 41 H 488. 1-9. EACH .13 10-49. EACH .113 50-99. . . . EACH .106 100-499. . . EACH .095

**Z** Types 33-034 All-Metal, Spring Tip. Has solder lug. Four-leaved phosphor-bronze spring assures positive and lasting contact. 6-32 x 1/2" stud. Supplied with 6-32 hex nut. Length, 1 1/2". Shpg. wt., 2 oz. 41 H 400. 1-9. EACH .13 10-49. EACH .115 50-99. . . . EACH .106 100-499. . . EACH .096

# G-C, Cinch-Jones Plugs, Lugs and Connectors



### TIP JACKS

**A** Type 33-226 Non-Insulated Tip Jack. Fits 1/4" mounting hole in panels to 3/8". Has phosphor-bronze spring contact. Nickel-plated brass. Shpg. wt., 2 oz.  
 41 H 100. 1-9 .EA. .08 10-49 .EA. .074 50-99 .EA. .068 100-499 .EA. .061

**B** Types 33-210 and 33-212 Insulated Tip Jack. Body is made of nickel-plated brass; contact is sturdy phosphor-bronze spring. Mounts in 3/8" hole in panels up to 1/4" thick. Size, 1x1/8" O.D. Type 33-212 has black nylon head; in table below, jacks with heads of other colors are Type 33-210. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 110	Red				
41 H 115	Black				
41 H 432	Yellow	.09	.078	.072	.065
41 H 433	Green				
41 H 434	Blue				

**C** Type 33-208 Insulated Tip Jack. Molded nylon head and insulating washer. Provides excellent insulation from panel. Nickel-plated brass body. Mounts in 3/8" hole in panels up to 1/4" thick. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 024	Red				
41 H 025	Black				
41 H 026	Yellow	.14	.128	.118	.107
41 H 027	Green				
41 H 028	Blue				

**D** Types 33-240 and 33-242 Miniature Nylon Tip Jacks. Molded nylon jack. Contact recessed in head for safety. Mounts in 1/4" hole; panels to 1/4" thick. Silver-plated, beryllium contact; wrap-around terminal. 1 3/8" long. Type 33-242 has red nylon head; other colors Type 33-240. 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 495	Red				
41 H 496	Black				
41 H 497	Yellow	.15	.138	.127	.115
41 H 498	Green				
41 H 499	Blue				

**E** Types 33-216 and 33-218 Nylon Tip Jack. Completely insulated; phosphor-bronze contact. Mounts in 3/8" hole in panels to 3/8". 1 1/8x1/2" diameter. Type 33-218 has black nylon head; other colors are Type 33-216. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 012	Red				
41 H 013	Black				
41 H 014	Yellow	.11	.103	.095	.086
41 H 015	Green				
41 H 016	Blue				

### NON-INSULATED BANANA JACKS

**F** Type 33-184. Has brass tinned lug, requires 1/4" mounting hole; 1/4" maximum panel thickness. Accepts all standard banana plugs. Shpg. wt., 2 oz.  
 41 H 047. 1-9 .EA. .08 10-49 .EA. .071 50-99 .EA. .065 100-149 .EA. .059

**G** Type 33-192. Hexed brass, nickel plated jack. Mounts in 1/4" hole; fits panels up to 3/8" thick. Accepts all standard banana plugs. With hex nut and brass tinned lug. Shpg. wt., 2 oz.  
 41 H 470. 1-9 .EA. .08 10-49 .EA. .072 50-99 .EA. .066 100-149 .EA. .06

### INSULATED BANANA JACKS

**H** Types 33-186 and 33-188. Has molded plastic head. Recessed body assures snug contact. Fits 3/8" mounting hole; for panels up to 1/4" thick. Supplied with hex nut, fiber washer, lockwasher and brass tinned lug. Type 33-188 has black plastic head; jacks with other color heads in table below are Type 33-186. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 033	Red				
41 H 034	Black				
41 H 035	Yellow	.11	.101	.093	.084
41 H 036	Green				
41 H 037	Blue				

**J** Types 33-180 and 33-182. Top quality, insulated banana jack with solder lug and removable insulated top. Requires 3/8" hole for mounting; mounts in panels up to 1/4" thick. Has overall length of 2 1/2". Type 33-182 has black molded plastic head; jacks with all other colored heads shown in table below are Type 33-180. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 475	Red				
41 H 480	Black				
41 H 422	Yellow	.08	.079	.073	.066
41 H 423	Green				
41 H 424	Blue				

### INSULATED SPADE LUGS

**K** Types 33-300 and 33-302. Banana plug to spade lug adapter. Has jack in rear of handle to allow easy insertion of any standard banana plug. With 1/2" wide steel hot-tinned lug. .030" thick for extra durability. Type 33-300 has red plastic handle; Type 33-302 has black plastic handle. Size: 1 5/8", long, 3/8" O.D. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 048	Red	.07	.061	.057	.051
41 H 049	Black				

### INSULATED MIDGET BANANA JACKS

**L** Type 33-220. Molded nylon head and insulating washer. Fits 3/8" mtg. hole; for panels to 1/4" thick. Shpg. wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 042	Red				
41 H 043	Black				
41 H 044	Yellow	.14	.122	.113	.102
41 H 045	Green				
41 H 046	Blue				

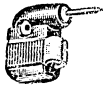
### INSULATED COMBINATION JACKS

**M** Types 33-194 and 33-196. Accept std. phone tip or banana plugs. Nickel-plated brass body. Mounts in 3/8" hole; panels up to 3/8" thick. Length, 1 1/2". Type 33-196 has black plastic head; jacks with all other color heads are 33-194. Wt., 2 oz.

Stock No.	Color	EACH			
		1-9	10-49	50-99	100-499
41 H 130	Red				
41 H 135	Black				
41 H 137	Yellow	.12	.112	.103	.093
41 H 138	Green				
41 H 143	Blue				

### TEST PROD CONNECTORS

Sturdily made of molded plastic with steel tip. Features solderless "Trigger-Quick" clamps for fast, easy installation. Has angle design for use with voltmeters, signal generators, and other types of test equipment. Shpg. wt., 2 oz.  
 41 H 101, Type 33-132, Red. 1-9  
 41 H 102, Type 33-134, Black . . . EACH .33  
 100-499 . . . . . EACH .30  
 50-99 . . . . . EACH .276  
 100-499 . . . . . EACH .25

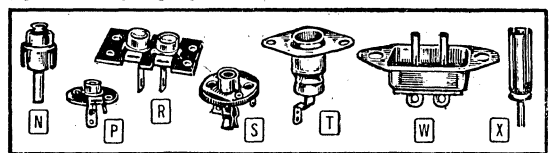


### RAYTHEON FIVE-WAY BINDING POST

Provides flexibility in making electrical connections. Banana plug fits post at top of fluted cap. Mounts in .314" hole in 3/8" to 3/4" panels. With solder terminal. Metal parts plated to resist corrosion. 3 oz.

46 H 500, BP-105B, Black. . . . .	1-99
46 H 501, BP-106R, Red. . . . .	EACH .50
100-199 . . . . .	EACH .42
200-499 . . . . .	EACH .40
500-999 . . . . .	EACH .37

Top-quality plugs and jacks for use with hi-fi systems, auto radios, television sets, transceivers, etc. Type 13A RCA-type phono pin plug fits 81A, 81B, and 81G jacks in table below. 13B Motorola-type antenna plug fits 81C and 81F shielded connectors. Type 13E fits 81E, 81A on 1/8" bakelite mounting disc; 81G has ceramic bushing and brass mounting plate. Mounting centers: 81A, 81G, 1 1/8"; 81B, 1 3/8"; 81F, 1 3/8"; 2RP, 2RP1, 2FP, 1 1/4". 2RP and 2RP1 subpanel-mounting plugs are 1 3/8x5/8x1/4"; 2RP1 has one-piece contact. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Fig.	Description	EACH		Stock No.	Mfr's Type	Fig.	Description	EACH	
				1-99	100-999					1-99	100-999
22 H 654	13A	N	Phono Pin Plug	.09	.039	22 H 530	81E	.....	Shielded Extension Jack	.30	.146
22 H 525	13B	X	Antenna Plug	.173	.086	22 H 531	81F	T	Ant. Conn. (Flange-type)	.216	.108
22 H 526	13C1	.....	Insulated Pin Plug	.135	.068	22 H 532	81G	S	Single Phono Jack	.417	.209
22 H 527	13E	.....	Phono Pin Plug	.079	.04	22 H 636	2FP	.....	Connector Plug	.086	.043
22 H 655	81A	P	Single Phono Jack	.126	.063	22 H 637	2RP	.....	Recessed Plug	.173	.087
22 H 528	81B	R	Double Phono Jack	.225	.113	22 H 638	2RP1	.....	Recessed Plug	.118	.059
22 H 529	81C	.....	Ant. Conn. (Shell-type)	.144	.072						

# E. F. Johnson Plugs, Jacks, Binding Posts



## LOW-COST TIP JACKS

Economy-type insulated tip jack. Tough, low-loss molded body. Capacity to 1/8" metal panel is only 2.0 mmf; voltage breakdown test is 9,000 volts DC. Has formed silver-plated phosphor bronze contact. Current rating: 10 amps. Supplied with 1/4"-32 nut for mounting in 1/4" dia. hole or double-flat keyed hole. No auxiliary mounting hardware required. Overall size, 1 1/2 x 3/8" dia. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 300	105-801	White	.13	.12	.11	.098
46 H 301	105-802	Red				
46 H 302	105-803	Black				
46 H 303	105-804	Green				
46 H 306	105-805	Blue				
46 H 309	105-807	Yellow				

## STANDARD METAL-CLAD TIP JACK



Standard series metal-clad tip-jack. Shock-proof plastic and metal construction resists chipping or cracking even with the hardest usage. Highly resistant to extremes of heat, cold and moisture. Nickel-plated machined brass jacket protects nylon body—assures positive fastening to mounting surface. Has formed silver-plated phosphor bronze contact. Rated: 10 amps. Voltage breakdown is 7,000 v. DC; capacity to 1/8" panel is 3.8 mmf. Supplied with 1/4"-32 nut for mounting in 1/4" hole. 1 1/6 x 3/32" dia. Wt., 2 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 310	105-251-1	White	.17	.157	.144	.127
46 H 311	105-252-1	Red				
46 H 312	105-253-1	Black				
46 H 313	105-254-1	Green				
46 H 314	105-255-1	Blue				
46 H 315	105-257-1	Yellow				

## HEAVY-DUTY METAL-CLAD TIP JACK



Industrial type jack. Body is protected by nickel-plated, machined brass jacket—resists chipping or cracking under hardest usage. Has silver-plated, machined beryllium copper contact, and hot-tin dipped terminal end. Current rating: 10 amps; voltage breakdown: 8,000 v. DC. Capacity to 1/8" metal panel is 3.8 mmf. With nickel-plated phosphor bronze lock washer and 1/4"-32 nut for mounting in 1/4" hole. Size, 1 1/6 x 3/32" dia. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 316	105-201-200	White	.26	.24	.22	.195
46 H 317	105-202-200	Red				
46 H 318	105-203-200	Black				
46 H 320	105-204-200	Green				
46 H 321	105-205-200	Blue				
46 H 322	105-207-200	Yellow				

## "SIX-WAY" BINDING POST



Compact, insulated, preassembled 6-way binding post. Has tough, shock-resistant, molded body. Resistant to temperature extremes. Shank is silver-plated brass—thumb nut cannot be removed. Has insulation resistance greater than 200 megohms, even in high humidity. Current capacity is 15 amps; voltage breakdown test is 8,000 volts DC. Capacity to 1/8" panel is only 3.3 mmf. With single 5/16"-32 nut for mtg. in 2 1/64" dia. round hole, "D" hole, or double-flat hole. Hot tin dipped terminal end. Overall length is 1 1/8"; dia., 7/16". 3 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 323	111-101	White	.30	.278	.254	.22
46 H 329	111-102	Red				
46 H 332	111-103	Black				
46 H 333	111-104	Green				
46 H 334	111-105	Blue				
46 H 335	111-107	Yellow				

Type 111-20 Mounting Plate. Pre-punched, etched aluminum mounting plate permits simple, accurate mounting of two nylon binding posts or two nylon banana jacks on 3/4" centers. 1 1/4 x 1/2". 2 oz. 46 H 336 . . . . .02

## SOLDERLESS DUAL BANANA PLUG



Shock resistant insulating body—retains strength and low-loss over wide range of temperature and humidity. Provide strain relief to wire leads. Plug springs are nickel-silver. Body is nickel-plated, machined brass. Brass studs extend full length of plug pins for extra strength. Pins have accurate 3/4" spacing. Rated: 15 amps; plug to plug capacity: 1.3 mmf; voltage breakdown: 10,000 v. DC. 6 colors. Overall length, 1 1/2". 2 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 337	108-201	White	.60	.55	.51	.45
46 H 338	108-202	Red				
46 H 339	108-203	Black				
46 H 344	108-204	Green				
46 H 346	108-205	Blue				
46 H 347	108-207	Yellow				



## DELUXE TIP JACKS

Insulated jack, with body molded from low loss plastic. Capacity to 1/8" metal panel 2.0 mmf. .081" tip. Silver-plated beryllium copper contacts. Body threaded 1/4"-32 for single nut mtg. With 1/4"-32 nut for mtg. in 1 1/64" dia. hole. Rated 10 amps; DC breakdown, 11,000 v. Length 2 3/32". Dia. 3/8". Wt., 2 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 348	105-601	White	.20	.185	.169	.15
46 H 349	105-602	Red				
46 H 350	105-603	Black				
46 H 351	105-604	Green				
46 H 352	105-605	Blue				
46 H 353	105-607	Yellow				

## TIP PLUGS



Completely insulated, sleeve will not chip or crack even when subjected to extreme temperature changes. Recessed head prevents exposure of metal surfaces when plug is inserted into jack. Metal parts are nickel-plated brass. For solderless connection of up to No. 16 stranded wire. 10-amp rating. Pin size, 5/16" x .081" dia. Body, 7/8" x 3/8" dia. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 354	105-301	White	.15	.138	.127	.11
46 H 355	105-302	Red				
46 H 356	105-303	Black				
46 H 357	105-304	Green				
46 H 360	105-305	Blue				
46 H 361	105-307	Yellow				

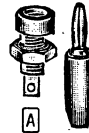
## SLEEVE AND JACK ASSEMBLY



Assembly includes a standard tip jack, less mounting nut, in an inside threaded, insulating sleeve. Ideal for patch cords and panel mountings where an insulated rear connection of a tip jack is desired. Machined silver-plated, beryllium-copper contact; hot tinned dipped terminal end. Voltage breakdown, 8,000 v. 1 1/6" x 3/8" dia. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-49	50-99	100-499	500-999
46 H 364	105-701	White	.20	.185	.169	.15
46 H 366	105-702	Red				
46 H 367	105-703	Black				
46 H 368	105-704	Green				
46 H 369	105-705	Blue				
46 H 370	105-707	Yellow				

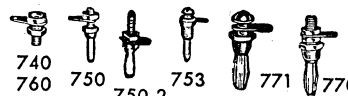
## BANANA JACKS AND PLUGS



Low-loss body. Capacity to 1/16" metal panel 2.4 mmf. Breakdown test 12,500 v. DC. Jack has cadmium-plated insert. Supplied with 5/16"-32 nut for mtg. jack in 2 1/64" dia. hole. Plugs have one-piece nickel-plated brass body and pin with nickel-silver springs. Solderless connection takes up to No. 16 stranded wire. Insulating sleeve on plug. 6 colors. Overall length: jack, 1 5/16"; plug, 1 3/8". Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Color	EACH			
				1-49	50-99	100-499	500-999
46 H 371	108-901	A	White	.10	.092	.084	.075
46 H 372	108-902	A	Red				
46 H 373	108-903	A	Black				
46 H 374	108-904	A	Green				
46 H 376	108-905	A	Blue				
46 H 377	108-907	A	Yellow				
46 H 379	108-301	B	White	.19	.177	.162	.143
46 H 380	108-302	B	Red				
46 H 381	108-303	B	Black				
46 H 382	108-304	B	Green				
46 H 383	108-305	B	Blue				
46 H 384	108-307	B	Yellow				

## NON-INSULATED PLUGS AND JACKS



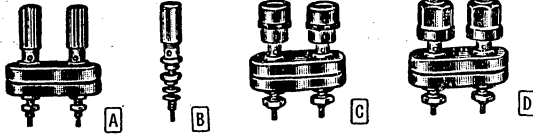
740 nickel-plated brass jack, with solder terminal and nut. 760 for jumbo plugs, with solder terminal and nut. 740 requires 1 1/64" dia. mtg. hole; 760, 740, 750, 750-2, 753, 770 and 771 are banana plugs. Have brass studs. 770 and 771 are jumbo types; 771 plugs have long screw for mtg. on ceramic or steatite plug-in coil forms. 2 oz.

Stock No.	Mfr's Type	Fits	Lgth.	EACH			
				1-49	50-99	100-499	500-999
46 H 385	108-740	750, 750-2, 753	5/8"	.12	.111	.102	.09
46 H 386	108-750	740	1 1/8"	.13	.12	.11	.098
46 H 387	108-750-2	740	1 1/2"	.14	.129	.119	.105
46 H 388	108-753	740	1 5/16"	.14	.129	.119	.105
46 H 389	108-760	770, 771	1"	.32	.294	.27	.238
46 H 390	108-770	760	1 23/32"	.32	.294	.27	.238
46 H 391	108-771	760	1 1/8"	.34	.314	.288	.255



# Superior, G-C Electrocraft Binding Posts, Connectors

## G-C ELECTROCRAFT BINDING POSTS



**A** Type 33-276. Dual binding post assembly with metal posts. Accepts standard dual banana plug and wire, etc. Mounts in 2- $\frac{3}{8}$ " holes on  $\frac{3}{4}$ " centers in  $\frac{1}{16}$ " to  $\frac{1}{4}$ " panels. With wrap-around solder studs. Has  $\frac{5}{8} \times 1\frac{3}{8}$ " rounded black base. Shpg. wt., 4 oz.  
**41 H 326.** 1-9.....EACH .45 10-49.....EACH .408  
 50-99.....EACH .377 100-499.....EACH .341

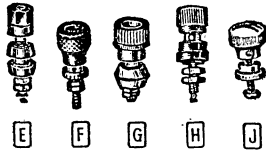
**B** Type 33-286. 5-way metal binding post. Accepts banana plug. Mounts in .171" hole in  $\frac{1}{16}$ " to  $\frac{3}{8}$ " panels. Has wrap-around solder stud. 8-32 thread. Shpg. wt., 3 oz.  
**41 H 327.** 1-9.....EACH .18  
 10-49.....EACH .164  
 50-99.....EACH .151 100-499.....EACH .137

**C** Type 33-288. Dual 5-way binding post assembly with black, insulated, fluted heads. Accepts dual banana plug. Mounts in 2- $\frac{3}{8}$ " holes,  $\frac{3}{4}$ " centers on  $\frac{1}{16}$ "- $\frac{1}{4}$ " panels. Has solder studs,  $\frac{5}{8} \times 1\frac{3}{8}$ " rounded base. With 4 hex nuts, 2 flat washers. Shpg. wt., 4 oz.  
**41 H 328.** 1-9.....EACH .42  
 10-49.....EACH .374  
 50-99.....EACH .345 100-499.....EACH .312

**D** Type 33-290. Dual 5-way binding post assembly with black hex-rip insulated heads. Accepts dual banana plug. Mounts in 2- $\frac{3}{8}$ " holes on  $\frac{3}{4}$ " ctrs,  $\frac{1}{16}$ "- $\frac{1}{4}$ " panels. Has solder studs,  $\frac{5}{8} \times 1\frac{3}{8}$ " rounded base. Supplied with 4 hex nuts, 2 flat washers. Shpg. wt., 4 oz.  
**41 H 329.** 1-9.....EACH .48  
 10-49.....EACH .428  
 50-99.....EACH .395 100-499.....EACH .357

**E** Type 33-292. Same as Type 33-290 but one red and one black head. Shpg. wt., 4 oz.  
**41 H 324.** 1-9.....EACH .48  
 10-49.....EACH .428  
 50-99.....EACH .395 100-499.....EACH .357

Assorted Multi-Purpose Nylon Binding Posts. For a wide variety of applications. All are rated 2000 v., 30 amps. 33 series Types 272, 274, 256, 258, 264 have banana-plug jack in head—also accept phone tip plug, spade lug, alligator clip and wire strand. Metal parts are brass, insulated from panel except 256, 258, 294 which are grounding type. Types 272, 294, and 296 take direct solder connection to stud. Types 272, 274, and 264 have locking edge. Av. shpg. wt., 2 oz.

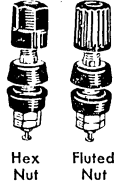


Stock No.	Type	Fig.	Mtg. Hole	Lgth. (Closed)	Color	EACH			
						1-9	10-49	50-99	100-499
41 H 368	272R	E	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	Red	.30	.269	.248	.224
41 H 367	274B	E	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	Black	.30	.269	.248	.224
41 H 330	256R	F	$\frac{1}{16}$ "	$\frac{1}{4}$ "	Red	.14	.122	.112	.101
41 H 335	258B	F	$\frac{1}{16}$ "	$\frac{1}{4}$ "	Black	.14	.122	.112	.101
41 H 388	264R	G	$\frac{3}{16}$ "	$1\frac{3}{16}$ "	Red	.23	.203	.187	.169
41 H 389	266R	G	$\frac{3}{16}$ "	$1\frac{3}{16}$ "	Black	.23	.203	.187	.169
41 H 394	294R	H	$1\frac{1}{16}$ "	$1\frac{1}{16}$ "	Red	.23	.204	.188	.17
41 H 395	294B	H	$1\frac{1}{16}$ "	$1\frac{1}{16}$ "	Black	.23	.204	.188	.17
41 H 397	296R	H	$2\frac{3}{64}$ "	$1\frac{1}{16}$ "	Red	.23	.204	.188	.17
41 H 398	296B	H	$2\frac{3}{64}$ "	$1\frac{1}{16}$ "	Black	.23	.204	.188	.17

**J** Type 33-284 Post. For heavy-duty use and low-resistance connections. Nickel-plated brass  $2\frac{1}{2}$ " long,  $\frac{3}{16}$ " mtg. hole. Supplied complete with screw and lock washer. Shpg. wt., 2 oz.  
**41 H 371.** 1-9.....EACH .12  
 10-49.....EACH .112  
 50-99.....EACH .103 100-499.....EACH .093

## SUPERIOR BINDING POSTS

Exceptionally versatile five-way binding posts. Take spade lugs, banana plugs, clip leads, up to No. 12 wire through center hole, or looped and clamped around shaft. Ruggedly constructed of the finest materials. Brass current-carrying parts are gold-plated. Hex-nut types have durable nylon plastic insulator and captive nut, meet MIL-P-20693 specs, except Type GP30NC which is nickel-plated grounding-type post. Fluted-nut types have low-loss thermoplastic insulator and captive nut. All are rated 30 amps at 1000 v. Mount in  $\frac{1}{16}$ "- $\frac{1}{4}$ " panels, require  $\frac{1}{2}$ " mounting hole.  $2\frac{3}{4} \times \frac{1}{2}$ " dia. 2 oz.



### HEX-NUT TYPES

Stock No.	Type	Color	1-99, EACH/100 or More, EACH	
41 H 172	DF30YC	Yellow	.40	.30
41 H 173	DF30GNC	Green		
41 H 174	DF30WTC	White		
41 H 177	DF30BC	Black		
41 H 178	DF30RC	Red		
41 H 198	DF30BLC	Blue		
41 H 000	GP30NC	Nickel		

### FLUTED NUT TYPES

Stock No.	Type	Color	1-99, EACH/100 or More, EACH	
41 H 011	DF31BC	Black	.40	.30
41 H 006	DF31BLC	Blue		
41 H 020	DF31GNC	Green		
41 H 001	DF31RC	Red		
41 H 005	DF31WTC	White		
41 H 010	DF31YC	Yellow		

### MINIATURE FLUTED-NUT TYPES

Rated 15 amps at 100° v. Current-carrying parts are gold-plated brass. Plastic parts are of durable nylon. Meet MIL-P-20693, Type IV specs. For  $\frac{1}{16}$ "- $\frac{1}{4}$ " panels. Mount in  $\frac{3}{8}$ " hole. Size,  $1\frac{1}{2} \times \frac{7}{16}$ " dia. Choice of 6 colors. Shpg. wt., 2 oz.

Stock No.	Type	Color	1-99, EACH/100 or More, EACH	
41 H 031	DF21BC	Black	.40	.30
41 H 023	DF21BLC	Blue		
41 H 040	DF21GNC	Green		
41 H 021	DF21RC	Red		
41 H 022	DF21WTC	White		
41 H 030	DF21YC	Yellow		

## SUPERIOR "SUPERCON" CONNECTORS

Molded nylon plugs and sockets. Metal parts are gold-plated brass. Cable-fastening screws for solderless assembly. 25, 50 and 100-amp types rated 125-250 v., AC or DC rupturing, 600 v. disconnect use only. 250-amp types rated 600 v. disconnect use only. Available in red, white, blue, yellow, green, black—specify color. 6 oz.



Stock No.	Mfr's Type	Terminal	Amps	EACH		
				1-19	20-99	100-199
42 HH 951	RS25G	Socket Receptacle	25	1.75	1.40	1.23
42 HH 954	PP25G	Pin Plug for above	25	1.30	1.04	.91
42 HH 953	RP25G	Pin Receptacle	25	1.75	1.40	1.23
42 HH 952	PS25G	Socket Plug for above	25	1.30	1.04	.91
41 HH 302	RS50G	Socket Receptacle	50	2.50	2.00	1.75
41 HH 308	PP50G	Pin Plug for above	50	2.00	1.60	1.40
41 HH 303	RP50G	Pin Receptacle	50	2.50	2.00	1.75
41 HH 309	PS50G	Socket Plug for above	50	2.00	1.60	1.40
41 HH 304	RS100G	Socket Receptacle	100	3.00	2.40	2.10
41 HH 315	PP100G	Pin Plug for above	100	2.50	2.00	1.75
41 HH 307	RP100G	Pin Receptacle	100	3.00	2.40	2.10
41 HH 316	PS100G	Socket Plug for above	100	2.50	2.00	1.75
42 HH 955	RS250G	Socket Receptacle	250	5.50	4.40	3.85
42 HH 958	PP250G	Pin Plug for above	250	3.65	2.92	2.56
42 HH 957	RP250G	Pin Receptacle	250	5.50	4.40	3.85
42 HH 956	PS250G	Socket Plug for above	250	3.65	2.92	2.56

## SUPERIOR "DUB-L-PLUGS"

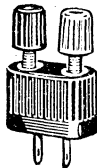
Insulated dual banana plugs for std. dual binding posts. Recessed metal parts for safety; conductors are gold-plated. Designed for easy stacking. 3 oz.



Stock No.	Mfr's Type	Color	Description	EACH	
				1-9	10-99
41 H 205	SPGK2BC	Chrome	Chrome-plated; shielded	4.50	3.37
41 H 228	1PG2BC	Black	Nylon shell	2.50	1.87
41 H 209	1PG2YC	Yellow	Nylon shell	2.50	1.87
41 H 207	1PG2RC	Red	Nylon shell	2.50	1.87
41 H 206	1PG2WTC	White	Nylon shell		
41 H 207	1PG2GNC	Green	Nylon shell		
41 H 228	1PG2BLC	Blue	Nylon shell		

## SUPERIOR DUAL-ADAPTER BINDING POST

Top-quality binding post with AC plug connects up to 5 ways for extreme versatility. Ideal for developmental laboratory applications, line voltage and frequency monitoring, etc. Utilizes Type DAP15BWC parallel-blade plug that fits standard 2-wire AC receptacle. Accepts spade lugs, banana plugs, clip leads, up to No. 12 wire through .098" diameter holes, or wire wrapped around shafts. Rated 15 amps at 125 volts. Has color-coded thumb-nuts, 1 white, 1 black. Shpg. wt., 3 oz.

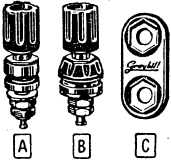


**41 H 041.** 1-9.....EACH 1.50  
 10-99.....EACH 1.13

# Binding Posts, Test Clips, Jacks, Plugs

## GRAYHILL BINDING POSTS AND CLIPS

### BINDING POSTS AND DUAL MOUNTING BASES



**A** Type 29-1 Binding Post. Screw type binding post for  $\frac{3}{8}$ " dia. mtg. hole—allows closer spacing of posts. Takes banana plugs, wires, spade lugs, prod tips, etc. Mounts on panel up to  $\frac{3}{8}$ " thick—insulation resistance 120,000 megohms; voltage breakdown 3000 volts AC. 1" above panel, .69" behind,  $\frac{1}{2}$ " dia. Shpg. wt., 4 oz.

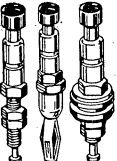
**B** Type 29-3 Binding Post. Screw type binding post for  $\frac{1}{2}$ " dia. mounting hole. For use in existing equipment or where wider spacing is desirable. Takes banana plugs, wires, spade lugs, prod tips, etc. Mounts on panel up to  $\frac{3}{8}$ " thick—insulation resistance 200,000 megohms; voltage breakdown 3800 volts AC. 1" above panel, .69" behind,  $\frac{1}{2}$ " dia. Shpg. wt., 4 oz.

**C** Type 29-33 Binding Post. Spring loaded binding post—head gives 24 oz. of contact force. For  $\frac{1}{2}$ " mounting hole in panels to  $\frac{3}{8}$ " thick. Insulation resistance 200,000 megohms; voltage breakdown between studs and mounting panel, 3800 volts AC. .96" above panel, .69" below, .62" dia. Shpg. wt., 4 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH		
				1-499	500-999	1000-1999
45 H 250	29-1	A	Red—Screw type	.40	.348	.28
45 H 251	29-1	A	Black—Screw type			
45 H 252	29-3	B	Red—Screw type	.40	.348	.28
45 H 253	29-3	B	Black—Screw type			
45 H 254	29-33	B	Red—Spring loaded	.40	.348	.28
45 H 255	29-33	B	Black—Spring loaded			

**C** Type 29B11 Dual Mounting Bases. For use with Type 29-1 posts above. Makes assembled unit with two binding posts on  $\frac{3}{4}$ " centers. Molded phenolic to MIL-M-14 Type CFG specs.  
 45 H 256. Type 29B11-2. Red base. 2 oz. 1-499.....EACH .10  
 500-999.....EACH .087 1000-1999.....EACH .07  
 45 H 257. Type 29B11-1. Black base. 2 oz. 1-499.....EACH .10  
 500-999.....EACH .087 1000-1999.....EACH .07

### "PUSH-POST" PLUNGER TYPE BINDING POSTS



Plunger type binding posts for positive, quick connections. Just depress button and place lead in .06" slot—spring pressure assures firm contact. With red or black buttons. Wt., 3 oz.

**D** Type 29-100. For  $\frac{1}{8}$ " mounting hole less insulating washers—use as ground on panels up to  $\frac{3}{8}$ " thick. Extends only  $\frac{1}{8}$ " above panel;  $\frac{1}{2}$ " overall length,  $\frac{1}{4}$ " dia.

**F** Type 29-104. Same as Type 29-100 above but with insulating washers to prevent grounding to panel. For  $\frac{3}{8}$ " mounting holes.

**E** Type 29-101. "Push-Post" with std. banana plug converts any banana jack to a plunger type binding post. Nickel-plated brass. Thermoplastic button.  $\frac{1}{2}$ " dia. 1.80" long.

Stock No.	Mfr's Type	Fig.	Color	EACH		
				1-499	500-999	1000-1999
45 H 258	29-100R	D	Red	.35	.305	.245
45 H 259	29-100B	D	Black			
45 H 260	29-101R	E	Red	.50	.435	.35
45 H 261	29-101B	E	Black			
45 H 262	29-104R	F	Red	.50	.435	.35
45 H 263	29-104B	F	Black			

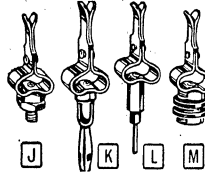
### PRINTED CIRCUIT TEST JACKS AND SLEEVES



Type 31 and 31B. Jacks for use on printed circuit boards as test point to feed AF, RF and pulse signals, check and feed DC voltages, etc. Accommodate standard phone tips—rivet to board like an eyelet.  $\frac{1}{4}$ " above board, .187" dia. Plastic snap-on sleeves colored for identification are accessories. Wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH	
				1-49	50-99
45 H 267	31-1	H	Jack for $\frac{1}{16}$ " thick board	.25	.188
45 H 268	31-2	H	Jack for $\frac{3}{32}$ " thick board		
45 H 269	31-3	H	Jack for $\frac{1}{8}$ " thick board		
45 H 270	31B-1	G	Black sleeve	.10	.075
45 H 271	31B-2	G	Red sleeve		
45 H 272	31B-3	G	Green sleeve		
45 H 273	31B-4	G	Gray sleeve		
45 H 274	31B-5	G	Brown sleeve	.10	.075
45 H 275	31B-6	G	Blue sleeve		
45 H 276	31B-7	G	Yellow sleeve		
45 H 277	31B-8	G	White sleeve		

### STANDARD TEST CLIPS



Test clips for panel mtg. on test equipment. Permit rapid connection of wires or pigtail components.

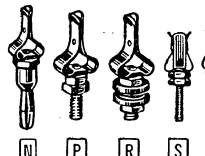
**J** Type 2-0. For panels to  $\frac{1}{4}$ " thick. Has 8-32 stud.  $\frac{1}{16}$ " above panel, overall lgth., 1.56". Less insulating washers (see Type 2-4). 2 oz.  
 45 H 278.....EACH .20

**K** Type 2-1. Test clip with standard banana plug. 1.12" above plug, 2.06" overall length. Converts any banana jack into a test clip. Shpg. wt., 2 oz.  
 45 H 280.....EACH .35

**L** Type 2-6. Test clip on std. .080" pin plug. Converts any pin jack into a test clip. 1.12" above plug, 2" overall length. 2 oz.  
 45 H 282.....EACH .35

**M** Type 2-4. Same as Type 2-0 but with insulating shoulder washers. Mounts on panels up to .187" thick—medium thickness, .062". 1.31" above panel, 1.56" overall length. Shpg. wt., 2 oz.  
 45 H 281.....EACH .35

### MINIATURE TEST CLIPS



Miniature version of above—extend only  $\frac{3}{4}$ " above mtg. panel. Hex nut under clip permits tension adjustment. Nickel-plated brass or steel parts.

**N** Type 2-21. Min. clip on std. banana plug.  $\frac{1}{2}$ " long, 2 oz.  
 45 H 284.....EACH .40

**P** Type 2-20. 1.13" long with 6-32 stud. Up to  $\frac{1}{4}$ " panels. 2 oz.  
 45 H 283.....EACH .25

**R** Type 2-24. Same as Type 2-20 but with insulating shoulder washers. Requires  $\frac{1}{8}$ " mounting hole. Shpg. wt., 2 oz.  
 45 H 285.....EACH .40

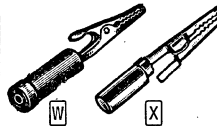
### ULTRA-MINIATURE TEST CLIPS

Tiny test clips require panel area of only  $\frac{3}{8} \times \frac{1}{8}$ " for single clip;  $\frac{1}{4} \times \frac{1}{8}$ " for double clip.  $\frac{3}{8}$ " long 2-56 mtg. stud. Length, .79"

45 H 287. Type 2-42. Double clip (Fig. S). 2 oz.....EACH .30  
 45 H 286. Type 2-41. Single clip (Fig. T). 2 oz.....EACH .25

### G-C ELECTROCRRAFT CLIPS AND PLUG

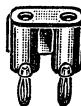
#### INSULATED ALLIGATOR CLIPS



Series 33. Have plastic insulated handles. Types 33-334, 33-336, 33-330 and 33-332 are Fig. W; others, Fig. X. Clips are cadmium-plated steel. 33-328 and 33-326 are all insulated to prevent shock or grounding. All accept std. tip plug except \*tip and banana plug; †banana plug. 2 oz.

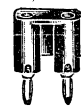
Stock No.	Mfr's Type	Color	Description	EACH		
				1-10	10-50	50-100
41 H 300	334	Red	With tip jack adapter.	.25	.22	.21
41 H 305	336	Black	With tip jack adapter	.25	.22	.19
41 H 168	330*	Red	With tip & banana jack	.27	.24	.20
41 H 169	332*	Black	With tip & banana jack	.27	.24	.20
41 H 373	328R	Red	With tip jack adapter	.30	.27	.25
41 H 374	328B	Black	With tip jack adapter	.30	.27	.22
41 H 382	326R†	Red	With banana plug adapter	.30	.27	.25
41 H 383	326B†	Black	With banana plug adapter	.30	.27	.25

### DUAL BANANA PLUG



Type 33-010. Molded black polystyrene with nickel-plated brass plug and four-leaved, phosphor-bronze, nickel-plated spring. Mates with std. dual binding post  $\frac{3}{4}$ " centers; polarity clearly marked. Has  $\frac{1}{8}$ " hole for wire; set-screw holds wire firmly. Two or more units can be stacked for multiple connections. Base size,  $\frac{1}{2} \times 1\frac{1}{16}$ "; overall lgth.,  $1\frac{3}{4}$ ". 3 oz.

41 H 325. 1-9.....EACH .60 10-49.....EACH .54  
 50-99.....EACH .50 100-499.....EACH .45

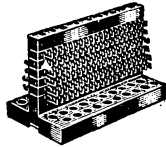


### GENERAL RADIO DOUBLE PLUG

Type 274-MB. Dual plug for standard banana jacks. Molded as a unit on  $\frac{3}{4}$ " centers. Recessed top forms double jack, allowing units to be used in tandem. Banana plug prongs. Holes in body accept phone tips or wires up to No. 12; terminal screws clamp conductors securely. 15-amp rating.  $1\frac{1}{16}$ " width,  $1\frac{1}{16}$ " length. Wt., 3 oz.  
 41 H 242......65

# Test Prods, Terminal Blocks, Audio Cables

## ADC TERMINAL BLOCKS



Rugged terminal blocks for design and construction use in telephone circuits, computers, recording studios, broadcast stations and wherever many electronic circuits are in operation. Each unit has a one-piece molded black phenolic base; individual terminal separators are also of molded black phenolic. Polished phenolic surface surrounding terminals assures easy removal of solder flash after wiring has been completed. Terminals are .040" thick plated brass. Terminal rows are graduated in length for ease of wiring, and are identified by numbering imprinted along the top row. Available with from 2 to 6 rows, 20 terminals per row. Base dimensions: 6 1/16" long by 3" depth. Height of each block depends on the number of rows, and varies from 2 1/4" to 3 5/8" high. Av. shpg. wt., 1 1/2 lbs.

Stock No.	Mfr's Type	No. of Rows	No. of Terms.	Ht.	EACH
40 H 695	PJ-102	2	40	2 1/4"	4.65
40 H 696	PJ-103	3	60	2 1/2"	5.85
40 H 697	PJ-104	4	80	2 3/4"	7.05
40 H 698	PJ-105	5	100	3 1/8"	8.25
40 H 699	PJ-106	6	120	3 5/8"	9.45

## G-C ELECTROCRRAFT "KLIPZON MINIPRODS"

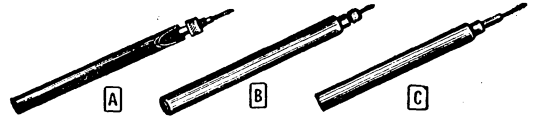


Self-Gripping Tip Test Prods. Clip to any terminal, lug, etc. Needle point pierces insulation—snaps securely on wires. Solderless connection inside 1/4" plastic handle. Wt., 2 oz.

42 H 271. Type 33-138. Red. 1-9.....EA. .33 10-49.. EA. .30  
42 H 272. Type 33-140. Black 50-99.....EA. .28 100-499 EA. .25

Miniprods Adapter Tips. Fit over standard or phono-needle types. Convert to self-gripping Klipzon wire-piercing test prod with insert supplied. Shpg. wt., 2 oz.

41 H 114. Type 33-160. Red. 1-9.....EA. .33 10-49...EA. .30  
41 H 116. Type 33-162. Black. 50-99.....EA. .28 100-499 EA. .25



## G-C ELECTROCRRAFT TEST PRODS

A Type 33-404 Solderless Test Prod. Threaded prod with 5" long plastic handle, 3/8" diameter. Nickel-plated phone tip. Wire fits through handle, wraps around screw portion. Wt., 4 oz.

42 H 110. Red. 42 H 111. Black. 1-9.....EACH .17  
10-49.....EACH .16  
50-99.....EACH .14 100-499.....EACH .13

B Type 33-384 Phono Needle Test Prod. Brass nickel-plated body with steel, nickel-plated, phono-type needle. Removable chuck for replacing needles. Plastic handle. Overall length 6 1/2". 3 oz.

42 H 373. Red. 42 H 374. Black. 1-9.....EACH .21  
10-49.....EACH .19  
50-99.....EACH .17 100-499.....EACH .16

C Type 33-376 Solderless Fiber Test Prod. Solid bone fiber handle, molded to nickel-plated brass tip. Features .245" inside diameter—for heavy duty wire. Overall length 4 1/2". Shpg. wt., 2 oz.

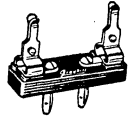
42 H 258. Red. 42 H 259. Black. 1-9.....EACH .24  
10-49..EACH .22 50-99..EACH .20 100-499.....EACH .18

D Type 33-378 Heavy-duty Test Prod. Threaded type. Extra sturdy brass, nickel-plated tip with red or black molded plastic handle. Overall length, 6 1/2". Shpg. wt., 3 oz.

42 H 375. Red. 42 H 376. Black. 1-9.....EACH .18  
10-49..EACH .16 50-99..EACH .15 100-499.....EACH .13

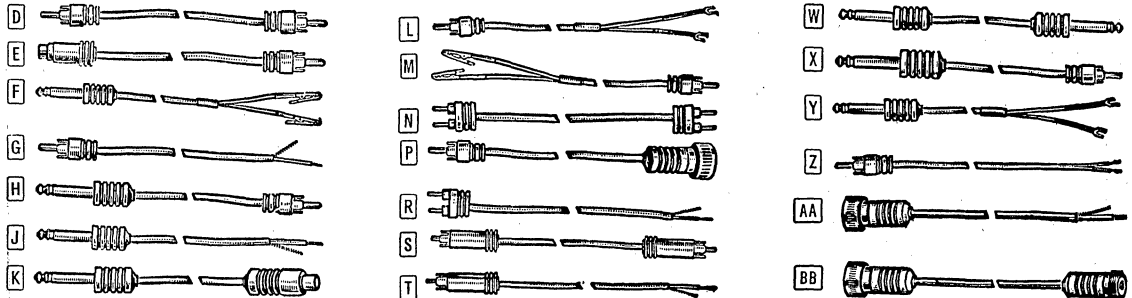
## GRAYHILL TEST CLIP ADAPTER

Type 2-2. For testing resistors, capacitors and other pigtail components. Plugs into std. banana jacks mounted on 3/4" centers; spring clips accept wire leads. Metal parts are nickel plated. Hex nut permits tension adjustment of individual clips which extend 1 1/8" above board. 2 oz.



45 H 266.....EACH 1.40

## LAB-TRONICS AUDIO CONNECTOR CABLES



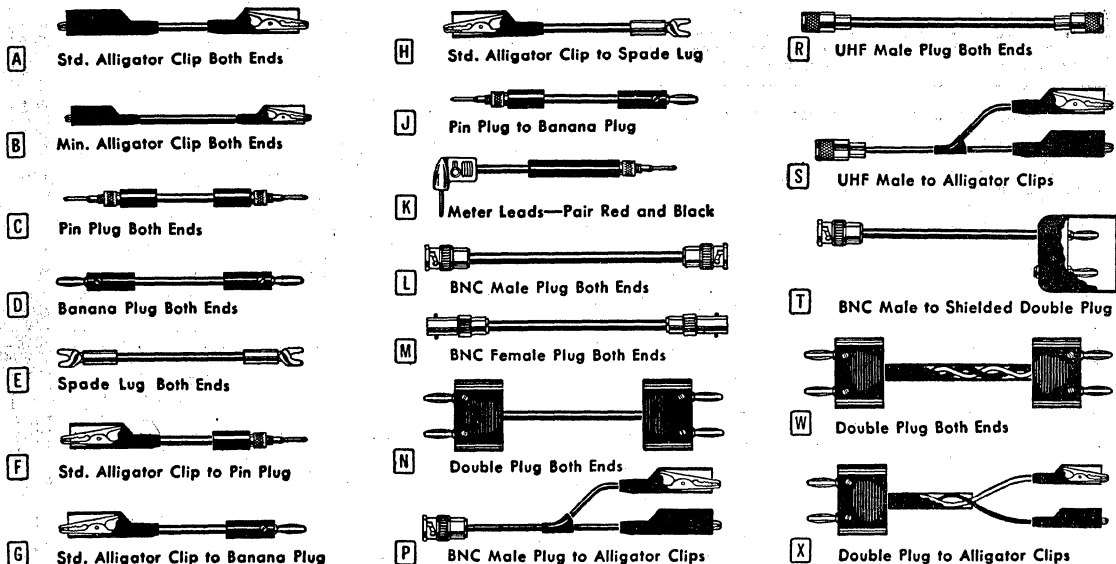
Valuable accessories for trouble-free installation of hi-fi components. Cables are soldered prior to molding for noise-free connections.

Dual pin plugs on Figs. N and R are spaced 7/8" (standard) for stereo use. \*Indicates unshielded. Wt., 5 oz.

Stock No	Mfr's Type	Fig.	Description	EACH		
				1-49	50-99	100-Up
44 H 807	C101	D	18"; pin plug each end	.53	.45	.40
44 H 808	C102	D	36"; pin plug each end	.62	.52	.47
44 H 810	C103	D	72"; pin plug each end	.79	.68	.61
44 H 811	C104	D	10'; pin plug each end	1.09	.93	.84
44 H 812	S3415	S	15'; pin plug each end	1.44	1.23	1.11
44 H 813	C202	E	36"; pin plug/pin jack	.71	.60	.54
44 H 815	C203	E	72"; pin plug/pin jack	.88	.75	.67
44 H 816	C204	E	10'; pin plug/pin jack	1.18	1.00	.90
44 H 817	P7210*	F	10'; phone plug/clips	1.15	.98	.88
44 H 818	P7220*	F	20'; phone plug/clips	1.44	1.23	1.11
44 H 819	C106	G	36"; pin plug/tinned	.47	.40	.36
44 H 820	C107	G	72"; pin plug/tinned	.65	.55	.50
44 H 821	C108	G	10'; pin plug/tinned	.94	.80	.72
44 H 822	S3015	T	15'; pin plug/tinned	1.25	1.07	.97
44 H 823	C4406	H	72"; phone plug/pin plug	1.09	.93	.84
44 H 825	C4410	H	10'; phone plug/pin plug	1.32	1.13	1.02
44 H 826	C4415	H	15'; phone plug/pin plug	1.62	1.38	1.24
44 H 827	C4006	J	72"; phone plug/tinned	.94	.80	.72
44 H 828	C4010	J	10'; phone plug/tinned	1.18	1.00	.90
44 H 829	C4015	J	15'; phone plug/tinned	1.47	1.25	1.13
44 H 830	C4606	K	72"; phone, plug/jack	1.68	1.43	1.29
44 H 831	C4610	K	10'; phone, plug/jack	1.85	1.58	1.43
44 H 832	C4615	K	15'; phone, plug/jack	2.15	1.83	1.65
44 H 833	P6110*	L	10'; pin plug/lugs	.62	.52	.47
44 H 835	P6120*	L	20'; pin plug/lugs	.91	.78	.70

Stock No	Mfr's Type	Fig.	Description	EACH		
				1-49	50-99	100-Up
44 H 836	P6210*	M	10'; pin plug/clips	.85	.73	.66
44 H 837	P6220*	M	20'; pin plug/clips	1.15	.98	.88
44 H 838	SP8403	N	36"; dual pin plug each end	2.15	1.83	1.65
44 H 839	SP8410	N	10'; dual pin plug each end	2.76	2.35	2.11
44 H 840	E803	P	36"; mike con./pin plug	.88	.75	.67
44 H 841	E806	P	72"; mike con./pin plug	1.09	.93	.84
44 H 842	SP8003	R	36"; dual pin plug/tinned	1.65	1.40	1.26
44 H 844	SP8010	R	10'; dual pin plug/tinned	2.26	1.93	1.74
44 H 845	P7310*	W	10'; phone plug each end	1.35	1.15	1.04
44 H 846	P7320*	W	20'; phone plug each end	1.65	1.40	1.26
44 H 847	P7410*	X	10'; phone plug/pin plug	1.06	.90	.81
44 H 848	P7420*	X	20'; phone plug/pin plug	1.35	1.15	1.04
44 H 849	P7106*	Y	72"; phone plug/lugs	.79	.68	.61
44 H 850	P7110*	Y	10'; phone plug/lugs	.91	.78	.70
44 H 851	P7120*	Y	20'; phone plug/lugs	1.21	1.03	.93
44 H 852	P6010*	Z	10'; pin plug/tinned	.56	.48	.43
44 H 853	P6020*	Z	20'; pin plug/tinned	.85	.73	.66
44 H 854	E1106	AA	72"; mike con./tinned	.97	.83	.75
44 H 855	E1110	AA	10'; mike con./tinned	1.26	1.07	.96
44 H 856	E1125	AA	25'; mike con./tinned	2.36	2.00	1.80
44 H 857	E906	BB	72"; mike, male/female	1.26	1.07	.96
44 H 858	E912	BB	12"; mike, male/female	1.68	1.43	1.29
44 H 859	E925	BB	25'; mike, male/female	2.59	2.20	1.98
44 H 860	P501*	....	10'; lugs each end	.44	.38	.34
44 H 861	P502*	....	20'; lugs each end	.73	.63	.57

# H. H. Smith Test Leads—Shielded and Unshielded



Wide selection of single leads for making tests, temporarily connecting instruments to a circuit, or making other temporary connections. Top-quality leads ensure firm mechanical and electrical contact at all times. Ideal for every kind of industrial and servicing application. Each lead utilizes No. 18 AWG 20,000-volt insulated wire that is extra-flexible and kinkless. Handles are of tough molded

tenite, and/or molded bakelite. Cadmium-plated steel clips; nickel-plated brass tips; vinyl plastic boots. H. H. Smith test leads offer an extremely wide variety of terminations. \*Type 0625—meter lead cable; except †RG11A/U; ‡low-capacity cable; §twisted pair. Av. shpg. wt., 5 oz.

## UNSHIELDED TEST LEADS

Stock No.	Mfr's Type	Ft.	Color	Fig.	EACH			
					1-9	10-49	50-99	100-499
41 H 851	1596-12-102	1	Red	A	.40	.36	.332	.30
41 H 850	1596-12-103	1	Black	A	.40	.36	.332	.30
41 H 856	1596-36-102	3	Red	A	.48	.432	.398	.36
41 H 855	1596-36-103	3	Black	A	.48	.432	.398	.36
41 H 861	1596-60-102	5	Red	A	.55	.495	.457	.413
41 H 860	1596-60-103	5	Black	A	.55	.495	.457	.413
41 H 863	1597-12-102	1	Red	B	.40	.36	.332	.30
41 H 862	1597-12-103	1	Black	B	.40	.36	.332	.30
41 H 865	1597-36-102	3	Red	B	.48	.432	.398	.36
41 H 864	1597-36-103	3	Black	B	.48	.432	.398	.36
41 H 867	1597-60-102	5	Red	B	.55	.495	.457	.413
41 H 866	1597-60-103	5	Black	B	.55	.495	.457	.413
41 H 869	1862-12-102	1	Red	C	.50	.45	.415	.375
41 H 868	1862-12-103	1	Black	C	.50	.45	.415	.375
41 H 871	1862-36-102	3	Red	C	.60	.54	.498	.45
41 H 870	1862-36-103	3	Black	C	.60	.54	.498	.45
41 H 873	1862-60-102	5	Red	C	.70	.63	.581	.525
41 H 872	1862-60-103	5	Black	C	.70	.63	.581	.525
41 H 901	1863-12-102	1	Red	D	.60	.54	.498	.45
41 H 874	1863-12-103	1	Black	D	.60	.54	.498	.45
41 H 904	1863-36-102	3	Red	D	.70	.63	.581	.525
41 H 903	1863-36-103	3	Black	D	.70	.63	.581	.525
41 H 909	1863-60-102	5	Red	D	.80	.72	.664	.60
41 H 908	1863-60-103	5	Black	D	.80	.72	.664	.60
41 H 914	1864-12-102	1	Red	E	.30	.27	.249	.225
41 H 912	1864-12-103	1	Black	E	.30	.27	.249	.225
41 H 916	1864-36-102	3	Red	E	.40	.36	.332	.30
41 H 915	1864-36-103	3	Black	E	.40	.36	.332	.30
41 H 919	1864-60-102	5	Red	E	.50	.45	.415	.375
41 H 918	1864-60-103	5	Black	E	.50	.45	.415	.375
41 H 921	1865-12-102	1	Red	F	.40	.36	.332	.30

Stock No.	Mfr's Type	Ft.	Color	Fig.	EACH			
					1-9	10-49	50-99	100-499
41 H 920	1865-12-103	1	Black	F	.40	.36	.332	.30
41 H 923	1865-36-102	3	Red	F	.50	.45	.415	.375
41 H 922	1865-36-103	3	Black	F	.50	.45	.415	.375
41 H 925	1865-60-102	5	Red	F	.60	.54	.498	.45
41 H 924	1865-60-103	5	Black	F	.60	.54	.498	.45
41 H 927	1866-12-102	1	Red	G	.45	.405	.374	.338
41 H 926	1866-12-103	1	Black	G	.45	.405	.374	.338
41 H 930	1866-36-102	3	Red	G	.55	.495	.457	.413
41 H 929	1866-36-103	3	Black	G	.55	.495	.457	.413
41 H 935	1866-60-102	5	Red	G	.65	.585	.54	.488
41 H 931	1866-60-103	5	Black	G	.65	.585	.54	.488
41 H 943	1867-12-102	1	Red	H	.35	.315	.291	.263
41 H 936	1867-12-103	1	Black	H	.35	.315	.291	.263
41 H 951	1867-36-102	3	Red	H	.45	.405	.374	.338
41 H 944	1867-36-103	3	Black	H	.45	.405	.374	.338
41 H 956	1867-60-102	5	Red	H	.55	.495	.457	.413
41 H 952	1867-60-103	5	Black	H	.55	.495	.457	.413
41 H 960	1868-12-102	1	Red	J	.50	.45	.415	.375
41 H 957	1868-12-103	1	Black	J	.50	.45	.415	.375
41 H 963	1868-36-102	3	Red	J	.60	.54	.498	.45
41 H 961	1868-36-103	3	Black	J	.60	.54	.498	.45
41 H 966	1868-60-102	5	Red	J	.70	.63	.581	.525
41 H 964	1868-60-103	5	Black	J	.70	.63	.581	.525
41 H 968	0625*	4	.....	K	1.35	1.22	1.12	1.01
41 H 787	1530-12§	1	Gray	W	2.15	1.94	1.78	1.61
41 H 790	1530-36§	3	Gray	W	2.40	2.16	1.99	1.80
41 H 791	1530-60§	5	Gray	W	2.65	2.39	2.20	1.99
41 H 792	1531-12§	1	Gray	X	1.55	1.40	1.29	1.16
41 H 793	1531-36§	3	Gray	X	1.80	1.62	1.49	1.35
41 H 794	1531-60	5	Gray	X	2.05	1.85	1.70	1.54

## COAXIAL-CABLE SHIELDED TEST LEADS

41 H 969	1589-12	1	Black	L	3.50	3.15	2.91	2.63
41 H 973	1589-36	3	Black	L	3.70	3.33	3.07	2.78
41 H 974	1589-60	5	Black	L	4.00	3.60	3.32	3.00
41 H 975	1869-12	1	Black	M	3.75	3.38	3.11	2.81
41 H 979	1869-36	3	Black	M	4.00	3.60	3.32	3.00
41 H 980	1869-60	5	Black	M	4.25	3.83	3.53	3.19
41 H 981	1580-12	1	Black	N	2.15	1.94	1.78	1.61
41 H 982	1580-36	3	Black	N	2.40	2.16	1.99	1.80
41 H 985	1580-60	5	Black	N	2.65	2.39	2.20	1.99
41 H 986	1537-12‡	1	Gray	P	2.85	2.57	2.37	2.14
41 H 987	1537-36‡	3	Gray	P	3.15	2.84	2.61	2.36
41 H 990	1537-60‡	5	Gray	P	3.45	3.11	2.86	2.59
41 H 999	1872-12†	1	Black	S	3.50	3.15	2.91	2.63
41 H 781	1872-36†	3	Black	S	3.85	3.47	3.20	2.89
41 H 782	1872-60†	5	Black	S	4.25	3.83	3.53	3.19
41 H 783	1873-12†	1	Black	T	5.80	5.22	4.81	4.35
41 H 784	1873-36†	3	Black	T	6.10	5.49	5.06	4.58
41 H 786	1873-60†	5	Black	T	6.45	5.81	5.35	4.84
41 H 991	1871-12†	1	Black	R	3.35	3.02	2.78	2.51
41 H 993	1871-36†	3	Black	R	3.95	3.56	3.28	2.96
41 H 998	1871-60†	5	Black	R	4.50	4.05	3.74	3.38

# Pomona Plugs and Patch Cords

Professional-quality plugs and patch cords. Excellent for manufacturers and laboratories engaged in testing or designing electronic equipment. Facilitate making quick connections.

## MDP MOLDED DOUBLE "STACK-UP" PLUGS

Double plugs to permit multiple stacking. Fit standard banana jacks.  $\frac{3}{4}$ " spacing. Set-screws secure cable leads. Ground connection marked. One-piece nickel-plated beryllium copper spring. 15 amps continuous; 30 amps int. 5000 WVDC. Av. shpg. wt., 5 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-24	25-49	50-99	100-249
42 H 214	MDP	Black	.75	.68	.64	.53
42 H 218	MDP	Red	.75	.68	.64	.53
42 H 219	MDP	Brown	.75	.68	.64	.53
42 H 220	MDP	Orange	.75	.68	.64	.53
42 H 221	MDP	Yellow	.75	.68	.64	.53
42 H 222	MDP	Green	.75	.68	.64	.53
42 H 225	MDP	Blue	.75	.68	.64	.53
42 H 230	MDP	Violet	.75	.68	.64	.53
42 H 231	MDP	Gray	.75	.68	.64	.53
42 H 232	MDP	White	.75	.68	.64	.53

Type MDP-S. Has  $\frac{3}{4}$ "-spaced shorting bar, solder-bonded.

42 H 233	MDP-S	Black	.95	.86	.81	.67
42 H 234	MDP-S	Red	.95	.86	.81	.67

Type MDP-ST. Has solder turret terminals.

42 H 235	MDP-ST	Black	.85	.77	.72	.60
----------	--------	-------	-----	-----	-----	-----

Type MDP-X. Four-terminal isolation plug.

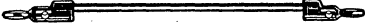
42 H 241	MDP-X	Red	3.25	2.93	2.76	2.28
----------	-------	-----	------	------	------	------

Types 1269 and 1270. BNC receptacle and plug adapters: 1269 adapts jack to plug; 1270 adapts jack to receptacle.

42 H 242	1269	Black	2.85	2.57	2.42	2.00
42 H 243	1270	Black	3.85	3.47	3.27	2.70

## MODEL "B" BANANA PLUG PATCH CORDS

Vertical and horizontal stacking connections. One-piece, heat-treated beryllium copper spring. Rated 15 amps, cont.; 30 int. 18-gauge wire, 7500 WVDC. Contact resistance less than 0.0001 ohm. Wt., 5 oz.



Stock No.	Mfr's Type	Color	Lgth. In.	EACH			
				1-24	25-49	50-99	100-249
42 H 275	B-4	Black	4	1.50	1.35	1.28	1.05
42 H 280	B-4	Red	4	1.50	1.35	1.28	1.05
42 H 291	B-8	Black	8	1.50	1.35	1.28	1.05
42 H 282	B-8	Red	8	1.50	1.35	1.28	1.05
42 H 284	B-12	Black	12	1.50	1.35	1.28	1.05
42 H 287	B-12	Red	12	1.50	1.35	1.28	1.05
42 H 298	B-18	Black	18	1.50	1.35	1.28	1.05
42 H 299	B-18	Red	18	1.50	1.35	1.28	1.05
42 H 350	B-24	Black	24	1.50	1.35	1.28	1.05
42 H 351	B-24	Red	24	1.50	1.35	1.28	1.05
42 H 353	B-36	Black	36	1.50	1.35	1.28	1.05
42 H 354	B-36	Red	36	1.50	1.35	1.28	1.05

## DOUBLE-PLUG-EACH-END PATCH CORDS

36" cords with an MDP plug on each end. Type 2BA-36 is 2-conductor 18-gauge twisted wire. Type 2BB-36 is shielded micro-telephone cable. 2BC-36 is RG58C/U shielded coaxial cable.



Stock No.	Mfr's Type	Color	Wt. Oz.	EACH			
				1-9	10-24	25-49	50-99
42 H 204	2BA-36	Gray	5	4.85	4.37	4.13	3.40
42 H 205	2BB-36	Gray	5	4.85	4.37	4.13	3.40
42 H 269	2BC-36	Black	5	4.85	4.37	4.13	3.40
42 H 273	2BA-AL-36	Gray	5	5.85	5.27	4.97	4.10
42 H 239	2BB-AL-36	Gray	5	5.85	5.27	4.97	4.10
42 H 274	2BC-AL-36	Black	5	5.85	5.27	4.97	4.10

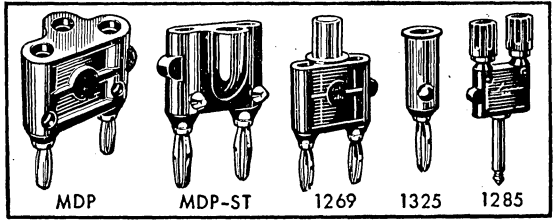
Single-Plug Type. Above, but 2 alligator clips on one end. 2BA-AL-36: twisted pr. 2BB-AL-36: mike cable. 2BC-AL-36: coax cable.

## CONNECTING LEAD WITH PLUG ON EACH END

Type BNC-C-36. One UG-88C/U male BNC connector at each end of 36" RG58C/U cable shielded coax cable. Cable has polyethylene insulation and vinyl jacket. Low-voltage BNC connector is single-contact type. Shpg. wt., 6 oz.



42 H 517. 1-9.....	EACH 5.85	10-24.....	EACH 5.27
25-49.....	EACH 4.97	50-99.....	EACH 4.10



## MODEL 1285 SINGLE BANANA PLUGS

Solderless stack-up type with one-piece nickel-plated beryllium copper spring tip. Internal set-screws. Plugs fit standard banana jacks. Rated 15 amps, continuous. 5000 WVDC. Av. wt., 2 oz.

Stock No.	Mfr's Type	Color	EACH			
			1-24	25-49	50-99	100-249
42 H 244	1325	Black	.50	.45	.43	.35
42 H 247	1325	Red	.50	.45	.43	.35
42 H 248	1325	Brown	.50	.45	.43	.35
42 H 249	1325	Orange	.50	.45	.43	.35
42 H 250	1325	Yellow	.50	.45	.43	.35
42 H 251	1325	Green	.50	.45	.43	.35
42 H 253	1325	Blue	.50	.45	.43	.35
42 H 254	1325	Violet	.50	.45	.43	.35
42 H 255	1325	Gray	.50	.45	.43	.35
42 H 260	1325	White	.50	.45	.43	.35

Model 1285 Phone Plug Adapter. Adapts phone jack to  $\frac{3}{4}$ "-spaced binding posts. Shpg. wt., 3 oz.

42 H 267	1285	Black	4.85	4.37	4.13	3.40
----------	------	-------	------	------	------	------

Model 1296 BNC Binding-Post Adapter. Adapts BNC receptacle to  $\frac{3}{4}$ "-spaced binding posts. Molded polyethylene body. Wt., 3 oz.

42 H 268	1296	Black	4.85	4.37	4.13	3.40
----------	------	-------	------	------	------	------

## MODEL "P" PHONE-TIP PATCH CORDS

One tip each end with stacking jack. For use with .080" jacks. 20-gauge wire. Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	Color	Lgth. In.	EACH			
				1-24	25-49	50-99	100-249
42 H 357	P-4	Black	4	1.75	1.58	1.50	1.23
42 H 361	P-4	Red	4	1.75	1.58	1.50	1.23
42 H 365	P-8	Black	8	1.75	1.58	1.50	1.23
42 H 366	P-8	Red	8	1.75	1.58	1.50	1.23
42 H 367	P-12	Black	12	1.75	1.58	1.50	1.23
42 H 368	P-12	Red	12	1.75	1.58	1.50	1.23
42 H 500	P-18	Black	18	1.75	1.58	1.50	1.23
42 H 501	P-18	Red	18	1.75	1.58	1.50	1.23
42 H 502	P-24	Black	24	1.75	1.58	1.50	1.23
42 H 503	P-24	Red	24	1.75	1.58	1.50	1.23
42 H 513	P-36	Black	36	1.75	1.58	1.50	1.23
42 H 516	P-36	Red	36	1.75	1.58	1.50	1.23

## MODEL 1440 EXTENSION CABLE

One banana plug each end. Fit any standard banana jacks. 18-gauge stranded wire. One-piece nickel-plated beryllium copper spring. Av. wt., 4 oz.



Stock No.	Mfr's Type	Color	Lgth. In.	EACH			
				1-24	25-49	50-99	100-249
42 H 519	1440-4	Black	4	1.00	.90	.85	.70
42 H 521	1440-4	Red	4	1.00	.90	.85	.70
42 H 530	1440-8	Black	8	1.00	.90	.85	.70
42 H 531	1440-8	Red	8	1.00	.90	.85	.70
42 H 532	1440-12	Black	12	1.00	.90	.85	.70
42 H 533	1440-12	Red	12	1.00	.90	.85	.70
42 H 534	1440-18	Black	18	1.00	.90	.85	.70
42 H 547	1440-18	Red	18	1.00	.90	.85	.70
42 H 548	1440-24	Black	24	1.00	.90	.85	.70
42 H 549	1440-24	Red	24	1.00	.90	.85	.70
42 H 550	1440-36	Black	36	1.00	.90	.85	.70
42 H 551	1440-36	Red	36	1.00	.90	.85	.70

## HB EXTENSION-STACKING PATCH CORDS

Dual purpose: shields hot leads when used as extension; permits vertical stacking and wide coupling possibilities. Banana stack-plug each end. 15 amps cont. 18-g. wire. Av. wt., 6 oz.



42 H 552	HB-36	Black	36	1.75	1.58	1.50	1.23
42 H 553	HB-36	Red	36	1.75	1.58	1.50	1.23

# Jack Panels, Patch Cords, Sockets, Adapters

## SWITCHCRAFT JACK PANELS AND PATCH CORDS

### HEAVY-DUTY JACK PANELS



Excellent for switching and distribution of audio signals in broadcasting stations, theaters, public address installations,

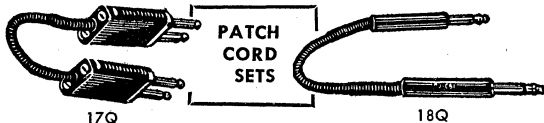
etc. Polished black phenolic panels are reinforced with steel for utmost rigidity. Mounting brackets are slotted to fit all standard 19" relay racks. Includes plastic covered designation strips. \*With military-type MT-332A jacks—especially recommended for military use and low-level audio applications. †Have telephone-type T-332A jacks. ‡Less jacks. Av. shgp. wt., 4 lbs.

### SINGLE ROW

Stock No.	Mfr's Type	Jacks	Size H. W. D.	EACH			
				1-24	25-49	50-99	100-249
41 HX 332	1200	12 pair	1 3/4 x 1 9/16 1/2"	10.80	9.90	9.00	6.48
41 HX 452	1232A	12 pair	1 3/4 x 1 9/16 1/2"	27.00	24.75	22.50	16.20
41 HX 453	1332A	12 pair*	1 3/4 x 1 9/16 1/2"	33.00	30.25	27.50	19.80

### DOUBLE ROW

41 HX 333	2400	48§	2 1/2 x 1 9/16 1/2"	12.00	11.00	10.00	7.20
41 HX 454	2432A	24 pair†	2 1/2 x 1 9/16 1/2"	45.00	41.25	37.50	27.00
41 HX 457	2532A	24 pair*	2 1/2 x 1 9/16 1/2"	57.00	52.25	47.50	34.20
41 HX 334	2600	52§	1 3/4 x 1 9/16 5/8"	15.00	13.75	12.50	9.00
41 HX 458	2632A	52†	1 3/4 x 1 9/16 5/8"	51.00	46.75	42.50	30.60
41 HX 459	2732A	52*	1 3/4 x 1 9/16 5/8"	66.00	60.50	55.00	39.60



For broadcasting, recording and industrial switchboard applications. Have bronze tinsel conductors covered with thermo-plastic insulation. Braided shield and black nylon braid are woven over insulated conductors. Series 17Q utilizes Switchcraft Type 89Q (2 conductors plus shield) cord with Switchcraft No. 413 "Twin-Plug" at each end. 413 "Twin-Plug" is 3-circuit type with self-aligning feature that allows for errors in jack location. Series 18Q utilizes 89Q cord with 482 plug at each end. 482 is 3-conductor type; features two-piece tip rod and one-piece sleeve and body.

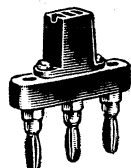
### PLUG TYPE 413

Stock No.	Mfr's Type	Length	Wt. Oz.	EACH			
				1-24	25-49	50-99	100-249
41 H 620	17QA17	6 inches	5 1/2	6.60	6.05	5.50	3.96
41 H 625	17QB17	1 foot	6	6.75	6.19	5.63	4.05
41 H 630	17QD17	2 feet	7 1/2	6.90	6.33	5.75	4.14
41 H 635	17QF17	3 feet	8	7.05	6.46	5.88	4.23
41 H 636	17QH17	4 feet	8 1/2	7.29	6.68	6.08	4.37
41 H 638	17QK17	6 feet	9	7.80	7.15	6.50	4.68
41 H 639	17QN17	10 feet	11	8.25	7.56	6.88	4.95

### PLUG TYPE 482

41 H 650	18QA18	6 inches	2	6.90	6.33	5.75	4.14
41 H 651	18QB18	1 foot	2 1/4	7.20	6.60	6.00	4.32
41 H 652	18QD18	2 feet	3	7.50	6.88	6.25	4.50
41 H 653	18QF18	3 feet	3 1/2	7.80	7.15	6.50	4.68
41 H 654	18QH18	4 feet	4	8.10	7.43	6.75	4.86
41 H 655	18QK18	6 feet	5	8.70	7.98	7.25	5.22
41 H 656	18QN18	10 feet	7	9.90	9.08	8.25	5.94

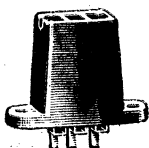
## NEW POMONA MODEL 1472 TRANSISTOR TEST ADAPTER



Designed for use with standard .166" diameter banana jacks. Accepts .017" diameter leads. Banana plugs are on 3/4" spacing. Heavy-duty, molded phenolic construction. Beryllium copper contacts and banana springs. Shgp. wt., 3 oz.

42 H 212. 1-24.....EACH 5.85  
25-49.....EACH 5.27  
50-99.....EACH 4.97  
100-249.....EACH 4.10

## MODEL TS-187 TRANSISTOR TEST SOCKET



Transistor socket from adapter above. Has testing temperature of over 300°C and socket provisions for foreign matter to pass through. I.R.: 10,000 megohms at 40% R.H., at 24°C. Beryllium copper contacts. 3 oz.

42 H 213. 1-24.....EACH 1.75  
25-49.....EACH 1.58  
50-99.....EACH 1.50  
100-249.....EACH 1.23

## ADC JACK PANELS, PATCH CORDS AND TERMINAL BLOCKS

### BROADCAST-TYPE JACK PANELS



Professional-quality jack panels for use in radio and TV broadcasting stations, public address systems, theaters, and other installations requiring efficient distribution, switching and control of audio signals. Jacks are spaced to permit use of any standard double plug with 5/8" spacing. Supplied with easily inserted card strips for quick identification of jacks. Panels are molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. All of the units listed below mount in standard 19" relay racks.

Type PJ340. Double-row jack panel complete with 52 (26 pairs) closed-circuit jacks. 1 3/4" high. With double designation strip and brackets for flush rack mounting. Shgp. wt., 5 lbs.

41 HX 455.....49.50

Type PJ341. As above, with 48 (24 pairs) closed-circuit jacks. Holes are spaced to prevent patching adjacent circuits. 2 1/8" high. Shgp. wt., 5 lbs.

41 HX 450.....42.75

Type PJ343. Single-row jack panel complete with 24 (12 pairs) closed-circuit jacks. Holes are spaced to prevent patching adjacent circuits. 1 3/4" high. Shgp. wt., 3 1/4 lbs.

41 HX 451.....25.14

## PATCH CORD SETS AND REPLACEMENTS



Patch Cord Sets. Two-conductor shielded patch cords. Have a double phone plug connected at each end. Cords are made of flexible, stranded tinned-copper wire, well shielded and insulated. Rugged, three-conductor plugs are constructed of phenolic and brass; have polarizing identifications to assure correct insertion into jacks. Plug test 500 v. RMS. Shields are normally grounded at both ends. Plug prongs are on 5/8" centers. Av. shgp. wt., 9 oz.

Stock No.	Mfr's Type	Length	EACH
41 H 661	PJ12	2 feet	6.75
41 H 662	PJ13	3 feet	6.90
41 H 664	PJ15	5 feet	7.28

Replacement Cords; Double Plug. Same fine quality 2-conductor cords and PJ1 plug as used on patch cord sets listed above. Cords are tinned-copper insulated with heavy protective braid; fit all makes of standard plugs. Av. shgp. wt., 6 oz.

Stock No.	Type	Description	EACH
41 H 667	PJ22	2-ft. cord only	1.65
41 H 668	PJ23	3-ft. cord only	1.74
41 H 669	PJ24	4-ft. cord only	1.80
41 H 659	PJ25	5-ft. cord only	1.89
41 H 666	PJ1	double-plug only	2.55

## POMONA TEST SOCKET TUBE ADAPTERS

For measuring voltage and resistance, audio and video signals without tracing complicated circuits from bottom of chassis. TVS-7, TVS-8, TVS-9 and TVS-12 feature extended test tabs for easy use with either alligator clips or test prods; low-loss mica-filled molded phenolic construction per MIL-M-14, MFE. Voltage breakdown exceeds 1700 v., AC or DC. Power factor is less than 0.010 at 10 mc. I.R. exceeds 500,000 megohms at 40% R.H., at 24°C. Types 1447, 1449 (sizes: 65" dia. x 1 1/2", and .75" dia. x 1 1/2", respectively), are for use with tuners having captive or telescoping tube shields—shields or covers do not have to be removed. Voltage breakdown exceeds 1800 v., AC or DC. Av. shgp. wt., 5 oz.

Stock No.	Mfr's Type	Fig.	Pins	Description	EACH
40 H 035	TVS-7	B	7	Miniature	1.65
40 H 036	TVS-8	B	8	Octal	1.75
40 H 037	TVS-9	B	9	Miniature	1.85
42 H 211	TVS-12	B	12	Duodecal	2.55
40 H 038	1447	A	7	Miniature	1.85
40 H 039	1449	A	9	Miniature	1.95

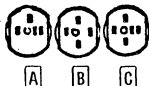
## INDUSTRIAL BUYERS

Allied makes same-day shipment of Switchcraft, ADC and Pomona products on this page at factory OEM prices. Write, phone or wire the Allied office nearest you—see page 1.

# Elco Sockets and Shields

## SERIES 3300 SUB-MINIATURE TRANSISTOR SOCKETS

Screw-on saddle mtg., printed circuit or mtg. ring types. For 3-pin transistors with inline pins, or 3 and 4-pin transistors with pins on .200" diam. circle of any configuration. Conform to MIL-P-14. Beryllium copper contacts. \*For Types 3304, 3307 and 3313. Av. wt., 2 oz.

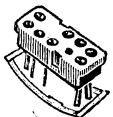


Stock No.	Mfr's Type	Fig.	Description	EACH			
				1-499	500-1499	1500-4999	5000-9999
41 H 092	3301	A	Saddle Mounting	.18	.112	.098	.089
41 H 238	3303	A	Printed-Circuit	.14	.091	.08	.074
41 H 093	3304	A	Mounting Ring	.14	.091	.08	.073
41 H 094	3305	A	Printed-Circuit	.14	.091	.08	.073
41 H 243	3307	B	Mounting Ring	.17	.109	.096	.087
41 H 244	3308	B	Printed-Circuit	.17	.107	.095	.086
41 H 249	3313	C	Mounting Ring	.20	.127	.112	.102
41 H 095	757		Ring Only*	.02	.012	.011	.009

## SUB-MINIATURE RELAY SOCKET

Type 887BC. Designed for plug-in relays; Advance, MV2C series; G.E., 352791 series; Ace, 201 series; P & B, SC series; Brubaker, K110 series. Shpg. wt., 2 oz.

41 H 038, 1-499	.....	EACH	.27
500-1499	.....169	1500-4999	.149
5000-9999	.....		.135
Type 886, Retainer ring for above, 2 oz.			
41 H 039, 1-499	.....	EACH	.02
500-1499	.....	1500-4999	.011
5000-9999	.....		.01



## JAN CRYSTAL SOCKETS

Quality crystal sockets made to JAN standards. Type 430PHSPTD is MIL No. TS0205C01. Wt., 2 oz.

Stock No.	Mfr's Type	EACH			
		1-499	500-1499	1500-4999	5000-9999
45 H 532	430PHSPTD	.11	.066	.058	.053
45 H 533	430BC	.12	.075	.066	.06



## PRINTED CIRCUIT TRANSISTOR SOCKETS

Especially designed for printed circuit boards—in insulator material of low-loss mica filled phenolic. All contacts are of silver-plated beryllium copper and gold-flashed. 3-pin sockets are for point contact and junction-type transistors. 4-pin types are for linotetraz transistors. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Pins	EACH			
			1-499	500-1499	1500-4999	5000-9999
41 H 062	786BC	3	.12	.075	.066	.06
41 H 063	805BC	4	.12	.079	.073	.061



## RETAINER RING TYPE TRANSISTOR SOCKETS

High-quality retainer ring type sockets designed for use with transistors. 3-pin types are for point contact and junction type transistors. 4-pin types are for linotetraz type. \*Retainer ring only. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Pins	EACH			
			1-499	500-1499	1500-4999	5000-9999
41 H 074	799BC	3	.10	.068	.063	.053
41 H 080	803BC	4	.11	.072	.067	.056
41 H 097	777	*	.02	.01	.0096	.008



## JAN TUBE SHIELDS

Types 120, 121 and 149 are for 7-pin sockets; Types 193, 191 and 195 are for 9-pin sockets. All have "J" slot for 8 military sockets.

Stock No.	Mfr's Type	Ht., In.	EACH			
			1-499	500-1499	1500-4999	5000-9999
45 H 534	121	1 3/8	.12	.077	.062	.059
45 H 535	120	1 3/4	.12	.081	.065	.062
45 H 536	149	2 1/4	.14	.094	.076	.072
45 H 537	193	1 1/2	.13	.088	.071	.068
45 H 538	191	1 15/16	.14	.092	.075	.071
45 H 539	195	2 3/8	.17	.111	.089	.085



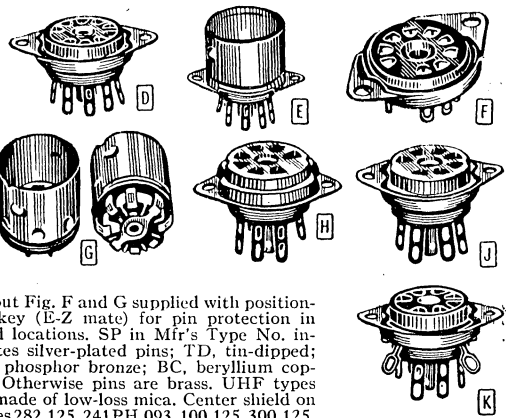
## UHF PRINTED CIRCUIT STANDOFF SOCKETS

Printed circuit standoff sockets for 7 and 9-pin miniature tubes for UHF applications—low-loss mica filled insulator. Contacts are made of silver-plated, tin-dipped phosphor bronze. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Pins	EACH			
			1-499	500-1499	1500-4999	5000-9999
45 H 529	3701PHSPTD	7	.14	.087	.077	.07
45 H 528	3901PHSPTD	9	.18	.114	.101	.091



## 7 AND 9-PIN COMMERCIAL SOCKETS

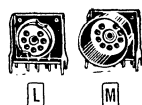


All but Fig. F and G supplied with positioning key (E-Z mate) for pin protection in blind locations. SP in Mfr's Type No. indicates silver-plated pins; TD, tin-dipped; PH, phosphor bronze; BC, beryllium copper. Otherwise pins are brass. UHF types are made of low-loss mica. Center shield on Types 282, 125, 241PH, 093, 100, 125, 300, 125, 305, 125, and 151PH, 125. Av. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Description and Mounting	EACH			
				1-499	500-1499	1500-4999	5000-9999
45 H 500	274PH.125	D	9-pin RMA saddle, top	.11	.069	.061	.055
45 H 501	280PH.125	D	9-pin RMA saddle, top	.10	.061	.054	.049
45 H 502	282.125	E	9-pin shielded, top	.13	.084	.074	.067
45 H 503	285.125	E	9-pin shielded, top	.12	.075	.066	.06
45 H 504	512PHSPTD.125	F	9-pin UHF, bottom	.20	1.29	1.14	1.04
45 H 505	512-S-PH.125	F	9-pin UHF, bottom	.19	1.21	1.06	.097
45 H 506	622PHSP 1/16	G	7-pin for 1/16" P.C.	.59	.40	.35	.32
45 H 507	623BC 1/16	G	9-pin for 1/16" P.C.	.68	.45	.40	.37
45 H 508	BRNP241PH.093	H	7-pin JAN saddle, top	.11	.068	.06	.055
45 H 509	243.093	H	7-pin JAN saddle, top	.07	.043	.038	.035
45 H 510	109.125	J	7-pin RMA saddle, bot.	.07	.045	.039	.036
45 H 511	100.125	J	7-pin RMA saddle, bot.	.08	.052	.045	.041
45 H 512	300.125	K	7-pin RMA saddle, bot.	.08	.053	.047	.043
45 H 513	305.125	K	7-pin RMA saddle, bot.	.08	.053	.047	.043
45 H 514	309.125	K	7-pin RMA saddle, bot.	.07	.045	.040	.038
45 H 515	316.125	K	7-pin RMA saddle, bot.	.07	.047	.042	.038
45 H 516	316PH.125	K	7-pin RMA saddle, bot.	.08	.052	.046	.042
45 H 517	316BC.125	K	7-pin RMA saddle, bot.	.12	.078	.069	.063
45 H 518	151PH.125	E	7-pin shielded top	1.3	.081	.071	.065
45 H 519	154PH.125	E	7-pin shielded top	1.2	.077	.068	.062
45 H 520	510S-PHSPTD.125	F	7-pin UHF, bottom	1.5	.096	.084	.077
45 H 521	510PHSPTD.125	F	7-pin UHF, bottom	1.6	.099	.087	.079

## RIGHT ANGLE PRINTED CIRCUIT SOCKETS

For installing tubes parallel to printed circuit chassis to save space where height is limited. Use same socket for both 1/16" and 3/32" thick chassis. Ratings: 660 v., 1 amp. Insulation resistance: 1000 megohm min. Types 4007 and 4009 have shield base; others are plain. Types 4006 and 4007 are 7-pin; 4008 and 4009, 9-pin. All have mica-filled insulation and silver-plated, beryllium copper contacts. Shpg. wt., 4 oz.



Stock No.	Mfr's Type	Fig.	EACH			
			1-99	100-499	500-999	1000-9999
45 H 522	4006-3-EG-3/32	L	1.96	1.22	1.04	.87
45 H 523	4007-3-EG-3/32	M	2.52	1.57	1.34	1.12
45 H 524	4008-3-EG-3/32	L	2.00	1.25	1.07	.89
45 H 525	4009-3-EG-3/32	M	2.72	1.69	1.45	1.21

## STAND-OFF PRINTED CIRCUIT SOCKETS

Stand-off type sockets for surface mounting on printed circuit cards. E-Z Mate 7 and 9-pin miniatures with knob-like appendages for attaching spring-type tube retainers. Both types have mica-filled phenolic insulation and lead plated, phosphor bronze contacts. Voltage and current ratings: 500 v., 1 amp. Insulation resistance: 1000 megohms min. Shpg. wt., 2 oz.



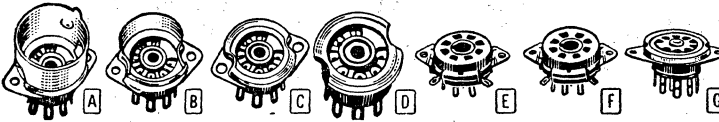
Stock No.	Mfr's Type	Pins	EACH			
			1-499	500-1499	1500-4999	5000-9999
45 H 526	3708-2-2	7	.19	.119	.104	.095
45 H 527	3908-2-2	9	.20	.129	.113	.103

Allied maintains the world's most complete stock of electronic components. Let Allied supply all your needs.



# Tube and Relay Sockets, Tube Hold-Downs

## ELCO MIL "E-Z MATE" SOCKETS



Meet MIL-S-12883A specs. All except \* have center shield. All hardware is brass, tin lead plated. Contact material is phosphor bronze, silver plated, tin dipped. 7 and 9-pin sockets have .125" mtg. holes; octal sockets have .156" mtg. holes. Av. shgp. wt., 2 oz.

### A 9-PIN BASE SHIELD TYPE

Stock No.	Military Number	Mfr's Type	Insulating Material	EACH			
				1-499	500-1499	1500-4999	5000-9999
45 H 556	TS103C01	176PHSPTD	Ceramic	.25	.160	.141	.128
45 H 557	TS103P01	169PHSPTD	Mica	.18	.111	.098	.090

### B 7-PIN BASE SHIELD TYPE

45 H 546	TS102C01	238PHSPTD	Ceramic	.23	.143	.126	.115
45 H 547	TS102P01	235PHSPTD	Mica	.16	.099	.087	.080

### C 7-PIN SADDLE—TOP MOUNTING

45 H 548	TS102C02	982PHSPTD	Ceramic	.21	.135	.119	.108
45 H 549	TS102P02	983PHSPTD	Mica	.14	.087	.077	.070

### D 7-PIN SADDLE—BOTTOM MOUNT WITH GROUND LUGS

45 H 550	TS102C03	986PHSPTD	Ceramic	.21	.135	.119	.108
45 H 551	TS102P03	987PHSPTD	Mica	.14	.087	.077	.070

### D 9-PIN SADDLE—BOTTOM MOUNT WITH GROUND LUGS

45 H 560	TS103C03	988PHSPTD	Ceramic	.25	.155	.136	.124
45 H 561	TS103P03	989PHSPTD	Mica	.15	.095	.083	.076

### E OCTAL SOCKETS—BOTTOM MOUNT WITH GROUND LUGS\*

45 H 552	TS101C01	338PHSPTD	Ceramic	.39	.246	.217	.197
45 H 553	TS101P01	335PHSPTD	Mica	.27	.173	.152	.139

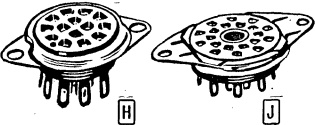
### F OCTAL SOCKETS—BOTTOM MOUNTED WITH GROUND LUGS, TAPPED BUSHINGS\*

45 H 554	TS101C02	337PHSPTD	Ceramic	.45	.287	.252	.230
45 H 555	TS101P02	336PHSPTD	Mica	.35	.220	.193	.176

### G 9-PIN SADDLE TOP MOUNTED

45 H 558	TS103C02	984PHSPTD	Ceramic	.25	.155	.136	.124
45 H 559	TS103P02	985PHSPTD	Mica	.15	.095	.083	.076

## ELCO 14 AND 20-PIN RELAY SOCKETS

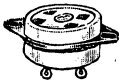


Top mounted 14-pin relay socket is MIL No. TS1405P01 per MIL-S-12883A. Has ten contacts on 1/2" pin diameter with 4 additional contacts, with 1/4" mtg. centers. 20-pin socket has two circles of

10 contacts, .812" diameter and 1.218" diameter. Bottom mounting-types have 2.531 mtg. centers. All have mica insulator and silver-plated, phosphor bronze contacts. Av. shgp. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Pins	EACH			
				1-499	500-1499	1500-4999	5000-9999
45 H 530	423PHSPTD	H	14	.33	.207	.182	.166
45 H 531	571PHSPTD	J	20	1.92	1.21	1.07	.97

## JAMES MILLEN TUBE SOCKETS



Recommended for UHF applications. Long flashover path to chassis permits use with 866 rectifiers, many transmitting tubes, etc. Long leakage path between contacts. Mtg. ctrs., 1 3/4". Shgp. wt., 4 oz.

Stock No.	Type	Prongs	EA.	Stock No.	Type	Prongs	EA.
43 H 200	33004	4	.60	43 H 202	33006	6	.60
43 H 201	33005	5	.60	43 H 203	33008	8	.60

## GC "MINI-SPRING" TUBE HOLD-DOWNS



Hold tubes securely in place. Use when tubes are mounted upside down or in a horizontal position. For 7 or 9-pin miniature tubes. Mount with nut and bolt, or may be installed with rivet. Package, 8 oz. 3 per package.

Stock No.	Type	Ht.	For Tubes	Pkg.
41 H 320	33-900	2 3/8"	6AQ5, 6X4, 35W4, 50B5, etc.	.87
41 H 321	33-901	1 7/8"	1R5, 6AT6, 6BE6, 6C4, etc.	
41 H 322	33-902	1 1/2"	6AJ5, 6AK5, 6AL5, 6N4, etc.	
41 H 323	33-903	1 1/8"	12AT7, 12AU7, etc.	

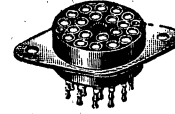
## AMPHENOL RELAY SOCKETS



146-817



59-106



59-470

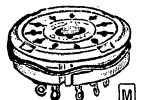
Type 146-817, 11-contact socket. Constructed of heavy-duty melamine. Has replaceable contacts on a 3/4" circle, and screw-type terminals. Insulating bars.

riers provide long creepage paths between contacts and ground. Rating, 10-amps at 600 v. RMS. Two .156" mounting holes on 3/8" centers; 4 tie points. Shgp. wt., 1 lb. 42 H 593, 1-24.....EACH 3.64  
25-99.....EACH 3.00 100-249.....EACH 2.55  
250-499.....EACH 2.28 500-999.....EACH 2.04

Type 59-106, 14-contact socket for use with most standard relays and Amphenol hermetically sealed relay units. Constructed of mica-filled phenolic dielectric material. Has silvered-bronze tinned wrap around-type contacts. Requires 3/4" minimum diameter mounting hole. Has cadmium-plated steel mounting plate with two 1/8" diameter holes on 1 1/4" centers. Shgp. wt., 4 oz.  
40 H 000, 1-49.....EACH .37  
50-249.....EACH .30 250-499.....EACH .26  
500-999.....EACH .23 1000-2499.....EACH .20

Type 59-470, 20-contact socket constructed of dielectric material. Has heat-treated beryllium-copper contacts and turret-type terminals. Requires a 1" mounting hole. Mounting plate is made of passivated stainless steel with two .144" diameter holes on 1.406" centers. Shgp. wt., 4 oz.  
40 H 001, 1-49.....EACH 8.10  
50-249.....EACH 6.85 250-499.....EACH 5.40  
500-999.....EACH 5.00 1000-2499.....EACH 4.15

## AMPHENOL OCTAL AND MAGNAL SOCKETS



**K** Type 77-MIP8FK Floating Octal. Live-rubber grommets in enlarged mounting holes of sturdy steel plate. Mounts in 1 1/8" hole with two 1/4" holes on 1 1/2" centers. With-grommets, mtg. screws, nuts and washers. Shgp. wt., 5 oz.  
40 H 043, 1-49.....EACH .32  
50-249.....EACH .26 250-499.....EACH .22  
500-999.....EACH .199 1000-2499.....EACH .178

Type 77-3K Kit. For making any of the "Mip" sockets listed on facing page, into a floating socket. Includes 4 grommets, 2 mounting screws, all necessary nuts and washers. Shgp. wt., 3 oz.  
40 H 092, 1-49.....EACH .16  
50-249.....EACH .13 250-499.....EACH .112  
500-999.....EACH .10 1000-2499.....EACH .09

**L** Type 168-015 Saddle Octal. Designed for below-chassis mounting. Steel plate is molded directly into bakelite body. For 1" hole; 3/8" mtg. holes on 1 1/8" ctrs. Shgp. wt., 5 oz.  
40 H 118, 1-49.....EACH .15  
50-249.....EACH .13 250-499.....EACH .106  
500-999.....EACH .095 1000-2499.....EACH .085

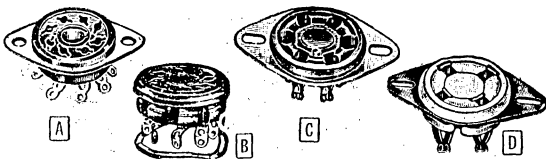
**M** Type 49-SS11L Magnal. Has 1 1/8" pin circle to accept 11-prong CR tubes. Made of low-loss steatite. Steel retaining ring for quick assembly. Required 1 1/8" mounting hole. Shgp. wt., 7 oz.  
40 H 090, 1-49.....EACH .86  
50-249.....EACH .71 250-499.....EACH .60  
500-999.....EACH .54 1000-2499.....EACH .48



## RAYPAR ANTI-CORONA SOCKET

Octal-type for 1B3's. Corona ring minimizes break-down. Mounts on insulator or high-voltage capacitor with screw terminals. Wt., 3 oz.  
40 H 446.....44

# Amphenol Sockets, Shells, and Tube Shields



## POPULAR STANDARD SOCKETS

**A** Type MP. Bakelite body with molded-in steel plate. \*Require 1 1/4" hole; mounting centers, 1 3/8"; others have 1 1/2" mtg. ctrs. †Requires 1 1/2" mtg. ctrs.; 1 1/2" hole. ‡Mica-filled bakelite. Av. wt., 4 oz.

Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 024	77MIP4\$	4	.14	.12	.098	.088	.078
40 H 025	77MIP5\$	5	.15	.13	.108	.096	.086
40 H 026	77MIP6\$	6	.18	.15	.125	.111	.10
40 H 027	77MIP7\$	7 Small	.19	.16	.136	.121	.109
40 H 029	77MIP7L†	7 Large	.19	.16	.136	.121	.109
40 H 028	77MIP8\$	Octal	.16	.13	.111	.099	.088
40 H 126	88-8*	Octal	.17	.14	.118	.105	.094
40 H 030	88-8X*	Loctal	.22	.18	.154	.138	.123
40 H 034	77MIP8T\$	Octal	.19	.16	.133	.119	.106
40 H 032	77MIP9\$	9	.18	.15	.127	.114	.102
40 H 033	77MIP11\$	11	.21	.18	.15	.134	.12
40 H 069	77MIP12\$	12	.21	.18	.15	.134	.12
40 H 070	77MIP20\$	20	.54	.45	.38	.34	.30

**B** Type S. High-dielectric molded bakelite body. Units are same as Type RS, but without mounting plate; mount with retainer ring, supplied. All require 1 1/4" hole. Av. shpg. wt., 5 oz.

Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 054	78S4	4	.13	.11	.091	.081	.073
40 H 055	78S5	5	.14	.12	.098	.088	.078
40 H 056	78S6	6	.16	.13	.111	.099	.088
40 H 057	78S7S	7 Small	.17	.14	.116	.104	.093
40 H 058	78S8	Octal	.15	.13	.108	.096	.086
40 H 060	78SSL	Loctal	.22	.18	.155	.139	.124
40 H 062	78S9	9	.18	.15	.125	.111	.10
40 H 072	78S11	11	.20	.17	.141	.126	.113

**C** Type RS. Have removable mounting plate. All of the units listed below mount in 1 1/4" hole. Slotted mounting holes to fit centers from 1 1/2 to 1 3/8". Av. shpg. wt., 4 oz.

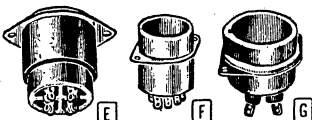
Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 004	78RS4	4	.18	.15	.127	.114	.102
40 H 005	78RS5	5	.20	.16	.139	.124	.111
40 H 006	78RS6	6	.21	.17	.144	.129	.115
40 H 007	78RS7S	7 Small	.22	.18	.153	.136	.122
40 H 008	78RS8	Octal	.20	.16	.139	.124	.111
40 H 010	78SSL	Loctal	.27	.22	.189	.169	.151
40 H 012	78S9	9	.23	.19	.158	.141	.127
40 H 071	78S11	11	.25	.21	.175	.156	.14

**D** Type RSS. Ultra-low-loss steatite. Excellent for use in high-frequency transmitting equipment, etc. All are universal type; have removable mounting plate with slotted holes 1 1/2 to 1 3/8". Mounting hole, 1 1/4" except 49RSS7L, 1 1/4". Av. wt., 5 oz.

Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 074	49RSS4	4	.62	.51	.43	.39	.35
40 H 075	49RSS5	5	.64	.53	.45	.40	.36
40 H 076	49RSS6	6	.62	.51	.43	.39	.35
40 H 079	49RSS7L	7 Large	.68	.56	.48	.43	.38
40 H 077	49RSS7S	7 Small	.70	.58	.49	.44	.39
40 H 078	49RSS8	Octal	.62	.51	.43	.39	.35

## HIGH-VOLTAGE SOCKETS

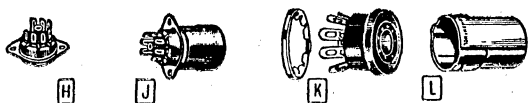
Sockets for top performance under high-voltage. 77A-4T for TV tubes with 1.156" diameter base; requires 1 1/2" dia. hole. 146-101 takes octal tubes to 1.377" dia., 1.087" high; 2 1/2" mtg. ctrs., 1 1/2" dia. hole. 146-812 above chassis mounting plate type; two 3/4" mtg. holes on 2 1/2" ctrs. Requires 1 1/4" dia. mtg. hole. \*4-prong type; †8-prong type. Av. shpg. wt., 4 oz.



Stock No.	Mfr's Type	Fig.	EACH							
			1-24	1-49	25-99	50-249	100-249	500-999	1000-2499	
40 H 147	77A-4T	E*	...	.60	...	.50	...	.42	.38	.34
40 H 088	146-101	F†	.88	...	.73	...	.62	.55	.49	...
40 H 089	146-812	G*	2.27	...	1.87	...	1.59	1.42	1.27	...

## DUODECAL TV SOCKET

Type 59-402. For CR tubes. 12 prongs spaced on 1.063" dia. Low-loss bakelite; removable cap. 5 oz.  
 40 H 100-149.....EACH .86  
 50-249.....EACH .71 250-499.....EACH .60  
 500-999.....EACH .54 1000-2499.....EACH .48



## MINIATURE SOCKETS AND SHIELDS

### BAKELITE AND MICA-FILLED SOCKETS

High-grade miniature type. 147 series mount in 5/8" chassis hole; 7/8" mtg. ctrs., with 1/8" screw holes, 59 series mount in 3/4" chassis hole and have 1 1/8" mtg. ctrs. with .095" rivet holes, (except 59-403, .125"). †Black bakelite. ‡Mica-filled bakelite. Av. wt., 5 oz.

#### H WITHOUT TUBE SHIELD BASE

Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 191	†147-500	7	.21	.18	.15	.134	.12
40 H 199	†147-505	7	.22	.18	.151	.135	.121
40 H 193	†59-409	9	.27	.22	.186	.166	.149
40 H 167	†59-410	9	.26	.21	.181	.161	.144

#### J WITH TUBE SHIELD BASE

Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 194	†147-905	7	.28	.23	.196	.175	.157
40 H 175	†147-913	7	.28	.23	.199	.178	.159
40 H 103	†59-403	9	.39	.33	.28	.25	.22
40 H 176	†59-407	9	.36	.30	.25	.23	.20
40 H 196	†59-406	9	.32	.27	.23	.20	.181

### RETAINER RING SOCKETS

**K** Mount in 3/8" round or "D" shaped hole with retainer ring provided. May be used with 91-MPM plugs found elsewhere in this section. All are black bakelite, except \*mica-filled. Av. wt., 5 oz.

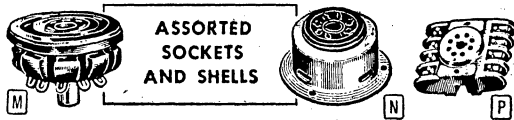
Stock No.	Mfr's Type	Prongs	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 131	78-S3S	3	.09	.08	.066	.059	.053
40 H 115	78-S4S	4	.12	.10	.085	.076	.068
40 H 122	78-S5S	5	.16	.13	.109	.098	.087
40 H 130	78-S6S	6	.17	.14	.116	.104	.093
40 H 120	78-7P	7	.22	.18	.153	.136	.122
40 H 124	*78-7PT	7	.22	.18	.155	.139	.124

### L TUBE SHIELDS—FOR 7-PRONG SOCKETS

Stock No.	Mfr's Type	Height	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 197	5-401	1 3/8"	.16	.13	.109	.098	.087
40 H 198	5-402	1 3/4"	.15	.13	.108	.096	.086

### FOR 9-PRONG SOCKETS

40 H 188	5-405	1 1/2"	.14	.11	.097	.086	.077
40 H 189	5-408	1 5/8"	.19	.16	.134	.12	.108
40 H 190	5-409	2 3/8"	.23	.19	.164	.146	.131



**M** Type "S" Miniature Sockets. 7 or 9-pin contacts. Bakelite; mount in 1 1/4" hole. Retainer ring supplied. 5 oz.

Stock No.	Mfr's Type	Pins	EACH				
			1-49	50-249	250-499	500-999	1000-2499
40 H 113	78-A7P	7	.34	.28	.24	.22	.20
40 H 114	78-A9P	9	.34	.28	.24	.21	.19

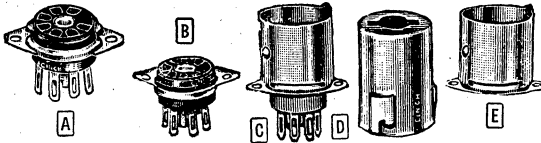
**N** Type 23-IS ACS Socket-Shells. Lightweight aluminum shell for use with Types "RSS," "RS," and "S" sockets, except 78S7L, 78RS7L, and Type 49RSS7L. Permits extension of sockets 1 3/8" above or below chassis surface. Body diameter, 1 1/16". Requires 1 3/4" mounting hole. Less socket. Shpg. wt., 5 oz.

40 H 127-149.....EACH .14 50-249.....EACH .12  
 250-499.....EA. .099 500-999.....EA. .089 1000-2499.....EA. .08

**P** Barrier-Type Octal Relay Sockets. Max. EIA working voltage, 2000 DC. Bronze cloverleaf contacts. Rated 8 amps each contact. Inter-electrode capacitance, 2.6 mmf. 8 screw terminals. Top mtg., except \*bottom mtg. Includes 4 molded-in threaded inserts for use as tie points. 6 3/4x1 1/2x2 5/8". Shpg. wt., 8 oz.

Stock No.	Mfr's Type	EACH				
		1-24	25-99	100-249	250-499	500-999
40 H 180	146-103	1.44	1.19	1.01	.90	.81
40 H 181	146-104†	1.76	1.45	1.23	1.10	.99
40 H 080	146-203*	1.44	1.19	1.01	.90	.81
40 H 087	146-204†*	1.76	1.45	1.23	1.10	.99

## MINIATURE SOCKETS, SHIELDS, BASES, STRAP NUTS



Socket saddles, shield bases and shields are steel unless otherwise noted. 7-pin sockets and shield bases mount on 7/8" centers, sockets require 3/4" hole, 9-pin sockets and shield bases mount on 1 1/2" centers; sockets require 3/4" hole. Strap nuts are curved strips with two threaded holes (and a pair of ground terminals) that take place of two nuts in mounting miniature sockets. \*Not illus. Dia. of rivet holes: †.125", ‡.098". Wt.: 1 oz.; except sockets, 2 oz.

### A TOP-MOUNTING SOCKETS

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
22 H 565	7AB1	7-pin black bakelite	.09	.047
22 H 566	7AM1	7-pin mica-filled bakelite	.11	.056
22 H 592	9AB	9-pin black bakelite	.12	.062
22 H 593	9AM	9-pin mica-filled bakelite	.14	.072

### B BOTTOM-MOUNTING SOCKETS

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
22 H 567	7EB	7-pin black bakelite	.09	.047
22 H 568	7EM	7-pin mica-filled bakelite	.11	.056
22 H 594	9EB	9-pin black bakelite	.12	.062
22 H 595	9EM	9-pin mica-filled bakelite	.14	.072

### C TOP-MOUNT SHIELD BASE SOCKETS ("J" SLOT)

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
22 H 569	7XB1	7-pin black bakelite	.17	.085
22 H 570	7XC	7-pin ceramic	.33	.165
22 H 571	7XM1	7-pin mica-filled bakelite	.19	.096
22 H 596	9XB	9-pin black bakelite	.21	.104
22 H 597	9XC	9-pin ceramic	.36	.179
22 H 598	9XM	9-pin mica-filled bakelite	.22	.113

### D TUBE SHIELDS

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
22 H 573	7S2	1 3/8" high "J" slot, 7-pin	.11	.055
22 H 574	7S3	1 3/4" high, "J" slot, 7-pin	.11	.058
22 H 575	7S4	2 1/4" high, "J" slot, 7-pin	.17	.089
22 H 599	9S1	1 1/2" high, "J" slot, 9-pin	.16	.082
22 H 600	9S2	1 5/8" high, "J" slot, 9-pin	.16	.082
22 H 601	9S3	2 1/8" high, "J" slot, 9-pin	.30	.15

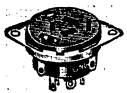
### E SHIELD BASES

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
22 H 577	7SB2	1 5/8" high, brass, 7-pin, "J" slot	.07	.036
22 H 578	*7SB3	1 1/2" high, 7-pin, snap-on	.04	.017
22 H 602	9SB1	1 9-pin, "J" slot	.07	.036

### \*BRASS STRAP NUTS

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
22 H 563	7SN	For 7-pin sockets	.16	.084
22 H 564	9SN	For 9-pin sockets	.18	.092

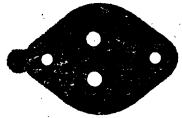
## PLUG-IN SOCKETS FOR TWIST-PRONG ELECTROLYTICS



For Mallory FP type capacitors. Permit instant replacement when capacitor fails. Molded from black bakelite; recessed center contacts for extended prongs, flush outer contacts for short prongs. Steel mtg. saddle has 4 ground lugs. 2CS has 1 1/2" mtg. centers; 140"-.145" mtg. hole dia. 2C7 has 1 7/8" mtg. centers; .156" mtg. hole dia. 3 oz.

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
22 H 603	2CS	For 1" dia. FP capacitors	.44	.218
22 H 604	2C7	For 1 3/8" dia. FP capacitors	.67	.339

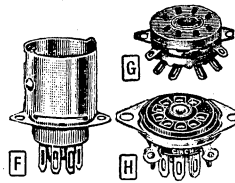
## POWER TRANSISTOR HEAT SINKS



Anodized aluminum wafers to meet exacting applications. High thermal conductivity reduces operating temperature of transistor. High corrosion resistance. Types 2W-2 and 2W-3 not illustrated. Shpg. wt., 2 oz.

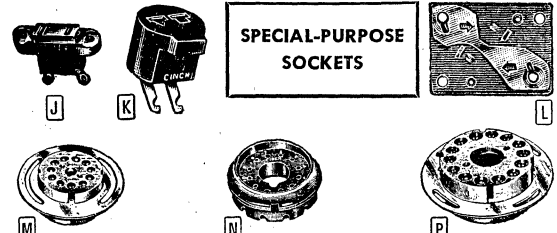
Stock No.	Mfr's Type	For	EACH					
			1-24	25-49	50-99	100-249	250-499	500-999
22 H 539	2W-1	Mot. 2N179, 2N176, 2N554	.32	.252	.21	.168	.16	.151
22 H 540	2W-2	Delco 2N174	.32	.252	.21	.168	.16	.151
22 H 639	2W-3	Texas 2N389	.32	.252	.21	.168	.16	.151

## JAN/MIL SOCKETS AND SHIELDS



7-pin octal and 9-pin sockets; shields for 7- and 9-pin tubes. Shields are "J"-slot design, shield-base sockets fit "J"-slot shields. Sockets made to MIL-12883-A specifications; shields, JAN-S-28A. In "Description" column, TM indicates top mounting; BM—bottom mounting; SB—shield base; Cer—ceramic; Mica—mica-filled bakelite. Shpg. wt.; sockets, 2 oz.; shields, 1 oz.

Stock No.	Mfr's Type	Fig.	JAN/MIL	Description	EACH	
					1-100	100-999
22 H 541	7JC-2	F	TS102C01	TM SB Cer 7-pin	.31	.154
22 H 542	7JC-3	H	TS102C03	BM Cer 7-pin	.33	.163
22 H 543	7JCN-1	...	TS102C02	TM Cer 7-pin	.33	.163
22 H 544	7JM-2	F	TS102P01	TM SB Mica 7-pin	.23	.114
22 H 545	7JM-3	H	TS102P03	BM Mica 7-pin	.20	.10
22 H 546	7JMN-1	...	TS102P02	TM Mica 7-pin	.25	.125
22 H 547	8JC-2	G	TS101C01	BM Cer Octal	.72	.358
22 H 548	8JCN-2	G	TS101C02	BM Cer Octal Threaded	.90	.45
22 H 549	8JM-2	G	TS101P01	BM Mica Octal	.35	.177
22 H 550	8JMN-2	G	TS101P02	BM Mica Octal Threaded	.54	.27
22 H 551	9JC-2	F	TS103C01	TM SB Cer 9-pin	.34	.171
22 H 552	9JC-3	H	TS101C03	BM Cer 9-pin	.35	.173
22 H 553	9JCN-1	...	TS103C02	TM Cer 9-pin	.35	.173
22 H 554	9JM-2	F	TS103P01	TM SB Mica 9-pin	.25	.124
22 H 555	9JM-3	H	TS103P03	BM Mica 9-pin	.21	.106
22 H 556	9JMN-1	...	TS103P02	TM Mica 9-pin	.21	.106
22 H 557	7SJ-2	...	TS102U01	1 3/8" 7-pin tube shield	.14	.072
22 H 558	7SJ-3	...	TS102U02	1 3/8" 7-pin tube shield	.16	.08
22 H 559	7SJ-4	...	TS102U03	2 1/4" 7-pin tube shield	.18	.089
22 H 560	9SJ-1	...	TS103U01	1 1/2" 9-pin tube shield	.18	.088
22 H 561	9SJ-2	...	TS103U02	1 1/2" 9-pin tube shield	.19	.097
22 H 562	9SJ-3	...	TS103U03	2 3/8" 9-pin tube shield	.21	.105



### SPECIAL-PURPOSE SOCKETS

J Chassis-Mounting AC Socket. Lug terminals. For 10A, 250V, or 15A, 125V. 3/8x3/4" mtg. hole. 1 1/2x1 1/2" overall. Wt., 2 oz.

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-999
40 H 830	2R2	(Above)	.19	.095

K 2B2 Cetron Tube Socket. For Cetron tubes CE701, CE702. Special alloy spring-brass contacts. Black bakelite. 2 oz.

L Power Transistor Sockets. Wax impregnated XP bakelite. Formed thread for 6-20 screw, .104/.110" dia. hole in CR plate. 2 oz.

M 3M11 Magnal Socket. Mica-filled bakelite 11-prong socket for cathode ray and television tubes. For 5BP1, 2AP1, 1P21, 931A and 3KP1. Less mtg. ring, in table below.

Stock No.	Mfr's Type	Description	Wt. Oz.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
22 H 606	3M11	Socket	3	4.50	3.60	3.00	2.40	2.28	2.16
22 H 607	3R11	Steel mtg. ring	2	.30	.24	.20	.16	.152	.144

N Duodecal CRT Socket. Bakelite 12-prong socket. For 10BP4, 2BP1, 5TP4, etc.; RCA 6199; Jeduc No. B12-43.

P Diheptal CRT Socket. Bakelite 14-prong socket. For RCA 6217 and 5819 photo tubes, and Jeduc No. B12-37. Less mtg. ring.

Stock No.	Mfr's Type	Description	Wt. Oz.	EACH					
				1-24	25-49	50-99	100-249	250-499	500-999
22 H 610	3B14	Black	4	1.05	.84	.70	.56	.532	.504
22 H 611	3M14	Mica-filled	4	1.35	1.08	.90	.72	.684	.648
22 H 612	3R14	Steel mtg. ring	2	.30	.24	.20	.16	.152	.144

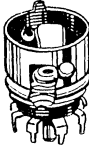
Second-Anode Connector. (Not illus.) For diheptal-based tubes.

Stock No.	Mfr's Type	Description	Wt. Oz.	EACH	
				1-24	25-49
22 H 534	3A1	Fits .096" dia. prong	2	.56	.48

# Cinch-Jones Plugs and Sockets

## PRINTED CIRCUIT SOCKETS WITH SHIELD BASES

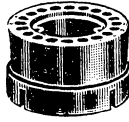
Printed circuit sockets have attached bayonet-type shield base with ground tab. For use with 1/16" printed circuit boards. Low-loss mica-filled phenolic castings with phosphor bronze contacts. Center shield and ground tab are hot-tinned brass. Nickel-plated brass base.



Stock No.	Mfr's Type	Pins	Shpg. Wt.	EACH	
				1-99	100-999
41 H 342	7PC-M2	7	2 oz.	.94	.474
41 H 343	9PC-M2	9	2 oz.	1.17	.585

## 20-PM PHOTO-MULTIPLIER SOCKET

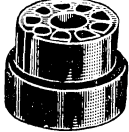
20-contact socket designed for use with RCA photo-multiplier tubes. For tubes 6810, C7187A, C7122, 7265, or others with similar bases. Has durable MAL-60 alkyl glass fibre base. Meets JETEC 20-102. Shpg. wt., 2 oz.



41 H 348, 1-99... EA. 3.33 100-999... EA. 2.40

## 7VT VIDICON SOCKET

Type 7VT 7-contact socket designed for RCA vidicon tubes 6198 and 7038. Has mica base with silver plated phosphor bronze contacts. Meets JETEC E8-11. Shpg. wt., 2 oz.



41 H 349, 1-99... EA. 1.40 100-999... EA. 1.01

## NOVAR TUBE SOCKETS

Meet or surpass EIA standards. Molded from high dielectric black bakelite or mica-filled low-loss bakelite. Have cadmium-plated brass contacts. Provide maximum fatigue strength and mating force with tube pins. Same dimensions as octal sockets—layouts and cutouts for octal sockets will accommodate novar sockets. 1/2" mounting centers. Available for top or bottom mount. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Bakelite	Mount	EACH	
				1-99	100-999
41 H 390	9NS-B	Black	bottom	.09	.045
41 H 392	9NS-M	Mica-filled	bottom	.11	.055
41 H 391	9NS-B1	Black	top	.09	.045
41 H 393	9NS-M1	Mica-filled	top	.11	.055

## BAKELITE AND CERAMIC OCTAL SOCKETS

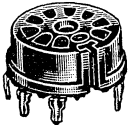
Saddle types have 4 ground lugs. Fig. A have 1/2" centers, clinch-on steel saddle; 1/8" dia. Fig. B 15/16" centers, press-on saddle; 1" dia. Fig. C 1 1/4" dia., have keyway and retaining ring. 8RO, extra ring. 8AP permits rivet mtg. of Fig. C types (slotted 1 1/2" to 1 7/8" centers). "Mtg." column is rivet-hole dia. or chassis thickness. Sockets, 2 oz. Ring or plate, 1 oz.



Stock No.	Mfr's Type	Fig.	Description	Mtg.	EACH	
					1-99	100-999
22 H 579	8AB	B	Black	.136"	.09	.050
22 H 580	8AM	B	Mica-filled	.136"	.12	.063
22 H 581	8EB	A	Black	.143"	.10	.051
22 H 582	8EC	A	Ceramic	.140"	.45	.225
22 H 583	8EM	A	Mica-filled	.143"	.12	.065
22 H 584	8R1	C	Black	1/16"	.18	.093
22 H 585	8R2	C	Black	1/8"	.18	.093
22 H 586	8R3	C	Mica-filled	1/16"	.22	.11
22 H 587	8R4	C	Black	3/32"	.18	.093
22 H 588	8R5	C	Mica-filled	3/32"	.22	.11
22 H 589	8R6	C	Mica-filled	1/8"	.22	.11
22 H 590	8RO	.....	Retainer ring	.....	.04	.017
22 H 591	8AP	.....	Adapter plate	.....	.04	.029

## STAND-OFF TYPE SOCKETS FOR PRINTED CIRCUITS

Stand-off sockets rest on shoulder of the contact tail—provide air gap for cooling and eliminate possibility of a moisture trap. Designed for 1/16" printed circuit boards having bottom circuitry. All are constructed of general purpose black phenolic casting with hot tinned brass contacts. Type 7PC-B1 is for 7-pin miniature tubes, 9PC-B1 for 9-pin miniature tubes, and 8PC-B for octals.



Stock No.	Mfr's Type	Pins	Shpg. Wt.	EACH	
				1-99	100-999
41 H 344	7PC-B1	7	2 oz.	.06	.032
41 H 345	9PC-B1	9	2 oz.	.09	.043
41 H 347	8PC-B1	8	2 oz.	.07	.047

## ASSORTED RELAY SOCKETS

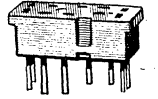
Casting is of top-quality mica insulation. Sockets have beryllium copper, silver-plated contacts for high conductivity. Contact tails are hot tinned for easy soldering. All sockets listed in table below have steel saddles, 1/4" mounting centers.



Stock No.	Mfr's Type	No. of Contacts	Shpg. Wt.	EACH	
				1-99	100-999
22 H 605	14RS	14	2 oz.	.73	.37
41 H 339	14RS-1	14	2 oz.	1.32	.66
41 H 340	16RS-1	16	2 oz.	1.44	.72
41 H 338	20RS	20	2 oz.	1.68	.84

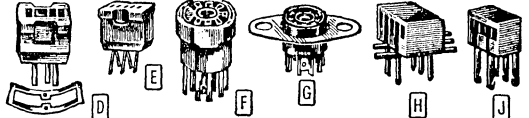
## 8-PIN RELAY SOCKET

Type 8RS relay socket is molded of mica filled phenolic; has cold rolled, cadmium-plated steel mounting clip. Contacts are silver-plated beryllium copper. Shpg. wt., 2 oz.



41 H 350, 1-99... EA. .45 100-999... EA. .225

## SUBMINIATURE SOCKETS FOR TUBES AND TRANSISTORS

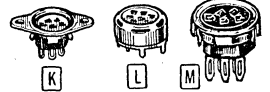


Mica-filled, bakelite with silver-plated contacts. 5PC socket for printed circuits; 5VC socket for wired circuits. \*8SMP socket with mtg. plate attached. 2H3, 2H5, 2H6, 2H7 and 8SM sockets are with mtg. ring. †Extra ring for 8SM socket. Wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Pins	1-99, EA.		100-999, EA.	
				1-99	EA.	100-999	EA.
40 H 294	2H3	D	3	.20		.104	
40 H 245	2H5	E	5	.22		.112	
40 H 249	5WC	J	5	.38		.19	
40 H 252	5PC	H	5	.39		.198	
22 H 613	2H6	E	6	.29		.149	
40 H 247	2H7	E	7	.31		.155	
40 H 242	8SM	F	8	.42		.21	
22 H 614	8SMP*	G	8	.54		.27	
22 H 615	2MR†	.....	.....	.02		.009	

## SUB-MINIATURE NUVISTOR 5-PIN TUBE SOCKETS

Constructed of type MFE, low-loss phenolic insulation; saddle of cold rolled steel, cadmium-plated. Contacts are copper alloy cadmium-plated for easy soldering. Av. wt., 2 oz.



Stock No.	Mfr's Type	Fig.	Mount	1-99, EA.		100-999, EA.	
				1-99	EA.	100-999	EA.
22 H 657	SNS	M	Ring type	.13		.069	
41 H 336	SNS-1	K	Screw	.21		.107	
41 H 337	SNS-2	L	Printed circuit	.42		.21	

## WAFER-TYPE SOCKETS

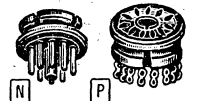
Sturdily constructed, laminated bakelite tube sockets. All are equipped with solder-coated brass contacts. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Mtg. Ctrs.	Pins	1-99, EA.		100-999, EA.	
				1-99	EA.	100-999	EA.
22 H 622	7W2A	7/8"	7 (min.)	.07		.034	
22 H 623	7WL2	1"	7 (min.)	.07		.034	
22 H 624	7WL4	1 1/8"	7 (min.)	.08		.04	
22 H 625	8W1	1 1/8"	8 (octal)	.08		.04	
22 H 626	8W2	1 1/2"	8 (octal)	.08		.041	
22 H 627	9W1	1 1/8"	9 (min.)	.08		.042	
22 H 628	9W2	1 1/8"	9 (min.)	.09		.047	

## MULTI-CONDUCTOR PLUGS AND SOCKETS

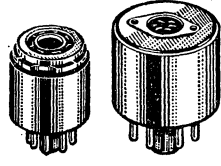
Mount in 1 1/4" keyed holes (use 8RO retainer ring). Type 8PB plug fits standard octal socket. Type 11RB socket accepts 11PB plug. Type 16F snap-on shield fits all plugs and sockets listed in table below. Av. shpg. wt., 2 oz.



Stock No.	Type	Fig.	Description	1-99, EA.		100-999, EA.	
				1-99	EA.	100-999	EA.
40 H 846	8PB	N	8-Contact Plug	.19		.098	
40 H 847	11PB	N	11-Contact Plug	.27		.135	
40 H 849	11RB	P	11-Contact Socket	.32		.159	
40 H 848	16F	.....	Snap-on Shield	.27		.135	
22 H 590	8RO	.....	Retainer Ring	.04		.017	

**EBY SOCKETS AND ADAPTERS**

**NUVISTOR AND NOVAR ADAPTERS**

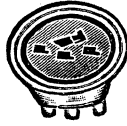


Type 9320 7-Pin Nuvistor Adapter. Permits testing of 7-pin nuvistor tubes with your present tube tester. Simply plug adapter into standard octal socket on tester. With instructions. Shpg. wt., 8 oz.  
41 H 359.....2.06

Type 9330 Novar Adapter. Adapts your present tube tester for accurately testing 9-pin Novar tubes. Adapter simply plugs into standard octal socket on tester. With instructions. Shpg. wt., 5 oz.  
41 H 399.....2.06

tube tester; Novar tube then plugs into adapter. Supplied with testing instructions. Shpg. wt., 5 oz.  
41 H 399.....2.06

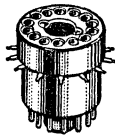
**NUVISTOR SOCKETS**



Type NU-5 5-Pin Nuvistor Socket. Quality low-loss socket for use with RCA 5-pin nuvistor tubes. Constructed of mica-filled bakelite. Mounts in "O" hole. Shpg. wt., 2 oz.  
40 H 260.....2.0

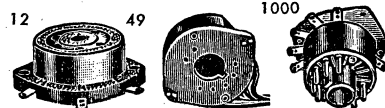
Type NU-7 7-Pin Nuvistor Socket. For use with RCA 7-pin nuvistor tubes. Made of general purpose bakelite. Saddle mounting; fits "O" hole. Wt., 2 oz.  
40 H 289......90

**TYPE CA-1 COLOR CRT TEST SOCKET ADAPTER**



Test point adapter for all color cathode ray picture tubes. Permits easy testing of a color CRT in its circuit, under actual operating conditions—no need to remove it or the chassis. Easy to use—adapter plugs into CRT's socket in TV set; CRT plugs into adapter. Test voltages are taken off test points protruding out from side of adapter. Shpg. wt., 8 oz.  
41 H 384.1-9.....EACH 5.88 10-49.....EACH 5.40  
50-99.....EACH 5.00 100-499.....EACH 4.50

**EBY TUBE SOCKETS**



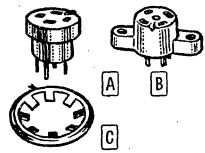
Type 12. 1-piece molded bakelite, for top-of-chassis or panel mounting. Mtg. centers, 1 1/8". Wt., 2 oz.

Stock No.	Mfr's Type	Pins	EACH			
			1-9	10-49	50-99	100-499
40 H 254	12-4	4	.38	.34	.32	.29
40 H 255	12-5	5	.43	.39	.36	.32
40 H 256	12-6	6	.44	.40	.37	.33
40 H 261	12-7-N-O	7L & 7S	.46	.41	.38	.35
40 H 258	12-8	Octal	.51	.46	.42	.38

Type 49-13DD TV Picture Tube Socket. Molded bakelite, duodecal CRT socket. With 18" leads. Shpg. wt., 4 oz.  
40 H 291.1-9 EA. .47 10-49 EA. .43 50-99 EA. .40 100-499 EA. .36

Type 1000 CRT Test Socket Adapter. External lugs permit easy testing of picture tube pin voltages while set is operating. 3 oz.  
40 H 273.1-9 EA. .94 10-49 EA. .84 50-99 EA. .80 100-499 EA. .72

**GRAYHILL TRANSISTOR SOCKETS**



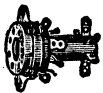
For TO-12 and TO-33 types. Leads fit on 100-mil grid for printed circuits. Terminal numbers molded on bottom of sockets; top faces have key ribs for alignment with transistor tab. Mica-filled phenolic per MIL-M-14, Type MFE. 22-11 (Fig. B) fits 3/8" hole. 22-16-4 (Fig. A) can be soldered in printed circuits or ring fastened in "D" hole.

Stock No.	Mfr's Type	Fig.	No. of Pins	Mtg.	Loss Factor @ 1 Mc.	EACH	
						1-49	50-99
45 H 288	22-11	B	4	Screw	.06	.35	.263
45 H 289	22-16-4	A	4	Ring	.06	.35	.263

45 H 249, Mounting Ring for 22-16-4 Socket. For fastening 22-16-4 socket above, in punched "D" hole. 1 oz.....EACH .01

**VECTOR TURRETS, PLUG-IN SOCKETS AND CANS, TUBE ADAPTER TEST KIT**

**SOCKET TURRETS**



Dependable terminal structures for limited space applications. Simplify construction of electronic equipment. Components mount on phenolic form. Turrets are 1/2" dia. Octal units fit 1" hole; 7-pin miniatures, 3/8" hole; 9-pin novals, 3/4" hole. 3 oz.

2 1/2" Turrets. Have 9 terminals in two rings, spaced 1 3/8" apart.

Stock No.	Mfr's Type	Socket	EACH			
			1-19	20-99	100-199	200-999
40 H 211	10-0-9T	Octal	.63	.57	.53	.42

2" Turrets. 9 terminals in two rings, spaced 1" apart.

40 H 212	8-0-9T	Octal	.60	.54	.50	.40
40 H 217	8-M-9T	7-Pin Min.	.69	.63	.58	.46
40 H 233	8-N-9T	9-Pin Noval	.69	.63	.58	.46

1 1/2" Turrets. Have 6 terminals in one ring only.

40 H 213	6-0-6T	Octal	.54	.49	.45	.36
40 H 218	6-M-6T	7-Pin Min.	.63	.57	.53	.42
40 H 234	6-N-6T	9-Pin Noval	.63	.57	.53	.42

Shield Bases. For miniature sockets above. Fasten above chassis on socket mtg. centers. Use with standard bayonet shield. 2 oz.

Stock No.	Mfr's Type	Description	EACH			
			1-19	20-99	100-199	200-999
40 H 235	S7	For 7-pin sockets	.05	.045	.042	.034
40 H 236	S9	For 9-pin sockets	.05	.045	.042	.034

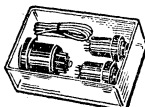
**PLUG-IN SOCKETS**



Consist of standard tube socket, tubular terminal post, octal plug and shield can. Can sizes: B10M and B10N, 1.37" square, 2.5" long; C10M and C10N, 2" square, 2.5" long. Aluminum covers may be quickly detached by removing screws at base. Av. shpg. wt., 5 oz.

Stock No.	Type	Description	EACH			
			1-19	20-99	100-199	200-999
40 H 237	B10M	7-pin Miniature	2.01	1.81	1.69	1.35
40 H 238	B10N	9-pin Noval	2.05	1.85	1.72	1.37
40 H 241	C10M	7-pin Miniature	2.21	1.99	1.86	1.48
40 H 239	C10N	9-pin Noval	2.24	2.02	1.88	1.50

**TUBE ADAPTER TEST KIT**



Type T-789. For easy tube socket measurements. Adapters insert into sockets; tubes insert into adapters. Includes one 7-pin, one 9-pin miniature, and one octal adapter. In plastic case. With cable, test prod. 6 oz.  
40 H 210.....5.90

**ROUND PLUG-IN CANS**



Round plug-in cans with case and plug, or \*with case plug, and mounted vertical terminal wall. Cases may be quickly detached by removing screws at base. Completely accessible inner structure is supported by plug. All cans are 2" long. 7-pin miniatures fit 3/8" hole, 9-pin Novals fit 3/4" hole. \*With center screw, all other units supplied with side screws. Av. shpg. wt., 5 oz.

Stock No.	Mfr's Type	Plug Description	Dia.	EACH			
				1-19	20-99	100-199	200-999
40 H 930	G2.1-8†	9-pin Noval	3/4"	1.42	1.28	1.19	.95
40 H 931	G2.1-8F	9-pin Noval	3/4"	1.42	1.28	1.19	.95
40 H 932	G2.2-8†	7-pin Min.	5/8"	1.27	1.14	1.07	.85
40 H 933	G2.2-8F	7-pin Min.	5/8"	1.27	1.14	1.07	.85
40 H 934	G2.1-8-4*	9-pin Min.	3/4"	1.90	1.71	1.60	1.27
40 H 935	G2.2-8-4*	7-pin Noval	5/8"	1.88	1.69	1.58	1.26

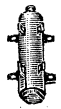
**TERMINAL TURRETS**



Terminal turrets simplify construction of electronic equipment. 2 rings with 12 terminals provide mounts for 6 or more resistors and capacitors with a minimum of "floor space." Components mount on 1/2" dia. phenolic form. Turrets bolt to chassis through a 0.150" hole with a 6-32 screw which extends end-to-end. Space between rings is .62" on Type 6-12; 1" on Type 8-12; 1 3/8" on Type 10-12. Av. shpg. wt., 3 oz.

Stock No.	Type	Lgth.	EACH			
			1-19, EA.	20-99, EA.	100-199, EA.	200-999, EA.
40 H 936	6-12	1 1/2"	.45	.41	.38	.30
40 H 942	8-12	2"	.48	.43	.40	.32
40 H 943	10-12	2 1/2"	.51	.46	.43	.34

**TRANSISTOR SOCKET TURRETS**

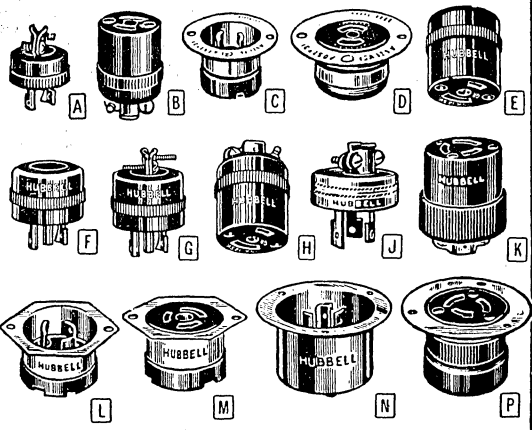


Transistor socket turrets with unique terminal structure. Enable user to mount and wire other parts in close proximity to associated components. Units include combination transistor socket and saddle for easy mounting. Socket fits in 0.361" hole. Components mount on 1/2" dia. phenolic form with 2 rings and 12 terminals. Av. shpg. wt., 3 oz.

Stock No.	Type	Lgth.	EACH			
			1-19, EA.	20-99, EA.	100-199, EA.	200-999, EA.
40 H 944	5-A-12T	1 1/4"	1.05	.95	.88	.70
40 H 945	6-A-12T	1 1/2"	1.06	.96	.89	.71
40 H 946	8-A-12T	2"	1.08	.97	.91	.72

# Connectors, Tube Grid Caps and Shields

## HARVEY HUBBELL CONNECTORS



Feature unique "Twist Lock" design for positive, lock-fast electrical connections. Units lock with a twist of the cap—simply plug in—twist—and they lock! Never disconnect accidentally regardless of the treatment they are subjected to. Insure a maximum of safety and a minimum of time-loss and work-stoppage. Meet National Electrical Code Standard.

### MIDGET-SIZE CONNECTORS 2-WIRE NON-POLARIZED TYPES

Type 7428 male cap and Type 7427 female connector are brown bakelite with metal cable clamps for  $\frac{3}{16}$  to  $\frac{1}{2}$ " O.D. cords. Type 7466 male base and Type 7468 female base are bakelite with metal housings. Rated 10 amps at 250 v.; 15 amps, 125 v. Av. shgp. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH			
				1-9	10-49	50-99	100-499
41 H 282	7428	A	Male Cap	.44	.356	.32	.304
41 H 283	7427	B	Female Conn.	.80	.656	.59	.561
41 H 284	7466	C	Male Base	.95	.772	.695	.66
41 H 287	7468	D	Female Base	1.14	.932	.839	.797

### 3-WIRE POLARIZED TYPES

Similar to above connectors, but for use with 3-conductor cables. Insulation is black bakelite. Clamps will accommodate cords from .281 to .421" O.D. Polarization prevents incorrect connection. Rated 10 amps at 250 v., or 15 amps at 115 v. Av. shgp. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH			
				1-9	10-49	50-99	100-499
41 H 288	7485	A	Male Cap	1.03	.844	.76	.722
41 H 289	7484	B	Female Conn.	1.49	1.22	1.09	1.04
41 H 290	7486	C	Male Base	1.32	1.08	.972	.923
41 H 291	7487	D	Female Base	1.61	1.31	1.18	1.12

### NEW 3-WIRE GROUNDING TYPES

Midget "Twist-Lock" series designed specifically for 15 amp, 125 v. grounding applications. Hollow brass grounding sleeve in cap mates with brass split pin to provide safe, positive connection. All are 1.156" dia. \*With cord grips. U.L. Listed. Wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	1-9	10-49	50-99	100-499
41 H 280	7591	E	Female Conn.	1.73	1.41	1.27	1.20
41 H 281	7592	F	Male Cap	1.27	1.03	.932	.881
41 H 286	7593	H	Female Conn.*	1.82	1.48	1.33	1.26
41 H 285	7594	G	Male Cap*	1.36	1.10	.997	.942

### STANDARD SIZE CONNECTORS

#### 3-WIRE POLARIZED TYPES

Type 7572 male cap, Type 7556 male base and Type 7557 female base have rust-resistant metal housings. Type 7555 female connector is bakelite. Clamps take cords from .296 to .562" O.D. All are rated 10 amps at 250 v.; 15 amps, 125 v. \*Armored. 3 oz.

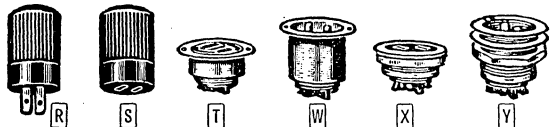
Stock No.	Mfr's Type	Fig.	Description	EACH			
				1-9	10-49	50-99	100-499
41 H 292	7572	J	Male Cap*	1.32	1.08	.972	.923
41 H 293	7555	K	Female Conn.	1.94	1.58	1.42	1.35
41 H 294	7556	L	Male Base	1.61	1.31	1.18	1.12
41 H 295	7557	M	Female Base	1.78	1.45	1.31	1.24

### HEAVY-DUTY 3-WIRE POLARIZED TYPES

Type 7311 male cap, Type 7327 male base and Type 7328 female base have rust-resistant metal housings. Type 7313 female connector is bakelite. Clamps take cords from .437 to .750" O.D. Rated 20 amps at 250 v., or 10 amps at 575 v. \*Armored. Av. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	1-9	10-49	50-99	100-499
41 H 296	7311	J	Male Cap*	1.76	1.43	1.29	1.22
41 H 297	7313	K	Female Conn.	2.71	2.21	1.99	1.89
41 H 298	7327	N	Male Base	2.09	1.70	1.53	1.45
41 H 299	7328	P	Female Base	3.21	2.62	2.35	2.24

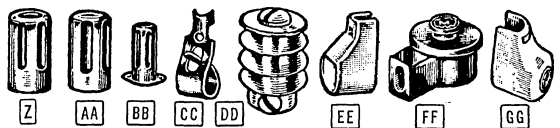
## ARROW H & H MIDGET CONNECTORS



Bakelite 2-prong cord connectors and receptacles. Rated 10 amps, 250 volts. 1-inch hole required for all receptacles.  $\frac{13}{32}$ " contact spacing. \*With plate for screws. †With plate and lock ring. Write for prices on larger quantities. Av. shgp. wt., 3 oz.

Stock No.	Type	Fig.	Description	1-99, EA.	100-999, EA.
42 H 191	80324	R	Male cable connector.	.67	.60
42 H 192	80325	S	Female cable connector.	.67	.60
42 H 193	80326*	T	Female flush receptacle.	.80	.71
42 H 194	80328*	W	Male flush receptacle.	.89	.80
42 H 195	80327†	X	Female flush receptacle.	1.33	1.18
42 H 196	80329†	Y	Male flush receptacle.	1.35	1.22

## RECEIVING TUBE GRID CAPS AND SHIELDS



Av. shgp. wt., per pkg., 2 oz.

Stock No.	Fig.	Description and Application	No. Per Pkg.	PER PKG.
42 H 510	Z	Goat G1332-3 tube shield for GT tubes, $2\frac{5}{16}$ " high, $\frac{7}{8}$ " hole.	4	.25
42 H 511	AA	Goat G1332-5A. Same as G1332-3 above, but with closed top.	4	.25
42 H 512	BB	Goat G1700 shield for miniature T5 $\frac{1}{2}$ with G1710-B base. .865x1 $\frac{7}{8}$ ".	3	.21
42 H 514	CC	National Type 24. For standard tubes, $\frac{3}{8}$ " diameter grid caps.	5	.20
42 H 515	CC	National Type 8. For octal tubes, $\frac{1}{4}$ " diameter grid caps.	5	.35
42 H 508	....	(Not illus.) Goat G1004-2 ground clip—grounds shields on octal tubes.	10	.50
42 H 506	....	(Not illus.) Goat G1307-2 double clip for octal base tubes (fits on socket).	5	.07

## TRANSMITTING TUBE CAPS

Av. shgp. wt., per pkg., 2 oz.

Stock No.	Fig.	Description	No. Per Pkg.	PER PKG.
43 H 086	DD	Bud TC-487 heat dissipating cap for UH50, HK24, 304B, 829B, 832A, 834. .063" hole.	1	.67
43 H 087	DD	Bud TC-489 heat dissipating cap for 35T, HK54, etc. .072" hole.	1	.67
43 H 088	DD	Bud TC-1920 heat dissipating cap for 100T, 807, 4-125A, 2-150D, 250TH, 4-250A, 6146, 1625, 4D32, 807W, 1B3GT, etc. .375" hole.	1	.67
43 H 089	DD	Bud TC-1921 heat dissipating cap for 866, T125, HF100, 450TH, 750TH, 809, 811, 812, 813, 828, 866, etc. .570" hole.	1	.78
43 H 243	FF	Millen 36011 industrial self-locking, snap-action plate cap. $\frac{3}{16}$ ".	1	.75
42 H 101	EE	National SPP-3 ceramic-insulated grid and plate cap.	1	.24
42 H 175	EE	National SPP-9 ceramic-insulated grid and plate cap. $\frac{3}{16}$ ".	1	.24
42 H 518	CC	National Type 12 grid and plate cap. $\frac{3}{16}$ ".	3	.21
43 H 244	GG	Millen Type 36002 steatite tube cap. $\frac{3}{8}$ ".	1	.24
43 H 245	GG	Millen Type 36004 steatite tube cap. $\frac{1}{4}$ ".	1	.24
43 H 246	GG	Millen 36001 steatite plate cap for 866.	1	.24

## FAST DELIVERY—OEM PRICES

Allied can make speedy shipment on Harvey Hubbell and Arrow H & H connectors at factory OEM prices. Phone, wire or write the Allied facility nearest you. See page 1 for locations and telephone numbers.

**EIMAC SOCKETS, CHIMNEYS, CONNECTORS**



Tube Sockets. Air-system sockets for high-power tubes. Types SK600 and SK610 have built-in by-pass capacitors rated at 2700 mmf; SK810 has by-pass capacitor rated at 1500 mmf; SK700 and SK710 have capacitors rated at 1100 mmf; all other types are without by-pass capacitors. See listing of chimneys (below) for use with these sockets. Av. shpg. wt., 3 oz.

Stock No.	Type	Fig.	For Tube Types	EACH
42 H 139	SK300A	A	4CW10000A, 4CX5000A, 4CX15000A	105.00
42 H 031	SK400	B	4-250A, 4-400A, 4PR250C, 4PR400A	17.50
42 H 163	SK410	C	Same as SK400 plus 3-400Z	6.50
42 H 034	SK500	D	4-1000A, 4PR1000A	20.00
42 H 159	SK510	E	Same as SK500 plus 3-1000Z	6.50
42 H 039	SK600	F	4CX250B/F, 4W300B, 4X150A/D, 7580	11.50
42 H 040	SK610	F	Same as SK600; cathode grnd contact.	7.50
42 H 124	SK640	G	Same as SK600.	7.50
42 H 127	SK650	H	Same as SK600; cathode grnd contact.	8.50
42 H 041	SK700	J	4CN15A, 4CX125C, 4CX300A	23.00
42 H 042	SK710	J	Same as SK700 but has one heater and a cathode ground contact.	23.00
42 H 043	SK740	K	4CN15A, 4CX300A, 4CX125C	10.00
42 H 045	SK770	L	4CN15A, 4CX300A	10.00
42 H 046	SK810	M	4CX1000A, 4CW2000A	56.00

Chimneys. For use with air-system tube sockets shown above. SK770 socket includes an integral chimney. Av. shpg. wt., 3 oz.

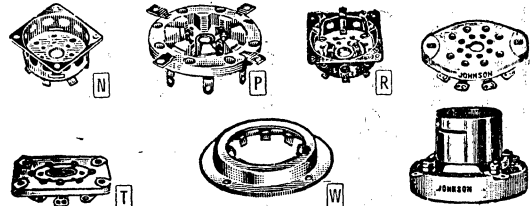
Stock No.	Type No.	For Socket	EACH
42 H 048	SK306	SK300A	6.50
42 H 049	SK406	SK400, SK410	6.50
42 H 054	SK506	SK500, SK510	12.00
42 H 055	SK606	SK600, SK610, SK640, SK650, SK700, SK710, SK740	.75
42 H 056	SK806	SK810	8.50



Heat-Dissipating Connectors. Provide maximum heat dissipation. Permit longer tube life through cooler plate and grid seal operation. Machined from solid dural rod; with screws. Fit tubes with plate or grid cap diameters listed below. 6 oz.

Stock No.	Type	For Tube Types	EACH
42 H 058	HR-1	2-25A, 25T, 3C24 plate and grid	1.10
42 H 059	HR-2	75TH-TL grid, 100TH-TL grid	1.20
42 H 093	HR-3	2-50A, KV21A, RX21A, 35T, 35TG, 75TH-TL plate, VT127A, 250TH-TL grid	1.20
42 H 063	HR-5	4E27A/5-125B, 592/3-200A3 grid	1.20
42 H 096	HR-6	2-150D, 2-240A, 4-65A, 4D21/4-125A, 5D22/4-250A, 4-400A, 100TH-TL plate, 250TH-TL plate, 250R plate, 304TH-TL grid	1.20
42 H 064	HR-7	304TH-TL plate	1.65
42 H 073	HR-8	2-450A, 2-2000A, 3-1000Z, 4-1000A, 4PR60A, 6C21, 450TH-TL, 750TL, 866A, 872A, 1500T, 2000T, 8020 (100R) plate	1.65
42 H 074	HR-9	1000T plate and grid	2.80
42 H 078	HR-10	592/3-200A3 plate	1.65

**E.F. JOHNSON TUBE SOCKETS**



SPECIAL SOCKET TYPES Av. shpg. wts.: \*1/2 lb.; †3/4 lb.

Stock No.	Mfr's Type	Fig.	Pins	Description	EACH		
					1-9	10-49	50-99
46 H 392	122-244-1*	T	4	Steatite. For "super jumbo" tubes.	1.75	1.60	1.47
46 H 393	122-275-1†	T	5	Steatite. For giant 5-pin base tubes.	2.30	2.11	1.94
46 H 394	122-101-100*	R	7	Steatite with base-shield and retainer springs.	2.70	2.48	2.28
46 H 395	122-105-100†	N	7	Compact septar VHF socket. Steatite.	1.60	1.47	1.35
46 H 396	124-113-1*	W		1450 mmf grid by-pass capacitor. 1000 v. DC. Use with 124-109 and 114 sockets.	5.00	4.41	3.91
46 H 397	124-114-1*	P	8	Socket	5.65	4.98	4.42

BAYONET SOCKETS Av. shpg. wts.: †3/4 lb.; §1 lb.

Stock No.	Mfr's Type	Fig.	Pins	Description	1-9	10-49	50-99
46 H 398	123-209-1†	X	4	For "UX" base tubes. 4 mtg. holes 2 5/16" centers.	1.70	1.56	1.44
46 H 399	123-211-1§	X	4	Porcelain base. For "jumbo" tubes. 2 13/16" mtg. centers.	2.15	1.98	1.81

STEATITE WAFERS Cadmium-plated contacts. 1 3/4" mtg. ctrs. 4 oz.

Stock No.	Mfr's Type	Fig.	Size	Prongs	EACH		
					1-9	10-49	50-99
46 H 405	122-224-1	S	S	4	.76	.70	.64
46 H 406	122-225-1	S	2 5/16 x 1 1/16"	5	.83	.76	.70
46 H 407	122-227-1	S	S	7	1.00	.92	.84
46 H 409	122-228-1	S	S	Octal	1.05	.97	.89

**COOL-FIN HEAT-DISSIPATING ELECTRON TUBE SHIELDS**



Single-unit tube-shields with high-efficiency finned radiators. Eliminate intermittent thermal conductivity of separate shield liner and afford maximum heat transfer from tubes. Enable tubes to provide maximum service life. Units are durably constructed of light aluminum alloy, and have a special heat transfer coating over their outer surfaces that dissipates heat rapidly. Fit standard skirted JAN type sockets. Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	Pins	Lgth. (in.)	Dia. (in.)	EACH			
					1-12	13-144	145-576	577-999
41 H 360	CFL7	7	2 1/2	1 1/8	1.50	1.35	1.25	1.15
41 H 361	CFM7	7	2	1 1/8				
41 H 362	CFS7	7	1 1/2	1 1/8				
41 H 363	CFL9	9	2 1/2	1 1/8				
41 H 364	CFM9	9	2	1 1/8				
41 H 365	CFS9	9	1 1/2	1 1/8				

**MILLEN 33087 TUBE BASE CLAMPS**



Sturdily constructed, polished spring-steel tube base clamps. Hold tubes firmly in sockets and protect them against damage from jarring and shock. Excellent for use in mobile equipment and for reducing vibration of oscillator tubes. Wt., 2 oz.

Stock No.	Mfr's Type	Dia.	Stock No.	Mfr's Type	Dia.	EACH
43 H 247	33087A	1.125"	43 H 250	33087D	1.275"	.36
43 H 248	33087B	1.165"	43 H 251	33087E	1.375"	
43 H 249	33087C	1.250"				

**EIMAC PREFORMED CONTACT FINGER STOCK**



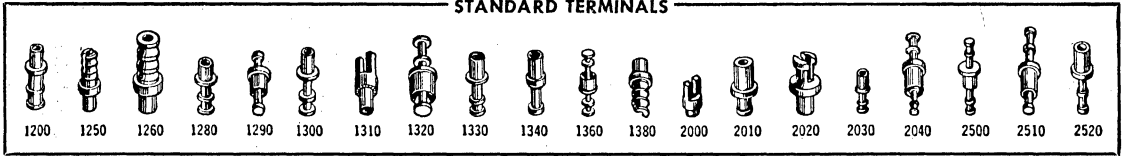
36" strips of silver-plated spring material slotted and formed into a series of fingers for making sliding contacts. Ideal for connections with terminals or moving parts. 12 oz. per strip.

Stock No.	Mfr's Type	Width	Description	EACH
42 H 086	CF-100	17/32"	Spooled	5.35
42 H 087	CF-300	31/32"	Reverse radius finger tip	5.80
42 H 088	CF-500	1 3/8"	Reverse radius finger tip	6.20

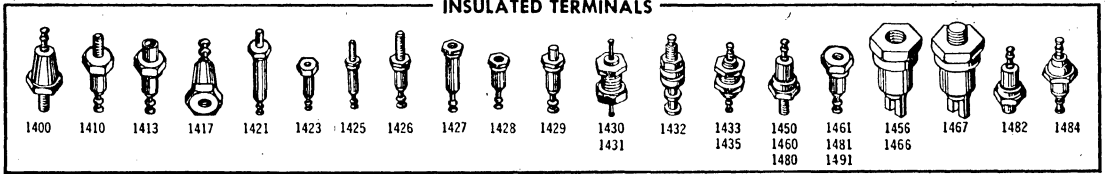


# USECO Top-Quality Terminals

## STANDARD TERMINALS



## INSULATED TERMINALS



## STANDARD TERMINALS

A large selection of standard terminals in miniature and subminiature sizes. Offer a wide choice of terminal configurations—includes hollow lug, bifurcated, turret and feed-through types. All terminals are constructed of selected brass stock, in accordance with the requirements of MIL specification QQ-B-626, composition 22, 1/2

hard. All units are silver-plated according to the requirements of MIL specification QQ-S-365 Type 111. For further protection, terminals are packaged in vapor-resistant cellophane plastic to insure receipt of units in perfect condition. Av. shpg. wt., per pkg., 2 oz. 100 per package.

Stock No.	Mfr's Type	Shank		PER PKG. OF 100			
		Dia.	Lgth.	1-9	10-24	25-74	75-149
43 H 604	1200B	.114	.105	1.54	1.31	1.19	1.05
43 H 611	1200C	.114	.135	1.54	1.31	1.19	1.05
43 H 612	1200D	.114	.165	1.54	1.31	1.19	1.05
43 H 613	1250B	.114	.105	2.84	2.40	2.19	1.93
43 H 614	1250C	.114	.135	2.84	2.40	2.19	1.93
43 H 615	1250D	.114	.165	2.84	2.40	2.19	1.93
43 H 616	1260D	.114	.165	2.53	2.14	1.94	1.72
43 H 617	1280A	.091	.075	1.10	.94	.85	.75
43 H 618	1280B	.091	.105	1.10	.94	.85	.75
43 H 619	1280C	.091	.135	1.10	.94	.85	.75
43 H 620	1280D	.091	.165	1.10	.94	.85	.75
43 H 621	1290B	.114	.105	1.65	1.40	1.27	1.12
43 H 622	1290C	.114	.135	1.65	1.40	1.27	1.12
43 H 623	1300B	.114	.105	1.69	1.43	1.30	1.15
43 H 624	1300C	.114	.135	1.69	1.43	1.30	1.15
43 H 625	1300D	.114	.165	1.69	1.43	1.30	1.15
43 H 626	1310B	.114	.105	2.17	1.83	1.67	1.47
43 H 627	1310C	.114	.135	2.17	1.83	1.67	1.47
43 H 628	1310D	.114	.165	2.17	1.83	1.67	1.47
43 H 629	1320B	.204	.105	3.53	2.99	2.72	2.40
43 H 630	1330B	.135	.105	2.65	2.24	2.04	1.80

Stock No.	Mfr's Type	Shank		PER PKG. OF 100			
		Dia.	Lgth.	1-9	10-24	25-74	75-149
43 H 631	1340B	.079	.105	1.55	1.31	1.19	1.05
43 H 632	1340C	.079	.135	1.55	1.31	1.19	1.05
43 H 633	1360D	.204	.165	4.38	3.70	3.36	2.97
43 H 634	1380D	.114	.165	3.43	2.90	2.64	2.32
43 H 635	2000A	.063	.053	1.91	1.61	1.47	1.29
43 H 636	2000B	.063	.084	1.91	1.61	1.47	1.29
43 H 637	2000C	.063	.115	1.91	1.61	1.47	1.29
43 H 638	2010A	.063	.053	1.64	1.38	1.26	1.11
43 H 639	2010B	.063	.084	1.64	1.38	1.26	1.11
43 H 640	2010C	.063	.115	1.64	1.38	1.26	1.11
43 H 641	2010D	.063	.147	1.64	1.38	1.26	1.11
43 H 642	2020B	.063	.084	2.11	1.78	1.62	1.43
43 H 643	2030B	.062	.084	1.78	1.51	1.37	1.21
43 H 644	2030C	.062	.115	1.78	1.51	1.37	1.21
43 H 645	2040B	.126	.105	2.08	1.76	1.60	1.41
43 H 646	2040C	.126	.135	2.08	1.76	1.60	1.41
43 H 647	2040D	.126	.165	2.08	1.76	1.60	1.41
43 H 648	2500C	.091	.115	1.99	1.68	1.53	1.35
43 H 649	2500D	.091	.147	1.99	1.68	1.53	1.35
43 H 681	2510B	.073	.084	1.98	1.67	1.52	1.34
43 H 682	2510D	.073	.147	1.98	1.67	1.52	1.34
43 H 683	2520B	.073	.084	1.96	1.66	1.50	1.33

## INSULATED STAND-OFF AND FEED-THRU TERMINALS

All terminals listed below are stand-off types, except Types 1430 through 1433, 1435 and 1484B, which are feed-through types. Listings below include a variety of standard, miniature and sub-miniature types, with turret and bifurcated terminal connections. Base connections of stud, female, and swage types are listed in a wide variety of thread sizes and lengths. Types are listed with breakdown voltages from 1500 to 10,000 volts, A.C. All terminals are made of brass, with .000015" gold plate over .0003" silver plate. Bases are

all cadmium-plated brass. Brass used in terminals is in accordance with MIL specification QQ-B-626, composition 22, 1/2 hard. "S" in column head of table below is thread, or shank diameter; "X" is shank length, except \* overall length. "Ins." indicates dielectric material. Dielectric materials are: P, Phenolic (MIL-P-14020 CL 2); A, Alkyd (MIL-M-14E Ty. Mag.); T, Teflon (AMS-3651 B); H, Hi-Alumina (JAN I-10, L-5A); D, Diallyl Phthalate (MIL-M-19833 Type GD 1 30). Av. shpg. wt., 1 oz.

Stock No.	Mfr's Type	S	X	Ins.	EACH			
					1-99	100-274	275-499	500-999
43 H 684	1400B	6-32	.250	P	.21	.18	.16	.145
43 H 685	1410D	.188	.156	P	.21	.18	.16	.145
43 H 686	1413B	.113	.105	A	.23	.195	.175	.155
43 H 687	1413D	.113	.165	A	.23	.195	.175	.155
43 H 688	1417	6-32	....	A	.23	.195	.175	.155
43 H 689	1418B	6-32	.250	A	.23	.195	.175	.155
43 H 690	1418H	4-40	.375	A	.23	.195	.175	.155
43 H 691	1419C	.188	.125	A	.23	.195	.175	.155
43 H 692	1421	6-32	.250	A	.28	.24	.215	.19
43 H 693	1423	6-32	....	A	.28	.24	.215	.19
43 H 694	1425	2-56	.218	A	.28	.24	.215	.19
43 H 695	1426	.256	.218	A	.26	.22	.20	.18
43 H 696	1427	2-56	....	A	.28	.24	.215	.19
43 H 697	1428	.256	....	A	.26	.22	.20	.18
43 H 698	1429B	.113	.105	A	.26	.22	.20	.18
43 H 699	1430	10-32	.687*	D	.41	.35	.32	.28
43 H 700	1431	10-32	....	T	.49	.41	.375	.33
43 H 701	1432	5-40	.796*	T	.38	.325	.295	.26
43 H 702	1433	1/4-28	.875*	D	.49	.41	.375	.33
43 H 703	1435	3/8-32	1.31*	D	.60	.51	.465	.41
43 H 704	1450B	6-32	.250	T	.28	.24	.215	.19
43 H 705	1450H	4-40	.375	T	.28	.24	.215	.19
43 H 706	1451	6-32	....	T	.28	.24	.215	.19
43 H 707	1456	6-32	....	T	.29	.245	.22	.195

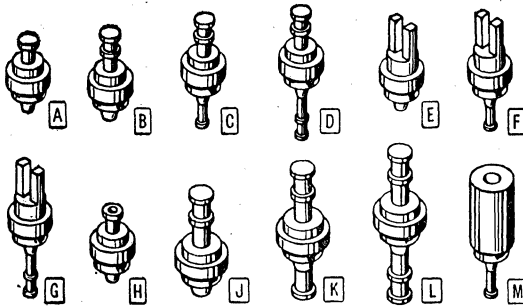
Stock No.	Mfr's Type	S	X	Ins.	EACH			
					1-99	100-274	275-499	500-999
43 H 708	1456A	4-40	....	T	.29	.245	.22	.195
43 H 709	1460B	6-32	.250	H	.28	.24	.215	.19
43 H 710	1460H	4-40	.375	H	.28	.24	.215	.19
43 H 711	1461	6-32	....	H	.28	.24	.215	.19
43 H 712	1466	6-32	....	H	.29	.245	.22	.195
43 H 713	1467B	.188	.094	H	.29	.245	.22	.195
43 H 715	1480B	.256	.218	H	.31	.265	.24	.215
43 H 716	1480D	4-40	.218	H	.31	.265	.24	.215
43 H 717	1481B	2-56	....	H	.31	.265	.24	.215
43 H 718	1482B	.115	.094	H	.31	.265	.24	.215
43 H 719	1484B	.188	.105	H	.59	.50	.455	.40
43 H 720	1490B	2-56	.218	T	.31	.265	.24	.215
43 H 721	1491A	2-56	....	T	.31	.265	.24	.215

## SWAGING MACHINE AND TOOLS

... for use with the terminals shown above are listed on the following page (page 242) of this catalog. Included are a hand-operated swaging machine of rugged, rack and pinion construction, plus a wide variety of swaging and "Loc-Fit" installation tools for use with the swaging machine.

# Useco Terminals, Swaging Tools, and Hardware

## LOC-FIT TERMINALS

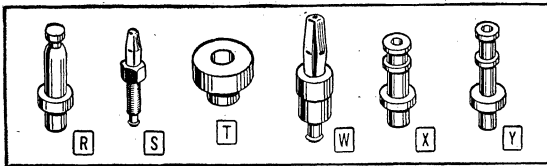


### SERIES 4400 TERMINALS

Offer convenient chassis mounting—simply push teflon grommet supplied into mtg. hole and snap-fit terminal into grommet. Nominal chassis thickness .062". Types 4441, 4442, 4444, 4445, 4448 and 4449 are feed-thru types. Types 4435, 4447, 4448 and 4449 are taper pin receptacles. Type 4450 is an insulated test point. Type 4435 is an insulated terminal. Av. shgp. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Lgth.	Mtg. Hole	EACH			
					1-99	100-499	500-999	1000-1999
43 H 527	4435B	A	.372"	.142"	.09	.08	.07	.06
43 H 528	4440B	B	.455"	.142"	.10	.09	.08	.07
43 H 529	4441C	C	.580"	.142"	.12	.105	.095	.085
43 H 530	4442B	D	.693"	.142"	.12	.105	.095	.085
43 H 531	4443B	E	.455"	.142"	.12	.10	.09	.08
43 H 532	4444B	F	.580"	.142"	.13	.11	.10	.09
43 H 533	4445B	G	.693"	.142"	.13	.11	.10	.09
43 H 534	4446B	H	.372"	.142"	.10	.085	.075	.065
43 H 535	4447B	J	.543"	.188"	.14	.125	.11	.095
43 H 536	4448B	K	.709"	.188"	.18	.155	.14	.105
43 H 537	4449B	L	.830"	.188"	.17	.145	.13	.115
43 H 538	4450B	M	.688"	.126"	.28	.24	.215	.19

## CONNECTORS



### SERIES 1700 PLUGS AND SOCKETS

High quality connectors with silver-plated contacts for extra-positive electrical connections. Types 1700 and 1710 (Figs. R and T) are sockets. Types 1705 and 1715 are banana plugs (Figs. W and S). T is thread or nominal dia. X is shank length. Av. shgp. wt., 2 oz.

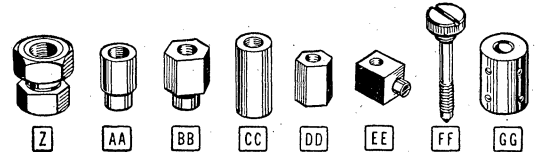
Stock No.	Mfr's Type	Fig.	T	X	EACH			
					1-99	100-274	275-499	500-999
43 H 539	1700C	R	.135	.135	.18	.155	.14	.105
43 H 540	1700D	R	.135	.165	.18	.155	.14	.105
43 H 541	1705C	W	.104	.135	.30	.255	.23	.20
43 H 542	1705D	W	.104	.165	.30	.255	.23	.20
43 H 543	1710C	T	.135	.10	.085	.075	.065	.065
43 H 544	1710D	T	.165	.10	.085	.075	.065	.065
43 H 545	1715	S	2-56	.34	.29	.26	.23	.23

### SERIES 2700 TAPER PIN RECEPTACLE TERMINALS

Precision-machined terminals of quality brass. All are finished with 0.0003" silver plating to ensure a positive, electrical connection under severe usage. T is nominal dia. X is shank length. Av. wt. per pkg. of 100, 1 lb.

Stock No.	Mfr's Type	Fig.	T	X	PER PKG. OF 100			
					1-9	10-24	25-74	75-149
43 H 546	2720D	X	.114	.165	2.78	2.35	2.14	1.89
43 H 547	2740B	Y	.079	.105	3.94	3.33	3.03	2.67
43 H 548	2740C	Y	.079	.135	3.94	3.33	3.03	2.67
43 H 549	2740D	Y	.079	.165	3.94	3.33	3.03	2.67
43 H 550	2750B	Y	.079	.105	3.26	2.75	2.50	2.21
43 H 551	2750C	Y	.079	.135	3.26	2.75	2.50	2.21
43 H 552	2750D	Y	.079	.165	3.26	2.75	2.50	2.21

## INSTRUMENT PANEL HARDWARE

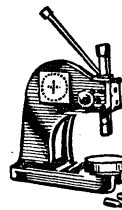


### SERIES 1500 HARDWARE

Shaft locks illustrated in Fig. Z; swage type stand-offs in Figs. AA and BB; threaded stand-offs in Figs. CC and DD; chassis fastener in Fig. EE; captive panel screw in Fig. FF; shaft coupling in Fig. GG. T, thread/recommended board thickness. X, shank length, except \*maximum shaft diameter, overall length. Types illustrated by Fig. AA have 1/4" standoff, except 43 H 562 and 43 H 563 which have 3/8" standoff. Av. shgp. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	T	X	EACH			
					1-59	60-99	100-499	500-999
43 H 553	1510	Z	3/8-32	.250*	.17	.15	.135	.12
43 H 554	1512	Z	1/4-32	.125*	.16	.135	.12	.105
43 H 555	1530A	AA	.031	.075	.07	.06	.055	.05
43 H 556	1530B	AA	.062	.105	.07	.06	.055	.05
43 H 557	1530C	AA	.094	.135	.07	.06	.055	.05
43 H 558	1530D	AA	.125	.165	.07	.06	.055	.05
43 H 559	1531B	BB	.062	.105	.07	.06	.055	.05
43 H 560	1531C	BB	.094	.135	.07	.06	.055	.05
43 H 562	1530B	AA	.062	.105	.07	.06	.055	.05
43 H 563	1530D	AA	.125	.165	.07	.06	.055	.05
43 H 566	1550B	CC	4-40	.375†	.08	.07	.065	.06
43 H 567	1550C	CC	6-32	.250†	.12	.105	.095	.085
43 H 568	1550D	CC	6-32	.325†	.12	.105	.095	.085
43 H 569	1550F	CC	6-32	.675†	.12	.105	.095	.085
43 H 570	1550G	CC	6-32	.750†	.12	.105	.095	.085
43 H 571	1551B	DD	4-40	.375†	.12	.105	.095	.085
43 H 572	1551C	DD	6-32	.250†	.13	.11	.10	.09
43 H 573	1551E	DD	6-32	.500†	.13	.11	.10	.09
43 H 574	1551G	DD	6-32	.750†	.13	.11	.10	.09
43 H 575	1551J	DD	8-32	.500†	.15	.125	.115	.10
43 H 576	1590B	EE	.062	.105	.21	.18	.16	.145
43 H 577	1590C	EE	.094	.135	.21	.18	.16	.145
43 H 578	3200-6	FF	6-32	.880†	.17	.15	.135	.12
43 H 579	3200-8	FF	8-32	.880†	.17	.15	.135	.12
43 H 580	3200-10	FF	10-32	.880†	.17	.15	.135	.12
43 H 581	3200-25	FF	1/4-20	1 1/2†	.35	.30	.27	.24
43 H 582	3316A	GG	1/4*	.750†	.49	.41	.375	.33
43 H 583	3316B	GG	1/8*	.750†	.42	.355	.32	.285

## SWAGING MACHINE



Model A. Hand-operated swaging machine of rugged rack and pinion construction. Precision machined to ensure smooth and rapid work. Designed for simplicity and ease in operation—means little or no man-hours devoted to training. With a 4-to-1 pressure ratio, 3/4" stroke, and 3 1/2" throat depth, the Model A is ideally suited to light assembly. For use with swaging tools described below. Shgp. wt., 20 lbs.

43 HX 584..... 69.50

## SWAGING AND "LOC-FIT" INSTALLATION TOOLS

Accurately machined from chromium steel alloy, flame-hardened, and highly polished. All tools are 1/2" dia. and mount in the Model A swaging machine above. Av. shgp. wt., 8 oz.

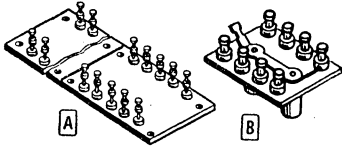
Stock No.	Mfr's Type	For Use With Terminal Type	EACH
43 H 585	1200	1200B, C, D	7.50
43 H 586	1250	1250B, C, D	
43 H 587	1280	1280A, B, C, D	
43 H 588	1300	1300B, C, D	
43 H 589	1310	1310B, C, D	
43 H 590	2000	2000A, B, C	7.50
43 H 591	2010	2010A, B, C, D	
43 H 592	2020	2020B	
43 H 593	2030	2030B, C	
43 H 594	2040	2040B, C, D	
43 H 595	2500	2500C, D	25.00
43 H 596	2510	2510B, D	
43 H 597	4435	4435B	
43 H 598	4440	4440B	
43 H 599	4441	4441B	
43 H 600	4442	4442B	25.00
43 H 601	4443	4443B	
43 H 602	4444	4444B	
43 H 603	4445	4445B	

# Terminals, Boards, Blocks, and Terminal Kits

## USECO TERMINAL BOARDS

Choose from a variety of sizes and materials. For military applications or wherever highest quality construction and wiring standards are observed. All boards with 50 terminals are scored .02" deep after every group of ten terminals so that five identical sections may be snapped off—each section has four mtg. holes. Boards with 8 terminals have grounding strap in center and mount on 1/4" brass stand-offs with 3-48 tapped hole. Types 1180, 1181, and 1182 are designed to mount 1/2, 1, and 2-watt resistors, respectively, and are .06" thick. Types 1100 and 1102 are .094" thick with .116" mtg. holes. Types 2200 and 2202 are .062" thick with .062" mtg. holes.

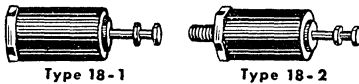
Distance between rows of terminals: Type 1100B, C, and D—1/2, 2, and 2 1/2", respectively; Types 2200B and C—1/2 and 3/4", respectively; Types 2202B and C—1/2 and 3/4", respectively; Types 1180, 1181, and 1182—1/2, 3/4, and 7/8", respectively. Types 1100 and 2200 are made of phenolic; Types 1102 and 2202 are glass Epoxy; Types 1180, 1181, and 1182 are glass Melamine. All terminals are brass. Av. shpg. wt., 4 oz.



Stock No.	Mfr's Type	Fig.	No. of Term.	Size	EACH			
					1-50	51-100	101-250	251-500
42 H 910	1100B	A	50	2x13.12"	2.66	2.26	2.04	1.80
42 H 911	1100C	A	50	2 1/2x13.12"	2.76	2.34	2.12	1.87
42 H 912	1100D	A	50	3x13.12"	2.86	2.42	2.20	1.95
42 H 913	1102B	A	50	2x13.12"	4.94	4.18	3.80	3.36
42 H 914	1102C	A	50	2 1/2x13.12"	5.59	4.73	4.30	3.79
42 H 916	2200B	A	50	3 1/4x7.81"	2.62	2.22	2.02	1.78
42 H 917	2200C	A	50	1x7.81"	2.97	2.51	2.28	2.02
42 H 919	2202B	A	50	3 1/4x7.81"	3.27	2.77	2.51	2.22
42 H 932	2202C	A	50	1x7.81"	4.22	3.57	3.24	2.86
42 H 920	1180	B	8	.719x.88"	.78	.66	.60	.53
42 H 921	1181	B	8	1.03x1.22"	.78	.66	.60	.53
42 H 922	1182	B	8	1.16x1.22"	.86	.72	.66	.58

## GRAYHILL INSULATED STAND-OFF TERMINALS

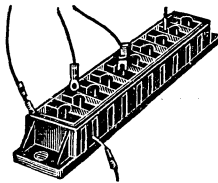
Molded of natural mica filled phenolic—will not support fungus growth. Offer low loss at high frequencies, low moisture absorption, and high dielectric strength. With silver-plated brass terminals. Type 18-1 has 4-40 threaded hole in base for mtg. Type 18-2 has 7/32" mtg. stud with 4-40 thread. Both have bodies 1 1/8" long x 3/16" dia. Wt., 3 oz.



Stock No.	Mfr's Type	Mounting	EACH	
			1-49	50-99
45 H 290	18-1	Female	.35	.263
45 H 291	18-2	Male	.40	.30

## MODULAR ELECTRONICS TERMINAL BLOCK

"Uni-Block" Terminal Block. Accepts all common lead terminations—spade, ring or fork lug, test probe, straight pin, taper pin and wire wrap. Has top and side entry for telemetry patch panels, breadboard and proto-type work. Provides positive, secure electrical and mechanical connection with withdrawal pressure of 35 to 40 pounds. Makes connections that exceed MIL-Spec requirements for contact resistance. Beryllium copper spring contacts. 350°F phenolic body. Electrical capacity, 50 amps. F-type have feed-thru pins. Size: 5-position, 2 7/32x1x3"; 10-position, 2 7/32x1x5". Av. shpg. wt., 4 oz.



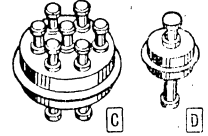
Stock No.	Mfr's Type	Positions	EACH
46 H 066	P-1000-5	5	1.95
46 H 067	P-1000-10	10	2.45
46 H 068	F-P-1000-5	5	2.45
46 H 069	F-P-1000-10	10	3.75

## FAST DELIVERY—OEM PRICES

Allied makes immediate shipment on USECO terminals at factory OEM prices—write, wire, or phone the Allied facility nearest you—you'll get fast service.

## USECO MOLDED TERMINAL HEADERS

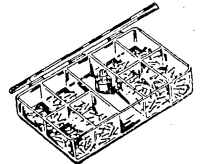
Molded terminal headers for transformer, plug-in type module, filter network, vibrator, and timer applications. High mechanical strength, conductivity, and insulation resistance—exceed MIL-T-27A specs. Made of low-loss phenolic with gold-plated brass pins with numbers molded into plastic. \*Number of pins indicated by suffix except 4008, 4010 and 4011 single headers. 4011 is high voltage type. 8000 max. All have insulation resistance greater than 100 megohms. Wt., 3 oz.



Stock No.	Mfr's Type*	Fig.	Mtg. Hole	Lgth.	EACH			
					1-50	51-100	101-250	251-500
43 H 500	4008	D	9/32"	3/16"	.33	.31	.29	.26
43 H 501	4010	D	1 1/32"	7/8"	.38	.36	.33	.30
43 H 502	4011	D	1 1/32"	1 1/32"	.46	.42	.40	.36
43 H 503	4014-7	C	1 1/32"	3 1/32"	.83	.77	.72	.65
43 H 504	4033-10	C	1 1/32"	2 1/32"	.88	.83	.77	.69
43 H 505	4033-11	C	1 1/32"	2 1/32"	.90	.84	.78	.71
43 H 506	4033-14	C	1 1/32"	2 1/32"	.96	.90	.83	.75
43 H 507	4033-16	C	1 1/32"	2 1/32"	.99	.92	.86	.78
43 H 508	4055-7	C	3/4"	1 1/2"	.61	.56	.52	.47
43 H 509	4055-8	C	3/4"	1 1/2"	.63	.58	.54	.49
43 H 510	4055-9	C	3/4"	1 1/2"	.64	.60	.56	.51
43 H 511	4056-10	C	2 1/32"	1 1/2"	.74	.69	.64	.58
43 H 512	4056-12	C	2 1/32"	1 1/2"	.78	.73	.67	.61
43 H 513	4064-6	C	2 1/32"	1 1/2"	.66	.62	.57	.52
43 H 514	4067-9	C	3/4"	1 1/2"	.64	.60	.56	.51
43 H 515	4074-5	C	1 1/32"	7/16"	.63	.58	.54	.49
43 H 516	4074-6	C	1 1/32"	7/16"	.64	.60	.56	.51
43 H 517	4074-7	C	1 1/32"	7/16"	.66	.62	.57	.52
43 H 518	4109-8	C	2 1/32"	1 1/2"	.81	.75	.70	.64
43 H 519	4109-10	C	2 1/32"	1 1/2"	.85	.79	.74	.67
43 H 520	4115-8	C	3/4"	1 1/2"	.64	.60	.56	.51
43 H 521	4115-9	C	3/4"	1 1/2"	.66	.62	.57	.52
43 H 522	4151-5	C	2 1/32"	2 1/32"	.56	.53	.50	.45
43 H 523	4151-7	C	2 1/32"	2 1/32"	.61	.56	.52	.47

## USECO ENGINEERING DESIGN KIT

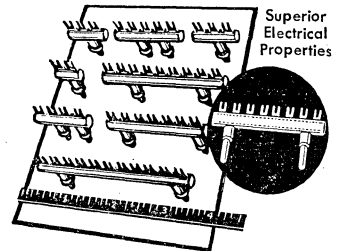
A representative selection of each type of terminal is included in these engineering design kits. Kit K-44-1 has Loc-Fit terminals which snap into teflon grommets mounted in .146" holes. K-14-1, -2, and -3 offer a variety of threaded mtg. bases with aluminum oxide, teflon and plastic insulations respectively. Kit K-12 offers a complete line of solder terminals for .064" to .116" mtg. holes. All terminals are for .062" thick mtg. boards. Wt., 1 lb.



Stock No.	Mfr's Type	Terminals Included	EACH
43H524	K-44-1	350 Loc-Fit w/teflon grommets and swaging tool	28.50
43H525	K-14-1	160 Hi-Alumina insulated standoff	28.50
42H985	K-14-2	30 teflon insulated standoff	28.50
42H986	K-14-3	160 Plastic insulated standoff	28.50
43H526	K-12	1200 Solder terminals w/mtg. tool	28.50

## ELECTRO-GLASS MOUNTING STRIPS

Electro-Glass Laboratories polypropylene strips are designed to increase production efficiency and contribute to compact circuitry. Dielectric constants are 400% better than phenolic, 200% better than ceramic. Loss factors are 200 times better than phenolic, 30 times better than ceramic, even as frequencies increase. Fasten to chassis by speed nut, 6-32 nut, pressure fit, etc. Improved serviceability of electronic instruments using EGL mounting strips is made possible since all test points are accessible and components can easily be replaced. The strips are lightweight and non-breakable. Last digit in type No. indicates number of terminals. Supplied in various lengths, from 1 1/32" to 3 1/4". Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Lgth.	EACH			
			1-99	100-499	500-999	1000-4999
43 H 090	MS-1-PP-2	1 1/32"	.098	.090	.080	.071
43 H 091	MS-1-PP-3	5 7/32"	.098	.090	.080	.071
43 H 092	MS-1-PP-4	1 1/16"	.133	.120	.107	.095
43 H 093	MS-1-PP-5	1 1/32"	.133	.120	.107	.095
43 H 094	MS-1-PP-7	2 1/16"	.133	.120	.107	.095
43 H 095	MS-1-PP-9	2 2/32"	.158	.145	.127	.113
43 H 096	MS-1-PP-11	3 1/4"	.158	.145	.127	.113

# Vaco Solderless Terminals and Tools

Form perfect electrical connections. Constructed of copper alloy. Explanation of symbols in table: 1/4" male tab, 3/8" female tab socket, 1/4" angle male tab, #Angle female tab socket. \*\*Butt connector, ††Snap terminal, #Snap connector. Av. shpg. wt.: pkg. of 100, 8 oz.; economy pack, 3 oz.

## NON-INSULATED TERMINALS

Wire Size	Stud Size	Lth.	Fig.	Stock No.	Mfr's Type	PER PKG. OF 100			
						1-9	10-49	50-99	100-Up
22-18	4	1 3/16"	A	44H200	11204	2.22	1.33	1.08	.972
22-18	4-6	1 3/16"	A	42H800	11205	2.22	1.33	1.08	.972
22-18	4-6	3/4"	A	42H801	11206	2.22	1.33	1.08	.972
22-18	8	4 3/4"	A	44H201	11208	2.22	1.33	1.08	.972
22-16	8-10	3/4"	A	42H802	11210	2.22	1.33	1.08	.972
16-14	4	9/16"	A	44H203	11304	2.22	1.33	1.08	.972
16-14	4-6	1 1/2"	A	42H803	11305	2.22	1.33	1.08	.972
16-14	4-6	2 3/32"	A	42H804	11306	2.22	1.33	1.08	.972
16-14	8	2 3/32"	A	44H204	11308	2.22	1.33	1.08	.972
16-14	8-10	2 3/32"	A	42H805	11310	2.22	1.33	1.08	.972
12-10	8-10	3/4"	A	42H807	11410	2.77	1.66	1.35	1.21
12-10	12-1/4	2 3/8"	A	42H808	11414	3.68	2.21	1.80	1.62
22-18	4	1 1/2"	B	44H205	13204	1.98	1.12	.963	.867
22-16	4-6	1 1/2"	B	42H812	13206	1.98	1.12	.963	.867
22-18	8	4 1/4"	B	44H206	13208	2.22	1.33	1.08	.972
22-18	10	1 1/16"	B	44H207	13210	2.22	1.33	1.08	.972
16-14	4-6	4 3/8"	B	42H810	13306	2.22	1.33	1.08	.972
16-14	8	4 3/8"	B	44H208	13308	2.22	1.33	1.08	.972
16-14	8-10	4 3/8"	B	42H811	13310	2.22	1.33	1.08	.972
22-16	4-6	9/16"	B	42H809	14206	1.98	1.12	.963	.867
22-16	4-8	5/8"	C	42H819	15208	1.98	1.12	.963	.867
16-14	4-6	2 1/2"	D	44H209	15306	2.22	1.33	1.08	.972
16-14	8	2 1/2"	C	44H210	15308	2.22	1.33	1.08	.972
16-14	10	4 3/8"	C	44H211	15310	2.22	1.33	1.08	.972
22-16	.....	9/16"	E	42H816	17202**	1.72	1.03	.837	.753
16-14	.....	9/16"	E	42H817	17302**	1.72	1.03	.837	.753
22-10	.....	9/16"	E	42H818	17402**	2.22	1.33	1.08	.972
16-14	.....	3/4"	F	42H813	19301††	1.72	1.03	.837	.753
.....	.....	3/4"	G	44H212	19302††	4.05	2.43	1.97	1.77
22-18	.....	1 1/2"	H	44H213	18204‡	2.22	1.33	1.08	.972
18-14	.....	2 3/32"	J	42H820	18301††	2.22	1.33	1.08	.972
18-14	.....	2 3/32"	K	42H821	18302‡	2.22	1.33	1.08	.972
18-14	.....	9/16"	L	42H822	18303‡	2.22	1.33	1.08	.972
18-14	.....	1 1/2"	M	42H823	18304‡	2.22	1.33	1.08	.972

## INSULATED TERMINALS

Stock No.	Mfr's Type	PER PKG. OF 100			
		1-9	10-49	50-99	100-Up
44 H 214	51204				
42 H 828	51205	4.05	2.43	1.97	1.77
42 H 829	51206				
44 H 215	51208				
42 H 830	51210				
44 H 216	51304				
42 H 831	51305	4.05	2.43	1.97	1.77
42 H 832	51306				
44 H 217	51308				
42 H 833	51310				
44 H 218	53204	4.05	2.43	1.97	1.77
42 H 840	53206				
44 H 219	53208				
42 H 220	53210				
42 H 838	53306	4.05	2.43	1.97	1.77
44 H 221	53308				
42 H 839	53310				
42 H 837	54206				
42 H 846	55208				
44 H 222	55306	4.05	2.43	1.97	1.77
44 H 223	55308				
44 H 224	55310				
42 H 841	57202				
42 H 842	57302	4.05	2.43	1.97	1.77
42 H 843	57402	4.50	2.70	2.18	1.97
42 H 847	58301	4.05	2.43	1.97	1.77
44 H 225	58302	4.77	2.86	2.32	2.09

## DOUBLE GRIP TYPES

Wire Size	Qty.	Stock No.	1-9	10-49	50-99	100-Up
22-18	4	44H226	4.88	2.93	2.37	2.14
22-18	5-6	44H227	4.88	2.93	2.37	2.14
22-18	8	44H229	4.88	2.93	2.37	2.14
22-18	10	44H230	4.88	2.93	2.37	2.14
16-14	4	44H231	4.88	2.93	2.37	2.14
16-14	5-6	44H232	4.88	2.93	2.37	2.14
16-14	8	44H234	4.88	2.93	2.37	2.14
16-14	10	44H235	4.88	2.93	2.37	2.14
22-18	4	44H236	4.88	2.93	2.37	2.14
22-18	8	44H238	4.88	2.93	2.37	2.14
22-18	10	44H239	4.88	2.93	2.37	2.14
16-14	8	44H241	4.88	2.93	2.37	2.14
16-14	10	44H242	4.88	2.93	2.37	2.14

## TERMINAL ASSORTMENTS

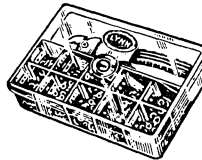
Model 4900. Assortment of 500 insulated single grip terminals with tool for correct installation. Package includes: 20 different types and sizes of terminals; Vaco 1906 crimping tool, described below; steel case with individual compartments for terminals and tool. Dimensions of case, 13 1/4 x 9 1/4 x 2". Shpg. wt., 10 lbs.  
44 H 317..... 49.25



Model 5000. Similar to Model 4900 assortment above but contains 1000 single-grip terminals with tool in steel box. Includes 50 each of 20 different types and sizes, 10 lbs.  
44 H 319..... 53.95

## SERVICE KIT

Model 2195. Contains approximately 250 solderless terminals in assorted sizes. Type 1900 tool described below. Terminal assortment and tool are supplied in handy clear plastic case with slotted dividers for index tabs. 8 3/4 x 6 x 1 3/4". 2 lbs.  
44 H 427..... 8.95



## CRIMPING TOOLS

Model 1906. Tool for use with insulated terminals. Crimps barrel of terminals, strips and cuts wire. Two crimping dies for terminals used on 14-22 and 10-12 wires. 6 wire-stripping notches are marked for Nos. 10, 12, 14, 16, 18 and 22 wires. Steel with plastic handles. 1 lb.  
44 H 228..... 4.25



Model 1900. Similar to 1906, but 3 crimping dies for non-insulated terminals. Crimps terminals on 18-22, 14-16, and 10-12 wires.  
44 H 233..... 3.95

## ECONOMY PACKAGES

Non-Insulated			Insulated		
Stock No.	Type	Qty.	Stock No.	Type	Qty.
44 H 260	11204	41	44 H 268	51204	20
44 H 476	11205	41	44 H 269	51205	20
44 H 481	11206	41	44 H 270	51206	20
44 H 261	11208	41	44 H 271	51208	20
44 H 482	11210	41	44 H 272	51210	20
44 H 262	11304	41	44 H 273	51304	20
44 H 477	11305	41	44 H 274	51305	20
44 H 485	11306	41	44 H 275	51306	20
44 H 263	11308	41	44 H 276	51308	20
44 H 486	11310	41	44 H 277	51310	20
44 H 489	11410	32			
44 H 490	11414	24			
44 H 264	13204	45	44 H 278	53204	20
44 H 265	13206	45	44 H 279	53206	20
44 H 266	13208	41	44 H 280	53208	20
44 H 267	13210	41	44 H 281	53210	20
44 H 492	13306	41	44 H 282	53306	20
44 H 283	13308	41	44 H 303	53308	20
44 H 493	13310	41	44 H 304	53310	20
44 H 498	14206	45	44 H 305	54206	20
44 H 499	15208	45	44 H 306	55208	20
44 H 284	15306	41	44 H 307	55306	20
44 H 285	15308	41	44 H 308	55308	20
44 H 286	15310	41	44 H 309	55310	20
44 H 287	17202	52	44 H 310	57202	20
44 H 288	17302	52	44 H 311	57302	20
44 H 289	17402	41	44 H 312	57402	17
44 H 290	19301	52			
44 H 291	19302	20			
44 H 294	18204	41			
44 H 295	18301	41	44 H 313	58301	20
44 H 297	18302	41	44 H 314	58302	17
44 H 301	18303	41			
44 H 302	18304	41			

Per Pkg. .... 1.00

# Terminals, Kits, Crimping Tools and Tool Kits

## THOMAS AND BETTS

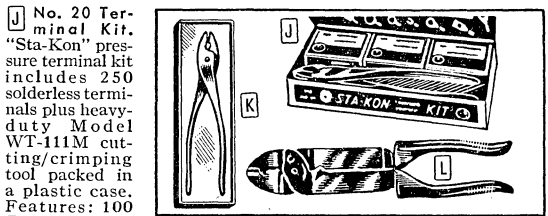
### TERMINALS FOR EVERY USE



Barrel for staking conductor has ring or spade tongue. Explanation of symbols used in table below: \*Indicates insulation grip, †Self-insulated, with insulation grip, §Insulated connectors, ‡Disconnects. Crimping tools for terminals are listed at bottom of page. Av. shgp. wt., per package 7 oz. Packed 100 to a package.

Stock No.	Fig.	Mfr's No.	Wire Size	Stud Size	PER PKG.		
					1-4	5-9	10-Up
43 H 756	A	A18-6	22-18	6	2.64	2.64	1.98
43 H 757	A	A18-10	22-18	10			
43 H 758	A	B14-6	20-14	6			
43 H 759	A	B14-8	20-14	8			
43 H 760	A	B14-10	20-14	10			
43 H 761	A	B14-14	20-14	1/4	3.50	2.62	2.62
43 H 762	A	C10-6	16-10	6	3.80	2.90	2.90
43 H 763	A	C10-10	16-10	10	3.80	3.80	2.90
43 H 765	E	B14-6G*	16-14	6	3.50	2.80	2.80
43 H 766	E	B14-10G*	16-14	10	3.50	2.80	2.80
43 H 767	B	A18-6F	22-18	6	2.64	2.64	1.98
43 H 768	B	B14-10F	20-14	10	2.64	2.64	1.98
43 H 769	F	B14-6FG*	16-14	6	3.50	2.80	2.80
43 H 770	F	B14-10FG*	16-14	10	3.50	2.80	2.80
43 H 771	G	RA18-6†	22-18	6	6.00	4.80	4.80
43 H 772	G	RA18-10†	22-18	10	6.00	6.00	4.80
43 H 773	G	RB14-6†	16-14	6	6.00	4.80	4.80
43 H 774	G	RB14-10†	16-14	10	6.00	6.00	4.80
43 H 775	H	RA18-6F†	22-18	6	6.00	6.00	4.80
43 H 776	H	RA18-10F†	22-18	10	6.00	4.80	4.80
43 H 777	H	RB14-6F†	16-14	6	6.00	6.00	4.80
43 H 778	H	RB14-8F†	16-14	8	6.00	4.80	4.80
43 H 779	H	RB14-10F†	16-14	10	6.00	6.00	4.80
43 H 780	C	2RA18§	22-18	.....	5.25	4.20	4.20
43 H 781	C	2RB14§	16-14	.....	5.25	5.25	4.20
43 H 782	D	B14-250F‡	20-14	.....	3.75	3.00	3.00

## TERMINAL KITS AND TOOLS



**J** No. 20 Terminal Kit. "Sta-Kon" pressure terminal kit includes 250 solderless terminals plus heavy-duty Model WT-111M cutting/crimping tool packed in a plastic case. Features: 100 Type A18-10 ring tongue terminals for any wire from .025" to .052" diameter; 100 Type B14-10 ring tongue terminals for wire, .032" to .080" diameter, 50 Type C10-10 ring tongue terminals for wire, .051" to .125" diameter. Model WT-111M crimping and cutting tool is fully described below. Kit includes complete instructions for proper crimping procedure. Case dimensions, 1 1/2x4x8". Shgp. wt., 3 lbs.

43 H 785..... 9.00

**PK-4 Terminal Kit. (Not Illus.)** A complete assortment of 450 terminals, plus Model T-152 cushion-grip installing tool. Specially designed for contractors, industrial maintenance, etc. Can be used to terminate or splice #22-#10 AWG wire. Complete with plastic case, 3x8x9". Shgp. wt., 4 lbs.

43 H 786..... 29.75

**K** MODEL WT-111M. Quality crimping/cutter tool which assures proper fastening of solderless terminals and doubles as heavy duty wire cutter. For series A, B and C uninsulated terminals listed above. Made of hardened tool steel. Shgp. wt., 1 lb.

43 H 784..... 3.95

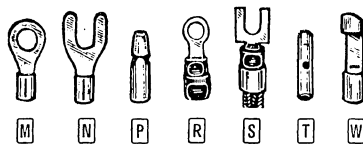
**L** MODEL WT-100. Crimps terminals on wire #22-#10; also cuts or strips solid or stranded wire. For use with insulated or non-insulated terminals. Shgp. wt., 1 lb.

42 H 845..... 4.50

## A-MP TERMINALS

### SOLDERLESS TERMINALS

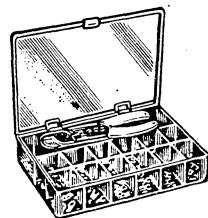
General Wiring Terminals. Ideal for use where power for soldering iron is not available or where fast reliable connections are desired. \*Indicates insulated terminals—plastic outer sleeves. Use with wire size 14 to 16, except †16 to 22. Require crimping tools listed below—Type 47100-1 for insulated terminals and Type 49835-1 for non-insulated terminals. Excellent for radio-TV service, electrical repair, etc. All are U.L. Listed. Shgp. wt., 8 oz. per pkg. Packed 100 per pkg.



Stock No.	Mfr's No.	Fig.	Type	Stud Size	PER PKG.
45 H 301	34149*†	R	Ring	8-10	6.25
45 H 302	34142*†	R	Ring	4-6	6.25
45 H 303	34070*†	.....	Splice	.....	7.50
45 H 304	34158*	R	Ring	4-6	6.25
45 H 305	34161*	R	Ring	8-10	6.25
45 H 306	34165*	S	Spade	4-6	6.25
45 H 307	34167*	S	Spade	8-10	6.25
45 H 308	34071*	.....	Splice	.....	7.50
45 H 323	34154*†	S	Spade	5-6	6.25
45 H 310	33214†	M	Ring	8-10	4.46
45 H 311	34194†	T	Ring	4-6	3.91
45 H 312	31818†	M	Splice	.....	4.66
45 H 313	34197	M	Ring	4-6	4.46
45 H 314	33217	M	Ring	8-10	3.91
45 H 315	33477	N	Spade	4-6	4.99
45 H 316	33219	N	Spade	8-10	4.99
45 H 317	31762†	W	Knife	.....	10.11
45 H 318	31763	P	Knife	.....	10.11
45 H 319	34846	.....	Plug	.....	2.25
45 H 320	36840*	.....	Recep.	.....	6.96

## TYPE 29033 SOLDERLESS TERMINAL KIT

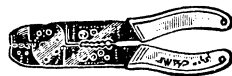
For use wherever soldering iron is unavailable or impractical, and where fast, reliable terminal connections are needed. By eliminating need for soldering—saves time and labor. Kit contains assortment of most popular types of insulated solderless terminals for general wiring applications plus the heavy-duty "Super Champ" crimping and wiring tool described below. Terminals and tool come in one handy, compact, transparent plastic case with individual compartments. Ideal for radio-TV and electrical servicemen, automobile repairmen, hobbyists, etc. For wire sizes from 10 to 22, and most-often used stud sizes. Case, 9 3/4x6 1/2x2. Shgp. wt., 2 lbs.



45 H 322..... 19.95

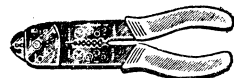
## "SUPER-CHAMP" CRIMPING TOOLS

Type 47100-1. Crimps insulated solderless terminals; shears machine screws, measures stud sizes, cuts and strips wire. Constructed of tool steel; has insulated plastic handles. Shgp. wt., 1 lb.



45 H 321..... 4.95

Type 49835-1. For crimping non-insulated terminals. Otherwise same as above—shears machine screws, measures stud sizes, cuts and strips wire. Shgp. wt., 1 lb.



44 H 453..... 4.95

## TYPE A OMNI-GRIP SOLDERLESS CONNECTOR

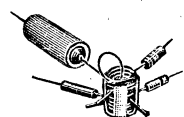
Has tension spring inside a forked cup—lift loop and insert lead. Accepts up to 8 leads. Mounts with self-tapping or machine screw. 3/16x1/8" dia. Shgp. wt., 1 lb. 100 per pkg.

42 H 899. 1-9 Pkgs..... PER PKG. 9.00

10-49 Pkgs..... PER PKG. 8.10

50-99 Pkgs..... PER PKG. 7.30

100 or More Pkgs..... PER PKG. 6.60

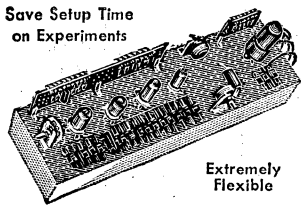


# VECTOR TERMINAL BOARDS AND RECEPTACLES

## CIRCUIT STRUCTURES

### EXPERIMENTERS CHASSIS KITS

Save Setup Time on Experiments



Extremely Flexible

Designed for rapid setup of experimental circuits. Utilize push-in terminals, perforated XXXP phenolic decks, and supports.

**Type 20X Sampler Kit.** Has 1 deck, 3 each 7 and 9-pin tube sockets, 2 octal sockets, 2 pot and switch brackets, bus wire, 75 push-in and 30 solderless terminals, hardware.

**Type 21X.** Has 1 large and 2 small decks, 5 each 7 and 9-pin tube sockets, 4 pot and switch brackets, 114 push-in and 45 solderless terminals, hardware.

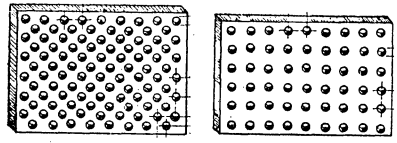
**Type 22X Transistor Circuitry Kit.** Has 1 large and 2 small decks, 9 transistor sockets, 4 switch brackets, terminals, hardware.

**Type 25X.** Has 1 large and 2 small decks, 115 solderless terminals, inserting tool, 4 brackets, hardware.

Shpg. wt.; 20X, 1 lb., 21X, 2 1/4 lbs., 22X, 1 1/4 lbs., 25X, 3 lbs.

Stock No.	Mfr's Type	Size of Main Deck	EACH			
			1-19	20-99	100-199	200-999
40 H 906	20X	4 1/2 x 8 1/2"	6.25	5.63	5.25	4.19
40 HX 907	21X	4 1/2 x 17"	15.25	13.73	12.81	10.22
40 H 908	22X	4 1/2 x 8 1/2"	10.50	9.23	8.61	6.87
40 HX 909	25X	8 1/2 x 17"	19.50	17.55	16.38	13.07

### "VECTORBOARD" PRE-PUNCHED TERMINAL BOARDS



Pattern G

Pattern A, AA, F

Designed for breadboard or production use.

**Type 64A18** is phenolic Grade XXXP, Mil-P-3115B; epoxy paper meets Mil-P-22324;

\*epoxy glass is

G-10 per Mil-P-18177. Patterns A and AA have .093" holes on .265" grid; Pattern G has .062" holes on staggered 0.1" grid; Pattern F has .062" holes on .2" grid. All are 1/8" thick except boards indicated by †, 3/8" thick. All are 17" long except boards indicated by ‡, 8 1/2", T9.4 and T30N Vector terminals fit Patterns A, AA, T28 "Mini-Klip" terminals fit Patterns F and G. Av. shpg. wt., 7 oz.

Stock No.	Mfr's Type	Width	Pattern	No. Holes	EACH			
					1-19	20-99	100-199	200-999
40H916	85G24EP§	4 1/2"	G	(85x23)x2	2.06	1.85	1.73	1.38
40H917	32AA18**†	4 1/2"	A	32x18	.84	.76	.71	.56
40H918	64A18†	4 1/2"	A	64x18	1.25	1.13	1.05	.84
40H919	64AA18**†	4 1/2"	AA	64x18	1.60	1.44	1.34	1.07
40H926	32AA9**†	2 1/2"	AA	32x9	.60	.54	.50	.40
45H601	64A18WE*	4 1/2"	A	64x18	3.72	3.35	3.12	2.49
45H604	85G24WE*	4 1/2"	G	(85x23)x2	3.81	3.43	3.20	2.55
45H605	85F24EP§	4 1/2"	F	85x23	2.06	1.85	1.73	1.38
46H008	64A18EP	4 1/2"	A	64x18	2.73	2.46	2.29	1.83
46H009	42G24WE†	4 1/2"	G	(42x24)x2	1.94	1.75	1.63	1.30
46H005	45B30†	5 3/8"	B	45x30	.84	.76	.71	.56
46H006	90B30	5 3/8"	B	90x30	1.62	1.46	1.36	1.09
46H007	64AA32	8 1/2"	AA	64x32	2.45	2.21	2.06	1.64

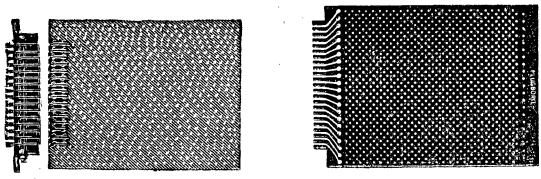
### COPPER CLAD TERMINAL BOARDS

Pre-punched, have G-10 epoxy glass insulation per Mil-P-1394B. Type FL-GE except \* which have XXXP phenolic per Mil-P-1394B. Type PEE Patterns F and G have .062" holes; F on .2" grid, G on staggered 0.1" grid. For use with Type T-28 Mini-Klips. Last digit 1 in type no. indicates one side copper; 2, two sides copper. 1/8" thick. 4 1/2" wide except † 3", and ‡ 8 1/2". Av. shpg. wt., 7 oz.

Stock No.	Mfr's Type	Lgth	Pattern	No. Holes	EACH			
					1-19	20-99	100-199	200-999
46H010	849-1-XXXXP†	4 1/2"	F	22x15	.45	.41	.38	.30
46H012	849-2-XXXXP†	4 1/2"	F	22x15	.55	.50	.46	.37
46H013	850-1-XXXXP	6 1/2"	F	32x22	.84	.76	.71	.56
46H014	850-2-XXXXP	6 1/2"	F	32x22	1.04	.94	.87	.70
46H016	42F22C1	8 1/2"	F	42x22	1.05	.95	.88	.70
46H017	42F22C2	8 1/2"	F	42x22	1.32	1.19	1.11	.88
46H018	42G22WEC1*	8 1/2"	G	(42x22)2	2.55	2.30	2.14	1.71
46H019	42G22WEC2*	8 1/2"	G	(42x22)2	2.60	2.34	2.18	1.74
46H020	85F42WEC1**†	17"	F	85x42	9.33	8.40	7.84	6.25
46H021	85F42WEC2**†	17"	F	85x42	10.25	9.23	8.61	6.87

We stock printed circuit boards and related components in depth at Allied. For fast, efficient service and OEM factory prices, you can depend on Allied Electronics.

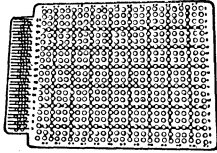
## PLUGBOARDS AND RECEPTACLES



R616-1

812

838-A



2536-WE

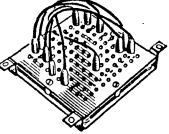
Plugboards. Sturdy 1/8" thick epoxy paper or \*Mil spec epoxy glass. All except 2536WE have grid of .062" holes on alternate 0.1" centers. 2536WE has .093" holes on .2" grid and number matrix for hole identification. With Elco "Varicon," or etched 0.062" wide contacts on .156" centers on boards end. 838PWE has etched copper pad network. Receptacle contacts supplied with wire wrap and taper tab leads. Wt., 2 oz.

Stock No.	Mfr's Type	Size	No. Contacts	EACH			
				1-19	20-99	100-199	200-999
40 H 928	812	4 1/2 x 6 1/2"	16	2.73	2.46	2.29	1.83
45 H 606	812WE*	4 1/2 x 6 1/2"	16	3.23	2.91	2.71	2.16
40 H 927	837	3 x 4 1/2"	12	2.13	1.92	1.79	1.43
45 H 607	837WE*	3 x 4 1/2"	12	2.36	2.12	1.98	1.58
45 H 609	838A§	4 1/2 x 6 1/2"	22	2.57	2.42	2.33	2.08
45 H 611	838BWE*§	4 1/2 x 6 1/2"	22	3.56	3.31	3.16	2.74
45 H 608	848WE*	4 1/2 x 6 1/2"	35	5.58	5.02	4.69	3.74
46 H 022	838§	4 1/2 x 6 1/2"	43	3.34	3.17	3.06	2.77
46 H 023	2536WE*	4 1/2 x 6 1/2"	35	6.38	5.74	5.36	4.27

Receptacles. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	No. of Contacts	For	EACH	
				1-19	20-99
46 H 024	R612-1	12	837, 837WE	1.64	
46 H 026	R616-1	16	812, 812WE	2.38	
45 H 612	R644	22	838PWE, 838/A	2.62	
45 H 635	R635	35	848WE, 2536WE	4.46	

### PATCHBOARDS



**Type PB1010.** 100 holes, silver-plated, gold flashed contacts on .265" centers. Cream epoxy panel. Solder tabs, mtg. hdw. 3/4 x 3 1/4". 1/4 lb. 46 H 027, 1-19 EA, 10.75 20-99... EA, 9.68 100-199... EA, 9.03 200-999... EA, 7.20 **Type PB1010-1.** As above, black panel. 46 H 028, 1-19 EA, 10.85 20-99... EA, 9.77 100-199... EA, 9.11 200-999... EA, 7.99

Patchcords. .09" diameter prongs. 25 per bundle.

Stock No.	Mfr's Type	Description	Lbs.	Per Bundle
46 H 029	K2.06	6" black cord	1/2	2.00
46 H 031	K2.09	9" yellow cord	1/2	2.25
46 H 032	K2.15	15" blue cord	1/2	2.50

### ETCHED CIRCUIT KIT

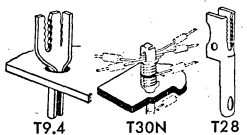


**Type 27X.** Just add hot water. Consists of: 2 pieces 4 1/2 x 6 1/2" 2-oz. copper clad XXXP phenolic boards, tape resist circles, strips, 2 bags dry etchant in heavy plastic, etch resist ball pen, layout paper, and easy instructions. Boards punched with .062" holes on .2" grid. Shpg. wt., 1 1/4 lbs.

46 H 033, 1-19	EA, 5.95	20-99	EA, 5.36
100-199	EA, 4.99	200-999	EA, 3.99

### PUSH-IN TERMINALS

Hold multiple leads, need no staking. T9.4 terminals have slots for small and large leads. T30N spring clips hold up to 6 wires without soldering. T28 terminals for subminiature components. Wt. per pkg. of 100, 3 oz.



Mfr's Type	Fits Holes	Description	Stock No.	PER PKG. OF 100		Stock No.	PER PKG. OF 1000	
				1-19	20-99		1-4	5-24
T9.4	.093"	Tinned brass	40 H 878	1.25	1.13	41 H 437	8.90	7.48
T28	.062"	Tinned copper	40 H 879	1.55	1.40	41 H 438	11.00	9.90
T30N	.093"	Nickled brass	40 H 889	8.45	7.61	41 H 439	58.90	53.01

Insertion Tools. Simplify insertion of push-in terminals. 2 oz.

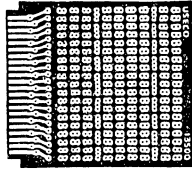
Stock No.	Type	Use for	1-19, EA.	20-99, EA.	100-199, EA.	200-299, EA.
40 H 601	P-91	T28	.50	.45	.42	.34
40 H 603	P-92A	T30N	.50	.45	.42	.34

# Printed Circuitry and Building Panels

## USECO CIRCUIT CARDS

### TYPE 13500 UNIVERSAL CIRCUIT CARD

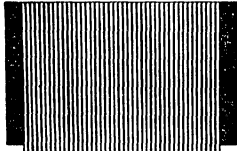
An invaluable aid in developing experimental or prototype circuits. Land pattern is compatible with standard .1 grid design. Circuit card has 233 mounting pads of one or more holes each, front and back for a total of 444 holes per card; 22 fingers fit any standard plug-in, right angle or swage-type connector with .156" spacing. Standard spacing of holes permits insertion of components directly into board. Standard hole size, .052". Cards may be sawed or sheared to adapt to any circuit. Gold-plated finish for optimum performance. Size, 4x4 1/2"; 1/16" thick. Shpg. wt., 3 oz.



42 H 926, 1-9.....EACH 6.85  
10-24.....EACH 5.95  
25-49.....EACH 5.25

### TYPE 13600 EXTENDER CARD

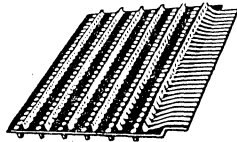
Used to extend the fingers of a circuit card to allow access to boards mounted in racks or panels. Frees both sides of electronic circuit for maintenance under operating conditions; engineering change testing during operation; investigation of parameters or parameter changes during operation. Card has 43 extension strips on each side of board; standard .156" connector spacing. Quality gold plated finish. Size, 5x8"; 1/16" thick. Shpg. wt., 4 oz.



42 H 929, 1-9.....EACH 7.50  
10-24.....EACH 7.00  
25-49.....EACH 6.25

### TYPE 13700 PLUG-IN TERMINAL CARD

For development of prototype printed circuitry; design testing of circuit layout. Employs more than 300 terminals in seven rows of 1/2" spacing on each side of card. Allows mounting an almost unlimited number of components to either or both sides of board. Standard .156" connector spacing. Gold-plated fingers for good contact with low noise, corrosion protection. Size, 4x4 1/2"; 1/16" thick. Shpg. wt., 4 oz.

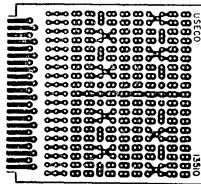


More Than 300 Terminals

42 H 930, 1-9.....EACH 18.75  
10-24.....EACH 17.75  
25-49.....EACH 16.50

### TYPE 13510 UNIVERSAL CIRCUIT CARD

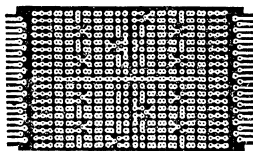
Extension of Type 13500 card above, but incorporates in advanced design specific transistor locating holes, a ground bus down center of card, and more convenient location for pad rows. Designed for Elco-type connectors (below). 190 mtg. pads of one or more holes each, front and back, for a total of 421 holes per card. 22 fingers for any connector with .156" spacing, plus 22 pairs of pads. Std. hole size, .052". Gold plated finish. 4x4 1/2"; 1/16" thick. 3 oz.



42 H 927, 1-9.....EACH 6.85  
10-24.....EACH 5.95  
25-49.....EACH 5.25

### TYPE 13511 UNIVERSAL CIRCUIT CARD

Similar to Type 13510 card above, but 4x7", and with more than 300 mtg. pads of one or more holes each, front and back, for a total of more than 650 holes per card. Has 22 fingers on both ends for any connector with .156" spacing; transistor locating holes; ground bus down center of card; and 22 pairs of pads for Elco-type connectors. Wt., 5 oz.

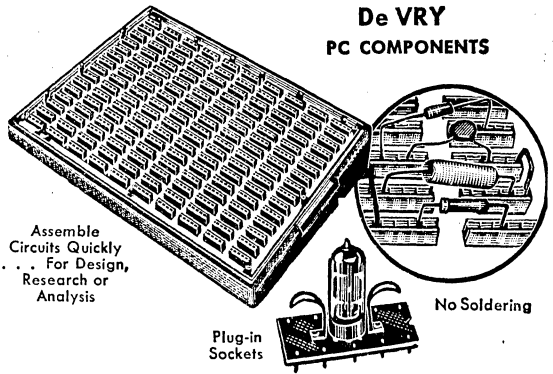


42 H 928, 1-9.....EACH 10.50  
10-24.....EACH 9.75  
25-49.....EACH 9.25

### CONNECTORS FOR CIRCUIT BOARDS

Allied maintains complete stocks of Elco and Amphenol printed circuit connectors. Both the Elco 6007 and Amphenol 143 series of PC connectors can be used with boards described above.

## De VRY PC COMPONENTS



Assemble  
Circuits Quickly  
For Design,  
Research or  
Analysis

No Soldering

Plug-in  
Sockets

### PRINTED CIRCUIT BUILDING PANEL

Uses no clips, jacks, connectors—requires no soldering. Simply plug in any size wire from #30 to #17 gauge—they hold contact and remain connected until user changes circuit. Also, standard electronic components can be connected anywhere on the panel. Permits rapid changes, eliminates accidental disconnections. Insulation resistance between contact strips is 1000 megohms. Contact strips of spring tempered phosphor bronze for long life. Dielectric strength is 5000 v. RMS. Panel contains 150 contact strips, 750 contact points. Parts may be spaced with similar density as in conventional wiring. Molded acrylic, punch vinyl plastic (ambient temperature 20°F to 135°F). 9 1/2"x14 1/2"x1/2". Shpg. wt., 2 1/4 lbs.

40 H 654.....EACH 37.50

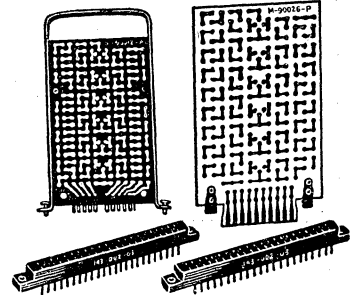
### MATCHING PLUG-IN TUBE AND TRANSISTOR SOCKETS

For use with P.C. building panel listed above. Av. shpg. wt., 3 oz.

Stock No.	Type	Socket Type	EACH
40 H 655	15070	Octal	1.80
40 H 656	15060	9-Pin	1.80
40 H 657	15050	7-Pin	1.80
40 H 658	15080	Transistor	1.65

## PLUG-IN INSTRUMENTS PRINTED CIRCUIT BLANKS

Made of 1/16" XXXP paper phenolic or epoxy-glass, with 1-oz. copperfoil. Sealbrite finish. Undrilled. 6 transistor pads each. Fit Amphenol 143 connectors. EG—Epoxy glass board; GF—Gold-flash finish; DH—59 holes drilled in pads; RF—Rhodium-plated contacts. 5 1/8" high. Widths: 9-pin, 3 5/8"; 10-pin, 4 1/8"; 15-pin, 3 1/4". Av. shpg. wt., 2 oz.



### PLUG-IN BLANKS WITH BRACKET

Stock No.	Mfr's Type	Pins	Solder Pads	EACH					
				1-4	5-14	15-49	50-99	100-999	1000-9999
46 H 685	M90012PA	9	253	5.65	5.37	4.94	4.66		
46 H 686	M90012PA-EG-GF-DH	9	253	6.80	6.46	5.84	5.61		
46 H 687	M90014PE	14	296	6.40	6.08	5.60	5.28		
46 H 688	M90014PE-EG-GF-DH	14	296	7.60	7.22	6.65	6.27		

### PLUG-IN BLANKS WITH FINGER CONNECTIONS

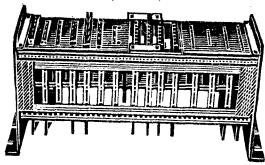
Stock No.	Mfr's Type	Pins	Solder Pads	EACH					
				1-4	5-14	15-49	50-99	100-999	1000-9999
46 H 689	M90026PH	10	254	1.90	1.71	1.52	1.33		
46 H 690	M90026PH-EG-RF-DH	10	254	4.25	3.82	3.40	2.98		
46 H 691	M94010PJ	15	282	1.95	1.75	1.56	1.36		
46 H 692	M94010PJ-EG-RF-DH	15	282	4.30	3.87	3.44	3.01		

### AMPHENOL SERIES 143 PC CONNECTORS

Stock No.	Mfr's Type 143	Mates Pins	EACH					
			1-49	50-99	100-249	250-999	1000-9999	
40 H 503	010-01	9/10	.83	.70	.58	.50	.44	
42 H 851	010-03	9/10	.92	.77	.64	.55	.48	
40 H 500	015-01	14/15	1.08	.90	.76	.65	.57	
42 H 853	015-03	14/15	1.19	.99	.83	.71	.62	



# Elco Varipak, Hardware and Accessories



## ELCO VARIPAK II PC CARD ENCLOSURES

Reduce wiring time to a minimum. Aluminum rack holds boards and connectors in correct alignment for efficient staking of printed circuitry. Fit any 19" standard relay rack or cabinet. Adjustable to hold PC boards up to 8 1/2" long and from 3 1/2 to 4 1/2" wide. All are supplied complete with blank connector panel for your own cut-out design, except Type S which has strap in place of panel mounting. Dimensions: 1) Depth of guide plate; 2) Depth of mounting hanger. Av. shgp. wt., 2 1/4 lbs.

Stock No.	Mfr's Type	Dimensions		EACH		
		1	2	1-24	25-99	100-Up
45 H 488	9016-2-P	4"	5 1/2"	19.50	16.00	13.50
45 HX 695	9016-6-P	5 1/2"	8 1/2"			
45 HX 696	9016-6-S	5 1/2"	8 1/2"			
45 H 489	9016-10-P	7"	8 1/2"			
45 H 490	9016-14-P	8"	11"			

### POLYCARBONATE GUIDES FOR ABOVE



Printed circuit boards slide into slots on guides and are firmly held in rack. Guides are made of polycarbonate and are designed to snap into place in guide slots. Supplied with snap rivets. Available in three thicknesses to accommodate boards of different sizes. Styles: A, for 9016-2-P Varipaks; B, for 9016-6-P and 9016-6-S; C, for 9016-10-P; D, for 9016-14-P. Av. shgp. wt., 2 oz.

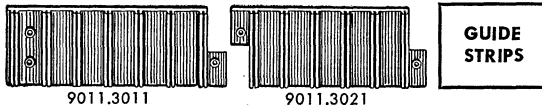
Stock No.	Mfr's Type	Size	Style	EACH
45 H 491	9016-1201	1/16"	A	.10
45 H 492	9016-1202	3/32"	A	
45 H 493	9016-1203	1/8"	A	
45 H 692	9016-1204	1/16"	B	
45 H 693	9016-1205	3/32"	B	.10
45 H 694	9016-1206	1/8"	B	
45 H 494	9016-1207	1/16"	C	
45 H 495	9016-1208	3/32"	C	
45 H 496	9016-1209	1/8"	C	.10
45 H 497	9016-1210	1/16"	D	
45 H 498	9016-1211	3/32"	D	
45 H 499	9016-1212	1/8"	D	

### COMPONENTS FOR VARIPAK II

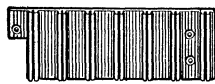
Type 9016, 2201 Front Panel. Enhances the appearance of the Varipak and provides a mtg. for gauges and other instruments. For Type 9016-6P Varipak only. Wt., 1 lb.  
45 H 480, 1-24.....EACH 10.50    25-Up.....EACH 8.75

Type 9016, 1302 Guide Plates. Extra plates. 1 oz.  
45 H 691, 1-49...EA. 5.50    50-199...EA. 4.50    200-Up...EA. 3.50

Type 9016, 2402 Marker Strip. Flexible, white poly-vinyl chloride locator for guides, PC cards. 16 3/4" long. Wt., 2 oz.  
45 H 454, Any Quantity.....EACH .09



### GUIDE STRIPS

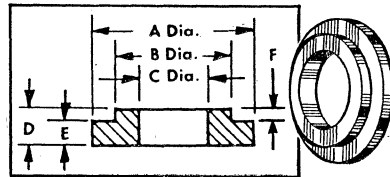


9011.3031

For use in printed circuit packaging. Reduces engineering design time and production expense. Allows you to accurately guide printed circuit modules—strips made for 1/16" boards, at .750" spacing. Made of glass-filled diallyl-phthalate. Series 9011 guide strips are assembled as "building blocks"—permit designer to include as many strips as required—in increments of 7 guide locations. Series 9012 may be used in similar manner but are wider and longer. \*Right-hand and left hand may be used interchangeably. 10 oz.

Stock No.	Mfr's Type	Description	EACH	
			1-99	100-249
45 H 449	9011-3011	Right guide; 2" high	2.50	1.95
45 H 450	9011-3021	Center guide; 2" high	2.50	1.95
45 H 451	9011-3031	*Left guide; 2" high	2.50	1.95
45 H 452	9012-3029	Right guide; 3 3/8" high	3.50	2.95
45 H 453	9012-3019	Left guide; 3 3/8" high	3.50	2.95

### GRAYHILL MOLDED INSULATING WASHER



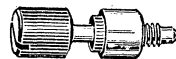
Molded of rugged black electrical grade phenolic, for general applications where insulating washers are required. Highly resistant to moisture absorption—will not support fungus growth. Have high dielectric strength. Washers are available in a variety of commonly used sizes. Hole diameter is listed under "Dia. C"; shoulder diameter under "Dia. A"; thickness, "Dim. D, E, and F". Shgp. wt., 2 oz.

Have high dielectric strength. Washers are available in a variety of commonly used sizes. Hole diameter is listed under "Dia. C"; shoulder diameter under "Dia. A"; thickness, "Dim. D, E, and F". Shgp. wt., 2 oz.

Dim. D—.094"	Dim E—.063"	Dim. F—.031"
--------------	-------------	--------------

Stock No.	Mfr's Type	Screw Size	Dia. A	Dia. B	Dia. C	EACH	
						1-499	500-999
45 H 292	21B1001-2	#6	.500"	.375"	.145"	.10	.08
45 H 293	21B1002-2	#8	.500"	.375"	.171"		
45 H 294	21B1003-2	#10	.500"	.375"	.198"		
45 H 295	21B1004-2	1/4"	.500"	.375"	.258"		
45 H 296	21B1005-2	3/8"	.500"	.375"	.319"		
45 H 297	21B1006-2	7/8"	.625"	.500"	.384"	.10	.08
45 H 298	21B1021-2	#6	.375"	.250"	.145"		
45 H 299	21B1022-2	#4	.375"	.250"	.117"		

### RAYTHEON INDUSTRIAL HARDWARE



Meets Mil-E-16400 Specs.

Precision-made captive screws and inserts designed to meet Mil-E-16400 (Ships) specifications. Have slotted-head thumb screws and panel inserts, manufactured of corrosion and tarnish-free stainless steel. Available in two screw and insert thread sizes and two screw lengths to fit most material thicknesses.

\*In table below indicates length shown less head. Av. shgp. wt., 2 oz.

### CAPTIVE SCREWS

Stock No.	Mfr's Type	Thread Size	*Length	EACH			
				1-499	500-999	1000-2499	2500-4999
45 H 357	CS-111	10-24	7/8"	.55	.468	.44	.40
45 H 358	CS-122	10-32	1"	.55	.468	.44	.40

### PANEL INSERTS

Stock No.	Mfr's Type	Thread Size	Hole Dia.	EACH			
				1-499	500-999	1000-2499	2500-4999
45 H 360	PIN-111	3-32	10-24	.23	.196	.184	.167
45 H 361	PIN-122	10-32	10-32	.25	.213	.200	.182

### PANEL BRACKETS



Heavy-duty "L" brackets for use in pairs to hold terminal and resistor boards under conditions of shock or vibration. Panels may be mounted singly; or in pairs in parallel planes. Mounting feet and panel supports drilled for 6-32 screws. \*Indicates distance between centers of holes in panel supports. Shgp. wt., 4 oz.

Stock No.	Mfr's Type	Overall Height	Support Centers*	EACH			
				1-99	100-199	200-499	500-999
46 H 619	MB-125	2 1/8"	1"	.20	.17	.16	.15
46 H 620	MB-126	2 3/8"	1 1/2"	.21	.179	.168	.157
46 H 621	MB-127	3 1/8"	2"	.22	.187	.176	.165
46 H 623	MB-128	3 3/8"	2 1/2"	.23	.196	.184	.172

### SUPERIOR NEW FUSED BINDING POST



- Eliminates Need of Separate Units
- Fuse Accessible From Front of Panel

Combines a fuseholder and 5-way binding post in one unit—eliminates necessity of separate wiring. Ideal for use where limited panel space prohibits the use of individual binding post and fuseholder components. Molded of phenolic resin—accepts standard 3AG fuse. Mounts in 5/8" hole, panels up to 1/4" thick. Rated 15 amps, 250 volts. Less thumbnut, listed below. Shgp. wt., 3 oz.

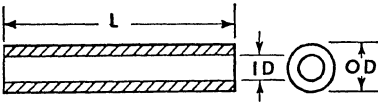
41 H 180, 1-9.....EACH 1.40    10-99.....EACH 1.05  
Thumbnuts for Above. Available in black, blue, red, white, yellow, or green. Specify color when ordering. Wt., 1 oz.  
41 HH 181, 1-9.....EACH .10    10-99.....EACH .075

# H. H. Smith Spacers and Posts

## ALUMINUM SPACERS AND POSTS

### ALUMINUM SPACERS

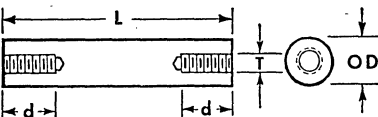
1/4" O.D. tubular spacers with precision machined ends and accurately controlled lengths. Support components or structural members in electronic assemblies, mechanisms, Aluminum, with iridite protective finish (meet Mil-C-5541 specifications). Length,  $\pm .005$ " tolerance. I. D. (inside diameter) for #4 screws is .113", for #6 screws is .140", for #8 screws is .169". Av. shpg. wt., 6 oz. Packed 10 to a package.



Stock No.	Mfr's Type	Screw Size	Length Inches	PER PKG. OF 10		
				1-49	50-99	100-Up
44 H 676	8481	#4	.250	1.00	.90	.83
44 H 677	8483	#4	.500			
44 H 678	8501	#6	.250			
44 H 679	8503	#6	.500			
44 H 680	8505	#6	.750			
44 H 681	8507	#6	1.000	1.00	.90	.83
44 H 682	8511	#6	2.000	1.66	1.49	1.38
44 H 683	8521	#8	.250	1.00	.90	.83
44 H 684	8523	#8	.500	1.00	.90	.83
44 H 685	8527	#8	1.000	1.00	.90	.83

### ALUMINUM POSTS

Round metallic rods tapped through, or tapped at each end. Support and separate components or structural members without the need for long screws or machine nuts. Aluminum with iridite finish. Length and outside diameter dimensions within  $\pm .005$ " tolerance. \*Indicates minimum full thread depth. Av. shpg. wt., 6 oz. Packed 10 posts to a package.



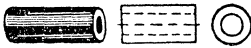
Stock No.	Mfr's Type	T	Length Inches	*d	PER PKG. OF 10		
					1-49	50-99	100-Up
44 H 686	8323	4-40	.500	Thru	2.66	2.39	2.21
44 H 687	8327	4-40	1.000	.250			
44 H 688	8329	4-40	1.500	.250			
44 H 689	8343	6-32	.500	Thru			
44 H 690	8345	6-32	.750	Thru			
44 H 691	8347	6-32	1.000	.375	2.66	2.39	2.21
44 H 692	8349	6-32	1.500	.375	2.66	2.39	2.21
44 H 693	8351	6-32	2.000	.375	3.32	2.99	2.76
44 H 695	8352	6-32	2.500	.375	3.32	2.99	2.76
44 H 697	8353	6-32	3.000	.375	3.32	2.99	2.76
44 H 698	8355	6-32	4.000	.375	3.32	2.99	2.76

### .313" O.D.

Stock No.	Mfr's Type	Tap	Length	PER PKG. OF 10
44 H 699	8365	8-32	.500	Thru
44 H 675	8367	8-32	.750	Thru

## FIBER SPACERS

Round fiber bushings for screw sizes indicated in table. Meet Mil-F-1148A, Grade CH. Ideal for use in raising sub panels, chassis, condensers, transformers etc. Have 1/4" outside diameter. Av. wt., 2 oz. Packed 10 to a package.



### FOR #4 SCREWS

Stock No.	Mfr's Type	Length	PER PKG. OF 10		
			1-49	50-99	100-Up
44 H 700	2335	1/4"	.39	.351	.324
44 H 701	2336	3/8"	.50	.445	.411
44 H 702	2337	1/2"	.60	.54	.498
44 H 703	2338	3/4"	.72	.648	.598
44 H 705	2339	1"	.83	.747	.688

### FOR #6 SCREWS

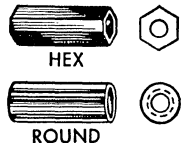
Stock No.	Mfr's Type	Length	PER PKG. OF 10
44 H 706	2130	1/4"	.39
44 H 707	2131	3/8"	.50
44 H 708	2132	1/2"	.60
44 H 709	2133	3/4"	.72
44 H 710	2134	1"	.83

### FOR #8 SCREWS

Stock No.	Mfr's Type	Length	PER PKG. OF 10
44 H 711	2140	1/4"	.39
44 H 713	2141	3/8"	.50
44 H 714	2142	1/2"	.60
44 H 715	2143	3/4"	.72
44 H 716	2144	1"	.83

## CADMIUM-PLATED BRASS SPACERS

Round or hex spacers designed for use in raising sub panels, chassis, condensers, transformers, etc., in electronic assemblies. Constructed of durable cadmium-plated brass. Ends are precision machined, lengths and outer diameters accurately controlled to  $\pm 1/32$ " tolerance. \*Indicates hole in bushing accommodates #4 screw, † #6 screw, ‡ #8 screw. Tapped bushings are for threads indicated in table below. Av. shpg. wt., 6 oz. Packed 10 spacers to a package.



### ROUND—NON-THREADED 1/4" O.D.

Stock No.	Mfr's Type	Length	PER PKG. OF 10		
			1-49	50-99	100-Up
44 H 724	2100†	1/4"	.33	.297	.274
44 H 725	2101†	3/8"	.44	.392	.361
44 H 726	2102†	1/2"	.53	.475	.438
44 H 728	2103†	3/4"	.63	.567	.523
44 H 729	2104†	1"	.72	.648	.598
44 H 730	2105†	1/4"	.33	.297	.274
44 H 731	2106†	3/8"	.44	.392	.361
44 H 732	2107†	1/2"	.53	.475	.438
44 H 733	2108†	3/4"	.63	.567	.523
44 H 734	2109†	1"	.72	.648	.598
44 H 718	2340*	1/4"	.33	.297	.274
44 H 719	2341*	3/8"	.44	.392	.361
44 H 720	2342*	1/2"	.53	.475	.438
44 H 721	2343*	3/4"	.63	.567	.523
44 H 723	2344*	1"	.72	.648	.598

### ROUND—NON-THREADED 3/8" O.D.

Stock No.	Mfr's Type	Length	PER PKG. OF 10		
			1-49	50-99	100-Up
44 H 741	2110†	1/4"	.53	.475	.438
44 H 743	2111†	3/8"	.63	.567	.523
44 H 744	2112†	1/2"	.72	.648	.598
44 H 746	2113†	3/4"	.83	.743	.685
44 H 747	2114†	1"	.93	.837	.772
44 H 749	2115†	1/4"	.53	.475	.438
44 H 750	2116†	3/8"	.63	.567	.523
44 H 751	2117†	1/2"	.72	.648	.598
44 H 752	2118†	3/4"	.83	.743	.685
44 H 753	2119†	1"	.93	.837	.772
44 H 735	2345*	1/4"	.53	.475	.438
44 H 736	2346*	3/8"	.63	.567	.523
44 H 737	2347*	1/2"	.72	.648	.598
44 H 738	2348*	3/4"	.83	.743	.685
44 H 740	2349*	1"	.93	.837	.772

### ROUND—THREADED 1/4" O.D.

Stock No.	Mfr's Type	Tap	Length	PER PKG. OF 10		
				1-49	50-99	100-Up
44 H 761	2120†	6-32	1/4"	.39	.351	.324
44 H 765	2121†	6-32	3/8"	.50	.445	.411
44 H 766	2122†	6-32	1/2"	.60	.54	.498
44 H 767	2123†	6-32	3/4"	.72	.648	.598
44 H 768	2124†	6-32	1"	.83	.747	.688
44 H 770	2125†	8-32	1/4"	.39	.351	.324
44 H 771	2126†	8-32	3/8"	.50	.445	.411
44 H 772	2127†	8-32	1/2"	.60	.54	.498
44 H 773	2128†	8-32	3/4"	.72	.648	.598
44 H 774	2129†	8-32	1"	.83	.747	.688
44 H 755	2370*	4-40	1/4"	.39	.351	.324
44 H 756	2371*	4-40	3/8"	.50	.445	.411
44 H 758	2372*	4-40	1/2"	.60	.54	.498
44 H 759	2373*	4-40	3/4"	.72	.648	.598
44 H 760	2374*	4-40	1"	.83	.747	.688

### HEX—NON-THREADED 1/4" O.D.

Stock No.	Mfr's Type	Length	PER PKG. OF 10		
			1-49	50-99	100-Up
44 H 782	2300†	1/4"	.36	.324	.299
44 H 783	2301†	3/8"	.47	.419	.386
44 H 785	2302†	1/2"	.56	.502	.463
44 H 786	2303†	3/4"	.68	.607	.56
44 H 787	2304†	1"	.78	.702	.648
44 H 788	2305†	1/4"	.36	.324	.299
44 H 789	2306†	3/8"	.47	.419	.386
44 H 790	2307†	1/2"	.56	.502	.463
44 H 791	2308†	3/4"	.68	.607	.56
44 H 792	2309†	1"	.78	.702	.648
44 H 775	2380*	1/4"	.36	.324	.299
44 H 776	2381*	3/8"	.47	.419	.386
44 H 777	2382*	1/2"	.56	.502	.463
44 H 779	2383*	3/4"	.68	.607	.56
44 H 780	2384*	1"	.78	.702	.648

# Knobs, Handles, Test Jacks, and Insulating Materials

## POLYSTYRENE SHEETS, RODS AND TUBING



- UHF, VHF, SHF Applications
- Low-Loss
- May Be Cut to Any Size

High-grade polystyrene sheets, rods, and tubing. Suited to numerous RF applications including VHF, UHF, and SHF because of its extremely low-loss factor. Rods and tubing are excellent for use as coil forms, or in construction of insulators. Sheets may be used for shielding or dial and gauge glass. All have extremely high dielectric strength, excellent arc resistance and insulation properties—no moisture absorption. Highly stable under varying climatic conditions—always retain original dimensions, will not warp or stretch. Easy to cut to any size—may be sawed, drilled, or tapped. All sheets are transparent. All tubing and all rods have satin finish, except \*transparent.

### POLYSTYRENE SHEETS

Stock No.	Size	Thick-ness	Shpg. Wt.	EACH	
				1-9	10-U-p
43 H 150	12x12"	1/16"	8 oz.	4.07	3.66
43 H 151	12x12"	3/32"	10 oz.	4.70	4.23
43 H 152	12x12"	1/8"	12 oz.	5.39	4.85
43 H 153	12x12"	3/16"	1 lb.	7.01	6.31
43 H 154	12x12"	1/4"	1 1/2 lbs.	7.99	7.19
43 HX 155	12x24"	1/16"	1 lb.	7.64	6.88
43 HX 156	12x24"	3/32"	1 1/4 lbs.	8.97	8.07
43 HX 157	12x24"	1/8"	1 1/2 lbs.	10.39	9.35
43 HX 158	12x24"	3/16"	2 lbs.	12.89	11.60
43 HX 162	12x24"	1/4"	3 lbs.	15.34	13.81

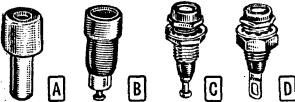
### 12" POLYSTYRENE RODS

Stock No.	Dia.	Shpg. Wt.	EACH	
			1-9	10-U-p
43 H 164	1/8"	2 oz.	.03	.02
43 H 165	3/16"	3 oz.	.07	.06
43 H 167	1/4"	5 oz.	.12	.11
43 H 168	3/16"	6 oz.	.18	.16
43 H 169	3/8"	6 oz.	.25	.22
43 H 170	1/2"	6 oz.	.47	.42
43 H 171	5/8"	8 oz.	.71	.64
43 H 172	3/4"	8 oz.	.98	.88
43 H 173	7/8"	8 oz.	1.39	1.25
43 H 174	1"	8 oz.	1.86	1.67

### 12" POLYSTYRENE TUBING

Stock No.	O. D.	I. D.	Shpg. Wt.	EACH	
				1-9	10-U-p
43 H 175	1/4"	1/8"	2 oz.	.10	.09
43 H 176	3/16"	3/16"	3 oz.	.14	.13
43 H 177	3/8"	1/4"	3 oz.	.18	.16
43 H 178	1/2"	3/8"	3 oz.	.25	.22
43 H 179	5/8"	1/2"	4 oz.	.31	.28
43 H 180	3/4"	5/8"	4 oz.	.39	.35
43 H 181	1"	7/8"	6 oz.	.55	.49

## RAYTHEON TEST JACKS



Top-quality test jacks for standard .080" dia. test prods. Meet MIL-STD-242A (SHIPS) specs. Figs. C and D mount with nut and washer; Fig. A by dip-soldering; Fig. B by expansion.

Stock No.	Mfr's Type	Fig.	Color	Mtg. Hole	EACH					
					1-24	25-49	50-249	250-499	500-999	1000-2499
46 H 502	TJ-303R	A	Red	3/16"	.21	.19	.17	.16	.15	.135
46 H 503	TJ-305BL	A	Black	3/16"	.21	.19	.17	.16	.15	.135
46 H 504	TJ-403R	B	Red	1/2"	.23	.21	.18	.17	.15	.145
46 H 506	TJ-405BL	B	Black	1/2"	.23	.21	.18	.17	.15	.145
46 H 507	TJ-103R	C	Red	1/4"	.35	.35	.35	.35	.....	.....
46 H 508	TJ-105BL	C	Black	1/4"	.35	.35	.35	.35	.....	.....
46 H 509	TJ-153R	D	Red	1/4"	.40	.40	.40	.40	.....	.....
46 H 510	TJ-155BL	D	Black	1/4"	.40	.40	.40	.40	.....	.....
46 H 511	*TJ-111-WT	C	White	1/4"	.68	.68	.68	.68	.....	.....
46 H 512	*TJ-161-WT	D	White	1/4"	.82	.82	.82	.82	.....	.....
46 H 515	TJ-108W	C	White	1/4"	.35	.35	.35	.35	.....	.....
46 H 516	TJ-102B	C	Brown	1/4"	.35	.35	.35	.35	.....	.....
46 H 517	TJ-106G	C	Green	1/4"	.35	.35	.35	.35	.....	.....
46 H 518	TJ-107MB	C	Blue	1/4"	.35	.35	.35	.35	.....	.....
46 H 519	TJ-101Y	C	Yellow	1/4"	.35	.35	.35	.35	.....	.....



USECO KNOBS

Round Aluminum Knobs. Rugged, attractive knobs for use on receivers, test equipment, hi-fi systems—electronics equipment of any type. All have straight knurl except Types 300-20 and 310-20 which have diamond knurl. All fit 1/4" shaft and have anodized aluminum finish. Supplied with 6-32 set screws, except Type 310-20, which has 8-32 set screw. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Knob Dia.	Skirt Dia.	EACH			
					1-10	11-24	25-49	50-99
43 H 722	1000-20	E	29/64"	1"	1.03	.89	.815	.73
43 H 723	1038-20	E	29/64"	1 3/8"	1.15	.995	.91	.815
43 H 724	500-20	F	1 1/2"	5/8"	.86	.74	.68	.615
43 H 725	625-20	G	5/8"	5/8"	.88	.755	.695	.625
43 H 726	300-20	H	57/64"	3/4"	1.10	.95	.87	.78
43 H 727	310-20	H	57/64"	1 1/4"	1.17	1.00	.92	.825

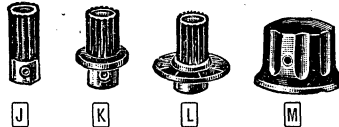
## MILLEN DIAL AND MINIATURE KNOBS INSTRUMENT DIAL



Type 10007. Good-looking dial with 0-10 clockwise scale spread over 180° for easy, direct calibration and high legibility. Easy-to-read black etched numerals; black plastic knob. Dial diameter, 1 1/2". Fits 1/4" shaft. Shpg. wt., 3 oz.

43 H 252.....75

## MINIATURE PLASTIC KNOBS

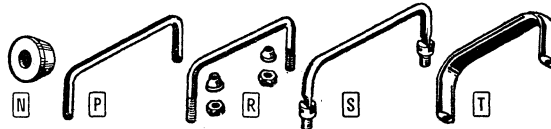


Black, plastic knobs offering excellent appearance and miniature size. Easy to grip—ideal for compact equipment. Each knob is fitted with a brass insert that will accommodate a 1/8" diameter shaft. Type A018 has a slotted top—accepts a screwdriver blade. Av. shpg. wt., 4 oz.

meter shaft. Type A018 has a slotted top—accepts a screwdriver blade. Av. shpg. wt., 4 oz.

Stock No.	Type	Fig.	Height	Diameter	EACH
43 H 253	A019	J	5/8"	1/4"	.36
43 H 254	A018	K	5/8"	3/8"	.39
43 H 255	A007	L	5/8"	5/8"	.42
43 H 256	A006	M	1/2"	3/4"	.48

## USECO NICKEL-PLATED BRASS HANDLES



Sturdy handles for instrument panels, rack panels, portable equipment, etc. All are constructed of brass, heavily nickel-plated for durability under frequent usage. Types 1005-12, 1010-12, 1012-12, 1013-12, 1015-12, 1017-12, 1033-12, 1034-12, and 1035-12 are oval handles with 10-32 threaded mounting holes. Type 1020 is a cabinet handle, has mounting ferrule, 3/8-8 threads with hex nuts. Type 1032-12 is a folding handle with 180° swivel, has 3/8-24 mtg. threads. Type 900 is a nickel-plated brass mounting ferrule. Fits Type 1005-12, 1010-12, 1012-12, 1013-12, 1015-12, and 1017-12 handles. Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	Fig.	Mtg. Ctrs.	Hand Clearance	EACH			
					1-10	11-25	26-75	76-199
43 H 728	1005-12	P	6"	1 3/4"	1.08	.915	.83	.73
43 H 729	1010-12	P	4 1/4"	1 1/2"	.99	.84	.76	.67
43 H 730	1012-12	P	4"	1 1/2"	.99	.84	.76	.67
43 H 731	1013-12	P	4 1/2"	1 1/2"	1.01	.855	.775	.685
43 H 732	1015-12	P	3"	1 1/2"	.98	.825	.75	.66
43 H 733	1017-12	P	2"	1 1/2"	.96	.81	.735	.65
43 H 734	1033-12	T	3"	1 1/2"	1.79	1.52	1.38	1.22
43 H 735	1034-12	T	4 1/8"	1 1/2"	2.03	1.72	1.56	1.38
43 H 736	1035-12	R	6.44"	1 3/4"	2.28	1.93	1.75	1.55
43 H 737	1032-12	S	4"	1 1/2"	3.07	2.60	2.36	2.09
43 H 738	1020-12	S	4 1/4"	1 1/2"	1.30	1.10	1.00	.88

Stock No.	Mfr's Type	Fig.	Description	PER PKG. OF TWO			
				1-5	6-13	14-38	39-100
43 H 739	900-12	N	1 1/2" Brass Ferrule	.30	.26	.23	.20

# Raytheon Knobs, Knob Locks, and Shaft Locks

## KNOB LOCK POINTER KNOB

Especially designed for easy legibility—feature pointer that curves over knob towards panel to increase accuracy in reading. Match standard series knobs at right. Constructed of sturdy, acrilonitrile-styrene plastic. In mirror finish, or non-reflective "matte", conforming to military specs. Less knob lock below. Av. shpg. wt., 3 oz. "G" after Type No. indicates "matte" finish—others are mirror finish.



Stock No.	Mfr's Type	Fits Lock Type	EACH			
			1-99	100-199	200-499	500-999
46 H 520	70-1LK-2	5-126-01	.86	.791	.744	.651
46 H 522	70-1LK-2G	5-126-02	.91	.842	.792	.693
46 H 524	90-1LK-2	5-127-01	.91	.842	.792	.693
46 H 525	90-1LK-2G	5-127-02	.97	.893	.841	.735
46 H 526	125-1LK-2	5-128-01	.97	.893	.841	.735
46 H 527	125-1LK-2G	5-128-02	1.02	.944	.888	.777

## STANDARD KNOB LOCKS

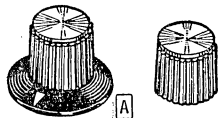
Fit standard 3/8"-32 threaded shanks. Outer skirts are acrilonitrile-styrene plastic. For all Fig. C and D knobs above right; and with pointer knobs above. Av. shpg. wt., 3 oz. "G" after Type No. indicates "matte" finish—others are mirror finish.



Stock No.	Mfr's Type	Fit Knob Series	EACH			
			1-99	100-199	200-499	500-999
46 H 528	KL-701	70	.71	.655	.616	.539
46 H 529	KL-701G	70	.76	.706	.664	.581
46 H 530	KL-901	90	.81	.748	.704	.616
46 H 531	KL-901G	90	.86	.799	.752	.658
46 H 534	KL-1251	125	.86	.791	.744	.651
46 H 536	KL-1251G	125	.91	.842	.792	.693

## DESIGNER SERIES KNOBS

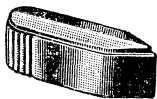
Molded black plastic knobs with spun aluminum cap inserts. "BD" in Type No. indicates knob has black dot as indicator. All have .708" O.D. except \*911" O.D. and †1.225" † ring skirted. Meet military specs. Wt. 3 oz.



Stock No.	Mfr's Type	Fig.	Shaft Size	EACH			
				1-99	100-199	200-499	500-999
44 H 100	DS70-1-1	B	.127"	.78	.718	.679	.593
44 H 101	DS70-1-2	B	.252"	.78	.718	.679	.593
44 H 102	DS70-1-3	B	.190"	.88	.81	.767	.669
44 H 103	DS70-1BD-2	B	.252"	.88	.81	.767	.669
44 H 104	DS70-2-2	B§	.252"	.88	.81	.767	.669
44 H 105	DS70-2BD-2	B§	.252"	.98	.902	.853	.745
44 H 106	DS70-3-2	A	.252"	.96	.883	.835	.73
44 H 107	DS90-1-1	B	.127"	.98	.902	.853	.745
44 H 108	DS90-1-2*	B	.252"	.88	.81	.767	.669
44 H 109	DS90-1-3	B	.190"	.98	.902	.853	.745
44 H 110	DS90-1BD-2	B	.252"	.98	.902	.853	.745
44 H 111	DS90-2-2*	B§	.252"	.98	.902	.853	.745
44 H 112	DS90-2BD-2*	B§	.252"	1.08	.944	.94	.724
44 H 113	DS90-3-2*	A	.252"	1.05	.966	.914	.798
44 H 114	DS125-1-2†	B	.252"	.98	.902	.853	.745
44 H 115	DS125-2-2†	B§	.252"	1.08	.994	.94	.724
44 H 116	DS125-3-2†	A	.252"	1.14	1.05	.992	.866

## PLASTIC BAR KNOBS

Give leverage for control of heavy detent switches. Fitted with aluminum insert that accepts standard 1/4" control shaft. Size, 2 1/2" long, 3/8" wide and 7/16" deep. Shpg. wt., 3 oz. Type 125-7-2G, "matte" finish; 125-7-2, mirror finish.



Stock No.	Mfr's Type	EACH			
		1-99	100-199	200-499	500-999
46 H 537	125-7-2G	1.21	1.122	1.057	.924
46 H 540	125-7-2	1.16	1.071	1.001	.882

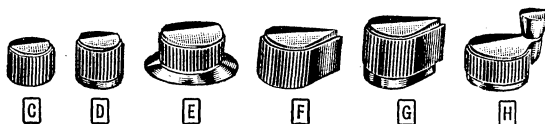
## MOLDED-NYLON SHAFT LOCKS

Reliable means of maintaining control settings under conditions of shock and/or vibration. Mount on control bushing, in place of the usual nut and washer. Molded nylon with nickel-plated brass insert. Threaded for 1/4" or 3/8" bushings. R or B after Type No. indicates color—red or black. Shpg. wt., 2 oz.



Stock No.	Mfr's Type	Thread Size	For Shaft	EACH			
				1-99	100-199	200-499	500-999
46 H 541	SL-100B	3/8-32	1/4"	.28	.238	.224	.203
46 H 542	SL-101R	3/8-32	1/4"	.28	.238	.224	.203
46 H 543	SL-110B	3/8-32	1/4"	.22	.187	.176	.159
46 H 544	SL-105B	1/4-32	1/8"	.22	.187	.176	.159

## STANDARD CONTROL KNOBS



A variety of knob types and sizes combining rugged design with modern styling. Knobs are molded plastic. Each fitted with an aluminum insert. Two Allen head set-screws fasten to the control shaft. Available in choice of two standard finishes—a high gloss mirror finish and a uniform non-reflecting "matte" finish that conforms to military specifications (MS 91528B). All for use with 1/4" shafts except 50 series. 1/8" shaft size only. Types: C, Round; D, Skirted Round; E, Round Dial; F, Pointer; G, Skirted Pointer; H, Crank. \*Dial Dia. †Length. 3 oz. "G" after Type No. indicates "matte" finish—others are mirror finish.

## 50 SERIES

Stock No.	Mfr's Type	Fig.	Dia.	EACH			
				1-99	100-199	200-499	500-999
46 H 545	50-1-1	C	1 7/32"	.51	.468	.44	.385
46 H 546	50-1-1G	C	1 7/32"	.56	.519	.488	.427
46 H 549	50-2-1	D	1 7/32"	.59	.544	.512	.488
46 H 550	50-2-1G	D	1 7/32"	.64	.595	.56	.49
46 H 551	50-3-1	E	1 7/32"	.66	.612	.576	.504
46 H 552	50-3-1G	E	*1 7/32"	.72	.663	.624	.546
46 H 553	50-4-1	F	†1 1/16"	.51	.468	.44	.385
46 H 554	50-4-1G	F	†1 1/16"	.56	.519	.488	.427
46 H 556	50-5-1	G	†1 1/16"	.59	.544	.512	.448
46 H 557	50-5-1G	G	†1 1/16"	.64	.595	.56	.49

## 70 SERIES

46 H 558	70-1-2	C	2 3/32"	.64	.595	.56	.49
46 H 559	70-1-2G	C	2 3/32"	.70	.646	.608	.532
46 H 563	70-2-2	D	2 3/32"	.73	.672	.632	.553
46 H 564	70-2-2G	D	2 3/32"	.78	.723	.68	.595
46 H 567	70-3-2	E	*2 3/32"	.81	.748	.704	.616
46 H 568	70-3-2G	E	*2 3/32"	.86	.799	.752	.658
46 H 569	70-4-2	F	†1 3/16"	.64	.595	.56	.49
46 H 570	70-4-2G	F	†1 3/16"	.70	.646	.608	.532
46 H 571	70-5-2	G	†1 3/16"	.73	.672	.632	.553
46 H 572	70-5-2G	G	†1 3/16"	.78	.723	.68	.595

## 90 SERIES

46 H 575	90-1-2	C	5 9/16"	.68	.629	.592	.518
46 H 576	90-1-2G	C	5 9/16"	.74	.68	.64	.56
46 H 577	90-2-2	D	5 9/16"	.76	.706	.664	.581
46 H 578	90-2-2G	D	5 9/16"	.82	.757	.712	.623
46 H 580	90-3-2	E	*5 9/16"	.85	.782	.736	.644
46 H 581	90-3-2G	E	*5 9/16"	.90	.833	.784	.686
46 H 583	90-4-2	F	†1 1/16"	.73	.672	.632	.553
46 H 584	90-4-2G	F	†1 1/16"	.78	.723	.68	.595
46 H 586	90-5-2	G	†1 1/16"	.81	.748	.704	.616
46 H 587	90-5-2G	G	†1 1/16"	.86	.799	.752	.658

## 125 SERIES

46 H 588	125-1-2	C	1 1/4"	.73	.672	.632	.553
46 H 589	125-1-2G	C	1 1/4"	.78	.723	.68	.595
46 H 590	125-2-2	D	1 1/4"	.81	.748	.704	.616
46 H 591	125-2-2G	D	1 1/4"	.86	.799	.752	.659
46 H 594	125-3-2	E	*1 1/4"	.88	.816	.768	.672
46 H 595	125-3-2G	E	*1 1/4"	.94	.867	.816	.714
46 H 596	125-6-2	H	†2 3/4"	1.86	1.717	1.616	1.414
46 H 597	125-6-2G	H	†2 3/4"	1.91	1.768	1.664	1.456

## 175 SERIES

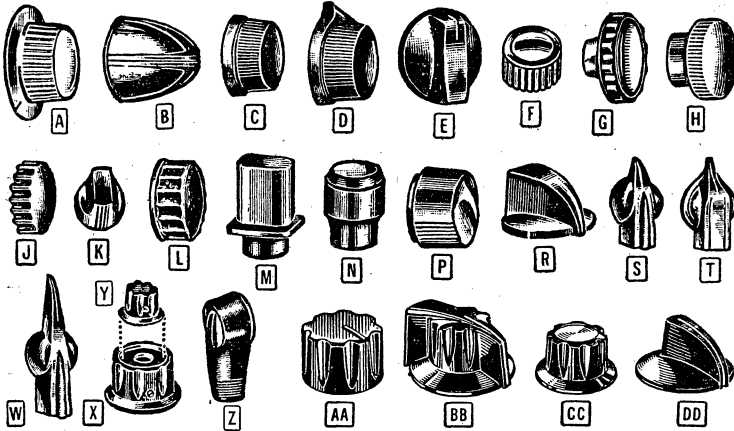
46 H 598	175-1-2	C	1 9/16"	.85	.782	.736	.644
46 H 599	175-1-2G	C	1 9/16"	.90	.833	.784	.686
46 H 600	175-2-2	D	1 9/16"	.93	.859	.808	.707
46 H 601	175-2-2G	D	1 9/16"	.98	.91	.856	.749
46 H 602	175-3-2	E	*1 9/16"	1.05	.969	.912	.798
46 H 603	175-3-2G	E	*1 9/16"	1.10	1.02	.96	.84
46 H 604	175-6-2	H	†2 3/4"	2.02	1.87	1.76	1.47
46 H 610	175-6-2G	H	†2 3/4"	2.08	1.921	1.808	1.582

## 225 SERIES

46 H 611	225-1-2	C	2 9/32"	.97	.893	.84	.735
46 H 612	225-1-2G	C	2 9/32"	1.02	.944	.888	.777
46 H 613	225-2-2	D	2 9/32"	1.05	.969	.912	.798
46 H 614	225-2-2G	D	2 9/32"	1.10	1.02	.96	.84
46 H 615	225-3-2	E	*2 9/32"	1.17	1.08	1.016	.889
46 H 616	225-3-2G	E	*2 9/32"	1.22	1.131	1.064	.931
46 H 617	225-6-2	H	†2 9/16"	2.10	1.938	1.824	1.596
46 H 618	225-6-2G	H	†2 9/16"	2.15	1.989	1.872	1.638

# Knobs—Dial Plates—Shaft Fittings

## HARRY DAVIES MOLDED KNOBS



Handsomely styled plastic control and pointer knobs for almost every purpose. For replacement use, as well as original equipment application for radio and TV sets, electronic instruments, and other electrical equipment. Figures B and C are for small radios. Figs. AA, BB and CC are fluted knobs. \* Indicates for use with knurled

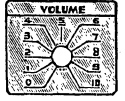
shafts; † have 1/4" brass inserts; Type 2710 screws on to 8-32 threaded shaft; 24-708, 24-710 and 1770-F screw on to 6-32 threaded shaft; all others have set-screws for mounting on either flatted or round 1/4" shafts. Available in more than one color. All are made by Harry Davies except § G-C Electronics. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Dia.	Color	EACH				
					1-24	25-99	100-499	500-999	1000-Up
44 H 127	1600	A	1 1/2"	Black	.14	.124	.107	.098	.093
44 H 128	1600	A	1 1/2"	Red	.15	.131	.112	.105	.10
44 H 129	1610	A	2 3/32"	Black	.13	.104	.09	.079	.075
44 H 130	2500	B	3/4"	Black	.13	.111	.095	.088	.084
44 H 131	2500	B	3/4"	Walnut	.13	.114	.098	.091	.087
44 H 132	2500-B	*B	3/4"	Walnut	.07	.056	.048	.042	.04
44 H 133	2600	B	7/8"	Black	.13	.104	.09	.078	.075
44 H 134	1450	C	1 1/16"	Black	.09	.072	.062	.055	.052
44 H 135	1450	*C	1 1/16"	Walnut	.09	.076	.066	.058	.055
44 H 136	1450-D	*C	1 1/16"	Black	.05	.044	.038	.034	.032
44 H 137	1475	C	1"	Black	.13	.104	.09	.078	.075
44 H 138	1400	D	1 1/16"	Black	.09	.072	.062	.055	.052
44 H 139	1400-B	*D	1 1/16"	Black	.05	.044	.038	.034	.032
44 H 140	1470	D	1"	Black	.14	.122	.105	.098	.093
44 H 141	1500	E	1 1/8"	Black	.14	.111	.096	.084	.08
44 H 142	1500	E	1 1/8"	Red	.13	.11	.095	.088	.084
44 H 143	24-082	*F	1 1/16"	§Walnut	.26	.228	.195	.182	.173
44 H 144	.2965	G	7/8"	Black	.13	.104	.09	.078	.075
44 H 145	3000-A	G	1 3/4"	Black	.18	.161	.138	.129	.122
44 H 146	2710	H	3/4"	Black	.08	.063	.054	.048	.045
44 H 147	24-662	J	1"	§Walnut	.18	.157	.135	.126	.12
44 H 148	BK-1B	K	1 1/16"	§Black	.38	.331	.284	.264	.251
44 H 149	24-708	L	1 1/8"	§Walnut	.18	.157	.135	.126	.12
44 H 165	24-710	L	1 1/8"	§Ivory	.18	.157	.135	.126	.12
44 H 166	5149-A	M	1 1/2"	Black	.07	.059	.051	.045	.043
44 H 167	5149-A	M	1 1/2"	Red	.09	.078	.067	.059	.056
44 H 168	1770-F	N	3 1/2"	Black	.06	.048	.042	.036	.035
44 H 169	1770-F	N	3 1/2"	Red	.08	.067	.058	.05	.048
44 H 170	1700	P	3/4"	Black	.11	.093	.08	.07	.068
44 H 171	1550	R	1 1/16"	Black	.11	.094	.082	.071	.068
44 H 172	2300	S	1 1/4"	Black	.10	.081	.07	.062	.059
44 H 173	2300	S	1 1/4"	Red	.11	.089	.077	.067	.064
44 H 174	2300-A	†S	1 1/4"	Black	.14	.123	.105	.098	.093
44 H 175	2150	T	1 1/4"	Black	.13	.104	.09	.078	.075
44 H 176	2350	W	2"	Black	.17	.152	.131	.122	.116
44 H 177	2350	W	2"	Red	.18	.159	.137	.127	.121
44 H 178	2350-A	†W	2"	Black	.22	.189	.162	.151	.144
44 H 179	1920	Y	2 1/4"	Black	.16	.14	.12	.112	.106
44 H 180	1930	Y	1 1/2"	Black	.18	.154	.132	.123	.117
44 H 181	1915	X-Y	1 1/4-3/4"	Blk., Red	.30	.262	.225	.21	.20
44 H 154	1935	X-AA	1 1/2-3/4"	Black	.59	.513	.44	.41	.39
44 H 182	1910	Y	3/4"	Black	.14	.122	.105	.098	.093
44 H 183	2100	Z	2 1/2"	Black	.19	.168	.144	.134	.128
44 H 184	2110	Z	1 5/8"	Black	.18	.161	.138	.129	.122
44 H 156	1914	AA	3/4"	Black	.23	.201	.173	.161	.153
44 H 157	1919	BB	1 1/4"	Black	.20	.175	.15	.14	.133
44 H 159	1919	BB	1 1/4"	Red	.22	.193	.165	.154	.146
44 H 160	1925-Q	CC	1 1/4"	Black	.28	.245	.21	.196	.186
44 H 161	1925-Q	CC	1 1/4"	Red	.30	.262	.225	.21	.20
44 H 162	1580	DD	2"	Black	.82	.717	.615	.574	.545
44 H 163	1580	DD	2"	Red	.86	.752	.645	.602	.572

## WALDOM ACCESSORIES

### SQUARE DIAL PLATES

Attractive anodized aluminum dial plates with polished finish and black lettering and scales. For use with rotary switches. Require 1/4" bar knob. Size, 2 3/16 x 2 5/8". Have 1/2" center hole. Shpg. wt., 2 oz.



Stock No.	Mfr's Type	Description
43 H 100	448	Treble, 0-10
43 H 101	447	Bass, 0-10
43 H 104	429	Treble, 5-0-5
43 H 105	428	Bass, 5-0-5
43 H 113	416	Microphone, 1, 0-10
43 H 114	417	Microphone, 2, 0-10
43 H 116	415	Microphone, 0-10
43 H 117	413	Master Gain, 0-10
43 H 118	412	Gain, 0-10
43 H 119	422	Gain, 5-0-5
43 H 120	411	Tone, 0-10
43 H 121	426	Volume, 0-10
43 H 122	414	Record, 0-10
43 H 124	427	Fader, 5-0-5
43 H 125	430	Expansion, 0-10
43 H 126	446	Phono, 0-10
43 H 129	423	Increase with arrow
43 H 130	410	No title, 0-10

1-24.....EACH .52  
25-99.....EACH .44  
100-Up.....EACH .31

### ROUND DIAL PLATES

Attractive, easy-to-read etched aluminum scale with highly polished black background. 1 3/4" diameter. Type 25 has clockwise arrow labeled "Volume." Type 569, 0-100 over 180° clockwise, no label. Type 905, 0-100 over 270° clockwise, no label. For use with 1 1/4" bar knobs. Diameter of center hole is 1 3/32". Shpg. wt., 2 oz.



Stock No.	Mfr's Type	EACH		
		1-24	25-99	100-Up
43 H 131	25	.28	.24	.17
43 H 135	569	.28	.24	.17
43 H 136	905	.28	.24	.17

### "OFF-ON" SWITCH PLATE

Economy-priced switch plate. Etched aluminum with black background. Has polished aluminum letters and border. 1 1/16 x 1 1/16". Shpg. wt., 2 oz.



43 H 139, 1-49.....EACH .15  
50-99.....EACH .13  
100-Up.....EACH .10



### SHAFT FITTINGS



Coupling

Extender

Couplings for extending shafts of volume controls, switches, capacitors, etc., or for ganging single units. Insulated types are made of black phenolic. Extenders for decreasing or increasing shaft diameter and length. 41 H 109 has 3/8" opening, 1/4" shaft. Shaft length on all extenders, 5/8"; overall length, 1 1/8". Av. shpg. wt., 4 oz.

Brass	Insulated	Type	Size
41 H 105	41 H 111	Coupling	1/4 to 1/4"
41 H 106	41 H 111	Coupling	3/8 to 3/8"
41 H 107	41 H 112	Coupling	1/4 to 3/8"
41 H 108	41 H 113	Extender	1/4 to 1/4"
41 H 109	.....	Extender	3/8 to 1/4"

1 to 9.....EACH .18  
10-49.....EACH .16  
50-99.....EACH .15  
100-499.....EACH .13

# Knobs—Couplings—Coil Forms—Dial Cord

## HAMMARLUND COUPLINGS



Type FC-46S. Sturdy, slip-proof insulated coupling. Excellent for providing flexible linkage between angularly misaligned shafts. Eliminates backlash, etc.

Has high resistance to mechanical shock. Maximum torque is limited only by holding power of the 4 set-screws (2 on each side). For use on all standard 1/4"-diameter shafts. Shaft clearance, 5/32". Flash-voltage rating, 5000 volts. Size, 1 1/4 x 3/16". Shpg. wt., 3 oz.

42 H 403.....1.10

Type TNC-46S. As above, but non-insulated type. Durable, heavy-duty construction. Maintains firm, slip-proof grip. Has flexible arms which compensate for out-of-line or eccentric shaft motion. Has nickel-plated brass ring. Size, 1 1/4" diameter by 2 3/32". Shpg. wt., 3 oz.

42 H 404......73

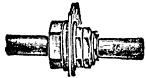
## INSULATED COUPLING

For coupling drive shafts to capacitors, gang switches, controls and other components. Use bakelite insulation. Hubs are drilled to fit standard 1/4"-diameter shafts. Set-screws hold the coupling for rigid support. Supplied complete with mounting screws. Shpg. wt., 2 oz.



42 H 405......53

## H. H. SMITH PANEL BEARING ASSEMBLY



For use with either rigid or flexible couplings on panels up to 7/16" thick, mounted

away from controls, etc. Brass bearing has stub to accommodate a knob on one end; and a long 1/4"-diameter shaft on the other end. Can be used with couplings described above, and elsewhere in this catalog under the listing, "shaft couplings." Av. shpg. wt., 3 oz.

Stock No.	Overall Length	EACH			
		1-9	10-49	50-99	100-499
44 H 094	3"	.33	.297	.274	.248
44 H 095	6"	.39	.351	.324	.293
44 H 096	Bearing	.15	.135	.125	.113

## E. F. JOHNSON FLEXIBLE SHAFTS

Sturdy, non-rusting phosphor-bronze flexible shafts with universal 1/4" hubs. Excellent for connecting out-of-line shafts together to correct misalignment problems. An invaluable accessory for industrial manufacturers, Amateurs, experimenters, labs, etc. Permit us to 90 degrees angular control. Shpg. wt., 2 oz.



Stock No.	Mfr's Type	Length	EACH		
			1-49	50-99	100-499
46 H 411	115-253	3"	.57	.524	.480
46 H 412	115-254	6"	.83	.761	.700

## POLYSTYRENE COIL FORMS

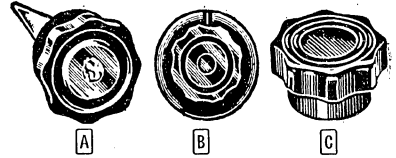
Selection of forms for winding RF coils of nearly all types. Feature low loss, high dielectric polystyrene construction—produce coils of exceptional stability. Excellent for plug-in type regenerative receiver coils; plate, grid or tank coils in VFO's; grid-dip meter coils; etc. 4, 5, and 6 prong forms fit standard tube sockets; 5 and 6 prong miniature forms fit Amphenol Type 78-SSS and 78-S6S sockets. Av. wt., 2 oz.



Stock No.	Mfr's Type	Prongs	Size L x Dia.	EACH			
				1-99	100-499	500-999	1000-U.P.
46 H 693	24-5H	5 min.	1 1/2 x 3/4"	.28	.25	.23	.21
46 H 694	24-6H	6 min.	1 3/4 x 3/4"	.33	.30	.27	.25
46 H 695	24-4P	4 std.	2 1/4 x 1 1/4"	.37	.33	.30	.28
46 H 696	24-5P	5 std.	2 1/4 x 1 1/4"	.27	.24	.22	.20
46 H 697	24-6P	6 std.	2 1/4 x 1 1/4"	.40	.36	.33	.30

## HARRY DAVIES FLUTED KNOBS

High-quality, ruggedly built fluted knobs. Made of durable, high-gloss bakelite. All knobs listed in the Series below are designed for use with either flattened or round 1/4" shafts. \*Indicates pointer. All types listed are available to MIL specification MS91531 on special order; contact us for prices. All are supplied with set-screw. Av. shpg. wt., 4 oz.



Stock No.	Mfr's Type	Fig.	Dia.	EACH				
				1-24	25-99	100-499	500-999	1000-U.P.
44 H 117	4100-Q*	A	1 1/8"	.36	.315	.27	.252	.239
44 H 118	4101-J*	A	1 3/8"	.36	.319	.273	.254	.242
44 H 119	4102-BD*	A	1 5/8"	.39	.341	.292	.273	.259
44 H 120	4103-W*	A	2 3/8"	.52	.455	.39	.364	.346
44 H 121	4100	C	1 1/8"	.23	.203	.174	.162	.154
44 H 122	4101	C	1 3/8"	.24	.21	.18	.168	.159
44 H 123	4102	C	1 5/8"	.27	.238	.204	.191	.181
44 H 124	4103	C	2 3/8"	.40	.35	.30	.28	.266
44 H 125	4104	B	1 1/2"	.44	.385	.33	.308	.292
44 H 126	4108	B	2 1/16"	.54	.473	.405	.378	.359
44 H 150	4105	B	1 3/4"	.45	.394	.338	.315	.299
44 H 151	4106	B	1 1/2"	.44	.385	.33	.308	.292
44 H 152	4107	B	1 3/4"	.45	.394	.338	.315	.299
44 H 153	4109	B	3"	.70	.613	.525	.49	.465

## NATIONAL KNOBS



Choose from various sizes and styles. Enhance appearance of test instruments, receivers, etc. Useful for experimenters. Well-suited for production-line use. Deeply knurled for sure grip, except Types HRP

and R, smooth knobs. Made of Tenite, except Types HRP, HRP-P, and R, bakelite; HRM, satin-chromed brass. HRS Types have 7/16" chrome dial. Type R has 1 1/2" aluminum dial. \*Black, tgray. Av., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	Knob Dia.	EACH				
					1-99	100-199	200-299	300-399	400-499
42 H 106	HRS-3*	D	300° 0-10 scale	1 1/16"	.66	.63	.59	.56	.53
42 H 107	HRS-3†	D	300° 0-10 scale	1 1/16"	.66	.63	.59	.56	.53
42 H 125	HRS-4*	D	1-line scale	1 1/16"	.66	.63	.59	.56	.53
42 H 126	HRS-4†	D	1-line scale	1 1/16"	.66	.63	.59	.56	.53
42 H 128	HRS-5*	D	0-10 180° scale	1 1/16"	.66	.63	.59	.56	.53
42 H 129	HRS-5†	D	0-10 180° scale	1 1/16"	.66	.63	.59	.56	.53
42 H 135	HRP-P*	E	Pointer	1 1/4 x 1 1/2"	.44	.42	.40	.37	.35
42 H 035	HRP*	E	Without pointer	1 1/4 x 1 1/2"	.36	.34	.32	.31	.29
42 H 136	R*	F	180° 0-10 scale	1 3/8"	.69	.66	.62	.59	.55
42 H 089	HF-2*	G	Skirt, white dot	4 5/8"	.66	.63	.59	.56	.53
42 H 090	HF-2*	G	Skirt, no dot	4 5/8"	.63	.60	.57	.54	.50
42 H 091	HF-3*	G	Skirt, MIL cap n.d.	4 5/8"	.80	.76	.72	.68	.65
42 H 092	HF-4*	G	Flat cap, no dot	4 5/8"	.66	.63	.59	.56	.53
42 H 094	HF-5*	G	MIL cap, no dot	4 5/8"	.80	.76	.72	.68	.65
42 H 095	HF-3*	G	Skirt, mil cap, dot	4 5/8"	.90	.86	.81	.77	.72
42 H 097	HF-5*	G	MIL cap, dot	4 5/8"	.90	.86	.81	.77	.72
42 H 098	HF-4*	G	Flat top, dot	4 5/8"	.71	.67	.64	.60	.57
42 H 176	HR*	H	White dot	1 1/16"	.39	.37	.35	.33	.31
42 H 177	HRT†	H	White dot	1 1/16"	.39	.37	.35	.33	.31
42 H 178	HRT*	J	Chrome insert	2 1/8"	1.04	.99	.94	.88	.83
42 H 179	HRT†	J	Chrome insert	2 1/8"	1.04	.99	.94	.88	.83
42 H 180	HRM*	K	Arrow	5/8"	.96	.91	.86	.82	.77

Miniature Knobs. Smaller version of HRT knob, above. Made of tenite with sparkling chrome-plated circle that enhances appearance and increases visibility. Face-to-back size, 2 7/32". Fastens to 1/4" shaft with two 8-32 slotted-head set-screws at 90° angle.

ance and increases visibility. Face-to-back size, 2 7/32". Fastens to 1/4" shaft with two 8-32 slotted-head set-screws at 90° angle.

42 H 185	HRT-M*	J	Chrome insert	1 1/2"	.58	.55	.52	.49	.46
42 H 186	HRT-M†	J	Chrome insert	1 1/2"	.58	.55	.52	.49	.46

## WALSCO DIAL CORD SPOOLS

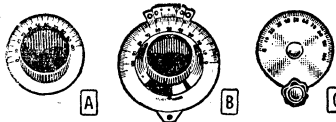
An excellent selection of dial cord covering 80% of the replacement demand. All Types of service spools have either a fiberglass or linen core, with a nylon-braided sleeve. Each is pre-stretched to prevent slipping; maintains proper tension after long period of use. Av. shpg. wt., 4 oz.



Stock No.	Mfr's Type	Dia.	Strength	Length	EACH
43 H 194	652-Med.	.040"	35 lbs.	25 ft.	.73
43 H 198	656-Thin	.025"	15 lbs.	25 ft.	
43 H 199	654-Std.	.032"	20 lbs.	25 ft.	
43 H 197	652-Med.	.040"	35 lbs.	100 ft.	2.32
43 H 195	656-Thin	.025"	15 lbs.	100 ft.	
43 H 196	654-Std.	.032"	20 lbs.	100 ft.	

# National Dials, Shaft Couplings and Accessories

## CALIBRATED AND NON-CALIBRATED DIALS

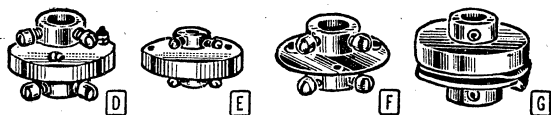


### CALIBRATED DIALS

Famous National dials for smooth performance, dependability, and attractive appearance. Recommended for all types of equipment. Knobs are black bakelite with dials of nickel-plated brass. Type O is similar to Fig. A, has fluted knob. Knobs for 1/4" shafts.

Stock No.	Mfr's Type	Fig.	Ratio	Scale	Dia.	Wt., Oz.	EACH				
							1-99	100-199	200-299	300-399	400-499
42 H 113	AM-2	A	5:1	0-100; 180°	3"	10					
42 H 114	AM-3	A	5:1	100-0; 180°	3"	10					
42 H 115	AM-4	A	5:1	150-0; 270°	3"	10	5.25	5.00	4.70	4.45	4.20
42 H 150	AM-5	A	5:1	200-0; 360°	3"	10					
42 H 151	AM-6	A	5:1	0-150; 270°	3"	10					
42 H 155	O	A	5:1	0-100; 180°	3 1/2"	4	2.85	2.71	2.57	2.42	2.28
42 H 000	N-2	B	5:1	0-100; 180°	4"	12	8.25	7.84	7.43	7.01	6.60
42 H 002	N-3	B	5:1	100-0; 180°	4"	12	8.25	7.84	7.43	7.01	6.60
42 H 003	N-4	B	5:1	150-0; 270°	4"	12	8.25	7.84	7.43	7.01	6.60
42 H 160	K	C	12:1	0-100; 180°	3 1/2"	12	3.30	3.14	2.97	2.81	2.64

### SERIES TX SHAFT COUPLINGS



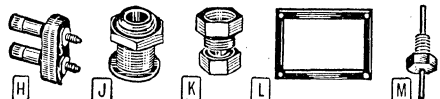
Insulated and Non-Insulated Types for 1/4" Shafts.

Shaft couplings by National Co. have been performance-proved in thousands of industrial, commercial and Amateur installations throughout the world. All fit 1/4" shafts, are extremely compact, and are fully insulated except Types TX-22 and TX-25, which are of all-metal construction. Hubs and spiders

are made of solid, nickel-plated brass. All have two set-screws at right angle on each hub. Types TX-23 and TX-25 are for radial misalignment up to a maximum of 1/16"; also handle approximately 2° of angular misalignment. Type TX-9 is for isolating circuits. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Insul. Mat'l.	Type	Dia.	EACH				
						1-99	100-199	200-299	300-399	400-499
42 H 007	TX-8	D	Ceramic	Rigid	1 1/8"	1.17	1.11	1.05	.99	.94
42 H 008	TX-9	E	Steatite	Rigid	1 5/8"	1.49	1.42	1.34	1.27	1.19
42 H 009	TX-10	F	Bakelite	Rigid	1 1/8"	.54	.51	.49	.46	.43
42 H 010	TX-22	...	Not Insul.	Rigid	1 1/8"	.54	.51	.49	.46	.43
42 H 011	TX-23	G	Bakelite	Flexible	1"	2.40	2.28	2.16	2.04	1.92
42 H 015	TX-25	G	Not Insul.	Flexible	1"	2.40	2.28	2.16	2.04	1.92

### EQUIPMENT-DESIGN COMPONENTS



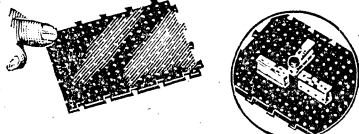
High-Quality Components for Industrial, Commercial and Consumer Equipment-Design Applications.

Type SB bushing is of nickel-plated brass. SL shaft lock is popular with potentiometers, capacitors, etc. CFA frame is of 1/16" thick heavy-duty steel. FWJ and FWJ terminal assemblies have identical mica-

filled bakelite insulators, but FWJ has banana-type jacks. When FWJ is used with FWT mica-filled bakelite plug, no metal parts are exposed. TPB has removable, molded-in through-point bushing. Av. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH			
				1-99	100-199	200-299	300-399
42 H 017	SB	J	Panel Bushing for 1/4" Shafts	.27	.26	.24	.23
42 H 018	SL	K	Shaft Lock for 1/4" Shafts	.40	.38	.36	.34
42 H 161	CFA	L	Chart frame; 2 1/4 x 3 1/4"	.40	.38	.36	.34
42 H 162	FWH	H	Jack Binding Post Assembly	1.10	1.05	.99	.94
42 H 165	FWJ	.....	Jack Assembly	.87	.83	.78	.74
42 H 166	FWT	.....	Plug for FWH and FWJ.	1.56	1.48	1.40	1.33
42 H 167	TPB	M	Threaded Polystyrene Bushing.	.08	.077	.073	.069

### DeVRY SOLDERLESS MODULAR CONNECTORS



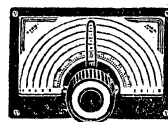
To assemble circuit, interlock as many modular panels as needed to make base. Leads insert directly into connectors for positive contact.

Stock No.	Type	Description	EA.
40 H 688	22-07	Cycloac panel	.75
40 H 689	M-C62	Celcon connector	.30

Modular connectors, panels, stacking rods and tube sockets for high-density bread-boarding in circuit development. Compact 1 1/8 x 1 1/8 x 3/16" connectors may be used horizontally or vertically in any direction. Each 3x4" panel accepts up to 40 connectors (200 contact points). 1/8" dia. rods fit mtg. holes in connectors and panels. \*Pkg. of 12-4" lgths. Wt., 4 oz.

Stock No.	Type	Description	EA.
40 H 690	22-60*	Nylon stacking rods	2.00
40 H 691	6-33	9-pin min. socket	.25
40 H 692	6-32	7-pin min. socket	.25

### VERNIER DIALS FOR INDIVIDUAL CALIBRATION

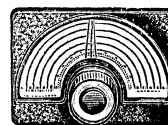


Type ACN, 5-scale blank dial featuring famed "Velvet Vernier" with 5:1 drive ratio. Pointer has centered hairline and pinholes for accurate calibration. Knob has bright chrome insert. 5x7 1/4". With extra scales, hardware, and 1/4" shaft hub. Shpg. wt., 1 1/4 lbs. 42 H 169.....7.80

Type SCN, Vernier dial similar to above, but smaller in size. Ideal for use where panel space is limited but a full 5-scale dial is needed. 4 1/2 x 6 1/4". 1 lb. 42 H 170.....7.80



Type MCN, Compact, 3-scale vernier dial. Ideal for limited space applications in mobile equipment, small receivers, tuners, test instruments, etc. Offers three blank calibrating scales and 0-100 logging scale. Utilizes "Velvet Vernier" drive for smooth, back lash-free tuning. Drive ratio is 5:1. Size: 2 3/4 x 3 3/4". With extra scales, hardware, hub for 1/4" shafts. 10 oz. 42 H 171.....7.20



Type ICN, Illuminated 5-scale blank dial. Two dial lights in upper corners provide efficient, even illumination of all scales. Utilizes "Velvet Vernier" 5:1 drive mechanism, 0-100 logging scale, and Type HRT knob. Size: 5 1/8" high, 7 1/4" wide. For 1/4" shafts. Shpg. wt., 1 1/4 lbs. 42 H 172.....7.80

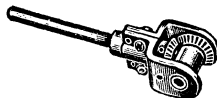
### DIAL ACCESSORIES

Type DP-1 Dial Pointer. Adaptable to many types of dials. Made of solid brass with highly visible nickel-plate finish. Has easy-to-read 7/16" long kite-shaped pointer. Mounts in single hole. Has 5/8" 4-40 mtg. stud, lock washer, and nut. Wt., 1 oz. 42 H 026.....25

Type DP-2 Dial Pointer. For dials of many sizes and styles. Clean, functional modern design. Of solid brass with highly visible nickel-plate finish. Diamond-shaped pointer, 3/8 x 1/16"; has 5/8" long 4-40 mtg. stud with lock washer and nut. 1 oz. 42 H 027.....25

Type ODL Dial Lock. Thumbscrew rim-clamp type locking device for "O" and "K" type dials. Of nickel-plated brass. Offers positive, no-slip operation. Jaws grip dial plates up to 1/16" thick. Has two 3/4" dia. mtg. holes on 5/8" ctrs. 4 oz. 42 H 029.....59

### RIGHT-ANGLE DRIVES



Type RAD, Controls variable capacitors, pots, at right angles to front panel. Saves space. Will drive two units. Aluminum housing/gears. 2 1/2 x 1/4" shaft. 6 oz. 42 H 173.....4.31

Type PRAD, Above, but deluxe model with brass gears. For remote operation of tuning capacitors, etc. Used for continuous operation at low speeds. Backlash under 1 1/2%. 1/4" shaft 2 1/2" long. 3 oz. 42 H 174.....17.25



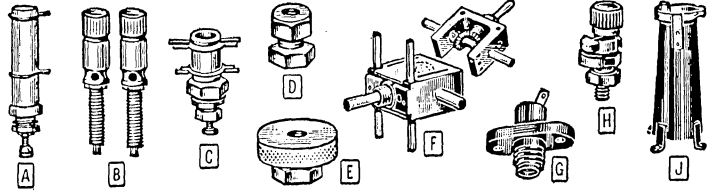
# Millen Components

FOR PROTOTYPE, DIRECT REPLACEMENT, AND ORIGINAL-EQUIPMENT USE

## MINIATURIZED COUPLINGS FOR 3/8" AND 1/4" SHAFTS



Designed for limited space applications. Type M003 is brass. Type M006 (illustrated) is universal joint style constructed of nickel-plated brass with steatite insulation and spring fingers. Type M008 is an insulated coupling with brass inserts. Type 39003 is solid brass for 1/4" shafts; all other types listed are for 3/8" shafts. Av. shpg. wt., 2 oz.



A selection of most widely used Millen "Designed for Application" components—famous for their outstanding quality among industrial, Amateur, and experimental users. Excellent for original-equipment applications, as well as for replacement purposes in existing units. All are made to exacting specifications to provide maximum dependability. Included in this listing are Series 69000 slug-tuned ceramic coil forms—copper slug reduces inductance when it moves into coil; iron slug increases inductance.

Form dimensions indicate diameters and winding lengths. Series 10061, 10062, and A061 shaft locks convert any control to locking-shaft type. Series 80040 CRT shields eliminate hum and strong magnetic fields from oscilloscopes. Series 80070 cathode-ray bezels have satin-black finish, neoprene cushions and green lucite filters. Refer to Manufacturers Index for page numbers of RF chokes and the many other Millen products listed in this Catalog. \*Items not illustrated.

## SERIES 39000 FLEXIBLE SHAFT COUPLINGS



Popular 39000 series flexible couplings. Provide higher flexibility, no backlash, high breakdown voltages, small diameter and accurate alignment. Type 39001 is insulated universal joint. Type 39006 "slide-action" coupling permits longitudinal and eccentric shaft motion and out-of-line operation, as well as angular drive without backlash. Type 39005 (high torque) is similar to Type 39001 but not insulated. Type 39016 (illus.) molded for high resistance to mechanical shock; has solid insulating barrier diaphragm. All are for 1/4" shafts except \*for 3/8" shaft. 2 oz.

Stock No.	Mfr's Type	Description	EACH
43 H 204	M003	Solid brass coupling	.34
43 H 205	M006	Univ. joint coupling	.75
43 H 206	M008	Insulated coupling	.51
43 H 207	39003	Solid brass coupling	.24

Stock No.	Mfr's Type	Fig.	Description	Wt., Oz.	EACH
43 H 220	10012	F	Right Angle Drive.....	5	5.00
43 H 221	10050	H	Dial Lock.....	4	.54
43 H 222	10061	D	Shaft Lock, for 3/8" Bushing; 1/4" shafts.....	4	.45
43 H 223	A061	D	Shaft Lock for 1/4" Bushing; 1/8" shafts.....	4	.39
43 H 224	10062	E	Shaft Lock with Knurled Nut, for 1/4" shafts.....	4	.54
43 H 225	37001	G	High Voltage Terminal and Thru-Bushing, Black.....	3	.45
43 H 226	37001	G	High Voltage Terminal and Thru-Bushing, Red.....	3	.48
43 H 227	40305	*	5-Prong Steatite Coil Plug.....	3	.69
43 H 228	37202	*	Bakelite Plates (2) for 37222 below, Black.....	2	.36
43 H 229	37222	B	Binding Post.....	6	.30
43 H 230	69046	A	Ceramic Slug-tuned Coil Form, 1/2x1 1/8", Iron Slug.....	3	1.05
43 H 231	69048	*	Ceramic Slug-tuned Coil Form, 1/4x3/8", Iron Slug.....	3	1.05
43 H 232	69056	C	Ceramic Slug-tuned Coil Form, 1/2x1 1/2", Iron Slug.....	3	1.05
43 H 233	69058	C	Ceramic Slug-tuned Coil Form, 1/4x5/8", Iron Slug.....	3	.87
43 H 234	69062	C	Ceramic Slug-tuned Coil Form, 3/8x3/4", Iron Slug.....	3	.90
43 H 235	74400	*	Octal Base and Shield, 1 1/8x1 7/8x3 1/8".....	10	1.40
43 H 236	80042	J	Nicoloi Shield for 2API and 2BP1 2" CR Tubes.....	10	6.90
43 H 237	80043	J	Nicoloi Shield for use with either 3API, 3BP1 or 3DP1 3" CR Tubes.....	10	9.70
43 H 238	80072	*	Bezel, Cushion and Filter for 2" CR Tube.....	4	1.80
43 H 239	80073	*	Bezel, Cushion and Filter for 3" CR Tube.....	5	4.35
43 H 240	80075	*	Bezel, Cushion and Filter for 5" CR Tube.....	7	8.40

## TYPE 10000 WORM DRIVE MECHANISM



Ruggedly constructed drive mechanism offering a 16-to-1 step-down ratio. Rugged cast-aluminum frame is drilled for secure mounting on either panel or chassis base. Spring-loaded nickel-plated brass gears work with polished stainless-steel worm to provide smoothest operation and minimum of backlash. 1/4" left and right-hand shafts. Size, 3x2x3/8". Shpg. wt., 6 oz.  
43 H 216..... 9.75

## SERIES 45000 LOW-LOSS MICA-FILLED COIL FORMS

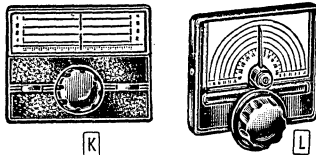


Type 45004. Low-loss molded mica-filled coil form with phenolic base. Four-prong type. Excellent for use by the experimenter and builder in construction of shortwave receivers, low-power transmitters, and similar applications. Guide funnel makes for easy threading of leads through pins. Size: 1" diameter; 1 1/2" winding length; 2 3/8" overall. Shpg. wt., 2 oz.  
43 H 217..... 51

Type 45005. Identical to Type 45004 above, but has 5 prongs. Wt., 2 oz.  
43 H 218..... 51

Type 45000. As above, but without prongs. Screw mounting. Shpg. wt., 2 oz.  
43 H 219..... 39

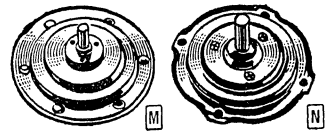
## MILLEN SERIES 10030 STANDARD AND MINIATURE MULTI-SCALE PANEL DIALS



[K] Type 10035 Multi-Scale Dial. A deluxe-type illuminated slide-rule dial. Ideal for Amateur receivers, VFO's, etc. Two built-in pilot lights provide even illumination over dial. Unit is self-contained. Large finger-grip knob control. Has 12 to 1 drive-ratio. Has 4 blank scales for calibration and one 0-100 logging scale. Cardboard scale supplied can be used on both sides. Clear plastic dial window. Ample panel space is provided for mounting and marking two auxiliary controls, such as switches, potentiometers, etc. Size, 8 1/2x6 1/2". Standard black finish. Shpg. wt., 2 1/2 lbs.  
43 H 241..... 7.26

[L] Type 10039 Midget Panel Dial. Economy model. Excellent for small transmitters, receivers and measurement equipment. Drive ratio is 8 to 1. Totally self-contained mechanism eliminates back-of-panel interference; quick, easy installation. Has 5 blank scales for calibration and one 0-100 logging scale. Attractive black finish. Size, 4x3 1/4". Wt., 13 oz.  
43 H 242..... 3.24

## NATIONAL PLANETARY DIAL-DRIVE MECHANISMS FOR 3/8" AND 1/4" SHAFTS



[M] Type AN-187. Planetary vernier tuning mechanism. Provides 5:1 tuning ratio. Output torque is 1-3 inch-pounds. Output hub is insulated to isolate controlled shaft from panel. Designed for front-of-panel mounting, has three 1/8" holes on 2 3/8" mounting centers. For use with 3/8" control shafts. Shpg. wt., 12 oz.  
42 H 112..... 3.37

Type AN-250. Same as above, but for use with 1/4" control shafts. Shpg. wt., 12 oz.  
42 H 023..... 3.75

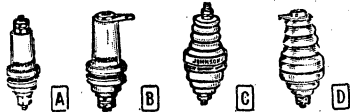
[N] Type AVD-187. Same as AN-187, above, but has uninsulated output hub. For front-of-panel mounting. Has four 5/32" holes on 2 3/8" mounting centers. Use with 3/8" control shafts. Wt., 8 oz.  
42 H 024..... 2.63

Type AVD-250. Same as Type AVD-187 above, but for use with 1/4" control shafts. Shpg. wt., 8 oz.  
42 H 025..... 2.63

# E. F. Johnson and National Insulators and Bushings

## E. F. JOHNSON QUALITY INSULATORS AND BUSHINGS

### THRU-PANEL INSULATORS

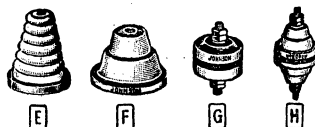


Thru-panel, high voltage insulators are compression mounted by means of a stud throughout length. Extrusion of insulator base extends mounting hole increasing

breakdown rating. Flat mounting surfaces with cushion washer. Long leakage paths. White glazed porcelain except steatite. \*Type Nos. with suffix -2 have banana jack plus lug-type terminal. Jacks accommodate Johnson Type 108-740 or other standard banana plugs. Av. shpg. wt., 12 oz.

Stock No.	Mfr's Type	Fig.	Top Ht.	Panel Hole	Hard-Ware	EACH		
						1-49	50-99	100-499
46 H 200	135-40†	A	1 1/4"	7/16"		.42	.385	.354
46 H 201	135-40-2	B	1 1/4"	7/16"	*	.53	.487	.447
46 H 202	135-42†	A	7/8"	13/32"	10-32	.42	.386	.355
46 H 203	135-42-2	B	7/8"	13/32"	*	.50	.459	.422
46 H 205	135-44†	A	5/8"	3/16"	6-32	.31	.284	.262
46 H 206	135-45	C	13/8"	1/2"	10-32	.59	.541	.497
46 H 208	135-45-2	D	13/8"	1/2"	*	.69	.634	.582
46 H 210	135-46	A	2 3/4"	1 1/16"	1/4-20	1.50	1.38	1.26
46 H 211	135-47	A	4 1/2"	3 3/32"	1/4-20	2.75	2.52	2.32
46 H 215	135-48	C	2"	1 1/16"	10-32	.95	.872	.80
46 H 216	135-48-2	D	2"	1 1/16"	*	1.05	.964	.885

### LEAD-IN BUSHINGS



Insulated bushings for use in transmitter and antenna installations. Serve as antenna terminals on transmitters, as high voltage terminals on heavy duty power supplies. 50, 51, 52, 55 are steatite, with

nicked-brass rod and nuts; 53 and 54 are porcelain, less all hardware except cushion washer. Av. shpg. wt., 8 oz.

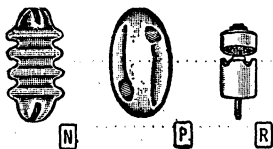
Stock No.	Mfr's Type	Fig.	Top Ht.	Max. Dia.	Panel Hole	EACH		
						1-49	50-99	100-499
46 H 217	135-50	H	1 1/2"	3/4"	15/32"	.40	.367	.337
46 H 219	135-51	H	1 3/16"	1 1/4"	37/32"	.57	.524	.481
46 H 220	135-52	H	1 1/8"	1 3/4"	1 1/32"	.89	.815	.749
46 H 221	135-53	F	1 3/4"	2 1/2"	12 7/32"	.35	.322	.295
46 H 222	135-54	E	4"	3 1/2"	2 1/16"	1.10	1.010	.925
46 H 223	135-55	G	1/4"	3/4"	1 5/32"	.31	.287	.24

### ULTRA-STEATITE CONE INSULATORS

(Not illus.) Non-ribbed high-grade steatite insulators. For mounting coils, capacitors, etc. Threads tapped directly into the steatite. Width shown is max. (base). With 2 nickel-plated brass machine screws and washers, cork cushion washer. Shpg. wt., 5 oz.

Stock No.	Mfr's Type	Height	Width	EACH		
				1-49	50-99	100-499
46 H 224	135-500	5/8"	5/8"	.23	.213	.178
46 H 231	135-501	1"	3/4"	.31	.287	.240
46 H 232	135-502	1 1/2"	1"	.51	.472	.395
46 H 233	135-503	2"	1 1/8"	.77	.705	.649
46 H 234	135-504	3"	1 1/2"	1.34	1.230	1.130

### ANTENNA INSULATORS



**N** Ribbed Insulator. Glazed porcelain insulator 1 1/2" long. Ideal for use as end insulators in antennas. Ribbed design extends leakage path. Shpg. wt., 2 oz. 4 per package.

46 H 051. 1-9 Pkgs. PER PKG. .26  
10-49 Pkgs. PER PKG. .234  
50-99 Pkgs. PER PKG. .216  
100-499 Pkgs. PER PKG. .195

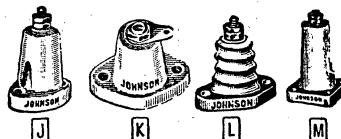
**P** Egg Insulators. White porcelain strain insulators for breaking guy wires into non-resonant lengths. Modeled of top-quality ceramic. 1 3/4 x 7/8" dia. Shpg. wt., 2 oz. 4 per package.

46 H 052. 1-9 Pkgs. PER PKG. .38  
10-49 Pkgs. PER PKG. .342  
50-99 Pkgs. PER PKG. .315  
100-499 Pkgs. PER PKG. .285

**R** Nail Knob Insulator. Standard size. 4 oz. 4 per package.

46 H 053. 1-9 Pkgs. PER PKG. .24  
10-49 Pkgs. PER PKG. .216  
50-99 Pkgs. PER PKG. .199  
100-499 Pkgs. PER PKG. .18

### STAND-OFF INSULATORS

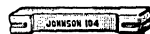


High-glaze porcelain (except steatite) insulators. Ideal for transmitter applications, etc. Feature long leakage path, low capacity and freedom from moisture absorption. Heavy, breakage-resistant bases.

Nickel-plated brass hardware includes screw, flat washer, two nuts. Type Nos. with suffix -2 have banana jack and solder lug mounted on top of insulator. Jacks accept Johnson 108-750 or other standard banana plugs. Relatively large 2-hole mounting surface permits substantial lateral loads. Types 65, 65-2, 68, 68-2 are ribbed; others have drawn bases. \*Similar to Fig. L but square base. Av shpg. wt., 1 lb.

Stock No.	Mfr's Type	Fig.	Body Ht.	Hard-ware	EACH		
					1-49	50-99	100-499
46 H 235	135-20†	J	1 1/2"	10-32	.32	.294	.270
46 H 236	135-20-2	K	1 1/2"	740	.35	.322	.295
46 H 237	135-22†	J	1"	8-32	.20	.184	.169
46 H 238	135-22-2	K	1"	740	.26	.239	.219
46 H 239	135-24†	J	5/8"	6-32	.16	.147	.135
46 H 240	135-60	*	4 1/2"	1/4-20	1.20	1.100	1.010
46 H 241	135-62	*	2 3/4"	1/4-20	.62	.570	.522
46 H 242	135-65	L	1 3/8"	10-32	.31	.285	.262
46 H 247	135-65-2	L	1 3/8"	740	.39	.361	.302
46 H 248	135-66	M	2 3/4"	1/4-20	.87	.805	.674
46 H 250	135-66-2	M	2 3/4"	760	.99	.910	.835
46 H 251	135-67	M	4 1/2"	1/4-20	1.25	1.140	1.050
46 H 252	135-68	*	2"	10-32	.54	.50	.419
46 H 253	135-68-2	*	2"	740	.60	.550	.505

### ANTENNA INSULATORS



Insulators porcelain-glazed to prevent moisture absorption. Superior quality units with heavily glazed surfaces and heavy nickel-plated brass hardware suitable for exposed applications. Types 136-107 and 136-112 are wet process, glazed porcelain, 1" diameter round design with 800 lbs. breaking strength. Type 136-104 is dry process, glazed 5/8" square with 400 lbs. breaking strength.

Stock No.	Mfr's Type	Size	Shpg. Wt.	EACH		
				1-49	50-99	100-499
46 H 254	136-104	4"x5/8" sq.	4 oz.	.28	.257	.236
46 H 255	136-107	7"x1" dia.	10 oz.	1.30	1.190	1.09
46 H 256	136-112	12"x1" dia.	1 1/4 lb.	1.85	1.700	1.560

### FEEDER SPREADERS



General-purpose feeder spreaders of high-grade, low-absorption porcelain, built to exacting standards for lowest leakage loss. All 3 types are conventional designs for constructing open-wire antenna feeders and transmission lines with impedances of approximately 200 to 600 ohms. Unglazed-porcelain bars with a cross-section of 3/4 x 1/2" treated with "Silaneal," a silicone product—impervious to moisture. Surfaces suitable for exposed applications. In choice of 3 lengths. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Length	EACH		
			1-49	50-99	100-499
46 H 257	136-122	2"	.17	.156	.144
46 H 258	136-124	4"	.28	.257	.236
46 H 259	136-126	6"	.40	.368	.337

### NATIONAL STAND-OFF INSULATORS



Molded steatite insulators for use in RF circuits. Base and terminal assembly remove to form single-screw type pillar mount. Cap and base nickel-plated; glazed-ceramic insulator. 3 mounting holes with clearance for 6-32-thread machine screws are spaced 120 degrees apart—on 1" pitch circle for GS-1 and GS-2; on 1 3/8" pitch circle for GS-3 and GS-4. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Body Ht.	Dia.	EACH			
				1-99	100-199	200-299	300-399
42 H 102	GS-1	1 1/2"	1 1/2"	.69	.66	.62	.59
42 H 103	GS-2	2 1/2"	1 1/2"	1.02	.97	.92	.87
42 H 104	GS-3	2 1/2"	3/4"	1.26	1.20	1.13	1.07
42 H 105	GS-4	4 1/2"	3/4"	1.74	1.65	1.57	1.48

### ATTENTION—QUANTITY BUYERS

Allied makes same-day shipment of industrial quantities at OEM prices. Write, wire or phone for prompt price quotations. Allied maintains the world's largest stock of electronic parts.

# Latest Amphenol and Elco Connector Releases

NEW...EXCLUSIVE! CRIMP OR SOLDER "QUICK-CRIMP" BNC'S



Small in Size...  
Big in  
Performance

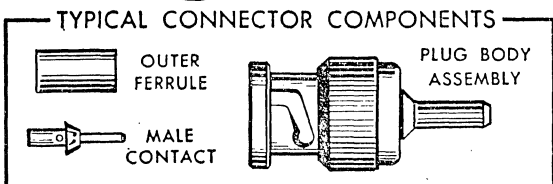
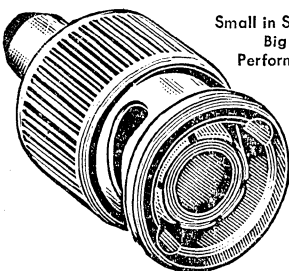
- All New Design Allows You to Crimp or Solder Center Contact
- Connectors Mate with All Other BNC's

Latest design! Permits optional crimp or solder connection to cable center conductor. Even when center contact is crimped, connector maintains constant impedance, and your costs are appreciably reduced—crimping cuts assembly time  $\frac{2}{3}$  or more. Positive positioning of contact provides consistently uniform assembly. VSWR is identical to standard solder-type BNC's up to 10 kmc. Connectors may be used with other than 50-ohm cable for non-imped. match. 3oz. VOLTAGE RATING—500 volts, maximum. VSWR—1.25:1 max. (straight plug & jack) OPERATING TEMPERATURE—350°F max.

IMPEDANCE—50 ohms  
CABLE RETENTION—equal to cable braid.  
DIELECTRIC MATERIAL—teflon  
FEMALE AND OUTER CONTACT—phosphor bronze (female contact—crimp or solder).  
MALE CONTACT—brass (crimp or solder).  
ALL OTHER METAL PARTS—brass.  
PLATING—center contacts gold-plated, all other parts silver-plated.

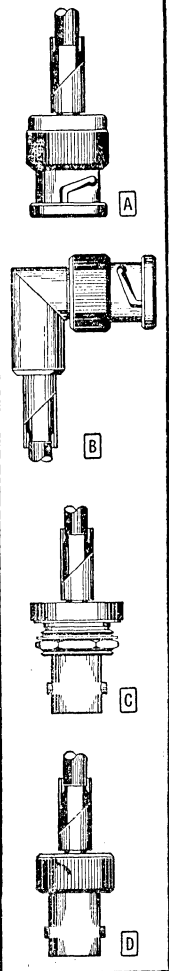
ASSEMBLY TIME— $\frac{1}{3}$  that of improved clamping BNC connector (e.g. UG 260B/U).

SIZES—plug,  $1\frac{1}{16} \times \frac{9}{16}$ " dia.; rt.-angle plug,  $1\frac{1}{16} \times 1\frac{1}{4} \times \frac{9}{16}$ " dia.; cable jack,  $1\frac{1}{32} \times \frac{9}{16}$ " dia.; bulkhead jack,  $1\frac{1}{16} \times 1\frac{1}{16}$ " dia.— $\frac{1}{2}$ " "D" mtg. hole.



TYPICAL CABLE ASSEMBLY

CONTACT MUST BUTT AGAINST CABLE DIELECTRIC



Stock No.	Mfr's Type	Fig.	Sim. to UG-U	Description	For Use With RG-/U, †Amphenol. Cable	EACH						
						1-24	25-49	50-99	100-249	250-499	500-999	1000-2499
40 H 423	36775	A	88E	Plug	58, 58A, 58C, 141	1.05	.91	.79	.71	.60	.57	.54
40 H 424	36875	A	88E	Plug	55, 55A, 142, 223	1.05	.91	.79	.71	.60	.57	.54
40 H 425	36800	D	89C	Cable Jack	58, 58A, 58C, 141	1.14	.99	.85	.77	.65	.62	.59
40 H 426	36900	D	89C	Cable Jack	55, 55A, 142, 223	1.14	.99	.85	.77	.65	.62	.59
40 H 427	34625	A	260B	Plug	71	1.05	.91	.79	.71	.60	.57	.54
40 H 428	68175	A	260B	Plug	59/A/B, 62/A/C, 140	1.05	.91	.79	.71	.60	.57	.54
40 H 429	34650	D	261C	Cable Jack	71	1.14	.99	.85	.77	.65	.62	.59
40 H 430	68150	D	261C	Cable Jack	59/A/B, 62/A/C, 140	1.14	.99	.85	.77	.65	.62	.59
40 H 431	95700	C	909B	Blkhd. Jack	55, 55A, 142, 223	1.49	1.29	1.11	1.00	.85	.81	.77
40 H 433	95725	C	909B	Blkhd. Jack	58, 58A, 58C, 141	1.49	1.29	1.11	1.00	.85	.81	.77
40 H 434	95750	C	910B	Blkhd. Jack	59/A/B, 62/A/C, 140	1.49	1.29	1.11	1.00	.85	.81	.77
40 H 436	95775	C	910B	Blkhd. Jack	71	1.49	1.29	1.11	1.00	.85	.81	.77
40 H 437	95800	C	910B	Blkhd. Jack	122, 180A, 195, †21-597	1.49	1.29	1.11	1.00	.85	.81	.77
40 H 440	95575	B	913A	Angle Plug	55, 55A, 142, 223	2.89	2.51	2.16	1.95	1.65	1.57	1.49
40 H 441	95600	B	913A	Angle Plug	58, 58A, 58C, 141	2.89	2.51	2.16	1.95	1.65	1.57	1.49
40 H 442	95625	B	913A	Angle Plug	59/A/B, 62/A/C, 140	2.89	2.51	2.16	1.95	1.65	1.57	1.49
40 H 443	95650	B	913A	Angle Plug	71	2.89	2.51	2.16	1.95	1.65	1.57	1.49
40 H 444	95675	B	913A	Angle Plug	122, 180A, 195, †21-597	2.89	2.51	2.16	1.95	1.65	1.57	1.49
40 H 445	36650	A	1033	Plug	122, 180A, 195, †21-597	1.05	.91	.79	.71	.60	.57	.54
40 H 448	36675	D	1056	Cable Jack	122, 180A, 195, †21-597	1.14	.99	.75	.77	.65	.62	.59

## NEW ELCO 8016 MINIATURE "VARICON" RACK & PANEL AND CABLE CONNECTORS

E PLUGS (Less Cover Assembly)

Contact Form

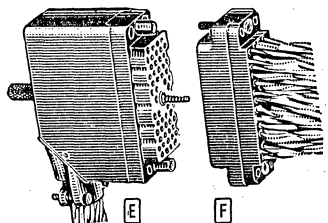
Stock No.	Mfr's Type	Locking	Contacts	1-99, EA.	100-249, EA.
45 H 700	00-8016-038-000-001*	AS	38	2.30	2.00
45 H 701	00-8016-038-217-001	AS	38	4.60	4.30
45 H 702	00-8016-038-000-002*	FN	38	1.70	1.50
45 H 703	00-8016-038-217-002	FN	38	4.00	3.80
45 H 704	00-8016-056-000-001*	AS	56	2.40	2.10
45 H 705	00-8016-056-217-001	AS	56	5.75	5.45
45 H 706	00-8016-056-000-002*	FN	56	1.80	1.60
45 H 707	00-8016-056-217-002	FN	56	5.15	4.95

F RECEPTACLES

Stock No.	Mfr's Type	Locking	Contacts	1-99, EA.	100-249, EA.
45 H 711	00-8016-056-000-007*	FN	56	1.80	1.60
45 H 712	00-8016-056-217-007	FN	56	5.15	4.95
45 H 713	00-8016-056-000-008*	AS	56	2.40	2.10
45 H 714	00-8016-056-217-008	AS	56	5.75	5.45
45 H 708	00-8016-038-000-007*	FN	38	1.70	1.50
45 H 709	00-8016-038-217-007	FN	38	4.00	3.80
45 H 710	00-8016-038-000-008*	AS	38	2.30	2.00
45 H 719	00-8016-038-217-008	AS	38	4.60	4.30

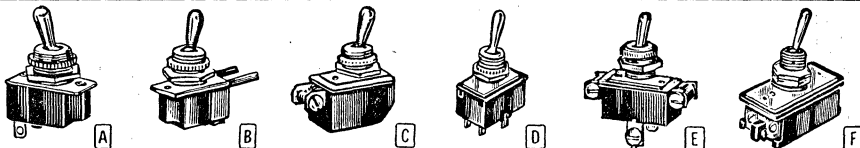
COVER ASSEMBLIES

Stock No.	Mfr's Type	Size	Cable Clamp Mounting	1-99, EA.	100-249, EA.
45 H 715	00-8016-038-000-100	38	Side	2.00	1.75
45 H 716	00-8016-038-000-101	38	Top		
45 H 717	00-8016-056-000-100	56	Side	2.00	1.75
45 H 718	00-8016-056-000-101	56	Top		



High-contact-density connectors with 38 or 56 0.150" honeycomb-grid contacts. Plug contacts recessed in molded rim for protection against damage. Cable-clamp mounted at 45° on side—top or side cable entry. Connectors come polarized in position #1. Have .098" taper-tab, phosphor-bronze, gold-over-silver-plate contacts with wire hole termination. \*Units for "Varilok" contacts (contacts must be ordered separately—see page 210, Stock No. 45 H 484). Polycarbonate thermoplastic insulation. Locking: FN—nut; AS—screw. 8 oz.

# Cutler-Hammer Switches and Hardware



## AC-DC TOGGLE SWITCHES

### LIGHT-DUTY TYPES

For service on small motor-driven tools, appliances and similar equipment where a high-performance switch is required. Feature a quick-make, quick-break contact mechanism. Offer long life and high arc-resistance. Phenolic case, 1/32" diameter threaded stem. For installation on panels, housings, and other flat surfaces. \*6" wire leads, 1/8" screw terminals—all others have solder lug terminals. U.L. and C.S.A. Approved. Av. shpg. wt., 3 oz.

#### SPST

Stock No.	Mfr's Type	Fig.	Stem Length	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
34 B 527	8280K14	A	1/4"	3	.....	.52	.43	.356
34 B 749	8280K15	A	1/32"	3	.....	.52	.43	.356
34 B 500	8280K16	A	1/32"	3	.....	.52	.43	.356
34 B 783	8290K15*	B	1/32"	3	.....	.63	.52	.432
34 B 784	8290K16*	B	1/32"	3	.....	.63	.52	.432
34 B 785	8295K7†	C	1/32"	3	.....	.63	.52	.432
34 B 786	8295K8†	C	1/32"	3	.....	.63	.52	.432
34 B 787	8381K7	A	1/32"	6	3	.60	.50	.408
34 B 508	8381K8	A	1/32"	6	3	.60	.50	.408
34 B 788	8391K7*	B	1/32"	6	3	.71	.59	.484
34 B 789	8391K8*	B	1/32"	6	3	.71	.59	.484
34 B 790	8396K7†	C	1/32"	6	3	.71	.59	.484
34 B 791	8396K8†	C	1/32"	6	3	.71	.59	.484

#### SPDT

Stock No.	Mfr's Type	Fig.	Stem Length	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
34 B 528	8282K12	D	1/4"	3	1	.66	.55	.452
35 B 939	8282K13	D	1/32"	3	1	.66	.55	.452
34 B 501	8282K14	D	1/32"	3	1	.66	.55	.452

#### 2-CIRCUIT

Stock No.	Mfr's Type	Fig.	Stem Length	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
35 B 710	8284K12	D	1/4"	3	1	.70	.58	.476
35 B 711	8284K13	D	1/32"	3	1	.70	.58	.476
35 B 940	8284K14	D	1/32"	3	1	.70	.58	.476

#### DPST

Stock No.	Mfr's Type	Fig.	Stem Length	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
34 B 529	8360K6	D	1/4"	3	.....	.95	.78	.648
34 B 502	8360K7	D	1/32"	3	.....	.95	.78	.648
35 B 941	8360K8	D	1/32"	3	.....	.95	.78	.648
34 B 792	8370K7	D	1/32"	6	3	1.02	.85	.696
35 B 944	8370K8	D	1/32"	6	3	1.02	.85	.696
34 B 793	8372K7†	D	1/32"	6	3	1.25	1.04	.852

#### DPDT

Stock No.	Mfr's Type	Fig.	Stem Length	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
34 B 530	8363K6	D	1/4"	3	.....	1.24	1.03	.844
34 B 503	8363K7	D	1/32"	3	.....	1.09	.91	.744
35 B 942	8363K8	D	1/32"	3	.....	1.09	.91	.744
35 B 943	8365K7†	E	1/32"	3	.....	1.44	1.20	.98
34 B 632	8373K7	D	1/32"	6	3	1.18	.97	.80
34 B 794	8373K8	D	1/32"	6	3	1.18	.97	.80
34 B 795	8375K7†	E	1/32"	6	3	1.51	1.24	1.028

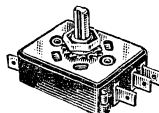
### ROTARY SWITCHES



7011



8122



7241

ROTARY AC-DC AND AC SWITCHES. Ideal for fans, air conditioners, and similar uses. Types 7011K1 and 7012K4 are AC-DC and have screw terminals, 3/8" stem length. Types 8122K4 and 8123K4 are AC only and have solder lug terminals, 3/8" stem length. Heavy-duty inductive-load Type 7241K2 is AC only and has "quick connect" 1/4" terminals, 5/16" stem length. U.L. and C.S.A. Approved. Av. shpg. wt., 6 oz.

Stock No.	Mfr's Type	Action	Amperes		EACH		
			125V	250V	1-9	10-99	100-999
35 B 658	7011K1	2 on, 1 off	5	2	1.05	.89	.724
35 B 659	7012K4	3 on, 1 off	5	2	1.10	.92	.748
35 B 660	8122K4	2 on, 1 off	3	.....	.45	.37	.304
35 B 661	8123K4	3 on, 1 off	3	.....	.48	.40	.328
35 B 662	7241K2	DPDT	1 hp	15	1.32	1.10	.896

### LIGHT-DUTY TYPES—PLASTIC

Rugged, all-plastic construction. Designed for use where switch may be operated under wet conditions, or for outdoor applications. Small in size but with maximum insulation for added safety. Fast operating. Solder lug terminals; 1/32" stem length. U.L. and C.S.A. Approved. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Action	Fig.	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
35 B 663	8280K20	SPST	A	.....	3	.52	.44	.356
35 B 664	8281K16	SPST	A	6	3	.60	.50	.408
35 B 665	8282K18	SPDT	D	3	1	.66	.55	.452
35 B 666	8360K12	DPST	D	.....	3	.95	.79	.648
35 B 667	8370K12	DPST	D	6	3	1.02	.85	.696
35 B 668	8373K12	DPDT	D	6	3	1.18	.98	.80

### STANDARD-DUTY TYPES

Standard-duty switches. All employ the Cutler-Hammer "snuffer type" quick-make, quick-break contact mechanism which eliminates pitting caused by arcing on stalled-rotor currents. Exceptionally long life and high arc-rupturing-capacity are combined in the design. The switches are designed primarily for service on small motors and similar equipment. All have sturdy bakelite cases and convenient screw terminals—no soldering required. 1/32" threaded stem. U.L. Approved. Av. shpg. wt., 3 oz.

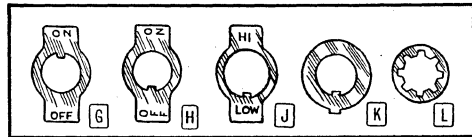
Stock No.	Mfr's Type	Action	Stem Length	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
35 B 546	7320K2	DPST	1/32"	16	8	1.00	.83	.684
34 B 545	7320K3	DPST	1/32"	16	8	1.00	.83	.684
34 B 408	7321K2	SPST	1/32"	16	8	1.00	.83	.684
34 B 520	7321K3	SPST	1/32"	16	8	1.00	.83	.684
34 B 717	8680K1	DPDT	1/32"	.....	5	3.17	2.64	2.156
35 B 669	8680K2	DPDT	1/32"	.....	5	3.17	2.64	2.156

### HEAVY-DUTY TYPES

Heavy-duty switches similar to standard-duty types in appearance and construction, but with heavier parts, larger clearances and higher ratings. Handle larger motors or heavier loads; also provide longer life on lighter loads. Quick-make quick-break contact mechanism eliminates pitting caused by arcing on stalled-rotor currents. Long life and high arc-rupturing-capacity are combined in the design. All have sturdy bakelite bodies, convenient screw terminals that eliminate the need of soldering. 1/32" threaded stem. U.L. Approved. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Action	Stem Length	Amperes		EACH		
				125V	250V	1-9	10-99	100-999
34 B 518	7360K7	DPST	1/32"	15	10	1.74	1.44	1.188
34 B 516	7360K8	DPST	1/32"	15	10	1.74	1.44	1.188
34 B 714	7361K5	SPST	1/32"	15	10	1.74	1.44	1.188
34 B 719	7402K3	DPST	1/32"	1 1/2 hp	20	2.47	2.04	1.676
34 B 517	7402K4	DPST	1/32"	1 1/2 hp	20	2.47	2.04	1.676
35 B 670	8690K1	DPDT	1/32"	15	10	3.84	3.20	2.612
34 B 715	8690K2	DPDT	1/32"	15	10	3.84	3.20	2.612

### SWITCH HARDWARE

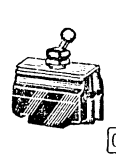
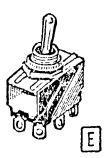
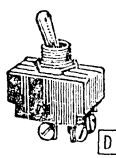
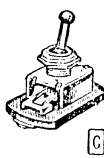
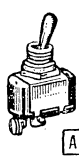


Mounting hardware for Cutler-Hammer switches. 1/2" hole dia. 2 oz.

Stock No.	Mfr's Type	Fig.	Plate Description	EACH		
				1-9	10-99	100-999
35 B 671	827-228F3	G	On-off, vertical	.04	.03	.02
35 B 672	827-228F13	H	On-off, horizontal	.04	.03	.02
34 B 589	827-228F16	J	Hi-low, vertical	.04	.03	.02

- [K] 35 B 701. Type 29-71-3 Locking Rings. Package of 25.....45
- 35 B 703. Pkg. of 100. 1-4 pkgs. EA. 1.50 5-10 pkgs. EA. 1.20
- [L] 35 B 705. Type 16-886 Lockwashers. Package of 25.....30
- 35 B 708. Pkg. of 100. 1-4 pkgs. EA. 1.00 5-10 pkgs. EA. .80

# Cutler-Hammer AC Toggle Switches



## LIGHT-DUTY TYPES

For use in appliances, open-type heater units, radios, many other applications. Employ snap-action "positive kickoff" mechanism. Utilizing AC power to operate motors provides many advantages and economies not found in Universal or DC type devices. Reduction in arcing on AC power eliminates the need for quick-make and quick-break mechanisms—permits a simpler contact structure. Favorable characteristics of AC power are utilized throughout the Cutler-Hammer line of slow-make, slow-break switches to provide ratings unusually high for switches so compact in size. Mechanical life is considerably longer than in corresponding devices designed for DC service. Switches are rated 6 amps at 125V, 3 amps at 250V; except \*7140K6 (Fig. C) which is rated 3 amps at 125V. Terminals are either solder lug, screw type, or Faston "quick connect" (specified in tables). U.L. and C.S.A. Approved. See Lever Chart below for explanation of code numbers. Av. shpg. wt., 3 oz.

### A SPST

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-3	10-99	100-999
34 B 640	7580K4	Screw	I	1 1/2"	.52	.43	.356
35 B 605	7580K5	Screw	I	1 1/2"	.52	.43	.356
34 B 641	7580K6	Solder	I	1 1/2"	.45	.38	.308
35 B 604	7580K7	Solder	I	1 1/2"	.45	.38	.308
34 B 566	7580K8	Faston	I	1 1/2"	.45	.38	.308
34 B 557	7580K9	Faston	I	1 1/2"	.45	.38	.308
34 B 558	7583K8	Faston	II	1 1/2"	.59	.50	.412
34 B 559	7583K9	Faston	II	1 1/2"	.59	.50	.412

### B SPDT

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-3	10-99	100-999
34 B 522	7140K6*	Screw	III	1 1/2"	.50	.41	.34
34 B 642	7581K4	Screw	III	1 1/2"	.60	.50	.408
35 B 603	7581K5	Screw	III	1 1/2"	.60	.50	.408
34 B 643	7581K6	Solder	III	1 1/2"	.49	.41	.332
35 B 602	7581K7	Solder	III	1 1/2"	.49	.41	.332
34 B 560	7581K8	Faston	III	1 1/2"	.49	.41	.332
34 B 561	7581K9	Faston	III	1 1/2"	.49	.41	.332
34 B 644	7582K4	Screw	IV	1 1/2"	.60	.50	.408
35 B 657	7582K5	Screw	IV	1 1/2"	.60	.50	.408
34 B 645	7582K6	Solder	IV	1 1/2"	.49	.41	.332
35 B 600	7582K7	Solder	IV	1 1/2"	.49	.41	.332
34 B 562	7582K8	Faston	IV	1 1/2"	.49	.41	.332
34 B 563	7582K9	Faston	IV	1 1/2"	.49	.41	.332

### D DPST

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-3	10-99	100-999
34 B 646	7590K4	Screw	I	1 1/2"	.81	.67	.552
35 B 606	7590K5	Screw	I	1 1/2"	.81	.67	.552
34 B 647	7590K6	Solder	I	1 1/2"	.66	.55	.448
35 B 607	7590K7	Solder	I	1 1/2"	.66	.55	.448
34 B 564	7590K8	Faston	I	1 1/2"	.66	.55	.448
34 B 565	7590K9	Faston	I	1 1/2"	.66	.55	.448
35 B 612	7593K4	Screw	II	1 1/2"	1.10	.99	.748
35 B 613	7593K6	Solder	II	1 1/2"	.95	.78	.648
34 B 566	7593K8	Faston	II	1 1/2"	.95	.78	.648
34 B 567	7593K9	Faston	II	1 1/2"	.95	.78	.648

### E DPDT

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-3	10-99	100-999
34 B 648	7591K4	Screw	III	1 1/2"	.96	.79	.652
35 B 608	7591K5	Screw	III	1 1/2"	.96	.79	.652
34 B 649	7591K6	Solder	III	1 1/2"	.73	.61	.50
35 B 609	7591K7	Solder	III	1 1/2"	.73	.61	.50
34 B 568	7591K8	Faston	III	1 1/2"	.73	.61	.50
34 B 569	7591K9	Faston	III	1 1/2"	.73	.61	.50
34 B 689	7592K4	Screw	IV	1 1/2"	.96	.79	.652
35 B 610	7592K5	Screw	IV	1 1/2"	.96	.79	.652
34 B 690	7592K6	Solder	IV	1 1/2"	.73	.61	.50
35 B 611	7592K7	Solder	IV	1 1/2"	.73	.61	.50
34 B 570	7592K8	Faston	IV	1 1/2"	.73	.61	.50
34 B 571	7592K9	Faston	IV	1 1/2"	.73	.61	.50

## LEVER-TRAVEL CHART

Explanation of Roman Numeral code numbers appearing in tables on this page, to determine lever travel. Indicates momentary contact.

CODE NUMBER	TOGGLE POSITION		
	UP	CENTER	DOWN
I	On	None	Off
III	Off	None	On†
IV	On	Off	On
	On	None	On

## STANDARD AND HEAVY-DUTY TYPES

Switches are similar to light-duty types described at left, but have heavier parts, larger clearances and higher ratings. Standard-duty Types are for use with appliances, instruments, small motor-driven devices, etc. Rated 15A @ 125V, 10A @ 250V (3/4 hp @ 250V; except all code II momentary-action switches, which are 10A @ 250V only). Heavy-duty Types (all 3-pole units) are for motors, heaters, air conditioners, etc. Rated 15A @ 125V, 10A @ 250V (1 hp for 1, 2, or 3-phase 115V-575V operation; except for \*8320K1 (Fig. G) and 7599K1, which are 20A @ 250V only). Terminals are either solder lug, screw type, or Faston "quick connect" (specified in tables). U.L. and C.S.A. Approved. See Lever Chart below, left for explanation of Roman Numeral code numbers. Av. shpg. wt., 3 oz.

### A SPST

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-9	10-99	100-999
35 B 932	7500K13	Screw	I	1 1/2"	.60	.50	.408
34 B 591	7500K14	Screw	I	1 1/2"	.60	.50	.408
35 B 933	7501K12	Solder	I	1 1/2"	.52	.43	.356
34 B 534	7501K13	Solder	I	1 1/2"	.52	.43	.356
34 B 572	7501K14	Faston	I	1 1/2"	.52	.43	.356
34 B 573	7501K15	Faston	I	1 1/2"	.52	.43	.356
35 B 616	7506K3	Solder	II	1 1/2"	.68	.56	.464
35 B 617	7506K4	Screw	II	1 1/2"	.75	.62	.512
34 B 574	7506K6	Faston	II	1 1/2"	.69	.56	.464

### B SPDT

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-9	10-99	100-999
35 B 945	7502K12	Screw	III	1 1/2"	.71	.59	.484
34 B 592	7502K13	Screw	III	1 1/2"	.71	.59	.484
35 B 948	7503K12	Solder	III	1 1/2"	.60	.50	.408
34 B 796	7503K13	Solder	III	1 1/2"	.60	.50	.408
34 B 575	7503K14	Faston	III	1 1/2"	.60	.50	.408
34 B 576	7503K15	Faston	III	1 1/2"	.60	.50	.408
35 B 949	7504K3	Screw	IV	1 1/2"	.71	.59	.484
34 B 593	7504K4	Screw	IV	1 1/2"	.71	.59	.484
35 B 950	7505K3	Solder	IV	1 1/2"	.60	.50	.408
34 B 536	7505K4	Solder	IV	1 1/2"	.60	.50	.408
34 B 577	7505K5	Faston	IV	1 1/2"	.60	.50	.408
34 B 578	7505K6	Faston	IV	1 1/2"	.60	.50	.408

### D DPST

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-9	10-99	100-999
34 B 594	7560K5	Screw	I	1 1/2"	.96	.79	.652
35 B 951	7560K6	Screw	I	1 1/2"	.96	.79	.652
34 B 537	7561K4	Solder	I	1 1/2"	.81	.67	.552
35 B 934	7561K5	Solder	I	1 1/2"	.81	.67	.552
34 B 579	7561K6	Faston	I	1 1/2"	.81	.67	.552
34 B 580	7561K7	Faston	I	1 1/2"	.81	.67	.552
35 B 618	7566K5	Solder	II	1 1/2"	1.10	.99	.748
35 B 619	7566K5	Screw	II	1 1/2"	1.24	1.03	.848
34 B 581	7566K6	Faston	II	1 1/2"	1.10	.99	.748
34 B 582	7566K7	Faston	II	1 1/2"	1.10	.99	.748
34 B 583	7599K1*	Faston	I	1 1/2"	.89	.75	.608

### E DPDT

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-9	10-99	100-999
34 B 596	7562K4	Screw	III	1 1/2"	1.18	.98	.804
35 B 952	7562K5	Screw	III	1 1/2"	1.18	.98	.804
34 B 539	7563K4	Solder	III	1 1/2"	.96	.79	.652
35 B 953	7563K5	Solder	III	1 1/2"	.96	.79	.652
34 B 584	7563K6	Faston	III	1 1/2"	.96	.79	.652
34 B 585	7563K7	Faston	III	1 1/2"	.96	.79	.652
34 B 595	7564K6	Screw	IV	1 1/2"	1.18	.98	.804
35 B 954	7564K7	Screw	IV	1 1/2"	1.18	.98	.804
34 B 538	7565K5	Solder	IV	1 1/2"	.96	.79	.652
35 B 955	7565K6	Solder	IV	1 1/2"	.96	.79	.652
34 B 586	7565K7	Faston	IV	1 1/2"	.96	.79	.652
34 B 587	7565K8	Faston	IV	1 1/2"	.96	.79	.652

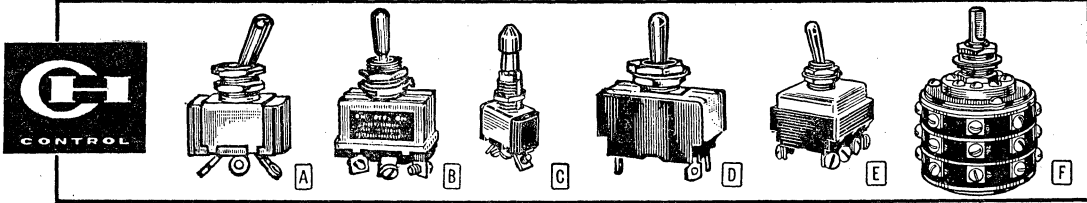
### F 3PST

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-9	10-99	100-999
35 B 956	7600K3	Screw	I	Flush	2.06	1.69	1.388
34 B 597	7610K2	Screw	I	1 1/2"	2.06	1.69	1.388
34 B 543	7611K2	Solder	I	1 1/2"	1.66	1.35	1.124
34 B 588	7611K4	Faston	I	1 1/2"	1.66	1.35	1.124
35 B 958	8320K1*	Screw	I	1 1/2"	3.36	2.80	2.288

### F 3PDT

Stock No.	Mfr's Type	Terminals	Code	Stem Length	EACH		
					1-9	10-99	100-999
35 B 957	7602K2	Screw	III	Flush	2.44	2.03	1.664
34 B 598	7612K2	Screw	III	1 1/2"	2.44	2.03	1.664
34 B 523	7613K2	Solder	III	1 1/2"	2.04	1.69	1.388
34 B 799	7614K2	Screw	IV	1 1/2"	2.44	2.03	1.664
34 B 798	7615K2	Solder	IV	1 1/2"	2.04	1.69	1.388

# Cutler-Hammer Military Switches—Rotary and Toggle



## MIL-S-3950A AND MIL-S-8834 (ASG) MILITARY SWITCHES

All have sealed levers and meet MIL-S-3950A, except †, which are environment sealed and meet MIL-S-8834 (ASG). All types listed have screw terminals. Rated 20 amps at 28 v. DC, 10 amps at 115 v. AC. Types with code numbers from XIII to XVI incorporate a lever lock mechanism to prevent accidental operation—an upward pull must be exerted on the lever to operate it from a locked position. See lever travel chart at lower right for explanation of Roman-numeral code numbers. Av. shpg. wt., 3 oz.

SPST						EACH		
Stock No.	Mfr's Type	Gov't MS No.	Fig.	Code				
					1-9	10-99	100-249	
33 B 818	8801K22	35058-22	A	VIII	1.27	1.06	.868	
35 B 972	8801K23	35058-24	A	IV	1.27	1.06	.868	
35 B 976	8811K17	35058-30	A	X	1.40	1.17	.956	
33 B 816	8836K6†	25306-24	B	IV	4.85	4.03	3.30	
35 B 626	8836K9†	25306-22	B	VIII	4.85	4.03	3.30	
34 B 590	8836K11†	25306-30	B	X	5.23	4.36	3.56	

SPDT						EACH		
Stock No.	Mfr's Type	Gov't MS No.	Fig.	Code				
					1-9	10-99	100-249	
33 B 817	8800K16	35058-21	A	I	1.53	1.27	1.044	
33 B 819	8809K16	35058-31	A	II	1.66	1.38	1.132	
33 B 820	8810K15	35058-23	A	VI	1.53	1.27	1.044	
33 B 821	8812K14	35058-27	A	III	1.66	1.38	1.132	
33 B 815	8836K1†	25306-21	B	I	5.23	4.36	3.56	
34 B 599	8836K3†	25306-31	D	II	5.61	4.68	3.82	
35 B 627	8836K4†	25306-23	B	VI	5.23	4.36	3.56	
35 B 628	8836K5†	25306-26	B	VII	5.61	4.68	3.82	
35 B 629	8857K39	25125-1	C	XIII	3.47	2.80	2.364	
35 B 630	8857K40	25125-2	C	XIV	3.47	2.80	2.364	
35 B 631	8857K43	25125-7	C	XV	3.47	2.80	2.364	
35 B 632	8857K44	25125-8	C	XVI	3.47	2.80	2.364	

DPST						EACH		
Stock No.	Mfr's Type	Gov't MS No.	Fig.	Code				
					1-9	10-99	100-249	
33 B 824	8822K20	35059-22	D	VIII	1.70	1.42	1.16	
35 B 977	8822K21	35059-24	D	IV	1.70	1.42	1.16	
35 B 979	8826K14	35059-28	D	XI	2.05	1.71	1.396	
34 B 505	8826K15	35059-30	D	X	2.05	1.71	1.396	
34 B 506	8828K13	35059-29	D	IX	2.05	1.71	1.396	
35 B 633	8837K6†	25307-24	B	IV	8.24	6.86	5.60	
34 B 507	8837K7	25307-28	B	XI	8.99	7.49	6.12	
35 B 634	8837K9†	25307-22	B	VIII	8.24	6.86	5.60	

DPDT						EACH		
Stock No.	Mfr's Type	Gov't MS No.	Fig.	Code				
					1-9	10-99	100-249	
33 B 823	8820K16	35059-21	D	I	2.05	1.70	1.396	
33 B 825	8824K14	35059-23	D	VI	2.05	1.70	1.396	
34 B 509	8830K13	35059-26	D	XII	2.22	1.85	1.51	
33 B 826	8832K6	35059-31	D	II	2.22	1.85	1.512	
33 B 827	8834K5	35059-27	D	III	2.22	1.85	1.512	
35 B 635	8837K1†	25307-21	B	I	8.99	7.49	6.12	
35 B 636	8837K4†	25307-23	B	VI	8.99	7.49	6.12	
35 B 638	8858K39	25126-1	C	XIII	3.99	3.33	2.716	
35 B 639	8858K40	25126-2	C	XIV	3.99	3.33	2.716	
35 B 640	8858K43	25126-7	C	XV	3.99	3.33	2.716	
35 B 641	8858K44	25126-8	C	XVI	3.99	3.33	2.716	

4PST						EACH		
Stock No.	Mfr's Type	Gov't MS No.	Fig.	Code				
					1-9	10-99	100-249	
35 B 982	7660K13	25068-24	E	IV	3.53	3.11	2.544	
35 B 642	7666K9	25068-28	E	XI	5.03	4.20	3.432	
35 B 644	8838K6†	25308-24	B	IV	20.75	17.15	14.12	
35 B 645	8838K9†	25308-22	B	VIII	20.75	17.15	14.12	

4PDT						EACH		
Stock No.	Mfr's Type	Gov't MS No.	Fig.	Code				
					1-9	10-99	100-249	
35 B 980	7662K7	25068-21	E	I	4.71	3.89	3.176	
35 B 981	7664K5	25068-23	E	VI	4.71	3.89	3.176	
35 B 646	7670K6	25068-31	E	II	5.61	4.64	3.82	
35 B 647	7672K5	25068-27	E	III	5.61	4.64	3.82	
35 B 648	7674K5	25068-26	E	VIII	5.61	4.64	3.82	
35 B 649	8838K1†	25308-21	B	I	21.75	17.98	14.80	
34 B 511	8838K2	25308-27	B	III	23.40	19.50	15.92	
35 B 650	8838K4†	25308-23	B	VI	21.75	17.98	14.80	
35 B 651	8838K5†	25308-26	B	VII	23.40	19.50	15.92	
35 B 652	8859K39	25127-1	C	XIII	6.59	5.49	4.488	
35 B 653	8859K40	25127-2	C	XIV	6.59	5.49	4.488	
35 B 656	8859K43	25127-7	C	XV	6.59	5.49	4.488	
35 B 655	8859K44	25127-8	C	XVI	6.59	5.49	4.488	

## JAN-S-23 AIRCRAFT-TYPE SWITCHES

A D ST42 switches are Fig. A; ST52, Fig. D. Rated 20 amps at 28 v. DC, 10 amps at 115 v. AC. All have solder terminals and 1/32" threaded stem, 1/32" dia. †Have sealed levers. See lever travel chart below for explanation of code numbers. Wt., 3 oz.

Stock No.	Mfr's Type	Gov't ST Nos.	Action	Code	EACH		
					1-9	10-99	100-249
34 B 553	8802K6	ST42E	SPDT	I	1.11	.92	.76
34 B 414	8802K10†	ST42E	SPDT	I	1.42	1.18	.972
34 B 551	8803K6	ST42A	SPDT	VIII	.94	.78	.64
34 B 415	8803K10†	ST42A	SPDT	VIII	1.20	1.00	.82
35 B 963	8805K9†	ST42F	SPDT	VIII	1.55	1.30	1.06
34 B 693	8815K6	ST42H	SPDT	II	1.27	1.01	.832
34 B 552	8816K5	ST42D	SPDT	VI	1.11	.92	.76
34 B 416	8816K9†	ST42D	SPDT	VI	1.42	1.18	.972
35 B 960	8817K5	ST42C	SPST	X	1.03	.87	.704
34 B 407	8817K9†	ST42C	SPST	X	1.33	1.11	.908
34 B 695	8818K5	ST42G	SPDT	III	1.22	1.01	.832
35 B 965	8818K9†	ST42G	SPDT	III	1.55	1.30	1.06
34 B 696	8819K5	ST42B	SPST	IX	1.03	.87	.704
35 B 969	8821K5	ST52J	DPDT	I	1.27	1.05	.868
34 B 417	8821K6†	ST52P	DPDT	I	1.83	1.51	1.248
34 B 554	8823K5	ST52K	DPST	VIII	1.13	.92	.772
34 B 418	8823K6†	ST52K	DPST	VIII	1.56	1.30	1.064
34 B 555	8825K5	ST52N	DPDT	VI	1.27	1.05	.868
34 B 419	8825K6†	ST52N	DPDT	VI	1.83	1.51	1.248
34 B 697	8827K5	ST52M	DPST	X	1.27	1.05	.868
34 B 699	8831K5	ST52R	DPDT	XII	1.47	1.22	1.004
34 B 712	8833K3	ST52T	DPDT	II	1.47	1.22	1.004
35 B 971	8833K4†	ST52T	DPDT	II	2.01	1.67	1.368
34 B 713	8835K3	ST52S	DPDT	III	1.47	1.22	1.004
35 B 970	8835K4†	ST52S	DPDT	III	2.01	1.67	1.368

## NEW LEVER LOCK SWITCHES

Environment-sealed switches have same lever lock mechanism and electrical specs as military switches at upper left. See travel chart below for code explanation. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Action	Code	EACH		
				1-9	10-99	100-249
35 B 673	8843K10	SPST	XVII	9.59	8.00	6.528
35 B 674	8844K5	DPDT	XVIII	13.74	11.45	9.348
35 B 675	8844K6	DPDT	XVI	13.74	11.45	9.348
35 B 676	8845K6	4PDT	XVI	29.40	24.50	20.00

## NEW MIL-S-6807 PHENOLIC ROTARY SWITCHES

Feature adjustable index, continuous rotation by omitting index screws. 5 amps at 28 v. DC and 115 v. AC. All have 8 positions and are non-shorting. Screw terminals. 1/32" shaft, 1/32" bushing (lengths). Hex nuts, locking ring, washer. Shpg. wt., 4 oz.

Stock No.	Mfr's Type	Gov't MS No.	Sec.	Action	EACH		
					1-9	10-99	100-249
35 B 677	7261K13	25002-1	1	SP	5.00	4.16	3.40
35 B 679	7262K12	25002-2	2	DP	7.64	6.37	5.20
35 B 678	7263K11	25002-3	3	3P	10.29	8.57	7.00
35 B 680	7264K9	25002-4	4	4P	12.94	10.78	8.80
35 B 681	7265K9	25002-5	5	5P	15.58	12.98	10.60
35 B 682	7266K5	25002-6	6	6P	18.23	15.19	12.40

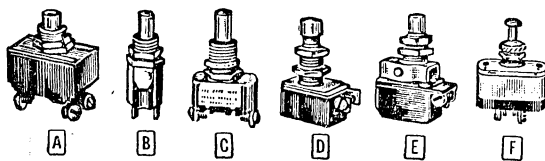
## LEVER TRAVEL CHART

Explanation of Code Numbers. \*Indicates momentary contact. Arrow (→) indicates direction of movement against which lever is locked.

Code No.	Lever Travel			Code No.	Lever Travel		
	Up	Center	Down		Up	Center	Down
I	On	Off	On	X	Off	None	On*
II	On	Off	On*	XI	None	Off	On*
III	On*	Off	On*	XII	On*	None	On*
IV	On	Off	None	XIII	On→	←Off→	←On
V	None	On	On*	XIV	On	←Off→	On.
VI	On	None	On	XV	On→	Off	←On
VII	On	None	On*	XVI	On→	None	←On
VIII	On	None	Off	XVII	On→	None	←Off
IX	On	None	Off*	XVIII	On→	Off	←On

# Cutler-Hammer and Eagle Special-Purpose Switches

## CUTLER-HAMMER SWITCHES



### PUSHBUTTON SWITCHES

Automatically turn lights on and off in refrigerators, telephone booths, machines. \*Red button;  $\frac{1}{4}$ " metal button; others black. SPST, except \*\*SPDT; #DPDT. Norm. open, except #norm. closed. Screw terminals; solder lugs. U.L., C.S.A. Listed. 3 oz.

#### MOMENTARY PUSHBUTTON (AC ONLY)

Stock No.	Mfr's Type	Fig.	Amperes		Stem Length	EACH		
			125V	250V		1-9	10-99	100-999
34 B 987	8411K3	B	.75	.25	$\frac{1}{32}$ "	.40	.33	.268
34 B 548	8411K4†	B	.75	.25	$\frac{1}{32}$ "	.36	.32	.244
34 B 631	8411K6*†	B	.75	.25	$\frac{1}{4}$ "	.36	.32	.244
34 B 988	8411K7†	B	.75	.25	$\frac{1}{32}$ "	.31	.26	.204
34 B 547	8411K8†	B	.75	.25	$\frac{1}{32}$ "	.26	.21	.176
34 B 549	8440K2†	B	3	1	$\frac{1}{32}$ "	.74	.60	.496
34 B 541	8440K3	B	3	1	$\frac{1}{32}$ "	.84	.70	.572
34 B 828	8442K4‡	C	6	3	$\frac{1}{32}$ "	.80	.67	.548
34 B 989	8444K3	C	15	10	$\frac{1}{16}$ "	.86	.71	.588
34 B 829	8444K4‡	C	15	10	$\frac{1}{32}$ "	.86	.71	.588
34 B 513	8446K2	C	15	10	$\frac{1}{16}$ "	1.00	.81	.668
34 B 538	8448K2**	A	15	10	$\frac{1}{32}$ "	1.24	1.03	.86
34 B 515	7190K1†	E	6	3	$\frac{1}{2}$ "	.96	.81	.656
34 B 691	7196K1†	E	6	3	$\frac{1}{2}$ "	1.07	.88	.73
34 B 518	7199K2†	E	6	3	$\frac{1}{2}$ "	1.74	1.47	1.184

#### PUSH-PULL (AC-DC)

Stock No.	Mfr's Type	Fig.	A	B	Stem	1-9	10-99	100-999
34 B 983	7106-K2	F	6	3	$\frac{5}{16}$ "	.94	.78	.64
34 B 984	7116-K2	F	6	3	$\frac{1}{4}$ "	1.07	.88	.728
34 B 985	7118-K2	F	6	3	$\frac{1}{4}$ "	.94	.78	.64

#### PUSH-PUSH (AC-DC)

Stock No.	Mfr's Type	Fig.	A	B	Stem	1-9	10-99	100-999
34 B 519	7208 K-4	D	6	3	$\frac{1}{16}$ "	.82	.68	.56

### G H POSITIVE-ACTION MINIATURE TOGGLE SWITCHES

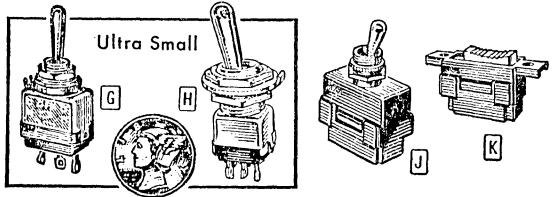
Positive wiping action; gold-plated contacts. 4A @ 28 v. DC, A @ 50 v. DC, 3A @ 115 v. AC. Min. 30  $\mu$  @ 50 mv. \*Mom. 2 oz.

#### G SMALL LEVER— $\frac{1}{16}$ "x $\frac{3}{4}$ "x $\frac{1}{32}$ "- $\frac{3}{64}$ "

Stock No.	Mfr's Type	Action	Lever Travel			EACH		
			Up	Center	Down	1-9	10-99	100-249
34 B 528	8866K1	SPDT	On	Off	On	4.55	3.79	3.10
34 B 624	8866K2	SPDT	On*	Off	On*	5.14	4.28	3.50
34 B 625	8866K3	SPDT	On	Off	On*	5.14	4.28	3.50
34 B 529	8866K4	SPDT	On	None	On	4.55	3.79	3.10
34 B 530	8866K5	SPST	On	Off	None	4.55	3.79	3.10
34 B 531	8866K6	SPST	None	Off	On*	5.14	4.28	3.50
34 B 532	8866K7	SPST	On	None	Off	4.55	3.79	3.10
34 B 623	8866K8	SPDT	None	On	On*	5.14	4.28	3.50
34 B 533	8867K1	DPDT	On	Off	On	5.70	4.75	3.88
34 B 621	8867K2	DPDT	On*	Off	On*	6.64	5.54	4.52
34 B 622	8867K3	DPDT	On	Off	On*	6.64	5.54	4.52
34 B 534	8867K4	DPDT	On	None	On	5.70	4.75	3.88
34 B 535	8867K5	DPST	On	Off	None	5.70	4.75	3.88
34 B 536	8867K6	DPST	None	Off	Off*	6.64	5.54	4.52
34 B 537	8867K7	DPST	On	None	Off	5.70	4.75	3.88
34 B 620	8867K8	DPDT	None	On	On*	6.64	5.54	4.52

#### H LARGE LEVER— $\frac{1}{16}$ "x $\frac{4}{8}$ "x $\frac{1}{32}$ "- $\frac{3}{64}$ "

Stock No.	Mfr's Type	Action	Up	Center	Down	EACH		
						1-9	10-99	100-249
34 B 683	8868K1	SPDT	On	Off	On	4.64	3.87	3.16
34 B 684	8868K2	SPDT	On*	Off	On*	5.23	4.46	3.56
34 B 685	8868K3	SPDT	On	Off	On*	5.23	4.46	3.56
34 B 686	8868K4	SPDT	On	None	On	4.64	3.87	3.16
34 B 687	8868K5	SPST	On	Off	None	4.64	3.87	3.16
34 B 688	8868K6	SPST	None	Off	On*	5.23	4.46	3.56
34 B 689	8868K7	SPST	On	None	Off	4.64	3.87	3.16
34 B 690	8868K8	SPDT	None	On	On*	5.23	4.46	3.56
34 B 691	8869K1	DPDT	On	Off	On	5.79	4.82	3.94
34 B 692	8869K2	DPDT	On*	Off	On*	6.73	5.61	4.58
34 B 693	8869K3	DPDT	On	Off	On*	6.73	5.61	4.58
34 B 694	8869K4	DPDT	On	None	On	5.79	4.82	3.94
34 B 695	8869K5	DPST	On	Off	None	5.79	4.82	3.94
34 B 696	8869K6	DPST	None	Off	Off	6.73	5.61	4.58
34 B 697	8869K7	DPST	On	None	Off	5.79	4.82	3.94
34 B 698	8869K8	DPDT	None	On	On*	6.73	5.61	4.58



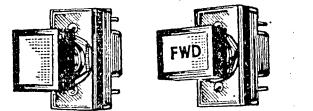
### NEW PLASTIC PLUG-IN SWITCHES

Low-cost, uniquely designed switches have all-plastic bodies with integral plastic bushing for added safety. Terminals are "plug-in, lead" type. Have plug-in lead "bussing terminal" for simplified, cost-saving assembly. Plug-in terminals will accept tinned No. 16-, 18-, or 20-gauge wire skinned only  $\frac{1}{4}$ ". Wt., 4 oz.

Stock No.	Mfr's Type	Fig.	Amperes		Stem Lgth.	EACH		
			125V	250V		1-9	10-99	100-999
34 B 521	7516K4	J	6	3	$\frac{1}{2}$ "	.52	.43	.356
34 B 524	7516K5	J	6	3	$\frac{1}{2}$ "	.52	.43	.356
34 B 525	7517K4	J	10	5	$\frac{1}{2}$ "	.56	.47	.384
34 B 526	7517K5	J	10	5	$\frac{1}{2}$ "	.56	.47	.384
34 B 531	8476K1	K	6	3	Flush	.50	.41	.340
34 B 532	8477K1	K	10	5	Flush	.54	.45	.368

### NEW LIGHTED PUSHBUTTON SWITCHES

For use in momentary-operation circuits that are either normally open or normally closed. Switches control devices up to 6 amps at 125 v. AC or 3 amps at 250 v. AC. 14-volt removable bulb is supplied with switch (bulb circuit is independent of switch circuit). Solder lug terminals,  $\frac{1}{16}$ ". Stem length,  $\frac{1}{4}$ ". Switches come with red, green, and white legends that can be engraved with desired marking. U.L. and C.S.A. Listed. Shpg. wt., 3 oz.

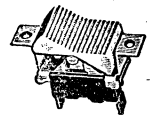


"90° Snap-On-Cap Orientation"

Stock No.	Mfr's Type	Action	EACH		
			1-9	10-99	100-999
34 B 533	8452K6	SPST—normally open	3.79	3.16	2.58
34 B 535	8453K6	SPST—normally closed	3.79	3.16	2.58
34 B 540	8454K6	Lamp only	3.20	2.67	2.18

### "ROCKETTE" APPLIANCE SWITCHES

Highly attractive switches for applications where smart appearance is important. Made of durable, molded white nylon. Compact units measure  $\frac{1}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{32}$ "x $\frac{1}{16}$ ", including flanges and terminals. Rated 15 amps at 125 volts or 10 amps at 250 volts AC. Faston terminals are "quick-connect" type. Shpg. wt., 4 oz.



Stock No.	Mfr's Type	Action	Terminals	EACH		
				1-9	10-99	100-999
34 B 699	8144K7	SPST	Faston	.59	.49	.40
34 B 339	8144K8	SPST	Screw	.66	.55	.448
34 B 718	8142K7	DPST	Faston	.91	.75	.616
34 B 540	8142K8	DPST	Screw	1.04	.87	.712

### EAGLE SWITCHES

#### KNIFE SWITCHES

Designed for heavy-duty use. Ideal for limited space applications. Rated 25 amps at 125 v. AC. With durable bakelite base, except 34 B 889, porcelain base. Av. shpg. wt., 5 oz.



Stock No.	Action	Size	EACH		
			1-9, EA.	10-99, EA.	100-Up, EA.
34 B 884	SPST	$\frac{1}{8}$ "x1"	.19	.17	.16
34 B 886	SPDT	$\frac{2}{8}$ "x1"	.22	.20	.18
34 B 887	DPST	$\frac{1}{4}$ "x $\frac{1}{2}$ "	.32	.29	.26
34 B 888	DPDT	$\frac{2}{8}$ "x $\frac{1}{8}$ "	.36	.33	.30
34 B 889	SPST	$\frac{3}{16}$ "x $\frac{1}{8}$ "	.24	.21	.19

#### FLUSH-MOUNT PUSHBUTTON SWITCH

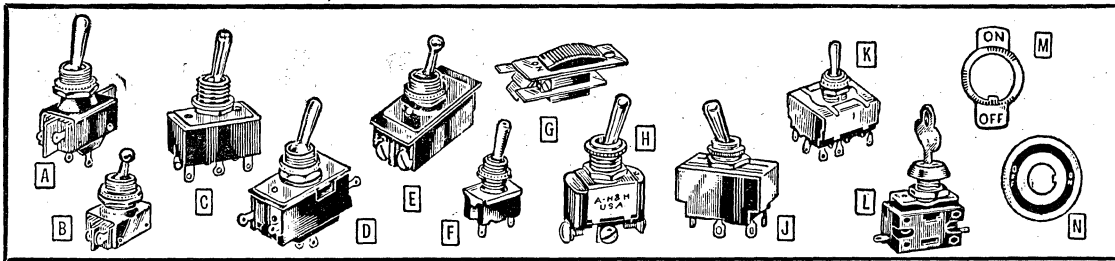
Excellent for signaling bells, lights, buzzers, etc. Has pearl button; screw terminals. Mounts in  $\frac{5}{8}$ " diameter hole. Shpg. wt., 2 oz.



55 B 196	1-9	EACH	.34
100-99	1-9	EACH	.31
100-Up		EACH	.29



# Arrow-Hart and Hegeman Switches



## AC-DC TOGGLE SWITCHES

Small, canopy type, positive action switches. On small bases; switch mechanism consists of a small roller on a track of laminated phenolic. SPST types rated 3 amp @ 250 v. Others rated 1 amp @ 250 v.; 3 amp @ 125 v. Solder lug terminals.  $1\frac{1}{32}$ " long shanks, except  $*1\frac{1}{32}$ ",  $*1\frac{1}{4}$ ",  $*1"$ . U.L. Listed. Wt., 2 oz.

### A BAT-HANDLE TYPES

Stock No.	Mfr's Type	Action	EACH			
			1-9	10-99	100-999	1000-4999
33 B 542	20994LH	SPST*	.52	.43	.36	.33
33 B 543	21350EH	SPDT*	.66	.55	.45	.42
33 B 544	20902CX	DPST*	1.06	.92	.70	.66
33 B 545	20905FR	DPDT*	1.09	.90	.74	.69

### B BALL-HANDLE TYPES

Stock No.	Mfr's Type	Action	EACH			
			1-9	10-99	100-999	1000-4999
34 B 100	20994-BF	SPST	.52	.43	.36	.33
34 B 138	20994-CS	SPST*	.52	.43	.36	.33
34 B 101	21518-B	SPST†	.63	.52	.43	.40
33 B 538	21350-BF	SPDT*	.66	.55	.45	.42
34 B 111	80023-B	SPDT†	.77	.64	.52	.48
34 B 120	20902-AM	DPST	.95	.79	.65	.60
34 B 133	20902-N	DPST*	.95	.79	.65	.60
33 B 537	20905-BX	DPST*	1.09	.90	.74	.69
34 B 132	20905-C	DPDT†	1.23	1.02	.84	.78

## INTERMEDIATE SIZE—BAT-HANDLE SWITCHES

Have molded phenolic bases. Wiping action, plus silver-plated contacts for low contact resistance. Rated: 6 amps @ 125 v., 3 amps @ 250 v.; except  $*1$  amp @ 250 v. 6 amps @ 125 v. Solder lug terminals; shanks,  $1\frac{1}{2}$ " long. U.L. Approved. Wt. 2 oz.

### C POSITIVE ACTION—2-POSITION TYPES

Stock No.	Mfr's Type	Action	EACH			
			1-9	10-99	100-999	1000-4999
33 B 869	81015-AV	SPST	.69	.57	.47	.44
33 B 501	81021-AV	SPDT*	.83	.69	.56	.52
33 B 502	81018-J	2-Circuit	.86	.72	.58	.54
33 B 868	81024-GB	DPST	1.02	.85	.70	.65
33 B 867	81027-CE	DPDT	1.18	.97	.80	.74

### C MOMENTARY ACTION—2-POSITION TYPES

Stock No.	Mfr's Type	Action	EACH			
			1-9	10-99	100-999	1000-4999
33 B 505	81045-FB	SPST-N.O.	1.00	.83	.68	.63
33 B 506	81054-H	DPST-N.O.	1.43	1.18	.98	.91
33 B 507	81051-G	SPDT*	1.20	1.00	.80	.76
33 B 508	8107-N	DPDT	1.58	1.30	1.07	.99

### D POSITIVE ACTION—3-POSITION—CENTER OFF TYPES

Stock No.	Mfr's Type	Action	EACH			
			1-9	10-99	100-999	1000-4999
33 B 509	82022-HD	SPDT	1.27	1.06	.86	.80
33 B 510	82021-HD	2-Circuit	1.43	1.19	.98	.90
34 B 103	82024-HD	DPDT	1.58	1.30	1.07	.99

## E POWER-TYPE BALL-HANDLE SWITCHES

Heavy-duty, 2-position switches, except  $\frac{1}{2}$ , 3-position center off. All are rated 12 amps @ 125 v.; 6 amps @ 250 v., except  $\frac{1}{2}$  amp @ 125 v.; 5 amp @ 250 v.; and  $1\frac{1}{2}$  HP @ 125 v.; 20 amp @ 250 v. Have screw terminals and  $1\frac{1}{32}$ " dia. shanks,  $1\frac{1}{2}$ " long; except  $\frac{3}{4}$ " dia. shanks,  $1\frac{1}{32}$ " long;  $1\frac{1}{2}$ " dia. shanks,  $1\frac{1}{32}$ " long. Wt., 3 oz.

Stock No.	Mfr's Type	Action	EACH			
			1-9	10-99	100-999	1000-4999
33 B 539	80607-B	SPST	1.00	.83	.68	.63
33 B 540	80618-A	SPDT	1.00	.83	.68	.63
33 B 541	80600-B	DPST	1.00	.83	.68	.63
33 B 849	80421	DPST†	2.46	2.05	1.68	1.55
34 B 107	80638-D	DPDT†	3.70	3.08	2.52	2.33

## F MIDGET BAT-HANDLE SWITCHES

Quality units featuring superior dry circuit characteristics, snap-action mechanisms. Contacts and terminals silver-plated; other metal parts nickel-finished. Rated: 1 amp @ 250 v. AC-DC; 3 amp @ 125 v. AC-DC. Shanks  $1\frac{1}{32}$ " long. Av. wt., 2 oz.

Stock No.	Mfr's Type	Action	EACH			
			1-9	10-99	100-999	1000-4999
33 B 862	83050	SPST	.69	.57	.47	.43
33 B 863	83051	SP-2	.86	.71	.58	.54
33 B 864	83052	SPDT	.83	.69	.56	.52
33 B 865	83053	DPST	1.02	.85	.70	.64
33 B 866	83054	DPDT	1.18	.98	.80	.74

## BAT-HANDLE AC TOGGLE SWITCHES

Offer high-current ratings for their size. Molded phenolic bases, butt contacts and ball-joint levers for long life. Shanks  $1\frac{1}{2}$ " long. Light-duty types rated 3 amp @ 250 v., 6 amp @ 125 v.; heavy-duty types, 10 amp @ 250 v., 15 amp @ 125 v. Positive action, except momentary one side, 2 pos., except  $\frac{3}{4}$  pos., center-off. \*S.L., solder lugs; Q.C., quick connect. U.L. Listed. Av. wt. 2 oz.

### LIGHT DUTY TYPES

Stock No.	Mfr's Type	Fig.	Action	Terminals*	EACH			
					1-9	10-99	100-999	1000-4999
33 B 832	83001	H	SPST	S.L.	.45	.38	.31	.29
33 B 511	83002	H	SPST	Q.C.	.45	.38	.31	.29
33 B 512	83010	H	SPST-NO	S.L.†	.61	.52	.41	.38
33 B 513	83011	H	SPST-NO	Q.C.†	.61	.52	.41	.38
33 B 833	83004	H	SPDT	S.L.‡	.49	.41	.33	.31
33 B 514	83005	H	SPDT	Q.C.‡	.49	.41	.33	.31
33 B 834	83007	H	SPDT	S.L.	.49	.41	.33	.31
33 B 515	83008	H	SPDT	Q.C.	.49	.41	.33	.31
33 B 835	83025	J	DPST	S.L.	.66	.55	.45	.42
33 B 516	83026	J	DPST	Q.C.	.66	.55	.45	.42
33 B 517	83037	J	DPST-NO	S.L.†	.95	.79	.65	.60
33 B 518	83038	J	DPST-NO	Q.C.†	.95	.79	.65	.60
33 B 836	83028	J	DPDT	S.L.‡	.74	.61	.50	.46
33 B 519	83029	J	DPDT	Q.C.‡	.74	.61	.50	.46
33 B 520	83031	J	DPDT	S.L.	.74	.61	.50	.46
33 B 521	83032	J	DPDT	Q.C.	.74	.61	.50	.46

### HEAVY-DUTY TYPES

Stock No.	Mfr's Type	Fig.	Action	Terminals*	EACH			
					1-9	10-99	100-999	1000-4999
33 B 837	82601	H	SPST	S.L.	.52	.43	.36	.33
33 B 522	82601-P	H	SPST	Q.C.	.52	.43	.36	.33
33 B 523	82721	H	SPST-NO	S.L.†	.68	.57	.46	.43
33 B 524	82721-P	H	SPST-NO	Q.C.†	.68	.57	.46	.43
33 B 838	82603	H	SPDT	S.L.‡	.60	.50	.41	.38
33 B 525	82603-P	H	SPDT	Q.C.‡	.60	.50	.41	.38
33 B 839	82605	H	SPDT	S.L.	.60	.50	.41	.38
33 B 526	82605-P	H	SPDT	Q.C.	.60	.50	.41	.38
33 B 840	82607	J	DPST	S.L.	.81	.68	.55	.51
33 B 527	82607-P	J	DPST	Q.C.	.81	.68	.55	.51
33 B 528	82731	J	DPST-NO	S.L.†	1.10	.92	.75	.69
33 B 529	82731-P	J	DPST-NO	Q.C.†	1.10	.92	.75	.69
33 B 841	82609	J	DPDT	S.L.‡	.96	.80	.65	.60
33 B 530	82609-P	J	DPDT	Q.C.‡	.96	.80	.65	.60
33 B 531	82611	J	DPDT	S.L.	.96	.80	.65	.60
33 B 532	82611-P	J	DPDT	Q.C.	.96	.80	.65	.60
33 B 858	82615	K	3PDT	S.L.	2.04	1.70	1.39	1.29
33 B 533	82615-P	K	3PDT	Q.C.	2.04	1.70	1.39	1.29
33 B 860	82617	K	3PDT	S.L.	2.04	1.70	1.39	1.29
33 B 534	82617-P	K	3PDT	Q.C.	2.04	1.70	1.39	1.29
33 B 859	82634	K	4PDT	S.L.	3.05	2.54	2.08	1.92
33 B 535	82634-P	K	4PDT	Q.C.	3.05	2.54	2.08	1.92
33 B 861	82636	K	4PDT	S.L.	3.05	2.54	2.08	1.92
33 B 536	82636-P	K	4PDT	Q.C.	3.05	2.54	2.08	1.92

## G SPST SLIDE SWITCH

Type 81569. Has screw-type terminals. Requires  $1\frac{1}{8} \times \frac{3}{8}$ " cutout for mounting. Ratings: 3 amp @ 250 volts; 6 amp @ 125 volts. Size,  $2\frac{1}{4} \times \frac{3}{4}$ ". Bakelite case. U.L. Listed. Shpg. wt. 2 oz.

34 B 153. 1-9.....	EACH .96	10-99.....	EACH .80
100-999.....	EACH .65	1000-4999.....	EACH .60

## LOCK SWITCHES

Type 81715-L. Lock switch with key for use on power tools, appliances. SPST contacts, rated 3 amp @ 250 volts; 6 amp @ 125 volts. Sleeve diameter,  $1\frac{1}{2}$ ". Fits panels to  $\frac{3}{8}$ ",  $1\frac{1}{4} \times 2\frac{1}{2} \times 2\frac{1}{2}$ ". Switch must be open to remove key. 2 oz.

34 B 156. 1-9.....	EACH 1.35	10-99.....	EACH 1.11
100-999.....	EACH 1.11	1000-4999.....	EACH 1.03

34 B 128. Extra Key for Above. Shpg. wt., 2 oz.....1.16

Type 81715-LE. Same as 81715-L above, but key is removable in open or closed position.

34 B 158. 1-9.....	EACH 1.63	10-99.....	EACH 1.35
100-999.....	EACH 1.11	1000-4999.....	EACH 1.03

## ON-OFF SWITCH PLATES

For Toggle Switches. Nickel-plated.  $\frac{1}{2}$ " hole. 4 oz.

35 B 671. 1-9.....	EACH .04	10-99.....	EACH .03
100-999.....	EACH .03	1000-999.....	EACH .02

For Toggle or Rotary Switches.  $1\frac{1}{8}$ " dia. polished aluminum plate.  $\frac{1}{2}$ " hole. Etched on black background. Wt., 2 oz.

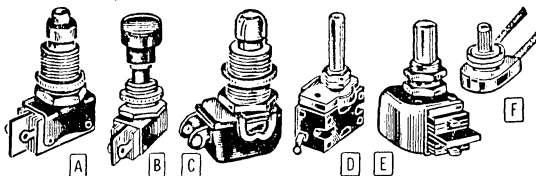
34 B 151. 1-19.....	EACH .39	20-99.....	EACH .34
100-999.....	EACH .28		

# Arrow-Hart & Hegeman Switches, APM Sealing Devices

## ARROW-HART AND HEGEMAN MOMENTARY, ROTARY AND PUSH-BUTTON SWITCHES

### MOMENTARY PUSH TYPES

Momentary push switches with slow make and break action. Operate with light pressure—ideal for remote control use. †Midjet size with molded phenolic bases; Scanopy size with laminated phenolic sections. For AC only. \*Bakelite snap-on buttons. All rated 3 amp @ 125 v. AC, 1/10 H.P. @ 125 v. AC, except †1 amp @ 125 v. AC. †Have 1/2" dia. shanks. 32 threads per inch, 9/16" long. One hex nut and one knurled nut assembled. U.L. Listed. 2 oz.



Stock No.	Mfr's Type	Fig.	Action	Button Color	EACH			
					1-9	10-99	100-999	1000-4999
34 B 159	3391-GL*	B†	SPST-NO	Black*	.74	.61	.50	.47
33 B 830	3391-GL*	B†	SPST-NO	Red*	.74	.61	.50	.47
34 B 119	3392*	A†	SP2-NC	Nickel	.73	.60	.50	.46
34 B 124	3392-AE*	B†	SP2-NC	Black*	.91	.75	.62	.57
34 B 129	3392-AE*	B†	SP2-NC	Red*	.91	.75	.62	.57
33 B 842	80511-N	C	SPST-NC	Nickel	.39	.33	.27	.25
33 B 843	80511-E†	C	SPST-NO	Nickel	.39	.33	.27	.25
33 B 844	80541†	C	SPST-NC	Black*	.74	.61	.50	.47
33 B 845	80541-R†	C	SPST-NC	Red*	.74	.61	.50	.47
33 B 846	80541-E†	C	SPST-NO	Black*	.74	.61	.50	.47
33 B 847	80541-ER†	C	SPST-NO	Red*	.74	.61	.50	.47

### PUSH-BUTTON DOUBLE ACTION TYPES

Double action SPST switches. Have push-push action—designed for use in applications where two separate movements are desirable, such as vacuum cleaners, foot switches, etc. All are rated 3 amp @ 250 volts, 6 amp @ 125 volts, AC or DC. Have shanks 1/2" diameter, 9/16" long. \*Bakelite snap-on buttons. U.L. Listed. 2 oz.

Stock No.	Mfr's Type	Fig.	Button Color	EACH			
				1-9	10-99	100-999	1000-4999
34 B 160	86710	A	Nickel	.94	.78	.64	.59
34 B 161	86710-CR	B	Red*	1.12	.92	.76	.70
34 B 162	86710-C	B	Black*	1.12	.92	.76	.70

### ROTARY POWER TYPES

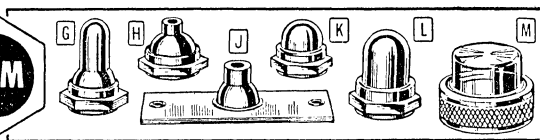
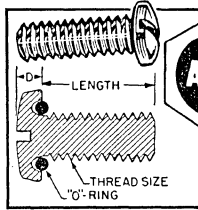
Positive action rotary switches; have same basic mechanisms and functions as toggle type switches except convert to rotary motion. Ideal for use in instrument, control panel and appliance applications. Rated: †1 amp @ 250 volts-3 amp @ 125 volts; †3 amp @ 250 volts; †3 amp @ 250 volts-6 amp @ 125 volts. Have shanks 1/2" diameter, 3/8" long, except \*3/8" diameter, 9/16" long with 6" leads—All others have solder lugs. All are U.L. Listed. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Action	EACH			
				1-9	10-99	100-999	1000-4999
34 B 165	41047*	F	SPST†	.45	.41	.35	.32
33 B 850	1561-B	E	SPST†	.65	.54	.44	.41
33 B 852	1575	E	DPDT†	1.23	1.02	.84	.77
34 B 141	81715	D	SPST†	1.27	1.06	.87	.80
34 B 144	81727	D	DPDT†	1.86	1.55	1.26	1.17

### APM EQUIPMENT SEALING DEVICES

#### "SEELSKREWS"

Single-unit self-sealing screws. Pressure and vibration resistant. Form absolute seal against any surface. Utilize stainless steel slotted-head screws. Heads grooved; have silicone-rubber O-ring seal. Maintain seal even after frequent removal. Meet requirements of MIL-B-423B, MIL-B-005423A (ASG), MIL-3-19257 (Ships), SCL-6303A specs. Temp. range: -160° to +500°F. Withstand 500 psi internal and external pressure. "D" in diagram is head depth.



### HIGH-PRESSURE SWITCH AND INDICATOR LIGHT SEALS

Replace mounting hardware on all standard toggle and pushbutton switches. Consist of gray silicone-rubber boot bonded to a nickel-plated brass nut. Seals are impervious to salt water, acids, weather, sunlight, ozone. Withstand temperature extremes from -160°F to +500°F. Meet MIL-B-005423A (ASG), MIL-B-19257 (Ships) and MIL-B-5423 specifications. Withstand 15 psi internal and external pressure except \*500 psi external pressure.

Stock No.	Size	Head Depth	Head Dia.	EACH			
				1-49	50-499	500-999	1000-4999
34 B 200	4/40x1/4"	.069"	.220"	.125	.09	.06	.048
34 B 205	4/40x3/8"	.069"	.220"				
34 B 210	4/40x1/2"	.069"	.220"				
34 B 213	4/40x5/8"	.069"	.220"				
34 B 223	4/40x3/4"	.069"	.220"	.125	.09	.07	.052
34 B 224	4/40x7/8"	.069"	.220"				
34 B 225	4/40x1"	.069"	.220"				
34 B 236	6/32x1/4"	.083"	.271"				
34 B 248	6/32x3/8"	.083"	.271"	.125	.09	.06	.047
34 B 249	6/32x1/2"	.083"	.271"				
34 B 250	6/32x5/8"	.083"	.271"				
34 B 255	6/32x3/4"	.083"	.271"				
34 B 260	6/32x7/8"	.083"	.271"	.125	.09	.07	.055
34 B 267	6/32x1"	.083"	.271"				
34 B 298	8/32x1/4"	.097"	.323"				
34 B 299	8/32x3/8"	.097"	.323"				
34 B 319	8/32x1/2"	.097"	.323"	.125	.09	.06	.052
34 B 325	8/32x5/8"	.097"	.323"				
34 B 326	8/32x3/4"	.097"	.323"				
34 B 330	8/32x7/8"	.097"	.323"				
34 B 334	8/32x1"	.097"	.323"	.15	.115	.07	.056
34 B 263	10/32x3/8"	.113"	.374"				
34 B 281	10/32x1/2"	.113"	.374"				
34 B 282	10/32x5/8"	.113"	.374"				
34 B 283	10/32x3/4"	.113"	.374"	.15	.115	.095	.064
34 B 284	10/32x7/8"	.113"	.374"				
34 B 285	10/32x1"	.113"	.374"				
34 B 286	10/24x3/8"	.113"	.374"				
34 B 287	10/24x1/2"	.113"	.374"	.15	.115	.085	.055
34 B 288	10/24x5/8"	.113"	.374"				
34 B 289	10/24x3/4"	.113"	.374"				
34 B 291	10/24x7/8"	.113"	.374"				
34 B 292	10/24x1"	.113"	.374"	.15	.115	.095	.069
34 B 367	1/4-20x3/16"	.148"	.493"				
34 B 294	1/4-20x1/8"	.148"	.493"				
34 B 348	1/4-20x1/2"	.148"	.493"				
34 B 349	1/4-20x3/4"	.148"	.493"	.15	.115	.095	.075
34 B 362	1/4-20x3/4"	.148"	.493"				
34 B 363	1/4-20x1/2"	.148"	.493"				
34 B 364	1/4-20x1"	.148"	.493"				
34 B 369	1/4-20x1 1/4"	.148"	.493"	.15	.115	.095	.087

### TOGGLE SWITCH SEALS

Stock No.	Mfr's Type	Fig.	Thread Size	Description	EACH			
					1-99	100-499	500-999	1000-4999
34B370	N1030	G	1/32-32	Bat handle seal	.65	.49	.46	.39
34B371	N1030A	G	1/32-32	Above, metal cap	1.25	1.05	.85	.72
34B372	N1030B	H	1/32-32	Protrud'g handle	.65	.49	.46	.39
34B373	N1080	....	1/2-20	Bat handle seal	1.65	1.10	.83	.72
34B374	2030	J	3-hole mtg.	Bat handle seal	.46	.36	.34	.31
34B375	2030B	J	3-hole mtg.	Protrud'g handle	.46	.36	.34	.31

### PUSH-BUTTON SWITCH SEALS

Stock No.	Mfr's Type	Fig.	Thread Size	Description	EACH			
					1-99	100-499	500-999	1000-4999
34B376	NC3030*	K	1/32-32	1/8-5/16" seal	.54	.43	.41	.37
34B377	NC3030*	L	1/32-32	3/16-7/16" seal	.54	.43	.41	.37
34B378	NH3030*	K	1/2-32	1/8-5/16" seal	.80	.65	.59	.45
34B395	N5040*	....	1/4-40	Min. 3/4" seal	1.00	.85	.79	.59

### TRANSPARENT INDICATOR LIGHT SEALS

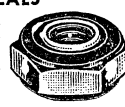
Stock No.	Mfr's Type	Fig.	Thread Size	Description	EACH			
					1-99	100-499	500-999	1000-4999
34B381	4080*	M	5/8-24	Dial light seal	1.69	1.25	1.17	1.05
34B393	4080-2*	M	1/2-32	Dial light seal	1.69	1.25	1.17	1.05

### BAT-HANDLE SEAL

Stock No.	Mfr's Type	Fig.	Thread Size	Min. bat handle	1-99	100-499	500-999	1000-4999
34B394	N5030	G	1/4-40		1.00	.85	.79	.59

### HIGH-PRESSURE FEED-THROUGH SEALS

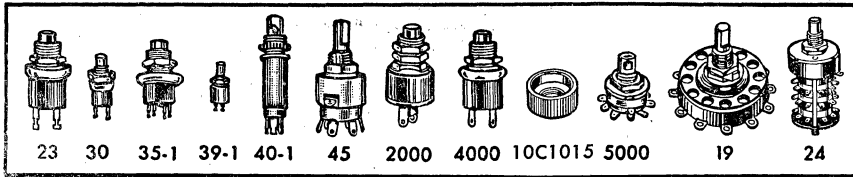
High pressure seals specially designed for use with shafts which pass through panels or housings. Resistant to salt water, acids, weather, sunlight, ozone, etc. All meet MIL-B-5423B specifications. May also be used in place of packing glands. All are 7/32" deep, except \*23/64" deep.



Stock No.	Mfr's Type	Shaft Size	Thread Size	Hex Size	EACH			
					1-99	100-499	500-999	1000-4999
34 B 400	N-9030-1/8	1/8"	3/8-32	1/2"	1.00	.75	.59	.39
34 B 401	N-9030-1/4	1/4"	3/8-32	1/2"	.53	.40	.37	.34
34 B 402	N-9033-1/4	1/4"	3/8-32*	1/2"	1.10	.85	.79	.69
34 B 403	N-9040-1/8	1/8"	1/4-32	3/8"	.59	.49	.43	.36
34 B 404	N-9063-1/4	1/4"	1/2-32	5/8"	1.15	.98	.81	.63

# Grayhill Switches—G. E., Hamlin Dry Reed Switches

## GRAYHILL MINIATURE SWITCHES



For military and commercial uses. Excellent for on-off applications, computer data processing equipment, printed circuit test panels, etc. Due to limited space all quantity prices are not listed. Write for OEM prices in quantities above 100.

### PUSHBUTTON SWITCHES

Rugged, momentary contact, push-button switches with solder-lug type terminals. Normally open types (indicated by n.o. in table Series 23. Miniature, over 500,000 operations. Shpg. wt., 2 oz.

below) have red buttons. Normally closed types (indicated by n.c. in table below) have black buttons.

Series 40. Miniature Button Light, over 500,000 operations. 2 oz.

Stock No.	Mfr's Type	Action	Amps @ 115 VAC	Size Lx Dia.	Mtg. Hole	EACH	
						1-49	50-99
34 B 970	23-1	SPST n.o.	1/4	1 3/64 x 1/2"	2 3/64"	.85	.64

Stock No.	Mfr's Type	Action	Amps @ 115 VAC	Size Lx Dia.	Mtg. Hole	EACH	
						1-49	50-99
36 B 031	40-1	SPST n.o.	1	1 27/32 x 7/16"	25/64"	2.00	1.50

Series 30. Subminiature, over 1 million operations. Wt., 2 oz.

Series 2000. Snap-Action, over 25,000 operations. Wt., 3 oz.

34 B 967	30-1	SPST n.o.	1/10	63/64 x 3/8"	1 7/64"	.95	.71
34 B 966	30-2	SPST n.c.	1/10	63/64 x 3/8"	1 7/64"	.95	.71

34 B 872	2201	SPST n.o.	10	1 59/64 x 7/8"	3 1/64"	1.95	1.46
34 B 871	2202	SPST n.c.	10	1 59/64 x 7/8"	3 1/64"	1.95	1.46

Series 35. Miniature, over 100,000 operations. Wt., 3 oz.

34 B 870	4001	SPST n.o.	1	1 17/32 x 5 1/64"	3 1/64"	.70	.53
34 B 871	4002	SPST n.c.	1	1 17/32 x 5 1/64"	3 1/64"	.70	.53

Series 39. Ultra-miniature, over 1 million operations. Wt., 2 oz.

Button Guard for Series 2000, 4000, 35. Cadmium-plated. 1 oz.

34 B 968	39-1	SPST n.o.	1/10	39/64 x 1/4"	1 1/64"	1.00	.75
----------	------	-----------	------	--------------	---------	------	-----

34 B 971	10C1015	Provides protective button recess.		.25	.19
----------	---------	------------------------------------	--	-----	-----

### SERIES 5000 MINIATURE TAP SWITCHES

Rotary non-shorting switches with one pole and 2 to 10 positions per deck. Up to three decks available. Rated to break 1 amp at 115 v., AC, resistive, or carry 5 amps. Mtg. hole 3/8 dia. 1 1/2" dia. \*Depth behind panel. Av. shpg. wt., 3 oz.

Pos.	1-Deck *47" Stock No.	Mfr's Type	EACH		2-Deck *1.25" Stock No.	Mfr's Type	EACH		3-Deck *1.66" Stock No.	Mfr's Type	EACH	
			1-49	50-99			1-49	50-99			1-49	50-99
2	35 B 923	5001-2	1.30	.98	36 B 053	5002-2	3.00	2.25	36 B 050	5003-2	3.65	2.74
3	35 B 924	5001-3	1.35	1.02	36 B 054	5002-3	3.10	2.33	36 B 051	5003-3	3.80	2.85
4	35 B 925	5001-4	1.40	1.05	36 B 055	5002-4	3.20	2.40	36 B 052	5003-4	3.95	2.97
5	35 B 926	5001-5	1.45	1.09	36 B 056	5002-5	3.30	2.48	36 B 103	5003-5	4.10	3.08
6	35 B 927	5001-6	1.50	1.13	36 B 057	5002-6	3.40	2.55	36 B 104	5003-6	4.25	3.19
7	35 B 928	5001-7	1.55	1.17	36 B 058	5002-7	3.50	2.63	36 B 105	5003-7	4.40	3.30
8	35 B 929	5001-8	1.60	1.20	36 B 059	5002-8	3.60	2.70	36 B 106	5003-8	4.55	3.42
9	35 B 930	5001-9	1.65	1.24	36 B 060	5002-9	3.70	2.78	36 B 107	5003-9	4.70	3.53
10	35 B 931	5001-10	1.70	1.28	36 B 061	5002-10	3.80	2.85	36 B 108	5003-10	4.85	3.64

### SERIES 45 MIDGET TAP SWITCHES

Long lasting rotary switches. Have enclosed, single-deck, single-pole construction. 2-6 positions (stops standard 2-5 position, 6 positions continuous rotation). 60° indexing. Rotational torque, 12 oz.-in. Rated to break 1 amp @ 115 v. AC resistive circuit; carry 5 amps. Shpg. wt., 5 oz.

Stock No.	Type	Pos.	1-49, EA.	50-99, EA.
36 B 026	45001-2	2	6.00	4.50
36 B 027	45001-3	3	6.10	4.58
36 B 028	45001-4	4	6.20	4.65
36 B 029	45001-5	5	6.30	4.73
36 B 030	45001-6	6	6.40	4.80

### SERIES 24 MINIATURE TAP SWITCHES

Feature rugged, precision detent. For military and commercial applications requiring high degree of reliability, 1 pole per deck. Non-shorting contacts. Solder terminals. Break 1 amp or carry 5 amps, 115 v. AC, resistive. Dia., 1". \*Depth behind panel. Av. shpg. wt., 7 oz.

Pos.	1-Deck *.58" Stock No.	Mfr's Type	EACH		2-Deck *.139" Stock No.	Mfr's Type	EACH		3-Deck *.177" Stock No.	Mfr's Type	EACH	
			1-49	50-99			1-49	50-99			1-49	50-99
2	36 B 032	24001-2	2.90	2.18	36 B 041	24002-2	4.30	3.23	36 B 330	24003-2	5.00	3.75
3	36 B 033	24001-3	3.00	2.25	36 B 042	24002-3	4.40	3.30	36 B 331	24003-3	5.15	3.86
4	36 B 034	24001-4	3.10	2.33	36 B 043	24002-4	4.50	3.38	36 B 332	24003-4	5.30	3.98
5	36 B 035	24001-5	3.25	2.44	36 B 044	24002-5	4.60	3.45	36 B 333	24003-5	5.45	4.09
6	36 B 036	24001-6	3.35	2.51	36 B 045	24002-6	4.75	3.56	36 B 334	24003-6	5.65	4.24
7	36 B 037	24001-7	3.45	2.59	36 B 046	24002-7	4.85	3.64	36 B 335	24003-7	5.80	4.35
8	36 B 038	24001-8	3.55	2.66	36 B 047	24002-8	4.95	3.72	36 B 336	24003-8	5.95	4.47
9	36 B 039	24001-9	3.65	2.74	36 B 048	24002-9	5.05	3.79	36 B 337	24003-9	6.15	4.61
10	36 B 040	24001-10	3.80	2.85	36 B 049	24002-10	5.15	3.85	36 B 338	24003-10	6.30	4.73

### NEW SERIES 19 POWER TAP SWITCHES

Single-pole, single-deck switches rated 15 amps @ 125 v. resistive. 30° indexing. Solder terminals. .125" dia. accommodates heavier gauge wire. U.L. Listed. Life in excess of 50,000 cycles. Av. shpg. wt., 5 oz.

Stock No.	Mfr's Type	Positions	EACH	
			1-49	50-99
36 B 339	19001-2UL	2	2.80	2.10
36 B 340	19001-3UL	3	2.90	2.18
36 B 341	19001-4UL	4	3.00	2.25
36 B 342	19001-5UL	5	3.10	2.33
36 B 343	19001-6UL	6	3.20	2.40
36 B 344	19001-7UL	7	3.30	2.48
36 B 345	19001-8UL	8	3.40	2.55
36 B 346	19001-9UL	9	3.50	2.63
36 B 347	19001-10UL	10	3.60	2.70
36 B 348	19001-11UL	11	3.70	2.78

## SPACE-SAVING DRY-REED SWITCHES BY GENERAL ELECTRIC AND HAMLIN

### HAMLIN DRY-REED SWITCHES



Operate in any position. May be actuated by either permanent or electro-magnets. Hermetically sealed for safe, reliable use in any atmosphere, wet or dry, even under explosive conditions. Unaffected by extremely high or low temperatures or pressures. Small size, high sensitivity, rapid cycling rate and long life make these units ideal for use in position indicators, counting instruments, limit switches, liquid level switches, flow meters and commutating instruments. All normally open SPST, except DRG-DTH, SPDT. Actuating time, 1 millisecond. \*15-amp inrush. †For high voltage and high frequency applications. 2 oz.

Stock No.	Mfr's Type	Volt-Amps	Size	EACH		
				1-99	100-499	500-999
33 B 976	DRG-DTH	40	1 1/2 x .230"	3.00	2.40	1.95
33 B 975	DRR-1	15	1 1/6 x .230"	.75	.60	.49
33 B 960	DRS-5*	50	1 1/6 x .215"	2.50	2.00	1.63
33 B 977	DRVC-1†	25	1 1/6 x .215"	4.50	3.60	2.93
33 B 974	MRG-1	12	3/4 x .125"	1.00	.80	.65

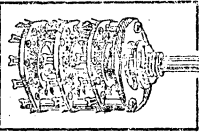
### NEW G.E. DRY-REED SWITCHES



Ideal for use in telephone switching equipment, computers, position indicators, explosive atmosphere switching, etc. Contain a pair of magnetic, overlapping, contact bearing cantilever reeds. Reeds are hermetically sealed in a glass tube filled with inert gas. Switches are actuated by an external magnetic field from either a coil or a permanent magnet. All are normally open; feature minimum contact bounce and long life. Shock and vibration resistant; can be mounted in any position. Rated for a minimum of 20 million operations. Have 500 volt breakdown @ 60 cycles rms. Min. insulation resistance, 500,000 megohms. Operating temperature range, -65° to +150°C. Resonant frequency of single reed is 925 cps. Maximum length, less leads, 2.10"; with leads, 3.21"; maximum dia., 0.215". Wt., 2 oz.

Stock No.	Mfr's Type	Volt Amps	Ampere Turns		EACH		
			Oper.	Release	1-99	100-199	200-999
34 B 978	2DR15	15	90 ±15	35 ±10	.70	.63	.48
34 B 977	2DR50	30	90 ±15	40 ±10	1.25	1.12	.90

# Centralab High-Reliability Rotary Switches



**PA-2000 SERIES**

Precision Constructed

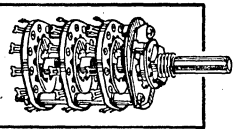
Rugged, compact single and multisection rotary switches. Offer excellent RF characteristics. Feature extremely high flash-over points, high-Q, low-loss steatite bodies, minimum intercircuit capacity, and insulated front-back clips. All have positive 30° indexing, adjustable stop or continuous rotation, except \*, 60° indexing.

All are rated: 2.75 amp @ 15 v. DC; 230 ma @ 115 v. AC. †Type 2042 has 1 off, up to progressively shorting positions.

All are 1½" diameter; have ¾" spacing between front plate and first section; ½" spacing between all other sections. Sections are 105° thick. Full round, ¼" diameter shafts are 2¼" long from mounting surfaces. Mount in single hole with ¾"-32NEF-2A threaded bushing, ¾" long. With mounting nut, lockwasher, and ¼" black pointer knob. Shpg. wt., 3 oz. per section.

## MINIATURE CERAMIC SWITCHES

Non-Shorting		Shorting		Total Poles	No. Pos.	Poles Per Section	Sec-tions	EACH					
Stock No.	Type PA-	Stock No.	Type PA-					1-4	5-9	10-24	25-49	50-99	100-249
34 B 921	2001	34 B 900	2000	1	2-12	1	1	2.37	1.98	1.78	1.69	1.58	1.42
34 B 922	2003	34 B 901	2002	2	2-6	2	1	2.37	1.98	1.78	1.69	1.58	1.42
34 B 923	2005	34 B 902	2004	2	2-12	1	2	3.39	2.83	2.55	2.42	2.26	2.03
34 B 924	2007	34 B 903	2006	3	2-5	3	1	2.37	1.98	1.78	1.69	1.58	1.42
34 B 925	2009	34 B 904	2008	3	2-12	1	3	4.32	3.60	3.24	3.08	2.88	2.59
34 B 926	2011	34 B 905	2010	4	2-6	2	2	3.39	2.83	2.55	2.42	2.26	2.03
34 B 927	2013	34 B 906	2012	4	2-12	1	4	5.19	4.33	3.90	3.71	3.46	3.11
34 B 928	2015	34 B 907	2014	5	2-3	5	1	2.37	1.98	1.78	1.69	1.58	1.42
34 B 929	2017	34 B 908	2016	5	2-12	1	5	6.21	5.18	4.66	4.43	4.14	3.73
34 B 930	2019	34 B 909	2018	6	2	6	1	2.37	1.98	1.78	1.69	1.58	1.42
34 B 931	2021	34 B 910	2020	6	2-5	3	2	3.39	2.83	2.55	2.42	2.26	2.03
34 B 932	2023	34 B 911	2022	6	2-6	2	3	4.32	3.60	3.24	3.08	2.88	2.59
34 B 933	2025	34 B 912	2024	6	2-12	1	6	7.20	6.00	5.40	5.13	4.80	4.32
34 B 934	2027	34 B 913	2026	8	2-6	2	4	5.19	4.33	3.90	3.71	3.46	3.11
34 B 935	2029	34 B 915	2028	9	2-5	3	3	4.32	3.60	3.24	3.08	2.88	2.59
34 B 936	2031	34 B 916	2030	10	2-3	5	2	3.39	2.83	2.55	2.42	2.26	2.03
34 B 918	2033	34 B 917	2032	10	2-6	2	5	6.21	5.18	4.66	4.43	4.14	3.73
34 B 938	2035	34 B 919	2034	12	2	6	2	3.39	2.83	2.55	2.42	2.26	2.03
34 B 920	2037	34 B 937	2036	12	2-6	2	6	7.20	6.00	5.40	5.13	4.80	4.32
34 B 940	2039	34 B 939	2038	15	2-3	5	3	4.68	3.90	3.51	3.33	3.12	2.81
34 B 941	2041	34 B 942	2040	18	2	6	3	4.68	3.90	3.51	3.33	3.12	2.81
34 B 942	2043	35 B 095	2042†	1	2-10	1	1	2.16	1.80	1.62	1.54	1.44	1.30
35 B 445	2043*	.....	.....	1	2-6	1	1	2.16	1.80	1.62	1.54	1.44	1.30
35 B 446	2045*	.....	.....	2	2-6	1	2	3.03	2.53	2.28	2.17	2.02	1.82



**PA-1000 SERIES**

Phenolic Insulated

All have 30° indexing, adjustable stop. 1½" dia.; shaft, 17/8" long. 2.75 amps @ 15 v. DC; 230 ma @ 115 v. AC. Index assemblies and hardware identical to PA-2000 Series above—allow interchanging. With knob, nut, lockwasher. Wt., 3 oz.

## MINIATURE PHENOLIC SWITCHES

Non-Shorting		Shorting		Total Poles	No. Pos.	Poles Per Section	Sec-tions	EACH					
Stock No.	Type PA-	Stock No.	Type PA-					1-4	5-9	10-24	25-49	50-99	100-249
35 B 065	1001	35 B 050	1000	1	2-11	1	1	1.80	1.50	1.35	1.28	1.20	1.08
35 B 066	1003	35 B 051	1002	2	2-5	2	1	1.80	1.50	1.35	1.28	1.20	1.08
35 B 067	1005	35 B 052	1004	2	2-11	1	2	2.58	2.15	1.94	1.84	1.72	1.55
35 B 068	1007	35 B 053	1006	3	2-3	3	1	1.80	1.50	1.35	1.28	1.20	1.08
35 B 069	1009	35 B 054	1008	3	2-11	1	3	3.24	2.70	2.43	2.31	2.16	1.94
35 B 070	1011	35 B 055	1010	4	2	4	1	1.80	1.50	1.35	1.28	1.20	1.08
35 B 071	1013	35 B 056	1012	4	2-5	2	2	2.58	2.15	1.94	1.84	1.72	1.55
35 B 072	1015	35 B 057	1014	4	2-11	1	4	3.81	3.18	2.86	2.72	2.54	2.29
35 B 073	1017	34 B 974	1016	5	2-11	1	5	4.47	3.73	3.36	3.19	2.98	2.68
35 B 074	1019	35 B 059	1018	6	2-3	3	2	2.58	2.15	1.94	1.84	1.72	1.55
35 B 075	1021	35 B 060	1020	6	2-5	2	3	3.24	2.70	2.43	2.31	2.16	1.94
35 B 077	1025	34 B 975	1024	8	2	4	2	2.58	2.15	1.94	1.84	1.72	1.55
35 B 078	1027	35 B 063	1026	8	2-5	2	4	3.81	3.18	2.86	2.72	2.54	2.29
35 B 079	1029	34 B 976	1028	12	2	4	3	3.24	2.70	2.43	2.31	2.16	1.94
35 B 099	1031	35 B 098	1030	10	2-5	2	5	4.47	3.73	3.36	3.19	2.98	2.68

## PHENOLIC SECTIONS

For custom switches. Separate sections and shaft and index assemblies (below and right), provide maximum flexibility for switch requirements. Same ratings as PA-1000 Series switches, above. For PA-300, PA-301 and PA-302 shaft and index assemblies at right. All 30° indexing, adjustable stop. \*All unused contacts on one side of common are connected and shorted out. †All unused contacts connected and shorted out. Av. wt., 2 oz.

Shorting		Non-Shorting		Total Poles	No. Pos.	EACH					
Stock No.	Type PA-	Stock No.	Type PA-			1-4	5-9	10-24	25-49	50-99	100-249
35 B 080	30	35 B 085	31	1	2-11	.87	.73	.66	.63	.58	.52
35 B 081	32	35 B 086	33	2	2-5	.87	.73	.66	.63	.58	.52
35 B 082	34	35 B 087	35	3	2-3	.87	.73	.66	.63	.58	.52
35 B 083	36	35 B 088	37	4	2	.87	.73	.66	.63	.58	.52
35 B 447	38*	35 B 448	39*	1	2-5	.87	.73	.66	.63	.58	.52
35 B 236	40†	35 B 237	41†	2	2-11	.87	.73	.66	.63	.58	.52

## CERAMIC SECTIONS

For assembling custom and standard switches. All have 30° indexing, except type indicated by \* 60° indexing. For use with shaft and index assemblies PA-300, PA-301 and PA-302 listed in next column, except \*uses PA-304 and PA-305 assemblies also in next column. †Unused contacts on one side of common are connected and shorted out. ‡Unused contacts are connected and shorted out. #Has one off, and up to 9 progressively shorting positions. Av. wt., 2 oz.

Shorting		Non-Shorting		Total Poles	No. Pos.	EACH					
Stock	Type	Stock	Type			1-4	5-9	10-24	25-49	50-99	100-249
5B040	PA-0	35B045	PA-1	1	2-12						
5B041	PA-2	35B046	PA-3	2	2-6						
5B042	PA-4	35B047	PA-5	3	2-5	1.20	1.00	.90	.86	.80	.72
4B972	PA-6	34B973	PA-7	5	2-3						
5B044	PA-8	35B049	PA-9	6	2						
4B943	PA-10	34B957	PA-10*	1	2-5						
5B238	PA-11†	35B240	PA-11†	2	2-11	1.20	1.00	.90	.86	.80	.72
5B239	PA-12‡	.....	.....	1	2-10						
4B965	PA-20*	35B241	PA-17*	1	2-6						

ATTENTION QUANTITY BUYERS—Allied can make immediate shipment on all switches in industrial quantities and at OEM prices. For Allied office nearest you, see page 1.

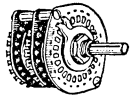
## PA-300 SERIES SHAFT AND INDEX ASSEMBLIES

Hardware for assembling miniature switches (spacers, tie-rods, etc.). All have 30° indexing, except \*60°. Shpg. wt., 3 oz.

Stock No.	Type PA-	Shaft Lgth	Sec.	EACH					
				1-4	5-9	10-24	25-49	50-99	100-249
35 B 092	300	2"	1-3	1.38	1.15	1.04	.99	.92	.83
35 B 093	301	4"	4-6	1.80	1.50	1.35	1.28	1.20	1.08
35 B 094	302	6"	7-9	2.37	1.98	1.78	1.69	1.58	1.42
35 B 451	304*	2"	1-3	1.44	1.20	1.08	1.03	.96	.86
35 B 452	305*	4"	4-6	1.89	1.58	1.42	1.35	1.26	1.13

## PA-3000 AND PA-4000 SERIES SWITCHES

Quality 18 and 24-position switches. Provide accurate indexing through use of new hill-and-dale index mechanism. Have laminated phenolic insulation. Voltage breakdown, 1000 v. AC rms. Sections are 2½" high, ½" thick. PA-3000 Series, 2¼" wide; PA-4000 Series, 1¾" wide. ¼" dia. shafts, 2¼" long from mtg. surface. Rated 5.5 amp @ 6 v. DC; 2.75 amp @ 15 v. DC; 1.75 amp @ 24 v. DC; 230 ma @ 115 v. AC rms. 20° indexing. Adjustable stops or cont. rotation, 4 oz.



### NON-SHORTING TYPES

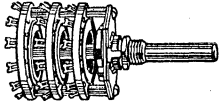
Stock No.	Type PA-	Sec-tions	Total Poles	No. Pos.	EACH					
					1-4	5-9	10-24	25-49	50-99	100-249
36 B 240	3001	1	1	2-17	2.04	1.70	1.53	1.45	1.36	1.22
36 B 241	3003	2	2	2-17	2.94	2.45	2.21	2.09	1.96	1.76
36 B 242	3005	3	3	2-17	3.84	3.20	2.88	2.74	2.56	2.30
36 B 243	3007	4	4	2-17	4.68	3.90	3.51	3.33	3.12	2.81
36 B 244	4001	1	1	2-23	2.16	1.80	1.62	1.54	1.44	1.30
36 B 245	4003	2	2	2-23	3.18	2.65	2.39	2.27	2.12	1.91
36 B 246	4005	3	3	2-23	4.17	3.48	3.13	2.97	2.78	2.50
36 B 247	4007	4	4	2-23	4.98	4.15	3.74	3.55	3.32	2.99

### SHORTING TYPES

Stock No.	Type PA-	Sec-tions	Total Poles	No. Pos.	EACH					
					1-4	5-9	10-24	25-49	50-99	100-249
36 B 288	3000	1	1	2-17	2.04	1.70	1.53	1.45	1.36	1.22
36 B 289	3002	2	2	2-17	2.94	2.45	2.21	2.09	1.96	1.76
36 B 290	3004	3	3	2-17	3.84	3.20	2.88	2.74	2.56	2.30
36 B 291	3006	4	4	2-17	4.68	3.90	3.51	3.33	3.12	2.81
36 B 292	4000	1	1	2-23	2.16	1.80	1.62	1.54	1.44	1.30
36 B 293	4002	2	2	2-23	3.18	2.65	2.39	2.27	2.12	1.91
36 B 294	4004	3	3	2-23	4.17	3.48	3.13	2.97	2.78	2.50
36 B 295	4006	4	4	2-23	4.98	4.15	3.74	3.55	3.32	2.99

# Centralab Rotary, Lever Switches and Assemblies

## SERIES PS-100 SUBMINIATURE CERAMIC ROTARY SWITCHES



Ultra-small; weigh less than 1 ounce, yet have same electrical characteristics as heavier and larger switches. For utmost dependability required in hand switching, compact electronic equipment, transistor circuits, aircraft instruments, guided missiles, etc. 1/4" dia. Bushing, 1/4" dia. by 1/4" long. Shaft, 1/8" dia. by 1" long. Silver-plated clips, contacts. Positive 30° indexing. Fixed stop, 3.5 amp at 6 v. DC or 160 ma at 110 v. AC. With knob, nut, lockwasher. Average shpg. wt., 2 oz.

Shorting		Non-Shorting		Total Poles	No. of Pos.	Poles per Sec.	No. of Sec.	EACH					
Stock No.	Type PS-	Stock No.	Type PS-					1-4	5-9	10-24	25-49	50-99	100-249
35 B 362	100	35 B 350	101	1	11	1	1	4.80	4.00	3.60	3.42	3.20	2.88
35 B 363	102	35 B 300	103	2	11	1	2	6.00	5.00	4.50	4.28	4.00	3.60
35 B 364	104	35 B 352	105	2	5	2	1	4.80	4.00	3.60	3.42	3.20	2.88
35 B 366	106	35 B 301	107	3	11	1	3	7.20	6.00	5.40	5.13	4.80	4.32
35 B 366	108	35 B 354	109	3	3	3	1	4.80	4.00	3.60	3.42	3.20	2.88
35 B 308	110	35 B 355	111	4	5	2	2	6.00	5.00	4.50	4.28	4.00	3.60
35 B 368	112	35 B 356	113	4	2	4	1	4.80	4.00	3.60	3.42	3.20	2.88
35 B 309	114	35 B 302	115	6	5	2	3	7.20	6.00	5.40	5.13	4.80	4.32
35 B 310	116	35 B 358	117	6	3	3	2	6.00	5.00	4.50	4.28	4.00	3.60
35 B 313	118	35 B 303	119	8	2	4	2	6.00	5.00	4.50	4.28	4.00	3.60
35 B 316	120	35 B 304	121	9	3	3	3	7.20	6.00	5.40	5.13	4.80	4.32
35 B 318	122	35 B 361	123	12	2	4	3	7.20	6.00	5.40	5.13	4.80	4.32

## SERIES PS-20 CERAMIC SECTIONS FOR ABOVE

For fixed-stop indexing and switching not supplied in PS-100 series subminiature switches above. Use with index and shaft assemblies P-501 through P-510 at right. Av. shpg. wt., 2 oz.

Shorting		Non-Shorting		Total Poles	No. Pos.
Stock No.	Type	Stock No.	Type		
35 B 426	PS-20	35 B 427	PS-21	1	2-11
35 B 428	PS-22	35 B 429	PS-23	2	2-5
35 B 430	PS-24	35 B 431	PS-25	3	2-3
35 B 432	PS-26	35 B 433	PS-27	4	2

1-4.....EACH 2.10 5-9.....EACH 1.75 10-24....EACH 1.58  
25-49.....EACH 1.50 50-99.....EACH 1.40 100-249..EACH 1.26

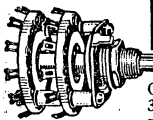
## SERIES P-500 INDEX AND SHAFT ASSEMBLIES FOR ABOVE

Hardware for subminiature switches with up to 3 sections. Includes: KC-6 pointer knob; 6-3/4" spacers; 2-1/4" spacers; 2-1/8" spacers; 2-3/16" spacers; 2-1/16" tie bolts, nuts, lockwashers; 16 plastic spacer washers. 30° indexing; fixed stop, 2 oz.

Stock No.	Type	No. of Pos.	Stock No.	Type	No. of Pos.
35 B 434	P-501	2	35 B 320	P-506	7
35 B 435	P-502	3	35 B 321	P-507	8
35 B 436	P-503	4	35 B 324	P-508	9
35 B 437	P-504	5	35 B 329	P-509	10
35 B 438	P-505	6	35 B 330	P-510	11

1-4.....EACH 1.95 5-9.....EACH 1.63 10-24....EACH 1.47  
25-49.....EACH 1.40 50-99.....EACH 1.30 100-249..EACH 1.17

## SERIES PA-6000 MINIATURE CERAMIC ROTARY SWITCHES



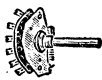
**MIL-S-3786A  
STYLE SR03  
MILITARY-TYPE  
CERAMIC SWITCHES**

Only 1 1/2" dia. Positive 30° indexing. Adjustable stop, except \*fixed stop. Rated 450 ma at 115 v. AC; 8 amp at 6 v. DC; 5 1/2 amp at 12 v. DC. Knob, nut, lockwasher. Wt., 3 oz.

Shorting		Non-Shorting		Total Poles	No. of Pos.	Poles per Sec.	No. of Sec.	EACH					
Stock No.	Type PA-	Stock No.	Type PA-					1-4	5-9	10-24	25-49	50-99	100-249
36 B 111	6000	36 B 112	6001	1	2-11	1	1	3.39	2.83	2.55	2.42	2.26	2.03
36 B 113	6002	36 B 114	6003	2	2-5	2	1	3.39	2.83	2.55	2.42	2.26	2.03
36 B 115	6004	36 B 116	6005	2	2-11	1	2	5.19	4.33	3.90	3.71	3.46	3.11
36 B 117	6006	36 B 118	6007	3	2-3	3	1	3.39	2.83	2.55	2.42	2.26	2.03
36 B 119	6010*	36 B 120	6011*	4	2	4	1	3.39	2.83	2.55	2.42	2.26	2.03
35 B 331	6012	36 B 121	6013	4	2-5	2	2	5.19	4.33	3.90	3.71	3.46	3.11
35 B 335	6018	36 B 122	6019	6	2-3	3	2	5.19	4.33	3.90	3.71	3.46	3.11
35 B 336	6024*	35 B 337	6025*	8	2	4	2	5.19	4.33	3.90	3.71	3.46	3.11

AC; 8 amp at 6 v. DC; 5 1/2 amp at 12 v. DC. Knob, nut, lockwasher. Wt., 3 oz.

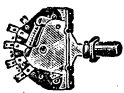
## GENERAL-PURPOSE ROTARY SWITCHES



Phenolic-insulated switches. Breakdown, 1000 v. AC. 3/8" threaded shanks, 3/8" long, 1/4" shafts, 1 1/8" long. Contacts rated 2.75 amps at 15 v. DC; 230 ma at 110 v. AC. With knobs. Momentary action, except \*positive; †positive one side. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Total Poles	No. of Pos.	EACH					
				1-4	5-9	10-24	25-49	50-99	100-249
34 B 054	1488	6	3	3.60	3.00	2.70	2.57	2.40	2.16
34 B 055	1489	6†	3	3.60	3.00	2.70	2.57	2.40	2.16
34 B 085	1450	4*	2	1.65	1.38	1.24	1.18	1.10	.99
34 B 087	1451	4	2	1.98	1.65	1.49	1.42	1.32	1.19

## LOW-COST LEVER-ACTION PHENOLIC SWITCHES



New nylon rotor design results in low cost. 2.75 amps at 15 v. DC; 230 ma at 115 v. AC. Silver-plated clips and contacts. 1 7/8 x 3/16" (1 1/4" behind panel). Action: \*Pos.; †mom.; ‡pos./mom. SPDT, except #DPDT. Mtg. bracket has two 6-32 tapped holes. With knob and mtg. hardware. Wt., 4 oz.

Shorting Stock No.	Mfr's Type	Non-Shorting Stock No.	Mfr's Type	No. of Pos.	EACH					
					1-4	5-9	10-24	25-49	50-99	100-249
34 B 021	1452	34 B 026	1454	3*	1.26	1.05	.95	.90	.84	.76
34 B 022	1453	34 B 027	1455	3†	1.26	1.05	.95	.90	.84	.76
34 B 023	1466	34 B 028	1467	3‡	1.26	1.05	.95	.90	.84	.76
34 B 025	1456	34 B 030	1457	2†	1.44	1.20	1.08	1.03	.96	.86
34 B 024	1459	34 B 029	1458	2*‡	1.44	1.20	1.08	1.03	.96	.86

Mounting Plates. For single or multiple mounting of lever switches. Black wrinkle-finish steel. \*No. of switch openings. Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	*	Size	EACH					
				1-4	5-9	10-24	25-49	50-99	100-249
34 B 050	P-1755	1	3/4x2 5/8"	.30	.25	.23	.22	.20	.18
34 B 051	P-1756	2	1 1/2x2 5/8"	.30	.25	.23	.22	.20	.18
34 B 052	P-1757	3	2 1/4x2 5/8"	.30	.25	.23	.22	.20	.18
34 B 053	P-1758	4	3x2 5/8"	.30	.25	.23	.22	.20	.18

## INDEX ASSEMBLIES, SECTIONS FOR SERIES PA-6000

Series PA-600 Index Assemblies. Use with sections below to assemble 1 to 4-section switch. 30° index. 2" rear shaft. 3 oz.

36 B 123. 1-4.....EA. 1.50 5-9.....EA. 1.25 10-24....EA. 1.13  
25-49.....EACH 1.07 50-99.....EACH 1.00 100-249..EACH .90

Series PA-60 Phenolic Sections. For PA-600 assembly above. 1 1/2" diameter; .062" thick. Breakdown, 1000 v. AC-RMS. 2 oz.

Shorting		Non-Shorting		Total Poles	No. Pos.
Stock No.	Type	Stock No.	Type		
36 B 124	PA-60	36 B 125	PA-61	1	2-11
36 B 126	PA-62	36 B 127	PA-63	2	2-5
36 B 128	PA-64	36 B 129	PA-65	3	2-3
36 B 130	PA-66	36 B 131	PA-67	4	2

1-4.....EACH 1.35 5-9.....EACH 1.13 10-24....EACH 1.02  
25-49.....EACH .97 50-99.....EACH .90 100-249..EACH .81

Series PA-70 Mycalex Sections. For PA-600 assembly above. 1 1/2" diameter; .125" thick. Breakdown, 1500 v. AC-RMS. 3 oz.

Shorting		Non-Shorting		Total Poles	No. Pos.
Stock No.	Type	Stock No.	Type		
36 B 132	PA-70	36 B 133	PA-71	1	2-11
36 B 134	PA-72	36 B 135	PA-73	2	2-5
36 B 136	PA-74	36 B 137	PA-75	3	2-3
36 B 138	PA-76	36 B 139	PA-77	4	2

1-4.....EACH 1.98 5-9.....EACH 1.65 10-24....EACH 1.49  
25-49.....EACH 1.42 50-99.....EACH 1.32 100-249..EACH 1.19

Series PA-80 Ceramic Sections. For PA-600 assembly above. 1 1/2" diameter; .125" thick. Breakdown, 1500 v. AC-RMS. 3 oz.

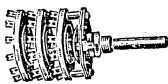
Shorting		Non-Shorting		Total Poles	No. Pos.
Stock No.	Type	Stock No.	Type		
36 B 140	PA-80	36 B 141	PA-81	1	2-11
36 B 142	PA-82	36 B 143	PA-83	2	2-5
36 B 144	PA-84	36 B 145	PA-85	3	2-3
36 B 146	PA-86	36 B 147	PA-87	4	2

1-4.....EACH 1.98 5-9.....EACH 1.65 10-24....EACH 1.49  
25-49.....EACH 1.42 50-99.....EACH 1.32 100-249..EACH 1.19

# Centralab Rotary Switches and Assemblies

## SERIES 2500 CERAMIC ROTARY SWITCHES

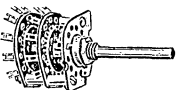
Silicone-treated stearite switches for band change and tap-switch uses. Provide breakdown voltage of 1500 volts RMS. All are rated 2.75 amps at 15 volts DC; 230 ma at 115 volts AC, make and break, resistive load. All metal parts, except clips and contacts, are cadmium-plated steel. Switch,  $1\frac{1}{2} \times 1\frac{1}{8}$ " diameter,  $\frac{1}{2}$ " spacing between sections for 1- and 2-section switches; 1" spacing for others. Bushing,  $\frac{3}{8}$ " diameter,  $\times \frac{3}{8}$ " long. Shaft,  $1\frac{1}{8}$ " long. Positive 30° indexing; adjustable stop. Shpg. wt., 5 oz. per section.



Shorting		Non-Shorting		Total Poles	No. of Pos.	Poles per Sec.	No. of Sec.	EACH					
Stock No.	Mfr's Type	Stock No.	Mfr's Type					1-4	5-9	10-24	25-49	50-99	100-249
35B214	2500	35B225	2501	1	2-6	1	1	2.82	2.35	2.12	2.01	1.88	1.69
35B215	2502	35B226	2503	1	2-11	1	1	2.82	2.35	2.12	2.01	1.88	1.69
35B216	2504	35B227	2505	2	2-5	2	1	2.82	2.35	2.12	2.01	1.88	1.69
35B217	2506	35B228	2507	3	2-3	3	1	2.82	2.35	2.12	2.01	1.88	1.69
35B218	2510	35B229	2511	2	2-6	1	2	4.02	3.35	3.02	2.87	2.68	2.41
35B219	2512	35B340	2513	2	2-11	1	2	4.02	3.35	3.02	2.87	2.68	2.41
35B220	2514	35B231	2515	4	2-5	2	2	4.02	3.35	3.02	2.87	2.68	2.41
35B248	2516	35B232	2517	6	2-3	3	2	4.02	3.35	3.02	2.87	2.68	2.41
35B343	2520	35B344	2521	3	2-6	1	3	5.16	4.30	3.87	3.68	3.44	3.10
35B223	2522	35B201	2523	3	2-11	1	3	5.16	4.30	3.87	3.68	3.44	3.10
35B349	2524	35B202	2525	6	2-5	2	3	5.16	4.30	3.87	3.68	3.44	3.10

## SERIES 1400 PHENOLIC ROTARY SWITCHES

Complete line of laminated, phenolic-insulated rotary switches. Used primarily for band change and general tap-switch applications where miniaturization is not essential. Switch,  $1\frac{1}{2} \times 1\frac{1}{8}$ " diameter. Bushing,  $\frac{3}{8}$ " diameter  $\times \frac{3}{8}$ " long. Shaft,  $1\frac{1}{8}$ " long from end of bushing. Index assemblies and hardware are identical to Series 2500 (above) allowing interchangeability. All metal parts, except clips and contacts, are cadmium-plated steel. Positive 30° indexing. Come complete with mounting nut, washer and  $1\frac{1}{4}$ " black pointer knob. All are rated 2.75 amps at 15 volts DC; 230 ma at 115 volts AC. Switches provide breakdown voltage of 1000 volts. Av. shpg. wt., 4 oz. per section.



Shorting		Non-Shorting		Total Poles	No. of Pos.	Poles per Sec.	No. of Sec.	EACH					
Stock No.	Mfr's Type	Stock No.	Mfr's Type					1-4	5-9	10-24	25-49	50-99	100-249
35B182	1400	35B163	1401	1	2-6	1	1	2.52	2.10	1.89	1.80	1.68	1.51
35B183	1402	35B164	1403	1	2-11	1	1	2.52	2.10	1.89	1.80	1.68	1.51
35B184	1404	35B165	1405	2	2-5	2	1	2.52	2.10	1.89	1.80	1.68	1.51
35B181	1406	35B166	1407	3	2-3	3	1	2.52	2.10	1.89	1.80	1.68	1.51
35B186	1408	35B167	1409	4	2	4	1	2.52	2.10	1.89	1.80	1.68	1.51
35B187	1410	35B168	1411	2	2-6	1	2	3.06	2.55	2.30	2.19	2.04	1.84
35B188	1412	35B169	1413	2	2-11	1	2	3.06	2.55	2.30	2.19	2.04	1.84
35B189	1414	35B170	1415	4	2-5	2	2	3.06	2.55	2.30	2.19	2.04	1.84
35B133	1416	35B171	1417	6	2-3	3	2	3.06	2.55	2.30	2.19	2.04	1.84
35B191	1418	35B172	1419	8	2	4	2	3.06	2.55	2.30	2.19	2.04	1.84
35B134	1420	35B135	1421	3	2-6	1	3	3.90	3.25	2.93	2.78	2.60	2.34
35B136	1422	35B174	1423	3	2-11	1	3	3.90	3.25	2.93	2.78	2.60	2.34
35B137	1424	35B175	1425	6	2-5	2	3	3.90	3.25	2.93	2.78	2.60	2.34
35B138	1426	35B139	1427	4	2-6	1	4	4.50	3.75	3.38	3.21	3.00	2.70
35B140	1428	35B141	1429	4	2-11	1	4	4.50	3.75	3.38	3.21	3.00	2.70
35B197	1430	35B178	1431	8	2-5	2	4	4.50	3.75	3.38	3.21	3.00	2.70

### INDEX ASSEMBLIES FOR SERIES 1400 AND 2500

Dependable assemblies for use with above series sections. One-piece flat shaft,  $\frac{3}{16}$ " thick. 30° positive index. Includes one index, one P-120 pointer knob, and hardware to complete switch. Wt., 3 oz.

Stock No.	Mfr's Type	No. of Sec.	EACH					
			1-4	5-9	10-24	25-49	50-99	100-249
35B497	P-270	1-3	1.65	1.38	1.24	1.18	1.10	.99
35B498	P-271	3-5	2.10	1.75	1.58	1.50	1.40	1.26
35B499	P-272	5-10	2.85	2.38	2.14	2.03	1.90	1.71

### PHENOLIC SECTIONS FOR SERIES 1400

For replacing or changing individual sections of Series 1400 rotary switches listed above. Sections can also be used with index assemblies P-270, P-271 and P-272 (above) to design and assemble switches with special characteristics. All phenolic sections carry same ratings as Series 1400 switches. Av. shpg. wt., 2 oz.

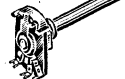
Shorting		Non-Shorting		Total Poles	No. Pos.
Stock No.	Type	Stock No.	Type		
35 B 179	AD	35 B 155	HD	1	2-6
35 B 180	BD	35 B 156	JD	1	2-11
35 B 181	CD	35 B 157	KD	2	2-5
35 B 150	DD	35 B 158	LD	3	2-3
35 B 151	ED	35 B 159	MD	4	2

1-4	EACH	1.05	5-9	EACH	.88	10-24	EACH	.79
25-49	EACH	.75	50-99	EACH	.70	100-249	EACH	.63

35 B 152	EED	35 B 453	BBD	4	2-3
----------	-----	----------	-----	---	-----

1-4	EACH	1.35	5-9	EACH	1.13	10-24	EACH	1.02
25-49	EACH	.97	50-99	EACH	.90	100-249	EACH	.81

### SMALL GENERAL-PURPOSE SWITCHES



Step type. Rated 1.75 amps at 24 v., DC; 230 ma at 115 v., AC. Shaft,  $\frac{1}{4}$ " diameter,  $1\frac{1}{8}$ " long, except 1465,  $2\frac{1}{2}$ ". All have shorting contacts except \*non-shorting (for intercoms). 1472 is for use with AM-FM-phonograph. SPST. Av. wt., 5 oz.

Stock No.	Mfr's Type	Description	EACH					
			1-4	5-9	10-24	25-49	50-99	100-249
34B080	1460†	SPDT phono-radio switch						
34B081	1461	SP-3-pos. selector	1.08	.90	.81	.77	.72	.65
34B082	1462	DPDT bandswitch						
34B083	1463*	SPDT momentary	1.08	.90	.81	.77	.72	.65
34B084	1464*	DPDT momentary	1.08	.90	.81	.77	.72	.65
34B073	1465	SP-4-position, with AC line switch	1.80	1.50	1.35	1.28	1.20	1.08
35B235	1472*	DP-3-position	1.08	.90	.81	.77	.72	.65

### CERAMIC SECTIONS FOR SERIES 2500

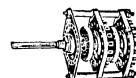
For changing sections of Series 2500 rotary switches above. Reliable construction, trouble-free performance. .187" rotor slot for use with P-270, P-271 and P-272 assemblies at left. All unused contacts shorted except PSD, which is progressive. NSD and PSD combine for resistance decade. Av. wt., 2 oz.

Shorting		Non-Shorting		Total Poles	No. Pos.
Stock No.	Type	Stock No.	Type		
35 B 203	TD	35 B 209	XD	1	2-6
35 B 204	UD	35 B 210	YD	1	2-11
35 B 205	RD	35 B 211	RRD	2	2-5
35 B 206	SD	35 B 212	SSD	3	2-3
35 B 207	VD	35 B 213	ZD	4	2
35 B 492	PSD			1	2-10
35 B 494	NSD				
35 B 495	PSD				
35 B 208	GGD	35 B 496	FFD	1	2-11

1-4	EACH	1.35	5-9	EACH	1.13	10-24	EACH	1.02
25-49	EACH	.97	50-99	EACH	.90	100-249	EACH	.81

### JV-9000 HEAVY-DUTY ROTARY POWER SWITCHES

Silicone-treated ceramic switches for transmitters, industrial and commercial controls, and test gear. Rated 9 amps at 110 v. AC (resistive); 30 amps at 5 v. DC; .015 amp at 2500 v. DC. Breakdown, 3000 v. RMS. 20° positive index; adjustable stop. All metal parts except clips, contacts and index spring are cadmium plated. Coin silver contacts. Non-shorting, except shorting. Bushing,  $\frac{3}{8} \times 32$  thread,  $\frac{3}{8}$ " long. Flattened shaft,  $1\frac{1}{2} \times 1\frac{1}{8}$ ".  $\frac{1}{8}$ " thick ceramic sections; 1" spacing between sections. Wt., 6 oz. per section.

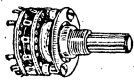


Stock No.	Type JV-	Sec.	Total Poles	No. Pos.	EACH				
					1-4	5-9	10-24	25-49	50-99
35 B 115	9001	1	1	2-17	10.50	8.75	7.88	7.49	7.00
35 B 116	9033	1	2	2-8	10.50	8.75	7.88	7.49	7.00
35 B 117	9005	2	2	2-17	17.40	14.50	13.05	12.40	11.60
35 B 118	9003	1	3	2-5	10.50	8.75	7.88	7.49	7.00
35 B 119	9009	3	3	2-17	24.30	20.25	18.23	17.32	16.20
35 B 120	9035	2	4	2-8	17.40	14.50	13.05	12.40	11.60
35 B 121	9013	4	4	2-17	31.20	26.00	23.40	22.23	20.80
35 B 123	9007	2	6	2-5	17.40	14.50	13.05	12.40	11.60
35 B 124	9037	3	6	2-8	24.30	20.25	18.23	17.32	16.20
35 B 125	9021	6	6	2-17	45.30	37.75	33.98	32.28	30.20
35 B 126	9039	4	8	2-8	31.20	26.00	23.40	22.23	20.80
35 B 128	9015	4	12	2-5	31.20	26.00	23.40	22.23	20.80
35 B 129	9019	5	15	2-5	38.10	31.75	28.58	27.15	25.40
35 B 100	9000	1†	1	2-17	10.50	8.75	7.88	7.49	7.00
35 B 102	9004	2†	2	2-17	17.40	14.50	13.05	12.40	11.60
35 B 103	9002	1†	3	2-5	10.50	8.75	7.88	7.49	7.00
35 B 104	9008	3†	3	2-17	24.30	20.25	18.23	17.32	16.20

# Oak Top-Switching Rotary Switches

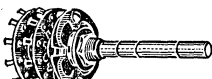


## TYPE A MINIATURE SILICONE-INSULATED SWITCHES



Economical, precision-crafted switches. All have dual-ball, 30° indexing. Meet MIL-S-3786A, 200-hour salt spray test. Nickel-plated brass and stainless steel parts. Adjustable stops, except  $\frac{1}{2}$ -position fixed stop. Panel space,  $1\frac{1}{16} \times \frac{3}{16}$ " up to  $1\frac{1}{32}$ " behind panel for 3 sections. Shaft,  $2\frac{3}{16} \times \frac{1}{4}$ " diameter; breakoffs at  $\frac{3}{4}$ ,  $1\frac{1}{8}$  and  $1\frac{1}{16}$ ". Rated 1 amp @ 28 volts DC;  $\frac{1}{2}$  amp @ 115 volts AC. 2500 volts breakdown test. Av. shpg. wt., 4 oz.

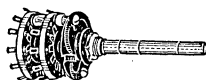
Shorting		Non-Shorting		Sections	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 000	216A	33 B 008	217A	1	1	2-12	5.40	4.50	4.05	3.85	3.60	3.24
33 B 001	218A	33 B 009	219A	2	2	2-12	6.90	5.75	5.18	4.92	4.60	4.14
33 B 002	220A	33 B 010	221A	3	3	2-12	8.70	7.25	6.53	6.20	5.80	5.22
33 B 003	222A	33 B 011	223A	1	2	2-6	5.40	4.50	4.05	3.85	3.60	3.24
33 B 004	224A	33 B 012	225A	2	4	2-6	6.90	5.75	5.18	4.92	4.60	4.14
33 B 005	226A	33 B 013	227A	3	6	2-6	8.70	7.25	6.53	6.20	5.80	5.22
33 B 006	234A	33 B 014	235A	1	4	2†	5.40	4.50	4.05	3.85	3.60	3.24
33 B 007	236A	33 B 015	237A	2	8	2†	6.90	5.75	5.18	4.92	4.60	4.14
33 B 124	240A	33 B 125	241A	1	1	2-12	5.70	4.75	4.28	4.07	3.80	3.42



Low-cost, high quality switches for a variety of applications. All have dual ball and 30° indexing. Meet MIL-S-3786A, 50-hr. salt spray test except \$200-hr. salt spray test. All units listed have adjustable stops. Panel space,  $1\frac{1}{16} \times \frac{1}{4}$ " up to  $1\frac{1}{32}$ " behind panel for 2 sections. Shaft,  $2\frac{3}{16} \times \frac{1}{4}$ " diameter; breakoffs at  $\frac{3}{4}$ ,  $1\frac{1}{8}$  and  $1\frac{1}{16}$ ". All switches rated  $\frac{1}{2}$  amp at 115 volts AC. All have 1000 volts breakdown rating. Av. shpg. wt., 3 oz.

## TYPE F MINIATURE PHENOLIC SWITCHES

Shorting		Non-Shorting		Sections	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 016	322F	33 B 024	323F	1	1	2-11	2.64	2.20	1.98	1.88	1.76	1.58
33 B 017	324F	33 B 025	325F	2	2	2-11	3.18	2.65	2.39	2.27	2.12	1.91
33 B 018	326F	33 B 026	327F	1	2	2-5	2.64	2.20	1.98	1.88	1.76	1.58
33 B 019	328F	33 B 027	329F	2	4	2-5	3.18	2.65	2.39	2.27	2.12	1.91
33 B 020	330F	33 B 028	331F	1	3	2-3	2.64	2.20	1.98	1.88	1.76	1.58
33 B 021	332F	33 B 029	333F	2	6	2-3	3.18	2.65	2.39	2.27	2.12	1.91
33 B 022	334F	33 B 030	335F	1	4	2	2.64	2.20	1.98	1.88	1.76	1.58
33 B 023	336F	33 B 031	337F	2	8	2	3.18	2.65	2.39	2.27	2.12	1.91
33 B 126	338F	33 B 127	339F	1	1	2-11	3.24	2.70	2.43	2.31	2.16	1.94



All have dual ball and 30° indexing. Made in accordance with specifications of MIL-S-3786A, 50-hr. salt spray test except \$200-hr. salt spray test. All units listed have adjustable stops. Panel space,  $1\frac{1}{16} \times \frac{1}{4}$ " up to  $1\frac{1}{32}$ " behind panel for 2 sections. Shaft,  $2\frac{3}{16} \times \frac{1}{4}$ " diameter; breakoffs at  $\frac{3}{4}$ ,  $1\frac{1}{8}$  and  $1\frac{1}{16}$ ". All switches rated  $\frac{1}{2}$  amp at 115 volts AC. All have 1000 volts breakdown rating. Av. wt., 3 oz.

## TYPE FC STEATITE CERAMIC SWITCHES

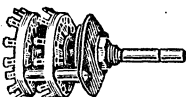
Shorting		Non-Shorting		Sections	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 044	366FC	33 B 052	367FC	1	1	2-11	2.94	2.45	2.21	2.10	1.96	1.76
33 B 045	368FC	33 B 053	369FC	2	2	2-11	4.17	3.48	3.13	2.97	2.78	2.50
33 B 046	370FC	33 B 054	371FC	1	2	2-5	2.94	2.45	2.21	2.10	1.96	1.76
33 B 047	372FC	33 B 055	373FC	2	4	2-5	4.17	3.48	3.13	2.97	2.78	2.50
33 B 048	374FC	33 B 056	375FC	1	3	2-3	2.94	2.45	2.21	2.10	1.96	1.76
33 B 049	376FC	33 B 057	377FC	2	6	2-3	4.17	3.48	3.13	2.97	2.78	2.50
33 B 050	378FC	33 B 058	379FC	1	4	2	2.94	2.45	2.21	2.10	1.96	1.76
33 B 051	380FC	33 B 059	381FC	2	8	2	4.17	3.48	3.13	2.97	2.78	2.50
33 B 128	382FC	33 B 129	383FC	1	1	2-11	3.54	2.95	2.66	2.53	2.36	2.12



With dual ball and 30° indexing. Meet MIL-S-3786A, 50-hr. salt spray test. Adjustable stops. Panel space,  $1\frac{1}{16} \times \frac{1}{4}$ " up to  $1\frac{1}{32}$ " behind panel for 3 sections. Shaft,  $2\frac{3}{16} \times \frac{1}{4}$ " diameter. Rated 1 amp @ 28 volts DC;  $\frac{1}{2}$  amp @ 115 volts AC. Breakdown 2500 volts. Av. wt., 4 oz.

## TYPE H PHENOLIC SWITCHES

Shorting		Non-Shorting		Sections	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 032	512H	33 B 038	513H	1	1	2-11	2.64	2.20	1.98	1.88	1.76	1.58
33 B 033	514H	33 B 039	515H	2	2	2-11	3.18	2.65	2.39	2.27	2.12	1.91
33 B 034	516H	33 B 040	517H	3	3	2-11	4.05	3.88	3.49	3.32	2.70	2.43
33 B 035	518H	33 B 041	519H	1	2	2-5	2.64	2.20	1.98	1.88	1.76	1.58
33 B 036	520H	33 B 042	521H	2	4	2-5	3.18	2.65	2.39	2.27	2.12	1.91
33 B 037	522H	33 B 043	523H	3	6	2-5	4.05	3.88	3.49	3.32	2.70	2.43



Have dual ball and 30° indexing. Meet MIL-S-3786A, 50-hour salt spray test. Adjustable stops. Panel space,  $1\frac{1}{16} \times \frac{1}{4}$ " up to  $1\frac{1}{32}$ " behind panel for 3 sect. Shaft,  $2\frac{3}{16} \times \frac{1}{4}$ " dia.; breakoffs at  $\frac{3}{4}$ ,  $1\frac{1}{8}$  and  $1\frac{1}{16}$ ". Rated 1 amp @ 28 v., DC.  $\frac{1}{2}$  amp @ 115 v., AC. Breakdown 2500 v. 4 oz.

## TYPE HC CERAMIC SWITCHES

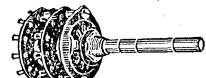
Shorting		Non-Shorting		Sections	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 096	562HC	33 B 102	563HC	1	1	2-11	2.94	2.45	2.21	2.10	1.96	1.76
33 B 097	564HC	33 B 103	565HC	2	2	2-11	4.17	3.48	3.13	2.97	2.78	2.50
33 B 098	566HC	33 B 104	567HC	3	3	2-11	5.37	4.48	4.03	3.83	3.58	3.22
33 B 099	568HC	33 B 105	569HC	1	2	2-5	2.94	2.45	2.21	2.10	1.96	1.76
33 B 100	570HC	33 B 106	571HC	2	4	2-5	4.17	3.48	3.13	2.97	2.78	2.50
33 B 101	572HC	33 B 107	573HC	3	6	2-5	5.37	4.48	4.03	3.83	3.58	3.22



With single ball and 30° indexing. Meet MIL-S-3786A, 50-hr. salt spray test. All units listed have adjustable stops. Panel space,  $1\frac{1}{16} \times \frac{1}{8}$ "  $2\frac{3}{16}$ " behind. 1 amp at 28 v., DC. Breakdown 1800 v. Wt., 5 oz.

## TYPE JC STEATITE CERAMIC SWITCHES

Shorting		Non-Shorting		Sections	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 078	468JC	33 B 087	469JC	1	1	2-12	2.46	2.05	1.85	1.76	1.64	1.48
33 B 079	470JC	33 B 088	471JC	2	2	2-12	3.54	2.95	2.66	2.53	2.36	2.12
33 B 080	472JC	33 B 089	473JC	3	3	2-12	4.50	3.75	3.38	3.21	3.00	2.70
33 B 081	474JC	33 B 090	475JC	4	4	2-12	5.40	4.50	4.05	3.85	3.60	3.24
33 B 082	476JC	33 B 091	477JC	1	2	2-6	2.46	2.05	1.85	1.76	1.64	1.48
33 B 083	478JC	33 B 092	479JC	2	4	2-6	3.54	2.95	2.66	2.53	2.36	2.12
33 B 084	480JC	33 B 093	481JC	3	6	2-6	4.50	3.75	3.38	3.21	3.00	2.70
33 B 085	484JC	33 B 094	485JC	1	6	2	2.46	2.05	1.85	1.76	1.64	1.48
33 B 086	486JC	33 B 095	487JC	2	12	2	3.54	2.95	2.66	2.53	2.36	2.12



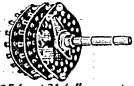
All have single ball and 30° indexing. Meet MIL-S-3786, 50-hour salt spray test. Adjustable stops. Metal parts are cadmium plated and chromate dipped. Contacts are of silver-plated brass. Panel space,  $1\frac{1}{32} \times \frac{1}{16}$ " up to  $2\frac{1}{32}$ " behind panel. Shaft,  $2\frac{3}{16} \times \frac{1}{4}$ " dia.; breakoffs at  $\frac{3}{4}$ ,  $1\frac{1}{8}$  and  $1\frac{1}{16}$ ". Rated 1 amp @ 28 volts DC;  $\frac{1}{2}$  amp @ 115 v., AC. 2500 v. breakdown. 4 oz.

## TYPE K PHENOLIC SWITCHES

Shorting		Non-Shorting		Sections	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 060	418K	33 B 069	419K	1	1	2-12	1.86	1.55	1.40	1.33	1.24	1.12
33 B 061	420K	33 B 070	421K	2	2	2-12	2.67	2.28	2.05	1.95	1.78	1.60
33 B 062	422K	33 B 071	423K	3	3	2-12	3.36	2.80	2.52	2.39	2.24	2.02
33 B 063	424K	33 B 072	425K	4	4	2-12	3.96	3.30	2.97	2.82	2.64	2.38
33 B 064	426K	33 B 073	427K	1	2	2-6	1.86	1.55	1.40	1.33	1.24	1.12
33 B 065	428K	33 B 074	429K	2	4	2-6	2.67	2.28	2.05	1.95	1.78	1.60
33 B 066	430K	33 B 075	431K	3	6	2-6	3.36	2.80	2.52	2.39	2.24	2.02
33 B 067	432K	33 B 076	433K	1	6	2	1.86	1.55	1.40	1.33	1.24	1.12
33 B 068	434K	33 B 077	435K	2	12	2	2.67	2.28	2.05	1.95	1.78	1.60



# Oak Rotary Switches and Assemblies



Single ball, 20° indexing, MIL-S-3786A 50-hr. salt test. Adjustable stops; 2-17 pos. Occupy  $2\frac{3}{16} \times 1\frac{1}{2}$ " up to  $2\frac{1}{16}$ " behind. Shaft,  $2\frac{3}{16} \times \frac{1}{4}$ " dia. 1 amp @ 28 v., DC;  $\frac{1}{2}$  amp @ 115 v. AC. Breakdown 1000 v. Wt., 4 oz.

## TYPE L PHENOLIC SWITCHES

Shorting		Non-Shorting		Sec-tions	Total Poles	Pos./ Pole	EACH					
Stock No.	Type 399-	Stock No.	Type 399-				1-4	5-9	10-24	25-49	50-99	100-249
33 B 108	608L	33 B 112	609L	1	1	2-17	2.34	1.95	1.76	1.67	1.56	1.40
33 B 109	610L	33 B 113	611L	2	2	2-17	3.36	2.80	2.52	2.39	2.24	2.02
33 B 110	612L	33 B 114	613L	3	3	2-17	4.38	3.65	3.29	3.13	2.92	2.63
33 B 111	614L	33 B 115	615L	4	4	2-17	4.95	4.03	3.63	3.45	3.30	2.97



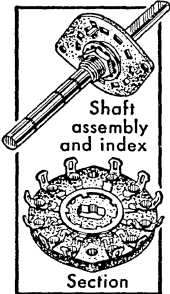
Single ball, 15° index. MIL-S-3786A salt spray test. Adjustable stops; 2-23 pos. Panel space  $2\frac{3}{16} \times 1\frac{1}{2}$ " up to  $2\frac{1}{32}$ " behind. 4 oz.

## TYPE MF PHENOLIC SWITCHES

33 B 116	658MF	33 B 120	659MF	1	1	2-23	2.52	2.10	1.89	1.80	1.68	1.51
33 B 117	660MF	33 B 121	661MF	2	2	2-23	3.60	3.00	2.70	2.57	2.40	2.16
33 B 118	662MF	33 B 122	663MF	3	3	2-23	4.71	3.93	3.54	3.36	3.14	2.82
33 B 119	664MF	33 B 123	665MF	4	4	2-23	5.34	4.45	4.01	3.81	3.56	3.20

## SHAFT AND INDEX ASSEMBLIES AND SECTIONS FOR SPECIAL SWITCHES

### SHAFT AND INDEX ASSEMBLIES



Complete switch assembly hardware consisting of mounting nut and lock-washer, stop washer, assembly tie rods and selected spacers, washers, nuts. Steel and brass parts are cadmium plated and chromate dipped. Shafts are  $2\frac{3}{16} \times \frac{1}{4}$ " diameter. Breakoffs at  $\frac{3}{4}$ ,  $\frac{1}{2}$  and  $\frac{1}{8}$ ". Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Lgth. In.	No. of Sections	EACH					
				1-4	5-9	10-24	25-49	50-99	100-249
33 B 130	399-029A	$6\frac{3}{4}$	1-3	2.25	1.88	1.69	1.60	1.50	1.35
33 B 135	399-022A	$4\frac{1}{2}$	3-10	3.00	2.50	2.25	2.14	2.00	1.80
33 B 131	399-039F	$1\frac{1}{4}$	1-2	1.56	1.30	1.17	1.11	1.04	.94
33 B 136	399-021F	$6\frac{1}{8}$	2-9	2.49	2.08	1.88	1.79	1.66	1.50
33 B 132	399-043K	$2\frac{1}{2}$	1-4	1.44	1.20	1.08	1.03	.96	.86
33 B 137	399-024K	$6\frac{1}{8}$	4-9	2.37	1.98	1.78	1.69	1.58	1.42
33 B 133	399-785H	$3\frac{3}{8}$	1-5	1.71	1.43	1.29	1.23	1.14	1.03
33 B 138	399-023H	$6\frac{1}{8}$	6-9	2.64	2.20	1.98	1.88	1.76	1.59
33 B 134	399-789L	$2\frac{1}{2}$	1-5	1.80	1.50	1.35	1.28	1.20	1.08
33 B 139	399-025L	$6\frac{1}{8}$	6-9	2.73	2.28	2.06	1.96	1.82	1.64
33 B 135	399-793MF	$2\frac{1}{2}$	1-5	1.95	1.63	1.47	1.40	1.30	1.17
33 B 200	399-026MF	$6\frac{1}{8}$	6-9	2.88	2.40	2.16	2.06	1.92	1.73

### SECTIONS FOR SPECIAL SWITCH ASSEMBLIES

These sections have same specifications as switches above and on preceding page. Use

with shaft and index assemblies with same suffix letter in Type No. listed above. Av. shpg. wt., 2 oz.

### TYPE A SILICONE SECTIONS

Shorting		Non-Shorting		Total Poles	Pos./ Pole
Stock No.	Type	Stock No.	Type		
33 B 136	399-032A	33 B 139	399-033A	1	2-12
33 B 137	399-034A	33 B 140	399-035A	2	2-6
33 B 138	399-036A	33 B 141	399-037A	4	2

1-4	EACH	3.09	5-9	EACH	2.58
10-24	EACH	2.32	25-49	EACH	2.20
50-99	EACH	2.06	100-249	EACH	1.85

### TYPE F PHENOLIC SECTIONS

33 B 142	399-070F	33 B 146	399-071F	1	2-11
33 B 143	399-072F	33 B 147	399-073F	2	2-5
33 B 144	399-074F	33 B 148	399-075F	3	2-3
33 B 145	399-076F	33 B 149	399-077F	4	2

1-4	EACH	1.11	5-9	EACH	.93
10-24	EACH	.84	25-49	EACH	.80
50-99	EACH	.74	100-249	EACH	.67

### TYPE FC CERAMIC SECTIONS

33 B 150	399-090FC	33 B 154	399-091FC	1	2-11
33 B 151	399-092FC	33 B 155	399-093FC	2	2-5
33 B 152	399-094FC	33 B 156	399-095FC	3	2-3
33 B 153	399-096FC	33 B 157	399-097FC	4	2

1-4	EACH	1.41	5-9	EACH	1.18
10-24	EACH	1.06	25-49	EACH	1.01
50-99	EACH	.94	100-249	EACH	.85

### TYPE H PHENOLIC SECTIONS

33 B 170	399-750H	33 B 172	399-751H	1	2-11
33 B 171	399-752H	33 B 173	399-753H	2	2-5

1-4	EACH	1.11	5-9	EACH	.93
10-24	EACH	.84	25-49	EACH	.80
50-99	EACH	.74	100-249	EACH	.67

### TYPE HC CERAMIC SECTIONS

33 B 174	399-760HC	33 B 176	399-761HC	1	2-11
33 B 175	399-762HC	33 B 177	399-763HC	2	2-5

1-4	EACH	1.41	5-9	EACH	1.18
10-24	EACH	1.06	25-49	EACH	1.01
50-99	EACH	.94	100-249	EACH	.85

### TYPE L PHENOLIC SECTIONS

33 B 178	399-172L	33 B 179	399-173L	1	1-17
----------	----------	----------	----------	---	------

1-4	EACH	1.14	5-9	EACH	.95
10-24	EACH	.86	25-49	EACH	.82
50-99	EACH	.76	100-249	EACH	.69

### TYPE K CERAMIC SECTIONS

Shorting		Non-Shorting		Total Poles	Pos./ Pole
Stock No.	Type	Stock No.	Type		
33 B 158	399-130K	33 B 161	399-131K	1	2-12
33 B 159	399-132K	33 B 162	399-133K	2	2-6
33 B 160	399-134K	33 B 163	399-135K	6	2

1-4	EACH	.90	5-9	EACH	.75
10-24	EACH	.68	25-49	EACH	.65
50-99	EACH	.60	100-249	EACH	.59

### TYPE JC CERAMIC SECTIONS

33 B 164	399-150JC	33 B 167	399-151JC	1	2-12
33 B 165	399-152JC	33 B 168	399-153JC	2	2-6
33 B 166	399-154JC	33 B 169	399-155JC	6	2

1-4	EACH	1.26	5-9	EACH	1.05
10-24	EACH	.95	25-49	EACH	.90
50-99	EACH	.84	100-249	EACH	.76

### TYPE MF PHENOLIC SECTIONS

33 B 180	399-180MF	33 B 181	399-181MF	1	1-23
----------	-----------	----------	-----------	---	------

1-4	EACH	1.20	5-9	EACH	1.00
10-24	EACH	.90	25-49	EACH	.85
50-99	EACH	.80	100-249	EACH	.72

### SPECIAL FUNCTION SECTIONS

Stock No.	Type	Description
33 B 182	399-056A	Consecutive Shorting—Shorting
33 B 183	399-061A	Binary Coded Dec. Output—Non-Short.
33 B 184	399-057A	Resistor Decade. Non-Shorting
33 B 185	399-059A	Capacitor Decade. Non-Shorting

1-4	EACH	4.65	5-9	EACH	3.88
10-24	EACH	3.49	25-49	EACH	3.22
50-99	EACH	3.10	100-249	EACH	2.79

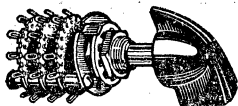
All contacts shorted except selected position.

Stock No.	Mfr's Type	EACH					
		1-4	5-9	10-24	25-49	50-99	100-249
33 B 186	399-058A	4.65	3.88	3.49	3.22	3.10	2.79
33 B 187	399-060F	1.56	1.30	1.17	1.11	1.04	.94
33 B 188	399-062FC	2.10	1.75	1.58	1.50	1.40	1.26
33 B 189	399-064K	1.35	1.13	1.02	.97	.90	.81
33 B 190	399-068H	1.65	1.38	1.24	1.18	1.10	.99
33 B 191	399-078HC	2.10	1.75	1.58	1.50	1.40	1.26
33 B 192	399-080L	1.71	1.43	1.29	1.23	1.14	1.03
33 B 193	399-082MF	1.80	1.50	1.35	1.28	1.20	1.08
33 B 194	399-066JC	1.86	1.55	1.40	1.33	1.24	1.12

## GRIGSBY SERIES 12M SUBMINIATURE GLASS-EPOXY ROTARY SWITCHES

• Up to 12 Positions With Fixed Stop

• Glass-Epoxy Sections Per MIL-P-18177



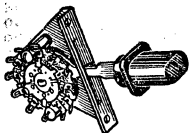
Ideal where space is limited and dependability is vital. Smallest ( $\frac{1}{8}$ " dia.) commercially available rotary switches—need only  $\frac{1}{16}$ " behind panel. Glass-epoxy sections per MIL-P-18177. Positive dual-ball 30° indexing; up to 12 positions with fixed stop. Ratings (resistive load): 150 ma @ 125 v.; max. voltage, 225 v.; max. current, 2.5 amps @ 6 v. (rms).  $\frac{3}{8}$ "-32 threaded bushing;  $\frac{1}{4} \times \frac{1}{4}$ " (FMS) steel shaft. With nut, lock-washer, #336-1 black knob. \*Indicates number of poles. Av. shpg. wt., 2 oz.

Shorting		Non-Shorting		Sec.	*	Pos. Per Pole	EACH					
Stock No.	Type 12M-	Stock No.	Type 12M-				1-4	5-9	10-24	25-49	50-99	100-499
33 B 900	11111G	33 B 912	21111G	1	1	11	4.52	3.77	3.39	3.23	3.01	2.71
33 B 901	11211G	33 B 913	21211G	1	2	11	5.58	4.65	4.19	3.98	3.79	3.35
33 B 902	1215G	33 B 914	2215G	2	1	5	4.52	3.77	3.39	3.23	3.01	2.71
33 B 903	11311G	33 B 915	21311G	1	3	11	6.64	5.53	4.98	4.47	4.26	3.98
33 B 904	1313G	33 B 916	2313G	3	1	3	4.52	3.77	3.39	3.23	3.01	2.71
33 B 905	1225G	33 B 917	2225G	2	2	5	5.58	4.65	4.19	3.98	3.79	3.35
33 B 906	1412G	33 B 918	2412G	4	1	2	4.52	3.77	3.39	3.23	3.01	2.71
33 B 907	1235G	33 B 919	2235G	2	3	5	6.64	5.53	4.98	4.74	4.26	3.98
33 B 908	1323G	33 B 920	2323G	3	2	3	5.58	4.65	4.19	3.98	3.79	3.35
33 B 909	1422G	33 B 921	2422G	4	2	2	5.58	4.65	4.19	3.98	3.79	3.33
33 B 910	1333G	33 B 922	2333G	3	3	3	6.64	5.53	4.98	4.74	4.26	3.98
33 B 911	1432G	33 B 923	2432G	4	3	2	6.64	5.53	4.98	4.74	4.26	3.98

## GRIGSBY SERIES 12L SUBMINIATURE GLASS-EPOXY LEVER-ACTION SWITCHES

• Only One Inch Required Behind Panel

• Up to Six Poles—Sections Per MIL-P-18177



Ultra-compact—allow circuit combinations previously unavailable. Positive 30° ball indexing. Ratings same as above switch. "S" suffix in Type No. indicates spring-return to center; "U" spring-return to center in one direction, positive indexing in opposite direction. With handle, mtg. screws.  $2\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{4}$ ". 2 oz.

Shorting		Non-Shorting		Positions	Poles	EACH					
Stock No.	Mfr's Type	Stock No.	Mfr's Type			1-4	5-9	10-24	25-49	50-99	100-499
33 B 924	12L1612	33 B 930	12L2612	2	6	4.24	3.53	3.19	3.00	2.82	2.54
33 B 925	12L1612S	33 B 931	12L2612S	2	6	4.47	3.72	3.36	3.17	2.98	2.68
33 B 926	12L1213	33 B 932	12L2213	3	2	3.12	2.60	2.34	2.21	2.08	1.87
33 B 927	12L1213S	33 B 933	12L2213S	3	2	3.38	2.80	2.52	2.38	2.24	2.02
33 B 928	12L1213U	33 B 934	12L2213U	3	2	3.38	2.80	2.52	2.38	2.24	2.02
33 B 929	12L1413	33 B 935	12L2413	3	4	3.63	3.03	2.72	2.58	2.42	2.18

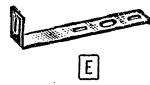
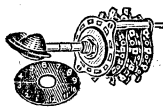
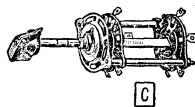
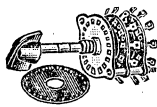
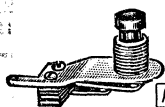
## SERIES 1200L AND 1300L PHENOLIC ROTARY SWITCHES



For low-current applications. High-grade phenolic resin sections. Heavily silver-plated contacts with self-wiping action assure positive connections.  $\frac{1}{2}$ " spacing between sections, except 3- and 4-section switches, 1" spacing. Require  $\frac{1}{4}$ " radius mounting space on panel. 30° indexing.  $\frac{3}{8}$ " dia. threaded bushing,  $\frac{3}{8}$ " long. Shaft,  $\frac{1}{4}$ " dia., 2" long—grooved for easy cutting. 1 fixed, 1 adjustable stop. Breakdown, 1000 v. AC or DC. Ratings (resistive): 0.6 amps at 300 v. DC; 8 amps at 6 v. DC; 1 amp at 300 v. AC; 10 amps at 6 v. AC. With bar knob. †Additional "off" positions with all circuits open. \*No. of poles. 8 oz.

Shorting		Non-Shorting		Sec.	*	Pos. Per Pole	EACH					
Stock No.	Mfr's Type	Stock No.	Mfr's Type				1-4	5-9	10-24	25-49	50-99	100-499
34 B 201	1211L	34 B 251	1311L	1	1	11						
34 B 202	1215L†	34 B 252	1315L†	1	2	5	2.10	1.75	1.58	1.50	1.40	1.26
34 B 203	1213L†	34 B 253	1313L†	1	3	3						
34 B 204	1212L†	34 B 254	1312L†	1	4	2						
34 B 206	1221L	34 B 256	1321L	2	2	11						
34 B 207	1225L†	34 B 257	1325L†	2	4	5	2.58	2.15	1.94	1.84	1.72	1.55
34 B 208	1223L†	34 B 258	1323L†	2	6	3						
34 B 209	1222L†	34 B 259	1322L†	2	8	2						
34 B 211	1231L	34 B 261	1331L	3	3	11	3.24	2.70	2.43	2.31	2.16	1.94
34 B 212	1235L†	34 B 262	1335L†	3	6	5	3.24	2.70	2.43	2.31	2.16	1.94
34 B 214	1241L	34 B 264	1341L	4	4	11	3.81	3.18	2.86	2.71	2.54	2.29
34 B 215	1245L†	34 B 265	1345L†	4	8	5	3.81	3.18	2.86	2.71	2.54	2.29
34 B 216	1251L	34 B 266	1351L	5	5	11	4.11	3.43	3.08	2.93	2.74	2.47
34 B 217	1256L	34 B 267	1356L	5	10	6	4.53	3.78	3.40	3.23	3.02	2.72
34 B 218	1261L	34 B 268	1361L	6	6	11	4.83	4.03	3.62	3.44	3.22	2.90
34 B 219	1266L	34 B 269	1366L	6	12	6	5.52	4.60	4.14	3.93	3.68	3.31

## SPECIAL-PURPOSE SWITCHES



### MINIATURE PUSHBUTTON SWITCHES

A Momentary contact, N.o., norm. open; n.c., norm. closed. \*DPST, n.o. and SPST, n.c. †Shorting; others, non-shorting. Mount in  $\frac{7}{16}$ " dia. hole on panels to  $\frac{1}{4}$ " thick. Mtg. radius,  $\frac{1}{16}$ ". Mtg. depth,  $\frac{7}{16}$ " (Type 1011) to  $\frac{7}{8}$ " (1018). Max. DC v., 500. 3 oz.

Stock No.	Mfr's Type	Action	EACH					
			1-4	5-9	10-24	25-49	50-99	100-499
34 B 432	1011	SPST, n.o.	.69	.58	.52	.49	.46	.41
34 B 433	1012	SPST, n.c.	.69	.58	.52	.49	.46	.41
34 B 434	1013	SPDT	.78	.65	.59	.56	.52	.47
34 B 435	1014	DPST, n.o.	.87	.73	.65	.62	.58	.52
34 B 436	1015	DPST, n.c.	.87	.73	.65	.62	.58	.52
34 B 437	1016	DPDT	1.05	.88	.79	.75	.70	.63
34 B 438	1017	*	1.05	.88	.79	.75	.70	.63
34 B 439	1018	DPDT†	1.44	1.20	1.08	1.03	.96	.86

### TYPE 1400L CIRCUIT-OPENING SWITCH

B Opens any 1 of 12 circuits, maintaining other 11. Breaking currents: 6A @ 300 v. DC; 8A @ 6 v. DC; 1A @ 300 v. AC; 10A @ 6 v. AC. Non-breaking, 10A. Max. DC v., 500 v. 30° indexing.  $\frac{1}{2} \times 2$ " shaft.  $\frac{3}{8} \times \frac{3}{8}$ " bushing. Hardware, dial plate, 6 oz.  
34 B 290, 1-4...EA. 4.68 5-9...EA. 3.90 10-24...EA. 3.51 25-49...EACH 3.33 50-99...EACH 3.12 100-499...EACH 2.81

### TYPE 151L "HAMSWITCH"

C Two-section, 5-position switch; 1 pole per section. Non-shorting.  $2\frac{1}{4}$ " spacing between sections. Rated 1000 volts AC (rms) or 1500 volts DC. 60° indexing. With brass bushing  $\frac{3}{8}$ " long,  $\frac{3}{8}$ " dia. Shaft, 2" long by  $\frac{1}{4}$ " dia. is grooved at popular lengths for easy cutting. With knob, nut and lock washer. Shpg. wt., 6 oz.  
34 B 318, 1-4...EACH 2.70 5-9...EACH 2.25 10-24...EACH 2.03 25-49...EACH 1.92 50-99...EACH 1.80 100-499...EACH 1.62

### TYPE 13124L 24-POINT TAP SWITCH

D Single circuit, 24-position, non-shorting tap switch. Excellent for use in test equipment applications. Continuous rotation, with 15° indexing between positions. Bushing,  $\frac{3}{8}$ " dia. by  $\frac{3}{8}$ " long. 2" shaft is notched for easy cutting to popular lengths. Supplied with dial plate, knob and mounting hardware. Shpg. wt., 6 oz.  
34 B 295, 1-4...EA. 2.76 5-9...EA. 2.30 10-24...EA. 2.07 25-49...EACH 1.97 50-99...EACH 1.84 100-499...EACH 1.66

### TYPE RB254 UNIVERSAL MOUNTING BRACKET

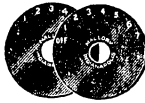
E "L" shaped universal mounting bracket for baseboard or rear support mounting of all Mallory circuit-selector switches, volume controls and jacks. Shpg. wt., 2 oz.  
34 B 420...15

# Rotary, Lever-Action, and Slide Switches



Allied Electronics stocks the most complete line of switches. For immediate "off-the-shelf" delivery, call the Allied office nearest you—locations on page 1.

## DIAL PLATES



Types 372 to 390 are for switches 1200L, 1300L and 1 1/4" base 3100J and 3200J. Others are for 1 1/8" base 3100J and 3200J. Etched aluminum. Black background. 1 1/8" dia. plate. Hole has 7/16" dia. Shpg. wt., 2 oz.

## 30° SPACING FOR 1 1/4" BASE SWITCHES

Type	Marking	Type	Marking
372	1 to 2	382	1 to 12
373	1 to 3	383	Off 1 to 3
374	1 to 4	384	Off 1 to 4
375	1 to 5	385	Off 1 to 5
376	1 to 6	386	Off 1 to 6
377	1 to 7	387	Off 1 to 7
378	1 to 8	388	Off 1 to 8
379	1 to 9	389	Off 1 to 9
380	1 to 10	390	Off 1 to 10
381	1 to 11		

34 BB 600. Specify Type..... EACH .12

## 20° SPACING FOR 1 1/8" BASE SWITCHES

Type	Marking	Type	Marking
453	1 to 3	474	Off 1 to 4
454	1 to 4	475	Off 1 to 5
455	1 to 5	476	Off 1 to 6
456	1 to 6	477	Off 1 to 7
457	1 to 7	478	Off 1 to 8
458	1 to 8	479	Off 1 to 9
459	1 to 9	480	Off 1 to 10
460	1 to 10	481	Off 1 to 11
461	1 to 11	482	Off 1 to 12
462	1 to 12	483	Off 1 to 13
463	1 to 17	484	Off 1 to 14
473	Off 1 to 3	486	Off 1 to 16

34 BB 650. Specify Type..... EACH .12

Type 369. 0-100, for volume controls.  
34 B 670.....EACH .21

Type 391. Increase-type, for vol. control.  
34 B 620.....EACH .21

Type 393. 0-10, for rheostats and pots.  
34 B 622.....EACH .21

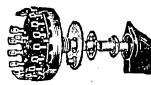
Type 396. 0-10, for wire-wound controls.  
34 B 624.....EACH .21

Type 394. 1-24 positions. 15° opening.  
34 B 623.....EACH .12

## SERIES 3100J AND 3200J SINGLE-SECTION SWITCHES

Compact, enclosed, low-voltage switches. For use in receivers in tone control, band selector and antenna switching circuits and in electronic devices where space is limited. Insulation is high-quality phenolic resin. All have a 3/8" threaded bushing 3/8" long. 1/4" diameter shaft 2" long. Shafts are grooved at popular lengths for easy cutting.

All 1 1/8" base types have adjustable stops. Breakdown rating is 500 volts, AC or DC. Current ratings (resistive load): .125 amps at 300 v. DC; 3 amps at 6 v. DC; .2 amps at 300 v. AC; 5 amps at 6v. AC. Bar knob and nut. 4 oz.

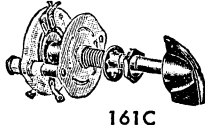
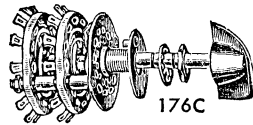


Shorting		Non-Shorting		Poles	Positions	Base Dia.	EACH					
Stock No.	Mfr's Type	Stock No.	Mfr's Type				1-4	5-9	10-24	25-49	50-99	100-499
34 B 300	3115J	34 B 350	3215J	1	5	1 1/4"						
34 B 301	3112J	34 B 351	3212J	1	12	1 1/4"	1.02	.85	.77	.73	.68	.61
34 B 302	3122J	34 B 352	3222J	2	2	1 1/4"						
34 B 303	3123J	34 B 353	3223J	2	3	1 1/4"						
34 B 304	3126J	34 B 354	3226J	2	6	1 1/4"						
34 B 305	3134J	34 B 355	3234J	3	4	1 1/4"	1.05	.88	.79	.75	.70	.63
34 B 306	3142J	34 B 356	3242J	4	2	1 1/4"	1.05	.88	.79	.75	.70	.63
34 B 307	3143J	34 B 357	3243J	4	3	1 1/4"	1.05	.88	.79	.75	.70	.63
34 B 308	3117J	34 B 358	3217J	1	17	1 1/8"	1.56	1.30	1.17	1.11	1.04	.94
34 B 309	3129J	34 B 359	3229J	2	9	1 1/8"	1.56	1.30	1.17	1.11	1.04	.94
34 B 310	3136J	34 B 360	3236J	3	6	1 1/8"	1.65	1.38	1.24	1.18	1.10	.99
34 B 311	3163J	34 B 361	3263J	6	3	1 1/8"	1.65	1.38	1.24	1.18	1.10	.99

## MULTIPLE CERAMIC-SECTION SWITCHES

Multi-contact selector switches designed for minimum RF losses. 30°-index switches feature adjustable stop; "Ham-bands" are capable of continuous rotation. All are non-shorting. Silver-plated contacts. Maximum non-breaking current (resistive load), 10 amps. 1/2" spacing between 2-section types, except 1 1/8"; others have 1" spacing between sec-

tions. 1 1/4" base diameter. With 2" grooved shaft, knob and hardware. \*Additional "off" position. Shpg. wt., 8 oz.



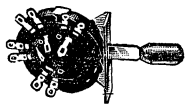
Stock No.	Mfr's Type	Sections	Total Poles	Positions Per Pole	EACH					
					1-4	5-9	10-24	25-49	50-99	100-499
34 B 327	172C	1	1	11						
34 B 328	173C*	1	2	5	2.37	1.98	1.78	1.69	1.58	1.42
34 B 329	174C*	1	3	3						
34 B 331	176C	2	2	11						
34 B 332	177C*	2	4	5	3.39	2.83	2.54	2.42	2.26	2.03
34 B 333	178C*	2	6	3						
34 B 335	180C	3	3	11	4.32	3.60	3.24	3.08	2.88	2.59
34 B 336	181C*	3	6	5						

90° INDEX "HAMBAND" SWITCHES—RATED 1000 VOLTS DC AND 100 WATTS										
Stock No.	Mfr's Type	1	2	4	2.16	1.80	1.62	1.54	1.44	1.30
34 B 337	161C	1	1	4	2.16	1.80	1.62	1.54	1.44	1.30
34 B 338	162C	2	2	4	3.06	2.55	2.30	2.18	2.04	1.84
34 B 339	163C	3	3	4	3.96	3.30	2.97	2.82	2.64	2.38
34 B 340	164C	4	4	4	4.86	4.05	3.65	3.46	3.24	2.92
34 B 341	165C	5	5	4	5.76	4.80	4.32	4.10	3.84	3.46

34 B 688. Type 488 Dial Plate. For 160C series, above. Shpg. wt., 2 oz.....EACH .12

## LEVER-ACTION SWITCHES

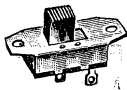
Positive-indexing, lever action switches—with shorting or non-shorting contacts. For convenient control of centralized radio, sound distribution, public address equipment, and intercommunication equipment. For school installations of loud-speaker systems and office communication systems. Indexing in 2, 3 or 4 positions with 20° spacing between positions. Types 6142, 6143, 6242 and 6243 have mounting brackets with round holes spaced for 1 1/2" centers. 5124 and 5224 have elongated mounting holes in the brackets, spaced 2 3/16" to 2 3/8" apart. Phenolic resin insulation. Maximum non-breaking current (resistive load), 5 amps. With knob and hardware. Shpg. wt., 4 oz.



SHORTING											
Stock No.	Mfr's Type	Poles	Positions Per Pole	EACH							
				1-4	5-9	10-24	25-49	50-99	100-499		
34 B 382	5124	2	4	1.38	1.15	1.04	.98	.92	.83		
34 B 365	6142	4	2	1.20	1.00	.90	.86	.80	.72		
34 B 366	6143	4	3	1.20	1.00	.90	.86	.80	.72		
NON-SHORTING											
34 B 383	5224	2	4	1.38	1.15	1.04	.98	.92	.83		
34 B 384	6242	4	2	1.20	1.00	.90	.86	.80	.72		
34 B 368	6243	4	3	1.20	1.00	.90	.86	.80	.72		

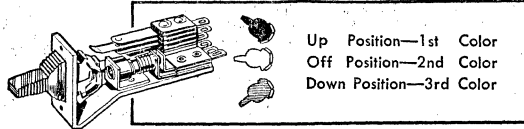
## CONTINENTAL-WIRT ECONOMY SLIDE SWITCHES

Low-cost AC-DC switches for transmitters, receivers, instruments, etc. Have cadmium-plated steel housings, except \*nickel-finished (an Arrow Hart and Hegeman midjet slide switch with black phenolic lever; requires only 7/8x1 1/2" cutout). All have hot-tinned solder lug terminals. Size, 3 5/8x 1 1/2", except Type 81574, 1 3/8x1 1/2"; and Type G126, 1x1 1/2". All are U.L. Listed. Av. shpg. wt., 3 oz.



Stock No.	Mfr's Type	Action	Amps @ 125 V.	EACH			
				1-9	10-99	100-499	500-999
34 B 492	G725	DPST	0.5	.17	.15	.12	.085
36 B 148	G726	DPDT	0.5	.19	.16	.13	.09
34 B 424	G126	DPDT	0.5	.33	.29	.22	.16
35 B 015	G723	SPST	.75	.11	.10	.075	.055
35 B 017	G724	SPDT	.75	.11	.10	.075	.055
33 B 853	81574*	SPST	3.0	.24	.20	.18	.16
35 B 023	G323	SPST	3.0	.12	.11	.08	.06
35 B 025	G324	SPDT	3.0	.12	.11	.08	.06
35 B 920	G325	DPST	3.0	.22	.20	.16	.11
35 B 921	G326	DPDT	3.0	.22	.20	.16	.11
35 B 922	G369	3PDT	3.0	.38	.32	.27	.23
35 B 026	G623	SPST	6.0	.16	.14	.11	.08
35 B 027	G624	SPDT	6.0	.16	.14	.11	.08
35 B 033	G625	DPST	6.0	.22	.20	.17	.13
35 B 084	G626	DPDT	6.0	.23	.21	.18	.14

## SERIES 25000 ILLUMINATED LEVER SWITCHES



Illuminated color-coded lever switches indicate function and/or switch position. Replaces switch and up to three indicator lamps. Saves space, wiring costs. Nickel-silver springs, silver contacts rated 3 amps, 300 watts max. AC non-inductive. 1 $\frac{1}{32}$ " high, 3 $\frac{3}{4}$ " wide, 2 $\frac{1}{4}$ " behind panel. With 6-v. lamp (for other voltages, see lamp listing on following page), and 6 color chips (blue, red, amber, yellow, green, white). #Contact Form: Each section for three-pos. types. \*Mfr. adds suffix L to Type No. to indicate locking type. Non-locking types have spring return. Shpg. wt., 2 oz.

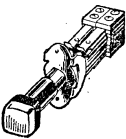
### TWO POSITION TYPES

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 24	25- 49	50- 99	100- 249
25201	36 B 280	36 B 272	SPST	1-A	2.40	2.20	2.00	1.44
25203	36 B 281	36 B 273	SPDT	1-C	2.55	2.34	2.13	1.53
25206	36 B 282	36 B 274	DPDT	2-C	3.00	2.75	2.50	1.80
25209	36 B 283	36 B 275	3PDT	3-C	3.45	3.16	2.88	2.07

### THREE POSITION TYPES# (Center-Off)

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 24	25- 49	50- 99	100- 249
25304	36 B 284	36 B 276	SPDT	1-A	2.70	2.48	2.25	1.62
25306	36 B 285	36 B 277	DPDT	1-C	3.00	2.75	2.50	1.80
25308	36 B 286	36 B 278	DPDT	2-A	3.30	3.03	2.75	1.98
25312	36 B 287	36 B 279	4PDT	2-C	3.60	3.30	3.00	2.16

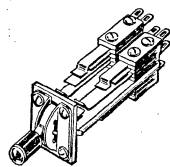
## SERIES 15000 ILLUMINATED PUSH-PUSH SWITCHES



Buttons light when in "In" position. Locking types are push-push; non-locking types momentary contact, spring return. Contacts rated 3 amps, 300 watts max., non-inductive AC load. Mount with two 3-48 screws on 5/8" centers. Black button has white jewel. Require 2 $\frac{1}{8}$ " behind panel. Stack, 2 $\frac{1}{2}$ " min. 1 $\frac{1}{16}$ " max. Less lamp—use Type P-1593-1 for 28 v.; Type P-1593-2 for 6 v. (listed on following page). \*Mfr. adds suffix L to Type No. to indicate locking type. 5 oz.

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 24	25- 49	50- 99	100- 249
15003	36 B 250	36 B 256	SPDT	1-C	5.10	4.68	4.25	3.06
15004	36 B 251	36 B 257	DPST	2-A	5.40	4.95	4.50	3.24
15006	36 B 252	36 B 258	DPDT	2-C	5.55	5.09	4.63	3.33
15008	36 B 253	36 B 259	4PST	4-A	6.00	5.50	5.00	3.60
15009	36 B 254	36 B 260	3PDT	3-C	6.15	5.64	5.13	3.69
15012	36 B 255	36 B 261	4PDT	4-C	6.90	6.33	5.75	4.14

## SERIES 26000 "LEVER-LOCK" SWITCHES



Rugged telephone-type lever switches. "Lever-Lock" feature guards against accidental switching due to unintended operation, shock or vibration. Have index bracket and release plunger to lock lever in any position. Index bracket locks in actuator at each switching position. Turning actuator knob to extreme left permanently locks actuator. Touching release plunger frees actuator. Palladium contacts rated 3 amps, 300 watts max., non-inductive AC load. Mount with four No. 3-48 machine screws. Require 3 $\frac{1}{32}$ " behind panel. Stack, 2 $\frac{5}{32}$ " min., 1 $\frac{1}{8}$ " max. #Contact Form: each section for 3-position types. Av. shpg. wt., 5 oz.

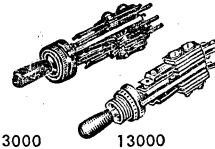
### TWO-POSITION TYPES

Stock No.	Mfr's Type	Action	Contact Form#	EACH			
				1- 24	25- 49	50- 99	100- 249
36 B 262	26206L	DPDT	2-C	5.10	4.68	4.25	3.06
36 B 263	26208L	4PST	4-A	5.46	5.01	4.55	3.28
36 B 264	26212L	4PDT	4-C	6.18	5.67	5.15	3.71
36 B 265	26212DL	4PDT	4-D	6.60	6.05	5.50	3.96

### THREE-POSITION TYPES# (Center-Off)

Stock No.	Mfr's Type	Action	Contact Form#	EACH			
				1- 24	25- 49	50- 99	100- 249
36 B 266	26306L	DPDT	1-C	5.10	4.68	4.25	3.06
36 B 267	26308L	DPDT	2-A	5.46	5.01	4.55	3.28
36 B 268	26312L	4PDT	2-C	6.18	5.67	5.15	3.71
36 B 269	26312DL	4PDT	2-D	6.60	6.05	5.50	3.96
36 B 270	26316L	4PDT	4-A	7.38	6.77	6.15	4.43
36 B 271	26324L	8PDT	4-C	8.10	7.43	6.75	4.86

## "LEV-R" SWITCHES



3000

13000

Require half the space needed for a lever switch. Frame, bushing and shaft of nickel-plated brass. Silver contacts rated at 3 amps, 300 watts max. AC, non-inductive load. Non-locking types have spring return. Series 3000 has 1 $\frac{3}{8}$ " mtg. bushing; Series 13000 has 3/8" mtg. bushing. Both are 5/8" wide; require 2 $\frac{1}{4}$ " behind panel. †Types 3034 and 13034 are operated to close either of two circuits keeping the other open. ‡Type 3035 opens one of two circuits keeping the other closed. #Contact Form: each section for 3-position types. All require a single 1 $\frac{1}{16}$ " mounting hole. \*Mfr. adds suffix L to Type No. to indicate locking type. Shpg. wt., 3 oz.

### SERIES 3000 TWO-POSITION TYPES

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 24	25- 49	50- 99	100- 249
3001	34 B 471	34 B 465	SPST	1-A	1.17	1.07	.975	.702
3002	34 B 455	34 B 454	SPST	1-B	1.17	1.07	.975	.702
3003	34 B 472	34 B 466	SPDT	1-C	1.35	1.24	1.13	.81
3004	34 B 473	34 B 467	DPST	2-A	1.50	1.38	1.25	.90
3005	34 B 457	34 B 456	DPST	2-B	1.50	1.38	1.25	.90
3006	34 B 474	34 B 468	DPDT	2-C	1.65	1.51	1.38	.99
3009	34 B 484	34 B 485	3PDT	3-C	2.04	1.87	1.70	1.22

### SERIES 3000 THREE-POSITION TYPES# (Center-Off)

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 24	25- 49	50- 99	100- 249
3033	34 B 475	34 B 469	SPDT	1-C	1.50	1.38	1.25	.90
3034	34 B 459	34 B 458	DPDT	1-A†	1.56	1.43	1.30	.936
3035	34 B 477	34 B 464	DPDT	1-B†	1.56	1.43	1.30	.936
3036	34 B 479	34 B 478	DPDT	1-C	1.74	1.60	1.45	1.04
3037	34 B 476	34 B 470	DPDT	1-C	1.77	1.62	1.48	1.06

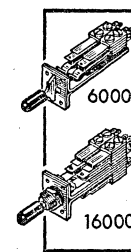
### SERIES 13000 TWO-POSITION TYPES

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 24	25- 49	50- 99	100- 249
13001	35 B 551	35 B 550	SPST	1-A	1.26	1.16	1.05	.756
13002	35 B 553	35 B 552	SPST	1-B	1.26	1.16	1.05	.756
13003	35 B 555	35 B 554	SPDT	1-C	1.44	1.32	1.20	.864
13004	35 B 557	35 B 556	DPST	2-A	1.59	1.46	1.33	.954
13006	35 B 561	35 B 560	DPDT	2-C	1.65	1.51	1.38	.99
13009	35 B 563	35 B 562	3PDT	3-C	2.25	2.06	1.88	1.35
13033	35 B 565	35 B 564	SPDT	1-C	1.59	1.46	1.33	.954

### SERIES 13000 THREE-POSITION TYPES (Center-Off)

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 24	25- 49	50- 99	100- 249
13034	35 B 567	35 B 566	SPDT	1-A†	1.65	1.51	1.38	.99
13036	35 B 571	35 B 570	DPDT	1-C	1.86	1.71	1.55	1.12
13037	35 B 573	35 B 572	DPDT	1-C	1.86	1.71	1.55	1.12

## "TELEVER" SWITCHES



6000

16000

Rugged telephone-type lever switches feature "T-Beam" steel frame construction. Nylon rollers actuate nickel-silver springs, provide smooth switching action. Extra-long springs, punched from special alloy, assure long, dependable spring life. Welded, cross-bar palladium contacts are rated 3 amps, 120 v. AC non-inductive. All have tinned solder-lug terminals. Series 6000 are tapped for 3-48 mtg. screws; have std. telephone mounting centers, 1 $\frac{7}{32}$ "x1 $\frac{13}{16}$ ". Series 16000 types have 1 $\frac{5}{32}$ "-32 threaded mtg. bushing. All have insulated black knob. #Contact Form: each section for 3-pos. types. \*Manufacturer adds suffix L to Type No. to indicate locking type. Non-locking types have spring return. Shpg. wt., 6 oz.

### SERIES 6000 TWO-POSITION TYPES

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 49	50- 99	100- 249	250- 499
6006	34 B 734	34 B 726	DPDT	2-C	3.00	2.75	2.50	1.80
6008	34 B 735	34 B 727	4PST	4-A	3.36	3.08	2.80	2.02
60012	34 B 737	34 B 729	4PDT	4-C	4.08	3.74	3.40	2.45

### SERIES 6000 THREE-POSITION TYPES# (Center-Off)

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 49	50- 99	100- 249	250- 499
6036	34 B 742	34 B 738	DPDT	1-C	3.00	2.75	2.50	1.80
60312	34 B 744	34 B 740	4PDT	2-C	4.08	3.74	3.40	2.45
60324	34 B 745	34 B 741	8PDT	4-C	6.00	5.50	5.00	3.60
530	34 B 486		Escutcheon Plate		.33	.28	.24	.23

### SERIES 16000 TWO-POSITION TYPES

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 49	50- 99	100- 249	250- 499
16006	34 B 854	34 B 853	DPDT	2-C	3.00	2.75	2.50	1.80
16008	34 B 858	34 B 857	4PST	4-A	3.36	3.08	2.80	2.02
160012	35 B 462	35 B 460	4PDT	4-C	4.08	3.74	3.40	2.45
160024	34 B 860	34 B 859	8PDT	8-C	6.00	5.50	5.00	3.60

### SERIES 16000 THREE-POSITION TYPES# (Center-Off)

Mfr's Type *	Stock No.		Action	Contact Form#	EACH			
	Locking Type	Non-Lock- ing Type			1- 49	50- 99	100- 249	250- 499
16038	35 B 463	35 B 461	DPDT	2-A	3.36	3.08	2.80	2.02
160312	34 B 866	34 B 865	4PDT	2-C	4.08	3.74	3.40	2.45
160316	34 B 868	34 B 867	4PDT	4-A	5.28	4.84	4.40	3.17
160324	34 B 881	34 B 869	8PDT	4-C	6.00	5.50	5.00	3.60

# Convenient Push Switches from



## "LITTEL" SWITCHES

Designed for limited-space applications. Have one-piece button and shaft. Integral spring contacts are of nickel-silver, insulated from mounting bushing with high-grade phenolic. Button color: \*black, †red. Mount in single hole with 3/8" threaded brass bushing. Recommended for low-level currents only. Shpg. wt., 3 oz.



Stock No.	Mfr's Type	Action	Con-tacts	EACH			
				1-24	25-49	50-99	100-249
34 B 944	101†	SPST	1-A	.54	.495	.45	.324
34 B 945	102†	SPST	1-B	.54	.495	.45	.324
34 B 946	103†	SPDT	1-C	.60	.55	.50	.36
34 B 947	201*	SPST	1-A	.54	.495	.45	.324
34 B 948	202*	SPST	1-B	.54	.495	.45	.324
34 B 949	203*	SPDT	1-C	.60	.55	.50	.36

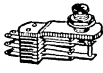
## NEW ILLUMINATED "LITTEL-LITE" SWITCHES

Same as above, but illuminated push-button. Clear plastic button and shaft illuminated by a single 6 or 28 v. lamp (less lamp, below right), 3 amp, at 300 v. max. non-inductive load. With four color chips (red, amber, green, yellow). Shpg. wt., 4 oz.

34 B 607	211S	SPST	1-A	1.11	1.02	.925	.666
34 B 608	212S	SPST	1-B	1.11	1.02	.925	.666
34 B 609	213S	SPDT	1-C	1.26	1.16	1.05	.756

## NON-LOCKING "FF" PUSH-BUTTON SWITCHES

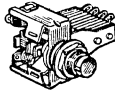
Rugged flat frame provides you with a simple, direct-acting push-button switch. Fine silver contacts rated 3 amps, 300 watts max. AC, non-inductive. Insulated springs are form-free at flex point to assure long life. One-piece black button and shaft. 3/8" dia. threaded mounting shank is 3/8" long. With locknut and washer. Shpg. wt., 3 oz.



Stock No.	Mfr's Type	Action	Con-tacts	EACH			
				1-24	25-49	50-99	100-249
34 B 994	1001	SPST n.o.	1-A	.63	.577	.525	.378
34 B 995	1002	SPST n.c.	1-B	.63	.577	.525	.378
34 B 996	1003	SPDT	1-C	.72	.66	.60	.432
34 B 997	1004	DPST n.o.	2-A	.78	.715	.65	.468
34 B 998	1005	DPST n.c.	2-B	.78	.715	.65	.468
34 B 999	1006	DPDT	2-C	.93	.852	.775	.558
34 B 969	1009	3PDT	3-C	1.26	1.16	1.05	.756

## NEW ILLUMINATED "NF-LITE" SWITCHES

Push-button switches indicate switching and circuit functions. Lighting circuit is independent of switching circuit. Contacts rated 3 amps, 300 watts max., AC non-inductive. Series 4100 uses single 6 v. or 28 v. miniature lamp; comes with kit of four color chips (red, amber, green, yellow). Series 4200 uses two lamps for greater illumination or color coding of two circuit conditions; comes with two color chip kits. All need 1 1/16" min., 1 1/8" max. behind panel; mount in panels to 1/4" thick. Less lamps, below right. Shpg. wt., 4 oz.

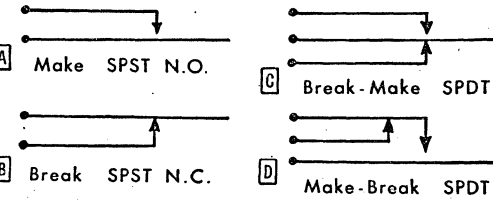


Stock No.	Mfr's Type	Action	Con-tacts	EACH			
				1-24	25-49	50-99	100-249
34 B 610	4101	SPST	1-A	1.17	1.07	.975	.702
34 B 611	4103	SPDT	1-C	1.26	1.16	1.05	.756
34 B 612	4104	DPST	2-A	1.32	1.21	1.10	.792
34 B 613	4106	DPDT	2-C	1.47	1.35	1.23	.882
34 B 614	4109	3PDT	3-C	1.80	1.65	1.50	1.08

Stock No.	Mfr's Type	Action	Con-tacts	EACH			
				1-24	25-49	50-99	100-249
34 B 615	4201	SPST	1-A	1.71	1.57	1.43	1.03
34 B 616	4203	SPDT	1-C	1.80	1.65	1.50	1.08
34 B 617	4204	DPST	2-A	1.86	1.71	1.55	1.12
34 B 618	4206	DPDT	2-C	2.01	1.84	1.68	1.21
34 B 619	4209	3PDT	3-C	2.34	2.15	1.95	1.40

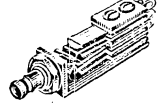
## BASIC CONTACT FORMS

All switches are combinations of basic forms. For example, 2-A is a DPST switch in a 2-pos. type and a SPDT switch (center-off) in a 3-pos. type, each pole having Form A action. N.O.: normally open; N.C.: normally closed.



## MINIATURE "TF" BUTTON SWITCHES

Simple, direct acting push button switches. Highly reliable, occupy minimum space. Cadmium-plated steel frame, single hole mtg., phenolic insulation, nickel silver springs, integral contacts. Recommended for low-level circuits where contact resistance is unimportant. Mount in 1 3/8" hole, 1 3/8" behind panel. Stack height min. (Types 974 and 974L). 9/16"; max. (Type 976 and 976L), 1 1/2". All 3/8" wide. Shpg. wt., 4 oz.



Stock No.	Mfr's Type	Action	Con-tacts	EACH			
				1-24	25-49	50-99	100-249
35 B 990	974	DPST	2-A	.78	.715	.65	.478
35 B 991	975	DPST	2-B	.78	.715	.65	.478
35 B 992	976	DPDT	2-C	.78	.715	.65	.478

## LOCKING TYPES

35 B 993	974L	DPST	2-A	.93	.852	.775	.558
35 B 994	975L	DPST	2-B	.93	.852	.775	.558
35 B 995	976L	DPDT	2-C	.93	.852	.775	.558

## "TINY SWITCHES"

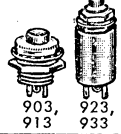
Subminiature push-button switches for limited space applications. For use in microphones, radio and automotive test instruments. Nickel-plated brass frame and bushing. With mounting hdw. 1/4" threaded shank; 1 3/4" long. For low-level currents only. Require 3/16" behind panel. Shpg. wt., 3 oz.



Stock No.	Mfr's Type	Action	Con-tact Form	EACH					
				1-24	25-49	50-99	100-249		
34 B 831	951	34 B 834	961	SPST	1-A	.54	.495	.45	.324
34 B 832	952	34 B 835	962	SPST	1-B	.54	.495	.45	.324
34 B 833	953	34 B 836	963	SPDT	1-C	.60	.55	.50	.36

## "BUTTON SWITCHES"

Small, momentary-action push-button switches. Enclosed in metal housing; black or red plastic button. 903 and 913 are 1/2" long; fit 1 3/32" hole. 923 and 933 are 7/8" long; fit 1/4" hole. Mounting: 903, 913, are for behind-panel mounting; Types 923 and 933 mount from front of panel. Rated at 250 ma, AC (30 watts max.), non-inductive. Shpg. wt., 2 oz.



Stock No.	Mfr's Type	Action	Con-tact Form	EACH					
				1-24	25-49	50-99	100-249		
35 B 414	903	35 B 418	913	SPDT	1-C	.90	.825	.75	.54
35 B 416	923	35 B 420	933	SPDT	1-C	1.05	.962	.875	.63

## CORD PUSH-BUTTON SWITCH

Precision switch for remote control of recorders, lights, etc. Hole at one end for 2-conductor line; other end has non-locking, spring return push-button switch. Rated 250 ma., non-inductive load. Nickel-plated sleeve 1 1/8" dia. 2 3/8" long. Shpg. wt., 4 oz.



Stock No.	Mfr's Type	Color	Con-tacts	EACH			
				1-24	25-49	50-99	100-249
35 B 422	E903	Red	1-C	1.50	1.38	1.25	.90
35 B 424	E913	Black	1-C	1.50	1.38	1.25	.90

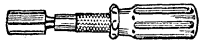
## LAMPS FOR ILLUMINATED SWITCHES

For "NF-Lites", "Littel-Lites" Illuminated Lever Switches, and Illuminated Push-Push Switches, "NF-Lite", "Littel-Lite", and Series 25000 Push Switches use Type P-1217 6-v. or P-1218 28-v. lamps. Series 15000 Switches use P-1593-2 6-v. or P-1593-1 28-v. lamps. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Volts	EACH			
			1-24	25-49	50-99	100-249
34 B 601	P-1217	6	.72	.66	.60	.432
34 B 602	P-1218	28	1.20	1.10	1.00	.72
34 B 603	P-1593-1	28	.90	.80	.686	.60
34 B 604	P-1593-2	6	.72	.633	.543	.475

## SWITCH WRENCHES

Special wrenches designed to fit knurled or milled-edge locknuts furnished with toggle, lever and button switches and jacks. Adjustable sleeve on shaft holds nuts tightly. Knurled handle for sure, firm grip. Shpg. wt., 10 oz.

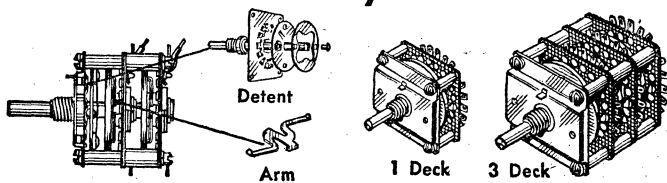


Stock No.	Mfr's Type	Nut Size	EACH			
			1-24	25-49	50-99	100-249
34 B 605	A-1070	1 1/8"-32	3.99	3.66	3.33	2.36
34 B 606	A-1071	1/4"-32	3.99	3.66	3.33	2.36

# Shallcross NEW! Precision Rotary Switches

## NEW 1 3/4" MINIATURE SWITCHES

- ✓ Meet MIL-S-3786A Style SR14 Requirements —More Stringent than General Specs
- ✓ Indexing Mechanism with Dual Balanced Captive Balls Riding Hill and Dale Detent Assures Long Life and Positive Indexing
- ✓ New Arm Design Provides Consistent Contact Pressure and Self-Cleaning Action
- ✓ New Stop Pin Design Extends Stop Strength to 50 Inch-Pounds
- ✓ Glass Fiber Impregnated Epoxy Laminate Decks Insure High Insulation Resistance
- ✓ Solid Silver Alloys for All Current Carrying Parts Promote Very Low Thermal EMF
- ✓ Flared Terminal Lugs Integral with Switch Contacts Eliminate Mechanical Joints
- ✓ Most Compact Switch in Its Class
- ✓ Adjustable Stops Assure Flexible Operation



## 1 3/4" SQUARE SHORTING SWITCHES

Stock No.	Mfr's Type	Poles /Deck	Max. Pos.	Indexing Degrees	Decks	EACH		
						1-4	5-24	25-49
33 B 324	2E00A24-1	1	24	15	1	9.75	6.82	5.85
33 B 325	2E06A11-1	2	11	15	1	10.50	7.35	6.30
33 B 326	2E12A5-1	3	5	15	1	11.25	7.87	6.75
33 B 327	2E18A5-1	4	5	15	1	12.00	8.40	7.20
33 B 328	2C00A32-1	1	32	11 1/4	1	9.75	6.82	5.85
33 B 329	2C06A15-1	2	15	11 1/4	1	10.50	7.35	6.30
33 B 330	2C12A7-1	3	7	11 1/4	1	11.25	7.87	6.75
33 B 331	2C18A7-1	4	7	11 1/4	1	12.00	8.40	7.20
33 B 332	2E00A24-2	1	24	15	2	14.25	9.97	8.55
33 B 333	2E06A11-2	2	11	15	2	15.50	10.85	9.30
33 B 334	2E12A5-2	3	5	15	2	16.75	11.72	10.05
33 B 335	2E18A5-2	4	5	15	2	18.00	12.60	10.80
33 B 336	2C00A32-2	1	32	11 1/4	2	14.25	9.97	8.55
33 B 337	2C06A15-2	2	15	11 1/4	2	15.50	10.85	9.30
33 B 338	2C12A7-2	3	7	11 1/4	2	16.75	11.72	10.05
33 B 339	2C18A7-2	4	7	11 1/4	2	18.00	12.60	10.80
33 B 340	2E00A24-3	1	24	15	3	18.75	13.12	11.25
33 B 341	2E06A11-3	2	11	15	3	20.50	14.35	12.30
33 B 342	2E12A5-3	3	5	15	3	22.25	15.57	13.25
33 B 343	2E18A5-3	4	5	15	3	24.00	16.80	14.40
33 B 344	2C00A32-3	1	32	11 1/4	3	18.75	13.12	11.25
33 B 345	2C06A15-3	2	15	11 1/4	3	20.50	14.35	12.30
33 B 346	2C12A7-3	3	7	11 1/4	3	22.25	15.57	13.25
33 B 347	2C18A7-3	4	7	11 1/4	3	24.00	16.80	14.40

The Shallcross 1 3/4" miniature switch series is an instrument-quality rotary switch group that can be specified for the most critical military (MIL-S-3786A SR14) and commercial switching applications. Exceptional electrical and mechanical performance standards (see below) are assured by advanced design concepts, thorough field testing and 100% quality control inspection. Av. shpg. wt., 4 oz.

**ELECTRICAL SPECIFICATIONS:** 10,000 Cycle Max. Resistive Loads (breaking), 125 v., 2 amps @ 60 cps; 200 VDC @ .25 amps; 27 VDC @ 2 amps . . . Max. Inductive Load (75% power factor, breaking), 125 v., 1 amp @ 60 cyp . . . Voltage Breakdown (25°C, 50% R.H. sea level, 60 cps), 1500 v. . . Insulation Resistance, more than 10<sup>10</sup> ohms.

**MECHANICAL SPECIFICATIONS:** Mechanical Life (no load), 50,000 cycles . . . Indexing Torque, 25-120 inch-ounces (1-15 poles) . . . Wiper Arms, dual leaf, spring suspension with canted blades . . . Stops, adjustable . . . Shaft, completely isolated.

**DIMENSIONS:** Deck, 1 3/4" square . . . Max. Diameter Across Terminals, 2.275" . . . Max. Back Panel Depth, One deck, 1.038"; 2 decks, 1.611"; 3 decks, 2.184".

**MATERIALS:** Wiper Arms, solid spring tempered silver alloy . . . Contacts, Collector Rings, Segments, Terminals, solid silver alloy . . . Shaft, Mounting Plate, Stops, Bushing and Mtg. Hardware, passivated 18-8 stainless steel . . . Rotor, diallyl phthalate (glass reinforced), per MIL-19833 Type GDI-30 . . . Rotor Bearing, nylon, MIL-P-17091B . . . Stator, glass fibre cloth epoxy laminate MIL-P-18177B, Grade GEE.

**ENVIRONMENTAL SPECIFICATIONS:** Temp. Range, -65° to +125°C . . . Vibration, 10-2000 cps per MIL-S-3786A, Grade 3 . . . Shock, MIL-S-3786A, Type H . . . Salt Spray, 48 hours, MIL-S-3786A . . . Humidity, MIL-S-3786A.

**MOUNTING:** Single hole; 3/8"-32 bushing, 5/16" long, and tang, 3/8"-32 hex nut and lockwasher supplied.

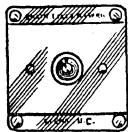
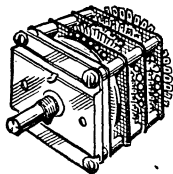
## 1 3/4" SQUARE NON-SHORTING SWITCHES

Stock No.	Mfr's Type	Poles /Deck	Max. Pos.	Indexing Degrees	Decks	EACH		
						1-4	5-24	25-49
33 B 300	2J50A12-1	1	12	30	1	9.75	6.82	5.85
33 B 301	2J56A6-1	2	6	30	1	10.50	7.35	6.30
33 B 302	2J62A3-1	3	3	30	1	11.25	7.87	6.75
33 B 303	2J68A3-1	4	3	30	1	12.00	8.40	7.20
33 B 304	2H50A16-1	1	16	22 1/2	1	9.75	6.82	5.85
33 B 305	2H56A8-1	2	8	22 1/2	1	10.50	7.35	6.30
33 B 306	2H62A4-1	3	4	22 1/2	1	11.25	7.87	6.75
33 B 307	2H68A4-1	4	4	22 1/2	1	12.00	8.40	7.20
33 B 308	2J50A12-2	1	12	30	2	14.25	9.97	8.55
33 B 309	2J56A6-2	2	6	30	2	15.50	10.85	9.30
33 B 310	2J62A3-2	3	3	30	2	16.75	11.72	10.05
33 B 311	2J68A3-2	4	3	30	2	18.00	12.60	10.80
33 B 312	2H50A16-2	1	16	22 1/2	2	14.25	9.97	8.55
33 B 313	2H56A8-2	2	8	22 1/2	2	15.50	10.85	9.30
33 B 314	2H62A4-2	3	4	22 1/2	2	16.75	11.72	10.05
33 B 315	2H68A4-2	4	4	22 1/2	2	18.00	12.60	10.80
33 B 316	2J50A12-3	1	12	30	3	18.75	13.12	11.25
33 B 317	2J56A6-3	2	6	30	3	20.50	14.35	12.30
33 B 318	2J62A3-3	3	3	30	3	22.25	15.57	13.25
33 B 319	2J68A3-3	4	3	30	3	24.00	16.80	14.40
33 B 320	2H40A16-3	1	16	22 1/2	3	18.75	13.12	11.25
33 B 321	2H56A8-3	2	8	22 1/2	3	20.50	14.35	12.30
33 B 322	2H62A4-3	3	4	22 1/2	3	22.25	15.57	13.25
33 B 323	2H68A4-3	4	4	22 1/2	3	24.00	16.80	14.40

## NEW 2 1/2" PRECISION SWITCHES

Enlarged versions of the 1 3/4" miniature series shown above. 2 1/2" square decks increase the total positions available per pole (1 pole per deck) to 48 positions (shorting) or 24 positions (non-shorting). Also assure adequate contact spacing, contact size and switch arm width—afford increased reliability, accuracy, voltage breakdown ratings

and insulation resistance. Shorting types have 7 1/2 degree indexing; non-shorting types, 15 degree indexing. Dimensions: deck, 2 1/2" square; maximum back of panel depth, single deck type, 1.5"; 2 deck, 2.125"; 3 deck, 2.750". All mount in a single hole with 3/8"-32 bushing, 5/16" long. Av. shpg. wt., 5 oz.



### SHORTING TYPES

Stock No.	Mfr's Type	Poles /Deck	Max. Pos.	Decks	EACH		
					1-4	5-24	24-49
33 B 348	4A00A48-1	1	48	1	16.00	11.20	9.60
33 B 349	4A06A23-1	2	23	1	17.00	11.90	10.20
33 B 350	4A12A11-1	3	11	1	18.00	12.60	10.80
33 B 351	4A18A11-1	4	11	1	19.00	13.30	11.40
33 B 352	4A00A48-2	1	48	2	27.00	19.60	16.80
33 B 353	4A06A23-2	2	23	2	29.00	20.30	17.40
33 B 354	4A12A11-2	3	11	2	32.00	22.40	19.20
33 B 355	4A18A11-2	4	11	2	35.00	24.50	21.00
33 B 356	4A00A48-3	1	48	3	40.00	28.00	24.00
33 B 357	4A06A23-3	2	23	3	42.00	29.40	25.20
33 B 358	4A12A11-3	3	11	3	45.00	31.50	27.00
33 B 359	4A18A11-3	4	11	3	47.00	32.90	28.20

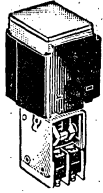
### NON-SHORTING TYPES

Stock No.	Mfr's Type	Poles /Deck	Max. Pos.	Decks	EACH		
					1-4	5-24	25-49
33 B 360	4E50A24-1	1	24	1	16.00	11.20	9.60
33 B 361	4E56A12-1	2	12	1	17.00	11.90	10.20
33 B 362	4E62A6-1	3	6	1	18.00	12.60	10.80
33 B 363	4E68A6-1	4	6	1	19.00	13.30	11.40
33 B 364	4E50A24-2	1	24	2	27.00	19.60	16.80
33 B 365	4E56A12-2	2	12	2	29.00	20.30	17.40
33 B 366	4E62A6-2	3	6	2	32.00	22.40	19.20
33 B 367	4E68A6-2	4	6	2	35.00	24.50	21.00
33 B 368	4E50A24-3	1	24	3	40.00	28.00	24.00
33 B 369	4E56A12-3	2	12	3	42.00	29.40	25.20
33 B 370	4E62A6-3	3	6	3	45.00	31.50	27.00
33 B 371	4E68A6-3	4	6	3	47.00	32.90	28.20

# Controls Co. of America and Ohmite Switches

## CONTROLS COMPANY OF AMERICA—CONTROL SWITCH DIVISION

### NEW! "TWINLITE" LIGHTED PUSH-BUTTON PANEL SWITCHES



Versatile units that combine the functions of pilot light, name plate and push-button switch all in one compact assembly. Rated 5 amps @ 125 VAC; have DPDT snap-actions, double turret terminals. Compact shape permits stacking many units in a tight row, sharing common barriers. Barriers prevent dual actuation. Plastic buttons (solid or 2-piece with slip-in for legend) are evenly lighted by two 6 or 28 volt lamps (supplied) in each unit. Barriers and buttons must be ordered separately (below); order 2 barriers for each unit; where units are to be mounted in rows, order one more barrier than number of units. Size 2 7/16 x 1 1/2 x .3 oz.

Stock No.	Mfr's Type	Action	Lamp		EACH		
			Volts	Circuit	1-24	25-99	100-499
33 B 700	C6-50	Pilot light only (no switch)	6	Parallel	4.75	4.28	3.90
33 B 701	C6-52	Positive momentary	6	Parallel	9.10	8.19	7.46
33 B 702	C6-53	Push-on, push-off	6	Parallel	11.20	10.08	9.18
33 B 703	C6-54	Pilot light only (no switch)	28	Parallel	5.55	5.00	4.55
33 B 704	C6-56	Positive momentary	28	Parallel	9.90	8.91	8.12
33 B 705	C6-57	Push-on, push-off	28	Parallel	12.00	10.80	9.24
33 B 706	C6-58	Pilot light only (no switch)	6	2-ckt common grnd	4.75	4.28	3.90
33 B 707	C6-60	Positive momentary	6	2-ckt common grnd	9.10	8.19	7.46
33 B 708	C6-61	Push-on, push-off	6	2-ckt common grnd	11.20	10.08	9.18
33 B 709	C6-62	Pilot light only (no switch)	28	2-ckt common grnd	5.55	5.00	4.55
33 B 710	C6-64	Positive momentary	28	2-ckt common grnd	9.90	8.91	8.12
33 B 711	C6-65	Push-on, push-off	28	2-ckt common grnd	12.00	10.80	9.84

#### REPLACEMENT LAMPS

33 B 712	SI44-2	6-volt replacement lamp for above units. Pkg. of 2	.60	.54	.49
33 B 713	SI45-2	28-volt replacement lamp for above units. Pkg. of 2	1.00	.90	.82

#### BUTTONS AND MOUNTING BARRIERS FOR UNITS ABOVE—MUST BE ORDERED SEPARATELY

Stock No.	Mfr's Type	Button		EACH		
		Color	Type	1-24	25-99	100-499
33 B 714	1117-SA19-11B	Blue	2-Piece	.50	.45	.41
33 B 715	1117-SA19-11G	Green	2-Piece	.50	.45	.41
33 B 716	1117-SA19-11R	Red	2-Piece	.50	.45	.41
33 B 717	1117-SA19-11W	White	2-Piece	.50	.45	.41
33 B 718	1117-SA19-11Y	Yellow	2-Piece	.50	.45	.41
33 B 719	1117-SA19-4	Mounting barrier		.75	.68	.62

Stock No.	Mfr's Type	Button		EACH		
		Color	Type	1-24	25-99	100-499
33 B 720	1117-229-BB	Blue	Solid	.50	.45	.41
33 B 721	1117-229-GG	Green	Solid			
33 B 722	1117-229-RR	Red	Solid			
33 B 723	1117-229-WW	White	Solid			
33 B 724	1117-229-YY	Yellow	Solid			

#### TOGGLE SWITCHES

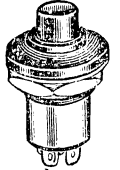
Compact, lightweight snap-action switches. Feature dependable, positive-acting beryllium-copper mechanisms that cannot be jarred from contacts. Permit higher ratings than normally found in switches of this size. All have one-piece, firmly anchored contacts and terminals of copper or brass with a heavy laminated overlay of silver. Types T1002 and T1003 are 3/4" dia. by 2 3/8" long with screw terminals; T2104 is 1 1/2" dia. by 1 3/8" long with solder lug terminals; T3103 is 1 1/2" dia. by 1 3/8" long with solder lug terminals. \*Meet MIL-S-6745; †JAN-S-23. 2 oz.



Stock No.	Mfr's Type	Description	EACH					
			1-9	10-19	20-49	50-99	100-199	200-499
33 B 725	T1002*	On-Off, SPST 40 amp @ 28 VDC	2.85	2.57	2.28	2.00	1.85	1.80
33 B 726	T1003*	Hvy. duty, SPDT 20 amp @ 28 VDC	3.22	2.90	2.58	2.25	2.09	2.03
33 B 801	T2104†	Miniature 2-ckt 10 amp @ 28 VDC	3.94	3.55	3.15	2.76	2.56	2.48
33 B 802	T3103	Submin. SPDT 5 amp @ 28 VDC	4.06	3.65	3.25	2.84	2.64	2.56

#### PUSH-BUTTON SWITCHES

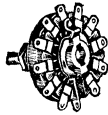
Compact, momentary action types. Series W meet military aircraft specs and can be subjected to over 50G shock and 20G vibration at 5-2000 cps. Rated 10 amp @ 28 VDC, except \$8 amp @ 120 VAC. All have black buttons, except \*red. All have flanges, except †. Series W types meet MIL-S-6743, Drawing MS-25089 specifications; all others types are U.L. Listed. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Action	EACH					
			1-9	10-19	20-49	50-99	100-199	200-499
36 B 237	W101UB6	SPST (NO)	4.83	4.35	3.86	3.38	3.14	3.04
36 B 238	W101PAB6	SPST (NO)	4.83	4.35	3.86	3.38	3.14	3.04
33 B 807	W103PB6	SP-2	5.43	4.89	4.34	3.80	3.53	3.42
33 B 727	W103UB6	SP-2	5.43	4.89	4.34	3.80	3.53	3.42
33 B 728	W104PABS6	3-term (NO)	5.43	4.89	4.34	3.80	3.53	3.42
33 B 729	W104PB6	3-term (NO)	5.43	4.89	4.34	3.80	3.53	3.42
33 B 730	W104PBG6*	3-term (NO)	5.43	4.89	4.34	3.80	3.53	3.42
33 B 731	W105PB6	3-term (NC)	5.43	4.89	4.34	3.80	3.53	3.42
33 B 732	W105PBG6*	3-term (NC)	5.43	4.89	4.34	3.80	3.53	3.42
33 B 812	B2001†	SPST (NO)	2.09	1.88	1.67	1.46	1.36	1.32
33 B 813	B2002†	SPST (NC)	2.09	1.88	1.67	1.46	1.36	1.32
33 B 808	C100P3	SPST (NO)	3.76	3.38	3.01	2.63	2.44	2.37
33 B 733	C200P3	SP-2	4.36	3.92	3.49	3.05	2.83	2.75
33 B 810	C1006†	SPST (NO)	3.01	2.71	2.41	2.11	1.96	1.90
33 B 734	C2006†	SP-2	3.61	3.25	2.89	2.53	2.35	2.27

#### OHMITE POWER TAP SWITCHES

Ceramic insulated, rotary types. Non-shorting, single pole. 30° indexing. Either single units or \*two-in-tandem. Model 111 rated 10 amperes @ 150 VAC; diameter, 1 3/4". 212 rated 15 amp @ 150 VAC; dia., 2 1/4". 312 rated 25 amp @ 300 VAC, 150 v. between taps; dia., 3 3/8". Single switches require 1 1/2 to 2 1/4" behind panel. Have 1/4" flanged shaft. U.L. Listed. Av. shpg. wt., 10 oz.



MODEL 111				MODEL 112			
Stock No.	Taps	EACH		Stock No.	Taps	EACH	
		1-4	5-9			1-4	5-9
34 B 226	2	3.70	3.15	34 B 238	3	7.42	6.30
34 B 227	3	3.82	3.25	34 B 323	3*	18.14	15.57
34 B 228	3*	10.94	9.47	34 B 239	4	7.60	6.45
34 B 228	4	3.94	3.35	34 B 322	4*	18.50	15.87
34 B 229	5	4.06	3.45	34 B 240	5	7.78	6.60
34 B 220	5*	11.42	9.87	34 B 241	6	7.96	6.75
34 B 230	6	4.18	3.55	34 B 321	6*	19.22	16.47
34 B 231	7	4.30	3.65	34 B 242	7	8.14	6.90
34 B 232	8	4.42	3.75	34 B 243	8	8.32	7.05
34 B 233	9	4.54	3.85	34 B 244	9	8.50	7.20
34 B 234	10	4.66	3.95	34 B 245	10	8.68	7.35
34 B 235	11	4.78	4.05	34 B 247	12	9.04	7.65
34 B 293	11*	12.86	11.07				

#### MODEL 312

34 B 279	3	10.00	8.50	34 B 273	9	11.08	9.40
34 B 278	4	10.18	8.65	34 B 272	10	11.26	9.55
34 B 277	5	10.36	8.80	34 B 271	11	11.44	9.70
34 B 276	6	10.54	8.95	34 B 270	12	11.62	9.85

#### NEW E4 SUBMINIATURE SNAP ACTION SWITCHES

Ideal for compact equipment. Can be stacked and gang-mounted in minimum space. Have \*SPDT or †DPDT silver contacts. Rated 2.5 amp @ 125/250 VAC for 150,000 operations. Black phenolic cases; solder terminals. Dielectric strength, 1000 v. rms. Require light operating force—only 150 grams. max. Meet MIL spec MS. 25085. Size, 25/64x25/32x1/4". Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Actuator	EACH					
			1-9	10-19	20-49	50-99	100-199	200-499
33 B 735	E4-103*	Basic switch	1.50	1.35	1.20	1.05	.98	.95
33 B 736	A3-42-103*	Maintained toggle	3.49	3.14	2.79	2.44	2.27	2.20
33 B 737	A4-86-103†	Momentary push-button	6.10	5.49	4.88	4.27	3.97	3.84
33 B 738	A4-87-103†	Push-push button	7.40	6.66	5.92	5.18	4.81	4.66





# Industrial Timer Corp. and Acro Switches

## INDUSTRIAL TIMER TIME-DELAY CONTROLS

### SERIES H, CH, SF AND CSF TIME-DELAY TIMERS

Automatic reset units. For use where fixed or adjustable delay is needed between closing one circuit and opening or closing another. SPDT switch rated 10 amps at 115 v. AC, with non-inductive load. Clutch is integral part of motor in units up to 1 minute; others

have external clutch. Series H and CH for front-panel mounting; SF and CSF for back-panel mtg.; all have 4-screw mtg. holes. Overall size: H and CH,  $3\frac{7}{16} \times 3\frac{1}{2} \times 1\frac{1}{2}$ "; SF and CSF,  $2\frac{3}{4} \times 3\frac{1}{16} \times 2\frac{5}{8}$ ". For 110-120 v., 60 cycle AC. U.L. Listed. Wt.,  $1\frac{1}{2}$  lbs.

Stock No.	Mfr's Type	Max. Time Cycle	EACH										
			1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499			
78 B 432	H-6S	6 sec.											
78 B 485	H-15S	15 sec.											
78 B 426	H-30S	30 sec.											
78 B 486	CH-1M	1 min.	26.50	25.18	23.85	22.53	21.20	19.87	18.55	17.23			
78 B 487	CH-3M	3 min.											
78 B 488	CH-5M	5 min.											
78 B 431	SF-6S	6 sec.											
78 B 481	SF-15S	15 sec.											
78 B 430	SF-30S	30 sec.											
78 B 482	CSF-1M	1 min.	23.00	21.85	20.70	19.55	18.40	17.25	16.10	14.95			
78 B 483	CSF-3M	3 min.											
78 B 484	CSF-5M	5 min.											

### SERIES TDAF TIME-DELAY TIMERS

For circuit controls where an adjustable or fixed time-delay is required between the closing or opening of one circuit and the pre-determined closing or opening of another circuit. Automatic reset—as soon as clutch is disengaged, an internal spring returns the

actuating arm to its reset position in a fraction of a second. Designed for panel mounting. Have 60 dial divisions. Rugged snap-action switches (SPDT) rated at 10 amps.  $4\frac{1}{2} \times 3\frac{3}{8} \times 3\frac{3}{8}$ ". For 110-120 volts, 60 cycle AC. Shpg. wt., 4 lbs.

Stock No.	TDAF Type	Max. Time Cycle	Stock No.	TDAF Type	Max. Time Cycle	EACH								
						1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499	
78 B 437	1S	1 sec.	78 B 469	3M	3 min.									
78 B 456	3S	3 sec.	78 B 473	5M	5 min.									
78 B 462	6S	6 sec.	78 B 428	15M	15 min.									
78 B 463	15S	15 sec.	78 B 476	30M	30 min.	43.00	40.85	38.70	36.55	34.40	32.25	30.10	27.95	
78 B 464	30S	30 sec.	78 B 429	60M	1 hr.									
78 B 427	60S	1 hr.	78 B 492	3H	3 hrs.									

### SERIES TD AND CTD TIME-DELAY TIMERS

Synchronous-motor-driven. Clutch engages and drives gear train when motor is energized—when de-energized, it returns to reset position. All have 60 dial divisions. For front-panel mounting in 3" diameter

hole. Bakelite case has terminals at rear. SPDT contacts rated at 10 amps. Flange dia.,  $3\frac{3}{16}$ ". Depth behind panel: TD,  $2\frac{3}{8}$ "; CTD,  $4\frac{1}{2}$ ". For 110-120 v., 60 cycle AC. U.L. Listed. Shpg. wt.,  $1\frac{1}{2}$  lbs.

Stock No.	Mfr's Type	Max. Time Cycle	Stock No.	Mfr's Type	Max. Time Cycle	EACH							
						1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 433	TD-6S	6 sec.											
78 B 493	TD-15S	15 sec.											
78 B 494	TD-30S	30 sec.											
78 B 435	CTD-1M	1 min.	30.50	28.98	27.45	25.93	24.40	22.88	21.35	19.83			
78 B 436	CTD-3M	3 min.											
78 B 495	CTD-5M	5 min.											

### SERIES 90 TIME-DELAY TIMERS

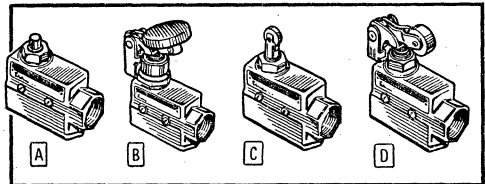
Rugged, compact timer for use in applications where the time-delay cycle is infrequently changed, or permanently fixed. Excellent for use in photocopy equipment, induction heating units, transmitters, etc. Changes in time delay cycle are made by loosening

set screw and offsetting one cam arm in relation to the other. Totally enclosed, snap-action SPDT switch contacts are rated at 10 amps at 115-230 volts AC. Overall size (HWD):  $2\frac{5}{8} \times 2\frac{1}{4} \times 2\frac{1}{4}$ ". For 115 v., 60 cycle AC. U.L. Listed. Shpg. wt., 1 lb.

Stock No.	Mfr's Type	Settings		1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
		Min.	Max.								
78 B 416	90-6S	$\frac{1}{2}$ sec.	6 sec.								
78 B 417	90-15S	$1\frac{1}{2}$ sec.	15 sec.								
78 B 418	90-30S	3 sec.	30 sec.	17.00	16.15	15.30	14.45	13.60	12.75	11.90	11.05
78 B 419	90-60S	6 sec.	1 min.								
78 B 496	90-90S	9 sec.	$1\frac{1}{2}$ min.								

## ACRO COMPACT METAL-CASED SWITCHES

Precision, Model B single-pole, double-throw snap-action switches enclosed in a metal housing. Neoprene rubber grommet protects contacts against oil, dust or moisture. A molded, flexible one-piece liner seals split housing, as well as insulates the bottom enclosure. For added seal, lead washers are used with all of the side mounted units listed in the table, below. 6-32 by  $1\frac{1}{2}$ " machine screws are supplied for through-bolt mounting. Contacts are rated at 15 amps, 120-240-480 volts AC. Figure in "Height" column, below, represents the overall height including the actuator. Operating forces are in ounces. Basic switch size is 1" wide by  $3\frac{3}{4}$ " long, and  $1\frac{3}{4}$ " high. Av. shpg. wt., 12 oz.

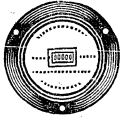


Stock No.	Mfr's Type	Micro Equiv.	Actuator Type	Oper. Force	Pre-Travel	Height	Fig.	EACH					
								1-9	10-19	20-49	50-99	100-199	200-499
33 B 950	SBH-7PN	BZE6-2RN	Sealed plunger	9-24	.078"	$2\frac{2}{32}$ "	A	6.50	5.85	5.20	4.55	4.23	4.10
33 B 951	SBH-2PN4	BZE6-2RN4	Sealed manual	10-20	.188"	$3\frac{1}{32}$ "	B	10.00	9.00	8.00	7.00	6.50	6.30
33 B 952	SBH-6PQ	BZE6-2RQ	Plunger	9-13	.020"	$1\frac{1}{2}$ "	A	5.05	4.55	4.04	3.54	3.28	3.18
33 B 956	SBH-8PR	BZE6-2RQ8	Roller plunger	9-13	.020"	$1\frac{1}{16}$ "	C	8.60	7.74	6.88	6.02	5.59	5.42
33 B 958	SBH-8PQ2	BZE6-2RQ2	Adj. roller	10-18	.188"	$2\frac{3}{16}$ "	D	8.60	7.74	6.88	6.02	5.59	5.42



# Industrial Timer Corporation Timing Controls

## NON-RESET RUNNING-TIME METERS



Model C2. Provides an accurate account of machine running-time—easy to compute production costs from elapsed time shown, or determine time to replace components with a predetermined life expectancy, thus preventing costly "down-time." Equipped with non-resettable counters that mark every 1/10 hour; total time-range of 10,000 hours. Units are completely enclosed and resistant to dust and moisture. In 3 1/2" round bakelite meter case; require 2 7/8" panel mounting hole. With stud-type terminals. For 115 v., 60 cycle AC. Shpg. wt., 2 lbs. See table below.

Model C4. Same as Model C2 above, but has pen-type construction. For any application not requiring a cased panel unit, such as

direct mounting on machinery. 2 1/2" dia. mtg. flange; overall depth is 2 3/8". Wt., 2 lbs. See table below.

## RESET TIME TOTALIZERS



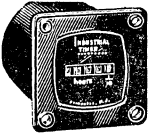
Model C5. Same as units described above, but equipped with special reset counters, making it possible to reset totalizer back to zero at any time. Completely enclosed in baked, black finished steel housing 2 7/8" in diameter, 3 1/4" long. Has heavy steel mounting flange measuring 3 1/4"x3 1/4". Screw terminals on back of unit. For operation from 115 v., 60 cycle AC. Shpg. wt., 2 lbs. See table below.

Model C7. Same as Model C5 described above, but employing open-type construction. Has large, edge-knurled dial in front

of meter for convenient, resetting of digit counters. Size, 2 3/4"x2 1/2"x3". Shpg. wt., 2 lbs. See table below.

Stock No.	Mfr's Type	EACH							
		1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 442	C-2	20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00
78 B 444	C-4	16.50	15.68	14.85	14.03	13.20	12.38	11.55	10.73
78 B 446	C-5	42.50	40.38	38.25	36.13	34.00	31.88	29.75	27.63
78 B 448	C-7	34.50	32.78	31.05	29.33	27.60	25.88	24.15	22.43

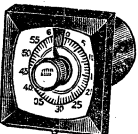
## NEW AC AND DC RUNNING-TIME METERS



Model C-8, C-9. For AC or DC applications. Equipped with non-resettable counters that mark every 1/10 hour; total time range of 10,000 hours. In electrical apparatus, meter is wired in parallel with the main ON-OFF switch. On non-electrical equipment, wired between the ground and primary of ignition coil. On diesel-powered equipment, connected to starting battery. C-8, DC types powered by solenoid clock movement. C-9, AC type powered by synchronous motor. Mount with 4 screws in 2 3/8" cutout. Require 3 5/8" behind panel. 1 lb.

Stock No.	Mfr's Type	Volts	EACH								
			1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499	
78 B 519	C-8	6 DC									
78 B 521	C-8	12 DC									
78 B 522	C-8	24 DC	19.25	18.29	17.33	16.36	15.40	14.44	13.48	12.51	
78 B 523	C-8	32 DC									
78 B 543	C-9	115 AC	20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	

## SERIES GTD TIME-DELAY TIMER



Designed for use in circuit controls where an adjustable time-delay is required between the opening of one circuit and the closing or opening of another circuit. Timer is started with a sustained switch closure; times to zero, operates the load switch and remains in the zero position until the start-circuit is opened. With heavy-duty synchronous motor SPDT load-switch rated 10 amps, non-inductive. Requires 3" mtg. hole. 4x4 3/8" flange, 4 2 3/8" behind panel. For 115 v., 60 cycle AC. Shpg. wt., 2 lbs.

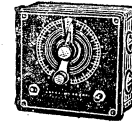
Stock No.	Mfr's Type	Max. Cycle	EACH							
			1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 524	GTD-15S	15 sec.								
78 B 525	GTD-30S	30 sec.								
78 B 584	GTD-60S	60 sec.	39.50	37.53	35.55	33.58	31.60	29.63	27.65	25.68
78 B 526	GTD-5M	5 min.								
78 B 594	GTD-15M	15 min.								
78 B 527	GTD-30M	30 min.	39.50	37.53	35.55	33.58	31.60	29.63	27.65	25.68
78 B 595	GTD-60M	60 min.								

## MODEL SC-100 ELECTRIC STOP-CLOCK



Measures time intervals from 1/100 second to 60 seconds. For process and test measurement, production control, time and motion studies, medical research, and sporting events—wherever precise short-timing measurements are required. Incorporates synchronous motor, cone clutch for exceptional pull-in speed, 360° engagement, and automatic wear compensation. Compound dial has 2 pointers; inside dial measures 1-60 seconds in one second increments, outside dial measures .01-.99 second in .01 second increments. Remote start-stop and reset receptacles on side of case. Can be started with pushbutton on cord or by a limit switch in a piece of equipment. Reset with front-panel reset button or remotely through a series switch. Reset time .010 sec. 5x5x4 25/32". For 115 v., 60 cycle AC only. Shpg. wt., 5 lbs.

78 B 441, 1-3	.....	EACH 68.50	4-5	.....	EACH 65.08
6-11	.....	EACH 61.65	12-24	.....	EACH 58.23
25-49	.....	EACH 54.80	50-99	.....	EACH 51.38
100-249	.....	EACH 47.95	250-499	.....	EACH 44.53



Series P



Series PAB

## INTERVAL TIMERS

### SERIES P AUTOMATIC RESET TIMERS

Multi-purpose interval timer with automatic reset. Provided with receptacle for remote starter, and standard AC receptacle for load. Load-switch contacts are rated at 15 amps. Built-in toggle switch is provided for manually operating the load circuit permanently when timed operation is not required. Completely portable, unit is supplied with AC cord and is housed in metal case with keyhole slots in back for wall mounting. Overall size, 5x5x3 3/8". For 110-120 v., 60 cycle AC. Shpg. wt., 3 lbs.

Stock No.	Mfr's Type	Max. Time Cycle	Dial Division
78 B 528	P-4R	15 seconds	1/4 second
78 B 529	P-2R	30 seconds	1/2 second
78 B 474	P-1M	1 minute	1 second
78 B 475	P-3M	3 minutes	3 seconds
78 B 530	P-5M	5 minutes	5 seconds

1-3	.....	EA. 33.00	4-5	.....	EA. 31.35
6-11	.....	EA. 29.70	12-24	.....	EA. 28.05
25-49	.....	EA. 26.40	50-99	.....	EA. 24.75
100-249	.....	EA. 23.33	250-499	.....	EA. 21.45

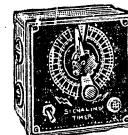
### SERIES PAB INSTANT-RESET TIMERS

Extremely accurate, instant-reset, automatic timers designed for heavy-duty use in industrial control applications. Features instant reset adjustment. Electrically operated clutch drives actuating arm to dial setting selected, and automatically releases. Spiral spring resets arm in split second. Output terminals can be wired for circuit transfer applications. Switch contacts rated 15 amps at 115 volts AC with non-inductive load. Metal enclosure has 1/2" knockouts for use with rigid or flexible conduit. 7 1/8x5 1/8x4 1/4". For 110-120 v., 60 cycle AC. Shpg. wt., 4 lbs.

Stock No.	Mfr's Type	Max. Time Cycle	Dial Division
78 B 531	PAB-15S	15 seconds	1/4 second
78 B 532	PAB-30S	30 seconds	1/2 second
78 B 534	PAB-60S	60 seconds	1 second
78 B 535	PAB-5M	5 minutes	5 seconds
78 B 536	PAB-15M	15 minutes	15 seconds
78 B 537	PAB-30M	30 minutes	30 seconds
78 B 538	PAB-60M	60 minutes	1 minute

1-3	.....	EA. 55.00	4-5	.....	EA. 52.25
6-11	.....	EA. 49.50	12-24	.....	EA. 46.75
25-49	.....	EA. 44.00	50-99	.....	EA. 41.25
100-249	.....	EA. 38.50	250-499	.....	EA. 35.75

## SERIES "S" SIGNALING TIMER



Motor-driven, manual set, multi-purpose signal timer. Two receptacles are provided on the side of the case: a black receptacle for load or remote signal to operate at the end of the cycle, and a red receptacle to operate load circuit during the time cycle. Setting timer for any part of time cycle lights lamp and powers red outlet. On completion of cycle, lamp is turned off, a buzzer sounds, and a 10-amp SPDT switch transfers power from the red receptacle to the black receptacle. Buzzer sounds until manually turned off, or until timing cycle is started again. Durable metal case. With AC cord. For 110-120 v., 60 cycle AC. Shpg. wt., 3 lbs.

Stock No.	Type	Max. Cycle	Stock No.	Type	Max. Cycle
78 B 539	S-5M	5 min.	78 B 477	S-1H	1-hr.
78 B 542	S-15M	15 min.	78 B 478	S-3H	3-hr.
78 B 540	S-30M	30 min.			

1-3	.....	EACH 29.00	4-5	.....	EACH 27.55
6-11	.....	EACH 26.10	12-24	.....	EACH 23.20
25-49	.....	EACH 24.65	50-99	.....	EACH 21.75
100-249	.....	EACH 20.30	250-499	.....	EACH 18.85

# Industrial Timer Single and Multi-Cam Timers



## GEAR-AND-RACK ASSEMBLIES CHART

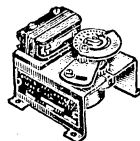
Stock No.	Gear As'by Type No.†	Foundation Units						
		CM-2 MC-2 RC-2	CM-4 MC-4 RC-4	CM-5 MC-5 RC-5	CM-6 MC-6 RC-6	CM-8 MC-8 RC-8	CM-10 MC-10 RC-10	
		*Overall Time Cycles Available						
78 B 472	E-12	10S	40S	2M	3M20S	20M	2H	
78 B 500	E-15	12½S	50S	2M30S	4M10S	25M	2H30M	
78 B 468	C-12	15S	60S	3M	5M	30M	3H	
78 B 501	C-14	17½S	70S	3M30S	5M50S	35M	3H30M	
78 B 466	B-12	20S	80S	4M	6M40S	40M	4H	
78 B 504	C-18	22½S	90S	4M30S	7M30S	45M	4H30M	
78 B 467	B-15	25S	100S	5M	8M20S	50M	5H	
78 B 457	A-12	30S	2M	6M	10M	60M	6H	
78 B 507	A-14	35S	140S	7M	11M40S	70M	7H	
78 B 458	A-16	40S	160S	8M	13M20S	80M	8H	
78 B 459	A-18	45S	3M	9M	15M	90M	9H	
78 B 460	A-20	50S	200S	10M	16M40S	100M	10H	
78 B 517	A-22	55S	220S	11M	18M20S	110M	11H	
78 B 461	A-24	60S	4M	12M	20M	2H	12H	
78 B 518	A-30	75S	5M	15M	25M	2H30M	15H	
78 B 465	A-36	90S	6M	18M	30M	3H	18H	

\*S = Seconds M = Minutes H = Hours

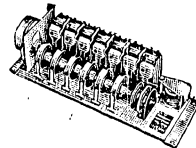
†GEAR-AND-RACK ASSEMBLY.....EACH 1.75

## HOW TO ORDER

Locate duration of complete time-cycle desired in table at left, and order both the gear-and-rack assembly and foundation unit indicated. Shpg. wt., for both units, 4 lbs. *Example:* Time-cycle required, 30 seconds (recycling); 4 circuits to be controlled. Order Gear-and-Rack Assembly A-12, Stock Number 78 B 457; locate Foundation MC-2 in table. Find Stock No. under 4-CIRCUIT (below) and order Stock No. 78 B 612. *When ordering, specify time cycle, number of circuits, and Mfr's Type.*



Series CM



Series RC

Adjustable 2% to 98% of complete time cycle

### SERIES CM RECYCLING-CAM FOUNDATION UNITS (Order Gear-and-Rack Assembly Separately)

Series CM Recycling Timer. Repeats a definite electrical "Off-On" cycle continuously. Timer consists of two units: a gear-and-rack assembly, and a Series CM chassis-mounted foundation unit that includes a heavy-duty synchronous motor and a cam-activated SPDT switch. Different combinations of these two basic units pro-

vide a variety of time cycles (see "How to Order" above). Corrosion-resistant aluminum cams have single screw adjustment for setting "On" or "Off" period from 2% to 98% of the complete time cycle. Contacts rated 10 amps at 115 v., or 220 v., 60 cycle AC. U.L. Listed and CSA Approved. 2½×3×3¼". For 110-120 v., 60 cycle AC.

Stock No.	Mfr's Type	Stock No.	Mfr's Type	EACH								
				1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499	
78 B 450	CM-2	78 B 453	CM-6									
78 B 451	CM-4	78 B 454	CM-8	18.75	17.81	16.88	15.94	15.00	14.06	13.13	12.19	
78 B 452	CM-5	78 B 455	CM-10									

### SERIES MC AND RC FOUNDATION UNITS (Order Gear-and-Rack Assembly Separately)

Series MC Multi-Cam Recycling Timer. Identical to CM timer above, but controls more than one circuit. Cams are mounted on single driving shaft, coupled to the motor by a gear-and-rack assembly. Cams can be adjusted in any combination of timed sequences rapidly and easily. This individual cam adjustability enables the timer to be used as a programming device.

Series RC Single-Cycle Multi-Cam Timer. Designed to provide a single timed electrical cycle upon momentary actuation from a remote position. May be used to control more than 1 circuit. Cams are individually adjustable for any combination of timed sequences. This design enables the user to have all the advantages of the Series MC timers, plus the single-cycle homing control.

#### 2-CIRCUIT

Stock No.	Mfr's Type	Stock No.	Mfr's Type	EACH							
				1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 439	MC-2	78 B 480	MC-6								
78 B 440	MC-4	78 B 511	MC-8	33.75	32.06	30.37	28.69	27.00	25.31	23.63	21.94
78 B 479	MC-5	78 B 512	MC-10								
78 B 513	RC-2	78 B 541	RC-6	48.75	46.31	43.87	41.44	39.00	36.56	34.12	31.69
78 B 515	RC-4	78 B 544	RC-8								
78 B 516	RC-5	78 B 549	RC-10								

#### 4-CIRCUIT

Stock No.	Mfr's Type	Stock No.	Mfr's Type	EACH							
				1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 612	MC-2	78 B 615	MC-6								
78 B 613	MC-4	78 B 616	MC-8	50.75	48.21	45.67	43.14	40.60	38.06	35.53	32.99
78 B 614	MC-5	78 B 617	MC-10								
78 B 618	RC-2	78 B 651	RC-6	66.25	62.94	59.63	56.31	53.00	49.69	46.38	43.06
78 B 649	RC-4	78 B 656	RC-8								
78 B 650	RC-5	78 B 657	RC-10								

#### 6-CIRCUIT

Stock No.	Mfr's Type	Stock No.	Mfr's Type	EACH							
				1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 558	MC-2	78 B 568	MC-6								
78 B 566	MC-4	78 B 569	MC-8	67.25	63.89	60.53	57.17	53.80	50.44	47.08	43.71
78 B 567	MC-5	78 B 576	MC-10								
78 B 580	RC-2	78 B 587	RC-6	83.75	79.56	75.38	71.19	67.00	62.81	58.63	54.44
78 B 583	RC-4	78 B 588	RC-8								
78 B 586	RC-5	78 B 589	RC-10								

#### 8-CIRCUIT

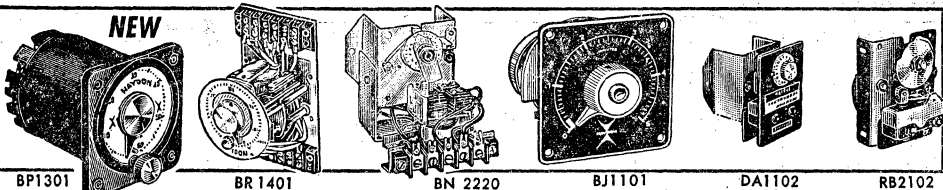
Stock No.	Mfr's Type	Stock No.	Mfr's Type	EACH							
				1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 600	MC-2	78 B 603	MC-6								
78 B 601	MC-4	78 B 604	MC-8	84.25	80.04	75.82	71.61	67.40	63.19	58.97	54.76
78 B 602	MC-5	78 B 605	MC-10								
78 B 606	RC-2	78 B 609	RC-6	100.25	95.24	90.23	85.21	80.20	75.19	70.18	65.16
78 B 607	RC-4	78 B 610	RC-8								
78 B 608	RC-5	78 B 611	RC-10								

#### 10-CIRCUIT

Stock No.	Mfr's Type	Stock No.	Mfr's Type	EACH							
				1-3	4-5	6-11	12-24	25-49	50-99	100-249	250-499
78 B 400	MC-2	78 B 403	MC-6								
78 B 401	MC-4	78 B 408	MC-8	104.75	99.51	94.28	89.04	83.80	78.56	73.33	68.09
78 B 402	MC-5	78 B 409	MC-10								
78 B 410	RC-2	78 B 413	RC-6	120.25	114.24	108.23	102.21	96.20	90.19	84.18	78.16
78 B 411	RC-4	78 B 414	RC-8								
78 B 412	RC-5	78 B 415	RC-10								



# Haydon Timers and Elapsed-Time Indicators



## RESET ACROTIMERS

TYPE BR1001. (Not illus.) For delay or interval timing. Controls two loads and motor. Basic rear mtg. unit: 3 1/4" dial face, pointer, readout indicator, lock-in screw and 2 1/4 x 3 7/16" mtg. plate. SPDT, 15-amp switch, 115 and 230 v. AC, non-inductive. Accuracy, ± 0.5%. 3 1/8 x 3 7/16", 2 5/8" behind dial. 2 1/8" mtg. centers. Similar to BR1401 (illus.), but without terminal strip. Type BP1301. For frequent interval changes. As above, but panel mount; bezel and dome. 12-pos. terminal block sleeve. 3 5/8 x 3 5/8", 3 3/4" behind dial. 2 1/8" mtg. centers. Type BR1401. Same as BR1001, but with pre-wired, forward-facing, 12-pos. terminal strip. 4 7/8 x 3 7/16", 4 1/8" behind dial. All motors for 120 volts, 60 cycle AC. Av. shpg. wt., 2 lbs. Specify time range: 15 sec.; 60 sec.; 5 min.; 30 min.; or 1 hour.

Stock No.	Mfr's Type	EACH					
		1-4	5-9	10-24	25-49	50-99	100-249
78 BB 200	BR1001	20.82	19.78	18.74	17.70	16.66	15.62
78 BB 303	BP1301	28.05	26.65	25.24	23.84	22.44	21.04
78 BB 306	BR1401	22.52	21.40	20.27	19.15	18.02	16.89

## NEW BN2220 TIME-DELAY TIMERS

Eliminates need for auxiliary relays. For interval timing (while motor is running), or delay timing (after motor has stopped). When motor is de-energized, coil remains energized holding load until circuit is broken. DPDT, 10-amp, 125 and 250 v. AC switches. Rear mounting, 60 cps. 5-watt motor, 6-watt coil. Accuracy, ± 0.5%. Lock-nut adjustment. 3 3/4 x 3 3/8" wide; 2 1/8" deep. Motor for 120 volts, 60 cycle AC. Shpg. wt., 1 1/2 lbs.

Stock No.	Time Range	EACH					
		1-4	5-9	10-24	25-49	50-99	100-249
78 B 325	0-13.5 sec.						
78 B 326	0-.54 sec.	17.85	16.96	16.06	15.17	14.28	13.39
78 B 327	0-.108 sec.						
78 B 328	0-4.5 min.						

## NEW BJ1101 PUSHBUTTON INTERVAL TIMER

Dependable and rugged panel-mount timer. For control of electrical equipment such as copying machines, mixers, ovens, tumbling and plating equipment. Automatically resets to preset interval. SPDT 15-amp, 115- or 230-volt AC switch U.L. and C.S.A. Listed. Face-plate. 3 5/8 x 3 5/8". For 120 volts, 60 cycle AC. Shpg. wt., 1 1/2 lbs. Specify time range: 15 sec., 30 sec., 60 sec., 5 min., or 1 hour.

Stock No.	Time Range	EACH					
		1-4	5-9	10-24	25-49	50-99	100-249
78 BB 329		14.45	13.76	13.00	12.28	11.56	10.84

## TYPE DA TIME-DELAY TIMERS

TYPE DA1102 SPDT, 20-amp switch, 125 or 250 v. AC, resistive. Magnetic clutch—engages and disengages when motor is energized and de-energized. Knob adjustment. 3 5/8 x 2 1/8 x 3 3/8". U.L. Listed. TYPE DA2102. As above, but has lock-nut adjustment.

### 120 VOLTS AC

Stock No.	Mfr's Type	Time Range	EACH					
			1-4	5-9	10-24	25-49	50-99	100-249
78 B 230	DA1102	0-14 sec.						
78 B 231	DA1102	0-57 sec.	12.75	12.11	11.47	10.84	10.20	9.56
78 B 232	DA1102	0-4.5 min.						
78 B 233	DA2102	0-14 sec.						
78 B 234	DA2102	0-57 sec.						
78 B 236	DA2102	0-4.5 min.	12.75	12.11	11.47	10.84	10.20	9.56
78 B 300	DA2102	0-9.5 min.						

### 240 VOLTS AC

78 B 237	DA1102	0-14 sec.						
78 B 238	DA1102	0-57 sec.	13.60	12.92	12.24	11.56	10.88	10.20
78 B 239	DA1102	0-4.5 min.						
78 B 240	DA2102	0-14 sec.						
78 B 241	DA2102	0-57 sec.						
78 B 242	DA2102	0-4.5 min.	13.60	12.92	12.24	11.56	10.88	10.20
78 B 301	DA2102	0-9.5 min.						

## TYPE RB2102 REPEATING-CYCLE TIMERS

Repeat a set cycle, or sequence of switching operations, while motor is energized. Wireable through contacts for 1-cycle limit. Adjustable timing-cycle cam, SPDT, 20-amp switch, 125 or 250 v. AC, resistive. 50-60 cycle. 3 1/4 x 2 5/8 x 2 9/16". U.L. Listed. Shpg. wt., 1 lb.

### 120 VOLTS AC

78 B 246	RB2102	1 min.						
78 B 247	RB2102	5 min.						
78 B 248	RB2102	15 min.	10.62	10.09	9.56	9.03	8.50	7.97
78 B 249	RB2102	30 min.						
78 B 250	RB2102	60 min.						

### 240 VOLTS AC

78 B 260	RB2102	1 min.						
78 B 271	RB2102	5 min.						
78 B 272	RB2102	15 min.	11.47	10.90	10.33	9.76	9.18	8.61
78 B 273	RB2102	30 min.						
78 B 298	RB2102	60 min.						

## INDUSTRIAL AND NEW MILITARY ELAPSED-TIME INDICATORS

### INDICATORS REGISTER UP TO 99,999.9



ED71



ER35

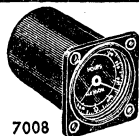
TYPE ED71. Miniature synchronous motor. Front/rear panel mtg. -25° to +65°C. Hours and tenths to 9999.9. Non-resettable. 5 1/4" square; 2 3/16" deep. Type ER35. As above, but 3 1/2" dia. bezel. 2 3/4" deep. Resettable. ER3520—to 99,999.9 min., tenths; ER3522—to 99,999.9 hours, tenths. Screw terminals. Shpg. wt., 1 1/2 lbs.

### 120 VOLTS AC

Stock No.	Mfr's Type	EACH					
		1-4	5-9	10-24	25-49	50-99	100-249
78 B 211	ED7112	16.79	15.95	15.11	14.27	13.43	12.59
78 B 212	ER3520	19.12	18.16	17.21	16.25	15.30	14.34
78 B 215	ER3522	19.12	18.16	17.21	16.25	15.30	14.34

### 240 VOLTS AC

78 B 221	ED7112	17.64	16.76	15.87	14.99	14.11	13.23
78 B 225	ER3520	19.97	18.97	17.97	16.97	15.98	14.98
78 B 226	ER3522	19.97	18.97	17.97	16.97	15.98	14.98

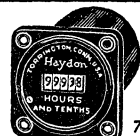


7008



**NEW!**

Meet  
MIL-M-7793C  
MIL-E-5272C



7010

## HERMETICALLY-SEALED MILITARY-TYPE INDICATORS

TYPE 7008. Weighs only 6 oz.—truly small and lightweight! Driven by synchronous hysteresis motor through precision, spur gear train. Meets high shock, environment and temperature requirements. Life test, over 78,000 hours and still running. Dial registers up to 10,000 hours, 10-hour grades on outer scale, 1000-hour grades on inner scale. 115 volts, 400 cps. Operating temperature, -55° to +85°C. 1 3/4" square, 2 3/16" deep. Barrel dia., only 1 1/2". 4 mtg., holes on 1 3/8" centers. Shock, 50 Gs, 11 millisecond. Vibration up to 1000 cps at 10 Gs. Altitude, sea level to 80,000 ft. Dielectric strength, 500 volts, rms, 60 cps for one minute. Solder terminals. Type 7010. Specs as above, but digital. Registers hours and tenths up to 9999.9. Shpg. wt., 1 lb.

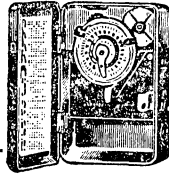
Stock No.	Mfr's Type	EACH					
		1-4	5-9	10-24	25-49	50-99	100-249
78 B 312	7008	42.50	40.37	38.25	36.12	34.00	31.87
78 B 310	7010	42.50	40.37	38.25	36.12	34.00	31.87

# Interval and Clock Timers by *Intermatic*

**"SKIPPER"  
TIME  
SWITCHES**  
Sets to skip  
one or more days



T171



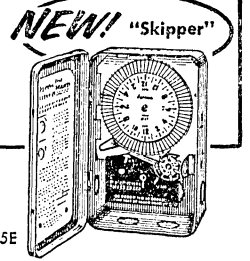
T101



P101



T185



T1975E

Permits skipping  
control cycle at  
pre-set intervals

## TYPE T101 TIME SWITCH

SPST time switch turns equipment "on" and "off" once in 24 hours. With inexpensive extra trippers (see listing in left column) will operate up to 12 times a day. Trippers can be added without removing the dial. Minimum time between settings is 1 hour. Manual operation does not interfere with settings. 40-amp rating (4375 watts, tungsten) at 125 v., 60 cycles. Gray steel case with knockouts. Size, 5x3x7<sup>7</sup>/<sub>8</sub>". U.L. Listed. For operation from 110-120 volts, 60 cycle AC. Shpg. wt., 3 lbs.

78 B 322, 1-5 .EA. 7.77 6-11...EA. 7.17

TYPE T103. As above, but DPST.

78 B 321, 1-5 .EA. 9.07 6-11...EA. 8.37

ADAPTER KIT. Handy adapter kit makes the above units portable. 6 ft. cord, plug, etc. 10 amperes. Shpg. wt., 1 lb.  
78 B 323.....1.13

## TYPE P101 TIME SWITCH

Portable type. SPST plug-in time switch. Simple to install. Improved version carries a much heavier load than earlier models. Will handle any appliance that plugs into regular outlets. Has many uses in the shop, store, or factory. Easily set for from 1 to 12 on-off operations per day. Minimum "on" or "off" time, 1 hour; maximum, 23 hours. Controls lamps, signs, radios, TV sets, etc. Can be used with up to twelve extra trippers. May also be manually operated. Capacity: 10 amps at 125 volts, 5x3x7<sup>7</sup>/<sub>8</sub>". U.L. Listed. For 110-120 v., 60 cycles AC. Shpg. wt., 3 lbs.

78 B 314, 1-5 .EA. 9.07 6-11...EA. 8.37

## TYPE T185 TIME SWITCH

Versatile switch provides up to 12 independently controlled "on-off" cycles. Can vary from 5-60 minutes. Minimum interval between cycles, 2 hours. Can be used as SPST, normally open; SPST normally closed; or SPDT, alternate open and closed. 40 amps (4375 watts, tungsten) at 125 v. AC. With 3 trippers (1 for each "on-off" cycle). Up to 12 combination trippers can be used. 7<sup>3</sup>/<sub>4</sub>x5x3". U.L. Listed. For 110-120 v., 60 cycle AC. Av. shpg. wt., 3 lbs.

78 B 313, 1-5 .EA. 11.67 6-11...EA. 10.77

EXTRA SET OF TRIPPERS. Adjustable cam on each tripper can be set for length of time the "on-off" cycle will operate. 4 oz.  
78 B 336.....PER SET .84

## NEW TYPE T1975E PROGRAM TIMER

"Supervisor" with 96 trippers for 48 "on" and 48 "off" operations every 24 hours. Minimum interval is 15 minutes. For full-time control of heating, air conditioning, industrial music systems, etc. "Skipper" feature for omitting operation on selected days. Trippers permanently attached to dial—cannot drop off or be lost. Slide in and out for fast, accurate tripping. SPDT switch, rated 20 amps at 480 volts, 60 cycle AC. Synchronous, slow-speed motor is heavy-duty industrial type; self-starting. Snap-out mechanism—press to remove. U.L. Listed. 7<sup>3</sup>/<sub>4</sub>x5x3". Shpg. wt., 3<sup>3</sup>/<sub>4</sub> lbs.  
78 B 378, 1-5 .EA. 24.02 6-11...EA. 22.17

Two dials: a time dial and a day dial. To skip any days, small skipping screws are inserted into the day dial. "On" and "off" trippers are set in the time dial. Special "cutout" tripper advances day dial every 24 hours. Up to 12 on and off operations per day obtained by adding extra "on" and "off" trippers. Range: minimum "on" or "off" time, 1 hour; maximum, 23 hours. Switch may be operated manually. Automatic reset resumes time cycle.

Alloy-T contacts, 40 amps (4375 watts, tungsten) at 125 volts. Steel case; gray finish. 3 skipping screws, one on-cutout, one off tripper, instructions. Air conditioner, etc. plugs into unit; unit into electric outlet. 7<sup>3</sup>/<sub>4</sub>x5x3". U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 3 lbs.

Stock No.	Mfr's Type	Action	EACH	
			1-5	6-11
78 B 315	T171	SPST	11.02	10.17
78 B 316	T173	DPST	12.32	11.37
78 B 317	T175	SPDT	12.32	11.37

## TRIPPERS AND SKIPPING SCREWS

TYPE 107T19GR. On-Cutout Trippers. For "Skipper" types only. Shpg. wt., 3 oz.

78 B 319.....EACH .20

TYPE 79T8A. Skipping Screws. For "Skipper" types only. Shpg. wt., 8 oz.

78 B 364, Pkg. of 2.....EACH PKG. .09

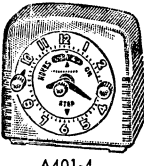
TYPE 107T8A. "On and Off" Trippers. For Intermatic switches (except T185). 2 oz.

78 B 324.....PER SET .26

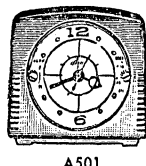
## CLOCK AND INTERVAL TIMERS AND TIMING MOTOR



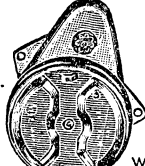
RC5421-4



A401-4



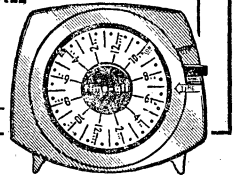
A501



W160

## A211-4 "TIME-ALL"

Turns equipment on and off, day after day—without resetting



## TYPE RC5421-4 CLOCK-TIMER

Unmounted combination clock and automatic time switch. Controls appliances drawing up to 15 amps. Handles 1875 watts. Automatically turns on appliances at any pre-set time within a 12-hour period. Has alarm, sleep switch; can be operated manually.

All controls on front panel. Brass bezel, soft-white and brown dial, tan knobs. 3<sup>1</sup>/<sub>2</sub>" square; 2" deep. With crystal. Four 5<sup>3</sup>/<sub>2</sub>" mounting holes on 3<sup>1</sup>/<sub>4</sub>" centers. For 110-120 v., 60 cycle AC. Shpg. wt., 1 lb.  
78 B 499, Includes F.E.T.....6.94

## TYPE A401-4 "CLOCK-TIMER"

Combination clock and switch. Turns appliances "on" and "off" at preset times. Min. "on" time, 1/4 hour; max., 5 1/2 hours. SPST switch rated 15 amps, 1875 watts. AC receptacle for plugging in appliances. Tan Plaskon case. 6-ft. cord and plug. 4 1/2 x 4 3/4 x 2 1/4". U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 2 lbs.  
78 B 343, Includes F.E.T.....8.77

## TYPE A501 "MUSIC MINDER"

Combination clock and time switch that automatically turns appliances "on" and "off" at preset times. Alarm can be set to sound 10 minutes after units are turned "on"; 0-60 minute sleep switch turns units "off." Handles 1875 watts. Tan Plaskon case. 6-ft. cord. Size, 4 1/2 x 4 3/4 x 2 1/4". U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 2 lbs.  
78 B 267, Includes F.E.T.....8.77

## TYPE W160 TIMING MOTOR

A quiet, powerful, self-starting synchronous timing motor. Use as replacement in clocks, timers, etc. Lifetime lubrication. Geared to 4 clockwise revolutions per hour. Maximum torque load, 5 oz. per inch. Temperature rise at 120 v., 36°. 1500 v. AC breakdown. Constant speed, even with ±25% voltage variation. Shaft, 1/8x3" dia. 2 1/2 x 1 3/4 x 1 3/8". For operation from 110-120 v., 60 cycle AC. Shpg. wt., 10 oz.  
78 B 497.....2.40

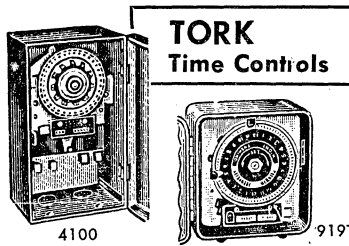
## TYPE A211-4 "TIME-ALL"

Time control switch for office, store or home. Excellent for controlling lights or appliances, etc. Has manual control with automatic reset. Turns lights "on" and "off" at preset times—gives house a "lived in" look to discourage prowlers while owners are out or away on a vacation.

Minimum "on" time, 15 minutes; maximum, 23 hours, 45 minutes. AC outlet for equipment to be controlled. Switch contacts handle 15-amp, 1875-watt load. 6-ft. cord, plug and instructions. Size, 5x4x2 1/2". U.L. Listed. For 110-120 volts, 60 cycle AC. Shpg. wt., 2 lbs.  
78 B 311.....7.97

TYPE A221-4. Same quality time switch as above, but designed to handle 7-amp, 875-watt load. Excellent for use in such light-duty applications as the automatic control of hi-fi music systems, home lights, etc. Shpg. wt., 2 lbs.  
78 B 397.....7.29

# Tork Time Switches and G. E. Clock Timer

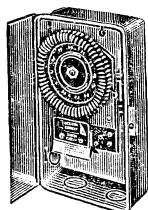


**TORK**  
Time Controls

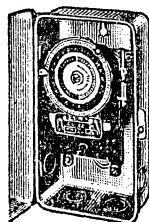
4100



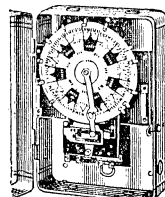
919T



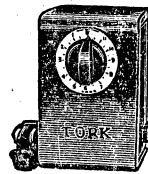
8001



A-100



W-100



Series 2925-P

## MODEL 4100 "HOURMASTER"

Versatile time switch provides up to 24 identical hourly "on" cycles. The duration of the "on" cycle can be set from 2 to 55 minutes in 1-minute intervals. The "on" cycle can be made operative at any selected hour of the day. The series of "on" cycles repeats every 24 hours. Ideal for controlling such equipment as pumps, stokers, and poultry feeders. Heavy-duty timing motor provides extra power and high accuracy from  $-50^{\circ}$  to  $+200^{\circ}$  F. With selector screws for up to 10 operations per 24-hour period. Screw terminals. Steel case,  $8\frac{1}{2} \times 5 \times 4\frac{1}{4}$ ". U.L. Listed. SPST contacts are rated at 2 HP or 40 amps. For 110-120 v., 60 cycle AC. Shpg. wt., 4 lbs.  
78 B 295. 1-5.....EACH 19.47 6-Up.....EACH 17.97

## MODEL 919T PORTABLE PLUG-IN TIME SWITCH

Automatic 24-hour plug-in switch. "On" time can be set from 20 minutes to 23 hours, 15 minutes in 15-minute intervals. "On" and "off" levers permit manual operation without disturbing settings. Operates air conditioners, lights, portable heaters, etc. Contacts rated 10 amperes, 1100 watts, 110-120 v. AC. Drawn steel silver hammertone case,  $5\frac{1}{2} \times 4\frac{1}{4} \times 4\frac{1}{2}$ ", has rubber feet or hangs on wall. 6-ft. 2-wire cord and plug, AC outlet. U.L. Listed. For 110-120 v., 50-60 cycle AC. Shpg. wt., 4 lbs.  
78 B 304. 1-5.....EACH 9.72 6-Up.....EACH 8.97  
78 B 309. Trippers. Uses up to 6 pairs. 3 oz.....PER PAIR .45

## MODEL 8001 PROGRAM TIMER

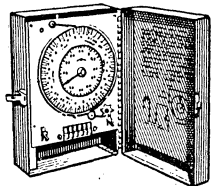
Versatile unit provides almost any desired timing combination of intervals which are multiples of 15 minutes in duration. Combination of intervals repeat every 24 hours. Timer has a total of 96 tabs. When a tab is tilted into position, timer is "on" for 15 minutes each day. If an adjacent tab is tilted in, the timer will be "off" for 15 minutes. Thus, the timer is "on" during various intervals that are multiples of 15 minutes and which are separated by "off" periods that are also multiples of 15 minutes. Ideal for controlling fans, pumps, poultry feeders, irrigation equipment. SPST contacts are rated 10 amps. Screw terminals. Case,  $8\frac{1}{2} \times 5\frac{3}{8} \times 4\frac{1}{8}$ ". U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 4 lbs.  
78 B 299. 1-5.....EACH 18.17 6-Up.....EACH 16.77

## SERIES M-8001 REPEATING TIMERS

Ideal timers for industrial and laboratory use. Excellent for product life testing; special applications requiring short on-off operations. Tabs permit up to 60 "on-off" operations per dial cycle. Dial Cycle in table below—minutes. SPDT contacts rated 10 amps. Size,  $8\frac{1}{2} \times 5\frac{3}{8} \times 4\frac{1}{8}$ ". For 110-120 v., 60 cycle AC. Shpg. wt., 4 lbs.

Stock No.	Mfr's Type	Dial Cycle	Min. On-Off Setting		Adjustable Setting		EACH	
			1	2	1 Second	6 Seconds	1-5	6-Up
54 B 459	1M8001	1	1	2	1 Second	6 Seconds	22.72	20.97
54 B 460	6M8001	6	6	6 Seconds	6 Seconds	22.72	20.97	
54 B 461	12M8001	12	12	12 Seconds	12 Seconds	22.72	20.97	
54 B 462	30M8001	30	30	30 Seconds	30 Seconds	22.72	20.97	
54 B 463	60M8001	60	60	60 Seconds	60 Seconds	19.47	17.97	

## NEW MODEL 5700-SK "BELL RINGER"



"Bell-Ringer" program signal timer operates bells, sirens, whistles or other signals at pre-selected times. Signal duration is adjustable from 5 seconds to 60 seconds. Maximum time between signals is 5 minutes—up to 288 operations per day are possible. Signals can be sounded manually without disturbing automatic settings. Ideal for programmed signalling in schools, factories, airports and railroads. Omitting device may be used to prevent signals from sounding on weekends or holidays if desired. SPST switch contacts are rated at 5 amperes, 110-120 v. AC. Independent switching circuit permits any voltage to be controlled limited only by contact rating. Lockable hinged steel enclosure is  $12 \times 8 \times 4$ ". For operation from 110-120 v., 60 cycle AC. Shpg. wt., 10 lbs.  
78 BU 278.....63.20

## NEW MODEL A-100 "TORKMASTER"

Economical time switch offers many features usually found only in higher-priced, specification-grade units. Turns electrical equipment "on" and "off" continuously every 24 hours. Extra screw-on trippers offer as many as 6 complete operations per day. "On" and "off" levers permit manual operation at any time, without disturbing automatic settings. Minimum setting is 20 minutes. Screw-type terminal block for easy installation. Drawn steel case,  $8\frac{1}{2} \times 5\frac{3}{8} \times 4\frac{1}{8}$ ", has  $\frac{1}{2}$ " and  $\frac{3}{4}$ " knockouts in back, bottom and sides; hasp for padlock. SPST switch has silver contacts rated 40 amperes. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 4 lbs.  
78 B 279. 1-5.....EACH 17.77 6-Up.....EACH 17.17

## MODEL 7100 TIME SWITCH

Not illus. Similar to Model A-100 "Torkmaster," above, but specification-grade switch with a special skip device that can be set to prevent operation on Saturday, Sunday, or any day of the week where operation is not desired. Lug terminals take wire sizes up to #6. Size,  $8\frac{1}{2} \times 5\frac{3}{8} \times 4\frac{1}{8}$ ". U.L. Listed. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 4 lbs.  
78 B 379. 1-5.....EACH 11.02 6-Up.....EACH 10.17

## MODEL 7200-H HEAVY-DUTY TIME SWITCH

Not illus. Similar to Model A-100, above, but with heavy-duty 55-ampere silver DPST switch contacts. Skip device permits setting switch to prevent operation on any day of the week where operation is not desired.  $8\frac{1}{2} \times 5\frac{3}{8} \times 4\frac{1}{8}$ ". U.L. Listed. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 4 lbs.  
78 B 280. 1-5.....EACH 18.82 6-Up.....EACH 17.37

## MODEL W-100 "SEVEN-DAY" TIME SWITCH

Offers high flexibility and programmed seven-day control. Large-size dial face permits minimum setting time of only 60 minutes, and unique "on" and "off" trippers provide easy, accurate setting of up to 28 operations per week. Levers permit manual operation without disturbing settings. Lug terminals take wire sizes up to #6. Quick-out case. Size,  $12 \times 8 \times 4\frac{1}{2}$ ". U.L. Listed. SPST switch contacts rated 40 amperes. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 8 lbs.  
78 B 281. 1-5.....EACH 19.47 6-Up.....EACH 17.97

## SERIES 2925-P INTERVAL TIMERS

For automatic timed operation of electrical appliances rated up to 1100 watts. Can be set for any time interval up to the maximum shown below. Ideal for timed control of roasters, waffle irons, sun lamps, etc. Setting pointer to desired time closes 10-ampere SPST switch and starts interval—when time has elapsed switch opens automatically. White enamel case,  $4\frac{1}{2} \times 3\frac{1}{2} \times 3$ ", has AC receptacle, cord and plug. U.L. Listed. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 2 lbs.

Stock No.	Mfr's Type	Max. Setting	EACH	
			1-5	6-11
78 B 362	2925-1P	1 Hour	12.97	11.97
78 B 348	2925-12P	12 Hours		
78 B 349	2925-24P	24 Hours		



## TELECHRON CLOCK-TIMER

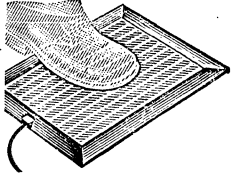
- Versatile and Easy to Use
- For Loads to 1875 Watts

Electric clock keeps precise time and also serves as an alarm clock with buzzer. Offers hundreds of uses in the home, shop, Amateur station, and lab. Excellent means of warming up electronic equipment at a preset time. "Sleep-Switch" lulls you to sleep, wakes you in the morning with music from your radio or hi-fi system. Controls: Time Set, Alarm Set, "Sleep Switch," Auto-Manual Switch. Attractive gold finish; large sweep second hand,  $3\frac{1}{2}$ " square,  $1\frac{1}{16}$ " deep. SPST switch rated 15 amps, 1875 watts. For 110-120 v., 60 cycle AC, 2 lbs.  
78 B 438. Includes F.E.T.....5.98

Combination Clock and Automatic Time Switch



# Popular Foot Switches and Automatic Timers



Can Be Actuated by Foot or Toe

## RECORA STEP SWITCHES

### "NEPTUNE" STEP-ON MATS

Model NF-2. For indoor or outdoor use. Turns on lights, alarms, etc. Switch circuit is protected by a heavily-ribbed brown plastic mat. Resistant to cleaning compounds, oil, acids, etc. Lies flat on floor—won't slip or slide, even on polished floors. SPST contacts are rated 10 amperes at 110 volts. Size, 3/8x6x8". With 6-ft. leads. Shpg. wt., 2 1/4 lbs.

78 B 292, 1-49.....EACH 5.49  
50-99.....EACH 5.25 100-Up.....EACH 4.90

Model PSN-2. As above, but with series plug that is inserted into AC outlet; controlled apparatus is then inserted into plug. Shpg. wt., 2 1/4 lbs.

78 B 293, 1-49.....EACH 6.27  
50-99.....EACH 6.00 100-Up.....EACH 5.20

### "SWITCHMAT" SWITCH

Similar to Model NF-2 "Neptune," above, rated 100 watts at 110-120 v. AC. With 10-ft. leads.

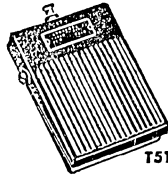
78 B X 355, 14x23", 11 lbs.....14.25  
78 B X 356, 18x30", 19 lbs.....20.15

### "ANNOUNCEMAT" CHIME ALARM

Practical alarm system for stores, offices and industry. Signals presence of visitors or intruders. Even the step of a small child sounds alarm. Employs 18x30" "Switchmat," above, transformer and 6-ft. cord, chime, 25-ft. cable. For 110-120 v. AC. Shpg. wt., 18 lbs.

78 B X 358.....26.00

## INDUSTRIAL FOOT SWITCHES



T51



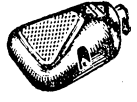
491



632



MI-25



MA-3

## LINEMASTER FOOT SWITCHES

Model T51-S "Treadlite." Compact, rugged treadle switch for low-current loads. SPDT momentary contacts rated 7 amps, 110-250 v. AC. Rubber treading and skid-proof rubber base pad, 3 1/2x2 3/4x1". 7 oz.

78 B 383, 1-9.....EACH 2.75  
10-19.....EACH 2.47 20-49.....EACH 2.20  
50-99.....EACH 2.06

Model T51-SC Wired. Above, with 6-ft. cord and 2-prong series plug, 1 lb.

78 B 384, 1-9.....EACH 4.00  
10-19.....EACH 3.60 20-49.....EACH 3.20  
50-99.....EACH 3.00

Model 491-S "Compact." Momentary-contact SPDT 10-amp, 125-250 v. AC contacts. Steel housing, black crackle finish. Skid-proof base, 1 1/2x2 1/2x3", 1 lb.

54 B 406, 1-9.....EACH 3.25  
10-19.....EACH 2.92 20-49.....EACH 2.60  
50-99.....EACH 2.44

Model 491-SC. Same as Model 491S, below left, but wired with 6-ft. cord and 2-prong series plug. Wt., 1/2 lb.

54 B 407, 1-9.....EACH 4.75  
10-19.....EACH 4.27 20-49.....EACH 3.80  
50-99.....EACH 3.56

Model 632-S. "Clipper." Momentary-contact industrial switch. SPDT contacts rated 20 amps at 125-250 AC. Cast iron housing has rubber anti-skid pad, black-wrinkle finish, 4 1/2x3 1/2x1 1/2". Wt., 2 lbs.

54 B 409, 1-9.....EACH 8.25  
10-19.....EACH 7.42 20-49.....EACH 6.60  
50-99.....EACH 6.19

Model 632-D. Same as Model 632-S, above, but maintains contact until again actuated. Shpg. wt., 2 1/2 lbs.

54 B 408, 1-9.....EACH 11.00  
10-19.....EACH 9.90 20-49.....EACH 8.80  
50-99.....EACH 8.25

## GENERAL CONTROL "FOOTROL" FOOT SWITCHES

Model MI-25. Heavy-duty SPDT switch—first press transfers contacts, second returns them. Rated 12 amps, 125 v., 6 amps, 250 v. AC, non-inductive. Operating force, 10 lbs. BX connector, mtg. holes. 3x4x6 3/4". Shpg. wt., 4 3/4 lbs.

78 B 370, 1-9.....EACH 12.10  
10-24.....EACH 11.41 25-49.....EACH 10.72

Model MI-23. Above, spring return.

78 B 371, 1-9.....EACH 10.52  
10-24.....EACH 9.92 25-49.....EACH 9.33

Model MA-3. Small foot switch for use where high speed and minimum operator fatigue are essential. SPDT momentary-contact switch has spring return. Rubber non-skid base has holes for permanent mounting. Preset for 1/2-lb. operating force. Supplied complete with BX connector. Contacts rated 20 amps at 125 v.; 15 amps at 250 v. AC, non-inductive load. Size, 1 3/4x4x1 1/2". Shpg. wt., 1 3/4 lbs.

78 B 374, 1-9.....EACH 4.93  
10-24.....EACH 4.65 25-49.....EACH 4.37

## "MARK-TIME" AUTOMATIC TIMERS

### NEW MODEL 29000 "CLOCK WATCHER" TIMER

- Dozens of Uses in Shop, Office, Home
- Dependable, Accurate Spring-Wound Motor Mechanism
- Attractive "Sculptured" Styling



Reliable manual timer that will provide years of dependable service. Unusually low in cost—invaluable for countless applications around the shop, office, laboratory and home. Highly-dependable spring-wound motor mechanism accurately times intervals of up to 1 hour; features a pleasant bell tone at end of interval. Calibrated in 1-minute divisions. Recommended for out-of-door use, or other applications where electric power is not available for an electric timer. Attractive "sculptured" styling features tip-proof oval base and easy-to-read inclined face. Finished in white enamel. Size, 4 3/4" dia. x 2 1/2". 3/4 lbs.

78 B 380, 1-11.....EACH 2.96 12-99.....EACH 2.63

### STANDARD BUILT-IN TIME SWITCHES

- Choice of Three Accurate Time Intervals
- Over 150 Different Electrical Applications
- Dependable, Trouble-Free Operation

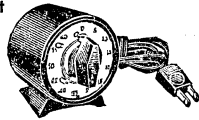


Successfully used to automatically control intervals of electricity in over 150 different home and commercial applications. Universal model, SPDT switch, that can be used for either "Off-type" or "On-type" operation by attaching wires to correct terminals. Through-panel mounted for ease of installation. Dependable, sturdy mechanism assures many years of trouble free service. Comes complete with satin chrome face dial, black knob and mounting hardware. Rated 28 amps at 125-240 v. AC. U.L. Listed. 2 9/16x1 19/32". Choice of 3 intervals. 8 lbs.

78 B 259, Model 74701. For up to 15 min. intervals.  
78 B 261, Model 74702. For up to 30 min. intervals.  
78 B 268, Model 74703. For up to 60 min. intervals.  
1-11.....EACH 5.96 12-99.....EACH 5.30

### PROFESSIONAL TIME SWITCHES

- For All Types of Electrical Equipment
- Excellent for Photographic Use
- Rugged and Reliable Design



Model 78105. Accurate portable time switch for electrical equipment. Times up to 60 minutes, then turns current off at preset time. Rated 10 amps, 110-120 v. AC. U.L. and C.S.A. Listed. Size, 3 5/8x3 3/4x3 1/2". For 110-120 v., 60 cycle AC. Shpg. wt., 1 lb.

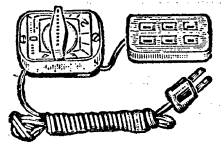
78 B 263, 1-11.....EACH 5.96 12-99.....EACH 5.30

Model 78174. Similar to above, but especially designed for use in photography darkrooms, and x-ray laboratories. Controls enlargers, copy units, etc. Withstands years of constant use and provides accurate timing of intervals up to 60 seconds. Same size as Model 78105, above. Shpg. wt., 1 lb.

78 B 264, 1-11.....EACH 6.71 12-99.....EACH 5.97

### MODEL TEC-4 AUTOMATIC TIMER

- All-in-One Time Switch
- 3-Way Convenience Outlet
- Includes Extension Cord



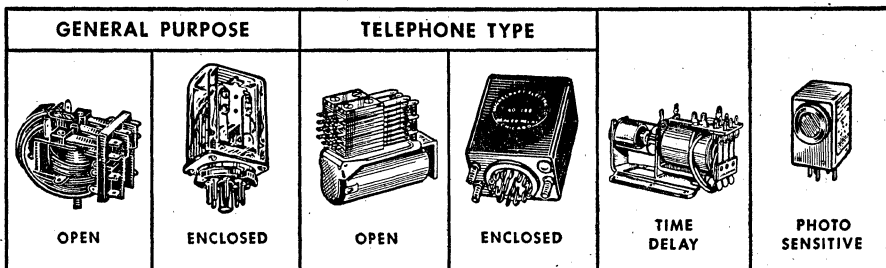
Excellent for controlling decoration lights, television sets, lamps, heating pads, radios, etc. Insert plug into any wall outlet, plug 1, 2, or 3 devices into 3-way outlet, and set knob for desired time cycle up to 4 hours. After allotted time, switch turns electricity off automatically. SPST switch contacts are rated at 10 amps, 125 v. AC. Cream-finished base has handsome brass-finished dial plate. With 5 1/2" 2-wire cord and plug. For 110-120 v., 60 cycle AC. 1 lb.

78 B 291, 1-11.....EACH 5.21  
12-99.....EACH 4.63

# Relay Road Map

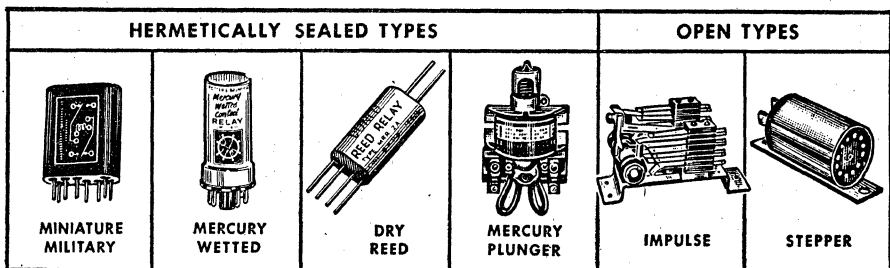
YOUR HANDY GUIDE FOR LOCATING RELAY TYPES AND APPLICATIONS

**BUY AT  
FACTORY  
PRICES—  
SAME-DAY  
SHIPMENT**



RELAY TYPE	RELAY TYPE		CATALOG PAGE			
AC Operated (60 CPS)	285, 287, 288, 289, 290, 291, 293, 294, 297, 298, 300	286, 287, 288, 294, 298, 300, 301, 303	292, 301	301	294, 295, 302, 303, 304	293
DC Operated	285, 287, 288, 289, 290, 293, 294, 297, 298, 300	286, 287, 288, 293, 294, 298, 300, 301, 303	292, 301	292, 301	294, 295, 302	
Current Operated or Sensitive Type	285, 287, 288, 289, 293, 297, 298, 300	286, 287, 288, 298, 300, 303	292, 301	292		
Open Type					302, 304	
Removable Cover		286, 287, 288, 303		292, 301	302, 303, 304	293
Built-In Pilot Light		286, 294, 300				
Hermetically Sealed		286, 288, 301		292, 301	294, 295	
Antenna Switching	290					
Latch-In Type	289, 290, 298, 300	303				
Low-Level Switching	289	286	292, 301			
Plug-In		286, 288, 293, 294, 298, 300, 301, 303		292, 301	294, 295, 302	293
Power	285, 287, 288, 290, 291, 297, 298, 300	286, 287, 288, 303	292, 301		302, 303, 304	
Twin Contact			292, 301			
U. L. Listed	285, 287, 288, 290	287				

**WORLD'S  
LARGEST,  
MOST  
EXTENSIVE  
INVENTORY**



RELAY TYPE	CATALOG PAGE					
AC Operated (60 CPS)	303 (400 CPS)			295	289, 291, 298	289, 296
DC Operated	288, 289, 291, 298, 299, 303, 305	290	299, 302		289, 291	289, 296
Current Operated or Sensitive Type	288, 289, 293, 298	290	299			
Antenna Switching			299, 302			
Crystal Can	291, 299, 303					
Latch-In	289, 291		302			289, 296
Encapsulated			299, 302			
Low-Level Switching	289, 291, 303	290	299, 302			
Plug-In	288, 289, 291, 293, 299	290	299			
Printed Circuit	289, 291, 299, 305		299, 302			
Power	303			295		
Twin Contact	289					

# Potter & Brumfield General-Purpose Relays

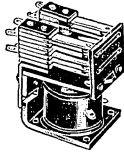


ALPHABETICAL LISTING OF P & B RELAYS AND THEIR RESPECTIVE PAGES IN THIS CATALOG

Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page
AB	287	FC	289	GP	285	KHP	286	KRP-N	286	MB	292	MR	287	PW	288	SS	289
ABC	287	FL	289	JM	290	KHS	286	KT	290	MF	292	MS	291	RS	289	TL	291
AP	289	GA	285	KA	285	KL	287	LB	288	MG	292	PC	291	SC	291		
BS	292	GB	288	KB	290	KM	290	LM	288	MH	292	PM	287	SL	291		
BU	289	GM	289	KCP	288	KRP	286	LS	292	ML	292	PR	288	SM	289		

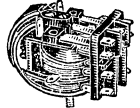
## SERIES GA MULTIPLE-CONTACT RELAYS

For remote power switching, general circuit- and power-control uses. Withstand mobile shock and vibration. Moisture resistant coil prevents damage from high humidity, 5-amp contacts. AC coils for 60 cycles. Power at 25°C; DC—2 watts nominal, 6 watts maximum; AC—6 volt-amps. Temperature range: -45°C; AC to +45°C; DC to +75°C. Pull-in voltage: AC—78% or less of nominal voltage; DC—75% or less. Tapped core permits mounting with single 8-32 screw. Size, 1 $\frac{1}{16}$ x1 $\frac{23}{32}$ x1 $\frac{25}{32}$ ". Shpg. wt., 6 oz.



## SERIES KA OPEN-TYPE RELAYS

Light-duty power relays for small motors, solenoids, general automation work, etc. Power at 25°C: DC—100 mw minimum, 4 watts maximum; AC—2.0 volt-amps. Operate (approx.) 15 msec., release 10 msec. 10 million cycle life. 100 megohm minimum insulation resistance. Breakdown, 1500 v. rms, 60 cycles. Shock, 30 Gs. Temperature range: -45°C; AC to +70°C; DC to +85°C. All coils are for 60 cycles. AC types are U.L. and CSA Listed. DC 5-amp types are U.L. Listed. 6-32 mounting stud. 1 $\frac{11}{16}$ x1 $\frac{27}{32}$ x1 $\frac{15}{32}$ ". Shpg. wt., 6 oz.



### COIL DATA FOR SERIES GA AND GP RELAYS

DC COILS			AC COILS		
Volts	Resistance In Ohms	Av. Current Milliamps	Volts	Resistance In Ohms	Av. Current Milliamps
6	18	333	6	1.7	1000
12	72	167	12	6.8	500
24	288	83	24	24.0	260
110	6,050	18	115	725	50
			230	2,950	25

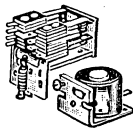
### COIL DATA FOR SERIES KA RELAYS

DC COILS			AC COILS		
Volts	Resistance In Ohms	Av. Current Milliamps	Volts	Resistance In Ohms	Av. Current Milliamps
6	32	188	6	5.1	335
12	120	100	12	21	168
24	472	51	24	75	84
110	10,000	11.5	115	2,250	17.5
			230	9,110	8.75

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 192	GA11A	6 AC	DPDT	3.35	3.19	3.02	2.34	2.18
76 P 784	GA11A	12 AC	DPDT	3.35	3.19	3.02	2.34	2.18
75 P 194	GA11A	24 AC	DPDT	3.35	3.19	3.02	2.34	2.18
75 P 196	GA11A	115 AC	DPDT	3.35	3.19	3.02	2.34	2.18
75 P 198	GA11D	6 DC	DPDT	3.35	3.19	3.02	2.34	2.18
75 P 105	GA11D	12 DC	DPDT	3.35	3.19	3.02	2.34	2.18
75 P 107	GA11D	24 DC	DPDT	3.35	3.19	3.02	2.34	2.18
76 P 527	GA11D	110 DC	DPDT	3.80	3.61	3.42	2.66	2.47
76 P 013	GA14A	24 AC	3PDT	4.05	3.85	3.65	2.84	2.64
76 P 014	GA14A	115 AC	3PDT	4.05	3.85	3.65	2.84	2.64
76 P 015	GA14D	12 DC	3PDT	4.05	3.85	3.65	2.84	2.64
76 P 016	GA14D	24 DC	3PDT	4.05	3.85	3.65	2.84	2.64
75 P 193	GA17A	6 AC	4PDT	4.85	4.65	4.37	3.39	3.15
76 P 526	GA17A	12 AC	4PDT	4.85	4.65	4.37	3.39	3.15
75 P 195	GA17A	24 AC	4PDT	4.85	4.65	4.37	3.39	3.15
75 P 197	GA17A	115 AC	4PDT	4.85	4.65	4.37	3.39	3.15
76 P 786	GA17A	230 AC	4PDT	5.25	4.99	4.73	3.67	3.41
75 P 199	GA17D	6 DC	4PDT	4.85	4.65	4.37	3.39	3.15
75 P 106	GA17D	12 DC	4PDT	4.85	4.65	4.37	3.39	3.15
75 P 108	GA17D	24 DC	4PDT	4.85	4.65	4.37	3.39	3.15
76 P 785	GA17D	110 DC	4PDT	5.30	5.04	4.77	3.71	3.45

## SERIES GP "PIC & BUILD" RELAYS

Built-in flexibility—separate coils and switches combine to produce 20 different relays that quickly convert to alternative sensitivities or switching arrangements. For prototypes, testing relay requirements, etc. Size of assembled relay and general specifications same as Series GA (above). Av. shpg. wt., 4 oz.



Stock No.	Mfr's Type	Description	EACH				
			1-24	25-49	50-99	100-249	250-499
76 P 333	GPA	6 AC	1.65	1.57	1.49	1.15	1.07
76 P 539	GPA	12 AC	1.65	1.57	1.49	1.15	1.07
76 P 334	GPA	24 AC	1.65	1.57	1.49	1.15	1.07
76 P 335	GPA	115 AC	1.65	1.57	1.49	1.15	1.07
76 P 336	GPA	230 AC	2.10	2.00	1.89	1.47	1.37
76 P 341	GPD	2500 Ohms	1.50	1.43	1.35	1.05	.98
76 P 017	GPD	5000 Ohms	1.75	1.66	1.53	1.23	1.14
76 P 342	GPD	10,000 Ohms	2.10	2.00	1.89	1.47	1.37
76 P 337	GPD	6 DC	2.10	2.00	1.89	1.47	1.37
76 P 338	GPD	12 DC	2.10	2.00	1.89	1.47	1.37
76 P 339	GPD	24 DC	2.10	2.00	1.89	1.47	1.37
76 P 340	GPD	110 DC	3.15	3.00	2.84	2.20	2.05
76 P 343	GP11	DPDT Switch	1.70	1.62	1.53	1.19	1.11
76 P 344	GP17	4PDT Switch	2.95	2.81	2.66	2.06	1.92

### FAST DELIVERY—OEM PRICES

Allied supplies the entire Potter & Brumfield line at OEM prices. Any item is available immediately in large or small quantities. Call the Allied office nearest you—see page 1 for locations.

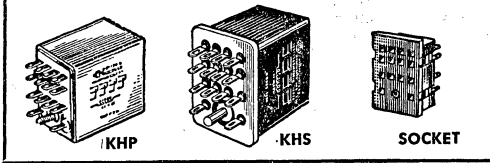
Stock No.	Mfr's Type	Coil Volts	Action	5 AMP EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 158	KA5AY	6 AC	SPDT	3.20	3.04	2.88	2.24	2.08
76 P 780	KA5AY	12 AC	SPDT	3.20	3.04	2.88	2.24	2.08
75 P 161	KA5AY	24 AC	SPDT	3.20	3.04	2.88	2.24	2.08
75 P 164	KA5AY	115 AC	SPDT	3.20	3.04	2.88	2.24	2.08
75 P 153	KA5AY	230 AC	SPDT	3.60	3.42	3.24	2.52	2.34
75 P 167	KA5DY	6 DC	SPDT	3.05	2.90	2.75	2.13	1.98
75 P 170	KA5DY	12 DC	SPDT	3.05	2.90	2.75	2.13	1.98
75 P 173	KA5DY	24 DC	SPDT	3.05	2.90	2.75	2.13	1.98
76 P 782	KA5DY	110 DC	SPDT	3.65	3.47	3.29	2.55	2.37
75 P 159	KA11AY	6 AC	DPDT	3.85	3.66	3.47	2.69	2.50
76 P 781	KA11AY	12 AC	DPDT	3.85	3.66	3.47	2.69	2.50
75 P 162	KA11AY	24 AC	DPDT	3.85	3.66	3.47	2.69	2.50
75 P 165	KA11AY	115 AC	DPDT	3.85	3.66	3.47	2.69	2.50
76 P 783	KA11AY	230 AC	DPDT	4.25	4.04	3.83	3.15	2.94
75 P 168	KA11DY	6 DC	DPDT	3.40	3.23	3.06	2.38	2.21
75 P 171	KA11DY	12 DC	DPDT	3.40	3.23	3.06	2.38	2.21
75 P 174	KA11DY	24 DC	DPDT	3.40	3.23	3.06	2.38	2.21
76 P 522	KA11DY	110 DC	DPDT	4.00	3.80	3.60	2.80	2.60
75 P 160	KA14AY	6 AC	3PDT	4.25	4.04	3.83	3.15	2.94
76 P 779	KA14AY	12 AC	3PDT	4.25	4.04	3.83	3.15	2.94
75 P 163	KA14AY	24 AC	3PDT	4.25	4.04	3.83	3.15	2.94
75 P 166	KA14AY	115 AC	3PDT	4.25	4.04	3.83	3.15	2.94
75 P 152	KA14AY	230 AC	3PDT	4.40	4.18	3.96	3.08	2.86
75 P 169	KA14DY	6 DC	3PDT	3.85	3.66	3.47	2.69	2.50
75 P 172	KA14DY	12 DC	3PDT	3.85	3.66	3.47	2.69	2.50
75 P 185	KA14DY	24 DC	3PDT	3.85	3.66	3.47	2.69	2.50
76 P 523	KA14DY	110 DC	3PDT	4.45	4.23	4.01	3.11	2.89

Stock No.	Mfr's Type	Coil Volts	Action	10 AMP EACH				
				1-24	25-49	50-99	100-249	250-499
77 P 643	KA5AG	6 AC	SPDT	3.25	3.09	2.93	2.28	2.11
77 P 644	KA5AG	12 AC	SPDT	3.25	3.09	2.93	2.28	2.11
77 P 645	KA5AG	24 AC	SPDT	3.25	3.09	2.93	2.28	2.11
77 P 646	KA5AG	115 AC	SPDT	3.25	3.09	2.93	2.28	2.11
77 P 647	KA5AG	230 AC	SPDT	3.65	3.47	3.29	2.56	2.37
76 P 029	KA5DG	6 DC	SPDT	3.10	2.94	2.79	2.17	2.02
76 P 530	KA5DG	12 DC	SPDT	3.10	2.94	2.79	2.17	2.02
76 P 031	KA5DG	24 DC	SPDT	3.10	2.94	2.79	2.17	2.02
76 P 032	KA5DG	110 DC	SPDT	3.70	3.51	3.33	2.59	2.41
77 P 648	KA11AG	6 AC	DPDT	3.95	3.75	3.56	2.77	2.57
77 P 649	KA11AG	12 AC	DPDT	3.95	3.75	3.56	2.77	2.57
77 P 650	KA11AG	24 AC	DPDT	3.95	3.75	3.56	2.77	2.57
77 P 651	KA11AG	115 AC	DPDT	3.95	3.75	3.56	2.77	2.57
77 P 654	KA11AG	230 AC	DPDT	4.35	4.13	3.92	3.05	2.83
76 P 020	KA11DG	6 DC	DPDT	3.50	3.32	3.15	2.45	2.28
76 P 021	KA11DG	12 DC	DPDT	3.50	3.32	3.15	2.45	2.28
76 P 022	KA11DG	24 DC	DPDT	3.50	3.32	3.15	2.45	2.28
76 P 023	KA11DG	110 DC	DPDT	4.10	3.89	3.69	2.87	2.66
77 P 655	KA14AG	6 AC	3PDT	4.40	4.18	3.96	3.08	2.86
77 P 656	KA14AG	12 AC	3PDT	4.40	4.18	3.96	3.08	2.86
77 P 657	KA14AG	24 AC	3PDT	4.40	4.18	3.96	3.08	2.86
77 P 658	KA14AG	115 AC	3PDT	4.40	4.18	3.96	3.08	2.86
77 P 659	KA14AG	230 AC	3PDT	4.80	4.56	4.32	3.36	3.12
76 P 024	KA14DG	6 DC	3PDT	4.00	3.80	3.60	2.80	2.60
76 P 025	KA14DG	12 DC	3PDT	4.00	3.80	3.60	2.80	2.60
76 P 026	KA14DG	24 DC	3PDT	4.00	3.80	3.60	2.80	2.60
76 P 027	KA14DG	110 DC	3PDT	4.60	4.37	4.14	3.22	2.99



# Potter & Brumfield General-Purpose Relays

## SERIES KH MINIATURE 4-PDT RELAYS



For data processing, computer control, etc. 100 million cycle life. KHP types: Coil power at 25°C: DC—0.5 watts minimum, 2.0 watts maximum; AC—1.20 volt-amps. Breakdown, 500 v. rms, 60 cycles. Temperature range, -45 to +70°C.  $\frac{3}{32}$ " silver contacts; 3 amps at 30 v. DC or 115 v. AC, resistive. Solder terminals. 3-48 mtg. stud,  $\frac{23}{64}$ " long,  $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{16}$ ". KHS types: Similar specs as above, but hermetically sealed.  $\frac{7}{8} \times 1\frac{1}{2} \times 1\frac{1}{4}$ ". Gold-finished silver contacts. Both types adapt to sockets below. Av. wt., 2 oz.

### COIL DATA FOR SERIES KH RELAYS

DC COILS			AC COILS		
Volts	Resistance In Ohms ±10% @25°C	Inductance In Hys (approx.)	Volts	Resistance In Ohms ±10% @25°C	Average Current Milliamps
6	40	.08	6	10.5	200
12	160	.28	12	43	100
24	650	1.0	24	160	52
48	2600	4.5	115	3900	10.5
90	9000	13.5	...	.....	.....
110	11,000	17.0	...	.....	.....

### SERIES KHP—NYLON DUST COVER

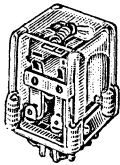
Stock No.	Mfr's Type	Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
74 P 252	KHP17A11	6 AC	5.85	5.56	5.27	4.10	3.80
74 P 253	KHP17A11	12 AC	5.85	5.56	5.27	4.10	3.80
74 P 254	KHP17A11	24 AC	5.85	5.56	5.27	4.10	3.80
74 P 255	KHP17A11	115 AC	6.25	5.94	5.63	4.38	4.06
77 P 675	KHP17D11	6 DC	4.80	4.56	4.32	3.36	3.12
77 P 676	KHP17D11	12 DC	4.80	4.56	4.32	3.36	3.12
77 P 677	KHP17D11	24 DC	4.80	4.56	4.32	3.36	3.12
77 P 678	KHP17D11	48 DC	5.00	4.75	4.50	3.50	3.25
77 P 680	KHP17D11	90 DC	5.60	5.32	5.04	3.92	3.64
77 P 679	KHP17D11	110 DC	5.60	5.32	5.04	3.92	3.64

### SERIES KHS—HERMETICALLY SEALED, METAL COVER

Stock No.	Mfr's Type	Volts	1-24	25-49	50-99	100-249	250-499
74 P 256	KHS17A11	6 AC	10.60	10.07	9.54	7.42	6.89
74 P 257	KHS17A11	12 AC	10.60	10.07	9.54	7.42	6.89
74 P 258	KHS17A11	24 AC	10.60	10.07	9.54	7.42	6.89
74 P 259	KHS17A11	115 AC	11.00	10.45	9.90	7.70	7.15
76 P 047	KHS17D11	6 DC	7.75	7.37	6.98	5.43	5.03
76 P 048	KHS17D11	12 DC	7.75	7.37	6.98	5.43	5.03
76 P 049	KHS17D11	24 DC	7.75	7.37	6.98	5.43	5.03
76 P 050	KHS17D11	110 DC	8.55	8.13	7.69	5.99	5.56

### SOCKETS

Stock No.	Type	Terminal	1-24	25-49	50-99	100-249	250-499
75 P 940	9KH1	Solder term.	.60	.57	.54	.42	.39
75 P 990	9KH2	PC terminal	.60	.57	.54	.42	.39

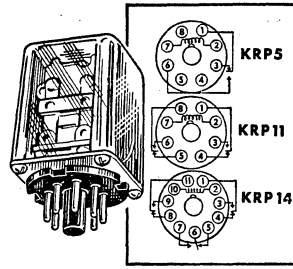


### SERIES KRP-N INDICATOR-LAMP RELAYS

Similar to Series KRP (at right), but incorporates a lamp to indicate current or voltage availability in power circuits. Lamp lights when coil is energized.  $\frac{3}{16}$ " dia. silver cadmium-oxide contacts rated 10 amps. Standard octal mounting socket for KRP11, 11-pin socket for KRP14, and optional hold-down spring listed on following page under "Accessories." Wt., 5 oz.

Stock No.	Mfr's Type	Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
77 P 666	KRP11AN	6 AC	DPDT	7.15	6.79	6.43	5.01	4.65
77 P 667	KRP11AN	12 AC	DPDT	7.15	6.79	6.43	5.01	4.65
77 P 668	KRP11AN	24 AC	DPDT	7.15	6.79	6.43	5.01	4.65
77 P 669	KRP11AN	115 AC	DPDT	7.15	6.79	6.43	5.01	4.65
77 P 670	KRP11AN	230 AC	DPDT	7.55	7.17	6.79	5.29	4.91
77 P 671	KRP11DN	6 DC	DPDT	7.10	6.74	6.39	4.97	4.62
77 P 672	KRP11DN	12 DC	DPDT	7.10	6.74	6.39	4.97	4.62
77 P 673	KRP11DN	24 DC	DPDT	7.10	6.74	6.39	4.97	4.62
77 P 674	KRP11DN	110 DC	DPDT	7.70	7.31	6.93	5.39	5.01
77 P 050	KRP14AN	6 AC	3PDT	8.70	8.27	7.83	6.09	5.66
77 P 051	KRP14AN	12 AC	3PDT	8.70	8.27	7.83	6.09	5.66
77 P 052	KRP14AN	24 AC	3PDT	8.70	8.27	7.83	6.09	5.66
77 P 053	KRP14AN	115 AC	3PDT	8.70	8.27	7.83	6.09	5.66
77 P 055	KRP14AN	230 AC	3PDT	9.10	8.64	8.19	6.37	5.92

## SERIES KRP ENCLOSED RELAYS



For automation controls, communication circuits, etc. Completely dust and weather proofed. Enclosed in high-impact, transparent, cellulose acetate case. Coil power at 25°C: DC—100 mw minimum, 4 watts maximum; AC—2 volt-amps. Temperature range: -45°C minimum; AC to +70°C maximum; DC to +85°C maximum. Operate (approx.) 15 msec., release 10 msec. 10 million cycle life. 1000 megohm minimum insulation resistance. Breakdown, 500 v. rms, 60 cycles. Shock, 30 Gs. KRP5 and KRP11 plug into standard octal socket. KRP14 plugs into 11-pin socket. Sockets and hold-down springs listed on following page. Size,  $1\frac{1}{2} \times 1\frac{1}{2} \times 2\frac{1}{2}$ ". Wt., 5 oz.

v. rms, 60 cycles. Shock, 30 Gs. KRP5 and KRP11 plug into standard octal socket. KRP14 plugs into 11-pin socket. Sockets and hold-down springs listed on following page. Size,  $1\frac{1}{2} \times 1\frac{1}{2} \times 2\frac{1}{2}$ ". Wt., 5 oz.

### COIL DATA FOR SERIES KRP AND KRP-N RELAYS

DC COILS			AC COILS		
Volts	Resistance In Ohms	Av. Current Milliamps	Volts	Resistance In Ohms	Av. Current Milliamps
6	32	188	6	5.1	335
12	120	100	12	21	168
24	472	51	24	75	84
110	10,000	11.5	115	2250	17.5
			230	9110	8.75

### 5 AMP

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 214	KRP5A	6 AC	SPDT	5.45	5.18	4.91	3.81	3.54
75 P 215	KRP5A	24 AC	SPDT	5.45	5.18	4.91	3.81	3.54
75 P 213	KRP5A	115 AC	SPDT	5.45	5.18	4.91	3.81	3.54
75 P 217	KRP5D	6 DC	SPDT	5.40	5.13	4.86	3.78	3.51
75 P 244	KRP5D	12 DC	SPDT	5.40	5.13	4.86	3.78	3.51
75 P 245	KRP5D	24 DC	SPDT	5.40	5.13	4.86	3.78	3.51
75 P 240	KRP5D	110 DC	SPDT	6.00	5.70	5.40	4.20	3.90
75 P 920	KRP11A	6 AC	DPDT	6.05	5.75	5.45	4.23	3.93
75 P 524	KRP11A	12 AC	DPDT	6.05	5.75	5.45	4.23	3.93
75 P 216	KRP11A	24 AC	DPDT	6.05	5.75	5.45	4.23	3.93
75 P 921	KRP11A	115 AC	DPDT	6.05	5.75	5.45	4.23	3.93
76 P 597	KRP11A	230 AC	DPDT	6.45	6.13	5.81	4.41	4.19
75 P 922	KRP11D	6 DC	DPDT	6.00	5.70	5.40	4.20	3.90
75 P 246	KRP11D	12 DC	DPDT	6.00	5.70	5.40	4.20	3.90
75 P 247	KRP11D	24 DC	DPDT	6.00	5.70	5.40	4.20	3.90
76 P 352	KRP11D	110 DC	DPDT	6.60	6.27	5.94	4.62	4.29
75 P 091	KRP14A	6 AC	3PDT	7.50	7.13	6.75	5.25	4.88
76 P 525	KRP14A	12 AC	3PDT	7.50	7.13	6.75	5.25	4.88
75 P 092	KRP14A	24 AC	3PDT	7.50	7.13	6.75	5.25	4.88
75 P 093	KRP14A	115 AC	3PDT	7.50	7.13	6.75	5.25	4.88
75 P 557	KRP14A	230 AC	3PDT	7.90	7.50	7.11	5.53	5.14
75 P 094	KRP14D	6 DC	3PDT	7.45	7.08	6.71	5.21	4.84
75 P 095	KRP14D	12 DC	3PDT	7.45	7.08	6.71	5.21	4.84
75 P 096	KRP14D	24 DC	3PDT	7.45	7.08	6.71	5.21	4.84
76 P 998	KRP14D	110 DC	3PDT	8.05	7.65	7.25	5.63	5.23

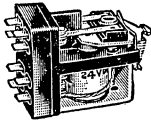
### 10 AMP

Stock No.	Mfr's Type	Coil Volts	Action	1-24	25-49	50-99	100-249	250-499
76 P 746	KRP5AG	6 AC	SPDT	5.55	5.27	5.00	3.88	3.61
76 P 987	KRP5AG	24 AC	SPDT	5.55	5.27	5.00	3.88	3.61
76 P 993	KRP5AG	115 AC	SPDT	5.55	5.27	5.00	3.88	3.61
76 P 749	KRP5DG	6 DC	SPDT	5.50	5.23	4.95	3.85	3.58
76 P 984	KRP5DG	12 DC	SPDT	5.50	5.23	4.95	3.85	3.58
76 P 990	KRP5DG	24 DC	SPDT	5.50	5.23	4.95	3.85	3.58
76 P 996	KRP5DG	110 DC	SPDT	6.10	5.80	5.49	4.27	3.97
76 P 747	KRP11AG	6 AC	DPDT	6.25	5.94	5.63	4.37	4.06
76 P 982	KRP11AG	12 AC	DPDT	6.25	5.94	5.63	4.37	4.06
76 P 988	KRP11AG	24 AC	DPDT	6.25	5.94	5.63	4.37	4.06
76 P 994	KRP11AG	115 AC	DPDT	6.25	5.94	5.63	4.37	4.06
76 P 153	KRP11AG	230 AC	DPDT	6.65	6.31	5.98	4.66	4.32
76 P 819	KRP11DG	6 DC	DPDT	6.20	5.89	5.58	4.34	4.03
76 P 985	KRP11DG	12 DC	DPDT	6.20	5.89	5.58	4.34	4.03
76 P 991	KRP11DG	24 DC	DPDT	6.20	5.89	5.58	4.34	4.03
76 P 997	KRP11DG	110 DC	DPDT	6.80	6.46	6.12	4.76	4.42
76 P 748	KRP14AG	6 AC	3PDT	7.80	7.41	7.02	5.46	5.07
76 P 983	KRP14AG	12 AC	3PDT	7.80	7.41	7.02	5.46	5.07
76 P 989	KRP14AG	24 AC	3PDT	7.80	7.41	7.02	5.46	5.07
76 P 995	KRP14AG	115 AC	3PDT	7.80	7.41	7.02	5.46	5.07
76 P 152	KRP14AG	230 AC	3PDT	8.20	7.79	7.38	5.74	5.33
76 P 981	KRP14DG	6 DC	3PDT	7.75	7.36	6.98	5.42	5.04
76 P 986	KRP14DG	12 DC	3PDT	7.75	7.36	6.98	5.42	5.04
76 P 992	KRP14DG	24 DC	3PDT	7.75	7.36	6.98	5.42	5.04
76 P 999	KRP14DG	110 DC	3PDT	8.35	7.93	7.52	5.84	5.43

# Potter & Brumfield General-Purpose and Power Relays

## AB APPLIANCE RELAYS

Equipped with terminals to fit snap-on connectors. Terminals can also be used with circuits using dip-soldering. Snap-on screw adapters with each relay. DPDT silver contacts rated 10 amps. Mtg.; Two 8-32 tapped holes on 1 1/4" centers. 1 1/2"x1 1/2"x3". U.L. and C.S.A. Listed. Av. shpg. wt., 8 oz.



Stock No.	Mfr's Type	Coil Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
75 P 399	AB11AY	6 AC	5.30	5.04	4.77	3.71	3.45
75 P 418	AB11AY	24 AC	5.30	5.04	4.77	3.71	3.45
75 P 419	AB11AY	115 AC	5.30	5.04	4.77	3.71	3.45
75 P 448	AB11AY	230 AC	5.70	5.42	5.13	3.99	3.71
76 P 768	AB11D	12 DC	5.20	4.94	4.68	3.64	3.38
76 P 769	AB11D	24 DC	5.20	4.94	4.68	3.64	3.38
75 P 449	AB11D	110 DC	5.70	5.42	5.13	3.99	3.71

## COIL DATA FOR AB AND ABC SERIES

DC COILS			AC COILS (60 cycles)		
Volts	Resistance (Ohms)	Average DC Current (ma)	Volts	DC Resistance (Ohms)	Average AC Current (ma)
6	18	333	6	1.3	1100
12	72	167	24	23	260
24	288	84	115	510	55
110	6050	18.2	230	2050	28

## MR MEDIUM-DUTY POWER RELAYS

For general-purpose use. SPST relays normally open. Silver contacts rated at 8 amps, except \*10 amps. Size: SP units, 1 1/16"x1 1/2"x2 3/32"; DP units, 2x2 3/16"x2 1/2"x3/8"; 3P units, 2x2 3/16"x2 3/32". Mtg.: two 3/32" holes on 2 3/8" ctrs., except 2 1/4" ctrs. for DP units, 4 oz.

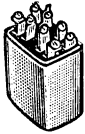


## COIL DATA FOR MR SERIES

Volts	DC COILS		AC COILS (60 Cycle)		
	Resistance (Ohms)	Average DC Current (ma)	Volts	DC Resistance (Ohms)	Average AC Current (ma)
6	24	250	6	2.75	550
12	96	125	12	13.25	268
24	360	67	24	50.0	134
110	8000	14.4	115	1250	28
			230	4600	14

## ABC MEDIUM-DUTY POWER RELAYS

Basically the same as above Series AB, but with dust covers. Typically used with small motors, industrial controls, and similar applications. All DPDT silver contacts with 10-ampere current rating. Size: 1 3/16"x2 3/32"x2 3/8" high above chassis. Terminals fit clip-on connectors, supplied. Mount by one No. 8-32" stud 3/8" long. U.L. and C.S.A. Listed. 7 oz.

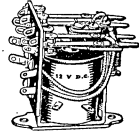


Stock No.	Mfr's Type	Coil Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
75 P 431	ABC11AY	6 AC	6.40	6.08	5.76	4.48	4.16
75 P 432	ABC11AY	24 AC	6.40	6.08	5.76	4.48	4.16
75 P 433	ABC11AY	115 AC	6.40	6.08	5.76	4.48	4.16
75 P 464	ABC11AY	230 AC	6.80	6.46	6.12	4.76	4.42
76 P 770	ABC11D	6 DC	6.30	5.99	5.67	4.41	4.10
76 P 771	ABC11D	12 DC	6.30	5.99	5.67	4.41	4.10
76 P 772	ABC11D	24 DC	6.30	5.99	5.67	4.41	4.10
75 P 465	ABC11D	110 DC	6.80	6.46	6.12	4.76	4.42

## GENERAL-PURPOSE RELAYS

### KL MULTIPLE-CONTACT MIDGET RELAYS

Widely used in industrial machine controls, elevator controls, communication equipment, etc. High dielectric phenolic insulation. Silver contacts rated at 5 amps at 115 volts, 60 cycle AC resistive. AC coils are for 60 cycles. 1 2/32"x2 1/32"x1 1/16". Av. shpg. wt., 5 oz.



Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 530	KL11A	12 AC	DPDT	4.80	4.56	4.32	3.36	3.12
76 P 724	KL11A	24 AC	DPDT	4.80	4.56	4.32	3.36	3.12
76 P 532	KL11A	115 AC	DPDT	4.80	4.56	4.32	3.36	3.12
76 P 533	KL14A	115 AC	3PDT	5.35	5.09	4.82	3.74	3.48
76 P 537	KL14D	24 DC	3PDT	5.15	4.89	4.64	3.61	3.35
75 P 219	KL17A	24 AC	4PDT	6.30	5.99	5.67	4.41	4.10
75 P 218	KL17A	115 AC	4PDT	6.30	5.99	5.67	4.41	4.10
76 P 723	KL17D	12 DC	4PDT	6.00	5.70	5.40	4.20	3.90
75 P 220	KL17D	24 DC	4PDT	6.00	5.70	5.40	4.20	3.90
76 P 538	KL17D	110 DC	4PDT	6.60	6.27	5.94	4.62	4.29

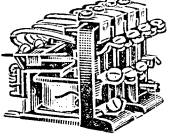
## RELAY ACCESSORIES

8-Pin "P" Case. Fits KC and KR relays. Octal base. Constructed of transparent plastic. Measures 2x1 1/2"x2 1/32". Shpg. wt., 2 oz.  
 75 P 558. 1-24...EACH .55 25-49...EACH .52 50-99...EA. .49 100-249...EA. .39 250-499...EA. .36  
 11-Pin "P" Case. As above, but with 11-pin base. 2 oz.  
 75 P 559. 1-24...EACH .70 25-49...EACH .66 50-99...EACH .63 100-249...EACH .49 250-499...EACH .46  
 Amphenol Type 146-103. Octal socket for KRP, KRP-N, KCP relays except 3PDT type. Shpg. wt., 5 oz.  
 40 H 180.....1.44  
 Amphenol Type 77MIP11. 11-pin socket for 3PDT, KRP, KRP-N, KCP relays. Shpg. wt., 2 oz.  
 40 H 033.....21  
 KR Hold-down Springs. For horizontal, inverted, or vibration-secure mtg. of relays. 3/32" mtg. holes. 50 per box. 3 oz.  
 75 P 554.....BOX OF 50 5.00



## PM POWER RELAYS

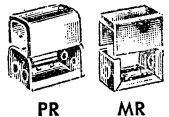
Compact. For polyphase and heavy-duty switching. 4PDT. Silver-cadmium-oxide contacts rated at 25 amps, 220 v., 50-60 cycle, non-inductive. 1 hp per movable arm @ 115 or 220 v., single-phase. U.L. Listed except 440 v. Mount by key-hole and 2 channels for 8-32 screws. 2 4/64"x2 3/32"x2 3/64". 1 lb.



Stock No.	Mfr's Type	Coil Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
77 P 634	PM17AY	6 AC	12.35	11.73	11.11	8.65	8.03
77 P 635	PM17AY	12 AC	12.35	11.73	11.11	8.65	8.03
77 P 636	PM17AY	24 AC	12.35	11.73	11.11	8.65	8.03
77 P 637	PM17AY	115 AC	12.35	11.73	11.11	8.65	8.03
77 P 638	PM17AY	230 AC	12.35	11.73	11.11	8.93	8.29
77 P 499	PM17AY	440 AC	13.60	12.92	12.24	9.52	8.84

## RELAY COVERS

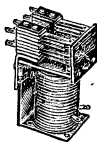
Type 35D013. For PR relays. Has a sheet-steel base with knockouts for 1/2" dia. conduit and an aluminum cover fitted with two screws. In gray baked-enamel.  
 Type 35D227. For PM relays. Compact, heavy-duty molded dust cover—protects relay from dirt, dust, solder shorts, etc.  
 Type 35D130. For MR and MS relays: Constructed of heavy steel to provide maximum protection. Base has pre-drilled holes. Two knock-out holes for standard conduit fittings.



Stock No.	Mfr's Type	Use With	EACH				
			1-24	25-99	50-99	100-249	250-499
76 P 777	35D013	PR	3.00	2.85	2.70	2.10	1.95
77 P 497	35D227	PM	3.00	2.85	2.70	2.10	1.95
76 P 778	35D130	MR/MS	1.90	1.80	1.71	1.33	1.23

# Potter & Brumfield Plate-Circuit and Power Relays

## SENSITIVE PLATE-CIRCUIT RELAYS

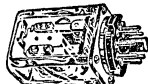


### GB RELAYS

Medium-cost plate-circuit relays. Sensitivity: 115 mw for single pole, and 275 mw for 4 pole. Silver contacts designed for maximum self-cleaning action; non-adjustable pull-in. Rated at 5 amperes. Mounting: 8-32 tapped core and locating half-punch.  $2\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{4}$ " Shpg. wt., 6 oz.

Stock No.	Mfr's Type	Coil		Action	EACH				
		Ma	Ohms		1-24	25-49	50-99	100-249	250-499
76 P 789	GB5D	6.8	2,500	SPDT	3.45	3.28	3.11	2.41	2.24
76 P 792	GB5D	4.8	5,000	SPDT	3.60	3.42	3.24	2.52	2.34
76 P 790	GB11D	7.0	2,500	DPDT	4.85	4.65	4.37	3.39	3.15
76 P 793	GB11D	5.0	5,000	DPDT	4.95	4.71	4.46	3.46	3.22
76 P 796	GB11D	3.53	10,000	DPDT	5.50	5.23	4.95	3.85	3.58
76 P 791	GB17D	10.5	2,500	4PDT	5.80	5.51	5.22	4.06	3.77
76 P 797	GB17D	5.25	10,000	4PDT	6.40	6.08	5.76	4.48	4.16

### KCP ENCLOSED RELAYS



Sensitive plate-circuit relays in transparent, high-impact, weatherproof case. Sensitivity: 125 mw, single pole; 250 mw, double pole; 375 mw, 3 pole. KCP5 and KCP11 plug into a standard octal socket; KCP14 plugs into a standard 11-pin socket. Gold-flashed silver contacts rated 2 amps.  $1\frac{1}{2} \times 2\frac{1}{2} \times 2\frac{1}{2}$ " high. Shpg. wt., 5 oz.

### COIL DATA FOR KCP SERIES

Resistance (Ohms)	Single Pole Pull-In (ma)	Double Pole Pull-In (ma)	Three Pole Pull-In (ma)
2500	7.2	10.0	12.3
5000	5.0	7.2	8.7
10,000	3.6	5.0	6.1

Stock No.	Mfr's Type	Coil Ohms	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 287	KCP5	2500	SPDT	5.90	5.61	5.31	4.13	3.84
75 P 288	KCP5	5000	SPDT	6.00	5.70	5.40	4.20	3.90
75 P 289	KCP5	10,000	SPDT	6.40	6.08	5.76	4.48	4.16
75 P 290	KCP11	2500	DPDT	6.30	5.99	5.67	4.41	4.10
75 P 291	KCP11	5000	DPDT	6.40	6.08	5.76	4.48	4.16
75 P 292	KCP11	10,000	DPDT	6.80	6.46	6.12	4.76	4.42
75 P 097	KCP14	2500	3PDT	7.75	7.36	6.98	5.41	5.04
75 P 098	KCP14	5000	3PDT	7.85	7.46	7.07	5.49	5.10
75 P 099	KCP14	10,000	3PDT	8.25	7.84	7.43	5.77	5.36

KCP Hold-Down Springs. For horizontal, inverted, or vibration-secure mtg. of above relays.  $\frac{3}{32}$ " mtg. holes. 3 oz. 75 P 554. BOX OF 50 5.00

## PR HEAVY-DUTY FAST-ACTING POWER RELAYS

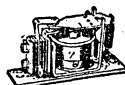


Heavy-duty power relays designed to handle a multitude of industrial switching requirements. Silver contacts rated 25 amps except PR11AL5, 20 amps. With heavy screw-terminals \*Indicates auxiliary 5-amp contacts. All are U.L. Listed except PR11AL5, AC types also C.S.A. Listed. Nominal power for AC types, 9.8 VA; for DC types, 2 watts. Mtg.: two  $\frac{3}{16}$ " holes on  $1\frac{1}{8}$ " ctrs. Sizes: all are  $2\frac{1}{2}$ " wide; PR3 and PR5,  $2\frac{1}{2} \times 2\frac{1}{2}$ "; PR7,  $2\frac{1}{2} \times 2\frac{1}{4}$ "; PR11,  $2\frac{1}{2} \times 3\frac{3}{8}$ ". For dust cover see page 287. 12 oz.

Stock No.	Type PR-	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 846	3AY	6 AC	SPST	4.15	3.94	3.73	2.90	2.69
76 P 751	3AY	12 AC	SPST	4.15	3.94	3.73	2.90	2.69
75 P 961	3AY	24 AC	SPST	4.15	3.94	3.73	2.90	2.69
75 P 600	3AY	115 AC	SPST	4.15	3.94	3.73	2.90	2.69
75 P 652	3AY	230 AC	SPST	4.50	4.28	4.05	3.15	2.93
76 P 509	3DV	12 DC	SPST	4.15	3.94	3.73	2.90	2.69
76 P 101	3DV	24 DC	SPST	4.15	3.94	3.73	2.90	2.69
75 P 968	3DV	110 DC	SPST	4.75	4.52	4.28	3.32	3.09
75 P 847	5AY	6 AC	SPDT	4.35	4.14	3.92	3.04	2.82
75 P 878	5AY	12 AC	SPDT	4.35	4.14	3.92	3.04	2.82
75 P 962	5AY	24 AC	SPDT	4.35	4.14	3.92	3.04	2.82
75 P 602	5AY	115 AC	SPDT	4.35	4.14	3.92	3.04	2.82
75 P 966	5AY	230 AC	SPDT	4.75	4.52	4.28	3.32	3.09
76 P 750	5DV	6 DC	SPDT	4.35	4.14	3.92	3.04	2.82
76 P 510	5DV	12 DC	SPDT	4.35	4.14	3.92	3.04	2.82
76 P 754	5DV	24 DC	SPDT	4.35	4.14	3.92	3.04	2.82
75 P 969	5DV	110 DC	SPDT	4.95	4.71	4.46	3.46	3.22
75 P 848	7AY	6 AC	DPST	4.90	4.66	4.41	3.43	3.19
75 P 879	7AY	12 AC	DPST	4.90	4.66	4.41	3.43	3.19
75 P 963	7AY	24 AC	DPST	4.90	4.66	4.41	3.43	3.19
75 P 603	7AY	115 AC	DPST	4.90	4.66	4.41	3.43	3.19

See page 285 for an alphabetical listing of all Potter & Brumfield relays with respective page references.

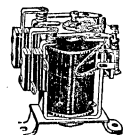
### LB-5 PLATE-CIRCUIT RELAYS



Small, fast-acting units. For any circuit supplying as little as 200 milliwatts of DC. Breakdown, 500 v., rms. Silver contacts rated at 5 amps, 28 v., SPDT action. Adjusted by tail spring hook. For DC only. Shpg. wt., 5 oz.

Stock No.	Ohms	Ma	EACH				
			1-24	25-49	50-99	100-249	250-499
75 P 625	2500	9	2.45	2.33	2.21	1.71	1.59
75 P 626	5000	6.3	2.65	2.52	2.39	1.85	1.72
75 P 774	10,000	4.5	2.85	2.71	2.57	1.99	1.85

### LM PLATE-CIRCUIT RELAYS



Armature spring-tension adjustment and adjustable residual screw permits settings for specific voltages and currents. (LM5; 0.1 to .015 watts, LM11; 0.2 to 0.07 watts.) Silver contacts rated at 5 amperes. LM5 is SPDT; LM11 is DPDT. Sizes: LM5,  $2\frac{1}{2} \times 1\frac{1}{4} \times 2\frac{1}{8}$ "; LM11,  $2\frac{1}{2} \times 2\frac{1}{2} \times 2\frac{1}{8}$ ". Wt., 9 oz.

Stock No.	Type	Ohms	Ma	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 673	LM5	2500	6.3	3.90	3.71	3.51	2.73	2.54
75 P 674	LM5	5000	4.5	4.10	3.90	3.69	2.87	2.67
75 P 675	LM5	10,000	3.2	4.40	4.18	3.96	3.08	2.86
75 P 682	LM11	2500	9.0	5.55	5.28	5.00	3.88	3.61
75 P 683	LM11	5000	6.3	5.75	5.47	5.18	4.02	3.74
75 P 684	LM11	10,000	4.5	6.30	5.99	5.67	4.41	4.10

### PW HERMETICALLY SEALED RELAYS



Precision, lightweight DC relays. Sealed in airtight brass cans. Withstand 10g vibration to 500 cps. Mount in standard 7-pin miniature socket. Silver contacts rated at 1 amp. Size,  $\frac{9}{16}$ " dia.;  $1\frac{1}{8}$ " high (above socket). \*Plate circuit type.  $\frac{1}{2}$  2.8 ma.  $\frac{1}{2}$  2 ma. Average shpg. wt., 2 oz.

Stock No.	Type	Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 018	PWSDS	6	202	10.25	9.74	9.23	7.17	6.56
75 P 019	PWSDS	12	810	10.25	9.74	9.23	7.17	6.56
75 P 027	PWSDS	24	3240	10.25	9.74	9.23	7.17	6.56
75 P 028	PWSLS†	2.8*	5000	10.60	10.04	9.54	7.42	6.89
75 P 029	PWSLS§	2.0*	10,000	11.00	10.45	9.90	7.70	7.15

### COIL DATA CHART FOR PR SERIES

DC COILS		AC COILS	
Volts	Resistance (Ohms)	Volts	Resistance (Ohms)
6	18	6	.86
12	71	12	3.2
24	288	24	12
110	6050	115	290
...	...	230	1200
...	...	440	4500

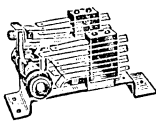
Stock No.	Type PR-	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 654	7AY	230 AC	DPST	5.35	5.09	4.82	3.74	3.48
76 P 102	7DY	6 DC	DPST	4.90	4.66	4.41	3.43	3.19
76 P 511	7DY	12 DC	DPST	4.90	4.66	4.41	3.43	3.19
76 P 513	7DY	24 DC	DPST	4.90	4.66	4.41	3.43	3.19
75 P 970	7DY	110 DC	DPST	5.50	5.23	4.95	3.85	3.58
75 P 849	11AY	6 AC	DPDT	6.45	6.13	5.81	4.51	4.19
76 P 752	11AY	12 AC	DPDT	6.45	6.13	5.81	4.51	4.19
75 P 964	11AY	24 AC	DPDT	6.45	6.13	5.81	4.51	4.19
75 P 663	11AY	115 AC	DPDT	6.45	6.13	5.81	4.51	4.19
75 P 655	11AY	230 AC	DPDT	6.95	6.61	6.26	4.86	4.52
75 P 656	11AY	440 AC	DPDT	7.80	7.41	7.02	5.46	5.07
76 P 103	11AL5	6 AC	DPDT*	8.15	7.75	7.34	5.70	5.30
76 P 109	11AL5	12 AC	DPDT*	8.15	7.75	7.34	5.70	5.30
76 P 753	11AL5	24 AC	DPDT*	8.15	7.75	7.34	5.70	5.30
76 P 755	11AL5	115 AC	DPDT*	8.15	7.75	7.34	5.70	5.30
76 P 756	11AL5	230 AC	DPDT*	8.55	8.13	7.70	5.98	5.56
76 P 508	11DY	6 DC	DPDT	6.45	6.13	5.81	4.51	4.19
76 P 512	11DY	12 DC	DPDT	6.45	6.13	5.81	4.51	4.19
76 P 514	11DY	24 DC	DPDT	6.45	6.13	5.81	4.51	4.19
75 P 971	11DY	110 DC	DPDT	7.05	6.70	6.35	4.93	4.58

# Special Purpose and Plate-Circuit Relays



## AP RATCHET IMPULSE RELAYS

An extremely fast-acting relay for applications requiring on-off or reversing action on alternate impulses. Gives positive operation on impulses as short as 60 ms. Stop mechanism assures accurate operation on each impulse, regardless of speed. Intermittent duty. Contacts are  $\frac{3}{16}$ " fine silver, rated 5 amps at 115 v., 60 cycles. Coils are wound on molded bobbins. Have tinned solder terminals. Mounting: Three  $\frac{5}{32}$ " diameter holes on  $\frac{3}{32}$ " x  $\frac{1}{2}$ " triangular cuts. Units measure  $2\frac{1}{2}$ " x  $1\frac{1}{4}$ " x  $3\frac{3}{4}$ ". Actual weight, 7 oz. Types listed as AC are for 50-60 cycles. Av. shpg. wt., 12 oz.



### COIL DATA FOR AP SERIES

DC COILS			AC COILS		
Volts	Ohms	Average DC Current (ma)	Volts	Ohms	Average AC Current (ma)
6	4.0	1500	6	0.6	2980
12	15.5	770	12	2.28	1500
24	54	370	24	8.8	800
110	1350	80	115	240	160
...	.....	.....	230	900	80

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 997	API1A	6 AC	DPDT	8.70	8.27	7.83	6.09	5.66
76 P 581	API1A	12 AC	DPDT	8.70	8.27	7.83	6.09	5.66
75 P 995	API1A	24 AC	DPDT	8.70	8.27	7.83	6.09	5.66
75 P 993	API1A	115 AC	DPDT	8.70	8.27	7.83	6.09	5.66
76 P 583	API1A	230 AC	DPDT	9.15	8.69	8.24	6.40	5.95
76 P 585	API1D	6 DC	DPDT	8.70	8.27	7.83	6.09	5.66
75 P 999	API1D	24 DC	DPDT	8.70	8.27	7.83	6.09	5.66
76 P 589	API1D	110 DC	DPDT	9.35	8.88	8.42	6.54	6.08
75 P 996	API17A	24 AC	4PDT	10.50	9.98	9.45	7.35	6.83
75 P 994	API17A	115 AC	4PDT	10.50	9.98	9.45	7.35	6.83
76 P 588	API17D	12 DC	4PDT	10.50	9.98	9.45	7.35	6.83
75 P 778	API17D	24 DC	4PDT	10.50	9.98	9.45	7.35	6.83
76 P 590	API17D	110 DC	4PDT	11.15	10.59	10.04	7.80	7.25

## BU AC-OPERATED BUZZERS

Spring-steel armature buzzes when coil is energized.  $1\frac{1}{32}$ " x  $1\frac{1}{32}$ " x  $1\frac{1}{8}$ ". Mtg., 6-32 tapped core. Wt., 3 oz.



Stock No.	AC Volts	Res. in Ohms	EACH			
			1-24	25-49	50-99	100-249
76 P 005	6	2.75	1.70	1.62	1.53	1.19
76 P 006	12	13.25				
76 P 007	24	50.00				
76 P 008	115	1250.00				

## RSSD LIGHTWEIGHT RELAYS

Low-cost, small, and lightweight sensitive relays for radio-sonde, light-dimmer, and model applications. In both voltage and current-actuated models. Have sensitivity of 60 milliwatts. Expected life of over 10 million operations. Operate in 25 ms and releases in less than 5 ms. SPDT contacts are bar palladium, rated at 2 amps. \*Denotes 6 v. DC type. †Denotes 12 v. DC type. Insulation material of molded phenolic provides insulation resistance of 100 megohms minimum. Mounts by means of two 4-40 tapped holes on  $\frac{5}{16}$ " x  $\frac{3}{4}$ " diagonal centers. May be mounted in Type "H" craze-resistant transparent plastic case, or with KCP-KRP hold-down spring for special applications (see page 287). Size:  $1\frac{1}{16}$ " x  $1\frac{1}{16}$ ". Av. shpg. wt., 3 oz.

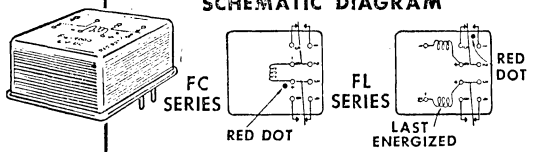


Stock No.	Ohms	Ma	EACH				
			1-24	25-49	50-99	100-249	250-499
75 P 896	335	*	2.60	2.47	2.34	1.82	1.69
75 P 504	1350	†	2.75	2.61	2.47	1.93	1.79
75 P 897	2500	5.0	2.85	2.71	2.57	1.99	1.85
75 P 898	5000	3.5	3.15	3.00	2.84	2.20	2.05
75 P 899	10,000	2.5	3.60	2.43	3.24	2.52	2.34

Potter & Brumfield relays are listed for your convenience, by relay application, beginning on page 285. Allied Electronics is the world's largest distributor of P & B relays. Any relay is available for immediate shipment, in any quantity. Contact the Allied office nearest you. See page 1 for locations.

## MICRO-MINIATURE SEALED DPDT RELAYS

### SCHEMATIC DIAGRAM



FC Series Relays. Perfect for printed circuits. Lie flat on PC board and plug into a 0.2" grid. Hermetically sealed with teflon, Kel-F, and glass—meet all applicable specs of MIL-R-5757D, MIL-R-6106C, and ABMA #PD-R-187. DPDT bifurcated contacts of silver-magnesium-nickel alloy rated 3 amps. Pull-in: 160 mw. Temp. range: -65°C to +125°C. Shock: 100g for 11 ms; vibration, 30g from 55 to 2000 cps. Size: .485x1.100". Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
77 P 045	FC11D	6 DC	60	16.00	15.20	14.40	11.20	10.40
77 P 046	FC11D	12 DC	210					
77 P 047	FC11D	24 DC	900					

FL Series Latching Relays. Similar to FC Series above, but dual-coil design. Remain firmly latched in either armature position without applied coil power. Significantly reduce power-drain on equipment using relays with long ON times. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 009	FL11D	6 DC	67.5	18.00	17.10	16.20	12.60	11.70
76 P 010	FL11D	12 DC	230					
75 P 509	FL11D	24 DC	1000					

## NEW GM SEQUENCING RELAYS

For single-coil latching. Two Form C contacts switched alternately by cams (DPDT). \*Additional 2 Form C contacts ("L" in Mfr's Type) operate directly by armature. All contacts are rated at 3 amps. AC types, 9.4 VA; DC types, 4 watts. Mtg; 8-32 tapped core w/boss. 8 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
77 P 788	GM11A	24 AC	16	7.15	6.79	6.43	5.01	4.65
77 P 789	GM11A	115 AC	425	7.15	6.79	6.43	5.01	4.65
77 P 790	*GM11AL1	24 AC	16	10.20	9.69	9.18	7.14	6.63
77 P 791	*GM11AL1	115 AC	425	10.20	9.69	9.18	7.14	6.63
77 P 792	GM11D	12 DC	36	6.90	6.55	6.21	4.83	4.49
77 P 793	GM11D	24 DC	144	6.90	6.55	6.21	4.83	4.49
77 P 794	GM11D	110 DC	3025	7.35	6.98	6.62	5.15	4.78
77 P 795	*GM11DL1	12 DC	36	10.00	9.50	9.00	7.00	6.50
77 P 796	*GM11DL1	24 DC	144	10.00	9.50	9.00	7.00	6.50
77 P 797	*GM11DL1	110 DC	3025	10.45	9.93	9.40	7.32	6.79

## PLATE-CIRCUIT RELAYS

### SM SUPER-MIDGET RELAYS

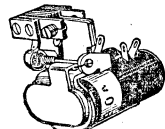
Fast-acting, subminiature sensitive relays for voltage or current-actuating applications. Ideal for low-level switching in computers, aircraft instruments, etc. Voltage actuated relays are designated SM-D. Current-operated relays are designated SM-L. SPDT contacts of gold-flashed silver and of rhodium are rated 0.5 amps. Units are sealed hermetically in deep-drawn steel tubes. Have standard 7-pin miniature tube-type bases. Size;  $\frac{3}{4}$ " dia.  $1\frac{1}{16}$ " high above socket. Shpg. wt., 3 oz.



Stock No.	Mfr's Type	VDC	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 915	SM5DS	6	80	6.25	5.94	5.63	4.37	4.06
76 P 521	SM5DS	12	360	6.25	5.94	5.63	4.37	4.06
75 P 916	SM5DS	24	900	6.25	5.94	5.63	4.37	4.06
75 P 917	SM5LS	3.9 ma	5000	6.55	6.22	5.90	4.58	4.26
75 P 949	SM5LS	2.7 ma	10K	7.00	6.55	6.30	4.90	4.55

### SSSD SUPER-SENSITIVE DC RELAY

An extremely sensitive, precision-built SPST relay that operates on as little as 2.5 milliwatts and will withstand up to 4.75 watts maximum. Because of its high sensitivity, the SS is ideal for low-energy circuits such as instruments, bridge balancing, etc. Dual series-connected coils operate a heavy-duty armature supported by two jeweled needle bearings. Dual-coil construction makes this relay applicable for use as a differential relay by connecting each coil in a separate circuit. Coil resistance, 10K. Contacts rated 2 amps. Mounts by two 6-32 holes on  $2\frac{1}{32}$ " centers.  $1\frac{1}{16}$ " x  $1\frac{1}{16}$ " x  $\frac{1}{4}$ ". Wt., 8 oz.



75 P 844	1-24	EACH	12.60	25-49	EACH	11.97
50-99	EACH	11.34	100-249	EACH	8.82	
250-499	EACH				8.19	





# Potter and Brumfield Special Purpose Relays

## JM MERCURY-WETTED RELAYS



Ultra-reliable, high-speed relays with sealed-in-glass mercury contacts. Does away with contact-bounce, chatter, pitting, and welds. Operating time as short as 3 ms @ 2 watts. Release time is about 3.2 ms. Relays can be driven up to 100 times per second. Rated 500 volts or 5 amps, up to 250 volt-amps (with contact-protection). Vertical mounting required. Have octal plugs except termination 41 which is 14-pin, and 42 which has solder hook terminals and 3/16" 6-32 studs. Steel enclosures. JMP, JML SERIES: Greater sensitivity by permanent magnet biasing. JML contacts rated 2 amps. \*Single-side-stable. †Bi-stable. §Chopper. See relay termination chart at the bottom of this page. 10 oz.

### JM1 SERIES SPDT SINGLE-COIL (3 1/16" x 1 1/4" dia.)

Stock No.	Type/Fig.	Coil			C. P. Clare Equivalent	EACH		
		Ohms	Ma	V.		1-9	10-24	25-99
77 P 709	106-12	40	67.7	9.0	HG1019-4			
77 P 711	109-12	130	38.8	16.1	HG1012-4			
77 P 712	112-11	500	20.1	31.6	HG1026-1	14.05	10.96	10.26
77 P 713	114-11	700	20.0	37.4	HG1004-1			
77 P 715	114-12	700	20.0	37.4	HG1051-4			
77 P 717	118-11	2500	10.1	70.7	HG1001-1	14.30	11.15	10.44
77 P 718	119-11	4000	8.1	89.5	HG1002-1	8.15	8.15	8.15
77 P 719	119-12	4000	8.1	89.5	HG1017-4			
77 P 720	122-11	7000	6.0	117.0	HG1009-1	14.80	11.54	10.80
77 P 723	121-11	11K	5.0	148.0	HG1011-1			
77 P 724	123-11	25K	3.6	224.0	HG1024-4			

### JM1 SERIES SPDT DUAL-COIL (3 1/16" x 1 1/4" dia.)

Stock No.	Coil	Ohms	Ma	V.	C. P. Clare Equivalent	1-9	10-24	25-99
77 P 725	405-51	(1) 700 (2) 3300	32.0 12.3	37.4 81.0	HG-1003-2	16.20	12.64	11.83

### JM2 SERIES DPDT SINGLE-COIL (3 1/32" x 1 1/32" dia.)

Stock No.	Type/Fig.	Coil	Ohms	Ma	V.	C. P. Clare Equivalent	1-9	10-24	25-99
77 P 726	104-22	50	110.0	12.25	HG2A-1008-2A2				
77 P 727	109-22	315	44.0	20.7	HG2A-1003-2A2				
77 P 728	111-22	700	30.5	45.8	HG2A-1002-2A2	22.80	17.78	16.60	
77 P 729	112-22	1250	22.1	61.2	HG2A-1015-2A2				
77 P 730	112-23	1250	22.1	61.2	HG2A-1010-2B1				
77 P 731	115-21	5000	11.3	122.0	HG2A-1001-2A1				
77 P 732	115-22	5000	11.3	122.0	HG2A-1004-2A2	22.80	17.78	16.60	
77 P 733	115-23	5000	11.3	122.0	HG2A-1003-2B1				

### JM3 SERIES 3PDT SINGLE-COIL (3 1/32" x 1 1/32" dia.)

Stock No.	Type/Fig.	Coil	Ohms	Ma	V.	C. P. Clare Equivalent	1-9	10-24	25-99
77 P 734	109-31	315	44.0	30.7	HG3A-1004-3A1				
77 P 735	110-31	500	34.8	38.7	HG3A-1006-3A1	29.50	23.01	21.54	
77 P 736	111-31	700	30.5	45.8	HG3A-1002-3A1				
77 P 738	112-31	1250	22.1	61.2	HG3A-1008-3A1				
77 P 739	115-31	5000	11.3	122.0	HG3A-1003-3A1	29.50	23.01	21.54	
77 P 740	115-32	5000	11.3	122.0	HG3B-1002-3B1				

### JM4 SERIES 4PDT SINGLE-COIL (3 1/16" x 1 1/16" dia.)

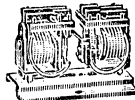
Stock No.	Type/Fig.	Coil	Ohms	Ma	V.	C. P. Clare Equivalent	1-9	10-24	25-99
77 P 741	106-41	65	100.0	15.1	HG4A-1013-4A1				
77 P 742	110-41	390	42.0	37.0	HG4A-1011-4A1	38.00	29.64	27.74	
77 P 743	110-42	390	42.0	37.0	HG4B-1014-4B1				
77 P 744	114-41	1400	23.0	70.0	HG4A-1007-4A1				
77 P 745	114-42	1400	23.0	70.0	HG4B-1005-4B1				
77 P 746	117-41	4000	15.6	118.0	HG4A-1003-4A1	38.00	29.64	27.74	
77 P 747	117-42	4000	15.6	118.0	HG4A-1011-4B1				
77 P 748	118-41	6500	10.5	151.0	HG4A-1005-4A1				
77 P 749	118-42	6500	10.5	151.0	HG4B-1015-4B1				
77 P 752	119-41	10K	8.6	187.0	HG4A-1006-4A1	38.00	29.64	27.74	
77 P 753	119-42	10K	8.6	187.0	HG4B-1008-4B1				

### JMP SERIES POLARIZED SPST SINGLE-COIL (3/16" x 1 1/16" dia.)

Stock No.	Type/Fig.	Coil	Ohms	Ma	V.	C. P. Clare Equivalent	1-9	10-24	25-99
77 P 754	*1081-11	90	16.0	.....	HGP-1001	15.20	11.86	11.10	
77 P 757	*1160-11	1000	5.60	.....	HGP-1005	15.20	11.86	11.10	
77 P 758	*1200-11	4000	2.96	.....	HGP-1002	16.30	12.71	11.90	
77 P 759	*1260-11	25K	1.32	.....	HGP-1050	16.30	12.71	11.90	
77 P 760	†5200-11	4000	1.5	.....	HGP-1003	16.30	12.71	11.90	
77 P 762	†8120-12	500	.....	6.3	HGP-1028	15.70	12.25	11.46	
77 P 764	†8200-12	4000	.....	18.5	HGP-1009	16.80	13.10	12.26	
77 P 765	†8240-11	11K	.....	117	HGP-1045	16.80	13.10	12.26	

### JML SERIES NON-BRIDGING SPDT SINGLE-COIL (2 1/4" x 1 1/16" dia.)

Stock No.	Type/Fig.	Coil	Ohms	Ma	V.	C. P. Clare Equivalent	1-9	10-24	25-99
77 P 766	*1061-81	40	9.75	.....	HGS-5009	11.60	9.05	8.47	
77 P 767	*1110-81	350	3.56	.....	HGS-5011	11.60	9.05	8.47	
77 P 769	*1160-81	1000	2.21	.....	HGS-5015	11.60	9.05	8.47	
77 P 770	*1190-81	2500	1.43	.....	HGS-5003	12.40	9.67	9.05	
77 P 771	*1200-81	4000	1.25	.....	HGS-5008	12.40	9.67	9.05	
77 P 772	*1260-81	25K	0.52	.....	HGS-5016	12.40	9.67	9.05	
77 P 774	*1440-82	(1) 4000 (2) .800	0.86 11.60	.....	HGS-5001	13.60	10.61	9.93	
77 P 775	†5160-81	1000	1.24	.....	HGS-5006	12.10	9.44	8.83	
77 P 776	†5200-81	4000	0.53	.....	HGS-5004	12.40	9.67	9.05	
77 P 777	†5430-81	(1) 1100 (2) 1100	1.76	.....	HGS-5013	13.60	10.61	9.93	
77 P 781	†8130-81	600	.....	6.3	HGS-5017	12.10	9.44	8.83	



## KB LATCHING RELAYS

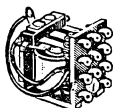
For memory work and overload applications. One coil actuates relay to set latch; other coil releases it. Size: 2 1/16" x 1 1/16" x 2 3/8" high. Two 3/32" holes on 1 3/8" ctrs. 5-amp AC types are U.L. and C.S.A. Listed. 10 oz.

### 5 AMP

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 126	KB17AY	6 AC	4PDT	10.50	9.98	9.45	7.35	6.83
75 P 540	KB17AY	12 AC	4PDT	10.50	9.98	9.45	7.35	6.83
75 P 125	KB17AY	24 AC	4PDT	10.50	9.98	9.45	7.35	6.83
75 P 124	KB17AY	115 AC	4PDT	10.50	9.98	9.45	7.35	6.83
75 P 732	KB17AY	230 AC	4PDT	11.30	10.74	10.17	7.91	7.35
76 P 129	KB17D	6 DC	4PDT	9.45	8.98	8.51	6.61	6.14
76 P 545	KB17D	12 DC	4PDT	9.45	8.98	8.51	6.61	6.14
76 P 128	KB17D	24 DC	4PDT	9.45	8.98	8.51	6.61	6.14
75 P 127	KB17D	110 DC	4PDT	10.65	10.12	9.59	7.45	6.92

### 10 AMP

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 034	KB17AG	6 AC	4PDT	10.60	10.07	9.54	7.42	6.89
76 P 039	KB17AG	12 AC	4PDT	10.60	10.07	9.54	7.42	6.89
76 P 541	KB17AG	24 AC	4PDT	10.60	10.07	9.54	7.42	6.89
76 P 543	KB17AG	115 AC	4PDT	10.60	10.07	9.54	7.42	6.89
76 P 731	KB17AG	230 AC	4PDT	11.40	10.83	10.26	7.98	7.41
76 P 040	KB17DG	24 DC	4PDT	9.65	9.17	8.68	6.75	6.27
76 P 041	KB17DG	110 DC	4PDT	10.85	10.31	9.76	7.59	7.05
76 P 043	KB23DG	24 DC	6PDT	11.75	11.16	10.57	8.22	7.64



## KM SUBMINIATURE RELAYS

For multiple switching applications. Used extensively in small business machines, alarm systems, and communications. Weigh but 3/8 oz. per relay. 3/32" silver contacts rated at 2 amps. Mount by 2-56 tapped core and locating half-punch. Size: 1 1/8" x 5/16" x 3/16". Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 361	KM5D	6 DC	SPDT	3.35	3.18	3.02	2.34	2.18
76 P 362	KM5D	12 DC	SPDT	3.35	3.18	3.02	2.34	2.18
76 P 363	KM5D	24 DC	SPDT	3.35	3.18	3.02	2.34	2.18
76 P 365	KM11D	6 DC	DPDT	3.70	3.52	3.33	2.59	2.41
76 P 366	KM11D	12 DC	DPDT	3.70	3.52	3.33	2.59	2.41
76 P 367	KM11D	24 DC	DPDT	3.70	3.52	3.33	2.59	2.41
76 P 369	KM14D	6 DC	3PDT	4.25	4.04	3.83	2.97	2.76
76 P 370	KM14D	12 DC	3PDT	4.25	4.04	3.83	2.97	2.76
76 P 371	KM14D	24 DC	3PDT	4.25	4.04	3.83	2.97	2.76

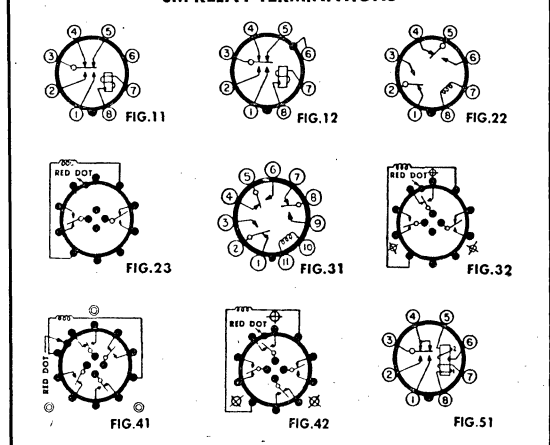


## KT ANTENNA-SWITCHING RELAYS

Useful for switching antenna between transmitter and receiver; glass base insulation provides minimum loss at RF applications. For 300-ohm line. Mounts by one 6-32 stud. Fine silver contacts are rated at 5 amps. Size: 1 1/4" x 5/16" x 1 1/16". Wt., 2 oz.

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 373	KT11A	6 AC	DPDT					
76 P 374	KT11A	115 AC	DPDT					
76 P 375	KT11D	6 DC	DPDT	3.70	3.52	3.33	2.59	2.41
76 P 376	KT11D	12 DC	DPDT					

## JM RELAY TERMINATIONS



# Special-Purpose Relays and Accessories

## POTTER & BRUMFIELD RELAYS

### MS MOTOR-STARTING RELAYS

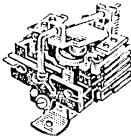
For starting capacitor-start, induction-run motors. Operate on back EMF of running winding. Armature gap adjustable to change pull-in. AC coils wound for 60 cycles. 5.9 VA operating power. MS2AY for starting motors up to 3/4 hp; MS4AY for starting motors up to 3 hp. All are SPST, normally closed. \*Double break. Mounting: two 3/8" holes on 9/16" ctrs. 2 1/8 x 2 1/8 x 2 3/8". For enclosures see MR-MS covers, page 287. 5 oz.



Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 763	MS2AY	115 AC	530	3.55	3.38	3.20	2.48	2.31
76 P 765	MS2AY	230 AC	2100	3.95	3.76	3.56	2.76	2.57
76 P 764	MS4AY	115 AC	530	4.15	3.94	3.73	2.90	2.69
76 P 766	MS4AY	230 AC	2100	4.55	4.33	4.10	3.18	2.96

### PC IMPULSE RELAYS

Compact, pulse-operated. Armature and pusher assembly operate phenolic rocker switching from one contact pile to the other on alternate pulses. For on-off or reversing applications. Pulses may be as short as 60 milliseconds at 5 cps. Gold-plated silver contacts rated 7.5 amps at 115 volts AC, resistive load. AC coils are for 50-60 cycles. Size: 2 1/16 x 2 3/16 x 2 5/16". Shpg. wt., 10 oz.



Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 504	PC11A	6 AC	0.6	5.50	5.23	4.95	3.85	3.58
76 P 728	PC11A	12 AC	2.28	5.50	5.23	4.95	3.85	3.58
76 P 502	PC11A	24 AC	8.8	5.50	5.23	4.95	3.85	3.58
76 P 500	PC11A	115 AC	240.0	5.50	5.23	4.95	3.85	3.58
76 P 726	PC11D	6 DC	4.0	5.35	5.09	4.82	3.74	3.48
76 P 111	PC11D	12 DC	15.5	5.35	5.09	4.82	3.74	3.48
76 P 506	PC11D	24 DC	65.0	5.35	5.09	4.82	3.74	3.48

### DPDT

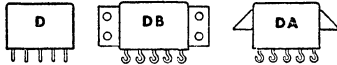
Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 503	PC17A	24 AC	8.8	7.60	7.22	6.84	5.32	4.94
76 P 501	PC17A	115 AC	240.0	7.60	7.22	6.84	5.32	4.94
76 P 507	PC17D	24 DC	65.0	7.45	7.08	6.71	5.21	4.84

### 4PDT

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 141	TL17D	24 DC	600	25.00	23.75	22.50	17.50	16.25
76 P 142	TL17D	24 DC	600	25.00	23.75	22.50	17.50	16.25
76 P 143	TL17D	24 DC	600	25.00	23.75	22.50	17.50	16.25

### NEW TL 4PDT LATCHING RELAYS

#### MOUNTINGS



HERMETICALLY SEALED

Micro-miniature 4PDT latching relay. Require less space, promoting high-density packaging. Coils are encapsulated and hermetically sealed. Strong magnetic forces in the de-energized relay lock the gold-plated, silver-alloy contacts in desired position, rendering them impervious to shock well beyond the specified range. Rated 3 amps at 28 v. DC, resistive load. Meet or exceed applicable sections of MIL-R-5757D. Also meet ABMA-PD-R-187, except leak rate. 1 1/32 x 7/16 x 3/4". Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 141	TL17D	24 DC	600	25.00	23.75	22.50	17.50	16.25
76 P 142	TL17D	24 DC	600	25.00	23.75	22.50	17.50	16.25
76 P 143	TL17D	24 DC	600	25.00	23.75	22.50	17.50	16.25

### G-C CONTACT BURNISHING TOOL KIT

Model 9339. Here's a "most-needed" contact maintenance kit. Highly useful for servicing of relays, switches and other electronic equipment where critical contact points must be kept clean for optimum operation. Contains one 2-ounce bottle of No. 210-2 contact cleaning fluid, and a burnishing tool. Shpg. wt., 6 oz.



50 N 734.....73

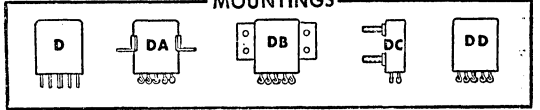
Make Allied Electronics your headquarters for prompt, off-the-shelf deliveries in industrial quantities at OEM prices. Write, wire or phone our office nearest you. See page one.

### SC NON-LATCHING AND SL LATCHING RELAYS

Subminiature, DPDT sealed DC relays have a dry-life expectancy of more than a million operations with a contact load of 1 micro-amp at 1 millivolt and 300-ohm rejection level. Meet MIL-R-25018, MIL-R-5757C, and ABMA-PD-R-187 specs. Withstands shock of 100g and vibration of 30g @ 55-2000 cps. Temperature range: -65° C to +125° C. Size, .795x.359x.890". Actual wt., 3/4 oz Breakdown voltage, 1000 v. rms. minimum. Insulation resistance, 10,000 megohms. Coil circuit on SC type polarized. SL units are dual-coil. Contacts: 3 amps at 28 v. DC; 1 amp at 115 v. 60 cycles, resistive. Contact pressure: SC, 16 grams minimum; SL, 20 grams minimum. Bracket-mtg. with two .104x.136" holes on 1.062" centers. Plate mtg. with four 1/8" holes. Shpg. wt., 2 oz.



#### MOUNTINGS



Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 820	SC11D	6	35					
76 P 822	SC11D	12	135	15.75	14.96	14.18	11.02	10.24
76 P 591	SC11D	24	550					
76 P 826	SC11DA	6	35					
76 P 828	SC11DA	12	135	15.75	14.96	14.18	11.02	10.24
76 P 592	SC11DA	24	550					
76 P 832	SC11DB	6	35					
76 P 834	SC11DB	12	135	15.75	14.96	14.18	11.02	10.24
76 P 593	SC11DB	24	550					
77 P 639	SC11DC	24	550	15.75	14.96	14.18	11.03	10.24
77 P 641	SC11DD	24	550	15.75	14.96	14.18	11.03	10.24
76 P 821	SL11D	6	40					
76 P 823	SL11D	12	160	17.25	16.39	15.53	12.07	11.21
76 P 594	SL11D	24	630					
76 P 827	SL11DA	6	40					
76 P 829	SL11DA	12	160	17.25	16.39	15.53	12.07	11.21
76 P 595	SL11DA	24	630					
76 P 833	SL11DB	6	40					
76 P 835	SL11DB	12	160	17.25	16.39	15.53	12.07	11.21
76 P 596	SL11DB	24	630					
77 P 640	SL11DC	24	630	17.25	16.39	15.53	12.07	11.21
77 P 642	SL11DD	24	630	17.25	16.39	15.53	12.07	11.21

### IT & T CONTACT PROTECTORS

Reduce current surges. Effective protection for relay contacts controlling inductive circuits. Suppress arcing and RF transients. For loads operating up to 40 times per second and drawing up to 600 ma operating current. 2 oz.

Stock No.	Mfr's Type	Voltage Range	Max. Ma	Size	EACH		
					1-9	10-99	100-999
76 P 257	8A1PA1	0-26 AC	200	2 5/16 x 5/8"	.89	.53	.44
76 P 328	8A2PS1	23-44 DC	250	2 5/16 x 5/8"	.90	.54	.44
76 P 323	8A2PA2	27-52 AC	200	2 5/16 x 3/4"	1.07	.64	.52
76 P 258	8A3PS3	45-66 DC	250	2 5/16 x 3/4"	1.07	.64	.52
76 P 259	8A3PA1	53-78 AC	200	2 5/16 x 3/4"	1.08	.65	.53
76 P 296	8A4PS1	67-88 DC	250	2 5/16 x 3/4"	1.08	.65	.53
76 P 297	8A5PS1	89-110 DC	250	2 5/16 x 3/4"	1.24	.74	.61
76 P 326	8A5PA5	105-130 AC	200	2 3/32 x 7/16"	1.40	.84	.69
76 P 298	8A6PS1	111-132 DC	250	2 3/32 x 7/16"	1.25	.75	.61
76 P 299	8A7PS1	133-154 DC	250	2 3/32 x 7/16"	1.26	.76	.62
76 P 314	15A1PA1	0-26 AC	400	1 1/2 x 5/8"	.94	.56	.46
76 P 330	15A2PS1	23-44 DC	600	1 1/2 x 5/8"	.94	.56	.46
76 P 348	15A3PS1	45-66 DC	600	1 1/2 x 3/4"	1.14	.68	.55
76 P 356	15A5PS1	89-110 DC	600	1 1/2 x 3/4"	1.36	.82	.67
76 P 327	15A5PA5	105-130 AC	400	1 2/8 x 15/16"	1.56	.94	.76
76 P 364	15A8PS1	111-132 DC	500	1 1/2 x 15/16"	1.37	.82	.67
76 P 368	15A7PS1	133-154 DC	500	1 1/2 x 15/16"	1.38	.83	.68

### BLONDER-TONGUE THERMO RELAY

Model TR-3A. Replacement thermal type relay designed especially for use in boosters and UHF converters which automatically turn on and off with FM or television receiver. Also adaptable for numerous other applications in circuits carrying up to 3 amps. Silver contacts are easily adjustable for a time delay of 0.1 to 4.0 seconds. Will adequately handle up to 0.5 amperes at 117 volts or 1/4 amp at 220 volts AC. Will provide uniform operation over a current variation of 0.1 to 3 amperes. Supplied complete with full instructions. Size, 2 1/4 x 1 1/8". Shpg. wt., 2 oz.



75 P 000.....130



# Potter and Brumfield Telephone-Type Relays



## BS LONG-COIL RELAYS

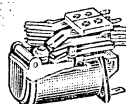
For computer and automatic test equipment. Solder terminals; 4-amp bifurcated contacts. Two 8-32 tapped holes on  $\frac{3}{4}$ " centers. \*Plate circuit types.  $1\frac{1}{2} \times \frac{1}{4} \times 1\frac{1}{2} \times 3\frac{1}{8}$ ". Av. wt. 11 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	Nominal Power	Action	EACH	
						1-24	25-499
76 P 000	BS17A	115 AC	71	17.9 VA	4PDT	9.00	7.62
76 P 646	BS17D	24 DC	1000	576 Mw	4PDT	7.40	6.26
76 P 002	BS17D	110 DC	6500	1.8 W	4PDT	8.00	6.77
76 P 649	BS17L*	5.5 MA	10,000	300 Mw	4PDT	8.00	6.77
76 P 648	BS23A	115 AC	71	17.9 VA	6PDT	10.50	8.88
76 P 647	BS23D	24 DC	1000	576 Mw	6PDT	8.95	7.57
76 P 313	BS23D	110 DC	6500	1.8 W	6PDT	9.50	8.04
76 P 499	BS23L*	7.6 MA	10,000	600 Mw	6PDT	9.50	8.04

BS Dust Covers. Steel. Protect against damage and provide shielding. Base,  $1\frac{1}{4} \times 3\frac{1}{2} \times \frac{3}{32}$ "; height,  $*\frac{23}{16}$ " and  $2\frac{5}{8}$ ". Wt., 8 oz.

Stock No.	Type	Descrip.	1-24, E.A.	25-49, E.A.	50-99, E.A.	100-249, E.A.
76 P 003	35D188	For BS17*	1.80	1.71	1.62	1.26
76 P 004	35D189	For BS23*	1.80	1.71	1.62	1.26

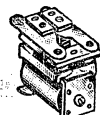
## LS MEDIUM-COIL RELAYS



Short springs and lightweight armature for fast action. Stainless steel bearing for long life—100 million operations. Bifurcated contacts; 4 amps at 115 v., 60 cycles, resistive; DC, 4 amps, 150 watts. Tinned, pierced solder-type terminals. Two 6-32 tapped holes on  $\frac{3}{4}$ " centers.  $1\frac{1}{16} \times 2\frac{1}{4} \times 1\frac{1}{8}$ ". Shpg. wt., 6 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	Action	EACH	
					1-24	25-499
77 P 660	LS17D	24 DC	300	4PDT	5.60	4.74
77 P 661	LS17D	48 DC	1300	4PDT	5.75	4.86
77 P 662	LS17D	110 DC	8000	4PDT	6.00	5.08
77 P 663	LS23D	24 DC	300	6PDT	6.80	5.75
77 P 664	LS23D	48 DC	1300	6PDT	6.95	5.88
77 P 665	LS23D	110 DC	8000	6PDT	7.20	6.09

## MB MINIATURE DC POWER RELAYS



For very high current applications. Contact arms are heavy brass with large silver contacts; solder terminals. Rated 60 amps 28 v. DC, resistive. SPST, double break, normally open.  $1\frac{1}{8} \times 2\frac{1}{2} \times 1\frac{1}{8}$ ". Mounting: Four 3-48 holes on  $\frac{3}{8} \times \frac{3}{8}$ " centers. Shpg. wt., 5 oz.

Stock No.	Type	Coil Volts	Ohms	Ma	EACH				
					1-24	25-49	50-99	100-249	250-499
75 P 059	MB3D	6 DC	13.3	450	5.40	5.13	4.86	3.78	3.51
75 P 065	MB3D	12 DC	62.3	193	5.50	5.23	4.95	3.85	3.58
75 P 066	MB3D	24 DC	245.0	98	5.50	5.23	4.95	3.85	3.58
75 P 067	MB3D	110 DC	5000	22	5.90	5.61	5.31	4.13	3.84

## MG SUBMINIATURE DC RELAYS



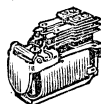
Subminiature telephone-type relay that withstands shock and vibration of 10g from 55 to 500 cps. Excellent for applications demanding good shock and vibration characteristics. Estimated mechanical life of at least 100,000 operations. Temperature range of -55° to +85°C. All are 4PDT except \*DPDT. Contacts are  $\frac{3}{32}$ " diameter silver, gold-flashed; rated at 2 amps @ 28 v. DC or 115 v. AC resistive.

**D Type.** Mounts by means of four tapped No. 3-48 holes on  $\frac{3}{8}$ " centers. Maximum size (in open position),  $1\frac{1}{16} \times 1\frac{1}{16} \times 1\frac{1}{4}$ ". Average shpg. wt., 2 oz.

**DP Type.** Nylon enclosed. For applications where plug-in units are required, such as chassis-to-chassis connection or uses where quick replacement is necessary. Built with Amphenol 57-10140 plug. Fits Amphenol 57-20140 socket (not supplied)—see Amphenol connector listings). Max. size,  $1\frac{1}{4} \times 2\frac{1}{4} \times 1\frac{1}{16}$ ". Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 298	MG11D*	12	90	5.20	4.94	4.68	3.64	3.38
75 P 299	MG11D*	24	365	5.20	4.94	4.68	3.64	3.38
75 P 382	MG11D*	110	7560	5.65	5.37	5.09	3.95	3.67
75 P 384	MG17D	12	90	6.95	6.61	6.26	4.86	4.52
75 P 391	MG17D	24	365	6.95	6.61	6.26	4.86	4.52
75 P 392	MG17D	110	7560	7.40	7.03	6.66	5.18	4.81
75 P 393	MG17DP	6	23	11.55	10.98	10.40	8.08	7.50
75 P 394	MG17DP	12	90	11.55	10.98	10.40	8.08	7.50
75 P 397	MG17DP	24	365	11.55	10.98	10.40	8.08	7.50
75 P 398	MG17DP	110	7560	12.15	11.55	10.94	8.70	8.10

## MF MINIATURE AC RELAYS



Feature unusually low coil-temperature—less than 20° C rise. No cooling required. Contacts: 5 amps at 115 v., 60 cycles, resistive. Type MF11AM is DPDT with sealed enclosure (not illus.). Measures  $1\frac{1}{2} \times \frac{1}{2} \times 1\frac{1}{2}$ ". Type MF17A is 4PDT, measures  $1\frac{1}{8} \times \frac{1}{2} \times 2$ ". Shpg. wt., 5 oz.

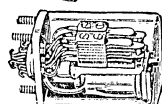
Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-99	100-249	250-499
77 P 056	MF11AM	24	44.2	12.25	11.64	11.02	8.58	7.96
77 P 057	MF11AM	115	886	12.25	11.64	11.02	8.58	7.96
77 P 058	MF17A	6	2.5	9.25	8.79	8.32	6.48	6.01
77 P 059	MF17A	24	33.7	9.25	8.79	8.32	6.48	6.01
77 P 064	MF17A	115	580	9.25	8.79	8.32	6.48	6.01

## MH MINIATURE DC RELAYS

Open



Sealed



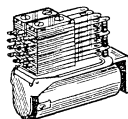
MH11L and MH11M are 4.5 ma current actuated, with 3-amp contacts (115 v., 60 cycles, resistive). Others, 5 amps. Suffix M denotes hermetically sealed metal housing. Mounting: open type MH11L has 6-32 stud,  $1\frac{1}{32}$ " long with locating boss; other open types have four 3-48 holes on  $\frac{3}{8} \times \frac{3}{8}$ " ctrs. Sealed types, three 6-32 NC 2 studs on  $1\frac{1}{16} \times \frac{1}{2}$ " ctrs. Sealed units have hook-end solder terms. Open types,  $1\frac{1}{8} \times 2\frac{1}{2} \times 1\frac{1}{16}$ "; sealed types,  $1\frac{1}{16} \times 1\frac{1}{2} \times 2\frac{1}{2}$ ". 6 oz.

## COIL DATA CHART

MH11 & MH17		MH23	
Coil Volts	Resistance (Ohms)	Coil Volts	Resistance (Ohms)
4.5 (ma)	10,000	6	13.3
6	23	12	62.3
12	96	24	245.0
24	365	110	5000.0

Stock No.	Mfr's Type	Coil Volts	Action	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 293	MH11L	4.5 ma	DPDT	5.45	5.18	4.91	3.82	3.54
75 P 294	MH11LM	4.5 ma	DPDT	9.20	8.74	8.28	6.44	5.98
75 P 937	MH17D	6 DC	4PDT	5.45	5.18	4.91	3.82	3.54
76 P 054	MH17D	12 DC	4PDT	5.45	5.18	4.91	3.82	3.54
75 P 936	MH17D	24 DC	4PDT	5.45	5.18	4.91	3.82	3.54
75 P 935	MH17DM	6 DC	4PDT	11.00	10.45	9.90	7.70	7.15
76 P 056	MH17DM	12 DC	4PDT	11.00	10.45	9.90	7.70	7.15
75 P 939	MH17DM	24 DC	4PDT	11.00	10.45	9.90	7.70	7.15
76 P 057	MH23D	6 DC	6PDT	6.85	6.51	6.17	4.80	4.45
76 P 061	MH23D	12 DC	6PDT	6.85	6.51	6.17	4.80	4.45
76 P 738	MH23D	24 DC	6PDT	6.85	6.51	6.17	4.80	4.45
76 P 739	MH23D	110 DC	6PDT	7.30	6.94	6.57	5.11	4.75

## ML MINIATURE HIGH-SENSITIVITY DC RELAYS



Excellent sensitivity with outstanding switching capabilities. Type ML11D is DPDT; ML17D is 4PDT; ML23D is 6PDT. Ideal for transistorized computer networks, telephone systems, battery-powered communications equipment. Single contact arms have  $\frac{1}{16}$ " dia. gold-flashed contacts rated at 3 amps (115 v., 60 cycles, resistive) for an estimated mechanical life of 10,000,000 operations. Solder lugs. Mounting: four 3-48 holes on  $\frac{3}{8}$ " centers.  $1\frac{1}{32} \times \frac{1}{4} \times 1\frac{1}{32}$ ". Av. shpg. wt., 5 oz.

Stock No.	Mfr's Type	Coil Ohms	Coil Ma	EACH				
				1-24	25-49	50-99	100-249	250-499
76 P 062	ML11D	2,500	4.0	6.05	5.74	5.44	4.23	3.93
76 P 063	ML11D	5,000	2.83	6.20	5.89	5.58	4.34	4.03
76 P 064	ML11D	10,000	2.0	6.50	6.17	5.85	4.55	4.23
76 P 070	ML17D	2,500	5.65	7.20	6.84	6.48	5.04	4.68
76 P 081	ML17D	5,000	4.0	7.35	6.98	6.61	5.14	4.78
76 P 082	ML17D	10,000	2.83	7.65	7.27	6.88	5.35	4.97
76 P 090	ML23D	2,500	6.93	8.15	7.74	7.33	5.76	5.30
76 P 091	ML23D	5,000	4.9	8.30	7.88	7.47	5.81	5.40
76 P 100	ML23D	10,000	3.46	8.60	8.17	7.74	6.02	5.59

Potter & Brumfield relays are listed for your ordering convenience by their application, beginning on page 285. Allied Electronics is the world's largest distributor of P & B relays. Any item in this line is available for immediate shipment, in any quantity. Call the Allied office nearest you—see page 1.

# Highly Sensitive Sigma Relays



## TYPE 4 PLATE-CIRCUIT RELAYS



DC relays for 20-50 mw applications. For vacuum tube plate circuits, transistor circuits with high idle current and applications requiring high release or stable trip values. 2-amp SPDT contacts. Type 4F unenclosed; for screw mtg.; solder terminal and coil lead conn. Type 4R, not illus, has aluminum dust cover; 5-pin plug-in mtg.  $1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$ ". Shpg. wt., 3 oz.

Stock No.	Mfr's Type and Coil Ohms	Ma DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 126	4F-200-S/SIL	10.0					
76 P 260	4F-500-S/SIL	6.5	6.05	5.75	5.45	4.84	4.24
76 P 377	4F-1000-S/SIL	4.5					
76 P 378	4F-2500-S/SIL	3.0	6.05	5.75	5.45	4.84	4.24
76 P 379	4F-5000-S/SIL	2.0	6.35	6.03	5.72	5.08	4.45
75 P 285	4F-8000-S/SIL	1.6	6.60	6.27	5.94	5.28	4.62
76 P 127	4F-10,000-S/SIL	1.4	6.60	6.27	5.94	5.28	4.62
76 P 264	4R-1000-S/SIL	4.5	8.25	7.84	7.43	6.60	5.78
76 P 360	4R-2500-S/SIL	3.0	8.25	7.84	7.43	6.60	5.78
76 P 429	4R-5000-S/SIL	2.0	8.55	8.12	7.70	6.84	5.99
76 P 467	4R-8000-S/SIL	1.6	8.80	8.36	7.92	7.04	6.16

## TYPE 5 EXTRA-SENSITIVE RELAYS

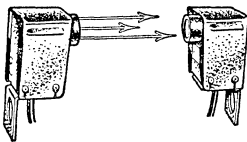


SPDT general purpose DC relays. Withstand shocks to 100G. Silver contacts rated 1 amp. Type 5F has screw mtg.; solder term. Type 5R, not illus, has aluminum dust cover; 5-pin plug-in mtg.  $1\frac{1}{16} \times 1\frac{1}{4} \times 1\frac{1}{16}$ ". 5 oz.

Stock No.	Mfr's Type and Coil Ohms	Ma DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 380	5F-1000-S/SIL	2.3	8.25	7.84	7.43	6.60	5.78
76 P 381	5F-2500-S/SIL	1.4	8.25	7.84	7.43	6.60	5.78
76 P 382	5F-5000-S/SIL	1.0	8.80	8.36	7.92	7.04	6.16
76 P 372	5F-8000-S/SIL	0.8	9.65	9.17	8.69	7.72	6.76
76 P 383	5F-10,000-S/SIL	0.7	9.65	9.17	8.69	7.72	6.76
76 P 468	5F-16,000-S/SIL	0.55	10.45	9.93	9.41	8.36	7.32
76 P 469	5R-1000-S/SIL	2.3	10.45	9.93	9.41	8.36	7.32
76 P 481	5R-2500-S/SIL	1.4	10.45	9.93	9.41	8.36	7.32
76 P 484	5R-5000-S/SIL	1.0	11.00	10.45	9.90	8.80	7.70
76 P 849	5R-8000-S/SIL	0.8	11.80	11.21	10.62	9.44	8.26
76 P 899	5R-10,000-S/SIL	0.7	11.80	11.21	10.62	9.44	8.26
76 P 881	5R-16,000-S/SIL	0.55	12.65	12.02	11.39	10.12	8.86

## MODEL 8P22 PHOTORELAY RECEIVER AND LIGHT SOURCE

Compact, dependable control system designed for easy installation and trouble-free operation. Consists of a photorelay receiver and a light source. Switches up to 3-amp, 120 volt resistive load at least 2 times a second, with receiver and light source up to 12 feet apart. Can be connected so that no current flows until light beam is broken, or for current flow with light on photocell. Angle brackets on each unit permit easy alignment of units to each other. Device to be switched (counting mechanism, alarm, etc.) is simply plugged into receiver. Units are in gray enamel finish, dust-cover housings. Sizes,  $6\frac{1}{2} \times 2\frac{1}{2} \times 3\frac{1}{2}$ ", each unit. For 110-120 v., 50-60 cycle AC. 4.00



76 P 250. Model 8P22 Receiver and Light Source, 2 lbs. .... 40.00  
 76 P 253. Model 8L2 Light Source Only.  $\frac{1}{2}$  lb. .... 14.00  
 76 P 255. Model 8P2 Receiver Only.  $\frac{1}{2}$  lbs. .... 26.00

## TYPE 8R PHOTORELAYS



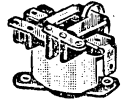
Compact photoelectric controls using CdS photocells. Tubeless; have 5-pin plug-in bases, except f. octal. For "light-no light" conditions, except \*, for slowly changing light—35 ft.-candles to operate, 0.4 to release. Others require 5 ft.-candles to operate, 0.1-0.5 to release. 3-amp SPDT silver contacts, except DPDT.  $1\frac{7}{8} \times 1\frac{1}{2} \times 1\frac{1}{2}$ ". With alum. dust covers. For 120 v., 50-60 cycle AC. 4 oz.

Stock No.	Mfr's Type	EACH				
		1-24	25-49	50-74	75-99	100-249
76 P 108	8RC01A	15.00	14.25	13.50	12.00	10.50
76 P 251	8RC02A	15.50	14.73	13.95	12.40	10.85
76 P 252	8RS01B*	16.00	15.20	14.40	12.80	11.20
77 P 697	8R00C01A†	18.50	17.57	16.65	14.80	12.95

## FAST DELIVERY—OEM PRICES

Allied is Your Direct Factory Source for Industrial Components at OEM Prices. Our Tremendous Stocks Assure Fastest Shipment.

## TYPE 11 LOW-COST RELAYS



Small DC or shaded pole AC relays. DC types for on-off circuits or circuits with gradually changing current; AC for on-off only. SPDT silver contacts rated at 1 amp at 28 v., DC or 120 v., AC. Designed to withstand up to 10 G vibration or 75 G shock, non-operating. Sensitivity, DC relays 50 mw; AC relays 0.3 VA. Op. temp. range, -20° to +50°C.  $1\frac{1}{16} \times 1\frac{1}{2} \times 1\frac{1}{2}$ ". 3 oz.

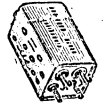
### TYPE 11F-G/SIL DC RELAYS

Stock No.	Mfr's Type and Coil Ohms	Ma DC	EACH			
			1-24	25-99	100-249	250-499
76 P 895	11F-100-G/SIL	22.0				
77 P 681	11F-250-G/SIL	14.0	1.75	1.66	1.58	1.49
77 P 683	11F-550-G/SIL	9.5				
75 P 068	11F-1000-G/SIL	7.0				
75 P 070	11F-1500-G/SIL	5.8	1.75	1.66	1.58	1.49
75 P 069	11F-2300-G/SIL	4.6	1.75	1.66	1.58	1.49
76 P 896	11F-3500-G/SIL	3.7	1.90	1.81	1.71	1.62
75 P 074	11F-6000-G/SIL	2.9	1.95	1.85	1.76	1.66
75 P 075	11F-9000-G/SIL	2.4	2.15	2.04	1.94	1.83

### TYPE 11FZ-ACS/SIL AC RELAYS

Stock No.	Mfr's Type and Coil Ohms	V. AC	EACH				
			1-24	25-49	50-75	75-99	100-249
76 P 547	11FZ-25-ACS/SIL	4.8					
77 P 684	11FZ-40-ACS/SIL	6	2.50	2.38	2.25	2.00	1.75
77 P 000	11FZ-100-ACS/SIL	9.0					
76 P 548	11FZ-150-ACS/SIL	11					
76 P 549	11FZ-550-ACS/SIL	18	2.50	2.38	2.25	2.00	1.75
77 P 002	11FZ-2300-ACS/SIL	37.0	2.50	2.38	2.25	2.00	1.75
77 P 003	11FZ-6000-ACS/SIL	60.0	2.75	2.61	2.48	2.20	1.93
76 P 568	11FZ-9000-ACS/SIL	75	2.95	2.80	2.66	2.36	2.07

## TYPE 22 HERMETICALLY SEALED RELAYS



Miniature hermetically sealed DC relays. Feature balanced armature construction, high immunity to vibration. Ideal for ground based or airborne military equipment. Silver contacts rated 2 amps @ 28 v. DC or 120 v. AC resistive load. Sensitivity: SPDT types, 12.5-40 mw; DPDT types, 25-80 w. All are stud mtg.  $1\frac{3}{4} \times 1\frac{1}{4}$ ". 4 oz.

### SPDT ACTION—SOLDER TERMINALS

Stock No.	Mfr's Type and Coil Ohms	Ma DC	EACH				
			1-24	25-49	50-74	75-99	100-249
77 P 685	22RJC-50-G/SIL	20.0					
76 P 358	22RJC-100-G/SIL	14.0					
76 P 359	22RJC-200-G/SIL	10.0	13.00	12.35	11.70	10.40	9.10
77 P 686	22RJC-500-G/SIL	6.3					
76 P 384	22RJC-1000-G/SIL	4.5					
76 P 385	22RJC-2500-G/SIL	2.8	13.50	12.83	12.15	10.80	9.45
76 P 386	22RJC-5000-G/SIL	2.0	14.00	13.30	12.60	11.20	9.80
76 P 387	22RJC-8000-G/SIL	1.6	14.50	13.78	13.05	11.60	10.15
77 P 687	22RJC-12000-G/SIL	1.3	16.00	15.20	14.40	12.80	11.20

### DPDT ACTION—SOLDER TERMINALS

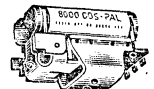
Stock No.	Mfr's Type and Coil Ohms	Ma DC	EACH				
			1-24	25-49	50-74	75-99	100-249
77 P 688	22RJCC-50-G/SIL	28.0					
76 P 355	22RJCC-100-G/SIL	20.0					
76 P 357	22RJCC-200-G/SIL	14.0	14.50	13.78	13.05	11.60	10.15
77 P 689	22RJCC-500-G/SIL	9.0					
76 P 388	22RJCC-1000-G/SIL	6.3					
76 P 389	22RJCC-2500-G/SIL	4.0	15.00	14.25	13.50	12.00	10.50
76 P 390	22RJCC-5000-G/SIL	2.8	15.50	14.73	13.95	12.40	10.85
76 P 391	22RJCC-8000-G/SIL	2.3	16.00	15.20	14.40	12.80	11.20
77 P 690	22RJCC-12000-G/SIL	1.8	17.50	16.62	15.75	14.00	12.25

### DPDT ACTION—9-PIN PLUG-IN TYPES

Stock No.	Mfr's Type and Coil Ohms	Ma DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 349	22KNCC-500-G/SIL	9.0	15.00	14.25	13.50	12.00	10.50
76 P 350	22KNCC-1000-G/SIL	6.3	15.00	14.25	13.50	12.00	10.50
76 P 351	22KNCC-2500-G/SIL	4.0	15.50	14.73	13.95	12.40	10.85
76 P 353	22KNCC-5000-G/SIL	2.8	16.00	15.20	14.40	12.80	11.20
76 P 354	22KNCC-8000-G/SIL	2.3	16.50	15.68	14.85	13.20	11.55

76 P 347. AT-155 9-Pin Socket Assembly. .... EACH .25

## TYPE 26 MINIATURE RELAYS



DC relays with SPDT action and balanced armature construction. Op. sensitivity, 4-20 mw. SIL in Type No. indicates silver contacts rated 1.0 amp @ 28 VDC or 120 VAC; PAL, palladium, 0.5 amp. Withstand shock to 100 G (non-operating). Screw mtg. with solder term. Unenclosed.  $1 \times 1\frac{1}{8} \times 1\frac{1}{16}$ ". 3 oz.

Stock No.	Mfr's Type and Coil Ohms	Ma DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 904	26F-1000-S/SIL	2.3	7.80	7.41	7.02	6.24	5.46
76 P 905	26F-8000-CDS/SIL	0.7	9.55	9.07	8.60	7.64	6.69
75 P 284	26F-8000-CDS/PAL	0.7	9.75	9.26	8.78	7.80	6.83
76 P 906	26F-12000-G/SIL	0.9	10.80	10.26	9.72	8.64	7.56



# Sigma Sensitive Relays

## TYPE 41 SPDT RELAYS

Sensitive, general purpose relays in DC or shaded-pole AC for high-speed keying applications. Quiet enough for use as electric blanket controls. SPDT silver contacts—rated at 2 amps except \*5 amps. All Sigma ratings at 28 v., DC or 120 v. AC. AC sensitivity, 0.06 to 0.40 VA; DC sensitivity, 40 mw. Size, 2 1/4 x 1 1/4 x 1 1/8". Wt., 3 oz.



### TYPE 41FZ UNENCLOSED AC RELAY—SOLDER TERMINALS

Stock No.	Mfr's Type and Coil Ohms	VAC or Ma. DC	EACH				
			1-24	25-49	50-74	75-99	100-249
75 P 076	41FZ-10-ACG/BSL	4.0*	3.50	3.33	3.15	2.80	2.45
76 P 392	41FZ-35-ACG/SIL	5.0	4.00	3.80	3.60	3.20	2.80
75 P 077	41FZ-200-ACG/BSL	18.0*	3.50	3.33	3.15	2.80	2.45
76 P 393	41FZ-500-ACG/SIL	19.0	4.00	3.80	3.60	3.20	2.80
75 P 078	41FZ-5000-ACG/BSL	90.0*	3.65	3.47	3.29	2.92	2.56
76 P 394	41FZ-10000-ACG/SIL	85.0	4.45	4.23	4.01	3.56	3.12

### TYPE 41F UNENCLOSED DC RELAYS—SOLDER TERMINALS

Stock No.	Mfr's Type and Coil Ohms	VAC or Ma. DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 395	41F-5-S/SIL	90.0					
76 P 396	41F-50-S/SIL	30.0					
77 P 008	41F-100-S/SIL	20.0	3.85	3.66	3.47	3.08	2.70
76 P 397	41F-200-S/SIL	15.0					
77 P 009	41F-500-S/SIL	9.0	3.85	3.66	3.47	3.08	2.70
76 P 398	41F-1000-S/SIL	6.5	3.85	3.66	3.47	3.08	2.70
77 P 010	41F-2500-S/SIL	4.0	3.85	3.66	3.47	3.08	2.70
76 P 399	41F-5000-S/SIL	3.0	4.00	3.80	3.60	3.20	2.80
77 P 011	41F-8000-S/SIL	2.3	4.25	4.04	3.83	3.40	2.98
76 P 400	41F-10000-S/SIL	2.0	4.25	4.04	3.83	3.40	2.98
77 P 695	41R06-12000-S/SIL	1.8	4.55	4.32	4.09	3.64	3.19

### TYPE 41R06 ENCLOSED DC RELAYS—OCTAL PLUG-IN

Stock No.	Mfr's Type and Coil Ohms	VAC or Ma. DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 265	41R06-5-S/SIL	90.0					
76 P 266	41R06-50-S/SIL	30.0					
76 P 267	41R06-200-S/SIL	15.0	5.50	5.23	4.95	4.40	3.85
76 P 268	41R06-1000-S/SIL	6.5					
76 P 269	41R06-2500-S/SIL	4.0					
76 P 270	41R06-5000-S/SIL	3.0	5.65	5.37	5.09	4.52	3.96
76 P 271	41R06-10000-S/SIL	2.0	5.90	5.61	5.31	4.72	4.13

## TYPE 42 DPDT RELAYS



Versatile, long-life, general purpose relays. Have octal plug-in bases and plastic dust covers. DC units have sensitivity of 100 or 200 mw; AC units, 0.30 VA for ACS types, 0.50 VA for ACG types. Withstand vibration, 10 g to 55 cps; shock 100 g (non-operating). Contacts rated 5 amps @ 28 VDC or 120 v. 60 cycle AC, except †2 amps. Av. shpg. wt., 4 oz.

### TYPE 42R0Z AC RELAYS—1 1/2 x 1 1/2 x 2 1/8"

Stock No.	Mfr's Type and Coil Ohms	VAC or Ma. DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 401	42R0Z-8-ACG/SIL	4	6.20	5.89	5.58	4.96	4.34
76 P 914	42R0Z-25-ACS/SIL	6†	7.15	6.79	6.43	5.72	5.06
76 P 239	42R0Z-50-ACG/SIL	10	6.20	5.89	5.58	4.96	4.34
76 P 403	42R0Z-200-ACG/SIL	19	6.20	5.89	5.58	4.96	4.34
76 P 404	42R0Z-4000-ACG/SIL	90†	6.20	5.89	5.58	4.96	4.34
76 P 907	42R0Z-7000-ACS/SIL	90†	7.35	6.98	6.61	6.25	5.15

### TYPE 42R0 DC RELAYS—1 3/8 x 1 3/8 x 2 1/8"

Stock No.	Mfr's Type and Coil Ohms	VAC or Ma. DC	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 406	42R0-5-G/SIL	200					
76 P 240	42R0-10-G/SIL	150					
76 P 407	42R0-50-G/SIL	65	6.20	5.89	5.58	4.96	4.34
76 P 241	42R0-100-G/SIL	45					
76 P 242	42R0-150-G/SIL	38					
76 P 408	42R0-200-G/SIL	32					
77 P 696	42R0-500-G/SIL	20	6.20	5.89	5.58	4.96	4.34
76 P 409	42R0-1000-G/SIL	14					
76 P 244	42R0-2500-G/SIL	9					
76 P 410	42R0-5000-G/SIL	6.5	6.40	6.08	5.76	5.12	4.48
76 P 245	42R0-8000-G/SIL	5.0	6.60	6.27	5.94	5.28	4.62
76 P 411	42R0-10000-G/SIL	4.5	6.60	6.27	5.94	5.28	4.62
76 P 128	42R0-12000-G/SIL	4.0	6.90	6.55	6.21	5.52	4.83

## TYPE 72 POLAR RELAYS

For high speed switching, pulse repeating, telegraphy to 500 pulses/sec. Extremely sensitive. Replaceable contacts and armature. SPDT contacts rated .06-amp, ind. load. Removable plastic cover. †Current in one coil to trip either direction. 2 3/4 x 1 7/8". 5 oz.



Stock No.	Mfr's Type and Coil Ohms	Ma. DC†	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 912	72AOZ-160-TS	1.4	33.00	31.35	29.70	26.40	23.10
76 P 913	72AOZ-160-TG	3.6	33.00	31.35	29.70	26.40	23.10
76 P 248	72AOZ-1000-TS	0.56	33.00	31.35	29.70	26.40	23.10
76 P 249	72AOZ-4000-TS	0.28	34.10	32.39	30.69	27.28	23.87

## TYPE 46 HEAVY-DUTY DPDT RELAYS



Rugged relays for machine-tool control and other heavy duty applications. Self-wiping silver contacts rated 500,000 operations on 10-amp load; 10,000,000 operations on 1-amp load. Dielectric strength, 1500 VDC / 1000 VRMS @ 25°C. Ins. res., 1000 megohms min @ 500 VDC. Op. temp., -65° to +70°C. Octal-type plug-in sockets. †Milliohms. 2 1/4 x 1 3/8 x 1 1/8". 5 oz.

### TYPE 46R0Z AC RELAYS

Stock No.	Mfr's Type and Coil Ohms†	Coil Volts	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 289	46R0Z-1700M-ACW SIL†	6					
76 P 290	46R0Z-6500M-ACW SIL†	12	6.05	5.75	5.44	4.84	4.24
76 P 291	46R0Z-28-ACW SIL	24					
76 P 292	46R0Z-65-ACW SIL	36					
76 P 293	46R0Z-110-ACW SIL	48	6.05	5.75	5.44	4.84	4.24
76 P 294	46R0Z-650-ACW SIL	120	6.05	5.75	5.44	4.84	4.24
76 P 295	46R0Z-2800-ACW SIL	240	6.45	6.13	5.80	5.16	4.52

### TYPE 46R0 DC RELAYS

Stock No.	Mfr's Type and Coil Ohms	Coil Volts	EACH				
			1-24	25-49	50-74	75-99	100-249
76 P 283	46R0-17-LW SIL	6					
76 P 284	46R0-65-LW SIL	12	6.00	5.70	5.40	4.80	4.20
76 P 285	46R0-280-LW SIL	24					
76 P 286	46R0-650-LW SIL	36					
76 P 287	46R0-1100-LW SIL	48	6.20	5.89	5.58	4.96	4.34
76 P 288	46R0-6500-LW SIL	120	6.80	6.46	6.12	5.44	4.76

## AMPERITE THERMAL DELAY AC-DC RELAYS



Heaters operate from AC or DC—contacts close for NO types or open for C types after heaters have been energized for delay period shown in table. Hermetically sealed in glass envelope with octal base. Heater draws 2 watts and may be operated continuously. Contacts: SPST, 3 amps at 115 v. AC, 1 amp at 220 v. AC. Voltage Breakdown: Contacts, 800 v.; Heater-to-Contact, 800 v., except \*250 v. and 500 v. for delays of 10 sec. or less. Ambient temp., -55° to +70° C. Tolerance, ±30%. Octal base size, dia., 1 1/8"; height less prongs, 2 1/8". 9-pin min., 2 5/8 x 3/4" dia. Specify Type No. as well as Stock No.

### A OCTAL BASE TUBE SHELL

Delay Seconds	Type NO. Normally Open			Type C. Normally Closed		
	6.3 v.	26 v.	115 v.	6.3 v.	26 v.	115 v.
2*	6N02	26N02	115N02	6C2	26C2	115C2
5*	6N05	26N05	115N05	6C5	26C5	115C5
10*	6N010	26N010	115N010	6C10	26C10	115C10
15	6N015	26N015	115N015	6C15	26C15	115C15
20	6N020	26N020	115N020	6C20	26C20	115C20
30	6N030	26N030	115N030	6C30	26C30	115C30
45	6N045	26N045	115N045	6C45	26C45	115C45
60	6N060	26N060	115N060	6C60	26C60	115C60
75	6N075	26N075	115N075	6C75	26C75	115C75
90	6N090	26N090	115N090	6C90	26C90	115C90
120	6N0120	26N0120	115N0120	6C120	26C120	115C120
150	6N0150	26N0150	115N0150	6C150	26C150	115C150
180	6N0180	26N0180	115N0180	6C180	26C180	115C180

75 PP 295.....EACH 2.40

### B MINIATURE 9-PIN TUBE SHELL

Delay Seconds	Type NO. Normally Open			Type C. Normally Closed		
	6.3 v.	26 v.	115 v.	6.3 v.	26 v.	115 v.
2*	6N02T	26N02T	115N02T	6C2T	26C2T	115C2T
5*	6N05T	26N05T	115N05T	6C5T	26C5T	115C5T
10*	6N010T	26N010T	115N010T	6C10T	26C10T	115C10T
15	6N015T	26N015T	115N015T	6C15T	26C15T	115C15T
20	6N020T	26N020T	115N020T	6C20T	26C20T	115C20T
30	6N030T	26N030T	115N030T	6C30T	26C30T	115C30T
45	6N045T	26N045T	115N045T	6C45T	26C45T	115C45T
60	6N060T	26N060T	115N060T	6C60T	26C60T	115C60T
75	6N075T	26N075T	115N075T	6C75T	26C75T	115C75T
90	6N090T	26N090T	115N090T	6C90T	26C90T	115C90T
120	6N0120T	26N0120T	115N0120T	6C120T	26C120T	115C120T

75 PP 296.....EACH 2.40

## FLASHERS

All are standard, normally closed types. Operate approx. 1/2 on, 3/2 off. FPM tolerance, ±20%, except \*±5%; †±15%; §±25%. Be sure to specify Type No. as well as Stock No. (below).

Flashes Per Min.	Octal Base			Miniature 9-Pin		
	6.3-v.	26-v.	115-v.	6.3-v.	26-v.	115-v.
10*	6F10	26F10	115F10	6F10T	26F10T	115F10T
30†	6F30	26F30	115F30	6F30T	26F30T	115F30T
45†	6F45	26F45	115F45	6F45T	26F45T	115F45T
60	6F60	26F60	115F60	6F60T	26F60T	115F60T
75	6F75	26F75	.....	6F75T	26F75T	.....
90§	6F90	26F90	.....	6F90T	26F90T	.....

75 PP 280, Standard Octal Base.....EACH 2.40

75 PP 281, Miniature 9-Pin Base.....EACH 2.40

# G-V Time-Delay and Ebert Mercury Plunger Relays

## G-V CONTROLS TIME-DELAY RELAYS

### HERMETICALLY SEALED TIME-DELAY RELAYS

Fully compensated thermal timing relays, suitable for delay intervals from 0.5 to 180 seconds. Hermetically sealed—may be adjusted over a wide time-range without affecting the hermetic seal. Operate interchangeably on DC, or AC of any frequency. Delay interval not affected more than  $\pm 10\%$  by variation of ambient temperatures from  $-65^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . No lubrication required. Available in octal base, miniature 7-pin base, and in flanged type with hooked terminals. Sizes: Octal base,  $2\frac{1}{2} \times 1\frac{1}{4}$ " dia.; 7-pin base,  $2\frac{3}{8} \times \frac{3}{4}$ " dia.; flanged type,  $2\frac{1}{2} \times \frac{3}{4}$ " dia. \*Indicates  $\frac{7}{8}$ " dia. SPST contacts rated 3 amps, 115 v. AC, non-inductive load. Meet MIL-R-19648 specs. Av. shpg. wt., 4 oz. Specify Mfr's Type and Stock No.

#### TYPE RF—FLANGE MOUNTING

Delay (Seconds)	Type No.—Normally Open		Type No.—Normally Closed	
	28 Volts	115 Volts	28 Volts	115 Volts
12-22	RF-20-NO-28	RF-20-NO-115	RF-20-NC-28	RF-20-NC-115
22-33	RF-30-NO-28	RF-30-NO-115	RF-30-NC-28	RF-30-NC-115
33-45	RF-40-NO-28	RF-40-NO-115	RF-40-NC-28	RF-40-NC-115
45-65	RF-60-NO-28	RF-60-NO-115	RF-60-NC-28	RF-60-NC-115
65-90	RF-80-NO-28	RF-80-NO-115	RF-80-NC-28	RF-80-NC-115
90-125	RF-120-NO-28	RF-120-NO-115	RF-120-NC-28	RF-120-NC-115
125-180	*RF-162-NO-28	*RF-162-NO-115	*RF-162-NC-28	*RF-162-NC-115

75 PP 260. 1-9...EA. 13.55 10-24...EA. 11.92 25-49...EA. 10.57

#### TYPE RM—7-PIN MINIATURE PLUG-IN

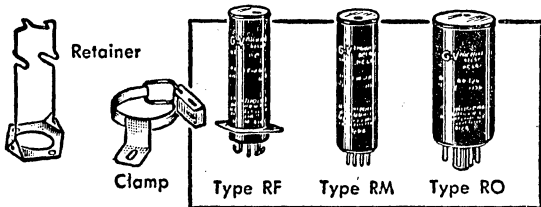
Delay (Seconds)	Type No.—Normally Open		Type No.—Normally Closed	
	28 Volts	115 Volts	28 Volts	115 Volts
12-22	RM-20-NO-28	RM-20-NO-115	RM-20-NC-28	RM-20-NC-115
22-33	RM-30-NO-28	RM-30-NO-115	RM-30-NC-28	RM-30-NC-115
33-45	RM-40-NO-28	RM-40-NO-115	RM-40-NC-28	RM-40-NC-115
45-65	RM-60-NO-28	RM-60-NO-115	RM-60-NC-28	RM-60-NC-115
65-90	RM-80-NO-28	RM-80-NO-115	RM-80-NC-28	RM-80-NC-115
90-125	RM-120-NO-28	RM-120-NO-115	RM-120-NC-28	RM-120-NC-115
125-180	*RM-162-NO-28	*RM-162-NO-115	*RM-162-NC-28	*RM-162-NC-115

75 PP 263. 1-9...EA. 12.90 10-24...EA. 11.35 25-49...EA. 10.06

#### TYPE RO—OCTAL PLUG-IN BASE

Delay (Seconds)	Type No.—Normally Open		Type No.—Normally Closed	
	28 Volts	115 Volts	28 Volts	115 Volts
12-22	RO-20-NO-28	RO-20-NO-115	RO-20-NC-28	RO-20-NC-115
22-33	RO-30-NO-28	RO-30-NO-115	RO-30-NC-28	RO-30-NC-115
33-45	RO-40-NO-28	RO-40-NO-115	RO-40-NC-28	RO-40-NC-115
45-65	RO-60-NO-28	RO-60-NO-115	RO-60-NC-28	RO-60-NC-115
65-90	RO-80-NO-28	RO-80-NO-115	RO-80-NC-28	RO-80-NC-115
90-125	RO-120-NO-28	RO-120-NO-115	RO-120-NC-28	RO-120-NC-115
125-180	*RO-160-NO-28	*RO-160-NO-115	*RO-160-NC-28	*RO-160-NC-115

75 PP 266. 1-9...EA. 12.90 10-24...EA. 11.35 25-49...EA. 10.06



#### TYPE TF—FLANGE MOUNTING

Delay (Seconds)	Type No.—Normally Open		Type No.—Normally Closed	
	28 Volts	115 Volts	28 Volts	115 Volts
2-8	TF-06-NO-28	TF-06-NO-115	TF-06-NC-28	TF-06-NC-115
6-12	TF-10-NO-28	TF-10-NO-115	TF-10-NC-28	TF-10-NC-115

75 PP 261. 1-9...EA. 16.80 10-24...EA. 14.78 25-49...EA. 13.10

#### TYPE HF—FLANGE MOUNTING

Delay (Seconds)	Type No.—Normally Open		Type No.—Normally Closed	
	28 Volts	115 Volts	28 Volts	115 Volts
5-1.25	HF-01-NO-28	HF-01-NO-115	HF-01-NC-28	HF-01-NC-115
1.25-3.0	HF-04-NO-28	HF-04-NO-115	HF-04-NC-28	HF-04-NC-115

75 PP 262. 1-9...EA. 19.90 10-24...EA. 17.51 25-49...EA. 15.52

#### TYPE TM—7-PIN MINIATURE PLUG-IN

Delay (Seconds)	Type No.—Normally Open		Type No.—Normally Closed	
	28 Volts	115 Volts	28 Volts	115 Volts
2-8	TM-06-NO-28	TM-06-NO-115	TM-06-NC-28	TM-06-NC-115
6-12	TM-10-NO-28	TM-10-NO-115	TM-10-NC-28	TM-10-NC-115

75 PP 264. 1-9...EA. 16.15 10-24...EA. 14.21 25-49...EA. 12.60

#### TYPE HM—7-PIN MINIATURE PLUG-IN

Delay (Seconds)	Type No.—Normally Open		Type No.—Normally Closed	
	28 Volts	115 Volts	28 Volts	115 Volts
5-1.25	HM-01-NO-28	HM-01-NO-115	HM-01-NC-28	HM-01-NC-115
1.25-3.0	HM-04-NO-28	HM-04-NO-115	HM-04-NC-28	HM-04-NC-115

75 PP 265. 1-9...EA. 19.25 10-24...EA. 16.94 25-49...EA. 15.02

**Type XA-1 Retainer.** Miniature relay retainer that mounts by means of the same screws or rivets as the socket. Has stainless-steel spring that securely holds relay in position. For HM, TM, and RM relays. Pkg. of 10. Shpg. wt., 1 lb.

75 P 271.....PKG. OF 10 3.00

**Type XA-2 Clamp.** Requires extra mtg. hole, but holds relay even more securely. For TM, HM, and RM relays. Pkg. of 10. 1 lb.

75 P 272.....PKG. OF 10 4.00

## G-V RED LINE THERMAL TIMING RELAYS

Delay (Seconds)	Tol. $\pm$ Sec.	6.3 Volts		26.5 Volts		115 Volts	
		NO	NC	NO	NC	NO	NC
		DT7001 DT7002		DT7021 DT7022		DT7041 DT7042	
2	.5	DT7001	DT7002	DT7021	DT7022	DT7041	DT7042
5	1.0	DT7003	DT7004	DT7023	DT7024	DT7043	DT7044
10	1.5	DT7005	DT7006	DT7025	DT7026	DT7045	DT7046
20	3.0	DT7007	DT7008	DT7027	DT7028	DT7047	DT7048
30	4.5	DT7009	DT7010	DT7029	DT7030	DT7049	DT7050
45	6.75	DT7011	DT7012	DT7031	DT7032	DT7051	DT7052
60	9.0	DT7013	DT7014	DT7033	DT7034	DT7053	DT7054
90	13.5	DT7015	DT7016	DT7035	DT7036	DT7055	DT7056
120	18.0	DT7017	DT7018	DT7037	DT7038	DT7057	DT7058
180	27.0	DT7019	DT7020	DT7039	DT7040	DT7059	DT7060

Dependability at low cost. SPST, 5 amps at 125 v., AC.  $2\frac{3}{8} \times 1\frac{1}{8}$ " dia. Octal base. Specify Stock No. from Price Locator Chart and Mfr's Type No. from NO or NC columns in table at left. Av. shpg. wt., 3 oz.

#### PRICE LOCATOR

Stock No.	Range	EACH				
		1-9	10-24	25-49	50-99	100-249
75 PP 267	2 to 45 sec	6.55	5.95	5.40	4.90	4.65
75 PP 268	60 to 90 sec	7.00	6.35	5.80	5.25	4.95
75 PP 269	120 sec	7.60	6.90	6.30	5.70	5.40
75 PP 270	180 sec	8.15	7.40	6.75	6.15	5.80



## EBERT MERCURY PLUNGER RELAYS

### HEAVY-DUTY

Types HD-1 and HD-2 rated 60 amps for 115 v., and 35 amps for 230 v., 60 cycle AC. Type HD-4 2-pole relay; each pole, 60 amps at 115 v., and 35 amps at 230 v. Type HD-7 3-pole relay; each pole, 60 amps at 115 v., and 35 amps at 230 v. For 115 v., 60 cycle AC only. All U.L. Listed. Sizes:  $*2\frac{3}{8} \times 5\frac{1}{4} \times 3\frac{3}{4}$ ";  $\dagger 2\frac{3}{8} \times 5\frac{1}{4} \times 3\frac{3}{4}$ ";  $\S 3\frac{3}{8} \times 6\frac{1}{2} \times 4$ ". Shipped by Express only.

Stock No.	Type	Description	Lbs.	EACH	2-9, EA.	10-49, EA.
75 BZ 232	HD-1	Single pole, NO*	2	15.75	12.40	11.65
75 BZ 233	HD-2	Single pole, NC*	2	17.25	13.55	12.70
75 BZ 234	HD-4	2-pole, both NO†	2	29.05	22.10	20.95
75 BZ 235	HD-4	2-pole, both NC†	2	32.65	25.20	23.90
75 BZ 236	HD-4	2-pole, 1 NO/1 NC†	2	30.85	23.65	22.45
75 BZ 237	HD-7	3-pole, all NO‡	3	38.70	29.75	28.25
75 BZ 238	HD-7	3-pole, all NC‡	3	44.75	34.40	32.65

### STANDARD

Ideal for applications where extreme dependability is required. 60 cycle AC ratings: (each pole of EM-4): 35 amps at 115 volts; 25 amps at 230 volts. For 115 volts, 60 cycle AC only. All are U.L. Listed. Sizes:  $5\frac{3}{8} \times 3\frac{3}{8} \times 2\frac{1}{2}$ " except Type EM-1 is  $4\frac{3}{4} \times 2\frac{3}{8} \times 2\frac{1}{2}$ " and Type EM-2 is  $5\frac{1}{8} \times 2\frac{3}{8} \times 2\frac{1}{2}$ ". Shipped by Express only.



Stock No.	Type	Description	Lbs.	EACH	2-9, EA.	10-49, EA.
75 BZ 950	EM-1	Single pole, NO	1 1/4	13.95	10.25	9.50
75 BZ 951	EM-2	Single pole, NC	1 1/2	15.40	11.35	10.50
75 BZ 952	EM-4	2-pole, both NO	2	23.00	18.00	16.90
76 BZ 578	EM-4	2-pole, both NC	2	26.60	21.15	19.80
76 BZ 579	EM-4	2-pole, 1 NO/NC	2	24.80	19.60	18.35

## MINIRELAYS—MINIATURE POWER RELAYS

Compact units capable of handling loads nearly twice that of ordinary armature-type units of equal size. 60-cycle current ratings; 20 amps at 115 v., 10 amps at 230 v., 5.2 amps at 440 v. Hermetically sealed, mercury-to-mercury contacts for silent, trouble-free action. Units have no wearing parts—no servicing, repair, or parts replacement.

Stock No.	Type	Description	Oz.	EACH	2-9, EA.	10-49, EA.
75 BZ 558	MR-10	Single Pole, NO	8	9.90	7.60	7.05
75 BZ 559	MR-12	Single Pole, NC	8	10.90	8.35	7.70

ment under normal usage. Available in single pole, normally open or normally closed and in double pole, both normally open. MR-10,  $3\frac{7}{8} \times 1\frac{1}{8} \times 1\frac{1}{8}$ "; MR-12,  $4\frac{1}{2} \times 1\frac{1}{8} \times 1\frac{1}{8}$ ". Moisture-resistant actuating coil operates from 115 v., 50-60 cycle AC only. Shipped by Express only.

Stock No.	Type	Description	Oz.	EACH	2-9, EA.	10-49, EA.
76 BZ 580	MR-14	2-Pole, both NO	16	18.75	14.85	13.30

# Guardian Stepping Relays and Solenoids

## INDUSTRIAL AC AND DC SOLENOIDS

Intermittent duty types should not be energized for more than 5 consecutive minutes. Continuous-duty types will not rise more than 85° C above 24° C ambient. Plunger has slotted end with 1/8" diameter hole for coupling. Av. shpg. wt., 8 oz.

### AC TYPES (Specify Type No., Volts and Duty)

Stock No.	Mfr's Type No.	Volts	Duty	Ohms	Adj. Stroke Inches	Max. Lift Oz.	Size Inches			EACH				
							H	W	D	1-24	25-49	50-99	100-249	250-499
75 P 890	1A1	115	Inter.	300	1/8-1/2	8	1 1/16	1 5/16	1 3/4	2.80	2.52	2.38	2.24	1.96
75 P 891	1A1	115	Cont.	675	1/8-3/8	3	1 1/16	1 5/16	1 3/4	2.80	2.52	2.38	2.24	1.96
77 P 154	2	115	Inter.	60	1/8-7/8	27	1 5/8	1 7/8	1 9/16	3.20	2.88	2.72	2.56	2.24
75 P 155	2	115	Cont.	166	1/8-7/8	10.5	1 5/8	1 7/8	1 3/16	3.20	2.88	2.72	2.56	2.24
75 P 892	4	115	Inter.	37	1/8-1	24	1 5/8	1 7/8	2	3.80	3.42	3.23	3.04	2.66
75 P 893	4	115	Cont.	133	1/8-1/2	6	1 5/8	1 7/8	2	3.80	3.42	3.23	3.04	2.66
77 P 547	11	24	Inter.	5.1	1/8-1	20	1 3/16	1 7/16	1 5/16	2.70	2.43	2.30	2.16	1.89
77 P 548	11	24	Cont.	12	1/8-1	8	1 3/16	1 7/16	1 5/16	2.70	2.43	2.30	2.16	1.89
77 P 549	11	115	Inter.	125	1/8-1	20	1 3/16	1 7/16	1 5/16	2.70	2.43	2.30	2.16	1.89
77 P 550	11	115	Cont.	300	1/8-1	8	1 3/16	1 7/16	1 5/16	2.70	2.43	2.30	2.16	1.89
75 P 828	12	115	Inter.	100	1/8-1	32	1 7/16	1 3/8	1 5/8	4.15	3.74	3.53	3.32	2.90
75 P 829	12	115	Cont.	150	1/8-7/8	22	1 7/16	1 3/8	1 5/8	4.15	3.74	3.53	3.32	2.90
75 P 894	14	115	Inter.	11	1/8-1 1/2	110	2 1/16	1 7/8	2 7/16	5.50	4.95	4.68	4.40	3.85
75 P 895	14	115	Cont.	18	1/8-1 1/2	65	2 1/16	1 7/8	2 7/16	5.50	4.95	4.68	4.40	3.85
75 P 156	16	115	Inter.	41	1/8-3/4	96	1 7/16	1 1/8	1 5/8	3.20	2.88	2.72	2.56	2.24
75 P 885	16	115	Cont.	85	1/8-5/8	55	1 7/16	1 1/8	1 5/8	3.20	2.88	2.72	2.56	2.24
77 P 551	16	230	Inter.	224	1/8-3/4	96	1 7/16	1 1/8	1 5/8	3.40	3.06	2.89	2.72	2.38
77 P 320	16	230	Cont.	350	1/8-3/8	55	1 7/16	1 1/8	1 5/8	3.40	3.06	2.89	2.72	2.38
75 P 157	18	115	Inter.	8.8	1/8-1	304	2 1/16	1 13/16	2 1/2	4.50	4.05	3.83	3.60	3.15
75 P 886	18	115	Cont.	19.7	1/8-1	145	2 1/16	1 13/16	2 1/2	4.50	4.05	3.83	3.60	3.15
77 P 552	18	230	Inter.	45	1/8-1	304	2 1/16	1 13/16	2 1/2	4.70	4.23	4.00	3.76	3.29
76 P 321	18	230	Cont.	78	1/8-1	145	2 1/16	1 13/16	2 1/2	4.70	4.23	4.00	3.76	3.29
77 P 553	24	115	Inter.	310	1/16-5/8	19	5 5/64	1	1 1/4	2.95	2.66	2.51	2.36	2.06
77 P 554	24	115	Cont.	500	1/16-5/8	12	5 5/64	1	1 1/4	2.95	2.66	2.51	2.36	2.06
76 P 088	28	24	Inter.	7.5	1/16-1/2	35	1 3/16	1 5/16	1 1/8	2.70	2.43	2.30	2.16	1.89
76 P 089	28	24	Cont.	17.4	1/16-1/2	20	1 3/16	1 5/16	1 1/8	2.70	2.43	2.30	2.16	1.89
76 P 092	28	115	Inter.	220	1/16-1/2	35	1 3/16	1 5/16	1 1/8	2.90	2.61	2.46	2.32	2.03
76 P 093	28	115	Cont.	400	1/16-1/2	20	1 3/16	1 5/16	1 1/8	2.90	2.61	2.46	2.32	2.03

### DC TYPES (Specify Type No., Volts and Duty)

77 P 555	1A1	24	Inter.	42.6	1/8-3/8	5	1 1/16	1 5/16	1 3/4	2.50	2.25	2.13	2.00	1.75
77 P 556	1A1	24	Cont.	74.4	1/8-1/4	2	1 1/16	1 5/16	1 3/4	2.50	2.25	2.13	2.00	1.75
77 P 557	1A1	115	Inter.	803	1/8-3/8	5	1 1/16	1 5/16	1 3/4	3.00	2.70	2.55	2.40	2.10
77 P 558	1A1	115	Cont.	2073	1/8-1/4	2	1 1/16	1 5/16	1 3/4	3.00	2.70	2.55	2.40	2.10
77 P 559	4	24	Inter.	15	1/8-1	57	1 5/8	1 7/8	2	3.80	3.42	3.23	3.04	2.66
77 P 560	4	24	Cont.	50	1/8-7/8	20	1 5/8	1 7/8	2	3.80	3.42	3.23	3.04	2.66
77 P 561	4	115	Inter.	346	1/8-1	57	1 5/8	1 7/8	2	4.00	3.60	3.40	3.20	2.80
77 P 562	4	115	Cont.	1210	1/8-7/8	20	1 5/8	1 7/8	2	4.00	3.60	3.40	3.20	2.80
75 P 595	11	6	Inter.	2	1/8-7/8	39	1 3/16	1 7/16	1 3/16	2.70	2.43	2.30	2.16	1.89
76 P 318	11	6	Cont.	5	1/8-3/8	21	1 3/16	1 7/16	1 3/16	2.70	2.43	2.30	2.16	1.89
75 P 596	11	24	Inter.	32	1/8-7/8	39	1 3/16	1 7/16	1 3/16	2.70	2.43	2.30	2.16	1.89
76 P 319	11	24	Cont.	72	1/8-5/8	21	1 3/16	1 7/16	1 3/16	2.70	2.43	2.30	2.16	1.89
77 P 563	22	6	Inter.	4.7	1/16-3/8	24	3/4	3/4	1 1/8	2.60	2.34	2.21	2.08	1.82
77 P 564	22	6	Cont.	9	1/16-1/4	13	3/4	3/4	1 1/8	2.60	2.34	2.21	2.08	1.82
77 P 565	22	24	Inter.	60	1/16-3/8	24	3/4	3/4	1 1/8	2.60	2.34	2.21	2.08	1.82
77 P 566	22	24	Cont.	144	1/16-1/4	13	3/4	3/4	1 1/8	2.60	2.34	2.21	2.08	1.82
76 P 094	28	6	Inter.	3.3	1/16-1/2	41	1 3/16	1 5/16	1 1/8	2.60	2.34	2.21	2.08	1.82
76 P 095	28	6	Cont.	7.7	1/16-3/8	35	1 3/16	1 5/16	1 1/8	2.60	2.34	2.21	2.08	1.82
76 P 096	28	12	Inter.	13	1/16-1/2	41	1 3/16	1 5/16	1 1/8	2.60	2.34	2.21	2.08	1.82
76 P 097	28	12	Cont.	27	1/16-3/8	35	1 3/16	1 5/16	1 1/8	2.60	2.34	2.21	2.08	1.82
76 P 098	28	24	Inter.	50	1/16-1/2	41	1 3/16	1 5/16	1 1/8	2.60	2.34	2.21	2.08	1.82
76 P 099	28	24	Cont.	104	1/16-3/8	35	1 3/16	1 5/16	1 1/8	2.60	2.34	2.21	2.08	1.82

### STEPPING RELAYS

Intermittent-duty, 115-v. AC stepping relays. All are direct drive units with switching completed on energization. Bridging contacts rated at 1 1/2 amps, 115 v. 60 cycle non-inductive load. All rated at 10% duty cycle out of each hour; max. single period, 5 minutes. Will operate at 15% below or 10% above rated voltage. IR-PC and IR-MC are continuous-rotation types, constructed with micro-finished shaft and oilite shaft bearing to assure permanent lubrication. IR-PER and MER are electrical-reset types, with steel box-type frame. IR-RAS and IR-MAS are add-and-subtract steppers. \*Shows active contacts, including zero position. †Zero-pos. switch only. Av. shpg. wt., 1 1/4 lbs.

Stock No.	Mfr's Type	Fig.	No. Pts.	*Con-tacts	Size	EACH				
						1-24	25-49	50-99	100-249	250-499
77 P 542	IR-PC	A	40	40	3 9/16x3x3 3/8"	18.15	16.34	15.43	14.52	12.71
77 P 543	IR-MC	...	24	24	3 1/4x3x2 3/16"	13.00	11.70	11.05	10.40	9.10
77 P 544	IR-PER	B	40	36	3 9/16x3 3/8x3"	24.20	21.78	20.57	19.36	16.94
75 P 282	MER	C	24	22	3 1/4x2 3/16x3 1/4"	14.00	12.60	11.90	11.20	9.80
77 P 546	IR-RAS	C	40	38	3 9/16x4 1/8x3 1/8"	25.30	22.77	21.51	20.24	17.71
77 P 545	IR-MAS	...	30	†	3x3 1/8x1 1/8"	15.95	14.36	13.56	12.76	11.17

### ROTOMITE STEPPING RELAYS

Stock No.	Mfr's Type	No. Pos.	Volts DC	EACH				
				1-24	25-49	50-99	100-249	250-499
77 P 705	IR-705-12P-6D	12	6					
77 P 706	IR-705-12P-12D	12	12	5.40	4.86	4.59	4.32	3.78
77 P 708	IR-705-12P-24D	12	24					

Small size enables use in business machines, vending, counting, sorting, model trains, etc. Completely enclosed, with contacts rated at 3 amps resistive, 1 amp inductive; rotate continuously up to 20 steps per second. Expected life well over 1 million operations. Size, 2" long x 1 1/8" dia. Av. shpg. wt., 5 oz.



# Guardian Quality AC and DC Relays

## MEDIUM POWER RELAYS

For communications, remote control, selectors, switching devices, etc. Last digits of Mfr's Type indicate coil voltage. Built to meet U.L. specifications. Rated 8 amps, 115 volts, 60-cycle AC non-inductive load. Solder lug terminals molded in phenolic block. Size, 1 1/8"x1 1/4". Shpg. wt., 3 oz.



### AC RELAYS

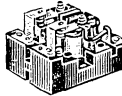
Stock No.	Mfr's Type and Voltage	Action	EACH				
			1-24	25-49	50-99	100-249	250-499
76 P 215	1200-C115	SPDT	3.50	3.15	2.98	2.80	2.45
77 P 603	1200-G6	DPDT	3.60	3.24	3.06	2.88	2.52
77 P 605	1200-G24	DPDT	3.60	3.24	3.06	2.88	2.52
77 P 607	1200-G115	DPDT	3.60	3.24	3.06	2.88	2.52
76 P 217	1200-G230	DPDT	3.85	3.47	3.27	3.08	2.70
77 P 604	1200-GC6	3PDT	4.00	3.60	3.40	3.20	2.80
77 P 606	1200-GC24	3PDT	4.00	3.60	3.40	3.20	2.80
77 P 608	1200-GC115	3PDT	4.00	3.60	3.40	3.20	2.80
76 P 218	1200-GC230	3PDT	4.25	3.83	3.61	3.40	2.98

### DC RELAYS

Stock No.	Mfr's Type	Action	EACH				
			1-24	25-49	50-99	100-249	250-499
76 P 238	1205-C24	SPDT	3.20	2.88	2.72	2.56	2.24
77 P 609	1205-G6	DPDT	3.30	2.97	2.81	2.64	2.31
76 P 225	1205-G12	DPDT	3.30	2.97	2.81	2.64	2.31
77 P 611	1205-G24	DPDT	3.30	2.97	2.81	2.64	2.31
76 P 223	1205-G110	DPDT	3.55	3.20	3.02	2.84	2.49
77 P 610	1205-GC6	3PDT	3.70	3.33	3.15	2.96	2.59
76 P 228	1205-GC12	3PDT	3.70	3.33	3.15	2.96	2.59
77 P 612	1205-GC24	3PDT	3.70	3.33	3.15	2.96	2.59
76 P 224	1205-GC110	3PDT	3.95	3.56	3.36	3.16	2.77

## 2200/2210 POWER RELAYS

Series 2200 DPDT Relays. Heavy-duty for motor starting, heater loads and other industrial applications. Contacts rated at 25 amps, continuous duty at 230 v. AC with 75% power factor load. Power requirement, 9.5 va. 3 3/8"x2 1/2"x2 3/16". 11 oz.



Stock No.	Mfr's Type and AC Volts	EACH				
		1-24	25-49	50-99	100-249	250-499
75 P 083	2200-DPDT-6	6.10	5.49	5.19	4.88	4.27
75 P 084	2200-DPDT-24	6.10	5.49	5.19	4.88	4.27
75 P 085	2200-DPDT-115	6.10	5.49	5.19	4.88	4.27
75 P 086	2200-DPDT-230	6.50	5.85	5.53	5.20	4.55

Series-2200 Switch Parts. Assemblies for above relays. "Left" or "right" means as viewed at armature end, contacts up. Wt., 4 oz.

Stock No.	Description	EACH				
		1-24	25-49	50-99	100-249	250-499
75 P 563	Left Assembly	1.85	1.67	1.57	1.48	1.29
75 P 564	Right Assembly	1.85	1.67	1.57	1.48	1.29

Series 2210 DPST Normally Open Relays. For heavy-duty industrial applications. Contacts are DPST, normally open. Current rating, power requirements and coil drain are identical to those of Series 2200 (above). Size, 2 1/16"x2 1/2"x3/16". 10 oz.



Stock No.	Mfr's Type and AC Volts	EACH				
		1-24	25-49	50-99	100-249	250-499
76 P 185	2210-DPST-6	5.25	4.73	4.46	4.20	3.67
76 P 186	2210-DPST-24	5.25	4.73	4.46	4.20	3.67
76 P 187	2210-DPST-115	5.25	4.73	4.46	4.20	3.67
76 P 188	2210-DPST-230	5.60	5.04	4.76	4.48	3.92

## ECONOMY POWER RELAYS

DPDT contacts rated 15 amps at 115 v., 60 cycle, AC; 1 h.p. at 115/230 volts AC. Coil voltage indicated by last digits of Mfr's Type. \*Auxiliary SPDT contacts, rated 10 amps, which may be added to 4400 and 2405 relays. Screw terminals. Two 3/16" mtg. holes on 1/8" ctrs. 3 5/16"x2 1/2"x2 3/16". 8 oz.



### AC RELAYS

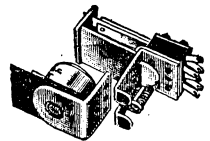
Stock No.	Mfr's Type and Voltage	EACH				
		1-24	25-49	50-99	100-249	250-499
77 P 698	2400-DPDT-6	5.40	4.86	4.59	4.32	3.78
77 P 699	2400-DPDT-24	5.40	4.86	4.59	4.32	3.78
77 P 700	2400-DPDT-115	5.40	4.86	4.59	4.32	3.78
77 P 701	2400-DPDT-230	5.70	5.13	4.85	4.56	3.99
74 P 150	2400-SPDT-Aux*	1.35	1.21	1.15	1.08	.94

### DC RELAYS

Stock No.	Mfr's Type	Action	EACH				
			1-24	25-49	50-99	100-249	250-499
76 P 120	2405-DPDT-6	5.60	5.04	4.76	4.48	3.92	
76 P 121	2405-DPDT-12	5.60	5.04	4.76	4.48	3.92	
76 P 122	2405-DPDT-24	5.60	5.04	4.76	4.48	3.92	
76 P 129	2405-DPDT-110	5.90	5.31	5.02	4.72	4.13	

## UNIVERSAL "200" SERIES

Complete relay requires 1 coil assembly (coil and field piece), AC or DC, and 1 contact assembly (switch blades, armature, return spring and mtg. bracket). Contact ratings at 115 v., 60 cycle AC, non-inductive load. Plate relays: \*5000 ohms and 15 ma; \*\*10,000 ohms and 10 ma. Mounting: two 6-32 screws. Size: standard assembly, 2 7/8"x1 1/2"x1 3/4"; trim-die assembly, 2 1/2"x1 1/2"x1 1/2". Av. coil wt., 4 oz.; av. contact wt., 2 oz.



### AC COILS

Stock No.	Mfr's Type	Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
75 P 709	200-6A	6	1.75	1.58	1.49	1.40	1.22
75 P 710	200-12A	12	1.75	1.58	1.49	1.40	1.22
75 P 711	200-24A	24	1.75	1.58	1.49	1.40	1.22
75 P 712	200-115A	115	2.05	1.85	1.74	1.64	1.43
75 P 888	200-230A	230	2.70	2.43	2.30	2.16	1.89

### DC COILS

Stock No.	Mfr's Type	Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
75 P 713	200-6D	6	1.90	1.71	1.62	1.52	1.33
75 P 714	200-12D	12	1.90	1.71	1.62	1.52	1.33
75 P 715	200-24D	24	1.90	1.71	1.62	1.52	1.33
75 P 716	200-32D	32	1.90	1.71	1.62	1.52	1.33
75 P 717	200-110D	110	2.50	2.25	2.13	2.00	1.75
75 P 779	200-5000D	*	2.20	1.98	1.87	1.76	1.54
75 P 109	200-10000D	**	2.50	2.25	2.13	2.00	1.75

### CONTACT SWITCH ASSEMBLIES

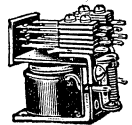
Stock No.	Mfr's Type	Action	Amps	EACH				
				1-24	25-49	50-99	100-249	250-499
75 P 707	200-1	SPDT	8	1.50	1.35	1.28	1.20	1.05
75 P 708	200-2	DPDT	8	2.00	1.80	1.70	1.60	1.40
75 P 724	200-4	DPDT	12.5	2.25	2.03	1.91	1.80	1.57
75 P 889	200-5	4PDT	8	3.50	3.15	2.98	2.80	2.45
75 P 718	200-M1	SPDT	8†	1.40	1.26	1.19	1.12	.98
75 P 719	200-M2	DPDT	8†	1.75	1.58	1.49	1.40	1.22
75 P 826	200-M5	4PDT	8†	2.85	2.57	2.42	2.28	1.99

### PARTS TO ADD POLES TO CONTACT SWITCHES

Stock No.	Mfr's Type	Use With Types	EACH				
			1-24	25-49	50-99	100-249	250-499
75 P 725	200-M3	200-M1,-M2	1.50	1.35	1.28	1.20	1.05
75 P 730	200-3	200-1,-2	1.50	1.35	1.28	1.20	1.05

## ALL-PURPOSE RELAYS

Compact, lightweight, general purpose relays. All are rated at 10 amps at 60 cycles, 115 volts, non-inductive load, except 4PDT types rated at 8 amps. Four-hole base mounting. Last digits of Mfr's Type indicate coil voltage. Unusually heavy power control for their size. All SPST relays listed in table below are normally open. Size: 1 1/16" high, 1 1/2" wide and 1" deep. Shpg. wt., 4 oz.



### AC RELAYS

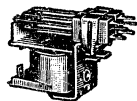
Stock No.	Mfr's Type and Voltage	Action	EACH				
			1-24	25-49	50-99	100-249	250-499
77 P 570	IR-500-A6	SPST	2.50	2.25	2.13	2.00	1.75
77 P 574	IR-500-A24	SPST	2.50	2.25	2.13	2.00	1.75
77 P 578	IR-500-A115	SPST	2.50	2.25	2.13	2.00	1.75
77 P 571	IR-500-C6	SPDT	2.80	2.52	2.38	2.24	1.96
77 P 575	IR-500-C24	SPDT	2.80	2.52	2.38	2.24	1.96
77 P 579	IR-500-C115	SPDT	2.80	2.52	2.38	2.24	1.96
77 P 572	IR-500-G6	DPDT	3.10	2.79	2.64	2.48	2.17
77 P 576	IR-500-G24	DPDT	3.10	2.79	2.64	2.48	2.17
77 P 580	IR-500-G115	DPDT	3.10	2.79	2.64	2.48	2.17
77 P 582	IR-500-G230	DPDT	3.70	3.33	3.15	3.06	2.59
77 P 573	IR-500-GG6	4PDT	4.30	3.87	3.66	3.44	3.01
77 P 577	IR-500-GG24	4PDT	4.30	3.87	3.66	3.44	3.01
77 P 581	IR-500-GG115	4PDT	4.30	3.87	3.66	3.44	3.01

### DC RELAYS

Stock No.	Mfr's Type	Action	EACH				
			1-24	25-49	50-99	100-249	250-499
77 P 583	IR-505-A6	SPST	2.50	2.25	2.13	2.00	1.75
77 P 587	IR-505-A12	SPST	2.50	2.25	2.13	2.00	1.75
77 P 591	IR-505-A24	SPST	2.50	2.25	2.13	2.00	1.75
77 P 595	IR-505-A110	SPST	3.05	2.75	2.59	2.45	2.14
77 P 584	IR-505-C6	SPDT	2.80	2.52	2.38	2.24	1.96
77 P 588	IR-505-C12	SPDT	2.80	2.52	2.38	2.24	1.96
77 P 592	IR-505-C24	SPDT	2.80	2.52	2.38	2.24	1.96
77 P 596	IR-505-C110	SPDT	3.15	2.84	2.68	2.51	2.21
77 P 585	IR-505-G6	DPDT	3.10	2.79	2.64	2.48	2.17
77 P 589	IR-505-G12	DPDT	3.10	2.79	2.64	2.48	2.17
77 P 593	IR-505-G24	DPDT	3.10	2.79	2.64	2.48	2.17
77 P 597	IR-505-G110	DPDT	3.50	3.15	2.98	2.80	2.45
77 P 586	IR-505-GG6	4PDT	4.30	3.87	3.66	3.44	3.01
77 P 590	IR-505-GG12	4PDT	4.30	3.87	3.66	3.44	3.01
77 P 594	IR-505-GG24	4PDT	4.30	3.87	3.66	3.44	3.01
77 P 598	IR-505-GG110	4PDT	4.70	4.23	4.00	3.76	3.29



# Guardian Top-Performing, Economical Relays



## NEW SERIES 900 10-AMP RELAYS

- Underwriters' Laboratories Listed
- Designed With Reduced Number of Parts for Long, Trouble-Free Service
- Have Keyed and Locked Lifters

Dependable, low-cost, DPDT relays featuring new, trouble-free design that incorporates a minimum of parts. Contacts all rated 10 amps @ 115 VAC resistive. Have one-piece switch mtg. clips and return springs; molded bobbins and coil covers. Av. shpg. wt., 6 oz.

Stock No.	Coil Volts	EACH		
		1-9	10-24	25-49
75 P 315	24 AC	1.75	1.66	1.49
75 P 319	115 AC			
75 P 326	230 AC			
75 P 332	6 DC			
75 P 337	12 DC			
75 P 338	24 DC			

## SERIES 900 RELAYS IN PACKAGES OF 50

Further savings are available when Series 900 relays are purchased in bulk packs of 50 units. Relays are supplied nested in new, convenient "Form Fitted" assembly line trays.

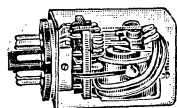
Stock No.	Coil Volts	PKG. OF 50		Stock No.	Coil Volts	PKG. OF 50	
		1	2-Up			1	2-Up
75 P 345	24 AC	70.00	61.50	75 P 348	6 DC	70.00	61.50
75 P 346	115 AC			75 P 395	12 DC		
75 P 347	230 AC			75 P 396	24 DC		

## 670 AC IMPULSE RATCHET RELAYS



Small, rugged ratchet type impulse relays for on/off control of lighting, motors, etc. Highly reliable; expected life over 1,000,000 steps. Each impulse reverses contacts. Up to 10 steps per second possible. Heavy duty silver contacts rated 12½ amps @ 115 v., 60 cycle AC resistive. Intermittent duty coil for 110-120 v., 50-60 cycle AC. 2½x1½x1¾". 7½ oz.

Stock No.	Mfr's Type	Con-tacts	EACH				
			1-24	25-49	50-99	100-249	250-499
77 P 631	670-C115	SPDT	5.75	5.18	4.89	4.60	4.03
77 P 632	670-G115	DPDT	5.85	5.27	4.97	4.68	4.10



## ENCLOSED PLUG-IN RELAYS—AC, DC AND PLATE CIRCUIT TYPES

Small relays in transparent lucite enclosures. Provide efficient environment-free operation. DPDT types have 8-pin octal plug; 3PDT types, 11-pin plug. All have contacts rated 8 amps @ 115 v., 60 cycle AC non-inductive. 6-volt AC types have 3-ohm coil resistance; 6-volt DC, 15 ohms; 24-volt AC, 48 ohms; 24-volt DC, 227 ohms; 115-volt AC, 1000 ohms. \*With lamp indicator. †Ohms coil resistance of plate circuit type. 2½x1½x1¾". Shpg. wt., 4 oz.

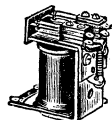
### DPDT TYPES

Stock No.	Mfr's Type	Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
77 P 613	1210-G6	6 AC	5.70	5.13	4.85	4.56	3.99
77 P 619	1215-G6	6 DC	5.80	5.22	4.93	4.64	4.06
76 P 211	1215-G12	12 DC	5.80	5.22	4.93	4.64	4.06
77 P 615	1210-G24	24 AC	5.70	5.13	4.85	4.56	3.99
77 P 621	1215-G24	24 DC	5.80	5.22	4.93	4.64	4.06
76 P 213	1215-G110	110 DC	6.05	5.45	5.14	4.84	4.24
77 P 617	1210-G115	115 AC	5.70	5.13	4.85	4.56	3.99
77 P 623	1210N-G115*	115 AC	6.30	5.67	5.36	5.04	4.41
76 P 209	1210-G230	230 AC	5.95	5.36	5.06	4.76	4.17
77 P 625	1215-G2.5	2500†	6.00	5.40	5.10	4.80	4.20
77 P 626	1215-G5	5000†	6.10	5.49	5.19	4.88	4.27
77 P 627	1215-G10	10000†	6.40	5.76	5.44	5.12	4.48

### 3PDT TYPES

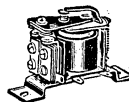
Stock No.	Mfr's Type	Volts	EACH				
			1-24	25-49	50-99	100-249	250-499
77 P 614	1210-GC6	6 AC	7.10	6.39	6.04	5.68	4.97
77 P 620	1215-GC6	6 DC	7.25	6.53	6.16	5.80	5.08
76 P 212	1215-GC12	12 DC	7.25	6.53	6.16	5.80	5.08
77 P 616	1210-GC24	24 AC	7.10	6.39	6.04	5.68	4.97
77 P 622	1215-GC24	24 DC	7.25	6.53	6.16	5.80	5.08
76 P 214	1215-GC110	110 DC	7.50	6.75	6.38	6.00	5.25
77 P 618	1210-GC115	115 AC	7.10	6.39	6.04	5.68	4.97
77 P 624	1210N-GC115*	115 AC	7.70	6.93	6.55	6.16	5.39
76 P 210	1210-GC230	230 AC	7.35	6.62	6.25	5.88	5.15
77 P 628	1215-GC2.5	2500†	7.00	6.30	5.95	5.60	4.90
77 P 629	1215-GC5	5000†	7.20	6.48	6.12	5.76	5.04
77 P 630	1215-GC10	10000†	7.50	6.75	6.38	6.00	5.25

## PLATE CIRCUIT RELAYS



General purpose DPDT plate circuit relay with extra long coil for greater sensitivity. Adaptable to voltage operating as well as sensitive plate circuit control. Coil impregnated-for reliability and long life. Av. power requirement, 0.2 watt. Fine silver contacts rated 8 amps. 2½x2x1½". 6 oz.

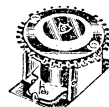
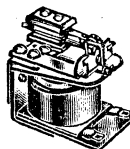
Stock No.	Mfr's Type	Ohms	Ma DC	EACH				
				1-24	25-49	50-99	100-249	250-499
77 P 599	IR-625-2.5	2500	9	3.85	3.47	3.27	3.07	2.70
77 P 600	IR-625-5	5000	6.3	4.25	3.83	3.61	3.39	2.98
77 P 601	IR-625-10	10,000	4.5	5.25	4.73	4.46	4.19	3.68



## HEAVY-DUTY SPST RELAYS

General purpose relays for switching currents up to 20 amps @ 230 volts, 60 cycle AC, non-inductive load. Provide reliable continuous duty service. Armature has bakelite contact mounting block carrying ½" dual contacts. Bakelite is tested at 1500 v. breakdown to ground. Silver alloy contacts are SPST, normally open. With solder lugs, mtg. brackets. 3x1½x1¾". Shpg. wt., 6 oz.

Stock No.	Type and Coil Volts	Coil Ohms	EACH				
			1-24	25-49	50-99	100-249	250-499
77 P 567	IR-220-A24AC	25	3.95	3.56	3.36	3.16	2.77
77 P 568	IR-220-A115AC	600	4.45	4.01	3.78	3.56	3.12
77 P 569	IR-220-A230AC	2500	4.95	4.46	4.21	3.96	3.47



## MIDGET LATCHING RELAYS

A Type IR-610L-A115. Midget latching relays with single coil construction. For positive On-Off control of positioning devices, remote controls, lighting circuits, and similar industrial applications. SPST contacts rated 5 amperes. Snap action switch mechanism operates on impulses as short as 20 milliseconds. Contacts hold in last position of switch when coil is de-energized. For 115 v., 60 cycle AC. 1½x1½x2½". Shpg. wt., 4 oz.

77 P 540. 1-24	EACH	3.80
25-49	EACH	3.42
50-99	EACH	3.23
100-249	EACH	3.04
250-499	EACH	2.66

Type IR-610L-C115. Same as above, but has SPDT contacts.

77 P 541. 1-24	EACH	3.95
25-49	EACH	3.56
50-99	EACH	3.36
100-249	EACH	3.16
250-499	EACH	2.77

## INTERLOCKING RELAYS

B Type IR-200 1200-GG 115. Unit consisting of interlocking relays electrically pulsed together with mechanical hold and electrical release. Has 4PDT contacts rated 8 amperes. For 115 v., 60 cycle AC. Size, 1½x1½x2½". Shpg. wt., 5½ oz.

77 P 539. 1-24	EACH	10.25
25-49	EACH	9.23
50-99	EACH	8.71
100-249	EACH	8.20
250-499	EACH	7.18

## 32-POLE DC RELAY

C Type IR-805-32P. Group-selector 24-volt DC relay simultaneously makes up to 32 circuits common on energization. Effectively insulated from ground. Rugged, phenolic plunger housing. Coil resistance, 72 ohms. Size, 2½x1½x2½". Wt., 6 oz.

77 P 602. 1-24	EACH	3.40
25-49	EACH	3.87
50-99	EACH	3.66
100-249	EACH	3.44
250-499	EACH	3.01

## ENGINEER'S CONTACT SWITCH KIT



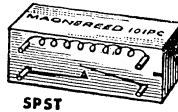
For engineers, technicians, hobbyists—anyone who plans to design, build, repair, or test electrical controls. Contains a large assortment of production switch parts. Includes assembly fixtures, screws, washers, side lugs, nylon lifters, contact rivets and washers, angle brackets, separator (tension) plates, separators, fish paper insulators, midget and standard assorted contact blades and insulating bushings. In sturdy, blue compartmented cabinet with snap lock. 1½x7¼x4½". Shpg. wt., 1½ lbs.

77 P 633	EACH	10.95
----------	------	-------

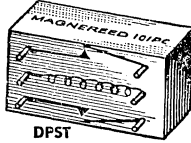
# Magnecraft Dry Reed and Crystal Can Relays

## MAGNEREED ENCAPSULATED DRY REED RELAYS

Quality relays with exceptional features that provide outstanding reliability. Switch capsule, coil, and leads to terminals are completely encased in epoxy resin. This encapsulation forms a terminal board of great dielectric strength and provides complete mechanical protection. The glass capsule is hermetically sealed, with gold contacts preadjusted, in an atmosphere of inert gas. Contacts are actuated electromagnetically by coils around the capsules. All units feature high sensitivity and fast switching, together with rigid tinned terminals and compact size for easy printed circuit board mounting.



SPST



DPST

### TYPE W101PCX

Normally open gold contacts rated 12 VA @ 1/4 amp max or 100 v., AC max. Op. time less than 1 ms.; release time less than 1/2 ms. Nominal power, 200 mw. Life: 5,000,000 cycles at max. ratings. 2 oz.

#### SPST TYPES 1/16x1/2x1/2"

Stock No.	Mfr's Type	Ma of VDC	Coil Ohms	EACH					
				1-9	10-24	25-49	50-99	100-249	250-499
74 P 061	W101PCX-5	6 V	65	6.84	6.14	5.80	5.45	5.12	4.78
74 P 062	W101PCX-6	12 V	250	6.88	6.20	5.85	5.51	5.17	4.82
74 P 063	W101PCX-7	24 V	1000	7.01	6.31	5.96	5.61	5.26	4.91
74 P 064	W101PCX-8	8 Ma	5000	7.57	6.81	6.44	6.06	5.68	5.30

#### DPST TYPES 1/16x1/2x1/2"

74 P 065	W101PCX-9	6 V	40	9.54	8.59	8.11	7.63	7.16	6.68
74 P 066	W101PCX-10	12 V	150	9.58	8.62	8.14	7.66	7.18	6.71
74 P 067	W101PCX-11	24 V	650	9.65	8.69	8.20	7.72	7.24	6.75
74 P 071	W101PCX-12	8 Ma	5000	10.26	9.23	8.72	8.21	7.70	7.18

### TYPE W102PCX

N.O. gold contacts rated 15 VA @ 1 amp; 250 VAC max. Op. time less than 1 ms.; release less than 1/2 ms. 100 mw. 20,000,000 cy. 5 oz.

#### SPST TYPES 3/8x2 1/2x2 1/4"

74 P 048	W102PCX-1	6 V	100	6.36	5.72	5.41	5.09	4.77	4.46
74 P 049	W102PCX-2	12 V	400	6.44	5.80	5.47	5.15	4.82	4.51
74 P 051	W102PCX-3	24 V	1500	6.50	5.85	5.53	5.20	4.88	4.55
74 P 052	W102PCX-4	8 Ma	5000	7.10	6.39	6.04	5.68	5.33	4.97

#### DPST TYPES 3/8x1 1/2x2 1/4"

74 P 054	W102PCX-5	6 V	50	8.30	7.47	7.06	6.64	6.23	5.81
74 P 055	W102PCX-6	12 V	200	8.38	7.54	7.12	6.71	6.28	5.87
74 P 059	W102PCX-7	24 V	800	8.44	7.60	7.17	6.75	6.34	5.91
74 P 060	W102PCX-8	8 Ma	5000	9.04	8.14	7.68	7.23	6.78	6.33

### TYPE W103PCX

Gold contacts rated 10 w. res., 1 amp or 250 v. AC max. Op. and release times, less than 1 ms. 100 mw. 25,000,000 cy. 5 oz.

#### SPST TYPES 3/8x2 1/2x2 1/4"

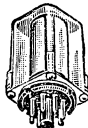
74 P 114	W103PCX-1	6 V	100	9.63	8.68	8.19	7.70	7.23	6.74
74 P 115	W103PCX-2	12 V	400	9.69	8.72	8.24	7.76	7.27	6.79
74 P 116	W103PCX-3	24 V	1500	9.76	8.78	8.29	7.80	7.32	6.83
74 P 117	W103PCX-4	6.5 Ma	5000	10.35	9.32	8.80	8.28	7.77	7.25

#### DPST TYPES 3/8x1 1/2x2 1/4"

74 P 118	W103PCX-5	6 V	50	14.36	12.92	12.20	11.48	10.76	10.05
74 P 119	W103PCX-6	12 V	200	14.39	12.95	12.23	11.51	10.79	10.07
74 P 120	W103PCX-7	24 V	800	14.46	13.01	12.29	11.57	10.85	10.13
74 P 121	W103PCX-8	9.0 Ma	5000	15.08	13.57	12.83	12.07	11.31	10.56

### TYPE W103PCX ENCLOSED PLUG-IN MAGNEREED RELAYS

Assemblies offer same features as Type W103X units (next column) together with convenient plug-in mounting. Units include two or three Type 103 relays with a common operating coil in a transparent plastic dust cover housing. Gold contacts are rated 10 watts resistive, 1 amp or 250 volts, AC max. Operating and release times less than 1 ms each. Nominal power, 100 mw. 2 1/8x1 1/2x1 3/8". 5 oz.



#### DPST TYPES—8-PIN OCTAL PLUGS

74 P 033	W103PCX-7	6 V	75	14.36	12.92	12.20	11.48	10.76	10.05
74 P 036	W103PCX-8	12 V	300	14.39	12.95	12.23	11.51	10.79	10.07
74 P 039	W103PCX-9	24 V	1000	14.46	13.01	12.29	11.57	10.85	10.13
74 P 040	W103PCX-10	8 Ma	5000	15.08	13.57	12.83	12.07	11.31	10.56

#### 3PDT TYPES—11-PIN PLUGS

74 P 041	W103PCX-11	6 V	40	18.63	16.77	15.84	14.90	13.98	13.04
74 P 042	W103PCX-12	12 V	150	18.70	16.83	15.89	14.97	14.03	13.10
74 P 043	W103PCX-13	24 V	650	18.83	16.95	16.00	15.07	14.12	13.18
74 P 047	W103PCX-14	10 Ma	5000	19.44	17.50	16.52	15.55	14.58	13.61

## MAGNEREED DRY REED RELAYS



W 101 X



W 102 X

Extremely fast switching relays with pre-adjusted gold contacts that are hermetically sealed in a glass capsule filled with an inert gas atmosphere. Contacts are actuated electromagnetically. Replace solid state switches; permit lower cost and simpler circuitry. SPST actions, normally open. For epoxy encapsulated models of these types, see Magnereed Encapsulated Reed Relays at left.

### TYPE W101X—SPST ACTION, MINIATURE MAGNEREED

Gold contacts rated at 12 VA at 1/4-amp or 100 v., AC max. Operating time less than 1 ms., release time less than 1/2 ms., nominal power, 200 mw. Life expectancy: 5 million cycles at max rating, 20 million cycles at 1/2 rating. Size: 1 1/2x7/16" dia. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Coil Ma. DC	V. Ohms	EACH						
				1-9	10-24	25-49	50-99	100-249	250-499	
74 P 002	W101X-1	46	6	100	4.38	3.94	3.72	3.50	3.28	3.06
74 P 004	W101X-2	30	12	250	4.38	3.94	3.72	3.50	3.28	3.06
74 P 007	W101X-3	20	24	500	5.14	4.62	4.37	4.11	3.86	3.59
74 P 010	W101X-4	9	2500	5.67	5.10	4.82	4.54	4.26	3.97	

### TYPE W102X—SPST ACTION, STANDARD MAGNEREED

Gold contacts rated 15 VA at 1 amp or 250 v., AC, max. Operating time less than 1 ms., release time less than 1/2 ms., nom. power 100 mw. 20 million cycles at max rating. 3 1/4x3/8" dia. Shpg. wt., 5 oz.

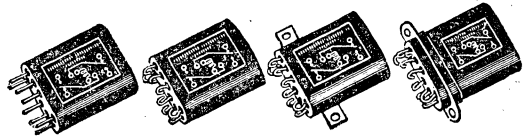
74 P 013	W102X-1	32	6	100	3.21	2.89	2.73	2.57	2.41	2.25
74 P 015	W102X-2	23	6	200	3.21	2.89	2.73	2.57	2.41	2.25
74 P 021	W102X-3	14.5	12	500	3.21	2.89	2.73	2.57	2.41	2.25
74 P 022	W102X-4	7.5	24	2000	3.38	3.02	2.87	2.70	2.53	2.37
74 P 025	W102X-5	4.6	5000	4.06	3.65	3.45	3.25	3.04	2.84	

### TYPE W103X—SPDT ACTION, STANDARD MAGNEREED

Gold contacts rated 10 w. resistive load. 1 amp or 250 v., AC max. Operating and release time less than 1 ms. each. Nom. power 100 mw.—25 million cycles at max rating. Size: 3 1/2x2 1/4" dia. 5 oz.

74 P 026	W103X-8	32	6	100	5.68	5.12	4.83	4.55	4.27	3.98
74 P 028	W103X-9	23	6	200	5.94	5.35	5.05	4.75	4.46	4.16
74 P 029	W103X-10	14.5	12	500	6.42	5.79	5.45	5.13	4.82	4.49
74 P 030	W103X-11	7.5	24	2000	7.08	6.37	6.02	5.67	5.31	4.96
74 P 031	W103X-12	4.6	5000	7.24	6.52	6.15	5.79	5.43	5.07	

## NEW MICRO-MINIATURE ROTARY RELAYS



40-227      40-222      40-224      40-234

Provide increased reliability in crystal can size. Frame and header assemblies of rugged, bridge-type construction; balanced armatures; oversize instrument-type bearings. Sealed in inert gas. DPDT contacts rated 2 amps @ 28 VDC or 115 VAC non-inductive. Op. time, 5 ms max.; release time, 3 ms max. Enclosure types 40-227 have plug-in header, no bracket; 40-222, solder terminals, no bracket; 40-224, solder terminals, side bracket; 40-234, solder terminals, flange bracket. 7/8x5 1/4x3 3/4". Av. wt., 2 oz.

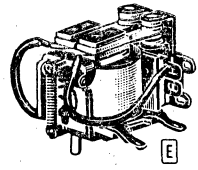
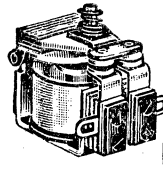
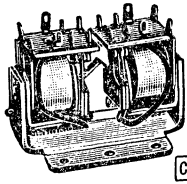
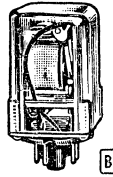
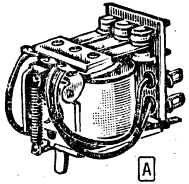
#### COIL DATA

Mfr's Types		Volts	Ohms
W44HPX-34, W44HSX-103, W44HSX-108, W44HSX-113		6.5	34
W44HPX-35, W44HSX-104, W44HSX-109, W44HSX-114		11.0	92
W44HPX-36, W44HSX-105, W44HSX-110, W44HSX-115		26.5	552
W44HPX-37, W44HSX-106, W44HSX-111, W44HSX-116		38.5	1278
W44HPX-38, W44HSX-107, W44HSX-112, W44HSX-117		76.0	5000

ENCL. 40-227 Stock No.	Type W44-	ENCL. 40-222 Stock No.	Type W44-	EACH					
				1-9	10-24	25-49	50-99	100-249	250-499
74 P 130	HPX-34	74 P 135	HSX-103	17.60	15.84	14.96	14.08	13.20	12.32
74 P 131	HPX-35	74 P 136	HSX-104	17.60	15.84	14.96	14.08	13.20	12.32
74 P 132	HPX-36	74 P 137	HSX-105	17.60	15.84	14.96	14.08	13.20	12.32
74 P 133	HPX-37	74 P 138	HSX-106	18.00	16.20	15.30	14.40	13.50	12.60
74 P 134	HPX-38	74 P 139	HSX-107	19.90	17.91	16.92	15.92	14.93	13.93

ENCL. 40-224 Stock No.	Type W44-	ENCL. 40-234 Stock No.	Type W44-	EACH					
				1-9	10-24	25-49	50-99	100-249	250-499
74 P 140	HSX-108	74 P 145	HSX-113	17.95	16.16	15.26	14.36	13.46	12.57
74 P 141	HSX-109	74 P 146	HSX-114	17.95	16.16	15.26	14.36	13.46	12.57
74 P 142	HSX-110	74 P 147	HSX-115	17.95	16.16	15.26	14.36	13.46	12.57
74 P 143	HSX-111	74 P 148	HSX-116	18.35	16.52	15.60	14.60	13.72	12.85
74 P 144	HSX-112	74 P 149	HSX-117	20.25	18.23	17.11	16.20	15.19	14.18

# Magnecraft Class 88 Relays



**A TYPE 88 ALL-PURPOSE OPEN-TYPE RELAYS**

Versatile, low-cost clapper-type relays for many uses. Highly reliable with adjustment stability for long-life. Silver alloy contacts rated at 10 amps. Nominal power for AC units, 3 VA; DC, 1.5 w; and plate-circuit types: SPDT, 125 mw; DPDT, 250 mw; 3PDT, 375 mw. Tinned solder terminals; mount by one #6-32 tapped hole with locating boss. Size, 1 $\frac{1}{4}$ x1 $\frac{1}{2}$ x1 $\frac{3}{8}$ ". Shpg. wt., 3 oz.

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or Ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 315	AX-1	6 AC	...	3.35	3.02	2.85	2.68	2.34
74 P 316	AX-2	12 AC	...	3.35	3.02	2.85	2.68	2.34
74 P 317	AX-3	24 AC	...	3.40	3.06	2.89	2.72	2.38
74 P 318	AX-4	115 AC	...	3.55	3.20	3.02	2.84	2.48
74 P 319	X-2	6 DC	25	3.20	2.88	2.72	2.56	2.24
74 P 320	X-3	12 DC	100	3.20	2.88	2.72	2.56	2.24
74 P 321	X-4	24 DC	400	3.25	2.92	2.76	2.60	2.27
74 P 322	X-5	110 DC	8000	3.80	3.42	3.23	3.04	2.66

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or Ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 323	AX-5	6 AC	...	3.95	3.56	3.36	3.16	2.76
74 P 324	AX-6	12 AC	...	3.95	3.56	3.36	3.16	2.76
74 P 325	AX-7	24 AC	...	4.00	3.60	3.40	3.20	2.80
74 P 326	AX-8	115 AC	...	4.15	3.74	3.53	3.32	2.90
74 P 327	X-6	6 DC	25	3.55	3.20	3.02	2.84	2.48
74 P 328	X-7	12 DC	100	3.55	3.20	3.02	2.84	2.48
74 P 329	X-8	24 DC	400	3.60	3.24	3.06	2.88	2.52
74 P 330	X-9	110 DC	8000	4.15	3.74	3.53	3.32	2.90

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or Ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 331	AX-9	6 AC	...	4.35	3.92	3.70	3.48	3.04
74 P 332	AX-10	12 AC	...	4.35	3.92	3.70	3.48	3.04
74 P 333	AX-11	24 AC	...	4.40	3.96	3.74	3.52	3.08
74 P 334	AX-12	115 AC	...	4.55	4.10	3.87	3.64	3.18
74 P 335	X-10	6 DC	25	3.95	3.55	3.35	3.16	2.76
74 P 336	X-11	12 DC	100	3.95	3.55	3.35	3.16	2.76
74 P 337	X-12	24 DC	400	4.00	3.60	3.40	3.20	2.80
74 P 338	X-13	110 DC	8000	4.55	4.10	3.87	3.64	3.18

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or Ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 339	X-14	7.2 ma	2500	3.75	3.38	3.19	3.00	2.62
74 P 340	X-15	5.0 ma	5000	3.85	3.47	3.27	3.08	2.69
74 P 341	X-16	3.6 ma	10K	4.25	3.83	3.61	3.40	2.97

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or Ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 342	X-17	10.0 ma	2500	4.01	3.61	3.41	3.21	2.81
74 P 343	X-18	7.2 ma	5000	4.11	3.70	3.49	3.29	2.88
74 P 344	X-19	5.0 ma	10K	4.51	4.06	3.83	3.61	3.16

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or Ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 345	X-20	12.3 ma	2500	4.44	4.00	3.77	3.55	3.11
74 P 346	X-21	8.7 ma	5000	4.54	4.09	3.86	3.63	3.18
74 P 347	X-22	6.1 ma	10K	4.94	4.44	4.20	3.95	3.46

**C TYPE 88L CONTINUOUS-DUTY LATCHING RELAYS**

Two 88-relays with independent operating coils and interlocking latch-in levers mounted on single base. Energizing one armature releases (resets) other. 10-amp silver alloy contacts. Nominal power AC units, 6 VA; DC, 3 w. 1 $\frac{1}{16}$ x1 $\frac{1}{4}$ x2 $\frac{1}{16}$ ". 7 $\frac{1}{2}$  oz.

Stock No.	Mfr's Type W88-	Coil		EACH					
		Volts	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
				1-9	10-24	25-49	50-99	100-249	250-499
74 P 348	ALX-2	6 AC	...	10.60	9.54	9.01	8.48	7.95	7.42
74 P 349	ALX-3	24 AC	...	10.60	9.54	9.01	8.48	7.95	7.42
74 P 350	ALX-4	115 AC	...	10.60	9.54	9.01	8.48	7.95	7.42
74 P 351	LX-1	6 DC	12	9.65	8.68	8.20	7.72	7.24	6.76
74 P 352	LX-2	12 DC	50	9.65	8.68	8.20	7.72	7.24	6.76
74 P 353	LX-3	24 DC	200	9.65	8.68	8.20	7.72	7.24	6.76
74 P 354	LX-4	110 DC	400	10.85	9.76	9.22	8.68	8.14	7.60

Stock No.	Mfr's Type W88-	Coil		EACH					
		Volts	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
				1-9	10-24	25-49	50-99	100-249	250-499
74 P 355	ALX-5	6 AC	...	12.80	11.52	10.88	10.24	9.60	8.96
74 P 356	ALX-6	24 AC	...	12.80	11.52	10.88	10.24	9.60	8.96
74 P 357	ALX-7	115 AC	...	12.80	11.52	10.88	10.24	9.60	8.96
74 P 358	LX-5	6 DC	12	11.75	10.57	9.99	9.40	8.81	8.23
74 P 359	LX-6	12 DC	50	11.75	10.57	9.99	9.40	8.81	8.23
74 P 360	LX-7	24 DC	200	11.75	10.57	9.99	9.40	8.81	8.23
74 P 361	LX-8	110 DC	4000	12.95	11.65	11.00	10.36	9.71	9.07

**B TYPE 88 PLUG-IN ENCLOSED RELAYS**

Same as Type 88 relays at left, but with polystyrene dust cover. SPDT and DPDT units use standard octal plug; 3PDT, 11-pin \*ANCPX-types have neon lamp indicator. 2 $\frac{1}{8}$ x1 $\frac{1}{2}$ x1 $\frac{3}{8}$ ". Wt., 4 oz.

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 362	ACPX-1	6 AC	...	5.50	4.95	4.68	4.40	3.85
74 P 363	ACPX-2	12 AC	...	5.50	4.95	4.68	4.40	3.85
74 P 364	ACPX-3	24 AC	...	5.55	5.00	4.72	4.44	3.89
74 P 365	ACPX-4	115 AC	...	5.70	5.13	4.85	4.56	3.99
74 P 366	ANCPX-1*	115 AC	...	6.64	5.98	5.64	5.31	4.65
74 P 367	CPX-1	6 DC	25	5.35	4.82	4.55	4.28	3.75
74 P 368	CPX-2	12 DC	100	5.35	4.82	4.55	4.28	3.75
74 P 369	CPX-3	24 DC	400	5.40	4.86	4.59	4.32	3.78
74 P 370	CPX-4	110 DC	8000	5.95	5.35	5.06	4.76	4.17

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 371	ACPX-5	6 AC	...	6.24	5.62	5.30	4.99	4.37
74 P 372	ACPX-6	12 AC	...	6.24	5.62	5.30	4.99	4.37
74 P 373	ACPX-7	24 AC	...	6.29	5.66	5.35	5.03	4.40
74 P 374	ACPX-8	115 AC	...	6.44	5.80	5.47	5.15	4.51
74 P 375	ANCPX-2*	115 AC	...	7.29	6.56	6.20	5.83	5.10
74 P 376	CPX-5	6 DC	25	5.84	5.26	4.96	4.67	4.09
74 P 377	CPX-6	12 DC	100	5.84	5.26	4.96	4.67	4.09
74 P 378	CPX-7	24 DC	400	5.89	5.30	5.01	4.71	4.12
74 P 379	CPX-8	110 DC	8000	6.44	5.80	5.47	5.15	4.51

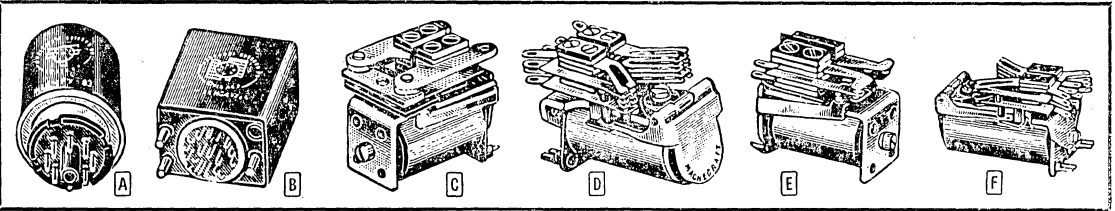
Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 380	ACPX-9	6 AC	...	7.66	6.89	6.51	6.13	5.36
74 P 381	ACPX-10	12 AC	...	7.66	6.89	6.51	6.13	5.36
74 P 382	ACPX-11	24 AC	...	7.81	7.03	6.64	6.25	5.47
74 P 383	ACPX-12	115 AC	...	7.96	7.16	6.77	6.37	5.57
74 P 384	ANCPX-3*	115 AC	...	8.81	7.93	7.49	7.05	6.17
74 P 385	CPX-9	6 DC	25	7.21	6.49	6.13	5.77	5.05
74 P 386	CPX-10	12 DC	100	7.21	6.49	6.13	5.77	5.05
74 P 387	CPX-11	24 DC	400	7.26	6.53	6.17	5.81	5.08
74 P 388	CPX-12	110 DC	8000	7.81	7.03	6.64	6.25	5.47

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 389	CPX-13	7.2 ma	2500	5.90	5.31	5.02	4.72	4.13
74 P 390	CPX-14	5.0 ma	5000	6.00	5.40	5.10	4.80	4.20
74 P 391	CPX-15	3.6 ma	10K	6.40	5.76	5.44	5.12	4.48

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or ma	Res. Ohms	1-9	10-24	25-49	50-99	100-499
				1-9	10-24	25-49	50-99	100-499
74 P 392	CPX-16	10.0 ma	2500	6.30	5.67	5.36	5.04	4.41
74 P 393	CPX-17	7.2 ma	5000	6.40	5.76	5.44	5.12	4.48
74 P 394	CPX-18	5.0 ma	10K	6.80	6.12	5.78	5.44	4.76

Stock No.	Mfr's Type W88-	Coil		EACH				
		Volts or ma	Res. Ohms	1-9				

# Magnecraft Hermetically Sealed and Open Relays



## HERMETICALLY SEALED RELAYS

### A TYPE 88H AC AND DC PLUG-IN RELAYS

Highly reliable general-purpose relays with standard 8-pin octal mounting plug. All have DPDT action. Silver alloy contacts rated at 4 amps—hermetically sealed for long life and freedom from breakdown. Nominal power: AC units, 3 VA; DC, 1.5 w. Internal construction similar to that used on top-quality telephone-type relays. Size,  $2\frac{1}{32} \times 1\frac{1}{32}$ ". Shpg. wt., 5 oz.

Stock No.	Mfr's Type	Coil		EACH					
		Volts	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
74 P 072	W88AHPX-4	6 AC	.....	8.59	7.73	7.30	6.87	6.44	6.02
74 P 074	W88AHPX-5	12 AC	.....	8.59	7.73	7.30	6.87	6.44	6.02
74 P 075	W88AHPX-6	24 AC	.....	8.64	7.78	7.34	6.91	6.48	6.05
74 P 076	W88AHPX-7	115 AC	.....	8.79	7.91	7.47	7.03	6.59	6.15
74 P 077	W88HPX-3	6 DC	25	8.19	7.37	6.96	6.55	6.14	5.73
74 P 078	W88HPX-4	12 DC	100	8.19	7.37	6.96	6.55	6.14	5.73
74 P 082	W88HPX-5	24 DC	400	8.24	7.42	7.00	6.59	6.18	5.77
74 P 083	W88HPX-6	110 DC	8000	9.29	8.36	7.90	7.43	6.97	6.51

### B TYPE 11H MINIATURE DC RELAYS

5-amp silver alloy contacts. 4PDT types have 14-pin glass insulated solder terminal header; nominal power, 1.5 w.; 6 PDT have 20-pin header; nom. power, 2.5 w. Use three 6-32 mtg. studs. Shpg. wt., 6 oz.

#### 4PDT ACTION— $2\frac{1}{16} \times 1\frac{3}{4} \times 1\frac{5}{8}$ "

74 P 093	W11HSX321	6 DC	25	15.92	14.33	13.53	12.74	11.94	11.14
74 P 094	W11HSX322	12 DC	100	15.97	14.37	13.57	12.78	11.98	11.18
74 P 095	W11HSX323	24 DC	400	15.97	14.37	13.57	12.78	11.98	11.18
74 P 096	W11HSX324	110 DC	9000	17.06	15.35	14.50	13.65	12.80	11.95

#### 6PDT ACTION— $2\frac{3}{16} \times 1\frac{1}{4} \times 1\frac{5}{8}$ "

74 P 097	W11HSX326	6 DC	13	19.91	17.92	16.92	15.93	14.93	13.94
74 P 098	W11HSX327	12 DC	56	19.91	17.92	16.92	15.93	14.93	13.94
74 P 099	W11HSX328	24 DC	280	19.96	17.96	16.96	15.97	14.97	13.97
74 P 100	W11HSX329	110 DC	5000	20.18	18.16	17.15	16.14	15.14	14.13

### B TYPE 22H AC AND DC POWER RELAYS

Small relays with silver alloy 5-amp contacts. 4PDT action. Terminals brought out to 14-pin glass insulated header. Nominal power: AC type, 5 VA; 6 v. and 12 v., DC, 2 w.; 24 v. and 110 v., DC, 1.5 w. Three 6-32 mtg. studs.  $2\frac{1}{16} \times 1\frac{1}{2} \times 1\frac{1}{8}$ ". 7 oz.

74 P 101	W22AHSX32	115 AC	500	17.30	15.57	14.71	13.84	12.98	12.11
74 P 102	W22HSX144	6 DC	20	17.00	15.30	14.45	13.60	12.75	11.90
74 P 103	W22HSX145	12 DC	80	17.00	15.30	14.45	13.60	12.75	11.90
74 P 104	W22HSX146	24 DC	375	17.05	15.35	14.49	13.64	12.79	11.94
74 P 105	W22HSX147	110 DC	8000	18.03	16.23	15.33	14.42	13.52	12.62

### B TYPE 33H SUBMINIATURE DC RELAYS

Sealed relays with 5-amp silver alloy contacts. DPDT units have 8-pin glass insulated solder hook terminal header; 4PDT have 14-pin header. Nominal power required, 3-watts. Have three #4-40 mounting studs. Size,  $1\frac{1}{4} \times 1\frac{1}{16} \times \frac{3}{16}$ ". Shpg. wt., 3 oz.

#### DPDT ACTION

74 P 106	W33HSX177	6 DC	17	13.21	11.89	11.23	10.57	9.91	9.25
74 P 107	W33HSX178	12 DC	75	13.21	11.89	11.23	10.57	9.91	9.25
74 P 108	W33HSX179	24 DC	280	13.26	11.93	11.27	10.61	9.95	9.28
74 P 109	W33HSX180	110 DC	6500	13.87	12.48	11.79	11.10	10.40	9.71

#### 4PDT ACTION

74 P 110	W33HSX181	6 DC	17	16.65	14.99	14.15	13.32	12.49	11.66
74 P 111	W33HSX182	12 DC	75	16.65	14.99	14.15	13.32	12.49	11.66
74 P 112	W33HSX183	24 DC	280	16.70	15.03	14.20	13.36	12.53	11.69
74 P 113	W33HSX184	110 DC	6500	17.36	15.62	14.76	13.89	13.02	12.15

### TYPE 22CP REMOVABLE-COVER DC PLUG-IN RELAYS

Not ill. 5-amp silver alloy contacts; 20-pin octal plug. 6PDT action. Nom. power, 3 w. Internal bracket supports dust cover; hold-down bracket has two 6-32 mtg. holes.  $3\frac{1}{32} \times 2\frac{1}{16} \times 1\frac{1}{8}$ ". 8 oz.

74 P 151	W22CPX-61	6 DC	12	16.72	15.05	14.21	13.38	12.54	11.70
74 P 152	W22CPX-62	12 DC	50	16.72	15.05	14.21	13.38	12.54	11.70
74 P 153	W22CPX-63	24 DC	225	16.77	15.09	14.25	13.42	12.58	11.74
74 P 154	W22CPX-64	110 DC	5000	17.35	15.62	14.77	13.88	13.01	12.15

## TELEPHONE-TYPE OPEN RELAYS

### C TYPE 11D MINIATURE DC POWER RELAYS

Small-size relay with big-relay reliability, accuracy and long-life. Have heavy brass contact arms and large 50-amp silver alloy contacts. All are SPDT, normally open, double break. Nominal power, 1.5 w. Solder terminals spaced for easy wiring. Have four #1-40 tapped mounting holes on  $\frac{3}{16} \times \frac{1}{16}$  centers.  $1\frac{1}{16} \times 1\frac{1}{16} \times 1\frac{1}{8}$ ". 4 oz.

Stock No.	Mfr's Type	Coil		EACH					
		Volts or ma	Res.	1-9	10-24	25-49	50-99	100-249	250-499
74 P 155	W11DX-38	6 DC	25	5.39	4.85	4.58	4.31	4.04	3.77
74 P 156	W11DX-39	12 DC	100	5.45	4.91	4.63	4.36	4.09	3.82
74 P 157	W11DX-40	24 DC	400	5.45	4.91	4.63	4.36	4.09	3.82
74 P 158	W11DX-41	110 DC	9000	6.08	5.47	5.17	4.86	4.56	4.26

### D TYPE 22T SMALL AC-DC TWIN-CONTACT RELAYS

Long-form type with twin Palladium contacts rated at 4-amps. Nominal power for AC DPDT unit, 5 VA; 4PDT, 16 and 12 V—2.0w; 24 and 110 VA—1.5w; 6PDT—3.0 w; and plate-circuit types: DPDT, 200 mw; SPDT, 100 mw. Tinned terminals mount at heel end with two #6-32 tapped mtg. holes on  $\frac{3}{4}$  centers.  $1\frac{1}{2} \times 2\frac{1}{16}$ ". Wt., 6 oz.

#### 4PDT ACTION (except \*AC unit—DPDT)

74 P 159	W22ATX-12	115 AC	500	5.94	5.35	5.05	4.75	4.46	4.16
74 P 160	W22TX-267	6 DC	20	8.44	7.60	7.17	6.75	6.33	5.91
74 P 161	W22TX-268	12 DC	80	8.44	7.60	7.17	6.75	6.33	5.91
74 P 162	W22TX-269	24 DC	375	8.49	7.64	7.22	6.79	6.37	5.94
74 P 163	W22TX-270	110 DC	8000	9.97	8.97	8.47	7.98	7.48	6.98

#### 6PDT ACTION

74 P 164	W22TX-271	6 DC	12	11.87	10.68	10.09	9.50	8.90	8.31
74 P 165	W22TX-272	12 DC	50	11.87	10.68	10.09	9.50	8.90	8.31
74 P 166	W22TX-273	24 DC	225	11.92	10.73	10.13	9.54	8.94	8.34
74 P 167	W22TX-274	110 DC	5000	12.91	11.62	10.97	10.33	9.68	9.04

#### DC-ACTUATED PLATE-CIRCUIT TYPE—SPDT (except \*DPDT)

74 P 168	W22TX-275	4.5 ma	10 K	6.93	6.24	5.89	5.54	5.20	4.85
74 P 169	W22TX-276	4.5 ma	5000	5.91	5.32	5.02	4.73	4.43	4.14
74 P 170	W22TX-277	6.0 ma	2700	5.24	4.72	4.45	4.19	3.93	3.67
74 P 171	W22TX-278	3.2 ma	11 K	6.18	5.56	5.25	4.94	4.64	4.33

### E TYPE 33 SUBMINIATURE DC RELAYS

Used in applications where small size, light weight, and resistance to shock and vibration are essential. Palladium contacts, rated at 3 amps. Nominal power, 2.0 w. Have four 4-40 tapped mtg. holes on  $\frac{3}{16} \times \frac{3}{16}$  centers.  $1\frac{3}{16} \times 1\frac{1}{16} \times 1\frac{1}{8}$ ". Shpg. wt., 2 oz.

#### DPDT ACTION

74 P 172	W33X-237	6 DC	17	4.87	4.38	4.14	3.90	3.65	3.41
74 P 173	W33X-238	12 DC	75	4.87	4.38	4.14	3.90	3.65	3.41
74 P 174	W33X-239	24 DC	280	4.92	4.43	4.18	3.94	3.69	3.44
74 P 175	W33X-240	110 DC	6500	5.50	4.95	4.68	4.40	4.13	3.85

#### 4PDT ACTION

74 P 176	W33X-241	6 DC	17	6.58	5.92	5.59	5.26	4.94	4.61
74 P 177	W33X-242	12 DC	75	6.58	5.92	5.59	5.26	4.94	4.61
74 P 178	W33X-243	24 DC	280	6.63	5.97	5.64	5.30	4.97	4.64
74 P 179	W33X-244	110 DC	6500	7.23	6.51	6.15	5.78	5.42	5.06

### F TYPE 66T MEDIUM AC-DC TWIN-CONTACT RELAYS

Like 22T, but larger coil. Twin Palladium 4-amp contacts. Nom. power AC 4PDT unit, 6 VA; 4PDT DC units, 1.0 w; 8PDT, 2.0 w; plate-circuit types: 4PDT, 300 mw; 8PDT, 800 mw. 2x  $1\frac{3}{32} \times 2\frac{3}{8}$ ". Shpg. wt., 6 oz.

#### 4PDT ACTION

74 P 180	W66ATX-2	115 AC	300	7.72	6.95	6.56	6.18	5.79	5.40
74 P 181	W66TX-23	6 DC	30	7.59	6.83	6.45	6.07	5.69	5.31
74 P 182	W66TX-24	12 DC	135	7.59	6.83	6.45	6.07	5.69	5.31
74 P 184	W66TX-25	24 DC	540	7.64	6.88	6.49	6.11	5.73	5.35

#### 8PDT ACTION

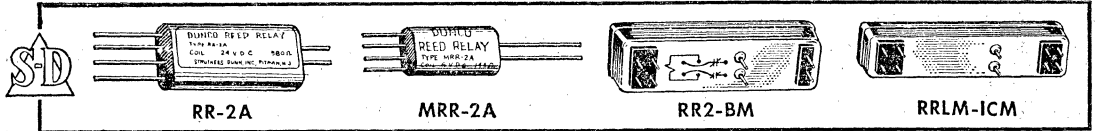
74 P 185	W66TX-29	6 DC	20	13.21	11.89	11.23	10.57	9.91	9.25
74 P 186	W66TX-30	12 DC	85	13.21	11.89	11.23	10.57	9.91	9.25
74 P 187	W66TX-31	24 DC	250	13.26	11.93	11.27	10.61	9.95	9.28
74 P 188	W66TX-32	110 DC	5750	13.84	12.46	11.76	11.07	10.38	9.69

#### DC-ACTUATED PLATE-CIRCUIT TYPE (\*4PDT; †8PDT)

74 P 189	W66TX-26*	5.3 ma	11 K	8.96	8.06	7.62	7.17	6.72	6.27
74 P 190	W66TX-28†	8.5 ma	11 K	14.25	12.83	12.11	11.40	10.69	9.98

# Dunco and Magnecraft Relays

## DUNCO MAGNETICALLY SHIELDED REED RELAYS



Designed for exceptionally fast low-level and light-load-switching in computer and data handling assemblies. Feature sturdy dry-reed

switches enclosed in DC coils and encapsulated in convenient forms for printed circuit or panel-mounting in any position.

### BASIC REED CHARACTERISTICS

	RR Type Relays	MRR Type Relays
<b>MAX. CONTACT CAPACITIES</b>	15 watts 250 volts 1 ampere	4 watts 250 volts 125 milliamperes
<b>CONTACT RESISTANCE</b>	0.05 ohm, maximum	0.2 ohm, maximum
<b>INTERNAL ATMOSPHERE</b>	Dry, inert gas	Dry, inert gas
<b>LIFE EXPECTANCY (Operations), at maximum rating— at 1/2 maximum rating— at dry circuit levels—</b>	20,000,000 100,000,000 200,000,000	10,000,000 20,000,000 200,000,000
<b>MINIMUM BREAKDOWN</b>	400 v. AC rms	250 v. AC rms
<b>OPERATING POWER (approx.)</b>	0.5 watts/pole (nominal) 0.2 watts/pole (minimum)	125 mw/pole (nominal) 80 mw/pole (minimum)

### STANDARD RR TYPES

Fast-acting relays—operate in 1.5 to 2.5 msec. Insulation resistance, 500,000 megs minimum. Shpg. wt., 4 oz.

Stock No.	Mfr's Type	Coil V	Ohms	EACH				
				1-24	25-49	50-74	75-99	100-249
74 P 216	RR-1A	6	90					
74 P 218	RR-1A	12	360	2.90	2.75	2.61	2.32	2.03
74 P 219	RR-1A	24	1440					
74 P 221	RR-2A	6	36					
74 P 222	RR-2A	12	145	4.50	4.28	4.05	3.60	3.15
74 P 223	RR-2A	24	580					
74 P 224	RR-4AF	6	24					
74 P 225	RR-4AF	12	95	7.80	7.41	7.02	6.24	5.46
74 P 226	RR-4AF	24	380					

### MINIATURE RR TYPES

Extremely fast-acting miniature relays—operate in 1-2.5 msec. Release time is less than 0.3 msec. Insulation resistance is 500,000 megs. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Coil V	Ohms	EACH				
				1-24	25-49	50-74	75-99	100-249
74 P 227	MRR-1A	6	288					
74 P 228	MRR-1A	12	1152	3.80	3.61	3.42	3.04	2.66
74 P 206	MRR-1A	24	4600					
74 P 229	MRR-2A	6	144					
74 P 230	MRR-2A	12	576	5.60	5.32	5.04	4.48	3.92
74 P 208	MRR-2A	24	2300					
74 P 231	MRR-4A	6	72					
74 P 232	MRR-4A	12	288	9.60	9.12	8.64	7.68	6.72
74 P 209	MRR-4A	24	1152					

### GENERAL INFORMATION

Type	Contacts	Cross-Section
<b>Standard "RR" Types. (Wrap-around shields. Bodies 1 7/8" long.)</b>		
RR1A	1 Form A	.640 dia.
RR2A	2 Form A	.640 x .840
RR4AF	4 Form A	.790 x 1.383
<b>Standard "RR" Types. (0.2" grid-spaced terminals 2 5/16" long)</b>		
RR1A1BM	1 Form A, 1 Form B	.800 x .550
RR2A2BM	2 Form A, 2 Form B	1.200 x .550
RR2BM	2 Form B	.800 x .550
RR1CM	1 Form C (SPDT)	.600 x .550
RRLM1CM*	1 Form C, latching	.600 x .550
RRLM1CM102†	1 Form C, latching	.600 x .550
<b>Miniature "MRR" Types. (Wrap-around shields. Bodies 1.062" long.)</b>		
MRR1A	1 Form A	.405 dia.
MRR2A	2 Form A	.405 x .505
MRR4A	4 Form A	.505 x .805
MRR12A	12 Form A	.605 x 1.805
<b>Miniature "MRR" Type. (0.2" grid-spaced terminals)</b>		
MRR2A2BM	2 Form A, 2 Form B	1.795 x .795 x .495

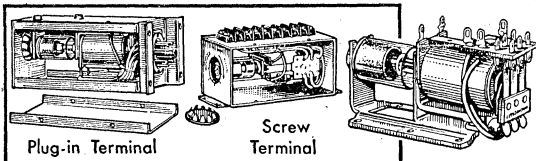
\*Single-coil, and †double-coil bistable, magnetic latching.

### MAGNETICALLY SHIELDED REED RELAYS

In steel housing, unaffected by external fields. -55° C to +85° C. Shock test, 50g. Insulation res., 10,000 meg. Guaranteed break-before-make action. Non-magnetic tin-coated #22 gauge copper wire terminals are easy to insert and solder to PC boards. 8 oz.

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH				
				1-24	25-49	50-74	75-99	100-249
74 P 242	RR2BM	6	36					
74 P 244	RR2BM	12	144					
74 P 245	RR2BM	24	576	6.40	6.08	5.76	5.12	4.48
74 P 246	RRI1A1BM	6	36					
74 P 247	RRI1A1BM	12	144					
74 P 248	RRI1A1BM	24	576					
74 P 249	RR2A2BM	6	18					
74 P 250	RR2A2BM	12	72	11.20	10.64	10.08	8.96	7.84
74 P 251	RR2A2BM	24	288					
74 P 260	RR1CM	6	288					
74 P 261	RR1CM	12	1152	11.50	10.93	9.20	9.20	8.05
74 P 262	RR1CM	24	4600					
74 P 263	RRLM1CM	6	288					
74 P 264	RRLM1CM	12	1152	10.70	10.16	9.63	9.63	7.49
74 P 265	RRLM1CM	24	4600					
74 P 266	RRLM1CM102	6	120					
74 P 267	RRLM1CM102	12	480	11.50	10.93	9.20	9.20	8.05
74 P 268	RRLM1CM102	24	1920					
74 P 269	MRR2A2BM	6	50					
74 P 270	MRR2A2BM	12	200	16.00	15.20	14.40	12.80	11.20
74 P 271	MRR2A2BM	24	800					

## MAGNECRAFT TIME-DELAY RELAYS



Adjustable time-delay relay with exceptional reliability. Has air dashpot adjustable time-delay, chatterproof, magnetic snap-action contacts and instantaneous recycling. When the coil is energized the timing starts; when the preset timing period expires, the contacts pull in; when the coil is de-energized, contacts drop out. Contacts make or break with positive, magnetic snap-action. A single screw adjusts time-delay from 0.1 second to 45 seconds, with a repeat accuracy of ±10%. Operating temp: -65° F to +165° F. DPDT silver cadmium oxide contacts rated 10 amps. \*AC operated relays have a built-in diode rectification. Power consumption: DC, 4 watts; AC, 7 volt-amperes. Wt., 15 oz.

### CLASS 110 AIR DASHPOT TIME-DELAY RELAY

#### PLUG-IN—8 PIN OCTAL PLUG

Stock No.	Mfr's Type	Coil Volts	Ohms	EACH					
				1-9	10-24	25-49	50-99	100-249/250-499	
74 P 191	W110ACPX-9*	115AC	...	29.79	26.81	25.32	23.84	22.35	20.85
74 P 192	W110CPX-10	24DC	100	26.78	24.10	22.76	21.43	20.09	18.75
74 P 193	W110CPX-11	110DC	2500	27.44	24.70	23.32	21.95	20.08	19.21

#### SCREW-TYPE TERMINALS

74 P 194	W110ACSX-1*	115AC	...	30.07	27.06	25.56	24.06	22.56	21.05
74 P 195	W110CSX-1	24DC	100	28.56	25.70	24.27	22.85	21.42	19.99
74 P 196	W110CSX-2	110DC	2500	29.22	26.30	24.84	23.38	21.92	20.45

#### OPEN TYPE—SOLDER JUGS

74 P 197	W110AX-9*	115AC	...	23.23	20.91	19.74	18.58	17.42	16.26
74 P 198	W110X-9	24DC	100	19.72	17.75	16.76	15.78	14.79	13.80
74 P 199	W110X-10	110DC	2500	20.38	18.28	17.32	16.30	15.29	14.27

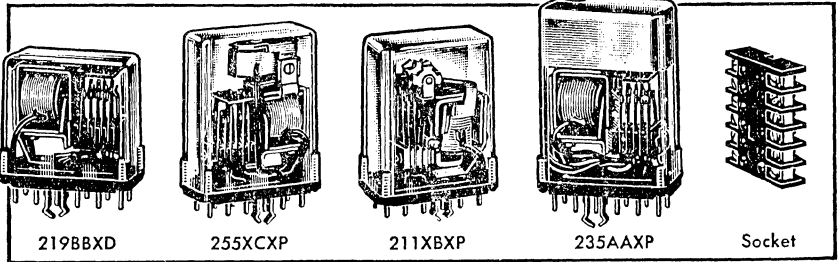
# Dunco Plug-In and Military Relays



FOR ECONOMICAL SIMPLIFIED INDUSTRIAL CONTROL

## DUNCO PLUG-INS

Plug-in bases for simplified construction. Transparent plastic covers provide effective insulation, mechanical protection, and facilitate inspection. Have 12-pin mounting plugs for insertion into heavy-duty Dunco #27390 sockets below. Friction springs on plugs polarize relays with respect to sockets, and prevent them from jarring loose. Have 150 v. electrical spacings of 1/4" over the surface and 1/8" through air; dielectric test, 1500 volts.



219BBXD

255XCXP

211XBXP

235AAXP

Socket

## TYPE 219 FRAME AUXILIARY 115 VAC RELAYS

Have 10-amp contacts. Draw 80 ma with armature open (cold); 45 ma with armature sealed (hot). Approx. 60 cycle impedance is 2600 ohms (hot). Approx. cold resistance, 430 ohms. Operate time, 15 msec. max.; release time, 15 msec. max. 20,000,000 cycle no-load life. Operate at 85% nominal voltage; withstand 10% over voltage without damage. Base, 2 5/8 x 1 1/2"; height, 2 1/2" (less pins). 7 oz.

Stock No.	Mfr's Type	Contact Arrangement	EACH				
			1-24	25-49	50-74	75-99	100-249
74 P 200	XBXP	DPDT	10.50	9.98	9.45	8.40	7.35
74 P 201	BXP	DPDT+2NO	12.60	11.97	11.34	10.08	8.82
74 P 202	ABAP	DPDT+1NO+1NC	12.60	11.97	11.34	10.08	8.82

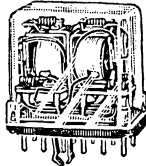
## TYPE 255 FRAME LATCH 115 VAC RELAYS

Plug-in mechanical latch, electrical reset relays. Combine standard Type 219 frame (above) with latching frame; same specs as Type 219. Adjustable rigid metal latch structure assures latching to main armature. Base, 2 5/8 x 1 1/2"; ht., 3 3/4" (less pins). 10 oz.

Stock No.	Mfr's Type	Contact Arrangement	EACH				
			1-24	25-49	50-74	75-99	100-249
74 P 204	255XBXP	DPDT	20.00	19.00	18.00	15.00	14.00
74 P 205	255XCXP	3 PDT	22.00	20.90	19.80	17.60	15.40
74 P 207	255XBXP	2 NO; 2 NC	22.00	20.90	19.80	17.60	15.40

## RSX1440 115 VAC ALARM RELAYS

Save wiring time, save space, save on initial costs by combining the functions of two separate relays. RSX1440 operates from normally-open trouble contact. RSX1440B operates from intermittent trouble contacts, and permits testing of trouble signal light. Plug-in mounting with transparent covers. Units have 150 v., rms spacing and 1000 v insulation. Contacts rated 5 amps. 2 1/2 x 2 5/8 x 1 1/2". For 115 v., 60 cycles AC. 6 oz.



Stock No.	Mfr's Type	EACH				
		1-24	25-49	50-74	75-99	100-249
77 P 313	RSX1440	14.75	14.01	13.28	11.77	10.33
77 P 314	RSX1440B	16.50	15.68	14.85	13.20	11.55

## 211XBXP FRAME SEQUENCE 115 VAC RELAY

Designed to provide exceptional sequence versatility, this DPDT relay features a double cam movement on each step. Cam rotates half a step when coil is energized and completes the step when de-energized. Relay has 8-tooth ratchet. Contacts transfer on each impulse; are rated 5 amps @ 115 v., AC and 24 v., DC; 0.5 amp 115 v., DC. Dimensions: base, 1 1/2 x 2 5/8"; height, 3 3/4" (less pins). Shpg. wt., 9 oz.

74 P 210.	1-24	25-49	50-74	75-99	100-249
50-74	EACH 18.63	17.59	EACH 16.56	15.00	14.49

## TYPE 235AAXP FRAME TIME DELAY 115 VAC RELAYS

Consist of Type 219 standard frame relays (left) plus a static timing element. Timing function is performed by a high quality epoxy encapsulated solid state network which triggers relay at the end of a preset time. Time delay is screwdriver adjustable over relay's entire 90:1 time range. Contacts: SPDT and 1 NO. Other specs same as for Type 219 relays, left. Size: base, 2 5/8 x 1 1/2"; height, 3 3/4" (less pins and adj. stud). 11 oz.

74 P 211.	0.2 to 18 Second Range	50.00
74 P 212.	2.0 to 180 Second Range	50.00

## TYPE 27390 12-PIN SOCKET

Heavy-duty socket for all 12-pin relays on this page. Front-connected screws have clamp plates for up to 2 No. 14 wires. Dimensions: base, 2 1/2 x 2 5/8"; height, 2 3/4". Wt., 3 oz.

74 P 213		1.85
----------	--	------

## 228XAX48P ENCLOSED SENSITIVE SPDT RELAYS

Enclosed in clear plastic dust cover. Have convenient octal plug that fits standard octal socket. Contacts are rated 2 amps at 115 VAC. Nominal coil power is 200 mva AC; 15 mw DC. Life: 5 million mechanical operations. 1 1/2" square x 2 1/8" high (less pins). 3 oz.



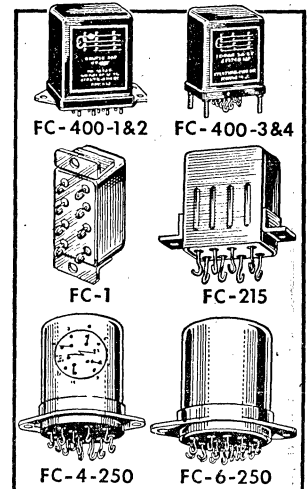
Stock No.	Coil Requires	Coil Res. Ohms	EACH				
			1-24	25-49	50-74	75-99	100-249
74 P 236	3.87 ma DC	1000					
74 P 237	2.45 ma DC	2500					
74 P 238	1.71 ma DC	5000	7.00	6.65	6.30	5.60	4.90
74 P 239	1.21 ma DC	10,000					
74 P 240	1.00 ma DC	15,000					
74 P 241	115 v. AC	12,000					

## AEROSPACE AND MILITARY RELAYS

Comply with specifications for guided missiles, aircraft, and similar applications. FC-1 and FC-1P: Solder-hook-terminals on FC-1, plug-in terminals on FC-1P. Shock; 50g for 11 ms. Vibration: 15g to 2000 cycles. Operate/Release; 10 ms max. Bounce; 2 ms max. FC-4-250 and FC-6-250: Shock; 50g for 11 ms. Vibration; 15g to 2000 cycles. Operate/Release; 10 ms max. on FC-4-250, 15 ms on FC-6-250. Bounce; 300 s max. FC-215: Shock; 50g for 11 ms. Vibration; 20g to 2000 cycles. Operate/Release; 15 ms

max. Bounce; 2 ms max. FC-400 and FC-406 Dual coils, balanced armatures, and bifurcated contacts. Plug-in terminals on FC-400-3, FC-400-4, FC-406-3, FC-406-4. Solder-hook-terminals on others. Shock; 25g for 11 ms. Vibration; 10g to 1500 cycles. Operate/Release; 20 ms for DC types, 20 ms for AC types. Bounce; .0005 sec. All are 26.5 v. except \*115 VAC. †Temperature ranges: MIL-R-5757D types, -65° C to +125° C; MIL-R-6106C types, -70° C to +120° C. Shpg. wt., 6 oz.

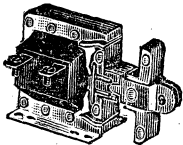
Stock No.	Type FC-	Government Designation	Con. Argmt.	Con. A.	Weight	EACH			
						1-24	25-49	50-99	100-249
74 P 300	1	MIL-R-5757D	2PDT	2	11 grms.	16.00	15.00	14.50	14.00
74 P 301	1-P	MIL-R-5757D	2PDT	2	11 grms.	16.00	15.00	14.50	14.00
74 P 302	4-250	RY4LB3B3L01 (MIL-R-5757/7)	4PDT	2	3 oz.	16.60	16.60	16.10	15.60
74 P 303	6-250	RY4LC3B3L01 (MIL-R-5757/1)	6PDT	2	3.5 oz.	17.60	17.60	17.10	16.60
74 P 304	215	MIL-R-4747D	2PDT	10	2 oz.	12.00	12.00	11.50	11.00
74 P 305	400-1	MS-25271-D1 (MIL-R-6106C)	4PDT	10	6 oz.	24.00	23.50	22.50	21.50
74 P 306	400-2*	MS-25271-A1 (MIL-R-6106C)	4PDT	10	6 oz.	34.00	33.50	32.50	31.50
74 P 307	400-3	MS-25327-D1 (MIL-R-6106C)	4PDT	10	6 oz.	26.00	25.50	24.50	23.50
74 P 308	400-4*	MS-25327-A1 (MIL-R-6106C)	4PDT	10	6 oz.	36.00	35.50	34.50	33.50
74 P 309	406-1	MS-25269-D1 (MIL-R-6106C)	6PDT	5	6 oz.	25.10	24.60	23.60	22.60
74 P 310	406-2*	MS-25269-A1 (MIL-R-6106C)	6PDT	5	6 oz.	35.10	34.60	33.60	32.60
74 P 311	406-3	MS-25329-D1 (MIL-R-6106C)	6PDT	5	6 oz.	27.10	26.60	25.60	24.60
74 P 312	406-4*	MS-25329-A1 (MIL-R-6106C)	6PDT	5	6 oz.	37.10	36.60	35.60	34.60



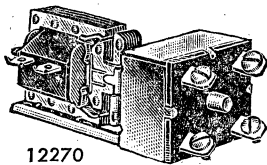


## CONTROLS COMPANY OF AMERICA

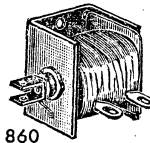
### SORENG DOUBLE T SOLENOIDS



801, 812, 813, 821



12270



860

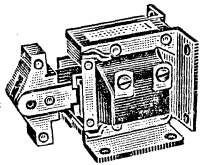
801, 812, 813, 821 Series. Intermittent duty solenoids can be energized for 20% of time cycle—not to exceed 5 minutes in a 15 minute cycle. Applications: motor starters, shutter and damper controls, etc. Have double T plunger, pull bars, screw terminals. 801 series, 1/2" stack; 812-1 series, 3/4" stack; 813-1 series, 1" stack; 821 series, 1" stack. \*Constant duty; \*intermittent duty. 1 3/4 lbs.

12270 Series. Heavy duty solenoid-operated switches designed to make and break 2 circuits at same time. Totally enclosed, normally open DPST switch actuated by a TT type solenoid. Rated 25 amps, 250 v. AC (resistive). 12 oz.

860 Series. Power in a small size unit. DPST, rated 25 amps. For 110 v., 60 cycles. Solder term. 1 3/2x1 1/2x1 1/8", 4 oz.

Stock No.	Mfr's Type	AC Volts	Max. Stroke	Max. Pull	EACH				
					1-9	10-24	25-49	50-99	100-249
76 P 131	801-101	110*	5/8"	7 3/4 lbs.	4.33	3.90	3.68	3.04	2.60
76 P 132	801-102	110†	5/8"	8 lbs.	4.33	3.90	3.68	3.04	2.60
76 P 133	801-103	225*	5/8"	7 3/4 lbs.	4.53	4.08	3.86	3.18	2.69
76 P 134	812-101	110*	1 1/8"	14 1/2 lbs.	5.76	5.14	4.90	4.04	3.35
76 P 135	812-102	110†	1 1/8"	17 lbs.	5.71	5.14	4.86	4.00	3.30
76 P 136	812-103	225*	1 1/8"	14 1/2 lbs.	5.97	5.38	5.07	4.18	3.44
76 P 137	813-101	110*	1 1/8"	18 lbs.	6.00	5.40	5.10	4.20	3.71
76 P 138	813-102	110†	1 1/8"	22 lbs.	5.95	5.36	5.06	4.16	3.51
76 P 139	813-103	225*	1 1/8"	18 lbs.	6.35	5.72	5.41	4.45	3.80
76 P 140	821-101	110*	1 3/8"	29 lbs.	8.36	7.53	7.11	5.85	4.71
76 P 141	821-102	110†	1 3/8"	32 lbs.	7.40	6.66	6.28	5.18	4.36
76 P 142	821-103	225*	1 3/8"	29 lbs.	9.33	8.40	7.94	6.54	4.80
76 P 143	860-101	110*	3/8"	4 oz.	3.00	2.70	2.55	2.10	1.80
76 P 144	860-102	110†	3/8"	4 oz.	3.00	2.70	2.55	2.10	1.80
76 P 145	2J12270	110	.....	.....	5.92	5.92	5.92	5.33	5.33
76 P 146	2K12270	220	.....	.....	5.99	5.99	5.99	5.39	5.39

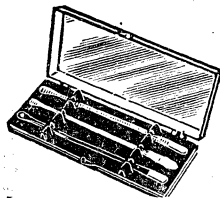
### INDUSTRIAL DOUBLE T (TT) SOLENOIDS



Rugged, long-life, industrial solenoids. Designed for use with machine tools, valves, production machinery, etc. Epoxy encapsulated coil is easily interchangeable; has maximum insulation rating of 130° C. for greater cycling rate. Complies with NEMA requirements for Class "B" insulation. Maximum stroke is 1". All have screw terminals. Type 831-101 have 5/8" stack; size, 2x 2.061x2.235". Type 831-201 have 1 3/16" stack; size, 2x2.248x2.235". \*Constant duty type. †Intermittent duty. ‡Operations per minute with 25% "On" time. Wt., 1 1/4 lbs.

Stock No.	Mfr's Type	AC Volts	Max. Pull	±OPM	EACH				
					1-9	10-24	25-49	50-99	100-249
76 P 078	831-101-11*	115	7.0 lbs.	45	7.70	6.93	5.98	5.81	5.63
76 P 079	831-101-12†	115	9.0 lbs.	27					
76 P 080	831-101-13*	230	7.05 lbs.	45					
76 P 083	831-101-14†	230	9.0 lbs.	27					
76 P 084	831-201-46*	115	9.5 lbs.	36	11.85	10.67	9.19	8.93	8.66
76 P 085	831-201-47†	115	12.0 lbs.	20					
76 P 086	831-201-48*	230	9.5 lbs.	36					
76 P 087	831-201-49†	230	12.0 lbs.	20					

### DIACROM RELAY CLEANING SPATULAS AND SETS



- Convenient, easy to Use
- Permits cleaning when Relay is Under Power
- No Disassembly Required

Diacrom Relay Cleaning Sets. Plastic cased sets of three diamond abrasive spatulas, each 6" long. Require only a gentle, even pressure to do a thorough cleaning job—contact gap is left unchanged. Non-clogging nylon shaft has high dielectric strength—permits use of spatula when relay is under power. Sets consist of three spatulas with three different color-coded abrasives, or three spatulas of the same grade (see table below). Wt., 10 oz.

Stock No.	Mfr's Type	Consists of Types Below	PER SET
77 P 285	234	1 each—200, 300, 400	14.85
77 P 286	222	3 each—200	
77 P 288	333	3 each—300	
77 P 289	444	3 each—400	

### DIAMOND-FACED RELAY CLEANING SPATULAS

Diamond-impregnated tools specifically designed for cleaning relay contacts. Type No. indicates diamond grain size. Types 200 and 300 are 0.55 mm thick; have two diamond faces. Type 400 is 0.25 mm thick; has single diamond face. All are 6" long. Shpg. wt., 2 oz.

Stock No.	Mfr's Type	EACH			
		1-11	12-23	24-49	50-99
77 P 328	200	4.95	4.70	4.45	3.96
77 P 329	300				
77 P 330	400				

### MODEL 700 TIME-DELAY SWITCH



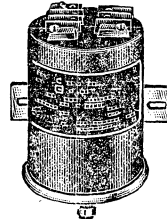
700

General-purpose time-delay SPDT switch for a variety of applications. Time delay is pneumatically controlled for high contact-pressure. Other design features: Provides adjustable delays from 3 to 60 seconds, varied by external screw adjustment.

Can be operated in any position with positive make, break action. Rugged construction—non-sensitive to shock and vibration. Has silver contacts rated 10 amps at 250 v., AC; 1/2 hp 125/250 v., AC. U.L. Listed. Measures 2 3/8x3 3/16". diameter. Shpg. wt., 4 oz.

76 P 147, 1-9..... EACH 5.10  
10-24..... EACH 4.59 25-49..... EACH 4.08  
50-99..... EACH 3.57 100-249..... EACH 3.32

### MODEL 701 TIME-DELAY SWITCHES



Reliable, solenoid-operated enclosed time-delay switches.

Consist of enclosed timing switch and solenoid-operated actuators. Available in two types—Series 701-1 provides time delay after removal of energizing voltage from the coil. Series 701-2 provides time delay after energizing voltage is applied to the coil. Time delay is adjustable from 3 to 60 seconds. Heavy-duty SPDT switch contacts are rated at 10 amps at 125 volts AC; 5 amps at 250 volts AC; 1/2 hp at 125-250 volts AC. Silverscrew terminals. Coils are for 50-60 cycle AC only. Wt., 1 1/4 lbs.

#### WITH DUST COVER

Stock No.	Mfr's Type	Coil Volts
77 P 507	701-102	110
77 P 508	701-103	220
77 P 512	701-202	110
77 P 513	701-203	220

1-9..... EACH 29.63 10-24..... EACH 26.67  
25-49..... EACH 23.34 50-99..... EACH 17.58  
100-249..... EACH 14.50

#### WITHOUT DUST COVER

Stock No.	Mfr's Type	Coil Volts
77 P 484	701-112	110
77 P 485	701-113	220
77 P 491	701-212	110
77 P 495	701-213	220

1-9..... EACH 14.40 10-24..... EACH 13.15  
25-49..... EACH 12.10 50-99..... EACH 10.20  
100-249..... EACH 9.00

### "G DOT" SHOCK INDICATORS



Mount inside packages or containers to indicate when the objects in which they are mounted have exceeded a preset shock level—from dropping, vibration or impact. Measure shocks of up to 100g. Ideal for monitoring in-transit package-handling

in warehouses, shipping rooms, etc. Also determine shock levels in railroad cars or trucks, in aircraft, etc. Indefinitely reusable. Sensitivity is hemispherical, ±10%. Flange mounting. 1 3/8x1" dia. Shpg. wt., 3 oz. In stock and available for immediate delivery—5g, 10g, 15g and 25g. Any other rating between 2 and 100g available on special order—prices are same as listed below. Write for delivery quotation.

77 PP 463. Specify 5g, 10g, 15g, or 25g.  
1-99..... EACH 3.50 100-499..... EACH 2.75  
500-999..... EACH 2.50 1000-4999..... EACH 2.25  
5000-9999..... EACH 2.10 10,000-Up..... EACH 1.95

# Hurst Synchronous Motors and Bourns Relays

## HURST SYNCHRONOUS MOTORS

Rugged synchronous motors for continuous-duty applications. In output speeds from 1 to 3600 rpm for alarm systems, extra-large clocks, displays, railroad signaling, process controls, code signal devices, time switches, etc. Will not overheat during continuous duty or in a stalled position. *Specifications common to all motors:* Operating temperatures, 40° C to 105° C; Power required, 5 watts, 95-130 v..

**DA Series.** 120 inch-ounce at 1 RPM. Instantly reversible (with SPDT switch). Highly accurate both clockwise and counter-clockwise. 100g shock resistance. Vibration resistant, accurate synchronization of 10-55 cps at 0.065" excursion. Highly effective magnetic shielding. Case, 2 1/2" dia. x 1 1/4". Shpg. wt., 1 1/4 lbs. *Specify speed desired when ordering.* Available in 1, 2, 4, 6, 8, 10, 12, 20, 30, 60, and 120 rpm.

Stock No.	Speeds Available	EACH		
		1-49	50-71	72-107
77 PP 150	1 to 120 RPM	10.80	9.72	8.64

**PC-DA Positive Clutch Series.** Basic reversible DA motor as described above, with positive clutch and instantaneous brake. Starts in 10 milliseconds—stops 60 RPM shaft in 6°, 1 RPM in 1/10°. Shpg. wt., 1 1/2 lbs. *Specify speed desired when ordering.* Available in 1, 2, 4, 6, 8, 10, 12, 20, 30, 60, and 120 RPM.

Stock No.	Speeds Available	EACH		
		1-49	50-71	72-107
77 PP 151	1 to 120 RPM	14.92	13.42	11.94

**SM Series.** 40 inch-ounce at 1 RPM. Rugged, shaded-pole unidirectional motor with clockwise rotation. Instant start at full torque. Has 100g shock resistance. Vibration resistant—accurate synchronization at 10-55 cps at 0.065" excursion. Case is 1 3/4 x 2 1/2" dia. shpg. wt., 1 lb. *Specify speed desired when ordering.* Available in 1/2, 1, 2, 3, 4, 5, 6, 10, 15, 30, and 60 RPM.

Stock No.	Speeds Available	EACH		
		1-49	50-71	72-107
77 PP 152	1/2 to 60 RPM	9.08	8.17	7.26

**PC-SM Positive Clutch Series.** Basic SM motor as described above with positive clutch and instantaneous brake. Starts in 10 milliseconds or less—stops 60 RPM shaft in 6°; 1 RPM in 1/10°. Shpg. wt., 1 1/4 lbs. *Specify speed desired when ordering.* Available in 1/2, 1, 2, 3, 4, 5, 6, 10, 15, 30, and 60 RPM.

Stock No.	Speeds Available	EACH		
		1-49	50-71	72-107
77 PP 153	1/2 to 60 RPM	13.20	11.88	10.56

60 cycle AC; Shaft, stainless steel 3/8" dia. x 1" long, flattened. Long-lasting bronze bearings, hardened steel pinions and wheel shafts. Brass gears lubricated for lifetime service. Completely enclosed, cadmium-plated cases. Mtg., three #6 holes spaced 120°. Torque equals 1 RPM rating, divided by speed. *Specify both Stock No. and output-speed desired when ordering.*

**EA Series.** 150 inch-ounce at 1 RPM. Open frame-shaded pole. Completely accurate, cool-running timing motor with clockwise rotation. Case measures, 1 5/8 x 2 5/8 x 2 1/2". \*Has 3/2 x 1" output shaft. 1 1/4 lbs. *Specify speed desired when ordering.* Available in 1, 2, 4, 6, 8, 10, 12, 20, 30, 60, 120, and 3600 rpm.

Stock No.	Speeds Available	EACH		
		1-49	50-71	72-107
77 PP 155	1 to 120 RPM	6.60	5.94	5.28
77 P 156	3600 RPM	4.43	3.99	3.54

**CA Series.** 100 inch-ounce at 1 RPM. Instantly reversible (with SPDT switching), completely accurate both clockwise and counter-clockwise. Case dimensions, 2 1/2" dia. x 2 1/4". Includes capacitor. Shpg. wt., 1 1/4 lbs. *Specify speed desired when ordering.* Available in 1/2, 1, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 24, 25, 30, 32, 33 1/3, 40, 48, 50, 60, 64, 80, 100, 120, 150, 160, 200, 240, 400, 600, 800, and 1000 RPM.

Stock No.	Speeds Available	EACH		
		1-49	50-71	72-107
77 PP 154	1/2 to 1000 RPM	9.25	8.33	7.40

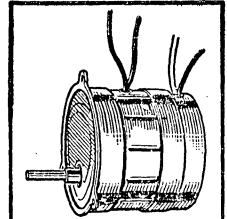
**AR-DA Series.** 100 inch-ounce, reversible. AR-SM Series. 40 inch-ounce unidirectional. Each is an automatic reset motor when a return-spring is attached to the output shaft. When clutch is de-energized, the shaft is free for manual or automatic reset. Clutch mechanism is fully lubricated and completely enclosed. AR series is designed for heavy-duty use and will easily handle full torque on model SM and DA. Size and appearance same as PC Series. Accurate within 1/5 second at 1 RPM, more accurate at higher speeds. Maximum error in seconds. 1.5625 divided by the RPM. Case 2 1/2" dia. x 2 1/4". Clutch actuator, 1/8" height x 1 3/16" width. Shpg. wt., 1 1/2 lbs. *Specify speed desired when ordering.* Available in 1, 4, 6, 10, 30, and 60 RPM.

### AR-DA SERIES

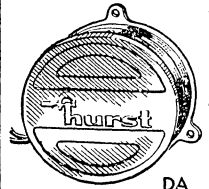
Stock No.	Speeds Available	EACH		
		1-49	50-71	72-107
77 PP 157	1 to 60 RPM	17.60	15.84	14.08

### AR-SM SERIES

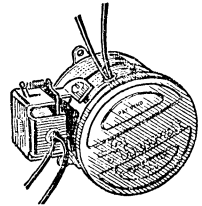
77 PP 158	1 to 60 RPM	15.90	14.30	12.72
-----------	-------------	-------	-------	-------



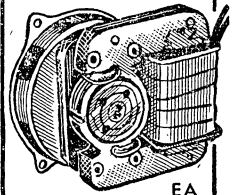
CA



DA SM

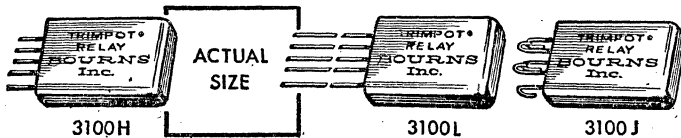


PC-DA PC-SM  
AR-DA AR-SM



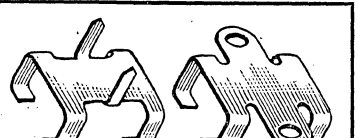
EA

## BOURNS TRIMPOT® SUBMINIATURE RELAYS



Extremely reliable SPDT relays. Meet or exceed all requirements of MIL-R-5757D—every relay receives a 5000-cycle run-in prior to final inspection. Statistically sampled final inspection checks coil resistance, dielectric strength, contact bounce, contact resistance, pick-up and drop-out values. Withstands shock up to 11 ms of 150g; vibration of 40g up to 3000 cps. Operating temperature of -65° C to 125° C. Estimated

life of 100,000 cycles at rated load. Insulation resistance is 100 megohms. All units are 100% degassed prior to hermetic sealing. Hermetically sealed enclosure filled with nitrogen and trace of helium gas at 1 atmosphere. Contacts are gold-plated, rated at 1 amp. Terminals are straight plug-in pins (3100 H), solder lug hooks (3100 J), and 1 1/2" solid bare-wire leads (3100 L). Actual weight, 3 grams. Av. shpg. wt., 2 oz.



Type H-91

Type H-92

77 P 233. H-91. Bend-over tab bracket.  
77 P 235. H-92. Bolt-down bracket. Both of 0.020 tinned brass. Wt., 2 oz.

1-24.....EACH .30  
25-99.....EACH .20 100-500...EACH .15

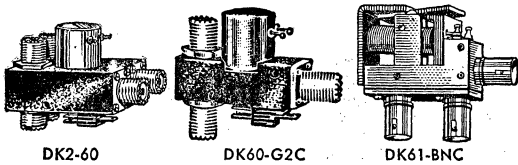
### VOLTAGE ADJUSTED

Coil Ohms	3100H			3100L			3100J			Nom. Oper. V.	Maximum Pull-In Volts		Drop-Out Voltage		3100H			3100L			3100J			No. Oper. Ma	Maximum Pull-In Ma.		Drop-Out Ma.	
	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.		Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.		Stock No.	Stock No.	Stock No.	Stock No.
50	77 P 200	77 P 205	77 P 210	4.2	2.2	2.85	1.3	0.16	77 P 215	77 P 220	77 P 225	84.0	44.0	26.0	3.2													
120	77 P 201	77 P 206	77 P 211	6.4	3.4	4.35	1.9	0.24	77 P 216	77 P 221	77 P 228	53.0	28.0	16.0	2.0													
500	77 P 202	77 P 207	77 P 212	13.2	7.0	9.0	4.0	0.5	77 P 217	77 P 222	77 P 229	26.4	14.0	8.0	1.0													
1000	77 P 203	77 P 208	77 P 213	18.8	10.0	12.8	5.7	0.7	77 P 218	77 P 223	77 P 230	18.8	10.0	5.7	0.7													
2000	77 P 204	77 P 209	77 P 214	26.5	14.1	18.0	8.0	1.0	77 P 219	77 P 224	77 P 231	13.3	7.0	4.0	0.5													

### CURRENT ADJUSTED

Type Numbers	1-9, EACH	10-24, EACH	25-49, EACH	50-99, EACH	100-249, EACH	250-500, EACH
3100H, 3100L, and 3100J—all values	20.52	19.00	17.10	16.22	15.20	14.44

**AMPHENOL BORG INSTRUMENT MOTORS**  
1003-4Sy 4-POLE REVERSIBLE SYNCHRONOUS MOTORS



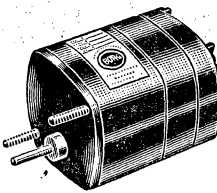
**DOW-KEY COAXIAL ANTENNA RELAYS**

DK60 Series. Heavy duty SPDT coaxial antenna relays. Safely handle up to one kilowatt of power when connected to matched line. Have low-loss pure silver contacts; all other critical parts silver plated. Coils are encapsulated in epoxy resin for extremely quiet operation and protection from moisture. Units are free from AC hum or chatter. Life expectancy is over one million operations. Low VSWR: less than 1.15:1 from 0-500 mc in 50-ohm line. Guaranteed for one year. DK60-G and DK60-G2C feature patented, automatic receiver-protecting connector for positive isolation of RF from receiver—greater than 100 db isolation between receiver and transmitter lines from 0-500 mc. DK60-2C and DK60-G2C include external DPDT contacts for switching auxiliary circuits (rated 5 amps @ 110 VAC). Size, 2 3/4 x 3 3/4 x 1 1/8". Av. shpg. wt., 9 oz. DK2-60. A DPDT coaxial switch for switching two coaxial lines simultaneously. Frequency range, 0-500 mc; power rating, to 1 kw; VSWR, less than 1.15:1 from 0-500 mc; isolation, greater than 30 db @ 500 mc; loss, less than 0.03 db @ 30 mc; life, over 1 million operations. 50-ohm imp. Guaranteed one year. 2 3/4 x 3 3/4 x 1 3/8". 12 oz. DK61-BNC. High performance SPDT coaxial relay designed for rugged military applications. Frequency range, 0-1000 mc. Very low VSWR—less than 1.1:1 @ 400 mc. Crosstalk down more than 40 db @ 400 mc. Power handling capacity, 100 watts. Plated per MIL QQS-365; QQP-416. Op. temp. range, -55° to +125° C. Life, greater than 500,000 operations at rated load. 1 1/4 x 5/8 x 1 23/32". 4 oz.

Stock No.	Mfr's Type	Coil Volts	Includes	EACH			
				1-4	5-9	10-24	25-49
76 P 114	DK60	12DC	UHF connectors	12.45	11.83	11.20	10.58
76 P 115	DK60	115AC	UHF connectors	12.45	11.83	11.20	10.58
75 P 953	DK60-G	12DC	UHF conn., revr. protec. conn.	13.70	13.02	12.33	11.65
75 P 955	DK60-G	115AC	UHF conn., revr. protec. conn.	13.70	13.02	12.33	11.65
76 P 118	DK60-G2C	12DC	UHF conn., DPDT 5-amp ext. cont., revr. protec. conn.	15.65	14.87	14.08	13.30
76 P 119	DK60-G2C	115AC	UHF conn., DPDT 5-amp ext. cont., revr. protec. conn.	15.65	14.87	14.08	13.30
76 P 116	DK60-2C	12DC	UHF conn., DPDT 5-amp ext. contacts	14.35	13.64	12.92	12.20
76 P 117	DK60-2C	115AC	UHF conn., DPDT 5-amp ext. contacts	14.35	13.64	12.92	12.20
76 P 149	DK2-60	115AC	UHF connectors	19.00	18.05	17.10	16.15
76 P 148	DK61-BNC	28DC	BNC conn. SPDT cont. rated 100 w.	26.50	25.18	23.85	22.53

DK60 DPDT Switch. External switch assembly especially designed for use with the relays above. Switch is actuated by built-in plunger which is part of relay. DPDT contacts. Wt., 2 oz.  
 75 P 843.....1.95  
 DK60-M 12 VDC Coil. Converts DK60-G 6 VDC or DK60-G 115 VAC relays for 12 VDC use—ideal for auto systems. Wt., 3 oz.  
 75 P 947.....2.90  
 DKF-2 Connector. Double male. For mtg. relays directly to output of transmitters. UHF locking type; recommended for indoor use.  
 DK60-P Connector. Female UHF panel mtg. coax conn. Only one 5/8" hole required—2 serrated jam nuts hold conn. firmly in position.

Stock No.	Mfr's Type	Wt., Oz.	EACH						
			1-4	5-9	10-24	25-49	50-99	100-499	
75 P 946	DKF-2	1	1.25	1.19	1.13	1.06	.88	.81	
89 S 309	DK60-P	1	.70	.67	.63	.60	.49	.46	



Permanent capacitor motors of fractional horsepower for recorders, timing devices, other equipment. Can be run in either direction with equal torque output and can be reversed with a DPDT switch. Totally enclosed. Die-cast rotor is mounted on ball bearings. Gear train consists of precision-cut spur gears; gears and bearings are lubricated with military-approved grease. Starting torque is a minimum of double the rated synchronous torque, with an average of 3 to 4 times actual rating. A 0.8-mfd, 220 VAC capacitor is required for use with each motor (not included—see listing below). Motors rated at 8.7 watts input on 115 volts; operate from 110 or 220 v., 50-60 cycle AC. On 50 cycles, output speed will be 5/6 of listed speed. 2 5/8 x 2 3/16"; 2 1/8" long. Av. wt., 3 lbs.

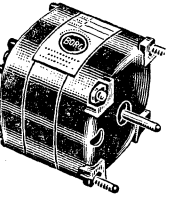
Stock No.	Output Speed	Gear Ratio	Torque Oz.-In.	EACH			
				1-9	10-24	25-99	100-199
76 P 676	300 rpm	6:1	1.3	31.96	28.78	26.95	25.47
76 P 683	225 rpm	8:1	1.7				
76 P 684	180 rpm	10:1	2.1				
76 P 685	150 rpm	12:1	2.5				
76 P 686	120 rpm	15:1	3.2	33.26	29.94	28.04	26.50
76 P 687	100 rpm	18:1	3.8				
76 P 688	75 rpm	24:1	5.1				
76 P 689	60 rpm	30:1	7.0				
76 P 690	50 rpm	36:1	8.5				
76 P 691	30 rpm	60:1	14.0				
76 P 692	25 rpm	72:1	17.0				
76 P 693	18 rpm	100:1	23.0				
76 P 694	12 rpm	150:1	34.0	35.87	32.29	30.25	28.58
76 P 695	10 rpm	180:1	41.0				
76 P 696	9 rpm	200:1	46.0				
76 P 697	6 rpm	300:1	69.0				
76 P 698	5 rpm	360:1	83.0	37.11	33.41	31.29	29.57
76 P 699	3 rpm	600:1	138.0				
76 P 715	2 rpm	900:1	150.0				
76 P 716	1 rpm	1800:1	150.0				

**LOW INERTIA SERVO-TYPE MOTORS**

Model 1064. Fractional H.P. servo-type motors. Can be operated two-phase, or with 1.0 mfd capacitor (below) connected, single-phase. Similar to Model 1003-4Sy above, but have low inertia rotor and high-impedance winding. Draw 12 watts at stall. No-load rotor speed, 1600 rpm. Rotor moment of inertia: .10 oz.-in.<sup>2</sup>. 2 1/8 x 2 3/16 x 2 3/16". Shaft, 1/4" dia. with 1" long flat. For 115 v., 60 cycle AC. 3 lbs.

Stock No.	Output Speed	Gear Ratio	Torque Oz.-In.	EACH		
				1-9	10-49	50-199
78 P 420	283 rpm	6:1	5	38.12	31.77	31.21
78 P 421	47 rpm	36:1	26	39.13	32.70	32.02
78 P 422	17 rpm	100:1	65	40.59	33.92	33.09
78 P 386	5.6 rpm	300:1	150	42.23	35.29	34.30
78 P 384	2.8 rpm	600:1	150			
78 P 427	1.9 rpm	900:1	150			

**REVERSIBLE SYNCHRONOUS MOTORS WITHOUT GEAR TRAIN**



Fractional horsepower motors without gear train. Same design and construction as Borg motors listed above. Type 1001-4Sy and 1005-4Sy require use of a 0.8-mfd, 220 VAC capacitor; Type 1005-2Sy requires 1.6-mfd, 220 VAC capacitor (not supplied—see below). Starting torque is at least twice the rated synchronous torque; average of 3 to 4 times actual rating. Motors: \*4-pole with 4 leads; †2-pole with 3 leads. 2 5/8 x 2 3/16"; 1001-4-Sy is 2" long; others are 2 1/4" long. For 110 or 220 v., 50-60 cycle AC. 3 lbs.

Stock No.	Mfr's Type	RPM	Torque Oz.-In.	EACH			
				1-9	10-24	25-99	100-999
76 P 717	1001-4Sy*	1800	.30	25.10	22.60	21.16	20.00
76 P 718	1005-4Sy*	1800	.56	25.17	22.66	21.22	20.05
76 P 719	1005-2Sy†	3600	.38	23.65	21.29	19.94	18.84

**MOTOR CAPACITORS**

For motors above. Av. shpg. wt., 4 oz.

Stock No.	Capacitor	For Motor Types	EACH	
			1-9	10-49
76 P 818	0.8 mfd, 220 v. AC	1003-4Sy, 1001-4Sy, 1005-4Sy	1.07	.89
76 P 847	1.0 mfd, 220 v. AC	1064	1.10	.92
76 P 846	1.6 mfd, 220 v. AC	1005-2Sy	1.56	1.30

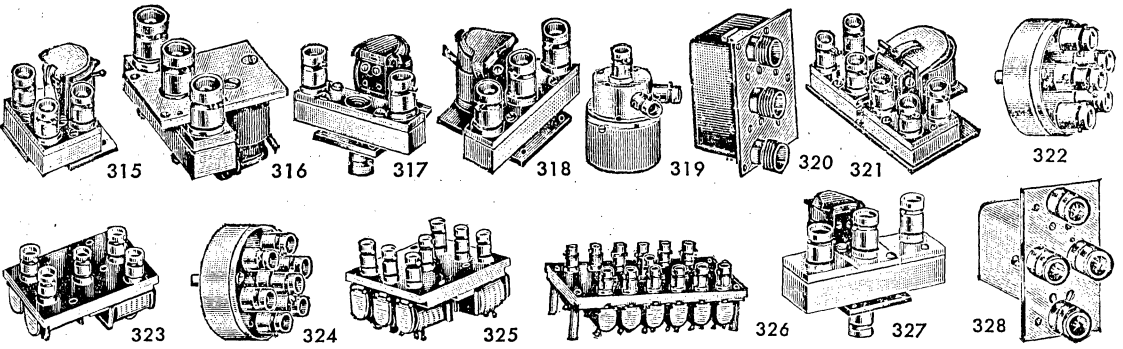


**LELAND TIME TOTALIZERS**

Small, direct-reading mercury coulometer indicators. Work off power input of device to be timed—accurately show accumulated time of operation (up to 1000 hours) for any equipment utilizing either AC or DC power. Draw only 0.5 watt for their own operation. Operate from -35° to +71° C. Accuracy, ±6%. AC model, Type 5266-1, operates from 50-2400 cps power sources. Measures only 2 3/16 x 1 1/16 x 1 3/32". Wt., 2 oz.

Stock No.	Type	Volts Input	EACH			
			1-24	25-50	51-99	100-249
77 P 786	5265-1	24-32 DC	15.25	14.49	13.72	10.67
77 P 787	5266-1	105-125 AC	14.10	13.40	12.69	9.87

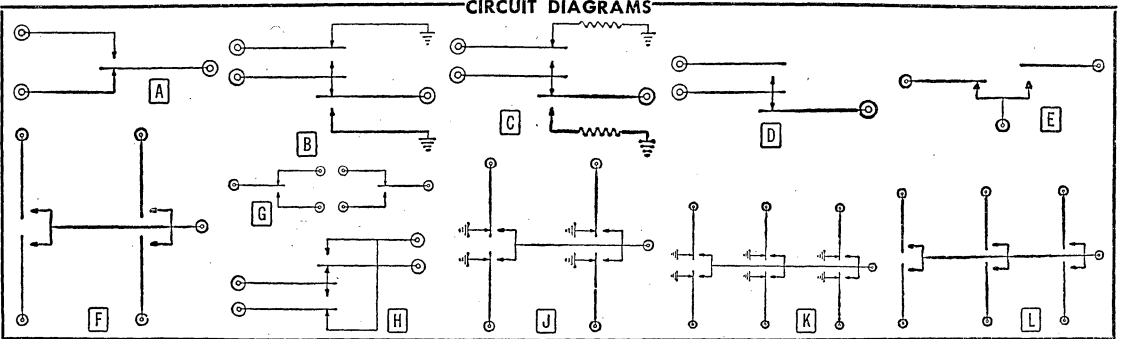
# Danbury-Knudsen Coaxial Relay-Switches



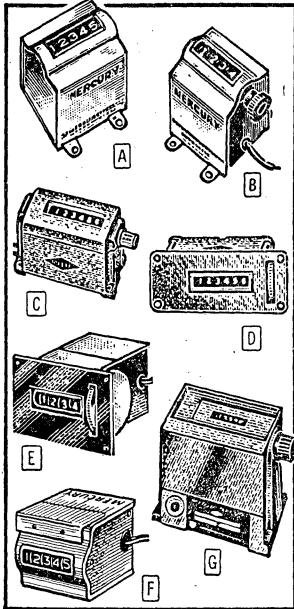
Precision coax units. Maximum time to operate and release is 20 milliseconds. Gold-plated, fine silver contacts assure reliable low-level operation. Minimum life expectancy is 1,000,000 cycles, when switch is operated at speeds of less than 10 cps. Switches are impedance matched to 50-ohm cable, though loss is negligible with 75-ohm cable. Operation is break-before-make. Units meet applicable portions of military connector specs as follows: BNC, MIL-C-3608; N, MIL-C-71; C, MIL-C-3989. All materials used are corrosion resisting types or are suitably plated to withstand the 48-hour test condition "B" requirement of MIL-STD-202.

Notes on Table Below. "Circuit" Column: In some cases, the circuit of only one of the relays in a series is illustrated. Other units of series differ only in the termination of disengaged inputs, as indicated in "Termination" column. Circuit diagrams for Series 319, 322 and 324 not shown; these are rotary switches whose number of poles are given in "Function" column. Circuit for 326 Series (not shown) same as Circuit K except 12 sections instead of 6. "Termination" column: "Short" indicates disengaged inputs shorted to ground; "Res.", termination in 75-ohm, 1/2-watt resistor to ground; "Open", open circuit. "Frequency" column, freq. @ VSWR of 1.3:1.

Stock No.	Mfr's Type	Circuit	Termination	Function	Connectors	Freq. (Mc)	Power (W)	Coil Volts	Coil Ohms	Wt., Oz.	EACH				
											1-4	5-9	10-24	25-49	50-99
77 P 801	315-010002-3	A	Open	SPDT	BNC	1000	100	26 DC	280	4	17.80	14.85	13.35	11.85	10.70
77 P 802	315-010022-3	A	Open	SPDT	MB	800	100	26 DC	280	4	17.80	14.85	13.35	11.85	10.70
77 P 803	316-010082-3	B	Short	SPDT	BNC	2750	100	26 DC	280	4 1/2	18.70	15.60	14.00	12.45	11.20
77 P 804	316-010082-6	B	Short	SPDT	BNC	2750	100	120 DC	7000	4 1/2	18.70	15.60	14.00	12.45	11.20
77 P 805	316-010102-8	B	Short	SPDT	BNC	2750	100	115 AC	550	6 1/2	19.50	16.30	14.60	12.95	11.70
77 P 806	316-010744-3	B	Short	SPDT	N	4000	500	26 DC	200	12	24.60	20.55	18.45	16.35	14.75
77 P 807	316-010732-8	B	Short	SPDT	N	4000	500	115 AC	550	12	25.50	21.30	19.10	16.95	15.30
77 P 810	317-010202-3	B	Short	SPDT	BNC	2750	100	26 DC	280	4 1/2	18.70	15.60	14.00	12.45	11.20
77 P 811	317-010215-8	B	Short	SPDT	BNC	2750	100	115 AC	550	6 1/2	19.50	16.30	14.60	12.95	11.70
77 P 812	317-010242-3	B	Short	SPDT	N	4000	100	26 DC	280	5	21.20	17.70	15.90	14.10	12.70
77 P 813	317-010242-4	B	Short	SPDT	N	4000	100	48 DC	1200	5	21.20	17.70	15.90	14.10	12.70
77 P 814	317-010255-8	B	Short	SPDT	N	4000	100	115 AC	550	7	22.10	18.45	16.55	14.70	13.25
77 P 815	317-010303-3	B	Short	SPDT	C	4000	100	26 DC	280	5	21.20	17.70	15.90	14.10	12.70
77 P 816	317-010363-8	B	Short	SPDT	UHF	.....	100	115 AC	550	7	19.50	16.30	14.60	12.95	11.70
77 P 817	317-010538-3	B	Short	SPDT	N	4000	500	26 DC	200	12	24.60	20.55	18.45	16.35	14.75
77 P 819	317-011092-3	C	Res.	SPDT	BNC	2750	100	26 DC	280	4 1/2	28.00	23.40	21.00	18.60	16.80
77 P 820	318-010381-0	B	Short	SPDT	BNC	2750	100	lever manual	.....	4 1/2	17.00	14.20	12.75	11.30	10.20
77 P 821	318-010382-3	B	Short	SPDT	BNC	2750	100	26 DC	280	4 1/2	18.70	15.60	14.00	12.45	11.20
77 P 822	318-010395-8	B	Short	SPDT	BNC	2750	100	115 AC	550	6 1/2	19.50	16.30	14.60	12.95	11.70
77 P 823	318-010407-3	D	Open	SPDT	BNC	2750	100	26 DC	280	4 1/2	18.70	15.60	14.00	12.45	11.20
77 P 824	318-010662-0	B	Short	SPDT	N	4000	500	lever manual	.....	12	22.90	19.10	17.15	15.20	13.75
77 P 825	318-011165-3	C	Res.	SPDT	BNC	2750	100	26 DC	280	4 1/2	28.80	24.05	21.60	19.15	17.30
77 P 828	318-011576-8	C	Res.	SPDT	BNC	2750	100	115 AC	550	6 1/2	28.00	23.40	21.00	18.60	16.80
77 P 829	319-011131-3	.....	Open	SPDT	BNC	1000	100	26 DC	75	8	61.20	51.10	45.90	40.70	36.70
77 P 832	319-011141-0	.....	Open	SPDT	BNC	1000	100	rotary manual	.....	4 1/2	34.00	28.40	25.50	22.60	20.40
77 P 833	320-010931-3	E	Open	SPDT	N	1200	1000	26 DC	200	20	49.60	41.40	37.20	33.00	29.75
77 P 835	321-011062-0	G	Open	DPDT	BNC	1000	100	lever manual	.....	8	28.80	24.05	21.60	19.15	17.30
77 P 834	321-011064-3	G	Open	DPDT	BNC	1000	100	26 DC	200	10	28.80	24.05	21.60	19.15	17.30
77 P 836	322-011431-0	F	Open	1P4T	BNC	2750	100	rotary manual	.....	11	51.00	42.60	38.25	33.90	30.60
77 P 837	323-011506-3	F	Short	1P4T	BNC	900	100	26 DC	280	14	37.60	31.40	28.20	25.00	22.55
77 P 838	323-011651-3	J	Open	1P4T	BNC	900	100	26 DC	280	14	37.60	31.40	28.20	25.00	22.55
77 P 839	324-011442-0	.....	Open	1P6T	BNC	2750	100	rotary manual	.....	12	54.40	45.40	40.80	36.15	32.65
77 P 840	325-011635-3	K	Short	1P6T	BNC	900	100	26 DC	280	21	51.20	42.75	38.40	34.05	30.70
77 P 842	325-011641-3	L	Open	1P6T	BNC	900	100	26 DC	280	21	51.20	42.75	38.40	34.05	30.70
77 P 843	326-011507-3	.....	Short	1P12T	BNC	200	100	26 DC	280	43	80.00	66.80	60.00	53.20	48.00
77 P 844	327-010562-3	H	.....	Transfer	N	1250	100	26 DC	280	11 1/2	28.80	24.05	21.60	19.15	17.30
77 P 845	327-010582-3	H	.....	Transfer	BNC	1000	100	26 DC	280	10 1/2	28.80	24.05	21.60	19.15	17.30
77 P 846	327-010601-8	H	.....	Transfer	UHF	.....	100	115 AC	550	12	28.80	24.05	21.60	19.15	17.30
77 P 847	328-011005-3	H	.....	Transfer	N	1500	100	26 DC	280	12	39.20	32.75	29.40	26.05	23.50
77 P 848	328-011005-5	H	.....	Transfer	N	1500	100	100 DC	5000	12	39.20	32.75	29.40	26.05	23.50



## ITT GENERAL CONTROLS INC. COUNTERS



### ELECTRICAL COUNTERS

Top-quality electric counters. Designed for 60-cycle operation.

**Prefix "CE4".** For coin equipment and moderate-duty industrial applications. Min. make time 0.04 sec., break time 0.06 sec. Rated at 600 cpm. In tamperproof case. Reset units count to 4 digits, non-reset to 5. Shpg. wt., 1 lb.

**Prefix "CE6".** For general industrial applications. Minimum make and break time 0.03 sec. Enclosed in dust-resistant housing. Rated at 1000 cpm. 50-million count life. Continuous-duty coils. 6 digits. Shpg. wt., 1 lb.

**Prefix "CE8".** Heavy-duty, 200 million count-life. For drill and punch presses, etc. Minimum make and break time is 0.03 sec. Die-cast aluminum housing. Dust-proof and tamper-proof. Rated at 1000 cpm. Continuous-duty coils. Shpg. wt., 5 lbs.

### SIZE CHART

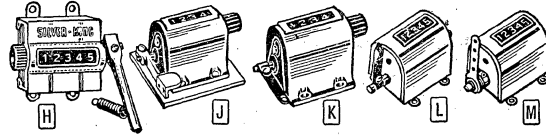
Fig.	Size	Mount	Mtg. Centers
A & B	2 <sup>3</sup> / <sub>16</sub> x4 <sup>1</sup> / <sub>2</sub> x2 <sup>3</sup> / <sub>32</sub> x1 <sup>9</sup> / <sub>16</sub> "	Base	1 <sup>7</sup> / <sub>8</sub> x1 <sup>5</sup> / <sub>16</sub> "
C	2 <sup>1</sup> / <sub>2</sub> x1 <sup>21</sup> / <sub>32</sub> x3 <sup>1</sup> / <sub>2</sub> "	Base	3 <sup>3</sup> / <sub>4</sub> x2 <sup>3</sup> / <sub>64</sub> "
D	2 <sup>1</sup> / <sub>2</sub> x1 <sup>5</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>16</sub> "	Panel	4 <sup>1</sup> / <sub>8</sub> x1 <sup>1</sup> / <sub>2</sub> "
E	1 <sup>5</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>16</sub> x2 <sup>2</sup> / <sub>64</sub> "	Panel	1 <sup>9</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>16</sub> "
F	1 <sup>9</sup> / <sub>16</sub> x1 <sup>23</sup> / <sub>32</sub> x2 <sup>2</sup> / <sub>64</sub> "	Panel	1 <sup>3</sup> / <sub>16</sub> x4 <sup>1</sup> / <sub>64</sub> "
G	3 <sup>1</sup> / <sub>8</sub> x5 <sup>5</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>16</sub> "	Base	5 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>2</sub> "

### RESET TYPES

Stock No.	Type No.	Fig.	AC Volts	EACH				
				1-9	10-24	25-49	50-99	100-249
77 P 099	CE40BS401	E	24	15.95	13.56	12.76	11.96	11.17
77 P 049	CE40BS402	E	115	15.95	13.56	12.76	11.96	11.17
77 P 043	CE40AS402	B	115	15.25	12.96	12.20	11.44	10.67
77 P 236	CE600AS601	C	24	22.40	19.04	17.92	16.80	15.68
77 P 237	CE600AS602	C	115	22.40	19.04	17.92	16.80	15.68
77 P 238	CE600BS601	D	24	24.00	20.40	19.20	18.00	16.80
77 P 239	CE600BS602	D	115	24.00	20.40	19.20	18.00	16.80
77 P 298	CE800CS602	G	115	43.00	36.55	34.40	32.25	30.10

### NON-RESET TYPES

Stock No.	Type No.	Fig.	AC Volts	1-9	10-24	25-49	50-99	100-249
77 P 031	CE40BN502	F	115	8.35	7.10	6.68	6.26	5.85
77 P 033	CE40AN502	A	115	7.75	6.59	6.20	5.81	5.43



### MECHANICAL COUNTERS

**Prefix "CM10"**—Small Non-Reset Mechanical Stroke-Counter. For built-in applications and other services where space is at a premium; coin-operated and dispensing machines, office and light production machines. Offers remarkable accuracy and endurance. 5 digit (records to 99,999), non-reset. Rated at 400 counts per minute. 3 million count-life (conservative rating). In cadmium-plated steel case. Double shaft extension, use either right or left. Shpg. wt., 1/2 lb.

**Prefix "CM22"**—Junior King Reset Stroke-Counter. Ideal for built-in applications, office machines, vending machines, and industrial equipment. One turn of knob resets 4 number wheels (records to 9999). Rated 400 cpm. 6 million count-life. In rugged, die-cast, dustproof frame and housing. Shpg. wt., 1/2 lb.

**Prefix "CM52"**—Silver King Reset Stroke-Counter. For high production, continuous use. Heavy-duty construction. Rugged, yet operates smooth as a watch. 5 digits (records to 99,999); knob or key reset. Unmatched accuracy—no skips, no overcount. Positive action, smooth operation, stainless steel shafts and bronze bearings insure a long and dependable life. 500 cpm, conservative. 200 million count-life. Unbreakable window. Shpg. wt., 2 lbs.

### SIZE CHART

Fig.	Shaft Ext.	Arm Action	Size	Mtg. Ctrs.
K	Right or Left Flexible Arm	Top Going Top Coming	1 <sup>4</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>8</sub> x1 <sup>7</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>2</sub> x1"
L	Right or Left 100% Overtravel	Top Going Top Coming	1 <sup>4</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>8</sub> x1 <sup>7</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>2</sub> x1"
J	Right	Top Coming Top Going	1 <sup>4</sup> / <sub>8</sub> x2 <sup>3</sup> / <sub>32</sub> x1 <sup>2</sup> / <sub>64</sub> "	1 <sup>1</sup> / <sub>2</sub> x1"
H	Right Left	Top Coming Top Coming	3 <sup>1</sup> / <sub>8</sub> x2 <sup>2</sup> / <sub>32</sub> x2 <sup>3</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>4</sub> "
H	Right Left	Top Going Top Going	3 <sup>1</sup> / <sub>8</sub> x2 <sup>2</sup> / <sub>32</sub> x2 <sup>3</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>4</sub> "

### RESET TYPES

Stock No.	Type No.	Fig.	EACH				
			1-9	10-24	25-49	50-99	100-249
77 P 065	CM22AS401B	J	9.90	8.42	7.92	7.43	6.53
77 P 066	CM22BS401B	J	9.90	8.42	7.92	7.43	6.53
77 P 068	CM25AS501A	H	14.90	12.67	11.92	11.18	9.83
77 P 069	CM52AS502A	H	14.90	12.67	11.92	11.18	9.83
77 P 070	CM52BS501A	H	14.90	12.67	11.92	11.18	9.83
77 P 071	CM52BS502A	H	14.90	12.67	11.92	11.18	9.83

### NON-RESET TYPES

Stock No.	Type No.	Fig.	AC Volts	1-9	10-24	25-49	50-99	100-249
77 P 072	CM10BN534	K	4.95	4.21	3.96	3.71	3.27	
77 P 073	CM10AN534	K	4.95	4.21	3.96	3.71	3.27	
77 P 074	CM10BN535	L	5.20	4.42	4.16	3.90	3.43	
77 P 075	CM10AN535	L	5.20	4.42	4.16	3.90	3.43	



### BARBER-COLMAN TYPE AYLZ MICROPOSITIONER DC RELAYS

Compact, ideal where power supply is limited. Operate for years with mercury cells. High-speed response; operate in excess of 100 cps. SPDT silver contacts; floating neutral position. Signal polarity determines which contact closes. Balanced armature mounted on

torsional supports. Two Alnico magnets for polarizing field. High physical-shock resistance. Normal tolerance on pull-in current at 75°F is ±25%; from -65°F to +160°F, ±60%. Uses Amphenol 146-103 octal plug-in socket. 1<sup>9</sup>/<sub>16</sub>x3<sup>1</sup>/<sub>8</sub>x1<sup>7</sup>/<sub>8</sub>" 10 oz.

### SINGLE COIL

Stock No.	Mfr's Type	Coil Ohms	Pull-in Volts	Pull-in Amps	EACH		
					1-9	10-24	25-49
76 P 414	7300-100	13	.023	.00173	25.00	22.50	20.00
76 P 701	7301-100	54	.047	.00087	25.00	22.50	20.00
76 P 702	7302-100	88	.062	.00068	25.00	22.50	20.00
76 P 700	7303-100	140	.076	.00054	25.00	22.50	20.00
76 P 415	7304-100	215	.100	.00046	25.00	22.50	20.00
76 P 703	7305-100	350	.123	.00035	25.00	22.50	20.00
76 P 416	7306-100	566	.155	.00028	25.00	22.50	20.00
76 P 707	7307-100	900	.198	.00022	25.00	22.50	20.00
76 P 704	7308-100	1400	.243	.00017	25.00	22.50	20.00
76 P 417	7309-100	2300	.325	.00014	25.00	22.50	20.00
76 P 705	7310-100	3550	.401	.00011	25.00	22.50	20.00
76 P 706	7311-100	5650	.524	.000093	25.00	22.50	20.00
76 P 418	7312-100	7950	.604	.000076	25.00	22.50	20.00
75 P 255	7325-100	13	.035	.00267	21.00	18.90	16.80
75 P 252	7329-100	215	.154	.00071	21.00	18.90	16.80
75 P 250	7337-100	7950	.930	.00012	21.00	18.90	16.80

### DOUBLE COIL

Stock No.	Mfr's Type	Coil Ohms	Pull-in Volts	Pull-in Amps	EACH		
					1-9	10-24	25-49
76 P 421	7350-100	5	.022	.00433	26.00	23.40	20.80
76 P 710	7351-100	9	.029	.00325	26.00	23.40	20.80
76 P 711	7352-100	39	.060	.00153	26.00	23.40	20.80
76 P 712	7353-100	61	.072	.00118	26.00	23.40	20.80
76 P 422	7354-100	95	.095	.00100	26.00	23.40	20.80
76 P 708	7355-100	150	.122	.00081	26.00	23.40	20.80
76 P 423	7356-100	240	.156	.00065	26.00	23.40	20.80
76 P 709	7357-100	365	.190	.00052	26.00	23.40	20.80
76 P 424	7358-100	940	.322	.00034	26.00	23.40	20.80
76 P 713	7359-100	1450	.401	.00028	26.00	23.40	20.80
76 P 714	7360-100	2300	.507	.00022	26.00	23.40	20.80
76 P 425	7361-100	3800	.650	.00017	26.00	23.40	20.80
75 P 253	7375-100	5	.033	.00667	22.00	19.80	17.60
75 P 254	7381-100	240	.240	.00100	22.00	19.80	17.60
76 P 427	7383-100	940	.494	.00053	22.00	19.80	17.60
75 P 251	7386-100	3800	1.000	.00026	22.00	19.80	17.60

# Barber-Colman AC and DC Motors

## AC MOTORS

### A UNIDIRECTIONAL MOTORS

Shaded-pole AC induction motors for driving fans, pumps, etc. Simple, dependable construction. No brushes, contacts, capacitors. For continuous duty at ambients below 100°F. Porous bronze alignable

bearings. Long-life lubrication. CW rotation, facing shaft. Two 10-32 tapped studs on rear of motor. For 115 v., 60 cycle AC. Shaft dia., .1575", except \*.125". Av., 1 1/2 lbs.

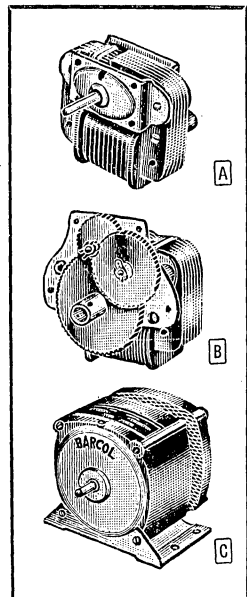
Stock No.	Mfr's Type	Full Load Characteristics				Size (Inches)	EACH	
		Torque Lb.-in.	Speed RPM	Max. HP	Input Amps		1-9	10-49
77 P 538	AYAA 707-6*	.025	1900	.0007	.13	2 7/32x2 1/4x1 1/2	3.89	2.92
77 P 517	DYAB 569-116*	.045	2400	.0017	.15	2 3/8x2 1 1/2x1 1/2	3.86	2.89
77 P 518	DYAF 761-1	.10	2800	.0045	.27	2 1/2x2 3/4x1 1/2	4.05	3.04
77 P 519	KYAF 764-1	.16	2900	.007	.33	2 1/2x2 3/4x2 1/2	5.54	4.15
77 P 520	OYAF 767-1	.20	2900	.009	.39	2 1/2x2 3/4x2 1/2	8.40	6.30

### B C GEAR MOTORS

Unidirectional (U), reversible (R), and synchronous (S) gearhead motors. Type HZ gearheads designed for max. of 30 lb-in. independently-supported load; type PZ, up to 100 lb-in. loads. CW rota-

tion (U and S). \*Hollow-sleeve drive drilled for cotter pin. †With 2" dia. cooling fan for continuous operation. §Pull-in torque. Gear trains have hobbled gears. For 115 v., 60 cycle AC.

Stock No.	Mfr's Type	Fig.	Rot.	Full Load Characteristics				Size (Inches)	Shaft Dia. (Inches)	Shpg. Wt. Lbs.	EACH	
				Torque Lb.-in.	Speed RPM	Max. HP	Input Amps				1-9	10-49
77 P 528	HZKB 29-110	B	U	1.3	80	.0017	.19	3 1/8x3x3 1/8	Hub*	2 1/4	10.65	8.06
77 P 529	HZKB 48-110	B	U	2.0	50	.0017	.19	3 1/8x3x3 1/8	Hub*	2 1/4	10.65	8.06
77 P 530	HZKB 60-110	B	U	2.7	40	.0017	.19	3 1/8x3x3 1/8	Hub*	2 1/4	10.65	8.06
77 P 531	HZKB 236-110	B	U	8.2	10	.0013	.19	3 1/8x3x3 1/8	Hub*	2 1/4	12.76	9.64
77 P 532	PZKB 450-110	C	U	15	5	.0012	.19	3 3/4x4 1/4x4 1/16	.248	4 1/2	28.70	21.60
77 P 533	HZKE 236-711	B	R	4	7	.00045	.21	3 1/2x3x3	Hub*	2 1/2	18.89	14.16
77 P 534	PZKE 450-111	C	R	6.5	3.5	.00036	.21	3 3/4x4 1/4x4 1/16	.248	4 1/2	34.83	26.12
77 P 535	HZKJ 60-920	B	S†	2.5 §	60	.0054	.85	3x3x3 3/16	Hub*	2 1/4	13.11	9.84
77 P 536	PZKJ 60-320	C	S†	2.5 §	60	.0045	.85	3 3/4x4 1/4x4 7/16	.248	4 1/2	29.11	21.84
77 P 537	PZKJ 3600-320	C	S†	60 §	1	.0016	.85	3 3/4x4 1/4x4 7/16	.248	4 1/2	35.36	26.53



### COOLING FAN BLADES

Blades are recommended for use with unidirectional motors, above, for cooling electron tubes, projection lamps, etc., requiring air delivery against low-static head. Forward air motion with hub toward motor. Aluminum blades, zinc-plated steel hub. \*Free-air delivery measured 12" from fan. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Specifications		Fan Dia.	Hub Dia.	EACH	
		Recommended Motor	*Air (CFM)			1-9	10-49
77 P 521	AYFA 303	AYAA 707-6	75	3"	1/8"	1.20	1.16
77 P 522	AYFA 403	DYAB 569-116	190	4"	1/8"	1.41	1.36
77 P 523	AYFA 502-1	DYAF 761-1	300	5"	5/32"	1.60	1.55

### TUBE COOLING MOTOR AND FAN

DYAE 6167-1. Extends tube life. Provides more effective shielding of RF amplifiers, etc., without depending on convection cooling. Shaded-pole induction motor, 2400 rpm. 2 1/8x2 1/8x2 1/8". 4-blade fan, 2 1/2" dia. For 110-120 v., 50-60 cycle AC. 1 1/4 lbs.  
 76 P 282. 1-9.....EACH 4.53 10-49.....EACH 3.32  
 50-99.....EACH 2.66 100-Up.....EACH 2.58

### REVERSIBLE MOTORS

For servomechanisms, remote switching, etc. Fast-reversing, low-inertia rotors. Rotation direction controlled by shorting one pair of shading coils through SPDT switch, except \*DYAE 222-715 has hi-Z shading coils for electronic control. Rated for continuous duty. Max., 3x2 7/8x1 5/8". For 115 v., 60 cycle AC.

Stock No.	Mfr's Type	Full Load Characteristics				Shpg. Wt. Lbs.	EACH	
		Torque Lb.-in.	Speed RPM	Max. HP	Input Amps		1-9	10-49
77 P 524	DYAE 222-3	.015	1450	.00035	.20	1 1/2	8.97	6.73
77 P 525	DYAE 222-715*	.062	1850	.0018	.28	1 1/2	17.47	11.47
77 P 526	KYAE 451-3	.025	1600	.0006	.21	1 3/4	11.23	8.42

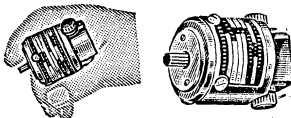
### SYNCHRONOUS MOTORS

KYAJ 622-320. For timers, chart drives. Rapid synchronization, high pull-out torque. CW rotation. With 2" fan. Specs: 0.08 lb-in. pull-in torque with low-inertia loads; 0.15 lb-in. torque, 0.0086 hp, and 3600 rpm at full loads with 0.83-amp input current. 2 7/8x2 1/8x2 3/8". For 115 v., 60 cycle AC. 1 1/2 lbs.  
 77 P 527. 1-9.....EACH 7.56 10-49.....EACH 5.68

## DC MOTORS

### TYPE BYLM PERMANENT MAGNET DC MOTORS

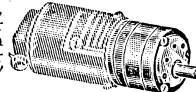
For fan and blower drives, actuators, rapid transfer switches, programming devices, etc. Permanent magnet field ensures trouble-free operation. Improved performance under varying loads—tapered air-gap between armature and field reduces armature reaction. Multicoat treatment protects armature from adverse environmental conditions. Can be used in aircraft—perform well at high altitudes. Operate at ambients from -65° to +200°F. Meet gov't spec MIL-M-8609. Can be used with gear trains at right—0.24" dia. splined-shaft output. O.D. of motors is 1.50"; 1.69" over brush caps. \*Torque rated in lb-in. Av. shpg. wt., 2 lbs.



Stock No.	Type	DCV	Duty Cycle	HP	RPM	*Torque	EACH
76 P 569	42800-50	6	Continuous	.004	4300	.056	40.00
76 P 570	92400-50	6	Continuous	.022	4500	.3	49.00
76 P 598	42900-50	12	Continuous	.010	9800	.065	40.00
76 P 599	72800-50	12	Continuous	.017	5400	.20	45.00
76 P 550	43300-50	27	Continuous	.014	8800	.10	40.00
76 P 552	73100-50	27	Continuous	.020	9200	.14	45.00
76 P 554	92700-50	26	2 min. on, 8 off	.080	12600	.40	49.00
76 P 641	92900-50	27	Continuous	.025	9800	.168	49.00
76 P 555	43900-50	115	3 min. on, 7 off	.017	10100	.105	50.00
76 P 556	73800-50	115	Continuous	.028	7600	.23	50.00

### TYPE BYLH GEAR TRAINS

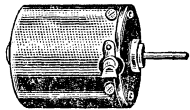
For BYLM motors. Max. output torque, 5-10 lb-in. Fit on motor frame, accept motor shaft, deliver power by means of smooth output shaft, 1/4" dia., 1/2" long. Gear trains are 1.38" dia. Lengths from 1.07" (922-6) to 1.69" (919-5). Wt., 1 lb.



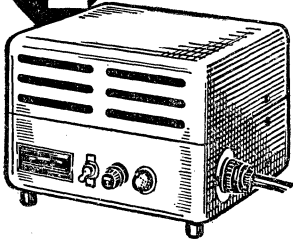
Stock No.	Type	No. Steps	Gear Ratio	EACH
76 P 557	922-6	2	9.45 to 1	26.00
76 P 558	923-6	3	32.6 to 1	31.00
76 P 559	914-7	4	113 to 1	24.00
76 P 560	915-4	5	313 to 1	27.00
76 P 561	915-5	5	390 to 1	27.00
76 P 562	916-6	6	1080 to 1	30.00
76 P 563	917-2	7	2120 to 1	33.00
76 P 564	917-6	7	4650 to 1	33.00
76 P 565	918-6	8	16050 to 1	36.00
76 P 566	919-5	9	55440 to 1	39.00

### TYPE BYQM ECONOMY DC MOTORS

Battery-operated, for portable use—drive mechanisms in dictating machines, marine navigation equipment, etc. 2400 rpm; patented integral governor regulates to within ±2%. Self-aligning bearings. 1.69"x1.26" dia. Shaft, 1 3/32" long. 6 oz.



Stock No.	Type	Voltage	Running Torque	1-19, EA.	20-39, EA.
76 P 642	2022	6	0.07-0.2 in. oz.	10.00	7.50
76 P 643	2020	12.5	0-0.2 in. oz.	10.00	7.50



**ST-250 AND ST-1000**

- Programmed Positioning
- Remote Positioning
- Indexing and Indicating Operations

**SLO-SYN TRANSLATORS**

ST-250 and ST-1000. Pulse-to-step converters for use with appropriate bifilar-type synchronous motors (see listings below). Used in programmed positioning, indexing, digital counters, programmed mixing, remote meter indication, and many other applications. Convert low-level signal impulses or square waves into the correct switching sequence needed to drive motor at 200 discrete steps per revolution. Internal power supply permits operation alternate from an external shorting switch. Shpg. wt., 12 lbs.

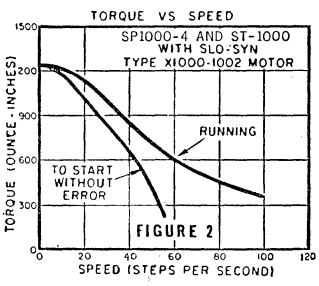
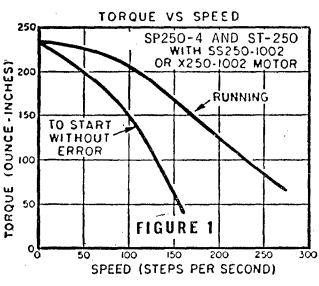
**SLO-SYN PRESET INDEXERS**

SP250-4 and SP1000-4. (Not illus.) Ideally suited for control of indexing operations in applications using synchronous motors for positioning. Any indexing movement desired can be set on control panel. Automatically provides correct switching sequence required to drive motor needed number of 1.8° steps. Can be made to cycle automatically. Capable of controlling indexing movements up to 9999 steps. Index cycle can be actuated manually from control panel or with an external switch. Wt., 15 lbs.

Stock No.	Mfr's Type	Power Input @120 v., AC	EACH		
			1-5	6-24	25-99
75 PU 403	ST-250	0.5 amps	325.00	292.50	276.25
75 PU 404	ST-1000	1.0 amps	375.00	337.50	318.75
75 PU 416	SP250-4	0.75 amps	725.00	652.50	616.25
75 PU 417	SP1000-4	1.25 amps	775.00	697.50	658.75

75 P 442, BP262G19, 2-Ohm Dropping Resistor, 25W. For ST-250 and SP250-4 with SS50-1009 motor. 1-5.....EACH 2.00 6-24.....EACH 1.80 25-99.....EACH 1.70

75 P 447, BM10208865, 1-Ohm Dropping Resistor, 50W. For ST-1000 and SP1000-4 with SS250-1027 and SS400-1002 motors. 1-5.EACH 2.50 6-24..EACH 2.25 25-99.EACH 2.13



Torque vs. speed characteristics for the ST-250 and SP250-4 when used with a Type SS250-1002 or Type X250-1002 motor are shown in Fig. 1. The ST-250 and SP250-4 can also be used with a SS150-1010 motor. For higher stepping rates, use a SS50-1009 motor and a 2-ohm, 25-watt dropping resistor (see listings above). Fig. 2 illustrates torque vs. speed characteristics for the ST-1000 or SP1000-4 when operated with a type X1000-1002 motor. For higher stepping rates, the ST-1000 and SP1000-4 can be used with a Type SS400-1002, or Type SS250-1027 motor, and a 1-ohm, 50-watt dropping resistor (see listings above).

**SLO-SYN BIFILAR MOTORS**

Synchronous motors for DC stepping applications where the use of push-pull circuitry and a center-tapped power supply is not possible, or where increased torque at high stepping-speeds is required. Only a single-ended power source and SPDT switching

is necessary. \*Indicates BM10208865 dropping resistor (above) is required when motor is to be used with ST-1000 or SP1000-4. †Indicates BP262G19 dropping resistor (above) is required when used in conjunction with ST-250 or SP250-4.

**USE WITH ST-250 AND SP250-4**

Stock No.	Mfr's Type	Fig.	DC Volts	Amps Per Winding	Size (in.)	Wt. Lbs.	EACH		
							1-5	6-24	25-99
75 PU 410	SS50-1009†	A	5.5	1.3	2½x3¾	3½	61.00	54.90	51.85
75 PU 411	SS150-1010	A	10.0	1.25	4¾x4¼	8	70.00	63.00	59.50
75 PU 412	SS250-1002	A	9.0	1.55	4¾x4¼	8	90.00	81.00	76.50

**USE WITH ST-1000 AND SP1000-4**

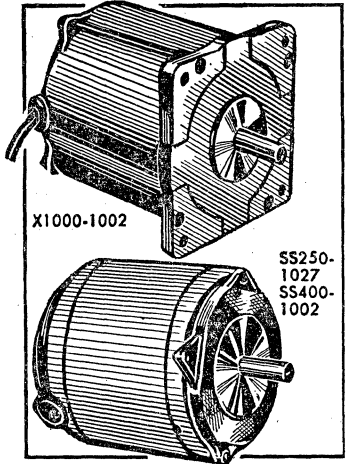
75 PU 413	SS250-1027*	B	4.6	3.1	4¾x4¼	8	90.00	81.00	76.50
75 PU 414	SS400-1002*	B	8.3	2.2	6¾x4¼	15	125.00	112.50	106.25
75 PU 415	X1000-1002	A	10.0	3.6	7¼x6½	25	220.00	198.00	187.00

**SLO-SYN SYNCHRONOUS MOTORS**

Adaptable for a variety of heavy-duty continuous control applications requiring an instant-reversing motor. Basic shaft-speed

is 72 rpm @ 60 cycles AC. \*X1000 is square design, explosion-proof, for 60 cycles AC only.

Stock No.	Mfr's Type	Torque Oz.-In.	Max. Amps	Size L x Dia.	Wt. Lbs.	EACH		
						1-5	6-24	25-99
75 P 242	SS25	25	0.1	2¼x2½"	1½	40.00	36.00	34.00
75 P 458	SS50	50	0.3	2½x3¾"	3½	36.00	32.40	30.60
75 P 977	SS150	150	0.4	4¾x4¼"	8	45.00	40.50	38.25
75 PU 405	SS250	250	0.6	4¾x4¼"	8	65.00	58.50	55.25
75 PU 401	SS400	400	0.6	6¾x4¼"	15	100.00	90.00	85.00
75 PU 402	X1000*	1000	3.0	7¼x6½"	25	195.00	175.50	165.75
75 PU 420	SS1800	1800	4.0	9½x6½"	45	265.00	238.50	225.25



Maintenance-free constant speed motors with high torque, instant stop-start-reverse characteristics. For remote control, numerical control systems, and automatic equipment.

**RESISTORS**

Fixed, wirewound resistors for use with capacitors (right), for application in phase shifting networks for motors in table above. Tolerance, ±5%. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Use With Motor	Ohms	Watts	EACH		
					1-5	6-24	25-99
75 P 422	R-SS25	SS25	500	5	1.00	.90	.85
75 P 984	R-SS50/SS150	SS50/SS150	250	25	1.25	1.13	1.06
75 P 439	R-SS250/SS400	SS250/SS400	150	50	2.50	2.25	2.12
75 P 440	R-X1000	X1000	65	160	3.50	3.15	2.98
75 P 423	R-SS1800	SS180	40	300	6.50	5.85	5.52

**CAPACITORS**

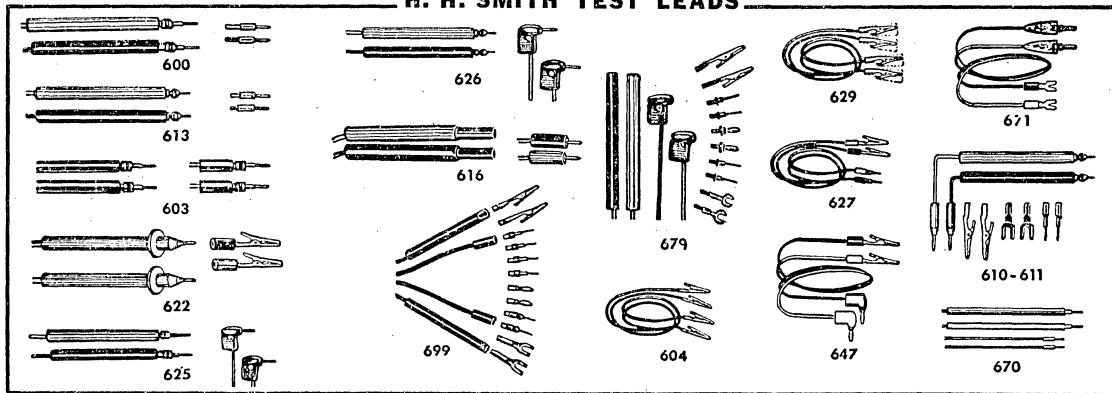
Can-type electrolytics for use with resistors (left) for application in phase-shift networks for "Slo-Syn" motors (see listing above). All rated 330 VAC. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Use With Motor	Mfd	EACH		
				1-5	6-24	25-99
75 P 424	C-SS25	SS25	.75	3.00	2.70	2.55
75 P 494	C-SS50	SS50	2.6	4.50	4.05	3.82
75 P 987	C-SS150	SS150	3.75	3.50	3.15	2.97
75 P 443	C-SS250/SS400	SS250/SS400	6.5	4.50	4.05	3.82
75 P 441	C-X1000	X1000	30.0	18.00	16.20	15.30
75 P 425	C-SS1800	SS1800	50	24.00	22.00	21.00



# Test Leads, and Voltage and Continuity Testers

## H. H. SMITH TEST LEADS



**Type 600 Solderless-Tip Test Leads.** Two molded butyrate prods, each 4" long, with 3/8" outer diameter. One handle is red, the other black—meet MIL-L-P349A, Type 3, Class MS specs. Solderless, pointed phone tips are nickel-plated brass. Supplied with extra-flexible, rubber-covered kinkless wire, 50" long; red and black. Shpg. wt., 4 oz.  
69 F 950.....PER PAIR **.87**

**Type 619 Phono Needle Test Leads.** A pair of red and black test prods, 6" long, with 3/8" outer diameter. Handle is made of molded butyrate (per MIL-L-P349A), with nickel-plated brass plug. Needle is made of nickel-plated steel. Phone tips are used on the meter end of the extra-flexible, rubber-covered wire leads. 50" long; red, black kinkless wire. Shpg. wt., 4 oz.  
69 F 952.....PER PAIR **1.26**

**Type 603 All Solderless Test Leads.** Red and black molded butyrate handles (per MIL-L-P349A), each 4" long with 3/8" outer diameter. One red, one black plug made of molded thermosetting plastic (per MIL-P-14 CFG). Has solderless nickel-plated brass tip on each end of wires. Supplied with extra-flexible, rubber-covered kinkless wire, 50" long. Shpg. wt., 3 oz.  
69 F 951.....PER PAIR **1.26**

**Type 622 High-Tension Test Leads.** One red, one black heavy-duty lead with fiber prod handle and plug. Handle is 5" long with 1/2" outer diameter; also has finger guard. Plug is 1" long, with 1/2" O.D. Both meet MIL-F-1148A specs. Brass, nickel-plated tip; insulated alligator clips on meter end. 50" long, rubber-covered wire. Shpg. wt., 4 oz.  
69 F 955.....PER PAIR **2.40**

**Type 625 Meter Test Leads with Solderless Prods.** Red, black handle of molded butyrate (per MIL-L-P349A), 4" long, 3/8" O.D. Red and black elbow made of molded thermosetting plastic (per MIL-P-14 CFG). Have nickel-plated brass body; 4-leaved spring, phosphor-bronze, nickel-plated. Supplied with 50" long rubber-covered wire. Has phone-tip meter tip. Shpg. wt., 3 oz.  
69 F 956.....PER PAIR **1.35**

**69 F 957, Type 626 Leads with Needle Prod.** Same as Type 625 above, but with nickel-plated steel needle and phone-tip meter tip. Shpg. wt., 3 oz.....PER PAIR **1.35**

**Type 616 Shielded Test Leads.** Plugs insert flush to insulated, molded butyrate handle. Red and black prods (3" long, 7/16" diameter) have retractable cover—no metal exposed—eliminates possibility of shock or grounding. Handle meets MIL-L-P349A specs. With 50" long extra-flexible, rubber-covered wire. Prod tip brass, nickel-plated; meter end, phone tip. Wt., 3 oz.  
69 F 958.....PER PAIR **1.80**

**Type 699 Test Lead Kit.** Universal—50 leads in one. Includes a pair of 54 3/4" leads and 12 testing tips and connectors. Plastic handles at each end of leads have threaded receptacles to fit screw-in tips and connectors—ensure firm mechanical and electrical contact. Interchangeable attachments include: 4 phone tips, 2 alligator clips, 2 needle tips, 2 banana plugs, and 2 spade lugs. With transparent plastic wallet-styled kit. Shpg. wt., 5 oz.  
69 F 959.....**2.40**

**69 F 960, Type 679 Kit.** Similar to above, but with interchangeable miniature accessories. All parts adapt into prod handle or meter tip. Includes: 2 alligator clips, 2 phone tips, 2 banana plugs, 2 needle tips, 2 spade lugs, and plastic kit. 8 oz.....**2.40**

**Type 604 Alligator Clip Test Leads.** 12" wire leads with cadmium-plated steel alligator clips. Shpg. wt., 1 oz.  
69 F 961.....PER PAIR **.57**

**69 F 962, Type 629 with Boots.** As above, but with vinyl plastic boots; one red, the other black. Wt., 2 oz.....PER PAIR **.81**

**69 F 964, Type 716 Midget.** (Not illus.) Same as above, but uses midget-type alligator clips. Shpg. wt., 1 oz.....PER PAIR **.81**

**Type 627 Alligator Clip Test Leads.** Cadmium-plated steel clips mounted in molded butyrate handles (per MIL-L-P349A). Molded thermosetting plastic plug handles (per MIL-P-14 CFG) hold solderless, nickel-plated brass tips. Clip and plug handles red, black. 50" wire. Wt., 3 oz.  
69 F 965.....PER PAIR **.99**

**69 F 966, Type 628 with Elbows.** (Not illus.) As above, with molded plastic elbows; meter-tip plugs. 3 oz.....PER PAIR **1.20**

**69 F 967, Type 647.** As above, with banana-type meter tips. Wt., 3 oz.....PER PAIR **1.20**

**Type 649 Alligator Clip Test Leads with Lugs.** (Not illus.) Similar to Type 647 at left, but with spade lugs. Lugs are made of hot-tinned steel. Shpg. wt., 2 oz.  
69 F 968.....PER PAIR **1.20**

**Type 671 Crocodile Clip Test Leads.** Cadmium-plated steel crocodile clips in vinyl-plastic, red and black boots. Spade lug of hot-tinned steel, in molded butyrate handle. 50" rubber-covered wire. 3 oz.  
69 F 969.....PER PAIR **1.20**

**69 F 970, Type 675 with Elbows.** (Not illus.) Same as above, but with molded plastic elbows (per MIL-P-14 CFG), with meter-tip plugs. Shpg. wt., 3 oz.....PER PAIR **1.14**

**69 F 971, Type 648 with Elbows.** (Not illus.) Same as Type 675 above, but has banana-type meter tips. 3 oz.....PER PAIR **1.14**

**Type 610 Test Lead Kit.** Contains one pair of leads—one red, the other black. One end has solderless phone tip test prod; other end has insulated banana plugs. Handles are molded tenite, 4" long, 3/8" outer diameter. Kit includes two each of the following fittings for snapping onto banana plugs: phone tips, alligator clips, and spade lugs. With 50" long, extra-flexible, rubber-covered kinkless wire. Shpg. wt., 4 oz.  
69 F 972.....**1.20**

**69 F 973, Type 611 Test Lead Kit.** Same as above, but has needle-tip prods. 4 oz. **1.80**

**Type 670 Slim Handle Test Leads.** Machined butyrate handles—one red, the other black. Meet MIL-P-10408A, Type 1, Class 2 specifications. Handy size handles, 5" long, 3/8" outer diameter. Nickel-plated brass tips at both ends. Supplied complete with extra-flexible, rubber-covered kinkless wire leads. 50 inches long. Shpg. wt., 3 oz.  
69 F 975.....PER PAIR **.66**

**Type 698 Slim Jim Test Leads.** (Not illus.) 4" molded butyrate handles. 3/8" outer diameter. Extra-long 3 1/2" tip allows you to reach hard-to-get-at places. Tips are insulated with vinyl spaghetti tubing. Molded thermosetting plastic elbows with angle phone-tips at meter end. Nickel-plated brass tips. 50 inches long rubber-covered leads—one red, the other black; made of extra-flexible kinkless wire. Shpg. wt., 4 oz.  
69 F 976.....PER PAIR **1.14**

### SITTLER VOLTAGE TESTER

**Type T202.** Handy low-voltage tester. Range: 5 to 50 volts AC-DC. Useful for testing low-voltage circuits in autos, batteries, radio and TV filament circuits, etc. Uses incandescent lamp. Has alligator clips. Shpg. wt., 3 oz.  
69 F 000.....**.99**



**Type T203.** Similar to above, but tests 2 1/2 to 24 volts AC-DC.  
69 F 001.....**.99**

### AMF PRO-GLO CONTINUITY TESTER

Easy-to-use glow-type tester. Checks continuity, shorts, grounds, and open circuits in switches, relays, fuses, etc. Dim light indicates poor connection—no light

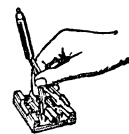
when resistance exceeds 2 ohms. For dead circuits only. 5 1/2" x 3/4" dia. With bulb and penlight cell. Shpg. wt., 2 oz.  
66 F 618.....**.99**



### G-C NEO-O-LITE TESTER

Convenient neon-glow type tester. Indicates voltages from 60 v. AC and 90 v. DC to 500 v. AC-DC. Excellent for finding "hot" AC leads, checking fuses and spark


plugs, appliance repair, etc. Neon bulb is mounted in insulating holder. 5" insulated leads with phone tip ends. Wt., 3 oz.  
66 F 620.....**.44**



# Alpha Wire and Cable

## MIL-W-16878D HOOK-UP WIRE

### TYPE B—UNCOVERED PLASTIC, 600 VOLTS, 105°C

 Stranded tinned-copper with .010" polyvinylchloride insulation. Resistant to acid, alkalis, oil, flame, moisture, solvents, and fungus. Wall thickness, .010". In brown, red, orange, yellow, green, white, black, blue. Specify color wanted.

Mfr's Type	Mil Type	Gauge (Strand)	Nom. O.D.	Mfr's Type	Mil Type	Gauge (Strand)	Nom. O.D.
1852	B-28	28 (7x36)	.034"	1855/19	B-22	22 (19x34)	.050"
1853	B-26	26 (7x34)	.038"	1856	B-20	20 (7x28)	.058"
1854	B-24	24 (7x32)	.043"	1856/19	B-20	20 (19x32)	.058"
1854/19	B-24	24 (19x36)	.043"	1857	B-18	18 (7x26)	.068"
1855	B-22	22 (7x30)	.050"	1857/19	B-18	18 (19x30)	.068"

Mfr's Type	100' Spool		1000' Spool		5000' Spool	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
1852	49 TT 900	1.15	49 TT 907	8.73	48 TT 793	42.00
1853	49 TT 901	1.25	49 TT 908	8.81	48 TT 794	42.38
1854	49 TT 902	1.21	49 TT 909	7.59	48 TT 795	36.38
1854/19	48 TT 777	1.49	48 TT 788	11.03	48 TT 796	54.00
1855	49 TT 903	1.25	49 TT 910	8.56	48 TT 797	41.25
1855/19	48 TT 778	1.52	48 TT 789	11.20	48 TT 798	54.75
1856	49 TT 904	1.40	49 TT 911	10.11	48 TT 799	48.75
1856/19	48 TT 779	1.55	48 TT 790	11.52	48 TT 832	57.00
1857	48 TT 780	1.50	48 TT 791	11.11	48 TT 833	54.75
1857/19	48 TT 787	1.96	48 TT 792	14.05	48 TT 835	69.75

### TYPE B—NYLON JACKET, 600 VOLTS, 115°C

As above, but with clear nylon (polyamide) jacket overall. Resists flame, fungus, most chemicals, and moisture. Wall thickness, .010". Available in same colors as above. Specify color wanted.

Mfr's Type	Mil Type	Gauge (Strand)	Nom. O.D.	Mfr's Type	Mil Type	Gauge (Strand)	Nom. O.D.
1862	B-28	28 (7x36)	.041"	1865/19	B-22	22 (19x34)	.056"
1863	B-26	26 (7x34)	.044"	1866	B-20	20 (7x28)	.064"
1864	B-24	24 (7x32)	.049"	1866/19	B-20	20 (19x32)	.064"
1864/19	B-24	24 (19x36)	.049"	1867	B-18	18 (7x26)	.074"
1865	B-22	22 (7x30)	.056"	1867/19	B-18	18 (19x30)	.074"

Mfr's Type	100' Spool		1000' Spool		5000' Spool	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
1862	49 TT 914	1.38	48 TT 844	10.78	48 TT 852	52.50
1863	49 TT 915	1.53	49 TT 922	11.34	48 TT 853	55.50
1864	49 TT 916	1.44	49 TT 923	10.20	48 TT 854	49.50
1864/19	48 TT 839	1.65	48 TT 845	12.50	48 TT 855	61.50
1865	49 TT 917	1.55	49 TT 924	11.34	48 TT 856	55.88
1865/19	48 TT 840	1.88	48 TT 846	14.29	48 TT 857	70.50
1866	49 TT 918	1.64	49 TT 925	12.17	48 TT 858	60.00
1866/19	48 TT 841	1.89	48 TT 847	14.46	48 TT 860	71.25
1867	48 TT 842	1.96	48 TT 849	15.26	48 TT 861	76.13
1867/19	48 TT 843	2.21	48 TT 851	17.40	48 TT 862	87.00

### DULON® PLASTIC HOOK-UP WIRE—1000 VOLTS, 80°C

Type MW, Uncovered, Mil-W-76B. Tinned-copper with conductor and polyvinylchloride insulation. Wall thickness, .016". Available in brown, red, orange, yellow, green, white, black, and blue. Specify color.

Mfr's Type	Mil Type	Gauge (Strand)	Nom. O.D.	Mfr's Type	Mil Type	Gauge (Strand)	Nom. O.D.
5110	C-24(7)u	24 (7x32)	.050"	5121	C-22(1)u	22 solid	.051"
5111	C-22(7)u	22 (7x30)	.045"	5123	C-20(1)u	20 solid	.058"
5113	C-20(10)u	20 (10x30)	.064"	5125	C-18(1)u	18 solid	.066"
5115	C-18(16)u	18 (16x30)	.075"				

### STRANDED CONDUCTOR

Mfr's Type	100' Spool		1000' Spool		5000' Spool	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
5110	48 TT 904	.93	48 TT 915	5.25	48 TT 922	24.75
5111	48 TT 905	.93	48 TT 916	5.85	48 TT 923	27.75
5113	48 TT 906	1.05	48 TT 917	7.15	48 TT 924	34.25
5115	48 TT 907	1.23	48 TT 918	9.10	48 TT 925	44.00

### SOLID

5121	48 TT 908	.74	48 TT 919	4.50	48 TT 926	21.00
5123	48 TT 909	.96	48 TT 920	5.40	48 TT 927	25.50
5125	48 TT 914	1.15	48 TT 921	7.50	48 TT 928	36.00

### DULON® TEFLON HOOK-UP WIRE—600 VOLTS, 200°C

Type E, Mil-W-16878D. Silver-plated copper. Specify color—see above.

Mfr's Type	Mil Type	Gauge (Strand)	Nom. O.D.	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
5852	E-28	28 (7x36)	.031"	48 TT 929	3.53	48 TT 935	31.50
5853	E-26	26 (7x34)	.035"	48 TT 930	3.75	48 TT 936	33.75
5854	E-24	24 (19x36)	.040"	48 TT 931	3.92	48 TT 937	35.40
5855	E-22	22 (19x34)	.046"	48 TT 932	4.39	48 TT 938	40.13
5856	E-20	20 (19x32)	.054"	48 TT 933	5.44	48 TT 939	50.63
5857	E-18	18 (19x30)	.064"	48 TT 934	7.02	48 TT 940	66.38

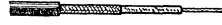
## SHIELDED MICROPHONE CABLE



Neoprene Jacket—Heavy-Duty. Stranded tinned-copper conductors, color-coded rubber insulation, cotton wrap, braided tinned-copper shield and tough neoprene jacket overall. Conductor strand: size 18, 41x34; size 16, 65x34. Jacket: 1-cond. .030"; all others, .035". Oil and acid resistant. For outdoor use.

Mfr's Type	Conductor No.	Size	Wall	O.D.	Stock No.	EACH	
						100' Spool	1000' Spool
1449	1	18	.040"	.250"	48 TT 941	11.03	104.08
1450	2	18	.020"	.305"	48 TT 942	15.39	147.00
1451	3	18	.020"	.325"	48 TT 943	21.61	209.77
1452	4	18	.020"	.335"	48 TT 944	24.49	238.73
1450/16	2	16	.025"	.345"	48 TT 945	19.70	191.10

## SHIELDED MICROPHONE CABLE



Plastic Jacket—Standard-Duty. Conductor stranded-tinned-copper, color-coded polyethylene insulation, braided or spiral wrapped tinned-copper shield, gray polyvinylchloride jacket. \*3x34 and 4x34; †10x34; ‡26x34; §16x34 strand. Types 1702-1706 for high-Z mics, hi-fi interconnecting cables; Types 1709, 1710 for low-Z mics.

Mfr's Type	Conductor No.	Size	Wall	Jkt.	O.D.	Stock No.	EACH SPOOL	
							100'	1000'
1702	1	26*	.016"	.020"	.110"	48 TT 959	3.09	26.76
1703	1	24†	.020"	.030"	.145"	48 TT 960	3.09	26.17
1704	1	24†	.040"	.030"	.200"	48 TT 961	4.20	35.28
1705	1	24†	.016"	.020"	.110"	48 TT 962	3.32	28.52
1706	1	20‡	.030"	.030"	.175"	48 TT 963	5.67	52.63
1709	2	24†	.016"	.030"	.190"	48 TT 964	6.70	62.48
1710	2	22§	.025"	.030"	.235"	48 TT 965	5.63	50.43

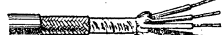
## SHIELDED MULTI-CONDUCTOR CABLE



Neoprene Jacket—Heavy-Duty. Each conductor stranded tinned-copper, color-coded rubber insulation, conductors cabled with fillers, cotton wrap, braided tinned-copper shield, cotton-wrap, black neoprene jacket. Cond. size, 18; 41x34. Wall thickness, .020". Resistant to oil and acid. For outdoor rough usage; ground support equipment in guided missile systems, etc.

Mfr's Type	Conductor No.	Jkt.	O.D.	Stock No.	EACH	
					100' Spool	1000' Spool
1454	6	.035"	.430"	48 TT 951	41.75	411.60
1456	8	.035"	.465"	48 TT 952	53.51	529.20
1458	10	.035"	.545"	48 TT 953	63.80	632.10
1459	12	.065"	.625"	48 TT 954	83.06	823.20

## SHIELDED MULTI-CONDUCTOR CABLE



Plastic Jacket—Heavy-Duty. Each conductor stranded tinned-copper, color-coded polyethylene insulation, cabled with fillers, wrap, braided tinned-copper shield, gray polyvinylchloride jacket overall. All are size 20, 26x34 strand. Wall thickness, .014".

Mfr's Type	Conductor No.	Size	Jkt.	O.D.	Stock No.	EACH SPOOL	
						100'	1000'
1716	5	20	.035"	.275"	48 TT 973	9.78	89.67
1717	6	20	.035"	.300"	48 TT 974	18.38	176.40
1719	8	20	.035"	.330"	48 TT 975	22.79	220.00
1721	10	20	.035"	.375"	48 TT 976	26.61	258.72

## U. L. LISTED APPLIANCE HOOK-UP WIRE

Stranded tinned-copper with color-coded polyvinylchloride insulation. Meet U.L. specs. \*Also C.S.A. Listed 90°C. Type TR-32. Wall, .032". Resistant to acids, moisture, etc. In brown, red, orange, yellow, green, white, black, blue, violet, and gray—specify.

Mfr's Type	Conductor		O.D.	Mfr's Type	Conductor		O.D.
	Size	Strand			Size	Strand	
3051	22	7x30	.065"	3071	22	7x30	.095"
3053	20	10x30	.071"	3073	20	10x30	.102"
3055	18	16x30	.080"	3075	18	16x30	.112"
3057	16	26x30	.095"	3077	16	26x30	.125"

### 300 VOLT—80°C—STYLE NO. 1007

Mfr's Type	100' Spool		1000' Spool		5000' Spool	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
3051	48 TT 933	.90	48 TT 988	5.59	48 TT 993	27.00
3053	48 TT 984	1.02	48 TT 989	6.85	48 TT 994	33.38
3055	48 TT 985	1.20	48 TT 990	8.82	48 TT 995	43.50
3057	48 TT 986	1.55	48 TT 991	11.62	48 TT 996	35.10

### \*600 VOLT—105°C—STYLE NO. 1015

3071	47 TT 806	1.21	47 TT 815	8.97	47 TT 820	45.00
3073	47 TT 807	1.32	47 TT 816	10.15	47 TT 821	51.00
3075	47 TT 808	1.62	47 TT 817	12.21	47 TT 822	61.50
3077	47 TT 809	2.06	47 TT 818	15.44	47 TT 823	46.80

# Durable, Versatile Coaxial Cable by



## POLYETHYLENE DIELECTRIC PER JAN-C-17A

Noted for low cost, flexibility, high dielectric strength and low dielectric constant. Dielectric cross-section maintained within a pre-determined range of .005" to .015" tolerance. Cable protected by black polyvinyl jacket having

good weathering and abrasion properties and suitable for direct burial. Jacket Type IIa listed under MIL-C-17C types is non-contaminating — feature prevents increased cable attenuation due to aging.



Stock No.	Mfr's Type 21-	RG No.	Imp. Ohms	Mmf per Ft.	O.D. In.	MIL Jkt. Type	Center Cond.	Max. Oper. Volts	Uses Connector Series	Lbs. per 100'	PER FOOT			
											1-99	100-499	500-999	1000-2999
49 W 460	004	8/U	52	29.5	.405	I	7/21C	5000	N, C, HN, UHF	12	.12	.119	.119	.11
49 W 469	005	9/U	52	30	.420	II Grey	7/21S	5000	N, C, HN, UHF	12 1/2	.32	.292	.263	.263
49 W 314	231	9A/U	51	30	.420	II Grey	7/21S	5000	N, C, HN, UHF	12 1/2	.39	.358	.323	.323
49 W 470	007	11/U	75	20.5	.405	I	7/26TC	5000	N, C, HN, UHF	12	.11	.11	.11	.102
49 W 678	009	13/U	74	20.5	.420	I	7/26TC	5000	N, C, HN, UHF	12	.20	.187	.168	.168
49 W 306	013	17/U	52	29.5	.870	II Grey	.188C	11000	N, C, HN, LC	47	.63	.583	.525	.525
49 W 465	038	22/U	95	16	.405	I	2-7/0152C	1000	Twin	12	.17	.158	.143	.143
49 W 485	024	58/U	53.5	28.5	.195	I	20C	1900	TNC, BNC, BN, C, UHF, N, Push-on	3	.05	.049	.049	.046
49 W 487	199	58A/U	50	28.5	.195	I	19/0071C	1900	TNC, BNC, BN, C, UHF, N, Push-on	3	.05	.049	.049	.046
49 W 490	025	59/U	73	21	.242	I	22CW	2300	TNC, BNC, BN, C, UHF, N, Push-on	4 1/2	.06	.051	.051	.047
49 W 488	026	62/U	93	13.5	.242	I	22CW	750	TNC, BNC, BN, C, UHF, N, Push-on	4 1/2	.06	.054	.054	.05
49 W 312	027	63/U	125	10	.405	I	22CW	1000	N, C, HN, UHF	12	.14	.13	.13	.117
49 W 325	723	71A/U	93	14.5	.245	I	22CW	750	TNC, BNC, BN, C, UHF, N, Push-on	4 1/2	.12	.11	.099	.099
49 W 323	440	114/U	185	6.5	.405	I	33CW	1000	N, C, HN, UHF	12	.15	.141	.141	.128
49 W 692	467	149/U	75	20.5	.405	I	7/26TC	5000	N, C, HN, UHF	10	.19	.175	.158	.158
49 W 473	598	174/U	50	30	.105	I	7/0063CW	1500	BNC, Subminax 5116, 27	1 1/2	.05	.048	.048	.043

## POLYETHYLENE DIELECTRIC PER MIL-C-17C

49 W 632	294	5B/U	50	28.5	.328	IIa	16S	3000	N, C	8 1/4	.30	.281	.253	.253
49 W 631	330	6A/U	75	20	.332	IIa	21CW	2700	N, C	8	.21	.195	.176	.176
49 W 315	290	8A/U	52	29.5	.405	IIa	7/21C	5000	N, C, HN, UHF	12	.14	.132	.132	.122
49 W 322	332	9B/U	51	30	.420	IIa	7/21S	5000	N, C, HN, UHF	12 1/2	.41	.38	.342	.342
49 W 655	338	10A/U	52	29.5	.475	IIa	7/21C	5000	N, C, HN, UHF	13	.26	.24	.216	.216
49 W 317	296	11A/U	75	20.5	.405	IIa	7/26TC	5000	N, C, HN, UHF	12	.13	.123	.123	.114
49 W 677	340	12A/U	75	20.5	.475	IIa	7/26TC	5000	N, C, HN, UHF	12	.25	.232	.209	.209
49 W 633	336	14A/U	52	29.5	.545	IIa	10C	7000	N, C, UHF	20 1/2	.33	.308	.278	.278
49 W 318	298	17A/U	52	29.5	.870	IIa	.188C	11000	N, C, HN, LC	47	.66	.608	.548	.548
49 W 634	303	19A/U	52	29.5	1.120	IIa	.250C	14000	LC	60	1.01	1.025	.923	.923
49 W 681	308	21A/U	53	29	.332	IIa	16N	2700	N, C	8	.35	.32	.289	.289
49 W 683	310	22B/U	95	16	.420	IIa	2-7/0152C	1000	Twin	12	.29	.268	.242	.242
49 W 684	792	34B/U	75	21.5	.630	IIa	7/0249C	6500	UHF	23	.38	.348	.314	.314
49 W 637	802	55B/U	53.5	28.5	.206	IIa	20S	1900	TNC, BNC, BN, C, UHF	3 1/2	.11	.101	.091	.091
49 W 319	316	58C/U	50	28.5	.195	IIa	19/0071TC	1900	TNC, BNC, BN, C, UHF, N, Push-on	3	.06	.054	.054	.050
49 W 638	794	59B/U	75	21	.242	IIa	.023CW	2300	TNC, BNC, BN, C, UHF, N, Push-on	4	.06	.059	.059	.054
49 W 687	320	63B/U	125	10	.405	IIa	22CW	750	N, C, HN, UHF	8	.17	.158	.142	.142
49 W 639	804	71B/U	93	13.5	.250	IIa	22CW	750	TNC, BNC, BN, C, UHF, N, Push-on	4 1/2	.11	.101	.101	.092
49 W 635	327	108A/U	78	23.5	.235	IIa	2-7/28TC	1000	Twin	3 1/2	.09	.082	.074	.074
49 W 690	329	111A/U	95	16	.490	IIa	2-7/0152C	1000	Twin	15	.50	.458	.413	.413
49 W 691	520	114A/U	185	6.5	.405	IIa	.33CW	1000	N, C, HN, UHF	8	.17	.158	.143	.143
49 W 324	441	122/U	50	29.3	.160	IIa	27/36TC	1900	TNC, BNC	2 1/2	.06	.058	.052	.052
49 W 695	779	213/U	50	29.5	.405	IIa	7/0296C	5000	N, C, HN, UHF	10	.14	.132	.132	.122
49 W 696	780	214/U	50	30	.425	IIa	7/0296S	5000	N, C, HN, UHF	13	.41	.38	.342	.342
49 W 699	783	217/U	50	29.5	.545	IIa	.106C	7000	N, C, UHF	21	.33	.308	.278	.278
49 W 714	784	218/U	50	29.5	.870	IIa	.195C	11000	N, C, HN, LC	47	.66	.608	.548	.548
49 W 719	788	223/U	50	29.5	.216	IIa	.035S	1900	TNC, BNC, BN, C, UHF, N, Push-on	4	.16	.148	.134	.134

## TEFLON DIELECTRIC—TEFLON JACKET

Operate at temperatures from -50° to +200° C. Teflon is outstanding not only because of its efficiency at temperature extremes, but also because of its extremely low loss and high voltage breakdown. \*Meet latest specifications of MIL-C-17C.

Stock No.	Mfr's Type No.	RG No.	Imp. Ohms	Mmf per Ft.	O.D. In.	MIL Jkt. Type	Center Cond.	Max. Oper. Volts	Uses Connector Series	Lbs. per 100'	PER FOOT			
											1-99	100-249	250-499	500-999
49 W 636	421-699	115A/U	50	29.5	.415	V	7/21S	5000	N, C, HN	18	1.54	1.39	1.23	1.03
49 W 328	421-382	141/U	50	29	.195	V	.0359SCW	1900	TNC, BNC, N, C, UHF, Push-on	4	.46	.42	.37	.31
49 W 329	421-385	142/U	50	29	.206	V	.0359SCW	1900	BN, TNC, BNC, C, N, UHF	5 1/2	.54	.485	.43	.36
49 W 643	421-100	210/U	93	13.5	.242	V	22SCW	750	N, C, TNC, BNC, BN, UHF, Push-on	4	.69	.62	.55	.46
49 W 326	421-250*	87A/U	50	29.5	.425	V	7/20S	5000	N, C, HN, UHF	17	2.10	1.89	1.68	1.40
49 W 069	421-086*	117A/U	50	29	.730	V	5C	7000	N, C, HN	45	7.13	6.41	5.70	4.75
49 W 327	421-379*	140/U	73	21	.242	V	.025SCW	2300	BN, TNC, BNC, N, C, UHF, Push-on	6	.72	.65	.575	.48
49 W 193	421-094*	178B/U	50	29	.075	IX	7/38SCW	1000	BNC, Subminax 5116, 27	1	.21	.19	.17	.14
49 W 194	421-096*	179B/U	75	19.5	.105	IX	7/38SCW	1200	BNC, Subminax 5116, 27	1	.25	.23	.21	.17
49 W 195	421-098*	180B/U	93	15.5	.141	IX	7/38SCW	1500	BNC, Subminax 5116, 27	1 1/2	.37	.34	.30	.25
49 W 333	421-106*	187/U	75	19.3	.110	VII	7/38SCW	1200	BNC, Subminax 5116, 27	1 1/4	.25	.23	.205	.17
49 W 332	421-105*	188/U	50	29	.110	VII	7/0067SCW	1200	BNC, Subminax 5116, 27	1 1/2	.24	.22	.19	.16
49 W 335	421-111*	195/U	95	15.2	.155	VII	7/38SCW	1500	BNC, TNC, Subminax 5116, 27	2 1/2	.48	.43	.385	.32
49 W 334	421-109*	196/U	50	29	.080	VII	7/38SCW	1000	Subminax 5116, 27	1	.21	.19	.17	.14

## POLYFOAM COAXIAL CABLE

Polyfoam is a cellular polyethylene which utilizes an inert gas as an expanding agent to form completely enclosed cells within the polyethylene. Dielectric constant is 1.50 as compared to 2.26 for solid polyethylene. Attenuation is reduced as much as 35%.

49 W 337	621-100	11/U	75	16.5	.405	IIIIa	14C	3000	UHF	8	.14	.132	.132	.119
49 W 644	621-111	8/U	50	26.5	.405	I	7/19C	1500	UHF	10 1/2	.15	.143	.143	.129
49 W 339	621-715	59/U	73	17	.195	IIIIa	22CW	500	BNC, TNC, UHF	2	.05	.045	.045	.041

## SUBMINAX MINIATURIZED COAXIAL CABLE

Type 21-597. Identical in construction features to full size coaxial cable. Impedance, 75 ohms. Capacity, 20 pmp/ft. O.D., .150". Center conductor, 7/0056 copper-niplate. Vinyl jacket. Use with 5116 or 27 Series.

subminax connectors. Wt., per 100', 1 1/2 lbs.  
 49 W 472, 1-99 Feet. . . . . PER FOOT .06  
 100-999 Feet. . . . . PER FOOT .053  
 1000-2999 Feet. . . . . PER FOOT .048

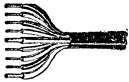


Only .150" O.D.

Be Sure To Specify Cable Length Desired When Ordering

ALLIED • 313

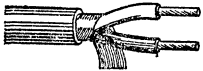
## MULTIPLE-CONDUCTOR CABLE (Not Paired)



Conductors are made of flexible, tinned copper stranded wire, with color-coded vinyl plastic insulation, all cabled together and enclosed in an overall chrome-vinyl plastic jacket. Specify Spool Length Desired.

Mfr's Type	Stock No.	Cond.	AWG (Stranding)	O. D.	STD. SPOOLS		
					100'	500'	1000'
8443	47 TT 362	3	22 (7x30)	.150"	2.43	9.21	18.38
8444	47 TT 372	4	22 (7x30)	.168"	2.94	12.15	24.26
8445	47 TT 382	5	22 (7x30)	.180"	3.63	14.70	29.40
8446	47 TT 312	6	18, 22 (16x30)	.222"	5.29	22.79	45.57
8447	47 TT 322	7	18, 22 (16x30)	.246"	6.03	25.73	51.45
8448	47 TT 332	8	18, 22 (16x30)	.251"	6.27	28.67	57.33
8449	47 TT 342	9	18, 22 (16x30)	.261"	7.01	31.61	63.21
8456	48 TT 223	10	22 (7x30)	.260"	6.91	32.34	64.68
8457	48 TT 225	12	22 (7x30)	.260"	7.35	34.55	69.09
8465	48 TT 227	5	18 (16x30)	.272"	5.88	27.20	53.90
8467	48 TT 229	7	18 (16x30)	.320"	8.14	36.02	72.03
8469	48 TT 233	9	18 (16x30)	.375"	11.15	47.78	95.55

## TWO AND THREE-CONDUCTOR SHIELDED CABLE



For P.A. and intercom use. All have tinned copper conductors. Types 8760 through 8772 have polyethylene insulated conductors, aluminum "Mylar" wrapped shield, stranded tinned copper with cotton or paper wrap, copper shielded; vinyl insulated conductors; Type 8735 is plastic insulated and copper shielded. All cables have chrome vinyl jacket, except Types 8779 and 8789 which have braided tinned shield as jacket; Types 8208, 8735—plastic jacket; 8209—weatherproof cotton jacket. §Spiral-wrapped tinned shield. Specify Spool Length Desired.

Mfr's Type	Stock No.	Cond.	AWG (Stranding)	O. D.	STD. SPOOLS		
					100'	500'	1000'
8208	47 TT 854	2	18 (16x30)	.255"	5.83	24.99	49.98
8209	47 TT 849	2	18 (16x30)	.258"	.....	24.99	49.98
8640	47 TT 804	2	26 Solid	.089"	.....	11.02	.....
8642	47 TT 805	6	26 Solid	.140"	.....	30.13	.....
8731§	47 TT 000	3	22 Solid	.178"	.....	13.97	27.93
8735	48 TT 874	3	22 (7x30)	.199"	4.21	18.77	37.49
8760	48 TT 753	2	18 (16x30)	.222"	.....	18.38	36.75
8761	48 TT 754	2	22 (7x30)	.167"	.....	11.76	23.52
8762	48 TT 809	2	20 (7x28)	.184"	3.38	14.70	29.40
8770	48 TT 755	3	18 (16x30)	.236"	.....	23.16	46.31
8771	48 TT 756	3	22 (7x28)	.175"	.....	14.70	29.40
8772	48 TT 757	3	20 (7x28)	.200"	.....	18.38	36.75
8779§	48 TT 814	2	16 (19x29)	.225"	.....	24.26	48.51
8780§	48 TT 815	2	16 (19x29)	.266"	.....	26.46	52.92
8789§	48 TT 865	2	18 (7x26)	.205"	.....	18.96	37.92
8790§	48 TT 803	2	18 (7x26)	.231"	4.36	19.60	39.20
8791§	48 TT 804	3	18 (7x26)	.236"	5.29	24.70	49.40

## TWO AND THREE-CONDUCTOR UNSHIELDED CABLE

Vinyl insulated, tinned conductors, except Types 8481 thru 8487 and 8794 are untinned. Chrome vinyl jackets, except \*rose-gray. †Twisted-pair types without jacket. Type 8483 is cabled, without jacket. Specify Spool Length Desired.

Mfr's Type	Stock No.	Cond.	AWG (Stranding)	O. D.	STD. SPOOLS		
					100'	500'	1000'
8205	47 TT 020	2	20 (10x30)	.190"	2.45	9.56	18.77
8460†	48 TT 816	2	18 (7x26)	.175"	2.45	9.70	18.82
8461	48 TT 817	2	18 (7x26)	.226"	3.38	13.52	26.46
8470†	48 TT 818	2	16 (19x29)	.195"	.....	11.76	23.52
8471	48 TT 819	2	16 (19x29)	.258"	.....	16.76	33.52
8473	48 TT 234	2	14 (19x29)	.332"	.....	17.40	54.39
8481†	48 TT 758	2	22 solid	.112"	1.25	4.85	8.82
8482†	48 TT 878	2	19 solid	.115"	1.76	6.32	11.02
8483	48 TT 879	3	19 solid	.132"	2.25	9.11	16.17
8486	48 TT 805	2	19 solid	.162"	.....	8.82	17.64
8487	48 TT 806	3	19 solid	.180"	.....	11.32	22.64
8492 Brn.†	47 TT 011	2	19 solid	.170"	.....	.....	13.62
8492 Wht.†	47 TT 012	2	19 solid	.170"	.....	.....	13.62
8493†	47 TT 013	3	19 solid	.170"	.....	.....	20.58
8794*	47 TT 010	3	22 solid	.168"	.....	9.19	18.38

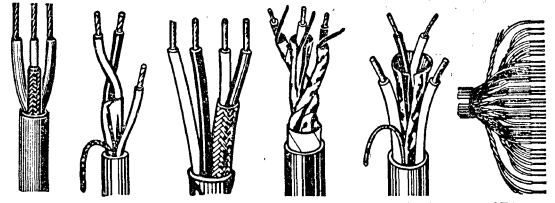
## TWO-CONDUCTOR SHIELDED CABLE



Vinyl plastic insulation and jackets, except 8738, 8758—copper braid jkt. Tinned cond. \*Tinned copper spiral-wrapped shield. Black/red. Specify Spool Length Desired.

Mfr's Type	Stock No.	Cond.	AWG (Stranding)	O. D.	STD. SPOOLS		
					100'	500'	1000'
8737*	48 TT 877	2	22 (7x30)	.170"	3.33	13.23	26.46
8738	48 TT 882	2	22 solid	.130"	.....	.....	20.58
8739*	48 TT 883	2	22 solid	.160"	2.89	11.76	23.52
8758	48 TT 801	2	20 (7x28)	.165"	3.09	13.62	27.20
8759*	48 TT 802	2	20 (7x28)	.195"	3.68	16.17	32.34

## SPECIAL INTERCOM AND SOUND CABLES



Type 8722, 4 vinyl insulated conductors; 2 shielded with aluminum-"Mylar" wrapping; 2 unshielded. #22 stranded, tinned copper ground wire; chrome vinyl jacket.

Type 8732, 4 polyethylene insulated cond.; 1 pair tinned copper shielded, 1 pair unshielded. Chrome vinyl plastic jacket.

Type 8733, 3 conductors separately aluminum-"Mylar" shielded. Ground wire for each conductor is tinned, cadmium bronze ribbon under "Beldfoil" Z fold.

Type 8734, 3 vinyl insulated cond.; tinned copper shield on one, other 2 unshielded. Chrome vinyl jacket overall.

Type 8763, 3 polyethylene insulated conductors; aluminum-"Mylar" shield over 2 conductors; 1 unshielded. No 20 stranded ground wire. Chrome vinyl jacket overall.

Type 8792, Telephone cable. 13 sets of vinyl insulated triplet conductors—each triplet color-coded red, green and yellow. #22 bare copper wire, solid. Rose gray vinyl jacket.

Specify Spool Length Desired.

Mfr's Type	Stock No.	Cond.	AWG (Stranding)	O. D.	STD. SPOOLS		
					100'	500'	1000'
8722	47 TT 021	4	20 (7x30)	.260"	.....	23.52	47.04
8732	48 TT 897	4	22 (7x30)	.188x.296	4.65	20.94	41.90
8733	48 TT 235	3	22 (7x30)	.225"	4.41	19.84	39.68
8734	48 TT 875	3	22 (7x30)	.194"	3.68	16.90	33.80
8763	49 TT 840	3	20 (7x28)	.210"	.....	19.84	39.68
8792	47 TT 022	13(3)	solid	.540"	24.99	124.95	249.90

## PAIRED VINYL UNSHIELDED CABLE



All have vinyl plastic chrome jacket and insulation. Color-coded for easy identification.

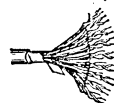
Be Certain to Specify Spool Length Desired.

Mfr's Type	Stock No.	Cond.	AWG (Stranding)	O. D.	STD. SPOOLS		
					100'	500'	1000'
8442	48 TT 236	2	22 (7x30)	.165"	.....	8.09	16.17
8740	48 TT 890	2	22 solid	.150"	1.76	6.47	12.49
8741	48 TT 891	4	22 solid	.201"	2.89	11.76	22.78
8742	48 TT 892	6	22 solid	.240"	3.82	16.17	31.60
8743	48 TT 893	12	22 solid	.305"	5.88	27.20	54.39
8744	48 TT 894	18	22 solid	.354"	8.33	37.88	75.70
8745	48 TT 895	30	22 solid	.420"	13.67	66.15	130.83
8747	47 TT 030	12	22 (7x30)	.340"	8.09	36.75	73.50
8748	47 TT 035	18	22 (7x30)	.389"	11.17	52.92	105.84
8753	48 TT 898	22	22 solid	.384"	10.73	51.45	102.90
8754	49 TT 845	26	22 solid	.409"	12.15	58.07	116.13
8755	49 TT 846	38	22 solid	.480"	19.11	90.41	180.81
8756	49 TT 847	46	22 solid	.510"	22.79	105.84	211.68
8757	48 TT 759	8	22 solid	.255"	.....	20.22	40.32

Mfr's Type	Stock No.	Cond.	AWG Stranding	O. D.	PER FOOT
8746	48 W 896	54	22 solid	.550"	.284
8750	47 W 036	54	22 (7x30)	.595"	.392
8751	48 W 776	102	22 solid	.745"	.843

## INSTRUMENTATION CABLE

(Multiple Pair Individually Shielded)

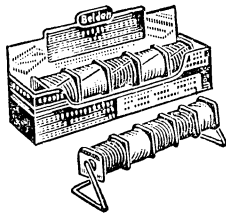


Tinned, solid and stranded copper conductors in pairs. Each pair and its ground wire are aluminum "Mylar" shielded. Vinyl and polypropylene insulated. Have chrome vinyl jacket. All conductors are 22 gauge. Color coded. Specify Spool Length Desired.

Mfr's Type	Stock No.	Pairs	O. D.	STD. SPOOLS		
				100'	500'	1000'
8767	48 TT 602	3	.298"	6.47	32.34	64.68
8768	48 TT 603	6	.394"	12.64	63.21	126.42
8764	48 TT 604	9	.425"	17.64	88.80	177.60
8765	48 TT 605	11	.485"	21.17	105.84	211.68
8766	48 TT 606	15	.510"	27.93	139.65	279.30
8769	48 TT 607	19	.678"	48.51	242.55	485.10
8777	48 TT 807	3	.270"	8.48	42.27	84.54
8778	48 TT 866	6	.394"	16.17	80.85	161.70
8774	48 TT 808	9	.425"	22.93	114.66	229.32
8775	48 TT 811	11	.485"	26.90	134.50	269.00
8776	48 TT 812	15	.510"	34.69	173.46	346.92

## ASSORTED WIRE KITS

A "Must" for Research/Development Laboratories, Schools, etc.



Type 8822. Contains ten 25-ft. spools of Type 8529 hook-up wire and a convenient dispenser rack. Popular assortment of most commonly used colors: black, blue, green, red, white, yellow, orange, brown, gray, and violet. Shpg. wt., 2 1/2 lbs.  
47 T 226..... 4.31

Type 8824. Contains eight 25-ft. spools of Type 8523 hook-up wire and a dispenser rack. Colors: black, blue, green, red, white, yellow, orange, brown. Shpg. wt., 2 1/4 lbs.  
47 T 227..... 3.99

Type 8818. Eight 25-ft. spools of Type 8941, No. 20 solid, cellulose acetate hook-up wire. With dispenser. Black, blue, green, red, white, yellow, orange, brown. Shpg. wt., 2 lbs.  
47 T 228, NET..... 4.94

Type 8820. Contains eight 25-ft. spools of Type 8943, No. 20 stranded (10x30) cellulose acetate hook-up wire and dispenser in same color assortment as above. Shpg. wt., 2 lbs.  
47 T 229..... 4.94

## NYCLAD HEAVY MAGNET WIRE

Type HNC. Copper magnet wire that combines the most desirable features of Formvar wire with the toughness and solvent resistance of nylon enamel. Withstands winding abuse and forming operations. Highly resistant to solvent action of thinners; and resists softening and brittleness at extreme temperatures. Has infinite moisture resistance.



1/2-lb. Spool				1-lb. Spool			
Stock No.	Size	Feet	EACH	Stock No.	Size	Feet	EACH
48 T 036	14	40	.81	48 T 086	14	80	1.31
48 T 037	16	63	.81	48 T 087	16	126	1.31
48 T 038	18	100	.81	48 T 088	18	199	1.31
48 T 039	20	157	.81	48 T 089	20	315	1.34
48 T 040	22	250	.81	48 T 090	22	501	1.35
48 T 041	24	396	.84	48 T 091	24	793	1.43
48 T 042	26	630	.90	48 T 092	26	1260	1.55
48 T 043	28	995	.99	48 T 093	28	1990	1.71
48 T 044	30	1570	1.09	48 T 094	30	3140	1.91
48 T 045	32	2440	1.18	48 T 095	32	4880	2.14
48 T 046	34	3930	1.31	48 T 096	34	7860	2.50
48 T 047	36	6200	1.62	48 T 097	36	12400	3.16
48 T 048	38	9700	2.02	48 T 098	38	19400	4.05
48 T 049	40	16050	2.75	48 T 099	40	32100	5.66

Type 8817. Celanese insulated 5x44 stranded copper, with one nylon wrap. For winding antenna primaries, hand-winding RF coils, IF coils, and similar applications. Outside diameter, .008". Shpg. wt., 2 oz.  
48 T 981, 100-ft. Spool..... 2.9

## DUPLEX LIGHTING CABLE

Weatherproof 2-conductor stranded for outdoor use only. Ideal for extending power lines to yard, garden, garage, barn, etc. Consist of two stranded, tinned copper, vinyl insulated conductors: brown and red vinyl; with chrome vinyl outer jacket of .022" thickness. Type 8677 O.D., .164x.276", 8675 O.D., .189x.326", 8673 O.D., .213x.384". Specify Spool Desired. Av. shpg. wt. per 100 ft., 5 lbs.



Stock No.	Mfr's Type	AWG Stranding	Std. Spools	
			100'	500'
47 TT 405	8677	16 (19x29)	5.59	26.46
47 TT 415	8675	14 (19x27)	7.30	33.81
47 TT 425	8373	12 (19x25)	9.11	44.10

## MULTI-CONDUCTOR BONDED CABLE

Three and four-conductor parallel bonded primary wire. Both types have tinned copper conductors that are vinyl insulated. Type 8475 is color-coded: white, brown, and red. Type 8476 is coded: white, brown, red, and green. Be Certain to Specify Spool Length Desired.



Mfr's Type	Stock No.	Cond.	AWG (Stranding)	O. D.	STD. SPOOLS	
					100'	500'
8475	48 TT 813	3	16 (19x29)	.102x.295"	5.54	24.25
8476	48 TT 820	4	16 (19x29)	.102x.400"	7.64	33.07

## TEST-PROD WIRE

Rubber-covered lead designed to withstand extremely high voltages. Has No. 18 conductor, 65x36 stranded tinned copper, with cotton wrapping. Type 8898: .230" O.D., .088" rubber insulation; 10,000 v. working voltage; 29,000 v. puncture voltage. Type 8899: .144" O.D., .045" rubber insulation; 5000 v. working voltage; 20,000 v. puncture voltage. Specify Spool Length Desired.



Mfr's Type	Stock No.	Color	STD. SPOOLS			
			10'	25'	100'	500'
8898	47 TT 813	Red	.78	1.47	3.92	16.02
8898	47 TT 803	Black	.78	1.47	3.92	16.02
8899	48 TT 913	Red	.58	.88	2.50	10.34
8899	48 TT 903	Black	.58	.88	2.50	10.34

## MIL SPEC TEST-PROD WIRE

Meets MIL-W-13169. Extreme limpness and flexibility combined with high dielectric strength. Working voltage, 5000 volts; breakdown voltage, 20,000 volts. .144" O.D.; .045" rubber insulation. Specify Spool Length Desired.

Mfr's Type	Stock No.	Color	AWG (Stranding)	STD. SPOOLS	
				500'	1000'
8897	48 TT 821	Red	18 (65x36)	11.02	22.05
8897	48 TT 822	Black	18 (65x36)	11.02	22.05

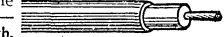
## COILED TEST-PROD CABLE

Tinned copper cables; red and black rubber insulation. Retract to 8-in.; stretch to 5-feet. No. 20 AWG (42x36). O.D., .170". Handles 5000 v. working voltage; 20,000 v. breakdown v. test. Wt. 4 oz. per pair.  
47 T 037, Type 8873. With prods. .... PER PAIR 2.21  
47 T 050, Type 8879. Without prods. .... PER PAIR .96



## HIGH-VOLTAGE CATHODE-RAY-TUBE LEAD

Conductive polyethylene, polyethylene insulated, vinyl jacket (except 8870—polyethylene jacket). Specify Spool Length.



Mfr's Type	Stock No.	AWG (Stranding)	O. D.	Working Voltage	STD. SPOOLS		
					25'	100'	500'
8868	48 TT 823	22 (7x30)	.150"	25,000	.73	2.35	9.26
8869	48 TT 824	22 (7x30)	.120"	17,000	.73	1.84	7.35
8870	48 TT 830	22 solid	.440"	60,000	.....	29.40	.....

## "JUKE BOX" CABLE

Vinyl ins., outer jacket. Color-coded tinned copper cond's. 8783: 1—20 (10x30), 2—16 (26x30); 8784: 2—16 (26x30), 1—20 (10x30), 7—22 (7x30); 8786: 2—22 (7x30), 4—24 (7x32); 8787: 4—24 (7x32), 4—24 (7x32), 2—22 (7x30). Specify Spool Length.



Mfr's Type	Stock No.	Conductors	O. D.	STD. SPOOLS	
				100'	500'
8783	48 TT 867	3 shielded	.250"	4.41	20.58
8784	48 TT 831	10 unshielded	.350"	.....	42.63
8786	48 TT 864	2 shield., 4 unshielded	.256"	5.64	27.20
8787	48 TT 827	8 shield., 2 unshielded	.290"	.....	91.88

## "JUKE BOX" SPEAKER CABLE

Has 2 parallel conductors—1 tinned, 1 bare. 24 AWG (7x32); vinyl insulation; chrome vinyl jacket. .058x.115" O.D. 100 ft., 10 oz.  
48 T 848, 25-ft. Spool. .... .59 48 T 828, 50-ft. Spool. .... .88  
48 T 829, 100-ft. Spool. .... 1.32 47 T 051, 500-ft. Spool. .... 4.41  
47 T 052, 1000-ft. Spool. .... 8.82



## SHIELDED GRID-WIRE

Single-conductor with copper braid shield. Specify Spool Length Desired.

Mfr's Type	Stock No.	O. D.	AWG (Stranding)	STANDARD SPOOLS		
				25'	100'	500'
8885	47 TT 834	.117"	20 (10x30)	1.00	3.09	14.33

## STRAIN GAUGE CABLE

Small-diameter, 4-conductor cable. Type 8434, 3 strands tinned copper conductors, 4 Copperweld. 8723, 7 strands tinned copper cond. Have polyethylene insulated conductors with aluminumized "Mylar" shields. Chrome vinyl jacket. Specify Spool Length Desired.



Type	Stock No.	Size	Strands	O. D.	100' Spl	500' Spl	1000' Spl
8434	49 TT 890	25	7x33	.179"	4.56	22.05	44.10
8723	48 TT 237	22	7x30	.165"	4.56	19.84	39.68

### RUBBER COVERED MICROPHONE CABLE



SINGLE



MULTIPLE

### BROADCAST AUDIO CABLES



STANDARD CABLE



MINIATURE CABLE

### RUBBER JACKET SERVICE CORDS



### RETRACTILE COILED CABLES



MICROPHONE



TELEPHONE

### RUBBER-COVERED MICROPHONE AND SHIELDED POWER-SUPPLY CABLE

Recommended for greater abrasion resistance and extra flexibility. Especially suited for installations where cable must make tight bends around corners or lie perfectly flat. Available in single or multiple (up to 8) conductors. 8414 is extra flexible

and limp; 8428 has heavy-duty neoprene jacket; 8406 and 8413 are miniature-sized cables. Average shgp. wt., per 100 feet, 6 lbs. Be sure to specify the spool size desired from table below when placing your order.

Mfr's Type	No. Cond.	AWG Stranding	Cap. M/mf	O. D.	Wkg. Volts	Stock No.	STANDARD SPOOLS						
							15'	25'	50'	100'	250'	500'	1000'
8410	1	25(7x33)	33	.245"	3000	47 TT 444	1.32	2.06	3.82	7.20	16.90	33.81	.....
8412	2	20(26x34)	42	.268"	600	47 TT 464	1.50	2.30	4.21	8.08	18.62	37.14	.....
8414	2	20(26x34)	45	.256"	600	47 TT 500	.....	.....	3.92	.....	.....	31.60	.....
8423	3	20(26x34)	50	.277"	600	47 TT 463	1.76	.....	4.70	9.11	22.05	44.10	88.20
8424	4	20(26x34)	55	.295"	600	47 TT 473	2.06	.....	5.54	10.39	25.14	50.28	100.55
8425	5	20(26x34)	44	.323"	600	47 TT 483	.....	.....	.....	12.94	31.60	.....	.....
8426	6	20(26x34)	40	.360"	600	47 TT 493	.....	.....	.....	15.43	38.66	.....	.....
8427	7	20(26x34)	40	.360"	600	47 TT 509	.....	.....	.....	16.90	41.16	.....	.....
8418	8	20(26x34)	42	.386"	600	48 TT 837	.....	.....	.....	17.64	44.10	.....	.....
8428	2	18(41x34)	47	.295"	600	47 TT 468	.....	.....	.....	10.29	.....	49.24	.....
8413	2	24(45x40)	38	.185"	300	47 TT 646	1.47	2.20	3.92	7.35	17.64	35.28	.....
8406	3	24(45x40)	43	.223"	300	47 TT 288	.....	.....	.....	9.11	22.05	44.10	.....
8407	4	16(65x34)	37	.422"	600	47 TT 469	.....	.....	.....	19.11	45.56	.....	.....

### VINYL PLASTIC-COVERED MICROPHONE AND SHIELDED POWER-SUPPLY CABLE

Feature lower capacitance values and lower loss figures than standard rubber-covered cables. Resist ozone deterioration; have high resistance to oil, gasoline, and other chemicals' solvent action. All are relatively light weight with small diam-

eters. Type 8411 is especially suited for use with lapel or lavalier microphones. 8420 is a miniature type cable. Average shgp. wt., per 100 ft., 3 1/2 lbs. Be sure to specify standard spool length desired from table below.

Mfr's Type	No. Cond.	AWG Stranding	Cap. M/mf	O. D.	Wkg. Volts	Stock No.	STANDARD SPOOLS						
							15'	25'	50'	100'	250'	500'	1000'
8401	1	25(7x33)	25	.200"	5000	47 TT 564	.85	1.18	2.30	4.21	8.82	17.64	.....
8411	1	25(7x33)	34	.144"	3500	47 TT 604	.70	.99	1.71	3.09	6.57	13.08	.....
8422	2	22(16x34)	18	.231"	1000	47 TT 456	1.18	1.86	3.18	5.73	12.89	25.72	.....
8403	3	20(26x34)	25	.245"	600	47 TT 558	1.47	.....	3.67	7.35	18.37	35.28	70.56
8404	4	20(26x34)	25	.255"	600	47 TT 567	1.86	.....	.....	8.82	20.58	39.69	79.38
8405	5	20(26x34)	25	.275"	600	47 TT 501	.....	.....	.....	.....	23.51	44.83	89.66
8420	2	24(45x40)	20	.178"	500	47 TT 635	1.47	2.20	3.33	6.27	16.17	29.40	.....

### STANDARD AND MINIATURE BROADCAST AUDIO CABLES

Two-conductor, color-coded broadcast cables. With spiral-wrapped tinned copper shields, except 8437 and 8441, braided shields; 8450 and

8451, spiral-wrapped aluminum-"Mylar" shields. All have tinned drain wires. Av. shgp. wt., per 100 ft., 2 1/2 lbs. Specify spool desired.

Mfr's Type	Type	AWG Stranding	O. D.	Wkg. Volts	Jacket	Stock No.	STANDARD SPOOLS		
							100'	500'	1000'
8436	ABC	22(solid)	.180"	100	Black Vinyl	48 TT 859	.....	20.58	41.16
8437	CBS	22(solid)	.200"	200	Black Vinyl	48 TT 886	.....	17.64	35.28
8441	CBS	22(16x34)	.210"	200	Black Vinyl	49 TT 841	4.41	20.87	41.16
8440	Standard	22(solid)	.185"	100	Chrome Vinyl	48 TT 889	.....	20.58	41.16
8450	Miniature	22(solid)	.118"	200	Black Vinyl	49 TT 373	2.94	11.54	22.05
8450	Miniature	22(solid)	.118"	200	Chrome	48 TT 034	2.50	10.29	20.58
8451	Miniature	22(7x30)	.135"	200	Black Vinyl	49 TT 374	3.33	13.52	26.46
8451	Miniature	22(7x30)	.135"	200	Chrome Vinyl	48 TT 035	2.94	13.52	26.46

### RUBBER-JACKETED SERVICE CORDS AND MULTIPLE CONDUCTOR CABLES

Cords and cable for use on appliances, power tools, P.A. systems, speakers, remote control circuits, extension cords, etc. Maximum voltage rating, 300 v., at -60°C. Stranded copper conductors have

rubber insulation with black rubber jackets. Color-coded for fast, easy identification. Av. shgp. wt., per 100', 6 lbs. Be sure to specify standard spool desired from table below.

Mfr's Type	U.L. Type	No. Cond.	AWG Stranding	Cond.	O. D.	Stock No.	STANDARD SPOOLS						
							15'	25'	50'	100'	250'	500'	1000'
8452	SV	2	18(41x34)	Bare	.245"	47 TT 413	.96	1.47	2.45	4.36	10.14	20.24	38.95
8478	SJ	2	18(41x34)	Bare	.299"	47 TT 404	.....	1.62	.....	5.29	13.23	.....	52.92
8472	SJ	2	16(65x34)	Bare	.325"	47 TT 408	.....	1.86	.....	7.01	16.54	.....	.....
8474	.....	2	14(41x30)	Bare	.360"	47 TT 502	.....	.....	.....	8.82	20.95	.....	.....
8453	SV	3	18(41x34)	Tinned	.265"	47 TT 423	1.32	.....	3.09	6.17	.....	30.87	.....
8454	.....	4	18(41x34)	Tinned	.265"	47 TT 433	1.62	.....	3.97	7.06	.....	33.81	67.62
8455	.....	5	3—20(26x34); 2—18(41x34)	Tinned	.280"	47 TT 443	.....	.....	.....	7.35	18.37	.....	.....

### RETRACTILE (COILED) MICROPHONE AND TELEPHONE CABLE

Rugged, coiled cables extend up to six times their normal length. Conveniently retract out-of-the-way when not in use. All microphone cables have braided shields, except Mfr's Type 8415, 8496

and 8497 have one shielded conductor. Types 8494 and 8495 are unshielded telephone cords with spade terminals and strain relief. In either vinyl or neoprene jackets. Av. shgp. wt., 4 oz.

Mfr's Type	No. Cond.	Description	Jacket	AWG Stranding	O. D.	Extends		Stock No.	EACH
						From	To		
8409	4	Microphone Cable	Neoprene	28(7x30)	.165"	12"	6'	47 T 181	.96
8415	4	Microphone Cable	Neoprene	23(21x36)	.250"	11 1/2"	6'	47 T 275	1.27
8491	2	Microphone Cable	Neoprene	23(21x36)	.030"	12"	6'	47 T 180	1.55
8497	3	Microphone Cable	Neoprene	23(21x36)	.250"	11 1/2"	6'	47 T 279	1.40
8499	1	Microphone Cable	Neoprene	24(45x40)	.160"	7 1/2"	4'	47 T 286	.88
8494	4	Telephone Cord	Vinyl	23(21x36)	.245"	10"	4 1/2"	47 T 276	1.41
8495	3	Telephone Cord	Vinyl	23(21x36)	.220"	10"	4 1/2"	47 T 277	1.20
8496	3	Microphone Cable	Vinyl	23(21x36)	.250"	11 1/2"	6'	47 T 278	1.32
8498	1	Microphone Cable	Vinyl	24(45x40)	.180"	7 1/2"	4'	47 T 285	.81

# Belden Wire and Cable

# BELDEN

## RG HIGH-FREQUENCY COAXIAL CABLE



For RF lines, test equipment, etc. All have low-loss, flexible, polyethylene inner jacket, covered with copper-braid shield, black plastic outer jacket, except RG-9/U—gray plastic outer jacket, silvered copper shielding. Impervious to acids, alkalis, oils, etc.

Meet JAN-C-17A specs, except \*MIL-C-17B, no applicable specs. Inner conductor is bare copperweld. Specify spool length desired.

Mfr's Type	RG No.	AWG Stranding	O. D. (In.)	Imp. Ohms	Cap. mmf.	Stock No.	Conductors	100' Spool		250' Spool		500' Spool		1000' Spool	
								Lbs.	EACH	Lbs.	EACH	Lbs.	EACH	Lbs.	EACH
8264	5A/U	16(Solid)	.328	50	28.5	49 TT 891	Silvered Copper	.....	.....	.....	.....	44	120.54	99	241.08
8237	8/U	13(7x21)	.405	52	29.5	47 TT 511	Bare Copper	12	11.60	28	27.20	60	54.39	133	108.78
8242	9/U	13(7x21)	.420	51	30.0	47 TT 512	Silvered Copper	14	29.40	.....	.....	.....	.....	156	288.12
8238	11/U	18(7x26)	.405	75	20.5	47 TT 513	Tinned Copper	9½	10.58	24	25.36	49	48.50	98	97.00
8261*	11A/U	18(7x26)	.405	75	20.5	49 TT 893	Tinned Copper	10	14.26	.....	.....	51	61.74	116	123.48
8259	58A/U	20(19x.007)	.195	50	28.5	47 TT 517	Tinned Copper	4	4.95	.....	.....	14	20.58	27	41.16
8240	58/U	20(Solid)	.195	53.5	28.5	47 TT 516	Bare Copper	4	4.41	7	9.55	14	17.64	27	35.28
8262*	58C/U	20(19.007)	.195	50	28.5	49 TT 895	Tinned Copper	.....	.....	.....	.....	14	24.99	27	49.98
8241	59/U	22(Solid)	.242	73	21.0	47 TT 552	Bare Copperweld	4½	5.54	10	11.39	21	21.51	41	42.63
8263*	59B/U	23(Solid)	.242	75	20.5	49 TT 896	Bare Copperweld	.....	.....	.....	.....	19	26.46	37	52.92
8254	62/U	22(Solid)	.242	95	13.5	47 TT 518	Bare Copper	4	6.03	.....	.....	20	24.50	39	49.00
8216*	174/U	26(7x34)	.100	50	30.4	47 TT 634	Bare Copperweld	1	3.23	.....	.....	4	14.70	7	29.40
8267*	213/U	13(7x21)	.405	50	28.5	49 TT 892	Bare Copper	.....	.....	.....	.....	54	66.88	129	133.77

## FOAM-CORE RG AND DOUBLE SHIELD COAXIAL CABLES

Foam-core cables feature lower losses than regular RG types. All are foam-core except 8215, polyethylene core. All are for community TV systems, except 8214 is for transmission line.

Type 8232 and Type 8233 both have 2 copper-braid shields separated by polyethylene. Type 8215 has 2 copper-braid unseparated shields. All have black polyethylene jackets. Specify spool desired.

Mfr's Type	RG No.	AWG Stranding	Material	O. D.	Imp. Ohms	Cap. mmf	Stock No.	100' Spool		500' Spool		1000' Spool		2000' Spool	
								Lbs.	EACH	Lbs.	EACH	Lbs.	EACH	Lbs.	EACH
8215	6A/U	21(Solid)	Copperweld	.332"	75	20.5	48 TT 615	7	11.25	36	46.30	78	92.61	.....	.....
8214	8/U	11(7x19)	Copper	.405"	50	26	48 TT 616	11	12.00	55	56.59	112	113.19	.....	.....
8213	11/U	14(Solid)	Copper	.405"	75	17.3	48 TT 617	.....	.....	44	52.18	90	102.90	174	205.80
8211	59/U	22(Solid)	Copperweld	.242"	80	16.3	48 TT 618	.....	.....	16	22.05	30	42.63	64	85.26
8212	59/U	20(Solid)	Copperweld	.242"	75	17.3	48 TT 619	.....	.....	16	22.05	30	42.63	64	85.26
8232	.....	20(Solid)	Copperweld	.315"	75	17.3	48 TT 620	.....	.....	28	42.63	60	85.26	118	170.52
8233	.....	14(Solid)	Copper	.475"	75	17.3	48 TT 621	.....	.....	63	82.52	124	164.64	252	329.28

## FLEXIBLE COPPER BRAID SHIELDING AND BONDING CABLE

Flexible tinned copper braiding for shielding conductors and cables. Braided in tubular form for easy shielding of any wiring. Stranding column below indicates number of

AWG tinned solid copper wires braided together to form complete shield. Av. shpg. wt., per 50 ft., 1½ lbs. Specify spool length desired.



Mfr's Type	AWG Stranding	I. D.	10 Ft. Spool		50 Ft. Spool		250 Ft. Spool	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8660	96x34	1/8"	49 T 351	.75	49 T 350	1.47	47 T 060	6.61
8668	120x34	1 1/8"	49 T 356	.50	49 T 355	2.02	47 T 061	8.82
8661	192x34	3/8"	49 T 361	.73	49 T 360	2.45	47 T 062	10.88
8669	336x34	1/4"	49 T 366	1.25	49 T 365	5.39	47 T 063	24.40
8662	576x34	2 5/8"	49 T 381	1.70	49 T 380	6.91	47 T 064	33.81
8663	160x34	1/4"	49 T 842	.79	49 T 843	2.32	47 T 065	9.06
8670	480x30	3/4"	47 T 752	2.35	47 T 753	10.44	47 T 754	50.27
8671	832x36	1"	47 T 755	2.20	47 T 756	9.95	47 T 757	47.77
8672	528x36	5/8"	47 T 783	1.57	47 T 784	6.57	47 T 785	30.13
8674	24x36	3/4"	47 T 786	.55	47 T 787	1.32	47 T 788	5.88
8676	16x36	1/2"	47 T 747	.50	47 T 748	.88	47 T 749	4.12

## TINNED BUS-BAR WIRE

Solid tinned copper bus-bar wire in sizes from 34 to 12 gauge. Meets specs of QQ-W-343. Specify spool length desired.



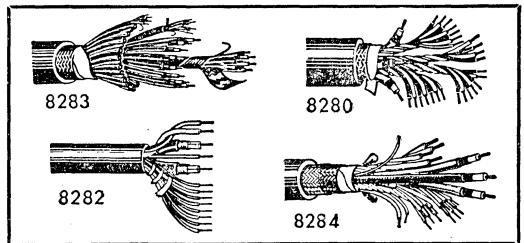
Mfr's Type	AWG	O. D.	100-Ft. Spool			1000-Ft. Spool		
			Stock No.	Oz.	EACH	Stock No.	Lbs.	EACH
8027	34	.006"	48 T 510	2	.49	48 T 541	1/4	2.20
8025	32	.008"	48 T 511	2	.49	48 T 542	1/4	2.20
8025	30	.010"	48 T 512	2	.49	48 T 550	1/4	2.20
8024	28	.012"	48 T 518	2	.49	48 T 551	1/2	2.35
8023	26	.016"	48 T 519	3	.50	48 T 560	1	2.58
8022	24	.020"	48 T 520	4	.50	48 T 561	1 1/4	2.94
8021	22	.025"	48 T 521	5	.52	48 T 570	2	3.33
8020	20	.032"	48 T 522	6	.59	48 T 571	3 1/2	3.92
8019	18	.040"	48 T 530	8	.73	48 T 577	5 1/2	5.14
8013	16	.050"	48 T 531	14	1.08	48 T 578	8 1/2	8.08
8012	14	.064"	48 T 532	24	1.47	48 T 579	13	11.76
8011	12	.080"	48 T 540	40	2.06	.....	.....	.....

## 75-OHM VIDEO CABLE

Type 8281. Finds many applications in the transmission of video signals in TV studios. Provides superior picture definition (color or black-and-white), ends periodicity problems. Inner conductor is #20 solid tinned copper, polyethylene insulated. Tinned-copper double braid shield. Jacket is black polyethylene. Provides nominal capacitance of 20.7 mmm/ft. Attenuation: 8.4 db at 700 mc. Nominal outside diameter; .304". Nominal velocity of propagation; 62.5%. 100% sweep tested. 48 TX 613. 500-Ft. Spool, 37 lbs. PER SPOOL 80.85 48 TX 614. 1000-Ft. Spool, 77 lbs. PER SPOOL 161.70



## TELEVISION CAMERA CABLES



Type 8283. 82-conductor color camera cable. Tinned-copper, color-coded vinyl-insul. conductors. Tinned copper braid shield. Chrome vinyl plastic jacket. 1.22" nom. O.D. 94 lbs. per 100-ft. 48 W 609. 100' or More, PER FT. ....2.21. PER FT. ....2.58

Type 8280. 28-conductor camera cable. Tinned-copper, color-coded vinyl-insul. conductors. Tinned copper braid shield. Chrome vinyl jacket. .750" nom. O.D. 34 lbs. per 100-ft. 48 W 610. 100' or More, PER FT. ....588. PER FT. ....69


Type 8284. 24-conductor camera cable. Tinned-copper, color-coded vinyl-insul. conductors. Tinned copper braid shield. Chrome vinyl plastic jacket. .800" nom. O.D. 41 lbs. per 100-ft. 48 W 611. 100' or More, PER FT. ....662. PER FT. ....76

Type 8282. 13-conductor TV-eye cable. Tinned-copper, color-coded, vinyl insulated conductors. Chrome vinyl jacket. .470" nom. O.D. 14 lbs. per 100-ft. 48 W 612. 100' or More, PER FT. ....265. PER FT. ....31



# BELDEN MIL-W-76B Military Specification Wire

## TYPE MW—VINYL INSULATION, 1000 VOLTS, 80° C

 Tinned copper. Resists flame, ozone, most chemicals. In brown, red, orange, yellow, green, white, black, blue—specify. Shpg. wts.: 100', 1 lb.; 500', 3 lbs.; 1000', 6 lbs.

### 25' SPOOLS

Stock No.	Type	Gauge	Strands	O. D.	Wt.	EACH
47 TT 214	8530	22	Solid	.059"		.35
47 TT 215	8524	22	7x30	.064"		.38
47 TT 216	8529	20	Solid	.066"	6 oz.	.43
47 TT 217	8523	20	10x30	.070"		.47
47 TT 109	8522	18	16x30	.080"		.47

Type	Gauge	O. D.	Type	Gauge	O. D.
8538	24 solid	.054"	8522	18 (16x30)	.080"
8525	24 (7x32)	.058"	8528	18 (Solid)	.074"
8530	22 Solid	.059"	8531	16 (Solid)	.085"
8524	22 (7x30)	.064"	8521	16 (26x30)	.098"
8529	20 Solid	.066"	8520	14 (41x30)	.111"
8523	20 (10x30)	.070"	8527	12 (65x30)	.130"

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8538	47 TT 168	.76	47 TT 169	2.30	47 TT 170	3.92
8525	47 TT 244	.91	47 TT 054	2.89	47 TT 245	5.14
8530	47 TT 218	.81	47 TT 055	2.50	47 TT 222	4.41
8524	47 TT 219	.96	47 TT 071	3.18	47 TT 223	5.73
8529	47 TT 220	.94	47 TT 072	2.94	47 TT 224	5.29
8523	47 TT 221	1.15	47 TT 073	3.82	47 TT 225	7.01
8522	47 TT 110	1.21	47 TT 074	4.70	47 TT 111	8.92
8528	47 TT 112	1.13	47 TT 075	3.97	47 TT 113	7.35
8531	47 TT 246	1.32	47 TT 078	5.14	47 TT 247	9.95
8521	47 TT 114	1.69	47 TT 079	6.57	47 TT 115	12.64
8520	47 TT 116	1.99	47 TT 080	9.36	47 TT 117	16.90
8527	47 TT 118	2.94	47 TT 081	12.49	47 TT 119	23.52


## TYPE MW—SHIELDED CABLE, 1000 VOLTS, 80° C

Tinned copper conductor, vinyl insulation and shield. Brown, red, orange, yellow, green, white, black, blue—specify. Shpg. wts.: 100', 1 1/4 lbs.; 500', 4 1/2 lbs.; 1000', 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8887	24(7x32)	.082"	8882	18(16x30)	.104"
8883	22(7x30)	.088"	8884	16(26x30)	.122"
8886	20(10x30)	.094"			

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8887	47 TT 082	2.22	47 TT 083	10.29	47 TT 084	19.11
8883	47 TT 671	2.22	47 TT 090	10.29	47 TT 676	20.04
8886	47 TT 672	2.60	47 TT 091	11.76	47 TT 677	22.05
8882	47 TT 673	2.94	47 TT 094	13.96	47 TT 678	27.05
8884	47 TT 100	3.82	47 TT 101	18.37	47 TT 102	36.01


## TYPE MW—SHIELDED, NYLON JACKET, 1000 VOLTS, 80° C

 Shielded cable with tinned copper inner conductor and shield. Vinyl insulation between inner conductor and shield with nylon jacket over all. Available in white only. Average shpg. wts.: 100', 1 1/4 lbs.; 500', 4 1/2 lbs.; 1000', 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8893	22(7x30)	.095"	8892	18(16x30)	.112"
8896	20(10x30)	.101"	8894	16(26x30)	.131"

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8893	47 T 136	3.53	47 T 103	16.17	47 T 146	30.87
8896	47 T 137	4.41	47 T 104	19.11	47 T 147	35.28
8892	47 T 138	5.14	47 T 105	19.11	47 T 148	36.25
8894	47 T 139	5.88	47 T 106	24.99	47 T 149	48.51


## TYPE MW—NYLON JACKET, 1000 VOLTS, 90° C

 Tinned, copper stranded wire with vinyl insulation covering. Clear nylon jacket over all. In brown, red, orange, yellow, green, white, black, blue—specify. Shpg. wts.: 100', 1 1/4 lbs.; 500', 4 1/2 lbs.; 1000', 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8537	22(7x30)	.069"	8535	18(16x30)	.086"
8536	20(10x30)	.075"	8534	16(26x30)	.106"

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8537	47 TT 153	1.18	47 TT 164	5.39	47 TT 156	9.36
8536	47 TT 154	1.32	47 TT 165	6.03	47 TT 157	10.58
8535	47 TT 155	2.20	47 TT 166	9.55	47 TT 158	17.64
8534	47 TT 163	2.65	47 TT 167	11.76	47 TT 200	22.05

## TYPE MW—GLASS BRAID, 1000 VOLTS, 80° C

 Tinned copper wire with both vinyl and glass insulation for maximum protection from chemicals, acids, oils, etc. Medium wall, lacquered glass braid with vinyl insulation outside over all. Available in brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Average shpg. wts.: 100', 1 1/4 lbs.; 500', 4 1/2 lbs.; 1000', 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8566	22(7x30)	.076"	8564	18(16x30)	.094"
8565	20(10x30)	.084"	8563	16(26x30)	.112"

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8566	47 TT 662	1.76	47 TT 108	7.94	47 TT 667	14.70
8565	47 TT 663	2.20	47 TT 120	9.55	47 TT 668	17.64
8564	47 TT 664	2.58	47 TT 121	11.76	47 TT 669	22.05
8563	47 TT 107	3.33	47 TT 122	14.36	47 TT 123	27.19

## TYPE MW—GLASS BRAID, SHIELDED, 1000 VOLTS, 80° C

Shielded cable with tinned copper, stranded inner conductor. Insulation of medium wall, lacquered, glass braid provides maximum protection from chemicals, acids, solvents, etc. Tinned copper shield is covered with vinyl insulation over all. Available in white only. Average shpg. wts.: 100', 1 1/4 lbs.; 500', 4 1/2 lbs.; 1000', 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8863	22(7x30)	.102"	8860	16(26x30)	.136"
8862	20(10x30)	.108"	8859	14(41x30)	.149"
8861	18(16x30)	.118"	8858	12(65x30)	.168"

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8863	47 T 124	3.33	47 T 140	16.17	47 T 150	30.87
8862	47 T 130	3.67	47 T 141	16.90	47 T 151	33.07
8861	47 T 131	4.41	47 T 142	19.11	47 T 152	36.75
8860	47 T 132	5.14	47 T 143	23.52	47 T 160	45.86
8859	47 T 133	5.88	47 T 144	27.93	47 T 161	55.12
8858	47 T 159	7.35	47 T 145	35.28	47 T 162	69.82

## TYPE HW—VINYL INSULATION, 2500 VOLTS, 80° C

Tinned, stranded copper wire with heavy-wall vinyl insulation. Withstands up to 2500 volts. Insulation thickness is .034". Available in brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Average shpg. wts.: 100' spool, 1 1/4 lbs.; 500' spool, 4 1/2 lbs.; 1000' spool, 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8588	22(7x30)	.098"	8586	18(16x30)	.114"
8587	20(10x30)	.104"			

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8588	47 TT 201	1.03	47 TT 204	4.70	47 TT 207	9.41
8587	47 TT 202	1.18	47 TT 205	5.54	47 TT 208	11.02
8586	47 TT 203	2.20	47 TT 206	7.35	47 TT 209	14.70

## TYPE HW—VINYL INSULATION, 600 AND 2500 V., 80° C

Tinned stranded copper wire with heavy-wall vinyl insulation. Type 8585, 16 gauge, rated 2500 v. breakdown @ 80°C; all other heavier gauges rated at 600 v. Wall thickness is .048" except Type 8585. .034". Available in red, white and black. Specify color wanted. Average shpg. wts.: 100', 1 1/4 lbs.; 500', 4 1/2 lbs.; 1000', 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8585	16(26x30)	.128"	8582	10(105x30)	.214"
8584	14(41x30)	.171"	8581	8(133x29)	.261"
8583	12(65x30)	.191"	8580	6(133x27)	.296"

Mfrs. Type	100' Spools		500' Spools		1000' Spools	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8585	47 TT 210	2.65	47 TT 232	9.55	47 TT 238	19.10
8584	47 TT 211	3.97	47 TT 233	16.17	47 TT 239	32.34
8583	47 TT 212	5.14	47 TT 234	22.05	47 TT 240	44.10
8582	47 TT 213	8.08	47 TT 235	36.75	47 TT 241	73.50
8581	47 TT 230	19.11	47 TT 236	88.20	47 TT 250	176.40
8580	47 TT 231	23.52	47 TT 237	110.25	47 TT 251	220.50

## FOR FASTEST SERVICE

Use the service of the Allied facility nearest you—see page one for location of branch offices, addresses, phone numbers.

# MIL-W-76B and MIL-W-16878D Wire **BELDEN**

## MIL-W-76B SPECIFICATION WIRE

### TYPE LW—NYLON JACKET, 300 VOLTS, 90° C

Specify Color Wanted

Tinned, stranded copper wire with double insulation. Has vinyl insulation with light-wall, clear nylon jacket on the outside. Available in brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Average shpg. wt: 100' spool, 1 1/4 lbs.; 500' spool, 4 1/2 lbs.; 1000' spool, 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8579	30(7x38)	.039"	8576	24(7x32)	.051"
8578	28(7x36)	.042"	8575	22(7x30)	.059"
8577	26(7x34)	.046"	8574	20(10x30)	.065"

Mfr's Type	100' Spools			500' Spools			1000' Spools		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
8579	47 TT 252	1.18		47 TT 258	4.25		47 TT 272	7.94	
8578	47 TT 253	1.25		47 TT 259	4.25		47 TT 273	7.94	
8577	47 TT 254	1.25		47 TT 268	4.25		47 TT 274	8.11	
8576	47 TT 255	1.25		47 TT 269	4.41		47 TT 280	8.29	
8575	47 TT 256	1.32		47 TT 270	4.65		47 TT 281	8.82	
8574	47 TT 257	1.47		47 TT 271	5.29		47 TT 282	10.14	

## MIL-W-16878D PLASTIC WIRE

Tinned, stranded copper wire designed and manufactured to military specifications. Type B vinyl-insulated wire is rated at 600 volts and 105°C—nylon jacketed rated at 115°C Type C is rated at 1000 volts and 105°C with vinyl insulation, 115°C with nylon jacket.

### TYPE B—VINYL INSULATION, 600 VOLTS, 105° C

Tinned, stranded copper wire. Insulation is flame resistant and inert to most chemicals, oils and solvents. In brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Shpg. wts.: 100', 1/2 lb.; 500', 3 lbs.; 1000', 5 lbs.

Mfr's Type	Gauge (Strand)	O.D.	100' Spools		500' Spools		1000' Spools	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8598	30 (7x38)	.032"	47 TT 299	1.11	47 TT 333	4.54	47 TT 532	8.23
8597	28 (7x36)	.035"	47 TT 300	1.03	47 TT 334	4.26	47 TT 541	7.74
8595	26 (7x34)	.039"	47 TT 301	1.13	47 TT 350	4.26	47 TT 542	7.94
8594	24 (7x32)	.044"	47 TT 302	1.09	47 TT 351	3.78	47 TT 548	6.86
8593	22 (7x30)	.050"	47 TT 303	1.14	47 TT 505	4.12	47 TT 550	7.69
8592	20 (7x28)	.058"	47 TT 304	1.26	47 TT 514	4.85	47 TT 551	9.11
8591	18 (7x26)	.068"	47 TT 305	1.35	47 TT 521	5.29	47 TT 570	10.20
8590	16 (19x29)	.077"	47 TT 323	1.62	47 TT 522	6.76	47 TT 571	12.74

### TYPE B—VINYL, NYLON JACKET, 600 VOLTS, 115° C

Tinned, stranded copper wire with vinyl insulation covered with nylon jacket. In brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Average shpg. wts.: 100', 1/2 lb.; 500', 3 lbs.; 1000', 5 lbs.

Mfr's Type	Gauge (Strand)	O.D.	100' Spools		500' Spools		1000' Spools	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8595	30 (7x38)	.038"	48 TT 276	1.32	47 TT 582	5.59	47 TT 595	10.29
8594	28 (7x36)	.041"	48 TT 277	1.25	47 TT 583	5.83	47 TT 598	9.70
8515	26 (7x34)	.045"	48 TT 278	1.38	47 TT 584	5.37	48 TT 285	10.24
8514	24 (7x32)	.050"	48 TT 279	1.29	47 TT 585	4.85	48 TT 286	9.21
8513	22 (7x30)	.056"	48 TT 268	1.40	47 TT 587	5.44	48 TT 287	10.24
8512	20 (7x28)	.064"	48 TT 269	1.47	47 TT 588	5.73	48 TT 288	10.98
8511	18 (7x26)	.074"	47 TT 574	1.76	47 TT 590	7.20	47 TT 621	13.77
8510	16 (19x29)	.083"	47 TT 580	2.06	47 TT 591	8.79	47 TT 622	16.85

### TYPE C—VINYL INSULATION, 1000 VOLTS, 105° C

Tinned, stranded copper wire with vinyl insulation and high breakdown voltage. In brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Shpg. wts.: 100', 1/2 lb.; 500', 3 lbs.; 1000', 5 lbs.

Mfr's Type	Gauge (Strand)	O.D.	100' Spools		500' Spools		1000' Spools	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8954	22 (7x30)	.066"	48 TT 206	.96	47 TT 623	4.41	48 TT 216	8.67
8953	20 (7x28)	.074"	48 TT 207	1.18	47 TT 624	5.73	48 TT 217	11.17
8952	18 (7x26)	.084"	48 TT 208	1.62	47 TT 625	7.76	48 TT 218	14.70

### TYPE LW—VINYL INSULATION, 300 VOLTS, 80° C

Specify Color Wanted

Tinned, stranded copper wire with light-wall vinyl insulation, .011 to .012" thick. For use where resistance to moisture and solvents is required. Available in brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Shpg. wts.: 100' spool, 1 1/4 lbs.; 500' spool, 4 1/2 lbs.; 1000' spool, 8 lbs.

Type	Gauge	O. D.	Type	Gauge	O. D.
8572	30(7x38)	.034"	8569	24(7x32)	.046"
8571	28(7x36)	.037"	8568	22(7x30)	.054"
8570	26(7x34)	.041"	8567	20(10x30)	.060"

Mfr's Type	100' Spools			500' Spools			1000' Spools		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
8572	47 TT 606	.85		47 TT 289	2.74		47 TT 794	5.14	
8571	47 TT 607	.87		47 TT 290	2.65		47 TT 795	4.85	
8570	47 TT 608	.88		47 TT 291	2.94		47 TT 796	5.29	
8569	47 TT 609	.88		47 TT 292	3.09		47 TT 797	5.73	
8568	47 TT 283	.88		47 TT 293	3.33		47 TT 295	6.12	
8567	47 TT 284	1.03		47 TT 294	4.07		47 TT 296	6.61	

Type D vinyl is rated at 3000 volts at 105°C. Type E teflon rated at 600 volts and 200°C—Type EE at 1000 volts. Types E and EE teflon-insulated wire are silver-coated. Available in various colors—specify choice when ordering.

### TYPE C—VINYL, NYLON JACKET, 1000 VOLTS, 115° C

Tinned, stranded copper wire with vinyl insulation covered with nylon jacket. Double insulation offering maximum protection. Available in brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Average shpg. wts.: 100', 1/2 lb.; 500', 3 lbs.; 1000', 5 lbs.

Mfr's Type	Gauge (Strand)	O.D.	100' Spools		500' Spools		1000' Spools	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8960	22 (7x30)	.072"	48 TT 295	1.32	47 TT 626	6.26	47 TT 629	11.76
8959	20 (7x28)	.080"	48 TT 296	1.62	47 TT 627	7.10	47 TT 630	14.70
8958	18 (7x26)	.091"	48 TT 297	1.99	47 TT 628	9.55	47 TT 650	18.47

### TYPE D—VINYL INSULATION, 3000 VOLTS, 105° C

Tinned, stranded copper wire. Vinyl insulation, high breakdown voltage. In brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Shpg. wts.: 100', 1/2 lb.; 500', 3 lbs.; 1000', 5 lbs.

Mfr's Type	Gauge (Strand)	O.D.	100' Spools		500' Spools		1000' Spools	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8971	22 (7x30)	.090"	47 TT 651	2.06	47 TT 658	8.13	47 TT 661	15.43
8970	20 (7x28)	.098"	47 TT 652	2.36	47 TT 659	9.45	47 TT 665	17.24
8969	18 (7x26)	.108"	47 TT 653	2.94	47 TT 660	11.76	47 TT 674	18.10

### TEFLON-INSULATED HOOK-UP WIRE

Stranded, silver-coated copper wire; extruded teflon insulation. Resists heat, solvents, moisture and acids. Ideal for use in military apparatus, computers and other critical equipment. In brown, red, orange, yellow, green, white, black, blue. Specify color wanted. Shpg. wts.: 25', 6 oz. 100', 1/2 lb.

### TYPE E—TEFLON-INSULATED, 600 VOLTS, 200° C

Mfr's Type	Gauge (Strand)	O. D.	25' Spools		100' Spools	
			Stock No.	EACH	Stock No.	EACH
8301	28 (7x36)	.035"	47 TT 968	1.86	47 TT 702	5.39
8302	26 (7x34)	.039"	47 TT 969	1.86	47 TT 703	5.39
8303	24 (19x36)	.044"	47 TT 970	2.06	47 TT 704	6.27
8306	22 (19x34)	.050"	47 TT 971	2.35	47 TT 705	7.35
8307	20 (19x32)	.058"	47 TT 972	2.60	47 TT 706	8.82
8309	18 (19x30)	.069"	47 TT 171	3.09	47 TT 679	10.58
8310	16 (19x29)	.080"	47 TT 172	4.07	47 TT 686	13.23

### TYPE EE—TEFLON-INSULATED, 1000 VOLTS, 200° C

8321	28 (7x36)	.045"	47 TT 173	2.35	47 TT 718	7.35
8322	26 (7x34)	.049"	47 TT 174	2.21	47 TT 719	7.01
8323	24 (19x36)	.054"	47 TT 175	2.49	47 TT 720	8.48
8326	22 (19x34)	.060"	47 TT 176	2.74	47 TT 721	9.36
8327	20 (19x32)	.068"	47 TT 177	3.09	47 TT 722	10.29
8329	18 (19x30)	.079"	47 TT 178	3.68	47 TT 723	13.23
8330	16 (19x29)	.089"	47 TT 179	4.41	47 TT 724	16.17

## ATTENTION INDUSTRIAL BUYERS

Allied supplies industrial quantities at factory OEM prices. Write, wire, or phone your man at Allied for prompt price quotations.



# Coax and Special-Purpose Cable, Lamp Wire



RG Coax. Meet MIL specs. Black jackets, except 9/U, gray. 219/U, armored. \*Non-contaminating low-temp.; tynyl and poly vinyl. S—silvered copper;

C—copper; T—tinned copper; CW—copper-weld; N—nichrome. V.P.—velocity of propagation. Inquire for larger-quantity prices.

Stock No.	No. RG-	Jacket O. D. (in.)	Shields		Dielectric O. D. (in.)	Center Conductor	V.P. %	Cap. Mmf /Ft.	Max. V. RMS	Imp. Ohms	Wt. Lbs., 100'	PER FOOT			
			Outer	Inner								1-999	1000-2999	3000-4999	5000-9999
49 W 102	*5B/U	.332	S	S	.185	.053S	65.9	29.5	3000	50	8 1/4	.25	.215	.178	.171
49 W 103	*6A/U	.332	C	S	.185	21CW	65.9	20	2700	75	8 1/2	.14	.125	.101	.097
49 W 104	*8/U	.405	—	C	.285	7/21	65.9	29.5	4000	52	10 1/2	.10	.093	.077	.074
49 W 105	*8A/U	.405	—	C	.285	7/.0296	65.9	30.5	4000	50	11	.11	.10	.081	.078
49 W 106	*9/U	.420	C	S	.280	7/21S	65.9	30	4000	51	14	.28	.255	.21	.202
49 W 107	*9A/U	.420	S	S	.280	7/21S	65.9	30	4000	51	14	.34	.293	.242	.232
49 W 108	*9B/U	.425	S	S	.285	7/.0296S	65.9	30.5	4000	50	14	.34	.293	.242	.232
49 W 109	*11/U	.405	—	C	.285	7/26T	65.9	20.5	4000	75	10	.10	.087	.071	.069
49 W 112	*11A/U	.405	—	C	.285	7/26T	65.9	20.5	4000	75	10	.11	.097	.08	.077
49 W 113	*158/U	.195	—	T	.116	20	65.9	28.5	1900	53.5	3	.04	.036	.028	.027
49 W 114	*58A/U	.195	—	T	.116	19/.0071T	65.9	29.5	1900	50	3	.04	.037	.03	.029
49 W 115	*58C/U	.195	—	T	.116	19/.0071T	65.9	29.5	1900	50	3	.04	.038	.032	.031
49 W 116	*59/U	.242	—	C	.146	22CW	65.9	21	2300	73	4	.04	.038	.031	.03
49 W 122	*59B/U	.242	—	C	.146	.023CW	65.9	20.5	2300	75	4	.04	.041	.033	.032
49 W 117	*62/U	.242	—	C	.146	22CW	84	13.5	750	93	4	.04	.042	.034	.033
49 W 118	*62A/U	.242	—	C	.146	22CW	84	13.5	750	93	4	.05	.044	.037	.035
49 W 123	*63B/U	.245	—	C	.146	22CW	84	10	1000	125	10 1/2	.14	.122	.10	.097
49 W 119	*71A/U	.405	T	T or C	.146	22CW	84	13.5	750	93	5	.09	.079	.066	.063
49 W 124	*174/U	.105	—	T	.060	7/.0063CW	65.9	30	1500	50	3	.02	.023	.018	.017
48 W 050	*212/U	.332	S	S	.185	.0556S	65.9	29.5	3000	50	9 1/4	.27	.235	.194	.187
48 W 051	*213/U	.405	—	C	.285	7x.0296C	65.9	29.5	5000	50	10 1/4	.12	.105	.087	.084
48 W 052	*214/U	.425	S	S	.285	7x.0296C	65.9	29.5	5000	50	13 1/2	.35	.299	.248	.239
48 W 053	*216/U	.425	C	C	.285	7x26TC	65.9	20.5	5000	75	12 1/4	.19	.165	.135	.13
48 W 054	*217/U	.545	C	C	.370	.106C	65.9	29.5	7000	50	23	.29	.253	.208	.20
48 W 055	*218/U	.870	—	C	.680	.195C	65.9	29.5	11,000	50	45	.61	.53	.438	.422
48 W 056	*219/U	.870	—	C	.680	.195C	65.9	29.5	11,000	50	50	.83	.72	.599	.576
48 W 057	*222/U	.332	S	S	.185	.0556N	65.9	29	2700	50	9 1/4	.29	.255	.209	.202
48 W 058	*223/U	.216	S	S	.116	.035S	65.9	29.5	1900	50	3 1/2	.13	.114	.093	.09

POSJ and POT Lamp Cord. Two parallel #18 stranded copper wires. All types are polarity-ribbed. U.L. Listed. Specify standard spool length desired from table below. Shpg. wt., 100', 3 lbs.

Stock No.	Mfr's Type	Jacket	Color	U.L. Type	STANDARD SPOOLS				
					25'	100'	250'	500'	1000'
48 TT 763	POSJ	Rubber	Brown	SP-1	.68	2.60	4.85	9.40	17.50
48 TT 773	POSJ	Rubber	Black	SP-1					
48 TT 774	POSJ	Rubber	Gray	SP-1					
48 TT 775	POSJ	Rubber	White	SP-1					
48 TT 766	POT	Vinyl Plastic	Brown	SPT-1	.59	2.10	3.65	6.80	13.30
48 TT 762	POT	Vinyl Plastic	Black	SPT-1					
48 TT 786	POT	Vinyl Plastic	Gray	SPT-1					
48 TT 767	POT	Vinyl Plastic	White	SPT-1					

Rubber-Sheathed Service Cord. U.L. Listed. Black rubber jacket and rubber insulation. For appliances, tools, extension cords. Specify standard spool length desired. Shpg. wt., 100', 3 lbs.

Stock No.	U.L. Type	Size AWG	No. of Conductors	Current Capacity In Amps	Voltage Rating	O. D.	STANDARD SPOOLS			
							25'	50'	100'	250'
48 TT 439	SV	18	2	5	300	.250"	1.08	2.03	4.02	9.00
48 TT 451	SJ	18	2	5	300	.310"	1.35	2.29	4.41	9.96
48 TT 452	SJ	16	2	7	300	.340"	1.62	2.97	5.67	13.10
48 TT 453	S	18	2	5	600	.390"	2.23	3.99	7.53	17.77
48 TT 454	S	16	2	7	600	.410"	2.70	4.86	9.28	22.05
48 TT 465	S	14	2	15	600	.540"	3.51	6.69	12.55	30.37
48 TT 466	S	12	2	20	600	.605"	5.61	10.80	20.74	51.75
48 TT 467	S	10	2	25	600	.640"	6.75	12.82	24.51	60.75
48 TT 508	SJ	18	3	5	300	.345"	1.97	3.58	6.96	16.31
48 TT 509	SJ	16	3	7	300	.375"	2.53	4.53	8.71	20.70
48 TT 513	S	18	3	5	600	.405"	2.91	5.40	10.37	30.60
48 TT 514	S	16	3	7	600	.430"	3.58	6.75	12.64	47.70
48 TT 515	S	14	3	15	600	.560"	5.26	10.20	19.48	62.32
48 TT 516	S	12	3	20	600	.635"	6.75	12.82	24.51	60.75
48 TT 517	S	10	3	25	600	.690"	8.44	15.87	29.31	72.00

## STEREO PHONO PICKUP-ARM CABLE

No. 32 (7x40) copper conductor with .009" vinyl plastic insulation. O.D., .055". Av. wt.: 10' spool, 4 oz.; 25', 6 oz.; 250', 1 lb.

### UNSHIELDED WIRE

Mfr's Type	Cond.	10-Ft. Spool		25-Ft. Spool		250-Ft. Spool	
		Stock No.	EA.	Stock No.	EA.	Stock No.	EA.
1478	2	48 T 523	.32	48 T 524	.44	48 T 525	3.00
1401	3	48 T 526	.38	48 T 527	.90	48 T 528	8.25
1402	4	48 T 529	.53	48 T 533	1.20	48 T 534	11.25

### SHIELDED WIRE

Have braided tinned-copper shield. \*Individually shielded wires.

Mfr's Type	Cond.	48 T 535		48 T 536		48 T 537	
		Stock No.	EA.	Stock No.	EA.	Stock No.	EA.
1479	2	48 T 535	.45	48 T 536	.83	48 T 537	6.00
1406	3	48 T 538	.60	48 T 539	1.28	48 T 543	12.00
1407	4	48 T 544	.68	48 T 545	1.50	48 T 546	13.50
1410	2*	48 T 547	.60	48 T 548	1.35	48 T 549	12.75



Rome Flexall Cable. Non-metallic sheathed, waterproof and ret-resistant cable. Designed for burial in the earth.

Has 2 No. 14 solid conductors insulated with Type TW thermoplastic. An all-glass yarn wrap covers both conductors and a synthetic plastic sheath covers the entire cable. Eliminates overhead wiring. Capacity, 15 amps. Rated at 600 volts. U.L. Listed. Size, .200x.350". Shpg. wt., 100 feet, 7 1/4 lbs. Specify footage.

47 W 594.....PER FOOT .09 100 Ft. or More...PER FOOT .085



Rome Reflex Cable. Two-conductor cable for outdoor or indoor use. Ideal for long speaker lines and for electrical feeders or branch circuits in power wiring. Excellent as extension cord for motors, power tools, etc. Color-coded No. 14 solid conductors have durable, heat-resistant thermoplastic insulation with plastic sheath covering entire cable. Capacity, 15 amps. 600 volts. U.L. Listed. .230x.410". Shpg. wt., 100', 7 lbs. Specify footage.

47 W 549.....PER FOOT .07 100 Ft. or More...PER FOOT .062

# Hook-Up and Special-Purpose Cable by



## THERMOPLASTIC HOOK-UP WIRE

U.L. Listed. For high-v. circuits where low loss and proper insulation are essential. Oil and acid resistant. Breakdown, 10,000 v.; operating, 300 v. Up to 80°C. 25' spool, 4 oz.



20 SOLID		20 STRANDED	
48 T 455. Black.	25 FOOT SPOOL EACH	48 T 460. Black.	25 FOOT SPOOL EACH
48 T 456. Red.		48 T 461. Red.	
48 T 457. Blue.		48 T 462. Blue.	
48 T 458. Green.		48 T 463. Green.	
48 T 459. Yellow.		48 T 464. Yellow.	
			.34

## STRANDED HOOK-UP WIRE

No. 18 tinned soft-drawn copper wire. Cotton wrap and colored rubber insulation overall. Excellent for general wiring in radio-TV chassis, switchboards, etc. Shpg. wt., 25 ft., 5 oz.

Spool	Black	Red	Blue	Green	White	EACH
25 ft.	48 T 200	48 T 201	48 T 202	48 T 203	48 T 205	.48

## PUSH-BACK HOOK-UP WIRE

Tinned hook-up wire. No. 20. Only evenly-drawn pure copper wire is used. Insulation easily pushed back for convenient wiring. Available in both solid and stranded type. Unusually flexible and durable. Double-cotton covered with paraffin-treated damp-proof braid. 5 different colors. Shpg. wts.: 25 ft., 4 oz.; 100 ft., 1 lb.



## STRANDED TYPE, 10x30

Spool	Red	Black	Yellow	Blue	Green	EACH
25 ft.	48 T 442	48 T 440	48 T 444	48 T 441	48 T 443	.36
100 ft.	48 T 447	48 T 445	48 T 449	48 T 446	48 T 448	1.29

## SOLID TYPE

Spool	Red	Black	Yellow	Blue	Green	EACH
25 ft.	48 T 472	48 T 470	48 T 474	48 T 471	48 T 473	.34
100 ft.	48 T 477	48 T 475	48 T 479	48 T 476	48 T 478	1.26

## HIGH-GRADE MAGNET WIRE

Insulated, soft-drawn copper wire of highest quality. Manufactured for all types of coil-winding applications—transformers, RF coils, chokes, etc. All sizes indicated below are standard B&S gauge. Shpg. wts.: 1/2-lb. spool, 14 oz.; 1-lb. spool, 1 1/2 lbs.



## PLAIN-ENAMELED 1/2-LB. SPOOLS

Stock No.	Size	Feet	EACH	Stock No.	Size	Feet	EACH
48 T 100	14	38	.60	48 T 111	26	640	.71
48 T 102	16	63	.60	48 T 112	28	1013	.75
48 T 104	18	101	.62	48 T 113	30	1602	.83
48 T 106	20	159	.62	48 T 114	32	2543	.84
48 T 108	22	253	.65	48 T 115	34	4042	.92
48 T 109	24	402	.65	48 T 116	36	6410	.92

## SINGLE-COTTON ENAMELED 1-LB. SPOOLS

Stock No.	Size	Feet	EACH	Stock No.	Size	Feet	EACH
48 T 020	14	78	1.44	48 T 028	22	490	1.91
48 T 022	16	124	1.50	48 T 029	24	772	1.95
48 T 023	17	156	1.56	48 T 030	25	936	2.07
48 T 024	18	198	1.62	48 T 031	26	1209	2.19
48 T 025	19	248	1.70	48 T 032	28	1876	2.63
48 T 026	20	312	1.79	48 T 033	30	2780	3.08

## HEAVY FORMVAR MAGNET WIRE ON 1-LB. SPOOLS

Copper magnet wire covered with Formvar; a tough, sturdy, abrasion-resisting film. Stable dielectric is maintained under the cumulative drying and aging effects of heat; does not fail after two hours at 165°C. Impervious to effects of petroleum solvents; resists acid and alkali. Takes up less winding space. Infinite resistance to moisture. For servicemen, experimenters. Amateurs, etc. Replaces enamel, paper, cotton, silk, and double-cotton and double-silk wire. Av. shpg. wt., 1 1/2 lbs.

Stock No.	Size	Feet	EACH	Stock No.	Size	Feet	EACH
48 T 180	14	78	1.13	48 T 187	28	1999	1.59
48 T 137	15	99	1.13	48 T 144	29	2780	1.77
48 T 181	16	124	1.13	48 T 188	30	3200	1.79
48 T 138	17	156	1.14	48 T 145	31	4410	2.03
48 T 182	18	198	1.14	48 T 189	32	4900	2.04
48 T 139	19	246	1.19	48 T 146	33	6441	2.16
48 T 183	20	313	1.20	48 T 190	34	7950	2.19
48 T 140	21	397	1.26	48 T 147	35	9002	2.51
48 T 184	22	501	1.26	48 T 191	36	12,800	2.54
48 T 141	23	628	1.34	48 T 148	37	15,898	3.45
48 T 185	24	798	1.34	48 T 192	38	20,000	3.51
48 T 142	25	941	1.43	48 T 149	39	25,188	5.37
48 T 186	26	1200	1.46	48 T 193	40	31,700	5.45
48 T 143	27	1583	1.56				

## "JUKE BOX" SPEAKER CABLE

Has two parallel 24-gauge conductors. 7x32 stranded—1 tinned, 1 bare. Vinyl insulation, vinyl jacket. O.D., .058x.115". In gray, brown, white, clear—specify. Shpg. wt., 100', 10 oz.



48 TT 245. 25' Spool.....	48 TT 246. 50' Spool.....	.66
48 TT 247. 100' Spool.....	48 TT 248. 500' Spool....	3.92
48 TT 249. 1000' Spool.....		7.75

## TYPE 2000 BARE NICKEL-CHROMIUM WIRE

Recommended for heating appliances and other devices whose operating temperatures do not exceed 1850°F. Particularly suited for heavy-duty rheostats and controls which require a compact resistance element. 1/4-lb. spools. Shpg. wt., 1/4 lb.

Stock No.	Size	EACH	Stock No.	Size	EACH	Stock No.	Size	EACH
48 T 076	14	1.52	48 T 085	23	2.08	48 T 158	32	3.43
48 T 077	15	1.56	48 T 150	24	2.22	48 T 159	33	3.79
48 T 078	16	1.58	48 T 151	25	2.37	48 T 160	34	4.16
48 T 079	17	1.63	48 T 152	26	2.53	48 T 161	35	4.55
48 T 080	18	1.67	48 T 153	27	2.57	48 T 162	36	4.94
48 T 081	19	1.71	48 T 154	28	2.84	48 T 163	37	6.50
48 T 082	20	1.76	48 T 155	29	2.98	48 T 164	38	8.05
48 T 083	21	1.85	48 T 156	30	3.11	48 T 165	39	8.39
48 T 084	22	1.93	48 T 157	31	3.28	48 T 166	40	8.95

## TELEPHONE AND COMMUNICATION CABLE—DIRECT BURIAL TYPE

Fully color-coded cable for direct burial. Copper armoring minimizes damage to cable from rodents and insects, and reduces abrasion from sharp stones. Polyethylene insulated conductors are covered with non-hygroscopic binder tape, then with a 40-mil polyethylene jacket. This jacket is enclosed in copper armoring, which is covered with a 40-mil polyethylene outer jacket. Conductors are solid No. 22 annealed copper.



Twisted to form pairs with symmetrically varying lays to minimize cross-talk, and cabled by stranding pairs in concentric layers. Cables with 12, 18, 75, 100, 150, 200, 300 and 400 pairs are available on Special Order—contact us for price and delivery. (Types with 75 or more pairs have conductors that are cabled by stranding pairs into concentrically formed units, which in turn are cabled to form complete assembly.)

Stock No.	Mfr's Type	No. of Pairs	No. of Cond.	O. D.	Lbs. Per Ft.	PER FT.
48 W 177	6006	6	12	.430"	1/4	.20
48 W 178	6025	25	50	.630"	1/4	.50
48 W 179	6050	50	100	.820"	1/2	.89

## INTERIOR AND EXTERIOR TELEPHONE WIRE

2-Conductor Interior. Rugged twisted-pair wire. Uses No. 22 solid, tinned copper wire. Has 1/2" insulation and glazed cotton braid. Shpg. wt., 100', 2 1/2 lbs.



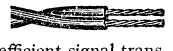
48 W 810..... PER FOOT .04 100 Feet or More PER FOOT .037

2-Conductor Exterior. No. 22 solid, tinned copper wires, each with rubber insulation; overall black, weather-proof braid. 100', 3 lbs. 48 W 826..... PER FOOT .04 100 Ft. or More... PER FOOT .033

3-Conductor Exterior. As above, but 3-conductors. 100', 4 lbs. 48 W 825..... PER FOOT .06 100 Ft. or More... PER FOOT .05

## TWISTED-PAIR ANTENNA LEAD-IN WIRE

High-quality, weather-proof, twisted pair antenna lead-in wire. Designed especially for use with noise-reducing doublet-type receiving antennas. Close impedance match assures efficient signal transfer. Consists of two flexible No. 18, stranded-wire conductors with tough, long-life rubber insulation. 1/2" thick. Shpg. wt., 100 ft., 3 lbs. 48 W 850..... PER FOOT .03 100 Ft. or More... PER FOOT .025



## TINNED SOLID-COPPER WIRE

Fine quality, soft-drawn copper wire, tinned for easy soldering.

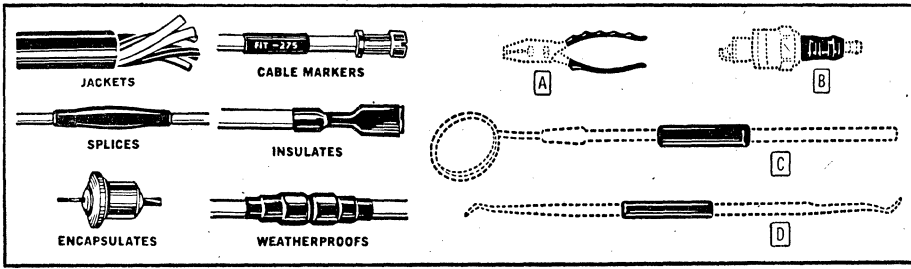
### 100-FT. COILS

Stock No.	Gauge	Wt.	EACH	Stock No.	Gauge	Wt.	EACH
47 T 135	30	.06 oz.	.33	47 T 125	18	8 oz.	.75
47 T 134	28	.06 oz.	.34	47 T 523	16	8 oz.	1.05
47 T 129	26	.08 oz.	.36	47 T 520	14	1 1/2 lbs.	1.43
47 T 128	24	.08 oz.	.38	47 T 530	12	2 lbs.	1.98
47 T 127	22	.09 oz.	.48	47 T 540	10	3 1/4 lbs.	4.28
47 T 126	20	.09 oz.	.54				

### 1000-FT. SPOOLS

47 T 525	24	1 1/2 lbs.	2.55	47 T 533	20	3 1/2 lbs.	4.13
47 T 527	22	2 lbs.	3.38	47 T 535	18	5 lbs.	6.75

# Alphex "FIT" Tubing by ALPHA

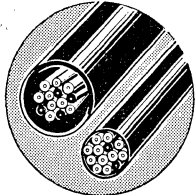


## APPLICATIONS

Many electronic, electrical, automotive, aircraft, as well as medical uses. FIT tubing displays high resistance to heat, oils, moisture, chemicals, acid, corrosion, fungi, and abrasion.

Alphex all-purpose shrinkable tubing shrinks in seconds when heated, forming a permanent bond that protects, insulates even

irregularly shaped materials. see A, B, C, D, above. Shrinkage is predetermined; ratio is approximately 2:1 (50% shrinkage).



## PVC FIT-105 FLEXIBLE TUBING

Irradiated polyvinylchloride (PVC). Provides snug, flexible insulation that's ideal for cable jacketing, cable markers, etc. Excellent for insulation over splices. Supplied at "Min. I.D." size; shrinks to "Recov." I.D. in only 7 seconds when heated to 325° F. Black only. Av. shgp. wt. per 100 ft., 1 1/2 lbs. Inquire for prices on larger quantities of 100' coils.

Stock No.	Size	Min. I.D.	Recov. I.D.	Nom. Wall Thickness	PER 25' COIL
48 T 635	3/64"	.046"	.023"	.020"	2.45
48 T 636	1/16"	.062"	.031"	.020"	2.54
48 T 637	3/32"	.093"	.046"	.020"	2.89
48 T 638	1/8"	.125"	.062"	.020"	3.04
48 T 639	3/16"	.187"	.093"	.025"	3.64
48 T 640	1/4"	.250"	.125"	.025"	4.48
48 T 641	3/8"	.375"	.187"	.030"	4.92
48 T 642	1/2"	.500"	.250"	.030"	5.54
48 T 643	3/4"	.750"	.375"	.035"	7.29
48 T 644	1"	1.000"	.500"	.040"	10.35
48 T 645	1 1/2"	1.500"	.750"	.045"	16.79
48 T 646	2"	2.000"	1.000"	.050"	24.54

Stock No.	Size	Min. I.D.	Recov. I.D.	Wall Thk.	PER 100' COIL		
					1-4	5-9	10-49
48 T 647	3/64"	.046"	.023"	.020"	8.90	6.85	5.85
48 T 648	1/16"	.062"	.031"	.020"	9.25	7.15	6.10
48 T 649	3/32"	.093"	.046"	.020"	10.65	8.20	7.00
48 T 650	1/8"	.125"	.062"	.020"	11.25	8.65	7.40
48 T 651	3/16"	.187"	.093"	.025"	13.65	10.50	8.90
48 T 652	1/4"	.250"	.125"	.025"	17.00	13.05	11.05
48 T 653	3/8"	.375"	.187"	.030"	18.75	14.35	12.20
48 T 654	1/2"	.500"	.250"	.030"	20.75	15.75	13.30
48 T 655	3/4"	.750"	.375"	.035"	27.75	21.10	17.75
48 T 656	1"	1.000"	.500"	.040"	40.00	30.40	25.60
48 T 657	1 1/2"	1.500"	.750"	.045"	65.75	49.95	42.10

PVC FIT-105-MS Assortments. Each box contains an assorted selection of 6" lengths in various sizes (diameters). Available in black only. Av. shgp. wt., per box, 8 oz.

Stock No.	Mfr's Type	Tubing Size Range	6" Lgths. Per Box		PER BOX
			Per Size	Total	
48 T 658	MS-1	3/64" thru 1/4"	10	60	3.75
48 T 659	MS-2	3/8" thru 1"	10	40	7.50
48 T 660	MS-3	1 1/2" and 2"	7	14	6.00

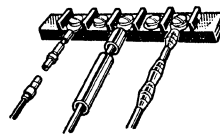
## MRK "FIT-MARKER" FLEXIBLE WIRE MARKERS



Shrinkable irradiated semi-rigid polyolefin tubing. Shrinks at 275° F. Nominal wall thickness, .016". Black only. Shgp. wt. per pkg., 3 oz. 100 per pkg.

Stock No.	MRK Type	Wire O. D. (")	Min. I. D.	Printing on Markers	PER PKG. OF 100
48 TT 689	B	.066-.095	.122"		
48 TT 690	C	.096-.150	.178"		
48 TT 691	A	.049-.065	.098"	specify individual letter A-Z (except I and O)	3.00
48 TT 692	B	.066-.095	.122"		
48 TT 693	C	.096-.150	.178"		
48 TT 694	A-NS	.049-.065	.098"	two of each number 1-50	3.00
48 TT 695	B-NS	.066-.095	.122"		
48 TT 696	C-NS	.096-.150	.178"		
48 TT 697	A-LS	.049-.065	.098"	four of each letter A-Z (except I and O)	3.00
48 TT 698	B-LS	.066-.095	.122"		
48 TT 699	C-LS	.096-.150	.178"		

## FIT-295 POLYOLEFIN SEMI-RIGID TUBING



### Time and Temperature Ranges

RANGE (F)	MIN. SERVICE
-67° to +275°	continuous
-67° to +302°	1000 hrs.
-67° to +347°	168 hrs.
-67° to +392°	24 hrs.
-67° to +482°	4 hrs.
-67° to +572°	1 hr.

Irradiated polyolefin shrinkable tubing. For max. strength at all stress points. Shrinks at 275°F. Packaged in 2' or 6" lengths, one size per box. Av. shgp. wt., per box, 2 lbs.

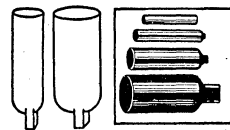
Stock No.	Size	Min. I.D.	Color	2' Lgths. Per Box	PER BOX		
					1-4	5-9	10-49
48 TX 666	3/64"	.046"	yellow	50	15.25	12.70	10.20
48 TX 667	1/16"	.063"	white	50	16.00	13.35	10.70
48 TX 668	3/32"	.093"	blue	50	18.55	15.45	12.40
48 TX 669	1/8"	.125"	red	50	19.80	16.55	13.25
48 TX 670	3/16"	.187"	green	50	24.15	20.15	16.15
48 TX 671	1/4"	.250"	slate	50	30.25	25.20	20.20
48 TX 672	3/8"	.375"	brown	50	33.55	27.95	22.40
48 TX 673	1/2"	.500"	black	10	7.62	6.36	5.09
48 TX 674	3/4"	.750"	white	10	10.16	8.48	6.79
48 TX 675	1"	1.000"	red	10	14.22	11.87	9.51

Stock No.	Size	Min. I.D.	Recov. I.D.	Color	6" Lgths. Per Box	PER BOX
48 T 677	1/16"	.063"	.032"	white	36	
48 T 678	3/32"	.093"	.045"	blue	32	
48 T 679	1/8"	.125"	.063"	red	28	
48 T 680	3/16"	.187"	.093"	green	24	
48 T 681	1/4"	.250"	.125"	slate	20	
48 T 682	3/8"	.375"	.187"	brown	16	3.75
48 T 683	1/2"	.500"	.250"	black	14	
48 T 684	3/4"	.750"	.375"	white	12	
48 T 685	1"	1.000"	.500"	red	8	

FIT 295-MS Assortments. 6" lengths. Wt., per box, 8 oz.

Stock No.	Type	Tubing Sizes	6" Lgths./Box	PER BOX
48 T 687	MS-2	3/8" thru 1"	24 (6 per size)	7.50

## "FIT-CAP" WIRE TERMINATION CAPS



Shrinkable irradiated semi-rigid polyolefin tubing for termination caps over wire, cable and splices. Figs. show amount of shrinkage and relative size of caps. Shrinkage temperature is 275°F. Shgp. wt., per pkg. 5 oz. 100 per pkg.

Stock No.	Mfr's Type	Min. I.D.	Recov. I.D.	Color	PER PKG. OF 100		
					1-9	10-49	50-99
48 T 662	CAP-1	.063"	.025"	white	4.14	3.75	3.47
48 T 663	CAP-2	.125"	.050"	red	5.09	4.60	4.05
48 T 664	CAP-3	.250"	.100"	slate	6.19	5.60	4.93
48 T 665	CAP-4	.500"	.200"	black	7.61	6.88	6.05

## ALPHEX HG-1 HEAT GUN



Powerful centrifugal-type blower with heating element. Provides heat to quickly shrink Alphex tubing. With base. Also may be hand-held. For 110-120 v., 60 cycle A.C. 5 lbs.  
48 T 576.....41.25

# Alplex Tubing, Cords, and Tapes by ALPHA

## FIT-275 SHRINKABLE TUBING

Irradiated polyolefin tubing supplied expanded at ".Min. I.D." size. Shrinks to \*recovered inside diameter within 7 seconds—withstanding 135°C continuously without further shrinking. Available in black, red, white, yellow—specify.



### 6-INCH LENGTHS

Stock No.	Size	Min. I.D.	Recov. I.D.*	Nom. Wall Thick.	6" Lgths. Per Box			PER BOX
					1-4	5-9	10-U <sub>p</sub>	
48 TT 000	24	.050"	.027"	.012"	40			
48 TT 001	22	.055"	.032"	.012"	36			
48 TT 002	20	.060"	.039"	.016"	34			3.75
48 TT 003	18	.076"	.049"	.016"	32			
48 TT 004	16	.093"	.061"	.016"	30			
48 TT 005	14	.120"	.072"	.016"	28			
48 TT 006	12	.153"	.089"	.016"	24			
48 TT 007	10	.191"	.112"	.016"	20			3.75
48 TT 008	8	.240"	.141"	.020"	18			
48 TT 009	6	.302"	.178"	.020"	18			
48 TT 010	4	.378"	.224"	.020"	16			

### 4-FT. LENGTHS

Stock No.	Size	Min. I.D.	Recov. I.D.*	Nom. Wall Thick.	25-4' Lengths Per Box		
					1-4	5-9	10-U <sub>p</sub>
48 TX 117-C	24	.050"	.027"	.012"	16.00	13.35	10.70
48 TX 118-C	22	.055"	.032"	.012"	16.70	13.90	11.10
48 TX 119-C	20	.060"	.039"	.016"	17.50	14.60	11.70
48 TX 120-C	18	.076"	.049"	.016"	19.15	15.95	12.75
48 TX 121-C	16	.093"	.061"	.016"	20.75	17.30	13.85
48 TX 122-C	14	.120"	.072"	.016"	22.70	18.90	15.10
48 TX 123-C	12	.153"	.089"	.016"	24.90	20.75	16.60
48 TX 124-C	10	.191"	.112"	.016"	27.25	22.70	18.20
48 TX 125-C	8	.240"	.141"	.020"	31.80	26.50	21.20
48 TX 126-C	6	.302"	.178"	.020"	34.30	28.60	22.40
48 TX 127-C	4	.378"	.224"	.020"	37.30	31.10	24.85

### BLACK ONLY

### 6-INCH LENGTHS

Stock No.	Size	Min. I.D.	Recov. I.D.*	Nom. Wall Thick.	6" Lgths. Per Box			PER BOX
					1-4	5-9	10-U <sub>p</sub>	
48 T 011	2	.430"	.275"	.020"	12			
48 T 012	3/16"	.500"	.334"	.025"	10			3.75
48 T 013	3/8"	.600"	.399"	.025"	10			
48 T 014	7/16"	.693"	.462"	.025"	8			
48 T 015	1/2"	.787"	.524"	.025"	6			
48 T 016	5/8"	.982"	.655"	.030"	6			
48 T 017	3/4"	1.180"	.786"	.035"	5			3.75
48 T 018	7/8"	1.365"	.911"	.035"	4			
48 T 019	1"	1.555"	1.036"	.035"	3			

### 4-FT. LENGTHS

Stock No.	Size	Min. I.D.	Recov. I.D.*	Nom. Wall Thick.	5-4' Lgths. Per Box		
					1-4	5-9	10-U <sub>p</sub>
48 TX 128	2	.430"	.275"	.020"	8.20	6.83	5.46
48 TX 129	3/16"	.500"	.334"	.025"	8.92	7.43	6.46
48 TX 130	3/8"	.600"	.399"	.025"	11.11	9.26	8.03
48 TX 131	7/16"	.693"	.462"	.025"	14.09	11.76	10.20
48 TX 132	1/2"	.787"	.524"	.025"	16.30	13.58	11.80
48 TX 133	5/8"	.982"	.655"	.030"	19.40	16.19	14.08
48 TX 134	3/4"	1.180"	.786"	.035"	23.09	19.24	16.70
48 TX 135	7/8"	1.365"	.911"	.035"	27.31	22.76	19.80
48 TX 136	1"	1.555"	1.036"	.035"	32.21	26.84	23.28

## ZIP-31 PLASTIC ZIPPER-TUBING

Designed to harness, cover, and protect cables. Just zip to close—zip to open. Fabricated from .020" polyvinyl sheet of MIL-I-631D, grade C materials. High dielectric strength of 759 v/mil; tensile strength of 3810 PSI. Maintains flexibility regardless of temperature extremes—from -86°C to +105°C. Fungus-proof and non-flammable. One slider supplied with each 25 feet of tubing. Order tubing 1/4" larger than total O.D. of wires to be covered. May be permanently sealed (see below). Available in either black or clear—specify.



Stock No.	Inside Dia.	Wt., Lbs.	100-FT. COILS, EACH		
			1-4	5-9	10-49
48 TT 376	1/2"	4	34.00	31.00	29.00
48 TT 377	5/8"	4 1/2	34.50	31.50	29.50
48 TT 378	3/4"	5	35.00	32.00	30.00
48 TT 379	7/8"	5 1/2	36.00	32.50	30.50
48 TT 385	1"	6 1/4	36.00	33.00	31.00

49 T 972, AB-295. Extra metal sliders. For above. 2 oz. . . . EA. 05  
PB-200 Special-Compound Liquid Sealer. For permanent sealing of ZIP-31 tubing. Easily applied by brush, seals 1000 feet.

Stock No.	Size	Wt.	EACH	Stock No.	Size	Wt.	EACH
49 T 973	1 oz.	6 oz.	.35	49 T 975	4 oz.	10 oz.	1.00
49 T 974	2 oz.	9 oz.	.60	49 T 976	1 qt.	3 lbs.	5.00

## ALPHEX PVC-105 PLASTIC TUBING

Meets MIL-I-631D, ASTM-D876 and ASTM-D922. Rated 800 v. Tensile strength, 2700 PSI.

Sizes 24 to 12. 0.016" wall, except sizes 24 and 22. 0.012". Clear, black, red, yellow, green, blue, brown, white or orange—specify. Av. shpg. wt. per 100 ft., 5 oz.

Size	Nom. I.D.	25-FT. Coils		100-FT. Coils			
		Stock No.	EACH	Stock No.	EACH 100'	COIL	
24	.022"	71 TT 300	.65	71 TT 307	1.61	1.30	1.08
22	.027"	71 TT 301	.66	71 TT 308	1.62	1.31	1.09
20	.034"	71 TT 302	.67	71 TT 309	1.66	1.35	1.11
18	.042"	71 TT 303	.68	71 TT 310	1.73	1.38	1.14
16	.063"	71 TT 304	.71	71 TT 311	1.85	1.46	1.21
14	.066"	71 TT 305	.75	71 TT 312	1.99	1.54	1.28
12	.085"	71 TT 306	.79	71 TT 313	2.14	1.66	1.38

Sizes 10 to 2, Size 10, .016" wall thickness; all other sizes, .020". Available in choice of six colors: clear, black, red, yellow, green, and white—specify color. Av. shpg. wt. per 100 ft., 10 oz.

Size	Nom. I.D.	25-FT. COILS			100-FT. COILS		
		Stock No.	EACH	Stock No.	EACH	1-9	10-49
10	.106"	71 TT 314	.83	71 TT 319	2.31	1.85	1.55
8	.133"	71 TT 315	1.10	71 TT 320	3.39	2.66	2.23
6	.166"	71 TT 316	1.23	71 TT 321	3.91	3.02	2.51
4	.208"	71 TT 317	1.40	71 TT 322	4.58	3.47	2.84
2	.263"	71 TT 318	1.59	71 TT 323	5.34	4.00	3.32

Sizes 0 to 3/4". Wall thicknesses, size 0, .020"; \*.025"; †.030"; §.035". Choice of clear or black—specify. Av. wt., 100', 5 lbs.

Size	Nom. I.D.	25-FT. COILS		100-FT. COILS			
		Stock No.	EACH	Stock No.	EACH	1-9	10-49
0	.330"	71 TT 324	1.81	71 TT 335	6.23	4.64	3.89
3/16"	.312"	71 TT 325	2.11	71 TT 336	7.44	5.54	4.64
3/8"	.375"	71 TT 326	2.40	71 TT 337	8.59	6.41	5.49
1/2"	.500"	71 TT 327	2.91	71 TT 338	10.64	8.07	6.87
5/8"	.625"	71 TT 328	4.08	71 TT 339	15.30	11.73	9.83
3/4"	.750"	71 TT 329	5.53				

## RETRACTILE NEOPRENE-JACKET POWER CORDS

Retracted lengths, 2 and 4 ft.; extended lengths, 12 and 25 ft. U.L. Listed. All are U.L. Type SO, except \*SVO, †SJO. Average shpg. wt., 4 oz.



Stock No.	Mfr's Type	No. of Conds.	Cond. Size	A.	V.	Coil O. D.	EACH			
							1-9	10-24	25-49	50-99
48T335	660/2*	2	18	7	300	1"	3.08	2.77	2.57	2.31
48T338	663/2†	4	18	5.6	300	1 1/2"	4.80	4.32	4.00	3.60
48T339	664/2†	2	16	10	300	1 1/2"	4.05	3.65	3.28	2.95
48T340	665/2†	3	16	10	300	1 1/2"	5.10	4.59	4.25	3.82
48T342	670/2	3	16	0	600	1 7/8"	6.83	6.15	5.69	5.12
48T343	671/2	4	16	8	600	1 7/8"	7.58	6.82	6.32	5.69
48T344	672/2	2	14	5	600	2"	7.43	6.69	6.19	5.57
48T345	673/2	3	14	15	600	2 1/8"	8.40	7.56	7.00	6.30

### FOUR-FOOT RETRACTED LENGTHS

48T355	660/4*	2	18	7	300	1"	5.55	5.00	4.63	4.17
48T356	661/4†	2	18	7	300	1 1/4"	6.15	5.54	5.13	4.62
48T357	662/4†	3	18	7	300	1 1/2"	8.03	7.23	6.69	6.02
48T359	664/4†	2	16	10	300	1 1/2"	7.58	6.82	6.32	5.69
48T366	665/4†	3	16	10	300	1 1/2"	9.60	8.64	8.00	7.20
48T367	666/4†	4	16	8	300	1 5/8"	11.55	10.40	9.63	8.67
48T368	670/4	3	16	0	300	1 7/8"	12.98	11.68	10.82	9.74

## SYNTHETIC FLAT LACING TAPES

Meet military requirements. .014" thick, except type LC-134 is .010". \*MIL-T-713A, Type P, Class II. In black or white. Shpg. wt., 500-yd. spool, 1 lb.



### BRAIDED NYLON—500-YD. SPOOLS

Stock No.	Mfr's Type	Color	Width	EACH		
				1-9	10-24	25-49
49 T 980	LC136*	White	3/32"	7.89	7.50	7.00
49 T 981	LC136*	Black	3/32"	8.53	8.20	7.60
49 T 982	LC134	White	1/16"	5.05	4.80	4.50
49 T 983	LC134	Black	1/16"	5.68	5.50	5.15

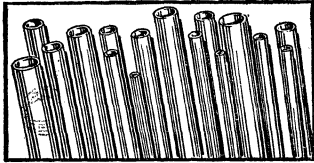
### BRAIDED DACRON—500-YD. SPOOLS

49 T 984	LC162	White	3/32"	7.89	7.50	7.00
49 T 985	LC162	Black	3/32"	8.53	8.20	7.60

## ALPHEX SHIELD-TAPE

100% RF shielding for any wire or cable. Aluminum foil laminated to a "Mylar" film with a pressure sensitive back. Less than .002" thick.

Stock No.	Mfr's Type	Foil Width	Cable O. D.	Oz.	EACH 100' ROLL		
					1-9	10-24	25-49
48 T 294	ASF-1/4	1 1/4"	Under 1/4"	8	7.50	6.75	5.75
48 T 299	ASF-1 1/8"	1 1/8"	1/4"-3/8"	10	9.00	8.00	7.00
48 T 325	ASF-2 1/4"	2 1/4"	3/8"-5/8"	13	13.50	12.00	10.50



- Natural Color
- Resists High Temperatures
- Nonflammable and Resistant to Moisture

## TEFLON EXTRUDED FLEXIBLE TUBING

A high temperature "Class C" thin, flexible insulation that will not melt or flow as conventional thermoplastic materials. Spaghetti tubing extruded from pure teflon TFE fluorocarbon resins—is free of contaminants, stresses, and is of uniform density and color. Nonflammable; unharmed by soldering irons.

Does not absorb moisture. Dielectric strength, 500-1000 V/Mil; constant, 2.0; dissipation, 0.0002. No variation of electrical properties from 25° C to 250° C, or frequency from 60 cps to 100 mc. Meets all standards: MIL-I-22129C, AMS 3653B, MIL-I-3158, MIL 104-C. Dimensions in inches.

### THIN-WALL SPAGHETTI TEFLON TUBING

Stock No.	AWG Size	Inside Diameter (In.)			Wall (In.)		PER FOOT									
		Min.	Nom.	Max.	Thick-ness	Tol. ±	100'-	200'-	500'-	1000'-	5000'-	10,000'-	25,000'-			
							199'	499'	999'	4999'	9999'	24,999'	and Up			
48 W 195	30	.010	.013	.015	.009	.002	.09	.066	.059	.053	.049	.046	.044			
48 W 196	28	.013	.015	.019	.009	.002	.08	.057	.053	.044	.042	.04	.039			
48 W 197	26	.016	.018	.022	.009	.002	.07	.056	.05	.04	.038	.037	.035			
48 W 199	24	.020	.022	.027	.009	.002	.07	.056	.05	.043	.041	.038	.038			
48 W 300	22	.025	.027	.032	.009	.002	.09	.071	.061	.048	.047	.044	.043			
48 W 301	20	.032	.034	.039	.012	.003	.12	.093	.078	.062	.06	.057	.054			
48 W 302	19	.036	.038	.043	.012	.003	.12	.097	.083	.067	.064	.061	.058			
48 W 303	18	.040	.042	.049	.012	.003	.13	.107	.09	.072	.07	.067	.063			
48 W 304	17	.045	.047	.054	.012	.003	.14	.115	.098	.079	.076	.073	.069			
48 W 305	16	.051	.053	.061	.012	.003	.14	.127	.105	.086	.081	.078	.075			
48 W 306	15	.057	.059	.067	.012	.003	.14	.128	.108	.088	.084	.08	.077			
48 W 307	14	.064	.066	.072	.012	.003	.14	.138	.116	.094	.09	.086	.083			
48 W 308	13	.072	.076	.080	.012	.003	.17	.156	.127	.106	.101	.097	.094			
48 W 309	12	.081	.085	.089	.012	.003	.18	.166	.136	.114	.108	.104	.101			
48 W 310	11	.091	.095	.101	.012	.003	.20	.186	.151	.126	.121	.116	.112			
48 W 311	10	.102	.106	.112	.012	.003	.22	.194	.155	.135	.13	.125	.121			
48 W 312	9	.114	.118	.124	.015	.004	.25	.233	.209	.190	.183	.177	.171			
48 W 313	8	.120	.125	.130	.015	.004	.26	.246	.22	.20	.192	.186	.18			
48 W 314	8	.129	.133	.141	.015	.004	.27	.258	.232	.21	.202	.196	.189			
48 W 315	7	.144	.148	.158	.015	.004	.29	.28	.253	.23	.221	.214	.207			
48 W 316	6	.162	.166	.178	.015	.004	.31	.303	.275	.251	.243	.235	.23			
48 W 317	5	.182	.188	.198	.015	.004	.34	.339	.309	.282	.273	.265	.259			
48 W 318	4	.204	.208	.224	.015	.004	.38	.368	.337	.309	.299	.29	.284			
48 W 319	3	.229	.234	.249	.015	.004	.41	.405	.374	.343	.332	.322	.315			
48 W 320	1/4	.245	.250	.265	.015	.004	.46	.438	.40	.365	.354	.342	.335			
48 W 321	2	.258	.263	.278	.015	.004	.48	.456	.419	.382	.371	.351	.349			
48 W 322	1	.289	.294	.311	.015	.004	.52	.498	.462	.418	.401	.394	.386			
48 W 323	3/8	.307	.312	.329	.015	.004	.57	.556	.51	.463	.45	.435	.426			
48 W 324	0	.325	.330	.347	.015	.004	.59	.563	.516	.471	.458	.444	.434			

### STANDARD-WALL SPAGHETTI TEFLON TUBING

Stock No.	AWG Size	Inside Diameter (In.)			Wall (In.)		PER FOOT									
		Min.	Nom.	Max.	Thick-ness	Tol. ±	100'-	200'-	500'-	1000'-	5000'-	10,000'-	25,000'-			
							199'	499'	999'	4999'	9999'	24,999'	and Up			
48 W 715	24	.020	.022	.027	.012	.002	.09	.08	.068	.055	.052	.049	.046			
48 W 716	22	.025	.027	.032	.012	.002	.10	.089	.076	.06	.057	.054	.051			
48 W 717	20	.032	.034	.039	.016	.003	.13	.121	.103	.083	.079	.075	.071			
48 W 718	18	.040	.042	.049	.016	.003	.18	.146	.125	.098	.093	.088	.083			
48 W 719	16	.051	.053	.061	.016	.003	.21	.176	.149	.114	.109	.104	.106			
48 W 720	14	.064	.066	.072	.016	.003	.24	.189	.158	.126	.12	.115	.108			
48 W 721	12	.081	.085	.089	.016	.003	.27	.22	.182	.152	.145	.138	.13			
48 W 722	10	.102	.106	.112	.016	.003	.33	.255	.21	.183	.175	.168	.159			
48 W 723	8	.129	.133	.141	.020	.004	.47	.359	.316	.287	.275	.264	.249			
48 W 724	6	.162	.166	.178	.020	.004	.53	.418	.368	.334	.321	.307	.291			
48 W 725	5	.182	.186	.198	.020	.004	.58	.46	.405	.368	.353	.339	.32			
48 W 726	4	.204	.208	.224	.020	.004	.64	.50	.44	.40	.383	.368	.348			
48 W 727	1/4	.245	.250	.265	.020	.004	.72	.581	.513	.466	.452	.437	.419			
48 W 728	2	.258	.263	.278	.020	.004	.73	.609	.536	.487	.473	.458	.438			
48 W 729	0	.325	.330	.347	.020	.004	.91	.761	.67	.695	.585	.572	.548			

### LIGHTWEIGHT-SPAGHETTI TEFLON TUBING

Stock No.	AWG Size	Inside Diameter (In.)			Wall (In.)		PER FOOT									
		Min.	Nom.	Max.	Thick-ness	Tol. ±	1'-	100'-	200'-	500'-	1000'-	5000'-	10,000'-			
							99'	199'	499'	999'	4999'	9999'	and Up			
48 W 730	28	.012	.015	.017	.006	.002	.07	.056	.047	.042	.038	.034	.032			
48 W 731	26	.016	.018	.021	.006	.002	.07	.059	.048	.042	.034	.032	.030			
48 W 732	24	.020	.022	.025	.006	.002	.08	.067	.051	.045	.036	.035	.032			
48 W 733	22	.025	.027	.031	.006	.002	.08	.07	.059	.052	.042	.039	.038			
48 W 734	20	.032	.034	.038	.006	.002	.11	.09	.074	.064	.049	.046	.044			
48 W 735	18	.040	.042	.046	.006	.002	.12	.10	.09	.077	.059	.056	.053			

### THIN-WALL INDUSTRIAL TEFLON TUBING

Stock No.	AWG Size Inches	Nom. I. D. Inches	Nom. O. D. Inches	Wall Thickness Inches	PER FOOT									
					1'-	25'-	50'-	100'-	250'-	500'-	2500'-			
					24'	49'	99'	249'	499'	2499'	4999'			
48 W 736	1/8	.125	.185	.030	.75	.68	.62	.55	.48	.44	.42	.42		
48 W 737	3/16	.188	.248	.030	.97	.88	.80	.71	.64	.60	.54	.54		
48 W 738	1/4	.250	.310	.030	1.30	1.19	1.09	.98	.82	.78	.74	.74		
48 W 739	5/16	.312	.372	.030	1.60	1.42	1.30	1.16	1.03	.96	.91	.91		
48 W 740	3/8	.375	.435	.030	1.81	1.62	1.48	1.35	1.26	1.16	1.08	1.08		
48 W 741	7/16	.438	.498	.030	2.05	1.71	1.55	1.42	1.34	1.28	1.24	1.24		
48 W 742	1/2	.500	.560	.030	2.30	2.10	1.87	1.67	1.53	1.47	1.44	1.44		
48 W 743	9/16	.562	.622	.030	2.54	2.35	1.95	1.85	1.70	1.63	1.56	1.56		
48 W 744	5/8	.625	.685	.030	2.71	2.54	2.33	2.06	1.91	1.83	1.77	1.77		
48 W 745	11/16	.687	.747	.030	3.13	2.99	2.69	2.38	2.25	2.13	2.07	2.07		
48 W 746	3/4	.750	.830	.040	4.00	3.66	3.32	3.01	2.90	2.81	2.71	2.71		
48 W 747	7/8	.875	.965	.045	5.20	4.76	4.33	3.94	3.80	3.67	3.55	3.55		
48 W 748	1	1.000	1.100	.045	5.59	5.89	5.40	5.05	4.85	4.69	4.53	4.53		
48 W 749	1 1/8	1.125	1.215	.045	7.04	6.59	6.26	5.66	5.28	5.06	4.98	4.98		
48 W 750	1 1/4	1.250	1.340	.045	8.24	7.55	6.87	6.58	6.18	5.96	5.81	5.81		



# Wire, Cable, Tubing, and Accessories

## BIRNBACH BIRFLEX VINYL-COATED FIBERGLASS TUBING

Quality electronic and electrical tubing. Ideal for laboratory prototype designing and electronic servicing applications. Inorganic fiberglass base sleeving is combined with heat resistant, flexible plastic insulation. Provides excellent heat stability of 130°C, and is nonflammable. Has dielectric strength of 4000 volts. Low-temperature flexibility, -30° C. Is unusually tough, with good corrosion and oil resistance. Meets requirement specifications of: MIL-I-3190A, NEMA VSI Class B, Grade B1, and ASTM D372. Black only.



### 30-INCH LENGTHS

Stock No.	Mfr's Type	Gauge Size	Approx. I. D.	EACH
47 T 352	291	20	.034	.18
47 T 353	293	18	.042	.18
47 T 354	294	16	.053	.18
47 T 355	295	14	.066	.18
47 T 356	300	12	.085	.18
47 T 357	307	10	.106	.24
47 T 358	301	8	.135	.30
47 T 359	302	6	.166	.33
47 T 363	297	3/16"	.208	.36
47 T 364	298	1/4"	.263	.42

### 36-INCH LENGTHS

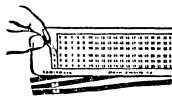
47 T 365	303	3/16"	.3125	.54
47 T 366	304	3/8"	.375	.66
47 T 367	299	1/2"	.500	1.26
47 T 368	296	5/8"	.625	1.50

### 100-FOOT LENGTHS

47 T 369	291VC	20	.034	4.80
47 T 373	293VC	18	.042	5.10
47 T 374	294VC	16	.053	5.40
47 T 375	295VC	14	.066	5.55
47 T 376	300VC	12	.085	6.00
47 T 377	307VC	10	.106	6.60
47 T 378	301VC	8	.135	7.95
47 T 379	302VC	6	.166	9.60
47 T 383	305VC	4	.208	10.50
47 T 384	306VC	2	.263	13.20

## STRANCO WIRE MARKERS

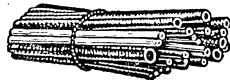
Heat resistant, self-adhering "Mylar" markers for efficient wire and cable identification. Consist of 33 numeral markers per card, in consecutively numbered sequence from 1 through 33. Laminicod Markers have legend protected by clear "Mylar" surface. Metal-codes are soft aluminum-foil with clear "Mylar" covered legend. Temperature range, -50° F to +400° F. Shpg. wt., 1 oz., per card. Contact us for prices on quantities of 100 or more cards.



49 T 898, Laminicodes, 1-24 Cards... EA. .23 25-99 Cards... EA. .20  
49 T 899, Metalcodes, 1-24 Cards... EA. .29 25-99 Cards... EA. .23

## VARNISHED SPAGHETTI TUBING ASSORTED 8" LENGTHS

Selection of cambric and vinyl spaghetti in various colors to permit easy coding of wiring. Highly popular with experimenters and builders. In assorted diameters. Shpg. wt., 1/2 lb.



49 T 220, 26-Piece Assortment.....39

### SELECTION OF 36" LENGTHS

Standard-grade varnished tubing for TV shops, experimental labs, etc. Average dielectric strength, 4000 volts. Available in most commonly used wire sizes and colors. Conform fully to V.T.S. and A.S.T.M. specifications. Shpg. wt., 2 oz. 5 Lengths per Pkg.

For Wire Size	Stock No.				PER PKG.	
	Black	Yellow	Red	Green	1-4	5-Up
20	49 T 164	49 T 165	49 T 166	49 T 167	.75	.68
18	49 T 169	49 T 170	49 T 171	49 T 172	.79	.72
16	49 T 174	49 T 175	49 T 176	49 T 177	.83	.75
14	49 T 179	49 T 180	49 T 181	49 T 182	.90	.82
12	49 T 184	49 T 185	49 T 186	49 T 187	.95	.86
10	49 T 189	49 T 190	49 T 191	49 T 192	1.03	.93

## LUDLOW CABLE LACING CORD

Waxed linen twine for cable harness lacing. Hard-twist gray 8-cord tests at 50 pounds. For binding cables in switchboards, control consoles, transmitters, receivers, etc. 1 lb. spool contains approximately 450 yards; 1/2 lb. spool, approximately 225 yards.



49 T 245, 1-lb. Spool. Wt., 1 1/4 lbs.....3.18  
49 T 246, 1/2-lb. Spool. Wt., 3/4 lbs.....1.68

## ASSORTED HOOK-UP WIRE

Flexible, durable stranded copper wire—some tinned, others untinned. In assorted gauges, colors and types of insulation. For hook-ups and a wide variety of applications: chassis wiring of radio and television receivers, transmitters, and other types of electronic equipment. Highly resistant to heat and moisture.



49 T 344, Six 25-ft. Coils..... PER PKG. .79  
49 T 345, Five 100-ft. Coils..... PER PKG. 2.25

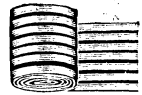
## ASSORTED TEFLON HOOK-UP WIRE

A variety of quality hook-up wire that is practically impervious to heat. Excellent for RF circuits. Sizes from 24 to 18 gauge; solid and stripped colors of Type E and EE.

48 T 167, Six 25-ft. Coils..... PER PKG. 2.99  
48 T 168, Five 100-ft. Coils..... PER PKG. 7.45

## IRC "POLYSTRIP" FLAT CABLE

For interconnecting electrical and electronic equipment. Consists of uniformly spaced ribbon copper conductors, laminated with self-extinguishing plastic into thin, flexible cable. For low-voltage applications such as intercommunication systems. Insulation serviceable to 85° C. Conductors are .002x.062" copper equivalent to AWG 28. Nominal thickness, .010". 28 v. max. @ 2 amps. Res., .066 ohms/conductor ft. Av. wt., 100 ft., 2 lbs.



Stock No.	Type	No. Cond.	Strip Width	PER FT.		
				1'-100'	100'-1000'	1000'-10,000'
47 W 248	P1003	3	.330"	.18	.12	.105
47 W 249	P1005	5	.630"	.25	.20	.15
47 W 193	P1007	7	.800"	.35	.28	.21
47 W 194	P1015	15	1.600"	.75	.53	.42
47 W 195	P1022	22	2.300"	1.10	.77	.62
47 W 196	P1028	28	2.900"	1.40	.98	.73

47 T 197, Type AT-1 Adhesive Tape, Double backed. For fast, neat installation of Polystrip cable. Wt. 12 oz. 50 ft. Spool.....96

## "POLYSTRIP" INSTALLER'S KIT

Model 205. Simplifies wiring in interconnecting equipment. A real time-saver—has many applications in industry. Includes: 1—75' roll of 3-conductor cable; 1—75' roll of 3-conductor cable; 6—5PWR splicing connectors; 2—5PWA wire-lead connectors; 6—3PWR connectors; 2—3PWA connectors; 50' roll of tape; 1 stripping tool. Shpg. wt., 1 1/4 lbs.



47 T 605.....27.72

## HELI-TUBE SPIRAL-CUT CABLE WRAP

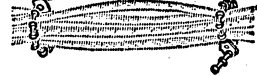
Extra-durable plastic tubing. Individual lead-offs can be brought out at any point. Suffix "C" indicates clear plastic; "N" indicates nylon; "FR", fire resistant. Av. wt., per 100-ft., 2 lbs.



Stock No.	Mfr's Type	Dia.	PER FOOT				
			1-99	100-999	1000-4999	5000-9999	10,000-Up
48 W 870	HT 1/8 C	1/8"	.04	.033	.027	.024	.018
48 W 871	HT 1/4 C	1/4"	.06	.054	.045	.040	.032
48 W 880	HT 1/2 C	1/2"	.13	.12	.112	.086	.064
48 W 402	HT 1/4 N	1/4"	.08	.068	.062	.052	.042
48 W 403	HT 1/4 N	1/4"	.14	.124	.10	.894	.82
48 W 404	HT 1/2 N	1/2"	.36	.344	.328	.312	.258
47 W 189	HT 1/4 FR	1/4"	.06	.043	.036	.032	.024
48 W 881	HT 1/4 FR	1/4"	.10	.072	.064	.055	.044
47 W 190	HT 1/2 FR	1/2"	.19	.152	.136	.110	.088

## G-C PLASTIC CABLE TIES

Bind separate cables into single neat harness. Wrap tie around and thru locking loop. Plastic except \*nylon. 100 per pkg. 4 oz.



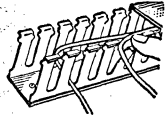
Stock No.	Mfr's Type	Size	Color	PER PKG.		
				1-49	50-99	100-Up
47 T 182	34-432	4 1/4"	Red			
47 T 183	34-440	4 1/4"	Blue	1.11	.88	.69
47 T 184	34-436	4 1/4"	Yellow			
47 T 185	34-460*	10"	Clear	3.38	2.72	2.19
47 T 186	34-444	10"	Red	2.16	1.72	1.35
47 T 187	34-452	10"	Blue	2.16	1.72	1.35
47 T 188	34-448	10"	Yellow	2.16	1.72	1.35

# Cable, Wire Markers and Wiring Accessories

**PANDUIT**

## COMPONENTS FOR WIRING

### PLASTIC SNAP-SLOT WIRING DUCT

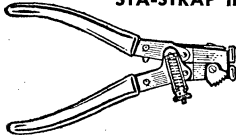


Vinyl plastic duct with rounded edges. In 6-ft. sections. Simplifies complex wiring installation. Provides protection and a neat appearance. May be cut with a hacksaw. Snap-slot design for easy insertion of wires. Assembly includes duct and cover. Specify dark gray or white.

Stock No.	Nominal Size		Wt. Per 100 Ft.	PER SIX FOOT SECTION		
	W	H		1-16	17-166	167-U <sub>P</sub>
48 TX 701-C	1/2"	1/2"	15 lbs.	3.16	2.51	2.25
48 TX 702-C	1/2"	1"	20 lbs.	3.56	2.84	2.64
48 TX 703-C	1/2"	1 1/4"	20 lbs.	3.96	3.10	2.84
48 TX 704-C	1/2"	1 3/4"	20 lbs.	4.09	3.30	3.04
48 TX 705-C	3/4"	1"	22 lbs.	3.63	2.91	2.70
48 TX 706-C	1"	1"	25 lbs.	3.76	3.03	2.77
48 TX 707-C	3/4"	3/4"	20 lbs.	3.56	2.84	2.64
48 TX 708-C	1"	2"	30 lbs.	5.01	4.02	3.70

48 TX 290, CS-1 Corner Strip. Provides smoother corners at duct junctions. Wt. per 100 ft., 15 lbs. PER 5-FT. LENGTHS 1.60

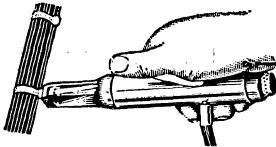
### STA-STRAP INSTALLATION TOOL



Easy-to-use installation tool for use with Sta-Strap Series cable ties and clamps, listed above right. Saves time and is extremely easy to use—just squeeze handles; when preset strap tension is reached, excess strap is automatically cut off. Compact for use in confined quarters. Provides uniform strap tightness, neat installation. Shpg. wt., 1 lb.

48 T 263, Type TS-2. . . . . 19.00

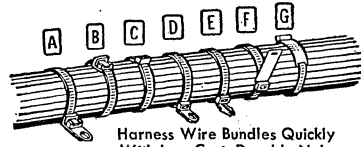
### STA-STRAP PNEUMATIC INSTALLATION TOOL



Automatic tool for use with Sta-Strap cable ties, clamps, anchors (above right). Reduces production cabling time—merely insert desired strap, touch the air-valve and the Sta-Strap is tensioned, trimmed flush and cut-off portion is ejected. No twisting of strap required—strap tension is precisely controlled by internal spring mechanism—no air regulator needed. Moving parts guarded for safe operation. 6-ft. hose; 1/8" fitting. Shpg. wt., 1 1/2 lbs.

48 T 709, Type ATS-2. . . . . 183.00

### CABLE TIES AND CLAMPS



Harness Wire Bundles Quickly With Low-Cost, Durable Nylon

Sta-Strap Series SS. Permanent, hand or tool applied white nylon ties for fast harnessing of wire bundles. Self-locking. For wire bundles up to 1 3/4"-dia., except \*4" and \*\*3/4"-dia. Available as tie (T); clamp (C); identification (M); or push clamp (P). Type SSC-2 nylon tie has anchoring clamp.

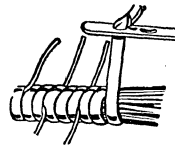
LoK-Strap Series LS. Releasable, hand-applied white nylon ties. For wire bundles up to 1 3/4"-diameter, except \*4" dia. Type LSC-2 is supplied with an anchoring clamp. All in Packages of 100.

Stock No.	Mfr's Type	Fig.	Lgth.	Wt. Per 100	PER PACKAGE OF 100			
					1-9	10-99	100-249	250-499
48 T 710	SST-1**	C	4"	4 oz.	3.60	2.85	2.70	2.55
48 T 251	SST-2	C	6 3/4"	5 oz.	4.30	3.40	3.25	3.05
48 T 711	SST-4*	C	15"	9 oz.	9.80	7.80	7.20	6.60
48 T 252	SSC-2	D	7 7/8"	6 oz.	4.90	3.90	3.60	3.30
48 T 712	SSM-2	F/G	6 3/4"	6 oz.	8.60	6.80	6.50	6.10
48 T 713	SSM-4*	F/G	15"	10 oz.	14.10	11.20	10.45	9.65
48 T 714	SSP-2	E	7 1/8"	6 oz.	4.90	3.90	3.60	3.30
48 T 253	LST-2	B	6 3/4"	6 oz.	6.90	5.45	5.20	4.90
48 T 254	LST-4*	B	14"	10 oz.	12.00	9.45	9.00	8.50
48 T 260	LSC-2	A	7 3/8"	7 oz.	7.45	5.90	5.60	5.30

Tie Anchors. (Not illustrated.) For LST and SST cable ties in Table above. Type TA-1 is for inline mount. Requires minimum space; mounts before wire installation. Type TA-2 is for perpendicular mount; attach before or after wire installation.

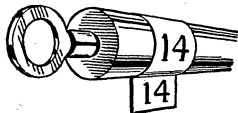
48 T 261	TA-1	.....	3 oz.	3.00	2.40	2.25	2.15
48 T 262	TA-2	.....	4 oz.	3.60	2.85	2.70	2.55

### 1/4" SPIRAL CABLE WRAPPING SHEATH



Wrap around wire-bundles to provide protection with extreme flexibility. Sheaths can be used with bundles from 3/16" to 2" diameter. Suffix "F" indicates clear polyethylene; "R" fire-resistant white polyethylene; "N" clear nylon. Cabling tool supplied free with standard 1/4" O.D., 100-ft. coils. Wt., per 100 ft., 2 lbs.

Stock No.	Mfr's Type	PER 100' COIL			
		1-4	5-9	10-49	50-U <sub>P</sub>
48 T 291	T-25F	6.30	5.65	5.00	4.45
48 T 292	T-25R	9.20	8.25	7.35	6.50
48 T 293	T-25N	14.00	12.60	11.20	9.95



Identify Circuits, etc. at a Glance.

## BRADY WIRE MARKERS

### TYPE B-400 ELECTRONIC WIRE MARKERS

Self-sticking, pre-printed 1/2" long markers for wires under 0.150". Identify wires and cables for positive coding of circuits, panels and assemblies, etc. "Gardkote" adhesive sticks to any type of insulation, even teflon. Completely resistant to heat (up

to 250° F.), oil, major solvents. Fade-proof inks provide permanent markings. Super-thin for confined areas. Made to MIL-E-5272A. Supplied as identical numbers per card, groups of consecutive numbers, or letters. Wt. per card, 1 oz.

Stock No.	Mfr's Type	Description	Markers Per Card	PER CARD						
				1-24	25-99	100-499	500-999	1000-2499	2500-4999	5000-9999
48 TT 401	B-400MM	Individual letters—Specify A-Z	150							
48 TT 386	B-400MM	Individual numbers—Specify 0-99	150	.30	.27	.216	.189	.177	.168	.162
48 T 396	B-400MM	Consecutive numbers 0-49	150							
48 T 397	B-400MM	Consecutive numbers 50-99	150							
48 T 398	B-400MM	Consecutive numbers 100-132	99							
48 T 399	B-400MM	Consecutive numbers 133-165	99	.30	.27	.216	.189	.177	.168	.162
48 T 400	B-400MM	Consecutive numbers 166-198	99							

### TYPE B-500 PERMA-CODE WIRE MARKERS

Self-sticking, heavy-duty plastic-coated cloth markers. 1 1/2" long for wires 0.150" through 0.500" dia. Adhere to any type of insulation including teflon, nylon, plastic, silicone and rubber. Meet MIL-E-

5272A specs. Use to identify electronic wire, cables, assemblies, harnesses in communications equipment, computing systems, etc. Pressure-sensitive adhesive; resists heat to 235°F. Wt. per card, 1 oz.

Stock No.	Mfr's Type	Description	Markers Per Card	PER CARD						
				1-24	25-99	100-499	500-999	1000-2499	2500-4999	5000-9999
48 TT 387	B-500	Individual numbers—Specify 0-50	36							
48 TT 388	B-500	Individual letters—Specify A-Z	36							
48 T 389	B-500	Consecutive numbers 1-33	33	.23	.20	.16	.14	.13	.125	.12
48 T 390	B-500	Consecutive numbers 34-66	33							
48 T 391	B-500	Consecutive numbers 67-99	33							
48 T 392	B-500	Consecutive numbers 100-124	25							
48 T 393	B-500	Plus-Sign Markers	33							
48 T 394	B-500	Minus-Sign Markers	33	.23	.20	.16	.14	.13	.125	.12
48 T 395	B-500	Consecutive letters A-Z	26							

# Adjustable Fluorescent and Incandescent Lamps

## LUXO GLARE-FREE ADJUSTABLE LAMPS

**UL**

**A** Model L-1A  
As low as **\$15.88**

- 45" Reach
- 360° Sweep
- Spring-Loaded Combined

**B** Model LC-1A  
As low as **\$19.98**

Fluorescent and Incandescent

**C** Model LFM-1A  
As low as **\$29.95**

**LAMP WITH MAGNIFIER**

- 5" Magnifying Lens
- 45" Extension Arm
- 360° Sweeping Range

**A** MODEL L-1A ALL-ANGLE LAMP. 2 extension arms with 360° sweep. Spring-loaded swivel joints; knurled-nut tension control; vented porcelainized shade. With clamp. Dove gray. U.L. Listed. Less bulb; uses std. incandescent. For 115 VAC. 5 lbs.  
91 NX 296.....EACH 17.62  
3 or More.....EACH 15.88

**B** MODEL LC-1A COMBINATION LAMP. Ideal for people working with color. 3-way lamp combines incandescent and fluorescent light in one fixture. Lights can be used individually or together. Two extension arms reach 45"; sweep 360°. Clamp for table or

**C** MODEL LFM-1A MAGNIFIER LAMP. Fluorescent lamp with distortion-free 5" magnifier. Spring-balanced. Extension arms, 45"; sweep 360°. With mtg. clamp. Gray finish. U.L. Listed. Less tube; uses T9. For 110-120 v., 60 cycle AC. 8 lbs.  
91 NX 201.....EACH 33.30  
3 or More.....EACH 29.95

desk. Gray finish. U.L. Listed. Uses 60-watt bulb and Circline T9 fluorescent tube (not supplied). For 110-120 volts, 60 cycle AC. Shpg. wt., 9 lbs.  
91 NU 229.....EACH 21.95  
3 or More.....EACH 19.98

**UL**

Model FL-1A  
As low as **\$19.98**

**Glare-Free Light in Any Direction**

- 2 Fluorescent Tubes
- Arms Extend 45"
- Easy to Position

MODEL FL-1A ALL-ANGLE LAMP. Expertly designed all-purpose fluorescent lamp with "feather-touch" positioning—can be raised, lowered or turned with slight finger pressure. Unique, spring-loaded extension arms always "stay-put" in proper position. Lamp housing is also adjustable. Shade size, 19x4½". Handy push-button starter. Mounting clamp for desk or table. Two extension arms reach 45". Gray finish. Less tubes; uses 2 T8's. U.L. Listed. For 110-120 volts, 60 cycle AC. Wt., 9 lbs.  
91 NX 228.....EACH 21.95  
3 or More.....EACH 19.98

## FLEXO LAMPS

**U.L. Listed**

**D** As low as **\$14.38**

**E** As low as **\$7.99**

Adjusts to Any Position or Angle

**F** As low as **\$19.86**

**G** As low as **\$10.25**

**D** MODEL 4303 ALL-PURPOSE FLUORESCENT LAMP. Head tilts vertically 180° and turns 300° on axis. Upper elbow swings 160° vertically; lower swings 110° vertically. Extends to 36". Spring-controlled swivel joints. 2-bolt clamp base for surfaces to 3" thick. Can be screw-mounted. Bronze finish. Less tubes; uses 2 T8's. U.L. Listed. For 110-120 v., 60 cycle AC. 10 lbs.  
91 NX 225.....EACH 15.40  
3 or More.....EACH 14.38

**E** MODEL 5600 "COOL-SHADE" LAMP. Vented shade for cool handling. Swivels at base, shade and each joint to any position. Spring-controlled. Extends 42". On-off switch on shade. Shade dia., 3½"; 7" deep. Universal base for clamping or screw-mounting, vertically or horizontally. Gray. Less bulb; uses std. incandescent. U.L. Listed. For 110-120 v., 60 cycle AC. 3½ lbs.  
91 NX 142.....EACH 8.77  
3 or More.....EACH 7.99

**F** MODEL 4324 PORTABLE DESK LAMP. Similar to Model 4303 above, but has weighted base instead of clamp. For use where screw clamp is not feasible. Double arm extends 32". Has pencil grooves in base. Bronze finish. Less tubes; uses 2 T8's. U.L. Listed. For 110-120 volts, 60 cycle AC. Wt., 23 lbs.  
91 NU 226.....EACH 21.28  
3 or More.....EACH 19.86

**G** MODEL 4444 "FLEXARM" TWIN-LIGHT. Two-light adjustable fluorescent lamp. Adjusts in height from 8" to 14". Has heavy-gauge steel shade, 20½x4½x18". Pushbutton on-off switch. Bronze finish. Rubber feet. Less tubes; uses 2 T8's. U.L. Listed. For 110-120 volts, 60 cycle AC. Wt., 10 lbs.  
91 NX 146.....EACH 10.95  
3 or More.....EACH 10.25

## SWING-O-LITE LAMPS

**H** As low as **\$9.95**

45" Arm; 360° Sweep

**K** As low as **\$5.59**

Gooseneck Lamp 30" Sweep

**J** As low as **\$20.95**

**MAGNIFIER LAMP**

- 5" Lens; 13" Focus
- 45" Arm; 360° Sweep

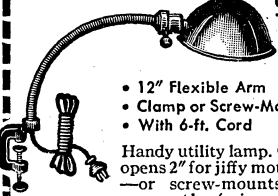
**H** MODEL BB45C ALL-PURPOSE LAMP. Low-cost lamp, perfect for the service bench, desk, workshop, etc. Raises, lowers, and turns at the slightest pressure of your hand. Spring-controlled for proper flexibility and steady positioning. Arms extend to 45" for full work coverage. Shade is vented to permit rapid heat dissipation. Sturdy, all-metal construction throughout. Has "C" mounting clamp for quick, easy installation. Lamp is finished in gray. Less bulb; uses std. incandescent. U.L. Listed components. For 110-120 volts, AC/DC. Shpg. wt., 5 lbs.  
51 NX 192.....EACH 10.95  
3 or More.....EACH 9.95

**J** MODEL BBM-9 FLUORESCENT MAGNIFIER LAMP. Provides a large, distortion-free magnification and cool fluorescent light, with exceptional flexibility for any work requirement. Large 5" lens with 13" focus ensures outstanding view. Arms extend to 45". Spring-controlled and counterbalanced for superior flexibility and easy positioning. Durable, all-metal construction. Has "C" mounting clamp. Finished in gray. Less tube; uses circline T9. U.L. Listed components. For 110-120 volts, 60 cycle AC. Shpg. wt., 10 lbs.  
51 NU 193.....EACH 22.95  
3 or More.....EACH 20.95

**K** SWING-O-LITE GOOSENECK CLAMP LAMP. Extreme flexibility lets you put light where it does the most good. Lamp shade rotates on joint to direct light. Gooseneck extends over 30" circle. Utilizes 60 to 100-watt bulb. All-metal construction. On-Off switch on top of shade. Shade is vented. Finished in dove-gray baked enamel. With "C"-clamp mounting bracket for easy installation. Less bulb; uses standard incandescent type. U.L. Listed components. For 110-120 volts, AC/DC. Shpg. wt., 5 lbs.  
50 NX 976.....EACH 5.95  
3 or More.....EACH 5.59

# Fixtures, Lamps and Lighting Accessories

## FLEXIBLE ARM CLAMP LAMP



**\$215**

- 12" Flexible Arm
- Clamp or Screw-Mounting
- With 6-ft. Cord

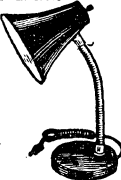
Handy utility lamp. Clamp opens 2" for jiffy mounting—or screw-mounting permanently (wing-screw supplied). Bronze finish. For 115 VAC. Less bulb. 6-ft. cord. 2½ lbs. 51 N 220..... **2.15**

Mounts in Seconds... Anywhere

## FLEXIBLE ARM DESK LAMP

Low-Cost  
**\$269**

- Weighted Felt-Lined Base with Slots
- Lustrous Metal



Rugged bakelite lamp with 12" flexible arm. Weighted, felt-lined base 16" high. With 6-ft. cord. Less bulb. U.L. Listed. For 110-120 volts, 60 cycle AC. Shpg. wt., 2 lbs. 51 N 248. Red and Gold..... **2.69**  
51 N 249. Black and Silver. .... **2.69**

## FLUORESCENT STARTERS and SOCKETS



**A** STARTERS. Fit all standard fixtures. \*Circline. †Circlarc. 2 per pkg. Wt., 3 oz.

Stock No.	Mfr's Type	Watts	PER PKG.
51 N 254	FS2	14, 15, 20	.36
51 N 255	FS4	30 or 40	.36
51 N 256	FS12	32*	.43
51 N 257	FS22	14, 15, 18* 20-22†	.45

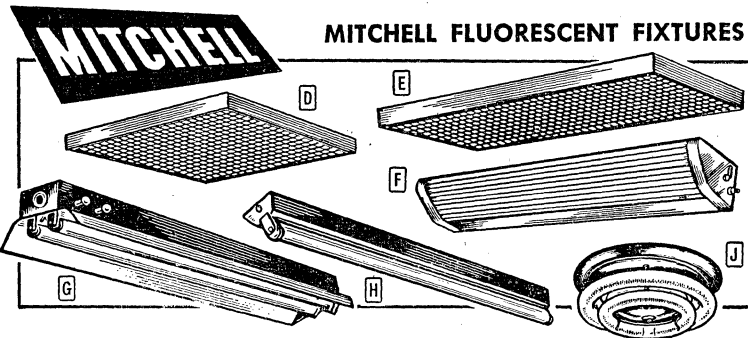
**B** LAMPHOLDER SOCKET. For use with standard 14, 15, 20, 30, and 40-watt fluorescent lamps. 2 per pkg. 3 oz.  
51 N 258. 1-9 pkgs..... PER PKG. **.75**  
10 or More pkgs..... PER PKG. **.68**

**C** STARTER SOCKET. Standard Dual-Loc remote starter socket. Shpg. wt., 3 oz. 2 per pkg.  
51 N 259. 1-9..... PER PKG. **.27**  
10 or More..... PER PKG. **.24**

## STANDARD AND CIRCLINE FLUORESCENT LAMPS

\*Circline lamps. All lamps below have medium-size bi-pin bases, except T5 (miniature bi-pin) and Circline (4-pin). †Rapid-start. T12 (40-watt) are for regular or rapid-start use.

Stock No.	Type	Watts	Size	Tube Dia.	Color	Std. Pkg.	Wt. Lbs.	EACH	In Std. Pkg., EA.
52 N 920	T5	4	6"	5/8"	Cool-white	24	1/2	1.39	1.14
52 N 933	T5	6	9"	5/8"	White	24	1/2	1.39	1.14
52 N 900	T12	14	15"	1 1/8"	Cool-white	24	1	.95	.84
52 N 922	T8	15	18"	1"	Daylight	24	1	1.05	.92
52 N 931	T12	15	18"	1 1/2"	Cool-white	24	1	.95	.84
51 NX 109	T12	20	24"	1 1/2"	Cool-white	24	1 1/2	.95	.84
91 NX 502	T12	20	24"	1 1/2"	Daylight	24	1 1/2	1.05	.92
52 N 934	T9*	22	8 3/4"	1 1/8"	Cool-white	12	1 1/2	2.99	2.65
52 N 932	T10*	32	12"	1 1/8"	Cool-white	12	1 1/2	2.99	2.65
91 NX 534	T12†	40	48"	1 1/2"	Cool-white	24	2	1.10	.95
91 NX 506	T12†	40	48"	1 1/2"	Daylight	24	2	1.17	1.02
91 NX 162	T12	75	96"	1 1/2"	Cool-white	12	3	2.40	2.05
91 NX 163	T12	75	96"	1 1/2"	Daylight	12	3	2.58	2.20



**D** MODEL 4022ME. Expertly designed fluorescent fixture combining attractive modern design with louvred, glare-free light. 4-lamp fixture has removable, cubed polystyrene diffuser that provides 45° crosswise and lengthwise visual cutoff. Reduces visual fatigue from any viewing angle, and at any desired illumination level. Light transmission remains unhampered.

Destaticized louvers remain free of dust and dirt that fall through cell openings. Fixture frame is constructed of heavy-gauge steel. Cover plate easily removable. Can be surface mounted as individual unit, or in continuous rows. Also can be stem-mounted. Finished in white-gloss baked enamel. With diffuser. 24x24" square. Less fluorescent lamps; uses 4 T12, 24" (cool-white) below. U.L. Listed For 110-120 volts, 60 cycle AC. Shpg. wt., 36 lbs. 51 NU 250..... **36.95**

**E** MODEL 2052ME. Modern-styled 2-lamp fixture with removable polystyrene cubed diffuser. Similar to Model 4022ME, above. Translucent texture of diffuser soothes the eyes, preventing strain, no matter what the viewing angle or level of light. Transmission is not obstructed. Offers unlimited lighting applications, since it can be flush-mounted to surface, or suspended. Finished in high-reflection white baked enamel. Size, 12x48". Complete with diffuser. Less fluorescent lamps; uses 2 T12, 24" below. U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 24 lbs. 51 NU 251..... **27.95**

**F** MODEL 764G. Versatile 2-lamp fixture, completely enclosing fluorescent lamp with ribbed, pigmented diffuser. Provides exceptionally even illumination that's easy on the eyes. Excellent for bathroom, kitchen, shop, garage, etc. Fully chrome-plated. Has on-off switch and grounded, AC convenience outlet. Mounts on wall—installation is easy. Size, 3 1/4x5x48". Complete with diffuser. Less lamps; uses 2 T12, 48" below. U.L. Listed. For 110-120 volts, 60 cycle AC. Shpg. wt., 12 lbs. 51 NX 252..... **16.95**

51 NX 253. Model 762G. As above; 24" long. Uses 2 T12, 24" lamps. 7 lbs..... **12.95**

## MITCHELL FLUORESCENT FIXTURES

**G** MODEL 2099RS. High-intensity rapid start lighting for industrial applications. Uses two 48" T-12, 40-watt fluorescent lamps. High-gloss white enamel for maximum reflection. Power factor corrected to reduce inductive effects. Fixture can be hung on chains, flush-mounted separately or mounted end-to-end in rows. 48 1/2x11 1/2x5 9/16". With reflector and ballasts. Less lamps and chains. U.L. Listed. For 110-120 v., 60 cycle AC. Wt., 17 lbs. 51 NX 374. 1-2..... EACH 10.95  
3 or More..... EACH 10.45

**G** MODEL 2099. Same as above, but standard starter type. With starters. Less lamps and chains. Wt., 17 lbs. 51 NX 373. 1-2..... EACH 9.45  
3 or More..... EACH 8.70

MODEL 9498. As above, but uses two 75-w 96" fluorescent lamps. 35 lbs. 91 NU 187. 1-2..... EACH 18.95  
3 or More..... EACH 17.95

**H** STRIP-LIGHT FIXTURES. Can be mounted flush or suspended from walls or ceilings. Single-lamp type. Normal Power factor. With starters. Less lamps; use T12 Baked enamel finish. U.L. Listed. For 110-120 volts, 60 cycle AC.

Stock No.	Mfr's Type	Watts	Lgth.	Wt., Lbs.	EACH
91 NX 177	940-2	20	24"	4	2.76 2.52
91 NX 178	940-4	40	48"	6	4.59 4.24

**J** MODEL 665C. Single-lamp, chrome-plated Circline fixture with "instant start." Provides glare-free illumination equivalent to light from 100-watt incandescent bulb. For average-size kitchens, basement work areas, etc. With 12" diameter 32-watt Circline lamp. U.L. Listed. For 110-120 v., 60 cycle AC. Wt., 9 lbs. 91 NX 279. 1-2..... EACH 8.95  
3 or More..... EACH 8.00

**J** MODEL 841C. 2-lamp, chrome-plated Circline fixture. With 12"-diameter, 32-watt, and 8"-diameter 22-watt, rapid-start lamps, and glass pendant. For 110-120 v., 60 cycle AC. U.L. Listed. 11 lbs. 91 NX 262. 1-2..... EACH 13.85  
3 or More..... EACH 12.45

## ADVANCE FLUORESCENT BALLASTS

Wide selection of high-quality ballasts for all popular fixtures. \$55.65% corrected. \*\*90-100% corrected. U.L. Approved. For 105-120 volts, 60 cycle AC. \*Lamp watts. †For use with rapid-start lamps.

### †1-LAMP BALLAST—NORMAL POWER FACTOR

Stock No.	Type	Watts*	Size	Ctrs.	Lbs.	EACH
49 N 400	L-120F	15/20	4 1/4x2x1 1/16"	3 5/8"	1	1.15
49 N 401	L-140	40	6 1/2x1 1/16x1 3/8"	6"	3	1.80
49 N 402	LO-14-20-C	14, 15, 20	3 1/8x1 1/2x1 1/4"	2 3/4"	3/4	.88
49 N 408	RLC-140	32, 40	6 1/2x2 1/16x1 1/16"	6"	3	2.65

### †2-LAMP BALLAST—NORMAL POWER FACTOR

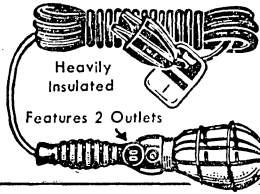
49 N 403	L-220S	20/20	6 1/4x2x1 1/16"	5 5/8"	1 1/2	2.05
49 N 404	R-22-32	22/32	6 1/2x2 1/16x1 1/16"	6"	3	3.65

### \*\*2-LAMP BALLAST—HIGH POWER FACTOR

49 N 405	S-240	40/40	1 1/4x2 1/16x1 1/16"	1 1/16"	4 1/2	5.15
49 N 406	RSHM-240	40/40	9 1/2x2 1/16x1 1/16"	8 3/16"	4 1/4	6.00
49 N 407	†RQM-2540	40/40	9 1/2x2 1/16x1 1/16"	8 3/32"	4	5.00

# Electrical Cords and Accessories

## TROUBLE-LAMP BARGAIN

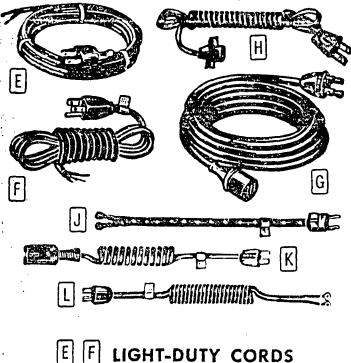


Low as  
**\$1.69**  
less bulb

Trouble-lamp for any service work. Hard-rubber handle houses easily accessible switch and 2 accessory outlets for powering tools. Bulb is protected by metal reflector guard. Has heavily insulated cable. Switched outlets supply up to 600 watts at 110-125 volts, AC-DC. Less power consumption of bulb. Less bulb. Av. wt., 3 lbs.

50 N 947. With 50-ft. Cable.....2.29  
50 N 946. With 25-ft. Cable.....1.69

## BELDEN EXTENSION AND REPLACEMENT CORDS



Flexible, rubber-covered cords. Have unbreakable vinyl plastic plugs one end, other end stripped. All are Fig. E, 2-conductor except \*Fig. F, 3-conductor with 3-prong plug. Cover black except †brown, §gray. U.L. Listed. Av. wt., 3/4 lb.

Stock No.	Mfr's Type	Length	Gauge	EA.
50 N 925	17126S†	6 ft.	SP1 18	.37
50 N 926	17129S†	9 ft.	SP1 18	.44
50 N 927	17330S	10 ft.	SJ 16	.88
50 N 928	17308S	8 ft.	SJ 18	.69
50 N 929	17206S§	6 ft.	SV 18	.52
50 N 930	17408S*	8 ft.	SJ 18	.88

**HEAVY-DUTY EXTENSION CORDS**  
Flexible 2-wire. Cover: \*gray rubber; † black rubber; §red vinyl. U.L. Listed.

Stock No.	Type	Lgth.	Gauge	Lbs.	EA.
50 N 931	17270C*	20'	SV 18	1	1.10
50 N 932	17361S†	10'	SJ 16	1	.94
50 N 933	17395S§	50'	SJT 16	3/4	3.50
50 N 934	17397S§	100'	SJT 16	6 1/2	6.84

## TV AC POWER CORD

TYPE 8895. 6' long. 2-cond. 18-gauge. Brown vinyl cover. Wt., 1 lb.

50 N 944.....37

## HEATER-TYPE APPLIANCE CORDS

For 125-v. Black neoprene, self-coiling (6' long) except \*asbestos cotton wrapping (7' long). Types less plugs have screw terms. In table, †A is amps. Av., 1/2 lb.

Stock No.	Type	Fig.	Pin Spacing	†A	EA.
50 N 935	17886S K	1/2"	slotted	10	.97
50 N 938	17836S L	None	(no plug)	10	.76
50 N 945	*17272S J	None	(no plug)	15	.73

## CBC MULTIPLE-OUTLET CONVENIENCE BOXES

IN TWO TYPES: FUSED  
OR CIRCUIT-BREAKER

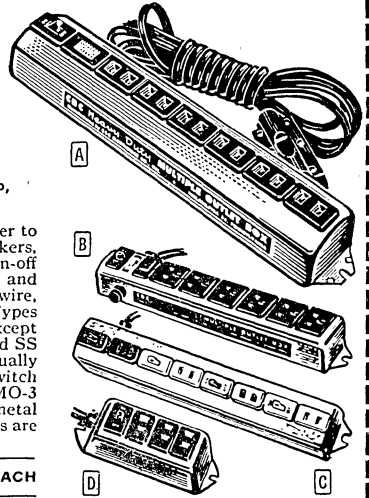
As low as  
**\$375**



A Necessity for Shop,  
Lab, Home, etc.

Outlet boxes for extending electrical power to bench, lab, etc. Have built-in circuit breakers, except \*fused, 10-ft. line cords, and on-off switches. Types MO-GD-CB (Fig. A) and MO-GD (Fig. B) have pilot light and 3-wire, "U" grounded outlets with 3-wire plug. Types MO-CB and MO are same as above, except 2-wire outlets and plug. Types SS-CB and SS (Fig. C) have outlets that are individually switched. Type MO-3 (Fig. D) has one switch for outlets. All are 13x2 1/4x1 1/2", except MO-3—5x2x1 1/4". Have brown hammertone metal cases with mounting ears. All outlet boxes are rated at 15 amps, 110 volts.

Stock No.	Mfr's Type	Out-Lets	Wt., Lbs.	EACH
51 N 197	MO-GD-CB	6	2 3/4	10.29
51 N 198	MO-CB*	6	2 1/4	8.57
51 N 199	SS-CB	4	2 1/4	8.57
50 N 948	MO-GD*	6	2 3/4	7.95
50 N 949	MO*	6	2 1/4	6.25
50 N 950	SS*	4	2 1/4	6.25
50 N 951	MO-3*	3	1 1/2	3.75

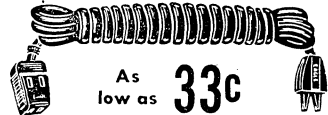


- Unique Built-In Circuit Breakers Offer Full Overload Protection
- All Boxes Have On-Off Switches
- Supplied with 10-ft. Line Cords
- Brown Hammertone Metal Cases

## ALL-VINYL TRIPLE EXTENSION CORD

- Strong—Will Not Break or Crack
- Safe—U.L. Listed
- Molded Vinyl Connector and Plug

Vinyl extension cords that resist abrasion, grease, oil, and acid. Won't break or crack. Molded vinyl plug one end; connector on other. 2-conductor 18-gauge wire. U.L. Listed.



As low as **33c**

51 N 232. 9 ft. Brown. 8 oz.....41  
51 N 233. 9 ft. Ivory. 8 oz.....43  
51 N 231. 6 ft. Ivory. 4 oz.....36  
51 N 230. 6 ft. Brown. 4 oz.....33

## REPLACEMENT CORD PACKAGE

**42c**



A tough plastic-insulated cord with molded plug on one end. Other end of cord is stripped. Shpg. wt., 5 oz. Pkg. of 2.

51 N 234. 6 ft. Brown.....PER PKG. .42  
51 N 235. 6 ft. Ivory.....PER PKG. .42

## BELDEN EXTENSION CORDS



Heavy-duty, 3-conductor extension cords for use with power tools, hedge trimmers, etc. Have molded 3-prong plug at one end and molded 3-prong receptacle at other end. U.L. Listed. Yellow cover. \*Gauge.

Stock No.	Type	Ft.	*	Lbs.	EACH
51 N 181	17491-S	25	18	1 1/2	1.83
51 N 182	17492-S	50	18	3	3.68
51 N 183	17493-S	100	18	6	5.88
51 N 184	17494-S	25	16	2	2.54
51 N 185	17495-S	50	16	4	4.55
51 N 186	17497-S	100	16	8	8.08
51 N 187	17694-S	25	14	4	4.36
51 N 188	17695-S	50	14	8	7.90
51 N 189	17697-S	100	14	15	14.43

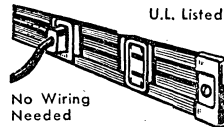
## PHENOLIC WIRE-CONNECTORS



Solderless phenolic wire-connectors. Simply strip two wire ends; push into connector, and screw cap down—wires are firmly interconnected. U.L. Listed. Av. shpg. wts.: Pkg. of 25, 5 oz.; Pkg. of 100, 1 1/4 lbs.

Wire Size	Stock No.	PKG. OF 25	Stock No.	PKG. OF 100
16-18	51 N 236	.27	51 N 239	.89
14-18	51 N 237	.30	51 N 240	1.05
12-18	51 N 238	.45	51 N 241	1.65

## ELECTROSTRIP FLEXIBLE OUTLETS



No Wiring Needed

U.L. Listed

Unique 4-ft. electrical strip for easy installation on base-board, wall, work bench, etc. Has 3 outlets that move

to any point along the strip. Complete with 12" power cord and plug. Rated 15 amps at 125 volts. AC. Shpg. wt., 1 1/2 lbs.

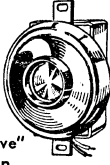
52 NX 696.....2.62  
EXTRA OUTLETS. Wt., 3 oz.  
52 N 697.....37

# Light Controls, Flashlights, Electrical Accessories

## NEW! FASCO ELECTRONIC LIGHT CONTROLS



As low as  
**\$235**



"Hi-Lo" "Selective"

- Increases Lamp Life Up To 10 Times
- Fits Std. Outlet Box

### "SELECTIVE" DIMMER CONTROL

LC-8724. Dial the precise degree of light you want, from full bright to dim or off. 600-watt capacity. For incandescent lamps only. Wt., 1 lb.  
51 N 205.....10.98

LC-8721. For incandescent and fluorescent lamps. 300-watt capacity. 1 lb.  
51 N 203.....16.59

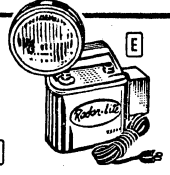
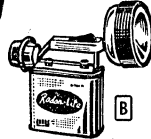
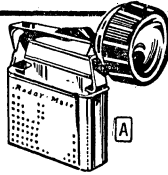
LC-8722. Same as LC-8721 above, but 600-watt capacity.  
51 N 204.....26.65

### "HI-LO" DIMMER SWITCH

LC-8702. Soft TV or bright reading light at the flick of a switch. 600-watt capacity. For incandescent lamps only. Wt., 3 oz.  
51 N 207.....2.98

LC-8701. As above, but 300-watt cap.  
51 N 206.....2.35

## BURGESS



**A** MODEL JR-1 "RADAR MATE"  
**\$332**

- Corrosion-Resistant Steel
- Head Moves 135° Up and Down
- Push-Pull—A Snap to Reload

Powerful portable light for outdoor enthusiast and homeowner alike. Heavy-gauge, corrosion resistant steel with lifetime switch. Multi-facet vaporized reflector provides long beam with peak light distribution. Head moves 135° up and down. Chrome-plated case. Less batteries—requires 3 No. 2 batteries (below). 1 1/4 lbs.  
55 J 760.....3.32

No. 2 Battery. Shpg. wt., 6 oz. Pkg. of 4.  
55 J 867.....PER PKG. .52

**B** Model TW3. A super-power, all purpose lantern with 40,000 candlepower sealed-beam lamp. Automatic red flashing signal swings 90° on movable arm. Battery is lantern body—can be changed in seconds. Chrome handle. 11 1/4 x 9 1/4 x 3 1/2". Lamp has 3/4" dia. With TW1 6-volt battery. 6 lbs.  
55 J 342.....8.28

**C** Model 159. Chrome-plated "Magnet Light" with Alnico magnet that holds to steel. Prefocused beam illuminates the red "brite-glo" head. Less batteries, uses 2 No. 2 cells (left, below). With lamp. Shpg. wt., 1 lb.  
55 J 117.....1.20

**D** Model 350. Industrial light with aluminumized reflector. Fiber barrel with rubber cushioned head, end cap. Prefocused and weatherproof. Less batteries, uses two No. 2 cells (left, below). With lamp. Wt., 1 lb.  
55 J 338.....1.28

**E** TW6E EMERGENCY FLOODLIGHT  
Plug this unit into any 110-volt outlet. When AC power fails, it automatically switches on the 40,000 candlepower sealed beam floodlight that diffuses over a wide area. Provides over 15 hours of continuous light. Head adjusts 2 ways: 360° around, 135° up and down. With mounting bracket, 6' cord and TW1 6-volt battery. Wt., 6 1/2 lbs.  
55 J 336.....13.48

### DUTCH BRAND VINYL PLASTIC ELECTRICAL TAPE



Fits Contours of Irregular Surfaces

Clings tightly, forming compact insulated wrappings that do not unravel. Stretches to follow contours of irregular surfaces. Available in 3/4" x 44' and 1/2" x 108' rolls. 3/4" type is .007"; rated 7000 v. 1/2" type is .010"; rated 10,000 v. Av. wt., 6 oz.  
52 N 614. 3/4"x44'.....PER ROLL .86  
15-49.....PER ROLL .81  
50-Up.....PER ROLL .76  
52 N 623. 1/2"x108'.....PER ROLL 1.75  
6-47.....PER ROLL 1.67  
48-Up.....PER ROLL 1.56

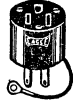
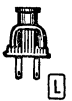
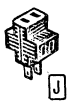
### SCOTCH PLASTIC BACKED TAPE



Highly Resistant To Chemicals, Abrasion, Oil, Etc.

Type 33. Forms compact, highly resistant insulated wrappings. In 2 sizes; both are .007", rated 10,000 v. Av. wt., 6 oz.  
52 N 613. 3/4"x20'.....PER ROLL .47  
12-Up.....PER ROLL .44  
52 N 616. 3/4"x66'.....PER ROLL 1.28  
12-Up.....PER ROLL 1.21  
Type 88. Highly resistant, all-weather, 8.5 mil tape for easy splice wrapping in any temperature. 3/4"x66'. Shpg. wt., 6 oz.  
52 N 700.....PER ROLL 1.49  
12-Up.....PER ROLL 1.41

### VALUES IN HANDY ELECTRICAL ACCESSORIES



**F** Rubber-Handle Plug. Approved for power tools. Can be used with 52 N 603, right below, for line cord extensions. U.L. Listed. 4 oz. 2 per pkg.  
51 N 061.....PER PKG. 17

**G** Parallel Ground Plug. Sturdy, rubber handle plug with "U" ground. Compact—2 will fit standard duplex receptacle. With cable clamp. U.L. Listed. 2 oz.  
52 N 717.....38

**H** Bakelite Plug. With convenient finger-grip. Overall cap size, 1 1/8 x 1 1/8 x 1 1/8" deep. Brown finish. U.L. Listed. Shpg. wt., 4 oz. 2 per pkg.  
51 N 062.....PER PKG. 18

**J** Rubber Cube Tap. Spring-action, 3-way outlet of one-piece, soft rubber. U.L. Listed. Shpg. wt., 8 oz. 2 per pkg.  
51 N 063.....PER PKG. 39

**K** Jiffy Automatic Plug. No wire stripping. Just insert through cap. Sure-grip "needles" on prongs make positive connection with conductor through insulation. For POSJ cable only. U.L. Listed. Shpg. wt., 6 oz. 2 per pkg.  
51 N 064.....PER PKG. 17

**L** Flat Rubber Plug. Has non-breakable molded rubber cap. Easily disassembled. Screw terminal wiring. Rated 15 amps at 125 v.; 10 amps at 250 v. U.L. Listed. Shpg. wt., 6 oz. 2 per pkg.  
51 N 065.....PER PKG. 23

**M** Morse Midget Cord Connector. 2-contact, pull-apart type for connecting AC-DC line cords, relays, control circuits, etc. One plug and matching receptacle. Size, 1 1/8 x 5/8". Shpg. wt., 2 oz.  
52 N 626. 1-9.....EA. 59 10-Up.....EA. 54

**N** Rubber Line Cord Receptacle. Rubber pull-handle receptacle. Has knurled body for easier gripping. Cable clamp helps protect connections. Dia., 1 1/4". Rated 15 amps at 125 volts. U.L. Listed. 3 oz.  
52 N 603.....26

**P** Parallel Ground Rubber Receptacle. Solidly-built 3-contact connector. Has indestructible, easy-to-wire, phosphor bronze contacts rated 15 amps at 125 volts. Cord hole is 3/8". Cord clamp is furnished to protect cord under heavy-duty use. U.L. Listed. Shpg. wt., 3 oz.  
52 N 718.....78

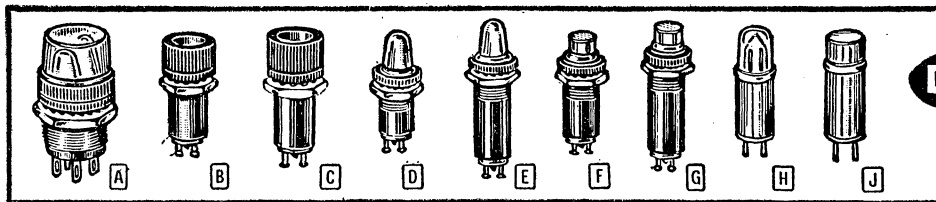
**R** Parallel Ground Adapter. Adapts 3-prong appliance plugs for use in standard 2-prong AC outlets. Rated, 15 amps at 125 v. Has heavy-duty double wipe contacts and 3/4" green grounding lead with "C" lug easily attached to screw of wall plate or cover. U.L. Listed. Shpg. wt., 3 oz.  
52 N 669.....22

**S** Fused Plug. Protects unfused electrical equipment from damaging overload. Two standard 10 amp auto glass fuses for each side of line fit snugly in cylindrical receptacles—blown fuse is easily removed for quick replacement. Interchangeable with any standard AC plug. Supplied less 3AG cartridge fuses. (See Index for fuse listings.) U.L. Listed. 3 oz.  
52 N 648.....37

**T** Type H500F G-C Cable Clamps. Fit 1/8" to 1/2" cables. All are nickel-plated and have No. 6 mtg. hole. 25 per pkg. except \*20, 115. Av. wt., per pkg., 4 oz.

Stock No.	Type	Fit Cable	PER PKG.
51 N 215	H502F	1/8" to 3/8"	.36
51 N 216	H503F*	3/8" to 1/2"	
51 N 217	Z7243†	1/8" to 5/8"	
51 N 218	H506F†	5/8" to 1/2"	

# Dialco Datalites and Accessories



**A** Type 253-6939-1437. Assembly for 2 cartridges. Mount in  $\frac{3}{4}$ " clearance hole. Clear plastic lens, less cartridges.  
**B E 378**, 1-99. EA. 3.30 100-299... EA. 2.55  
 Type 253-6939-1435. As above, white lens.  
**B E 379**, 1-99. EA. 3.30 100-299... EA. 2.55

**B** Type 7538. Compact holder for 1 cartridge. Mounts in  $\frac{3}{8}$ " clearance hole. Solder cup. Polarized terminals. Less cartridge.  
**B E 380**, 1-99. EA. 1.22 100-299... EA. .93  
**B E 381**, Type 7545. As above, but for 45 and 45H cartridges. 1-99... EACH 1.22

**C** Type 8738. Same as 7538 but with turret terminals. 2 oz.  
**B E 382**, 1-99. EA. 1.22 100-299... EA. .93  
 Type 8745. Same as 7545 but with turret terminals. 2 oz.  
**B E 383**, 1-99. EA. 1.22 100-299... EA. .93

## PERMANENT DATALITES

**D** Series 249-7840 Stovepipe. Have NE-2E lamps, less resistor.  $\frac{3}{8}$ " clearance hole. 65-v. AC or 90-v. DC starting voltage.

Stock No.	Type	Lens	Stock No.	Type	Lens
B E 384	931	Red	B E 387	936	Yellow
B E 385	933	Amber	B E 388	937	Clear
B E 386	935	White			

1-99... EACH 1.07 100-299... EACH .79

**E** Series 249-7841 Stovepipe. Above, but with resistor for 105-125-v., AC-DC.

B E 389	931	Red	B E 392	936	Yellow
B E 390	933	Amber	B E 393	937	Clear
B E 391	935	White			

1-99... EACH 1.34 100-299... EACH 1.02

**F** Series 249-7840. Same as 249-7840 above but has cylindrical lens.

B E 394	1431	Red	B E 397	1436	Yellow
B E 395	1433	Amber	B E 398	1437	Clear
B E 396	1435	White			

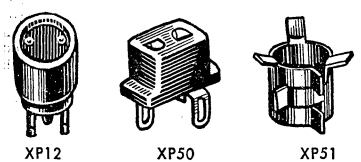
1-99... EACH 1.07 100-299... EACH .79

**G** Series 249-7841. Same as 249-7841 above but has cylindrical lens.

B E 399	1431	Red	B E 402	1436	Yellow
B E 400	1433	Amber	B E 403	1437	Clear
B E 401	1435	White			

1-99... EACH 1.34 100-299... EACH 1.02

## SERIES 7538 CARTRIDGE CONNECTORS



**XP12** Aluminum sleeve, molded phenolic insulation. Solder cup terminals.  
**B E 405**, 1-99. EACH .62 100-299. EACH .50  
**XP50** Molded phenolic with cadmium-plated copper solder lug terminals.  
**B E 404**, 1-99... EACH .15  
**XP51** Speed Clip. Fastening device for all Dialco plug-in cartridges.  
**B E 406**, 1-99... EACH .05

Series 45 and 45H Neon Glow Cartridges. \*45 has built-in 56,000-ohm resistor. †45H high-brightness type has 18k-ohm res. 45 for 105-125 v., AC-DC; 45H, AC only.

H Stovepipe		J Short Cyl.		Lens Color
Stock No.	Type	Stock No.	Type	
B E 407	931*	B E 415	1531*	Red
B E 408	933*	B E 416	1533*	Amber
B E 409	936*	B E 417	1536*	Yellow
B E 410	937*	B E 418	1537*	Clear
B E 411	931†	B E 419	1531†	Red
B E 412	933†	B E 420	1533†	Amber
B E 413	936†	B E 421	1536†	Yellow
B E 414	937†	B E 422	1537†	Clear

1-99... EACH 1.14 100-299... EACH .91

Series 39-6 Incandescent Lamp Cartridges. T-1 $\frac{3}{4}$  incandescent lamps in same type mount as above. For 6 v., .2 amps. Other ratings available on Special Order.

B E 423	971	B E 429	1471	Red
B E 424	972	B E 430	1472	Green
B E 425	973	B E 431	1473	Amber
B E 426	974	B E 432	1474	Blue
B E 427	975	B E 433	1475	White
B E 428	976	B E 507	1476	Yellow

1-99... EACH 1.17 100-299... EACH .89

Series 39-28 Incandescent Lamp Cartridges. Above but for 28-v., .04-amp operation.

B E 434	971	B E 440	1471	Red
B E 435	972	B E 441	1472	Green
B E 436	973	B E 442	1473	Amber
B E 437	974	B E 443	1474	Blue
B E 438	975	B E 444	1475	White
B E 439	976	B E 445	1476	Yellow

1-99... EACH 1.17 100-299... EACH .89

39L-6.3 Incandescent Lamp Cartridges. As above but for 6.3 v., .2 amp.

B E 446	971	B E 452	1471	Red
B E 447	972	B E 453	1472	Green
B E 448	973	B E 454	1473	Amber
B E 449	974	B E 455	1474	Blue
B E 450	975	B E 456	1475	White
B E 451	976	B E 457	1476	Yellow

1-99... EACH 1.27 100-299... EACH .98

Series 39L-14 Incandescent Lamp Cartridges. Similar to 39L-6.3, for 14-volts. .08 amp.

B E 458	971	B E 464	1471	Red
B E 459	972	B E 465	1472	Green
B E 460	973	B E 466	1473	Amber
B E 461	974	B E 467	1474	Blue
B E 462	975	B E 468	1475	White
B E 463	976	B E 469	1476	Yellow

1-99... EACH 1.27 100-299... EACH .98

## REPLACEABLE LAMP CARTRIDGES

Series 38 Neon Glow Lamp Cartridges. Have built-in NE-2E lamps. 65-v. AC or 90-v. DC starting voltage.

B E 470	931	B E 475	1531	Red
B E 471	933	B E 476	1533	Amber
B E 474	935	B E 479	1535	White
B E 472	936	B E 477	1536	Yellow
B E 473	937	B E 478	1537	Clear

1-99... EACH .86 100-299... EACH .62

Series 38H Neon Lamp Cartridges. Same as series 38, except have built-in NE-2H high brightness lamp. Require resistor for 110-125 v. use. 22,000 ohms for bright light, 33,000 ohms for long life.

H Stovepipe		J Short Cyl.		Lens Color
Stock No.	Type	Stock No.	Type	
B E 480	931	B E 485	1531	Red
B E 481	933	B E 486	1533	Amber
B E 482	935	B E 487	1535	White
B E 483	936	B E 488	1536	Yellow
B E 484	937	B E 489	1537	Clear

1-99... EACH .86 100-299... EACH .62

## DIALCO SERIES MS25010

Meet requirements of Mil-L-7806. For use with Mil-P-7788 plastic plate panels. Emit light radially through colored filter into plastic plate. Resilient light seal washer insures against light loss at front of panel. Also available with light emitting top. Have cadmium plated brass mounting bushing, internal-tooth lockwasher and hex mounting nut. Terminals are hot-tinned brass with elongated slots. Mount in  $\frac{1}{2}$ " clearance hole. Less T-1 $\frac{3}{4}$  lamp. Size,  $\frac{1}{2}$ x1 $\frac{1}{16}$ ".



## EDGE LIGHTING ASSEMBLIES

Stock No.	Type	Filter	Terminals
B E 490	TT61	Red	Solder
B E 491	TT62	Red	Screw
B E 492	TT61-B2	Green	Solder
B E 493	TT62-B2	Green	Screw
B E 494	TT61-B3	Amber	Solder
B E 495	TT62-B3	Amber	Screw
B E 496	TT61-B7	Clear	Solder
B E 497	TT62-B7	Clear	Screw

1-99... EACH .62 100-249... EACH .48

## LIGHT EMITTING TOP ASSEMBLIES

B E 498	TT61-R1	Red	Solder
B E 499	TT62-R1	Red	Screw
B E 500	TT61-G2	Green	Solder
B E 501	TT62-G2	Green	Screw
B E 502	TT61-A3	Amber	Solder
B E 503	TT62-A3	Amber	Screw
B E 504	TT61-C7	Clear	Solder
B E 505	TT62-C7	Clear	Screw

1-99... EACH .62 100-249... EACH .48

## TYPE L-73 PILOT BULB REMOVER

Convenient device is designed to expedite installation or removal of T-3 $\frac{1}{4}$  and S6 lamps. Constructed of durable high-grade rubber.



7 E 912... .26

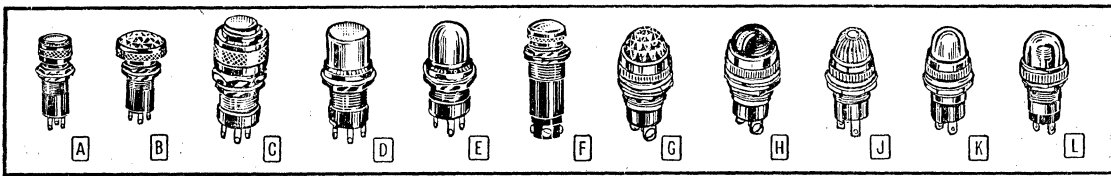
## TYPE L-45 PILOT BULB REMOVER

Similar to Model L-73 listed above but is two tools in one. One end accommodates T-3 $\frac{1}{4}$  size bulbs; the other, T-4 $\frac{1}{2}$  bulbs. Made of high-grade rubber.



8 E 506... .26





**PRESS-TO-TEST INDICATOR LIGHTS**

VM-911 and VM-911-9 have 1" C. to C. spacing; mount in 5/8" clearance hole; use T-3/4 lamp; MIL No. MS25331-\*. VM-910M and VM-911M have 3/4" C. to C. spacing; mount in 1 1/2" hole; use T-1 3/4 lamp; MIL No. MS25041-†. Less bulbs.

**A SERIES VM-911 WITH DIMMER**

Stock No.	Mfr's Type	MIL No.	Lens Color	EACH
8 E 134	VM-911-1A	*-1	Clear	
8 E 135	VM-911-2A	*-2	Red	1-24, 2.19
8 E 136	VM-911-3A	*-3	Green	25-99, 1.91
8 E 137	VM-911-4A	*-4	Amber	100-999, 1.72
8 E 138	VM-911-10A		Blue	

**A SERIES VM-911 NON-DIMMER**

Stock No.	Mfr's Type	MIL No.	Lens Color	EACH
8 E 139	VM-911-5A	*-5	Clear	
8 E 140	VM-911-6A	*-6	Red	1-24, 2.19
8 E 141	VM-911-7A	*-7	Green	25-99, 1.91
8 E 142	VM-911-8A	*-8	Amber	100-999, 1.72
8 E 143	VM-911-11A		Blue	

**B SERIES VM-911-9 NON-DIMMER**

With large, faceted lens.

Stock No.	Mfr's Type	MIL No.	Lens Color	EACH
8 E 144	VM-911-9-437	*-9	Clear	
8 E 145	VM-911-9		Red	1-24, 2.19
8 E 146	VM-911-9-432		Green	25-99, 1.91
8 E 147	VM-911-9-433		Amber	100-999, 1.72
8 E 148	VM-911-9-434		Blue	

**C SERIES VM-911M WITH DIMMER**

Stock No.	Mfr's Type	MIL No.	Lens Color	EACH
8 E 149	VM-911M-1A	+1	Clear	
8 E 150	VM-911M-2A	+2	Red	1-24, 2.19
8 E 151	VM-911M-3A	+3	Green	25-99, 1.91
8 E 152	VM-911M-4A	+4	Amber	100-999, 1.72
8 E 153	VM-911M-10A		Blue	

**C SERIES VM-911M NON-DIMMER**

Stock No.	Mfr's Type	MIL No.	Lens Color	EACH
8 E 154	VM-911M-5A	+5	Clear	
8 E 155	VM-911M-6A	+6	Red	1-24, 2.19
8 E 156	VM-911M-7A	+7	Green	25-99, 1.91
8 E 157	VM-911M-8A	+8	Amber	100-999, 1.72
8 E 158	VM-911M-11A		Blue	

**D SERIES VM-911M WITH TRANSPARENT CYLINDRICAL LENS**

Stock No.	Mfr's Type	Lens Color	EACH
8 E 159	VM-911M-5P5	Clear	1-24, 2.07
8 E 160	VM-911M-6P5	Red	25-99, 1.81
8 E 161	VM-911M-7P5	Green	100-999, 1.63
8 E 162	VM-911M-8P5	Amber	

**D SERIES VM-911M WITH TRANSLUCENT CYLINDRICAL LENS**

Stock No.	Mfr's Type	Lens Color	EACH
8 E 163	VM-911M-5P5TL	White	1-24, 2.07
8 E 164	VM-911M-6P5TL	Red	25-99, 1.81
8 E 165	VM-911M-7P5TL	Green	100-999, 1.63
8 E 166	VM-911M-8P5TL	Amber	

**E SERIES VM-910M WITH TRANSLUCENT STOVEPIPE LENS**

Stock No.	Mfr's Type	Lens Color	EACH
8 E 167	VM-910M-65	White	1-24, 2.07
8 E 168	VM-910M-66	Red	25-99, 1.81
8 E 169	VM-910M-67	Green	100-999, 1.63
8 E 170	VM-910M-68	Amber	

**F SERIES VM-106 NON-DIMMER**

1 1/2" C. to C. spacing. Mount in 1" clearance hole. Use S6 bulbs with candelabra screw base. Binding screw terms. Less bulbs.

Stock No.	Mfr's Type	Lens Color	EACH
8 E 171	VM-106-111	Red	1-24, 4.96
8 E 172	VM-106-112	Green	25-99, 4.34
8 E 173	VM-106-113	Amber	100-999, 3.91
8 E 174	VM-106-114	Blue	
8 E 175	VM-106-135	White	1-24, 4.96
8 E 176	VM-106-116	Yellow	25-99, 4.34
8 E 177	VM-106-117	Clear	100-999, 3.91

**OIL-TIGHT SERIES**

Feature totally enclosed construction; one-piece solid brass mtg. bushing; oil-proof gaskets. With mtg. hdwre; less lamp.

**1" MOUNTING-HOLE TYPES**

**G H** Series 103-3101\*. Use S6 lamp (not supplied). 1 1/2" C. to C. spacing. Screw terminals. §Frosted-on-back lens.

Stock No. (Torpedo)	*Mfr's Type	Stock No. (Dome)	*Mfr's Type	Color
8 E 178	-1331	8 E 185	-1211§	Red
8 E 179	-1332	8 E 186	-1212§	Green
8 E 180	-1333	8 E 187	-1213§	Amber
8 E 181	-1335	8 E 188	-1235	White
8 E 182	-1334	8 E 189	-1214§	Blue
8 E 183	-1336	8 E 190	-1216§	Yellow
8 E 184	-1337	8 E 191	-1217§	Clear

1-9, EA..2.20 10-24, EA..1.98 25-up, EA..1.87

**G H** Series 103-3502\*. As above, but for 6S6 bayonet lamp. §Frosted-on-back lens.

Stock No.	*Mfr's Type	Stock No.	*Mfr's Type	Color
8 E 192	*-1331	8 E 199	*-1211§	Red
8 E 193	*-1332	8 E 200	*-1212§	Green
8 E 194	*-1333	8 E 201	*-1213§	Amber
8 E 195	*-1335	8 E 202	*-1235	White
8 E 196	*-1334	8 E 203	*-1214§	Blue
8 E 197	*-1336	8 E 204	*-1216§	Yellow
8 E 198	*-1337	8 E 205	*-1217§	Clear

1-9, EA..2.20 10-24, EA..1.98 25-up, EA..1.87

**H** Series 103-3114\*. For use with NE-45 screw base lamp. Required resistor built into base of lamp. Have C. to C. spacing of 1 1/2". Supplied with lockwasher and hex nut. Supplied with only dome style unfrosted lens, except Type 1217, with frosted-on-back lens. Lamps not included.

Stock No.	*Mfr's Type	Color	EACH
8 E 206	-1217	Clear	1-9, 2.20
8 E 207	-1231	Red	10-24, 1.98
8 E 208	-1233	Amber	25 up, 1.87
8 E 209	-1237	Clear	

**1 1/2" MOUNTING-HOLE TYPES**

**J K** Series 125-408\*. Pilot light assemblies for use with NE-51 neon lamps. Built-in 56K-ohm resistor for bright light on 105-125 v. AC or DC. C. to C. spacing approximately 5/8". Solder terminals.

Stock No. (Fluted)	*Mfr's Type	Stock No. (Plain)	*Mfr's Type	Color
8 E 210	-1191	8 E 213	-1131	Red
8 E 211	-1193	8 E 214	-1133	Amber
8 E 212	-1197	8 E 215	-1137	Clear

1-9, EA..1.94 10-24, EA..1.74 25-up, EA..1.68

**J K** Series 125-408H-22K\*. For use with NE-51H neon lamp. 22K-ohm resistor for bright light on 110-125 v. AC.

Stock No. (Fluted)	*Mfr's Type	Stock No. (Plain)	*Mfr's Type	Color
8 E 216	-1191	8 E 219	-1131	Red
8 E 217	-1193	8 E 220	-1133	Amber
8 E 218	-1197	8 E 221	-1137	Clear

1-9, EA..1.94 10-24, EA..1.74 25-up, EA..1.68

**J K** Series 125-408H-33K\*. For use with NE-51H neon lamp. 33K-ohm resistor for long life on 110-125 v. AC.

Stock No. (Fluted)	*Mfr's Type	Stock No. (Plain)	*Mfr's Type	Color
8 E 222	-1191	8 E 225	-1131	Red
8 E 223	-1193	8 E 226	-1133	Amber
8 E 224	-1197	8 E 227	-1137	Clear

1-9, EA..1.94 10-24, EA..1.74 25-up, EA..1.68

**OIL-TIGHT SERIES (Cont'd)**

**J K** Series 125-410\* Without Built-in Resistor. For use with T-3/4 incandescent bulb with miniature bayonet base. §Indicates frosted-on-back lens.

Stock No. (Fluted)	*Mfr's Type	Stock No. (Plain)	*Mfr's Type	Color
8 E 228	-1191	8 E 235	-1111§	Red
8 E 229	-1192	8 E 236	-1112§	Green
8 E 230	-1193	8 E 237	-1113§	Amber
8 E 231	-1194	8 E 238	-1114§	Blue
8 E 232	-1195	8 E 239	-1135	White
8 E 233	-1196	8 E 240	-1116§	Yellow
8 E 234	-1197	8 E 241	-1117§	Clear

1-9, EA..1.94 10-24, EA..1.74 25-up, EA..1.68

**L** Series 159-5437\*. Pilot light assembly for NE-79 neon lamps. 3000-ohm resistor built in for bright light on 105-125 volt AC sources. 1 1/2" C. to C. spacing. Also available on special order with built-in 6000-ohm resistor for long life operation on 105-125 volt AC power sources.

Stock No.	*Mfr's Type	Color	EACH
8 E 242	-931	Red	1-9, 3.22
8 E 243	-933	Amber	10-24, 2.95
8 E 244	-935	White	25-up, 2.68
8 E 245	-937	Clear	

**TYPE 1316-L ADAPTER SET**

For mounting any 1" Dialco assembly in a 1 3/8" clearance hole. Reducer (A) is equipped with a gasket (B) that fits clearance hole, and a washer (C) for under-the-panel mounting. Retained oil-resistant gasket on reducer assures same effective sealing against oil, water and dust obtained on standard Dialco assemblies.

8 E 246. 1-9, EA..73 10-24, EA..66 25-up, 50

**1-TERMINAL UNITS FOR GROUNDED CIRCUITS**

Have the identical features of 2-terminal assemblies, except designed for use on grounded circuits with solder or binding screw terminals. Mount in 1 1/2" clearance hole. Constructed of molded phenolic of MIL spec grade. Movable contact is solid brass per MIL-L-7806-A; spring does not carry current. Black nickel finish. Overall size, 1 1/4 x 1/2". Uses T-1 3/4 bulb (not supplied); cap unscrews for bulb replacement. With lockwasher and nut.

**1-TERMINAL LIGHT SHIELD**

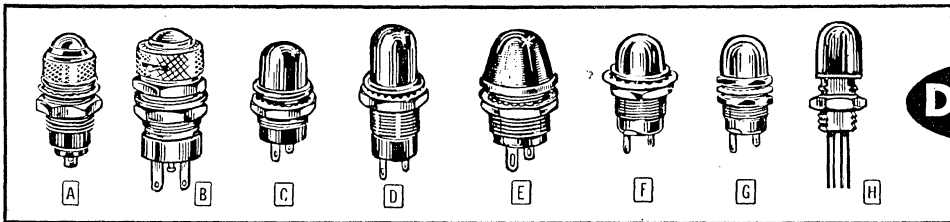
Subminiature types for dials, instruments, control panels. Opening is 1/4 x 3/16".

Stock No.	Mfr's Type	Description	EACH
8 E 247	4-1930	Blk Nkl Sld. Term.	1-9, 1.59
8 E 248	4-1830	Blk Nkl Screw Term	10-24, 1.43
8 E 249	4-1830	Chrome Screw Term	25-up, 1.28
8 E 250	4-1930	Chrome Sld. Term.	

Series 113-1930 1-Terminal Light Shields. Same as above, but equipped with molded colored filter (shield is not knurled). In black nickel finish only.

Stock No.	Mfr's Type	Color	EACH
8 E 251	113-1930-1	Red	
8 E 252	113-1930-2	Green	
8 E 253	113-1930-3	Amber	1-9, 1.78
8 E 254	113-1930-4	Blue	10-24, 1.62
8 E 255	113-1930-6	Yellow	25-up, 1.47
8 E 256	113-1930-7	Clear	

# Dialco Pilot Light Assemblies



Pilot Lights for Every Design Requirement

## 1-TERMINAL DIMMER TYPES

**A** Subminiature types. Frosted back except \*unfrosted; solder terminals. Mount in  $1\frac{1}{32}$ " dia. hole. Use with T- $1\frac{1}{4}$ " lamp. With lockwasher and nut. Less lamp.

Stock No.	Mfr's Type	Lens Color	EACH
8 E 257	8-1930-111	Red	1-9, 1.24
8 E 258	8-1930-112	Green	
8 E 259	8-1930-113	Amber	
8 E 260	8-1930-114	Blue	
8 E 261	8-1930-135	White*	25-up, .982
8 E 262	8-1930-116	Yellow	
8 E 263	8-1930-117	Clear	

## 2-TERMINAL DIMMER TYPES—MECHANICAL OR POLAROID

**B** Mechanical types vary opening size for complete blackout or have permanent small openings for "semi-blackout" use. Polaroid types provide reduced intensity at all settings but have full diameter openings. Use T- $1\frac{1}{4}$ " lamps; mount in  $1\frac{1}{32}$ " hole; have solder terminals. All are frosted on back, except †translucent unfrosted. Less lamp.

### SEMI-BLACKOUT TYPES

Stock No.	Mfr's Type	Lens Color	EACH
8 E 264	109-3830-111	Red	1-9, 1.78
8 E 265	109-3830-112	Green	
8 E 266	109-3830-113	Amber	10-24, 1.62
8 E 267	109-3830-114	Blue	
8 E 268	109-3830-116	Yellow	25-up, 1.47
8 E 269	109-3830-117	Clear	

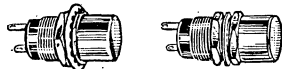
### BLACKOUT TYPES

Stock No.	Mfr's Type	Lens Color	EACH
8 E 270	108-3830-111	Red	1-9, 1.78
8 E 271	108-3830-112	Green	
8 E 272	108-3830-113	Amber	10-24, 1.62
8 E 273	108-3830-114	Blue	
8 E 274	108-3830-135	White‡	25-up, 1.47
8 E 275	108-3830-116	Yellow	
8 E 276	108-3830-117	Clear	

### POLAROID TYPES

Stock No.	Mfr's Type	Lens Color	EACH
8 E 277	112-3830-111	Red	1-9, 1.78
8 E 278	112-3830-112	Green	
8 E 279	112-3830-113	Amber	10-24, 1.62
8 E 280	112-3830-114	Blue	
8 E 281	112-3830-135	White‡	25-up, 1.47
8 E 282	112-3830-116	Yellow	
8 E 283	112-3830-117	Clear	

## SERIES 140 ASSEMBLIES



FRONT MOUNT BACK MOUNT  
FRONT MOUNT BACK MOUNT

Series 140-5030\* Front Mounting and 140-3830† Back Mounting Types. Front types mount in  $1\frac{1}{32}$ " hole; back types,  $1\frac{1}{16}$ " hole.

### TRANSLUCENT LENS CAP

Stock No. (Front Mt)	Stock No. (Back Mt)	Mfr's Type*†	Lens Color	EACH
8 E 284	8 E 290	-1471	Red	1-9, 1.24
8 E 285	8 E 291	-1472	Green	
8 E 286	8 E 292	-1473	Amber	10-24, 1.12
8 E 287	8 E 293	-1474	Blue	
8 E 288	8 E 294	-1475	White	25-up, .982
8 E 289	8 E 295	-1476	Yellow	

## SERIES 140 ASSEMBLIES (Cont'd)

### TRANSPARENT LENS CAP

Series 140-5030\* Front and 140-3830† Back Mtg.

Stock No. (Front Mt)	Stock No. (Back Mt)	Mfr's Type*†	Lens Color	EACH
8 E 296	8 E 303	-1431	Red	1-9, 1.24
8 E 297	8 E 304	-1432	Green	
8 E 298	8 E 305	-1433	Amber	10-24, 1.12
8 E 299	8 E 306	-1434	Blue	
8 E 300	8 E 307	-1435	White	25-up, .982
8 E 301	8 E 308	-1436	Yellow	
8 E 302	8 E 309	-1437	Clear	

## 2-TERMINAL PLASTIC DOME TYPES

**C** Series 162-8430.\* Front mount in  $1\frac{1}{32}$ " hole. For 327, 328 incandescent bulbs. 180° visibility. Less bulbs.

### TRANSPARENT DOMES

Stock No.	Mfr's Type*	MIL No.	Dome Color	EACH
8 E 310	-931	MS25256-6	Red	1-9, 1.19
8 E 311	-932	MS25256-4	Green	
8 E 312	-933	MS25256-2	Yellow	10-24, 1.07
8 E 313	-937	MS25256-8	Clear	
8 E 344	-975	MS25256-10	White	25-up, .94
8 E 345	-934	MS25256-12	Blue	

### TRANSLUCENT DOMES

Stock No.	Mfr's Type*	Dome Color	EACH
8 E 314	*-971	Red	1-9, 1.19
8 E 315	*-972	Green	
8 E 316	*-973	Amber	10-24, 1.07
8 E 317	*-974	Blue	
8 E 318	*-976	Yellow	25-up, .94

**D** Series 137-8836.\* Similar to above, but with NE-2D lamp with midjet flange base.

Stock No.	Mfr's Type*	MIL No.	Dome Color	EACH
8 E 319	*-931	MS25257-4	Red	1-9, 2.17
8 E 320	*-933	MS25257-2	Yellow	10-24, 1.95
8 E 321	*-937	MS25257-6	Clear	25-up, 1.71

**D** Series 137-8836H-22K.\* Above, but provides extra bright light with NE-2J neon bulb on 110-125 v. AC. Less lamp.

Stock No.	*Mfr's Type	Dome Color	EACH
8 E 322	-931	Red	1-9, 2.17
8 E 323	-933	Amber	10-24, 1.95
8 E 324	-935	White	10-24, 1.95
8 E 325	-937	Clear	25-up, 1.71

**D** Series 137-8836H-33K.\* As above, but with 33K-ohm resistor for 25,000 hr. lamp life on 110-125 v. AC. Use with NE-2J lamp. Less lamp.

Stock No.	*Mfr's Type	Lens Color	EACH
8 E 326	*-931	Red	1-9, 2.17
8 E 327	*-933	Amber	10-24, 1.95
8 E 328	*-935	White	10-24, 1.95
8 E 329	*-937	Clear	25-up, 1.71

## WATERTIGHT SERIES

**E** Series 177-8430. Front panel mtg. in  $1\frac{1}{32}$ " hole; retained "O" ring seal. For T- $1\frac{1}{4}$ " midget flanged base bulb.  $\frac{5}{8}$ "x $1\frac{1}{16}$ ". With mtg. hdwre., less lamp.

Stock No.	Mfr's Type	Lens Color	EACH
8 E 330	8430-971	Red	1-9, 1.62
8 E 331	8430-972	Green	
8 E 332	8430-973	Amber	10-24, 1.44
8 E 333	8430-974	Blue	
8 E 334	8430-975	White	25-up, 1.29
8 E 335	8430-976	Yellow	

## WATERTIGHT SERIES (Cont'd)

**E** Series 181-8836.\* Same as Series 137-8836 types (center column) except have retained "O" ring seal for watertight construction.

Stock No.	*Mfr's Type	Lens Color	EACH
8 E 336	-931	Red	1-9, 2.32
8 E 337	-933	Amber	
8 E 338	-935	White	10-24, 2.13
8 E 339	-937	Clear	

**E** Series 181-8836H.\* Same as Series 137-8836H types (at left, in center column), except have retained "O" ring seal for watertight construction.

Stock No.	*Mfr's Type	Lens Color	EACH
8 E 340	*-931	Red	1-9, 2.32
8 E 341	*-933	Amber	
8 E 342	*-935	White	10-24, 2.13
8 E 343	*-937	Clear	

## 2-TERMINAL PLASTIC DOME TYPES

**F** **G** Series 101-5030\* Front Mounting and Series 101-3830† Back Mounting Types. Front mount units require  $1\frac{1}{32}$ " panel clearance; back mount units require  $1\frac{1}{16}$ " clearance hole. All use 327, 328 bulbs. With mtg. hardware. Less bulbs.

### TRANSPARENT DOMES

Stock No. (Front Mt)	Stock No. (Back Mt)	Mfr's Type*†	Dome Color	EACH
8 E 346	8 E 352	-971	Red	1-9, 1.24
8 E 347	8 E 353	-972	Green	
8 E 348	8 E 354	-973	Amber	10-24, 1.12
8 E 349	8 E 355	-975	White	
8 E 350	8 E 356	-974	Blue	25-up, .982
8 E 351	8 E 357	-976	Yellow	

### TRANSPARENT DOMES

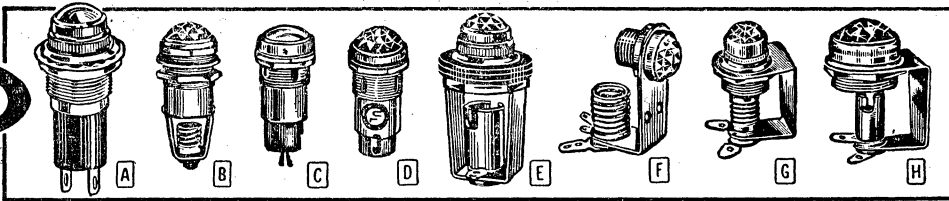
Stock No. (Front Mt)	Stock No. (Back Mt)	Mfr's Type*†	Dome Color	EACH
8 E 358	8 E 365	-931	Red	1-9, 1.24
8 E 359	8 E 366	-932	Green	
8 E 360	8 E 367	-933	Amber	10-24, 1.12
8 E 361	8 E 368	-934	Blue	
8 E 362	8 E 369	-935	White	25-up, .982
8 E 363	8 E 370	-936	Yellow	
8 E 364	8 E 371	-937	Clear	

## INDICATOR LIGHT

**H** Sub-miniature indicator light assemblies. Have high-reliability T-1 filament type lamp enclosed in high-impact plastic cap molded to mounting bushing. Entire unit (measuring less than  $\frac{5}{8}$ " long, less leads) is moistureproof and dustproof. Require only .193" panel mounting hole for clearance. Diameter of stovepipe type lens caps are  $\frac{7}{32}$ "; length is  $\frac{3}{32}$ ". Anti-rotation construction; 6" flexible, Type E wire leads. Spanner wrench mounting units are also available—specify XP10 on Special Order. Lamp ratings: 5.0 volts @.06 amps for 60,000 hours of operation; 6.3 volts @.07 amps for 6000 hours of operation. All conform to MIL spec 25446.\*

Stock No.	Mfr's Type	MIL No.*	Lens Color	EACH
8 E 372	252-9951-974	-2	Blue	1-99, 3.01
8 E 373	252-9951-972	-3	Green	
8 E 374	252-9951-971	-4	Red	100-999, 2.71
8 E 375	252-9951-975	-5	White	
8 E 376	252-9951-973	-6	Amber	2499, 2.48
8 E 377	252-9951-977	-7	Clear	

# Dialco Pilot Light Assemblies



## HALF-INCH ENCLOSED ASSEMBLIES

**A** Series 81410X. Meets MIL-L-3661A. Enclosed, aviation-type socket shell. Convex, smooth-faced lens; frosted back. 1/2" black, nickel-brass holder. Takes T-3/4 min. bayonet lamp. 2 1/4" long, 1 1/16" clearance hole. Fits panel up to 3/8". \*Unfrosted. U.L. Listed. Less lamp.

Stk. No.	Type	Color	Stk. No.	Type	Color
7 E 772	111	Red	7 E 560	116	Yel.
7 E 773	112	Green	7 E 561	117	Clear
7 E 775	113	Amber	7 E 774	135*	White
7 E 559	114	Blue			

1-9 EA. 1.19 10-24 EA. 1.07 25 up EA. .982

## REPLACEMENT JEWEL CAPS FOR ABOVE

Black nickel finish to meet MIL-L-3661A.

7 E 776	81-111	Red	7 E 636	81-116	Yel.
7 E 777 <td>81-112</td> <td>Green</td> <td>7 E 637</td> <td>81-117</td> <td>Clear</td>	81-112	Green	7 E 637	81-117	Clear
7 E 779 <td>81-113</td> <td>Amber</td> <td>7 E 778</td> <td>81-135*</td> <td>White</td>	81-113	Amber	7 E 778	81-135*	White
7 E 635 <td>81-114</td> <td>Blue</td> <td></td> <td></td> <td></td>	81-114	Blue			

1-9 EA. .19 10-24 EA. .17 25 up EA. .15

## LOW V. ENCLOSED SIGNAL ASSEMBLIES

**A** Series 812210 and 815910. Convex lens; smooth face, frosted back. 1/2" white, nickel-plated brass holders. Use bayonet lamp, replaceable from front. 2 1/4" long, 1 1/16" mtg. hole. Panels up to 3/8" thick. \*Translucent, unfrosted. †Solder terminals. ‡Binding screws. Less lamp.

Type	812210†	815910‡	Color	EACH
111	7 E 780	7 E 787	Red	
112	7 E 781	7 E 788	Green	1-9
113	7 E 782	7 E 789	Amber	.68
114	7 E 786	7 E 791	Blue	
116	7 E 638	7 E 640	Yellow	10-24
117	7 E 639	7 E 692	Clear	.61
135*	7 E 785	7 E 790	White	

## FACETED UNFROSTED LENS

Type	7 E 792	7 E 799	Color	EACH
431	7 E 792	7 E 799	Red	
432	7 E 793	7 E 800	Green	1-9
433	7 E 794	7 E 801	Amber	.68
434	7 E 796	7 E 803	Blue	
435	7 E 795	7 E 802	White	10-24
436	7 E 797	7 E 804	Yellow	.61
437	7 E 798	7 E 805	Clear	

## BUILT-IN-RESISTOR ASSEMBLIES

**A** Series 52408X(H), and 521308X(H). For T-3/4 neon glow lamps. Meet MIL-L-3661. Fluted stovepipe lens. Series 52408X and 521308X have 56 K, 1/2-watt resistor for NE-51 lamp in 110-125 v. AC-DC circuit. Series 52408XH (\*) and 521308XH (\*) have 22 K resistor for NE-51H, 110-125 v. AC or DC circuits. Black nickel finish. 2 1/16" long; 1 1/16" hole. U.L. and C.S.A. Listed. Less lamp. Available with 180 K resistor for NE-51; and 68 K resistor for NE-51H for 210-250 v. use.

### SERIES 52408X, 52408XH (Solder Term.)

Stock No.	Type	Stock No.	Type	Color
7 E 806	-991	7 E 810	H-991*	Red
7 E 807	-993	7 E 811	H-993*	Amber
7 E 808	-995	7 E 812	H-995*	White
7 E 809	-997	7 E 813	H-997*	Clear

1-9 EA. 1.19 10-24 EA. 1.07 25 up EA. .982

### SERIES 521308X, 521308XH (Screw Term.)

7 E 814	-991	7 E 818	H-991*	Red
7 E 815	-993	7 E 819	H-993*	Amber
7 E 816	-995	7 E 820	H-995*	White
7 E 817	-997	7 E 821	H-997*	Clear

1-9 EA. 1.19 10-24 EA. 1.07 25 up EA. .982

## BUILT-IN-RESISTOR ASSEMBLIES

**A** Series 95408X(H) and 951308X(H). For T-3/4 neon glow lamps. Meet MIL-L-3661. Short stovepipe lens. 95408X and 951308X have 56 K, 1/2-watt resistor for NE-51 lamp in 110-125 v. AC-DC circuit. 95408XH (\*) and 951308XH (\*) have 22 K resistor for NE-51H, 110-125 v. AC or DC circuit. Black nickel finish. 2 1/16" long; 1 1/16" hole. U.L. and C.S.A. Listed. Less lamp. Available with 180 K resistor for NE-51; and 68 K resistor for NE-51H circuit for 210-250 v. use.

### SERIES 95408X, 95408XH (Solder Term.)

Stock No.	Type	Stock No.	Type	Color
7 E 822	-931	7 E 826	H-931*	Red
7 E 823	-933	7 E 827	H-933*	Amber
7 E 824	-935	7 E 828	H-935*	White
7 E 825	-937	7 E 829	H-937*	Clear

1-9 EA. 1.19 10-24 EA. 1.07

### SERIES 951308X, 951308XH (Screw Term.)

7 E 830	-931	7 E 834	H-931*	Red
7 E 831	-933	7 E 835	H-933*	Amber
7 E 832	-935	7 E 836	H-935*	White
7 E 833	-937	7 E 837	H-937*	Clear

1-9 EA. 1.19 10-24 EA. 1.07

## ENCLOSED NEON LIGHT ASSEMBLIES

**A** Series 952208(H) and 955908(H). With built-in 56K resistor for NE-51, 110-125 v. circuit; or built-in 22K resistor for NE-51H high brightness neon glow lamp, 110-125 v. AC or DC. Plastic head, phenolic body, 2 1/16" long, 1 1/16" mtg. hole. \*Solder terminals. †Screw terminals. U.L. Listed. Less lamp.

### FOR NE-51

Type	952208†	955908†	Color	EACH
931	7 E 838	7 E 693	Red	1-9
933	7 E 839	7 E 694	Amber	.68
935	7 E 840	7 E 695	White	10-24
937	7 E 841	7 E 696	Clear	.61

### FOR NE-51H

Type	952208H†	955908H†	Color	EACH
931	7 E 697	7 E 842	Red	1-9
933	7 E 698	7 E 843	Amber	.68
935	7 E 699	7 E 844	White	10-24
937	7 E 732	7 E 845	Clear	.61

Series 952210 and 955910. As above, less resistor. For min. bayonet lamps. \*Solder term. †Screw term.

Type	952210*	955910†	Color	EACH
931	7 E 846	7 E 853	Red	
932	7 E 847	7 E 854	Green	1-9
933	7 E 848	7 E 855	Amber	.68
934	7 E 849	7 E 856	Blue	
935	7 E 850	7 E 857	White	10-24
936	7 E 851	7 E 858	Yellow	.61
937	7 E 852	7 E 859	Clear	

## ONE-INCH-MOUNT ASSEMBLIES

**B** Series 75C. 115-volt open type. Faceted jewel. Chromed, solid brass holder. Candelabra screw socket. Friction-fit chrome-plated cap. Less S6 lamp.

Stk. No.	Type	Color	1-9, EA.	10-24, EA.
7 E 860	431	Red		
7 E 861	432	Green		
7 E 862	433	Amber	.71	.64
7 E 863	434	Blue		
7 E 864	435	White		

## ONE-INCH-MOUNT ASSEMBLIES

**C** Series 312901. Enclosed lamp. Convex lens; frosted back. Solid brass. Friction-fit chromed cap. 6" leads. \*Translucent, unfrosted. U.L. Listed. Less S6 incandescent candelabra screw base lamp.

Stk. No.	Type	Color	EACH
7 E 934	111	Red	
7 E 935	112	Green	1-9, 1.77
7 E 936	113	Amber	10-24, 1.60
7 E 865	114	Blue	25-up, 1.47
7 E 937	117	Clear	
7 E 866	135	White*	

**D** Series 313101. 115-volt. Faceted. Black phenolic; brass. Chromed holder. Cand. base. Requires S6 bulb. U.L. Listed.

Stk. No.	Type	Color	Stk. No.	Type	Color
7 E 928	431	Red	7 E 933	434	Blue
7 E 929	432	Green	7 E 932	435	White
7 E 930	433	Amber	7 E 931	437	Clear

1-9 EA. 1.50 10-24 EA. 1.34 25 up EA. 1.23

Similar to the above, but with convex lens; frosted back. \*Translucent, unfrosted.

7 E 867	111	Red	7 E 872	116	Yel.
7 E 868	112	Green	7 E 873	117	Clear
7 E 869	113	Amber	7 E 871	135	White*
7 E 870	114	Blue			

1-9 EA. ....1.22 10-24. ....EA. 1.10

## HALF-INCH OPEN MIN. BAYONET TYPES

**E** Series 857B. 1/2" lens. 1 1/8" mtg. hole. \*Translucent, unfrosted. †Not illus.—frosted back. Less lamp.

Stk. No.	Convex†	Stk. No.	Faceted	Color
7 E 874	111	7 E 889	431	Red
7 E 875	112	7 E 890	432	Green
7 E 880	113	7 E 891	433	Amber
7 E 885	114	7 E 892	434	Blue
7 E 887	116	7 E 894	436	Yel.
7 E 888	117	7 E 895	437	Clear
7 E 866	135*	7 E 893	435	White

1-9 EA. ....EA. .44 10-24. ....EA. .40

## OPEN TYPES—FACETED JEWEL LENSES

**F** Series 510M, 610C, 710B. 1/2" lens. Min. screw for T-3/4 bulb; candelabra, G6 bulb; bayonet (not illus.). T-3/4 bulb. 7/16" clearance hole.

Color	510M Min. Screw	610C Cand.	710B Bay.
Red	7 E 938	7 E 939	7 E 940
Green	7 E 941	7 E 942	7 E 943
Amber	7 E 944	7 E 945	7 E 946
Blue	7 E 896	7 E 897	7 E 898
White	7 E 899	7 E 987	7 E 988

1-9 EA. ....EA. .21 10-24. ....EA. .19

**G** Series 810. 1/2" lens. For T-3/4 bulb. 1 1/16" clearance hole. \*Not illus.

Color	Min. Screw 810M	Bayonet* 810B	EACH
Red	7 E 966	7 E 967	
Green	7 E 968	7 E 969	
Amber	7 E 970	7 E 971	.32
Blue	7 E 969	7 E 990	.29
White	7 E 991	7 E 992	

**H** Series 910. 1" jewel. 910M, 910B require T-3/4 bulb; 910C, S6 bulb. 1" clearance hole. \*Not illus.

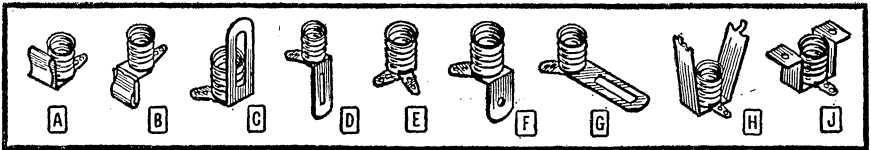
Color	*910M Min. Screw	*910C Cand.	910B Bay.
Red	7 E 972	7 E 975	7 E 947
Green	7 E 973	7 E 976	7 E 948
Amber	7 E 974	7 E 977	7 E 949
Blue	7 E 993	7 E 994	7 E 995
White	7 E 996	7 E 997	7 E 998

1-9 EA. ....EA. .71 10-24. ....EA. .64

# Dialco Lens Caps and Leecraft Lamp Sockets

## IT'S ALLIED FOR . . .

- Same-Day Shipment
- Strategically Located Facilities
- Factory OEM Prices



## DIALCO LENS CAPS



Series 25006, 10006, 5006 Lens Cap Assemblies.  $\frac{3}{8}$ " long,  $\frac{1}{16}$ " behind panel.  $\frac{1}{16}$ ",  $\frac{7}{16}$ ", and  $\frac{5}{32}$ " mtg.

Stk. No.	Type	Dia.	Color	EACH	
				1-9	10-24
8 E 013	25006-431	$\frac{3}{4}$ "	Red	.24	.22
8 E 014	25006-432	$\frac{3}{4}$ "	Green		
8 E 015	25006-433	$\frac{3}{4}$ "	Amber		
8 E 016	25006-434	$\frac{3}{4}$ "	Blue		
8 E 017	25006-435	$\frac{3}{4}$ "	White	.13	.12
8 E 018	10006-431	$\frac{1}{2}$ "	Red		
8 E 019	10006-432	$\frac{1}{2}$ "	Green		
8 E 020	10006-433	$\frac{1}{2}$ "	Amber		
8 E 021	10006-434	$\frac{1}{2}$ "	Blue	.13	.12
8 E 022	10006-435	$\frac{1}{2}$ "	White		
8 E 023	5006-431	$\frac{1}{2}$ "	Red	.13	.12
8 E 024	5006-432	$\frac{1}{2}$ "	Green		
8 E 025	5006-433	$\frac{1}{2}$ "	Amber	.13	.12
8 E 026	5006-434	$\frac{1}{2}$ "	Blue		
8 E 027	5006-435	$\frac{1}{2}$ "	White		

Series 95 Plastic Replacement Lens Caps. For pilot light series 95408, 951308, 952208, 952210, 955910.

Stk. No.	Type	Color	EACH	
			1-9, EA.	10-24, EA.
8 E 028	95-931	Red	.19	.17
8 E 029	95-932	Green		
8 E 030	95-933	Amber		
8 E 031	95-934	Blue		
8 E 033	95-935	White	.19	.17
8 E 032	95-937	Clear		

Series 52 Plastic Lens Caps. For series 52408-X (H) and 521308X(H).

Stk. No.	Type	Color	EACH	
			1-9	10-24
8 E 034	52-991	Red	.19	.17
8 E 035	52-992	Green		
8 E 036	52-993	Amber		
8 E 037	52-994	Blue		
8 E 039	52-995	White	.19	.17
8 E 038	52-997	Clear		

Series 31 Lens Cap Assemblies. For use with pilot light series 75C, 312901, and 313101. Polished chrome. Convex lens is frosted on back. \*Translucent, unfrosted.

Color	Stk. No.	Convex	Stk. No.	Faceted
Red	7 E 999	-111	8 E 006	-431
Green	8 E 000	-112	8 E 007	-432
Amber	8 E 001	-113	8 E 008	-433
Blue	8 E 002	-114	8 E 009	-434
Yellow	8 E 004	-116	8 E 011	-436
Clear	8 E 005	-117	8 E 012	-437
White	8 E 003	-135*	8 E 010	-435

1-9.....EACH .54 10-24.....EACH .52

Series 81 Replacement Lens Caps. For series 812210, 815910, and 857B. White nickel lens holders. Convex lens is frosted on back. \*Translucent, unfrosted.

Color	Stk. No.	Convex	Stk. No.	Faceted
Red	8 E 040	-111	8 E 047	-431
Green	8 E 041	-112	8 E 048	-432
Amber	8 E 042	-113	8 E 049	-433
Blue	8 E 043	-114	8 E 050	-434
Yellow	8 E 045	-116	8 E 052	-436
Clear	8 E 046	-117	8 E 053	-437
White	8 E 044	-135*	8 E 051	-435

1-9.....EACH .16 10-24.....EACH .14

## LEECRAFT SOCKETS

Series 200. Miniature bayonet sockets with insulating sleeves. .025 to .032" steel brackets; cadmium-plated for corrosion resistance. Built-in #22 wire leads.

Stock No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 054	2-01	A	.15	.12	.089
8 E 055	2-04	B			
8 E 056	2-06	D			
8 E 057	2-13	C			
8 E 058	2-15	H			

Series 300. Miniature bayonet sockets in molded bakelite. U.L., C.S.A. Listed.

Stk. No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 059	3-01	A	.25	.20	.165
8 E 060	3-02	B			
8 E 061	3-05	C			
8 E 062	3-06	D	.25	.20	.165
8 E 063	3-13	G			
8 E 064	3-15	H			
8 E 065	3-20	F			

Series 400. Candelabra screw sockets in molded bakelite. #18 black and white wire, 6" long with ends stripped  $\frac{1}{2}$ ". For both incandescent and neon glow lamps.

Stk. No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 066	4-01	A	.25	.20	.159
8 E 067	4-04	B			
8 E 068	4-05	C			
8 E 069	4-06	D			
8 E 070	4-08	F	.25	.20	.159
8 E 071	4-15	H			

Series 500. Miniature screw sockets with solder terminals tinned for easy connection. Useful for low-voltage incandescent lamp applications. Heavily cadmium-plated steel brackets resist corrosion.

Stk. No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 072	5-01	A	.12	.10	.054
8 E 073	5-04	B			
8 E 074	5-05	C			
8 E 075	5-06	D			
8 E 076	5-07	E	.12	.10	.054
8 E 077	5-08	F			
8 E 078	5-13	G			
8 E 079	5-15	H			

Series 600. Candelabra sockets. Tinned solder terminals. .025 to .032" steel brackets; cadmium-plated for corrosion resistance. For G6, S6 incandescent lamps.

Stock No.	Type	Fig.	EACH			
			1-49	50-99	100-999	1000-Up
8 E 080	6-01	A	.12	.10	.062	.054
8 E 081	6-04	B				
8 E 082	6-05	C				
8 E 083	6-06	D				
8 E 084	6-07	E	.12	.10	.062	.054
8 E 085	6-08	F				
8 E 086	6-11	J				
8 E 087	6-13	G				
8 E 088	6-15	H				

Series 700. Miniature bayonet sockets with solder terminals for low-voltage incandescent lamps as T-3 $\frac{1}{4}$ , G-3 $\frac{1}{2}$ , and G-4 $\frac{1}{4}$ . \*Not illustrated (for printed circuits).

Stock No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 089	7-01	A	.12	.10	.054
8 E 090	7-04	B			
8 E 091	7-05	C			
8 E 092	7-06	D			
8 E 093	7-07	E	.12	.10	.054
8 E 094	7-08	F			
8 E 095	7-11	J			
8 E 096	7-13	G			
8 E 097	7-15	H			
8 E 098	7-20	D			
8 E 099	7-35	*	.12	.10	.054
8 E 099	7-35	*			

Series 11-200. Single-contact candelabra bayonet socket with one wire lead. Comes with #18 wire and .035 to .042" thick steel brackets; cadmium-plated for corrosion resistance.

Stock No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 100	11-271	C	.25	.20	.147
8 E 101	11-272	D			

Series 12-200. Double-contact candelabra bayonet sockets. Contacts are mounted in a bakelite disk and separated by small coils. Disk is spring-loaded to assure positive contact. Can be used with incandescent and neon glow lamps as NE-48, S6, and 10C7. \*Not illustrated—plug in bracket. U.L. and C.S.A. Approved.

Stk. No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 102	12-201	A	.30	.25	.169
8 E 103	12-202	B			
8 E 104	12-212	G			
8 E 105	12-240	*			
8 E 106	12-271	C			
8 E 107	12-272	D			

Series 1400. Intermediate screw sockets with wire leads. For incandescent and ozone lamps. U.L. and C.S.A. Approved.

Stk. No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 108	14-71	C	.30	.25	.171
8 E 109	14-72	F			
8 E 110	14-212	G			

Series 1600. Midget screw sockets with soldering terminals; tinned for easy connections.

Stock No.	Type	Fig.	EACH			
			1-49	50-99	100-999	1000-Up
8 E 111	16-08	F	.20	.15	.108	.085

Series 1800. Candelabra screw base socket. For incandescent and neon glow lamp applications. Insulating sleeve for use over screw sleeve is supplied to meet U.L. and C.S.A. requirements.

Stock No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 112	18-01	A	.15	.12	.079
8 E 113	18-04	B			
8 E 114	18-76	D			
8 E 115	18-79	C			

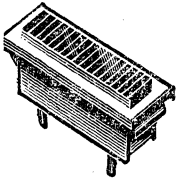
Series 23-00 and 23-200. (Not illustrated.) Molded wedge-base sockets. Double-contacts insure security of lamp—firmly held on both sides. 23-00 series has terminals, 23-200 series has wire leads. \*Left-hand bracket. †Right-hand bracket. U.L. Listed for AC-DC receivers.

Stock No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 116	23-23*		.10	.10	.059
8 E 117	23-24†				
8 E 118	23-223*		.15	.15	.091
8 E 119	23-224†				

Series 57-00 and 57-200. Double-contact candelabra bayonet sockets with tab terminals. Rated 75 watts; 125 volts. Steel brackets, .035 to .042" thick; cadmium-plated. Type 57-241 has wire leads, not tab terminals. \*Has right-hand bracket. U.L. and C.S.A. Approved.

Stock No.	Type	Fig.	EACH		
			1-49	50-99	100-Up
8 E 120	57-24	*	.25	.20	.129
8 E 121	57-41	D			
8 E 122	57-45	A			
8 E 123	57-241	D			

## LEECRAFT NEON INDICATOR LIGHTS



High-quality rectangular neon indicator lights—excellent for new equipment design or for modernizing and "dressing-up" existing equipment. White nylon housing with chrome-plated bezel. Have 6" 18-gauge insulated leads. Require 1.281 x .395 mtg. hole. Series resistor supplied. Rated 1/2 watt at both 125 v. and 250 v. 1 7/8 x 1 1/2 x 2 1/2".

### SERIES 3100—110-125 VOLTS

Stock No.	Mfr's Type	Color	EACH		
			1-24	25-99	100-999
8 E 508	31-2131-6	Red	.75	.60	.40
8 E 509	31-2133-6	Amber			
8 E 510	31-2137-6	Clear			
8 E 511	31-2135-6	White			

### SERIES 3100H—210-250 VOLTS

8 E 512	31H-2131-6	Red	.75	.60	.40
8 E 513	31H-2133-6	Amber			
8 E 514	31H-2137-6	Clear			
8 E 515	31H-2135-6	White			

## SITTLER PANEL LAMP

Type 211007 Neon Indicating Lamp. Has starting voltages of 65 v., AC; 90 v., DC. Rated 1/25th watt. Switchboard slide-type base. 7 E 104..... .40

## NEON GLOW LAMPS

For 105-600 v. except 1210-600 v., DC only. Screw types have series resistor in base for 105-125 v.; others require external resistor. In Base column: Sk. means skirted; D.C. means double contact; S.C. means single-contact; Mid. Flange means midjet flanged; Bay. means bayonet; Cand. means candelabra; others self-explanatory. \*AC starting voltage; DC starting voltage, 40% higher. †High brightness.

Stock No.	Mfr's Type	Watts	*AC V.	Bulb Style	Base	EACH	
						1-49	50-Up
8 E 516	A1B	1/17	65	T-2	Wire Term.	.14	.11
8 E 517	†A1C	1/17	95	T-2	Wire Term.	.14	.11
8 E 518	NE-2	1/17	65	T-2	Wire Term.	.10	.08
8 E 519	NE-2D	1/15	65	T-2	S.C. Mid. Flange	.82	.66
8 E 520	NE-2E	1/10	65	T-2	Wire Term.	.10	.08
8 E 521	†NE-2H	1/5	105	T-2	Wire Term.	.12	.10
8 E 522	†NE-2J	1/5	105	T-2	S.C. Mid. Flange	.82	.66
8 E 523	NE-7	1/4	55	T-4 1/2	Wire Term.	.73	.58
8 E 524	NE-16	1/4	\$67	T-4 1/2	D.C. Bay. Cand.	.63	.50
8 E 525	NE-17	1/4	55	T-4 1/2	D.C. Bay. Cand.	.90	.72
8 E 526	NE-21	1/4	55	T-4 1/2	S.C. Bay. Cand.	.95	.76
8 E 527	NE-30	1	60	G-10	Edison	1.20	.96
8 E 528	NE-32	1	60	G-10	D.C. Bay. Cand.	1.20	.96
8 E 529	NE-34	2	60	S-14	Edison	1.85	1.48
8 E 530	NE-40	3	60	S-14	Edison	2.70	2.16
8 E 531	NE-42	3	60	S-14	Sk.DC.Bay.Cand.	2.65	2.12
8 E 532	NE-45	1/4	65	T-4 1/2	Cand. Screw	.85	.68
8 E 533	NE-48	1/4	65	T-4 1/2	D.C. Bay. Cand.	.70	.56
8 E 534	NE-51	1/25	65	T-3 1/4	S.C. Bay. Min.	.21	.17
8 E 535	†NE-51H	1/7	105	T-3 1/4	S.C. Bay. Min.	.23	.18
8 E 536	†NE-56	1	60	S-11	Edison	1.25	1.00
8 E 537	NE-57	1/4	55	T-4 1/2	Cand. Screw	.99	.79
8 E 538	†NE-58	1/2	65	T-4 1/2	Cand. Screw	.95	.76
8 E 539	NE-77	3/4	140	T-2	3-Wire Term.	.55	.44
8 E 540	NE-96	1/4	140	T-2	2-Wire Term.	.20	.16

## ARGON GLOW LAMPS

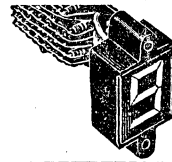
Pale blue-violet light—near-ultraviolet radiation. Clear glass. \*Av. life, 1000 hours; †av. life, 3000 hrs.

Stock No.	Type	Watts	Volts	Bulb	Base	EACH	
						1-49	50-Up
8 E 541	*AR-3	1/4	80	T-4 1/2	Cand. Screw	.85	.68
8 E 542	†AR-1	2	65	S-14	Edison	1.90	1.52

## AC-DC LAMPS

Rated 1500 hours, average use. Clear glass except †white glass. Ideal behind small panel openings, as indicator lamps, etc. For 120 volts, except \*230 v. †Herzog tubular lamp—others, G.E. Av. shgp. wt., 4 oz.

Stock No.	Type	Watts	Base	EACH	
				1-49 EA.	50-Up EA.
8 E 543	656	6	Cand. Screw	.22	.18
8 E 544	656DC	6	D.C. Bay. Cand.	.33	.26
8 E 545	356/5	3	Cand. Screw	.39	.31
8 E 546	*1056/10	10	Cand. Screw	.52	.42
8 E 547	7C7	7	Cand. Screw	.22	.18
8 E 548	†7C7W	7	Cand. Screw	.22	.18
8 E 549	10C7DC	10	D.C. Bay. Cand.	.29	.23
8 E 550	†	4	Cand. Screw	.54	.49



## REGENCY HIGH-SPEED READOUT

Displays one digit from 1 to 9 at a time, in a flat plane. Control circuit and indicator can be separated—require only one input for each number. Overall size, 1 1/2 x 1 1/8 x 3 1/2"; character size, 7/8 x 1/2".

7 E 673, 1-9..... EACH 14.70  
10-49..... EACH 12.50 50-Up..... EACH 10.50

## DRAKE INDICATOR LIGHT

Type 116-323 "Econoglow" Front-Mounted Neon Indicator. Starting voltage; 65 v., AC and 90 v., DC. With 5/16" mtg. hole for a max. panel thickness of 3/16". Specify color: Clear, Red, or Yellow. 2 oz. 8 EE 687..... .22



Type 121 "Tynilite." Midget-size indicator with replaceable lamp (uses 6-v., .06-amp, midget screw, T-1 1/4). Mts. in 7/16" hole. Length, 1 1/16". \*Replacement lamp.

Stock No.	Cap	EACH		
		1-9	10-49	50-99
7 E 674	Red	.76	.66	.61
7 E 675	Yellow			
7 E 676	Green			
7 E 677	*	.21	.19	.17



☐ Type 105 "Post-Lite." Panel light for 65-130 v., AC, or 90-130 v., DC. Length, 2 1/4". Requires 1/2" mtg. hole.

7 E 678, 1-9..... EACH .70  
10-49..... EACH .61 50-99..... EACH .582



☐ Type 110 Neon "Flashlight." Clear plastic. For 115 v., AC. 1/2 x 1 1/8 x 3/16".

7 E 679, 1-9..... EACH .498  
10-49..... EACH .448 50-99..... EACH .415

## COLE-HERSEE LAMP ASSEMBLY



Type DL-3 Dash Lamp Assembly. Takes Nos. 51, 53, 55, or 57 bulbs. With 3/8" mtg. hole. (Stem-mounted).

Has single 12" wire. Shgp. wt., 2 oz. 7 E 105..... .61

## G.E. BULBS, SOCKETS AND REDUCERS

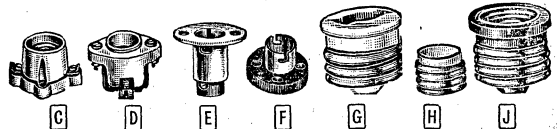
### G.E. TUNGAR BULBS



Argon and argon-mercury filled tungar bulbs for use in rectification of AC to DC current in battery chargers, DC power supplies, motion picture projectors, and for operation of magnetic chucks, motors, etc. \*Indicates type most frequently used in movie projectors. Av. shgp. wt., 1 1/4 lbs.

Stk. No.	Type	Fig.	A	EACH	Stk. No.	Type	Fig.	A	EACH
7 E 592	12X825	A	2	4.80	7 E 597	189049	B	6	4.88
7 E 593	206501	A	2	4.65	7 E 598	*217283	B	15	9.38
7 E 594	20X672	A	5	5.78	7 E 599	16X897	.....	2	13.05
7 E 595	189048	B	6	4.88	7 E 600	45X674	.....	6	15.30

## SOCKETS AND REDUCERS FOR NEON, ARGON, PILOT LAMPS



Figs. C, D, E, and F are sockets; other units are reducers. Reducer fits into socket to convert to more commonly used types of bulb bases. \*Socket with hard rubber insert in metal shell. Av. shgp. wt., for sockets, 3 oz. Av. shgp. wt. of reducers, 2 oz.

Stock No.	Fig.	Description	1-49 EA.	50-Up EA.
7 E 661	C	Edison socket	.13	.12
7 E 662	C	Miniature screw socket	.15	.13
7 E 663	D	Candelabra screw socket	.45	.41
7 E 664	C	Candelabra screw socket	.15	.13
7 E 665	E*	D. C. bay, candelabra socket	.36	.33
7 E 666	F	D. C. bay, candelabra socket	.87	.79
7 E 667	F	S. C. bay, candelabra socket	.81	.72
7 E 668	G	Edison-to-Cand. reducer	.21	.18
7 E 669	H	Candelabra-to-Min. reducer	.18	.15
7 E 670	H	Intermediate-to-Cand. reducer	.09	.07
7 E 671	J	Edison-to-Inter. reducer	.16	.14
7 E 672	.....	For slide base lamps.	.102	.085

# Pilot and Indicator Lights by Sylvania

## EXTENDED-SERVICE PILOT LIGHTS



Developed to assure reduction of the incidence of early failures in highly important equipment using pilot lights. Designed to give trouble-free performance for a minimum of 3000 hours static life at rated voltage. These Sylvania Extended-Service pilot lights exceed many of the opera-

tional specifications established by Associated Testing Laboratories, Inc. for use in missile-borne, aircraft, marine and ground applications. Associated Testing Laboratories, Inc. is a qualified independent testing facility, recognized by the U.S. Government.

### LAMPS

Stock No.	Mfr's Type	Bulb	Volts	Av. Watts	Av. Amps	End Foot-Candles	Base	EACH		
								1-9	10-99	100-Up
7 E 248	B0672	T2	6	.8	.140	700	Slide			
7 E 249	B1272	T2	12	2.0	.170	2100	Slide			
7 E 250	B2472	T2	24	1.7	.073	2200	Slide			
7 E 251	B2972	T2	28	1.1	.040	1200	Slide	.45	.43	.41
7 E 252	B4872	T2	48	2.5	.053	1500	Slide			
7 E 253	B6072	T2	60	3.0	.050	2200	Slide			
7 E 254	B2072	T2	120	3.0	.025	1500	Slide			

### LENSES

For lamp assemblies on this page. Made of a new high-temperature plastic that avoids lens-melting and signal

distortion. Designed to provide sharper signals and truer color fidelity. Available in 4 popular styles.

#### JEWELLED

#### CLEAR

#### FLUTED

#### OPAQUE

Stock No.	Mfr's Type	Color	Stock No.	Mfr's Type	Color	Stock No.	Mfr's Type	Color	Stock No.	Mfr's Type	Color	EACH	
												1-9	10-Up
7 E 255	B0001	Red	7 E 259	B0010	Red	7 E 265	B0020	Red	7 E 270	B0030	Red		
7 E 256	B0002	Blue	7 E 260	B0011	Amber	7 E 266	B0022	Green	7 E 271	B0031	Yellow		
7 E 257	B0003	Green	7 E 261	B0012	Green	7 E 267	B0024	Blue	7 E 272	B0032	Green	.14	.13
7 E 258	B0006	Amber	7 E 262	B0013	Blue	7 E 268	B0025	Clear	7 E 273	B0033	White		
			7 E 263	B0014	Yellow	7 E 269	B0026	Amber					
			7 E 264	B0016	Clear								

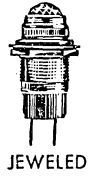
### UNIVERSAL HOUSING

Rugged phenolic. All metal parts of housing are nickel-plated. Rated at 75 watts, 125 volts. U.L. Listed. Electrical contact can be made with AMP connector 41884,

or leads can be soldered through holes in contacts. Length, 1 7/32". Max. panel thickness, 1 3/32".  
7 E 274, B0099, 1-9.....EACH .51 10-Up.....EACH .49

#### UNIVERSAL HOUSING AND LAMP COMBINATIONS (Assembled less lens)

Stock No.	Mfr's Type	Lamp Type	Volts	Av. Watts	Av. Amps	End Foot-Candles	EACH				
							1-9	10-24	25-99	100-999	1000-Up
7 E 275	6PSB	B0672	6	.8	.140	700					
7 E 276	12PSB	B1272	12	2.0	.170	2100					
7 E 277	24PSB	B2472	24	1.7	.073	2200					
7 E 278	28PSB	B2972	28	1.1	.040	1200	1.00	.95	.93	.90	.85
7 E 279	48PSB	B4872	48	2.5	.053	1500					
7 E 280	60PSB	B6072	60	3.0	.050	2200					
7 E 281	120PSB	B2072	120	3.0	.025	1500					



JEWELLED



CLEAR



FLUTED



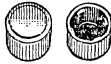
OPAQUE

### INDICATOR LAMPS AND SOCKETS

Sockets are made of rugged, general-purpose phenolic. All metal parts of the sockets and lamps are nickel plated. Sockets are mounted from front of panel with tinnerman clips (included). Strip sockets (12 sockets to a strip) can be cut to any size—offer maximum design flexibility and economy. Indicator lamps can be changed from front of panel. (Lamps are described below.)

#### END COLOR CAPS

Available in large profax and pyrex hard glass types. In 5 colors.

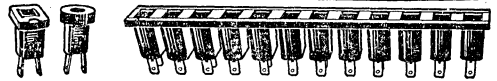


#### PROFAX

#### PYREX

Stock No.	Mfr's Type	Color	Stock No.	Mfr's Type	Color
7 E 425	B8001	Red	7 E 430	B8071	Red
7 E 426	B8002	Yellow	7 E 431	B8072	Yellow
7 E 427	B8003	White	7 E 432	B8073	White
7 E 428	B8004	Green	7 E 433	B8074	Green
7 E 429	B8005	Blue	7 E 434	B8075	Blue

1-9.....EACH .06 100-Up.....EACH .05



#### INDICATOR SOCKETS (Single-Socket Type)

7 E 282, B0150, Round, Body size: 7/16x1/2" dia. Flange: 3/8" dia. 1-9.....EACH .26 10-99.....EACH .24 100-Up.....EACH .22

7 E 283, B0151, Rectangular, Same body size as above. Flange: 1/2x3/4". 1-9.....EACH .26 10-99.....EACH .24 100-Up.....EACH .22

#### STRIP SOCKETS (12 sockets to a strip)

Overall depth, 5/16" (less pins). Sockets are 7/16x1/2" dia.

7 E 284, B1250, 1/2" center, alternate contacts. 1-9.....EACH 2.65 10-99.....EACH 2.55 100-Up.....EACH 2.35

7 E 285, B1275, 3/4" center, alternate contacts. 1-9.....EACH 2.65 10-99.....EACH 2.55 100-Up.....EACH 2.35

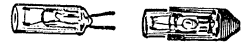
7 E 286, B3250, 1/2" ctr., individual contacts. 1-9.....EACH 2.75 10-99.....EACH 2.65 100-Up.....EACH 2.45

7 E 287, B3275, 3/4" ctr., individual contacts. 1-9.....EACH 2.75 10-99.....EACH 2.65 100-Up.....EACH 2.45

### INDICATOR LAMPS

Long life—3000 to 5000 hours. Electrical contact made with AMP connector 41884 or by

soldering leads through holes in contacts. T2 bulb. \*Cherry-red glow.



Based

Unbased

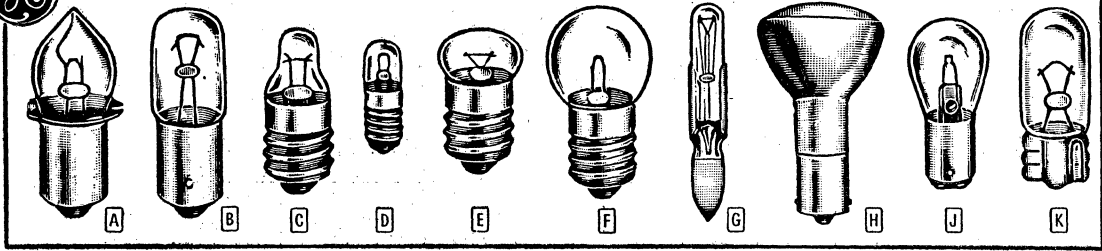
#### SLIDE BASE

#### UNBASED

Volts	Current (ma)	End Foot-Candles	Stock No.	Mfr's Type	EACH			Stock No.	Mfr's Type	EACH		
					1-9	10-99	100-Up			1-9	10-99	100-Up
4.0	35-45	200	7 E 288	B0450				7 E 411	B0452			
5.0	35-45	225	7 E 289	B0550				7 E 412	B0551			
6.0	35-45	250	7 E 290	B0650	.43	.41	.37	7 E 413	B0652	.33	.31	.27
10.0	35-45	450	7 E 291	B1050				7 E 414	B1055			
10.0	15-20	100	7 E 292	B1030				7 E 415	B1031			
10.0	9-11	*	7 E 293	B1040	.65	.61	.55	7 E 416	B1041	.58	.54	.45
12.0	35-45	800	7 E 294	B1255				7 E 417	B1257			
16.0	35-45	900	7 E 295	B1650				7 E 418	B1652			
16.0	15-20	150	7 E 296	B1630				7 E 419	B1632			
18.0	34-45	1000	7 E 297	B1860	.43	.41	.37	7 E 420	B1861	.33	.31	.27
24.0	35-45	1100	7 E 298	B2455				7 E 421	B2454			
24.0	15-20	200	7 E 299	B2490				7 E 422	B2491			
28.0	35-45	1285	7 E 409	B2900				7 E 423	B2905			
48.0	35-45	2060	7 E 410	B4861	.49	.44	.38	7 E 424	B4862	.39	.36	.31

Depend on Allied for Same-Day Shipment at OEM Prices

# General Electric Miniature Lamps



## ABBREVIATIONS USED TO DESCRIBE BASE AND BULB STYLES

BASE CONFIGURATIONS: Bay.—bayonet. Cand.—candelabra. D.C.—double contact. F.—flanged. Mid.—midget. Pref.—prefocused. S.C.—

single contact. BULB STYLES: B—lemon. G—globe. FE—flat end. R—reflector. S—straight end. T—tubular. TL—lens end, tubular.

### GENERAL-PURPOSE MINIATURE LAMPS

\*Switchboard slide-type base. 1 lamp, 2 oz.; box of 10, 4 oz.

Stock No.	Mfr's Type	Fig.	Volts	Amps	Base	Bulb Style	EACH		
							1-9	10-99	100-Up
7E 300	PR-2	A	2.4	.50	S.C., F.	B-3½	.20	.12	.10
7E 301	PR-3	A	3.6	.50	S.C., F.	B-3½	.20	.12	.10
7E 302	PR-4	A	2.3	.27	S.C., F.	B-3½	.20	.12	.10
7E 303	PR-6	A	2.47	.30	S.C., F.	B-3½	.20	.12	.10
7E 304	PR-7	A	3.7	.30	S.C., F.	B-3½	.20	.12	.10
7E 305	PR-12	A	5.95	.50	S.C., F.	B-3½	.20	.12	.10
7E 306	PR-13	A	4.75	.50	S.C., F.	B-3½	.20	.12	.10
7E 367	8	J	6.4	3.0	D.C. Bay.	S-8	.40	.25	.20
7E 368	8	J	8.0	2.2	D.C. Bay.	S-8	.40	.25	.20
7E 307	12	F	6.3	.15	Min. 2-pin	G-3½	.25	.15	.113
7E 308	13	F	3.7	.30	Screw	G-3½	.17	.10	.085
7E 309	14	F	2.5	.30	Screw	G-2	.17	.10	.085
7E 310	24E	G	2.4	.035	Tel. Slide*	T-2	.65	.40	.33
7E 369	24X	G	2.4	.035	Tel. Slide*	T-2	.65	.40	.33
7E 311	27	F	4.9	.30	Screw	G-4½	.17	.10	.085
7E 312	39	B	6.3	.36	Bayonet	T-3¼	.30	.18	.15
7E 313	40	B	6.8	.15	Screw	T-3¼	.15	.09	.077
7E 314	41	B	2.5	.50	Screw	T-3¼	.15	.09	.077
7E 315	43	B	2.5	.50	Bayonet	T-3¼	.15	.09	.077
7E 366	44	B	6-8	.25	Bayonet	T-3¼	.15	.09	.077
7E 316	45	B	3.2	.35	Bayonet	T-3¼	.15	.09	.077
7E 317	46	B	6.8	.25	Screw	T-3¼	.15	.09	.077
7E 318	47	B	6-8	.15	Bayonet	T-3¼	.15	.09	.077
7E 319	48	B	2.0	.06	Screw	T-3¼	.15	.09	.077
7E 320	48C	G	4.8	.035	Tel. Slide*	T-2	.70	.43	.36
7E 321	49	B	2.0	.06	Bayonet	T-3¼	.15	.09	.077
7E 322	50	F	6-8	1 c.p.	Screw	G-3½	.15	.09	.077
7E 323	51	F	6-8	1 c.p.	Bayonet	G-3½	.15	.09	.077
7E 370	52	F	14.4	.10	Screw	G-3½	.25	.15	.13
7E 324	53	F	14.4	.12	Bayonet	G-3½	.15	.09	.077
7E 325	55	F	6-8	2 c.p.	Bayonet	G-4½	.15	.09	.077
7E 326	57	F	12	2 c.p.	Bayonet	G-4½	.15	.09	.077
7E 327	63	F	6-8	3 c.p.	S.C. Bay.	G-6	.20	.12	.10
7E 328	67	F	12	4 c.p.	S.C. Bay.	G-6	.20	.12	.10
7E 329	67K	F	13.5	4 c.p.	Cand.	G-6	.40	.25	.20
7E 372	71K	F	22	.18	Cand.	G-6	.30	.18	.154
7E 330	81	F	6-8	6 c.p.	S.C. Bay.	G-6	.25	.15	.13
7E 331	82	F	6-8	6 c.p.	D.C. Bay.	G-6	.25	.15	.13
7E 332	112	C	1.2	.22	Screw	TL-3	.17	.10	.085
7E 333	136	G	1.3	.50	Screw	G-4½	.17	.10	.085
7E 334	158	B	12	.24	Wedge	T-3¼	.20	.12	.10
7E 335	159	K	6.3	.15	Wedge	T-3¼	.20	.12	.10
7E 336	222	C	2.2	.25	Screw	TL-3	.17	.10	.085
7E 337	223	C	2.2	.25	Screw	FE-3¼	.17	.10	.085
7E 338	224	C	2.15	.22	Special	TL-2¼	.17	.10	.085
7E 339	233	F	2.3	.27	Screw	G-3½	.17	.10	.085
7E 340	248	F	2.5	.80	Screw	G-5½	.25	.15	.13
7E 373	259	B	6.3	.25	Wedge	T-3¼	.20	.12	.10
7E 341	313	B	28	.17	Bayonet	T-3¼	.35	.21	.18
7E 342	327	D	28	.04	S.C. Mid.	T-1¼	.90	.55	.46
7E 343	328	D	6	.20	S.C. Mid.	T-1¼	.70	.43	.36
7E 374	330	D	14	.08	S.C. Mid.	T-1¼	1.00	.61	.49
7E 375	344	D	10	.014	S.C. Mid.	T-1¼	1.50	.92	.76
7E 376	345	D	6	.04	S.C. Mid.	T-1¼	1.40	.86	.72
7E 377	363	F	14	.20	Bayonet	G-3½	.20	.12	.10
7E 378	405	F	6.5	.50	Screw	G-4½	.25	.15	.13
7E 379	406	F	2.6	.30	Screw	G-4½	.20	.12	.10
7E 380	407	F	4.9	.30	Screw	G-4½	.20	.12	.10
7E 344	425	F	5	.50	Screw	G-4½	.17	.10	.085
7E 345	428	F	12.5	.25	Screw	G-4½	.17	.10	.085
7E 381	431R	F	14	.25	Bayonet	G-4½	.25	.15	.13
7E 346	432	F	18.0	.25	Screw	G-4½	.20	.12	.10
7E 347	433	F	18	.25	Bayonet	G-4½	.25	.15	.13
7E 382	502	D	5.1	.15	Screw	G-4½	.17	.10	.085
7E 383	509K	F	24	.18	Cand.	G-6	.25	.15	.13
7E 348	605	F	6.1	.50	Screw	G-4½	.25	.15	.13

### GENERAL-PURPOSE MINIATURE LAMPS (Cont'd)

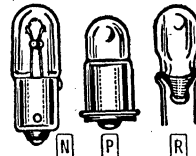
Stock No.	Mfr's Type	Fig.	Volts	Amps	Base	Bulb Style	EACH		
							1-9	10-99	100-Up
7E 384	1383	H	12	.20w	S.C. Bay.	R-12	2.70	1.65	1.22
7E 349	1445	F	18	.15	Bayonet	G-3½	.20	.12	.10
7E 350	1446	F	12	.20	Screw	G-3½	.25	.15	.13
7E 351	1447	F	18.0	.15	Screw	G-3½	.20	.12	.10
7E 352	1449	F	14	.20	Screw	G-3½	.15	.09	.085
7E 353	1458	B	20	.25	Bayonet	G-5	.20	.12	.10
7E 385	1474	B	14	.17	Screw	T-3	.35	.21	.18
7E 354	1477	B	24	.17	Screw	T-3	.50	.31	.26
7E 355	1487	B	12-16	.20	Screw	T-3½	.20	.12	.10
7E 356	1488	B	14	.15	Bayonet	T-3¼	.25	.15	.13
7E 357	1493	B	6.5	2.75	D.C. Bay.	S-8	1.05	.64	.54
7E 386	1630	J	6.5	2.75	D.C. Pref.	S-8	1.40	.85	.72
7E 358	1651	J	5	.60	S.C. Bay.	S-8	.60	.37	.31
7E 387	1763	J	6.1	4.1	S.C. Pref.	S-11	1.15	.70	.59
7E 359	1768	D	6	.20	Mid. Screw	T-1¼	.90	.55	.46
7E 388	1769	D	2.5	.20	S.C. Mid.	T-1¼	.80	.49	.41
7E 360	1813	B	14.4	.10	Bayonet	T-3¼	.25	.15	.113
7E 361	1815	B	12-16	.20	Bayonet	T-3¼	.20	.12	.10
7E 389	1816	B	13	.33	Bayonet	T-3¼	.30	.18	.154
7E 362	1819	B	28	.04	Bayonet	T-3¼	.45	.27	.22
7E 363	1820	B	28	.10	Bayonet	T-3¼	.40	.24	.20
7E 390	1822	B	36	.10	Bayonet	T-3¼	.60	.37	.31
7E 391	1828	B	37.5	.05	Bayonet	T-3¼	.60	.37	.31
7E 364	1829	B	28	.07	Bayonet	T-3¼	.35	.21	.18
7E 392	1835	B	55	.05	Bayonet	T-3¼	.65	.40	.34
7E 365	1847	B	6.3	.15	Bayonet	T-3¼	.20	.12	.10
7E 596	1869	D	10	.014	S.C. Mid.	T-1¼	1.10	.67	.56



### NEW 100,000-HOUR SUBMINIATURE LAMPS

Last about 12 years! Wire-terminal types have solder-dipped leads, size, 1/4x1/8" dia. Others have brass bases; 3/8x3/8" dia. Bulb style, T-1. For uses where space is critical, service difficult.  $\pm 10\%$ . \* $\pm 20\%$ .

Stock No.	Mfr's Type	Fig.	Volts	Amps	Base	EACH		
						1-9	10-99	100-Up
7E 393	680	M	5	.060	Wire Term.	3.20	1.96	1.56
7E 394	682	L	5	.060	S.C. Bay.	4.00	2.44	1.95
7E 395	683	M	5	.060	Wire Term.	3.20	1.96	1.56
7E 396	685	L	5	.060	S.C. Bay.	3.50	2.10	1.78
7E 397	715	M	5	.115	Wire Term.	3.20	1.96	1.56
7E 398	718	L	5	.115	S.C. Bay.	4.00	2.44	1.95
7E 399	2128	M	3	*.0125	Wire Term.	4.50	2.75	2.25



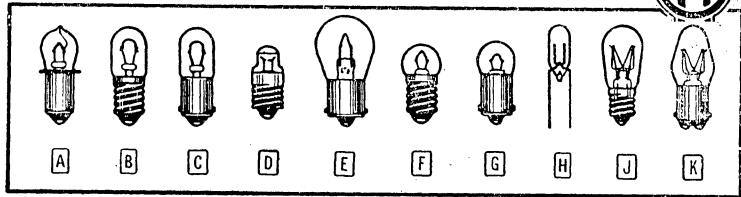
### NEW 50,000-HOUR LAMPS

Design-life is over 5 years—average lifetime is 50,000 hours. Reliable performers come in three industry-standard sizes and physical configurations. Actual life is determined by environmental conditions—vibration, shock, temperature, voltage fluctuations.

Stock No.	Mfr's Type	Fig.	Volts	Amps	Base	Bulb Style	EACH		
							1-9	10-99	100-Up
7E 400	380	P	6.3	.04	S.C. Mid., F.	T-1¼	1.70	1.04	.87
7E 401	381	P	6.3	.20	S.C. Mid., F.	T-1¼	1.05	.64	.54
7E 402	382	P	14	.08	S.C. Mid., F.	T-1¼	1.20	.73	.62
7E 403	755	N	6.3	.15	Min. Bay.	T-3¼	.25	.15	.13
7E 404	756	N	14	.08	Min. Bay.	T-3¼	.30	.18	.15
7E 405	757	N	28	.08	Min. Bay.	T-3¼	.40	.24	.20
7E 406	2180	R	6.3	.04	Wire Term.	T-1¼	.90	.55	.46
7E 407	2181	R	6.3	.20	Wire Term.	T-1¼	.50	.31	.26
7E 408	2182	R	14	.08	Wire Term.	T-1¼	.60	.37	.31



# Chicago Miniature Lamps



## ABBREVIATIONS USED TO DESCRIBE BASE AND BULB STYLE

S. C., F.—single contact, flanged base  
 S. C., Bay.—single contact, bayonet base  
 D. C., Bay.—double contact, bayonet base  
 Cand.—Candelabra type base; G—globe bulb  
 T—tubular bulb style; B—lemon shape bulb  
 TL—lens end, tubular (pre-focus type) bulb  
 S—as in Fig. F; Types 1847 and 1891 are for use in Ford and Chevrolet automobiles  
 †—high brightness.

### GENERAL-PURPOSE MINIATURE LAMPS

Stock No.	Mfr's Type	Fig.	Volts	Amps	Base	Bulb Style	EA.	10 For	100 For
7 E 500	PR-2	A	2.4	0.50	S.C., F.	B-3½	.20	1.20	10.00
7 E 501	PR-3	A	3.6	0.50	S.C., F.	B-3½	.20	1.20	10.00
7 E 502	PR-4	A	2.3	0.27	S.C., F.	B-3½	.20	1.20	10.00
7 E 503	PR-6	A	2.47	0.30	S.C., F.	B-3½	.20	1.20	10.00
7 E 504	PR-12	A	5.95	0.50	S.C., F.	B-3½	.20	1.20	10.00
7 E 505	PR-13	A	4.75	0.50	S.C., F.	B-3½	.20	1.20	10.00
7 E 506	12	6.3	0.15	Min. 2-pin	G-3½	.25	1.53	11.30	
7 E 507	14	F	2.5	0.30	Screw	G-3½	.17	1.00	8.50
7 E 508	40	B	6-8	0.15	Screw	T-3¼	.15	.90	7.70
7 E 509	43	C	2.5	0.50	Bayonet	T-3¼	.15	.90	7.70
7 E 510	44	C	6-8	0.25	Bayonet	T-3¼	.15	.90	7.70
7 E 511	45	C	3.2	0.35	Bayonet	T-3¼	.15	.90	7.70
7 E 512	46	B	6-8	0.25	Screw	T-3¼	.15	.90	7.70
7 E 513	47	C	6-8	0.15	Bayonet	T-3¼	.15	.90	7.70
7 E 514	48	B	2.0	0.06	Screw	T-3¼	.15	.90	7.70
7 E 515	49	C	2.0	0.06	Bayonet	T-3¼	.15	.90	7.70
7 E 516	50	F	6-8	1 c.p.	Screw	G-3½	.15	.90	7.70
7 E 517	51	G	6-8	1 c.p.	Bayonet	G-3½	.15	.90	7.70
7 E 518	53	G	14.4	0.12	Bayonet	G-3½	.15	.90	7.70
7 E 519	55	G	6-8	2 c.p.	Bayonet	G-4½	.15	.90	7.70
7 E 520	57	G	12	2 c.p.	Bayonet	G-4½	.15	.90	7.70
7 E 521	63	G	6-8	3 c.p.	S.C. Bay.	G-6	.20	1.20	10.00
7 E 522	81	G	6-8	6 c.p.	S.C. Bay.	G-6	.25	1.50	11.30
7 E 523	112	D	1.2	0.22	Screw	TL-3	.17	1.00	8.50
7 E 524	222	D	2.2	0.25	Screw	TL-3	.17	1.00	8.50
7 E 525	239	C	6.3	0.36	Bayonet	T-3¼	.30	1.83	16.48
7 E 526	313	C	28	0.17	Bayonet	T-3¼	.35	2.10	18.00
7 E 527	425	F	5	0.50	Screw	G-4½	.17	1.00	8.50
7 E 528	428	F	12.5	0.25	Screw	G-4½	.17	1.00	8.50
7 E 529	502	F	5.1	0.15	Screw	G-4½	.17	1.00	8.50
7 E 530	605	F	6.1	0.50	Screw	G-4½	.17	1.00	8.50
7 E 531	1445	G	18	0.15	Bay.	G-3½	.20	1.20	10.00
7 E 532	1458	G	20	0.25	Bayonet	G-5	.20	1.20	10.00

### GENERAL-PURPOSE MINIATURE LAMPS (Cont'd)

Stock No.	Mfr's Type	Fig.	Volts	Amps	Base	Bulb Style	EA.	10 For	100 For
7 E 533	1490	C	3.2	0.16	Bayonet	T-3¼	.17	1.04	9.36
7 E 534	1618	E	6.4	21 c.p.	D.C. Bay.	S-8	.70	4.30	38.70
7 E 535	1648	E	8	21 c.p.	D.C. Bay.	S-8	.70	4.30	38.70
7 E 536	1813	C	14.4	0.10	Bayonet	T-3¼	.25	1.50	11.30
7 E 537	1815	C	12-16	0.20	Bayonet	T-3¼	.20	1.20	10.00
7 E 538	1819	C	28	0.035	Bayonet	T-3¼	.45	2.75	22.00
7 E 539	1820	C	28	0.10	Bayonet	T-3¼	.40	2.44	20.00
7 E 540	1829	C	28.0	0.07	Bayonet	T-3¼	.35	2.10	18.00
7 E 541	1847	C	6.3	0.15	Bayonet	T-3¼	.20	1.20	10.00
7 E 542	1891	C	12.0	0.24	Bayonet	T-3¼	.17	1.04	9.36
7 E 543	1892	C	14.0	0.12	Bayonet	T-3¼	.25	1.53	11.30

### NEON GLOW LAMPS

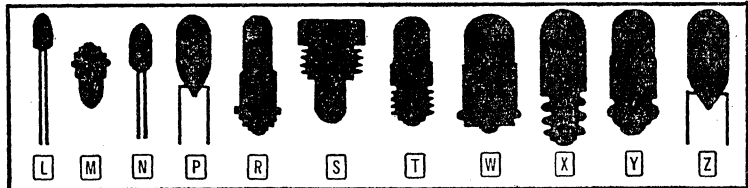
Stock No.	Mfr's Type	Fig.	Watts	AC Volts	Bulb Style	Base	EA.	10 For
7 E 544	NE-2	H	1/17	65	T-2	Wire Term.	.10	.80
7 E 545	NE-2E	H	1/10	65	T-2	Wire Term.	.10	.80
7 E 546	†NE-2H	H	1/5	.....	T-2	Wire Term.	.12	1.00
7 E 547	NE-45	.....	¼	65	T-4½	Cand. Screw	.85	6.80
7 E 548	NE-51	.....	1/25	65	T-3¼	S.C. Bay. Min.	.21	1.70
7 E 549	†NE-51H	.....	1/7	.....	T-3¼	S.C. Bay. Min.	.23	1.80

### AC-DC LAMPS

Stock No.	Mfr's Type	Fig.	Watts	Base	EA.	10 For
7 E 550	6S6	J	6	Cand. Screw.	.22	1.80
7 E 551	6S6DC	J	6	D.C. Bay. Cand.	.33	2.60
7 E 552	10S6/10	J	10	Cand. Screw	.52	4.20
7 E 553	7C7	K	7	Cand. Screw	.22	1.80
7 E 554	10C7DC	K	10	D.C. Bay. Cand.	.29	2.30

### ULTRA-MINIATURE LAMPS

Letters "AS" following Mfr's Type Nos. indicate "aged and selected" lamps; "L" indicates lamps of indefinite long life. Complete listing of military specification lamps and other special bulbs are also available on special order. Write for the complete Chicago Miniature Lamp Works catalog, or for catalogs 1105 and 1106R on bipin and cartridge lamps. Silhouette illustrations indicate actual size of lamps.



### MIL SPEC ULTRA-MINIATURE LAMPS

Stock No.	Mfr's Type	Mil. No.	Fig.	V.	A.	EACH		
						1-9	10-99	100-199
7 E 123	323	25236-323	S	3.0	.19	1.00	.61	.45
7 E 124	327	25237-327	W	28.0	.04	.90	.55	.41
7 E 125	327 AS-15	25237-327	W	28.0	.04	2.03	1.24	.913
7 E 127	328	25237-328	W	6.0	.20	.70	.43	.32
7 E 128	328 AS-10	25237-328	W	6.0	.20	2.30	1.40	1.035
7 E 129	328 AS-15	25237-328	W	6.0	.20	1.76	1.07	.789
7 E 130	328 L	25237-328	W	6.0	.20	2.10	1.28	.95
7 E 126	335	15612-2	X	28.0	.04	1.20	.73	.54
7 E 131	335 AS-15	15612-2	X	28.0	.04	2.35	1.43	1.05
7 E 132	1768	15612-1	X	6.0	.20	.90	.55	.46
7 E 135	1768 AS-10	15612-1	X	6.0	.20	2.33	1.42	1.05
7 E 136	1768 AS-15	15612-1	X	6.0	.20	2.03	1.29	.913
7 E 137	1768 L	15612-1	X	6.0	.20	2.25	1.37	1.01
7 E 138	CM 8 627	28135-1	P	28.0	.04	1.20	.73	.54
7 E 139	CM 8 627 AS-15	28135-1	P	28.0	.04	2.25	1.37	1.012
7 E 141	CM 8 680	24367	N	5.0	.060	3.20	1.96	1.44
7 E 133	CM 8 682	24515	M	5.0	.060	4.00	2.44	1.80
7 E 134	CM 8 683	24367	N	5.0	.060	3.20	1.96	1.44
7 E 140	CM 8 685	24515	M	5.0	.060	4.00	2.44	1.80
7 E 142	CM 8 715	24367	N	5.0	.115	3.20	1.96	1.44
7 E 143	CM 8 718	24515	M	5.0	.115	4.00	2.44	1.80

### ULTRA-MINIATURE LAMPS

Stock No.	Mfr's Type	Fig.	V.	A.	EACH		
					1-9	10-99	100-199
7 E 144	330	W	14.0	.08	1.00	.61	.45
7 E 145	331	W	1.35	.06	.80	.49	.41
7 E 146	334	Y	28.0	.04	.90	.55	.41
7 E 147	338	W	2.7	.06	.80	.49	.41
7 E 148	345	W	6.0	.04	1.40	.86	.63
7 E 149	1705	Z	14.0	.08	.50	.31	.23
7 E 150	1730	Z	6.0	.04	.70	.43	.32
7 E 151	1764	Z	28.0	.04	.45	.28	.20
7 E 152	1775	X	6.3	.075	.80	.49	.41
7 E 153	1784	Z	6.0	.20	.70	.43	.32
7 E 154	1784 L	Z	6.0	.20	2.10	1.28	.95
7 E 155	1859	Z	10.0	.015	1.35	.83	.61
7 E 156	CM 8 623	S	28.0	.04	1.80	1.10	.81
7 E 157	CM 8 628	R	6.0	.20	1.65	1.01	.742
7 E 158	CM 8 631	P	1.35	.06	1.20	.73	.54
7 E 159	CM 8 632	R	28.0	.04	1.80	1.10	.81
7 E 160	CM 8 634	P	6.0	.20	.95	.58	.428
7 E 161	CM 8 635	T	28.0	.04	1.80	1.10	.81
7 E 162	CM 8 640	P	14.0	.08	1.20	.73	.54
7 E 163	CM 8 657	S	6.0	.04	1.80	1.10	.81
7 E 164	CM 8 661	P	6.0	.04	1.20	.73	.54
7 E 165	CM 8 666	L	5	.08	4.20	2.57	1.89

Write or Call Allied for Price and Delivery of Larger Quantities

**TYPE 3AG STANDARD FUSES**



Series 312000. Quick-acting—for short time-lag uses. Unaffected by high temperatures. 250 v., except \*125 v. and †32 v. U.L. Listed. 1/4x1/4". Wt., 2 oz.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/100	53 B 600	1.65	1.38	1.10	1 1/2	52 B 235	.26	.22	.18
1/32	53 B 601	1.44	1.20	.96	2	52 B 236	.26	.22	.18
1/16	52 B 242	.66	.55	.44	2 1/2	53 B 657	.26	.22	.18
1/8	52 B 230	.66	.55	.44	3	52 B 237	.23	.20	.16
.15	53 B 654	.66	.55	.44	4	52 B 238	.34	.28	.23
.175	53 B 655	.66	.55	.44	4 1/2	53 B 703	.23	.20	.16
3/16	52 B 161	.66	.55	.44	5	52 B 239	.34	.28	.23
2/10	53 B 656	.66	.55	.44	5 1/2	53 B 704	.17	.14	.11
1/4	52 B 231	.41	.35	.28	6	52 B 240	.34	.28	.23
3/10	52 B 673	.41	.35	.28	8*	52 B 248	.51	.43	.34
3/8	52 B 243	.41	.35	.28	10†	53 B 705	.17	.14	.11
1/2	52 B 232	.41	.35	.28	15†	53 B 706	.17	.14	.11
3/4	52 B 233	.41	.35	.28	25†	53 B 707	.20	.17	.14
1	52 B 234	.26	.22	.18	30†	53 B 708	.20	.17	.14

**TYPE 3AG SLO-BLO FUSES**



Series 313000. High time-lag. Withstand heavy surges and starting currents. Blow quickly on shorts. Units up to 15 amps are U.L. Listed. Max. volts 125, except \*32. 1/4x1/4". 5 per pkg. Wt., 2 oz.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/100	52 B 185	1.23	1.03	.82	1	52 B 220	.90	.75	.60
1/32	52 B 186	1.23	1.03	.82	1-2/10	53 B 643	.90	.75	.60
1/16	52 B 187	.90	.75	.60	1 1/4	52 B 253	.84	.70	.56
1/10	52 B 252	.90	.75	.60	1 1/2	52 B 198	.84	.70	.56
1/8	52 B 188	.90	.75	.60	1 6	52 B 254	.84	.70	.56
.15	52 B 189	.90	.75	.60	2	52 B 179	.84	.70	.56
.175	52 B 675	.90	.75	.60	2 1/2	52 B 257	.66	.55	.44
3/16	52 B 190	.90	.75	.60	3	52 B 181	.66	.55	.44
2/10	52 B 191	.90	.75	.60	3-2/10	52 B 182	.66	.55	.44
1/4	52 B 921	.90	.75	.60	4	52 B 227	.66	.55	.44
3/10	52 B 192	.90	.75	.60	5	52 B 223	.66	.55	.44
3/8	52 B 193	.90	.75	.60	6 1/4*	52 B 183	.66	.55	.44
4/10	53 B 641	.90	.75	.60	7*	53 B 644	.66	.55	.44
1/2	52 B 923	.90	.75	.60	8*	52 B 184	.66	.55	.44
6/10	52 B 195	.90	.75	.60	10*	52 B 226	.66	.55	.44
7/10	53 B 642	.90	.75	.60	15*	52 B 224	.66	.55	.44
3/4	52 B 196	.90	.75	.60	20*	52 B 225	.66	.55	.44
8/10	52 B 197	.90	.75	.60	30*	52 B 677	.66	.55	.44

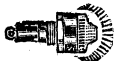
**TYPE 3AB FUSES**



Series 314000. Steatite enclosed, arc-quenching, powder-filled fuses. Smallest U.L. Listed units in these high ratings. Medium time-lag. Shatter-proofed against quick shorts. For amplifiers, rectifiers, battery chargers, radios, etc. Maximum volts 250, except \*125. 1/4x1/4". 5 per pkg. Wt., 2 oz.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1	52 B 678	.57	.48	.38	10	52 B 244	.54	.45	.36
2	52 B 679	.57	.48	.38	12	52 B 245	.57	.48	.38
3	52 B 680	.57	.48	.38	15	52 B 246	.57	.48	.38
5	52 B 681	.54	.45	.36	20	52 B 247	.57	.48	.38
8	52 B 241	.54	.45	.36	30*	52 B 682	.66	.55	.44

**TYPE 3AG INDICATING FUSE POSTS**



Light when fuses blow. Mount in 5/8" "D" hole. Require 1 1/8" behind panel. With lamps. \*Fused circuit voltage—20 amps max. Wt., 2 oz.

**INDUSTRIAL**

Stock No.	Type or MS No.	*Volt Range	Knob Color	EACH		
				1-99	100-499	500-999
52 B 744	344006	2 1/2-7	Amber	2.21	1.85	1.48
52 B 745	344012	7-16	Amber	2.21	1.85	1.48
52 B 746	344024	16-32	Amber	2.21	1.85	1.48
52 B 747	344125	100-125	Clear	1.36	1.13	.90
52 B 748	344250	200-250	Clear	1.36	1.13	.90

**MILITARY—MIL-F-19207A**

Stock No.	FHL-17G	90-300	Clear	2.50	2.09	1.67
53 B 647	FHL-18G-1	12-22	Amber	3.21	2.68	2.14
53 B 648	FHL-18G-2	23-33	Amber	3.64	3.04	2.43
53 B 649	FHL-18G-3	34-45	Amber	3.64	3.04	2.43
53 B 650	FHL-18G-4	46-60	Amber	3.66	3.05	2.44
53 B 651	FHL-18G-5	61-80	Amber	3.66	3.05	2.44
53 B 652	FHL-18G-6	81-90	Amber	3.66	3.05	2.44

**MILITARY-TYPE FUSES**

Quality under MIL-F-15160D. Have silver-plated caps and are stamped with MIL number. Prices include plating-stamping charge. Electrical specs and sizes are same as those of industrial types on this page. All are rated 250 v., except \*125 v. Allied's gigantic purchasing power reduces your costs, and you get same-day shipment from our warehouse. 5 per pkg. 2 oz.

**F02A250V "S" TYPE 3AG STANDARD FUSES**

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/100	53 B 602	2.25	1.50	1.16	1	53 B 610	.86	.34	.24
1/32	53 B 603	2.04	1.32	1.02	1 1/2	53 B 611	.86	.34	.24
1/16	53 B 604	1.26	.67	.50	2	53 B 612	.86	.34	.24
1/8	53 B 605	1.26	.67	.50	3	53 B 613	.83	.32	.22
1/4	53 B 606	1.01	.47	.34	4	53 B 614	.94	.40	.29
3/8	53 B 607	1.01	.47	.34	5	53 B 615	.94	.40	.29
1/2	53 B 608	1.01	.47	.34	6	53 B 616	.94	.40	.29
3/4	53 B 609	1.01	.47	.34					

**F02B250V "S" TYPE 3AG SLO-BLO FUSES**

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/100	53 B 645	1.83	1.12	.88	3/8	53 B 620	1.50	.87	.66
1/32	53 B 646	1.83	1.12	.88	1/2	53 B 621	1.50	.87	.66
1/16	53 B 617	1.50	.87	.66	3/4	53 B 622	1.50	.87	.66
1/8	53 B 618	1.50	.87	.66	1	53 B 623	1.50	.87	.66
1/4	53 B 619	1.50	.87	.66					

**F03A250V "S" TYPE 3AB FUSES**

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1	53 B 624	1.17	.60	.44	12	53 B 629	1.17	.60	.44
3	53 B 625	1.17	.60	.44	15	53 B 630	1.17	.60	.44
5	53 B 626	1.14	.57	.42	20*	53 B 631	1.17	.60	.44
8	53 B 627	1.14	.57	.42	30*	53 B 632	1.26	.67	.50
10	53 B 628	1.14	.57	.42					

**F01A250V "S" TYPE 8AG FAST-ACTION FUSES**

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/200	53 B 664	2.43	1.65	1.28	3/8	53 B 670	1.01	.47	.34
1/100	53 B 665	2.25	1.50	1.16	1/2	53 B 671	1.01	.47	.34
1/32	53 B 666	2.04	1.32	1.02	3/4	53 B 672	1.01	.47	.34
1/16	53 B 667	1.50	.87	.66	1*	53 B 673	.90	.37	.26
1/8	53 B 668	1.26	.67	.50	1 1/2*	53 B 674	.90	.37	.26
1/4	53 B 669	1.01	.47	.34	2*	53 B 675	.90	.37	.26

**TYPE 8AG FAST-ACTION INSTRUMENT FUSES**



Series 361000. High-speed protection of delicate equipment—microammeters, galvanometers, milliammeters, wattmeters, radio "B" circuits, small rectifier and power tubes, etc. Rated 250 volts maximum, except \*32 volts. Size, 1x1/4". 5 per pkg. Wt., 2 oz.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/500	52 B 199	4.38	3.65	2.92	4/10	53 B 661	.42	.35	.28
1/200	52 B 200	1.83	1.53	1.22	1/2	52 B 208	.42	.35	.28
1/100	52 B 201	1.65	1.38	1.10	3/4	52 B 209	.42	.35	.28
1/32	52 B 202	1.44	1.20	.96	1	52 B 210	.30	.25	.20
1/16	52 B 203	.90	.75	.60	1 1/2	52 B 212	.30	.25	.20
1/10	53 B 658	.66	.55	.44	2	52 B 211	.30	.25	.20
1/8	52 B 205	.66	.55	.44	3	52 B 213	.30	.25	.20
3/16	53 B 659	.66	.55	.44	4*	53 B 662	.30	.25	.20
2/10	53 B 660	.66	.55	.44	5*	52 B 214	.30	.25	.20
1/4	52 B 206	.42	.35	.28	20*	53 B 663	.30	.25	.20
3/8	52 B 207	.42	.35	.28					

**TYPE 3AG PIGTAIL FUSES**



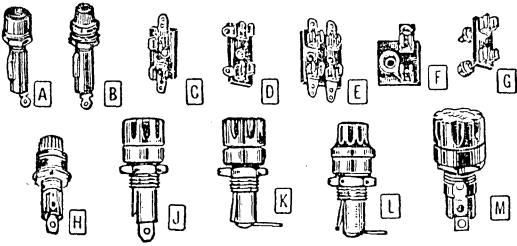
Series 318000. Quick-action fuses. 1 1/2" No. 20 tinned copper leads. Used in TV sets and applications where space economy is essential. Max. volts, 250. 1/4x1/4". U.L. Listed. 5 per pkg. Wt., 2 oz.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/4	52 B 215	.66	.55	.44	1	52 B 928	.51	.42	.34
1/2	52 B 279	.66	.55	.44	2	53 B 638	.51	.42	.34
3/4	53 B 640	.66	.55	.44	3	53 B 639	.51	.42	

# Fuses and Accessories

**LITTLE FUSE**

## MOUNTINGS—EXTRACTOR POSTS



## INDUSTRIAL—FOR 3AG AND 3AB

Fuse holders for every application. Av. shgp. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Description	EACH		
				1-99	100-499	500-999
41 B 720	341001	A	Screw slot	.43	.36	.29
41 B 727	342001	B	Thumb knob	.43	.36	.29
41 B 795	342012	H	Extractor post	.32	.27	.22
52 B 262	342014	J	Miniature fuse post	.32	.27	.22
52 B 263	342004	K	Miniature fuse post	.38	.32	.25
52 B 264	342022	L	Miniature fuse post	.38	.32	.25
40 B 450	350218	D	Single fuse mounting	.14	.12	.09
52 B 291	353001	G	Panel-type mounting	.41	.35	.28
52 B 294	356001	C	Screw terminals	.29	.25	.20
52 B 292	357001	C	Lug terminals	.14	.12	.09
52 B 297	357002	E	Double fuse mounting	.28	.23	.18

### FOR 3AG

41 B 729	442001	B	Thumb knob	.96	.80	.64
----------	--------	---	------------	-----	-----	-----

### FOR 8AG

41 B 721	371001	A	Screw slot	.43	.36	.29
41 B 729	372001	B	Thumb knob	.43	.36	.29
52 B 295	383002	F	"Meter-back" mounting	.26	.22	.18
52 B 285	387001	C	Lug terminals	.14	.12	.09
52 B 296	387002	E	Double fuse mounting	.28	.23	.18

### MILITARY—MIL-F-19207A

Stock No.	Mfr's Type	Mil. No.	Fig.	Post Description	EACH		
					1-99	100-499	500-999
53 B 677	342025	FHN20G	K	3AG miniature	1.17	.98	.78
53 B 676	342024	FHN26G	H	3AG miniature	1.24	1.04	.83
53 B 678	342021	FHN26W	M	3AG waterproof	3.42	2.85	2.28
53 B 679	442008	FHN19W	M	4AG waterproof	3.42	2.85	2.28
53 B 680	372003	FHN31G	B	8AG extractor	1.23	1.03	.82

## FUSE MOUNTINGS



**N** Phosphor-Bronze Clips. For SFE, 3AG, 8AG, 3AB fuses. Wt. per pkg., 5 oz. 10 clips per package.

52 B 685.....PER PKG. .18  
10 Pkgs. and Up.....PER PKG. .15

**P** 350130 Snap-On Holder. For "pigtail" fuses. One side clips onto blown fuse; new fuse fits into other side. 2 oz.  
41 B 733. 1-9.....EACH .18 10 or More.....EACH .15

## SYLVANIA MITE-T-BREAKERS

**Non-Indicating.** Miniaturized, glass enclosed, hermetically sealed breaker with an automatic-reset type circuit protector. Wires directly into equipment—never needs to be replaced. "Mite-T-Breakers" will handle the rated hold current at 125 volts with minimum trip currents of 200% rated current. As an example, 1-amp breaker will hold at one ampere; trip at 2 amps. Compact size; glass envelope measures only 1.26" in length and .30" in diameter. Copper lead wires 1" long. U.L. Listed. Shgp. wt., 2 oz.

**Indicating.** As above, but has indicator (15-20 v.). Resistor lit until fault is removed. Shgp. wt., 2 oz.



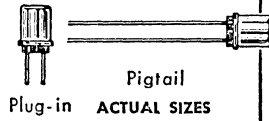
### NON-INDICATING

Stock No.	Mfr's Type	Amps	EACH			
			1-99	100-249	250-499	500-999
34 B 075	MB-315	1	.25	.225	.20	.175
34 B 076	MB-316	2				
34 B 078	MB-317	3				
34 B 079	MB-318	4				

### INDICATING TYPE

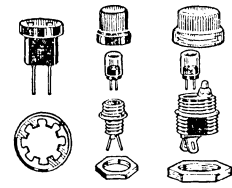
34 B 066	MB-215	1	.36	.32	.28	.25
34 B 067	MB-216	1.5				
34 B 068	MB-217	2				
34 B 069	MB-218	2.5				

## MICROFUSE HOLDERS



Pigtail  
Plug-in ACTUAL SIZES

Latest development in sub-miniature fusing; based on bead-type construction—with glass cap for visible blown-fuse indication. Low resistance and high reliability in ultra-fast blowing characteristics. For space-critical uses; ideal for printed circuits. Short-circuit interrupting capacity, 125 volts—10,000 amps DC. Blowing specifications: 110% life; 200% 0-10 seconds. Pigtail fuses have 1" leads. Plug-ins mount in holders below. 1/4" dia. by 1 1/2". 5 per pkg. Shgp. wt., 2 oz.



281001 281002 284000

Type 279000 Pigtail Stock No.	Type 273000 Plug-in Stock No.	Amps @ 125V.	PER PACKAGE OF 5		
			1-19	20-99	100-199
52 B 019	52 B 047	1/500	5.13	4.28	3.42
52 B 022	52 B 048	1/200			
52 B 023	52 B 049	1/100			
52 B 024	52 B 076	1/64			
52 B 025	52 B 077	1/32			
52 B 026	52 B 078	1/20	4.29	3.57	2.86
52 B 027	52 B 079	1/16			
52 B 028	52 B 080	1/10			
52 B 029	52 B 081	1/8			
52 B 032	52 B 082	2/10	4.29	3.57	2.86
52 B 033	52 B 083	1/4			
52 B 034	52 B 084	3/10			
52 B 035	52 B 085	4/10			
52 B 037	52 B 086	5/10			
52 B 038	52 B 087	6/10	4.29	3.57	2.86
52 B 039	52 B 088	7/10			
52 B 040	52 B 089	8/10			
52 B 041	52 B 090	1			
52 B 042	52 B 091	1 1/2	4.29	3.57	2.86
52 B 043	52 B 092	2			
52 B 044	52 B 093	3			
52 B 045	52 B 094	4			
52 B 046	52 B 095	5			

No. 281001 Holder. Mounts in .090" hole; solder terminals; 3/8" behind panel. With spring nut. Wt., 3 oz. 5 holders per pkg.

52 B 096. 1-19 Pkgs.....PER PKG. 1.29  
20-99 Pkgs.....PER PKG. 1.08 100-199 Pkgs.....PER PKG. .86

No. 281002 Front Panel-Mount Holder. Hex nut at rear of panel. Molded from high strength dielectric material. Knurled cap; skirt for positive O ring seal. Eye-type plated brass terminals separated by molded insulation. Shgp. wt., 1 oz.

53 B 633. 1-99, EA. .58 100-499, EA. .49 500-599, EA. .39

Series 284000 Indicating Fuse Holders. Similar to above, but bulb blows when fuse blows. Shgp. wt. 1 oz.

Stock No.	Type	Volts	1-99, EA.	100-499, EA.	500-999, EA.
53 B 634	284004	6	2.21	1.84	1.47
53 B 635	284005	12	2.21	1.84	1.47
53 B 636	284006	24	2.21	1.84	1.47
53 B 637	284003	125	1.35	1.13	.90

## FUSEMASTER RACK ASSORTMENT

Clear-plastic rack displays 300 fuses. Comes with 100 assorted popular fuses, inventory control backboard, pressure-sensitive blank inventory labels, and mounting screws. 100 assorted fuses include: TYPE 3AG—ten 1/4-amp, ten 1/2-amp, five 1-amp, five 2-amp, five 5-amp. TYPE 3AG SLO-BLO—ten 1/4-amp, five 1/2-amp, five 1-amp, five 2-amp, five 3-amp, ten 5-amp. TYPE C—ten 3/10-amp. TYPE N—five 3/10-amp, five 4/10-amp, five 1/2-amp. With rack. Shgp. wt., 2 lbs.



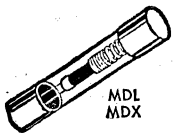
52 B 943.....10.72

## TYPE 094037 FUSE CADDY

Have the correct fuse at your fingertips—caddy conveniently fits in a tube caddy. Plastic case contains 70 fuses in 14 boxes. All are rated at 250 volts. Limited-current Types C and N fit only Series 346000 bayonet-lock holders. Each box contains 5 of each of the following fuses: TYPE 3AG—1/4-amp, 1/2-amp, 1-amp, 2-amp, 3-amp, 5-amp. TYPE 3AG SLO-BLO—1/4-amp, 1/2-amp, TYPE C—2 1/2-amp, TYPE N—1/4-amp, 1-amp, 1 1/4-amp, TYPE 8AG U/L—1/4-amp, 1/2-amp. 1 7/8x3x4 1/4". 2 lbs.

52 B 272.....6.97

**TYPE MDL FUSETRON FUSES**



Long time-lag prevents needless blows resulting from starting currents or sudden surges. Operates instantaneously on high overloads or when circuit is shorted. Thermal cutout operates slowly on low overloads. Size, 1 1/4 x 1/4". U.L. Listed. Shpg. wt. per pkg., 2 oz. 5 fuses per package.

**250 VOLTS MAX**

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/100	53 B 441	1.23	1.02	.82	3/10	53 B 452			
1/32	53 B 442	1.23	1.02	.82	4/10	53 B 453			
1/16	53 B 443				1/2	53 B 454	.90	.75	.60
1/10	53 B 444				6/10	53 B 455			
15/100	53 B 450				8/10	53 B 456			
2/10	53 B 451				1	53 B 461			
1/4	53 B 407								

**125 VOLTS MAX**

Amps	Stock No.	1-19	20-99	100-199	Amps	Stock No.	1-19	20-99	100-199
1-1/4	53 B 462	.84	.70	.56	2-1/2	53 B 465	.66	.55	.44
1-6/10	53 B 463				2-8/10	53 B 466			
2	53 B 464								

**32 VOLTS MAX**

Amps	Stock No.	1-19	20-99	100-199	Amps	Stock No.	1-19	20-99	100-199
4	53 B 468	.66	.55	.44	8	53 B 471	.66	.55	.44
5	53 B 469				10	53 B 472			
6-1/4	53 B 470				15	53 B 473			

**TYPE MDX 125-VOLT FUSETRON FUSES**

Have same thermal delay action as Type MDL above, but open in approximately half the time—1/2 second. 1 1/4 x 1/4". U.L. Listed. Shpg. wt. per pkg., 2 oz.; per 100, 15 oz. 5 fuses per package.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-999			1-19	20-99	100-199
3-2/10	53 B 408	.66	.55	.44	6 1/4	53 B 505	.75	.62	.50
4	53 B 503				7	53 B 506			
5	53 B 504								

**GBA VISUAL INDICATING FUSE AND HLD HOLDER**



Visual Indicating Fuse. Red pin extends from fiber tube when circuit opens. Carries 110% of rated current; opens in 1 hour or less at 135%. 125-volt max. 1 1/4 x 1/4". Shpg. wt. per pkg., 2 oz. 5 fuses per pkg.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
3/4	53 B 400	1.98	1.65	1.32	2	53 B 403	1.50	1.25	1.00
1	53 B 401	1.50	1.25	1.00	3	53 B 404			
1 1/2	53 B 402	1.50	1.25	1.00	4	53 B 405			



HLD Fuseholder. Phenolic body has transparent knob so that indicating pin of GBA fuses can be seen. Vibration cannot cause failure. Locking keys for panels up to 3/8" thick. Takes all GBA fuses. 2 oz.

53 B 419. 1-99...EA. .37 100-499...EA. .31 500-999...EA. .25

No. 5487 Transparent Knob Without Holder. Converts existing HKP holders to visual indicating types. Wt., 2 oz.  
53 B 446. 1-99...EA. .15 100-499...EA. .13 500-999...EA. .10

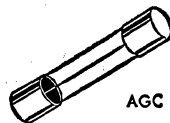
**FUSE MOUNTINGS**



Provide convenient mounting of fuses in radio and TV sets, in automobiles, etc. All are Buss, except Type 1749 is made by G-C. Fuses project beyond holder body for simple removal. Have solder terminals except Type 4513 has screw terminals. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	For Fuses	EACH		
			1-99	100-499	500-999
53 B 500	HPC	1 3/32 x 1 1/2"	.50	.42	.33
53 B 477	HCM	9/32 x 1 1/4"	.46	.38	.31
53 B 475	HKP	1/4 x 1 1/4"	.32	.27	.21
53 B 478	HJM	1 x 1 1/4"	.32	.27	.21
53 B 480	4405	1 1/4 x 1/4"	.14	.11	.09
53 B 481	4408	Double 4405	.28	.23	.18
41 B 735	1749	2 1/2 x 3/8"	.14	.11	.09
41 B 737	4513	1 1/16 x 1/4"	.37	.31	.25

**TYPE AGC AND MTH FUSES**



Low-resistance fuses providing high-speed action to protect delicate instruments. Carry 110% of rated current; open in 1 hour or less at 135%. 250 volts max. U.L. Listed. 1 1/4 x 1/4". Shpg. wt. per pkg., 2 oz. 5 fuses per pkg.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
1/16	53 B 420	.66	.55	.44	1 1/2	53 B 427	.26	.22	.18
1/8	53 B 421	.66	.55	.44	2	53 B 428	.26	.22	.18
1/4	53 B 422	.42	.35	.23	3	53 B 429	.23	.20	.16
3/8	53 B 423	.42	.35	.23	4	53 B 430	.34	.28	.23
1/2	53 B 424	.42	.35	.23	5	53 B 431	.34	.28	.23
3/4	53 B 425	.42	.35	.23	6	53 B 432	.34	.28	.23
1	53 B 426	.26	.22	.18					

**TYPE ABC CERAMIC FUSES**



High-interrupting-capacity fuses for use on circuits capable of delivering currents as high as 25,000 amps at 125 volts, or 10,000 amps at 250 volts. Maximum voltage rating, 250, except \*125. U.L. Listed to 15 amps. 1 1/4 x 1/4". Shpg. wt. per package, 2 oz. 5 fuses per pkg.

Amps	Stock No.	PER PKG. OF 5			Amps	Stock No.	PER PKG. OF 5		
		1-19	20-99	100-199			1-19	20-99	100-199
5	53 B 447	.54	.45	.36	15	53 B 571	.57	.47	.38
8	53 B 433	.54	.45	.36	20	53 B 572	.57	.47	.38
10	53 B 569	.54	.45	.36	25*	53 B 499	.66	.55	.44
12	53 B 570	.57	.47	.38	30*	53 B 448	.66	.55	.44

**FUSETRON TYPE FNM LONG TIME-LAG FUSES**



Avoid needless failures from starting currents or surges. Fuse link operates only on high overloads or short circuits. Thermal-cutout functions on low overloads but cannot operate quickly at any load, hence long time-lag is obtained. Dual element type. Fiber tube. U.L. Listed. 1 3/32 x 1 1/2". 250 volt max, except \*125 v.; †32 v. Shpg. wt. per package, 5 oz. 10 fuses per pkg.

**AMPERAGES AVAILABLE**

1/10	4/10	1	1-6/10	2 1/2	4	6 1/4	10	25†
15/100	1/2	1 1/8	1-8/10	2-8/10	4 1/2	7	12*	30†
2/10	6/10	1/4	2	3-2/10	5	8	15*	.....
3/10	8/10	1-4/10	2 1/4	3 1/2	5-6/10	9	20†	.....

53 B 449. Specify amperage from table above. Per Pkg. of 10.  
1-9 pks. .... EACH 2.44 10-Up pks. .... EACH 2.07

**TYPE HKL AND HKR INDICATOR FUSEHOLDERS**



For 1 1/4 x 1/4" fuses. HKL has neon indicator which lights when fuse has blown, and is for use in 100 to 250-volt circuits. HKR is for 32-volt circuits, has incandescent indicator. U.L. Listed. Wt., 2 oz.

53 B 501. HKL. 1-99 EA. 1.42 100-499 EA. 1.13 500-999 EA. .90  
53 B 502. HKR. 1-99 EA. 2.21 100-499 EA. 1.84 500-999 EA. 1.48

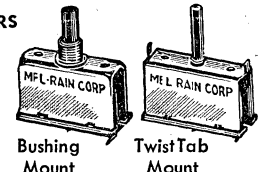
**HKW PILOT LIGHT FUSEHOLDER**

Combines pilot light and fuse mounting in one unit. When fuse is unblown, neon bulb in knob remains lighted; when blown, lamp goes out. Rated 20 amps at 90-300 volts. For panels up to 1/8" thick. With bulb. Overall length, 2 1/16"; dia., 1 1/16". 2 oz.

53 B 573. 1-99...EA. 2.54 100-499...EA. 2.12 500-999...EA. 1.70

**MEL-RAIN CIRCUIT BREAKERS**

Have "anti-cheat" reset action; non-cycling, constant pressure. Temperature compensated. Tripping time is within 10 seconds. Bushing mount is ideal for use in new equipment; tab-mount is exact replacement for protectors now in use. Shpg. wt., 3 oz.



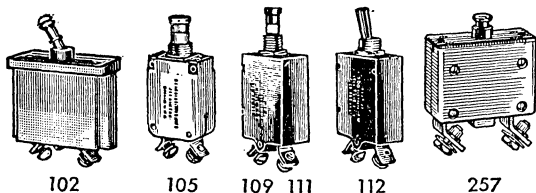
Amps (*Ma)	Tab Mount		Bushing Mt.		Amps	Tab Mount		Bushing Mt.	
	Stock No.	Stock No.	Stock No.	Stock No.		Stock No.	Stock No.		
*500	33 B 988	33 B 978	2.25	33 B 993	33 B 983				
*750	33 B 989	33 B 979	2.75	33 B 994	33 B 984				
1.0	33 B 990	33 B 980	3.25	33 B 995	33 B 985				
1.65	33 B 991	33 B 981	3.75	33 B 996	33 B 986				
2.0	33 B 992	33 B 982	4.0	33 B 997	33 B 987				

1-9...EA. .80 10-49...EA. .72 50-99...EA. .62 100-249...EA. .50

# Circuit Breakers by Wood Electric



## THERMAL TYPE



### ELECTRICAL AND PHYSICAL CHARACTERISTICS

Precision calibrated and inspected by X-Ray for reliable use under extremes of shock, vibration, humidity. On overload, breakers remain open until manually reset. If dangerous overload remains, contacts cannot be held closed, even manually. Single pole.

#### TIME VERSUS CURRENT

Mfr's Type	Continuous Load Rating	Ultimate Trip	Approx. Trip Time (200% Load)
102	115%	138%	25 sec
105	115%	138%	25 sec
109	100%	135%	10 sec
111	100%	135%	1 sec
112	100%	135%	10 sec
257	115%	135%	25 sec

**ENDURANCE:** 10,000 cycles at rated load . . . **VIBRATION:** Procedure 1, MIL-E-5272A . . . **CORROSION:** 50 hours, MIL-E-5272A . . . **SHOCK:** Withstands up to 25g . . . **EXPLOSION:** MIL-E-5272A, Procedure 1 . . . **AC MAXIMUM VOLTAGE:** 250 v . . . **AC MAXIMUM FREQUENCY:** 400 cycles . . . **DC MAXIMUM VOLTAGE:** 50 v.

**INTERRUPTION CAPACITY**—At maximum voltage, the interruption capacity is over 5000% of rated load on AC and DC. The interruption capacity will be increased if the voltage is lowered.

Mfr's Type	Height	Width	Depth	Weight	MAY BE ASSORTED EACH		
					1-9	10-99	100-499
102	2.18"	0.75"	2.00"	2.8 oz.	8.88	6.72	5.66
105	1.09"	0.75"	1.81"	1.5 oz.	7.68	5.31	4.99
109	1.37"	0.68"	2.03"	2.0 oz.	3.70	2.80	2.20
111	1.37"	0.68"	2.03"	2.0 oz.	8.23	6.23	5.25
112	1.37"	0.68"	2.03"	2.0 oz.	3.98	3.01	2.37
257	2.18"	0.75"	2.23"	4.0 oz.	27.52	24.51	.....

#### TYPE 102—MS25337

Amps	Stock No.	Mfr's Type	Amps	Stock No.	Mfr's Type
5	33 B 400	102-205	25	33 B 405	102-225
7.5	33 B 401	102-507	30	33 B 406	102-230
10	33 B 402	102-210	35	33 B 407	102-235
15	33 B 403	102-215	40	33 B 408	102-240
20	33 B 404	102-220	50	33 B 409	102-250

#### TYPE 105—MS25244

Amps	Stock No.	Mfr's Type	Amps	Stock No.	Mfr's Type
5	33 B 410	105-205	25	33 B 415	105-225
7.5	33 B 411	105-507	30	33 B 416	105-230
10	33 B 412	105-210	35	33 B 417	105-235
15	33 B 413	105-215	40	33 B 418	105-240
20	33 B 414	105-220	50	33 B 419	105-250

#### TYPE 109

Amps	Stock No.	Mfr's Type	Amps	Stock No.	Mfr's Type
5	33 B 467	109-205	25	33 B 668	109-225
7.5	33 B 468	109-507	30	33 B 669	109-230
10	33 B 469	109-210	35	33 B 670	109-235
15	33 B 470	109-215	40	33 B 671	109-240
20	33 B 471	109-220	50	33 B 672	109-250

#### TYPE 111

Amps	Stock No.	Mfr's Type	Amps	Stock No.	Mfr's Type
1	33 B 420	111-201	3	33 B 422	111-203
2	33 B 421	111-202	4	33 B 423	111-204

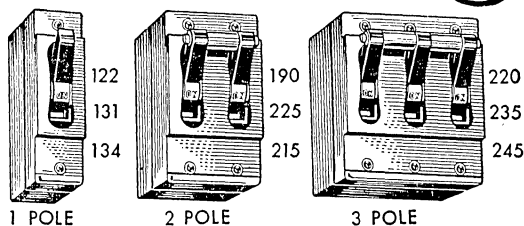
#### TYPE 112

Amps	Stock No.	Mfr's Type	Amps	Stock No.	Mfr's Type
5	33 B 424	112-205	25	33 B 429	112-225
7.5	33 B 425	112-507	30	33 B 430	112-230
10	33 B 426	112-210	35	33 B 431	112-235
15	33 B 427	112-215	40	33 B 432	112-240
20	33 B 428	112-220			

#### TYPE 257—MS25361

Amps	Stock No.	Mfr's Type	Amps	Stock No.	Mfr's Type
60	33 B 472	257-260	90	33 B 475	257-290
70	33 B 473	257-270	100	33 B 476	257-100
80	33 B 474	257-280			

## MAGNETIC TYPE



### ELECTRICAL AND PHYSICAL CHARACTERISTICS

Precision calibrated and inspected by X-Ray to insure reliable performance under extremes of shock, vibration, and humidity. On overload, breakers remain open until manually reset. If dangerous overload remains, contacts cannot be held closed, even manually. All units 2.53" high by 2.5" deep; 1-pole breakers are .70" wide, 2-pole breakers are 1.53" wide, and 3-pole breakers are 2.28" wide.

**OPERATING TEMPERATURE:** -58° to +183° F . . . **SHOCK:** Up to 25g . . . **VIBRATION:** Up to 10g, at 10 to 55 cps . . . **EXPLOSION PROOF:** MIL-E-5272A, Procedure 11 . . . **FUNGUS AND MOISTURE RESISTANCE:** Fungus requirement of MIL-E-5272A, and moisture requirement of MIL-E-5272, Procedure 1.

**INTERRUPTION CAPACITY:** At 32 volts DC, the interruption capacity is 3000 amps; at 50 volts DC, 2000 amps; at 125 volts, 60 cycles AC, 2000 amps; at 250 volts, 60 cycles, 1000 amps.

#### TIME VERSUS CURRENT

Mfr's Type	Frequency	Continuous Load Rating	Ultimate Trip	Trip Time (200% Load)
122, 220	AC—60 cps	100%	125%	3-8 sec.
131, 205	DC	100%	125%	3-8 sec.
134, 245, 215	DC	100%	125%	10-20 msec.
190, 235	AC—60 cps	100%	125%	3-8 sec.

#### MAY BE ASSORTED FOR BEST PRICE

Description	Mfr's Type	EACH	
		1-5	6-25
Single Pole	122, 131, 134	7.24	5.17
Two Pole	190, 205, 215	18.49	13.21
Three Pole	220, 235, 245	28.78	20.56

#### TYPES 122, 131, 134—SINGLE POLE

Amps	Stock No.	Mfr's Type	Stock No.	Mfr's Type	Stock No.	Mfr's Type
1	33 B 453	122-201	33 B 477	131-201	33 B 489	134-201
3	33 B 455	122-203	33 B 478	131-203	33 B 490	134-203
5	33 B 457	122-205	33 B 479	131-205	33 B 491	134-205
7	33 B 458	122-207	33 B 480	131-207	33 B 492	134-207
10	33 B 459	122-210	33 B 481	131-210	33 B 493	134-210
15	33 B 460	122-215	33 B 482	131-215	33 B 494	134-215
20	33 B 461	122-220	33 B 483	131-220	33 B 495	134-220
25	33 B 462	122-225	33 B 484	131-225	33 B 496	134-225
30	33 B 463	122-230	33 B 485	131-230	33 B 497	134-230
35	33 B 464	122-235	33 B 486	131-235	33 B 498	134-235
40	33 B 465	122-240	33 B 487	131-240	33 B 499	134-240
50	33 B 466	122-250	33 B 488	131-250	33 B 600	134-250

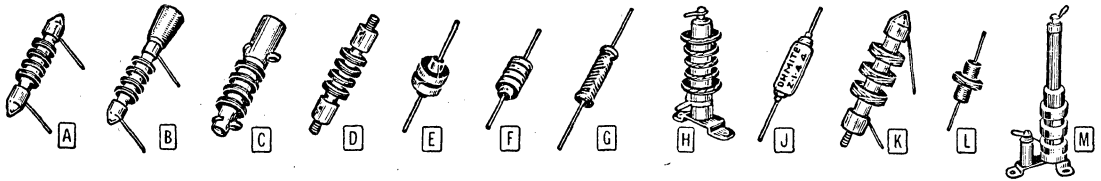
#### TYPES 190, 205, 215—TWO POLE

Amps	Stock No.	Mfr's Type	Stock No.	Mfr's Type	Stock No.	Mfr's Type
1	33 B 601	190-201	33 B 613	205-201	33 B 624	215-201
3	33 B 602	190-203	33 B 614	205-203	33 B 625	215-203
5	33 B 603	190-205	33 B 615	205-205	33 B 626	215-205
7	33 B 604	190-207	33 B 616	205-207	33 B 627	215-207
10	33 B 605	190-210	33 B 617	205-210	33 B 628	215-210
15	33 B 606	190-215	33 B 618	205-215	33 B 629	215-215
20	33 B 607	190-220	33 B 619	205-220	33 B 630	215-220
25	33 B 608	190-225	33 B 620	205-225	33 B 631	215-225
30	33 B 609	190-230	33 B 621	205-230	33 B 632	215-230
40	33 B 610	190-240	33 B 622	205-240	33 B 633	215-240
50	33 B 611	190-250	33 B 623	205-250	33 B 634	215-250

#### TYPES 220, 235, 245—THREE POLE

Amps	Stock No.	Mfr's Type	Stock No.	Mfr's Type	Stock No.	Mfr's Type
1	33 B 635	220-201	33 B 646	235-201	33 B 657	245-201
3	33 B 636	220-203	33 B 647	235-203	33 B 658	245-203
5	33 B 637	220-205	33 B 648	235-205	33 B 659	245-205
7	33 B 638	220-207	33 B 649	235-207	33 B 660	245-207
10	33 B 639	220-210	33 B 650	235-210	33 B 661	245-210
15	33 B 640	220-215	33 B 651	235-215	33 B 662	245-215
20	33 B 641	220-220	33 B 652	235-220	33 B 663	245-220
25	33 B 642	220-225	33 B 653	235-225	33 B 664	245-225
30	33 B 643	220-230	33 B 654	235-230	33 B 665	245-230
40	33 B 644	220-240	33 B 655	235-240	33 B 666	245-240
50	33 B 645	220-250	33 B 656	235-250	33 B 667	245-250

# RF, Ferrite Bead, and Ferrite Core Chokes



## POPULAR RF CHOKES FOR EVERY PURPOSE

- Precision-Wound on Rugged Forms
- Current Ratings up to 2 Amperes

A selection of quality RF chokes for transmitters, receivers, test equipment, etc. Offer wide range of inductance values from 0.2 microhenries to 10 millihenries. Current ratings given are based on a 20° C temperature rise. †Indicates type with standoff insulator

- Finished with Moisture-Proof Varnish
- Fulfill Many Military Specifications

for vertical mounting; suffix "U" indicates standoff insulator is removable; suffix "S," fixed standoff with silver-plated spring clips; suffix "SI," threaded stud on each end. \*Iron-core type. ‡Millihenries, \*\*Microhenries. Av. shpg. wt., 2 oz.

### NATIONAL CHOKES

Stock No.	Mfr's Type	Fig.	Mh†	Ma	Ohms	EACH			
						1-99	100-199	200-299	300-399
61 G 115	R-33	E	11**	350	1.8				
61 G 116	R-33	E	50**	225	3.5				
61 G 117	R-33	E	100**	200	5	.36	.34	.32	.31
61 G 118	R-33	E	750**	125	16				
61 G 119	R-50	E	0.5	150	15	.42	.40	.38	.36
61 G 160	R-50	F	1	135	23	.42	.40	.38	.36
61 G 161	R-50	F	2.5	125	38	.42	.40	.38	.36
61 G 162	R-50	F	10	115	36	.72	.68	.65	.61
61 G 168	R-60	G	2**	1500	0.06	.29	.28	.26	.25
61 G 169	R-60	G	4**	700	0.15	.29	.28	.26	.25
61 G 301	R-100	A	2.5	115	44	.57	.54	.51	.48
61 G 329	R-100	A	5	70	90	.90	.86	.81	.75
61 G 367	R-100	A	10	60	130	1.12	1.06	1.00	.95
61 G 495	R-100S§	C	2.5	115	44	.99	.94	.89	.84
61 G 496	R-100S§	C	5	70	90	1.32	1.25	1.19	1.12
61 G 497	R-100S§	C	10	60	130	1.49	1.41	1.34	1.27
61 G 498	R-100ST	D	2.5	115	44	.66	.63	.59	.56
61 G 499	R-100ST	D	5	70	90	.99	.94	.89	.84
61 G 500	R-100ST	D	10	60	130	1.12	1.06	1.00	.95
61 G 368	R-100U§	B	2.5	115	44	.74	.70	.67	.63
61 G 398	R-100U§	B	5	70	90	1.04	.99	.94	.88
61 G 399	R-100U§	B	10	60	130	1.26	1.20	1.13	1.07
61 G 501	R-152	M	4	600	10	2.31	2.20	2.08	1.96
61 G 502	R-154	M	1	600	6	2.31	2.20	2.08	1.96
61 G 503	R-154U	H	1	600	6	2.01	1.81	1.67	1.61
61 G 504	R-175A	M	145**	800	5	3.56	3.20	2.95	2.85
61 G 505	R-300	A	0.5	400	7	.57	.54	.51	.48
61 G 506	R-300	A	1	400	11	.57	.54	.51	.48
61 G 507	R-300	A	2.5	375	17	.74	.70	.67	.63
61 G 508	R-300	A	5	325	24	.90	.86	.81	.76
61 G 513	R-300S§	C	0.5	400	7	.95	.90	.86	.81
61 G 514	R-300S§	C	1	400	11	1.00	.95	.90	.85
61 G 515	R-300S§	C	2.5	375	17	1.12	1.06	1.00	.95
61 G 516	R-300S§	C	5	325	24	1.25	1.19	1.12	1.06
61 G 517	R-300ST	D	0.5	400	7	.63	.60	.57	.54
61 G 518	R-300ST	D	1	400	11	.63	.60	.57	.54
61 G 519	R-300ST	D	2.5	375	17	.80	.76	.72	.68
61 G 520	R-300ST	D	5	325	24	.96	.91	.86	.82
61 G 509	R-300U§	B	0.5	400	7	.69	.66	.62	.59
61 G 510	R-300U§	B	1	400	11	.77	.73	.69	.66
61 G 511	R-300U§	B	2.5	375	17	.92	.87	.83	.78
61 G 512	R-300U§	B	5	325	24	1.02	.97	.92	.87

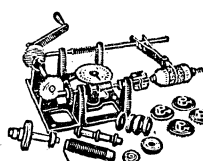
### OHMITE CHOKES

Stock No.	Mfr's Type	Fig.	**μh	Ma	Mc	EACH		
						1-9	10-24	25-99
61 G 548	Z-460	J	0.2	1000	320-520	.43	.37	.30
61 G 549	Z-235	J	0.84	1000	160-350	.43	.37	.30
61 G 550	Z-144	J	1.8	1000	80-200	.43	.37	.30
61 G 551	Z-50	J	7.0	1000	35-110	.46	.39	.32
61 G 552	Z-28	.....	21	600	20-60	.57	.48	.40
61 G 553	Z-14	.....	44	600	7-35	.68	.58	.48
61 G 554	Z-7	.....	84	1000	3-20	1.37	1.16	.96

### MILLEN CHOKES

Stock No.	Type	Fig.	Mh†	Ma	Ohms	EACH
61 G 522	34101	K	2.5	250	52.5	.42
61 G 523	34103	A	2.5	250	52.5	.42
61 G 524	34106	K	1	300	13.5	.42
61 G 527	34300-100	L	100**	250	7.4	.42
61 G 528	34300-250	L	250**	250	11	.42
61 G 525	34300-25	L	25**	250	3.4	.42
61 G 526	34300-50	L	50**	250	5.2	.42
61 G 529	34300-300	L	300**	250	10.1	.42
61 G 530	34300-500	E	500**	250	20.8	.42
61 G 531	34300-1000	E	1000**	250	20.9	.42
61 G 533	3300-100*	G	100**	50	4.0	.42
61 G 534	3300-250*	G	250**	50	6.2	.42
61 G 535	3300-500*	G	500**	50	14.4	.42
61 G 536	3300-1000*	G	1000**	50	24.0	.42
61 G 537	3300-2500*	G	2500**	50	41.3	.42

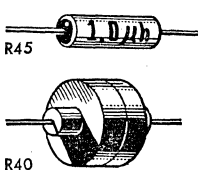
### MORRIS "COILMASTER" COIL WINDER



Gives your work a professional appearance. Makes self-supporting, universal, and honeycomb coils; also solenoids, single-layer coils, etc.—just set up winder for type of coil you want and turn the handle. Indicator counts turns. Easily adjustable for pi spacing and different coil forms. For No. 22 to No. 40 wire; 3 cams, 4 gears permit winding various types of coils. Less wire and forms. Base

size, 5x5". Shpg. wt., 4 lbs. 61 G 053..... 6.95

### NATIONAL FERRITE BEAD AND FERRITE CORE CHOKES



R-45 Series. Ferrite bead chokes designed for use as filament chokes, parasitic suppressors, and series elements of low-pass filters for 5 to 200 mc. Handle 2 amps of filament current with a voltage drop of less than 0.02 volts. Performance is unaffected by extremes of humidity and temperatures up to 125° C. Insulated with epoxy-filled, epoxy shell. Av. shpg. wt., 2 oz.

R-40 Series. Extremely high Q with small size. For use in networks and filters at frequencies from 50 kc to 1500 kc. Fungus-proof varnish per MIL-V-173A specs. Temperature coefficient is less than 550 ppm per degree C for coils with inductance value of less than 1 mh, and less than 250 ppm per degree C for coils with value of 1 mh or larger. \*Millihenries. Av. shpg. wt., 2 oz.

#### SERIES R-45 FERRITE BEAD

Stock No.	Mfr's Type	AC Res. @ 10 Mc.	Imped. @ 10 Mc.	EACH			
				1-99	100-199	200-299	300-399
61 G 814	R-45-1	25 ohms	16 ohms	.38	.36	.34	.32
61 G 815	R-45-2	50 ohms	32 ohms	.38	.36	.34	.32
61 G 816	R-45-3	75 ohms	49 ohms	.59	.56	.53	.50
61 G 817	R-45-4	100 ohms	60 ohms	.59	.56	.53	.50
61 G 818	R-45-8	210 ohms	150 ohms	.68	.64	.61	.58
61 G 819	R-45-12	320 ohms	230 ohms	.90	.85	.81	.77
61 G 820	R-45-153	150 ohms	70 ohms				
61 G 821	R-45-154	610 ohms	100 ohms				
61 G 822	R-45-253	350 ohms	110 ohms	.75	.71	.68	.64
61 G 823	R-45-254	1400 ohms	230 ohms				

#### SERIES R-40 FERRITE CORE

Stock No.	Mfr's Type	μh	Ma	†Mc	EACH			
					1-99	100-199	200-299	300-399
61 G 824	R-40-150	150	250	7.9	.50	.48	.45	.43
61 G 825	R-40-220	220	250	7.0	.50	.48	.45	.43
61 G 826	R-40-330	330	250	6.0	.50	.48	.45	.43
61 G 827	R-40-470	470	225	4.9	.50	.48	.45	.43
61 G 828	R-40-680	680	200	4.3	.50	.48	.45	.43
61 G 829	R-40-820	820	200	3.9	.50	.48	.45	.43
61 G 830	R-40-1	1.0*	175	3.3	.53	.50	.48	.45
61 G 831	R-40-1.5	1.5*	150	2.5	.53	.50	.48	.45
61 G 832	R-40-2.2	2.2*	150	1.9	.53	.50	.48	.45
61 G 833	R-40-3.3	3.3*	125	1.6	.53	.50	.48	.45
61 G 834	R-40-4.7	4.7*	100	1.3	.53	.50	.48	.45
61 G 835	R-40-6.8	6.8*	80	1.1	.56	.53	.50	.48
61 G 836	R-40-8.2	8.2*	80	0.98	.56	.53	.50	.48
61 G 837	R-40-10	10.0*	80	0.85	.56	.53	.50	.48

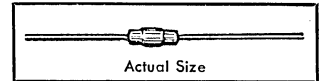
# RF Chokes, Variable Inductors, and Transformers

## WELLS ELECTRONICS CHOKES AND VARIABLE INDUCTORS

### SERIES 506 MICROMINIATURE RF CHOKES

Ruggedly constructed, solenoid-wound RF chokes, so small that 850 of them can be packaged in the space of one cubic inch. Chokes of 1.0  $\mu$ h or less are wound on phenolic forms .200" long; have test frequency of 25 mc. Chokes of 1.20  $\mu$ h or more inductance are wound on iron forms .197" long; have test frequency of 7.9 mc. All are .075" diameter. Windings have a baked-on coating of silicone

varnish. Axial leads are 1 1/2" long, of #25 AWG wire, weldable and solderable. Maximum rated current is 38 milliamperes, except \*31 ma. Column in table below, labeled "Freq. mc", indicates self-resonant frequency. Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Ind $\mu$ h.	Q	DC Ohms	Freq. mc	EACH			
						1-24	25-49	50-99	100-249
61 G 838	000010VI	.10	25	.21	260	.72	.65	.59	.52
61 G 839	000012VI	.12	25	.23	260	.72	.65	.59	.52
61 G 840	000015VI	.15	28	.25	260	.72	.65	.59	.52
61 G 841	000018VI	.18	28	.27	260	.72	.65	.59	.52
61 G 842	000022VI	.22	33	.32	260	.74	.67	.60	.53
61 G 843	000027VI	.27	33	.34	260	.74	.67	.60	.53
61 G 844	000033VI	.33	38	.40	260	.74	.67	.60	.53
61 G 845	000039VI	.39	40	.45	260	.74	.67	.60	.53
61 G 846	000047VI	.47	40	.51	260	.76	.69	.62	.54
61 G 847	000056VI	.56	40	.58	260	.76	.69	.62	.54
61 G 848	000068VI	.68	40	.66	260	.76	.69	.62	.54
61 G 849	000082VI	.82	38	.75	260	.76	.69	.62	.54
61 G 850	000100VI	1.00	38	.85	232	.78	.71	.64	.55
61 G 851	000120VI	1.20	40	.40	228	.78	.71	.64	.55
61 G 852	000150VI	1.50	40	.47	116	.78	.71	.64	.55
61 G 853	000180VI	1.80	40	.47	107	.80	.73	.66	.57

Stock No.	Mfr's Type	Ind $\mu$ h.	Q	DC Ohms	Freq. mc	EACH			
						1-24	25-49	50-99	100-249
61 G 854	000220VI	2.20	40	.51	97	.80	.73	.66	.57
61 G 855	000270VI	2.70	40	.55	88	.80	.73	.66	.57
61 G 856	000330VI	3.30	40	.64	80	.82	.75	.67	.59
61 G 857	000390VI	3.90	40	.71	74	.82	.75	.67	.59
61 G 858	000470VI	4.70	40	.78	69	.82	.75	.67	.59
61 G 860	000560VI	5.60	40	.88	65	.84	.77	.69	.60
61 G 861	000680VI*	6.80	35	1.20	58	.84	.77	.69	.60
61 G 862	000820VI*	8.20	35	1.30	53	.84	.77	.69	.60
61 G 863	001000VI*	10.00	35	1.53	49	.84	.77	.69	.60

### MODEL 506 MICROMINIATURE CHOKE KIT

Ideal for experimental use, each kit contains thirteen Series 506 RF chokes. Includes the following values, expressed in microhenries; .10, .15, .22, .33, .47, .68, 1.0, 1.5, 2.2, 3.3, 4.7, 6.8, and 10.0. Packaged in plastic case. Shpg. wt., 2 lbs. **14.50**

### "WEECOIL" SUBMINIATURE VARIABLE INDUCTORS

Subminiature variable inductors highly suitable for printed-circuit board mounting. All are magnetically and electro-statically shielded. Cadmium-plated brass cans have integral mounting lugs, phenolic bases. Wax-impregnated coils are tunable from both top and bottom;

have tinned terminals, powdered iron parts to reduce drift effects to a minimum. Nominal Q at minimum inductance: 60 except \*55, \*50, \*65, \*40, \*35, \*\*30. All units are 1/2x1/2". Av. shpg. wt., 2 oz.



Stock No.	Mfr's Type	Min. $\mu$ h.	Max. $\mu$ h.	Res. Ohms	EACH			
					1-24	25-99	100-249	250-999
61 G 864	387-3†	1.5	3.0	0.6	1.80	1.30	.90	.70
61 G 865	387-7*	3.0	7.0	0.85	1.80	1.30	.90	.70
61 G 866	387-14*	7.0	14	1.25	1.80	1.30	.90	.70
61 G 867	387-28	14	28	1.75	1.85	1.33	.92	.72
61 G 868	387-60	28	60	2.60	1.85	1.33	.92	.72
61 G 869	387-120	60	120	4.0	1.85	1.33	.92	.72
61 G 870	387-280	120	280	5.75	1.85	1.33	.92	.72

Stock No.	Mfr's Type	Min. $\mu$ h	Max. $\mu$ h	Res. Ohms	EACH			
					1-24	25-99	100-249	250-999
61 G 871	387-650#	280	650	9.0	1.90	1.35	.93	.73
61 G 872	387-1300	650	1300	15.0	1.90	1.35	.93	.73
61 G 873	387-3000†	1300	3000	23.0	1.90	1.35	.93	.73
61 G 874	387-10M†	3000	10,000	76.0	2.06	1.48	1.02	.80
61 G 875	387-20M†	8000	20,000	110.0	2.06	1.48	1.02	.80
61 G 876	387-40M‡	15,000	40,000	150.0	2.08	1.50	1.04	.82
61 G 877	387-60M**	20,000	60,000	160	2.18	1.57	1.09	.85

## J. W. MILLER CHOKES AND RF POWER TRANSFORMERS

### RF POWER TRANSFORMERS FOR HIGH VOLTAGE DC POWER SUPPLIES

For use with RF oscillator and 1B3 rectifier. Complete schematic included with each unit.

Type 4525. RF power supply transformer for TV receivers, scopes. Up to 5000 v. DC. 3 1/2x1 1/4". Wt., 4 oz.

61 G 101 ..... **5.88**

Type 4526. Up to 10,000 v. DC (30,000 in rectifier-tripler circuit). Size, 6x2 1/4" diameter. Shpg. wt., 4 oz.

61 G 102 ..... **8.82**



### PRINTED CIRCUIT RF CHOKES

High-quality, air-core RF chokes for printed circuit boards. Available in a wide range of inductances for transmitters, receivers, test equipment, etc. With printed-circuit type mounting lugs for quick, easy soldering. Coil forms are 7/8" long. Av. shpg. wt., 2 oz.



Stock No.	Type	Mh	Ohms	Ma	Dia.	EACH			
						1-24	25-49	50-99	100-249
61 G 061	970	1	17.2	125	1 1/16"				
61 G 062	971	1.2	19.8	125	23/32"	.56	.52	.48	.38
61 G 063	972	1.5	21.8	125	3/4"				
61 G 064	973	1.8	24.7	125	3/4"	.59	.54	.50	.40
61 G 066	974	2.2	27.4	125	25/32"				
61 G 067	975	2.7	31.2	125	13/16"				
61 G 068	976	3.3	34.8	125	13/16"				
61 G 069	977	3.9	38.9	125	27/32"	.62	.57	.53	.42
61 G 070	978	4.7	43.2	125	7/8"				
61 G 071	979	5.6	48	125	29/32"				
61 G 072	980	6.8	53.6	125	15/16"	.65	.60	.55	.44
61 G 073	981	8.2	60.8	100	27/32"	.65	.60	.55	.44
61 G 074	982	10	68	100	7/8"	.71	.65	.60	.48
61 G 075	983	12	77	100	29/32"	.73	.67	.62	.50
61 G 076	984	15	87.7	100	15/16"	.76	.70	.65	.52
61 G 077	985	18	97.9	100	31/32"	.79	.73	.67	.54
61 G 078	986	22	108	75	31/32"	.91	.84	.77	.62
61 G 079	987	27	121	75	1 1/16"	.94	.86	.80	.65
61 G 080	988	33	209	75	1"	1.00	.92	.85	.68
61 G 081	989	39	231	75	1 1/16"	1.03	.95	.88	.70
61 G 082	990	47	263	50	29/32"	1.06	.98	.90	.72
61 G 083	991	56	292	50	1 1/8"	1.12	1.03	.95	.76
61 G 084	992	68	326	50	1"	1.18	1.09	1.00	.80
61 G 085	993	82	368	50	1 1/2"	1.23	1.13	1.05	.84
61 G 086	994	100	394	50	1 1/16"	1.29	1.19	1.10	.88

### IRON CORE RF CHOKES

Type 70F. Iron core RF chokes designed for high-reliability in ultra-miniature components. Ideal for network and filter design, delay lines and computer applications. Rated 50 ma. maximum DC current. Impregnated with a moisture-resistant lacquer. All are 1/4" in length except \* which are 3/8". Indicates millihenries. Av. shpg. wt., 3 oz.



Stock No.	Mfr's Type	$\mu$ h	Q	Freq.	EACH			
					1-24	25-49	50-99	100-249
61 G 878	70F104AI	100	50	790 Kc				
61 G 879	70F154AI	150	55	790 Kc	.65	.60	.55	.44
61 G 880	70F224AI	220	57	790 Kc				
61 G 881	70F334AI	330	59	790 Kc				
61 G 882	70F474AI	470	59	790 Kc				
61 G 883	70F684AI	680	55	790 Kc				
61 G 884	70F824AI	820	53	790 Kc	.74	.68	.63	.50
61 G 885	70F103AI	1.00 mh†	50	790 Kc				
61 G 886	70F153AI	1.50 mh†	50	250 Kc				
61 G 887	70F223AI	2.20 mh†	50	250 Kc	.79	.73	.67	.54
61 G 888	70F333AI*	3.30 mh†	70	250 Kc	.82	.75	.70	.56
61 G 889	70F473AI*	4.70 mh†	68	250 Kc	.82	.75	.70	.56
61 G 890	70F683AI*	6.80 mh†	64	250 Kc	.82	.75	.70	.56
61 G 891	70F823AI*	8.20 mh†	60	250 Kc	.97	.89	.82	.67
61 G 892	70F102AI*	10.0 mh†	60	250 Kc	.97	.89	.82	.67

### FERRITE CORE RF CHOKES

An extremely versatile series of high-quality ferrite core chokes for use in original equipment and replacement in existing equipment. Made to exacting specifications to meet industrial standards. High permeability ferrite core provides increased inductance—permits size of choke to be much smaller for a given inductance than one with a conventional core. Applications: transmitters, receivers, test equipment, and other similar electronic equipment. Provide high inductance and low DC resistance. Size: 1/4" diameter, 7/8" long, 1 1/2" axial leads. Average shpg. wt., 4 oz.



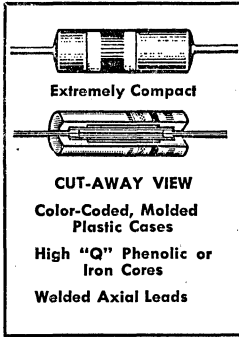
Stock No.	Mfr's Type	Mh.	Ohms	Ma	EACH			
					1-24	25-49	50-99	100-249
61 G 893	6302	2.5	8.3	200	.79	.73	.67	.54
61 G 894	6304	5	13.5	200	.91	.84	.77	.62
61 G 895	6306	10	28.	125	1.06	.98	.90	.72
61 G 896	6308	25	70.	75	1.23	1.13	1.05	.84
61 G 897	6310	50	110.	75	1.41	1.30	1.20	.96

Write For Prices on Quantities Greater Than Those Indicated



# J. W. Miller Chokes and Inductors

## MOLDED RF CHOKES



Tiny RF chokes encased in rugged molded plastic. Coded for inductance value. Variety of values, current ratings and sizes. Tested in accordance with MIL Standard 105. Conform to MIL-C-15305B specifications. 9310 Series (MIL-MS-16225), .156x.375"; 9320 Series (MIL MS-16224), .188x.438"; 9330 Series (MIL MS-16222), .219x.563". Power ratings @ 90°C: 9310 Series, 1/4-watt; 9320 Series, 1/2-watt; 9330 Series, 1/2-watt. With AWG #22 TCW, 17/64" leads. Iron cores, except \*phenolic. Tolerance: ±10%, except †, ±20%; ‡, ±5%. In table below, Min. F<sub>o</sub> (Mc) is resonant oscillation. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	μ hy	Q Min.	Min. Fo (Mc)	DC Ohm Max.	Ma Max.	EACH			
							1-24	25-49	50-99	100-249
62 G 802	9310-00*	.15†	50	525	.03	2630				
62 G 803	9310-02*	.22†	45	450	.05	2235				
62 G 804	9310-04*	.33†	45	390	.09	1490				
62 G 807	9310-06*	.47†	45	310	.12	1340	.60	.55	.51	.41
62 G 808	9310-08*	.68†	55	250	.14	1165				
62 G 809	9310-10*	.82†	55	220	.22	930				
62 G 811	9310-12*	1.00	50	200	.25	875				
62 G 812	9310-14*	1.20	35	180	.42	675				
62 G 814	9310-16*	1.50	35	160	.50	600				
62 G 815	9310-18*	1.80	35	150	.65	500	.60	.55	.51	.41
62 G 819	9310-20*	2.20	35	135	.95	400				
62 G 823	9310-22*	2.70	35	120	1.20	370				
62 G 832	9310-24*	3.30	35	110	2.00	325				
62 G 833	9310-26*	3.90	35	100	2.30	300				
62 G 834	9310-28*	4.70	35	90	2.60	270	.64	.59	.55	.45
62 G 836	9310-30	5.60	45	60	.32	780				
62 G 838	9310-32	6.80	50	55	.50	600				
62 G 839	9310-34	8.20	50	50	.60	540				
62 G 842	9310-36	10.0	55	45	.90	460				
62 G 849	9310-38	12.0	65	42	1.10	375				
62 G 852	9310-40	15.0	65	40	1.30	350	.64	.59	.55	.45
62 G 853	9310-42	18.0	75	34	2.25	300				
62 G 854	9310-44	22.0	75	30	2.50	275				
62 G 856	9310-46	24.0†	60	26	2.50	275				
62 G 857	9310-48	27.0	60	25	2.60	260				
62 G 858	9310-50	30.0†	65	19	2.80	245	.75	.69	.64	.51
62 G 859	9310-52	33.0†	65	19	2.90	230				
62 G 860	9320-00*	.15†	65	600	.03	3400				
62 G 861	9320-02*	.22†	60	470	.04	2950				
62 G 865	9320-04*	.33†	60	390	.05	2500	.60	.55	.51	.41
62 G 866	9320-06*	.47†	60	320	.08	1875				
62 G 875	9320-08*	.68†	65	240	.12	1400				
62 G 879	9320-10*	1.00	60	190	.25	900				
62 G 880	9320-12*	1.50	40	150	.50	720				
62 G 881	9320-14*	2.20	40	130	.90	460	.60	.55	.51	.41
62 G 882	9320-16*	2.70	40	120	1.10	450				
62 G 883	9320-18	3.30	35	68	.12	1300				
62 G 884	9320-20	3.90	35	62	.16	1130				
62 G 885	9320-22	4.70	40	58	.22	915	.64	.59	.55	.45
62 G 886	9320-24	5.60	40	50	.30	900				
62 G 887	9320-26	6.80	40	45	.40	800				
62 G 888	9320-28	8.20	40	43	.45	770				
62 G 889	9320-30	10.0	40	40	.60	690				
62 G 890	9320-32	12.0	55	35	.85	480	.64	.59	.55	.45
62 G 891	9320-34	15.0	60	30	1.20	480				
62 G 892	9320-36	22.0	65	24	2.00	375				
62 G 893	9320-38	27.0	70	22	2.80	300				
62 G 894	9330-00*	.47†	70	280	.06	2000				
62 G 924	9330-02*	.68†	70	240	.07	1275	.64	.59	.55	.45
62 G 925	9330-04*	1.00	70	200	.13	1180				
62 G 926	9330-06*	1.50	45	160	.28	1080				
62 G 927	9330-08*	2.20	45	135	.50	700				
62 G 928	9330-10*	2.70	45	120	.65	660				
62 G 929	9330-12*	3.30	45	105	1.00	600	.64	.59	.55	.45
62 G 930	9330-14*	3.90	45	100	1.20	460				
62 G 931	9330-16*	4.70	45	90	1.80	350				
62 G 932	9330-18	5.60	35	55	.13	1500				
62 G 933	9330-20	6.80	35	50	.20	1250				
62 G 934	9330-22	8.20	35	44	.22	1190				
62 G 935	9330-24	10.0	35	42	.26	990	.75	.69	.64	.51
62 G 936	9330-26	12.0	45	34	.45	800				
62 G 937	9330-28	15.0	45	32	.52	730				
62 G 938	9330-30	18.0	50	28	.70	680				
62 G 939	9330-32	22.0	60	24	1.00	640				
62 G 940	9330-34	27.0	65	22	1.30	550	.75	.69	.64	.51
62 G 941	9330-36	33.0	65	20	1.50	510				
62 G 942	9330-38	39.0	70	18	2.00	440				

## RF CHOKES WITH AXIAL LEADS



Low distributed capacity. Wound on molded phenolic or powdered iron core forms. Impregnated with moisture and fungus resistant varnish. Phenolic form, .188" dia. x .75" long; iron form, .219" dia. x .875" long. 2 oz.

### PHENOLIC FORM—SINGLE LAYER WINDING

Stock No.	Mfr's Type	μ hy	Q Min.	Min. Fo (Mc)	DC Ohms Max.	Ma Max.	EACH			
							1-24	25-49	50-99	100-249
62 G 943	4580	.10	56	392	.012	300				
62 G 944	4582	.15	64	348	.014	300				
62 G 961	4584	.22	76	320	.024	300	.44	.41	.37	.29
63 G 823	4586	.33	80	295	.023	300				
63 G 824	4588	.47	83	250	.026	300				
63 G 825	4590	.68	90	218	.036	300				
63 G 826	4592	.75	92	214	.039	300				
63 G 827	4594	.82	89	206	.042	300				
63 G 828	4602	1.00	46	186	.060	300				
63 G 829	4604	1.50	49	156	.096	300	.44	.41	.37	.29
63 G 830	4606	2.40	50	123	.192	300				
63 G 831	4608	3.90	56	94	.600	300				
63 G 833	4609	5.50	56	82	.828	300				
63 G 834	4610	6.20	53	77	.900	300				
63 G 835	4611	8.20	53	68	1.34	300	.47	.43	.39	.31
63 G 836	4612	10.0	53	61	1.80	200				

### IRON CORE FORM—SINGLE LAYER WINDING

Stock No.	Mfr's Type	μ hy	Q Min.	Min. Fo (Mc)	DC Ohms Max.	Ma Max.	EACH			
							1-24	25-49	50-99	100-249
63 G 837	4622	10.0	56	39	.122	300	.50	.45	.42	.33
63 G 838	4624	15.0	46	30	.144	300	.50	.45	.42	.33
63 G 839	4626	24.0	40	25	.336	300	.53	.48	.44	.35
63 G 840	4628	39.0	74	20	.780	300	.53	.48	.44	.35
63 G 841	4629	55.0	71	17	1.10	300				
63 G 842	4630	62.0	69	16	1.20	300				
63 G 843	4631	82.0	72	15	1.92	300	.56	.51	.47	.37
63 G 844	4632	100.0	64	12	2.40	200				

### PHENOLIC FORM—3-SECTION WINDING

Stock No.	Mfr's Type	μ hy	Q Min.	Min. Fo (Mc)	DC Ohms Max.	Ma Max.	EACH			
							1-24	25-49	50-99	100-249
63 G 845	4642	100	51	8.8	4.92	125				
63 G 846	4644	150	54	7.8	6.84	125				
63 G 850	4646	240	52	6.0	8.16	125	.56	.51	.47	.37
63 G 851	4648	390	56	4.7	12.0	125				
63 G 853	4649	550	52	3.7	13.2	125				
63 G 854	4650	620	56	3.6	15.1	125				
63 G 855	4651	750	53	3.2	16.4	125	.62	.56	.52	.41
63 G 856	4652	1000	52	2.5	19.8	125				

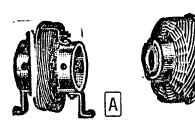
## WIDE-RANGE ADJUSTABLE INDUCTORS



The wide ranges of inductance offered make them ideally suited for applications in prototype designs where the exact value of the required inductance is not known. Units are all untapped type. Dimensions: maximum diameter, 3/4"; length, 2 1/4". Inductance values shown in the table below are all measured with 1000 cycle test current. Av. shpg. wt., 4 oz.

Stock No.	Mfr's Type	Min. μh	Q Min.	Q Max.	Q Min.	EACH			
						1-24	25-49	50-99	100-249
63 G 900	9001	35	88	.300	244	1.09	.99	.91	.73
63 G 901	9002	150	77	1.00	175	1.41	1.29	1.19	.96
63 G 902	9003	.500	88	3.50	157	1.61	1.48	1.36	1.09
63 G 903	9004	1.75	92	10.0	110	1.61	1.48	1.36	1.09
63 G 904	9005	5.00	83	20.0	120	1.73	1.58	1.46	1.17
63 G 905	9006	10.0	72	50.0	90	1.85	1.69	1.56	1.25
63 G 906	9007	25.0	45	130	76	1.91	1.75	1.61	1.29
63 G 907	9008	65.0	45	300	70	2.03	1.85	1.71	1.37

## DUO-LATERAL LINE FILTER CHOKES



A Types 7825 and 7827. Duo-lateral wound for extremely low distributed capacity. Ideal for use in AC lines to filter RF or noise pulses from transmitters, power supplies, sign flashers, oil burners, diathermy equipment and intermittent type switching systems. Type 7825 on bakelite form; 1 1/2 x 1 1/4". Type 7827 on ceramic form; 2 1/2 x 4".

Stock No.	Mfr's Type	Inductance Fig.	Millihenries	Current Amperes	DC Res. Ohms	Wt. Oz.	EACH
61 G 054	7825	A	.600	2	.7	5	1.62
61 G 055	7827	A	.370	10	.15	16	4.12
61 G 056	691-T	B	20.0	.125	100	4	.97

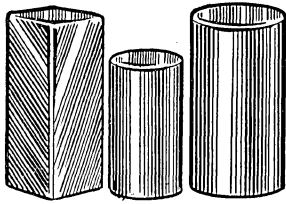
### TAPPED SINGLE-PI RF CHOKE

B Type 691-T. Center-tapped 20 mh choke. Single-Pi on ceramic dwl. Capacity, 125 ma; resistance, 120 ohms. Size, 1 1/2 x 3/4". Shpg. wt., 4 oz.

61 G 056..... .97

# J. W. Miller Chokes, Coils, and Coil Shields

## ALUMINUM COIL SHIELDS



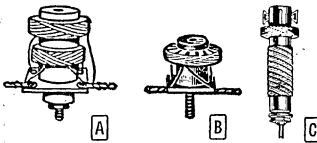
Finest quality drawn aluminum. Have tar-nish-proof satin finish. With two #6-32 threaded bolts riveted to shield for easy attachment to chassis. Av. wt., 3 oz.

### DIMENSION TABLE

Type No.	Dimensions	Mtg. Center
S-21	2 1/8" diameter x 3 1/2"	2"
S-31	1 5/8" diameter x 3"	1 1/4"
S-32	1 1/8" square x 2 1/8"	1 1/8"
S-33	1 1/8" square x 2 1/4"	1 1/8"
S-41	2" diameter x 3"	1 1/2"
S-51	1 3/8" square x 3 1/4"	1 5/8"
S-74	1 1/4" diameter x 2"	1 1/2"
L-110	2" square x 4 1/4"	1 1/2"
S-727	2 1/8" diameter x 2 1/2"	2"
L-727	2 1/8" diameter x 4"	2"

### ORDERING TABLE

Stock No.	Type No.	EACH			
		1-24	25-49	50-99	100-249
62 G 566	S-21				
62 G 567	S-31				
62 G 570	S-32	.50	.45	.42	.33
62 G 571	S-33				
62 G 572	S-41				
62 G 587	S-51	.50	.45	.42	.33
62 G 590	S-74	.50	.45	.42	.33
62 G 591	L-110	.73	.67	.62	.49
62 G 595	S-727	.50	.45	.42	.33
62 G 596	L-727	.73	.67	.62	.49



### MIDGET OSCILLATOR COILS

**A** Series 5480. Cover 540-1600 kc with 365 mmf variable capacitor. For use unshielded. Have single section secondary with high impedance primary; use with any pentagrid converter tubes. 1x1", 4 oz.

Stock No.	Type No.	IF	Padder	EACH
62 G 743	5480-C	455 kc	.0004 mfd	1.12
62 G 597	5480-H	262 kc	.0006 mfd	
62 G 598	5480-K	175 kc	.001 mfd	

### TAPPED OSCILLATOR COILS

**B** Series 5481. Similar to Series 5480 above, except no primary is used and secondary is tapped for cathode return. For use with 6SA7 and similar mixer tubes, and when separate oscillator and mixer tubes are used. 1x1". Av. shpg. wt., 4 oz.

Stock No.	Type No.	IF	Padder	EACH
61 G 965	5481-C	455 kc	.0004 mfd	1.12
62 G 600	5481-H	262 kc	.0006 mfd	
61 G 980	5481-K	175 kc	.001 mfd	

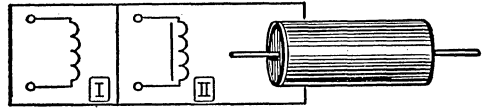
### HIGH "Q" BROADCAST RF COILS

**C** Unshielded, iron-core coils. Have adjustable core for tracking desired frequency range. Range indicated is obtained by using 365 mmf variable capacitor. Coils mount in 1/4" hole. †Padder values shown are for 455 kc IF. ‡Tapped for cathode connection. Size: 3/8x2". Shpg. wt., 4 oz.

Stock No.	Type	Use	KC.	EA.
64 G 398	A-5495-A	Antenna	550-1700	1.62
64 G 399	A-5495-RF	RF	550-1700	
64 G 400	A-5495-C	Std. Osc.	*400 mmf	
64 G 401	A-5496-C	Osc. †	*400 mmf	

## ENCAPSULATED RADIO FREQUENCY CHOKES

- Extremely Stable
- Moisture Resistant
- Meet MIL-C-15305B



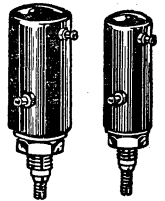
Completely encapsulated in epoxy resin for moisture resistance and stability. Range in inductance values from 0.1 microhenries to 50 millihenries. Conform to MIL-C-15305B

specs. Types illustrated by Diagram I, phenolic; types illustrated by Diagram II, iron cores. All have leads 1" or longer. All are 1 1/8" long. Av. wt., 3 oz.

Stock No.	Mfr's Type	Dia-gram	μ hy	Q Min.	Min. Fo (Mc)	DC Ohm Max.	Max. Ohm	Diam. in.	EACH			
									1-24	25-49	50-99	100-249
62 G 601	4580-E	I	0.1	65 @25 mc	432	.012	300	.375	1.23	1.13	1.04	.83
62 G 602	4582-E	I	0.15	72 @25 mc	364	.015	300	.375				
62 G 603	4584-E	I	0.22	73 @25 mc	288	.021	300	.375				
62 G 604	4586-E	I	0.33	76 @25 mc	240	.023	300	.375				
62 G 605	4588-E	I	0.47	84 @25 mc	216	.026	300	.375				
62 G 606	4590-E	I	0.68	88 @25 mc	188	.036	300	.375	1.23	1.13	1.04	.83
62 G 607	4592-E	I	0.75	92 @25 mc	184	.040	300	.375				
62 G 608	4594-E	I	0.82	92 @25 mc	176	.042	300	.375				
62 G 609	4602-E	I	1.0	88 @25 mc	164	.06	300	.375				
62 G 610	4604-E	I	1.5	54 @7.9 mc	136	.096	300	.375				
62 G 611	4606-E	I	2.4	56 @7.9 mc	109	.192	300	.375	1.23	1.13	1.04	.83
62 G 612	4608-E	I	3.9	56 @7.9 mc	80	.60	300	.375	1.23	1.13	1.04	.83
62 G 613	4609-E	I	5.5	56 @7.9 mc	68	.83	300	.375	1.26	1.15	1.06	.86
62 G 616	4610-E	I	6.2	56 @7.9 mc	64	.90	300	.375	1.26	1.15	1.06	.86
62 G 626	4611-E	I	8.2	56 @7.9 mc	56	1.34	300	.375	1.26	1.15	1.06	.86
62 G 627	4612-E	I	10.0	56 @7.9 mc	48	1.80	200	.375	1.26	1.15	1.06	.86
62 G 628	4622-E	II	10.0	68 @2.5 mc	32	.072	300	.375	1.29	1.18	1.09	.87
62 G 629	4624-E	II	15.0	68 @2.5 mc	29.6	.144	300	.375	1.29	1.18	1.09	.87
62 G 630	4626-E	II	24.0	64 @2.5 mc	24.8	.336	300	.375	1.32	1.21	1.11	.89
62 G 642	4628-E	II	39.0	68 @2.5 mc	19.2	.78	300	.375	1.32	1.21	1.11	.89
62 G 643	4629-E	II	55.0	72 @2.5 mc	16.0	1.10	300	.375	1.32	1.21	1.11	.89
62 G 649	4630-E	II	62.0	76 @2.5 mc	14.4	1.20	300	.375	1.32	1.21	1.11	.89
62 G 650	4631-E	II	82.0	88 @2.5 mc	13.6	1.92	300	.375	1.32	1.21	1.11	.89
62 G 652	4632-E	II	100.0	104 @2.5 mc	11.2	2.40	200	.375	1.32	1.21	1.11	.89
62 G 653	4642-E	I	100.0	51 @790 kc	8.8	4.92	125	.500	1.47	1.34	1.24	.99
62 G 654	4644-E	I	150.0	54 @790 kc	7.8	6.84	125	.500	1.47	1.34	1.24	.99
62 G 655	4646-E	I	240.0	52 @790 kc	6.0	8.16	125	.500	1.47	1.34	1.24	.99
62 G 656	4648-E	I	390.0	56 @790 kc	4.7	12.0	125	.500	1.53	1.40	1.29	1.03
62 G 656	4649-L	I	550.0	52 @790 kc	3.7	13.2	125	.625	1.94	1.77	1.63	1.31
62 G 665	4650-E	I	620.0	56 @790 kc	3.6	15.1	125	.625	1.94	1.77	1.63	1.31
62 G 666	4651-E	I	750.0	53 @790 kc	3.2	16.4	125	.625	1.94	1.77	1.63	1.31
62 G 672	4652-E	I	1000.0	52 @250 kc	2.5	19.8	125	.625	1.94	1.77	1.63	1.31

## ENCAPSULATED ADJUSTABLE R.F. COILS

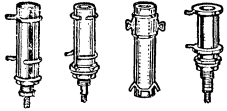
Feature unique "Uniseal" construction in which the coil form is filled with silicone grease to prevent moisture absorption and deterioration of coil efficiency. After grease insertion, open end of form is plugged and unit is encapsulated. Coil form is molded epoxy shell open on only one end. Open end is filled with silicone grease and bonded to brass bushing which holds adjustable core. Coil assembly is then inserted into another epoxy shell and entire assembly is filled with epoxy resin. Impervious to moisture; shock and vibration resistant. The adjusting stud is held rigidly at any position by newly designed "Trutorque" tension device. Permits firm pressure to be applied to adjusting stud without danger of stripped threads. All are 1 1/8" long. Av. shpg. wt., 3 oz.



Stock No.	Mfr's Type	Nom μhy	Max. μhy ±10%	Q Min. @ L Max.	Min. μhy ±20%	Q Min. @ L Min.	Dia.	EACH			
								1-24	25-49	50-99	100-249
62 G 682	50A106EB1	1.00	1.25	78 @7.9 mc	0.62	96 @25 mc	.437"	3.51	3.23	2.98	2.39
62 G 683	50A156EB1	1.50	1.87	81 @7.9 mc	0.98	104 @25 mc	.437"	3.51	3.23	2.98	2.39
62 G 701	50A226EB1	2.20	2.75	76 @7.9 mc	1.26	66 @7.9 mc	.437"	3.51	3.23	2.98	2.39
62 G 702	50A346EB1	3.30	4.10	65 @7.9 mc	1.82	60 @7.9 mc	.437"	3.56	3.25	3.00	2.40
62 G 715	50A273EB1	4.70	5.87	57 @7.9 mc	2.56	65 @7.9 mc	.437"	3.56	3.25	3.00	2.40
62 G 716	50A686EB1	6.80	8.50	68 @7.9 mc	3.80	59 @7.9 mc	.437"	3.56	3.25	3.00	2.40
62 G 718	50A826EB1	8.20	10.20	68 @7.9 mc	4.40	59 @7.9 mc	.437"	3.56	3.25	3.00	2.40
62 G 719	50A108EB1	10.0	12.50	68 @2.5 mc	5.40	64 @7.9 mc	.437"	3.62	3.31	3.05	2.45
62 G 723	50A155EB1	15.00	18.80	67 @2.5 mc	7.80	68 @7.9 mc	.437"	3.62	3.31	3.05	2.45
62 G 724	50A225EB1	22.0	27.50	72 @2.5 mc	11.70	44 @2.5 mc	.437"	3.70	3.38	3.12	2.50
62 G 743	50A335EB1	33.0	41.3	54 @2.5 mc	18.80	37 @2.5 mc	.437"	3.70	3.38	3.12	2.50
62 G 747	50A475EB1	47.0	58.7	52 @2.5 mc	26.50	36 @2.5 mc	.437"	3.73	3.41	3.15	2.53
62 G 752	50A685EB1	68.0	85.0	51 @2.5 mc	36.00	37 @2.5 mc	.437"	3.73	3.41	3.15	2.53
62 G 754	50A825EB1	82.0	102.0	60 @2.5 mc	44.00	44 @2.5 mc	.437"	3.76	3.44	3.18	2.54
62 G 755	50A104EB1	100	125	48 @790 kc	63.0	32 @2.5 mc	.625"	4.14	3.79	3.50	2.81
62 G 756	50A154EB1	150	187	52 @790 kc	92.0	36 @2.5 mc	.625"	4.17	3.81	3.52	2.82
62 G 757	50A224EB1	220	275	53 @790 kc	130	34 @790 kc	.625"	4.17	3.81	3.52	2.82
62 G 759	50A334EB1	330	410	52 @790 kc	200	36 @790 kc	.625"	4.20	3.84	3.54	2.84
62 G 760	50A447EB1	470	580	54 @790 kc	280	37 @790 kc	.625"	4.20	3.84	3.54	2.84
62 G 767	50A684EB1	680	850	52 @790 kc	400	38 @790 kc	.625"	4.23	3.87	3.57	2.87
62 G 768	50A824EB1	820	1000	52 @790 kc	540	37 @790 kc	.625"	4.23	3.87	3.57	2.87
62 G 774	50A183EB1	1000	1250	48 @250 kc	770	37 @790 kc	.625"	4.26	3.90	3.60	2.88
62 G 795	50A153EB1	1500	1870	51 @250 kc	950	34 @790 kc	.625"	4.26	3.90	3.60	2.88
62 G 796	50A223EB1	2200	2750	53 @250 kc	1580	37 @250 kc	.625"	4.29	3.92	3.62	2.90
62 G 797	50A333EB1	3300	4130	54 @250 kc	2400	41 @250 kc	.625"	4.29	3.92	3.62	2.90
62 G 798	50A473EB1	4700	5800	56 @250 kc	3350	44 @250 kc	.625"	4.35	3.98	3.68	2.95
62 G 799	50A683EB1	6800	8500	46 @250 kc	5200	43 @250 kc	.625"	4.35	3.98	3.68	2.95
62 G 801	50A823EB1	8200	10000	53 @250 kc	6200	45 @250 kc	.625"	4.35	3.98	3.68	2.95

# J. W. Miller Coils and Coil Forms

## RF COIL FORMS

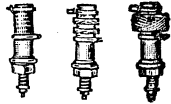


Top-grade forms for use in most standard and industrial electronic equipment. Types 20A000RBI, 21A000RBI, and 22A000RBI are constructed of a resinite material that is a phenolic impregnated tubing that can be certified to MIL-P-79B, type PBG. Types 40A000CBI, 41A000CBI, 42A000CBI, 43A000CBI, 4300, 4400, and 4500 are made of a silicone-impregnated ceramic material that reduces moisture absorption and conforms to JAN I-10, grade L5 specifications. Type 4200 is made of durable nylon. Include hardware, core with frequency range of 1-30 mc.

Stock No.	Mfr's Type	Dia.	Length	Mtg. Hole	PER PKG. of 100
63 G 920	21A000RBI	3/8"	1 1/8"	1/4"	41.20
63 G 921	22A000RBI	1/2"	1 7/8"	1/4"	49.89
63 G 922	40A000CBI	3/32"	1 9/32"	1/64"	93.26
63 G 923	41A000CBI	1/4"	1 3/16"	3/16"	97.60
63 G 924	42A000CBI	3/8"	1"	1/4"	101.50
63 G 925	43A000CBI	1/2"	1 7/16"	1/4"	105.40
63 G 926	4200	3/8"	1 3/8"	5/16"	36.87
63 G 927	4300	3/8"	5/8"	11/64"	58.56
63 G 928	4400	3/8"	1 1/8"	1/4"	71.56
63 G 929	4500	1/4"	7/8"	3/16"	58.56

Stock No.	Mfr's Type	EACH			
		1-24	25-49	50-99	100-249
63 G 908	20A000RBI	.61	.56	.51	.42
63 G 909	21A000RBI	.64	.59	.53	.44
63 G 910	22A000RBI	.79	.72	.65	.54
60 G 950	40A000CBI	1.41	1.28	1.20	.96
60 G 251	41A000CBI	1.47	1.35	1.25	1.00
63 G 913	42A000CBI	1.53	1.40	1.30	1.04
63 G 914	43A000CBI	1.58	1.45	1.35	1.08
63 G 915	4200	.58	.53	.49	.40
60 G 995	4300	1.03	.94	.85	.70
60 G 982	4400	1.11	1.02	.92	.76
60 G 870	4500	1.03	.94	.85	.70

## ADJUSTABLE CERAMIC RF COILS



A wide selection of variable coils designed for exacting requirements. All are wound on high-grade silicone-impregnated ceramic forms to reduce moisture absorption. Both Standard and Miniature Types are tuned by means of a powdered-iron core. Supplied complete with mounting hardware, as below.

**STANDARD TYPES**  
High "Q" units with large inductance range. Mounting bushing requires a 1/4" diameter hole. Size: 3/8" dia., 1 1/16" long. Includes hardware: nut, lock washer, spring clip. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Inductance		EACH			
		Min. $\mu$ H	Max. $\mu$ H	1-24	25-49	50-99	100-249
60 G 983	4403	.90	1.6	1.59	1.46	1.34	1.08
60 G 984	4404	1.5	3.2	1.62	1.49	1.37	1.10
60 G 985	4405	3.1	6.8	1.65	1.51	1.39	1.12
60 G 986	4406	6.7	15.0	1.71	1.57	1.44	1.16
60 G 987	4407	14.8	31.0	1.76	1.62	1.49	1.20
60 G 988	4408	30.0	69.0	1.79	1.65	1.52	1.22
60 G 989	4409	68.0	130	1.85	1.70	1.57	1.26
60 G 990	4410	126	250	1.88	1.73	1.59	1.28
60 G 991	4411	245	475	1.91	1.76	1.62	1.30
60 G 992	4412	450	800	1.94	1.78	1.64	1.32
60 G 993	4413	750	1400	1.97	1.81	1.67	1.34
60 G 994	4414	1300	2100	1.97	1.81	1.67	1.34

## MINIATURE TYPES

Same high-quality coils as above, but designed for limited-space applications. Units mount in a 3/16" diameter hole. Size: 1/4" dia., 7/8" long. Includes hardware. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Inductance		EACH			
		Min. $\mu$ H	Max. $\mu$ H	1-24	25-49	50-99	100-249
63 G 930	4501	.40	.80	1.47	1.35	1.25	1.00
60 G 871	4502	1.0	1.6	1.47	1.35	1.25	1.00
60 G 872	4503	1.6	2.8	1.53	1.40	1.29	1.04
60 G 873	4504	2.8	5.0	1.56	1.43	1.32	1.06
60 G 874	4505	5.0	9.0	1.62	1.49	1.37	1.10
60 G 875	4506	9.0	16.0	1.68	1.51	1.42	1.14
60 G 876	4507	16.0	24.0	1.73	1.59	1.47	1.18
60 G 877	4508	24.0	35.0	1.76	1.62	1.49	1.20
60 G 878	4509	35.0	60.0	1.79	1.65	1.52	1.22
60 G 879	4511	60.0	120	1.82	1.67	1.54	1.24
60 G 880	4512	110	200	1.85	1.70	1.57	1.26
60 G 881	4513	190	330	1.88	1.73	1.59	1.28
60 G 882	4514	320	500	1.91	1.76	1.62	1.30
63 G 931	4514-1	480	800	1.97	1.82	1.67	1.34

## ADJUSTABLE CERAMIC RF COILS



Precision made, high-quality coils for use in radio, TV and industrial electronics. Exceptionally high efficiency is achieved by molding ceramic terminal rings and the coil as one unit. Eliminates adverse effects on "Q" and tuning, as well as broken leads due to ring slippage. Adjusting stud is securely held at any setting by a special tension device. Firm pressure may be applied to the stud without stripping threads. All meet military specifications, 40A Series has 1/16" axial leads; 41A, 3/16" leads. Sizes: 40A, 7/32" dia., 1 1/2" long; 41A, 1/4" dia., 1 1/8" long. \* Indicates millihenries. Average shpg. wts.: 40A Series, 3 oz.; 41A, 4 oz.

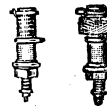
## SUBMINIATURE TYPES

Stock No.	Mfr's Type	Inductance		EACH			
		Min. $\mu$ H	Max. $\mu$ H	1-24	25-49	50-99	100-249
60 G 252	40A107CBI	.091	.125	1.94	1.77	1.65	1.32
60 G 253	40A157CBI	.124	.188	1.94	1.77	1.65	1.32
60 G 254	40A227CBI	.184	.275	1.94	1.77	1.65	1.32
60 G 255	40A337CBI	.265	.413	1.94	1.77	1.65	1.32
60 G 256	40A477CBI	.327	.587	1.97	1.80	1.67	1.34
60 G 257	40A687CBI	.482	.850	1.97	1.80	1.67	1.34
60 G 258	40A827CBI	.630	1.02	2.06	1.89	1.75	1.40
60 G 259	40A106CBI	.730	1.25	2.06	1.89	1.75	1.40
60 G 260	40A156CBI	1.06	1.88	2.06	1.89	1.75	1.40
60 G 261	40A226CBI	1.50	2.75	2.09	1.91	1.77	1.42
60 G 262	40A336CBI	2.15	4.13	2.09	1.91	1.77	1.42
60 G 263	40A476CBI	3.00	5.87	2.18	1.99	1.85	1.48
60 G 264	40A686CBI	4.40	8.50	2.18	1.99	1.85	1.48
60 G 265	40A826CBI	5.25	10.20	2.18	1.99	1.85	1.48
60 G 266	40A105CBI	8.06	12.50	2.23	2.04	1.90	1.52
60 G 267	40A155CBI	11.90	18.80	2.23	2.04	1.90	1.52
60 G 268	40A225CBI	17.10	27.50	2.29	2.10	1.95	1.56
60 G 269	40A335CBI	26.60	41.30	2.29	2.10	1.95	1.56
60 G 270	40A475CBI	39.00	58.70	2.38	2.17	2.02	1.62
60 G 271	40A685CBI	58.00	85.00	2.38	2.17	2.02	1.62
60 G 272	40A825CBI	69.00	102	2.56	2.34	2.18	1.74
60 G 273	40A104CBI	84.00	125	2.56	2.34	2.18	1.74

## MINIATURE TYPES

Stock No.	Mfr's Type	Inductance		EACH			
		Min. $\mu$ H	Max. $\mu$ H	1-24	25-49	50-99	100-249
60 G 274	41A106CBI	.690	1.25	2.06	1.89	1.75	1.40
60 G 275	41A156CBI	1.20	1.87	2.06	1.89	1.75	1.40
60 G 276	41A226CBI	1.42	2.75	2.06	1.89	1.75	1.40
60 G 277	41A336CBI	2.00	4.10	2.09	1.91	1.77	1.42
60 G 278	41A476CBI	2.80	5.80	2.09	1.91	1.77	1.42
60 G 279	41A686CBI	4.00	8.50	2.09	1.91	1.77	1.42
60 G 280	41A826CBI	4.50	10.00	2.12	1.93	1.80	1.44
60 G 281	41A105CBI	6.50	12.50	2.12	1.93	1.80	1.44
60 G 282	41A155CBI	10.80	18.70	2.12	1.93	1.80	1.44
60 G 283	41A225CBI	15.20	27.50	2.12	1.93	1.80	1.44
60 G 284	41A335CBI	26.00	41.00	2.18	1.99	1.85	1.48
60 G 285	41A475CBI	32.50	58.00	2.18	1.99	1.85	1.48
60 G 286	41A685CBI	48.50	85.00	2.23	2.04	1.90	1.52
60 G 287	41A825CBI	61.00	100	2.23	2.04	1.90	1.52
60 G 288	41A104CBI	65.00	125	2.29	2.10	1.95	1.56
60 G 289	41A154CBI	110	187	2.29	2.10	1.95	1.56
60 G 290	41A224CBI	160	275	2.38	2.17	2.02	1.62
60 G 291	41A334CBI	253	410	2.38	2.17	2.02	1.62
60 G 292	41A474CBI	390	580	2.50	2.30	2.13	1.70
60 G 293	41A684CBI	560	850	2.56	2.34	2.18	1.74
60 G 294	41A824CBI	670	1.0*	2.61	2.39	2.23	1.78
60 G 295	41A103CBI	700	1.25*	2.70	2.47	2.30	1.84

## SUBMINIATURE RF COILS



Adjustable units specifically designed for applications where compact size and highly dependable performance are important. All coils are permeably tuned and wound on silicone-impregnated ceramic forms. Mounting bushing, supplied with unit, requires an 1/16" diameter hole. Size: 3/16" diameter, by 3/8" length. Includes hardware: nut, lock washer, and spring clip. Av. shpg. wt., 3 oz.

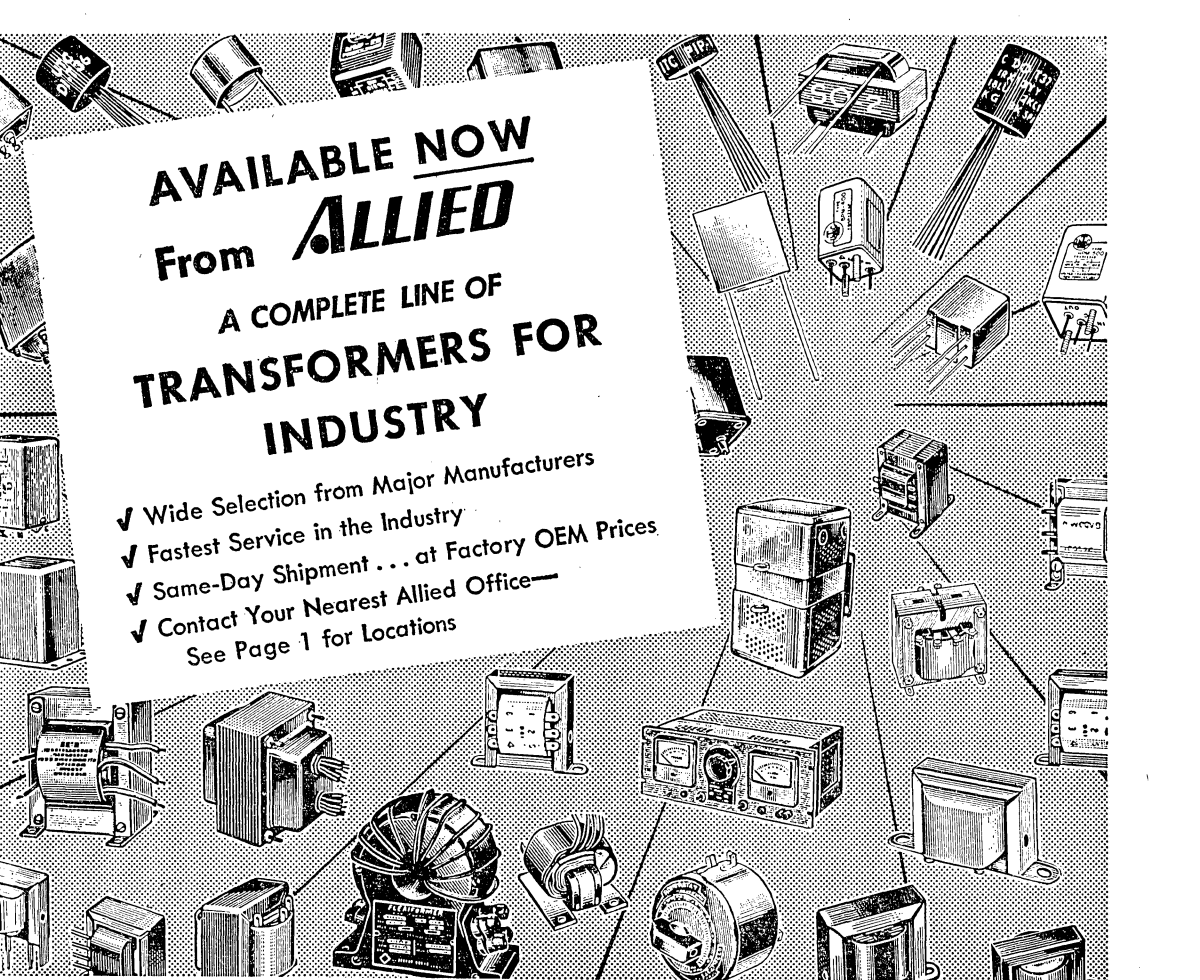
Stock No.	Mfr's Type	Inductance		EACH			
		Min. $\mu$ H	Max. $\mu$ H	1-24	25-49	50-99	100-249
60 G 996	4301	.17	.27	1.47	1.35	1.25	1.00
60 G 997	4302	.27	.41	1.47	1.35	1.25	1.00
60 G 998	4303	.40	.65	1.53	1.40	1.29	1.04
60 G 999	4304	.64	.95	1.56	1.43	1.32	1.06
60 G 927	4305	.94	1.55	1.62	1.49	1.37	1.10
60 G 928	4306	1.50	2.57	1.68	1.54	1.42	1.14
60 G 929	4307	2.50	4.40	1.73	1.59	1.47	1.18
60 G 930	4308	4.30	7.15	1.76	1.62	1.49	1.20
60 G 931	4309	7.10	12.50	1.79	1.65	1.52	1.22
60 G 932	4310	12.40	20.30	1.82	1.67	1.54	1.24
60 G 933	4311	20.10	32.80	1.85	1.70	1.57	1.26
60 G 934	4312	32.50	51.50	1.88	1.73	1.59	1.28
60 G 941	4313	51.0	102	1.91	1.76	1.62	1.30
60 G 942	4314	101	180	1.91	1.76	1.62	1.30
60 G 943	4315	178	300	1.91	1.76	1.62	1.30

**AVAILABLE NOW**

From **ALLIED**

**A COMPLETE LINE OF  
TRANSFORMERS FOR  
INDUSTRY**

- ✓ Wide Selection from Major Manufacturers
- ✓ Fastest Service in the Industry
- ✓ Same-Day Shipment . . . at Factory OEM Prices
- ✓ Contact Your Nearest Allied Office—  
See Page 1 for Locations



**A QUICK INDEX**

**TO TRANSFORMERS . . . VARIABLE TRANSFORMERS . . .  
VOLTAGE REGULATORS . . . AND POWER SUPPLIES**

MANUFACTURER	PAGE	TYPE OF UNIT	OEM TO
Acme	373	Variable Adjusters	ANY
	382	AC, DC Power Supplies	24
Glectro Products	383	DC Power Supplies	ANY
General Electric	377	Variable Transformers	99
Knight	360, 361	Audio Transformers:	ANY
	360	Driver, Input	ANY
	360	Interstage, Line	ANY
	361	Output	ANY
	359	Control Transformers	ANY
	359	Isolation Transformers	ANY
	358, 359	Power Transformers	ANY
	358	Stepdown Autoformers	ANY
	358	Stepup Autoformers	ANY
	360	Transistor Transformers	ANY
359	Variable Transformers	ANY	
Milwaukee	372	Control Transformers	24
Raytheon	377	Voltage Regulators	24
Perkins	381	DC Power Supplies	ANY
Plastic Capacitors	382	DC Power Pack	ANY
Tola	378, 379	Voltage Regulators	49
	380	DC Power Supplies	49
Triancor	351-3, 356-7	Audio Transformers	249
	357	Autotransformers	249

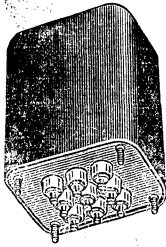
MANUFACTURER	PAGE	TYPE OF UNIT	OEM TO
Stancor	(Continued)		
	357	Control Transformers	249
	352, 355, 357	Isolation Transformers	249
	356	Oscilloscope Xfirms.	249
	350-356	Power Transformers	249
	350, 353	Transistor Transformers	249
	356	Tube Checker Xfirms.	249
Standard Electric	380	AC Voltage Regulators	99
	373	Isolation Transformers	99
	373	Variable Autoformers	99
Superior Electric	374, 375	Variable Transformers	99
	376	Voltage Regulators	49
Triad	369, 371	Audio Transformers	499
	370	CRT Transformers	499
	370	Isolation Transformers	499
	369-371	Power Transformers	499
	370	Preamp, VTVM, etc.	499
	370	Power Transformers	499
	370	Regulated Supply Xfirms.	499
369	Stepdown Autoformers	499	
U. T. C.	362-3, 366-8	Audio Transformers	499
	362-3, 366	Isolation Transformers	499
	367, 368	Power Transformers	499
	366	Pulse Transformers	499
	362-3, 366-8	Transistor Transformers	499

# Stancor MIL-T-27B Transformers and Chokes



## TF4RX03LA SILICON RECTIFIER POWER TRANSFORMERS

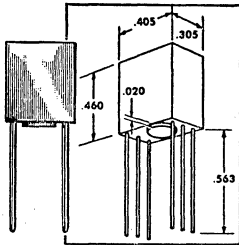
- Two 6.3-Volt Filament Windings • Ideal for Transistorized Amplifiers
- Hermetically Sealed in Military Standard Cases • Meet MIL-T-27B Specs



HRP SERIES. Combination plate and filament transformer designed primarily for use with silicon rectifiers. All are housed in hermetically-sealed, Military Standard cases to meet MIL-T-27B specifications. This series was manufactured to bridge the gap between low-voltage, high-current types, for use in transistorized equipment and the high-voltage low current types most often used with electronic tubes. Use of two separate, isolated 6.3 volt secondary windings on each unit permits utiliz-

ing one for the heater power supply for tubes, and employing the other (with suitable rectifier and filter) as a low voltage DC power supply for preamplifier tube heaters or other applications. Units are hermetically sealed in Military Standard, drawn steel cases measuring 3 1/2" high with base dimensions of 4 5/8" x 3 1/4". Mounting is by means of four 10-32 x 1/2" threaded studs located on 3 5/8" x 2 1/8" centers. All primaries are for 117 volts, 50-60 cycle AC. Meet MIL-T-27B specifications.

Stock No.	Mfr's Type	Secondary No. 1		Secondary No. 2		Secondary No. 3		Wt., Lbs.	EACH				
		VCT	Ma	Volts	Amps	Volts	Amps		1-9	10-24	25-49	50-99	100-249
63 G 400	HRP-400	400	400	6.3	3.0	6.3	3.0	10.5	29.73	27.25	24.40	21.80	20.44
63 G 401	HRP-600	300	600	6.3	2.5	6.3	2.5	10.5	29.64	27.17	24.33	21.73	20.38
63 G 402	HRP-800	200	800	6.3	2.0	6.3	2.0	10	29.64	27.17	24.33	21.73	20.38
63 G 403	HRP-1600	100	1600	6.3	1.5	6.3	1.5	10.5	29.64	27.17	24.33	21.73	20.38
63 G 404	HRP-2000	80	2000	6.3	1.5	6.3	1.5	9.6	28.64	26.25	23.51	21.00	19.69
63 G 405	HRP-2500	60	2500	6.3	1.5	6.3	1.5	9.0	28.73	26.33	23.58	21.07	19.75



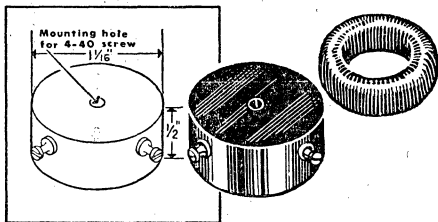
## "POLYCHROMATRAN" PC BOARD TRANSFORMERS AND CHOKES

- Color-Coded According to Application • Fatigue-Resistant Gold-Plated Leads
- Improved Low-Frequency Response • Reduced Distortion Levels
- Minimum Size and Weight • Rms Test Rating of 500 Volts

Polychromatran transformers and chokes are specifically engineered for use with printed circuit boards. Feature minimum size and weight, and low distortion levels. All units have leads of fatigue-resistant nickel-iron alloy, .020" in diameter, and gold-plated to meet MIL-G-45204 Class I specifications. Incorporating the latest advances in transformer design, these units offer reductions in distortion of up to 50%, plus substantially im-

proved lower-end frequency response. In addition, each unit is color-coded according to application—greatly reducing chance of error in selection and handling during production. Saves time and money. All have rms test-voltage rating of 500 volts. Extremely lightweight and compact—actual weight per unit is approximately 3/4 ounce. Average size is approximately .460x.405x.305" Av. shpg. wt., 1 oz.

Stock No.	Mfr's Type	MIL Type No.	Cap., Mw	Applica-tion	Impedance		Unbal. DC Ma In Pri	DC Resist. Pri. Sec.	Turns Ratio	EACH				
					Primary	Sec.				1-9	10-24	25-49	50-99	100-249
63 G 406	PCT-14	TF5SX16ZZ	15	Input	200,000 CT	1,000 CT	0	6300 130	14.1:1	7.80	7.41	7.02	6.50	6.18
63 G 407	PCT-15	TF5SX16ZZ	35	Input	50,000 CT	1,000 CT	0	4600 90	7.1:1	7.65	7.27	6.89	6.38	6.06
63 G 408	PCT-17	TF5SX16ZZ	15	Input	200,000	1,000	0	6300 130	14.1:1	6.75	6.41	6.08	5.63	5.34
63 G 409	PCT-21	TF5SX13ZZ	55	Interstage	25,000	1,000	.5	2000 140	5:1	6.30	5.99	5.67	5.25	4.98
63 G 410	PCT-23	TF5SX13ZZ	55	Interstage	25,000 CT	1,000 CT	.5	2000 140	5:1	7.20	6.84	6.48	6.00	5.70
63 G 411	PCT-25	TF5SX13ZZ	75	Interstage	10,000 CT	1,500 CT	1	1250 360	2.57:1	7.20	6.84	6.48	6.00	5.70
63 G 412	PCT-30	TF5SX13ZZ	75	Driver	10,000 CT	1,200 CT	1	1250 240	2.88:1	6.90	6.56	6.21	5.75	5.46
63 G 413	PCT-31	TF5SX13ZZ	75	Driver	10,000 CT	2,000 CT	1	1250 400	2.24:1	6.90	6.56	6.21	5.75	5.46
63 G 414	PCT-39	TF5SX13ZZ	75	Driver	10,000 CT	500 CT	1	1250 100	4.47:1	6.90	6.56	6.21	5.75	5.46
63 G 415	PCT-43	TF5SX17ZZ	75	Output	1,000	50	3	175 9.5	4.4:1	5.85	5.56	5.27	4.88	4.63
63 G 416	PCT-54	TF5SX17ZZ	75	Output	600 CT	12	4.5	92 3.6	7.06:1	6.00	5.70	5.40	5.00	4.75
63 G 417	PCT-60	TF5SX17ZZ	75	Output	500 CT	600	3	80 118	1.1:1	6.00	5.70	5.40	5.00	4.75
63 G 418	PCT-61	TF5SX17ZZ	75	Output	900 CT	600	4	125 115	1.22:1	6.15	5.84	5.54	5.13	4.87
63 G 419	PCT-62	TF5SX13ZZ	75	Output	1,500 CT	600	3	200 110	1.58:1	6.30	5.99	5.67	5.25	4.96
63 G 420	PCT-70	TF5SX17ZZ	75	Output	320 CT	3.2	6	52 .9	10:1	5.85	5.56	5.27	4.88	4.63
63 G 421	PCT-71	TF5SX17ZZ	75	Output	600 CT	3.2	4.5	84 1	13.6:1	6.00	5.70	5.40	5.00	4.75
63 G 422	PCT-76	TF5SX13ZZ	75	Output or Isolation	10,000 CT	10,000 CT	1	1440 1500	1:1	7.80	7.41	7.02	6.50	6.18
63 G 423	PCT-77	TF5SX17ZZ	75	Output or Isolation	600 CT	600 CT	3	85 110	1:1	7.20	6.84	6.48	6.00	5.70
63 G 424	PCT-116	TF5SX20ZZ	.....	Choke	6 HYS	.....	2	1800	.....	5.70	5.42	5.13	4.75	4.51
63 G 425	PCT-117	TF5SX20ZZ	.....	Choke	1.25 HYS	.....	2	200	.....	4.80	4.58	4.32	4.00	3.80
63 G 426	PCT-118	TF5SX20ZZ	.....	Choke	3.5 HYS	.....	2	1200	.....	4.80	4.58	4.32	4.00	3.80
63 G 427	PCT-128	TF5SX20ZZ	.....	Choke	.3 HY	.....	4	50	.....	4.80	4.58	4.32	4.00	3.80
62 G 500	SPCT-10	Shield	.....	Fits all PCT types.	.....	.....	.....	.....	.....	.84	4.80	.76	4.70	.67



## TF5RX20ZZ HERMETICALLY SEALED TOROIDAL INDUCTORS

- High Q Over Wide Frequency Ranges • 1% Tolerance on Inductance
- Impervious to Humidity • Operate from -55° to +85° Centigrade

Seven hermetically sealed toroidal inductors conforming to MIL-T-27B. Feature high Q over wide frequency range, minimum pickup from external magnetic fields, tolerance of ±1% on inductance, and high stability over temperature range, -55° to +85° C. Toroids are wound on cores of pow-

dered molybdenum permalloy, with attention to stability, low temperature coefficients, and ruggedness. Plastic encapsulated in molded cases. Individual units can be stacked and mounted with a screw to obtain various combinations of inductance values. Av. shpg. wt., 1 1/2 oz.

Stock No.	Mfr's Type	Inductance (Mh)	DC Ohms	Size HxWxD	EACH				
					1-9	10-24	24-49	50-99	100-249
63 G 432	TM-1A	1	.32	1 1/8" Dia. x 1/2" H.	6.16	5.65	5.06	4.52	4.24
63 G 433	TM-2A	2	.72	1 1/8" Dia. x 1/2" H.	4.91	4.50	4.03	3.60	3.38
63 G 434	TM-10A	10	3.75	1 1/8" Dia. x 1/2" H.	4.91	4.50	4.03	3.60	3.38
63 G 450	TM-50A	50	18.50	1 1/8" Dia. x 1/2" H.	4.91	4.50	4.03	3.60	3.38
63 G 451	TM-100A	100	100	1 1/8" Dia. x 1/2" H.	4.91	4.50	4.03	3.60	3.38
64 G 18F	TM-200A	200	71.5	1 1/8" Dia. x 1/2" H.	5.56	5.12	4.57	4.04	3.82
63 G 452	TM-1000A	1000	1000	1 1/8" Dia. x 1/2" H.	6.22	5.70	5.10	4.56	4.28

# Stancor MIL-T-27B Transformers and Chokes

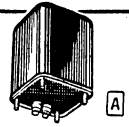


## A FILTER REACTORS—TF4RX04YY

These high-quality units meet Grade 4, Class R specifications for metal encased, hermetically sealed filter reactors per MIL-T-27B. Maximum operating temperature, 105°C. Minimum operating life, 10,000 hours.

Stock No.	Mfr's Type	Hys.	Ma	Ohms	Test V.	Size H x W x D	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
63 G 634	RH-1540	15	40	475	2500	2 1/2" x 2 1/2" x 2 1/2"	1 1/2	8.78	8.05	7.21	6.44	6.04
63 G 640	RH-1555	15	55	420	2500	2 1/2" x 2 1/2" x 2 1/2"	2	8.82	8.08	7.24	6.47	6.06
63 G 641	RH-1085	10	85	175	2500	3 1/2" x 2 1/2" x 2 1/2"	2 1/2	9.60	8.80	7.88	7.04	6.60
63 G 642	RH-1585	15	85	285	2500	3 1/2" x 2 1/2" x 2 1/2"	2 3/4	9.76	8.95	8.01	7.16	6.71
63 G 643	RH-8105	8	105	100	2500	3 3/4" x 2 1/2" x 2 1/2"	3 1/4	11.89	10.90	9.76	8.72	8.18
63 G 644	RH-12105	12	105	170	2500	3 3/4" x 2 1/2" x 2 1/2"	4	11.76	10.78	9.66	8.63	8.09
63 G 650	RH-8150	8	150	100	2500	3 7/8" x 3" x 3 1/4"	5 1/4	13.00	11.92	10.67	9.53	8.94
63 G 651	RH-12150	12	150	150	2500	4 1/4" x 3" x 3 1/4"	5 1/2	13.49	12.37	11.07	9.89	9.28
63 G 652	RH-8200	8	200	85	2500	4 1/2" x 3 1/2" x 3 1/2"	7	15.45	14.17	12.69	11.33	10.63
63 G 653	RH-12200	12	200	140	2500	4 1/2" x 3 1/2" x 3 1/2"	7	15.60	14.30	12.81	11.44	10.73
63 G 654	RH-8250	8	200	85	2500	5 1/2" x 4 1/2" x 4 1/2"	7	17.78	16.30	14.60	13.04	12.23
63 G 655	RH-8300	8	300	60	3500	5 1/2" x 4 1/2" x 4 1/2"	12 1/2	22.48	20.58	18.43	16.47	15.44

A wide selection of hermetically sealed filament, plate and power transformers, and chokes to meet all requirements.

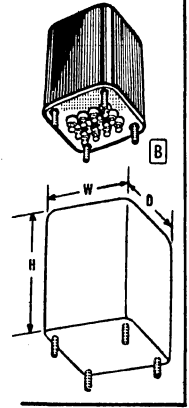


## B POWER TRANSFORMERS—TF4RX03YY

Hermetically sealed units that fully meet the rigid requirements for guided missiles, military airborne and ground communications equipment, and other applications where a maximum of quality sealed construction is important. All have 117 v., 50-60 cycle primaries.

All are for capacitor input, except \*choke (reactor) input, and #regulated power supplies. Max. operating altitude: 10,000 ft. †Extra winding for 6.3 v. @ 1.2 amps; ‡extra winding for 6.3 v. CT @ 1 amp. §-6.3 v. windings @ 7.5/0.6/3/3 amps. \*\*Indicates no CT.

Stock No.	Mfr's Type	Plate		6 V. @ A.	6.3 V. CT @ A.	Size H x W x D	Wt., Lbs.	EACH				
		VCT	Ma					1-9	10-24	25-49	50-99	100-249
63 G 656	†PHC-20	500	20		**6	3 3/4" x 2 1/2" x 2 1/2"	2	16.05	14.72	13.18	11.77	11.04
63 G 684	PHC-40	450	40	2	2	3 3/4" x 2 1/2" x 2 1/2"	3 1/4	18.38	16.85	15.09	13.48	12.64
63 G 685	PHC-55	540	55	2	2	3 3/4" x 2 1/2" x 2 1/2"	3 1/2	19.45	17.83	15.97	14.27	13.38
63 G 686	PHC-60	600	60	2	3	4 1/4" x 3" x 3 1/4"	4 1/2	19.95	18.28	16.37	14.63	13.71
63 G 687	PHC-70	670	70	2	3	4 1/4" x 3" x 3 1/4"	4 1/2	20.73	19.00	17.01	15.20	14.25
63 G 688	PHC-85	660	85	2	3	4 1/2" x 3 1/2" x 3 1/2"	6	22.16	20.32	18.19	16.25	15.24
63 G 689	PHC-120	750	120	3	4	4 1/2" x 3 1/2" x 3 1/2"	9 1/2	25.27	23.17	20.75	18.53	17.38
63 G 695	†PHC-150	740	150	3	4	5 1/2" x 4 1/2" x 4 1/2"	11 1/2	30.12	28.07	25.13	22.45	21.05
63 G 696	†PHC-165	880	165	3	4	5 1/2" x 4 1/2" x 4 1/2"	12	37.33	34.22	30.64	27.37	25.66
63 G 697	*PHR-55	700	55	2	2	3 3/4" x 2 1/2" x 2 1/2"	3 1/4	19.64	18.00	16.12	14.40	13.50
63 G 698	*PHR-70	850	70	2	3	4 1/4" x 3" x 3 1/4"	4 1/2	20.29	18.60	16.66	14.88	13.95
63 G 707	*PHR-105	900	105	2	3.5	4 1/2" x 3 1/2" x 3 1/2"	6 1/2	24.44	21.33	19.01	16.99	15.93
63 G 718	*PHR-120	1000	120	3	4	4 1/2" x 3 1/2" x 3 1/2"	9 1/2	23.75	21.77	19.49	17.41	16.33



## WIDE & COMMUNICATIONS-RANGE OUTPUT/INPUT TRANSFORMERS

Not illus., but similar to Fig. B. WR indicates wide-range response; CR indicates communications-range response.

Stock No.	Mfr's Type	Applic-ation	Pri. Ohms	Sec. Ohms	MIL-T-27B Designation	Size H x W x D	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
63 G 805	BOH-2	WR output	20,000CT	600/150CT	TF4RX13YY	3 3/4" x 2 3/8" x 2 3/8"	3	19.38	17.77	15.91	14.21	13.33
63 G 806	BIH-1	WR input	600/150CT	50,000CT	TF4RX10YY	2 1/2" x 2 1/4" x 2 1/4"	1 1/2	28.55	26.17	23.43	20.93	19.63
63 G 807	BIH-4	WR input	600/150CT	600/150CT	TF4RX16YY	2 1/2" x 2 1/4" x 2 1/4"	1 1/2	28.80	26.40	23.64	21.12	19.80
63 G 808	BIH-10	WR input	20,000CT/5000	20,000CT/5000	TF4RX19FA	3 1/8" x 2 1/2" x 2 1/2"	2	20.00	18.00	16.50	15.25	14.75
63 G 809	CIH-2	CR input	125/50	125,000CT	TF4RX11YY	2 1/2" x 2 1/4" x 2 1/4"	3/4	11.45	10.50	9.40	8.40	7.88
63 G 810	COH-1	CR output	5000	600/150/16/8/4	TF4RX13YY	3 3/4" x 2 3/8" x 2 3/8"	2 1/4	14.93	13.68	12.25	10.95	10.26

## MS (MILITARY STANDARD) TRANSFORMERS

Meet dimension specs established by Army, Navy and Air Force procurement agencies.

### C POWER TRANSFORMERS

For reactor-input systems. Max. operating altitude, 105, 115, and 125 v., 54-66 cycle AC. All have 10-32 mounting studs, except \* 8-32 mounting studs.

Stock No.	Mfr's Type	Secondary		DCV Out	Rect. Fil.		Fil. 2	Wt., Lbs.	Size H x W x D	EACH					
		VCT	Ma		V.	A.				V.	A.	1-9	10-24	25-49	50-99
63 G 453	PMS-70*	400/250	70	156	6.3/5	2	6.3	3	4	4 1/4" x 2 5/8" x 3 1/2"	29.91	22.83	20.45	18.27	17.13
63 G 454	PMS-70A*	650/70	260	6.3/5	2	6.3	4	5	3	3 7/8" x 3 1/2" x 3 1/2"	24.40	22.37	20.03	17.89	16.78
63 G 455	PMS-150	650/150	245	6.3	5	3	7 1/4	4	7	4 7/8" x 3 3/8" x 3 1/2"	26.38	24.18	21.66	19.35	18.14
63 G 456	PMS-175	800/175	318	5	3	6.3	8	10	10	4 1/2" x 3 1/2" x 4 1/2"	31.56	28.93	25.91	23.15	21.70
63 G 457	PMS-350	700/250	255	.....	.....	.....	.....	7 1/2	7 1/2	4 7/8" x 3 3/8" x 3 1/2"	23.00	21.08	18.88	16.87	15.81
63 G 490	PMS-550	1100/250	419	.....	.....	.....	.....	11	11	4 7/8" x 3 1/2" x 4 1/2"	28.55	26.17	23.43	20.93	19.63

### C FILAMENT TRANSFORMERS

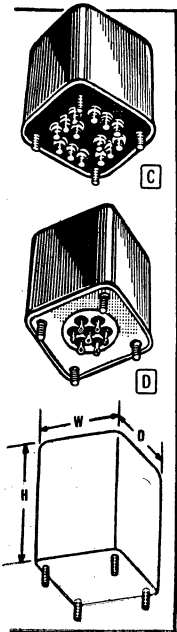
All have solder terminals. With 6-32 mtg. studs, except Type FMS-610, 8-32 studs; FMS-620, 10-32 studs. Secondary AC voltages have ±3% tolerances. All have primaries tapped at 105, 115 and 125 v., 54-66 cycle AC.

Stock No.	Mfr's Type	Sec.		Insul. V rms	Wt., Lbs.	Size H x W x D	EACH				
		V	A				1-9	10-24	25-49	50-99	100-249
63 G 491	FMS-210	2.5	10	2500	2 1/2	2 1/8" x 2 1/8" x 2 3/4"	15.22	13.95	12.49	11.16	10.46
63 G 492	FMS-53	5.0	10	2500	1 3/4	2 1/2" x 2 1/2" x 2 1/2"	13.36	12.25	10.97	9.80	9.19
63 G 493	FMS-62	6.3	2.0	2500	1 3/4	2 1/2" x 2 1/2" x 2 1/2"	13.71	12.57	11.25	10.05	9.43
63 G 494	FMS-65	6.3	5.0	2500	2 3/4	2 1/8" x 2 1/8" x 2 3/4"	15.60	14.30	12.81	11.44	10.73
63 G 500	FMS-610	6.3	10	2500	5	3 1/2" x 3 1/2" x 3 1/2"	19.31	17.70	15.85	14.16	13.28
63 G 501	FMS-620	6.3	20	2500	8	4 7/8" x 3 3/8" x 3 1/2"	23.64	21.67	19.40	17.33	16.25

### D AUDIO TRANSFORMERS

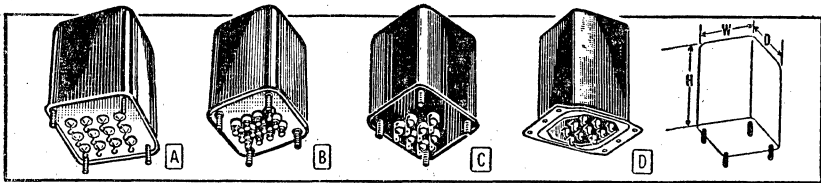
All have frequency responses of ±2 db, 300-10,000 cps. Maximum operating altitude is 50,000 ft.—ideal for use in airborne communication equipment. Type AMS-6 max. primary DC rating of 40 ma. Av. wt., 6 oz.

Stock No.	Mfr's Type	Use	Imp., Ohms		Operating Level	Size H x W x D	EACH				
			Pri.	Sec.			1-9	10-24	25-49	50-99	100-249
63 G 502	AMS-2	Line-VC	600CT/150	4/8/16	2W	2 3/8" x 1 5/8" x 1 5/8"	16.05	14.70	13.15	11.75	11.00
63 G 503	AMS-4	Line-Line	600CT/150	600CT/150	15 dbm	2 3/8" x 1 5/8" x 1 5/8"	18.22	16.70	14.96	13.36	12.53
63 G 504	AMS-6	Plate-VC	7.6K/4.8K	4/8/16	2W	2 3/8" x 1 5/8" x 1 5/8"	12.71	11.65	10.43	9.32	8.74





# Stancor Transformers and Chokes



**ONE ORDER FILLS THE BILL**  
 Allied is your best single source for electronic supplies. You get fast, dependable, same day shipment from the world's largest and most complete stocks—and you buy at factory prices. You can depend on Allied for best service.

## 400 CYCLE TRANSFORMERS—MILITARY STANDARD CASES

**A** Designed and built in accordance with MIL-T-27B, Grade 4, Class S. Operating temperature 85°C ambient, 45°C rise; life expectancy 10,000 hours minimum. Maximum operating altitude, 70,000 feet. Housed in S.E.I.'s one-piece drawn steel cases. Transformers below have primaries for 105/115/125 volts, 380-1000 cycles, except isolation transformers, 115 volts, 380-1000 cycles.

### **A** FILTER REACTOR—TF45X04EB

Stock No.	Mfr's Type	Hys.	Ma	Ohms	Test Volts	Size HxWxD	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
63 G 732	4RMS-3120	3	120	150	1500	2 7/16x1 13/16x1 15/16	1 1/4	11.40	10.30	9.25	8.55	8.00

### **A** FILAMENT TRANSFORMERS—TF4RX01—†/TF45X01—#

Extra winding for \$12.6 volts @ 0.8 amps; \$12.6 volts @ 2 amps.

Stock No.	Mfr's Type	Secondary		Test Volts	Case/Size	Size HxWxD	Wt., Lbs.	EACH				
		Volts	Amps					1-9	10-24	25-49	50-99	100-249
63 G 735	4FMS-2415	24CT	1.5	1500	†EA	2 3/4x1 13/16x1 15/16"	1 1/4	16.30	14.70	13.20	12.20	11.60
63 G 736	4FMS-1208	12.6CT	.8	1500	†AJ	2 3/8x1 5/8x1 15/16"	1	16.00	14.40	13.85	12.00	11.40
63 G 741	4FMS-122	12.6CT	2	1500	†EA	2 3/4x1 13/16x1 15/16"	1 1/2	19.00	17.00	15.40	14.25	13.45
63 G 747	4FMS-63	6.3CT	3	2500	#EB	2 7/16x1 13/16x1 15/16"	1	18.60	17.00	15.25	13.56	12.75
63 G 757	4FMS-65	6.3CT	5.5	2500	#EA	2 3/4x1 13/16x1 15/16"	1 1/4	19.35	18.20	16.30	14.60	13.65
63 G 758	4FMS-620	6.3CT	20	2500	#GA	3 1/16x2 3/8x2 3/4"	2 1/2	26.20	24.00	21.50	19.20	18.00

### **A** ISOLATION TRANSFORMERS—TF4RX01—†

Stock No.	Mfr's Type	Secondary		Test Volts	Case/Size	Size HxWxD	Wt., Lbs.	EACH				
		Volts	Amps					1-9	10-24	25-49	50-99	100-249
63 G 762	4IMS-40	115	.35	1500	†EA	2 3/4x1 13/16x1 15/16"	1 1/2	13.65	12.25	11.05	10.20	9.65
63 G 763	4IMS-160	115	1.39	1500	†GA	3 1/16x2 3/8x2 3/4"	3/4	18.50	16.65	14.95	13.80	13.00

## 400 CYCLE TRANSFORMERS—YY ALTERNATE CASES

Meet MIL-T-27B, Grade 4, Class S specifications. Transformers below have primaries for 105/115/125 volts, 380-1000 cycles.

### **B** FILTER REACTORS—TF45X04YY

Stock No.	Mfr's Type	Hys.	Ma	Ohms	Test Volts	Size HxWxD	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
63 G 765	4RH-255	2	55	160	2500	2x1 13/16x1 3/16"	1/4	7.05	6.48	5.80	5.18	4.85
63 G 766	4RH-2165	2	165	90	2500	2 27/64x1 13/16x1 29/32"	1 1/2	8.42	7.72	6.92	6.20	5.80
63 G 767	4RH-2300	2	300	47	2500	3 1/2x2 3/32x2 7/8"	3/4	12.30	11.30	10.15	9.05	8.50

### **B** POWER TRANSFORMER—TF45X03YY

Stock No.	Mfr's Type	Secondary		5V. CT @A	6.3V. CT @A	Size HxWxD	Wt., Lbs.	EACH				
		VCT	Ma					1-9	10-24	25-49	50-99	100-249
63 G 789	4PHC-120	750	120	3	4	3 3/4x2 3/32x2 7/8"	2 1/2	32.90	30.10	27.00	24.10	22.60

### **B** FILAMENT TRANSFORMERS—TF45X01YY

Stock No.	Mfr's Type	Secondary		Test Volts	Size HxWxD	Wt., Lbs.	EACH				
		Volts	Amps				1-9	10-24	25-49	50-99	100-249
63 G 796	4FH-63	6.3CT	3	2500	2 13/16x1 13/16x1 29/32"	3/4	15.95	14.60	13.10	11.70	10.95
63 G 800	4FH-65	6.3CT	5.5	2500	2 27/64x1 13/16x1 29/32"	1	17.42	15.95	14.30	12.75	12.00
63 G 803	4FH-610	6.3CT	10	2500	2 17/64x2 1/4x2 1/4"	1 3/4	19.35	17.75	15.90	14.20	13.30
63 G 804	4FH-620	6.3CT	20	2500	3 1/16x2 3/8x2 3/4"	2 1/2	24.30	22.30	20.00	17.80	16.70

## HERMETICALLY SEALED FILAMENT TRANSFORMERS—TF4RX01YY

**C** Quality filament transformers for heating a wide range of receiving and transmitting tubes. Conform to MIL-T-27B specifications. All have 115-230 v., 50-60 cycle primaries and 2500 v. insulation, except \*3500 v. insulation. Maximum operating temperature, 105° C. Minimum life expectancy, 10,000 hours. Mounting centers: Types FH-25 and FH-63, 1.812x1.687"; FH-215H, 2.625x2.375"; FH-615, 1.562x1.375"; FH-65, 2.000x1.875"; FH-610, 2.375x2.125". All are metal encased, hermetically sealed.

Stock No.	Mfr's Type	Sec. VCT	Amps	Wt., Lbs.	Size HxWxD	EACH				
						1-9	10-24	25-49	50-99	100-249
63 G 614	*FH-25	2.5	5.25	2	3 5/16x2 3/8x2 1/2"	15.38	14.10	12.63	11.28	10.58
64 G 721	FH-615	6.3	1.5	1	2 17/64x2 1/8x2 1/4"	13.78	12.63	11.31	10.11	9.48
63 G 620	FH-63	6.3	3	2	3 1/16x2 3/8x2 1/2"	14.18	13.00	11.64	10.40	9.75
64 G 182	FH-215H	2.5	15	5 1/4	4 5/8x3 3/8x3 5/8"	24.62	22.57	20.21	18.09	16.93
63 G 621	FH-65	6.3	5.5	3	3 1/2x2 3/8x2 1/2"	15.69	14.38	12.88	11.51	10.79
64 G 695	FH-610	6.3	10	5	4 1/4x3x3 1/4"	17.18	15.75	14.10	12.60	11.82

## FILAMENT TRANSFORMERS—COMMERCIAL GRADE

**D** Semi-sealed commercial-grade types, 115-230 v., 50-60 cycle primaries, 2500 v. insulation, except \*5000 v., \$10,000 v. Types F-210 and F-520HB are designed for high voltage rectifier supply— have secondary terminals insulated with ceramic bushings. Types with secondaries rated less than 6 amps have solder-lug terminals; those rated more than 6 amps have screw-type terminals.

Stock No.	Mfr's Type	Sec. VCT	Amps	Wt., Lbs.	Size HxWxD	EACH				
						1-9	10-24	25-49	50-99	100-249
63 G 622	F-210*	2.5	10	3	3 3/4x2 1/16x2 7/8"	10.64	9.75	8.73	7.80	7.31
63 G 623	F-54	5	4	2 1/4	3 5/16x2 3/8x2 1/2"	7.11	6.52	5.84	5.21	4.89
63 G 630	F-520HB†	5	20	13	5 7/16x4 1/8x4 9/16"	18.49	16.95	15.18	13.56	12.71
64 G 723	F-615	6.3	1.5	1	2 17/64x2 1/8x2 1/4"	11.71	10.73	9.61	8.59	8.05
64 G 724	F-63	6.3	3	2	3 1/16x2 3/8x2 1/2"	6.87	6.30	5.64	5.04	4.73
64 G 694	F-65	6.3	5.5	3	3 3/4x2 1/16x2 7/8"	12.24	11.22	10.04	8.97	8.41
64 G 696	F-610	6.3	10	5	4 1/4x3x3 1/4"	16.47	15.10	13.52	12.08	13.25
63 GU 631	F-725	7.5	25	25	5 7/16x4 1/8x4 9/16"	26.45	24.25	21.72	19.40	18.19



# Stancor Transformers and Inverters



## TRANSISTOR TRANSFORMERS

\*Max. primary DC (each half of primary has center tap). †2 secondaries, 16 ohm series, 4 ohms parallel. Wt., 3 oz. except: TA-13, 1½ lbs.; TA-14, 6¼ lbs.; TP-1, 2¾ lbs.; TA-11, 1 lb.; TA-55, 2 oz.; TA-58, ½ lb.

### INPUT TRANSFORMERS

Stock No.	Mfr's Type	Fig.	Pri. Imp.	Sec. Imp.	Ma*	Pri. Res.	Sec. Res.	Watts	Size HxWxD	EACH				
										1-9	10-24	25-49	50-99	100-249
63 G 952	TA-1	A	600 CT	10	20	42	.8	.05	1½x1½x1½"	1.89	1.73	1.55	1.39	1.30
63 G 960	TA-18	B	30 CT	50K	.....	14.7	4060	.150	2½x3½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 889	TA-47	A	1K CT	200K CT	.....	123	1815	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51
61 G 129	TA-55	A	500K	200 CT	.....	7000	8.5	.300	¾x1½x1½"	4.16	3.82	3.42	3.05	2.86

### OUTPUT TRANSFORMERS

Stock No.	Mfr's Type	Fig.	Pri. Imp.	Sec. Imp.	Ma*	Pri. Res.	Sec. Res.	Watts	Size HxWxD	EACH				
										1-9	10-24	25-49	50-99	100-249
63 G 961	TA-10	A	2K CT	4/8/16	.....	250	4	.2	¾x1½x3¼"	5.33	4.88	4.37	3.91	3.66
63 G 962	TA-11	A	48 CT	8/16	.....	275	1.5	5	2x3½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 963	TA-12	A	20 CT	8	500	.55	.35	10	1½x1½x1½"	1.89	1.73	1.55	1.39	1.30
63 G 965	TA-14†	C	24 CT	16/4CT	.....	200	2	1.2	4¼x4¾x3½"	10.07	9.23	8.27	7.39	6.93
63 G 862	TA-20	B	350 CT	4/12	.....	38	1.45	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 863	TA-21	B	500 CT	4/8/16	.....	75.3	3.55	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 865	TA-23	B	600 CT	4/8/16	.....	73.2	3.2	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 868	TA-26	B	1250	4/12	.....	132.5	1.4	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 875	TA-33	B	10KCT	4/8/16	.....	1174	2.6	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 881	TA-39	A	100 CT	4/8/16	.....	10.9	1.45	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51
63 G 882	TA-40	A	160	4/8/16	.....	18.7	1.4	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51
63 G 883	TA-41	A	400 CT	4/8/16	.....	34	1.5	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51
63 G 884	TA-42	A	500 CT	4/8/16	.....	47	.85	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51
63 G 885	TA-43	A	700 CT	4/8/16	.....	77	1.15	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51
63 G 886	TA-44	A	2500	4/8/16	.....	172	1.15	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51
63 G 887	TA-45	A	3000	4/8/16	.....	192	1.2	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51

### INTERSTAGE TRANSFORMERS

Stock No.	Mfr's Type	Fig.	Pri. Imp.	Sec. Imp.	Ma*	Pri. Res.	Sec. Res.	Watts	Size HxWxD	EACH				
										1-9	10-24	25-49	50-99	100-249
63 G 953	TA-2	A	100 CT	10 CT	100	4.3	.8	.25	1½x2½x1½"	1.89	1.73	1.55	1.39	1.30
63 G 954	TA-3	A	100	1K CT	100	5.8	45.0	.25	1½x2½x1½"	1.89	1.73	1.55	1.39	1.30
63 G 955	TA-4	A	500 CT	5K CT	12	37	250	.03	1½x2½x1½"	2.49	2.28	2.04	1.83	1.71
63 G 861	TA-19	B	100 CT	10 CT	.....	19	1.27	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 866	TA-24	B	500 CT	50K	.....	76.8	5135	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 869	TA-27	B	1200	20K CT	.....	142	1860	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 870	TA-28	B	1500	500 CT	.....	104	46.5	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 872	TA-30	B	5K CT	7500 CT	.....	650	790	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 873	TA-31	B	5K CT	10K CT	.....	635	1100	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 874	TA-32	B	5K CT	80K CT	.....	573	5740	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 876	TA-34	B	10K	200 CT	.....	1200	33.4	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 877	TA-35	B	10K	2K CT	.....	1200	257	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 878	TA-36	B	10K	3K CT	.....	1200	385	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 880	TA-38	B	500 CT	150 CT	.....	62	21.2	.150	2½x2½x1½"	3.65	3.35	3.00	2.68	2.51
63 G 883	TA-46	A	100K	1500 CT	.....	3250	143	.300	1½x1½x3¼"	3.65	3.35	3.00	2.68	2.51

### DRIVER TRANSFORMERS

Stock No.	Mfr's Type	Fig.	Pri. Imp.	Sec. Imp.	Ma*	Pri. Res.	Sec. Res.	Watts	Size HxWxD	EACH				
										1-9	10-24	25-49	50-99	100-249
63 G 956	TA-5	A	1000	200 CT	10	400	115	.05	¾x1¼x½"	4.71	4.32	3.86	3.45	3.24
63 G 957	TA-6	A	2000	200 CT	5	720	115	.05	¾x1¼x½"	5.33	4.88	4.37	3.91	3.66
63 G 958	TA-7	A	100	100 CT	100	12	12	.5	1½x2½x1½"	1.89	1.73	1.55	1.39	1.30
63 G 964	TA-13	C	200 CT	400 CT	10	4	7	.6	3x2½x1½"	4.02	3.68	3.30	2.95	2.76
61 G 131	TA-58	A	100	200 CT	200	6.5	15.5	.5	1¼x2x1¼"	2.13	1.95	1.75	1.56	1.46
63 G 478	TA-59	A	500 CT	200 CT	50	36.5	15.5	.5	1¼x2x1¼"	2.36	2.17	1.94	1.73	1.63

### POWER TRANSFORMERS

Primaries for 117-volt 60 cycle AC. TP-1 for bridge rect.; identical, dual plate supplies. #Tapped primary.

Stock No.	Mfr's Type	Fig.	Plate Supply		Wt. Lbs.	Size HxWxD	EACH				
			AC V.	DC Ma			1-9	10-24	25-49	50-99	100-249
63 G 966	TP-1	D	13 or 18	900	2¾	3x3x2½"	4.87	4.47	4.00	3.57	3.35
62 G 398	TP-2#	D	10/20 CT/40 CT	100	¾	1½x2½x1½"	4.00	3.80	3.20	3.00	2.70
62 G 399	TP-3#	D	10/20 CT/40 CT	100	¾	2¼x3¼x2"	5.20	4.60	4.20	3.90	3.60
62 G 401	TP-4#	D	10/20 CT/40 CT	300	1½	3½x2½x3"	8.50	7.60	6.80	6.30	5.90
61 G 642	P-8196	D	80 CT	1200	4½	3½x2½x3½"	6.42	6.00	5.37	4.80	4.50

### ULTRA-MINIATURE TRANSFORMERS

Designed for transistor audio applications. For ranges below 1 watt level. Wound on molded nylon bobbins, with special nickel alloy steel laminations. Size: ¾x¾" sq.; except ¼x¾". Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Application	Imp.		DC Res.		EACH				
			Pri.	Sec.	Pri.	Sec.	1-9	10-24	25-49	50-99	100-249
64 G 237	*UM-110	Interstage	20K	1K	1675	285	6.22	5.70	5.10	4.56	4.28
63 G 633	UM-111	Output/matching	1K	50/60	120	9	4.25	3.90	3.49	3.12	2.93
64 G 239	UM-112	Mic. input	200K	1K	4K	195	6.87	6.30	5.64	5.04	4.73
64 G 240	UM-113	Interstage	20K	1K	1350	205	4.75	4.35	3.90	3.48	3.26

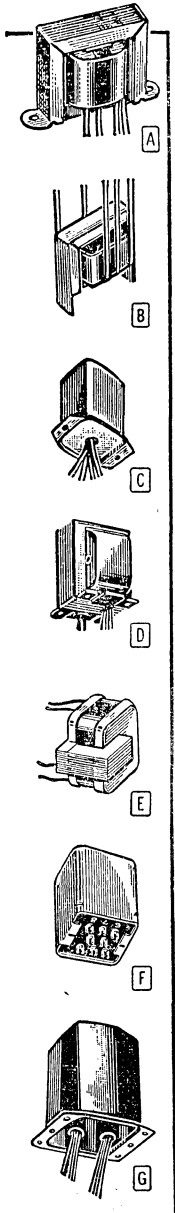
### "TINYTRAN" MINIATURE AUDIO TRANSFORMERS

Transformers are cased and potted in 7/8" square aluminum cans with phenolic terminal boards. Frequency response, ±1 db, 30-15,000 cps. Max. level, 0 db. Overall height, 1¼". \*No DC in primary. Wt., 3 oz.

Stock No.	Mfr's Type	Application	Primary Impedance	Sec. Imp.	EACH				
					1-9	10-24	25-49	50-99	100-249
64 G 189	TT-11	Mic., pickup of line to grid	50, 200/250, 500/600	50,000	13.18	12.09	10.82	9.66	9.06
64 G 633	TT-12	Mic., pickup of line to P-P grids	50, 200/250, 500/600	50,000	14.00	12.84	11.50	10.27	9.63
64 G 191	TT-13	Dynamic mic. to single grid	7.5/30	50,000	8.36	7.66	6.87	6.13	5.75
64 G 192	TT-14	Single plate to single grid	15,000	60,000	7.89	7.24	6.48	5.78	5.43

Used in transistorized circuits to convert 12 v. battery voltage to plate voltage. DCT-1 steps up 12 VDC to 275 VDC 7/8 125 ma. Type DCT-2 steps up 12 VDC to 250 VDC 7/8 275 ma or 500 VDC @ 165 ma.

Stock No.	Mfr's Type	Size HxWxD	Mtg. Ctrs.	Shpg. Wt.	EACH				
					1-9	10-24	25-49	50-99	100-249
63 G 475	DCT-1	2½x1½x1½"	2½"	1 lb.	14.42	13.22	11.84	10.57	9.91
63 G 476	DCT-2	2½x2½x2¼"	1½x2x3/8"	1½ lbs.	16.33	14.97	13.40	11.97	11.23



**ONE ORDER FILLS the BILL**

Allied is your best single source for electronic supplies. You get same day shipment from the world's largest and most complete stocks—and you buy at factory prices. Depend on Allied for best service.

# Stancor Filter Chokes and Transformers

## FILTER CHOKES

All ratings are with maximum DC in winding. Rated input and smoothing use. C2690 and C2691 have dual windings; first rating is series operation and second rating parallel. § Similar to Fig. F, but with lugs.

Stock No.	Mfr's Type	Fig.	Hys.	Ma	Ohms	Size H x W x D	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
64 G 057	C1001†	C	10.5	110	225	2 <sup>5</sup> / <sub>8</sub> x4x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub>	3.50	3.22	2.88	2.57	2.41
64 G 056	C1002	C	15.0	75	400	2 <sup>1</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>4</sub>	2.84	2.60	2.33	2.08	1.95
64 G 055	C1003	C	16.0	50	580	2x3 <sup>1</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>2</sub>	2.13	1.95	1.75	1.56	1.46
64 G 067	C1355	D	8.0	75	290	2 <sup>1</sup> / <sub>16</sub> x2 <sup>7</sup> / <sub>16</sub> x1 <sup>3</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>2</sub>	2.60	2.38	2.13	1.91	1.79
64 G 063	C1410†	A	4.0	175	100	3 <sup>7</sup> / <sub>16</sub> x2 <sup>5</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.45	4.08	3.66	3.27	3.06
64 G 466	C1411†	A	4.5	200	80	3 <sup>5</sup> / <sub>8</sub> x3x3 <sup>1</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub>	5.56	5.10	4.57	4.08	3.83
64 G 455	C1412†	A	4.0	250	60	3 <sup>1</sup> / <sub>2</sub> x3x3 <sup>1</sup> / <sub>8</sub> "	4 <sup>1</sup> / <sub>2</sub>	6.84	6.27	5.61	5.01	4.70
62 G 407	C1414	...	7.5	400	60	4 <sup>1</sup> / <sub>4</sub> x4x5 <sup>1</sup> / <sub>8</sub> "	12	15.40	14.12	12.64	11.29	10.59
64 G 068	C1420	A	16.0	80	360	3 <sup>7</sup> / <sub>16</sub> x2 <sup>5</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.55	4.17	3.73	3.33	3.13
64 G 465	C1421†	A	7.0	140	165	3 <sup>7</sup> / <sub>16</sub> x2 <sup>5</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.55	4.17	3.73	3.33	3.13
64 G 058	C1515	C	20.0	15	900	1 <sup>5</sup> / <sub>8</sub> x2 <sup>7</sup> / <sub>8</sub> x1 <sup>1</sup> / <sub>2</sub> "	1	2.10	1.93	1.73	1.55	1.45
62 G 408	C1646	A	5.0	200	90	4x3 <sup>1</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>8</sub> "	4 <sup>1</sup> / <sub>2</sub>	6.67	6.12	5.48	4.89	4.59
62 G 409	C1703	B	4.0	250	60	3 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> "	4 <sup>1</sup> / <sub>2</sub>	6.09	5.58	5.00	4.47	4.19
64 G 050	C1706	C	4.5	50	300	1 <sup>7</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>8</sub> "	3 <sup>4</sup> / <sub>4</sub>	1.25	1.15	1.03	.92	.86
64 G 051	C1707	C	7.0	50	550	1 <sup>5</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>8</sub> "	3 <sup>4</sup> / <sub>4</sub>	1.39	1.27	1.13	1.01	.95
64 G 052	C1708	C	13.0	65	500	2x3 <sup>1</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>4</sub> "	1	2.35	2.17	1.94	1.73	1.63
64 G 053	C1709	C	8.0	85	250	2x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>3</sup> / <sub>4</sub>	2.35	2.17	1.94	1.73	1.63
64 G 054	C1710	C	7.0	150	200	2 <sup>5</sup> / <sub>8</sub> x4x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub>	3.53	3.23	2.90	2.59	2.43
64 G 069	C1721†	F	8.5	200	120	3 <sup>7</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> x3"	4 <sup>1</sup> / <sub>2</sub>	7.35	6.75	6.04	5.54	5.06
64 G 456	C1722†	F	8.0	300	80	4 <sup>7</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>4</sub> x3 <sup>1</sup> / <sub>2</sub> "	7 <sup>1</sup> / <sub>2</sub>	10.82	9.93	8.90	7.95	7.45
64 G 059	C2303*	C	2.5	130	100	2x3 <sup>1</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>2</sub>	2.20	2.02	1.81	1.61	1.51
64 G 060	C2304	C	2.3	150	60	2x3 <sup>1</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>2</sub>	2.20	2.02	1.81	1.61	1.51
64 G 061	C2305	E	5.0	100	300	2 <sup>1</sup> / <sub>16</sub> x2 <sup>3</sup> / <sub>16</sub> x2 <sup>3</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>2</sub>	3.38	3.10	2.78	2.48	2.35
64 G 064	C2308†	A	8.0	300	80	4 <sup>3</sup> / <sub>8</sub> x3x3 <sup>7</sup> / <sub>8</sub> "	7 <sup>3</sup> / <sub>4</sub>	10.82	9.93	8.90	7.95	7.45
64 G 457	C2309*	C	3.0	150	90	2 <sup>1</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>4</sub> "	1 <sup>3</sup> / <sub>4</sub>	2.52	2.32	2.07	1.85	1.74
62 G 410	C2318	C	12.0	30	400	1 <sup>5</sup> / <sub>8</sub> x2 <sup>7</sup> / <sub>8</sub> x1 <sup>1</sup> / <sub>2</sub> "	1	1.80	1.65	1.48	1.32	1.24
64 G 505	C2325	C	2.0	200	60	3 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>4</sub> "	2	2.79	2.57	2.30	2.05	1.93
64 G 520	C2326	C	1.0	300	43	3 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>4</sub> "	1 <sup>3</sup> / <sub>4</sub>	2.84	2.62	2.34	2.09	1.96
64 G 073	C2327	C	1.5	200	85	1 <sup>5</sup> / <sub>8</sub> x2 <sup>7</sup> / <sub>8</sub> x1 <sup>1</sup> / <sub>2</sub> "	3 <sup>4</sup> / <sub>4</sub>	1.76	1.62	1.45	1.29	1.21
64 G 458	C2328	C	.8	375	25	2 <sup>1</sup> / <sub>2</sub> x3 <sup>3</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>2</sub>	3.53	3.23	2.90	2.59	2.43
64 G 459	C2334	C	2.8	300	60	2 <sup>5</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>4</sub> x4"	2 <sup>1</sup> / <sub>2</sub>	3.46	3.18	2.85	2.55	2.39
61 G 238	C2685	B	.035	2A	.75	2 <sup>1</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> x2 <sup>3</sup> / <sub>4</sub> "	2	3.48	3.20	2.87	2.56	2.40
61 G 239	C2686	B	.025	4A	.425	3x3 <sup>3</sup> / <sub>4</sub> x2 <sup>7</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub>	5.93	5.45	4.88	4.36	4.09
61 G 240	C2687	B	.010	8A	.15	3 <sup>1</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>8</sub> "	5 <sup>1</sup> / <sub>2</sub>	7.90	7.17	6.42	5.73	5.38
61 G 241	C2688	B	.010	12 <sup>1</sup> / <sub>2</sub> A	.11	3 <sup>1</sup> / <sub>2</sub> x4 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> "	6	8.99	8.27	7.39	6.60	6.19
61 G 242	C2689	B	.005	22 <sup>1</sup> / <sub>2</sub> A	.03	3 <sup>7</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>2</sub> x4 <sup>1</sup> / <sub>2</sub> "	12	13.18	12.10	10.84	9.68	9.08
61 G 137	C2690	§	.3/075	1.0/2.0	3/7.75	3 <sup>1</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>4</sub> "	5	7.86	7.22	6.46	5.77	5.41
61 G 138	C2691	§	.08/0.02	2.5/5.4A	.6/1.15	3 <sup>3</sup> / <sub>4</sub> x3 <sup>1</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>4</sub> "	7	10.01	9.20	8.24	7.36	6.90
61 G 139	C2704	C	9.0	125	250	2 <sup>1</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>8</sub> "	1 <sup>3</sup> / <sub>4</sub>	3.01	2.77	2.48	2.21	2.08
61 G 140	C2705†	A	10.0	200	150	3 <sup>7</sup> / <sub>16</sub> x3x3 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>2</sub>	7.09	6.52	5.84	5.21	4.89
61 G 141	C2706	A	2.6	310	50	3 <sup>7</sup> / <sub>16</sub> x2 <sup>5</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>4</sub> "	4	5.94	5.47	4.90	4.37	4.10
62 G 411	C2707	C	2.0	15	70	1 <sup>5</sup> / <sub>8</sub> x2 <sup>3</sup> / <sub>8</sub> x1 <sup>1</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>4</sub>	1.50	1.35	1.22	1.13	1.07
62 G 413	C2708	C	0.32	600	10	1 <sup>1</sup> / <sub>8</sub> x6 <sup>3</sup> / <sub>8</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	2.87	2.40	2.16	2.00	1.90
61 G 244	C2344	C	1.50	10	85	1 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>8</sub> x1 <sup>1</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>2</sub>	1.09	1.00	.90	.80	.75

## FILTER REACTORS—HIGH-Q CHOKES

Insulation test volts, 2500 volts rms.

Stock No.	Mfr's Type	Fig.	Hys.	Ma	Ohms	Size H x W x D	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
63 G 597	RC-1540	H	15	40	475	2 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>2</sub>	5.15	4.72	4.22	3.77	3.54
63 G 598	RS-1540	G	15	40	475	2 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> "	1 <sup>1</sup> / <sub>2</sub>	7.22	6.62	5.93	5.29	4.96
64 G 670	RC-1055	H	10	55	230	2 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>4</sub>	5.42	4.97	4.45	3.97	3.73
63 G 594	RS-1555	G	15	55	421	2 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> "	2	7.53	6.90	6.18	5.52	5.18
63 G 595	RC-1085	H	10	85	175	2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>16</sub> "	2 <sup>1</sup> / <sub>2</sub>	6.16	5.65	5.06	4.52	4.24
63 G 596	RS-1085	G	10	85	175	2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>16</sub> "	2 <sup>1</sup> / <sub>2</sub>	8.29	7.60	6.81	6.08	5.70
64 G 661	RS-1585	G	15	85	285	2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>16</sub> "	2 <sup>3</sup> / <sub>4</sub>	8.69	7.97	7.13	6.37	5.98
63 G 599	RC-12105	H	12	105	170	2 <sup>7</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>2</sub> "	4	10.38	9.52	8.52	7.61	7.14
64 G 663	RS-12105	G	12	105	170	2 <sup>7</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>2</sub> "	4	10.38	9.52	8.52	7.61	7.14
63 G 600	RC-12150	H	12	150	150	3 <sup>1</sup> / <sub>4</sub> x3x3 <sup>7</sup> / <sub>8</sub> "	5 <sup>1</sup> / <sub>2</sub>	9.11	8.35	7.48	6.68	6.26
63 G 601	RS-12150	G	12	150	150	3 <sup>1</sup> / <sub>4</sub> x3x4 <sup>1</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>2</sub>	11.69	10.72	9.60	8.57	8.04
64 G 678	RC-8200	H	8	200	85	3 <sup>1</sup> / <sub>16</sub> x3 <sup>5</sup> / <sub>8</sub> x4 <sup>5</sup> / <sub>16</sub> "	7	10.85	9.95	8.91	7.96	7.46
63 G 602	RS-8200	G	8	200	85	3 <sup>1</sup> / <sub>16</sub> x3 <sup>5</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>16</sub> "	7	8.51	7.80	6.99	6.24	5.85
64 G 679	RC-12200	H	12	200	140	3 <sup>1</sup> / <sub>16</sub> x3 <sup>5</sup> / <sub>8</sub> x4 <sup>5</sup> / <sub>16</sub> "	7	11.11	10.18	9.12	8.15	7.64
63 G 603	RS-12200	G	12	200	140	3 <sup>1</sup> / <sub>16</sub> x3 <sup>5</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>16</sub> "	7	13.71	12.57	11.25	10.05	9.43

## RECTIFIER TRANSFORMERS

Multi-tap transformers for low-voltage, high-current tapped winding, permitting a wide range of output power supplies with full-wave center-tapped or bridge rectifier circuits. Have tapped primary and additional AC. With wiring charts.

Stock No.	Mfr's Type RT-	Range of AC Volts	Max. DC Output Load		Size (Inches) H x W x D	Wt., Lbs.	EACH				
			Resistive	Capacitive			1-9	10-24	25-49	50-99	100-249
64 G 372	201	11.7-29.4	11.2v @ 2.0A	13.8v @ 2.0A	3 <sup>1</sup> / <sub>2</sub> x2 <sup>1</sup> / <sub>2</sub> x3 <sup>3</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.98	4.57	4.09	3.63	3.43
64 G 373	202	11.0-29.8	23.0v @ 1.25A	30.0v @ 1.25A	3 <sup>1</sup> / <sub>2</sub> x2 <sup>1</sup> / <sub>2</sub> x3 <sup>3</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.98	4.57	4.09	3.63	3.43
64 G 374	204	11.7-29.2	11.1v @ 4.0A	14.7v @ 4.0A	3 <sup>5</sup> / <sub>8</sub> x2 <sup>7</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>2</sub> "	4	6.70	6.20	5.55	4.96	4.65
64 G 375	206	11.6-29.2	24.3v @ 2.0A	33.0v @ 2.0A	4x3 <sup>1</sup> / <sub>4</sub> x4 <sup>1</sup> / <sub>8</sub> "	6 <sup>1</sup> / <sub>4</sub>	8.75	8.02	7.18	6.41	6.01
64 G 376	208	12.0-29.7	11.5v @ 12.0A	14.4v @ 12.0A	4 <sup>1</sup> / <sub>4</sub> x3 <sup>7</sup> / <sub>8</sub> x5 <sup>1</sup> / <sub>8</sub> "	9 <sup>1</sup> / <sub>4</sub>	11.87	10.88	9.75	8.71	8.16
64GU378	2012	12.1-29.2	24.0v @ 4.0A	32.4v @ 4.							

# Stancor Power and Isolation Transformers



## PLATE-FILAMENT POWER TRANSFORMERS

CT 6.3 v. fil. windings except \* for 6AX5, 6X4, 6X5 5R4GY. Pri., 117 v. 60-cycle AC. † For photoflash circuits; 105/115/125 v. pri., no fil. winding).

Stock No.	Mfr's Type	Fig.	Plate		Filaments		Size H x W x D	Wt., Lbs.	EACH				
			VCT	Ma	V @ A	V @ A			1-9	10-24	25-49	50-99	100-249
64 G 162	PS-8415*	C	125	15	6.3 @ .6	6.3 @ .6	2 3/8 x 1 3/8 x 2"	3/4	2.32	2.13	1.91	1.71	1.60
64 G 078	PA-8421*	C	125	50	6.3 @ .6	6.3 @ 2	2 1/4 x 3 3/4 x 2 1/8"	1 1/2	3.76	3.45	3.09	2.76	2.59
64 G 216	PS-8416*	C	250	25	6.3 @ .6	6.3 @ 1	2 3/8 x 2 7/8 x 1 3/4"	1	2.79	2.57	2.30	2.05	1.93
64 G 445	P-6425†	D	380	20	6.3 @ .6	6.3 @ .6	2 3/8 x 2 1/2 x 1 3/8"	1 1/2	3.50	3.15	2.84	2.63	2.50
64 G 077	PC-8418*	B	460	50	6.3 @ .6	6.3 @ 2.5	3 3/8 x 2 5/8 x 2 3/8"	2 3/4	4.70	4.32	3.87	3.45	3.24
64 G 154	PM-8401	A	470	40	5 @ 2	6.3 @ 2	2 1/2 x 3 x 2 3/8"	2 1/4	5.65	5.38	4.67	4.17	3.91
64 G 176	PC-8401	B	470	40	5 @ 2	6.3 @ 2	3 3/8 x 2 5/8 x 2 3/8"	2 1/4	5.42	4.97	4.45	3.97	3.73
64 G 170	PM-8402	A	480	55	5 @ 2	6.3 @ 2	2 3/4 x 2 1/2 x 3"	2 1/2	5.53	5.07	4.54	4.05	3.80
64 G 177	PC-8402	B	480	55	5 @ 2	6.3 @ 2	3 1/8 x 2 5/8 x 2 3/4"	2 1/2	5.38	4.93	4.42	3.95	3.70
62 G 402	PC-8417*	B	220	50	6.3 @ .6	25.2 @ .5	3 3/8 x 2 5/8 x 2 3/8"	2 1/2	6.29	5.77	5.16	4.61	4.33
62 G 403	PM-8418*	A	230	50	6.3 @ .6	6.3 @ 2.5	2 5/8 x 2 1/2 x 3"	2 1/2	4.71	4.32	3.87	3.45	3.24
64 G 175	PM-8419*	A	480	70	6.3 @ .6	6.3 @ 3	2 7/8 x 2 1/2 x 3"	2 3/4	5.41	4.97	4.45	3.97	3.73
64 G 215	PC-8419*	B	480	70	6.3 @ .6	6.3 @ 3	3 3/8 x 2 5/8 x 2 3/8"	2 3/4	5.41	4.97	4.45	3.97	3.73
64 G 167	PM-8420*	A	520	90	6.3 @ .6	6.3 @ 4	3 1/2 x 2 7/8 x 3 3/8"	3 1/2	6.56	6.02	5.39	4.81	4.51
64 G 168	PC-8420*	B	520	90	6.3 @ .6	6.3 @ 4	3 1/2 x 3 x 3 1/2"	3 1/2	6.29	5.77	5.16	4.61	4.33
64 G 171	PM-8403	A	500	70	5 @ 2	6.3 @ 2.5	3 1/8 x 2 1/2 x 3"	3 3/4	6.23	5.73	5.13	4.59	4.30
64 G 178	PC-8403	B	500	70	5 @ 2	6.3 @ 2.5	3 3/8 x 2 5/8 x 3 1/8"	3 3/4	6.23	5.73	5.13	4.59	4.30
64 G 179	PC-8404	B	520	90	5 @ 2	6.3 @ 3	3 5/8 x 3 x 3 1/2"	4	6.91	6.35	5.69	5.08	4.76
64 G 160	PM-8404	A	520	90	5 @ 2	6.3 @ 3	2 7/8 x 3 3/8 x 3 3/8"	4	6.91	6.35	5.69	5.08	4.76
64 G 172	PM-8405	A	540	120	5 @ 3	6.3 @ 3.5	3 1/2 x 3 1/2 x 3 3/4"	4 1/2	9.01	8.28	7.42	6.63	6.21
64 G 183	PC-8405	B	540	120	5 @ 3	6.3 @ 3.5	4 x 3 1/4 x 3 1/2"	4 1/2	9.01	8.28	7.42	6.63	6.21
61 G 133	P-6358*	B	600	65	6.3 @ 2.7	6.3 @ 2.7	3 1/8 x 2 5/8 x 2 1/2"	3	5.84	5.35	4.79	4.28	4.01
64 G 155	PM-8407	A	650	55	5 @ 2	6.3 @ 2	2 1/2 x 3 x 3 1/2"	3 1/4	5.88	5.40	4.84	4.32	4.05
64 G 157	PM-8406	A	650	40	5 @ 2	6.3 @ 2	2 1/2 x 3 x 2 3/4"	2 1/2	5.64	5.18	4.64	4.15	3.89
64 G 217	PC-8406	B	650	40	5 @ 2	6.3 @ 2	3 3/8 x 2 5/8 x 2 3/4"	2 1/4	5.64	5.18	4.64	4.15	3.89
64 G 184	PC-8407	B	650	55	5 @ 2	6.3 @ 2	3 3/8 x 2 5/8 x 3 3/8"	3 1/2	5.88	5.40	4.84	4.32	4.05
64 G 164	PC-8408	B	680	70	5 @ 2	6.3 @ 2.5	3 3/8 x 3 3/8 x 3 3/8"	4	7.35	6.75	6.04	5.40	5.06
64 G 156	PM-8408	A	680	70	5 @ 2	6.3 @ 2.5	2 7/8 x 3 3/8 x 3 1/2"	4	7.35	6.75	6.04	5.40	5.06
64 G 158	PM-8409	A	700	90	5 @ 2	6.3 @ 3	2 7/8 x 3 3/8 x 3 3/4"	4 1/2	7.76	7.16	6.37	5.69	5.34
64 G 185	PC-8409	B	700	90	5 @ 2	6.3 @ 3	3 5/8 x 3 x 3 3/8"	4 1/2	7.76	7.16	6.37	5.69	5.34
64 G 159	PM-8410	A	720	120	5 @ 3	6.3 @ 3.5	3 1/8 x 3 3/4 x 3 3/4"	5 1/2	9.17	8.42	7.54	6.73	6.31
64 G 186	PC-8410	B	720	120	5 @ 3	6.3 @ 3.5	4 x 3 1/4 x 3 3/4"	5 1/2	8.81	8.08	7.24	6.47	6.06
64 G 173	PM-8411	A	750	150	5 @ 3	6.3 @ 4.5	3 7/8 x 3 1/2 x 4 1/8"	6	12.30	11.28	10.10	9.03	8.46
64 G 187	PC-8411	B	750	150	5 @ 3	6.3 @ 4.5	4 5/8 x 3 3/8 x 4"	6	11.79	10.83	9.70	8.67	8.13
64 G 161	PM-8412	A	800	200	5 @ 3	6.3 @ 5	3 3/4 x 4 1/2 x 3 7/8"	8 1/4	12.33	11.32	10.13	9.05	8.49
64 G 163	PC-8412	B	800	200	5 @ 3	6.3 @ 5	4 x 4 x 4 1/4"	8 1/4	12.30	11.28	10.10	9.03	8.46
62 G 404	PC-8413	B	400	250	5 @ 4	6.3 @ 5	4 3/4 x 4 x 4 1/2"	10	14.07	12.90	11.55	10.32	9.68
64 G 169	PC-8414	B	1200	200	5 @ 3	6.3 @ 3	4 1/4 x 4 3/4 x 4"	8 1/2	14.46	13.27	11.88	10.61	9.95
62 G 405	PM-8422	A	325	150	5 @ 3	6.3 @ 5	3 3/4 x 3 1/8 x 3 3/4"	6	9.42	8.63	7.73	6.91	6.48
62 G 406	PC-8422	A	325	150	5 @ 3	6.3 @ 5	3 5/8 x 3 x 3 3/8"	6	9.40	8.62	7.72	6.89	6.46
61 G 237	PM-8423	A	600	90	5 @ 2	6.3 @ 3	3 1/4 x 2 7/8 x 3 3/8"	4	7.98	7.32	6.55	5.85	5.49
64 G 193	PC-8304	B	1500	200	265	†Reactor Filter ‡Capacitor Filter	4 3/4 x 4 x 4 7/8"	11 1/2	14.75	13.51	12.10	11.26	10.75
64 G 194	PC-8305	B	1840	200	250	†Reactor Filter ‡Capacitor Filter	4 3/4 x 4 x 5"	11 3/4	15.36	14.09	12.63	11.73	11.19

## POWER TRANSFORMERS FOR CAPACITOR INPUT FILTERS

Compound-sealed; except ‡semi-sealed. \*Extra winding: 6.3 v. CT at 1 amp; †5 v., 2 amps. 117 v., 50-60 cycle pri.

Stock No.	Mfr's Type	Fig.	Plate		5V @ A	6.3V @ A	Size H x W x D	Wt., Lbs.	EACH				
			VCT	Ma					1-9	10-24	25-49	50-99	100-249
63 G 570	PCC-40	F	550	40	2	2	3 1/2 x 2 1/8 x 2 7/8"	3 1/4	9.73	8.92	7.99	7.13	6.69
63 G 571	§PCC-40	F	550	40	2	2	3 3/4 x 2 1/8 x 2 7/8"	3 1/4	14.80	13.57	12.55	11.21	10.51
64 G 614	PCC-55	F	540	55	2	2	3 1/2 x 2 1/8 x 2 7/8"	3 1/2	10.42	9.55	8.55	7.64	7.16
64 G 607	§PCC-55	E	540	55	2	2	3 3/4 x 2 1/8 x 2 7/8"	3 1/2	15.13	13.87	12.42	11.09	10.40
64 G 708	PCC-60	F	600	60	2	3	3 7/8 x 3 x 3 1/4"	4 1/2	11.62	10.65	9.54	8.52	7.99
64 G 615	PCC-70	F	670	70	2	3	3 7/8 x 3 x 3 1/4"	4 1/2	12.00	11.00	9.85	8.80	8.25
64 G 617	PCC-105	F	690	105	2	3.5	4 3/8 x 3 3/8 x 3 1/4"	6 1/2	13.53	12.40	11.10	9.92	9.30
64 G 612	§PSC-150	E	740	150	3	4	5 1/8 x 4 1/8 x 3 3/8"	11 1/2	26.49	24.28	21.75	19.43	18.21
64 G 620	*PCC-200	F	770	200	3	4.5	5 1/8 x 4 1/8 x 3 3/8"	12	20.89	19.15	17.15	15.32	14.36
63 G 572	§PSC-200	E	770	200	3	4.5	5 1/8 x 4 1/8 x 3 3/8"	12	27.27	25.00	22.39	20.00	18.75
63 G 573	†PCC-250	F	800/160	250	6	7	6 1/8 x 4 3/8 x 5 1/8"	15	25.76	23.62	21.15	18.89	17.71
64 G 796	†PSC-250	E	800/160	250	6	7	6 1/8 x 4 3/8 x 5 1/8"	15	37.07	33.98	30.43	27.19	25.49

## POWER TRANSFORMERS FOR CHOKE INPUT FILTERS

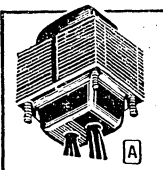
PCR same as PCC above; PSR same as PSC. 117 v., 50-60 cycle primaries. \*Includes 6.3 v. CT at 1 amp.

Stock No.	Mfr's Type	Fig.	Watts	Size H x W x D	Mounting Centers	Wt., Lbs.	EACH						
							1-9	10-24	25-49	50-99	100-249		
63 G 574	PCR-55	F	700	55	2	2	3 1/2 x 2 1/8 x 2 7/8"	3 1/4	11.24	10.30	9.22	8.24	7.73
63 G 575	PSR-55	E	700	55	2	2	3 3/4 x 2 1/8 x 2 7/8"	3 1/4	16.09	14.75	13.21	11.80	11.06
64 G 638	PCR-70	F	850	70	2	3	3 7/8 x 3 x 3 1/4"	4 1/2	12.58	11.53	10.33	9.23	8.65
64 G 630	PSR-70	E	850	70	2	3	4 1/4 x 3 x 3 1/4"	4 1/2	17.65	16.18	14.49	12.95	12.14
64 G 195	PCR-85	F	880	85	2	3	4 3/8 x 3 3/8 x 3 1/4"	6	13.10	12.00	10.75	10.00	9.54
63 G 593	PCR-105	F	900	105	2	3.5	4 3/8 x 3 3/8 x 3 1/4"	6 1/2	13.64	12.50	11.19	10.00	9.38
64 G 632	PSR-105	E	900	105	2	3.5	4 1/8 x 3 3/8 x 3 1/4"	6 1/2	18.91	17.33	15.52	13.87	13.00
64 G 644	*PCR-300	F	1100/740/150	300	6	5	6 1/8 x 4 3/8 x 5 1/8"	17 1/2	29.53	27.07	24.24	21.65	20.30

## ISOLATION TRANSFORMERS

Electrostatic shield for complete line isolation. Switch primaries are 105, 115 and 125 v. 8' cord; standard receptacle on secondary. For 50-60 cycle AC.

Stock No.	Mfr's Type	Watts	Size H x W x D	Mounting Centers	Wt., Lbs.	EACH				
						1-9	10-24	25-49	50-99	100-249
64 G 726	IS-50	50	4 1/16 x 3 3/8 x 3 1/16"	2 3/4 x 3 7/8"	5	11.20	10.27	9.19	8.21	7.70
64 G 727	IS-100	100	5 5/16 x 4 1/8 x 4 1/16"	2 1/2 x 4 3/4"	8 1/2	14.69	13.47	12.06	10.77	10.10
64 G 728	IS-150	150	6 1/16 x 4 1/8 x 5 1/16"	3 1/2 x 5 5/8"	12 1/2	17.29	15.85	14.19	12.68	11.89
64 G 729	IS-250	250	6 1/16 x 4 1/8 x 5 1/16"	3 1/2 x 5 5/8"	18 1/4	23.44	21.48	19.24	17.19	16.11





# Stancor Transformers

## FILAMENT TRANSFORMERS

Single-secondary filament transformers that provide voltages and currents for heating a wide range of receiving and transmitting tubes. All are center-tapped, except Types P4026, P6469, P8190, P4642 and P8191.

not tapped. \*Type P8191 has 6.3 v. primary and secondary windings for filament isolation use. Others operate from 117 v., 50-60 cycle AC, and have 107 v. tap for low line voltage, except type not tapped, for 117 v. only.

Stock No.	Mfr's Type	Fig.	Volts	Amps	rms V. Insul.	Size HxWxD	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
64 G 197	P4026†	B	2.5	1.5	2500	1 <sup>5</sup> / <sub>8</sub> x2 <sup>7</sup> / <sub>8</sub> x1 <sup>1</sup> / <sub>2</sub> "	2	2.71	2.49	2.23	1.98	1.86
64 G 141	P6133†	D	2.5	5.0	7500	2 <sup>1</sup> / <sub>16</sub> x3 <sup>5</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>2</sub>	3.72	3.42	3.08	2.85	2.71
63 G 505	P3024	C	2.5	10.0	2500	3 <sup>1</sup> / <sub>16</sub> x2 <sup>5</sup> / <sub>16</sub> x2 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.91	4.50	4.03	3.60	3.38
63 G 506	P6454	D	2.5	10.0	7500	3 <sup>1</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub>	3.93	3.60	3.22	2.85	2.70
64 G 301	P3060	A	2.5	10.0	10KV	3 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub>	6.59	6.05	5.44	5.04	4.80
64 G 267	P6467†	B	5.0	3.0	2500	2x3 <sup>1</sup> / <sub>2</sub> x2"	1 <sup>1</sup> / <sub>2</sub>	3.14	2.88	2.59	2.40	2.28
63 G 502	P3026	C	5.0	3.0	2500	3 <sup>1</sup> / <sub>8</sub> x2x3 <sup>5</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.91	4.50	4.03	3.60	3.38
63 G 508	P6455	D	5.0	6.0	2000	2 <sup>5</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>4</sub> "	2	4.25	3.90	3.49	3.12	2.93
64 G 255	P3062†	A	5.0	6.0	2500	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub>	5.04	4.62	4.16	3.85	3.67
63 G 509	P5000	C	5.0	6.0	2500	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x3"	3 <sup>1</sup> / <sub>2</sub>	5.69	5.22	4.67	4.17	3.91
63 G 510	P6135†	A	5.0	10.0	2500	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub>	5.49	5.03	4.51	4.03	3.78
64 G 199	P6433†	A	5.0	15.0	2500	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> "	3	7.02	6.44	5.77	5.15	4.82
63 G 511	P6468	D	5.0	30.0	2500	4 <sup>1</sup> / <sub>2</sub> x3 <sup>3</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> "	4 <sup>1</sup> / <sub>2</sub>	12.55	11.50	10.30	9.20	8.63
64 G 888	P6492†	C	5.0	30.0	2500	4 <sup>1</sup> / <sub>2</sub> x3 <sup>3</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> "	7 <sup>1</sup> / <sub>2</sub>	10.72	9.84	8.86	8.20	7.81
64 G 198	P6137†	A	5.25	13.0	2500	3 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>2</sub>	8.84	7.37	6.60	5.90	5.53
64 G 887	P6465	B	6.3	.6	1500	1 <sup>7</sup> / <sub>8</sub> x2 <sup>3</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>2</sub>	1.94	1.79	1.61	1.49	1.42
64 G 308	P6134†	B	6.3	1.2	3000	1 <sup>5</sup> / <sub>8</sub> x2 <sup>3</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>4</sub> "	1	2.06	1.89	1.70	1.58	1.50
64 G 584	P8190†	B	6.3	1.2	5000	2x3 <sup>1</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>4</sub> "	1	2.70	2.49	2.24	2.08	1.98
64 G 585	P8191*	B	6.3	1.2	5000	2x3 <sup>1</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>4</sub> "	1	2.91	2.67	2.40	2.23	2.12
64 G 263	P6466	B	6.3	3.0	2500	2x3 <sup>1</sup> / <sub>2</sub> x2"	1 <sup>1</sup> / <sub>2</sub>	3.32	3.05	2.75	2.54	2.42
64 G 309	P5014†	A	6.3	3.0	2500	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>1</sup> / <sub>2</sub> "	2	4.58	4.20	3.78	3.50	3.33
63 G 512	P6462	D	6.3	3.0	7000	3x3 <sup>1</sup> / <sub>2</sub> x2 <sup>5</sup> / <sub>8</sub> "	2	5.49	5.03	4.51	4.03	3.78
61 G 200	P6456	B	6.3	6.0	2000	2 <sup>1</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> "	2	3.74	3.44	3.09	2.86	2.73
64 G 312	P3064†	A	6.3	6.0	2500	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	5.31	4.88	4.39	4.06	3.87
64 G 313	P6308	A	6.3	10.0	2500	3 <sup>1</sup> / <sub>2</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub>	6.46	5.93	5.37	4.94	4.70
64 G 265	P6309	A	6.3	20.0	2500	4 <sup>5</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> x3"	6 <sup>3</sup> / <sub>4</sub>	10.01	9.18	8.26	7.65	7.28
64 G 314	P5015†	A	7.5	4.0	2500	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> "	3	4.65	4.28	3.85	3.56	3.39
63 G 513	P6138†	A	7.5	8.0	2500	3 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> x2 <sup>7</sup> / <sub>8</sub> "	5	7.15	6.55	5.87	5.24	4.91
64 G 257	P5016†	A	10.0	4.0	2500	3 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x2 <sup>5</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>4</sub>	5.93	5.45	4.90	4.54	4.32
63 G 514	P6458	A	10.0	5.0	2000	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> "	3	4.62	4.23	3.79	3.39	3.18
64 G 318	P6139†	A	10.0	8.0	2500	3 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> "	5	7.35	6.75	6.08	5.63	5.36
63 G 530	P6461†	C	10.0	10.0	2000	3 <sup>1</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> x3 <sup>5</sup> / <sub>8</sub> "	5	8.62	7.90	7.07	6.32	5.93
64 G 196	P3020	C	11.0	10.0	2500	4 <sup>3</sup> / <sub>4</sub> x4x3 <sup>1</sup> / <sub>2</sub> "	7 <sup>1</sup> / <sub>2</sub>	9.78	8.96	8.03	7.17	6.72
64 G 200	P8130†	B	12.6	2.0	1500	2x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>2</sub>	3.36	3.09	2.77	2.47	2.31
63 G 532	P8358	D	12.6	3.0	1500	2 <sup>1</sup> / <sub>4</sub> x3 <sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>8</sub> "	2	4.15	3.70	3.30	3.10	2.80
64 G 143	P6469	B	25.2	1.0	1500	2x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>2</sub>	3.20	2.94	2.65	2.45	2.33
63 G 531	P8357	B	25.2	3.0	1500	2 <sup>5</sup> / <sub>8</sub> x4x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub>	5.10	4.60	4.10	3.85	3.50

## F FULL-FREQUENCY-RANGE AUDIO TRANSFORMERS

Response: ±2 db, 30-20,000 cps. Maximum operating level: +7 db. 2x1<sup>1</sup>/<sub>2</sub>x1<sup>1</sup>/<sub>2</sub>". \*Use shunt-feed. Av. shpg. wt., 10 oz.

Stock No.	Mfr's Type	Application	Primary Impedance	Secondary Impedance	EACH				
					1-9	10-24	25-49	50-99	100-249
63 G 187	WF20	Input	50, 125/150, 200, 250, 333, 500/600	50,000	13.10	12.00	10.75	9.60	9.00
63 G 190	WF28*	Interstage	15,000	80,000 overall	11.90	10.92	9.78	8.73	8.19
63 G 632	WF36*	Low-level out.	30,000 pl. to pl.	[50, 125/150, 200, 250, 333, 500/600]	13.10	12.00	10.75	9.60	9.00
63 G 192	WF30	Mixing	50, 125/150, 200, 250, 333, 500/600	[250, 333, 500/600]	13.61	12.48	11.18	9.99	9.36

## F FULL-FREQUENCY-RANGE OUTPUT TRANSFORMERS

All Fig. F, except BO-14 and BO-15, Fig. G. ±1.5 db. line; C=P-P pl. to line or vc.; D=P-P pl. to voice coil. 30-20,000 cps. \*Use: A=Sgl. pl. to line; B=P-P pl. to Av. shpg. wts.: Fig. F, 4 lbs.; G, 16<sup>1</sup>/<sub>2</sub> lbs.

Stock No.	Mfr's Type	*Use and Op. Level	Primary Impedance	Secondary Impedance	Size HxWxD	EACH				
						1-9	10-24	25-49	50-99	100-249
62 G 522	BO-1	A, +15 dbm	15,000	600/150 CT	3 <sup>1</sup> / <sub>16</sub> x2 <sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> "	15.56	14.27	12.78	11.41	10.70
64 G 201	BO-2	B, +30 dbm	20,000 CT	600/150 CT	3 <sup>1</sup> / <sub>2</sub> x2 <sup>1</sup> / <sub>16</sub> x2 <sup>7</sup> / <sub>8</sub> "	18.80	17.24	15.44	13.78	12.92
64 G 202	BO-5	C, 5 watts	10,000 CT	600/16/8 CT; 150/4	3 <sup>3</sup> / <sub>8</sub> x3x3 <sup>3</sup> / <sub>4</sub> "	22.28	20.42	18.29	16.33	15.31
64 G 203	BO-6	D, 20 watts	7500 CT	8/20	4 <sup>7</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>16</sub> "	28.89	26.49	23.73	21.19	19.86
64 G 204	BO-9	C, 15 watts	5000/3000 CT	600/16/8 CT; 150/4	3 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> "	30.20	27.69	24.80	22.15	20.77
64 G 205	BO-14	D, 100 watts	5000 CT	8/16; 70 v.	4 <sup>1</sup> / <sub>2</sub> x5 <sup>7</sup> / <sub>8</sub> x5 <sup>5</sup> / <sub>8</sub> "	44.58	41.63	37.27	33.37	31.22
64 G 206	BO-15	D, 65 watts	4300 CT	8/16	4 <sup>1</sup> / <sub>8</sub> x5 <sup>1</sup> / <sub>4</sub> x4 <sup>7</sup> / <sub>8</sub> "	26.81	24.58	22.00	19.65	18.42

## TUBE CHECKER TRANSFORMER

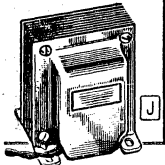
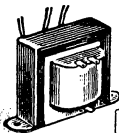
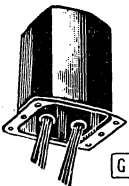
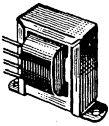
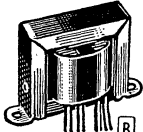
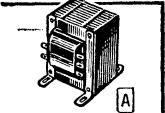
Multiple-secondary type for use in tube testers. Primary: 2.0/2.5/3.0/3.3/4.0/5.0/6.3/7.0/7.5/12/20/25/30/35/50 at 2 ma; 2.5 v. AC at 2 ma. P-8178 Secondaries (4): 1800 v. AC at 2 ma; 2.5 v. AC at 1.8 ma; 2.5 v. at 2.2 ma; P-8151 Secondaries (3): 2400 v. AC at 5 ma; 5.0 v. AC 6.3 v. at 0.6 ma.

Stock No.	Mfr's Type	Fig.	Primary Impedance	Size	Wt., Lbs.	EACH				
						1-9	10-24	25-49	50-99	100-249
64 G 139	P-1834-3	H	125/115/105	2 <sup>5</sup> / <sub>8</sub> x4x2 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub>	9.92	9.11	8.15	7.28	6.82

## OSCILLOSCOPE POWER TRANSFORMERS

For 2X2 rectifiers in half-wave supplies. P-8150 Secondaries (2): 1550 v. AC at 1.5 ma; 2.5 v. AC at 1.75 ma. P-8151 Secondaries (3): 2400 v. AC at 5 ma; 5.0 v. AC at 2 ma; 2.5 v. AC at 1.8 ma; 2.5 v. at 2.2 ma; 6.3 v. at 0.6 ma.

Stock No.	Mfr's Type	Fig.	Primary Impedance	Size HxWxD	Wt., Lbs.	EACH				
						1-9	10-24	25-49	50-99	100-249
63 G 533	P-8150	...	117 v., 60 cycle AC	3 <sup>1</sup> / <sub>16</sub> x3x2 <sup>1</sup> / <sub>2</sub> "	2	8.83	8.10	7.26	6.48	6.08
63 G 534	P-8151	J	117 v., 60 cycle AC	4 <sup>5</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> x4"	7	11.63	10.66	9.56	8.53	8.00
63 G 550	P-8178	J	117 v., 50-60 cycle AC	3 <sup>1</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>4</sub> "	5	9.03	8.28	7.42	6.62	6.21



# Stancor Transformers

## ISOLATION TRANSFORMERS

All have electrostatic shields grounded internally to core. RMS insulation test: 1500 v. \*Primary is tapped for 125, 115 and 105 v.; have 115 v. secondary. †Isolation testing transformer with 117 v. primary; has tapped

secondary with three standard receptacles for 105, 115 and 125 volts. †117 v. primary and 117 v. secondary. ‡Stepdown isolation transformers with primary tapped for 250, 230 and 210 v.; have 115 v. secondary.

Stock No.	Mfr's Type	Fig.	Size HxWxD	Watts	Wt., Lbs.	EACH				
						1-9	10-24	25-49	50-99	100-249
63 G 552	P-6125*	A	7 $\frac{3}{4}$ x5 $\frac{5}{8}$ x7 $\frac{3}{4}$ "	1000	35	66.53	60.98	54.61	48.79	45.74
64 G 443	P-6160*	B	4 $\frac{3}{4}$ x4x3 $\frac{3}{8}$ "	100	7	14.19	13.03	11.73	10.86	10.34
63 G 551	P-6161*	C	4 $\frac{3}{4}$ x4x5 $\frac{3}{8}$ "	250	15	21.02	19.27	17.25	15.41	14.45
64 G 448	P-6298*	B	7 $\frac{3}{8}$ x6 $\frac{1}{8}$ x7 $\frac{5}{8}$ "	500	28	42.27	38.79	34.91	32.33	30.77
64 G 475	P-6371†	D	5 $\frac{1}{2}$ x4 $\frac{1}{2}$ x5 $\frac{1}{4}$ "	175	9	18.95	17.40	15.66	14.50	13.80
63 G 553	P-6385‡	C	4 $\frac{3}{4}$ x4x5 $\frac{3}{8}$ "	250	14 $\frac{1}{2}$	23.40	21.45	19.21	17.16	16.09
64 G 207	P-6387‡	B	7 $\frac{3}{8}$ x4x5 $\frac{1}{4}$ "	500	29 $\frac{1}{2}$	53.05	48.63	43.56	38.90	36.48
64 G 449	P-6410†	C	3 $\frac{1}{2}$ x2 $\frac{1}{2}$ x3 $\frac{1}{8}$ "	50	4	7.77	7.14	6.43	5.95	5.66
64 G 444	P-6415†	E	5 $\frac{3}{8}$ x4 $\frac{1}{2}$ x5 $\frac{3}{4}$ "	350	17	23.05	21.15	19.04	17.63	16.78

## CONTROL TRANSFORMERS

Automation-type transformers designed to provide trouble-free performance in high-speed automatic equip-

ment. Well adapted to relays and pilot lamps. Primaries for either 115 or 230 v., 50-60 cycle.

Stock No.	Mfr's Type	Fig.	Secondary		Size HxWxD	Mtg. Ctrs.	Wt., Lbs.	EACH				
			Parallel	Series				1-9	10-24	25-49	50-99	100-249
63 G 276	P-6375	F	6V @2A	12V @1A	2 $\frac{3}{8}$ x2 $\frac{7}{8}$ x2"	2 $\frac{3}{8}$ "	3 $\frac{3}{4}$	3.42	3.13	2.81	2.51	2.35
63 G 277	P-6376	F	6V @4A	12V @2A	3 $\frac{3}{8}$ x3 $\frac{3}{8}$ x2 $\frac{1}{4}$ "	2 $\frac{7}{8}$ "	1 $\frac{1}{2}$	3.71	3.41	3.07	2.84	2.70
63 G 278	P-6377	F	12V @4A	24V @2A	3 $\frac{1}{8}$ x3 $\frac{3}{8}$ x2 $\frac{3}{8}$ "	3 $\frac{3}{8}$ "	2	4.69	4.31	3.88	3.59	3.42
63 G 279	P-6378	G	12V @8A	24V @4A	3 $\frac{3}{8}$ x2 $\frac{1}{8}$ x3"	2 $\frac{3}{8}$ x2 $\frac{1}{4}$ "	3 $\frac{1}{2}$	7.57	6.95	6.26	5.79	5.51
63 G 280	P-6379	G	12V @16A	24V @8A	4 $\frac{1}{8}$ x3 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	2 $\frac{7}{8}$ x2 $\frac{3}{4}$ "	8	13.06	11.99	10.81	10.00	9.51

## LINE-TO-VOICE-COIL TRANSFORMERS

\*Type A3837 is an autotransformer for one or more speakers in parallel across 500-ohm line. †Constant-

voltage P.A., EIA 70.7 v. types. ‡140 v. types, §25 v. types. #Indicates power steps in watts.

Stock No.	Mfr's Type	Fig.	Primary Impedance	Secondary Impedance	Watts	Mtg. Ctrs.	Wt. in Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
64 G 087	A3818	F	1500/1000/500	15/8/4	25	3 $\frac{1}{8}$ "	2 $\frac{1}{2}$	4.92	4.43	3.98	3.69	3.51
64 G 088	A3837*	F	500/1000 1500/2000 2500/3000	.06 to 8, .12 to 16 .18 to 24, .24 to 32 .30 to 40, .36 to 48	15	2 $\frac{3}{8}$ "	1 $\frac{3}{4}$ 1 $\frac{1}{4}$	4.01 3.45	3.60 3.10	3.24 2.79	3.00 2.59	2.86 2.46
64 G 098	A3883	F	500	15/8/6/4	25	2 $\frac{3}{8}$ "	3 $\frac{1}{4}$	2.93	2.64	2.38	2.20	2.09
64 G 085	A7947	H	2000/1500/ 1000/500	6-8/3.2	8	2 $\frac{3}{8}$ "	3 $\frac{1}{4}$	2.93	2.64	2.38	2.20	2.09
64 G 086	A7949	F	2000/1500/ 1000/500	6-8/3.2	12	2 $\frac{3}{8}$ "	1 $\frac{1}{4}$	3.44	3.09	2.78	2.57	2.45
64 G 089	A8101	H	500	3.2/6/8	5	2"	1 $\frac{1}{2}$	1.77	1.59	1.43	1.32	1.26
64 G 091	A8102†	F	8/4/2/1/5#	4/8/16	8	2"	3 $\frac{4}{8}$	3.50	3.15	2.84	2.63	2.50
64 G 092	A8103†	F	16/8/4/2/1/5#	4/8/16	16	2 $\frac{1}{2}$ x $\frac{1}{8}$ "	1 $\frac{1}{2}$	4.95	4.45	4.01	3.71	3.53
64 G 099	A8104	F	3000/2000/ 1500/1000/500	16/8/4	10	2 $\frac{3}{8}$ "	1 $\frac{1}{2}$	4.07	3.66	3.29	3.05	2.90
64 G 889	A8105†	H	5/2.5/1.25/ 62/.31#	4/8	5	2"	1 $\frac{1}{2}$	2.84	2.55	2.30	2.13	2.02
64 G 890	A8106†	F	8/4/2/1#	4/8/16	8	2"	3 $\frac{4}{8}$	3.00	2.70	2.43	2.25	2.14
64 G 891	A8107†	F	16/8/4/2/1#	4/8/16	16	2 $\frac{1}{2}$ x $\frac{1}{8}$ "	1 $\frac{3}{4}$	4.74	4.26	3.83	3.55	3.38
61 G 296	A8080†	F	5/4/3/2/1#	8/16	5	2"	1 $\frac{1}{2}$	2.91	2.62	2.36	2.18	2.08
61 G 297	A8081†	H	10/9/8/7/6#	8/16	10	2"	3 $\frac{4}{8}$	3.16	2.85	2.56	2.37	2.26
61 G 298	A8082†	F	15/14/13/12/11#	8/16	15	2 $\frac{3}{8}$ "	1 $\frac{1}{4}$	3.66	3.30	2.97	2.75	2.61
61 G 201	A8095‡	H	5/2.5/1.25/ .62/.31#	4/8	5	2"	1 $\frac{1}{2}$	2.69	2.41	2.17	2.01	1.92
61 G 202	A8096‡	F	8/4/2/1/0.5#	4/8/16	8	2"	3 $\frac{4}{8}$	3.60	3.24	2.92	2.70	2.57
61 G 203	A8097‡	F	16/8/4/2/1/5#	4/8/16	16	2 $\frac{1}{2}$ x $\frac{1}{8}$ "	1 $\frac{3}{4}$	4.32	3.88	3.50	3.24	3.08

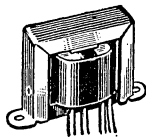
## HIGH-FIDELITY OUTPUT TRANSFORMERS

\*Has screen taps for ultra-linear operation. †For twin-coupled amplifiers. 4 $\frac{5}{8}$ x3 $\frac{3}{8}$ x4 $\frac{1}{4}$ ", except ‡3 $\frac{3}{8}$ x2 $\frac{5}{8}$ x3 $\frac{1}{4}$ ".

Stock No.	Mfr's Type	Fig.	Pri. Ohms (P-P)	Sec. Ohms	Pri. Ma	Max. Watts	Wt., Lbs.	EACH				
								1-9	10-24	25-49	50-99	100-249
64 G 563	A8053	J	5000	8, 16	150	50	7	13.63	12.27	10.99	9.81	9.20
64 G 570	A8056	J	6600	8, 16	125	50	7	13.63	12.27	10.99	9.81	9.20
64 G 564	A8054	J	9000	8, 16	100	50	7	13.63	12.27	10.99	9.81	9.20
64 G 574	A8072*	J	7600	4, 8, 16	100	25	7	16.36	15.00	13.43	12.00	11.25
61 G 183	A8098††	J	2000	8, 16, 32	140	15	3 $\frac{1}{2}$	8.14	7.32	6.60	6.11	5.81

## DRIVER TRANSFORMERS

Economical line of high-quality driver transformers for numerous audio applications. All have a maximum primary DC rating of 10 ma. Use single plate to push-pull grids, except Type A-53, has a single plate to single grid. Core dimensions: 1 $\frac{1}{2}$ x1 $\frac{1}{2}$ " in Types A-53, A-53-C; 5 $\frac{1}{8}$ x5 $\frac{1}{8}$ " in Type A-63-C. All have turns ratio of 1:3 for primary to 1/2 of secondary, except Type A-53, which is not center-tapped.



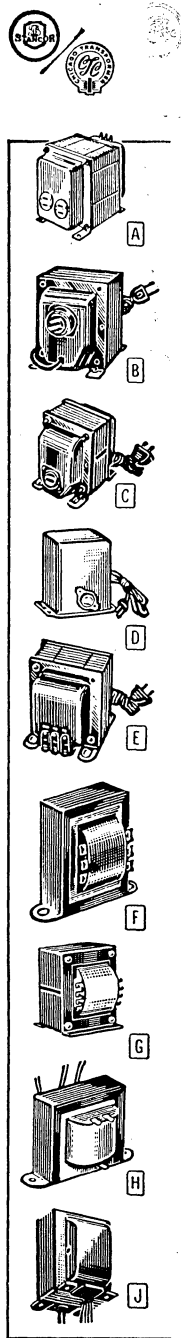
Stock No.	Mfr's Type	Pri. Plate Imp.	Size HxWxD	Wt., Lbs.	EACH				
					1-9	10-24	25-49	50-99	
64 G 090	A-53	7-20K	1 $\frac{3}{8}$ x2 $\frac{3}{8}$ x1 $\frac{1}{2}$ "	1/2	1.98	1.82	1.63	1.51	1.44
64 G 081	A-53-C	7-15K	1 $\frac{3}{8}$ x2 $\frac{3}{8}$ x1 $\frac{3}{8}$ "	1/2	2.35	2.16	1.94	1.80	1.71
64 G 082	A-63-C	7-15K	1 $\frac{5}{8}$ x2 $\frac{7}{8}$ x1 $\frac{1}{2}$ "	3/4	2.70	2.43	2.19	2.03	1.93

## AIR CONDITIONER AUTOTRANSFORMERS

Type PSU-2000. For home air conditioners with 1/2 to 1-hp motors (1/2 to 1-ton units). Converts 208-v. unit to 230-v. line; simple change inside outlet box for 230-v. to 208-v. line use. With line cord, 230-v., polarized plug, receptacle. Rated 2.3 KVA. 3 $\frac{1}{2}$ x6 $\frac{1}{2}$ x3 $\frac{3}{4}$ ", 9 lbs.



63 G 967, 1-9	.....	EACH 16.39
10-24	.....	EA. 15.03
25-49	.....	EA. 13.53
50-99	.....	EA. 12.53
100-249	.....	EA. 11.92
Type PSU-3000. As above, but supplies enough power to drive a 1 to 2-hp motor of the type used in 1 to 2-ton conditioners. Converts 208-volt, or 230-volt unit to 208-v. line. With line cord, polarized plug and receptacle. 4x6x4 $\frac{1}{2}$ ". Shpg. wt., 10 lbs.		
63 G 968, 1-9	.....	EACH 19.68
10-24	.....	EA. 18.06
25-49	.....	EA. 16.25
50-99	.....	EA. 15.05
100-249	.....	EA. 14.33



# Allied's Own Famous *Knight*® Transformers

## COMPARE SPECIFICATIONS AND PRICES . . .

Knight transformers are built to Allied's rigid standards for quality, stability and performance. Priced for outstanding value, they carry a one-

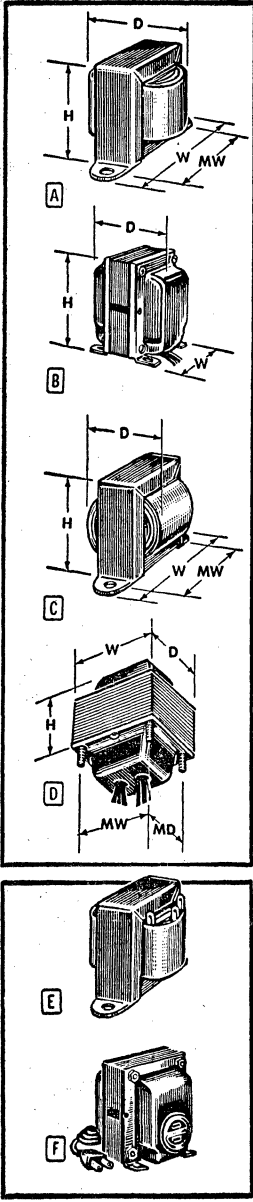
year warranty against defects in workmanship. Only the finest materials are used in construction and all units meet U.L. specifications.

All Knight transformers shipped in quantities from 100 to 50,000 bulk-packed. Write, wire or phone Allied Electronics for prompt price quotation and delivery.

### POWER TRANSFORMERS

Fully shielded (except #) power transformers with 5" flexible coded leads. Plate windings are center-tapped except \*half-wave type. All have center-

tapped 6.3-volt winding except †not center-tapped; ‡have two 6.3-volt, 3-amp windings. Primaries are for 110-120 v., 50-60 cycle AC.



Stock No.	Fig.	Plate		5 V at	6.3 V at	Case Size HxWxD	Mtg. Size MxWxD	Wt., Lbs.	EACH			Bulk Packed	
		VCT	Ma						1-9	10-49	50-99	100-249	250-499
61 G 410	C	125*	#15	...	0.6A†	2x23/8x15/8	2"	1/2	1.72	1.39	1.29	1.23	1.12
61 G 411	A	125*	#50	...	2.0A†	2 1/4x3 1/8x2 1/4	3 1/8"	1 1/2	2.78	2.25	2.08	1.98	1.83
62 G 008	C	250	#25	...	1.0A†	2 3/4x2 7/8x1 7/8	2 3/8"	1	2.05	1.66	1.54	1.47	1.33
62 G 318	C	380*	#20	...	...	2 3/8x2 7/8x2 1/16	2 3/8"	1 1/2	2.76	2.24	2.08	2.00	1.79
62 G 502	D	460	#50	...	2.5A†	1 3/4x3x2 1/2	2 1/2x2"	2 3/4	3.87	3.14	2.90	2.76	2.53
61 G 461	B	460	#50	...	2.5A†	3 3/8x2 5/8x2 1/16	2x1 3/4"	2 3/4	3.87	3.14	2.90	2.76	2.53
62 G 034	D	480	#40	2A	2.0A	1 1/2x3x2 1/2	2 1/2x2"	3	4.00	3.38	3.13	2.98	2.63
61 G 427	B	480	#40	2A	2.0A	3 1/8x2 5/8x2 3/4	2x1 1/16"	3	4.00	3.38	3.13	2.98	2.63
62 G 503	D	480	#55	2A	2.0A	1 3/4x3x2 1/2	2 1/2x2"	3	4.50	3.65	3.38	3.22	2.96
61 G 462	B	480	#55	2A	2.0A	3 1/8x2 5/8x2 1/16	2x1 3/4"	3	4.50	3.65	3.38	3.22	2.96
62 G 504	D	480	#70	...	3.0A†	1 7/8x3x2 1/2	2 1/2x2"	3	4.48	3.62	3.35	3.20	2.94
61 G 463	B	480	#70	...	3.0A†	3 3/8x2 5/8x2 1/16	2x1 7/8"	3	4.48	3.62	3.35	3.20	2.94
62 G 505	B	500	#40	2A	2.0A	3 3/8x2 5/8x2 1/16	2x1 1/16"	3	4.48	3.62	3.35	3.20	2.94
62 G 550	D	500	#40	...	2.0A	1 3/4x2 5/8x2 3/16	2 3/8x1 3/4"	2 1/4	4.34	3.52	3.25	3.10	2.84
62 G 551	B	500	#40	...	2.0A	2 3/8x2 1/4x2 3/4	1 5/8x2 1/8"	2 1/4	4.34	3.52	3.25	3.10	2.84
62 G 506	D	500	#70	2A	2.5A	2 1/8x3x2 1/2	2 1/2x2"	3 1/2	5.20	4.22	3.90	3.72	3.42
61 G 464	B	500	#70	2A	2.5A	3 3/8x2 5/8x3 1/8	2x2 1/8"	3 1/2	5.20	4.22	3.90	3.72	3.42
62 G 507	D	520	#90	...	4.0A†	2 1/8x3 3/8x2 1/16	2 1/8x2 1/4"	3 3/4	5.26	4.26	3.94	3.75	3.46
61 G 465	B	520	#90	...	4.0A†	3 3/8x2 1/8x3 3/8	2 1/4x2 1/16"	3 3/4	5.26	4.26	3.94	3.75	3.46
61 G 444	D	520	#90	2A	3.0A	2 3/8x3 3/8x2 1/16	2 1/8x2 1/4"	4	5.10	4.12	3.81	3.63	3.32
61 G 412	B	520	#90	2A	3.0A	3 5/8x3x3 1/2	2 1/4x2 1/4"	4	5.10	4.12	3.81	3.63	3.32
62 G 554	B	525	#90	2A	5.0A	3 5/8x3x3 5/8	2 1/4x2 1/2"	4 1/2	8.09	6.56	6.07	5.78	5.33
62 G 509	D	540	#120	3A	3.5A	2 1/4x3 3/8x3 1/8	3 1/8x2 1/2"	5	7.35	5.95	5.52	5.25	4.82
61 G 466	B	540	#120	3A	3.5A	3 1/8x3 1/4x3 1/2	2 1/2x2 1/4"	5	7.35	5.95	5.52	5.25	4.82
61 G 467	D	550	#50	2A	2.5A	2 7/8x3x2 1/2	2 1/2x2"	3 3/4	5.85	4.74	4.38	4.17	3.84
62 G 515	B	550	#50	2A	2.5A	3 3/8x2 5/8x3 1/4	2x2 3/8"	3 3/4	5.85	4.74	4.38	4.17	3.84
61 G 468	D	600	#70	2A	3.0A	2 1/4x3x2 1/2	2 1/2x2"	3 3/4	6.32	5.12	4.73	4.51	4.12
62 G 519	D	600	#90	2A	3.5A	2 3/8x3 3/8x2 1/16	2 1/8x2 1/4"	4 1/4	6.50	5.28	4.88	4.65	4.27
62 G 523	B	600	#90	2A	3.5A	3 3/8x2 1/8x3 3/8	2 1/4x2 1/4"	4 1/4	6.50	5.28	4.88	4.65	4.27
61 G 469	D	600	#120	3A	5.0A	2 3/8x3 3/8x3 1/8	3 1/8x2 1/2"	6	7.90	6.40	5.93	5.65	5.20
62 G 526	B	600	#120	3A	5.0A	3 1/8x3 1/4x3 3/8	2 1/2x2 3/8"	6	7.90	6.40	5.93	5.65	5.20
62 G 041	D	650	#40	2A	2.0A	1 1/2x3x2 1/2	2 1/2x2"	2 1/2	4.16	3.36	3.11	2.96	2.73
61 G 413	B	650	#40	2A	2.0A	3 3/8x2 5/8x2 1/16	2x1 1/16"	2 1/2	4.16	3.36	3.11	2.96	2.73
62 G 528	D	650	#55	2A	2.0A	2 1/8x3x2 1/2	2 1/2x2"	3 1/2	4.96	4.02	3.72	3.54	3.25
61 G 470	B	650	#55	2A	2.0A	3 3/8x2 5/8x3 1/8	2x2 1/2"	3 1/2	4.96	4.02	3.72	3.54	3.25
62 G 042	D	650	#70	3A	3.5A	2 1/8x3x2 1/2	2 1/2x2"	4 1/4	4.34	3.52	3.25	3.10	2.83
61 G 428	B	650	#70	3A	3.5A	3 1/8x2 5/8x3 3/4	2x2 3/4"	4 1/4	4.34	3.52	3.25	3.10	2.83
61 G 471	D	650	#150	3A	5.0A	3x3 3/4x3 1/4	3x3 1/2"	7 1/2	7.80	6.33	5.85	5.58	5.12
62 G 532	D	680	#70	2A	2.5A	2 3/8x3 3/8x2 1/16	2 1/8x2 1/4"	4	5.98	4.84	4.48	4.27	3.93
61 G 472	B	680	#70	2A	2.5A	3 3/8x2 1/8x3 3/8	2 1/4x2 3/8"	4	5.98	4.84	4.48	4.27	3.93
62 G 043	D	700	#90	3A	3.5A	2 1/2x3 3/8x2 1/16	2 1/8x2 1/4"	4 1/4	5.75	4.66	4.30	4.10	3.76
61 G 429	B	700	#90	3A	3.5A	3 9/16x2 1/8x3 9/16	2 1/4x2 3/8"	4 1/4	5.75	4.66	4.30	4.10	3.76
62 G 044	D	700	#120	3A	4.7A	2 3/4x3 3/8x3 1/8	3 1/8x2 1/2"	5 3/4	6.76	5.47	5.07	4.82	4.43
61 G 430	B	700	#120	3A	4.7A	3 1/8x3 1/4x3 1/8	2 1/2x2 1/16"	5 3/4	6.76	5.47	5.07	4.82	4.43
62 G 534	D	700	#200	3A	6.0A	2 3/4x4 1/2x3 3/4	3 3/4x3"	8	10.32	8.80	8.15	7.76	7.11
62 G 535	B	700	#200	3A	6.0A	4 5/8x3 7/8x3 7/8	3x2 1/16"	8	10.32	8.80	8.15	7.76	7.11
62 G 045	D	750	#150	3A	5.0A	3 1/8x3 3/8x3 1/8	3 1/8x2 1/2"	6 1/2	8.72	7.06	6.53	6.22	5.70
61 G 431	B	750	#150	3A	5.0A	3 1/8x3 1/4x4 3/8	2 1/2x3 1/8"	6 1/2	8.72	7.06	6.53	6.22	5.70
62 G 552	D	750	#175	3A	8.0A	2 1/8x4 1/2x3 3/8	3 3/8x2 3/8"	9 1/2	11.17	9.05	8.37	7.98	7.35
62 G 553	B	750	#175	3A	8.0A	4 1/4x3 1/2x3 3/8	2 3/4x3 5/8"	9 1/2	11.17	9.05	8.37	7.98	7.35
62 G 033	D	800	#200	3A	5.0A	2 7/8x4 1/2x3 3/4	3 3/4x3"	8	9.06	7.35	6.80	6.48	5.83
61 G 414	B	800	#200	3A	5.0A	4 5/8x3 7/8x4 1/4	3x2 1/16"	8	9.06	7.35	6.80	6.48	5.83
62 G 547	D	800	#250	4A	5.0A†	3 3/8x4 1/2x3 3/4	3 3/4x3"	10 1/4	11.55	9.54	8.80	8.39	7.71
62 G 548	B	800	#250	4A	5.0A†	4 5/8x3 7/8x4 3/8	3x3 3/8"	10 1/4	11.55	9.54	8.80	8.39	7.71
61 G 473	D	1200	#200	3A	3A†‡	2 1/8x6 1/2x3 3/4	3 3/4x3"	9 1/2	11.50	9.32	8.63	8.21	7.54
62 G 549	B	1200	#200	3A	3A†‡	4 5/8x3 7/8x4 1/4	3x3 1/8"	9 1/2	11.50	9.32	8.63	8.21	7.54

### [E] F 230-TO-115 VOLT STEP-DOWN AUTOTRANSFORMERS

Well-built units to reduce 220-250 volts, 50-60 cycle AC to 110-125 volts. Shielded. Black enamel finish. With heavy-duty 8-ft. cord

and plug. Female outlet on case. In table, \*W. indicates watts output. All are Fig. F except †20 and 40-watt models, Fig. E.

Stock No.	*W.	Size (HWD)	Wt., Lbs.	EACH			Bulk Packed	
				1-9	10-49	50-99	100-249	250-499
62 G 555	20†	2x3 1/4x2"	1 1/4	2.37	1.92	1.78	1.69	1.37
62 G 556	40†	2 3/8x3 5/8x2 1/8"	1 3/4	3.09	2.51	2.32	2.20	2.04
62 G 510	80	3 5/8x3x3 1/4"	3 1/4	5.70	4.62	4.28	4.08	3.71
62 G 557	100	3 1/2x2 7/8x3 3/8"	4	6.00	4.87	4.50	4.29	3.98
62 G 511	150	4x3 3/8x3 3/8"	4 3/4	7.20	5.84	5.39	5.14	4.73
62 G 512	250	4 5/8x3 7/8x4 1/4"	7 3/4	9.45	7.65	7.07	6.75	6.19

Stock No.	*W.	Size (HWD)	Wt., Lbs.	EACH			Bulk Packed	
				1-9	10-49	50-99	100-249	250-499
62 G 513	500	4 5/8x3 7/8x4 3/4"	11	13.00	10.55	9.75	9.27	8.55
61 G 434	750	5 1/2x4 5/8x5 1/4"	13 3/4	16.33	13.24	12.25	11.67	10.75
61 G 432	1000	5 1/2x4 5/8x5 1/4"	15	20.33	16.50	15.25	14.52	13.33
61 G 435	1500	6x4 1/2x5 5/8"	19	24.00	19.46	18.00	17.14	15.75
61 G 433	2000	6x4 1/2x6 3/8"	25	27.21	22.07	20.41	19.44	17.90

### [F] 115-TO-230 VOLT STEP-UP AUTOTRANSFORMERS

Similar to above, but for step-up applications. Permit operation of 230-volt appliances, radios, amplifiers, etc. from 110-125 volts AC

source. Have heavy-duty 8-ft. line cord and female receptacle on 230-volt output side. Primaries for 50-60 cycle AC.

62 G 558	80	3 5/8x3x3 1/4"	3 1/4	5.70	4.62	4.28	4.05	3.74
62 G 559	150	4x3 3/8x3 3/8"	4 3/4	7.19	5.83	5.39	5.11	4.70

62 G 560	500	4 5/8x3 7/8x4 3/4"	10 1/4	13.00	10.52	9.74	9.23	8.52
----------	-----	--------------------	--------	-------	-------	------	------	------

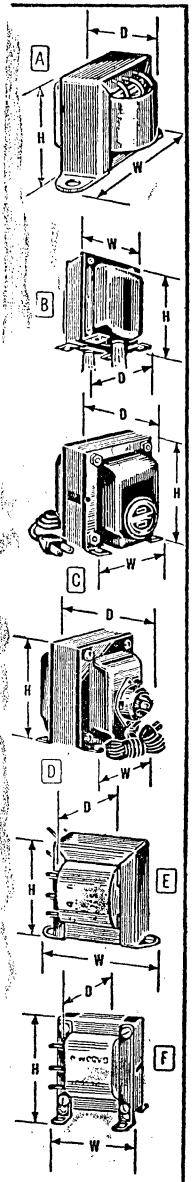
# Knight Filament and Isolation Transformers

## FILAMENT TRANSFORMERS

Continuous duty filament transformers with single secondary. Designed for extra-long operating lives. Have primaries designed for 115-125 v., 50-60 cycle AC input.

All are center-tapped except those marked †. Types marked with \* have primary tap for 107-volt operation. Type marked with ‡ has an electrostatic shield.

Stock No.	Fig.	V	Amps	Insul., RMS V	Size (HxWxD)	Mtg. Centers WxD	Wt., Lbs.	EACH				Bulk Packed 100-249	250-499
								1-9	10-49	50-99	100-249		
64 G 132	A	2.5	3.0	1500	1 5/8x2 1/2x1 1/8"	2 3/8"	1	2.12	1.71	1.59	1.50	1.38	
61 G 478	E	2.5	5.0	5000	2 1/4x3 1/2x2 1/8"	2 1/8"	1 3/4	2.86	2.32	2.14	2.04	1.85	
61 G 474	B	2.5	10.0	2500	3 1/2x2 5/8x2 1/8"	2x1 1/16"	2 3/4	4.06	3.28	3.04	2.90	2.65	
64 G 133	A	2.5	10.0	3000	2 3/8x3 3/4x2 3/8"	3 1/8"	1 3/4	3.51	2.84	2.62	2.49	2.30	
62 G 319	F	2.5	10.0	10000	3 3/8x2 1/2x2 1/2"	2 1/4x1 1/8"	2 3/4	5.74	4.64	4.30	4.16	3.78	
61 G 475	A	5.0	3.0	2500	2x3 1/4x2"	2 1/8"	1 1/2	2.52	2.04	1.89	1.80	1.65	
62 G 028	A	5.0	6.0	2500	2 3/8x3 5/8x2 1/4"	1 3/4"	1 3/4	3.03	2.46	2.28	2.17	1.99	
62 G 320	F	5	10.0	2500	3 1/8x2 1/2x3"	2x3 3/8"	3 1/4	4.52	3.66	3.39	3.27	2.99	
62 G 321	F	5	21.0	2500	3 3/4x3 1/8x3 1/4"	2 1/2x2 1/4"	5	7.40	6.00	5.51	5.36	4.88	
62 G 322	B	5	30.0	2500	4 5/8x3 3/4x4"	3x2 7/8"	7.5	9.30	7.55	6.99	6.74	6.13	
61 G 416	A	6.3	0.6	1500	1 3/8x2 3/8x1 5/8"	2"	1 1/2	1.43	1.16	1.08	1.02	.94	
62 G 030	A	6.3	1.0	1500	1 5/8x2 1/8x1 3/8"	2 3/8"	1 1/4	1.50	1.21	1.12	1.07	.99	
61 G 419	A	6.3	1.2	3000	1 5/8x2 1/8x1 5/8"	2 3/8"	3/4	1.51	1.22	1.13	1.08	1.00	
62 G 323	A	6.3†	1.2	5000	2x3 1/4x1 7/8"	2 1/8"	1	2.30	1.87	1.72	1.66	1.32	
62 G 031	A	6.3	3.0	2500	2x3 1/4x2 3/8"	2 1/8"	1 3/4	2.46	1.99	1.84	1.75	1.60	
62 G 324	F	6.3	3.0	2500	3 1/8x2 1/2x2 3/8"	2x1 3/4"	2	3.98	3.22	2.98	2.88	2.61	
61 G 477	B†	6.3*	4.0	2500	3 1/8x2 5/8x2 1/8"	2x1 1/16"	2 3/4	4.11	3.33	3.08	2.93	2.70	
64 G 134	B	6.3	6.0	1500	3 1/8x2 5/8x2 3/4"	2x1 3/4"	2 1/2	4.92	3.98	3.68	3.49	3.21	
62 G 325	E	6.3	6.0	2000	3 1/8x3 3/8x2 1/2"	3 1/8"	2 1/2	3.24	2.62	2.43	2.34	2.13	
61 G 417	F	6.3	6.0	2500	3x2 1/2x2 1/4"	2x2"	2 3/4	3.92	3.18	2.94	2.80	2.55	
61 G 418	F	6.3*	10.0	2500	3 3/8x2 1/8x2 7/8"	2 1/4x2 1/8"	3 1/4	4.78	3.87	3.58	3.41	3.13	
64 G 135	B	6.3	20.0	2000	3 7/8x3 3/8x4 1/8"	2 1/2x3"	7	9.16	7.43	6.87	6.50	6.08	
62 G 326	F	6.3*	20.0	2500	4 5/8x3 3/4x2 1/8"	3x2 3/8"	7 1/4	8.80	7.13	6.60	6.35	5.81	
62 G 327	F	7.5	4.0	2500	3 1/8x2 1/2x2 1/8"	2x2 1/4"	2 3/4	4.07	3.30	3.05	2.94	2.68	
62 G 328	F	7.5	8.0	2500	3 3/4x3 1/8x2 3/8"	2 1/2x2 1/4"	4 1/4	6.62	5.05	4.66	4.50	4.07	
62 G 329	F	10	4.0	2500	3 3/8x2 1/8x2 3/4"	2 1/4x2 1/8"	3 1/2	4.96	4.02	3.72	3.58	3.25	
62 G 330	F	10	8.0	2500	3 3/4x3 1/8x3"	2 1/2x2 3/8"	5 3/8	6.40	5.21	4.82	4.64	4.20	
64 G 136	A	12.6	1.5	1500	2x3 1/4x2"	2 1/8"	1 1/4	2.75	2.23	2.06	1.96	1.78	
61 G 420	A	12.6	2.0	1500	2x3 1/4x2 1/4"	2 1/8"	1 1/2	2.49	2.02	1.87	1.78	1.56	
64 G 137	A	12.6	2.5	1500	2 1/4x3 5/8x2 1/4"	3 1/8"	1 3/4	3.91	3.17	2.93	2.78	2.46	
61 G 421	A	25.2†	1.0	1500	2x3 1/4x2 1/8"	2 1/8"	1 1/2	2.36	1.91	1.76	1.68	1.35	
64 G 140	A	25.2	2.0	1500	2 5/8x4x2 3/8"	3 3/8"	2 1/2	4.25	3.44	3.18	3.05	2.81	
61 G 476	A	26.5	0.6	3000	2x3 1/4x2"	2 1/8"	1 1/2	2.26	1.83	1.69	1.61	1.48	
64 G 145	A	26.8	1.0	1500	2x3 1/4x2 1/8"	2 1/8"	1 1/2	2.75	2.23	2.06	1.96	1.78	



## MULTI-TAP SELENIUM RECTIFIER TRANSFORMERS

For full wave center-tapped or bridge type circuits. Allow a variety of combinations using taps on both windings, plus "aiding" or "bucking" action of extra

winding. 117 v., 50-60 cycle AC primaries. With winding arrangement and terminal numbering diagrams. †Resistive or inductive load. \*Capacitive load.

Stock No.	Fig.	Rect. Circuit	Range of AC Volts	Max DC Output†		Size HxWxD	Mtg. Centers WxD	Wt., Lbs.	NET EACH				Bulk 100-250	499	
				Volts	Amps				1-9	10-49	50-99	100-249			
62 G 331	F	C.T. Bridge	11.5 to 29.5	11	2	13.6	2	3x2 1/2x2 3/4"	2x2 1/8"	2 3/4	4.66	3.78	3.49	3.37	3.08
62 G 332	F	C.T. Bridge	11.0 to 28.5	23	1.25	30.0	1.25	3 1/2x2 1/8x3"	2 1/4x2 3/8"	4 1/2	5.90	4.78	4.42	4.27	3.90
62 G 333	F	C.T. Bridge	11.5 to 20.0	12	8	14.5	8	3 3/4x3 1/8x3 1/2"	2 5/8x2 7/8"	6 1/4	7.95	6.48	6.00	5.78	5.27
62 G 334	F	C.T. Bridge	12.0 to 29.5	11.5	12	14.2	12	4 1/8x3 1/2x3 7/8"	2 3/4x3 1/4"	9	10.52	8.54	7.90	7.62	6.89
62 G 335	F	C.T. Bridge	12.0 to 29.0	23	8	32.0	8	4 5/8x3 3/4x5"	3x3 3/4"	13	12.85	10.40	9.64	9.28	8.43

## VARIABLE-VOLTAGE AND ISOLATION TRANSFORMERS

Isolate equipment from power line. Primaries operate on various 50-60 cycle AC input voltages (see table

below); secondaries deliver 115 VAC output, except \*105-115-125 VAC. With 6-ft. cord and plug.

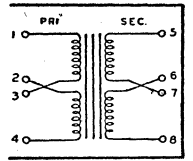
Stock No.	Fig.	V.A. Output	Input Volts	Output Volts	Size HxWxD	Mtg. Ctrs. WxD	Wt., Lbs.	EACH				Bulk Packed 100-249	250-499
								1-9	10-49	50-99	100-249		
62 G 080	D	150	90-100-120-200-230-250	115	4 5/8x3 7/8x5 1/2"	3x3 3/8"	9 1/4	13.11	10.65	9.83	9.36	8.65	
61 G 490	D	100	105-115-125	115	4 5/8x3 7/8x4 3/4"	3x2 3/8"	7 1/2	11.85	9.60	8.88	8.46	7.77	
62 G 563	C	350	117	*105-115-125	5 1/2x4 7/8x5 3/4"	3 1/2x3 7/8"	16	19.60	15.68	14.50	13.83	12.68	

## ISOLATION TRANSFORMERS

Eliminate shock hazard and protect valuable equipment. Have separate windings for complete isolation between primary and secondary. Ideal for servicing

AC-DC radios, TV sets, appliances, etc. Operate on 115 v., 50-60 cycle AC input; provide 115 v., AC output. With 6-ft. power cord, plug and receptacle.

Stock No.	Fig.	V.A. Output	Input Volts	Output Volts	Size H x W x D	Mtg. Ctrs. W x D	Wt., Lbs.	EACH				Bulk Packed 100-249	250-499
								1-9	10-49	50-99	100-249		
61 G 426	C	50	115	115	3 5/8x3x3 3/8"	2 1/4x1 1/8"	3 3/4	5.67	4.60	4.25	4.05	3.72	
62 G 086	C	100	115	115	4 5/8x3 3/8x4"	2 3/4x2 3/4"	6 1/2	10.00	8.10	7.50	7.15	6.57	
62 G 087	C	250	115	115	4 5/8x3 3/8x4 5/8"	3x3 3/8"	10	17.50	14.20	13.12	12.50	11.50	



SCHEMATIC CONTROL TRANSFORMERS

## CONTROL TRANSFORMERS

Automatic types for high-speed automatic equipment. Adapted to relays, pilot lamps, solenoids, small motors, etc. Also use in high current, low voltage power supplies.

Secondaries have two identical windings for series or parallel operation. Primaries operate from either 115 or 230 v., 50-60 cycle AC.

Stock No.	Fig.	Parallel Sec.		Series Sec.		Size H x W x D	Mtg. Ctrs. W x D	Wt., Lbs.	EACH				Bulk Packed 100-249	250-499
		Volts	Amps	Volts	Amps				1-9	10-49	50-99	100-249		
62 G 351	E	6	2	12	1	2 3/8x2 7/8x1 3/4"	2 3/8"	1	2.60	2.11	1.95	1.88	1.71	
62 G 352	E	6	4	12	2	2 3/4x3 3/8x2"	2 1/8"	1 3/4	3.03	2.46	2.28	2.19	1.99	
62 G 353	E	12	4	24	2	3 1/8x3 3/8x2 1/4"	3 1/8"	2 1/2	3.98	3.22	2.98	2.87	2.62	
62 G 354	F	12	8	24	4	3 3/8x2 7/8x3"	2 1/4x2 3/8"	4 1/2	6.62	5.37	4.96	4.79	4.36	

ONE ORDER TO ALLIED FILLS THE WHOLE BILL



# Knight Transistor and Line Transformers

## TRANSISTOR TRANSFORMERS

### COMPARE

These quality transformers, precision-made in the U.S.A. to Knight's own rigid specifications, represent your best value.

Allied can supply production quantities of Knight transistor transformers. Write or phone for prices on quantities larger than shown.

Allied's own line of economically priced, ruggedly constructed, transistor transformers. All are made from the highest quality materials and provide excellent power-handling capabilities and frequency response along with a minimum amount of distortion. Included are a wide selection of miniature input, output, interstage

and driver transformers in a variety of impedance and ratio values for most transistor circuit requirements. In tables below, impedance and resistance values are given in ohms. Av. shpg. wt., 6 oz. Quantities over 100 shipped bulk-packed. Write, wire or phone Allied for information on quantities larger than those shown below.

### INPUT TRANSFORMERS

Stock No.	Fig.	Pri. Imp.	Sec. Imp.	Pri. Res.	Sec. Res.	Watts	Size H x W x D	Mtg. Ctrs.	EACH			Bulk Packed	
									1-9	10-49	50-99	100-249	250-499
64G146	C	600 CT	10	42	.8	.050	1 3/8 x 1 1/2 x 1 1/2"	1 1/2"	1.59	1.28	1.19	1.15	1.05
62G355	B	300 CT	50K	14.7	4060	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.74	2.22	2.05	1.98	1.81
62G356	C	1K CT	200K CT	123	1815	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.74	2.22	2.05	1.98	1.81

### OUTPUT TRANSFORMERS

Stock No.	Fig.	Pri. Imp.	Sec. Imp.	Pri. Res.	Sec. Res.	Watts	Size H x W x D	Mtg. Ctrs.	EACH			Bulk Packed	
									1-9	10-49	50-99	100-249	250-499
62G357	B	350 CT	4, 12	38	1.45	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.63	2.14	1.97	1.90	1.71
62G358	B	500 CT	4, 8, 16	75.3	3.55	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.74	2.22	2.05	1.98	1.81
62G359	B	600 CT	4, 8, 16	73.2	3.2	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.74	2.22	2.05	1.98	1.81
62G360	B	825 CT	4, 8, 16	74	2.7	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.74	2.22	2.05	1.98	1.81
62G361	B	1250	4, 12	132.5	1.4	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.60	2.11	1.95	1.88	1.71
62G362	B	2500	4, 16	370	2.3	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.60	2.11	1.95	1.88	1.71
62G363	B	10K CT	4, 8, 16	1174	2.6	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.80	2.27	2.10	2.02	1.84
62G364	B	400 CT	11	71.5	1.5	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.60	2.11	1.95	1.88	1.71
64G150	C	2000 CT	4, 8, 16	250	4	.200	3/4 x 1 1/2 x 3/4"	1 3/8"	4.38	3.55	3.29	3.17	2.88
62G365	C	100 CT	4, 8, 16	10.9	1.45	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.85	2.32	2.14	2.06	1.87
62G366	C	160	4, 8, 16	18.7	1.4	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.74	2.22	2.05	1.98	1.81
62G367	C	400 CT	4, 8, 16	34	1.5	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.70	2.19	2.02	1.95	1.78
62G368	C	500 CT	4, 8, 16	47	.85	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.74	2.22	2.05	1.98	1.81
62G369	C	700 CT	4, 8, 16	77	1.15	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.85	2.32	2.14	2.06	1.87
62G370	C	2500	4, 8, 16	172	1.15	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.70	2.19	2.02	1.95	1.78
62G371	C	3000	4, 8, 16	192	1.2	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.70	2.19	2.02	1.95	1.78
62G336	C	48 CT	8, 16	5	1.5	5	2 x 3 1/2 x 1 3/4"	2 1/4"	2.96	2.41	2.22	2.15	1.94
62G337	C	20 CT	8	.55	.35	10	1 1/2 x 2 3/8 x 1 1/4"	2"	1.60	1.30	1.20	1.16	1.06
64G147	A	48 CT	3.2, 8, 16	3.6	1.4	10	2 5/8 x 2 7/8 x 2"	2 3/8"	2.54	2.06	1.90	1.84	1.64
64G149	A	100 CT	3.2, 8, 16	6.6	1.5	10	2 5/8 x 2 7/8 x 2"	2 3/8"	2.51	2.03	1.88	1.81	1.64

### INTERSTAGE TRANSFORMERS

Stock No.	Fig.	Pri. Imp.	Sec. Imp.	Pri. Res.	Sec. Res.	Watts	Size H x W x D	Mtg. Ctrs.	EACH			Bulk Packed	
									1-9	10-49	50-99	100-249	250-499
62G340	C	500 CT	5K CT	37	250	.030	1 3/8 x 2 7/16 x 1 3/8"	2"	2.10	1.70	1.57	1.52	1.37
62G372	B	100 CT	10 CT	19	1.27	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.60	2.11	1.95	1.88	1.71
62G373	B	500 CT	50	59.7	7.9	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.58	2.09	1.93	1.86	1.69
62G374	B	500 CT	50K	76.8	5135	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.70	2.19	2.02	1.95	1.78
62G375	B	1200	20K CT	142	1860	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.63	2.14	1.97	1.90	1.71
62G376	B	1500	500 CT	104	46.5	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.51	2.03	1.87	1.82	1.64
62G377	B	5K CT	7500 CT	650	790	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.74	2.22	2.05	1.98	1.81
62G378	B	5K CT	10K CT	635	1100	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.63	2.14	1.97	1.90	1.71
62G381	B	5K CT	80K CT	573	5740	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.85	2.32	2.14	2.06	1.87
62G386	B	10K	200 CT	1200	33.4	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.63	2.14	1.97	1.90	1.71
62G387	B	10K	2K CT	1200	257	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.60	2.11	1.95	1.88	1.71
62G389	B	10K	3K CT	1200	385	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.60	2.11	1.95	1.88	1.71
62G390	B	500 CT	150 CT	62	21.2	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.63	2.14	1.97	1.90	1.71
64G180	B	200 CT	800 CT	1350	95	.150	2 1/2 x 1 3/4 x 3/4"	2 1/2"	2.41	1.95	1.80	1.74	1.58
62G338	C	100 CT	10 CT	4.3	.8	.250	1 1/4 x 2 1/8 x 1 3/8"	1 3/4"	1.60	1.30	1.20	1.16	1.06
62G339	C	100	1K CT	5.8	45	.250	1 3/8 x 2 7/8 x 1 3/8"	2"	1.60	1.30	1.20	1.16	1.06
62G391	C	100K	1500 CT	3250	143	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.76	2.24	2.06	1.99	1.84
64G174	C	500 CT	500 CT	40	55	.300	1 3/8 x 1 1/2 x 3/4"	1 3/8"	2.51	2.03	1.88	1.81	1.64

### DRIVER TRANSFORMERS

Stock No.	Fig.	Pri. Imp.	Sec. Imp.	Pri. Res.	Sec. Res.	Watts	Size H x W x D	Mtg. Ctrs.	Wt. Lbs.	EACH			Bulk Packed	
										1-9	10-49	50-99	100-249	250-499
64G151	C	1000	200 CT	400	115	.050	5/8 x 1 1/4 x 1/2"	1 1/8"	3.92	3.18	2.94	2.83	2.57	
64G153	C	100	200 CT	6.5	15.5	.500	1 1/4 x 2 x 1 1/4"	1 3/4"	1.77	1.43	1.32	1.28	1.18	
64G165	C	500 CT	200 CT	36.5	15.5	.500	1 1/4 x 2 x 1 1/4"	1 3/4"	1.97	1.59	1.47	1.42	1.29	
64G166	C	100	100 CT	12	12	.500	1 5/8 x 2 x 1 3/8"	2 3/8"	1.59	1.28	1.19	1.15	1.05	
64G152	C	20	36 CT	...	...	1.0	1 3/8 x 2 7/8 x 1 1/8"	1 3/4"	1.42	1.15	1.06	1.02	.92	

## CONSTANT VOLTAGE LINE TRANSFORMERS

### 70.7-VOLT LINE-TO-VOICE-COIL TRANSFORMERS

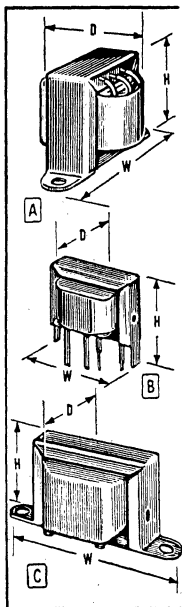
Stock No.	Fig.	Watt Taps	Sec. Imp. Ohms	Max. Watts	Size H x W x D	Mtg. Ctrs.	Wt. Lbs.	EACH			Bulk Packed	
								1-9	10-49	50-99	100-249	250-499
62G081	D	5, 2.5, 1.25, .62, .31	4, 8	5	1 3/8 x 2 3/8 x 1 1/2"	2 3/8"	3/4	1.92	1.56	1.44	1.37	1.25
61G422	E	8, 4, 2, 1, 0.5	4, 8, 16	8	2 x 2 3/8 x 1 3/8"	2 3/8"	3/4	2.54	2.06	1.90	1.81	1.61
62G077	D	10, 5, 2.5, 1.25, .62	4, 8, 16	10	1 5/8 x 2 1/8 x 1 1/8"	2 3/8"	3/4	2.41	1.95	1.80	1.72	1.58
62G078	E	18, 9, 4.5, 2.25, 1.12, .56	4, 8, 16	18	2 3/8 x 2 3/8 x 1 1/8"	2 3/8"	1 3/4	2.95	2.40	2.21	2.11	1.93
62G079	D	24, 12, 6, 3, 1.5, .75	4, 8, 16	24	2 1/4 x 3 1/8 x 2 1/4"	2 3/8"	1 3/4	3.54	2.87	2.65	2.53	2.32
61G440	D	2, 1, .5	4, 8	2	1 3/8 x 2 1/8 x 1 1/4"	1 3/4"	1/4	1.93	1.57	1.45	1.38	1.27
61G450	E	16, 8, 4, 2, 1, 0.5	4, 8, 16	16	2 3/4 x 3 1/8 x 2 1/4"	2 3/8"	2	3.89	3.15	2.92	2.78	2.54

### HIGH-FIDELITY 70.7-VOLT LINE-TO-VOICE-COIL TRANSFORMER

Stock No.	Fig.	Watt Taps	Sec. Imp. Ohms	Max. Watts	Size H x W x D	Mtg. Ctrs.	Wt. Lbs.	EACH			Bulk Packed	
								1-9	10-49	50-99	100-249	250-499
61G441	D	5, 2.5, 1.25, .625, .31	4, 8, 16	5	1 5/8 x 2 1/8 x 1 1/8"	2 3/8"	3/4	2.53	2.05	1.90	1.81	1.66

### 25-VOLT LINE-TO-VOICE-COIL TRANSFORMERS

Stock No.	Fig.	Watt Taps	Sec. Imp. Ohms	Max. Watts	Size H x W x D	Mtg. Ctrs.	Wt. Lbs.	EACH			Bulk Packed	
								1-9	10-49	50-99	100-249	250-499
61G436	D	2, 1, 0.5	4, 8	2	1 3/8 x 2 1/8 x 1 1/4"	1 3/4"	1/4	1.89	1.53	1.42	1.35	1.23
61G437	D	5, 2.5, 1.25, 0.625, 0.31	4, 8	5	1 5/8 x 2 1/8 x 1 1/8"	2 3/8"	3/4	2.20	1.79	1.65	1.57	1.45
61G438	D	10, 5, 2.5, 1.25, 0.625	4, 8, 16	10	2 1/4 x 3 1/8 x 2 1/4"	3 1/8"	1 3/4	3.13	2.54	2.35	2.24	2.06
61G439	D	18, 9, 4.5, 2.25, 1.12	4, 8, 16	18	2 5/8 x 4 x 2 1/4"	3 1/8"	2 1/2	3.73	3.03	2.80	2.67	2.46



# knight Transformers and Chokes

## FILTER CHOKES

Quality chokes for power supply applications. All are flat from 15-35,000 cps, except \*20-20,000 cps. \*Rated watts are @ 10 v., 60 cps with max. DC in winding. Ratings have -15%, +50% tolerance. All 1500 v. rms insulation, except †2000 v., \*3000 v. †Indicates amperes.

Stock No.	Fig.	Henries	Ma	Ohms	Size HxWxD	Mtg. Ctrs.	Wt., Lbs.	EACH			Bulk Packed	
								1-9	10-49	50-99	100-249	250-499
G 341	E	.01	12.5†	.11	3 1/2 x 4 1/2 x 3 3/8"	3 3/8 x 2 3/8"	6 1/4	7.40	6.00	5.56	5.36	4.88
G 342	E	.025	4†	.425	2 3/4 x 3 3/8 x 2 3/4"	2 3/4 x 2 1/8"	3 1/2	5.02	4.08	3.76	3.63	3.30
G 343	E	.035	2†	.75	2 3/8 x 2 5/8 x 2 1/2"	2 1/8 x 2"	2 3/4	3.15	2.55	2.36	2.28	2.07
G 405	B	0.8	375	25	2 1/4 x 3 1/2 x 2 1/2"	3 1/8"	3/4	2.49	2.09	1.94	1.85	1.70
G 479	B	1.0†	300	40	2 1/4 x 3 1/2 x 2 1/2"	3 1/8"	3/4	2.44	1.98	1.83	1.74	1.60
G 480	B	1.5*	10	95	1 3/4 x 2 1/8 x 1 1/4"	1 3/4"	1/4	1.20	.98	.90	.86	.78
G 406	B	1.5	200	60	1 5/8 x 2 1/8 x 1 1/8"	2 3/8"	1	1.30	1.06	.97	.93	.85
G 481	B	2.0	200	65	2 1/4 x 3 1/2 x 2 1/2"	3 1/8"	1 1/4	2.34	1.89	1.75	1.67	1.53
G 482	B	2.3	150	60	2 x 3 1/4 x 1 3/4"	2 1/8"	1	1.84	1.49	1.38	1.31	1.19
G 344	B	2.5†	130	100	2 x 3 1/4 x 1 3/4"	2 1/8"	1 1/4	1.75	1.42	1.31	1.26	1.16
G 345	B	2.8	300	60	2 5/8 x 4 x 2 1/8"	3 9/16"	2 1/2	3.14	2.54	2.35	2.27	2.06
G 483	B	3†	150	97	2 1/4 x 3 1/2 x 2 1/2"	3 1/8"	1 3/4	2.08	1.69	1.56	1.49	1.36
G 407	B	3.5	50	200	1 5/8 x 2 1/8 x 1 1/2"	2 3/8"	3/4	1.18	.96	.89	.84	.77
G 346	C	4.0*	175	100	3 1/8 x 2 5/8 x 2 3/4"	2 x 1 3/4"	2 3/4	3.90	3.16	2.92	2.82	2.56
G 347	C	4.5*	200	80	3 9/16 x 3 1/4 x 3"	2 1/4 x 2 1/8"	3 3/4	4.80	3.89	3.60	3.47	3.17
G 348	G	5.0	100	300	2 5/8 x 2 1/4 x 2 3/4"	1 1/2 x 2 3/8"	2 1/2	3.12	2.52	2.33	2.25	2.05
G 135	B	5.5	50	330	1 3/8 x 2 3/8 x 1 1/4"	2"	1/2	.93	.75	.70	.67	.61
G 484	B	7.0	150	200	2 5/8 x 4 x 2 1/4"	3 9/16"	2 1/4	2.94	2.38	2.20	2.10	1.91
G 408	B	7.0	50	550	1 3/8 x 2 3/8 x 1 3/8"	2"	1 1/2	1.03	.84	.77	.74	.69
G 485	B	8.0	85	260	2 x 3 1/4 x 2"	2 1/8"	1 1/2	2.06	1.66	1.54	1.47	1.29
G 139	B	10.5	110	220	2 5/8 x 4 x 2 1/8"	3 9/16"	2 1/2	2.49	2.09	1.94	1.85	1.41
G 409	E	8.5*	200	140	3 3/8 x 2 1/8 x 2 3/8"	2 1/4 x 2 1/8"	4	5.40	4.39	4.05	3.86	3.54
G 136	B	8.5	50	400	1 5/8 x 2 1/8 x 1 1/8"	2 3/8"	1	.98	.79	.73	.70	.65
G 486	C	12.0*	100	145	3 3/8 x 2 5/8 x 2 1/8"	2 x 1 3/4"	2 3/4	3.58	2.91	2.69	2.56	2.36
G 487	B	13.0	65	385	2 x 3 1/4 x 1 3/4"	2 1/8"	1	1.92	1.55	1.44	1.37	1.25
G 488	C	16.0	80	365	3 3/8 x 2 5/8 x 2 1/8"	2 x 1 3/4"	2 3/4	3.84	3.11	2.88	2.74	2.50
G 138	B	15.0	75	400	2 1/4 x 3 1/2 x 2 1/2"	3 1/8"	2	2.09	1.69	1.56	1.49	1.36
G 137	B	16.0	50	550	2 x 3 1/4 x 1 5/8"	2 1/8"	1 1/2	1.57	1.27	1.18	1.12	1.04
G 489	B	20.0	15	900	1 3/8 x 2 3/8 x 1 1/2"	2 3/8"	3/4	1.64	1.33	1.23	1.17	1.07
G 349	B	35.0	15	1500	1 3/8 x 2 3/8 x 1 1/4"	2"	1/4	1.32	1.07	.99	.95	.87
G 350	B	350.0	5*	6500	2 x 3 1/4 x 1 3/4"	2 1/8"	1	3.03	2.46	2.28	2.19	1.99

### HIGH-FIDELITY OUTPUT TRANSFORMERS

Have multi-tapped windings for wide range of impedances with excellent coupling. Provide superior frequency response at any power level from 20 cps to well beyond range of audibility. All have screen taps for ultra-linear operation, except †. All are flat from 15-35,000 cps, except \*20-20,000 cps. \*Rated watts are @ 20-30,000 cps. Have 4, 8, 16 ohm outputs, except †8, 16 and 32 ohms. †Maximum DC in each half of primary.

Stock No.	Fig.	Watts	P-P Imp.	Ma	Size HxWxD	Wt., Lbs.	EACH			Bulk Packed	
							1-9	10-49	50-99	100-249	250-499
G 082	F	12	8000	60	3 3/4 x 3 x 3 1/4"	3 1/2	7.90	6.42	5.94	5.66	5.21
G 024	C	12	8000	60	3 1/8 x 2 5/8 x 2 3/4"	2 1/2	6.76	5.49	5.07	4.82	4.43
G 393	C	15†	2000†	140	3 1/8 x 2 5/8 x 3 1/8"	3 1/2	6.98	5.66	5.25	5.05	4.58
G 018	F	18*	8000†	65	3 3/8 x 3 x 3 1/4"	3 1/2	8.50	6.90	6.37	6.07	5.60
G 058	B	18*	8000†	65	2 5/8 x 4 x 2 1/2"	2 1/4	5.35	4.32	4.00	3.82	2.92
G 083	G	24	6600	75	4 1/4 x 3 5/8 x 4 1/2"	6 1/2	13.01	10.65	9.85	9.37	8.66
G 054	C	24	6600	75	3 7/8 x 3 1/4 x 3 7/8"	6	11.35	9.20	8.50	8.10	7.41
G 019	G	30*	6600	100	4 1/4 x 3 5/8 x 4 1/2"	7	14.01	11.40	10.55	10.05	9.26
G 059	C	30*	6600	100	3 7/8 x 3 1/4 x 4"	6	11.85	9.63	8.90	8.47	7.78
G 395	C	50*	5000†	150	4 1/4 x 3 1/2 x 4"	7	12.08	9.78	9.05	8.72	7.95
G 397	C	50*	6600†	125	4 1/4 x 3 1/2 x 4"	7 1/4	12.08	9.78	9.05	8.72	7.95

### STANDARD LINE-TO-VOICE-COIL TRANSFORMERS

Provide maximum power with minimum distortion. 61 G 423 has leads on secondary.

Stock No.	Fig.	Pri. Imp.	Sec. Imp.	Audio Watts	Size	Wt., Lbs.	EACH			Bulk Packed	
							1-9	10-49	50-99	100-249	250-499
G 423	A	500	4, 8	5	1 3/8 x 2 3/8 x 1 1/2"	1/2	1.29	1.04	.96	.91	.84
G 424	D	500	4, 6, 8, 15	25	2 5/8 x 2 7/8 x 1 3/4"	1 3/4	2.49	2.02	1.87	1.78	1.40
G 425	A	2000/1500/1000/500	4, 8	8	1 3/8 x 2 1/8 x 1 5/8"	3/4	2.10	1.70	1.57	1.50	1.37
G 442	A	2000/1500/1000/500	4, 8	4	1 3/8 x 2 3/8 x 1 1/2"	1/2	1.70	1.38	1.28	1.22	1.12
G 443	A	2000/1500/1000/500	4, 8	12	2 x 3 1/4 x 1 7/8"	1 3/4	2.30	1.87	1.73	1.64	1.53
G 451	D	3000/2000/1500/1000/500	4, 8, 16	10	2 3/8 x 2 7/8 x 1 7/8"	1 3/4	2.77	2.24	2.08	1.98	1.83
G 396	D	1500/1000/500	4, 8, 15	25	3 3/8 x 2 3/8 x 2 1/2"	2 1/2	4.04	3.26	3.02	2.91	2.65

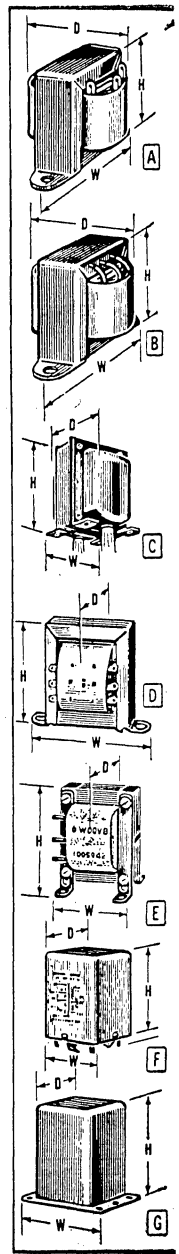
### STANDARD OUTPUT TRANSFORMERS

Top-quality transformers for coupling single output tube to speaker. Ideal for use in radios, phonos, amplifiers. †Has 4.5% hum-bucking primary tap for use in B + filter network for hum reduction. \*Fig. E, above. Av. shpg. wt., 3/4 lb.

Stock No.	Primary		Sec. Imp.	Audio Watts	Size	Wt., Lbs.	EACH			Bulk Packed	
	Imp.	Ma					1-9	10-49	50-99	100-249	250-499
G 064	5000	40	3.2	3	1 1/4 x 2 1/8 x 1 3/8"	1.07	.86	.80	.76	.70	
G 063	2500	50	3.2	3	1 1/4 x 2 1/8 x 1 3/8"	1.07	.86	.80	.76	.70	
G 093	8000	20	3.2	3	1 1/4 x 2 1/8 x 1 3/8"	1.00	.81	.75	.71	.65	
G 065	2000	50	3.2	5	1 5/8 x 2 3/8 x 1 3/8"	1.00	.81	.75	.71	.65	
G 400	4000	10	3.5	3	1 1/4 x 2 1/8 x 1 1/4"	1.00	.81	.75	.71	.65	
G 401	2000	50	3.2	3	1 1/4 x 2 1/8 x 1 1/4"	1.02	.82	.76	.72	.66	
G 402	2000	60	4	5	1 3/8 x 2 3/8 x 1 3/8"	1.07	.86	.80	.76	.70	
G 403	5000	40	4	5	1 3/8 x 2 3/8 x 1 3/8"	1.07	.86	.80	.76	.70	
G 445	2000*	60	3.5	5	1 3/8 x 2 3/8 x 1 1/4"	1.48	1.20	1.11	1.06	.96	
G 446	5000*	40	6-8	10	2 5/8 x 2 3/8 x 1 7/8"	1.89	1.53	1.41	1.35	1.23	
G 447	7000	30	4	5	1 3/8 x 2 3/8 x 1 3/8"	1.25	1.02	.94	.90	.82	
G 448	10000	30	4	5	1 3/8 x 2 3/8 x 1 3/8"	1.20	.98	.90	.86	.76	
G 449	25000	5	4	5	1 3/8 x 2 3/8 x 1 3/8"	1.42	1.15	1.06	1.01	.92	

### FIXED IMPEDANCE OUTPUTS

- [C]** 35 WATTS. Primary impedance, 6600 ohms CT. Secondary: 4, 8, 16, 250, 500 ohms. Size, 3 1/8 x 3 1/4 x 3 1/2". 2 1/2 x 2 1/4" mtg. ctrs. Shpg. wt., 5/4 lbs.
  - 61 G 455. 1-9..... EA. 5.20
  - 10-49..... EA. 5.85
  - 50-99..... EA. 5.40
  - Bulk 100-249 EA. 5.15
  - Bulk 250-499 EA. 4.72
- [B]** 7 1/2 WATTS. Primary imp., 4000 ohms CT. Sec.: 8, 16, and 32 ohms. 2 1/4 x 3 1/8 x 2 1/4". 3/8" mtg. ctrs. 1 3/4 lbs.
  - 61 G 457. 1-9..... EA. 3.04
  - 10-49..... EA. 2.46
  - 50-99..... EA. 2.28
  - Bulk 100-249 EA. 2.16
  - Bulk 250-499 EA. 1.99
- [B]** 5 WATTS. Primary impedance, 25,000 ohms CT. Secondary: 4 ohms. Size, 1 3/8 x 2 3/8 x 1 3/8". 2" mtg. ctrs. 1/2 lb.
  - 61 G 456. 1-9..... EA. 1.65
  - 10-49..... EA. 1.34
  - 50-99..... EA. 1.25
  - Bulk 100-249 EA. 1.18
  - Bulk 250-499 EA. 1.08





# UTC DO-T and DI-T Transformers, Inductors

## DESIGNED FOR TRANSISTORIZED EQUIPMENT

**HIGH POWER RATING ...**  
Up to 100 Times Greater

**EXCELLENT RESPONSE ...**  
Twice as Good at Low End

**LOW DISTORTION ...**  
Reduced 80%

**HIGH EFFICIENCY ...**  
Up to 30% Better ... Compare DCR  
(direct-current resistance)

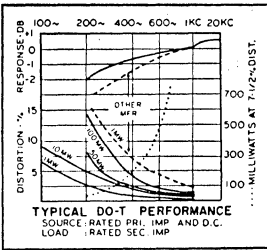
**MOISTURE PROOF ...**  
Hermetically Sealed to MIL-T-27A

**RUGGED ...**  
Grade 4, Completely Metal Cased

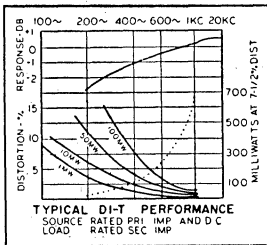
**ANCHORED LEADS ...**  
1 1/2" Lead Lengths

**PRINTED CIRCUIT USE ...**  
(Solder Melting) Plastic  
Insulated Leads

**SUITED TO CLIP MOUNTING ...**



**DO-T.** Outstanding DO-T performance is shown by response curves above. Power rating up to 100 times greater than conventional units. Response at low end is twice as good. Distortion reduced 80%. Efficiency up to 30% better. DO-T's are hermetically sealed, metal-cased to MIL-T-27B, Grade 4. Uniform wire lay on a rigid bobbin is circular, rather than square, eliminating corner stress and wire movement. Solder melting, plastic insulated leads come out through a strain relief, withstand 10-lb. pull.



**DI-T.** Smaller versions of DO-T's. Same rugged construction, hermetically sealed, metal cased to MIL-T-27B, Grade 4. Typical response curves of DI-T units are shown in the chart above.

### ATTENTION INDUSTRIAL BUYERS

Write, wire or phone us for prompt price quotations. Allied maintains the most complete stock of electronic components in the world and can supply you with any component in industrial quantities. Same-day shipment.

### DO-T TRANSISTOR TRANSFORMERS AND INDUCTORS

Subminiature Deci-Ouncer transistor transformers and inductors. 5/16" dia. x 1 3/32" high; weight 1/10 oz. Hermetically sealed. MIL-T-27B, Grade 4. Av. shpg. wt., 1 oz.

Stock No.	Mfr's Type	Application	Primary Ohms	Secondary Ohms	May Be Assorted			100-499 EA.	100-499 EA.
					1-24 EA.	25-99 EA.	100-499 EA.		
62 G 686	DO-T1	Interstage	20K-30K	800-1200	6.00	5.10	4.80	4.00	4.00
62 G 687	DO-T2	Output	500-600	50-60	5.40	4.59	4.32	3.60	3.60
62 G 688	DO-T3	Output	1K-1.2K	50-60	5.40	4.59	4.32	3.60	3.60
62 G 689	DO-T4	Output	600	3.2	5.40	4.59	4.32	3.60	3.60
62 G 690	DO-T5	Output	1.2K	3.2	5.40	4.59	4.32	3.60	3.60
62 G 691	DO-T6	Output	10K	3.2	6.00	5.10	4.80	4.00	4.00
62 G 692	DO-T7	Input	200K	1K	6.60	5.61	5.28	4.40	4.40
62 G 693	DO-T8	Inductor 3.5 hys @ 2 ma DC			4.80	4.08	3.84	3.20	3.20
62 G 694	DO-T9	Out. or Driver	10K-12K	500-600	6.60	5.61	5.28	4.40	4.40
62 G 695	DO-T10	Driver	10K-12.5K	1.2K-1.5K	6.60	5.61	5.28	4.40	4.40
62 G 696	DO-T11	Driver	10K-12.5K	2K-2.5K	6.60	5.61	5.28	4.40	4.40
62 G 697	DO-T12	S/PP Output	150-200	12-16	5.70	4.85	4.56	3.80	3.80
62 G 698	DO-T13	S/PP Output	300-400	12-16	5.70	4.85	4.56	3.80	3.80
62 G 699	DL-T14	S/PP Output	600-800	12-16	6.00	5.10	4.80	4.00	4.00
62 G 876	DO-T15	S/PP Output	800-1070	12-16	6.00	5.10	4.80	4.00	4.00
62 G 877	DO-T16	S/PP Output	1K-1.33K	12-16	6.00	5.10	4.80	4.00	4.00
62 G 878	DO-T17	S/PP Output	1.5K-2K	12-16	6.00	5.10	4.80	4.00	4.00
62 G 887	DO-T18	S/PP Output	7.5K-10K	12-16	6.30	5.36	5.04	4.20	4.20
63 G 088	DO-T19	Output to line	300	600	6.00	5.10	4.80	4.00	4.00
63 G 089	DO-T20	Out. or Match to line	500	600	6.00	5.10	4.80	4.00	4.00
63 G 090	DO-T21	Output to line	900	600	6.00	5.10	4.80	4.00	4.00
63 G 091	DO-T22	Output to line	1.5K	600	6.00	5.10	4.80	4.00	4.00
63 G 092	DO-T23	Interstage	20K-30K	800-1.2K	6.90	5.87	5.52	4.60	4.60
63 G 093	DO-T24	Input	200K	1K	7.50	6.38	6.00	5.00	5.00
63 G 094	DO-T25	Interstage	10K-12K	1.5K-1.8K	7.20	6.12	5.76	4.80	4.80
63 G 095	DO-T26	Inductor 6 hys @ 2 ma DC			5.70	4.85	4.56	3.80	3.80
63 G 096	DO-T27	Inductor 1.25 hys @ 2 ma DC			4.80	4.08	3.84	3.20	3.20
61 G 752	DO-T28	Inductor 3 hys @ 4 ma DC			4.80	4.08	3.84	3.20	3.20
61 G 753	DO-T29	Single/PP Output	120-150	3.2-4	5.70	4.85	4.56	3.80	3.80
61 G 754	DO-T30	Single/PP Output	320-400	3.2-4	5.70	4.85	4.56	3.80	3.80
61 G 755	DO-T31	Single/PP Output	640-800	3.2-4	6.00	5.10	4.80	4.00	4.00
61 G 756	DO-T32	Single/PP Output	800-1K	3.2-4	6.00	5.10	4.80	4.00	4.00
61 G 757	DO-T33	Single/PP Output	1.06K-1.33K	3.2-4	6.00	5.10	4.80	4.00	4.00
61 G 758	DO-T34	Single/PP Output	1.6K-2K	3.2-4	6.00	5.10	4.80	4.00	4.00
61 G 759	DO-T35	Single/PP Output	1.8K-10K	3.2-4	6.30	5.36	5.04	4.20	4.20
61 G 760	DO-T36	Isol. or Interstage	10K-12K	10K-12K	7.50	6.38	6.00	5.00	5.00
63 G 284	DO-T37	Interstage	2K-2.5K CT	8K-10K split	7.80	6.63	6.24	5.20	5.20
63 G 293	DO-T38	Interstage	10K-12K CT	2K-2.4K split	7.80	6.63	6.24	5.20	5.20
63 G 294	DO-T39	Interstage	20K-30K CT	1K-1.5K split	7.80	6.63	6.24	5.20	5.20
63 G 295	DO-T40	Interstage	40K-50K CT	400-500 split	8.40	7.14	6.72	5.60	5.60
63 G 296	DO-T41	Output	400-500 CT	400-500 split	7.50	6.38	6.00	5.00	5.00
63 G 297	DO-T42	Interstage	400-500 CT	120-150 split	7.50	6.38	6.00	5.00	5.00
63 G 298	DO-T43	Interstage	400-500 CT	40-50 split	7.50	6.38	6.00	5.00	5.00
63 G 299	DO-T44	Interstage	80-100 CT	32-40 split	7.50	6.38	6.00	5.00	5.00
61 G 648	DO-T45	Interstage	1K-1.25KCT	16K-20K split	7.80	6.63	6.24	5.20	5.20
61 G 649	DO-T46	Input	100K CT	500 CT	8.40	7.14	6.72	5.60	5.60
64 G 044	DO-T47	Isol. or Inter.	9K-10K CT	9K-10K CT	8.10	6.89	6.48	5.40	5.40
64 G 045	DO-T48	Isol. or Inter.	8K-10K CT	1.2K-1.5K CT	7.80	6.63	6.24	5.20	5.20
64 G 046	DO-T49	Ser., 20 hys @ 1 ma; Par., 5 hys @ 2 ma			7.80	6.63	6.24	5.20	5.20
64 G 047	DO-T50	Ser., .075 hys @ 10 ma; Par., .018 hys @ 20 ma			5.70	4.85	4.56	3.80	3.80
61 G 650	DO-T400	Pri.—28 v. 380-1000 cps; Sec.—6.3 v @ 60 ma			6.60	5.61	5.28	4.40	4.40
63 G 097	DO-T5H	Hipermalloy shield and cover for any DO-T units			.90	.77	.72	.60	.60

### DI-T TRANSISTOR TRANSFORMERS AND INDUCTORS

Subminiature general-purpose transistor transformers and inductors. 1/4 x 5/16" dia.; weight only 1/15 oz. Hermetically sealed to MIL-T-27B, Grade 4. Av. shpg. wt., 1 oz.

61 G 743	DI-T1	Interstage	20K-30K	800-1200	6.00	5.10	4.80	4.00	4.00
63 G 106	DI-T2	Output	500-600	50-60	5.40	4.59	4.32	3.60	3.60
63 G 107	DI-T3	Output	1K-1.2K	50-60	5.40	4.59	4.32	3.60	3.60
61 G 744	DI-T5	Output	1.2K	3.2	5.40	4.59	4.32	3.60	3.60
63 G 108	DI-T8	Inductor 2.5 hys @ 2 ma DC			4.80	4.08	3.84	3.20	3.20
63 G 109	DI-T9	Output or Driver	10K-12K	500-600	6.60	5.61	5.28	4.40	4.40
63 G 110	DI-T10	Driver	10K-12.5K	1.2K-1.5K	6.60	5.61	5.28	4.40	4.40
63 G 111	DI-T11	Driver	10K-12.5K	2K-2.5K	6.60	5.61	5.28	4.40	4.40
63 G 112	DI-T19	Output to line	300	600	6.00	5.10	4.80	4.00	4.00
63 G 113	DI-T20	Output or line to line	500	600	6.00	5.10	4.80	4.00	4.00
61 G 745	DI-T21	Output to line	900	600	6.00	5.10	4.80	4.00	4.00
63 G 114	DI-T22	Output to line	1.5K	600	6.00	5.10	4.80	4.00	4.00
63 G 137	DI-T23	Interstage	20-30K	800-1.2K	6.90	5.87	5.52	4.60	4.60
61 G 746	DI-T25	Interstage	10K-12K	1.5K-1.8K	7.20	6.12	5.76	4.80	4.80
61 G 747	DI-T26	Inductor 4 hys @ 2 ma DC			5.70	4.85	4.56	3.80	3.80
61 G 748	DI-T27	Inductor .9 hys @ 2 ma DC			4.80	4.08	3.84	3.20	3.20
61 G 749	DI-T28	Inductor .1 hys @ 4 ma DC			4.80	4.08	3.84	3.20	3.20
61 G 750	DI-T36	Isol. or Interstage	10K-12K	10K-12K	7.50	6.38	6.00	5.00	5.00
61 G 651	DI-T37	Isol. or Interstage	2K-2.5K CT	8K-10K split	7.80	6.63	6.24	5.20	5.20
61 G 652	DI-T38	Interstage	10K-12K CT	2K-2.4K split	7.80	6.63	6.24	5.20	5.20
61 G 653	DI-T41	Interstage	400-500 CT	400-500 split	7.50	6.38	6.00	5.00	5.00
64 G 048	DI-T43	Interstage	400-500 CT	40-50 split	7.50	6.38	6.00	5.00	5.00
64 G 049	DI-T44	Interstage	80-100 CT	32-40 split	7.50	6.38	6.00	5.00	5.00
61 G 751	DI-T5H	Hipermalloy shield and cover for any DI-T units			.90	.77	.72	.60	.60

# UTC Miniature Transformers



## NEW DI-T200 TRANSFORMERS

Embody the same rugged, reliable construction as in the DO-T and DI-T series. Differ only in the lead material used, and the way the leads emerge from the unit. Leads are 1" long, gold-plated .017D Dumet wire, which is a solderable or weldable termination. Uninsulated leads are spaced on a 1/10" radius circle. Hermetically-sealed, metal-cased to the Grade 4 Class R (105°C max. rating) specifications of MIL-T-27B. \*All primaries are center-tapped.  $\frac{3}{16} \times \frac{3}{8}$ " dia. Actual wt., 1/15 oz.



Stock No.	Mfr's Type	Use	*Pri. Imp.	Sec. Imp.	May Be Assorted				Not Assorted
					1-24, EACH	25-99, EACH	100-Up, EACH	100-499, EACH	
64 G 000	DI-T225	Inter.	80 100	32 split 40 split	8.40	7.14	6.72	5.60	
64 G 003	DI-T230	Output	300	600 CT	7.20	6.12	5.76	4.80	
64 G 007	DI-T235	Inter.	400 500	40 split 50 split	8.40	7.14	6.72	5.60	
64 G 008	DI-T240	Inter.	500 500	40 split 50 split	8.40	7.14	6.72	5.60	
64 G 009	DI-T245	Output	500 600	50 split 60 CT	6.90	5.87	5.52	4.60	
64 G 011	DI-T250	Output	500	600 CT	7.20	6.12	5.76	4.80	
64 G 012	DI-T255	Output	1K	50 CT	6.90	5.87	5.52	4.60	
64 G 014	DI-T260	Output	1.5K	800 CT	7.20	6.12	5.76	4.80	
64 G 016	DI-T265	Isol.	2K 2.5K	2K 10K split	8.70	7.40	6.96	5.80	
64 G 017	DI-T270	Output	10K 12K	10K 600 CT	7.80	6.63	6.24	5.20	
64 G 018	DI-T273	Output	10K 12.5K	1.2K CT 1.5K CT	7.80	6.63	6.24	5.20	
64 G 019	DI-T276	Inter.	10K 12K	2K CT 2.4K CT	7.80	6.63	6.24	5.20	
64 G 022	DI-T278	Inter.	10K 12.5K	2K split 2.5K split	8.70	7.40	6.96	5.80	
64 G 032	DI-T283	Isol.	10K 12K	10K CT 12K CT	8.40	7.14	6.72	5.60	
64 G 034	DI-T288	Inter.	20K 30K	800 CT 1.2K CT	8.10	6.89	6.48	5.40	
64 G 036	DI-T204	Series, .08 hy @ 10 ma			6.00	5.10	4.80	4.00	
64 G 037	DI-T208	Series, 5 hy @ 6 ma			6.00	5.10	4.80	4.00	
64 G 040	DI-T212	Series, 9 hy @ 4 ma			6.00	5.10	4.80	4.00	
64 G 041	DI-T216	Series, 1.2 hy @ 4 ma			6.90	5.87	5.52	4.60	

## OUNCER AUDIO UNITS

Compact—only 1 oz. Response:  $\pm 1$  db 100-20,000 cps except  $\pm 1$  db, 30-20,000 cps; 0-5, 0-7 and 0-9,  $\pm 1$  db, 100-10,000 cps; 0-14,  $\pm 1$  db, 50-5000 cps; 0-15,  $\pm 1$  db, 100-10,000 cps; 0-25,  $\pm 1$  db, 50-20,000 cps. S indicates split winding. Current ratings after pri. imp. are ma DC. Aluminum housings.  $1\frac{1}{2} \times \frac{3}{4} \times \frac{3}{4}$ " dia.;  $1\frac{1}{16}$ " mtg ctrs. 1 oz.



Stock No.	Mfr's Type	Primary Impedance Ohms	Secondary Impedance Ohms	May Be Assorted				Not Assorted
				1-24, EACH	25-99, EACH	100-Up, EACH	100-499, EA.	
2 G 780	0-1*	50, 200-250, 500-600	50,000	7.80	6.63	6.24	5.20	
2 G 781	0-2*	50, 200-250, 500-600	50,000 CT	7.80	6.63	6.24	5.20	
2 G 782	0-3*	7.5-30	50,000	7.50	6.38	6.00	5.00	
2 G 783	0-4*	15,000	60,000	6.60	5.61	5.28	4.40	
2 G 784	0-5	15,000; 4 ma	60,000	6.60	5.61	5.28	4.40	
2 G 785	0-6*	15,000	95,000 CT	7.50	6.38	6.00	5.00	
2 G 786	0-7	15,000; 4 ma	95,000 CT	7.50	6.38	6.00	5.00	
2 G 787	0-8*	15,000	50,000	7.80	6.63	6.24	5.20	
2 G 788	0-9	15,000; 4 ma	200-250	7.80	6.63	6.24	5.20	
2 G 789	0-10*	30,000 CT	500-600	8.40	7.14	6.72	5.60	
2 G 790	0-12*	50, 200-250		7.80	6.63	6.24	5.20	
2 G 793	0-13	Audio choke; 300 hys at 0 DC; 50 hys at 3 ma DC, 6000 ohms.		6.30	5.36	5.04	4.20	
2 G 791	0-14	200	$\frac{1}{2}$ meg	7.50	6.38	6.00	5.00	
2 G 268	0-15	15,000	1 meg	7.50	6.38	6.00	5.00	
2 G 794	0-16*	250 CT	50,000	10.20	8.67	8.16	6.80	
2 G 493	0-18	10K-2.5K S; 4 ma	2K-500	7.80	6.63	6.24	5.20	
2 G 494	0-19	10K-2.5K S; 4 ma	4K-1K S	7.80	6.63	6.24	5.20	
2 G 495	0-20	1500 CT; 8 ma	500-125 S	6.30	5.36	5.04	4.20	
2 G 496	0-21	2K CT, 4K CT; 4 ma	8, 16	5.40	4.59	4.32	3.60	
2 G 761	0-22	400 CT, 500 CT; 20 ma	3.2 and 4	5.40	4.59	4.32	3.60	
2 G 762	0-23	7 Hys @ 3 ma DC; 230 $\Omega$		5.10	4.34	4.08	3.40	
2 G 763	0-24	1.6 Hys @ 3 ma DC; 25 $\Omega$		5.10	4.34	4.08	3.40	
2 G 764	0-25	600-500 S	2000-500 S	8.10	6.89	6.48	5.40	
2 G 765	0-26	10,000 CT; 4 ma	100-20,000	8.10	6.89	6.48	5.40	
2 G 766	0-27	10,000 CT; 4 ma	500-125 S	8.40	7.14	6.72	5.60	
2 G 767	0-28	50,000 CT; 2 ma	500-125 S	8.40	7.14	6.72	5.60	
2 G 768	0-29	100,000 CT; 1 ma	500-125 S	8.70	7.40	6.96	5.80	
2 G 769	0-30	500-125 S; 20 ma	500-125 S	8.10	6.89	6.48	5.40	
2 G 770	0-31	500-125 S; 20 ma	150-37.5 S	8.10	6.89	6.48	5.40	
2 G 771	0-32	500-125 S; 20 ma	50-12.5 S	8.10	6.89	6.48	5.40	
2 G 772	0-33	100-25S; 40 ma	50-10 S	8.10	6.89	6.48	5.40	
2 G 042	0-34	Ser., 60 mhys @ 80 ma; Par., 15 @ 160		5.10	4.34	4.08	3.40	
2 G 043	0-36	Ser., 1 hy @ 20 ma; Par., 25 @ 40		5.10	4.34	4.08	3.40	
2 G 492	0-17	Mumetal Shield; fits any Ouncer unit		1.50	1.28	1.20	1.00	

## SUB-OUNCER TRANSFORMERS

Tiny, lightweight transformers for miniature equipment. Weigh less than  $\frac{1}{2}$  ounce. Mount by 4" color-coded leads or with Type SO-CH channels below. Vacuum processed and double-sealed (waterproofed). \*Indicates both windings center-tapped; †both windings split; T, transistor. Maximum unbalanced DC ma in primary: O, SO-1, SO-9; 0.25, SO-2; 0.5, SO-6, SO-7; 1, SO-4, SO-8; 3, SO-11, SO-12, SO-13; 16, SO-14. SO-3 is 3 ma on the 10K winding, 1.5 on the 25K winding. SO-10 is 4 ma on the 2K winding, 2 ma on the 4K winding. Size of all units,  $1\frac{1}{2} \times \frac{3}{4} \times \frac{3}{8}$ ". Shpg. wt., 2 oz.



Stock No.	Mfr's Type	Use	Primary Imped. Ohms	Sec. Imped. Ohms	May Be Assorted				Not Assorted
					1-24, EACH	25-99, EACH	100-Up, EACH	100-499, EACH	
62 G 210	SO-1	Input	200, 50	250K, 62.5K	3.60	3.06	2.88	2.40	
62 G 211	SO-2	Audio	10,000	90K	3.30	2.81	2.64	2.20	
62 G 212	SO-3	Pl. to line	10K, 25K	200, 500	3.30	2.81	2.64	2.20	
62 G 213	SO-4	Output	30,000	50	3.30	2.81	2.64	2.20	
62 G 214	SO-5	Reactor: 50 hys @ 1 ma DC; 2675 ohms			3.00	2.55	2.40	2.00	
62 G 215	SO-6	Output	100,000	60	3.90	3.32	3.12	2.60	
62 G 216	SO-7	T. Interstage	20K, 30K	800, 1200	3.00	2.55	2.40	2.00	
62 G 217	SO-8	Transistor to PP sec.	10K	2000 CT	3.60	3.06	2.88	2.40	
62 G 218	SO-9	PP Transistor to VC	500 CT	3.2	3.60	3.06	2.88	2.40	
62 G 497	SO-10	Transistor to VC	2K CT	8	3.60	3.06	2.88	2.40	
61 G 773	SO-11	T. Interstage	400, 500*	400, 500†	4.20	3.57	3.36	2.80	
61 G 774	SO-12	T. Interstage	400, 500*	120, 150†	4.20	3.57	3.36	2.80	
61 G 775	SO-13	T. Interstage	400, 500*	40, 50†	4.20	3.57	3.36	2.80	
61 G 776	SO-14	T. Interstage	80, 100*	32, 40†	4.20	3.57	3.36	2.80	
62 G 301	SO-CH	Mtg. channel for SO units			.30	.26	.24	.20	

## SUB-SOUNCER TRANSFORMERS

Even smaller and lighter than sub-ouncers above—weigh less than  $\frac{1}{2}$  oz. Mount by 4" color-coded leads or by mounting channels, Type SSO-CH, below. All are vacuum processed and double (waterproof) sealed. Similar, except for size to sub-ouncers above. \*Indicates both windings center-tapped; †both windings split; T, transistor. Max. unbalanced ma. DC in primary: O, SSO-1, SSO-13, SSO-21; 0-.25, SSO-2; 5, SSO-6, SSO-7, SSO-26; 1, SSO-4, SSO-8, SSO-15, and SSO-25; 2, SSO-9, SSO-10, SSO-17; 3, SSO-12, SSO-16; 4, SSO-18, SSO-22; 7, SSO-20; 10, SSO-19. SSO-3 is 3 ma on the 10K winding, 1.5 ma on the 25K winding. SSO-14 is 3 ma on the 10K winding and 1 ma on the 25K winding. Size of all units,  $\frac{3}{16} \times \frac{3}{4} \times \frac{3}{8}$ ". Shpg. wt., 2 oz.

Stock No.	Mfr's Type	Use	Primary Impedance Ohms	Sec. Imped. Ohms	May Be Assorted				Not Assorted
					1-24, EACH	25-99, EACH	100-Up, EACH	100-499, EACH	
62 G 236	SSO-1	Input	200, 50	250K, 62.5K	4.50	3.83	3.60	3.00	
62 G 237	SSO-2	Interstage	10,000	90K	4.80	4.08	3.84	3.20	
62 G 238	SSO-3	Pl. to line	10K, 25K	200, 200	4.20	3.57	3.36	2.80	
62 G 239	SSO-4	Output	30,000	50	3.90	3.32	3.12	2.60	
62 G 240	SSO-5	Reactor: 50 hys @ 1 ma	4400		3.90	3.32	3.12	2.60	
62 G 241	SSO-6	Output	100,000	60	4.20	3.57	3.36	2.80	
62 G 235	SSO-7	Transistor	20K, 30K	800, 1200	3.30	2.81	2.64	2.20	
62 G 229	SSO-8	Transistor to PP sec.	10K	2000 CT	3.90	3.32	3.12	2.60	
62 G 302	SSO-9	Transistor V.C.	10K	16	3.00	2.55	2.40	2.00	
62 G 246	SSO-10	Trans. to VC	10K	3.2	3.00	2.55	2.40	2.00	
62 G 303	SSO-11	Transistor			3.00	2.55	2.40	2.00	
62 G 248	SSO-12	Output	500, 600	50, 60	3.00	2.55	2.40	2.00	
62 G 249	SSO-13	Trans. Output Crystal to	1000, 1200	50, 60	3.00	2.55	2.40	2.00	
62 G 498	SSO-14	Transistor Interstage	200K 10K CT 25K CT	1000 200 CT 500 CT	4.50	3.83	3.60	3.00	
62 G 499	SSO-15	Transistor Interstage	200 CT 30K CT	800 CT 1200 CT	4.20	3.57	3.36	2.80	
61 G 777	SSO-16	Output	1.2K, 1.5K	3.2, 4	3.00	2.55	2.40	2.00	
61 G 778	SSO-17	Output, Driver	10K, 12.5K	500, 600*	3.30	2.81	2.64	2.20	
61 G 779	SSO-18	Single or PP							
61 G 780	SSO-19	Output	7.5K, 9.4K*	3.2, 4	3.30	2.81	2.64	2.20	
61 G 781	SSO-20	Output	500 CT	600 CT	3.30	2.81	2.64	2.20	
61 G 782	SSO-21	Crystal/Chop.	200K CT	1000 CT	4.80	4.08	3.84	3.20	
61 G 783	SSO-22	Interstage	12K, 10K*	1500 1800*	3.90	3.32	3.12	2.60	
61 G 784	SSO-23	Reactor: 8 hys @ 2 ma; 4 hys @ 5 ma; 650 ohms			3.00	2.55	2.40	2.00	
61 G 785	SSO-24	Reactor: 3.5 hys @ 2 ma; 1.5 hys @ 5 ma; 160 ohms			3.00	2.55	2.40	2.00	
61 G 786	SSO-25	T. Interstage	10K, 12K*	10K, 12K*	5.10	4.34	4.08	3.40	
61 G 787	SSO-26	T. Interstage	40K, 50K*	400, 500†	5.10	4.34	4.08	3.40	
62 G 304									



# UTC Filters and Inductors

## INTERSTAGE AND LINE FILTERS



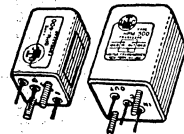
High-quality filters for the more common mid-range frequency filter requirements. BMI filters are band-pass interstage units for use between a tube plate (or 10,000 ohms) and a grid. Provide gain of 2 at center freq. BTI units have source and load impedance of 10,000 ohms. BML units have source and load of 500/600 ohms and a gain of 9. HMI filters are high-pass interstage units with source and load of 10,000 ohms. HML filters are for use with source and load impedance of 500/600 ohms. LMI filters are low-pass interstage units with a source and load impedances of 10,000 ohms. LML filters are 500/600 ohms. BMI, BTI, and BML units are sharply peaked, and are 2 db down  $\pm 3\%$  from center frequency, and down 40 db per octave. HMI and HML units have a loss of less than 6 db at cutoff, and -35 db at 0.67 cutoff frequency. LMI and LML units have a loss of less than 6 db at cutoff, and -35 db at 1.5 cutoff. All cases sealed to MIL-F-18327B specs. Cutoff frequencies indicated by no. in Mfr's Type. BMI, BTI, LMI, BML cases  $1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$  in.; wt., 6 oz. HMI, HML, LML cases:  $2\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$  in.; wt., 9 oz.

Mfr's Type	Stock No.	Mfr's Type	Stock No.	Mfr's Type	Stock No.
BMI-500	63 G 047	LMI-500	63 G 082	BTI-100	63 G 116
BMI-600	63 G 048	LMI-800	63 G 083	BTI-120	63 G 117
BMI-100	63 G 049	LMI-1000	63 G 084	BML-400	63 G 127
BMI-120	63 G 050	LMI-1500	63 G 085	BML-1000	63 G 128
BMI-200	63 G 052	LMI-2000	63 G 086	HML-200	63 G 129
BMI-240	63 G 058	LMI-2500	63 G 100	HML-300	63 G 130
BMI-400	63 G 059	LMI-3000	63 G 101	HML-500	63 G 131
BMI-500	63 G 060	LMI-4000	63 G 102	HML-1000	63 G 132
BMI-750	63 G 061	LMI-5000	63 G 103	LML-1000	63 G 133
BMI-800	63 G 062	LMI-10000	63 G 104	LML-1500	63 G 134
BMI-1000	63 G 064	HMI-100	63 G 118	LML-2000	63 G 135
BMI-1500	63 G 065	HMI-200	63 G 119	LML-2500	63 G 136
BMI-2000	63 G 066	HMI-300	63 G 120	LML-3000	64 G 066
BMI-3000	63 G 075	HMI-400	63 G 121	LML-4000	63 G 144
BMI-4000	63 G 076	HMI-500	63 G 122	LML-8000	63 G 145
BMI-5000	63 G 077	HMI-800	63 G 123	LML-10000	63 G 146
BMI-10000	63 G 078	HMI-1000	63 G 124	LML-12000	63 G 147
LMI-100	63 G 079	HMI-2000	63 G 125		
LMI-200	63 G 080	HMI-3000	63 G 126		
LMI-400	63 G 081	BTI-60	63 G 115		

### PRICES

Mfr's Type	May Be Assorted				Not Assorted
	1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH	
BMI	30.00	25.50	24.00	20.00	
LMI	31.50	26.78	25.20	21.00	
BTI	36.00	30.60	28.80	24.00	
HMI	31.50	26.78	25.20	21.00	
BML	30.00	25.50	24.00	20.00	
HML	39.00	33.15	31.20	26.00	
LML	31.50	26.78	25.20	21.00	

## MINIFILTERS



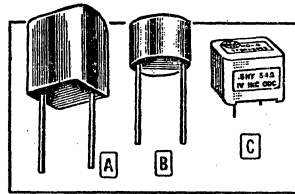
Ultra-compact hermetically-sealed interstage filters—meet MIL-F-18327B specs. Cutoff frequency indicated by Mfr's Type no. All input and output impedances are 10,000 ohms. BPM band-pass filters have 2:1 gain. Attenuation -2 db  $\pm 3\%$  from center frequency, down 35 db per octave. Size,  $1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$  in. Wt., 1 oz. HPM high-pass filters, down less than 6 db at cutoff frequency, more than 40 db at 0.6 cutoff frequency. Size,  $1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$  in. Wt., 3 oz. LPM low-pass filters, down less than 6 db at cutoff frequency, more than 40 db at 1.65 cutoff frequency. Size,  $1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$  in. Wt., 3 oz.

Mfr's Type	Stock No.	Mfr's Type	Stock No.	Mfr's Type	Stock No.
BPM-400	63 G 221	BPM-4000	63 G 245	LPM-1000	63 G 255
BPM-500	63 G 222	BPM-5000	63 G 247	LPM-1500	63 G 256
BPM-600	63 G 223	BPM-10000	63 G 250	LPM-2000	63 G 263
BPM-750	63 G 224	HPM-500	63 G 251	LPM-3000	63 G 264
BPM-1000	63 G 225	HPM-1000	63 G 252	LPM-5000	63 G 266
BPM-1200	63 G 226	HPM-1500	64 G 070	LPM-6000	64 G 072
BPM-1500	63 G 227	HPM-4000	64 G 071	LPM-10000	64 G 074
BPM-2000	63 G 233	LPM-200	63 G 253	LPM-15000	64 G 080
BPM-3000	63 G 243	LPM-500	63 G 254		

### PRICES

Mfr's Type	May Be Assorted				Not Assorted
	1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH	
BPM	27.00	22.95	21.60	18.00	
HPM	30.00	25.50	24.00	20.00	
LPM	30.00	25.50	24.00	20.00	

## MINIDUCTORS



- A ML Series, Sealed in Hiperalloy Case
- B MM, MH, MW Series, Symmetrical Torroids
- C MO Series, Has Low Hum-Pickup

For transistor and printed circuit, as well as vacuum tube designs. Provide high Q in miniature form. MH series for high frequencies. MM and MW series for medium frequencies. ML-1 through ML-4 and MO-15 through MO-1 for medium-low frequencies. ML-5 through ML-10 and MO-2 through MO-10 for lower frequencies. Miniductors meet specs of MIL-T-27B. MH, MM cases are  $\frac{7}{16}$  in. dia. x  $\frac{1}{4}$  in. high; actual wt., .07 oz. MW cases are  $\frac{3}{16}$  in. dia. x  $\frac{1}{32}$  in. high; actual wt., .25 oz. ML cases are  $\frac{3}{16} \times \frac{3}{16} \times \frac{1}{16}$  in. high; actual wt., .2 oz. MO cases are  $\frac{3}{4} \times 1 \times \frac{1}{16}$  in. high; actual wt., 1 oz. Av. shpg. wt., 2 oz.

Stock No.	Mfr's Type	Inductance (O DC)	DC Ma Max.	May Be Assorted				Not Assorted
				1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH	
61G385	MH-1	.6 mhy	90.0	8.10	6.89	6.48	5.40	
61G386	MH-2	1.5 mhy	57.0	8.10	6.89	6.48	5.40	
61G387	MH-3	2.5 mhy	44.0	8.40	7.14	6.72	5.60	
61G388	MH-4	6.0 mhy	28.0	8.40	7.14	6.72	5.60	
61G389	MH-5	10.0 mhy	22.0	8.70	7.40	6.96	5.80	
61G390	MH-6	15.0 mhy	18.0	9.00	7.40	6.96	5.80	
61G391	MH-7	25.0 mhy	14.0	9.00	7.65	7.20	6.00	
61G392	MH-8	40.0 mhy	11.0	9.00	7.65	7.20	6.00	
61G377	MM-1	3.0 mhy	50.0	7.50	6.38	6.00	5.00	
61G378	MM-2	5.0 mhy	40.0	7.50	6.38	6.00	5.00	
61G379	MM-3	8.0 mhy	30.0	7.80	6.63	6.24	5.20	
61G380	MM-4	12.5 mhy	25.0	7.80	6.63	6.24	5.20	
61G381	MM-5	20.0 mhy	20.0	8.10	6.89	6.48	5.40	
61G382	MM-6	30.0 mhy	16.0	8.10	6.89	6.48	5.40	
61G383	MM-7	60.0 mhy	11.0	8.40	7.14	6.72	5.60	
61G384	MM-8	120.0 mhy	8.0	8.40	7.14	6.72	5.60	
64G107	MW-5	.5 hy	8	7.80	6.63	6.24	5.20	
64G108	MW-75	.75 hy	7	8.40	7.14	6.72	5.60	
64G109	MW-1	1.0 hy	6	8.70	7.40	6.96	5.80	
64G110	MW-1.2	1.2 hy	5	9.30	7.91	7.44	6.20	
64G111	MW-2	2 hy	4	10.80	9.18	8.64	7.20	
64G112	MW-3	3 hy	3.5	11.70	9.95	9.36	7.80	
64G113	MW-5	5 hy	3	13.50	11.48	10.80	9.00	
61G347	ML-1	.25 hy	9.0	8.40	7.14	6.72	5.60	
61G348	ML-2	.4 hy	7.0	8.40	7.14	6.72	5.60	
61G349	ML-3	.7 hy	5.0	8.40	7.14	6.72	5.60	
61G370	ML-4	1.4 hy	3.0	8.40	7.14	6.72	5.60	
61G371	ML-5	2.5 hy	1.0	8.40	7.14	6.72	5.60	
61G372	ML-6	4.0 hy	.7	8.40	7.14	6.72	5.60	
61G373	ML-7	6.0 hy	.6	8.40	7.14	6.72	5.60	
61G374	ML-8	10.0 hy	.5	8.40	7.14	6.72	5.60	
61G375	ML-9	25.0 hy	.3	8.70	7.40	6.96	5.80	
61G376	ML-10	60.0 hy	.2	9.90	8.42	7.92	6.60	
64G083	MO-15	.15 hy	45	6.30	5.36	5.04	4.20	
64G084	MO-3	.3 hy	28	6.30	5.36	5.04	4.20	
64G095	MO-5	.5 hy	23	6.30	5.36	5.04	4.20	
64G100	MO-1	1 hy	16	6.30	5.36	5.04	4.20	
64G101	MO-2	2 hy	8	6.60	5.61	5.28	4.40	
64G102	MO-5	5 hy	5	6.60	5.61	5.28	4.40	
64G103	MO-7.5	7.5 hy	4.5	6.60	5.61	5.28	4.40	
64G104	MO-20	20 hy	2.7	6.60	5.61	5.28	4.40	
64G105	MO-50	50 hy	1.4	7.20	6.12	6.00	4.80	
64G106	MO-100	100 hy	1.1	7.20	6.12	6.00	4.80	

## LOW-FREQUENCY HIGH-Q COILS



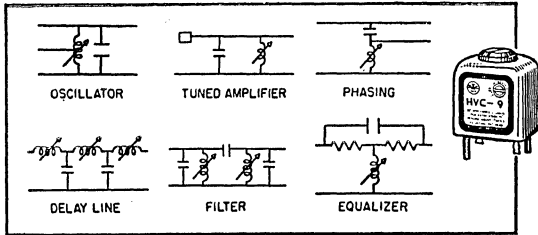
Provide exceptionally high "Q" at low frequencies—have "Q" of 45 at 100 cycles. Inductance variation is less than 1% from 0.1 volt to 1 volt, 60 cycles. Total inductance change is less than 3.5% from -55°C to +85°C. Inductance values are lab adjusted to 2% tolerance at 1 volt, 60 cycles. Two identical windings brought out to 4 terminals permit series, parallel, center-tapped, or transformer type connections. All have  $1\frac{1}{2} \times 1\frac{1}{2}$  in. mtg. centers; require  $1\frac{1}{2}$  in. diameter cutout. Size  $1\frac{1}{8}$  in. dia. x  $2\frac{1}{2}$  in. high. Shpg. wt.,  $1\frac{1}{2}$  lbs.

Stock No.	Mfr's Type	Series Hy.	Parallel Hy.	May Be Assorted				Not Assorted
				1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH	
63G398	MQL-0	1	.25	30.00	25.50	24.00	20.00	
62G896	MQL-1	10	2.5	30.00	25.50	24.00	20.00	
62G897	MQL-2	20	5	30.00	25.50	24.00	20.00	
62G898	MQL-3	200	50	30.00	25.50	24.00	20.00	
62G899	MQL-4	400	100	31.50	26.78	25.20	21.00	
63G399	MQL-5	2500	625	33.00	28.05	26.40	22.00	

# UTC High-Q Coils and Inductors



## TYPE HVC VARIABLE INDUCTORS



HVC and TVC inductors are hermetically sealed to MIL-T-27B, and provide a wide inductance range with a high Q in an extremely compact unit. Perfect for any tuned circuit—oscillators, equalizers, filters, etc. Adjustable -70% to +200% of mean inductance by 900° rotation. Usable over a wide frequency range, and have high stability with temperature and voltage change. TVC series has taps at 30% and 50% of total turns. Units have two 4-40 mtg. studs. 1 1/8 x 2 1/2 x 1 1/2". Actual wt., 2 oz. Shpg. wt., 3 oz.

### TYPE HVC

Stock No.	Mfr's Type	Mean Hys.	Max. Ma	May Be Assorted				Not Asstd.
				1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH	
62 G 114	HVC-1	.006	100	9.00	7.65	7.20	6.00	
62 G 115	HVC-2	.015	60	9.00	7.65	7.20	6.00	
62 G 116	HVC-3	.040	40	9.00	7.65	7.20	6.00	
62 G 117	HVC-4	.1	30	9.00	7.65	7.20	6.00	
62 G 118	HVC-5	.25	20	9.00	7.65	7.20	6.00	
62 G 119	HVC-6	.6	15	9.00	7.65	7.20	6.00	
62 G 121	HVC-7	1.5	10	9.60	8.16	7.68	6.40	
62 G 122	HVC-8	4.0	7	9.60	8.16	7.68	6.40	
62 G 123	HVC-9	10	5	9.60	8.16	7.68	6.40	
62 G 124	HVC-10	25	3.5	9.90	8.42	7.92	6.60	
62 G 126	HVC-11	60	2	10.80	9.18	8.64	7.20	
62 G 127	HVC-12	150	1.5	12.00	10.20	9.60	8.00	

### TYPE TVC

Stock No.	Mfr's Type	Mean Hys.	Max. Ma	May Be Assorted				Not Asstd.
				1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH	
61 G 330	TVC-1	.006	100	11.10	9.44	8.88	7.40	
61 G 331	TVC-2	.015	60	11.10	9.44	8.88	7.40	
61 G 332	TVC-3	.040	40	11.10	9.44	8.88	7.40	
61 G 333	TVC-4	.1	30	11.10	9.44	8.88	7.40	
61 G 334	TVC-5	.25	20	11.10	9.44	8.88	7.40	
61 G 335	TVC-6	.6	15	11.10	9.44	8.88	7.40	
61 G 336	TVC-7	1.5	10	11.70	9.95	9.36	7.80	
61 G 337	TVC-8	4	7	11.70	9.95	9.36	7.80	
61 G 338	TVC-9	10	5	11.70	9.95	9.36	7.80	
61 G 339	TVC-10	25	3.5	12.90	10.97	10.32	8.60	
61 G 340	TVC-11	60	2	14.10	11.99	11.28	9.40	
61 G 341	TVC-12	150	1.5	15.30	13.01	12.24	10.20	

## TYPE VIC VARIABLE INDUCTORS

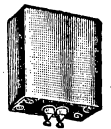
VIC inductors offer a convenient approach to the problem of tuned audio circuits. By adjusting a set screw in the side of the case, an inductance value of -45% to +85% from mean value is obtainable. Range is covered in 600° rotation with positive setting. Mounting centers on terminal board side 1 3/16" by 2 3/32"; tapped for 4-40 screws. Size, 1 1/8 x 1 1/4 x 1 7/16". Actual wt., 5 1/2 oz. Shpg. wt., 6 oz.



Stock No.	Mfr's Type	Mean Hys.	Max. Ma	May Be Assorted				Not Asstd.
				1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH	
63 G 369	VIC-1	.0085	75	6.60	5.61	5.28	4.40	
62 G 901	VIC-2	.013	60	6.60	5.61	5.28	4.40	
62 G 902	VIC-3	.021	50	6.60	5.61	5.28	4.40	
62 G 903	VIC-4	.034	40	6.60	5.61	5.28	4.40	
62 G 904	VIC-5	.053	35	6.60	5.61	5.28	4.40	
62 G 905	VIC-6	.084	30	6.60	5.61	5.28	4.40	
62 G 906	VIC-7	.13	25	6.60	5.61	5.28	4.40	
62 G 907	VIC-8	.21	21	6.90	5.87	5.52	4.60	
62 G 908	VIC-9	.34	18	6.90	5.87	5.52	4.60	
62 G 909	VIC-10	.54	15	6.90	5.87	5.52	4.60	
62 G 910	VIC-11	.85	12	6.90	5.87	5.52	4.60	
62 G 911	VIC-12	1.3	10	7.20	6.12	5.76	4.80	
62 G 912	VIC-13	2.2	8	7.20	6.12	5.76	4.80	
62 G 913	VIC-14	3.4	7	7.20	6.12	5.76	4.80	
62 G 914	VIC-15	5.4	6	7.50	6.38	6.00	5.00	
62 G 915	VIC-16	8.5	5	7.50	6.38	6.00	5.00	
62 G 916	VIC-17	13	4	7.50	6.38	6.00	5.00	
62 G 917	VIC-18	21	3.5	7.80	6.63	6.24	5.20	
62 G 918	VIC-19	33	3	7.80	6.63	6.24	5.20	
62 G 919	VIC-20	52	2	8.40	7.14	6.72	5.60	
62 G 920	VIC-21	83	1.5	9.00	7.65	7.20	6.00	
62 G 921	VIC-22	130	1	12.00	10.20	9.60	8.00	

## TYPE M PRECISION TOROIDS

Hermetically-sealed toroids conforming to MIL-T-27B. MIL type TP4RX20VY, lab-adjusted to 1% tolerance. Offer high stability and maximum Q with minimum size. Typical Q values: MQA-10, max Q, 150 @ 5 kc; MQB-5, 250 @ 3 kc; MQE-7, 130 @ 8 kc. Inductance virtually independent of frequency, temperature or vibration. DC currents shown will drop coil inductance only slightly. Extremely low hum pickup due to toroidal winding structure, with windings spread uniformly over core. Highly permeable case, affording extra shielding and allowing close spacing of units. Coupling attenuation, about 80 db. Unit shpg. wts; MQA, 4 oz.; MQB, 14 oz.; MQE, 2 oz.



### TYPE MQA—1 1/32 x 2 1/32 x 1 1/16"

Stock No.	Mfr's Type	Inductance	Max. Ma	May Be Assorted			Not Asstd.
				1-24 EACH	25-99 EACH	100-Up EACH	
62 G 985	MQA-1	7 mhy	250	7.50	6.38	6.00	5.00
62 G 986	MQA-2	12 mhy	200	7.80	6.63	6.24	5.20
62 G 987	MQA-3	20 mhy	150	8.10	6.89	6.48	5.40
62 G 988	MQA-4	30 mhy	125	8.40	7.14	6.72	5.60
62 G 989	MQA-5	50 mhy	100	8.70	7.40	6.96	5.80
62 G 990	MQA-6	70 mhy	80	9.00	7.65	7.20	6.00
62 G 991	MQA-7	120 mhy	60	9.30	7.91	7.44	6.20
62 G 992	MQA-8	.2 hy	50	9.60	8.16	7.68	6.40
62 G 993	MQA-9	.3 hy	40	9.90	8.42	7.92	6.60
62 G 994	MQA-10	.5 hy	30	10.20	8.67	8.16	6.80
62 G 995	MQA-11	.7 hy	25	10.50	8.93	8.40	7.00
62 G 996	MQA-12	1 hy	20	10.80	9.18	8.64	7.20
62 G 997	MQA-13	1.5 hy	17	11.10	9.44	8.88	7.40
63 G 370	MQA-14	2.5 hy	13	11.40	9.69	9.12	7.60
62 G 999	MQA-15	4 hy	10	12.00	10.20	9.60	8.00
63 G 382	MQA-16	6 hy	9	12.90	10.97	10.32	8.60
62 G 968	MQA-17	10 hy	7	13.80	11.73	11.04	9.20
63 G 381	MQA-18	15 hy	5	15.00	12.75	12.00	10.00
62 G 970	MQA-19	22 hy	4	18.00	15.30	14.40	12.00
63 G 371	MQA-20	35 hy	3	20.70	17.60	16.56	13.80

### TYPE MQB—2 1/16 x 2 1/32 x 1 1/16"

Stock No.	Mfr's Type	Inductance	Max. Ma	May Be Assorted			Not Asstd.
				1-24 EACH	25-99 EACH	100-Up EACH	
63 G 383	MQB-1	10 mhy	400	12.90	10.97	10.32	8.60
62 G 954	MQB-2	30 mhy	250	13.20	11.22	10.56	8.80
62 G 955	MQB-3	70 mhy	170	13.50	11.48	10.80	9.00
62 G 956	MQB-4	120 mhy	120	13.80	11.73	11.04	9.20
62 G 957	MQB-5	.5 hy	60	14.10	11.99	11.28	9.40
62 G 958	MQB-6	1 hy	40	14.40	12.24	11.52	9.60
62 G 959	MQB-7	2 hy	30	14.70	12.50	11.76	9.80
62 G 962	MQB-8	3.5 hy	22	15.00	12.75	12.00	10.00
62 G 963	MQB-9	7.5 hy	16	15.90	13.52	12.72	10.60
62 G 964	MQB-10	12 hy	11	16.80	14.28	13.44	11.20
63 G 384	MQB-11	18 hy	9	18.00	15.30	14.40	12.00
63 G 385	MQB-12	25 hy	8	19.20	16.32	15.36	12.80
63 G 386	MQB-13	40 hy	6	21.00	17.85	16.80	14.00
63 G 387	MQB-14	60 hy	4	24.00	20.40	19.20	16.00

### TYPE MQE—1 1/16 x 1 1/32 x 1/2"

Stock No.	Mfr's Type	Inductance	Max. Ma	May Be Assorted			Not Asstd.
				1-24 EACH	25-99 EACH	100-Up EACH	
63 G 393	MQE-0	4 mhy	160	6.90	5.87	5.52	4.60
62 G 945	MQE-1	7 mhy	135	7.20	6.12	5.76	4.80
62 G 946	MQE-2	12 mhy	100	7.50	6.38	6.00	5.00
62 G 947	MQE-3	20 mhy	80	7.80	6.63	6.24	5.20
62 G 948	MQE-4	30 mhy	65	7.80	6.63	6.24	5.20
62 G 949	MQE-5	50 mhy	50	8.10	6.89	6.48	5.40
63 G 394	MQE-6	70 mhy	40	8.40	7.14	6.72	5.60
62 G 976	MQE-7	100 mhy	35	8.40	7.14	6.72	5.60
63 G 395	MQE-8	150 mhy	30	8.70	7.40	6.96	5.80
62 G 978	MQE-9	.25 hy	22	8.70	7.40	6.96	5.80
62 G 979	MQE-10	.4 hy	17	9.00	7.65	7.20	6.00
62 G 980	MQE-11	.6 hy	14	9.00	7.65	7.20	6.00
62 G 981	MQE-12	.9 hy	12	9.30	7.91	7.44	6.20
62 G 982	MQE-13	1.5 hy	9	9.90	8.42	7.92	6.60
63 G 396	MQE-14	2 hy	8	10.80	9.18	8.64	7.20
62 G 984	MQE-15	2.8 hy	7.2	12.00	10.20	9.60	8.00
63 G 397	MQE-16	4 hy	5	13.50	11.48	10.80	9.00

## TYPE MQM MINIATURE LOW-FREQUENCY HIGH-Q COILS

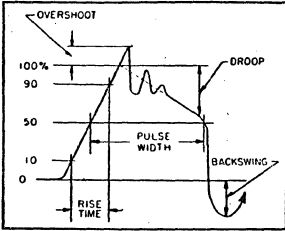
For high Q at low frequencies. Series inductance values are adjusted to 2% at 1 volt, 60 cycles. Inductance variation is less than 3% from .1 volt to 1 volt. Total inductance variation is less than 2% from -55° C to +130° C. Two identical windings brought out to four terminals permit series, parallel, center-tapped, or transformer-type connections. 1 3/16" dia. x 1 3/8" high. Shpg. wt., 6 oz.

Stock No.	Mfr's Type	Hys (ODC)		May Be Assorted			Not Asstd.
		Ser.	Par.	1-24 EACH	25-99 EACH	100-Up EACH	
64 G 402	MQM-2	2	.5	12.60	10.71	10.08	8.40
64 G 403	MQM-16	16	4	12.60	10.71	10.08	8.40
64 G 404	MQM-40	40	10	12.60	10.71	10.08	8.40
64 G 405	MQM-300	300	75	13.50	11.48	10.80	9.00
64 G 406	MQM-600	600	150	13.50	11.48	10.80	9.00



# UTC Transformers and Inductors

## PRECISION, SUBMINIATURE TRANSISTOR-TYPE PULSE TRANSFORMERS



**Pulse Width:**  $\mu$ s between 50% amplitude points. **Rise Time:**  $\mu$ s needed to increase from 10% to 90% amplitude. **Overshoot:** Percentage by which first excursion of pulse exceeds 100% amplitude. **Droop:** Percentage reduction from 100% amplitude a specific time after 100% amplitude. **Backswing:** Negative swing after trailing edge as a percentage of 100% amplitude.

PIP Series. Subminiature pulse transformers for transistorized circuitry. Metal cased and hermetically sealed to MIL-T-21038B. Types 1 through 9 are MIL type TP6RX-

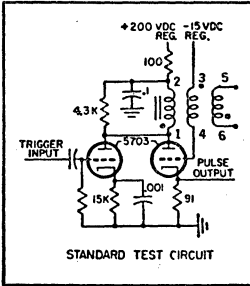
4410CZ, and have a 4:4:1 ratio. Types 10, 11 and 12 are MIL type TP6RX5310CZ. Actual wt. a 5:3:1 ratio.  $\frac{3}{16}$ " high,  $\frac{5}{16}$ " dia. and have, 1/20 oz. Av. shgp. wt., 2 oz.

Stock No.	Mfr's Type	Width (msec)	Rise Time ( $\mu$ sec)	Volts Out	Imp. In., Out, (Ohms)	May Be Assorted			Not Assorted 100-499 EACH
						1-24 EACH	25-99 EACH	100-Up EACH	
61 G 654	PIP-1	.05	.02	9	50				
61 G 655	PIP-2	.1	.025	8	50				
61 G 656	PIP-3	.2	.030	7	100	6.00	5.10	4.80	4.00
61 G 657	PIP-4	.5	.05	7	100				
61 G 658	PIP-5	1	.08	6.8	100				
61 G 659	PIP-6	2	.10	6.6	100				
61 G 660	PIP-7	3	.20	6.8	100	6.00	5.10	4.80	4.00
61 G 661	PIP-8	5	.30	7.9	200				
61 G 662	PIP-9	10	.35	6.5	200				
64 G 119	PIP-10	.1	.01	8	140/50	6.00	5.10	4.80	4.00
64 G 120	PIP-11	1	.02	6.6	280/100				
64 G 121	PIP-12	5	.05	8	560/200				

## PRECISION, MINIATURE VACUUM-TUBE-TYPE PULSE TRANSFORMERS

Precision, highly-reliable wound-core pulse transformers. Designed for a wide variety of vacuum tube applications. Hermetically sealed—usable from  $-70^{\circ}$  C to  $+130^{\circ}$  C.

\*Both blocking oscillator and coupling characteristics. Types 45 and 46,  $\frac{3}{8}$ "  $\frac{3}{4}$ "; types 47 through 52,  $\frac{1}{2}$ "  $\frac{3}{4}$ "; types 53 through 57,  $\frac{3}{8}$ "  $\frac{3}{4}$ ". Av. shgp. wt., 2 oz.

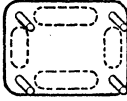
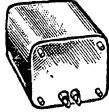


Stock No.	Mfr's Type	Width (msec)*	Rise Time ( $\mu$ sec)	Volts Out	Imp. In., Out, (Ohms)	May Be Assorted			Not Assorted 100-499 EACH
						1-24 EACH	25-99 EACH	100-Up EACH	
61 G 719	H-45	.05	.01	17	250	6.75	5.75	5.40	4.50
61 G 720	H-46	.10	.01	19	250	6.75	5.75	5.40	4.50
61 G 721	H-47	.20	.01	18	500	6.00	5.10	4.80	4.00
61 G 722	H-48	.50	.01	20	500	6.00	5.10	4.80	4.00
61 G 723	H-49	1.0	.02	24	500	6.00	5.10	4.80	4.00
61 G 724	H-50	2	.05	27	500	6.00	5.10	4.80	4.00
61 G 725	H-51	3	.07	26	500	6.00	5.10	4.80	4.00
61 G 726	H-52	5	.15	23	1000	6.00	5.10	4.80	4.00
61 G 727	H-54	10	.25	24	1000	6.30	5.36	5.04	4.20
61 G 346	H-55	16	.40	23	1000	6.30	5.36	5.04	4.20
61 G 728	H-57	25	1.50	24	1000	6.30	5.36	5.04	4.20

## HERMETICALLY SEALED FILTER INDUCTORS

Hermetically sealed filter inductors built to meet specifications of MIL-T-27B. Inductance values shown are given at maximum military current ratings. All inductors are

rated at 2500 volts rms except H-70 is 1000 volts rms. Stainless steel studs for easy mounting. See table at left for sizes, table below for shgp. wts.



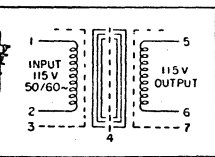
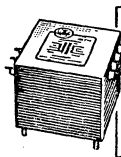
BOTTOM VIEW

SIZE CHART

Mfr's Type	Length (Inches)	Width (Inches)	Depth (Inches)
H-70	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{1}{16}$
H-71	$\frac{2}{16}$	$\frac{2}{16}$	$\frac{2}{16}$
H-72	$\frac{3}{4}$	$\frac{2}{16}$	$\frac{2}{16}$
H-73	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{2}{16}$
H-74	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{3}{16}$
H-75	$\frac{3}{16}$	$\frac{4}{16}$	$\frac{3}{16}$

Stock No.	Mfr's Type	MIL Type	Ind. Hys	DC Ma	DC Ohms	Wt., Lbs.	May Be Assorted			Not Assorted 100-499 EACH
							1-24 EACH	25-99 EACH	100-Up EACH	
61 G 729	H-70	TF4RX04AH	10.0	35	925	$\frac{1}{2}$	7.20	6.12	5.76	4.80
61 G 730	H-71	TF4RX04FB	10.0	70	350	$\frac{1}{2}$	8.40	7.14	6.72	5.60
61 G 731	H-72	TF4RX04GB	7.0	125	215	$\frac{2}{16}$	9.00	7.65	7.20	6.00
61 G 732	H-73	TF4RX04HB	5.5	175	150	$\frac{3}{16}$	11.40	9.69	9.12	7.60
61 G 733	H-74	TF4RX04JB	8.5	195	135	5	12.90	10.97	10.32	8.60
61 G 734	H-75	TF4RX04KB	8.5	250	90	8	17.40	14.79	13.92	11.60

## ULTRASHIELDED POWER-LINE ISOLATION TRANSFORMERS



Shields Individually Terminated For Maximum Flexibility Simulate Battery Operation For Critical Circuitry

For critical circuits requiring extreme isolation from power line. Effective capacity coupling between primary and secondary windings is less than 0.10 mmf. Input and output terminals on opposite sides maintain

the excellent isolation between line and load. MIL type TF4RX01YY—meets specs of MIL-T-27B. Primary for 115-volt, 50-60 cycle; secondary is 115 volts. \*MIL rating. †Industrial rating.

Stock No.	Mfr's Type	Watts*	Watts†	Size	Wt., Lbs.	May Be Assorted			Not Assorted 100-499 EACH
						1-24 EACH	25-99 EACH	100-Up EACH	
63 G 365	HIT-1	50	60	$4\frac{1}{2} \times 4\frac{1}{2} \times 3\frac{1}{2}$ "	5	33.00	28.05	26.40	22.00
63 G 366	HIT-15	120	150	$5\frac{1}{2} \times 5 \times 3\frac{1}{2}$ "	8 $\frac{1}{2}$	39.00	33.20	31.20	26.00
63 G 367	HIT-2	160	200	$5\frac{1}{2} \times 5 \times 4\frac{1}{2}$ "	12 $\frac{1}{2}$	48.00	40.80	38.40	32.00
63 G 368	HIT-3	400	480	$8 \times 6\frac{1}{2} \times 5\frac{1}{2}$ "	35	69.00	58.70	55.20	46.00

## TRANSISTOR AND TUBE-TYPE MINIATURE AUDIO TRANSFORMERS



Audio Transformers in Drawn Steel Cases—Occupy Less Than 2 Cubic Inches

For vacuum tube or transistor circuits. Built to MIL-T-27B specs. Bead terminals—may be used in printed circuits. Impedance ratio is constant. May be used in reverse, input to secondary. Level

ratings given are for low distortion at lowest frequency specified—for higher frequencies, higher levels are permissible. \*Indicates split primary. †Split secondary. Av. shgp. wt., 1 $\frac{1}{2}$  oz.

RC-25 Case	Length	Width	Height	Mtg. (slot center)	Screws	Cutout	Unit Weight
	$1\frac{13}{32}$ "	$\frac{6}{16}$ "	$\frac{1}{16}$ "	$\frac{1}{16}$ "	4-40 Fil.	$\frac{7}{8}$ " Dia.	1.5 oz.

Stock No.	Mfr's Type	Pri. Impedance Ohms	Sec. Impedance Ohms	Frequency Response	Level (dbm)	May Be Assorted			Not Assorted 100-499 EACH
						1-24 EACH	25-99 EACH	100-Up EACH	
61 G 700	H-1	50/200CT/500CT	50,000	50-10,000	+5	9.00	7.65	7.20	6.00
61 G 705	H-6	15,000	95,000†	200-10,000	+11	10.20	8.67	8.16	6.80
61 G 706	H-7	20,000CT	600/150†	200-10,000	+21	9.60	8.16	7.68	6.40
61 G 707	H-8	600/150*	600CT	50-10,000	+8	9.00	7.65	7.20	6.00
61 G 709	H-13	10,000/2500*	2000/500†	100-10,000	+20	9.00	7.65	7.20	6.00
64 G 122	H-14	10,000/2500*	4000/1000†	100-10,000	+20	9.00	7.65	7.20	6.00
64 G 123	H-15	1500CT	500/125†	100-10,000	+20	9.00	7.65	7.20	6.00



# UTC Bandpass Filters and Transformers



## TYPE LS-33 HIGH-LEVEL MATCHING TRANSFORMER

Has Hiperm-Alloy core, multiple-section, inter-leaved windings—extremely low hum pickup. Primary; 50, 125, 200, 250, 333, and 500-600 ohms. Secondary; 1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500-600 ohms. Max. level, 20 watts. Response  $\pm 1$  db, 10-40,000 cps.  $4\frac{3}{16} \times 3\frac{1}{2} \times 4\frac{7}{16}$ " Wt., 8 lbs.

62 G 800, 1-24..... EACH 24.00  
25-99, May Be Assorted..... EACH 20.40  
100-Up, May Be Assorted..... EACH 19.20  
100-499, Not Assorted..... EACH 16.00

## MIXING TRANSFORMERS

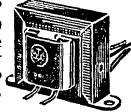
For mixing low-impedance mike, pickup or multiple line to multiple line. Fulfill the most critical specifications established for broadcast equipment. Have Hiperm-Alloy cores with multiple-section, inter-leaved windings enclosed in die-cast cases.  $3\frac{1}{4} \times 2\frac{5}{8} \times 3\frac{1}{8}$ " Shpg. wt.,  $3\frac{1}{2}$  lbs.

Type LS-30, Max. unbalanced DC in primary, .5 ma. Six taps: 50, 125-150, 200, 250, 333, 500-600 ohms. Max. level, +23 dbm. Hum reduction, -74 db.  $\pm 1$  db, 7-30,000 cps.

62 G 840, 1-24..... EACH 24.00  
25-99, May Be Assorted..... EACH 20.40  
100-Up, May Be Assorted..... EACH 19.20  
100-499, Not Assorted..... EACH 16.00

## FILAMENT and TRANSISTOR TRANSFORMERS

Industrial-type transformers (primary 117 volts, 60 cycle) with demonstrated reliability. All units are low-temperature-rise, vacuum-sealed. \*Transistor types FT-13 and FT-14 have taps on primary to modify secondary nominal voltage -6%, +6%, +12%.

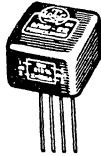


Stock No.	Mfr's Type	Secondary VCT@Amps		Size (HWD)	May Be Assd.			Not Assd.
		1-24	25-99		100-Up	EA.	EA.	
64G124	FT-2	6.3	1.2	1 $\frac{1}{16}$ x 2 $\frac{7}{8}$ x 1 $\frac{5}{8}$ "	3.15	2.68	2.52	2.10
64G125	FT-4	6.3	3	2 x 3 $\frac{5}{16}$ x 1 $\frac{7}{8}$ "	3.45	2.93	2.76	2.30
64G128	FT-8	6.3	8	2 $\frac{5}{8}$ x 4 x 2 $\frac{1}{2}$ "	4.80	4.08	3.84	3.20
64G129	FT-10	24/12	2/4	2 $\frac{1}{16}$ x 4 x 3 $\frac{5}{16}$ "	5.10	4.34	4.08	3.40
64G130	FT-13*	26	.04	1 $\frac{1}{4}$ x 2 $\frac{1}{8}$ x 1 $\frac{3}{8}$ "	3.30	2.81	2.64	2.20
64G131	FT-14*	26	.25	1 $\frac{1}{16}$ x 2 $\frac{1}{8}$ x 1 $\frac{3}{8}$ "	3.75	3.19	3.00	2.50

## TELEMETERING BANDPASS FILTERS

TMN and TMW Types. 100K inputs and outputs. Insertion loss, under 6 db. Attenuation: Type TMN; more than 40 db beyond 1.75 x ctr. freq. and .58 x ctr. freq.; Type TMW; more than 40 db beyond 2.5 x ctr. freq. and .4 x ctr. freq. Figs. in Type col. indicate ctr. freq. in k. Bandwidth: down less than 3 db at  $\pm 7.5\%$  of ctr. freq. except \*15%. Types TMN-4 thru TMN-1.7 are 2x1 $\frac{1}{16}$  x 1 $\frac{3}{16}$ " x 1 $\frac{3}{16}$ " remainder are 1 $\frac{3}{16}$  x 2 $\frac{3}{16}$  x 2 $\frac{3}{16}$ ".

MNF and MWF. Similar to above but smaller. MNF-4 thru 5.4 are 1 $\frac{1}{16}$  x 1 $\frac{1}{16}$  x 1 $\frac{1}{16}$ ". Remainder are  $\frac{1}{2}$  x 2 $\frac{3}{16}$  x 2 $\frac{3}{16}$ ".  $\frac{1}{3}$  oz. Shpg. wt., 2 oz.

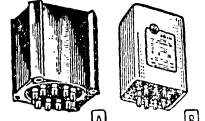


Stock No.	Type TMN-	Stock No.	Type MNF-	May Be Assorted			Not Assorted
				1-24 EA.	25-99 EA.	100-Up EA.	
63 G 267	4	63 G 309	4	39.00	33.15	31.20	26.00
63 G 269	.56	63 G 310	.56	39.00	33.15	31.20	26.00
63 G 270	.73	63 G 311	.73	39.00	33.15	31.20	26.00
63 G 275	.96	63 G 312	.96	39.00	33.15	31.20	26.00
63 G 285	1.3	63 G 313	1.3	39.00	33.15	31.20	26.00
63 G 286	1.7	63 G 314	1.7	39.00	33.15	31.20	26.00
63 G 287	2.3	63 G 315	2.3	39.00	33.15	31.20	26.00
63 G 288	3.0	63 G 316	3.0	39.00	33.15	31.20	26.00
63 G 289	3.9	63 G 317	3.9	39.00	33.15	31.20	26.00
63 G 300	5.4	63 G 318	5.4	39.00	33.15	31.20	26.00
63 G 301	7.35	63 G 332	7.35	39.00	33.15	31.20	26.00
63 G 302	10.5	63 G 333	10.5	42.00	35.70	33.60	28.00
63 G 303	14.5	63 G 334	14.5	42.00	35.70	33.60	28.00
63 G 304	22	63 G 335	22	42.00	35.70	33.60	28.00
63 G 305	30	63 G 336	30	42.00	35.70	33.60	28.00
63 G 306	40	63 G 337	40	42.00	35.70	33.60	28.00
63 G 307	52.5	63 G 338	52.5	42.00	35.70	33.60	28.00
63 G 308	70	63 G 339	70	42.00	35.70	33.60	28.00

Stock No.	Type TMW-	Stock No.	Type MWF-	May Be Assorted			Not Assorted
				1-24 EA.	25-99 EA.	100-Up EA.	
63 G 340	22*	63 G 345	22*	42.00	35.70	33.60	28.00
63 G 341	30*	63 G 346	30*	42.00	35.70	33.60	28.00
63 G 342	40*	63 G 347	40*	42.00	35.70	33.60	28.00
63 G 343	52.5*	63 G 348	52.5*	42.00	35.70	33.60	28.00
63 G 344	70*	63 G 349	70*	42.00	35.70	33.60	28.00

## TYPE LS LINEAR STANDARD TRANSFORMERS

Meet broadcast industry standards. Hiperm-Alloy cores, plus multiple-section, inter-leaved semitoroidal coil windings assure minimum leakage reactance. Hum kept to minimum by hum-balancing coils and shielded outer case.



## OUTPUT TRANSFORMERS

Max. level 20 watts except LS-35, 35 w.; cps.  $4\frac{3}{16} \times 3\frac{1}{2} \times 4\frac{7}{16}$ " except LS-35 and LS-667, 4 $\frac{1}{16}$  x 5 x 5 $\frac{1}{16}$ " 8 lbs. except \*16 lbs.

Stock No.	Mfr's Type	Pri. Imp. (Ohms)	Secondary Impedances (Ohms)	May Be Assorted			Not Assd.
				1-24 EACH	25-99 EACH	100-Up EACH	
62 G 847	LS-55	5K/3K	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 333, 500	24.00	20.40	19.20	16.00
62 G 850	LS-61	10K/6K		24.00	20.40	19.20	16.00
62 G 848	LS-57	5K/3K	1.2, 2.5, 5, 7.5, 10, 15, 20, 30	21.00	17.85	16.80	14.00
62 G 855	LS-63	10K/6K		21.00	17.85	16.80	14.00
62 G 871	LS-35*	5K	4, 8, 16	24.00	20.40	19.20	16.00
63 G 073	LS-667*	8 (split)		21.00	17.85	16.80	14.00

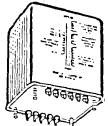
## LOW-IMPEDANCE-TO-GRID AND MIXING TRANSFORMERS

Primary impedance: 50, 125-150, 200,  $\pm 1$  db from 20-50,000 cps. Maximum level 250, 333, 500-600 ohms. HA-100X:  $\pm 1$  (dbm): Type HA-108X, +18; Type HA-100X, +16.  $3\frac{1}{8} \times 1\frac{1}{2} \times 1\frac{3}{8}$ " 2 $\frac{1}{2}$  lbs.

Stock No.	Mfr's Type	Application	Secondary Impedance (Ohms)	May Be Assorted			Not Assd.
				1-24 EACH	25-99 EACH	100-Up EACH	
62 G 806	HA-100X	Line to grid	60,000	17.40	14.79	13.92	11.60
62 G 810	HA-108X	Mixer-Line	Same as primary	19.80	16.83	15.84	13.20

## MILITARY STANDARD AUDIO UNITS

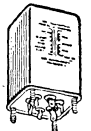
Hermetically sealed—meet MIL-T-27B. 300 cycles to 10 KC,  $\pm 2$  db for all types. Types W-784, 785, and 786 have electrostatic shielding. Primary DC current rating: 10 ma unbalanced for W-783, 789; 40 ma unbalanced for W-787, 788; 20 ma balanced for W-790, 791. Level: 15 dbm for W-783, 785, and 786;  $\frac{1}{2}$  watt for W-791; 1 watt for 790; 2 watts for all others. \*Split winding—use either center-tap or at  $\frac{1}{4}$  impedance. All units in MIL AJ case.  $2\frac{3}{8} \times 1\frac{1}{2} \times 1\frac{1}{8}$ " Shpg. wt., 1 lb.



Stock No.	Mfr's Type	MS No.	Primary-Secondary Ohms	May Be Assorted			Not Assd.
				1-24 EACH	25-99 EACH	100-Up EACH	
62 G 269	W-783	90000	10K CT-90K*	15.90	13.52	12.72	10.60
62 G 270	W-784	90001	600*4/8/16	14.70	12.50	11.76	9.80
62 G 272	W-785	90002	600*-135K CT	14.10	11.99	11.28	9.40
62 G 273	W-786	90003	600*-600*	14.10	11.99	11.28	9.40
62 G 274	W-787	90004	7600/4800-600*	12.75	10.84	10.20	8.50
62 G 277	W-788	90005	7600/4800-4/8/16	12.90	10.97	10.32	8.60
62 G 278	W-789	90006	15K CT-600*	12.45	10.58	9.96	8.30
62 G 279	W-790	90007	24K CT-600*	12.90	10.97	10.32	8.60
62 G 280	W-791	90008	60K CT-600*	12.45	10.58	9.96	8.30

## MIL. STANDARD FILAMENT, POWER, PLATE UNITS

Meet MIL-T-27B. \*With fil. windings: Type N-593A, 6.3/5V-2A, 6.3V-3A; N-594A, 6.3V/5V-2A, 6.3V-4A; N-595A, 5V-3A, 6.3V-5A; N-596A, 5V-3A, 6.3V-8A; N-597A, 5V-3A, 6.3V-8A. All are electrostatically shielded. All have 105/115/125 V, 54-66 cycle primaries. Largest fil. unit, 4x3 $\frac{3}{8}$  x 4 $\frac{1}{2}$ "; largest power, 4 $\frac{3}{4}$  x 4 $\frac{5}{8}$ "; largest plate, 5x4 $\frac{1}{4}$  x 5 $\frac{1}{2}$ ". Current ratings for hi-voltage sec. are DC, choke input; derate 70% for capacitor input.



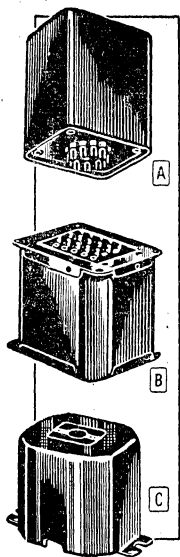
Stock No.	Mfr's Type	MS No.	Secondary Ratings	Wt. Lbs.	May Be Assorted			Not Assd.
					1-24 EACH	25-99 EACH	100-Up EACH	
62 G 282	N-583A	90016-2	2.5V-3A 1000 WV	1 $\frac{1}{2}$	10.20	8.67	8.16	6.80
62 G 283	N-584A	90017-2	2.5V-10A 1000 WV	2 $\frac{3}{4}$	14.10	11.99	11.28	9.40
62 G 284	N-585A	90018-2	5V-3A 1000 WV	2 $\frac{1}{4}$	11.10	9.44	8.88	7.40
62 G 285	N-586A	90019-2	5V-10A 1000 WV	4	15.30	13.30	12.24	10.20
62 G 287	N-587A	90020-2	6.3V-2A 1000 WV	2	11.10	9.44	8.88	7.40
62 G 288	N-588A	90021-2	6.3V-5A 1000 WV	3 $\frac{1}{2}$	12.90	10.96	10.32	8.60
62 G 289	N-589A	90022-2	6.3V-10A 1000 WV	5 $\frac{1}{2}$	17.70	15.04	14.16	11.80
62 G 290	N-590A	90023-2	6.3V-20A 1000 WV	8	22.50	19.12	18.00	15.00
62 G 291	N-591A	90024-2	2.5V-10A 6300 WV	5	18.00	15.30	14.40	12.00
62 G 292	N-592A	90025-2	5V-10A 6300 WV	6 $\frac{1}{2}$	21.00	17.85	16.80	14.00
62 G 293	N-593A	90026-2	200-100-0-100-200 70 ma*	4 $\frac{1}{4}$	20.70	17.59	16.56	13.80
62 G 294	N-594A	90027-2	325-0-325, 70 ma*	5 $\frac{1}{2}$	22.35	19.00	17.88	14.90
62 G 295	N-595A	90028-2	325-0-325, 150 ma*	8	25.35	21.55	20.28	16.90
62 G 296	N-596A	90029-2	400-0-400, 175 ma*	10	27.30	23.20	21.84	18.20
62 G 297	N-597A	90030-2	450-0-450, 250 ma*	13 $\frac{1}{2}$	33.90	28.81	27.12	22.60
62 G 298	N-598A	90031-2	550-0-550, 250 ma*	17 $\frac{1}{2}$	39.90	33.83	31.84	26.20
62 G 299	N-599A	90032-2	550-0-550, 250 ma*	10 $\frac{1}{2}$	26.85	22.82	21.48	17.90
62 G 300	N-600A	90036-2	800-0-800, 250 ma	17	37.50	31.87	30.00	25.00



# UTC Transformers and Chokes

## ULTRA-COMPACT HIGH-FIDELITY AUDIO UNITS

Meet broadcast standards. Response (cps): † is 20-20,000; ‡ is 40-20,000; A-27, 30-20,000; A-20; 10-50,000; A-21, 30-30,000; A-26, 20-40,000; A-43, 20-30,000. All ±2 db. \*Multiple alloy shield. 2x1½x1½". Wt., ¾ lb.



Stock No.	Mfr's Type	Application	Primary Impedance	Secondary Impedance	Max. Level	May Be Assorted			Not Ass't'd
						1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH
62 G 820	A-10†	Low imp. to grid	50, 125-150, 200-250, 333, 500-600	50K	15 dbm	13.20	11.22	10.56	8.80
62 G 821	A-11*†	Low imp. to 1, 2 grids	50, 200, 500	50K, P.P.	5 dbm	12.00	10.20	9.60	8.00
62 G 822	A-12†	Low imp. to PP grids	Same as A-10	80K 2 sect	15 dbm	12.00	10.20	9.60	8.00
62 G 864	A-15†	T. interstage	10K-2.5K	500-2K	15 dbm	9.90	8.42	7.92	6.60
62 G 824	A-16†	Plate to grid	15K	60K 2:1	15 dbm	9.90	8.42	7.92	6.60
62 G 305	A-17†	Plate to grid	15K	60K	15 dbm	12.00	10.20	9.60	8.00
62 G 825	A-18†	1 or PP pl. to PP gr.	15K (Split)	80K P.P. 2.3:1	15 dbm	12.00	10.20	9.60	8.00
62 G 825	A-19†	Plate to PP grids	15K—8 ma DC	80K P.P. 2.3:1	15 dbm	12.00	10.20	9.60	8.00
62 G 827	A-20	Mixing, matching	Same as A-10	Same as Pri.	15 dbm	14.40	12.24	11.52	9.60
62 G 828	A-21*	Mixing, matching	50, 200-250, 500-600	Same as Pri.	15 dbm	12.00	10.20	9.60	8.00
62 G 868	A-22†	T. interstage or out.	500	125-250, split	1 w	9.90	8.42	7.92	6.60
62 G 873	A-23†	T. interstage or out.	500	4-16, split	1 w	9.90	8.42	7.92	6.60
62 G 779	A-26	1 or PP pl. to line	30K P. to P.	As A-10 pri.	15 dbm	13.20	11.22	10.56	8.80
62 G 306	A-27	Xtal./hi. imp. to line	100K (Split)	As A-10 pri.	15 dbm	12.00	10.20	9.60	8.00
62 G 307	A-28†	Transistor to V.C.	48 CT	16 (split)/8/4	5 w.	10.20	8.67	8.16	6.80
62 G 308	A-30	Audio inductor	450 hys @ 0 ma., 250 hys @ 5 ma., 6000 ohms DC; 65 hys @ 10 ma., 1500 ohms DC			10.20	8.67	8.16	6.80
62 G 309	A-32	Filter inductor	60 hys/15 ma/2000 Ω; 15 hys/30 ma/500 Ω			6.60	5.61	5.28	4.40
62 G 310	A-36†	T. interstage	50/125 (Split)	150/37.5 (Split)	1 w	9.60	8.16	7.68	6.40
61 G 799	A-39*†	Line to transistor	600-150 (Split)	2000-500 (Split)	10 dbm	11.10	9.44	8.88	7.40
62 G 311	A-40	Power transformer	115 v., 60 cycles	Two 6.3V CT-2A	.....	9.90	8.42	7.92	6.60
62 G 312	A-41	Filter inductor	240 mhy/.2A/6Ω; 60mhy/.4A/1.5 Ω			6.30	5.36	5.04	4.20
62 G 561	A-42	Split filter inductor (two windings)	Series: 4 hys @ 50 ma DC, 100 ohms; parallel: 1 hy @ 100 ma DC, 25 ohms			6.60	5.61	5.28	4.40
62 G 562	A-43	Mixing/matching line or T. to 2 lines/T.	600-150 (Split)	Two 600-125 (Split)	15 dbm	14.10	11.98	11.28	9.40
62 G 874	A-33	Mu-metal shield; for any of above				2.70	2.30	2.16	1.80

## FILTER, SWINGING AND AUDIO CHOKES

S-23 to S-30, S-80, are Fig. C; S-31 to S-38, S-81 are Fig. B. Insulation volts: S-80, 500; S-23 to S-30, S-81, 1500; S-31, S-32, 2700; S-33, S-34, 4000; S-35, S-36, 5000; S-37, S-38, 6000. Type S-81 has 2 windings; values are given for split winding in series and parallel.

Stock No.	Mfr's Type	Henry's Mhy	Ma	Ohms	Size (HWD)	Wt., Lbs.	May Be Assorted			Not Ass't'd
							1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH
62 G 776	S-23	300	5	5000	2½x3x3½x1½"	1½	4.50	3.83	3.60	3.00
62 G 725	S-24	500 CT	3	6000	2½x3x3½x1½"	1½	5.10	4.34	4.08	3.40
62 G 726	S-25	30	30	800	2½x3x3½x1½"	1½	3.90	3.32	3.12	2.60
62 G 727	S-26	12	60	250	2½x3x3½x1½"	1½	3.90	3.32	3.12	2.60
62 G 728	S-27	25	75	350	2½x3x4x2½"	3	5.10	4.34	4.08	3.40
62 G 729	S-28	20	100	350	2½x4x4x2½"	3	6.30	5.36	5.04	4.20
62 G 730	S-29	6	175	90	2½x4x4x2½"	3	5.10	4.34	4.08	3.40
62 G 731	S-30	4/20	175	90	2½x4x4x2½"	3	5.10	4.34	4.08	3.40
62 G 732	S-31	6	225	100	3½x4x3½x4½"	4½	6.90	5.87	5.52	4.60
62 G 733	S-32	4/20	225	100	3½x4x3½x4½"	4½	6.90	5.87	5.52	4.60
62 G 751	S-33	8	300	100	4½x4x5x5½"	8	9.30	7.91	7.44	6.20
62 G 734	S-34	4/20	300	100	4½x4x5x5½"	8	9.60	8.16	7.68	6.40
62 G 735	S-35	8	400	60	4½x5x5x5½"	12	12.00	10.20	9.60	8.00
62 G 736	S-36	4/20	400	60	4½x5x5x5½"	12	12.00	10.20	9.60	8.00
62 G 737	S-37	8	550	60	4½x5x5x5½"	12	15.00	12.75	12.00	10.00
62 G 738	S-38	4/20	550	60	4½x5x5x5½"	12	15.00	12.75	12.00	10.00
62 G 315	S-80	45/10*	1.75†	.5	1½x2½x1½x1¾"	1	3.90	3.32	3.12	2.60
62 G 316	S-81	100/8*	2.5†	.15	2 windings					
		25/2*	5†	.15	2½x3½x4x2½"	2	6.00	5.10	4.80	4.00

## SINGLE-SECONDARY FILAMENT TRANSFORMERS

All primaries tapped at 105, 115 volts, 50-60 cycles. \*Indicates single, tapped winding.

Stock No.	Mfr's Type	Fig.	Secondary (CT)	Ins. Volts	Size (HWD)	Wt., Lbs.	May Be Assorted			Not Ass't'd
							1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH
62 G 703	S-53	C	2.5V @ 10A	1500	2½x3x3½x2½"	2	6.30	5.36	5.04	4.20
62 G 704	S-54	C	5V @ 4A	2500	2½x3x3½x2½"	2	5.70	4.85	4.56	3.80
62 G 705	S-55	C	6.3V @ 3A	1500	2½x3x3½x2½"	2	5.40	4.59	4.32	3.60
62 G 707	S-57	B	2.5V @ 10A	10000	3½x4x3½x4½"	4½	9.00	7.65	7.20	6.00
62 G 708	S-58	B	2.5V @ 20A	10000	3½x4x3½x4½"	4½	9.90	8.42	7.92	6.60
62 G 709	S-59	B	5V @ 13A	5000	3½x4x3½x4½"	4½	9.30	7.91	7.44	6.20
62 G 710	S-60	B	5V @ 22A	10000	4½x4x5x5½"	8	13.20	11.22	10.56	8.80
62 G 711	S-61	B	7.5, 6.3V @ 10A*	3000	3½x4x3½x4½"	4½	10.20	8.67	8.16	6.80
62 G 712	S-62	B	10V @ 10A	3000	3½x4x3½x4½"	4½	9.30	7.91	7.44	6.20
62 G 713	S-63	B	14, 12, 11V @ 10A*	5000	4½x4x5x5½"	8	13.20	11.22	10.56	8.80

## TRANSISTOR/FILAMENT SUPPLY TRANSFORMERS

Have 115 v., 50-60 cycle primaries tapped on S-77 and S-78 for dual secondary voltages.

Stock No.	Mfr's Type	Fig.	Secondary		Size (HWD)	Wt., Lbs.	May Be Assorted			Not Ass't'd
			Volts	Amps			1-24 EACH	25-99 EACH	100-Up EACH	100-499 EACH
62 G 128	S-75	C	Two-6.3	.6 each	1½x2½x1½x1¾"	1	6.00	5.10	4.80	4.00
62 G 129	S-76	C	Two-12.6	2.0 each	2½x3x3½x2½"	3	9.00	7.65	7.20	6.00
62 G 134	S-77	B	Two-17/21.5	1.5 each	3½x4x3½x4½"	4½	10.20	8.67	8.16	6.80
62 G 317	S-78	B	Two-34/43	4.5 each	5½x5½x6½"	21	30.00	25.50	24.00	20.00

## PLATE TRANSFORMERS FOR 115 V., 50-60 CYCLES

Type S-44. Secondary voltage: 575-525-0-525-575. DC current, 500 ma. Size (HWD), 5½x5½x6¾". Wt., 21 lbs.

62 GU 744, 1-24	.....	EACH	25.80
25-99, May Be Assorted	.....	EACH	21.93
100-Up, May Be Assorted	.....	EACH	20.64
100-499, Not Assorted	.....	EACH	17.20

Type S-45. Secondary voltage: 900-750-0-750-900. DC current, 200 ma. Size (HWD), 4½x5½x5½". Wt., 12 lbs.

62 G 745, 1-24	.....	EACH	21.85
25-99, May Be Assorted	.....	EACH	17.85
100-Up, May Be Assorted	.....	EACH	16.80
100-499, Not Assorted	.....	EACH	14.00

Type S-46. Secondary voltage: 1000-750-0-750-1000. DC current, 300 ma. Size (HWD), 5½x5½x6¾". Wt., 21 lbs.

62 GU 746, 1-24	.....	EACH	24.00
25-99, May Be Assorted	.....	EACH	20.40
100-Up, May Be Assorted	.....	EACH	19.20
100-499, Not Assorted	.....	EACH	16.00

Type S-47. Secondary voltage: 1500-1250-1000-0-1000-1250-1500. DC current, 300 milliamps. Case (HWD), 5½x6½x6¾". Wt., 24 lbs.

62 GU 748, 1-24	.....	EACH	33.00
25-99, May Be Assorted	.....	EACH	28.05
100-Up, May Be Assorted	.....	EACH	26.40
100-499, Not Assorted	.....	EACH	22.00

Type S-48. Secondary voltage: 1500-1250-1000-0-1000-1250-1500. DC current, 500 ma. Case size (HWD), 5½x6½x6¾". Wt., 31 lbs.

62 GU 749, 1-24	.....	EACH	39.00
25-99, May Be Assorted	.....	EACH	33.15
100-Up, May Be Assorted	.....	EACH	31.20
100-499, Not Assorted	.....	EACH	26.00

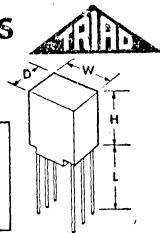
Type S-49. Secondary voltage: 2100-1800-1500-0-1500-1800-2100. DC current, 300 ma. Case size (HWD), 5½x6½x6¾". Wt., 31 lbs.

62 GU 750, 1-24	.....	EACH	36.00
25-99, May Be Assorted	.....	EACH	30.60
100-Up, May Be Assorted	.....	EACH	28.80
100-499, Not Assorted	.....	EACH	24.00

Type S-50. Secondary voltage: 3000-2500-0-2500-3000. DC current, 300 ma. Case size (HWD), 10½x7½x9¾". Shpg. wt., 52 lbs.

62 GU 700, 1-24	.....	EACH	60.00
25-99, May Be Assorted	.....	EACH	51.00
100-Up, May Be Assorted	.....	EACH	48.00
100-499, Not Assorted	.....	EACH	40.00

# Triad Transistor Power and Audio Transformers



## "RED SPEC" MINIATURE TRANSISTOR TRANSFORMERS

Engineered to MIL-T-27A. Specially designed for use in all transistorized and printed circuit applications. Each unit weighs only 1/10th of an ounce! All have solid epoxy-molded cases. Provide top performance from 100 cps to 100 kc, 105-volt DC operating voltage. High-strength, bare nickel alloy leads (.020" dia.) eliminate need for stripping or tinning. Spaced

on standard 1/10" grid centers to fit printed circuit boards. Decals permanently affixed giving type, usage, lead numbers and connection data. When mounted on printed circuit board, separator plate leaves viewing area under transformer for lead inspection. \*13ry hydrogen annealed Trialloy deep-drawn .020" case for 20-45 db magnetic shielding. Shpg. wt., 2 oz.

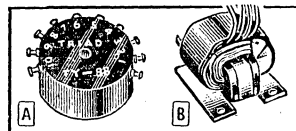
SP SPECS  
H = .485  
W = .410  
D = .310  
L = .75

Stock No.	Mfr's Type	MIL-T-27A Designation	Primary Impedance	Secondary Impedance	Mw	Application	EACH					
							1-9	10-24	25-49	50-99	100-249	250-U <sub>p</sub>
63 G 535	SP-4	TF5RX16ZZ	200,000 CT	1000 CT	10	Input	8.17	7.35	6.62	6.16	5.79	5.50
63 G 536	SP-5	TF5RX16ZZ	50,000 CT	1000 CT	25	Input	8.12	7.31	6.58	6.12	5.75	5.46
63 G 537	SP-7	TF5RX16ZZ	200,000	1000	10	Input	7.50	6.75	6.08	5.65	5.31	5.04
63 G 538	SP-11	TF5RX13ZZ	20,000/30,000	800/1200	40	Interstage	7.00	6.30	5.67	5.27	4.95	4.70
63 G 539	SP-13	TF5RX13ZZ	20,000/30,000 CT	800/1200 CT	40	Interstage	7.22	6.50	5.85	5.44	5.11	4.85
63 G 540	SP-15	TF5RX13ZZ	10,000/12,000 CT	1500/1800 CT	50	Interstage	7.48	6.73	6.06	5.64	5.30	5.04
63 G 541	SP-20	TF5RX13ZZ	10,000/12,000 CT	1200/1500 CT	50	Driver	7.27	6.54	5.89	5.48	5.15	4.89
63 G 542	SP-21	TF5RX13ZZ	10,000/12,000 CT	2000/2500 CT	50	Driver	7.48	6.73	6.06	5.64	5.30	5.04
63 G 543	SP-29	TF5RX13ZZ	10,000/12,000 CT	500/600 CT	50	Driver	7.50	6.75	6.08	5.65	5.31	5.04
63 G 544	SP-32	TF5RX17ZZ	500/600	50/60	50	Output	6.34	5.71	5.14	4.78	4.49	4.29
63 G 545	SP-33	TF5RX17ZZ	1000/1200	50/60	50	Output	6.82	6.14	5.53	5.14	4.83	4.57
63 G 546	SP-34	TF5RX17ZZ	600	3.2	50	Output	6.55	5.90	5.31	4.94	4.64	4.41
63 G 547	SP-35	TF5RX13ZZ	1200	3.2	50	Output	6.65	5.99	5.39	5.01	4.71	4.47
63 G 548	SP-36	TF5RX13ZZ	10,000	3.2	50	Output	6.32	5.69	5.12	4.76	4.47	4.25
63 G 549	SP-42	TF5RX17ZZ	150/200 CT	12/16	50	Output	7.00	6.30	5.67	5.27	4.95	4.70
63 G 555	SP-43	TF5RX17ZZ	300/400 CT	12/16	50	Output	6.50	5.85	5.27	4.90	4.61	4.38
63 G 556	SP-44	TF5RX17ZZ	600/800 CT	12/16	50	Output	7.02	6.32	5.69	5.29	4.97	4.72
63 G 557	SP-46	TF5RX17ZZ	1000/1300 CT	12/16	50	Output	7.12	6.41	5.77	5.37	5.05	4.80
63 G 558	SP-47	TF5RX13ZZ	1500/2000 CT	12/16	50	Output	7.38	6.64	5.98	5.56	5.23	4.97
63 G 559	SP-48	TF5RX13ZZ	7500/10,000 CT	12/16	50	Output	6.82	6.14	5.53	5.14	4.83	4.59
63 G 560	SP-49	TF5RX13ZZ	300 CT	600	50	Output	5.38	4.84	4.36	4.05	3.81	3.62
63 G 561	SP-50	TF5RX17ZZ	500 CT	600	50	Output	6.67	6.00	5.40	5.02	4.72	4.48
63 G 562	SP-51	TF5RX17ZZ	900 CT	600	50	Output	6.28	5.65	5.09	4.73	4.45	4.23
63 G 563	SP-52	TF5RX17ZZ	1500 CT	600	50	Output	8.10	7.29	6.56	6.10	5.73	5.44
63 G 564	SP-59	TF5RX17ZZ	120/150 CT	3.2/4	50	Output	6.88	6.19	5.57	5.18	4.87	4.62
63 G 565	SP-60	TF5RX17ZZ	320/400 CT	3.2/4	50	Output	7.00	6.30	5.67	5.27	4.95	4.70
63 G 566	SP-61	TF5RX17ZZ	600/750 CT	3.2/4	50	Output	6.67	6.00	5.40	5.02	4.72	4.48
63 G 567	SP-62	TF5RX17ZZ	800/1000 CT	3.2/4	50	Output	6.84	6.16	5.54	5.15	4.84	4.60
63 G 568	SP-63	TF5RX13ZZ	1200/1500 CT	3.2/4	50	Output	6.28	5.65	5.09	4.73	4.45	4.23
63 G 569	SP-64	TF5RX13ZZ	1600/2000 CT	3.2/4	50	Output	6.43	5.79	5.21	4.85	4.56	4.33
63 G 585	SP-65	TF5RX13ZZ	8000/10,000 CT	3.2/4	50	Output	7.50	6.75	6.08	5.65	5.31	5.04
63 G 586	SP-66	TF5RX13ZZ	10,000 CT	10,000 CT	50	Output Isolation	7.68	6.91	6.22	5.78	5.43	5.16
62 G 000	SP-67	TF5RX17ZZ	600 CT	600 CT	50	Output Isolation	6.90	6.21	5.59	5.20	4.89	4.65
63 G 587	SP-106	TF5RX20ZZ				Audio Choke	5.83	5.25	4.73	4.30	4.04	3.84
63 G 588	SP-107	TF5RX20ZZ	6 hy. @ 2 ma. 1.25 hy. @ 2 ma.			Audio Choke	5.34	4.81	4.33	4.03	3.79	3.60
63 G 589	SP-108	TF5RX20ZZ	3.5 hy. @ 2 ma.			Audio Choke	5.90	5.31	4.78	4.45	4.18	3.97
62 G 001	SP-117	TF5RX20ZZ	.9 hy. @ 2 ma.			Audio Choke	4.88	4.39	3.95	3.67	3.45	3.28
63 G 590	SP-118	TF5RX20ZZ	.3 hy. @ 4 ma.			Audio Choke	5.68	5.11	4.60	4.28	4.02	3.82
62 G 002	SP-128	TF5RX20ZZ	1 hy. @ 5 ma.			Audio Choke	4.48	4.03	3.63	3.38	3.18	3.02
63 G 591	SP-310		*Magnetic shielding case				.84	.80	.76	.70	.67	.63

## A EPOXY-MOLDED TOROIDAL TRANSISTOR POWER-SUPPLY TRANSFORMERS (DC TO DC)

DC to DC transformers (Fig. A) for military uses, marine work, or where the power supply is assembled in chassis form. Hermetically sealed, small in size, mount with a single bolt, and have strong turret terminals. Usable in either common emitter or common collector circuits. Single-hole mounting and peripheral terminals permit ready stacking for easy series-

parallel connections where increased output is needed. Designed to meet requirements of MIL-T-27A, Grade 5, Class R. All transformers, including DC to AC (Fig. B), permit current conversion in very small volume at high efficiencies. Elimination of moving parts sharply increases life. Circuitry and circuit constants for use with various transistors supplied with transformers.



Stock No.	Mfr's Type	DC Input Volts	DC Output Volts	DC Ma	Size (Dia. x Ht.)	Wt., Lbs.	EACH					
							1-9	10-24	25-49	50-99	100-249	250-U <sub>p</sub>
63 G 617	TY-78	12.6	250/125	100	1 3/4 x 1 1/16"	1/2	14.72	13.25	11.93	11.09	10.42	9.90
63 G 618	TY-79	12.6	300/150	200	1 3/4 x 1"	1/2	15.34	13.81	12.43	11.56	10.87	10.33
63 G 619	TY-80	12.6	325/162.5	150	1 3/4 x 1"	1/2	15.94	14.35	12.92	12.02	11.30	10.74
63 G 624	TY-81	12.6	375/187.5	200	2x1"	3/4	15.19	13.67	12.30	11.44	10.75	10.21
63 G 625	TY-82	12.6	450/225	150	2x1"	3/4	15.27	13.74	12.37	11.50	10.81	10.27
62 G 203	TY-83	12.6	500/250	250	2 3/4 x 1 3/8"	1	18.34	16.51	14.86	13.82	12.99	12.34
63 G 626	TY-84	12.6	600/300	200	2 3/4 x 1 3/8"	1 1/4	15.84	14.26	12.83	11.93	11.21	10.65
63 G 627	TY-88	28.0	250/125	80	1 5/16 x 3/8"	1/2	11.10	10.55	9.99	9.25	8.79	8.33
63 G 628	TY-89	28.0	300/150	100	1 5/16 x 1/16"	1/2	13.72	12.35	11.12	10.34	9.72	9.23
63 G 629	TY-90	28.0	325/162.5	200	1 3/4 x 1"	1/2	16.00	14.40	12.96	12.05	11.33	10.76
63 G 635	TY-91	28.0	375/187.5	200	2x1"	3/4	15.60	14.04	12.64	11.76	11.05	10.50
63 G 636	TY-92	28.0	450/225	200	2x1"	3/4	15.50	13.95	12.56	11.68	10.98	10.43
62 G 202	TY-93	28.0	500/250	750	2 3/4 x 1 3/8"	1	18.07	16.26	14.63	13.61	12.79	12.15
63 G 637	TY-94	28.0	600/300	200	2 3/4 x 1 3/8"	1 1/4	15.96	15.16	14.36	13.30	12.64	11.97
63 G 638	TY-99	6.0	300/150	100	1 3/4 x 1"	1/2	13.45	12.11	10.90	10.14	9.53	9.05
63 G 639	TY-100	6.0	325/162.5	150	2x1"	3/4	20.62	18.56	16.70	15.53	14.60	13.87
63 G 645	TY-101	6.0	375/187.5	200	2 3/4 x 1 3/8"	1 1/4	19.67	17.70	15.93	14.81	13.92	13.22
63 G 646	TY-102	6.0	450/225	150	2 3/4 x 1 3/8"	1 1/4	18.90	17.01	15.31	14.18	13.47	12.76

## B TRANSISTOR POWER-SUPPLY TRANSFORMERS (DC TO AC—See Description Above)

Stock No.	Mfr's Type	Fig.	DC Input Volts	AC Output		Size (HWD)	Wt., Lbs.	EACH					
				Volts	CPS Watts			1-9	10-24	25-49	50-99	100-249	250-U <sub>p</sub>
63 G 647	TY-468	B	28	400	60	1 7/8 x 2 1/4 x 2"	1	12.35	11.12	10.01	9.31	8.75	8.31
62 G 204	TY-462	B	12	400	60	1 7/8 x 2 1/4 x 2"	1	16.32	14.69	13.22	12.29	11.55	10.97
63 G 648	TY-75A	.....	12	60	115	3 7/8 x 3 3/4 x 1 1/4"	4	12.82	11.54	10.39	9.59	9.01	8.56
63 G 649	TY-76A	.....	12	60	60	3 3/8 x 2 1/2 x 2 5/8"	2	9.60	8.64	7.78	7.24	6.81	6.47

# Triad Power Transformers

Exceptionally compact, these Triad transformers feature: UL approved lead materials, vacuum varnish impregnated laminations, copper foil shielding, minimum

temperature rise (well under 50°C) and permanent circuit information on baked gray enamel case. Both windings should be connected in parallel with 115 v. line.

## COMBINED PLATE AND FILAMENT

Primary, 115 v., 60 cycle AC. \*Center-tapped. †375-0-80-375 v. secondary.

Stock No.	Mfr's Type	Fig.	Plate		Filaments				Size	Wt., Lbs.	EACH					
			Volts	Ma	V	A	V	A			1-9	10-24	25-49	50-99	100-249	250-U <sub>p</sub>
64 G 976	R-4	A	550*	60	...	...	6.3*	2	2 3/4x2 3/8x3 1/8	1 1/4	6.15	5.54	4.98	4.61	4.38	4.15
64 G 977	R-5	A	600*	45	...	...	6.3*	2.7	3 1/8x2 5/8x2 5/8	2 1/4	7.40	6.66	5.99	5.57	5.24	4.98
62 G 037	R-5	B	600	65	...	...	6.3*	2.7	1 3/4x3x2 1/2	2 1/4	7.45	6.71	6.04	5.62	5.28	5.02
61 G 900	R-6	A	480*	50	5	2	6.3*	2	3 1/8x2 5/8x2 5/8	2 1/4	7.17	6.45	5.81	5.40	5.08	4.83
64 G 978	R-7	A	600*	50	5	2	6.3*	2	3 1/8x2 5/8x2 5/8	2 1/4	8.22	7.40	6.66	6.19	5.82	5.53
61 G 902	R-8	A	500*	75	5	2	6.3*	2.5	3 1/8x2 5/8x3 1/8	3	8.28	7.45	6.71	6.24	5.87	5.58
64 G 979	R-9	A	600*	75	5	2	6.3*	3	3 3/8x3 3/8x3 3/8	3 1/2	8.67	7.80	7.02	6.53	6.14	5.83
62 G 036	R-9	B	600	75	5	2	6.3*	3	2x3 3/8x2 1/2	3 1/2	9.05	8.15	7.34	6.83	6.42	6.10
61 G 903	R-10	A	525*	90	5	2	6.3*	5	3 1/2x3x3 5/8	4 1/2	10.69	9.62	8.66	8.05	7.57	7.19
64 G 986	R-11	A	700*	90	5	3	6.3*	3.5	3 3/8x3 3/8x4 1/4	4 1/2	10.34	9.31	8.38	7.79	7.32	6.95
61 G 904	R-12	A	550*	110	5	2	6.3*	5	3 7/8x3 1/4x3 1/8	4 1/4	10.67	9.60	8.64	8.04	7.56	7.18
62 G 035	R-12	B	550	110	5	2	6.3*	5	2 1/4x3 3/8x3 1/8	4 1/4	10.72	9.65	8.69	8.08	7.60	7.22
64 G 987	R-14	A	700*	125	5	3	6.3*	4.5	4x3 1/4x3 1/8	6	12.40	11.16	10.04	9.34	8.78	8.34
62 G 047	R-12	A	800*	140	5	3	6.3*	4	4 1/2x3 1/2x3 3/8	5 3/4	11.77	10.59	9.53	8.86	8.33	7.91
61 G 905	R-16	A	700*	160	5	3	6.3*	5	3 7/8x3 1/4x4 1/4	7	13.00	11.70	10.53	9.79	9.20	8.74
62 G 046	R-17	A	750†	160	5	3	6.3*/2.5*	5/5	4 1/4x3 1/8x4 1/4	7 1/4	15.39	13.85	12.47	11.60	10.90	10.36
61 G 906	R-18	A	750†	175	5	3	6.3*	8	4 1/4x3 5/8x4 3/8	8 1/2	12.66	11.39	10.25	9.50	9.02	8.55
61 G 907	R-20	A	700*	200	5	3	6.3*	8	4 1/4x3 5/8x4 1/8	9 1/4	12.50	11.25	10.12	9.41	8.85	8.41
62 G 040	R-20	B	700*	200	5	3	6.3*	8	3 1/8x4 1/8x3 7/8	9 1/4	13.52	12.17	10.95	10.18	9.57	9.09
61 G 908	R-21	A	800*	200	5	3	6.3*	6	4 1/4x3 5/8x4 5/8	9 1/4	15.82	14.24	12.82	11.92	11.20	10.64
61 G 912	R-71	A	900*	250	5	4	6.3*/6.3*	2/4	4 5/8x4x5*	12	17.72	15.95	14.36	13.35	12.56	11.93
62 G 038	R-24	A	800*	300	5	6	6.3*	6	4 5/8x3 1/2x6 1/4	14	16.74	15.07	13.56	12.61	11.85	11.26
62 G 039	R-25	A	800*	500	5	6	6.3*/6.3*	3/7	5 1/2x6 1/4x2x5 3/8	19	25.34	22.81	20.53	19.09	17.94	17.04

## REGULATED POWER SUPPLY TRANSFORMERS

Primary, 115 volts, 60 cycle AC. \*Center-tapped. †Independent windings.

Stock No.	Mfr's Type	Plate		Filaments				Size	Wt., Lbs.	EACH					
		Volts	Ma	V	A	V	A			1-9	10-24	25-49	50-99	100-249	250-U <sub>p</sub>
62 G 048	R-70A	880*	59	6.3/6.3	...	6.3/6.3	9/3	3 7/8x3 3/8x3 1/8	4 1/2	11.10	9.99	8.99	8.36	7.86	7.47
62 G 049	R-26A	880/720*	157	5	3	6.3CT/6.3/6.3	8/3/3	4 5/8x3 3/8x4 3/4	12	18.90	17.01	16.31	15.17	14.26	13.55
62 G 050	R-28A	1250*	236	5	6	6.3CT/6.3/6.3	8/3/3	5 1/2x6 1/4x2x5 5/8	20	25.86	23.27	20.94	19.47	18.30	17.39
62 G 051	R-27A	1500*	315	5	6	6.3/6.3	8/3	5 1/2x6 1/4x2x7 1/8	30	37.30	33.57	30.21	28.10	26.41	25.09

## CRT TRANSFORMERS

Primary, 115 v., 60 cycle AC. \*Center-tapped. †Independent windings.

62 G 067	R-41C	880*/1250	125/5	5/2.5	2.5	3/1.75	1.75	6.3/5	...	7 1/2	15.12	13.61	12.25	11.39	10.71	10.17
62 G 068	R-45C	800*/800	30/5	5	5	2/2	...	6.3/6.3*	6.3	6.3/1	13.47	12.12	10.91	10.15	9.54	9.06
62 G 069	R-43C	1600	3	...	...	2.5/5	6.3/2.5*	5/6.3	1/1.1	3/3.3	12.22	11.00	9.90	9.21	8.66	8.23

## FOR PREAMPS, VTVM'S, ETC.

Primary, 115 v., 60 cycle AC. \*Center-tapped. †Independent windings.

Stock No.	Mfr's Type	Fig.	Plate		Filaments				Size	Wt., Lbs.	EACH					
			Volts	Ma	V	A	V	A			1-9	10-24	25-49	50-99	100-249	250-U <sub>p</sub>
62 G 052	R-68A	A	800*	30	5	2	6.3/7.6	3	3 3/8x2 1/2x3 1/8	3	9.00	8.10	7.29	6.78	6.37	6.05
61 G 901	R-2C	B	135	15	...	...	6.3	9	1 3/4x1 1/8x1 1/8	1	4.50	4.05	3.65	3.39	3.19	3.03
62 G 053	R-23B	B	250*	22	...	...	6.3/15.5/12.6	81/6	1 1/8x2 5/8x2 1/8	1 3/4	6.15	5.54	4.99	4.64	4.36	4.14
64 G 936	R-3A	A	500*	20	...	...	6.3*	2	2 25/32x2 1/2x2 1/2	1 3/4	6.28	5.65	5.09	4.73	4.45	4.23
61 G 909	R-29A	A	230*	40	...	...	6.3*	1.5	2 25/32x2 1/2x2 3/8	1 3/4	5.50	4.95	4.46	4.15	3.90	3.71
61 G 910	R-30X	C	135	50	...	...	6.3	1.5	2 25/32x3 3/4x2 1/8	1 1/2	4.89	4.40	3.96	3.67	3.48	3.30
61 G 911	R-54X	C	115	15	...	...	6.3	6	2 13/16x1 5/8x2 3/8	1	4.35	3.92	3.53	3.28	3.08	2.93
62 G 060	R-56A	A	130	20	...	...	15/22.5/30	6/1.6	6 25/32x2 1/2x2 3/8	2	6.32	5.69	5.12	4.76	4.47	4.25
62 G 061	R-73B	B	135	200	...	...	6.3*	5.5	1 7/8x3 3/8x2 1/8	2 1/4	7.45	6.71	6.04	5.62	5.28	5.02

## ISOLATION TRANSFORMERS

Types N-68X, N-52M and N-471A have split primaries; N-73A and N-74A, split secondaries. For 50-60 cycle AC operation.

Stock No.	Mfr's Type	Fig.	Output VA	Pri. Volts	Secondary		Size	Wt., Lbs.	EACH					
					V, ±5%	A.			1-9	10-24	25-49	50-99	100-249	250-U <sub>p</sub>
62 G 149	N-51X	C	35	115	115	.3	2 25/32x3 1/16x2 1/8	1 1/2	4.17	3.75	3.38	3.14	2.95	2.80
62 G 150	N-68X	C	50	115/230	115	.435	2 25/32x3 1/16x2 1/8	1 1/2	5.67	5.10	4.59	4.25	4.04	3.83
64 G 225	N-52M	...	350	95/130	115	3.04	4 5/8x3 1/2x6 7/8	17	28.07	25.26	22.73	21.14	19.87	18.88
62 G 151	N-53M	...	85	115	115	.74	3 1/2x3 3/8x3 3/8	4 1/2	9.32	8.39	7.55	7.02	6.60	6.27
62 G 152	N-54M	...	150	115	115	1.3	3 7/8x3 3/8x3 7/8	6 1/4	12.69	11.42	10.28	9.56	8.99	8.54
64 G 226	N-59M	...	1000	115	115	8.7	5 5/8x4 1/2x7 7/8	34	48.65	43.79	39.41	36.65	34.45	32.73
64 G 227	N-73A	A	150	115	115/230	.65	3 7/8x3 3/8x3 7/8	7	10.60	9.54	8.59	7.99	7.51	7.13
64 G 228	N-74A	A	150	115	67.5/115	1.3	3 7/8x3 3/8x3 7/8	7	10.45	9.41	8.47	7.88	7.41	7.04
62 G 153	N-471A	A	300	220/440	115	2.6	4 5/8x3 1/2x6 1/4	10 1/4	12.15	10.94	9.85	9.16	8.61	8.18

## STEPDOWN AUTOFORMER (50-60 Cycles)

Primary of Type N-35M is tapped in 5 v. steps for 95-130 v. inputs.; N-34X, in 10 v. steps for 95-130 v. inputs.

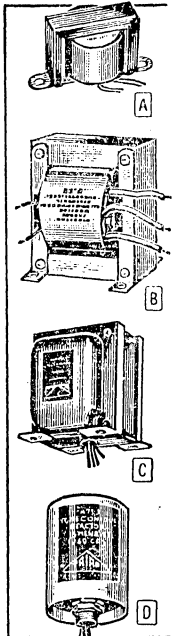
62 G 154	N-1X	C	50	115	115	.435	2 25/32x3 1/16x2 1/8	1 1/2	3.43	3.09	2.78	2.59	2.43	2.31
64 G 229	N-34X	C	150	0-95-105-115-125-135	115	1.3	2 1/2x3 1/2x2 1/4	2 1/4	6.07	5.46	4.91	4.57	4.30	4.09
64 G 230	N-35M	...	350	95-130	115	3.04	4 1/4x3 1/2x6 3/8	4 1/4	15.79	14.21	12.79	11.89	11.18	10.62

# Triad Filament, Power and Audio Transformers

## SINGLE-SECONDARY FILAMENT TRANSFORMERS (115 V., 60 Cycle AC Primary)

\*Isolation type, has 6.3 v. primary tapped for 5 v.

Stock No.	Mfr's Type	Fig.	Secondary		Size	Wt., Lbs.	EACH					
			Volts	Amp			1-9	10-24	25-49	50-99	100-249	250-Up
61 G 931	F-1X	A	2.5CT	3	1 <sup>11</sup> / <sub>16</sub> x2 <sup>13</sup> / <sub>16</sub> x1 <sup>7</sup> / <sub>8</sub> "	3/4	2.77	2.49	2.24	2.08	1.96	1.86
61 G 932	F-3X	A	2.5CT	10	2 <sup>1</sup> / <sub>4</sub> x3 <sup>13</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>4</sub> "	1 <sup>3</sup> / <sub>4</sub>	4.55	4.10	3.69	3.43	3.22	3.06
61 G 933	F-5U	B	2.5CT	10	3x2 <sup>1</sup> / <sub>2</sub> x2 <sup>3</sup> / <sub>8</sub> "	2	6.38	5.74	5.17	4.81	4.52	4.29
61 G 934	F-6X	A	2.5CT	6	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	3.78	3.41	3.07	2.86	2.69	2.56
61 G 935	F-7X	A	5CT	3	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	3.57	3.21	2.89	2.68	2.54	2.41
61 G 936	F-8X	A	5CT	6	2 <sup>1</sup> / <sub>4</sub> x3 <sup>13</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>4</sub> "	1 <sup>3</sup> / <sub>4</sub>	5.93	5.34	4.81	4.47	4.20	3.99
62 G 005	F-11U	B	5.2CT	24	3 <sup>1</sup> / <sub>2</sub> x3 <sup>13</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>8</sub> "	6 <sup>3</sup> / <sub>4</sub>	10.50	9.45	8.51	7.91	7.44	7.07
64 G 231	F-12X	A	5CT	8	2 <sup>1</sup> / <sub>2</sub> x3x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub>	4.62	4.16	3.74	3.48	3.27	3.10
64 G 953	F-13X	A	6.3	1.6	1 <sup>3</sup> / <sub>4</sub> x2 <sup>3</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	2.45	2.21	1.99	1.85	1.74	1.65
64 G 954	F-14X	A	6.3CT	1.2	1 <sup>11</sup> / <sub>16</sub> x2 <sup>13</sup> / <sub>16</sub> x1 <sup>3</sup> / <sub>8</sub> "	3/4	2.85	2.57	2.31	2.15	2.02	1.92
64 G 955	F-16X	A	6.3CT	3	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	4.73	4.26	3.83	3.56	3.35	3.18
64 G 956	F-18A	C	6.3CT	6	3 <sup>1</sup> / <sub>2</sub> x2 <sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub>	7.05	6.35	5.71	5.31	4.99	4.74
62 G 004	F-18X	A	6.3CT	6	2 <sup>1</sup> / <sub>2</sub> x3x2x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub>	5.02	4.52	4.07	3.79	3.56	3.38
64 G 957	F-21A	C	6.3CT	10	3 <sup>1</sup> / <sub>2</sub> x3x3 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub>	9.00	8.10	7.29	6.78	6.37	6.05
64 G 958	F-22A	C	6.3CT	20	4x3 <sup>1</sup> / <sub>4</sub> x4 <sup>3</sup> / <sub>16</sub> "	7	12.50	11.25	10.13	9.42	8.85	8.41
64 G 935	F-23U	B	10CT	7	3 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x2 <sup>15</sup> / <sub>16</sub> "	4	7.77	6.99	6.29	5.85	5.50	5.23
64 G 234	F-28U	B	7.5CT-6.3CT	25	4 <sup>3</sup> / <sub>8</sub> x3 <sup>13</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>8</sub> "	7 <sup>1</sup> / <sub>2</sub>	14.65	13.19	11.87	11.04	10.38	9.86
64 G 235	F-29U	B	12CT-11CT-10CT	11	4 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>2</sub> x3 <sup>1</sup> / <sub>16</sub> "	6 <sup>1</sup> / <sub>2</sub>	11.52	10.37	9.33	8.68	8.16	7.75
64 G 959	F-25X	A	12.6CT	1.5	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	3.17	2.85	2.57	2.39	2.25	2.14
61 G 937	F-26X	A	12.6CT	2.5	2 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>16</sub> x2 <sup>3</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>4</sub>	3.65	3.29	2.96	2.75	2.59	2.46
64 G 974	F-40X	A	24CT	1	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	3.39	3.05	2.75	2.54	2.42	2.29
61 G 938	F-41X	A	25.2CT	2.2	2 <sup>5</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub>	4.43	3.99	3.59	3.34	3.14	2.98
63 G 661	F-45X	A	24CT	1	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	3.39	3.05	2.75	2.54	2.42	2.29
64 G 232	F-50X*	A	6.3-5.0	2	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x2"	1 <sup>1</sup> / <sub>4</sub>	4.88	4.39	3.95	3.67	3.45	3.28
64 G 233	F-52X	A	6.3	1.2	1 <sup>11</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>4</sub> x1 <sup>3</sup> / <sub>4</sub> "	1	3.67	3.30	2.97	2.76	2.59	2.46
62 G 003	F-53X	A	6.3	4	2 <sup>1</sup> / <sub>2</sub> x2x4x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub>	5.48	4.93	4.44	4.13	3.88	3.69



ONE ORDER FILLS the BILL

## MULTIPLE-SECONDARY FILAMENT TRANSFORMERS (115 V., 60 Cycle Primary)

Stock No.	Mfr's Type	Fig.	Secondaries		Size	Wt., Lbs.	EACH					
			Volts	Ampers			1-9	10-24	25-49	50-99	100-249	250-Up
64 G 236	F-27U	B	10CT/2.5CT	10/10	4 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>2</sub> x3 <sup>1</sup> / <sub>16</sub> "	6 <sup>1</sup> / <sub>4</sub>	11.39	10.25	9.23	8.58	8.07	7.67
62 G 006	F-32A	C	6.3CT/6.3CT	3/3	3 <sup>3</sup> / <sub>8</sub> x2x2 <sup>1</sup> / <sub>2</sub> x2 <sup>3</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub>	5.82	5.24	4.72	4.39	4.13	3.92
62 G 007	F-34A	C	6.3CT/6.3/6.3/6.3	1.75/1.75/1.75/1.75	3 <sup>3</sup> / <sub>8</sub> x2x2 <sup>1</sup> / <sub>2</sub> x3"	3 <sup>1</sup> / <sub>4</sub>	8.67	7.80	7.02	6.53	6.14	5.83
62 G 010	F-36A	C	6.3CT/6.3/6.3/6.3	3.5/3.5/3.5/3.5	3 <sup>7</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>4</sub> "	5	10.27	9.24	8.32	7.74	7.28	6.92
62 G 011	F-42A	C	12.6CT/12.6	2.5/2.5	3 <sup>1</sup> / <sub>2</sub> x2 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>4</sub>	6.77	6.09	5.48	5.10	4.79	4.55
64 G 947	F-83A	C	12.6CT/12.6	5/5	3 <sup>1</sup> / <sub>2</sub> x2 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> "	6	10.85	9.77	8.79	8.17	7.68	7.30

## UNIVERSAL RECTIFIER POWER TRANSFORMER (60-Cycle Primary)

Stock No.	Mfr's Type	Fig.	Pri. V.	Secondary		Size	Wt., Lbs.	EACH					
				Volts	Amps			1-9	10-24	25-49	50-99	100-249	250-Up
62 G 012	F-47U	B	115	17/18	3	3 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x2 <sup>13</sup> / <sub>16</sub> "	3 <sup>1</sup> / <sub>4</sub>	6.30	5.67	5.10	4.73	4.49	4.25
62 G 013	F-48U	B	115	17/18	6	3 <sup>1</sup> / <sub>2</sub> x3x3 <sup>1</sup> / <sub>16</sub> "	5 <sup>1</sup> / <sub>2</sub>	9.02	8.12	7.31	6.80	6.39	6.12
62 G 014	F-49U	B	115	36/36*	3	4 <sup>5</sup> / <sub>8</sub> x3 <sup>13</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>16</sub> "	9 <sup>3</sup> / <sub>4</sub>	13.55	12.20	10.98	10.21	9.60	9.12
62 G 015	F-60U	B	115	6.5/13/19.5/26	3	3 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> "	3 <sup>1</sup> / <sub>2</sub>	6.15	5.54	4.99	4.64	4.36	4.14
64 G 238	F-64U	B	115	0/7/8/9	7	3 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>16</sub> "	3 <sup>1</sup> / <sub>2</sub>	7.50	6.75	6.08	5.63	5.34	5.06
62 G 016	F-67U	B	110-120	24/27/30/33/36	8	4 <sup>5</sup> / <sub>8</sub> x3 <sup>13</sup> / <sub>16</sub> x3 <sup>1</sup> / <sub>16</sub> "	10 <sup>3</sup> / <sub>4</sub>	17.72	15.95	14.36	13.35	12.55	11.92
62 G 025	F-79U	B	115	24/26/28/30	15	3 <sup>1</sup> / <sub>2</sub> x2 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> "	18 <sup>1</sup> / <sub>2</sub>	24.74	22.27	20.04	18.64	17.52	16.64
64 G 248	R-94H	...	115	6.3/6.3/180/177	3.5/5.5/5.5/0.005	3 <sup>1</sup> / <sub>2</sub> x6x4 <sup>5</sup> / <sub>8</sub> x5 <sup>1</sup> / <sub>2</sub> "	17	26.11	23.50	21.15	19.67	18.49	17.57

## LOW-VOLTAGE RECTIFIER TRANSFORMERS (Transistor Drive Voltage)

\*Tapped primary to produce lower voltages.

62 G 020	F-90X	A	115*	10/20CT/40CT	.1	1 <sup>5</sup> / <sub>8</sub> x2 <sup>13</sup> / <sub>16</sub> x1 <sup>5</sup> / <sub>8</sub> "	3/4	3.40	3.06	2.75	2.56	2.41	2.29
62 G 027	F-91X	A	115*	10/20CT/40CT	.3	2 <sup>3</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>16</sub> x2"	1 <sup>1</sup> / <sub>2</sub>	4.00	3.60	3.24	3.01	2.83	2.69
62 G 029	F-92A	C	115*	10/20CT/40CT	1	3 <sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x3 <sup>1</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>4</sub>	7.73	6.96	6.26	5.82	5.47	5.20
64 G 249	F-93X	A	115	10/20CT/40CT	.75	2 <sup>1</sup> / <sub>2</sub> x3x2x2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub>	5.48	4.93	4.44	4.13	3.88	3.69
64 G 250	F-94X	A	115	10/20CT/40CT	.035	1 <sup>5</sup> / <sub>8</sub> x2 <sup>3</sup> / <sub>8</sub> x1 <sup>3</sup> / <sub>8</sub> "	1/2	3.22	2.90	2.61	2.43	2.28	2.17

## AUDIO INPUT TRANSFORMERS (Line or Mike to Grid)

Stock No.	Mfr's Type	Fig.	Application	Pri. Imp.	Turns Ratio	Response CPS ±3Db	Mtg. Ctrs.	Wt., Oz.	EACH					
									1-9	10-24	25-49	50-99	100-249	250-Up
62 G 187	A-1X	A	Mike or line to grid	100 Ohms	1:31.4	100-15,000	1 <sup>3</sup> / <sub>4</sub> "	4	2.23	2.01	1.81	1.68	1.58	1.50
62 G 188	A-3X	A	Mike or line to grid	400 CT	1:22.1	200-10,000	1 <sup>3</sup> / <sub>4</sub> "	4	2.62	2.36	2.12	1.97	1.85	1.76
62 G 189	A-4X	A	Line to single grid	500CT/333/200CT/125/67.5CT/50	1:12	100-20,000	1 <sup>3</sup> / <sub>4</sub> "	4	2.67	2.40	2.16	2.00	1.90	1.80
62 G 191	A-5X	A	Mike or line to single or P-P grid	100	1:83.3	100-15,000	2 <sup>3</sup> / <sub>8</sub> "	8	2.97	2.67	2.41	2.23	2.12	2.00
62 G 192	A-6X	A	Intercom-speaker V.C. to grid	8/4	1:79.6	150-20,000	1 <sup>3</sup> / <sub>4</sub> "	4	2.57	2.31	2.08	1.93	1.81	1.72
62 G 193	A-7J	...	Intercom-speaker V.C. to grid	3.2-4	1:124	150-10,000	1 <sup>3</sup> / <sub>16</sub> "	2	4.78	4.30	3.87	3.60	3.38	3.21

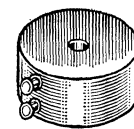
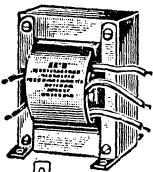
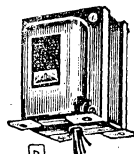
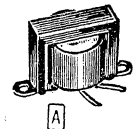
## LOW-POWER AUDIO TRANSFORMERS

\*40-15,000 cps. †Static shields. ‡Split primary and secondary. Av. wt., 10 oz.

Stock No.	Mfr's Type	Fig.	Mw Output	Application	Impedance (Ohms)		Turns Ratio	EACH					
					Pri.	Sec.		1-9	10-24	25-49	50-99	100-249	250-Up
62 G 194	A-9J†	D	1	Line or mike to grid	600/250/50	86,500	1:12	8.67	7.80	7.02	6.53	6.14	5.83
62 G 195	A-12J†	D	10	Bal. line or mike to grid	600CT/150	60,000	1:10	9.52	8.57	7.71	7.17	6.74	6.40
62 G 196	A-40J	D	10	Plate to 1 or 2 grids	15,000	115,000CT	1:2.76	8.44	7.60	6.84	6.36	5.98	5.69
62 G 197	A-55J	D	100	Plate to line	15,000	600/250/50	5:1	8.00	7.20	6.48	6.03	5.67	5.38
62 G 200	A-66J*	D	100	Plate to line	15,000†	600/250/50	5:1	8.94	8.05	7.25	6.74	6.34	6.01
62 G 201	A-67J‡	D	50	Bal. line to bal. line	600CT/150	600CT/150	1:1	8.90	8.01	7.21	6.71	6.31	5.99

Complete Stocks—Same Day Shipment from One Dependable Source

ALLIED • 371



### TRIAD SMOOTHING FILTER REACTORS

Inductance tolerance is -20%, +50%. Transformer types C-47U and C-48U have split windings.

Stock No.	Mfr's Type	Fig.	DC Ma	Ind. (Hys)	Res. (Ohms)	Test Volts	Size HxWxD	Wt. Lbs.	EACH					
									1-9	10-24	25-49	50-99	100-249	250-U p
62 G 057	C-1X	A	20	15	1000	1000	1 3/8x2 1/2x1 1/4"	1 1/2	1.78	1.60	1.44	1.34	1.26	1.20
62 G 155	C-3X	A	50	10	500	1500	1 5/8x2 3/4x1 1/2"	1 1/2	2.10	1.89	1.70	1.58	1.50	1.42
62 G 156	C-5X	A	75	12	390	1000	1 7/8x3 1/4x1 3/4"	1	2.34	2.11	1.90	1.76	1.67	1.58
62 G 159	C-7X	A	90	10	270	1000	1 1/2x3 3/4x2 1/2"	1 1/4	2.67	2.40	2.16	2.00	1.90	1.80
62 G 160	C-9X	A	90	4	100	1500	1 1/2x3 3/4x1 3/4"	1	2.34	2.11	1.90	1.76	1.67	1.58
62 G 163	C-11X	A	110	6	160	1500	2 3/8x3 1/2x2 1/2"	1 1/2	3.18	2.86	2.58	2.39	2.27	2.15
62 G 164	C-10X	A	125	9	250	1000	2 3/8x3 1/2x2 1/2"	1 1/2	3.21	2.89	2.60	2.41	2.29	2.17
62 G 165	C-12A	B	160	6	165	1500	2 5/8x2 1/2x2 1/2"	2	5.00	4.50	4.05	3.77	3.54	3.36
62 G 166	C-13X	A	160	3	75	1500	2 9/8x3 1/2x2 1/2"	1 3/4	3.24	2.92	2.62	2.43	2.31	2.19
62 G 167	C-14A	B	200	6	150	1500	2 3/8x2 1/2x2 3/8"	2 1/2	5.43	4.89	4.40	4.09	3.84	3.65
62 G 168	C-16A	B	200	10	150	2500	3 1/2x2 3/4x3 1/2"	4 1/2	7.68	6.91	6.22	5.78	5.44	5.17
62 G 169	C-21X	A	225	1.5	65	1500	1 7/8x3 3/4x1 3/4"	2 1/4	2.38	2.14	1.93	1.79	1.68	1.60
62 G 170	C-23X	A	260	1.2	45	1500	1 7/8x3 3/4x2 1/2"	1 3/4	2.48	2.23	2.01	1.87	1.76	1.67
62 G 171	C-27X	A	290	.7	30	1500	1 7/8x2 1/2x1 1/2"	3/4	2.10	1.89	1.70	1.58	1.50	1.42
62 G 172	C-18A	B	300	8	90	2500	3 7/8x3 3/4x3 3/8"	6 1/4	8.49	7.64	6.88	6.40	6.02	5.72
62 G 174	C-19A	B	300	10	105	3000	4 1/4x3 1/2x4 1/8"	7 3/4	11.57	10.41	9.37	8.71	8.19	7.78
62 G 175	C-20A	B	400	6	60	3000	4 5/8x3 1/2x4 1/2"	10 1/2	12.12	10.91	9.82	9.13	8.58	8.15
62 G 176	C-22A	B	500	10	65	3000	5 1/2x4 1/2x5 1/8"	16 1/2	19.74	17.77	15.99	14.87	13.98	13.28
62 G 178	C-40X	A	600	.32	10	1500	1 1/2x3 3/4x2 1/2"	1 1/2	2.67	2.40	2.16	2.00	1.90	1.80
62 G 182	C-47U	C	1A/2A	3.1/0.75	3.7/5	1500	3 1/2x2 7/8x3 3/8"	4 3/4	7.48	6.73	6.06	5.64	5.30	5.04
62 G 183	C-48U	C	2.5A/5A	.08/.02	.61/.155	1500	3 1/2x3 3/4x3 3/8"	6 3/4	9.55	8.60	7.74	7.20	6.77	6.43

### TRIAD SWINGING FILTER REACTORS

Stock No.	Mfr's Type	DC Ma	Ind.	Res.	Test	Size	Wt.	1-9	10-24	25-49	50-99	100-249	250-U p	
62 G 184	C-31A	B	20-200	25-5	150	2500	3 1/2x2 3/4x2 3/4"	4 3/4	7.12	6.41	5.77	5.37	5.05	4.80
62 G 185	C-35A	B	40-400	20-4	65	3000	4 5/8x3 1/2x4 1/2"	10 1/2	12.00	10.80	9.72	9.04	8.50	8.08
62 G 186	C-39A	B	50-500	25-5	65	3000	5 1/2x4 1/2x5 1/8"	16 1/4	21.24	19.12	17.20	15.93	15.13	14.34

### TRIAD EC SERIES EPOXY-MOLDED TOROIDS

Epoxy-molded toroids with minimum inductance tolerance of ±2%. Meet MIL-T-27A standards for encapsulation. Have gold-plated, fixed terminals. Size, 2 3/32x 1 1/16" diameter. Av. shpg. wt., 1 1/2 lbs.

Stock No.	Mfr's Type	L (Mh)	Approx. Ohms	DC Ma for 5% L Drop	EACH					
					1-9	10-24	25-49	50-99	100-249	250-U p
62 G 070	EC-001A	1	.40	520	5.10	4.59	4.13	3.84	3.61	3.43
62 G 071	EC-002A	2	.56	368	5.33	4.80	4.32	4.02	3.78	3.59
62 G 072	EC-003A	3	.70	300	5.35	4.82	4.34	4.04	3.80	3.61
62 G 073	EC-004A	4	.82	260	5.45	4.91	4.42	4.11	3.86	3.67
62 G 074	EC-005A	5	.92	233	5.50	4.95	4.46	4.15	3.90	3.71
62 G 075	EC-007A	7	1.05	195	5.62	5.06	4.55	4.23	3.98	3.78
62 G 076	EC-010A	10	1.30	165	5.73	5.16	4.64	4.32	4.06	3.86
62 G 088	EC-015A	15	1.60	134	5.83	5.25	4.73	4.40	4.14	3.93
62 G 089	EC-020A	20	1.85	116	6.10	5.49	4.94	4.52	4.31	4.09
62 G 090	EC-030A	30	2.85	95	5.45	4.91	4.42	4.11	3.86	3.67
62 G 091	EC-040A	40	4.20	82	6.02	5.42	4.88	4.54	4.27	4.06
62 G 092	EC-050A	50	4.60	74	6.38	5.74	5.17	4.81	4.52	4.29
62 G 094	EC-070A	70	7.00	62	6.40	5.76	5.18	4.82	4.53	4.30
62 G 095	EC-100A	100	8.00	52	6.55	5.90	5.31	4.94	4.64	4.41
62 G 096	EC-200A	200	25.00	37	6.22	5.60	5.04	4.69	4.41	4.19
62 G 097	EC-250A	250	28.00	33	5.98	5.38	4.84	4.50	4.23	4.02
62 G 098	EC-300A	300	38.20	30	5.35	4.82	4.34	4.04	3.80	3.61
62 G 099	EC-400A	400	44.00	26	7.17	6.45	5.81	5.40	5.08	4.83
62 G 100	EC-500A	500	63.50	23	6.40	5.76	5.18	4.82	4.53	4.30
62 G 101	EC-600A	600	71.00	21	6.88	6.19	5.57	5.18	4.87	4.63
62 G 107	EC-700A	700	80.00	19.5	6.73	6.06	5.45	5.07	4.77	4.53
62 G 110	EC-1000A	1000	113.00	16.5	6.77	6.09	5.48	5.10	4.79	4.55
62 G 120	EC-1500A	1500	175.00	13.5	7.10	6.39	5.75	5.35	5.03	4.78
62 G 125	EC-2000A	2000	243.00	11.6	7.15	6.44	5.80	5.39	5.07	4.82
62 G 130	EC-3000A	3000	370.00	9.5	7.60	6.84	6.16	5.43	5.29	5.03
62 G 142	EC-4000A	4000	435.00	8.2	7.10	6.39	5.75	5.35	5.03	4.78
62 G 143	EC-5000A	5000	645.00	7.4	6.78	6.10	5.49	5.11	4.80	4.56
62 G 144	EC-7000A	7000	780.00	6.2	6.77	6.09	5.48	5.10	4.79	4.55
62 G 145	EC-10000A	10000	1190.00	5.2	10.49	9.44	8.50	7.91	7.44	7.07

### ONE ORDER FILLS the BILL

Save time—send us your purchase order and minimize your paperwork. Make Allied your single, centrally located source for all your industrial electronic components at OEM prices. Our tremendous stock ensures you fastest shipment.

### MILWAUKEE CONTROL TRANSFORMERS

3200 Series—Type CWL. Industrial control transformers for use where accurate voltage control is required. Interleaved windings designed for minimum regulation even under high inrush conditions. 60 cycle AC input. Dual primaries, 240/

480 v., parallel or series connected. Can operate at 220 or 230 v. combinations. Power factor, 95% min. Secondaries, 120 or 120/240 v. Screw-type terminals. Open frame core and coil construction; 4 oblong mtg. holes.

PRIMARY, 240/480 V.—SEC., 120 V.

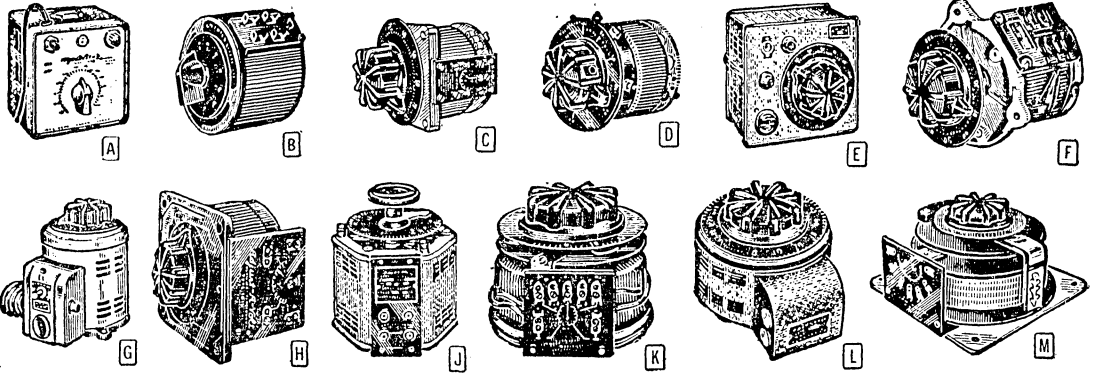
PRIMARY 240/480 V.—SEC., 120/240 V.

Stock No.	Mfr's Type	KVA	Mtg. Ctrs.	Size (HWD)	Wt. Lbs.	EACH
62 G 220	C1-13361	.050	2 1/2x2 1/4"	2 5/8x3 3/8x3 1/2"	3	9.40
62 G 221	C1-13362	.075	2 1/2x2 7/8"	2 7/8x3 3/4x3 1/2"	4 1/4	10.10
62 G 222	C1-13363	.100	2 7/8x3 3/8"	2 7/8x3 3/4x3 3/8"	5 1/2	10.50
62 G 223	C1-23166	.150	3 1/8x3 3/8"	3 1/2x3 3/4x3 1/2"	8 1/2	11.50
62 G 224	C1-23167	.200	3 3/4x2 7/8"	3 3/8x4 1/2x4 7/8"	9 1/2	13.75
62 G 225	C1-23091	.250	4 1/2x3 3/8"	4 1/2x5 1/4x5 7/8"	12	15.00
62 G 231	C1-13388	.300	3 3/4x3 1/2"	3 3/4x4 1/2x5 1/8"	13 1/2	16.35
62 GZ 233	C1-33189	.350	4 3/8x4"	4 1/2x5 1/4x5 7/8"	21	17.35
62 G 244	C1-33112	.500	4 1/2x5"	4 1/2x5 1/4x7 1/2"	26	18.80
62 GZ 245	C1-43192	.750	4 1/2x5 3/4"	4 1/2x5 1/4x8 1/4"	32	22.90
62 GZ 250	C1-43137	1.0	5 1/4x5 1/4"	5 3/4x6 1/4x7 1/2"	40	26.50
62 GZ 251	C1-53091	1.5	5 7/8x6 1/2"	6 1/2x7 1/4x8 3/4"	59	36.50
62 GZ 252	C1-53129	2.0	5 7/8x8"	6 3/4x7 1/4x10 1/4"	72	44.75
62 GZ 253	C1-63023	3.0	7 1/2x8 1/4"	7x9x1 3/4"	110	78.00
62 GZ 254	C1-73023	5.0	7 1/2x10 1/2"	7x9x1 5/4"	107	103.00

Stock No.	Mfr's Type	KVA	Mtg. Ctrs.	Size (HWD)	Wt. Lbs.	EACH
64 G 251	C1-13381	.050	2 1/2x2 1/4"	2 5/8x3 3/8x3 1/2"	3	9.65
64 G 252	C1-13382	.075	2 1/2x2 7/8"	2 7/8x3 3/4x3 1/2"	4 1/4	10.35
64 G 253	C1-13383	.100	2 7/8x3 3/8"	2 7/8x3 3/4x3 3/8"	5 1/2	10.75
64 G 254	C1-23174	.150	3 1/8x3 3/8"	3 1/2x3 3/4x3 1/2"	8 1/2	11.80
64 G 259	C1-23175	.200	3 3/4x2 7/8"	3 3/8x4 1/2x4 7/8"	9 1/2	14.10
64 G 260	C1-23089	.250	4 1/2x3 3/8"	4 1/2x5 1/4x5 7/8"	12	15.35
64 G 270	C1-33196	.300	3 3/4x3 1/2"	3 3/4x4 1/2x5 1/8"	13 1/2	16.70
64 GZ 271	C1-33197	.350	4 3/8x4"	4 1/2x5 1/4x5 7/8"	20	17.70
64 GZ 280	C1-33110	.500	4 1/2x5"	4 1/2x5 1/4x7 1/2"	28	19.15
64 GZ 300	C1-43044	.750	4 1/2x5 3/4"	4 1/2x5 1/4x8 1/4"	35	23.30
64 GZ 282	C1-43135	1.0	5 1/4x5 1/4"	5 3/4x6 1/4x7 1/2"	40	27.00
64 GZ 302	C1-53089	1.5	5 7/8x6 1/2"	6 1/2x7 1/4x8 3/4"	56	37.00
64 GZ 303	C1-53132	2.0	5 7/8x8"	6 3/4x7 1/4x10 1/4"	78	45.40
64 GZ 304	C1-63033	3.0	7 1/2x8 1/4"	7x9x1 3/4"	110	79.75
64 GZ 305	C1-73024	5.0	7 1/2x10 1/2"	7x9x1 5/4"	133	106.00

# Standard Electric and Acme Variable Transformers

## STACO *Adjust-A-Volt.* VARIABLE AUTOTRANSFORMERS



## STANDARD ELECTRIC BENCH AND PANEL-MOUNTED AUTOTRANSFORMERS

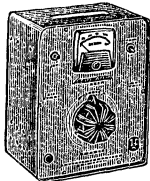
An extremely wide selection of adjustable autotransformers designed to provide variable output voltages with high conversion efficiency. All STACO autotransformers feature rugged mechanical construction. Each consists of a single-layer winding on a high-grade toroidal core. A sliding brush taps the transformer to permit selection of any desired output voltage between 0 and 132 volts on units with overload feature; 0 to line voltage, or as indicated in table for others. Units with overload feature may be wired for 0 to line output if desired. Regulation is substantially independent of the load; zero wave-form distortion. Temperature rise is moderate.

Low-resistance alloy brush-track plating eliminates oxidation and deterioration of commutator surface. Brush is always in contact with at least one turn of wire. This provides a smooth, uninterrupted flow of current when the knob is rotated for voltage adjustment. Brush replacement is easy because of special brush holders with pre-adjusted coil springs. Bench models are housed in die-cast aluminum cases equipped with pilot light, switch, fuse, line cord with plug, and an output receptacle. All autotransformers are for 50-60 cycle AC operation; 25 cycle operation is permissible if output power ratings are reduced by 50%. Gray wrinkle.

Stock No.	Mfr's Type	Fig.	Max. KVA	Input Volts	Output		Description	Size	Wt., Lbs.	EACH	
					Volts	Amps				1-5	6-99
64 G 307	175BU	B	.....	120	0-132	1.75	Panel type; for panels to 1/4" thick	2 3/2x2 3/2"	2	8.50	6.80
62 G 583	100BU	B	.....	120	0-132/0-120	1.25	Panel type; for panels to 1/4" thick	2 3/2x2 1/2"	2	8.25	6.60
62 G 584	PA-1	A	.165	120	0-120	1.25	Portable; fused w/switch; pilot light	3 7/8x3 7/8x3 1/2"	6	16.00	12.80
62 G 579	250BU	B	.33	120	0-132/0-120	2.5	Panel type; for panels to 1/4" thick	2 1/2x2 3/8"	2	9.50	7.60
61 G 628	PA-2	A	.33	120	0-120	2.5	Portable; fused w/switch; pilot light	3 7/8x3 7/8x3 1/2"	6	18.50	14.80
61 G 966	T21U	H	.33	120	0-132/0-120	2.4	Panel type; for panels to 1/4" thick	3 1/4x3 1/4x3 1/8"	5	15.00	12.00
62 G 580	300BU	D	.42	120	0-132/0-120	3.0	Panel type; for panels to 1/4" thick	3 1/16x3 1/16"	6	12.50	10.00
64 G 306	375BU	C	.42	120	0-140	3.75	Panel type; for panels to 1/4" thick	3 3/4x5"	5	12.50	10.00
62 G 585	PA-3	E	.42	120	0-120	3.0	Portable; fused w/switch; pilot light	6 1/2x6 1/8x5 1/2"	10	26.00	20.80
61 G 967	T51U	H	.84	120	0-132/0-120	6.0	Panel type; for panels to 1/4" thick	4 1/2x4 1/2x3 1/8"	8	18.00	14.40
62 G 582	500BU	F	1.05	120	0-132/0-120	7.5	Panel type; for panels to 1/4" thick	5x4 5/8"	10	18.00	14.40
62 G 581	500B	G	1.05	120	0-120	7.5	Enclosed; fused w/switch and pilot light	6 1/2x4 5/8"	10	23.00	18.40
61 G 629	3PN500B	G	1.05	120	0-120	7.5	Enclosed; 3-prong and plug and outlet	6 1/2x4 5/8"	10	27.50	22.00
61 G 630	T101U	H	1.4	120	0-120	10.0	Panel type; for panels to 1/4" thick	5 3/4x5 3/4x4 1/4"	11	31.00	24.80
62 G 589	1500B	J	2.1	120	0-132/0-120	15.0	For panels to 1/2" thick or bench use	8 1/6x5 1/8"	25	46.00	36.80
63 GU 580	2500BU	K	3.5	120	0-132/0-120	25.0	Panel type; for panels to 1/2" thick	7 1/4x7 1/8"	27	49.00	39.20
63 GU 579	2500B	L	3.5	120	0-132/0-120	25.0	Enclosed; w/junction box	7 1/4x7 7/8"	28	55.00	44.00
61 GZ 631	T501U	M	7.0	120	0-140	50.0	For panels to 3/8" thick or bench use	13 1/8x12 1/2x5 1/2"	57	120.00	96.00
61 G 632	520BU	E	0.84	230	0-270/0-230	3.0	Panel type; for panels to 1/4" thick	5x4 5/8"	10	20.00	16.00
61 G 969	520B	G	0.84	230	0-270	3.0	Enclosed; fused w/switch; pilot light	6 1/2x4 5/8"	10	26.00	20.80
63 GU 576	1520B	J	2.5	230	0-270/0-230	9.0	For panels to 1/2" thick or bench use	8 3/8x8 1/8"	24	46.00	36.80
63 GU 578	2520BU	K	2.8	230	0-270/0-230	10.0	Panel type; panels to 1/2" thick	7 1/4x7 3/4"	27	49.00	39.20
63 GU 577	2520B	L	2.8	230	0-270/0-230	10.0	Enclosed; w/junction box	7 1/4x7 7/8"	28	55.00	44.00
61 GZ 968	T502U	M	7.0	230	0-270/0-230	25.0	For panels to 3/8" thick or bench use	13 1/8x12 1/2x5 1/2"	57	120.00	96.00

### VARIABLE ISOLATION TRANSFORMERS

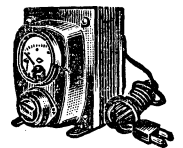
"Adjust-a-Volt" IV Transformers. Encased variable-ratio units. Have metered voltage output, thermal circuit breaker with reset button on front panel, input on-off switch, and 3-prong grounded AC output receptacle. Consist of two superimposed magnet-wire windings on a toroidal core of laminated silicon steel with carbon brush rotating over plated commutator track. Normal isolation connection provides 0-140 v. AC output at rated current from 120 v., 50-60 cycle line. Non-Isolation Connection: If input supply parallels output winding, non-isolated output voltage may be varied from 0 to line voltage at 280% of rated current. Voltage Doubler Connection: With output windings in series with 120 v. input winding, non-isolated, stepped-up output voltage varies from 120 to 240 v. at rated current. Series Connection: Output windings in series with input winding, 240-v. input voltage gives non-isolated output from 110 to 240 v. at 220% of rated current.



Stock No.	Mfr's Type	Rated Current	Size	Wt., Lbs.	EACH
61 GU 627	IV-1-4M	4 amps	9 1/2x7 1/2x8 1/4"	17	79.50
61 GU 633	IV-1-9M	9 amps	11 1/2x9 1/4x9 1/4"	29	97.50

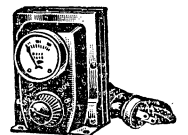
### ACME VARIABLE VOLTAGE ADJUSTERS

Type T10306. 150-watt constant-duty variable transformer. Adjusted by rotary tap-switch. Step-up or step-down transformer to correct low or high-voltage line condition. Calibrated voltmeter indicates secondary voltage. Primary tapped for 65, 75, 90, 100, 115, 130 and 145 at 50-60 cycles. Secondary output, 115 v. Silicon-steel laminations and impregnated coils for low loss. 8-ft. cord with plug; output receptacle. 4 3/8x4x6 3/4". Mtg. ctrs., 3 3/4x5 3/4". 7 lbs.



62 G 501 ..... 15.75

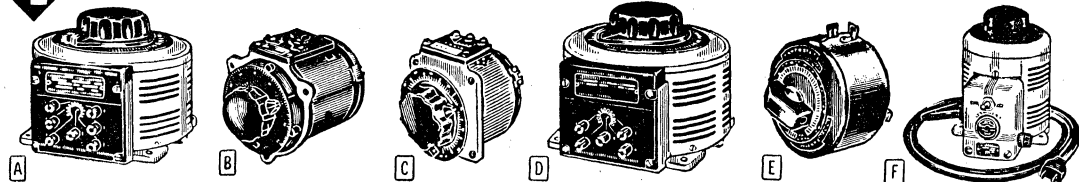
Type T8394M. Designed for television sets. Rated 300 watts; can be used as step-up or step-down transformer to correct low or high line-voltage. Easily adjusted by 7-position rotary switch until built-in voltmeter reads 115 volts output. Input switch positions for 95, 100, 105, 110, 115, 120, 125 volts at 50-60 cycles. 8-ft. cord with plug; output receptacle. Constant-duty type. Size, 4 3/4x4x5 5/8". Shpg. wt., 6 lbs.



62 G 514 ..... 11.55



# Superior Electric Variable Transformers



## "POWERSTAT" VARIABLE TRANSFORMERS

Deliver continuously adjustable output voltage from AC line. Zero waveform distortion, high regulation, conservative ratings, high efficiency. Rugged precious metal-plated commutators. For 50-60 cycles except §60 cycles. Enclosed for plane-surface mtg. except

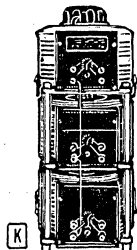
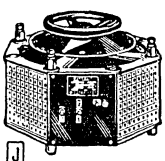
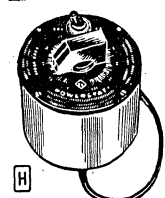
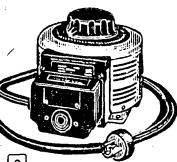
Types 10B, 10B-40, 21, and other types with suffix "U" open for panel mtg. Series 21, 126, 136, 226, 236, 1156D and 1256D for panel or surface mtg. Prefix "Q" same as Fig. B, but with 4-hole square mtg. plate. Suffix "T" indicates terminals enclosed in metal box.

### SINGLE-PHASE TYPES

Portable types 2PF10, 116 and 216 have 2-wire parallel blade input cord-plug sets and output recep-

tacles. \*With 3-wire plug and receptable. LW136 is a double-wound assembly with isolated secondary.

Stock No.	Mfr's Type	Fig.	Input Volts	Output			Max. Size (DWH)	Wt., Lbs.	EACH		
				Volts	Amps	KVA			1-5	6-24	25-99
62 GU 576	LW136	A	120-240	0-30	25.0	0.75	9x7 <sup>3</sup> / <sub>4</sub> x6 <sup>5</sup> / <sub>8</sub> "	25	80.00	72.00	68.00
62 G 592	117T§	B	120	0-120	10.0	1.6	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	22.50	20.25	19.13
61 G 667	117U§	B	120	0-120	10.0	1.6	5x5 <sup>1</sup> / <sub>2</sub> x5 <sup>3</sup> / <sub>4</sub> "	11	18.50	16.65	15.73
64 G 310	Q117U§	B	120	0-120	10.0	1.6	4 <sup>7</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>2</sub> x5 <sup>11</sup> / <sub>16</sub> "	11	16.50	14.73	14.06
61 G 163	21	C	120	0-140	3.75	0.53	3 <sup>3</sup> / <sub>8</sub> x3 <sup>3</sup> / <sub>4</sub> x4 <sup>1</sup> / <sub>2</sub> "	6	12.50	11.25	10.63
62 G 524	116U	B	120	0-140	7.5	1.0	5x5 <sup>1</sup> / <sub>2</sub> x5 <sup>3</sup> / <sub>4</sub> "	11	18.00	16.20	15.30
64 G 311	Q116U	B	120	0-140	7.5	1.0	4 <sup>7</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>2</sub> x5 <sup>11</sup> / <sub>16</sub> "	11	16.00	14.30	13.65
61 G 970	126	D	120	0-140	12.5	1.8	6 <sup>3</sup> / <sub>8</sub> x6 <sup>1</sup> / <sub>4</sub> x5 <sup>3</sup> / <sub>8</sub> "	17	35.00	31.50	29.75
61 G 669	126U	D	120	0-140	12.5	1.8	4 <sup>1</sup> / <sub>2</sub> x6x6 <sup>3</sup> / <sub>4</sub> "	16	31.00	27.90	26.35
62 GU 543	136	A	120	0-140	20.0	2.8	8 <sup>7</sup> / <sub>8</sub> x7 <sup>3</sup> / <sub>4</sub> x6 <sup>1</sup> / <sub>8</sub> "	25	50.00	45.00	42.50
62 G 573	216U	B	240	0-280	3.0	0.84	5x5 <sup>1</sup> / <sub>2</sub> x5 <sup>3</sup> / <sub>4</sub> "	11	20.00	18.00	17.00
64 G 316	Q216U	B	240	0-280	3.0	0.84	4 <sup>7</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>2</sub> x5 <sup>11</sup> / <sub>16</sub> "	11	18.00	16.20	15.30
61 G 671	217T§	B	240	0-240	4.0	1.5	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	25.00	22.50	21.25
61 G 673	217U§	B	240	0-240	4.0	1.5	5x5 <sup>1</sup> / <sub>2</sub> x5 <sup>3</sup> / <sub>4</sub> "	11	21.00	18.90	17.85
64 G 315	Q217U§	B	240	0-240	4.0	1.5	4 <sup>7</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>2</sub> x5 <sup>11</sup> / <sub>16</sub> "	11	18.50	16.65	15.73
61 G 675	226	D	240	0-280	6.0	1.7	6 <sup>3</sup> / <sub>8</sub> x6 <sup>1</sup> / <sub>4</sub> x5 <sup>3</sup> / <sub>8</sub> "	17	35.00	31.50	29.75
61 G 677	226U	D	240	0-280	6.0	1.7	4 <sup>1</sup> / <sub>2</sub> x6x6 <sup>3</sup> / <sub>4</sub> "	16	31.00	27.90	26.35
61 GU 678	236	A	240	0-280	9.0	2.5	8 <sup>7</sup> / <sub>8</sub> x7 <sup>3</sup> / <sub>4</sub> x6 <sup>1</sup> / <sub>8</sub> "	25	50.00	45.00	42.50



Stock No.	Mfr's Type	Fig.	Input Volts	Output			Max. Size (DWH)	Wt., Lbs.	EACH	
				Volts	Amps	KVA			1-11	12-99
61 G 663	10B-40§	F	40	0-40	6.0	0.24	2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> "	3.3	10.00	8.50
61 G 666	3PN117*	E	120	0-120	10.0	1.6	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	31.50	26.78
62 G 575	2PF10§	H	120	0-132	1.0	0.132	3 <sup>1</sup> / <sub>2</sub> x3 <sup>1</sup> / <sub>2</sub> x3 <sup>1</sup> / <sub>2</sub> "	3.3	16.50	14.03
62 G 536	10B§	E	120	0-132	1.75	0.23	2 <sup>1</sup> / <sub>2</sub> x2 <sup>7</sup> / <sub>8</sub> x3 <sup>1</sup> / <sub>8</sub> "	2.4	8.50	7.23
62 G 525	116	F	120	0-140	7.5	1.0	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	24.00	20.40
62 G 578	3PN116	F	120	0-140	7.5	1.0	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	27.50	23.38
61 G 668	3PN126*	G	120	0-140	12.5	1.8	8 <sup>3</sup> / <sub>8</sub> x6 <sup>1</sup> / <sub>4</sub> x5 <sup>3</sup> / <sub>8</sub> "	18.5	44.00	37.40
61 GU 670	3PN136*	G	120	0-140	20.0	2.8	10 <sup>1</sup> / <sub>2</sub> x7 <sup>3</sup> / <sub>4</sub> x6 <sup>1</sup> / <sub>8</sub> "	25	65.00	55.25
62 G 527	216	F	240	0-280	3.0	0.84	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	26.00	22.10
61 G 674	3PN216	F	240	0-280	3.0	0.84	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	30.00	25.50
61 G 672	3PN217§	F	240	0-240	4.0	1.5	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x6 <sup>1</sup> / <sub>2</sub> "	12	31.50	26.78
61 G 676	3PN226*	G	240	0-280	6.0	1.7	8 <sup>3</sup> / <sub>8</sub> x6 <sup>1</sup> / <sub>4</sub> x5 <sup>3</sup> / <sub>8</sub> "	18.5	44.00	37.40
61 GU 679	3PN236*	G	240	0-280	9.0	2.5	10 <sup>1</sup> / <sub>2</sub> x7 <sup>3</sup> / <sub>4</sub> x6 <sup>1</sup> / <sub>8</sub> "	25	65.00	55.25

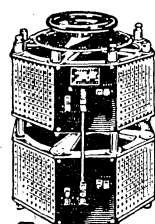
Stock No.	Mfr's Type	Fig.	Input Volts	Output			Max. Size (DWH)	Wt., Lbs.	EACH	
				Volts	Amps	KVA			1	2-49
61 GZ 680	1156D	J	120	0-140	45.0	6.3	15 <sup>5</sup> / <sub>8</sub> x13 <sup>7</sup> / <sub>8</sub> x9 <sup>3</sup> / <sub>8</sub> "	79	106.20	100.30
61 GZ 683	1156D-2P	L	120	0-140	90.0	12.6	15 <sup>5</sup> / <sub>8</sub> x15 <sup>5</sup> / <sub>8</sub> x16"	158	242.10	228.65
61 GZ 684	1156D-3P	...	120	0-140	135.0	18.0	15 <sup>5</sup> / <sub>8</sub> x15 <sup>5</sup> / <sub>8</sub> x22 <sup>5</sup> / <sub>8</sub> "	274	376.20	355.30
61 GZ 681	1256D	J	240	0-280	28.0	7.8	15 <sup>5</sup> / <sub>8</sub> x13 <sup>7</sup> / <sub>8</sub> x9 <sup>3</sup> / <sub>8</sub> "	79	106.20	100.30
61 GZ 805	1256D-2P	L	240	0-280	56.0	15.7	15 <sup>5</sup> / <sub>8</sub> x15 <sup>5</sup> / <sub>8</sub> x16"	158	242.10	228.65
61 GZ 806	1256D-3P	...	240	0-280	84.0	28.5	15 <sup>5</sup> / <sub>8</sub> x15 <sup>5</sup> / <sub>8</sub> x22 <sup>5</sup> / <sub>8</sub> "	274	376.20	353.70

### THREE-PHASE TYPES

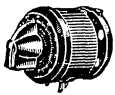
Consists of single units ganged together for three-phase operation. Types with suffix "-2" are open delta connected (or can be connected for single-phase

operation, if desired); Type 1156D-2D are delta connected; Type Nos. which have suffixes "-3" and "-3Y" are wye connected.

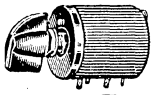
Stock No.	Mfr's Type	Fig.	Input Volts	Output			Max. Size (DWH)	Wt., Lbs.	EACH	
				Volts	Amps	KVA			1	2-49
61 GZ 685	1156D-2D	L	120	0-140	45.0	10.56	15 <sup>1</sup> / <sub>2</sub> x13 <sup>7</sup> / <sub>8</sub> x16"	152	234.90	221.85
62 G 588	10B-3§	...	240	0-240	1.75	0.73	8 <sup>1</sup> / <sub>2</sub> x3 <sup>7</sup> / <sub>8</sub> x3 <sup>7</sup> / <sub>8</sub> "	83	36.00	34.00
61 GU 686	117T-2§	...	240	0-240	10.0	2.4	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x12 <sup>3</sup> / <sub>4</sub> "	24	49.50	46.75
61 GU 687	117U-2§	M	240	0-240	10.0	2.4	11 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x5 <sup>3</sup> / <sub>4</sub> "	22	40.95	38.68
61 G 164	21-3§	...	240	0-280	3.75	1.8	10 <sup>7</sup> / <sub>8</sub> x4 <sup>5</sup> / <sub>8</sub> x5"	17	53.55	50.58
61 GU 688	116T-2	...	240	0-280	7.5	2.1	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x12 <sup>3</sup> / <sub>4</sub> "	24	48.50	45.90
61 GU 689	116U-2	M	240	0-280	7.5	2.1	11 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x5 <sup>3</sup> / <sub>4</sub> "	22	40.05	37.83
61 GU 690	116T-3§	...	240	0-280	7.5	3.6	7 <sup>1</sup> / <sub>2</sub> x5 <sup>1</sup> / <sub>2</sub> x18 <sup>3</sup> / <sub>4</sub> "	36	69.30	65.45
61 GZ 800	126-3§	K	240	0-280	12.5	6.1	7 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>4</sub> x15 <sup>1</sup> / <sub>8</sub> "	49	105.30	99.45
61 GU 803	126-2	...	240	0-280	12.5	3.5	7 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>4</sub> x10 <sup>9</sup> / <sub>8</sub> "	32	72.00	68.00
61 GU 804	126U-2	...	240	0-280	12.5	3.5	9 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>4</sub> x7 <sup>1</sup> / <sub>8</sub> "	30	64.80	61.20
61 GU 996	136-2	...	240	0-280	20.0	5.6	9 <sup>1</sup> / <sub>2</sub> x8 <sup>3</sup> / <sub>4</sub> x12 <sup>1</sup> / <sub>2</sub> "	52	105.30	99.45
61 GZ 801	136-3§	K	240	0-280	20.0	9.7	9 <sup>1</sup> / <sub>2</sub> x8 <sup>3</sup> / <sub>4</sub> x17 <sup>3</sup> / <sub>4</sub> "	76	153.00	144.50
61 GZ 802	1156D-3Y§	...	240	0-280	45.0	21.8	15 <sup>1</sup> / <sub>2</sub> x13 <sup>7</sup> / <sub>8</sub> x22 <sup>5</sup> / <sub>8</sub> "	225	354.90	334.90
61 GZ 999	236-3§	K	480	0-560	9.0	8.7	9 <sup>1</sup> / <sub>2</sub> x8 <sup>3</sup> / <sub>4</sub> x17 <sup>3</sup> / <sub>4</sub> "	76	153.00	144.50
61 GZ 807	1256D-3Y§	...	480	0-560	28.0	27.2	15 <sup>1</sup> / <sub>2</sub> x13 <sup>7</sup> / <sub>8</sub> x22 <sup>5</sup> / <sub>8</sub> "	225	354.00	334.90



# Superior Electric Variable Transformers



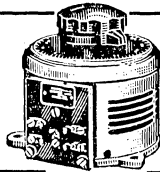
A



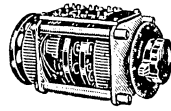
B



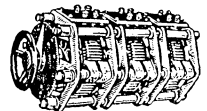
C



D



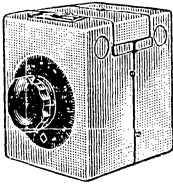
E



F

## ENCLOSED "POWERSTATS"

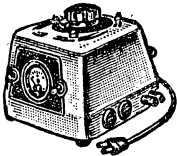
Single-phase variable transformers. Housed in light-weight, functional aluminum enclosures that permit easy installation, wiring and servicing. Can be mounted on wall or front of panel, on bench or floor, and back of panel. \*50-60 cycles, †60 cycles. ‡Maximum for constant current load. §Maximum for constant impedance load. ¶ $6\frac{1}{2} \times 6\frac{3}{4} \times 6\frac{3}{4}$ ". Shpg. wt., 15 lbs.



Stock No.	Mfr's Type	Input Volts	Output			EACH		
			Volts	Amps	KVA	1-5	6-24	25-99
61 G 808	EN116	120*	0-140	6.5	.91	25.00	22.50	21.25
61 G 809	EN117	120†	0-120	8.5‡	1.5‡	23.00	20.30	19.15
61 G 810	EN216	240*†	0-280	2.6	.73	27.00	24.30	21.95
61 G 811	EN217	240†	0-240	3.5‡	1.2	28.00	25.20	23.80

## TYPE UC1M "VOLTBOX" VARIABLE TRANSFORMER

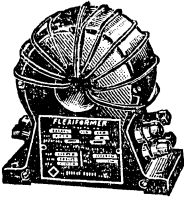
An extremely handy instrument for supplying variable AC output for experimental, testing and production purposes. Provides continuously variable output from 0 to 140 volts when connected to a source of 120 volts, 50-60 cycle AC (single phase). Combines in one compact unit, a variable transformer, direct-reading voltmeter, fuse, line switch, two five-way binding posts, six-foot 2-wire cord and plug, and three output receptacles. Rated 7.5 amps. Fuse protects unit from overload. Has line/load meter switch, Cast aluminum case is  $7\frac{1}{2} \times 7\frac{1}{2} \times 8\frac{1}{2}$ ", has carrying handle and rubber feet. Shpg. wt., 17 lbs.



62 G X 533 ..... 65.00

## FLEXIFORMER® TYPE TP-150 "DO-IT-YOURSELF" TRANSFORMER

A current transformer and a multiple source of AC voltages in one versatile unit. Ideal for labs, classrooms, home workshops, etc. Consists of a packaged transformer primary with high-impact plastic case molded over toroidal coil. User winds secondary to suit. Output, 150 VA max. Input is for 110-120 v., 50-60 cycle AC. When used as a current transformer, the "Flexiformer" serves as a secondary winding. Current carrying conductor passed through center serves as primary. Max. continuous primary current, 400 amps with a 400:1 pri/sec ratio. Permits ammeter readings of 1% accuracy at 60 cycles of currents as high as 400 amps. Intermittent rating of 800 amps at slight decrease in accuracy. Color-coded binding posts take wire, banana plugs, clips, or spade lugs. With reference chart and instructions. 5½ lbs.

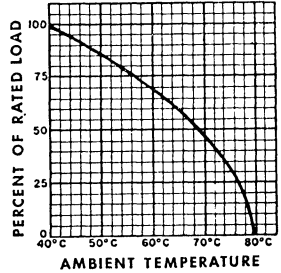


62 G 599 ..... 25.00

## 400/800-CYCLE POWERSTAT® VARIABLE TRANSFORMERS

- Withstand 95% Humidity for 24 Hours
- Operate at Altitudes to 50,000 Feet
- Withstand 100-Hour Salt Spray Test
- Vibration, Shock, Inclination Resistant

High-frequency variable transformers for industrial and military applications. Perform the same task as a comparably rated 60-cycle unit but weigh one-third as much and occupy one-half the space. Meet MIL specs for environmental conditions. Operate at full rated load from -55°C to +40°C, but above +40°C must be derated per table at right. All are knob-operated, open construction except \*enclosed, †square-frame construction. Mount behind panel except ‡surface mounting. All except 28-volt types have tap to permit over-voltage output of 17%. Three-phase types are wye-connected.



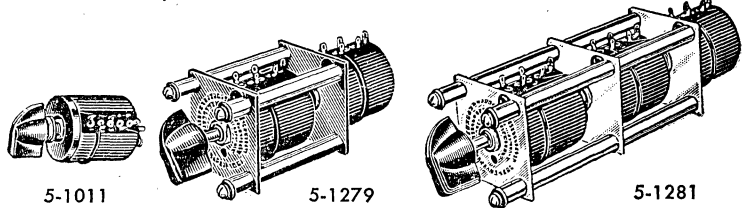
### SINGLE-PHASE UNITS

Stock No.	Mfr's Type	Fig.	Input Volts	Output		Max. Size (HWD)	Wt., Lbs.	EACH		
				Volts	Amp			1-5	6-24	25-99
64 G 317	3HS02UK	A	28	0-28	2.0	2 $\frac{3}{16}$ x2x2 $\frac{5}{8}$ "	1	20.00	18.00	17.00
64 G 319	3HS02CK*	...	28	0-28	2.0	2x2x3 $\frac{1}{4}$ "	1	22.00	19.80	18.70
64 G 334	3HS04UK	A	28	0-28	4.0	2 $\frac{1}{16}$ x2 $\frac{3}{8}$ x3 $\frac{5}{16}$ "	1 $\frac{1}{4}$	22.00	19.80	18.70
64 G 335	3HS04CK*	...	28	0-28	4.0	2 $\frac{3}{4}$ x2 $\frac{3}{4}$ x4 $\frac{1}{4}$ "	1 $\frac{1}{4}$	24.00	21.60	20.40
64 G 338	1HS03UK†	B	120	0-28	2.6	3 $\frac{1}{2}$ ix1 $\frac{1}{2}$ ix3 $\frac{3}{4}$ "	1	34.00	30.60	28.90
64 G 336	1HS01UK	A	120	0-120/140	1.0	2 $\frac{1}{16}$ x2 $\frac{3}{8}$ x3 $\frac{5}{32}$ "	1 $\frac{1}{2}$	14.50	13.05	12.32
64 G 337	1HS01CK*	...	120	0-120/140	1.0	2 $\frac{3}{4}$ x2 $\frac{3}{4}$ x3 $\frac{1}{2}$ "	1 $\frac{1}{2}$	20.00	18.00	17.00
64 G 339	1HMS03UK†	...	120	0-120/140	3.0	4 $\frac{3}{4}$ x4 $\frac{1}{2}$ ix4 $\frac{3}{32}$ "	2 $\frac{3}{4}$	15.50	13.95	13.17
64 G 340	1HMS07UK†	...	120	0 120/140	7.5	4 $\frac{3}{4}$ x4 $\frac{1}{2}$ ix4 $\frac{1}{32}$ "	3 $\frac{3}{4}$	20.00	18.00	17.00
64 G 341	1HMD07UK	C	120	0-120/140	7.5	5 $\frac{9}{16}$ x5 $\frac{3}{32}$ x4 $\frac{1}{16}$ "	4 $\frac{1}{4}$	20.00	18.00	17.00
64 G 342	1HMD07CK*‡	D	120	0-120/140	7.5	5 $\frac{9}{16}$ x5 $\frac{3}{32}$ x4 $\frac{1}{32}$ "	4 $\frac{3}{4}$	22.00	19.80	18.70
64 G 343	1HL15UK	...	120	0-120/140	15.0	8 $\frac{1}{2}$ x4 $\frac{1}{2}$ ix7 $\frac{9}{32}$ "	14	50.00	45.00	42.50
64 G 344	2HMS03UK†	...	240	0-240/280	3.0	4 $\frac{3}{4}$ x4 $\frac{1}{2}$ ix4 $\frac{1}{32}$ "	3 $\frac{3}{4}$	22.50	20.25	19.12
64 G 345	2HMD03UK	D	240	0-240/280	3.0	5 $\frac{9}{16}$ x5 $\frac{3}{32}$ x4 $\frac{1}{16}$ "	4 $\frac{1}{4}$	22.50	20.25	19.12
64 G 346	2HMD03CK*‡	...	240	0-240/280	3.0	5 $\frac{9}{16}$ x5 $\frac{3}{32}$ x4 $\frac{1}{32}$ "	4 $\frac{3}{4}$	24.50	22.05	20.82
64 G 347	2HL09UK	...	240	0-240/280	9.0	8 $\frac{1}{2}$ ix6 $\frac{1}{2}$ ix7 $\frac{1}{32}$ "	15 $\frac{1}{2}$	50.00	45.00	42.50

### THREE-PHASE UNITS

64 G 348	2HMS03UK-3V	E	240	0-240/280	3.0	4 $\frac{3}{4}$ x4 $\frac{1}{2}$ ix8x2 $\frac{3}{32}$ "	8 $\frac{1}{2}$	49.50	44.50	42.07
64 G 349	2HMS07UK-3V	E	240	0-240/280	7.5	4 $\frac{3}{4}$ x4 $\frac{1}{2}$ ix8x9 $\frac{2}{32}$ "	11 $\frac{1}{2}$	67.00	60.30	56.95
64 G 350	2HL15UK-3V	F	240	0-240/280	15.0	8 $\frac{1}{2}$ ix6 $\frac{1}{2}$ ix16 $\frac{3}{4}$ "	41	140.00	126.00	119.10
64 G 351	4HMS03UK-3V	E	480	0-480/560	3.0	4 $\frac{3}{4}$ x4 $\frac{1}{2}$ ix8x9 $\frac{2}{32}$ "	11 $\frac{1}{2}$	74.50	67.05	63.32
64 G 352	4HL09UK-3V	F	480	0-480/560	9.0	8 $\frac{1}{2}$ ix6 $\frac{1}{2}$ ix17 $\frac{1}{32}$ "	45 $\frac{1}{2}$	140.00	126.00	119.10

## NEW 400/1600-CYCLE "POWERSTAT" VARIABLE TRANSFORMERS



For high frequency applications. Provide 400/1600-cycle service as limited-range variable transformers, low-voltage-output variable transformers, and line-voltage correctors. Offer zero waveform distortion, excellent regulation, linear output voltage.

### SINGLE TYPE 5-1011

Single unit for 115 v. AC single-phase input. May be connected 7 ways. As variable transformer, output is 83-113 v., 98-130 v., or 116-149 v. As low-voltage variable transformer, output is 0-26 v. As line corrector, output is 115 v. with 90-113 v., 104-133 v., or 117-149 v. inputs.

### 2-GANG TYPE 5-1279

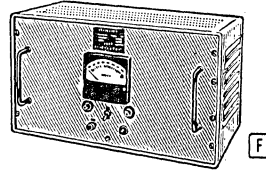
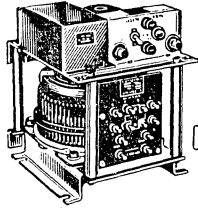
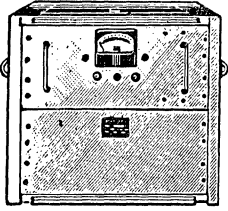
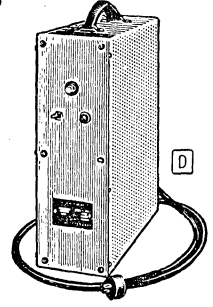
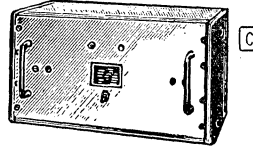
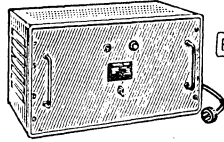
For 115 v., single or 2-phase, or 230 v., single-phase inputs. With each gang connected to separate circuits, outputs are same as Type 5-1011. Connected in series with 230 v. input, outputs are double those of Type 5-1011. Open delta connection provides same outputs as Type 5-1011.

### 3-GANG TYPE 5-1281

For 115 v., 1-phase or 200 v., 3-phase inputs. Each gang like 5-1011. Y-connected to 200 v., 3-phase input, outputs: 144-195 v., 170-225 v., 201-258 v., or 0-45 v. As line corrector, output: 200 v. with 156-195 v., 180-230 v., 203-258 v., 3-phase inputs.

Stock No.	Mfr's Type	Size (HWD)	Wt., Lbs.	EACH		
				1-5	6-24	25-99
64 G 353	5-1011	1 $\frac{1}{2}$ ix1 $\frac{1}{2}$ ix3 $\frac{3}{16}$ "	1	33.00	29.70	28.05
64 G 354	5-1279	2 $\frac{1}{4}$ x2 $\frac{1}{4}$ x6 $\frac{1}{16}$ "	2 $\frac{3}{4}$	73.00	65.70	62.05
64 G 355	5-1281	2 $\frac{1}{4}$ x2 $\frac{1}{4}$ x9 $\frac{1}{16}$ "	3 $\frac{3}{4}$	110.00	99.00	93.50

Several series of "Stabilines" are available, for requirements from 0.25 to 480 KVA. Write, wire, or phone Allied for OEM prices on units not listed.



"Stabiline" automatic voltage regulators maintain a constant output voltage regardless of line or load changes. Ideal for applications in photoengraving, laboratory and factory testing, electrochemical analysis, aircraft landing systems, color-photography lighting, filament voltage control, radio, TV, telephone and radar equipment. Types marked † can also be operated at an input range of 95 to 135

### EMT SERIES—ELECTRO-MECHANICAL TRANSISTORIZED

Extremely efficient. Ideal for controlling loads up to 100 KVA where zero waveform distortion is required. Consists of motor-driven "Powerstat" variable transformer, detector circuit and auxiliary transformer. The compact, plug-in control circuit is completely transistorized. It will operate in any position and requires no critical adjustments; operating sensitivity is adjustable within ±1%. Efficiency is 98% or better; very low internal impedance; virtually zero phase shift. Insensitive to the magnitude and power factor of the load. Designed for 50-60 cycles AC.

### TM SERIES—TUBELESS MAGNETIC

Have no tubes, transistors or moving parts. Developed to meet the need for automatic voltage regulators in unattended or critical process applications where parts replacement is costly or impossible, or where conditions cannot tolerate moving parts. Voltage sensing is accomplished by means of a static reference circuit. Response, less than 1/2 sec. for ordinary line and/or load changes, always under

volts with a rating of 52 amps, 6 KVA and a correction rate of .075 sec/volt. Frequency of operation is as given in paragraphs below, except †† indicates for 60-cycle operation only. Types marked \*\* can be converted for 208-v. operation by simple tap changes with proportional changes in input and output voltage ranges. Units weighing over 200 lbs. shipped F.O.B. from Bristol, Connecticut.

### IE SERIES—INSTANTANEOUS ELECTRONIC

Completely electronic—no moving parts. Provides complete correction in 3 to 10 cycles in 1/4, 1/2 and 1 KVA units, and in 10 to 20 cycles in 2.5, 5 and 10 KVA types. Holds output voltage to within ±0.1% of nominal for any load current changes or load power factor changes from .5 lagging to unity. Waveform distortion is generally under 2%, and never exceeds 3%. Incorporates over-voltage protection arrangement to allow protection when open circuit occurs in the error-detection diode or amplifier tubes. Designed for single-phase, 60 cycles duty at ±10% tolerance.

### SINGLE-PHASE TYPES

Stock No.	Mfr's Type	Fig.	Nominal Output Volts	Input Voltage Range	Output Voltage Range	Max. Output Amps	Rated Output KVA	Correction Rate Sec/Volt	Max. Size (DWH)	Shpg. Wt., Lbs.	EACH	
											1	2-49
61 GZ 223	EMT4102	F	115	95-135	110-120	17.5	2.0	.075	15x19 1/2 x 11 1/2"	90	427.50	403.75
61 GZ 224	EMT4106B	F	115	95-135	110-120	52.0	6.0	.075	15x19 1/2 x 11 1/2"	133	495.00	467.50
63 GZ 002	EMT4112B†	F	115	105-125	110-120	104.0	12.0	.15	15x19 1/2 x 11 1/2"	133	495.00	467.50
61 GZ 225	EMT4115	A	115	95-135	110-120	130.0	15.0	.125	17 1/4 x 26 1/8 x 19 3/8"	300	630.00	595.00
63 GZ 008	EMT4104U††	E	240	228-256	220-240	35.0	8.4	.10	9 1/4 x 8 1/2 x 10 5/8"	54	400.50	378.25
63 GZ 010	EMT4207**	A	230	195-255	220-240	32.5	7.5	.083	17 1/4 x 26 1/8 x 19 3/4"	200	540.00	510.00
61 GZ 226	EMT4228B**	A	230	205-250	220-240	120.0	27.5	.111	17 1/4 x 26 1/8 x 19 3/4"	350	675.00	637.50
63 GZ 012	EMT4407	A	460	400-520	440-480	15.0	6.6	.041	17 1/4 x 26 1/8 x 19 3/4"	175	643.00	605.75
63 GZ 013	EMT4418	A	460	400-520	440-480	40.0	17.6	.041	17 1/4 x 26 1/8 x 19 3/4"	270	720.00	680.00
63 GZ 014	IE51002	D	115	95-135	110-120	2.2	0.25	.....	14x5 3/4 x 20 1/4"	49	310.50	293.25
61 GZ 227	IE51005	D	115	95-135	110-120	4.5	0.5	.....	14x5 3/4 x 20 1/4"	60	333.00	314.50
61 GZ 228	IE5101	B	115	95-135	110-120	8.5	1.0	.....	13x19 1/2 x 11 3/8"	92	387.00	365.00
61 GZ 229	IE5102	C	115	95-135	110-120	22.0	2.5	.....	16 1/8 x 26 1/2 x 12 3/4"	188	594.00	561.00
63 GZ 026	IE5105	.....	115	95-135	110-120	43.5	5.0	.....	16 5/8 x 26 1/4 x 19 1/4"	284	652.50	616.25
63 GZ 027	IE5110	.....	115	95-135	110-120	87.0	10.0	.....	18 1/4 x 22 3/4 x 45 1/4"	610	1476.00	1394.00
63 GZ 028	IE52002	D	230	195-255	220-240	1.1	0.25	.....	14x5 3/4 x 20 1/4"	48	310.50	293.25
63 GU 029	IE52005	D	230	195-255	220-240	2.2	0.5	.....	14x5 3/4 x 20 1/4"	60	333.00	304.50
63 GZ 030	IE5201	B	230	195-255	220-240	4.5	1.0	.....	13x19 1/2 x 11 3/8"	87	387.00	365.00
63 GZ 031	IE5202	C	230	195-255	220-240	11.0	2.5	.....	16 1/8 x 26 1/2 x 12 3/4"	172	562.50	531.25
63 GZ 032	IE5205	.....	230	195-255	220-240	22.0	5.0	.....	16 5/8 x 26 1/4 x 19 1/4"	284	654.50	616.25
53 GZ 033	IE5210	.....	230	195-255	220-240	43.5	10.0	.....	18 1/4 x 22 3/4 x 45 1/4"	605	1476.00	1394.00
63 GZ 034	TM7101	.....	115	95-135	110-120	8.5	1.0	.....	13x19 1/2 x 11 1/2"	117	720.00	680.00
63 GZ 035	TM7105B	.....	115	95-135	110-120	43.5	5.0	.....	16 5/8 x 26 1/4 x 23 1/8"	295	1066.50	1007.25

### THREE-PHASE TYPES

63 GZ 036	EMT6210V**	.....	230	195-255	220-240	25.0	10.0	.083	17 3/8 x 24 x 41 1/4"	460	949.50	896.75
63 GZ 037	EMT6215V**	.....	230	195-255	220-240	38.0	15.0	.083	17 3/8 x 24 x 41 1/4"	460	990.00	935.00
63 GZ 038	EMT6220V**	.....	230	195-255	220-240	50.0	20.0	.083	17 3/8 x 24 x 41 1/4"	460	1080.00	1020.00
63 GZ 039	EMT6245V**	.....	230	195-255	220-240	113.0	40.0	.25	27 1/8 x 31 3/4 x 44 1/4"	975	1476.00	1377.00
63 GZ 040	EMT6270D**	.....	230	195-255	220-240	175.0	70.0	.25	27 1/8 x 31 3/4 x 44 1/4"	928	1800.00	1700.00
63 GZ 041	EMT6412Y	.....	460	400-520	440-480	16.0	12.5	.041	17 3/8 x 24 x 41 1/4"	438	1026.00	969.00
63 GZ 042	EMT6417Y	.....	460	400-520	440-480	22.0	17.5	.041	17 3/8 x 24 x 41 1/4"	466	1102.50	1041.25
63 GZ 043	EMT6425Y	.....	460	400-520	440-480	33.0	25.0	.041	17 3/8 x 24 x 41 1/4"	490	1120.50	1058.25
63 GZ 044	EMT6480Y	.....	460	400-520	440-480	66.0	50.0	.125	27 1/8 x 31 3/4 x 44 1/4"	966	1588.50	1425.00
63 GZ 045	EMT6475Y	.....	460	400-520	440-480	100.0	75.0	.125	27 1/8 x 31 3/4 x 44 1/4"	955	1710.00	1615.00
63 GZ 046	EMT64100Y	.....	460	420-500	440-480	131.0	100.0	.188	27 1/8 x 31 3/4 x 44 1/4"	968	1800.00	1700.00

# G. E. and Raytheon Voltage Regulating Devices

## NEW G. E. "VOLT-PAC" VARIABLE TRANSFORMERS

Series of manually operated variable transformers in a wide variety of popular voltage and current ratings. Feature even-flow heat sink, high current capacity for physical size, exclusive new current collector, "grain-oriented" solid carbon brush design, absolute-zero voltage output position, specially coated brush track, and corrosion-resistant parts

throughout. Solid-carbon brush construction reduces circulating currents, lowers brush temperature and improves performance. Ratings are for 60 cycles; when used on 50 cycles, output voltages are limited to rated input voltages except, † can be used for 117% of rated input on 50 or 60 cycles. †60 cycles only. \*Cased units; others are uncased.

### SINGLE-PHASE, SINGLE-CORE TYPE (2 AMPS)

Stock No.	Mfr's Type	Fig.	Input Volts	Output		Max. Size (DWH)	Wt., Lbs.	EACH	
				Volts	Amps			1-11	12-99
63 G 099	9H30AA10X	A	120			2 3/32x3 1/2x2 1/16"	3	8.50	7.23

### SINGLE-PHASE, SINGLE-CORE TYPES (4-30 AMPS)

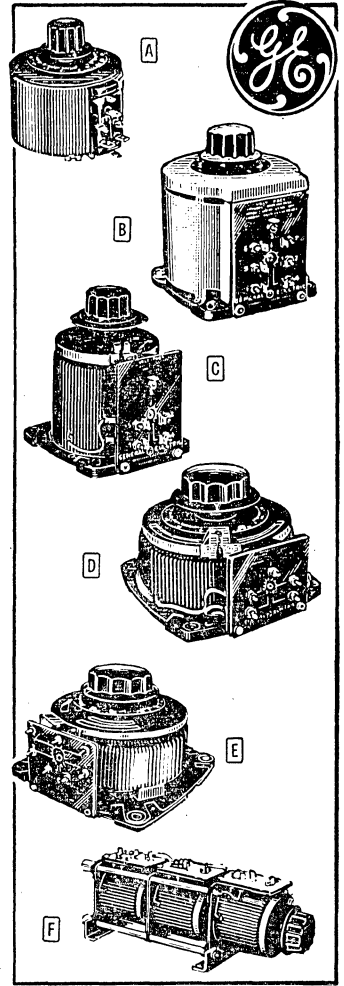
Stock No.	Mfr's Type	Fig.	Input Volts	Output		Max. Size (DWH)	Wt., Lbs.	EACH		
				Volts	Amps			1-5	6-24	25-99
63 G 139	9H40AA10X	C	120	0-140	4.0	3 1/8x4 1/2x3 1/16"	5	12.50	11.25	10.63
63 G 140	9H60BA10X†	C	120	0-120	10.0	4 9/16x5 1/16x5"	10	18.50	16.65	15.73
63 G 142	9H60NA10X†	C	120	0-120	13.0	4 9/16x5 1/16x5"	10	28.00	25.20	23.80
63 G 143	9H60DA10X†	C	240	0-240	4.0	4 9/16x5 1/16x5"	10	21.00	18.90	17.85
63 G 154	9H60PA10X†	C	240	0-240	5.5	4 9/16x5 1/16x5"	10	30.00	27.00	25.50
63 G 155	9H60CA10X	C	240	0-280	3.0	4 9/16x5 1/16x5"	10	20.00	18.00	17.00
63 G 156	9H60CA13X*	B	240	0-280	3.0	4 9/16x5 23/32x5"	11	26.00	23.40	22.10
63 G 158	9H60AA10X	C	120	0-140	7.5	4 9/16x5 1/16x5"	10	18.00	16.20	15.30
63 G 161	9H60AA13X*	B	120	0-140	7.5	4 9/16x5 23/32x5"	11	24.00	21.60	20.40
63 G 164	9H60LA10X	C	120	0-140	10.0	4 9/16x5 1/16x5"	10	25.00	22.50	21.25
63 G 167	9H60LA13X*	B	120	0-140	10.0	4 9/16x5 23/32x5"	11	31.00	27.90	26.35
63 G 168	9H75BA10X	D	240	0-280	7.0	4 23/64x6 7/8x6 1/4"	17	36.00	32.40	30.60
63 G 169	9H75MA10X	D	240	0-280	9.5	4 23/64x6 7/8x6 1/4"	17	45.00	40.50	38.25
63 G 179	9H75AA10X	D	120	0-140	15.0	4 23/64x6 7/8x6 1/4"	17	36.00	32.40	30.60
63 G 180	9H75AA13X*	B	120	0-140	15.0	4 23/64x6 7/8x6 1/4"	18	41.00	36.90	34.85
63 GZ 181	9H85BA10X	D	240	0-280	14.0	4 1/2x10 1/4x7 25/64"	32	75.00	67.50	63.75
63 GZ 182	9H85MA10X	D	240	0-280	19.0	4 1/2x10 1/4x9 25/64"	32	102.00	91.80	86.70
63 GZ 183	9H85AA10X	D	120	0-140	30.0	4 1/2x10 1/4x9 25/64"	32	75.00	67.50	63.75
63 GZ 184	9H85AA13X*	B	120	0-140	30.0	4 23/64x10 1/4x9 25/64"	35	80.00	72.00	68.00

### SINGLE-PHASE, SINGLE-CORE TYPES (30-50 AMPS)

Stock No.	Mfr's Type	Fig.	Input Volts	Output		Max. Size (DWH)	Wt., Lbs.	EACH	
				Volts	Amps			1	2-49
63 GZ 229	9H95AA10X†	E	120	0-140	50.0	5 23/64x14 1/8x13 3/4"	65	120.00	102.00
63 GZ 230	9H95BA10X†	E	240	0-280	30.0	5 23/64x14 1/8x13 3/4"	65	120.00	102.00

### THREE-PHASE, MULTIPLE-CORE TYPES (2-30 AMPS)

Stock No.	Mfr's Type	Fig.	Input Volts	Output		Max. Size (DWH)	Wt., Lbs.	EACH	
				Volts	Amps			1	2-49
63 GZ 231	9H30AC30X†	F	240	0-240	2.0	7 7/32x3 3/4x3 7/8"	11	36.00	34.00
63 GZ 232	9H60AC30X	F	240	0-280	7.5	15 3/8x6 1 3/8x6 3/8"	33	55.35	52.28
63 GZ 234	9H60AC33X*	F	240	0-280	7.5	15 3/8x6 1 3/8x6 3/8"	36	71.10	67.15
63 GZ 235	9H60LC30X	F	240	0-280	10.0	15 3/8x6 1 3/8x6 3/8"	33	82.80	78.20
63 GZ 236	9H60LC33X*	F	240	0-280	10.0	15 3/8x6 1 3/8x6 3/8"	36	99.00	93.50
63 GZ 238	9H60CC30X	F	480	0-560	3.0	15 3/8x6 1 3/8x6 3/8"	33	62.55	56.08
63 GZ 241	9H60CC33X*	F	480	0-560	3.0	15 3/8x6 1 3/8x6 3/8"	36	78.30	73.95
63 GZ 248	9H75LC30X	F	240	0-280	20.0	15 3/8x6 1 3/8x6 3/8"	56	139.50	131.75
63 GZ 249	9H75BC30X	F	480	0-560	7.0	15 3/8x6 1 3/8x6 3/8"	56	113.40	107.10
63 GZ 258	9H85BC30X	F	480	0-560	14.0	15 3/8x10 29/32x9 45/64"	110	222.30	209.95
63 GZ 260	9H95BC30X	F	480	0-560	30.0	19x14 1/2x10 1/2"	230	346.50	327.25



## RAYTHEON AUTOMATIC VOLTAGE REGULATORS

### LINE AND FILAMENT VOLTAGE STABILIZERS

Magnetic voltage regulators for use wherever line-voltage variations can affect the performance or operating life of electrical and electronic equipment. Maintain output voltage within ±1% of rated value despite AC input voltage fluctuations of ±15% or more. Correction is rapid and fully automatic; moving parts, vacuum tubes and other limited-life elements are not employed.

No adjustment or calibration is required. Two or more regulators may be connected in parallel for greater power-handling capacity. Output is isolated from line; units can be used for servicing AC-DC radios and series-wired TV sets. All primaries are for 95-130 volts, 60 cycle AC. Deliver 117 volts regulated, normal waveform (20-25% harmonic content) AC.

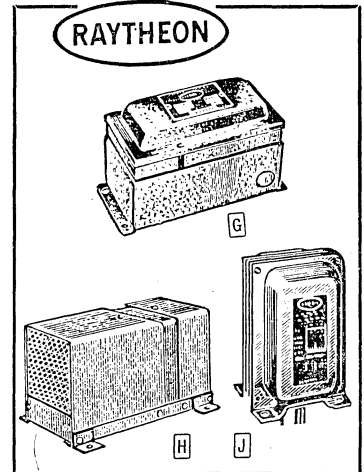
Stock No.	Mfr's Type	Fig.	Watts Output	Size (HWD)		Wt., Lbs.	EACH	
				VCT	Ma		1-4	5-9
61 G 188	RVA-15S	G	15	4 5/16x2 1/2x5 3/8"	3	15.00	13.50	12.75
61 G 189	RVA-30S	G	30	5 5/16x2 1/2x5 3/8"	5	20.00	18.00	17.00
61 G 190	RVA-60S	G	60	5 1/4x3 1/4x5 7/8"	9	25.00	22.50	21.25
61 G 369	RVA-120S	G	120	6 9/16x4 1/2x9 1/2"	14	33.00	29.70	28.05
61 GU 192	RVA-250S	G	250	7 13/16x4 1/2x9 1/2"	24	49.00	44.10	41.65
61 GZ 193	RVA-500S	G	500	10 3/16x4 1/2x9 1/2"	39	77.00	69.30	65.45
61 GZ 194	RVA-1000S	H	1000	9x10x16 3/4"	59	128.00	115.70	108.80

### STANDARD PLATE-FILAMENT VOLTAGE REGULATORS

Plate-filament type transformers for use in DC power supplies requiring good regulation under varying line voltage conditions. Voltages remain within ±3% of rated output despite input variations between 100

and 130 volts. All have AC capacitors for bridging high voltage secondary, and double-shell, semi-shielded upright cases. \*Has extra 6.3 VCT @ 8 amp (unregulated) winding. For 110-130 v., 60 cycle AC.

Stock No.	Mfr's Type	Plate		5V @	6.3VCT @	Size (HWD)	Shpg. Wt.	EACH
		VCT	Ma					
61 G 184	RVC-40-570S	570	50	2A	2.5A	4 7/8x3 3/8x3 1/4"	5 lbs.	12.00
61 G 185	RVC-70-800S	800	110	2A	3A	4 7/8x3 3/8x3 1/4"	8 lbs.	15.00
61 G 186	RVC-185-780S	780	250	3A	4A*	7 7/8x4 7/8x5 1/8"	19 lbs.	27.00

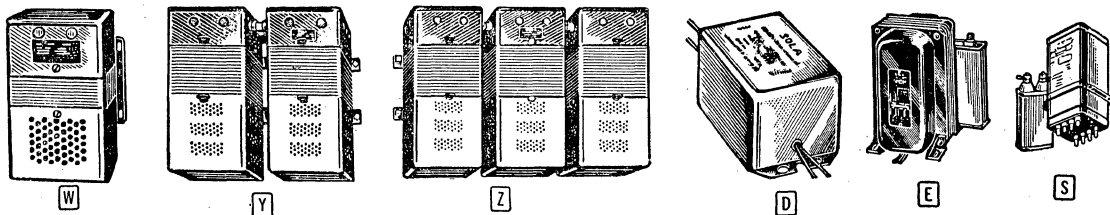


Allied also handles semiconductors, special purpose tubes, "Rayistors" and other quality products by Raytheon. See the index of this catalog for complete listings.



# Constant Voltage Transformers

## AUTOMATIC, INSTANTANEOUS REGULATORS



- Ultra-Fast Regulating Action
- Response Time 1½ Cycles or Less

- Fully Automatic—Continuous Regulation
- No Manual Adjustments Required

- Self-Protecting Against Short Circuits
- Negligible External Field

### TYPE CVS STANDARD SINUSOIDAL VOLTAGE REGULATORS—60 to 7500 VA

Constant-voltage transformers for equipment requiring stable, un-distorted voltage. Especially suited for applications where line voltage is to be transformed and rectified, and where close DC output-voltage regulation is necessary. Absence of moving or renewable parts, or manual adjustment, eliminates need for routine maintenance and spare parts stock. Excellent for equipment which is sensitive to, or is affected by, harmonics in supply voltage. Total rms harmonic distortion is a maximum of 3% at full rated load. Output voltage is constant within 1% regardless of input

voltage variations of 15%. Displaying fast regulating action, response time is usually 1½ cycles or less. Structure Code (see illustrations, above): W—exposed core, end housings, screw-type terminals in outlet box; Y—same as W, but duplex assembly; Z—same as W, but triplex assembly. Outline dimensions are nominal, subject to manufacturing tolerance of ±1/32" to ±1/8". For single-phase 60-cycle AC only. 50-cycle units are available on special order. Write us for a quotation—give details concerning your application.

Stock No.	Mfr's Type	Output Volts		Input Volts	Cap. VA	Nominal Dimensions (In.)		Structure	Wt., Lbs.	EACH			
						Outline	Mounting			1-4	5-9	10-24	25-49
62 G 517	23-13-060	118	95-130	60	61/16x4x53/16	3x3 1/2	W	10	30.00	27.00	25.50	24.00	
62 G 447	23-23-060	118	190-260/380-520	60	61/16x4x53/16	3x3 1/2	W	10	32.00	28.80	27.20	25.60	
62 GU 518	23-22-112	118	95-130/190-260	120	8x4x53/16	3x3 1/2	W	14	38.00	34.20	32.30	30.40	
62 GU 448	23-23-112	118	190-260/380-520	120	8x4x53/16	3x3 1/2	W	14	41.00	36.90	34.85	32.80	
62 GU 646	23-22-125	118	95-130/190-260	250	95/8x53/8x71/16	41/8x43/4	W	28	52.00	46.80	44.20	41.60	
62 GU 449	23-23-125	118	190-260/380-520	250	10x53/4x77/16	41/8x43/4	W	28	56.00	50.40	47.60	44.80	
62 GU 647	23-22-150	118	95-130/190-260	500	127/16x9x67/16	55/8x81/8	W	47	81.00	72.90	68.85	64.80	
62 GU 450	23-23-150	118	190-260/380-520	500	127/16x9x67/16	55/8x81/8	W	47	86.00	77.40	73.10	68.80	
62 GZ 451	23-25-210	118/236	95-130/175-235	1000	1715/16x9x67/16	55/8x81/8	W	80	135.00	121.50	114.75	108.00	
62 GZ 452	23-26-210	118/236	190-260/380-520	1000	1715/16x9x67/16	55/8x81/8	W	80	135.00	121.50	114.75	108.00	
61 GZ 991	23-25-220	118/236	95-130/175-235	2000	1915/16x123/4x1011/16	41/2x113/4	W	183	245.00	.....	.....	.....	
62 GZ 453	23-26-220	118/236	190-260/380-520	2000	1915/16x123/4x1011/16	41/2x113/4	W	183	245.00	.....	.....	.....	
61 GZ 992	23-25-230	118/236	95-130/175-235	3000	217/8x123/4x1011/16	61/8x113/4	W	270	330.00	.....	.....	.....	
62 GZ 454	23-26-230	118/236	190-260/380-520	3000	217/8x123/4x1011/16	61/8x113/4	W	270	330.00	.....	.....	.....	
62 GZ 458	23-25-250	118/236	95-130/175-235	5000	209/16x2513/16x1011/16	57/8x2413/16	Y	475	515.00	.....	.....	.....	
61 GZ 993	23-26-250	118/236	190-260/280-520	5000	207/8x2513/16x1011/16	57/8x2413/16	Y	475	515.00	.....	.....	.....	
61 GZ 994	23-28-275	118/236	190-260/280-520	7500	209/16x381/4x111/16	57/8x371/4	Z	710	900.00	.....	.....	.....	

### TYPE CVN NORMAL-HARMONIC VOLTAGE REGULATORS—15 to 10,000 VA

Static-magnetic line-voltage regulators. Have all voltage-stabilizing characteristics of the CVS types above, except output wave shape is not sinusoidal. Provide constant output-voltage within 1%, with extremely wide input variations—easily handle fluctuations of up to 30%. Adjust rapidly to changes—recovery is generally within 1½ cps or less. Reliable voltage sources for all electrical loads not affected by harmonics in the supply voltage, such as filaments, relays, solenoids, etc. Have no moving or renewable parts. Require

virtually no maintenance. Current-limiting characteristic constantly protects load from excessive currents. Structure Code (illustrations, above): D—drawn case, integral capacitor, flex leads; E—exposed core, end bells, separate capacitor, flex leads; S—hermetically-sealed case, separate capacitor, solder lugs. W, Y, Z Code given under Type CVS. Inputs are for single-phase 60-cycle only. 50-cycle units are available on special order. Write us for a price quotation. Give details concerning your application.

Stock No.	Mfr's Type	Voltage Rating		Cap. VA	Nominal Size (Inches)		Structure	Wt., Lbs.	EACH			
		Output	Input		Mounting	Outline			1-4	5-9	10-24	25-49
61 G 978	20-10-015	118	95-130	15	51/8x11/8	57/8x25/8x31/2	D	4	15.00	13.50	12.75	12.00
62 G 434	20-11-015	118	95-130	15	3x1 1/2	51/4x31/2x21/4	E	4	20.00	18.00	17.00	16.00
62 G 435	20-14-015	118	95-130	15	13/4x1 7/8	49/8x23/8x21/8	S	3	14.00	12.60	11.90	11.20
62 G 436	20-14-030	118	95-130	30	17/8x2 3/8	49/8x25/8x33/8	E	5	16.00	14.40	13.60	12.80
62 G 657	20-13-030	118	95-130	30	3x3 1/2	6x4x53/16	W	7	20.00	18.00	17.00	16.00
62 G 658	20-13-060	118	95-130	60	3x3 1/2	613/16x4x53/16	W	10	25.00	22.50	21.25	20.00
62 G 438	20-14-060	118	95-130	60	21/2x3 3/8	413/16x31/8x33/8	E	8	21.00	18.90	17.85	16.80
62 G 440	20-14-112	118	95-130	120	21/2x3 3/8	413/16x31/8x415/16	E	11	29.00	26.10	24.65	23.20
62 G 659	20-13-112	118	95-130	120	3x3 1/2	73/8x4x53/16	W	13	33.00	29.70	28.05	26.40
62 G 442	20-21-112	236	190-260	120	3x3 1/2	77/8x4x53/16	W	13	33.00	29.70	28.05	26.40
62 GU 618	20-13-115	118	95-130	150	41/8x43/4	87/8x53/8x77/16	W	22	40.00	36.00	34.00	32.00
62 GU 660	20-13-125	118	95-130	250	49/8x61/8	111/8x613/16x67/16	W	25	49.00	44.10	41.65	39.20
62 GU 433	20-23-125	118	190-260/380-520	250	49/8x61/8	111/8x613/16x67/16	W	25	49.00	44.10	41.65	39.20
62 GU 661	20-13-150	118	95-130	500	49/8x61/8	123/16x613/16x67/16	W	36	77.00	69.30	65.45	61.60
62 GU 437	20-23-150	118	190-260/380-520	500	49/8x61/8	123/16x613/16x67/16	W	36	77.00	69.30	65.45	61.60
62 GU 439	20-24-150	236	190-260/380-520	500	49/8x61/8	121/2x613/16x67/16	W	36	77.00	69.30	65.45	61.60
62 GZ 662	20-13-210	118	95-130	1000	49/8x61/8	151/8x613/16x67/16	W	54	128.00	115.20	108.80	102.40
62 GZ 487	20-20-210	118	190-260	1000	49/8x61/8	151/8x613/16x67/16	W	54	128.00	115.20	108.80	102.40
63 GZ 198	20-25-220	118/236	95-130/175-235	2000	49/8x91/2	20x101/2x1011/16	W	166	232.00	.....	.....	.....
61 GZ 988	20-25-230	118/236	95-130/175-235	3000	61/8x91/2	22x101/2x1011/16	W	230	315.00	.....	.....	.....
61 GZ 989	20-27-250	118/236	190-260/380-520	5000	7x13	21x141/2x143/8	W	279	490.00	.....	.....	.....
61 GZ 990	20-26-310	118/236	190-260/380-520	10,000	7x271/16	21x291/2x143/8	Y	590	925.00	.....	.....	.....

# Provide $\pm 1\%$ Voltage Regulation



## ELECTRONIC POWER TYPES

**Type CVF.** Constant-voltage transformers provide a closely regulated output for 6 or 6.3-volt filaments. Output is constant within 1% regardless of input voltage fluctuations of up to 15%. Stabilized voltage supply contributes to reliable operation, long life and reduced service expense for load equipment. Incorporate all the features of CVN types on facing page, except they are designed to operate at low voltages. See explanation of Structure Codes on the facing page.

**Type CVE.** Constant-voltage plate-filament transformers provide regulated B+ and filament voltages for your most critical requirements. Output voltages are regulated to within 3% of their values even with input voltage variations as high as 15%. Input range is 100-130 volts. \*Has additional 6.3 volt, 8-amp unregulated filament winding. For use with 60-cycle single-phase only. Oil-filled capacitor with mounting brackets is furnished. See explanation of Structure Code on facing page.

### TYPE CVF—FOR FILAMENT SERVICE—2.5 TO 25 AMPS

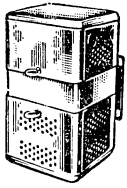
Stock No.	Mfr's Type	Output Volts	Input Volts	Cap. Amps	Nominal Dimensions (In.)		Structure	Wt., Lbs.	EACH			
					Outline	Mounting			1-4	5-9	10-24	25-49
61 G 976	20-01-015	6.0	95-130	2.50	5 $\frac{1}{2}$ x2 $\frac{3}{8}$ x3 $\frac{1}{2}$ "	5 $\frac{1}{2}$ x1 $\frac{1}{8}$ "	D	6	15.00	13.50	12.75	12.00
62 G 443	20-06-015	6.0	95-130	2.50	4 $\frac{3}{4}$ x2 $\frac{3}{8}$ x2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ x1 $\frac{1}{8}$ "	E	4	14.00	12.60	11.90	11.20
61 G 977	20-02-015	6.3	95-130	2.38	5 $\frac{1}{2}$ x2 $\frac{3}{8}$ x3 $\frac{1}{2}$ "	5 $\frac{1}{2}$ x1 $\frac{1}{8}$ "	D	6	15.00	13.50	12.75	12.00
62 G 444	20-03-015	6.3	95-130	2.38	4 $\frac{3}{4}$ x2 $\frac{3}{8}$ x2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ x1 $\frac{1}{8}$ "	S	4	20.00	18.00	17.00	16.00
62 G 445	20-04-015	6.3	95-130	2.38	4 $\frac{3}{4}$ x2 $\frac{3}{8}$ x2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ x1 $\frac{1}{8}$ "	E	4	14.00	12.60	11.90	11.20
63 G 193	20-04-030	6.3	95-130/190-260	5.0	4 $\frac{1}{2}$ x3 $\frac{1}{8}$ x3 $\frac{1}{8}$ "	2 $\frac{1}{2}$ x2 $\frac{1}{16}$ "	E	6	16.00	14.40	12.80	12.00
63 G 194	20-04-065	6.3	95-130/190-260	10.0	4 $\frac{1}{2}$ x3 $\frac{1}{8}$ x3 $\frac{3}{4}$ "	2 $\frac{1}{2}$ x2 $\frac{1}{16}$ "	E	7	20.00	18.00	16.00	15.00
63 G 195	20-04-095	6.3	95-130/190-260	15.0	4 $\frac{1}{2}$ x3 $\frac{1}{8}$ x4 $\frac{1}{16}$ "	2 $\frac{1}{2}$ x3 $\frac{5}{8}$ "	E	11	24.00	21.60	19.20	18.00
63 GU 197	20-04-116	6.3	95-130/190-260	25.0	7x4 $\frac{1}{2}$ x5 $\frac{1}{16}$ "	3 $\frac{3}{8}$ x4 $\frac{1}{8}$ "	E	23	35.00	31.50	28.00	26.25

### TYPE CVE—FOR PLATE-FILAMENT SERVICE—50 TO 250 MA

Stock No.	Mfr's Type	Typical Rectifier Tube	Av. DCV to DCV	Fil. Windings		Nominal Dimensions (In.)		Structure	Wt., Lbs.	EACH		
				6.3 V	5.0 V	Outline	Mounting			1-9	10-49	50-99
62 G 669	7104	5V3	275 @ 50 ma	2.5A; CT	2 A	4 $\frac{1}{2}$ x6 $\frac{1}{8}$ x3 $\frac{3}{16}$ "	2 $\frac{1}{2}$ x2 $\frac{1}{8}$ "	E	6	12.00	10.80	9.60
62 G 670	7106	5V3	385 @ 100 ma	3A; CT	2 A	4 $\frac{1}{2}$ x6 $\frac{1}{8}$ x3 $\frac{3}{16}$ "	2 $\frac{1}{2}$ x2 $\frac{1}{8}$ "	E	8	15.00	13.50	12.00
62 G 671	7107	5U4	380 @ 250 ma	4A*	3 A	7x4 $\frac{1}{2}$ x4 $\frac{1}{8}$ "	3 $\frac{5}{8}$ x3 $\frac{3}{8}$ "	E	19	27.00	24.30	21.60

## SOLATRON LINE-VOLTAGE REGULATORS

FAST, CLOSE TOLERANCE, OPERATING IN THE 1 TO 100 KVA RANGE

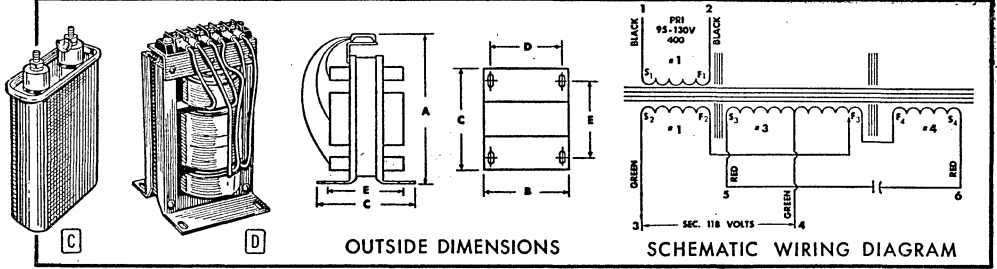


These line-voltage regulators offer 3 to 10-cycle response time to changes of line voltage and load conditions. Initiate corrective action the instant output departs from nominal—before voltage approaches the boundaries of the  $\pm 1\%$  regulation envelope. Output voltage is held constant within  $\pm 1\%$  for variations of zero to 100% load and  $\pm 10\%$  line voltage (20% line if  $\pm 20\%$  Solatron). Efficiency is 98% at full load and rated output voltage. No harmful wave form distortion. Built for easy servicing and replacement, the major portion of the control circuit is in a handy plug-in package. Complete control circuit with all control components is mounted on end panel that is removable by means

of four readily accessible connectors on terminals and five mounting screws. Absence of core saturation results in no stray magnetic field or high-temperature core. Excellent short-time overload characteristics. Class F insulation permits operation in high ambient temperatures. For either horizontal or vertical mounting. Compact design—these units are smaller and lighter than most voltage regulators. All power-handling windings are combined on one magnetic structure, no electronic components in power-handling circuits—no RF interference from SCR's. All are single-phase, 47-70 cycle and are suitable for connection in three-phase configurations.

Stock No.	Mfr's Type	Voltage		KVA	Nominal Dimensions (In.)		Wt., Lbs.	EACH
		Output	Input		Overall	Mounting		
62 GZ 428	31-13-250	110-133	$\pm 10\%$	5	16 $\frac{3}{4}$ x11x10 $\frac{7}{8}$ "	9 $\frac{1}{2}$ x6 $\frac{1}{4}$ "	98	465.00
62 GZ 429	31-21-250	220-260	$\pm 10\%$	5	16 $\frac{3}{4}$ x11x10 $\frac{7}{8}$ "	9 $\frac{1}{2}$ x6 $\frac{1}{4}$ "	98	465.00
62 GZ 432	31-21-275	220-260	$\pm 10\%$	7.5	18 $\frac{3}{8}$ x11x10 $\frac{7}{8}$ "	9 $\frac{1}{2}$ x8 $\frac{1}{4}$ "	135	535.00
64 GZ 360	31-13-230	110-133	$\pm 10\%$	3	14 $\frac{3}{8}$ x11x10 $\frac{7}{8}$ "	9 $\frac{1}{2}$ x6 $\frac{1}{4}$ "	68	405.00
64 GZ 361	32-21-230	220-260	$\pm 20\%$	3	17 $\frac{1}{2}$ x11x10 $\frac{7}{8}$ "	9 $\frac{1}{2}$ x6 $\frac{1}{4}$ "	68	540.00
64 GZ 362	31-13-275	110-133	$\pm 10\%$	7.5	18 $\frac{3}{8}$ x11x10 $\frac{7}{8}$ "	9 $\frac{1}{2}$ x8 $\frac{1}{4}$ "	134	535.00
64 GZ 363	32-13-250	110-133	$\pm 20\%$	5	16 $\frac{3}{4}$ x21 $\frac{1}{4}$ x10 $\frac{1}{16}$ "	9 $\frac{1}{2}$ x6 $\frac{1}{4}$ "	205	635.00
64 GZ 364	32-21-275	220-260	$\pm 20\%$	7.5	18 $\frac{3}{8}$ x21 $\frac{1}{4}$ x10 $\frac{1}{16}$ "	9 $\frac{1}{2}$ x8 $\frac{1}{4}$ "	205	685.00

## 400-CYCLE CVS CONSTANT-VOLTAGE TRANSFORMERS



The new 400-cycle CVS constant voltage transformer (Figure D, above) provides stabilized output voltage even when extremely wide variations in input voltage are encountered. Compact and light weight, the 400-cycle CVS is designed for such exacting component applications as ground-support equipment, invertors, data processing and many types of critical communication equipment. Transformer features 118-volt regulated output  $\pm 1\%$  nominal

tolerance,  $\pm 1\%$  line regulation, and  $\pm 1\%$  load regulation from full-load to no-load. Input is 115 volts nominal (95-130). Available in ratings ranging from 60 to 1000 volt-amperes. Furnished complete with varnished core and coils. Provides less than 3% total rms harmonic content. Engineered to safely operate at 50°C ambient temperature. Oil-filled capacitor (Figure C, above) is included and is rated for 400-cycle operation.

Stock No.	Mfr's No.	VA	Transformer Dimensions (ABC)	Mtg. Ctrs. (DE)	Capacitor Dimensions (HWD)	Wt., Lbs.	EACH			
							1-4	5-9	10-24	25-49
64 G 365	43-13-060	60	5 $\frac{3}{4}$ x3 $\frac{3}{8}$ x3 $\frac{3}{16}$ "	2 $\frac{3}{4}$ x2 $\frac{3}{16}$ "	2 $\frac{7}{8}$ x1 $\frac{1}{2}$ x1 $\frac{1}{16}$ "	5	36.00	32.40	30.60	28.80
64 G 366	43-13-112	120	5 $\frac{3}{4}$ x3 $\frac{3}{8}$ x3 $\frac{3}{16}$ "	2 $\frac{3}{4}$ x2 $\frac{1}{16}$ "	4 $\frac{3}{4}$ x2 $\frac{1}{2}$ x1 $\frac{1}{16}$ "	7	50.00	45.00	42.50	40.00
64 GU 367	43-13-125	250	7 $\frac{1}{8}$ x6 $\frac{1}{8}$ x3 $\frac{1}{2}$ "	3 $\frac{3}{4}$ x2 $\frac{1}{2}$ "	4 $\frac{3}{4}$ x3 $\frac{3}{4}$ x2 $\frac{1}{2}$ "	14	68.00	61.20	57.80	54.40
64 GU 380	43-13-150	500	7 $\frac{1}{8}$ x6 $\frac{1}{8}$ x3 $\frac{3}{4}$ "	3 $\frac{3}{4}$ x2 $\frac{3}{4}$ "	4 $\frac{3}{4}$ x3 $\frac{3}{4}$ x3 $\frac{1}{2}$ "	16	85.00	76.50	73.25	68.00
64 GU 381	43-13-210	1000	8 $\frac{5}{8}$ x6x3 $\frac{3}{4}$ "	5x2 $\frac{3}{8}$ "	5 $\frac{1}{8}$ x4 $\frac{1}{2}$ x3 $\frac{3}{4}$ "	23	115.00	103.50	97.50	92.00

Let Allied Fill All Your Transformer Needs at OEM Prices

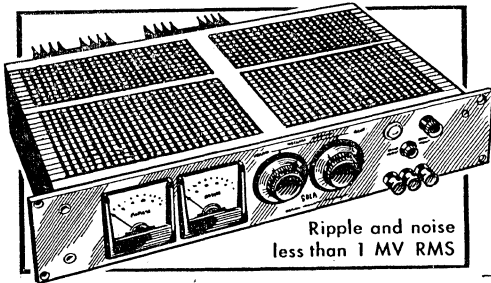
ALLIED • 379

# Selected Voltage Regulation Equipment



## PRECISION-REGULATED, DRIFT-FREE POWER SUPPLIES

### "QSA" ADJUSTABLE DC POWER SUPPLIES



Ripple and noise less than 1 MV RMS

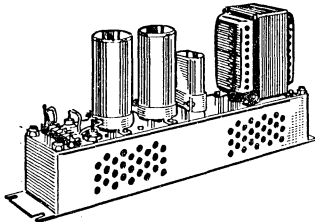
#### CHECK THESE FEATURES

- Fully Transistorized for Solid-State Reliability
- Adjustable from 0 to Rated DC Output Voltage
- Close-Tolerance Line and Load Voltage Regulation
- "Automatic-Reset" Electronic Circuit-Breaker for Complete Protection Without Output Fuses
- Response Time of Less Than 50 Microseconds

New "QSA" line of DC power supplies designed for bench, lab and OEM applications. Units are fully transistorized for cool, reliable, and highly efficient operation. Just dial desired voltage to save valuable engineering hours or reduce lead-time in delivering finished systems. Supply voltages are adjustable from 0 to rated DC output. Each QSA unit automatically provides line and load voltage regulation. Response time is less than 50  $\mu$ sec for 10% line changes at any load, and for 1/2 maximum load current change. Electronic circuit-breaker automatically resets after interruption—no fuses to replace. Static line and load regulation,  $\pm 0.05\%$  or 5 mv, whichever is greater. Ripple and noise, less than 1 mv rms. Thermal drift, less than .025%/°C. Ambient operating temperature, 0°C to 40°C. Has provision for remote sensing. Features convection cooling—no moving parts for longer life and quieter operation. Designed for standard 19" relay rack panel mounting. Size, 3 1/2 x 19 x 13". For 105-125 v, 57-440 cycle AC single phase only. Choose from 7 models in table below.

Stock No.	Mfr's Type	Adjustable Output VDC Range	Max. Output Current	Shpp. Wt. (Lbs.)	EACH
63 GU 811	80-9-1200	0-9V	2A	23	275.00
63 GU 815	80-9-1500	0-9V	5A	24	310.00
63 GU 816	80-18-1100	0-18V	1A	23	275.00
63 GU 817	80-18-1300	0-18V	3A	24	310.00
63 GU 818	80-18-1500	0-18V	5A	25	335.00
63 GU 819	80-36-1100	0-36V	1A	23	310.00
63 GU 821	80-36-1300	0-36V	3A	25	335.00

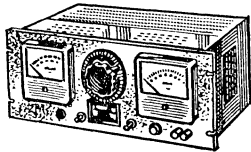
### SOLA CVDC FIXED OUTPUT POWER SUPPLIES



Provide "brute force" DC regulation 1% for  $\pm 15\%$  line input voltage variation. Withstand heavy short-time overload. Rms ripple, 1%, except \*1/2%. Negative or positive DC polarity. Typical efficiency, 75%. Standard 19" relay rack mounting. For operation from 100-130 v., 60 cycle AC.

Stock No.	Mfr's Type	Output Ratings			Wt.	EACH		
		Watts	V.	A.		1-4	5-9	10-24
62 GZ 636	281024-1	144	24	6	34	145.00	130.50	116.00
62 GZ 637	281048	192	48	4	37	135.00	121.50	108.00
62 GZ 638	281125	250	125	2	44	145.00	130.50	116.00
62 GZ 639	281150	300	150	2	48	145.00	130.50	116.00
62 GZ 640	*281200	200	200	1	39	140.00	126.00	112.00
62 GZ 641	*281250	250	250	1	45	150.00	135.00	120.00
64 GZ 382	281513-1	60	6	10	31	150.00	135.00	120.00
64 GZ 383	281514-1	60	12	5	26	115.00	103.00	92.00
64 GZ 384	281515-1	90	18	5	28	120.00	107.00	96.00
64 GZ 385	281203	360	24	15	55	250.00	187.00	200.00
64 GZ 386	28262	224	28	8	48	180.00	162.00	144.00
64 GZ 387	281561	480	48	10	50	185.00	166.00	148.00

### SOLA CVDC VARIABLE-OUTPUT POWER SUPPLIES



Electrically similar to above but have adjustable output. Rms ripple less than 1/2%. Ammeter and voltmeter on front panel. Voltage control between meters for output adjustment. Have on-off switch, fuse, pilot light, front and rear outputs. For 19" racks. 7x19x12 1/4". Wt., 80lbs.

Stock No.	Mfr's Type	Output Range	Load-Amps		EACH		
			Min.v.	Max.v.	1-4	5-9	10-24
61 GZ 979	285110	5-35v.	7.0	7.0	325.00	292.50	276.25
62 GZ 614	285120	25-60v.	6.0	4.0	325.00	292.50	276.25
62 GZ 615	285130	30-90v.	4.0	2.8	295.00	265.50	250.75
62 GZ 632	285140	60-180v.	2.0	1.4	295.00	265.50	250.75

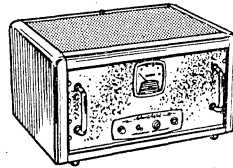
### SOLA TRANSFORMER REGULATED AC VOLTAGE SUPPLY

Type 23-90-150 constant-voltage transformer for equipment requiring stable, undistorted voltage. Output  $\pm 1\%$  with 15% line variation. Rms harmonic distortion, 3% max. Regulating time, 1 1/2 cycles or less. Output, 115 v. fixed and 20-130 v. variable. For 100-130 v. single phase 60-cycle AC. Capacity, 500 VA. 9x9x12 1/2". Rack mtg. or bench-top use. 73 lbs.

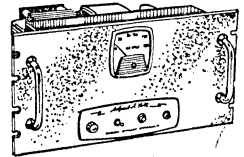
62 GZ 481							275.00
-----------	--	--	--	--	--	--	--------

### STANDARD ELECTRIC *Adjust-A-Volt.*

#### INSTANTANEOUS AUTOMATIC AC VOLTAGE REGULATORS



IVR-1-10C

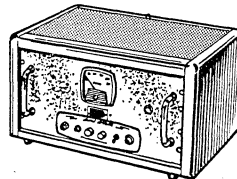


IVR-1-25R

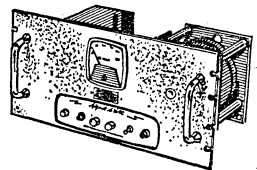
Offer regulation accuracy of  $\pm 1\%$  while line varies from 95-130 v. Adjustable output from 110-120 v. 90% efficiency at full load with only 3% max. distortion. Front panel has output meter, voltage control, on-off switch and circuit fuses. Unit is protected by circuit breakers. Ambient temp. range 0°C to 40°C. Line cord furnished with Type IVR-1-10C only. Others have solderless terminal boards. Suffix R indicates model for rack mtg.; suffix C have two-tone gray and mauve hammertone cabinets. For 60 cycle AC only.

Stock No.	Mfr's Type	KVA Rating	Output Amps	Size	Wt. Lbs.	EACH
61 GZ 634	IVR-1-10C	1	8.7	11 1/8 x 21 3/4 x 15 1/4"	115	435.00
61 GZ 635	IVR-1-25C	2.5	22.0	12 7/8 x 21 3/4 x 15 1/4"	220	665.00
64 GZ 388	IVR-1-10R	1	8.7	8 3/4 x 19 x 11"	95	405.00
64 GZ 389	IVR-1-25R	2.5	22.0	10 1/2 x 19 x 14 1/2"	195	610.00

### VR SERIES ELECTRO-MECHANICAL AUTOMATIC VOLTAGE REGULATORS



VR-1-50C



VR-1-75R

VR Series motor-operated units feature AC regulation of  $\pm 5\%$  while line varies from 95-135 v. Output adjustable from 110-120 v. Speed of regulating action, .05 sec/v. with no distortion. Panel has output voltage and regulator controls, voltmeter, input power breaker, pilot lights, control circuit switch and fuse. Suffix R indicates rack mtg., C includes case. For 60 cycle AC only.

Stock No.	Mfr's Type	KVA Rating	Output Amps	Size	Wt. Lbs.	EACH
64 GZ 390	VR-1-50R	5	44	8 3/4 x 19 x 11"	90	495.00
64 GZ 391	VR-1-50C	5	44	11 1/8 x 21 3/4 x 15 1/4"	110	525.00
64 GZ 392	VR-1-75R	7.5	66	10 1/2 x 19 x 14 1/2"	100	545.00
64 GZ 393	VR-1-75C	7.5	66	12 7/8 x 21 3/4 x 15 1/4"	122	575.00



# DC Power Supplies, AC Line Regulator

LAB-QUALITY REGULATORS by PERKINS ELECTRONICS

FOR RACK OR BENCH—AC AND DC UNITS

## TRANSISTORIZED DC POWER SUPPLIES

**Model TVCR040-05.** Provides true voltage and current regulation. Features remote voltage/current programming, adjustable voltage/current limiting, series or parallel operation, remote sensing, short-circuit and "overshoot" protection. Positive or negative grounding. Output imp.: 10 milliohms max. at DC. Temp. range: to 50°C. Convection cooling. Dual scale meter: 0-50 v.; 0-600 ma DC. 5¼x8½x10¼". Less racks.

**Model MTVR040-1.** Offers remote voltage-programming, adjustable current limiting, series or parallel operation, remote sensing, short-circuit and "overshoot" protection. Positive or negative grounding. Output imp.: 10 milliohms max. at DC. Temp. range: to 52°C in moving air; 45°C natural convection. Controls include AC on/off switch, "on" indicator lamp, screw-driver-adjust for voltage/current limit, monitoring jacks. Terminal strip on rear. 4¾x7½x9¾". Less racks.

### SPECIFICATIONS

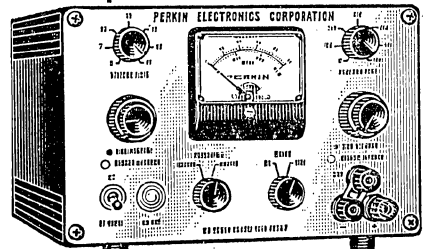
Parameter	TVC R040-05	MTV R040-1
DC Output	0-40 v. @ 0-500 ma	0-40 v. @ 0-1 amps
AC Input	105-125 v., 47-420 cycle, single phase	105-125 v., 47-420 cycle, single phase
Static Line Regulation:		
Voltage	±0.01% or ±2 mv	±0.01% or ±2 mv
Current	±0.02% or ±50 µa	
Static Load Regulation:		
Voltage	±0.01% or ±2 mv	±0.01% or ±2 mv
Current	±0.02% to ±50 µa	
Dynamic Line Regulation	±10 mv for ±10 VAC step change	±10 mv for ±10 VAC step change
Dynamic Load Regulation	±100 mv no load to full load	±100 mv no load to full load
Ripple and Noise:		
Voltage	100 µv RMS	less than 200 µv RMS
Current	0.5 ma RMS	
Recovery Time	25 microseconds	50 microseconds
Temperature Coefficient:		
Voltage Reg. Mode	±.01%/°C or ±2 mv	+-.01%/°C or +2 mv
Current Reg. Mode	±.02%/°C or ±50 µa	
Stability:		
Voltage Reg. Mode	±.05%/°C or ±10 mv	+-.05%/°C or +10 mv
Current Reg. Mode	±0.1%/°C or ±250 µa	

64 GU 409, Model TVCR040-05, Wt., 12 lbs.	239.00
64 GU 412, Type 5177 Single-Rack Mount, Wt., 1½ lbs.	12.00
64 GU 414, Type 5176 Dual-Rack Mount, Wt., 1½ lbs.	12.00
64 GU 410, Model MTVR040-1, Wt., 13 lbs.	185.00
64 GU 418, Type 6151 Single-Rack Mount, Wt., 1½ lbs.	12.00
64 GU 420, Type 6150 Dual-Rack Mount, Wt., 1½ lbs.	12.00

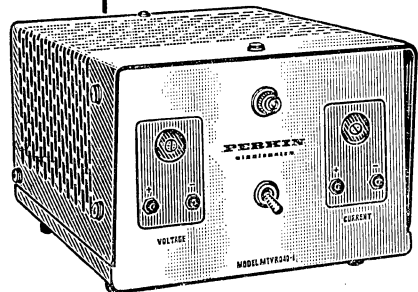
## MODEL MTLR1000 AC LINE REGULATOR—1 KVA

No moving parts—combines magnetic amplifier circuit with a transistorized preamp. Features remote sensing, automatic-resetting thermal devices for overload protection, natural convection cooling. AC input; 95-135 v., 60 cycles, ±10%. AC output: 110-120 volts. Regulation: ±0.2% for line changes from 105-125 volts and no-load to full-load; ±0.5% from 95-135 volts. Response time: 0.05-0.1 seconds for line or load changes. Load range: 0-8.5 amps. Ambient temp.: +55°C. Power factor range: 0.7 lagging to 0.9 leading. Total harmonic distortion: 3% max. 5¼x17x16½", 60 lbs. 64 GU 411..... 378.00

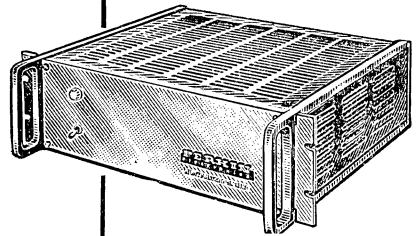
*New!*



Model TVCR040-05



Model MTVR040-1



Model MTLR1000

## PLUG-IN INSTRUMENTS INC.

### REGULATED DC POWER SUPPLIES

Solid-state power supplies—ideally suited for small transistorized electronic and instrumentation equipment. Output is completely isolated from the input, for either positive or negative ground. Positive grounding gives least noise. May be protected from short-circuits and overloads by connecting an external fuse between proper pins. Output impedance, 0.1 ohm. Operating temperature range: 32°F to 120°F. Units are designed to operate with an input of 105-125 v., 50-70 cycles AC. Input current, approximately 75 ma. 1 millivolt. Convenient slip-on case makes all parts readily accessible. Case size, less plug, 3x2x2". High-quality octal receptacle is furnished. Gray baked enamel finish. Shpg. wt., 2 lbs. Inquire for prices on quantities larger than those shown.



Stock No.	Mfr's Type	Output		Regulation		EACH		
		VDC	MA	Line %	Load %	1-4	5-14	15-49
64 G 209	SPS-2010-P	12	0-175	±0.05	±0.1	59.50	54.93	50.57
64 G 218	SPS-2018-P	15	0-125	±0.04	±0.08	57.50	53.18	48.87
64 G 219	SPS-2011-P	24	0-90	±0.02	±0.05	57.50	53.18	48.87

## MILWAUKEE ELECTRONICS

### REGULATED DC POWER SUPPLY MODULES

Compact, transistorized DC modules designed for use in laboratory and product test equipment, transistorized circuitry, as a precision DC reference voltage, a regulated bias supply, etc. Electrical isolation of input from the output allows either positive or negative grounding. No damage will result from momentary overloads or continuous short circuits. Output may be easily adjusted ±5% with a screwdriver. Line and load regulation, ±0.05%. RMS ripple, 1 microvolt. Operating temperature, to maximum of +60°C with suitable heat-sink on base. For operation from 105-125 v., 49-420 cycles AC. Power supply modules have 4 convenient turret-type solder terminals. Black baked-enamel finish. Av. shpg. wt., 8 lbs.

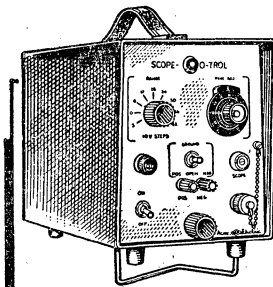


Stock No.	Mfr's Type	Output		HWD	EACH	
		VDC	Amps		1-9	10-24
64 G 272	ME-PS-6-1.5	6.3	0-1.5	5½½x4½x3½½"	142.50	135.35
64 G 273	ME-PS-6-3	6.3	0-3	6½x4½x4"	192.50	182.85
64 G 274	ME-PS-12-2.5	12	0-2.5	6½x5½x4½½"	190.00	180.50
64 G 275	ME-PS-28-1.5	28	0-1.5	6½x5½x4½½"	165.00	156.75

Depend on Allied for Off-the-Shelf Delivery in Industrial Quantities

# Selected AC and DC Power Supply Equipment

## AEME Electric



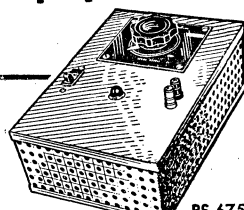
- ✓ Compact, Lightweight Design
- ✓ No Need for Battery Stacks
- ✓ Solid State Circuitry

### DC REFERENCE SUPPLY FOR OSCILLOSCOPES

PS-39590 "Scope-O-Trol." Cancels out DC increment for true scope observation of DC and AC steady state and transient voltage changes. Provides regulation of  $\pm .005\%$  for  $\pm 15\%$  line change @ 115 v. Output: 0-52 v. DC  $\pm .015\%/hr.$  .002% ripple. Adjustments in 6 overlapping 10V steps.  $1\frac{1}{2} \times 8 \times 6"$ . For 110-125 v., 60 cycle AC. 10 lbs. 64 GZ 425.....215.00

### PORTABLE, STANDARD RACK DC POWER SUPPLIES

- No Need for Battery Stacks
- Versatile—Tests Transistors, Lights, Circuits, Etc.
- Conveniently Lightweight and Compact



Input: 95-130 v.; 60 cycles  
Output: 0-45 v. DC; 0-2.5 Amps  
Maximum Regulation: 5%

PS-1-6757

PS-39600

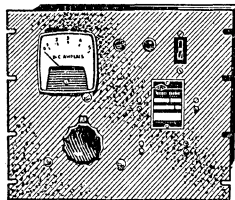


Input: 95-130 v.; 60 Cycles  
Output: 0-45 v. DC; 0-2.5 Amps  
Maximum Regulation: 5%

Input: 120 v.  $\pm 15\%$ ; 60 Cycles  
Output: 0-50 v. DC; 0-5 Amps  
Ripple: Less Than 1%

Portable and standard rack power supplies designed specifically for laboratory use. Lightweight and compact enough to be carried to testing areas. Completely eliminate need for battery stacks as well as battery instability factor. Suitable for transistor testing, circuit testing; provide regulated voltage for light testing. Continuously variable filtered DC output range of Models PS-6757 and PS-1-6757: 0-45 v., 0-2.5 amps, stabilized  $\pm 1\%$  at any setting regardless of AC fluctuation; Model PS-39600: 0-50 v., 0-5 amps. Input of Models PS-6757 and PS-1-6757: 95-130 v., @ 60 cycles for 45 volt DC output; Model PS-39600: 120 v.  $\pm 15\%$  @ 60 cycles for 50 volt DC output. Approximately 5% voltage regulation between full load and no load at full voltage setting. Sizes, Model PS-6757:  $7\frac{3}{4} \times 11\frac{1}{2} \times 4"$ ; PS-1-6757 and PS-39600:  $5\frac{1}{4} \times 19 \times 7\frac{1}{2}"$ .

64 GU 428. PS-6757. Portable Model. 23 lbs.....123.00  
64 GU 429. PS-1-6757. Std. Rack Model. 21 lbs.....145.00  
64 GU 430. PS-39600. Std. Rack Model. 21 lbs.....168.00



### RATINGS

Type	Watts	Amps
PS-39887	300	3
PS-39888	500	5

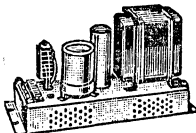
64 GU 426. PS-39887. 1-4.....EACH 170.00 5-9.....EACH 141.00  
64 GU 427. PS-39888. 1-4.....EACH 207.00 5-9.....EACH 173.00

### UNFILTERED, NON-REGULATED DC VOLTAGE POWER SUPPLIES

Sturdily built, economically priced power supplies designed for manual regulation of saturable core reactors. Has DC ammeter, fuse, indicating light, combination off-on switch and circuit breaker, plus input voltage regulator. Rugged silicon rectifiers provide full-wave direct circuit output. Variable output: 0-100 volts DC. Input: 100-120 v., 60 cycles. Size, without enclosing case,  $10\frac{1}{2} \times 19 \times 4\frac{1}{2}"$ . Suitable for standard rack mounting. Shpg. wt., 25 lbs.

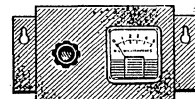
### REGULATED DC POWER SUPPLIES

Standard rack models that recover from no load to full load change in 0.1 second; response time from max. excursion averages  $7\frac{1}{2}$  during a 20% load change. Resonant circuitry limits current to 150-250% of max. rating. 100-130 v., 60 cycle input. Less than 1% ripple.  $5\frac{1}{4} \times 19 \times 7\frac{1}{4}"$ . Av. wt., 25 lbs.



### UNFILTERED, NON-REGULATED DC SIGNAL DEVELOPER POWER SUPPLY

- Features Solid State Rectifiers for Long Life, Dependability
- 0-25 VDC at 5 Milliamperes



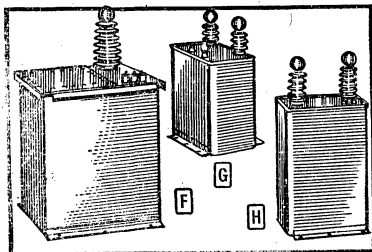
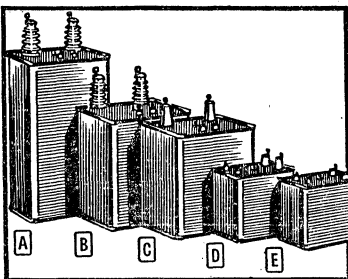
MODEL PS-39787. Designed to provide the necessary direct current for the signal control circuit of a magnetic amplifier. Features solid state rectifiers, assuring dependable performance and long life. Supplied with DC milliammeter and manual regulator. 120 volts, 60 cycle input. Output ratings: 0.125 watts @ 25 VDC; 0-25 Volts DC and 5 ma.  $5\frac{1}{4} \times 10\frac{1}{2} \times 5\frac{3}{8}"$ . Shpg. wt., 15 lbs.

64 GU 460. 1-4.....EACH 78.00 5-9.....EACH 65.00

Stock No.	Type PS-	Output Ratings			EACH		
		W	V	A	1-4	5-9	10-24
64 GU 431	41423	150	24	6.0	143.00	129.00	114.00
64 GU 432	41424	200	48	4.0	133.00	118.00	105.00
64 GU 433	41425	250	125	2.0	143.00	129.00	114.00

### PLASTIC CAPACITORS "M"-SERIES POWER PACKS

- Pass 50-Hour MIL-Q-151 Salt Spray Test
- May Be Mounted In Any Position
- Film-Type Long-Life Filter Capacitors
- Grain-Oriented Iron-Core Transformers



Compact, hermetically sealed units. Use latest techniques and advanced materials to achieve long operating life and small package size. Selenium rectifiers avoid failure—design life is 40,000 hours at  $+35^\circ\text{C}$ , 25,000 hours at  $+65^\circ\text{C}$ . Require no warm-up time, may be mounted in any position. Can be used with a primary voltage input control to adjust output voltage from zero to full rated voltage. Input, 0-118 v. AC 50-500 cps. Output, 0-5 ma. DC to rated voltage. Ripple, 1% RNS or 2.7% peak to peak. Ambient temperature rating,  $-55^\circ\text{C}$  to  $+85^\circ\text{C}$  (output at  $+85^\circ\text{C}$  limited to 4 ma) except, \*0 to  $+50^\circ\text{C}$ . Max. altitude,

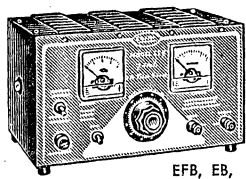
10,000 feet operating, 50,000 feet non-operating except, \*20,000 feet non-operating. Vibration, 10-55 cps with "0.06" excursion for 2 hours in each plane except \*designed for applications not subject to excessive shock. Hermetically sealed, oil-filled containers are primed and lacquered per MIL-L-7178. Terminals are steelite, solder-solder type with solder lugs, except † have corona spheres with  $\frac{1}{16}"$  dia. holes to accept banana plug. \*Has single high-voltage terminal and is furnished to deliver positive output potential relative to ground. All have footed mounting brackets except Type HV750-502M.

Stock No.	Mfr's Type	Fig.	kv. DC	Imp., K-Ohms	Size, Inches (HWD)	Wt., Lbs.	EACH
64 G 645	HV20-502M	D	2	108	$3\frac{3}{4} \times 3\frac{3}{4} \times 2\frac{1}{4}$	$2\frac{1}{2}$	49.60
64 G 646	HV50-502M	E	5	240	$4\frac{3}{8} \times 3\frac{3}{4} \times 2\frac{1}{4}$	$3\frac{3}{4}$	62.00
64 G 647	HV100-502M	C	10	400	$6\frac{1}{2} \times 3\frac{3}{4} \times 4\frac{3}{8}$	$8\frac{3}{8}$	94.20
64 G 648	HV150-502M	B	15	620	$7\frac{1}{2} \times 3\frac{3}{4} \times 4\frac{3}{8}$	$9\frac{3}{8}$	118.30
64 G 649	HV200-502M	A	20	800	$10\frac{1}{8} \times 3\frac{3}{4} \times 4\frac{3}{8}$	$12\frac{1}{8}$	137.00
64 G 650	HV300-502M†	G	30	1050	$11\frac{3}{4} \times 6 \times 4\frac{1}{16}$	19	184.00
64 G 651	HV500-502M†	H	50	1400	$16\frac{1}{2} \times 7\frac{1}{2} \times 5\frac{3}{8}$	27	302.00
64 G 652	HV750-502M*†	F	75	2200	$23\frac{3}{4} \times 14\frac{1}{2} \times 11\frac{1}{8}$	85	656.00

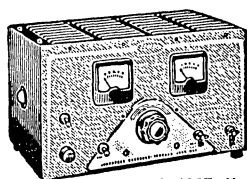
# Electro Precision-Built DC Power Supplies



MODELS EFB, EB, EFBR, EF, D-612T, H, PS-3, PS-2



EFB, EB,  
EFBR, EF



D-612T, H

## MODEL EFB DC POWER SUPPLY

Specially designed for low-ripple requirements of transistor work. Continuously variable voltage control. 0-16 volts up to 8 amps; 0-32 volts for loads up to 4 amps. Current and voltage meters. Less than 0.1% AC ripple at maximum ratings. Selenium rectifiers. Employs pi-type filter with 2 chokes and 2 capacitors. Also has built-in "hash" filter. Fuse-holder and 5-way binding posts on front panel. Rugged, blue hammerloid steel cabinet. 7x12x8 1/2". For 117 v., 50-60 cycle AC. Wt., 35 lbs.

64 GU 452.....140.00

Model EB DC Power Supply. Same as EFB above, but with less filtering. Ripple at maximum load 5%. Shpg. wt., 30 lbs.

64 GU 453.....115.00

Model EFBR. Same as EFB above, but with standard EIA rack panel. Size, 8 3/4x19". Shpg. wt., 47 lbs.

64 GU 454.....160.00

## MODEL EF DUAL-RANGE DC SUPPLY

Versatile power supply, providing variable voltage 0-28 v. or 0-14 v. at 5 amps continuous, 10 amps intermittent load. Ripple less than 1%. Panel-mounted voltmeter and ammeter. Uses selenium rectifiers. 7x12x8 1/2". For 117 v., 50-60 cycle AC. 25 lbs.

64 GU 461.....98.00

## MODEL D-612T AUTO RADIO DC POWER SUPPLY

Deluxe unit provides two continuously variable ranges: 0-8 v., and 0-16 v., 10 amps continuous up to 12 volts, 20 amps intermittent. Operates signal seeker sets. Ripple less than 0.5% up to 5 amps; 2% to 10 amps. Selenium rectifiers, choke-input filter. Voltage and current meters. Binding post output. Rugged steel cabinet, 7x12x8 1/2". For 117 v., 50-60 cycle AC. Shpg. wt., 22 lbs.

64 GU 462.....59.95

## MODEL H DUAL RANGE DC POWER SUPPLY

Heavy duty unit especially designed for servicing mobile communications equipment. Provides up to 20 amps at 6 v. or 10 amps at 12 v. continuous duty; up to 50% overload for intermittent duty. Ample filtering assures less than 5% ripple at maximum rated current. Has 8-position voltage adjustment tap. Front panel voltmeter and ammeter continuously monitor output. Fused. Blue hammerloid-finished steel cabinet. Size, 7x12x8 1/2". For 117 v., 50-60 cycle AC. Shpg. wt., 30 lbs.

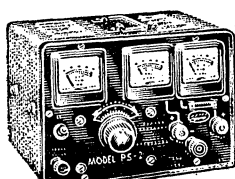
64 GU 467.....86.00



MODELS PS-2  
AND PS-3 DC  
POWER SUPPLIES

Transistorized  
Power Supply

Dual-Purpose  
Power Supply



## PS-3 REGULATED, TRANSISTORIZED DC POWER SUPPLY

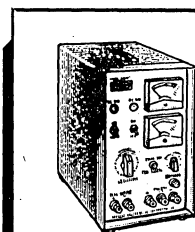
Uses solid state circuitry for extremely low ripple. Output continually variable from 0 to 25 volts. Zener diode reference. Rated for 200 milliamperes at 0.15 volts, 100 milliamperes at 15-25 volts. Voltage output fluctuation less than 0.1 volt. Ripple content less than 0.001 volt rms. Accurate 2% D'Arsonval-type meter on panel face has ranges of 0-25 volts, 1-100 milliamperes, and 0-200 milliamperes. All controls, consisting of pilot light, fuse, meter range switches, and voltage adjustment knob, located on front panel. Steel cabinet, gray wrinkle finish. Shpg. wt., 5 lbs.

64 G 468.....79.50

## MODEL PS-2 DC POWER SUPPLY

For servicing transistor or tube portable and auto radios. Two output ranges have separate current meters and output terminals. Delivers 0-20 v. at 75 ma., 0-16 v. at 5 amps. Variable transformer for smooth adjustment. Maximum ripple: 0-20 v. range, 0.15% at 75 ma.; 0-16 v. range, 0.5% at 5 amps. Special pi-type filter, selenium rectifiers, fused primary. Metal case 8 1/2x8x5 3/4". For 117 v., 50-60 cycle AC. Shpg. wt., 14 lbs.

64 G X 469.....56.00



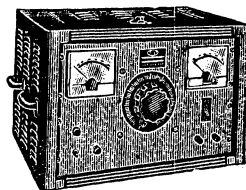
## NEW! RB-500 REGULATED DC POWER SUPPLY

- ✓ 500 VDC Constant Within 0.15 V.
- ✓ 0-150 VDC Bias Output
- ✓ 5-Way Output Terminals

New regulated DC power supply delivers 250 ma, well-filtered, at any voltage up to 500 V. DC. Excellent for countless servicing and lab applications. Output voltage remains constant within 0.15 v. (.03% at 500 v.) for simultaneous no load to full load change and 105 to 125 v. line change. Has 0-150 v. DC bias output, and 2 separate 6.3 v. @ 5 amp AC outputs for 6.3 v. and/or 12.6 v. filaments. D'Arsonval meters monitor both voltage and current outputs. Has both AC and DC on-off switches; fuses and pilot lights; HV and bias controls; 5-way output terminals and chassis ground. Enameled steel cabinet, 12x18x14", 39 lbs.

64 GU 470.....395.00

## HEAVY-DUTY DC POWER SUPPLIES



GFA



NFB, NB, NFBR, PS-5,  
PS-5R, GFL, GFLR, GL

## MODEL GFA DC POWER SUPPLY

Heavy-duty power supply. Output continuously variable 0-125 volts for loads to 10 amperes continuous. High voltage range regulation is 12%, no load to full load. Ripple less than 1%. Silicon rectifiers provide high efficiency. Dual 4 1/2" meters, circuit breaker. Steel cabinet has gray wrinkle finish, carrying handles. 14 1/4x22x15 3/4". For 105-125 v., 50-60 cycle AC. Wt., 250 lbs.

64 GZ 474.....575.00

## MODEL NFB POWER SUPPLY

For continuous heavy-duty operation. Output continuously variable, 0-32 volts for loads to 15 amps. D'Arsonval meters. Ripple: Less than 0.75% @ 15 amps. Filter circuit has 3 chokes plus filter capacitor. Regulation: 13% no load to full load. Has fused input circuit, plus output circuit breaker. Variable autotransformer for smooth control. 5-way output terminals. Drain: 730 w., with 32-volt, 15 ampere output. Bridge-type silicon rectifiers. Blue hammerloid steel cabinet. Size, 14 1/4x14 1/4x9 3/4". For operation from 117 v., 50-60 cycle AC. Shpg. wt., 84 lbs.

64 GZ 476.....250.00

Model NFBR. Same as NFB unit above, but for rack mounting. Has 1/8" steel panel, 19x10 1/2". Shpg. wt., 97 lbs.

64 GZ 477.....275.00

Model NB. Same as NFB unit, above, but with less filtering. Ripple is 5% at 15 amperes. Shpg. wt., 72 lbs.

64 GZ 479.....225.00

## MODEL PS-5 AIRCRAFT EQUIPMENT DC POWER SUPPLY

Delivers 550 watts of well filtered DC. Output continuously variable 0-55 v. at 10 amps. Ripple is 0.5% rms at 10 amps. Uses silicon rectifiers. Has special chokes, plus pi-type filters. Two meters monitor voltage and current. Primary fused, output has circuit breaker. 9 3/4x14 1/4x14 1/4". For 117 v., 50-60 cycle AC. 70 lbs.

64 GZ 480.....250.00

Model PS-5R. Same as PS-5 unit, above, but with standard EIA rack, 10 1/2" high, 19" wide. Shpg. wt., 89 lbs.

64 GZ 481.....275.00

## NEW MODEL GFL HEAVY-DUTY POWER SUPPLY

Continuously variable output, 0-125 v. DC at 5 amps. Ripple: 0.5% max. at 5 amps. Load regulation: 6%, no load to full load 16 v./A. Uses silicon rectifiers, special filters, 2% D'Arsonval voltage and current meters. Primary and output protected against overloads. 5-way binding posts. Blue hammerloid steel cabinet, 14 1/4x14 1/4x9 3/4". For 117 v., 50-60 cycle AC. 88 lbs.

64 GZ 482.....275.00

Model GFLR. Same as above, but for rack mounting. Has 1/8" steel panel, 10 1/2x19". Shpg. wt., 100 lbs.

64 GZ 483.....297.00

Model GL. Same as GFL unit above, but with less filtering. Ripple is 5% at 5 amperes. Shpg. wt., 80 lbs.

64 GZ 484.....255.00

**EICO POWER SUPPLIES**

(Kit and Factory-Wired Models)



**MODEL 1020-K POWER SUPPLY KIT**

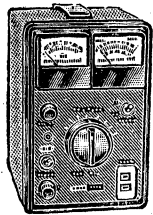
Highly stable, transistorized DC power and bias supply. Provides continuously variable output voltage up to 30 v. Has dual-range voltmeter (0-6, 0-30 VDC) for monitoring output. Ideal for servicing "hybrid" apparatus or all-transistor equipment. Also useful as a DC filament supply, bias source, and source of ripple-free DC for lab use.

Maximum continuous output: 150 ma from 0-12 v.; 200 ma from 12-24 v.; 300 ma from 24-30 v. Uses full-wave silicon diode rectifier circuit with electrolytic input filter followed by two power transistors in a cascaded filter circuit. Extraordinary ripple rejection—max. ripple at full load is only .005%. Fused for overload. Gray wrinkle steel case with carrying handle. Size, 5x4x5½". For 105-125 v., 60 cycle AC. Wt., 4½ lbs.

- 64 G 500.....23.95
- 64 G 503. Model 1020. Above, but factory wired.....29.95

**MODEL 1073-K METERED**

**VARIABLE AC BENCH SUPPLY KIT**



Easy-to-build, lab-type variable AC bench supply. Provides adjustable output of 0-140 v. AC from 120 v. AC input. Handles up to 3 amps current. Precision voltmeter and ammeter permit simultaneous monitoring of voltage and current. Ammeter has dual range (0-1, 0-3 amps); ranges can be switched while unit is under load. Incorporates a highly efficient variable autotransformer of toroidal core design. Autotransformer and ammeter are protected by separate extractor-post fuses. In steel case, 8½x5¾x7". With case, instructions. For 105-125 v., 60 cycle AC. Wt., 16 lbs.

- 64 GX 506.....35.95
- 64 GX 507. Model 1073. Above, but factory wired.....47.95
- 64 GX 508. Model 1078-K. Same as Model 1073-K above, but reads 0-2.5 and 0-7.5 amps. Shpg. wt., 16 lbs.....42.95
- 64 GX 509. Model 1078. Above, but factory wired.....54.95

**INTERNATIONAL RECTIFIER "KLIPSELECTOR"**

**TRANSIENT VOLTAGE PROTECTION SELECTOR**



New instrument to aid the engineer, technician and circuit designer in quickly selecting the optimum clamping voltage required to protect semiconductor devices from damage caused by excessive voltage surges.

Compact and easy to operate, unit is well suited for protection of silicon rectifier diodes, silicon controlled rectifiers, silicon or germanium transistors, and similar semiconductor devices. Only two simple dial settings

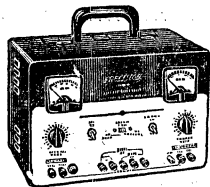
are used to select a given voltage. Switches permit selection of 20 possible voltage combinations: applied rms voltages from 0 through 520 v. or DC voltages from 0 through 450 v.

Has 1-ohm shunt and front-panel terminals for connection to oscilloscope. Size, 5¾x8¼x6". With instruction manual. Takes power from unit being tested. Shpg. wt., 9 lbs.

- 64 G 510.....89.50

See Page 82 For Klipsel Voltage Surge Protectors

**PRECISION REGULATED POWER SUPPLY**



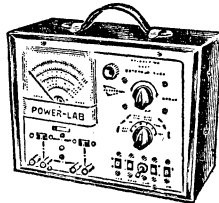
Model B-12. Provides variable DC output 0-400 v., 0-150 ma; DC bias 0-150 v., 2 ma; dual 6.3 v. AC outputs, one CT; 12.6 v. AC with CT at 3 amps. Output variation under ½%. Dual meters. 8½x13x7". For operation from 110-120 volts, 60 cycle AC. Wt., 20 lbs.

64 GU 511.....99.95

Model B-10 Battery Eliminator and Charger. (Not illus.) Similar to B-12 in size and appearance. DC output in 2 ranges: 0-8 v., 10 amps continuous; 0-16 v., 6 amps cont. Two DC meters. Special low-ripple output of 6 and 12 v., 5 amps cont. Overload protected. Size, 7½x11½x7". For 110-120 v., 50-60 cycle AC. Wt., 21 lbs.

- 64 GU 512.....64.95

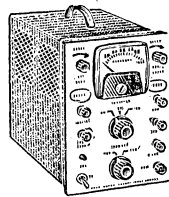
**PRECISE "POWER LAB"—KIT OR WIRED**



Model 713-K. Low and high-voltage AC and DC supply, wattmeter, voltmeter, ammeter and isolation transformer. DC output: 0-30 v. at 10 amps and 120-260 v. at 0.75 amps (1 amp intermittent). AC: 0-24 v. at 20 amps; 90-140 v. at 10 amps (1 kW continuous) and 20 amps (2 kW intermittent, no isolation) and 90-140 v. at 3 amps (300 watts, isolated). Reads AC, DC current to 20 amps; AC, DC volts to 180 v. and power to 2 kW. 12x8½x5¼". For 110-120 v., 60 cycle AC. Shpg. wt., 22 lbs.

- 64 GZ 266.....69.95
- Model 713-W. Above, factory wired.
- 64 GZ 267.....89.95
- Model 711-K Kit. Above, but 100-watt isolation. 15 lbs.
- 64 GZ 377.....59.95
- 64 GZ 379. Model 711-W. Above, factory wired.....74.95

**JACKSON VARIABLE REGULATED POWER SUPPLY**

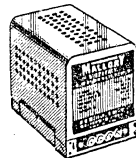


Model 607D. An economical, portable power supply furnishing heater, bias and regulated B+ voltages in one compact case. Regulated DC output: low position, 150 to 225 volts from 0 to 100 ma; high position, 225 to 300 volts from 0 to 100 ma. Negative DC output: 30 to 275 volts at no load; 15 to 150 volts with 20 ma maximum output. Heater supply: 6.3 volts at maximum of 3 amps. Ripple content at an output of 100 ma is less than 0.005%; less than 0.003% at 20 ma. Has separate controls for adjustment of negative and regulated outputs.

Built-in meter reads both negative and regulated outputs. Housed in metal carry-case with chrome handle. Fused. Size, 8¼x5¾x10¼". For 105-125 v., 60 cycle AC. Shpg. wt., 12 lbs.

- 64 GU 515.....78.35

**MALLORY HIGH-VOLTAGE DC "VIBRAPACKS"**



Famous Mallory Vibrapacks are vibrator-operated power supplies designed to provide high-voltage DC from a low-voltage storage battery. Ideal as a source of "B" power for portable radios, transmitters and receivers, mobile P.A. systems, or other types of electronic equipment not exceeding their load capabilities. Equipped with filters for eliminating vibrator hash, they are compactly built, light in weight, and quiet in operation. Both Vibrapacks shown in the

table below are tube-rectifying types for use in circuits where self-bias is obtained through a resistor or choke between B-negative and ground. Both require an external filter circuit. In very intermittent service where "on" time is less than 5 minutes, maximum current ratings of 100 milliamperes may be exceeded by 25%. Overall size, 5¾x3¾x4½".

Stock No.	Mfr's Type	Input VDC	Output VDC	Max. Ma	Shpg. Wt.,	EACH
64 G 517	VP6-325	6	325	100	6 lbs.	17.61
64 G 518	VP12-325	12	325	100	6 lbs.	17.61

**MALLORY REPLACEMENT VIBRATORS**



Selection of carefully designed, precision-made vibrators in popular ratings. Built to close tolerances from matched materials for long life and extremely low cost per hour of use. Springs are fabricated of high-grade clock-spring steel; held in perfect alignment by a rugged frame. Flexible 105-strand lead wire won't break—connections stay intact. Crude rubber insulation and heavy caps effectively deaden sound and vibration. Each vibrator is individually tested for output, starting voltage and wave form.

1601, G1601 and G1602 are famous Gold Label types. G1801S is synchronous type. Av. shpg. wt., 8 oz.

Stock No.	Mfr's Type	Volts	Size	EACH
91 C 280	4-4	6	1½x2½"	1.32
91 C 281	12-3	12	1½x2½"	1.38
91 C 282	12-4	12	1½x2½"	1.38
91 C 283	509P	6	1½x2½"	2.44
91 C 295	1601	6	1½x2½"	2.76
91 C 320	G1601	12	1½x2½"	2.76
91 C 297	W1601	4	1½x2½"	2.88
91 C 298	G1602	12	1½x2½"	2.76
91 C 299	1610	6	1½x2½"	3.30
91 C 304	G1801S	12	1½x2½"	5.85

# Tachometers, Power Supplies, Battery Chargers

## PIONEER ELECTRIC PHOTO TACHOMETERS

Model 36. Versatile new photo tachometer reads 0 to 12,000 rpm in 2 switchable scales. Portable unit accurately measures speeds of all rotating and reciprocating machinery. Requires no direct connection. Built-in lamp projects beam on rotating object, cadmium-sulphide cell counts pulses, and computer shows rpm on direct-reading meter,  $7\frac{1}{4} \times 2\frac{1}{2} \times 3\frac{1}{2}$ ". Requires ZM-9 mercury batteries. 2 lbs.

64 G 552.....150.00

Model 24. Above, but reads 0-2400 rpm on one scale.

64 G 553.....99.50

Model 12. Above, but reads 0-12,000 rpm on one scale.

64 G 521.....99.50



Model 12R "Snorkel" Tachometer. Permits measurements in dangerous or inaccessible locations up to 12 ft. from operator. Reaches around corners or into close quarters where models at left cannot be used. Ideal for use with lathes, drills, drives, presses, etc. "Snorkel" extension has photocell and light source mounted on flexible 15" gooseneck with magnet base. 12-ft. cord connects "Snorkle" to tachometer. Reads from 0 to 12,000 rpm. Transistorized. Requires easily obtainable mercury cells; penlight cells to power light source. Size,  $10 \times 8 \times 6$ ". Shpg. wt., 6 lbs.



Takes Remote Readings

64 G 524.....150.00

## ATR POWER SUPPLIES AND INVERTERS

### 6/12 VOLT DC POWER SUPPLIES

Rugged "A" Battery Eliminators for Demonstrating and Testing Transistor or Vibrator-Type Auto Radios



Type 610C-ELIF. DC power supply for operating auto radios and other DC apparatus from regular 115-volt AC power lines. Provides 6 volts @ 10 amps continuous, or 12 volts @ 6 amps continuous with minimum ripple. Fully automatic—has separate voltmeter and ammeter, and 8-position output voltage selector control. Full-wave dry-disc selenium rectifier assures quiet, interference-free operation. Toggle switch selects 6 or 12-volt output. Fuse protected. Steel case,  $9\frac{1}{2} \times 6\frac{1}{2} \times 8\frac{1}{2}$ ". For 105-125 v., 50-60 cycle AC. Wt., 22 lbs.

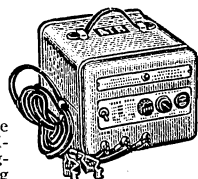
64 G 525.....48.95

Type 620C-ELIT. Similar to above, but heavy-duty model. Rated output is either 6 volts @ 20 amps continuous or 12 volts @ 10 amps continuous. Equipped with dual, full-wave dry-disc selenium rectifiers. Steel case,  $12\frac{7}{8} \times 6\frac{1}{2} \times 8\frac{1}{2}$ ". For 105-125 v., 50-60 cycle AC. Shpg. wt., 33 lbs.

64 G 526.....65.61

### DC TO AC UNIVERSAL INVERTERS

- Ruggedly Constructed
- Exceptionally Stable
- Completely Suppressed Against RF Interference

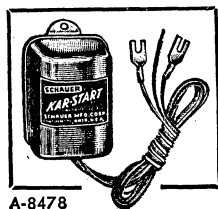


Universal inverters for operating 115-volt 60 cycle AC equipment from DC voltages in autos, buses, trucks, boats, trains, planes; and areas with DC power distribution. For std. 115-volt AC tape recorders, TV sets, radios, PA systems, electric razors, test equipment, etc. Carefully engineered for dependable operation. Operating efficiency is in excess of 75%. Four-point voltage regulator corrects out put voltage for minimum and maximum loads, also compensates for input voltages lower or higher than normal. Recommended for use with loads having power factors in excess of 70%. Not recom-

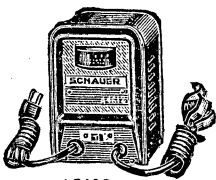
mended for large motor driven appliances such as refrigerators, washing machines, etc. All have On-Off switches. In gray hammerloid metal cases with carrying strap. Sizes: RSP,  $8\frac{1}{2} \times 9\frac{1}{8} \times 5\frac{1}{4}$ "; RHG,  $6\frac{7}{8} \times 11\frac{1}{4} \times 8\frac{1}{2}$ "; HSI,  $6\frac{1}{2} \times 12\frac{1}{8} \times 8\frac{1}{2}$ ". With battery clips; model with "P" suffix has adapter cord for auto cigarette lighter sockets. \*Recommended for 24-volt battery operation. Before ordering, check wattage rating of equipment inverter will be used with.

Stock No.	Mfr's Type	Input DC Volts	AC Output 60 Cycles	Output Watts		Shpg. Wt.	EACH
				Cont.	Inter.		
64 GU 527	6U-RHG	6	110 v.,	125	150	27 lbs.	65.01
64 GU 528	12U-RSF	12	110 v.	100	125	22 lbs.	49.00
64 GU 529	12U-RSF-P	12	110 v.	100	125	22 lbs.	49.00
64 GU 530	12U-RHG	12	110 v.	150	175	27 lbs.	65.01
64 GU 531	12U-HSJ	12	110 v.	200	250	37 lbs.	81.67
64 GU 532	28U-RSF*	28	110 v.	100	125	22 lbs.	58.77
64 GU 533	28U-RHG*	28	110 v.	150	175	27 lbs.	78.08
64 GU 534	50U-RSF	50	110 v.	100	150	22 lbs.	58.77
64 GU 535	110U-RSF	110	110 v.	150	250	22 lbs.	49.00
64 GU 536	110AU-RHG	110	110 v.	250	325	27 lbs.	58.77
64 GU 537	110U-HSJ	110	110 v.	400	600	37 lbs.	94.74

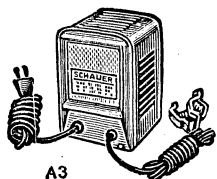
## SCHAUER MFG. BATTERY CHARGERS AND ACCESSORIES



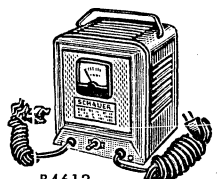
A-8478



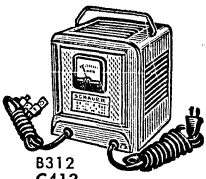
A5612



A3



B4612  
C4612



B312  
C412

### MODEL A-8478 "KAR-START"

Handy device to help start cars in cold and wet weather—at instant of starting, "Kar-Start" sends 5 times the normal spark intensity through engine's spark plugs. Has no effect on engine performance—unit disconnects automatically as soon as engine is running. Does not harm plugs or distributor in any way. Especially helpful on cars normally parked outside in winter—saves battery, gasoline and time. Installs quickly and easily—has only three wires to connect. For both 6 and 12-volt auto ignition systems.  $2\frac{3}{8} \times 1\frac{1}{2} \times 2$ ". Wt., 6 oz.

64 G 540.....4.92

### TYPE A-8412 CHARGER PLUG



Connects charger to battery by plugging into car's cigarette lighter. May also be used as a replacement plug for power converters. For use with 12-volt cars. Shpg. wt., 4 oz.

64 G 541.....1.30

### 4, 6, AND 10-AMPERE BATTERY CHARGERS

Efficient, full-wave battery chargers. Car owners who use their electrical accessories, such as heater, radio, fan, etc., to a great extent find these units excellent for restoring their car batteries to full charge overnight. Models A5612, B4612 and C4612 have selector switches for changing from 6-volt to 12-volt operation. All have automatic safeguard provision against short circuits and overloads. Models A5612, B4612, C4612, B412 and C412 have accurate numeral dial ammeter to show exact rate of charge entering battery. Model A3 is an economy unit that includes full-wave

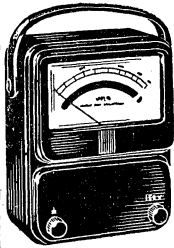
charging output which makes possible higher efficiency of operation. Has selenium rectifiers for dependable service. Model C4612 will recharge average 6 or 12-volt battery in 6 hours or less; ideal for quick charging during intervals when equipment is not in use, but must be ready in a hurry. Model C412 is heavy-duty unit for keeping truck or tractor batteries charged; will charge one 12-volt or two series-connected 6-volt batteries. All chargers have handy clip terminals for attaching to battery; no need to disconnect or remove battery from car. All operate from 110-120 v., 60 cycle AC.

Stock No.	Mfr's Type	Charging Rate (Amps)	Volts	Fully Charges Average Battery in	Size	Shpg. Wt.	EACH
64 G 542	A5612	4	6 and 12	10 hours	$6\frac{1}{4} \times 4\frac{3}{4} \times 4\frac{1}{4}$ "	4 $\frac{3}{4}$ lbs.	14.25
64 G 544	A3	4	6	10 hours	$6\frac{1}{4} \times 4\frac{3}{4} \times 4\frac{1}{4}$ "	4 lbs.	9.70
64 G 545	B4612	6	6 and 12	7-9 hours	$7\frac{1}{4} \times 6\frac{1}{4} \times 6\frac{1}{8}$ "	8 $\frac{1}{2}$ lbs.	17.70
64 G 548	B412	6	12	7-9 hours	$6\frac{1}{4} \times 6\frac{1}{8} \times 7\frac{1}{4}$ "	8 lbs.	17.20
64 G 549	C4612	10	6 and 12	6 hours or less	$6\frac{1}{4} \times 6\frac{1}{8} \times 7\frac{1}{4}$ "	10 $\frac{1}{2}$ lbs.	24.70
64 G 550	C412	10	12	6 hours or less	$6\frac{1}{4} \times 6\frac{1}{8} \times 7\frac{1}{4}$ "	10 lbs.	22.45

We Ship Immediately from the World's Largest Stocks

ALLIED • 385

## PORTABLE SINGLE, DOUBLE AND TRIPLE-RANGE METERS



Precision meters for lab and industrial uses. All are accurate within at least 1% of full scale. In a wide selection of ranges to meet practically every demand of general-purpose testing.

Mirrored scale and knife-edge pointer eliminate parallax—indicate readings accurately. Magnetically shielded movement. 4 1/2" meter, hand-drawn scale. Binding post terminals. Zero adjustment. Heavy molded bakelite case. "Adjust-a-View" carrying strap. Lead leads. Size. 7x5 1/4x3 1/8". Shpg. wt., 6 lbs.

### MODEL 9 DC UNITS

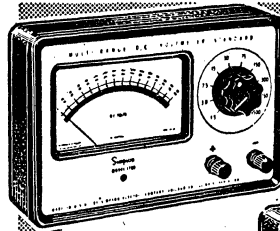
- D'Arsonval movement. ±0.5% accuracy full scale.
- Triple-Range Voltmeter, 0-15-150-300 volts DC. 69 F 216..... 63.75
- Triple-Range Voltmeter, 0-150-300-600 volts DC. 69 F 217..... 66.00
- Single-Range Milliammeter, 0-1 ma. DC 69 F 218..... 57.15
- Double-Range Milliammeter, 0-10-100 ma DC. 69 F 219..... 55.00
- Triple-Range Ammeter, 0-2.5-10-25 amps DC. 69 F 220..... 60.45

### MODEL 10 AC UNITS

- Iron-vane movement. ±1% accuracy full scale.
- Triple-Range Voltmeter, 0-150-300-600 volts AC. 69 F 221..... 60.45
- Single-Range Ammeter, 0-30 amps. 69 F 222..... 43.95

### MODEL 880 AC-DC DYNAMOMETER UNITS

- Dynamometer meter movement. ±1% accuracy at DC, and 25 to 125 cps.
- Triple-Range Voltmeter, 0-75-150-300 volts. 69 F 223..... 76.95
- Triple-Range Voltmeter, 0-150-300-600 volts. 69 F 224..... 76.95

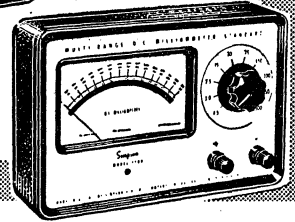


**MODEL 1700 DC VOLTMETER**

10 Voltage Ranges  
0.5% Accuracy

**MODEL 1702 DC MILLIAMMETER**

10 ma Ranges  
0.5% Accuracy



## MULTI-RANGE LABORATORY-STANDARD DC METERS

- Sensitive Deep-Core Magnet Movements; ±0.5% Accuracy
- Hand-Stepped, Hand-Drawn, Mirrored White Enamel Dials

Multi-range laboratory standard meters, accurate to ±0.5% of full scale (at 25° C.). Ideal for use in laboratories, plant-incoming inspection, production-line applications, schools, etc. Sensitive meter movements feature self-shielding, deep-core construction with spring-mounted sapphire jewels and hardened steel pivots.

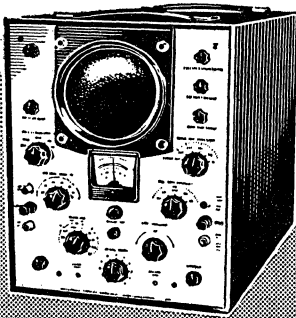
Combination of self-shielded core-magnet meter movement and steel case make these instruments impervious to effects of external fields. Meters are temperature-compensated from 15°C to 35°C (maximum external temperature influence is ±0.25%). Hand-stepped, hand-drawn, white enameled dial has 5 1/2" mirrored segment for greater accuracy. Knife-edge pointer eliminates parallax. Magnetic damping. 7 3/8x11 3/8x3 1/4". Shpg. wt., 6 lbs.

### MODEL 1700 DC VOLTMETER

- Ranges: 0-1.5-3-7.5-15-30-75-150-300-750-1500 DC volts. Maximum loss, 1 ma. Dielectric test, 3000 volts rms. External zero adjust. Gray steel case; aluminum panel. 69 F 349..... 160.00

### MODEL 1702 DC MILLIAMMETER

- Ranges: 0-1.5-3-7.5-15-30-75-150-300-750-1500 DC ma. Maximum loss, 50-150 mv. Dielectric test, 3000 volts rms. External zero adjust. Gray steel case; aluminum panel. 69 F 350..... 135.00



### MODEL 2610 WIDE BAND 5" SCOPE

Offers high gain and stability. Sensitivity: 2.5 mv. rms/cm.; ±3% vert. calib. Linear response: DC to 8 mc. ±1.5 db; transient, DC to 3.5 mc. -3 db. Precalibrated sweep 5, 50, 500, 5000 μsec triggered sweep. Differential input.

Step and variable attenuators; internal or external sync. Hor. response: ±2 db, 2 cps-1 mc; scns., 12 mv/cm. Input: vert., 1 meg and 30 mmf, AC-DC coupled; differential, 1 meg and 15 mmf, AC only; hor., 1 meg and 45 mmf, AC only.

With 10:1, 10-meg probe; green filter; calibrated graticule, plug-in power cord, manual. 15x11 1/2x20". For 110-120 v., 50-60 cycle AC. Wt., 63 lbs. 69 FZ 663..... 575.00

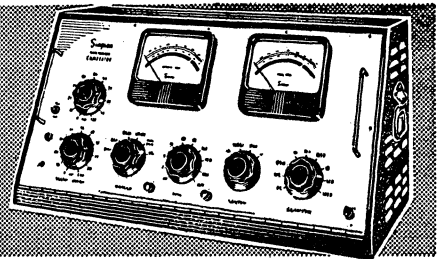


### MODEL 2620 PULSE GENERATOR

Use in radar, telemetering, computer design, etc.—4 1/2" pulse rate and duration meters. Pulse repetition rate variable, 10-100,000 pps in 4 ranges; ±4%. Duration variable, 0.1-1000 μsec in 4 ranges; ±5%. Pushbutton for one short operation. Rise time, 0.02 μsec; decay time, 0.03 μsec.

Jitter, under .005 μsec. Pulse polarity, neg. or pos.; amplitude, 0-80 v., open circuit, 0-40 v. across 93 ohms. Max. duty cycle, 25%. Output attenuator: 6-section fixed, 1-41 db; variable 10 db.

Can be triggered by 12-600 v. P-P. or externally gated by neg. 10-100 v. BNC connectors. 15 1/2x13 1/4x21". For 110-120 v., 50-60 cycle AC. 75 lbs. 69 FZ 664..... 625.00



### MODEL 2600 LAB CALIBRATOR

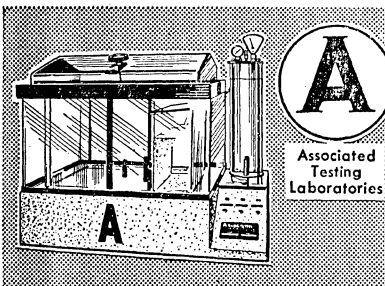
Self-powered lab-standard calibrator-VOM. For instrument calibration and precision testing. Produces and meters a wide range of AC and DC voltages.

Two-temperature-compensated 7" meters (one AC, one DC) with mirrored scales; hand-stepped at 160 points. Two terminals cover all ranges. AC/DC v, DC μamps, DC ma: 0-1.6-4-8-16-40-80-160-400-800-1600, DC amps: 0-16. Resistance: 1, 10, 100, 1K, 10K, 100K ohms; 1, 10, and 100 megs.

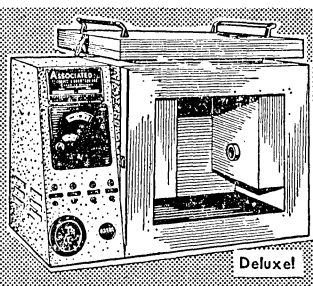
Accuracies: DC, 0.5% full scale; AC, 0.75% full scale; 50-2000 cps; fixed resistance, ±1% to 10 meg, ±2% for 100 meg. 15x31x15". For 110-120 v., 50-60 cycle AC. Shpg. wt., 150 lbs. 69 FZ 725..... 1620.00



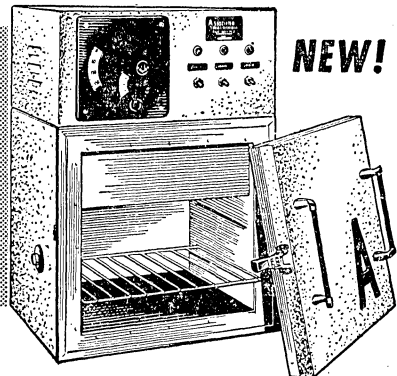
# Test Instruments for Lab and Industry



**A**  
Associated  
Testing  
Laboratories



Deluxe



**NEW!**

## MODEL SS-3-4 ALL-LUCITE SALT SPRAY TEST CHAMBER

- Performs Military Spec Salt Spray Tests
- All-Lucite Construction Allows Complete Visibility of Specimens During Tests
- Large 18x18x18" Internal Dimensions

Bench-mounted test chamber to check seal, plating, and other government salt spray requirements. Performs salt spray tests in accordance with MIL-E-5272, MIL-STD-202B, and MIL-S-19500B (Para. 40.9).

Ideal for small parts and components manufacturers, self-contained unit requires only a source of low pressure air, 110 v. AC power, and connection of vent line outside testing area. All-lucite construction eliminates corrosion and affords total visibility of specimens during testing.

Internal working space, 18x18x18". Tower and salt solution capacity, 60 hours. Has thermometers and temperature controls for chamber/tower, tower pressure gauge with safety valve, circulation control switches, immersion heater for tower heat, etc. Overall size, 34x41x24". For operation from 110 v., 60 cycle AC. Shpg. wt., 150 lbs.

65 FZ 259.....**985.00**

65 FZ 260. Above with MIL-S-19500B (Para. 40.8) capability.....**1060.00**

## "ECON-O-STAK" LOW-HIGH TEMPERATURE TEST CHAMBER

SLHU-1-1C . . . 1-Cu.-Ft. Capacity. Covering temperature range of -100°F to +425°F (±2°F), unit is stainless steel lined. Has working volume of 13x12x11", forced air circulation, electric resistance heaters, liquid CO<sub>2</sub> refrigeration.

1" access port for leads. CO<sub>2</sub> consumption approx. 2 lbs./hr. @ -100°F. United Electric indicating controller gives accurate temperature control and indication. May be stacked 4 high, 20x30x17". With CO<sub>2</sub> scrubber and filter. For 110 v., 60 cycle AC. Choice of blank, tray or window door.

Stock No.	Type Door	Wt. (Lbs.)	EACH
65 FZ 262	Blank	82	495.00
65 FZ 263	Tray	84	525.00
65 FZ 264	Window	88	580.00

SLHU-4-1C . . . 4-Cu.-Ft. Cap. As above, but volume is 18x18x22". CO<sub>2</sub> consumpt., 6 lbs/hr. 2" access port. Size, 24 1/2 x 36 x 26".

65 FZ 274	Blank	135	895.00
65 FZ 275	Tray	136	930.00
65 FZ 276	Window	143	985.00

Flexible Adapter Kit. For connecting chamber to any CO<sub>2</sub> supply. 2 lbs.

65 FX 265.....**20.00**

Stacking Racks, Wt., 5 lbs.

65 FX 266.....**PER PAIR 20.00**

## LOW-COST "ECON-O-RACK" LOW-HIGH TEMPERATURE TEST CHAMBER

Has numerous important features previously unavailable in test chambers selling in this surprisingly low price range.

RLHU-0.5-1C . . . 0.5-Cu.-Ft. Capacity. New chamber temperature-tests components and small assemblies from -100°F to +425°F (±20°F). Working dimensions, 7 1/2 x 11 x 12 1/2". Has stainless-steel liner and high-density fiberglass insulation for constant temperatures.

Liquid CO<sub>2</sub> refrigeration—consumption is approx. 3 lbs per hour at -100°F—less than any comparably sized chamber. Forced-air circulation, 3/4" access port for leads. United Electric control and temperature indicator. Special size permits mounting in standard 19" rack—permits easy transport for positioning chamber at its station in the production line.

3 chambers may be mounted into a 6-foot rack effecting savings in floor space. Chamber is also suitable for bench-top mounting—requires minimum of space. With CO<sub>2</sub> scrubber and replaceable cartridge filter. External size, 22x16x15". For 110 volts, 60 cycle AC. Shpg. wt., 50 lbs.

69 FZ 003.....**395.00**

**MODEL B PORTABLE PYROMETERS**

- 99% Accurate Readings
- 5" Scale; Mirrored Arc
- Calibrated to Give Simultaneous C°/F° Readings
- Compensated for Ambient Temperature Variations
- With 5-Foot, 1/C or C/A Thermocouple Probe

Rugged thermocouple-actuated portable meters for measuring temperature of ovens, ranges, other appliances, furnaces, etc. Medium resistance; automatic bimetal cold junction correction and copper error compensation. Adjustable external resistor compensates up to 10 ohms. Dual-calibrated scale shows degrees Fahrenheit and degrees Centigrade simultaneously. Very precise readings—accurate within 2%. Mirror scale and knife-edge pointer eliminate parallax due to viewing scale from side angle. Comes in strong, lightweight, oak case with hinged cover and leather carrying handle. White dial face. Case size, 8 1/2 x 6 1/2". Includes thermocouple. In table, 1/C indicates meter is calibrated for Iron-Constantan; C/A, calibrated for Chromel-Alumel. Shpg. wt., 3 1/2 lbs.

Stock No.	Temperature Range		Thermocouple	EACH
	F°	C°		
69 F 669	0-300	0-150	1/C	49.50
69 F 670	0-500	0-260	1/C	47.50
69 F 671	0-750	0-400	1/C	47.50
69 F 672	0-1000	0-500	1/C	47.50
69 F 673	0-1500	0-800	C/A	45.40
69 F 674	0-2500	0-1370	C/A	44.40

**MODEL 450 SOUND METER**

- Measures Sound Response, level and Dispersion
- Can be Used in Any Location—Indoors or Out of Doors
- Fully Transistorized for Low Battery Drain, Long Life
- Readings from 40-142 db at Frequencies from 35-8000 cps

Palm-sized, fully transistorized sound-level meter with dozens of valuable uses. Can be used to survey noisy areas for possible ear damage, to estimate frequency response characteristics of speakers and rooms, to measure level and dispersion patterns of P.A. and theater sound systems, and for classroom acoustic experiments. Completely portable—can be taken anywhere without being limited by need of an AC outlet; and it's lightweight.

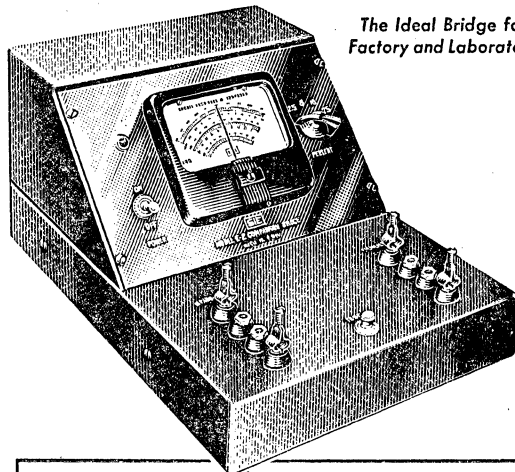
Compact, transistorized design allows thousands of readings from one 2 1/2-volt battery. Exceptionally wide operating range: from 40 to 142 db in sound level; from 35 to 8000 cps in response. Heavy aluminum 6x3x2" case for rugged field use. Has direct-reading scale with step-type attenuator; built-in crystal diaphragm-type mike.

Has input jack for extension mike or vibration pickup, monitoring output jack, and 2 1/2" meter calibrated on random noise. Completely nonmicrophonic—no spurious readings. Calibrates itself on 110-volt AC line. Battery check button assures that proper power is available at all times for accurate meter readings. Requires Burgess U15, Eveready 412 or equivalent 2 1/2-volt battery. 2 lbs.

66 F 598.....**182.00**



## HATHAWAY MODEL E-2 COMPARISON BRIDGE



The Ideal Bridge for  
Factory and Laboratory

The Model E-2 is an excellent comparison bridge, engineered by Hathaway for speedy and accurate value-measuring, matching and rejection of resistors, capacitors and inductors. This comparison bridge has been designed for extremely effective operation in laboratories and on factory production assembly lines. Especially convenient for industrial use, because ease of operation permits even inexperienced, unskilled operators to obtain a 0.1% accuracy (on the 1% range)—and to actually detect component differences as small as one part in ten thousand.

The E-2's exceptionally wide range of values makes it practical and effective for use with almost every electronic circuit application required in the laboratory or factory. Test limits are: for resistance—1 ohm to 5 megohms; for capacitance—500 mmf to 2000 mfd; and for inductance—3 millihenrys to 10,000 henrys. Ranges: 1%, 2.5%, 5%, 10%, and 25% full scale. Accuracy: on the 1% range—0.1%; on the 2.5% range—25%; on the 5% range—0.5%; on the 10% range—1.0%; and on the 25% range—2.5%.

This efficient test instrument is particularly valuable for "go, no-go" on-the-spot component checking on production lines, and for precision-matching of resistors and capacitors. Instrument can also be employed with a decade box for a wide variety of laboratory applications. A lot of work gets done in short order—fast-checks more than 1000 components per hour. Can also be used with foot switch (not supplied) when freedom for two-hand operations is desirable. Ruggedly constructed for long-time use under all kinds of conditions. The E-2 is not only easy to operate, but also extremely easy to calibrate. Has smart-looking, durable gray crackle enamel case. Convenient size, 8x10x14". Supplied with batteries. Shpg. wt., 21 lbs.

- Can Be Operated and Calibrated Easily by Anyone
- Fast-Checks More than 1000 Components per Hour
- Ranges: 1%, 2.5%, 5%, 10% and 25% Full Scale

65 FU 190 ..... 205.00

## C-6B RESISTANCE METER

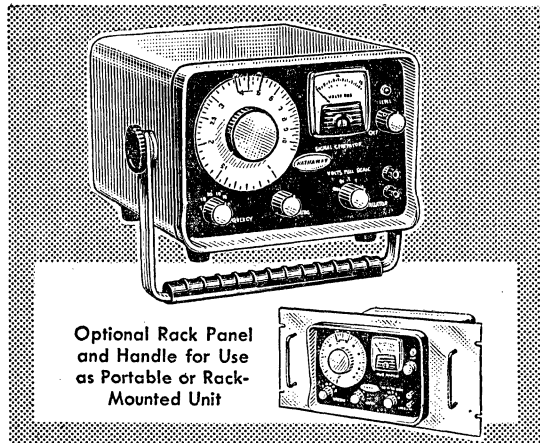


Unique Circuitry  
With 3 Separate  
Test Voltages

0 to 10,000,000  
Megs in 11 Ranges

Highly Stable...  
Guard Rings Stop  
Undesired Leakage

Choice of Portable  
or Rack-Mounted  
Instruments



Optional Rack Panel  
and Handle for Use  
as Portable or Rack-  
Mounted Unit

## MODEL N-2A SIGNAL GENERATOR

Precision AF/RF signal generator covering a wide frequency range with superb stability, low distortion and constant output amplitude. Output is continuously variable from 1 cps to 1 mc in 6 overlapping bands, each having 10:1 ratio. Particularly useful in the design, repair and testing of transistorized devices, digital and logic circuitry, control equipment, etc. Produces an output of 0 to 10 volts rms maximum—has 5 attenuator positions in 20-db steps. Distortion is 0.25% from 10 cps to 1 mc; 1% from 1 cps to 10 cps. Calibration accuracy: frequency,  $\pm 2$  cps; level, 5%. Internal power supply is highly stable—line voltage changes of 105-125 volts do not affect output accuracy. Use of 1 stage of amplification limits excessive circuit capacity, preventing roll-off at high-frequency end of spectrum. Source impedance: less than 1000 ohms at 10 volts; 600 ohms at other attenuator positions. Size, 7 $\frac{1}{2}$ x9 $\frac{9}{16}$ x12 $\frac{1}{2}$ ". Less portable carrying handle/stand, For 105-125 volts, 50-400 cycle AC. Shpg. wt., 27 $\frac{1}{2}$  lbs.

65 FZ 187..... 320.00  
65 F 195, Carrying Handle/Stand, 2 lbs..... 5.00  
65 FU 196, Rack Panel, Std, 19" Mounting, 2 lbs..... 5.00

Highly versatile, easy-to-use instrument combining the functions of a resistance meter, continuity checker and insulation leakage tester. Unique circuitry with 3 separate test voltages allows resistance measurements from 0 to 10,000,000 megohms in 11 ranges. Ranges: 0-500,000 ohms in 4 steps at 1 $\frac{1}{2}$  volts, DC applied potential; 100,000 ohms to 1,000,000 megs in 6 steps at 50 volts; 1 to 10,000,000 megs in 6 steps at 500 volts. A 1 $\frac{1}{2}$ -volt dry cell is used for readings up to 500,000 ohms—unit operates as a portable shunt-type ohmmeter in these ranges.

For megohm readings, a high-impedance VTVM using cascaded cathode followers measures the drop across range resistors up to 10 million megohms. Guard ring eliminates undesired leakage paths, making unit highly stable. Accuracy (of full-scale deflection)—ohms, 3%; megs, 3% up to 10<sup>3</sup> range, and 5% on 10<sup>4</sup> range. Easy to operate—has meter face with just two scales, infinity/zero adjustment common to all functions, and "quick charge" for capacitor checking. Also: regulated supply; deposited carbon resistors; 2% movement. Compact size 10x6 $\frac{1}{2}$ x6 $\frac{1}{2}$ ". For operation from 105-125 volts, 60 cycle AC. Shpg. wt., 15 lbs. Choice of model C-6B portable, or C-6RE rack-mounted instruments.

65 FU 189, Model C-6B..... 240.00  
65 FU 197, Model C-6RE..... 290.00

# for Measuring, Testing and Control



## MODEL ARP-3 AUTOMATIC RESPONSE PLOTTER

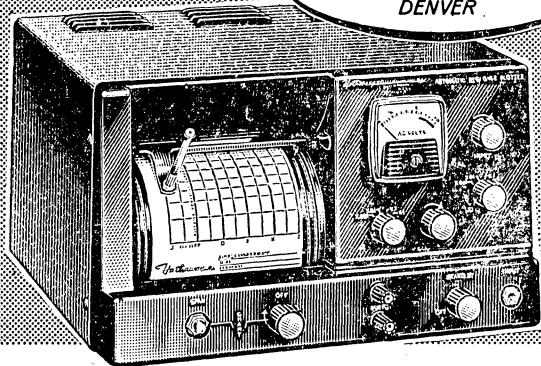
- Draws Electrical, Acoustical and Vibration Curves
- Accepts Signals Directly or Through Condenser Mike
- 20-20,000 cps Range • Variable Chart Speed

Here is a self-contained unit, providing a complete audio-range plotting system. Records can be made in as little time as it takes to make two connections to the system undergoing test, load a new chart, and turn the recording drum. Eliminates costly hand drawing; plots curves too complex to be drawn by hand. Plots response curves of audio preamplifier, amplifiers, broadcasting equipment, equalizers, transformers, microphones, vibration analysis equipment, etc.

Input to the system under test is supplied by an internal 20-20,000-cps sweep audio oscillator. Output signals are either fed directly to the plotter or are picked up by an accessory condenser microphone. Records are plotted with pen automatically on a 40-db-range logarithmic chart by a high-torque dry-writing, servo-controlled pen recorder.

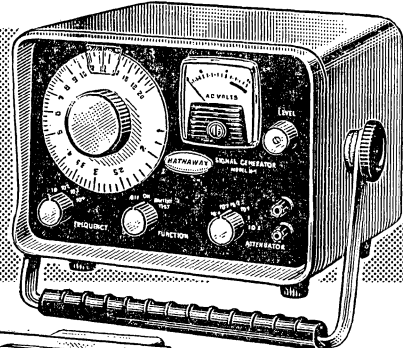
Manually operated oscillator is connected to recording drum and permits retracing or multiple recording of any portion of the response curve. Special input attenuator network enables the response plotter to accept inputs up to 10 volts. High input sensitivity provides quality results from inputs as low as 100 microvolts. Regulated power supply for condenser microphone (supplied less mike). Size, 8 $\frac{3}{8}$ "x15 $\frac{1}{4}$ "x13 $\frac{3}{4}$ ". Supplied complete with chart and pen (extras below). For operation from 105-volts, AC. Shpg. wt., 50 lbs.

- 65 FZ 271.....1195.00
- 65 F 272. Extra Charts. Pkg. of 100. Shpg. wt., 1 $\frac{1}{2}$  lbs.....PER PKG. 6.50
- 65 FF 273. Extra Pens. Write in red, blue, green or black—specify. Wt., 2 oz.....1.50

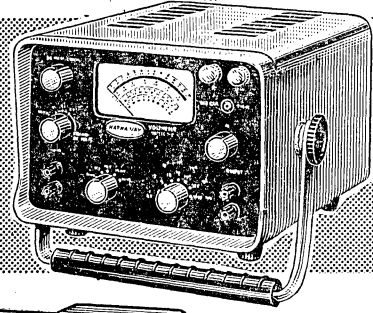


### SPECIFICATIONS

Frequency Range: from 20 to 20,000 cps. Frequency Accuracy: 4%,  $\pm 4$  cps of indicated frequency. Chart Scales: linear db, 0 to 50-db range. Maximum Sensitivity: 10 mv, full scale. Oscillator Distortion: less than 3%. Oscillator Amplitude Stability:  $\pm 1$  db. Oscillator Output: 1 volt rms across 600-ohm load. Recorder Input Impedance: 100,000 ohms. Recording Speed: continuously variable to 1 rpm, also manual operation. Pen Response: 1.2 seconds (full span). Log Lin Conversion Accuracy:  $\pm 0.5$  db. Chart Size: 5 $\frac{1}{16}$ " wide and 15 $\frac{1}{2}$ " long. Applications: plots electrical response curves of audio preamplifiers, broadcast equipment, filter networks, transformers; plots acoustical response curves of rooms, mikes, speakers, earphones, phono cartridges; plots vibration response curves of components and systems in vibration studies.



Operates as Portable or Rack-Mounted Unit (optional handle and rack panel)



For Use as Portable or Rack-Mounted Unit (with optional handle or rack panel)

## MODEL N-1 SIGNAL GENERATOR

Continuously variable over a frequency range of 2 cps to 200 kc, this battery-powered signal generator provides 1.5 v. rms output at under 1% distortion. 5-band frequency range is useful in design, test and repair of audio, geophysical, medical and control equipment. Battery power supply avoids power line fluctuations and offers instantaneous frequency and output-level stability. Low-current transistors reduce size and weight of unit. Wien bridge oscillator circuit has both positive and negative feedback. Calibration accuracy—frequency, 2%  $\pm 1$  cps; level, 5%. Distortion—less than 1% for loads of 1K or more on "Lo Z" position; 10K or more on other voltage ranges. Maximum output—1.5 v. rms. Source impedance—1500 ohms in attenuator positions; less than 50 ohms in low impedance position. Output level is varied by potentiometer-attenuator circuit and read directly on meter. Size, 8x12 $\frac{1}{4}$ "x10 $\frac{3}{8}$ ". Supplied complete with 6-4 $\frac{1}{2}$ -volt batteries. Less handle/stand, below. Shpg. wt., 21 lbs.

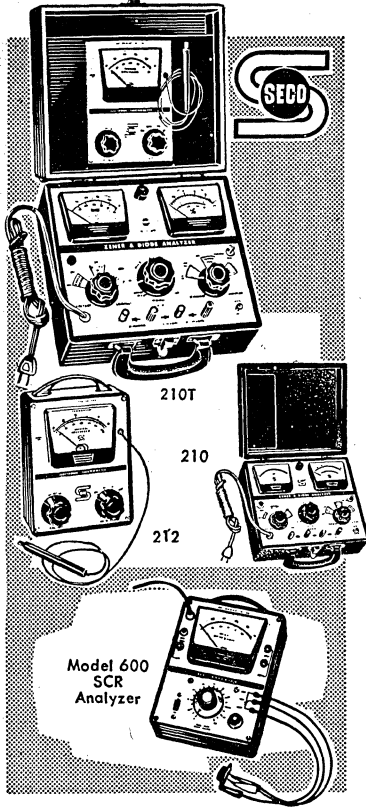
- 65 FU 193.....305.00
- 65 F 195. Carrying Handle/Stand. 2 lbs.....5.00
- 65 FU 196. Rack Panel, Std. 19" mtg. 2 lbs.....5.00

## MODEL R-2 VOLTMETER

Incorporates unique "DC Distend" feature which expands any upper 10% or 1% of a DC-volts range to cover full meter scale. Permits more exact examination of voltages—especially useful in measuring power supply regulation, potentiometer resolution and amplifier linearity. DC upscale readings with polarity indicators offer twice the scale length of center-zero meters. Residual noise, less than 2  $\mu$ v on 1-mv AC scale. DC mv drift, less than 50  $\mu$ v. Accuracy: 2% of full scale,  $\pm 0.1$  mv, DC-1000 kc; 5%, 100 kc-1 mc. AC and DC voltage ranges: 1 mv to 1000 v. full scale, 14 ranges in 10 db steps. Resistance range: 10 ohms to 10 megs mid-scale, in decade ranges. Db scale: -20 to +2 db. Frequency response: 10 cps to 1 mc. Input impedance: mv scales, 10 megs shunted by 25 mmf (9 megs on AC); voltage scales, 10 megs shunted by 20 mmf. Internal DC calibration. 7 $\frac{1}{16}$ "x10 $\frac{1}{16}$ "x12 $\frac{1}{2}$ ". Less handle/stand. For operation from 105-125/210-250 volts, 50-60 cycle AC. Shpg. wt., 27 $\frac{1}{2}$  lbs.

- 65 FZ 192.....545.00
- 65 F 195. Carrying Handle/Stand. 2 lbs.....5.00
- 65 FU 196. Rack Panel, Std. 19" mtg. 2 lbs.....5.00

# Test Instruments for Industry—Latest Designs



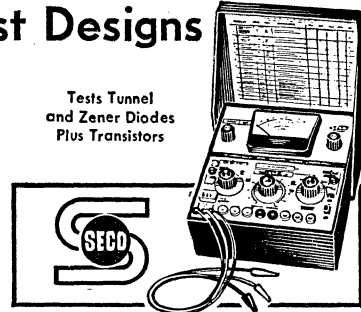
## ZENER AND DIODE ANALYZER AND ELECTRONIC THERMOMETER

**MODEL 210T.** Combines 2 units in one portable case for versatile servicing. Zener-and-diode analyzer tests zener diodes, power diodes, silicon and germanium signal diodes, and selenium rectifiers. Tests forward voltage-drop at rated current; reverse current leakage; zener saturation knee test at rated voltage; and current. 2 calibrated mirror-scale meters. 5 power sources supply 20 ma to 30 amps and 0-1500 v.

Electronic thermometer utilizes a thermistor probe in unique bridge circuit to give continuous temperature readings with  $\pm 2\%$  accuracy. Two ranges:  $-20^{\circ}$  to  $+55^{\circ}\text{C}$ , and  $+40^{\circ}$  to  $+160^{\circ}\text{C}$ . Probe can be fastened to test surface, or hand-held—insulation prevents heat transfer from hand. Probe has 3-ft. cord.  $3\frac{1}{2}''$  mirrored-scale meter. Battery-powered. Uses two inexpensive "C" cells.  $10\frac{1}{4}\times 9\times 5''$ . Shpg. wt., 17 lbs. **69 FU 695.....274.95**

**MODEL 210.** Zener and Diode Analyzer Alone.  $10\frac{1}{4}\times 9\times 5''$ . Wt., 14 lbs. **69 F 694.....199.50**

**MODEL 212.** Electronic Thermometer Alone.  $5\frac{1}{2}\times 6\frac{1}{2}\times 2''$ . Shpg. wt., 3 lbs. **69 F 767.....79.50**



Tests Tunnel and Zener Diodes Plus Transistors

## TRANSISTOR/DIODE ANALYZER

**MODEL 250B.** Tests transistors IN or OUT of circuit plus zener diodes and tunnel diodes. Includes 5000 ohms/volt VOM plus audio and RF generator for circuit tracing. Does all this; reads both collector-base ( $I_{cbo}$ ) and collector-base emitter ( $I_{ceo}$ ) leakage currents; cancels  $I_{cbo}$  leakage for true gain readings; tests tunnel diode "peak and valley" currents and zener diodes; identifies NPN and PNP transistors. Matches transistors of similar types by AC dynamic test or DC analysis. Battery powered. Less batteries, with leads.  $9\frac{3}{4}\times 7\frac{1}{2}\times 4\frac{1}{4}''$ . 4 lbs. **65 F 237.....86.50**

## SILICON-CONTROLLED-RECTIFIER (SCR) ANALYZER

**MODEL 600.** Provides complete analysis of SCR's for incoming stock inspection, engineering and lab work, trouble shooting, comparison of SCR's of different manufacture and type. Tests SCR's from  $\frac{1}{2}$  to 225 amps and 25 to 600 volts without a scope. Simple to operate—meter reads anode current and phase angle—holding-current read directly. Conduction angle can be varied from 0 to  $160^{\circ}$ . Gate-pulse amplitude is sufficient to drive all SCR's without damaging low gate-current types. Cathode cur-

rent at varying rates of gate pulse are shown. Compares firing requirements and SCR voltage drop. Checks gate and anode-cathode for opens and shorts. Protective circuitry prevents damage to analyzer or SCR if excessive gate current is applied or SCR is shorted. Tip jacks provide scope output for viewing gate pulse and phase angle across load. A dependable, precision instrument at a moderate price. Size,  $5\frac{1}{4}\times 6\frac{3}{4}\times 2\frac{1}{4}''$ . Wt., 5 lbs. **65 F 231.....46.95**

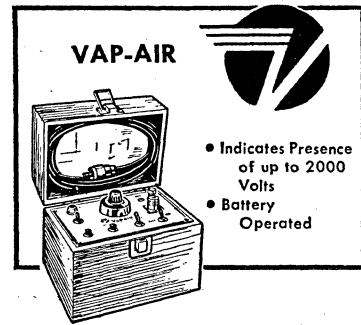
## NEW TESTERS FROM SOLITRON DEVICES, INC.



## DELUXE SCR TESTER

**MODEL R-200.** Tests all silicon-controlled-rectifiers under dynamic conditions plus zener and standard diodes within its ratings. Permits rapid measurements of the important operating parameters of any SCR. Measures following gate characteristics—voltage ( $V_{GF}$ ) to 10 volts and current ( $I_{GF}$ ) to 100 ma. Measures following anode-cathode characteristics—forward breakover voltage ( $V_{Bo}$ ) to 1000 volts; repetitive peak blocking voltage to 1000 volts, forward (PFV) and reverse (PRV); DC holding current ( $I_H$ ) to 100 ma. Vertical and horizontal scope outputs permit calibrated dynamic volt-ampere characteristic display.

Tests standard diodes for forward blocking voltage, full-cycle leakage and forward voltage drop. Displays volt-ampere characteristics of zener diodes. Controls include: anode voltage selector and adjust; function selector; gate input adjust; gate voltage/current meter selector; SCR anode voltage switch. Two meters show gate voltage and gate current. With test leads. For 115 v., 60 cycle AC. Size,  $8\times 8\times 10''$ . Wt.,  $10\frac{1}{2}$  lbs. **69 FU 697.....269.50**



## VAP-AIR

- Indicates Presence of up to 2000 Volts
- Battery Operated

## TRANSIENT VOLTAGE INDICATOR

Designed for use in engineering and design laboratories and industrial maintenance to measure and eliminate transients. Senses voltage transients of extremely short duration with a high degree of accuracy. Tracks down voltage transient sources and measures their severity—prevents costly loss of semiconductors. Senses voltage in excess of a pre-set level. Detects pulses down to 1 microsecond duration. Unit can be used to compile accurate data on transients produced by various circuits.

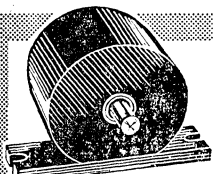
Portable and battery-operated, it is unaffected by line disturbances and completely semiconductor-operated for increased reliability. Has 2 ranges: 0-200 volts; 0-2000 volts. Loading is negligible—input impedance 1 megohm. Long battery life—500 hours continuous service. Durable walnut laminated case measures only  $3\frac{3}{4}\times 6\frac{1}{4}\times 5\frac{3}{4}''$ . Complete with batteries and instructions. Shpg. wt., 9 lbs. **69 F 354.....198.00**

**MODEL R-104.** Quickly determines vital firing and leakage points of any silicon-controlled-rectifier. Measures gate voltage and current to fire, up to 5 v. and 50 ma respectively; anode-cathode leakage up to 8 megs. Detects SCR's in which peak reverse or forward voltage has fallen off, which can cause self-triggering. Compact, portable and battery powered. Can be used by unskilled personnel. With leads and battery.  $5\frac{1}{4}\times 7\times 3''$ . Wt.,  $2\frac{1}{2}$  lbs. **69 FU 696.....79.95**

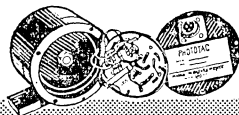
## TRANSIENT VOLTAGE INDICATOR

**MODEL V-310.** Self-calibrating, transistorized, battery operated instrument indicates voltage transients above a preset, selected level. Meter shows selected voltage—pilot light glows and 6 v. is supplied to rear remote terminals when voltage is exceeded. Indicators stay on until reset. Meter ranges, 0-100-300-1000-3000-30,000 v.,  $\pm 2\%$ . Switch selects polarity. Input impedance, 5000 ohms/volt. With 30-KV probe, leads, instruction.  $8\times 8\times 10''$ . 11 lbs. **69 FU 698.....299.50**

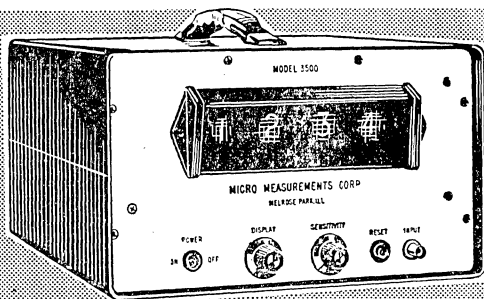
# Phototac Transducers, Frequency Counter, Test Gear



**SERIES P-100, P-200 Uni-directional and Add-Subtract Transducers**



**Efficient Transistor Amplifier**



## NEW MICRO MEASUREMENTS' ROTARY TRANSDUCERS

Accurately convert rotary motion into digital pulses for precise measurement or position. Typical applications include: measurement of shaft speed, measurement of length; monitoring flows; synchronizing conveyors; positioning machine tools; plus many other laboratory, engineering and industrial applications. Two types, each available with standard discs for 1 to 1200 counts per revolution.

### SERIES P-100 TRANSDUCERS

### SERIES P-200 TRANSDUCERS

Produce output pulses when shaft is turned clockwise or counter-clockwise. Silicon photovoltaic sensor monitors light-output of a long-life filament bulb. Light is interrupted by stable plastic disc. Signal on silicon cell is amplified by transistor amplifier. Up to 1200 counts per revolution of this output is taken directly. Max. Speed: 10,000 rpm. Counts per Revolution: 1 to 1200. Output: squarewave from -5.6 v. to -0.5 v. across 3300 ohms; optional output +5.6 v. to +0.5 v. Input to Transducer: -5.6 v., regulated, low ripple, at 100 ma. Operating Temp.: 0° C to 55° C. Bulb Life: 60,000 hrs. For 110-120 v., 60 cycles. 2 lbs.

Bi-directional—produce output on one line when shaft is turned clockwise, on other line when turned counter-clockwise. 2 silicon photovoltaic sensors and 2 light sources are spaced 90° apart. One is placed on edge of dark area, other is placed directly in center of dark area. Phase relationship is determined in Boolean Algebra circuit. Max. Speed: 10,000 rpm. Counts per Revolution: 1 to 1200. Output: constant rise-time pulse 10 usec wide, from -5.6 v. to ground across 1800 ohms. Input to Transducer: -5.6 v., regulated, low ripple, at 200 ma. Op. Temp.: 0° C to 55° C. Bulb Life: 60,000 hrs., each. For 110-120 v., 60 cycles. 2 lbs.

## 3500 TRANSISTORIZED FREQUENCY COUNTER

- 0.3% Accuracy
- In-line Decimal Readout
- Digital Division in Time Base for Stability
- Operates at 0° F to 140° F Temperatures
- Lightweight for Easy Portability

Solid-State Frequency Counter—the first of its kind to be shown in any distributor catalog. Combines superior performance with a low price—similar-quality vacuum-tube units cost hundreds of dollars more! Typical applications include: measurement of speed, using either a photoelectric or magnetic pulse generator; measurement of flow rate, using a turbine flow meter; telemetry; calibration of tape recorders, phonographs, resonant reeds and tuned filters; etc.

Counting Speed: 2 cps to 100 kc. Counting Period: 1 second. Sensitivity: 400 mv., RMS, across 20,000 ohms. Counting System: binary. In-line Readout: 4-digit Nixie numerical display. Display Period: adjustable from 1 to 3 seconds. Display Resetting: automatic after display period. Operating Temperature: 0° F to 140° F. Accuracy: 0.3% (based on normal line-frequency tolerances).

Digital division in time-base provides increased stability. Convenient carrying handle and lightweight construction (only 16 lbs. actual weight) allow easy portability—unit goes from job to job with minimum operator effort. Compact size: 6 1/2" high, 11 1/2" wide, 1 3/4" deep. With 8-ft. line cord and connector. For 110-120 v., 50-60 cycle AC. Shpg. wt., 22 lbs.  
69 FU 676.....595.00

Stock No.	Mfr's Type	Counts per Revolution	EACH			
			1-9	10-24	25-99	100-Up
69 F 677	P-100-60	1 to 60	295.00	284.25	265.50	251.00
69 F 678	P-100-360	1 to 360	395.00	379.25	355.50	336.00
69 F 679	P-100-500	1 to 500	395.00	379.25	355.50	336.00
69 F 680	P-100-600	1 to 600	395.00	379.25	355.50	336.00
69 F 681	P-100-1000	1 to 1000	545.00	517.75	490.50	462.25
69 F 682	P-100-1200	1 to 1200	545.00	517.75	490.50	462.25
69 F 683	P-200-60	1 to 60	745.00	707.75	670.50	632.25
69 F 684	P-200-360	1 to 360	745.00	707.75	670.50	632.25
69 F 685	P-200-500	1 to 500	845.00	802.75	760.50	717.25
69 F 686	P-200-600	1 to 600	845.00	802.75	760.50	717.25
69 F 687	P-200-1000	1 to 1000	995.00	949.25	895.50	846.00
69 F 688	P-200-1200	1 to 1200	995.00	949.25	895.50	846.00

## NEW MOTOROLA TRANSISTORIZED VOM's and VOLTMETERS

### MODEL S1052B BATTERY-OPERATED PORTABLE DC VOM

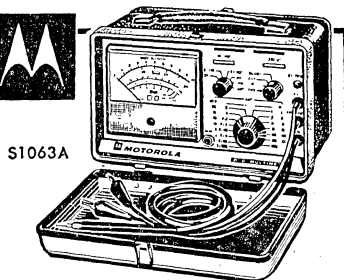
Lightweight, portable electronic DC VOM with laboratory precision. Full scale sensitivity of 100 mv assures extremely accurate reading in the 10-30 mv range—especially advantageous in low-voltage transistor circuit measurements. Large, taut-band meter with 3:1 scales. Silicon transistors ensure accuracy and high input-resistance. Critical portions are moistureproof to virtually eliminate effects of humidity. Power consumption is so low that battery life is over 600 hours. Voltage Ranges (full scale): 100 and 300 mv., 0-1-2-10-30-100-300-1000 v.; Accuracy—±3% of full scale; Input Impedance—11 megs (10 megs on 100 mv. range). DC Current (full scale): 0-1-3-10-30-100-300 µa., 0-1-3-10-30-100-300 ma.; Accuracy—±5% of full scale. Resistance Ranges (center scale): 10-100-1000-10K-100K-1 meg; Measurement Range—0.2 ohms to 50 megs; Accuracy—±5% at center scale. With batteries. Less RF probe and probe termination. 6 1/2"x10 1/4"x5 3/4". Wt., 8 lbs.

- 69 FU 708.....250.00  
 69 FU 709, Model S1063A. As above, with battery plus 117 v. or 230 v., 50-3000 cycle AC operation. Power-source switch, cord, 3-prong plug.....285.00  
 69 F 710, Model SLN6055A Plug-in RF Probe. Shpg. wt., 1 lb.....25.00  
 69 F 711, Model SLN6083A Probe Termination. Shpg. wt., 1 lb.....10.00

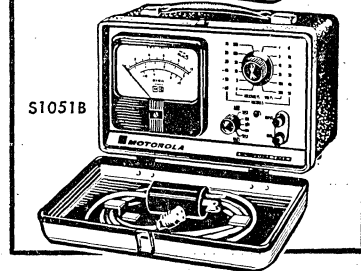
### MODEL S1051B BATTERY-OPERATED PORTABLE AC VOLTMETER

Fully transistorized circuitry—dependable, accurate, rugged. Low current-drain—operates over 400 hours. Voltage Range (full scale): 0-1-3-10-30-300 mv.; 0-1-3-10-30-100-300 v.; plus db scale of -72 db to +52 db, referred to 1 mw in 600 ohms. Accuracy: within ±3% of full scale between 20 cps and 1 mc. Input Impedance: 10 megs shunted by 15 mmf on the 1 to 300 v. ranges; 1 meg shunted by 30 mmf on the 1 to 300 mv. ranges. With battery. Less cable kit, below. 6 1/2"x10 1/4"x5 3/4". Wt., 8 lbs.

- 65 F 240.....210.00  
 65 F 241, Model S1053B. As above, with battery plus 117 v. or 230 v., 50-400 cycle AC operation. Shpg. wt., 8 lbs.....245.00  
 65 F 242, Model SKN6001A Cable Kit. 28" long cable with dual GR banana plug and miniature alligator clips. Shpg. wt., 1 lb.....3.00



S1063A

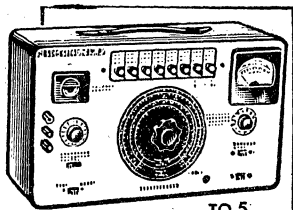


S1051B

Depend on Allied for the Latest in Industrial Electronic Equipment

SPRAGUE CAPACITOR & INDUCTOR TESTERS

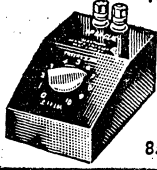
TO-5 "TEL-OHMIKE" CAPACITOR ANALYZER



TO-5



TCA-1



850W

Multipurpose bridge-type analyzer measures capacity, insulation resistance, power factor and leakage current. Capacitance bridge reads to 2000 mfd—includes low-capacity range: 0-100 mmf with  $\pm 2\%$  or 1 mmf accuracy. Magic Eye indicates balance. Shows insulation resistance of papers, ceramics and micas directly on meter, to 20,000 megs. Measures

electrolytics' power factor up to 55%. Meter gives leakage current reading for electrolytics with exact rated voltage up to 600 v., applied. Has turns-ratio scale for transformers. Range-selection pushbuttons discharge capacitors on release.  $8\frac{7}{8} \times 11\frac{1}{2} \times 6\frac{1}{8}$ ". For 110-120 v., 50-60 cycle AC. Shpg. wt., 12½ lbs. 66 F X 591..... 92.50

NEW TCA-1 TRANSFARAD CAPACITOR ANALYZER

Designed exclusively for testing transistor circuit capacitors. Tests low-leakage, low-voltage aluminum and tantalum electrolytic capacitors, tantalum foil capacitors, low-voltage film, paper and ceramic capacitors. Capacitance bridge reads 1 mmf to 2000 mfd in 5 overlapping ranges, with from  $\pm 2\%$  or 1 mmf, to  $\pm 5\%$ . Insulation resistance, 50-20,000 megs. Only 25 vdc is applied, permitting measurements on low-voltage capacitors. For ceramics rated below 25v., insulation ohms may be calculated from leakage current measurements at exact rated voltage. Leakage current measured directly on meter, from 0.6 to 600 microamps in 7 ranges. Wien Bridge measures power factor from 0-50%. Polarizing voltage continuously adjustable, 0-

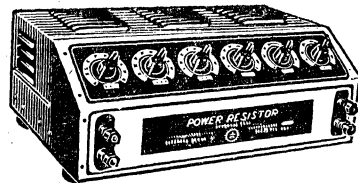
150 v. Only .5 v. is applied to AC bridge, permitting safe testing of even 1-v. electrolytics or 3-v. ceramics—no overheating. Dual regulation of power supply plus complete encapsulation of meter amplifier—assure short-time reliability and long-time stability. Sensitivity control for magic eye null detector permits accurate measurements of even the smallest capacitances. Latest design jet-black dial has brilliant white calibrations for clear, sharp contrast. Binding posts have 5-way connection for all types of test leads. Capacitor under test is automatically discharged after testing. Gray Hammerloid case.  $8\frac{7}{8} \times 11\frac{1}{2} \times 9\frac{1}{2}$ ". With leads. For 105-125 v., 60 cycle AC. Shpg. wt., 23 lbs. 66 FU 593..... 197.50

850W PRECISION DECADE INDUCTORS

For design and experimental work on audio filters, equalizers and tuned circuits in the range of 150-20,000 cps. When all 4 inductors listed are connected in series, they permit insertion of any inductance from .001-11.11 henries. "Q" is held constant over all ranges. Sloping-front case,  $3 \times 2\frac{1}{2} \times 5\frac{1}{2}$ ".

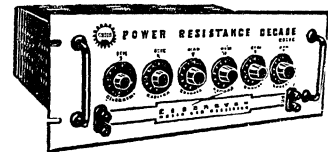
Stock No.	Type	Henries Per Step	Max. Ma		EACH
			DC	AC	
69 F 720	850WA1	0.001	250	700	31.90
69 F 721	850WA2	0.01	79	220	
69 F 722	850WA3	0.1	25	70	
69 F 723	850WA4	1.0	8	22	

CLAROSTAT POWER RESISTOR DECADE BOXES



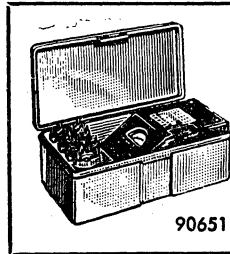
MODEL 240-C BENCH TYPE. Allows selection of any value from 1 to 999,999 ohms in 1-ohm increments. Six dials read Rx1, Rx10, Rx100, Rx1K, Rx10K and Rx100K for quick setting and direct readout. Positive

detent action clicks in and holds each knob at selected setting. Dissipates up to 225 w. maximum, 1000 v. DC, or 660 v. AC per decade. All have  $\pm 2\%$  tolerance except Rx1 decade, 5%. Maximum current ratings range from 5 amps for Rx1 to 5 ma for Rx100K. Rugged bottom and louvers for ventilation. Rugged, long-lasting Clarostat "Greenohm" wirewound power resistors used throughout; all are mounted in rigid metal supports. Glass-insulated wire withstands extremely high temperatures. Baffle plate protects switch assembly from heat. Two sets of terminals accept banana plugs, spade lugs or plain wire connections.  $8\frac{1}{2} \times 13 \times 5\frac{3}{8}$ ". 12 lbs. 65 F X 250..... 110.00

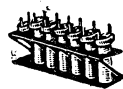


MODEL 250 RACK-PANEL TYPE. Electrically identical to 240-C, but mechanically rearranged to fit std. 19" relay rack panel. Size,  $13\frac{1}{4} \times 19 \times 7\frac{7}{8}$ ". For use in systems or other non-bench applications. Wt., 19 lbs. 65 FX 251..... 150.00

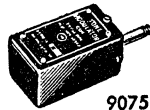
JAMES MILLEN



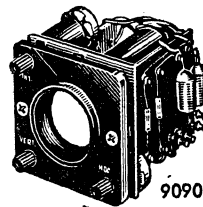
90651



Coils



90751



90901 1" MODULE SCOPE



90902

2" meter has 7 direct-reading frequency scales and 0-100 scale. Plug-in coils (supplied) cover 1.7-300 mc. Two "on-off" switches for filament and plate; terminals for battery. Transformer power supply.  $7 \times 3\frac{3}{8} \times 3\frac{3}{8}$ ". For 110-120 v., 50-60 cycle AC. With storage case. Shpg. wt., 3½ lbs. 65 F 090..... 68.85

Miniature instrumentation scope. Fixed focus. Has intensity and centering controls, but less power supply (below), sweep and amplifiers. Requires 600-950 VDC @ 3.2 ma, 6.3 VAC @ 600 ma. Supplied less CRT; uses ICPI. Fits 2" sq. panel cutouts.  $2\frac{3}{4} \times 2\frac{7}{8} \times 3\frac{3}{8}$ ". Shpg. wt., 2 lbs. 69 F 170..... 21.00

EXTRA COILS. For above. 3 oz.

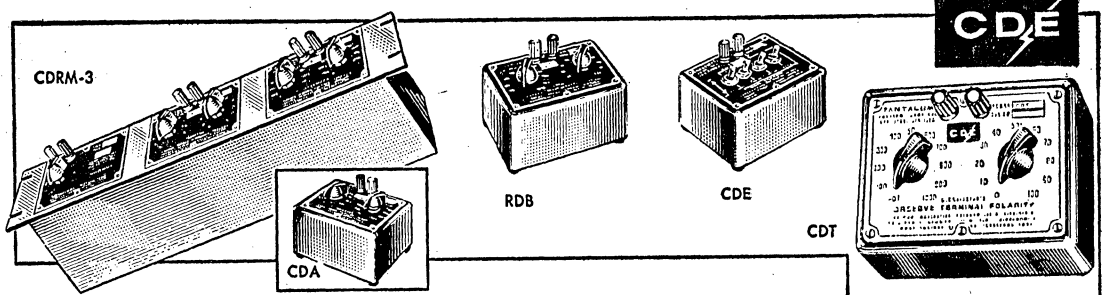
Stock No.	Type	Range (KC)	EACH
69 F 171	46702	925-2000	6.72
69 F 172	46703	500-1050	
69 F 173	46704	325-600	
69 F 174	46705	220-350	

69 F 083. 90202 Plug-in Power Supply. For above. Wt., 2 lbs. .21.00  
 90902 2" BASIC SCOPE. Self-contained. Line-frequency sweep. 19" relay rack mounting. With power supply. Less CRT; uses 2BP1 or 2BP11.  $3\frac{1}{2} \times 8 \times 9\frac{1}{4}$ " D. For operation from 105-125 v., 60 cycle AC. Shpg. wt., 12 lbs. 65 F X 239..... 55.00

69 F 175. 46721 Probe. (Not illus.) For 90651, 6 oz..... 1.95  
 90751 TONE MODULATOR: All-transistor 800-cps oscillator. Plugs into phone jack of 90651, 90661 and 90662. Less battery; Mallory TR-132.  $2\frac{3}{4} \times 1\frac{1}{2} \times 1\frac{1}{8}$ ". 5 oz. 69 F 246..... 15.00

65 FX 238. 90903 3" Basic Scope. Similar to above. Less CRT; uses 3KP1, P4, P7 or P11.  $5\frac{1}{2} \times 8 \times 13\frac{1}{2}$ " D. 14 lbs..... 60.00  
 65 FZ 243. 90905 5" Basic Scope. Similar to above. Less CRT; uses 5UP1. 7" H,  $16\frac{1}{2}$ " D. 24 lbs..... 125.00

# Capacitor and Resistance Testers, for Lab Use



## CORNELL-DUBILIER CAPACITOR AND RESISTANCE TESTERS

**CAPACITOR DECADES.** Provide accurate capacities over a wide range. Rated at 600 v. DC and 220 v. AC. May be used singly or in groups of 2 or more decades. Grouping of all 3 types in parallel provides capacitances of 0 to 1,111 in .0001 mfd steps. CDA-2 and CDA-5 have mica dielectric; others, oil-impregnated. Last figure in Mfr's Type No. indicates  $\pm$  tolerance. With chart giving exact values for all scale markings. \*Electrolytic capacitor substitution box. Size,  $3\frac{1}{4} \times 5 \times 3\frac{1}{2}$ ". Wt., 2 lbs.

Stock No.	Mfr's Type	Range Mfd	Mfd/Step	EACH
65 F 244	CDA-2	.0001-.011	.0001	17.50
69 F 588	CDA-5	.0001-.011	.0001	14.20
69 F 101	CDB-5	.01-1.1	.01	14.20
69 F 103	CDB-3	.01-1.1	.01	16.35
69 F 102	CDC-5	1.0-10	1.0	24.65
69 F 104	CDC-3	1.0-10	1.0	27.25
69 F 769	CDE*	10-150	10.0	14.20

**CDRM-3 RACK-PANEL MOUNTED CAPACITOR DECADES.** Consists of CDA-2, CDB-3 and CDC-3 decades mounted on durable  $3\frac{1}{2} \times 19 \times 4$ " rack panel. Shpg. wt., 5 lbs.  
65 FU 246.....58.85

**RESISTOR DECADES.** Each permits selection of 110 values. Units of resistance may be selected from the direct-reading panel switch scale. Series connected, they cover from 1 to 1,111,110 ohms in 1-ohm steps. Have 2 rotary switches with 11 positions. RDA and RDB use wire-wound resistors; RDC uses carbon resistors. Size,  $3\frac{3}{8} \times 5 \times 3$ ". Shpg. wt.,  $1\frac{1}{4}$  lbs.

Stock No.	Mfr's Type	Range Ohms	Ohms/Step	EACH
69 F 123	RDA	1-110	1	15.35
69 F 124	RDB	100-11,000	100	15.65
69 F 125	RDC	10,000-1,100,000	10,000	15.65

**NEW RDRM RACK-PANEL MOUNTED RESISTOR DECADES.** RDA, RDB and RDC on  $3\frac{1}{2} \times 19 \times 4$ " panel. Shpg. wt., 5 lbs.  
65 FU 247.....55.00

**NEW MODEL CDT TANTALUM DECADE BOX.** Decade box using Tantalum capacitors throughout. A reliable, flexible unit for substitution purposes in a wide variety of service and experimental applications. Provides 100 mfd in 10-mfd steps. 10-100 mfd range uses plain Tantalum foil electrolytics, with  $\pm 5\%$  tolerance @ 25° C. 100-1000 mfd range uses etched Tantalum foil electrolytics,  $\pm 10\%$  @ 25° C. Voltage: 50 vdc maximum. Can be used in circuits up to 50 vdc at temperatures from -55° to +85° C. Capacitors and binding posts polarized. Low DC leakage current. The CDT provides high capacitance in a small decade box. Size:  $3\frac{1}{16} \times 5 \times 3\frac{1}{16}$ ". Molded phenolic case. Shpg. wt., 2 lbs.  
69 FU 675.....99.50

**BF-60 CAPACITOR-RESISTOR BRIDGE.** Checks for opens, shorts, intermittents, capacity and power factor of electrolytics; also insulation resistance of micas, papers and ceramics. Measures capacity between wires/shielding, windings, etc. Reads from 10 mmf-1000 mfd (4 ranges); 100 ohms-5 megs (2 ranges).  $5\frac{1}{2} \times 7 \times 10$ ". 110-125 v., 50-60 cycle AC. 10 lbs.  
69 FU 627.....51.85

**BF-90 CAPACITOR CHECKER.** Tests capacitors in circuit. Magic Eye shows condition. Checks 30-mmf to 2000-mfd types for open/short/intermittent; 1-2000 mfd for shorts. 60 cycle/20 mc tests.  $7 \times 10 \times 5\frac{1}{2}$ ". With leads. For 110-120 v., 60 cycle, AC. Shpg. wt., 8 lbs.  
69 FX 629.....41.75

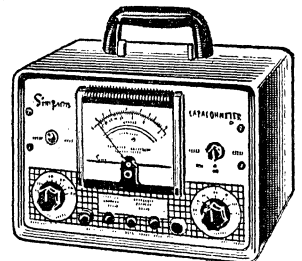
**NEW BF-71 CAPACITOR ANALYZER.** Tests all low- and high-voltage capacitors. 13 ranges: 10 mmf-2000 mfd; 2.5 ohms-25 megs; 0-500 VDC; 2  $\mu$ -100 ma. Checks electrolytics' power factor, 0-50%. Measures leakage of papers, micas, tantalums, aluminum foils, etc. Accuracy, 2% of full scale. Sensitivity, 10K ohms/v.  $3\frac{1}{2}$ " meter. Bridge measurement v., 0.5 v. RMS. Panel,  $11 \times 10$ "; depth, 6" tapering to  $4\frac{1}{2}$ ". For 110-125 v., AC. Shpg. wt., 11 lbs.  
65 FX 248.....129.75

## SIMPSON MODEL 383A CAPACOHMETER

- Measures Leakage Resistance
- Gives Capacitance Directly
- Detects Borderline Capacitors
- No Unsoldering Necessary

Time-saving, versatile "in-or-out-of-circuit" capacitor leakage tester. Measures leakage resistance of defective paper, mica or ceramic capacitors. Indicates directly the capacitance of good paper, mica or ceramic capacitors over the range of 10.0 mmf to 10.0 mfd. No unsoldering necessary. Pulse technique immediately detects many marginal capacitors normally hard to locate. All measurements made under load

conditions. Requires no adjusting of bridge circuit or balancing controls. Indicates leakage in ohms. Checks for short, open or intermittent in bypass, coupling and blocking capacitors. Detects leaks in wiring, transformers, etc. Large, easy-to-read  $4\frac{1}{2}$ " meter. Portable case,  $8\frac{3}{8} \times 11\frac{3}{8} \times 8\frac{1}{2}$ ". With leads. For 105-125 volts, 60 cycle AC. Shpg. wt., 12 lbs.  
69 FX 630.....89.95

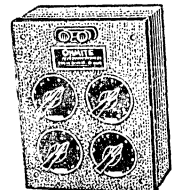


## OHMITE DETERMOHM RESISTANCE BOXES

Compact, sturdy resistance boxes for servicing, engineering, experimental work and schools. Excellent for trouble-shooting using the substitution method. Individual resistance elements consist of wirewound types selected by 4 tap switches. Tolerance,  $\pm 5\%$ . May be connected directly in circuits not causing unit to dissipate more than 1 watt per switch tap. 3rd and 4th decades of type 3404 contain 1-watt "Little Devil" composition resistors. Gray wrinkle-finish metal case,  $8\frac{1}{8} \times 6\frac{3}{8} \times 3\frac{1}{4}$ ". Wt.,  $3\frac{1}{2}$  lbs.

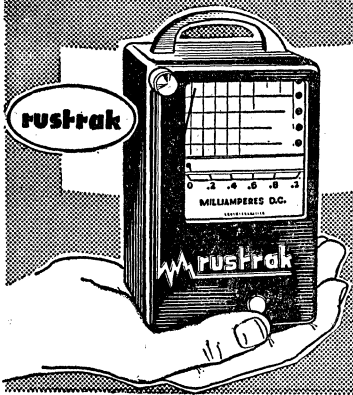
- For Servicing and Experimental Work
- Quickly Selects Desired Resistance

Stock No.	Mfr's Type	Range Ohms	EACH
65 F 252	3404	1000-9,999,000	48.75
65 F 256	3401	100-999,900	
65 F 257	3402	10-99,990	
65 F 258	3403	1-9,999	





# Rustrak Miniature Automatic Chart Recorders



## LABORATORY-GRADE CHART RECORDERS

Professional chart-recorders for laboratory or industrial applications. Provide a continuous, distortion-free, rectilinear recording. Utilize pressure-sensitive paper that provides a smooth, high-resolution line with no need for ink or heated stylus—may be used from sub-zero temperatures to 160° F; from sea level to altitudes of 100,000 feet, and under high-humidity conditions.

Basic Recorder  
As low as  
**\$79.50**

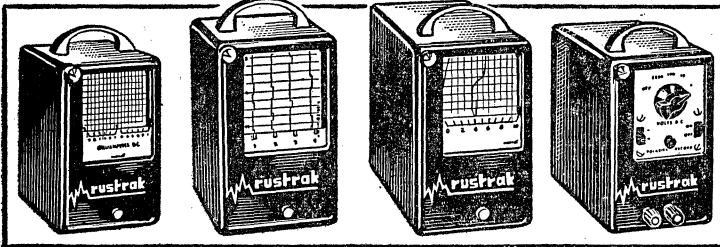
- Rugged Aluminum Case
- Eliminates Need for Monitoring

Chopper-bar clamps pointer briefly (except for event recorders). Information with a duration of as little as 20 milliseconds is clearly available on the chart. Standard units are provided with a synchronous motor that operates from 115 volts, 60 cycle AC for a chart speed of 1" per hour, 31 days continuous recording per chart roll. Accuracy is 2% of full scale (1% on Special Order) for DC units, 3% of full scale for AC units between 40 and 10,000 cps. Response time, 1 second, max. All units have portable and panel-mounting hardware. Other speeds are available by use of interchangeable gear trains—see listings under **RECORDER ACCESSORIES** at the bottom of this page. Size, unless otherwise specified is 5 $\frac{1}{2}$  x 3 $\frac{1}{4}$  x 4 $\frac{1}{8}$ ". Shpg. wt., 5 lbs.

### SINGLE-CHANNEL RECORDERS AVAILABLE IN TYPES BELOW

RANGE	GLASS FRONT		ACCESS WINDOW	
	Stock No.	EACH	Stock No.	EACH
<b>DC MILLIAMMETER RECORDERS</b>				
0-1 ma	69 F 314	79.50	69 F 319	84.50
.5-0-.5 ma	69 F 321	84.50	69 F 732	89.50
0-5 ma	69 F 307	84.00	69 F 733	89.00
0-10 ma	69 F 308	84.00	69 F 310	89.00
0-50 ma	69 F 312	84.00	69 F 734	89.00
0-100 ma	69 F 313	84.00	69 F 292	89.00
<b>DC AMMETER RECORDERS</b>				
0-1 amp	69 F 293	84.00	69 F 294	89.00
0-5 amps	69 F 295	86.00	69 F 735	91.00
<b>DC MILLIVOLTMETER RECORDERS</b>				
0-100 mv	69 F 296	81.00	69 F 736	86.00
0-10 mv	69 F 740	84.50	69 F 737	99.50
<b>DC MICROAMMETER RECORDERS</b>				
0-50 $\mu$ a	65 F 182	98.50	69 F 738	103.50
0-100 $\mu$ a	69 F 270	91.50	69 F 271	96.50
0-200 $\mu$ a	69 F 301	89.50	69 F 739	94.50

RANGE	GLASS FRONT		ACCESS WINDOW	
	Stock No.	EACH	Stock No.	EACH
<b>DC VOLTMETER RECORDERS</b>				
0-15 v.	69 F 297	84.00	69 F 743	89.00
0-30 v.	65 F 183	84.00	69 F 744	89.00
0-50 v.	65 F 184	84.00	69 F 745	89.00
0-150 v.	69 F 298	85.00	69 F 299	90.00
0-500 v.	69 F 300	88.00	69 F 746	93.00
<b>AC VOLTMETER RECORDERS</b>				
0-150 v.	69 F 323	89.95	69 F 272	94.95
70-135 v.	69 F 269	94.95	69 F 273	99.95
70-135/140-270/and 280-540 v.	69 F 274	104.95	69 F 275	109.95
<b>AC AMMETER RECORDERS</b>				
0-5 amps	69 F 750	105.00	69 F 747	110.00
0-200 amps w/clamp-on transducer	69 F 751	132.50	69 F 748	137.50
0-500 amps w/clamp-on transducer	69 F 752	132.50	69 F 749	137.50



Dual-Channel Recorder

4-Channel Event Recorder

Temperature Recorders

Amplifier

**DUAL-CHANNEL RECORDERS.** Same as recorders above, but have two galvanometers for simultaneous readings.

Stock No.	Description	EACH
65 F 166	0-1 ma DC; 0-1 ma DC	124.50
65 F 167	0-100 $\mu$ a DC; 0-100 $\mu$ a DC	144.50
65 F 168	0-5A, AC; 100-140 v., AC	149.50
65 F 169	0-5A, AC; 100-140, 200-280, 400-560 v., AC	159.50

**4-CHANNEL EVENT RECORDER.** Monitors and records up to 4 ON-OFF operations. Require 24 v., DC to actuate each input. Less amplifier below.  
65 F 170 ..... 88.00

**POWER SUPPLY.** Supplies 24 v., DC for actuating 4 circuits.  
65 F 171 ..... 10.50

**AMPLIFIER.** For actuating by magnetic, load change, voice, etc.  
69 F 753 ..... 79.50

**TEMPERATURE RECORDERS.** Self-contained temperature recording instruments—produce an accurate, high-resolution trace. Four different probe styles available—may be interchanged without recalibration of the instrument. Model 144, intended for high-temperature applications, has wafer-probe included. All have standard chart-speed of 1" per hour. For 105-130 v., 60 cycle AC. Other chart speeds, temperature spans, units with controller features, battery operation are available—*inquire for details.*

Stock No.	Description	EACH
65 F 172	Model 133, 30° to 80° F	170.00
65 F 173	Model 133, 90° to 115° F	170.00
65 F 165	Model 144, 0° to 300° F	180.00
65 F 163	Model 144, 0° to 500° F	180.00
65 F 174	Oral-rectal probe	13.50
65 F 175	Utility probe	21.00
65 F 176	Extended disc probe	25.50
65 F 177	Flexible disc probe	21.00

### DC AMPLIFIERS AND MULTI-RANGERS

For recorders on this page. DC amplifiers isolate recorder from signal-source with a minimum of loading—extend sensitivity. Multi-Rangers consist of multipliers and shunts with a selector switch—produce extra ranges when used with standard 1-ma recorder. Amplifiers require 110-125 volts, 50-60 cycle AC.

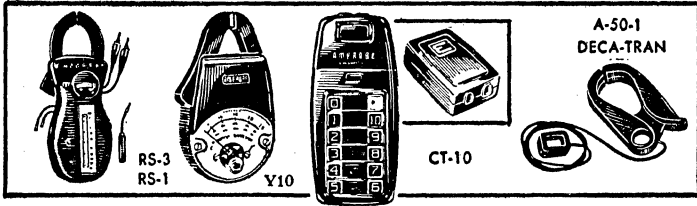
Stock No.	Description	EACH
65 F 180	Model 110; 0-1-10-100-1000 v., DC; input res., 10 meg	89.50
65 F 181	Model 98; 0-10-100-500-mv., 1-10 v., DC or 0-1-10 $\mu$ a	109.50
65 F 158	Model 114; input res., 100 K; sens., 9 mv variable	110.00
65 F 178	111-A Multi-Ranger, increases range of 1 ma recorder, 0-1-5-10-50-100-500-1000 v./ma	44.50
65 F 179	111-B; as above, but 0-3-15-30-75-150-300-750 v./ma	44.50

### RECORDER ACCESSORIES

Stock No.	Description	EACH
69 FF 325	Extra gear trains. In. per hr.; 1/4, 1/2, 1, 2, 3, 6, 10, 12, 15, 30, 60. Specify speed.	5.00
69 F 326	63" chart paper rolls, Style A 50 divisions	
69 F 327	Style B, 75 divisions	
69 F 279	Style C, 65 divisions	2.25
65 F 185	Style D, 20 div. (dual chan.)	
65 F 186	Style E, 1 div. (event rec.)	
65 F 149	Style F, 15 div. (event rec.)	
69 F 276	2-unit rack mtg. panel	
69 F 277	3-unit rack mtg. panel	15.00
69 F 278	4-unit rack mtg. panel	



# Testers, Chart Recorders from AMPROBE



## SNAP-AROUND VOLTAGE/CURRENT TESTERS

**MODEL RS-3.** Multi-range, snap-around volt-amp-ohmmeter. Insulated jaws clamp around conductor (up to 1 1/16" dia.) for current. Test leads plug-in for voltage and resistance checks. Magnified, unbreakable meter window. Rotary scales. Reads 0-150-300-600 v., AC; 0-5-15-40-100-300 amps. AC; 25 ohms mid-scale. Accurate  $\pm 3\%$ , full scale. With leather case, leads. 7 3/16 x 2 5/8 x 1 1/2". Wt., 2 lbs.  
69 F 268 ..... **52.50**

**MODEL RS-1.** Reads 0-5-15-40-100 amps; AC; 0-150-600 v., AC. No resistance range. Size as above. With leads and case. 2 lbs.  
69 F 243 ..... **39.95**

**MODEL CT-10 CABLE TRACER.** Traces conductor in cable and conduit—up to 10 circuits at once. Receptacles take up to #10 wire—clips for larger sizes. With 10 station-markers, 2 holders, case, clips. Uses 1.5-v. mercury battery (not incl.). 7 x 5 1/2 x 2 1/2". 2 lbs.  
65 F 208 ..... **39.50**

## AMPROBE JUNIOR

Snap-around volt-amp testers. 3% accuracy of full scale. 1/2" conductor capacity. Voltage range; 0-125-250, except \*0-150-600. With leads, less case, 1 lb.

Stock No.	Model	Amps	EACH
69 F 088	Y10	0-10	<b>19.85</b>
69 F 089	Y25	0-25	
69 F 091	Y50	0-50	
69 F 092	Y100	0-100	<b>19.85</b>
69 F 167	Y525*	0-25	
69 F 168	Y530*	0-50	
69 F 169	Y500*	0-100	

69 F 105 Case for above ..... **2.85**

**MODEL A-50-1, DECA-TRAN.** For all Amprobes. Extends amperage range 10 times. With 2-ft. line cord and carrying case. Wt., 1 lb.  
65 F 207 ..... **27.50**

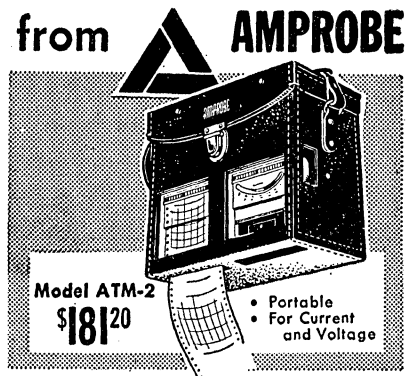
**MODEL A-45 ENERGIZER.** For all Amprobes. Increases sensitivity 5X or 10X for current measurements. Use as direct reading device at receptacles. 1 lb.  
65-E 267 ..... **5.00**

**MODEL TM-33.** Consists of Amprobe RS-3, Deca-TRAN, and Energizer in carry-all case. 11 x 8 1/2 x 3". Wt., 3 lbs.  
65 F 200 ..... **84.50**

## AMPROBE JR. TEST MASTER KITS

Consist of a YO Amprobe Jr., A-45 Energizer, and a specially designed leather carrying case. Measure voltage, current, and resistance instantly and accurately on calibrated scale (not just an indication). The Energizer increases the versatility of the instrument by increasing the sensitivity 5 or 10 times for precise readings on fractional horsepower motors and appliances. 4 3/4 x 2 1/2 x 1 3/8". 1 1/2 lbs. Voltage range; 0-150/600, except \*0-125/250.

Stock No.	Model	Amps	EACH
65 F 201	TM-YO-525	0-2.5-25	<b>32.85</b>
65 F 202	TM-YO-550	0-5-50	
65 F 203	TM-YO-500	0-10-100	
65 F 204	TM-YO-25*	0-2.5-25	
65 F 205	TM-YO-50*	0-5-50	
65 F 206	TM-YO-100*	0-10-100	



Model ATM-2  
**\$181.20**

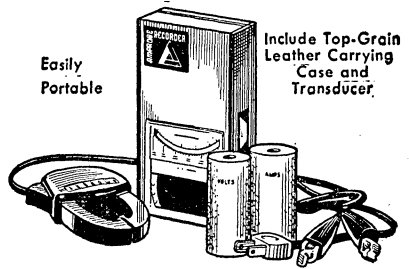
- Portable
- For Current and Voltage

## VOLTAGE/CURRENT RECORDER SET

- Two Top-Quality Recorders in One Package
- Compute Power Demand at Any Given Moment

Record both amperage and voltage simultaneously with this convenient, portable recorder. Two of the most frequently-used recorders packaged together in one compact case. Consists of a Model AV1X 12" per hour recording voltmeter; a Model AA-2 12" per hour recording ammeter; and one Model M top grain cowhide carrying case. You'll find this combination a real helpmate—use the two recorders independently, simultaneously, or at 2 locations. For 115 v., 60 cycle AC. 3 lbs.  
65 F 255 ..... **181.20**

## VOLTAGE AND CURRENT RECORDERS-INDICATORS



Easily Portable

Include Top-Grain Leather Carrying Case and Transducer.

- Simple Paper Loading—Positive Paper Feed
- Record and Indicate Voltage and Amperage
- Contemporary Styling • Rugged Construction
- Use Inkless Stylus • Easily Portable

Dual-scaled for maximum versatility—you get four instruments in one. Can be used as standard indicating voltmeters, standard indicating ammeters, recording voltmeters, or recording ammeters. Features simple paper-loading—no rollers or drums to thread; has inkless stylus for smudgeless operation—uses pressure-sensitive paper. Now you can monitor line-voltage, check motor-loading, machine-cycling or operating time, and balance circuits on a 24-hour basis. Has chart speed of 12" per hour for 30 hours on one roll of paper. Accuracy: 1 division, with 60-cycle sine wave input. Supplied with snap-around current transducer, and top grain cowhide carrying case. Only 5 3/4 x 3 1/2 x 1 1/4". Shpg. wt., 3 lbs.

Stock No.	Mfr's Type	Range (AC)		EACH
		Volts	Amps	
65 F 253	AVA-1	95-130, 190-260	0-10-50, 250-500	<b>134.85</b>
65 F 254	AVA-2	95-130, 190-260	0-5-25, 100-250	<b>129.85</b>

## CHART RECORDERS AND ACCESSORIES

Provides permanent records of any variable that can be converted into an electrical signal—voltage, current, temperature, flow, pressure, etc. Inkless stylus uses pressure-sensitive paper. Speed; 12" per hour for 30 hours on one roll of paper. Accuracy: DC,  $\pm 2\%$  full scale; AC,  $\pm 3\%$  full scale; AC expanded scale instruments, "L" in Type No. indicates unit is complete with leather case. \*With resistance-bulb thermometer. Less thermocouples. For 115 volts, 60 cycle AC. All units are 5 3/4 x 3 1/2 x 1 1/4". Shpg. wt., 3 lbs.

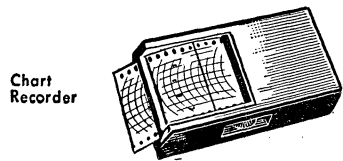


Chart Recorder



Provides Permanent records

Stock No.	Mfr's Type	Description	Range	EACH
65 F 421	LDC-8100	Microammeter	0-100 $\mu$ a	<b>79.85</b>
65 F 422	LDC-8500	Microammeter	0-500 $\mu$ a	<b>74.85</b>
65 F 423	LDB-81	Millimeter	0-1 ma DC	<b>74.85</b>
65 F 212	AA-1	Ammeter (with A-70)	0-10-50-250-500 amps DC	<b>94.85</b>
65 F 213	AA-2	Ammeter (with A-60)	0-5-25-100-250 amps AC	<b>89.85</b>
65 F 214	AV-1X	Expanded scale VM	95-130/190-260 v., AC	<b>84.85</b>
65 F 217	T-100	Temperature Recorder	-50/100°; 50/250° F	<b>98.85</b>
65 F 218	P-600*	Pyrometer	0°-600°	<b>79.85</b>
65 F 219	L	Case for 1 recorder		<b>4.50</b>
65 F 220	M	Case for 2 recorders		<b>6.50</b>

65 F 221. A-60 Current Transducer. Snap-around with 6-ft cord. For use with AA-2 Recorder. 1 lb. .... **14.50**

65 F 222. As above, but AA-1 recorder. Wt., 1 lb. .... **24.75**

65 F 223. Model 501DC. Box of six strip charts. Perforated and printed 2-color. 50 divisions for DC variable. .2" spacing between lines. Wt., 1 lb. .... **9.00**

65 F 224. Model 5012AA2. Box of 6 charts for use with the AA-2. 1 lb. .... **9.00**

65 F 225. Model RCV12HX. Charts for expanded scale AV-1X. 1 lb. .... **9.00**

65 F 228. Model NP-1. Blank charts, perforated, no printing. 1 lb. .... **9.00**

65 F 230. Model BL-12. Charts with time line only. 0.2" spacing. 1 lb. .... **9.00**

## ATTENTION INDUSTRIAL BUYERS

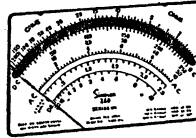
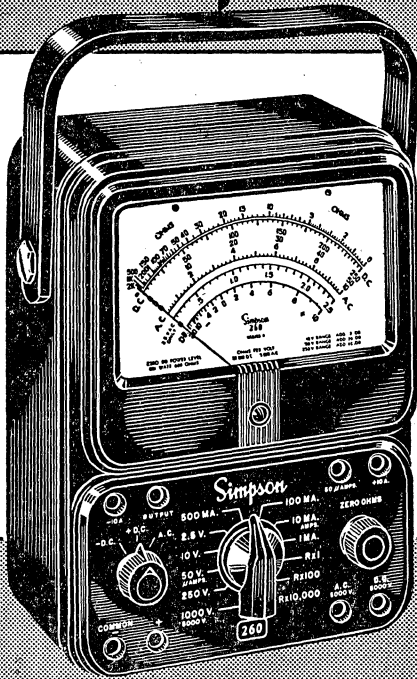
Write, wire or phone us for prompt price quotations. Allied maintains the most complete stock of electronic components in the world and can supply you with any component in industrial quantities.

# Simpson

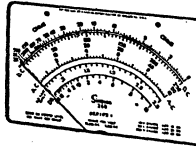
## FAMOUS 260 AND 270 AC-DC VOLT-OHM-MILLIAMMETERS

260 Now Available With Mirror Scale

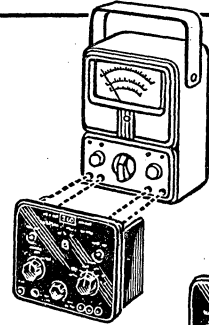
"ADD-A-TESTERS"



WITH MIRROR SCALE

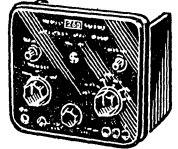


WITH STANDARD 260 SCALE



Just Plug In Adapter for Complete Unit

Self-Powered and Self-Contained



Convert Your VOM Into 8 New Testers!

### HIGHLY VERSATILE PLUG-IN "ADD-A-TESTERS"

For any 260, 270 made since 1947. 4 3/8 x 5 1/16 x 3 7/16". Av. wt., 2 lbs.

- 69 F 334. 650 Transistor Tester. Ico range, 0-100  $\mu$ a. .... 26.95
- 69 F 336. 651 DC VTVM. 0-.5, 1.0, 2.5, 10, 25, 50, 100, 250, 500 v. ranges. Impedance, 10 megohms. .... 32.95
- 69 F 337. 652 Temp. Tester. -50 to +250°F in 2 ranges. .... 38.95
- 69 F 338. 653 Ammeter. 0.25, 1, 2.5, 12.5, 25a; 50-3 kc. .... 18.95
- 69 F 339. 654 Audio Wattmeter, 17 microwatts to 100 watts. Load ranges, 4, 8, 16 and 600 ohms. .... 18.95
- 69 F 340. 655  $\mu$ v Attenuator, 2.5-250,000  $\mu$ v decade steps. .... 18.95
- 69 F 342. 656 Battery Tester. .... 19.95

### ACCESSORIES FOR SIMPSON METERS

- 69 F 210. Type 0508 High-Voltage DC Probe, 25-kv range. For models 260-3, and 270. Shpg. wt., 1/2 lb. .... 11.50
- 69 F 202. Type 0509 High-Voltage DC Probe, 50-kv range. For models 260-3, and 270. Shpg. wt., 1/2 lb. .... 12.50
- 69 F 196. Type 8375 Leads. Alligator clips, "L" terminals. For models 230, 240, 260-2, and 372. Shpg. wt., 1/2 lb. .... 1.75
- 69 F 203. Type 7500 Leads. Banana plugs, alligator clip. For model 260-3. Shpg. wt., 1 lb. .... 2.10
- 69 F 151. Type 4236 Ever-Redy Leather Carrying Case. For models 260, 270 and 303; Shpg. wt., 2 lbs. .... 9.75
- 69 F 162. Type 1818 Carrying Case. As above, but standard leather. For models 260 and 270. Shpg. wt., 2 lbs. .... 8.50
- 69 F 344. Type 402 Adapter Case. Includes latching case, plus parts for 50-microamp range. For model 260-2. 1 1/2 lbs. .... 3.95

Model 260—Series 4. Features: 2-color scale; 5000 ohms/v. AC, 20,000 ohms/v. DC sensitivity; polarity switch; full-wave bridge rectifier; response to 50 kc. Ranges: DC mv, 0-250; AC, DC v., 0-2.5-10-50-250-1000-5000; AF output v., 0-2.5-10-50-250; DC  $\mu$ a, 0-50; DC ma, 0-10-100-500; DC amps, 0-10; Res., 0-20 megs, 3 ranges; db, -20 to +50, 4 ranges. Accuracy: 2%, DC; 3%, AC. 7x5 1/4 x 3 1/4". With batteries, leads, 5 lbs.

69 F 199. .... 48.95

69 F 200, 260RT. As above, but in roll-top case. 9x6 3/8 x 4 3/4". Shpg. wt., 9 lbs. .... 54.95

69 F 285. 260—Series 4M. With mirror scale. 6 1/2 lbs. .... 50.95

69 F 286. 260RT-4M. With mirror scale and roll-top case. Size, 9x6 3/8 x 4 3/4". Shpg. wt., 9 lbs. .... 56.95

Model 270. Has 260—Series 4M features, plus knife-edge pointer, higher stability, 1 1/2% accuracy. 3 1/2 lbs.

69 F 209. .... 64.95

69 F 228, 270RT. As above, but in roll-top case. Size, 9x6 3/8 x 4 3/4". Shpg. wt., 9 lbs. .... 70.95

### MODEL 269 MICRO-AMMETER VOM

Battery-operated 100,000 ohms-per-volt multimeter. Shielded meter movement incorporates spring-back jewels, has large 7" scale. Offers 33 ranges: DC, 0-16-160  $\mu$ a; 0-1.6-16-160 ma; 0-1.6-16 amps. DC v., 0-1.6-8-40-160-400-1600-4000; AC v., 0-3-8-40-160. Ohms, 0-2K-20K-200K; Megs, 0-2-20-200. AF v., 0-3-8-40-160; db (1 mw-600 ohms), -12 to +45.5 db in four ranges. Accuracies: DC v.,  $\pm$ 3% of full scale; AC v.,  $\pm$ 5% of full scale; DC resistance,  $\pm$ 3% of arc length. Frequency response: essentially flat through 50 kc. Size, 6x8x3". Exclusive "Adjust-A-Vue" handle. With test leads, 4000-v. DC probe, batteries and operator's manual. Wt., 6 lbs.

69 F 153. .... 89.95

Model 262. As above, but 20,000 ohms/volt DC, 5000 ohms/volt AC. 6 lbs.

69 F 154. .... 69.95

### HIGH-VOLTAGE PROBES

Probes extend the range of VOM Models 269 and 262 (at left) to 16,000 and 40,000 volts. Average shpg. wt., 2 lbs.

69 F 289. Model 0173. Extends the range of model 269 to 16,000 volts. .... 11.95

69 F 158. Model 0181. Extends the range of model 269 to 40,000 volts. .... 13.50

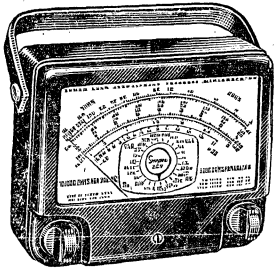
65 F 290. Model 0172. Extends the range of model 262 to 16,000 volts. .... 11.95

69 F 351. Model 0180. Extends the range of model 262 to 40,000 volts. .... 12.50

### MODEL 5262 CARRYING CASE

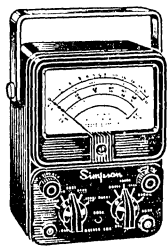
"Ever-Redy" vinyl case for models 269 and 262 (at left); also for models 388, 388-3L, and 389-3L on facing page. Protect your instruments while in storage or transport. 7x8x4". Shpg. wt., 2 lbs.

69 F 155. .... 9.95

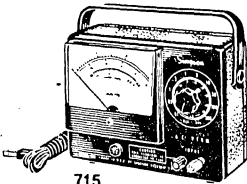


Spring-back jewels eliminate shock and vibration damage to meter pivots, 100,000 ohms/volt sensitivity—higher input impedance than many VTVM's on higher DC volt ranges.

# Industrial-Test Instruments by Simpson

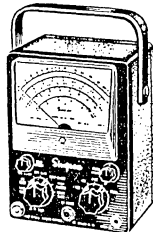


303

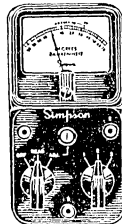


715

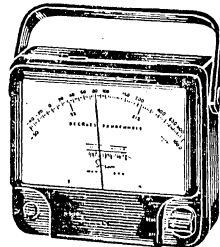
Accuracy:  
± 3% DC Scales  
± 5% AC Scales



311



385-3L



388-3L

## VACUUM-TUBE VOLT-OHMMETERS

### MODEL 303 AC-DC VTVM

Features low current-consumption, wide voltage and resistance ranges, and high accuracy. Ranges: AC/DC v., 0-1.2-12-60-300-1200; AC v., 0-1.2-12-160, flat to 100 kc; resistance, 0-1000-100,000 ohms and 0-1-10-1000 megs; db, -20 to +63 in 5 ranges; AF output v., 0-1.2-12-60. Accuracies: DC volts, ±3% of full scale; AC volts, ±5% of full scale. DC resistance, 3° of linear arc. 4½" dial. Bakelite case, 7x5¼x3½". DC, AC ohms probes, ground lead. For 110-120 v., 60 cycle AC. Shpg. wt., 6½ lbs.

69 F 148.....**73.95**  
69 F 152, 303RT. Above, in roll-top case. Wt., 8 lbs.....82.95  
69 F 149, 0074 High-V. Probe, Extends DC to 30 kv. 1 lb.....11.95  
69 F 150, 0073 RF Probe, Measures RF volts. Wt., 1 lb.....8.75

### MODEL 311 AC-DC VTVM

High DC input impedance, 22 megs. Direct readout of rms and p-p values. Ranges: AC/DC v., 0-1.5-5-15-50-150-500-1500. Resistance: 0-1K-10K-100K ohms; 0-1-10-100-1000 megs. AF v., 0-1.5-5-15-50-150-500-1500, ±5%, 30 cps-100 kc. P-P, 0-4-14-40-140-400-1400-4000 v. Accuracies: DC v., ±3% of full scale; AC v., ±5% of full scale. DC resistance, ±3° of linear arc. 4½" meter. DC-AC ohms probe, ground lead. Size, 7½x5½x4½". For 105-125 v., 50-60 cycle AC. Shpg. wt., 8 lbs.

69 F X 587.....**69.95**  
69 F 208, 0732 High-V. Probe, Extends DC to 30 kv. 1 lb.....11.75  
69 F 211, 0731 High-Frequency Probe, Shpg. wt., 1 lb.....11.50

### MODEL 715 AC VTVM

Sensitive, general-purpose unit. High input impedance (min. 1 meg at 1 kc), 10 voltage ranges and frequency response of 10 cps to 400 kc, ±1 db. Ranges: AC v. rms, 0-.01-.03-.1-.3-1-3-10-30-100-300; db, -52 to +52 dbm in 10 ranges. Special scale provides db markings on both voltage range positions and meter scale. 0 dbm, 1 mv in 600 ohms. Accuracy, ±5% of full scale. 1% resistors. Ideal for hi-fi and low level audio work. 5½x7½x3". With leads. For 105-125 v., 50-60 cycle AC. Shpg. wt., 5 lbs.

69 F 239.....**69.95**

## ACCURATE TEMPERATURE TESTERS

### MODEL 385-3L TEMPERATURE METER

Accurate readings from -50° to +70°F. Thermistor sensing element. Calibrated in Fahrenheit and Centigrade. Reads up to 15 ft. away with lead supplied. Accuracy, ±1°F, center scale. Accommodates 3 leads. This permits 2 or 3 readings (for quick comparison) merely by rotating a switch. 5½x3x2½". 2 lbs.

69 F 207.....**33.95**  
65 F 135, 0789 Free Air Temperature Probe, 1 lb.....7.45  
65 F 136, 0010 15-Ft. Thermistor Lead, ½ lb.....5.50  
65 F 137, 0216 30-Ft. Thermistor Lead, 1 lb.....6.45  
65 F 138, 0415 50-Ft. Thermistor Lead, 1½ lbs.....7.60  
65 F 139, 0416 100-Ft. Thermistor Lead, 3 lbs.....10.40  
65 F 140, 0417 150-Ft. Thermistor Lead, 4½ lbs.....12.90  
65 F 141, 0790 Surface-Temperature Probe, 1 lb.....5.95

### MODEL 388-3L THERM-O-METER

Takes accurate readings from -50° to +1000°F on 7" scale. Measures the temperature of practically anything. Can be used with gases, liquids and solids. Iron-constantan thermocouple. Compensation circuit corrects for room temperature. Has 7½-ft. probe (Type 0190). Provision for 3 probes. Permits readings in 3 different areas by rotating switch. Accuracy, ±1½ scale divisions. Size, 6x7½x2½". With battery. Shpg. wt., 6 lbs.

69 F 159.....**67.95**  
69 F 156, Model 388, Same as above, but has provision for one probe only. Shpg. wt., 6 lbs.....62.95

Model 389-3L Temperature Meter. Similar to 388-3L, but has dual ranges for measuring temperatures between -50°F and +100°F, and between +100°F and +250°F. Accuracy, ±2°F. Employs thermistor principle. Shpg. wt., 6 lbs.

69 F 201.....**62.95**  
69 F 160, 0187 Surface-Temperature Probe, Wt., 1 lb.....8.90  
69 F 161, 0190 General-Purpose Probe, Shpg. wt., 1 lb.....4.95

## COMPACT METERS

69 F 166, 372 Ohmmeter, 3", 85-µa meter. Ranges: 0-500-5000-50,000-500,000 ohms; 0-5, 0-50 meg. Batteries, leads. Accuracy, ±3° of linear arc. Length. Shpg. wt. 3½ lbs.....**29.95**

69 F 197, 362 Low Ohmmeter, Reads 0-1-15-25 ohms. Accuracy, ±3° of linear arc. Leads. Shpg. wt., 3 lbs.....**24.95**

69 F 204, 373 DC Milliammeter, 0-1-5-10-25-50-100-250-1000 ma. Accuracy, ±3% of full scale. 3 lbs.....**21.95**

69 F 205, 374 DC Microammeter, 0-50-100-250-500-1000 µa. With external resistors, can be used as 20K ohms/v. voltmeter. Accuracy, ±3% of full scale. 3 lbs.....**24.95**

69 F 206, 375 DC Ammeter, 0-1-2.5-5-10-25 amps. Accuracy, ±3% of full scale. 3 lbs.....**21.95**

69 F 165, 370 AC Ammeter, Ranges: 0-1-2.5-5-10-25 amperes. Current transformer, 3" meter. Less leads. For 60 cycle AC only. Accuracy, ±5% of full scale. Wt., 3 lbs.....**22.95**

355 VOM Midgetester, Miniature VOM with 10K ohms/volt AC-DC sensitivity. 100-µa meter. Ranges: AC-DC v., 0-3-12-60-300-1200; 0-10K-100K ohms, 0-1-10 megs. Essentially flat to 10 kc. Accuracy: DC v., ±3% full scale; AC v., ±5%. Only 4½x2¼x1". With batteries, leads. Shpg. wt., 2 lbs.

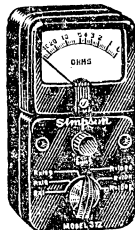
69 F C 254.....**34.95**  
69 F 157, Leather Case, 8 oz.....3.95  
69 F 198, Extra Leads. Wt., 6 oz.....1.85

240 "Hammer" VOM, 1000 ohms/volt AC-DC. DC v., 0-15-75-300-750-3000; AC v., 0-15-150-750-3000. Ohms: 0-3000-300,000. DC ma, 0-15-150-750. Accuracy: DC v., ±3%; AC v., ±5%. Battery, leads. Shpg. wt., 3 lbs.

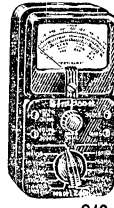
69 F 163.....**31.95**

390 Volt-Amp-Wattmeter, For 60-cycle AC units. Ranges: AC v., 0-150-300; amps, 0-3-15; watts, 0-300-600-1500-3000. Accuracy, ±5% full scale, or better. 3" meter. Break-in plug, leads. Shpg. wt., 4 lbs.

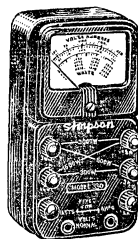
69 F 164.....**48.95**



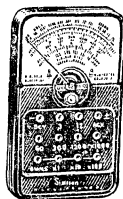
372



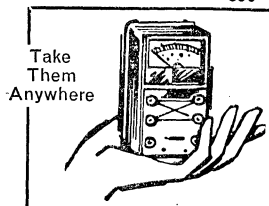
240

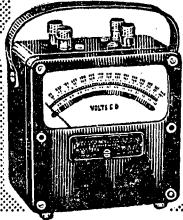


390

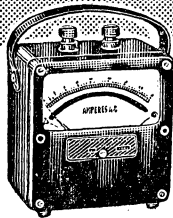


355



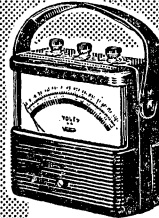


931

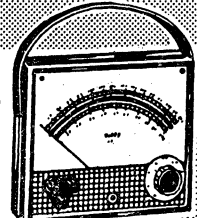


432  
433

Accuracies from 1/4% to 1%!



901  
904



911  
912

### 931 SERIES

• Accuracy  $\pm 1/2\%$  • 4.04" Mirror Scale  
MATCHED DC VOLTMETERS, AMMETERS, MILLIAMMETERS, MICROAMMETERS. Matched portable instruments of very high accuracy for industrial DC testing . . . within  $1/2$  of 1%. Moderately priced and designed for the requirements of most industrial test situations. For highest readability all instruments have knife-edge pointers and long, 4.04" mirror scale to eliminate parallax reading error.

Movement is the self shielded permanent magnet moving coil type—unaffected by stray fields. Available in DC voltmeters, ammeters, milliammeters and microammeters. Less leads (takes any type). Size,  $5\frac{1}{2} \times 5 \times 3\frac{1}{2}$ ". Average shipping weight, 4 lbs.

#### DC VOLTMETERS

Stock No.	Ranges DC Volts	Ohms/Volt	EACH
65 F 151	0-150-300-750	5000	112.75
65 F 150	0-3-15-150	5000	
65 F 357	0-7.5-30-75	5000	
65 F 362	0-3-7.5-30	5000	
65 F 360	0-150-300-750	1000	
65 F 359	0-3-15-150	1000	101.25
65 F 361	0-7.5-30-75	1000	
65 F 358	0-3-7.5-30	1000	

#### DC AMMETERS

Stock No.	Ranges DC Amps	EACH
65 F 152	0-5-20-50	101.50
65 F 366	0-2.5-10-25	
65 F 365	0-1.5-3-15	
65 F 364	0-0.1-1-10	
65 F 363	0-0.05-0.5-5	

#### DC MILLIAMMETERS

Stock No.	Ranges DC Milliamps	EACH
65 F 368	0-30-300-3000	98.75
65 F 367	0-0.03-0.3-3	110.50

#### DC MICROAMMETER

65 F 369. Range: 0-200 microamps. Resistance, 600 ohms. . . . .94.00

### 432 SERIES—DC OR SINGLE-PHASE AC WATTMETERS

• Accuracy  $\pm 1/2\%$  • 4.04" Mirror Scale • Electrodynamic Meter Type

Highly accurate instruments for measuring DC or AC wattage. AC coverage from 25 to 125 cycles with power factors above 50%. Each unit has two ranges selected by binding posts and each range may be doubled.

Power consumption: potential circuit @ 115 v., 60 cycles—1.2 watts, 1.2 volt-amperes. Current circuit @ 5 amps, 60 cycles—0.65 watts, 0.68 volt-amperes. Size:  $7\frac{1}{4} \times 5 \times 5\frac{1}{4}$ ". Av. shpg. wt.,  $4\frac{1}{2}$  lbs.

Stock No.	Volts*		Amperes*		Watts		Scale Div.	EACH
	Normal	Max.	Normal	Max.	High Range	Low Range		
65 F 384	150/	200/	1/	1.5/	0-75-150		75	192.55
	75	100	.5	0.75				
65 F 385	200/	260/	5/	7.5/	0-500-1000	0-37.5-75	100	192.55
	100	130	2.5	3.75				
65 F 386	300/	400/	5/	7.5/	0-750-1500	0-250-500	75	192.55
	150	200	2.5	3.75				
65 F 387	300/	400/	10/	15/	0-1.5-3.0†	0-37.5-750	75	192.55
	150	200	5	7.5				

\*High range/low range. †Kilowatts.

### 433 SERIES

• Accuracy  $\pm 3/4\%$  • 4.04" Mirror Scale  
MATCHED AC VOLTMETERS, AMMETERS, MILLIAMMETERS. Exceptionally accurate instruments for industrial testing. Movable vane type mechanism offers precision readings at moderate cost. Knife edge pointer for accurate readings and mirror scale to eliminate parallax. Binding post terminals accept any type of leads (not supplied). Size,  $5\frac{1}{4} \times 5 \times 3\frac{1}{4}$ ". Average shipping wt., 4 lbs.

#### AC VOLTMETERS

Stock No.	Ranges AC Volts	Frequency Response Cps	EACH
65 F 154	0-150-300-600	25-125	112.25
65 F 370	0-75-150	25-125	95.75
65 F 371	0-30-60	25-125	95.75
65 F 372	0-10-20	25-125	95.75
65 F 373	0-5-10	25-125	95.75
65 F 374	0-150-300-600	25-1000	125.50
65 F 375	0-75-150	25-1000	109.00
65 F 376	0-30-60	25-1000	109.00
65 F 377	0-10-20	25-1000	109.00

#### AC AMMETERS

Stock No.	Ranges AC Amps	Frequency Response Cps	EACH
65 F 155	0-5-20-50	25-500	140.25
65 F 378	0-3-7.5-30	25-500	140.25
65 F 379	0-1.5-7.5-15	25-500	140.25
65 F 380	0-1-5-10	25-500	140.25
65 F 381	0-5-10	25-500	102.25
65 F 382	0-5-20-50	25-1000	145.25
65 F 383	0-1-2.5-5	25-1000	145.25

#### AC MILLIAMMETER

Stock No.	Ranges AC Ma.	Frequency Response Cps	EACH
65 F 424	0-50-100	25-1000	105.25
65 F 425	0-250-500	25-1000	

### 911 SERIES

• Mirrored Scale • Self Shielded

DC VOLTMETER. Converts to panel or switch-board mounting without adapters. Has:  $7\frac{1}{2}$ " mirrored scale; self-shielded mechanism; metal-film resistors. 0-1-3-10-30-100 v.,  $\pm 1\%$ ; 0-300-1000 v.,  $\pm 2\%$ . Sensitivity, 20,000 ohms/volt. Supplied less leads. With panel-conversion hardware.  $7\frac{1}{2} \times 6\frac{1}{2} \times 2\frac{3}{4}$ ". Av. shpg. wt., 6 lbs. . . . .68.50

69 F 509. DC Ammeter. Amps, 0-1-3-10; ma, 0-10-30-100-300.  $\pm 1\%$ . Physically same as above. . . . .68.50

69 F 510. DC Milliammeter, 0-0.1-0.3-1-3-10-30-100 ma.  $\pm 1\%$ . . . . .68.50

### 912 SERIES

• Mirrored Scale •  $\pm 2\%$  Accuracy

AC VOLTMETER. Matches 911 series DC meters above. Converts to panel or switch-board mounting without adapters.  $7\frac{1}{2}$ " mirror scale; shielded movement; metal film resistors. Ranges: 0-3-10-30-100-300-1000 v.,  $\pm 2\%$ ; 1 KV and 3 v. @  $\pm 3\%$ . Sensitivity, 5000 ohms/volt. Size,  $7\frac{1}{2} \times 6\frac{1}{2} \times 2\frac{3}{4}$ ". Shpg. wt., 6 lbs. . . . .78.50

69 F 511. . . . .78.50

65 F 388. AC Ammeter. Similar to above. Ranges: 0-0.05-0.1-0.2-0.5-1-2-5 AC amps. Accuracy  $\pm 2\%$  all ranges, 60-400 cycles Transformer-rectifier type. . . . .78.50

### 901 SERIES

• Accuracy  $\pm 1/4\%$  •  $5\frac{1}{2}$ " Mirror Scale

DC AMMETER. For use where easy reading and high shielding are desired. Has  $5\frac{1}{2}$ " calibrated scale. Ranges: 0-2-5-20 amps and 50 mv movement.  $1/4\%$  accuracy. PM moving-coil design. Less leads,  $7\frac{1}{2} \times 7\frac{1}{4} \times 3\frac{3}{4}$ ". Shpg. wt.,  $5\frac{3}{4}$  lbs. . . . .162.25

65 FU 159. . . . .162.25

65 FU 160. DC Milliammeter. As above but with ranges 0-10-20-50-100-200-500-1000 ma. Max. res. 2.5 ohms. . . . .172.25

65 FU 389. DC Milliammeter. As above but 0-1-2-5-10-20-50-100 ma. . . . .172.25

65 FU 161. DC Voltmeter, 0-3-15-30-75-150-300-750 v. 5000 ohms/v. Same case and features as above. . . . .182.25

### 904 SERIES

• Accuracy  $\pm 1/2\%$  •  $5\frac{1}{2}$ " Mirror Scale

AC VOLTMETER. Offers high shielding and sufficient accuracy for checking other meters. Movable iron-vane type. 0-3-7.5-15-30-75-150-300-750 v. Response: 50-125 cps with  $1/2\%$  accuracy; 125-450 cps with 1% accuracy.  $5\frac{1}{2}$ " scale.  $7\frac{1}{2} \times 7\frac{1}{4} \times 3\frac{3}{4}$ ". Less leads. Wt.,  $5\frac{3}{4}$  lbs. . . . .247.50

65 FU 162. . . . .247.50

65 FU 198. AC Ammeter, 0-2-5-10-20-50-100-200 amps.  $1/2\%$  accuracy. Response: 50-450 cps. Same case as above. . . . .222.50

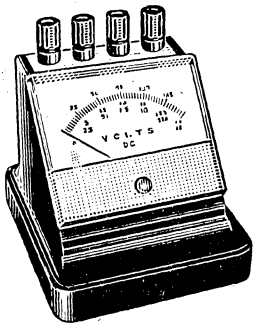
65 FU 390. AC Ammeter. As above but ranges 0-1-2-5-10-20-50 amps. . . . .215.50

65 FU 391. AC Milliammeter. As above but ranges 0-75-150 ma. . . . .176.50

65 FU 392. AC Milliammeter. As above but 0-150-300 ma, 25-1000 cps. . . . .191.50

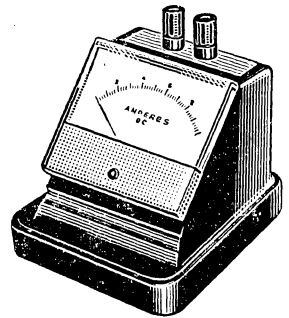
# Meters for Schools and Industry

## NEW WESTON "BENCH TESTERS"



- DC Voltmeters
- DC Millivoltmeters
- DC Galvanometers
- DC Ammeters
- AC Voltmeters

MODEL 2931, 2932 AND 2936 "BENCH TESTERS." Designed primarily for use in the laboratories of schools, colleges and industrial firms to measure electrical values. Accuracy on all meters is  $\pm 2\%$  of full scale. Multi-range model is illustrated at left . . . single range at right. Ranges on multi-range models are selected by connecting to the appropriate binding posts, which accept pin tips, spade lugs or banana plugs. Spring-backed jewels provide ruggedness with long term stability. Damping is designed for minimum response time.



### 2931 DC VOLTMETERS

#### SENSITIVITY 1000 OHMS/VOLT

Stock No.	Ranges—Volts DC	Scale Divisions	EACH
65 F 393	0-15	75	22.75
65 F 394	0-1.5-3-30	60	33.60
65 F 395	0-3-15-30	60	33.60
65 F 396	0-1.5-15-150	75	33.60

### DC AMMETERS

Stock No.	Ranges—Amps DC	Scale Divisions	EACH
65 F 398	0-3	60	22.75
65 F 399	0-15	75	22.75
65 F 400	0-1.5-3-30	60	49.85

### 2936 DC GALVANOMETERS

#### ZERO-CENTER NULL INDICATORS

Stock No.	Range—V DC	Scale	EACH
65 F 403	30-0-30	Standard— $2\mu\text{a}/\text{div}$ .	22.75
65 F 404	30-0-30	Linear— $1\mu\text{a}/\text{div}$ .	31.25
65 F 405	30-0-30	Logarithmic— $0.5\mu\text{a}/\text{div}$ .	35.75

### 2932 1000 OHMS/VOLT AC VOLTMETERS (RECTIFIER TYPE)

Stock No.	Ranges—Volts AC	Scale Divisions	EACH
65 F 402	0-30-150-300	60	37.50
65 F 401	0-3-15-150	75	

### 2931 DC MILLIVOLTMETER

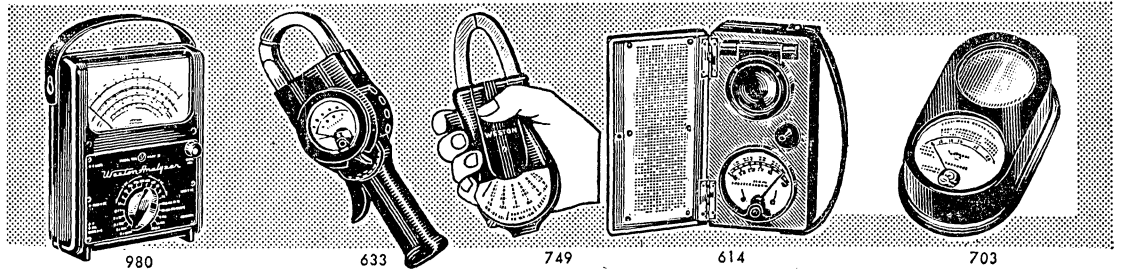
Range: 0-50 millivolts. Two scales of 50 and 75 are provided with divisions of 100 and 150, respectively. Use with external shunts and leads below to measure DC current.

65 F 397 . . . . . 22.75  
 65 F 406, No. 9858 Leads, 5-foot leads with resistance of 0.065 ohms to match DC Millivoltmeter . . . . . 1.50

### MODEL 9992—50 MV SHUNT

Converts DC Millivoltmeter into DC ammeter with ranges as shown.

Stock No.	Mfr's No.	Range—Amps DC	EACH
65 F 407	42261	0-1	10.25
65 F 408	42263	0-2	
65 F 409	42210	0-5	
65 F 410	41212	0-10	
65 F 411	41214	0-25	10.25
65 F 412	41218	0-50	
65 F 413	41223	0-100	
65 F 414	41226	0-150	



## POPULAR SERVICING AND MEASURING INSTRUMENTS

### MODEL 980 MARK II VOM

- Large 4.63" Meter Scale
- DC Accuracy  $\pm 2\%$
- DC Sensitivity 20,000 Ohms/Volt
- Fused Resistance Ranges

A sensitive and rugged volt-ohm-milliammeter with a DC sensitivity of 20,000 ohms per volt and an AC sensitivity of 1000 ohms/v. Designed for a wide range of accurate test measurements in industrial electronics. Features: spring back jewels; fused resistance ranges; insulated crack-proof case. Ranges: DC volts, 0-1.6-8-40-160-400-800-4000; AC volts, 0-1.6-8-40-160-400-1600; Decibels, -15 to +54 in 6 ranges; DC  $\mu\text{a}$ , 0-80; DC ma, 0-1.6-8-80-800; DC amps, 0-8; Resistance, 1K to 10K full-scale and 25 to 250,000 center-scale (5 ranges). Accuracy: DC, 2%; AC, 3%. 4.63" scale. With leads, less batteries.  $7\frac{7}{16} \times 6\frac{1}{4} \times 3\frac{3}{8}$ ". Shpg. wt., 3 lbs. **53.50**

69 F 280 . . . . . 53.50  
 69 F 281, 177-977 Cover and 4-Way Stand, Shpg. wt., 1 lb. . . . . 5.50

### 633 CLAMP VOLT-AMMETER

TYPE VA-1. For AC testing without breaking circuits. Clamps around conductors to measure AC amps—test leads measure AC volts. Safety trigger permits bare-hand use—fits conductors to 2" in dia. Bakelite case; shatterproof glass, 750-v. insulation. AC amps: 0-10-25-100-250-1000. AC volts: 0-175-350-700. Accuracy:  $\pm 3\%$ , 50-70 cps; adjustable to  $\pm 3\%$  at 400 cps, 2.36" scale. Size:  $13\frac{5}{8} \times 4\frac{3}{8} \times 2\frac{1}{2}$ ". Shpg. wt.,  $4\frac{1}{2}$  lbs.

69 F 512 . . . . . 141.50

### 749 AC CLAMP VOLT-AMMETER

Pocket-size version of meter above. Takes conductors to 1" in dia. AC amps, 0-6-15-30-60-150-300. AC v., 0-150-300-600, 2.36" scale. With case, voltage test leads, insulated clips, 3 accessory probes.  $7\frac{1}{2} \times 3\frac{1}{4} \times 1\frac{1}{4}$ ". Shpg. wt., 1 lb.

69 F 513 . . . . . 51.50

69 F 514, Model 9886 Plug-In Adapter, Aids in current readings of double-conductor leads. Has 10-1 current-divider, also. Shpg. wt., 7 oz. . . . . 5.25

### MODEL 614 LIGHT METER

A professional-quality foot-candle meter. Measures directly in foot-candles in three ranges on a 2.36" scale. Ranges: 0-100-250-500 foot-candles. Supplied with "Viscor" and cosine filters for color and direction correction, respectively. With bakelite case and leather carrying strap. Size:  $7\frac{3}{8} \times 3\frac{3}{8} \times 2\frac{1}{4}$ ". Shpg. wt., 3 lbs.

65 F 199 . . . . . 136.25

65 F 415, Light Meter. Same as above except range 0-60-120-600 foot-candles and with "Viscor" color filter only . . . . . 133.25

### SERIES 703 SIGHTMETERS

TYPE 3A. Pocket-size meter for checking illumination levels at work stations. 0-75 foot-candles. Unfiltered. Scale 1.57".  $4\frac{7}{8} \times 2\frac{5}{8} \times 2\frac{1}{4}$ ". Wt., 2 $\frac{1}{2}$  lbs.

65 F 232 . . . . . 48.50

TYPE 6A. As above, but with "Viscor" and cosine filters for color and direction correction. Less case, below, 2 $\frac{1}{2}$  lbs.

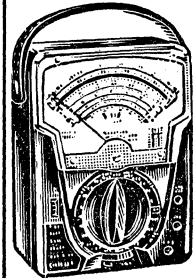
65 F 233 . . . . . 60.50  
 65 F 235, Leather Case, 1 lb. . . . . 3.00

# TRIPLET

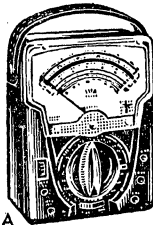
# VOM's and Accessories

## A COMPLETE LINE FOR EVERY APPLICATION

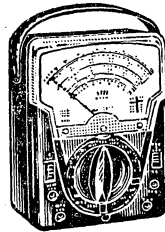
• RUGGED • ACCURATE • MODERATELY PRICED



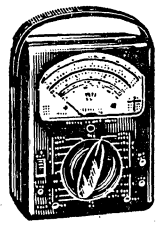
630 NS



630 NA



630 PL



630A

### NEW MODEL 630-NS DELUXE VOM

Newest VOM from Triplett features 200,000 ohms/volt sensitivity on DC—input impedance is higher than most VTM's at 55 volts DC and above. 5 microamp suspension meter movement has  $5\frac{1}{2}$ " two color, mirror-scale face and  $1\frac{1}{2}$ " DC accuracy, 3% AC. Temp. compensated with freq. range to 100 KC, 62 ranges—DC volts: 0-0.6-3-12-60-300-1200 @ 100K ohms/volt; 0-0.3-1.5-6-30-150-600 @ 200K ohms/volt; 0-0.150 @ 60  $\mu$ a. AC volts: 0-3-12-60-300-1200 @ 10K ohms/volt; 0-1.5-6-30-150-600 @ 20K ohms/volt. Db: -20 to +77 in 10 ranges. DC current: 0-3-60-120-600  $\mu$ a plus 0-1.2-6-12-60-120-600 ma plus 0-6-12 amps. Ohms: 0-1K-10K-100K-1 meg-10 meg-100 meg. Heavy molded black case,  $3\frac{1}{2}$ "x $5\frac{1}{2}$ "x $7\frac{1}{2}$ ". With leather handle, leads, alligator clips and batteries.  $4\frac{1}{2}$  lbs. 69 F 691.....99.50

### NEW MODEL 630-L VOM

New VOM has low milliwatt ohmmeter circuit—only 140 mv on x1 and x10 ranges. Eliminates possibility of damage to semiconductor circuits. Supplied with mercury battery—reduces re-zeroing. With  $5\frac{1}{2}$ " two-color meter, spring backed jewels for ruggedness, and polarity reversing switch. Frequency response through 500 KC. Accuracy,  $\pm 3\%$  on DC,  $\pm 4\%$  on AC. Sensitivity: 20,000 ohms/volt DC, 5,000 ohms/volt AC. Ranges: DC volts, 0-2.5-10-50-250-1000-5000. AC volts, 0-3-10-50-250-1000-5000. Db, -20 to +75 in six ranges. DC current, 0-100  $\mu$ a plus 0-10-100-1000 ma plus 0-10 amps. Ohms, 0-1000-10,000 plus 0-1-100 megohms. Case is black molded plastic,  $3\frac{1}{2}$ "x $5\frac{1}{2}$ "x $7\frac{1}{2}$ ". With test leads, alligator clips, batteries. Shpg. wt., 5 lbs. 69 F 692.....54.50

### MODEL 630-NA DELUXE VOM

Extra quality VOM with high accuracy and temperature and frequency compensation. Response flat to 100 KC, down  $1\frac{1}{4}$  db @ 500 KC.  $5\frac{1}{2}$ " mirror-scale meter has diode and fuse protection. 70 ranges: accuracy,  $1\frac{1}{2}\%$  on DC to 1200 v.;  $\pm 3\%$  on AC to 1200 v. DC volts: 8 ranges to 6000 (10,000 ohms/v.); 8 ranges to 3000 (20,000 ohms/v.). AC volts: 6 ranges to 6000 (5000 ohms/v.); 6 ranges to 3000 (10,000 ohms/v.). Db, -20 to +77 in 12 ranges. DC microamps: 1 range to 120 (240 mv); 2 ranges to 600 (120 mv). DC ma: 4 ranges to 1200 (240 mv); 3 ranges to 600 (120 mv). DC amps: 1 range to 12 (240 mv); 1 range to 6 (120 mv). Ohms: 3 ranges to 100K, 3 ranges to 100 megs. Case size,  $7\frac{1}{2}$ "x $5\frac{1}{2}$ "x $3\frac{1}{2}$ ". Complete with test leads, alligator clips, batteries. Shpg. wt., 4 lbs. 69 F 110.....79.50

### MODEL 630-A VOM

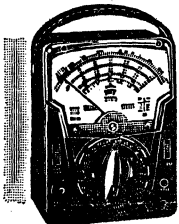
Similar in appearance to Model 630 at right but with mirror scale to eliminate parallax reading errors. Has  $\frac{1}{2}$ " precision multiplier resistors for higher accuracy— $\pm 1\frac{1}{2}\%$  on DC. Outstanding resistance ranges... low reading to 0.1 ohm... high reading to 100 megs. Fuse protected ohmmeter circuit and spring-backed instrument jewels for ruggedness. Frequency response, 5 cps to 500 KC on AC. Ranges: DC and AC volts, 0-3-12-60-300-1200-6000 (DC at 20,000 ohms/v.), AC at 5,000 ohms/v.); DC current, 0-60 ma, 0-1.2-12-120 ma and 0-12 amps; resistance, 0-1000-10,000 ohms and 0-1-100 megs; db, -20 to +77 in 6 ranges; output v., 0-3-12-60-300-1200. 20-position switch,  $7\frac{1}{2}$ "x $5\frac{1}{2}$ "x $3\frac{1}{2}$ ". With batteries, alligator clips, leads. Shpg. wt., 6 lbs. 69 F 121.....59.50

### MODEL 630-PL VOM

Popularly priced VOM with large  $5\frac{1}{2}$ " meter and wide frequency response—5 cycles to 500 KC. Easy-read scales protected by unbreakable plastic window... spring-backed jewels for ruggedness. Has polarity reversing switch on DC and outstanding resistance ranges... low readings to 0.1 ohm... high to 100 megs. With fuse protected ohmmeter circuits. AC and DC v., 6 ranges each, to 5000 v. (DC at 20,000 ohms/v.; AC at 5000 ohms/v.); DC current, 0-100  $\mu$ a, 0-100-1000 ma, and 0-10 amps; res., 0-1000-10,000 ohms and 0-1-100 megs; db, -20 to +75 in 6 ranges; output v., 0-3-10-50-250-1000 at 5000 ohms/v. Acc.:  $\pm 3\%$  on DC to 1000 v.;  $\pm 4\%$  on AC to 1000 v.;  $\pm 5\%$  oh AC-DC at 5000 v.  $7\frac{1}{2}$ "x $5\frac{1}{2}$ "x $3\frac{1}{2}$ ". With leads and batteries. Shpg. wt., 4 lbs. 69 F 229.....49.50

### MODEL 630 VOM

Popularly priced tester includes many features found on more expensive VOM's. Has 20,000 ohms/volt sensitivity on DC, 5,000 ohms/volt on AC... spring-backed jewels for ruggedness... outstanding resistance ranges. Low reading 0.1 ohms; high, 100 megohms. Fuse protected ohmmeter circuitry. DC accuracy is  $\pm 3\%$  to 1200 volts. AC frequency response, 5 cps to 500 KC. Ranges: DC and AC volts, 0-3-12-60-300-1200-6000 (DC at 20,000 ohms/v., AC at 5,000 ohms/v.); DC current, 0-60 ma, 0-1.2-12-120 ma and 0-12 amps; resistance, 0-1000-10,000 ohms and 0-1-100 megs; db, -20 to +77 in 6 ranges; output v., 0-3-12-60-300-1200. 20-position switch selects circuit and range.  $7\frac{1}{2}$ "x $5\frac{1}{2}$ "x $3\frac{1}{2}$ ". With batteries, alligator clips, leads. 6 lbs. 69 F 118.....49.50



630-PLK



666-R

### NEW MODEL 630-PLK VOM

Has transistorized electronic switching circuits to protect meter and all components from damage by overloading. Ranges: DC volts, 0-2.5-10-50-250-1000-5000 @ 20,000 ohms per volt; AC volts, 0-3-10-50-250-1000-5000 @ 5,000 ohms per volt; db, -20 to +75 in 7 ranges; DC microamps, 0-100 @ 250 mv; DC milliamps, 0-10-100-1000 @ 1000 mv; DC amps, 0-10 @ 250 mv; ohms, 0-1000-10,000 (4.4-44 at center scale); megohms, 0-1-100 (4,400-440,000 at center scale); output volts, 0-3-10-50-250-1000 at 5,000 ohms per volt. With 50" test leads with removable alligator clips, and batteries. Wt., 4 lbs. 65 F 299.....79.50

### MODEL 666-R POCKET VOM

Handy tester for pocket or tool kit. Has single selector switch... three resistance ranges to 3 megohms... five voltage ranges to 5000 volts, AC or DC. Sensitivity, 1000 ohms/volt, AC and DC. Ranges: DC volts, 0-10-50-250-1000-5000. AC volts, 0-10-50-250-1000-5000. Ohms, 0-3K-300K plus 0-3 megs. DC current, 0-10-100 ma plus 0-1 amps. Case is black molded plastic,  $5\frac{1}{2}$ "x $2\frac{1}{2}$ ". With leads, batteries, alligator clips. Shpg. wt., 3 lbs. 69 F 114.....34.50

### MODEL 631 VTVM-VOM

Versatile instrument combines two testers in one. Switch selects high impedance, battery powered VTVM or VOM... no AC power needed for VTVM. Large  $5\frac{1}{2}$ " meter has spring-backed instrument jewels for ruggedness. Accuracy,  $\pm 3\%$  DC to 1200 v. Ranges: VTVM, 0-1.2-6-30-120 v., DC; 11 megs input imp. VOM: DC v., 0-3-12-60-300-12K (20K ohms/v.); AC and audio volts, 0-3-12-60-300-12K (5K ohms/v.); DC  $\mu$ a, 0-60; DC ma, 0-1.2-12-120-1200 (250 mv); DC amps, 0-12(250 mv); db, -20 to +63; ohms, 0-1500-15K; megs, 0-1.5-150. With batteries and leads.  $3\frac{1}{2}$ "x $5\frac{1}{2}$ "x $7\frac{1}{2}$ ". Shpg. wt., 4 lbs. 69 F 113.....69.50

### VOM ACCESSORIES

High Voltage Probes. Fully insulated.  $11\frac{1}{4}$ " probe with 48" leads. \*For VOM Models 630, 630-A and 631. †For VOM's 630-PL and 630-APL. §For VOM Model 850.

Stock No.	Type	Volts	EACH
69 F 212	T-79-68*	0-12,000 DC	14.50
69 F 214	T-79-69*	0-12,000 AC	
69 F 112	T-79-70*	0-30,000 DC	
69 F 215	T-79-71*	0-30,000 AC	14.50
65 F 098	T-79-83†	0-10,000 DC	
65 F 099	T-79-165†	0-10,000 AC	
65 F 100	T-79-130†	0-25,000 DC	
65 F 101	T-79-166†	0-25,000 AC	
69 F 193	T79B196§	0-50,000 DC	20.50

Carrying Cases and Stand, \*Black cowhide. TN225A33 is stand.

Stock No.	Type	For Testers	Wt.	NET
69 F 119	639-N*	Series 630& 631	$1\frac{1}{2}$	9.00
69 F 116	639-P*	Series 630& 631	$1\frac{1}{2}$	14.90
65 F 280	669-OS	666-R	$1\frac{1}{2}$	7.40
69 F 120	T255A33	Series 630& 631	1	1.00

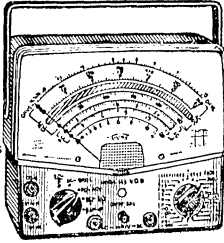
611 and 311 Leads. 611 allows use of 10 adapter with 630, 630-A, 630-NA, 630-PL, 631. 311 separates 10 from 310. 1 lb. 69 F 256, 611 69 F 235, 311.....2.10



# Laboratory and Service Instruments



## MODEL 800 VOM

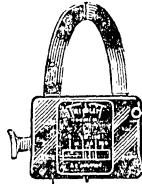


1 1/2% DC Accuracy  
7" Mirror Scale  
70 Well Chosen Ranges

All the features that make a superb instrument have been packed into this VOM. Its mirror scale 7" wide... self-shielded magnet movement... overload protected, temperature and frequency compensated... DC polarity reversing switch... shatterproof meter window antistatic treated. Frequency response: flat from 20 cps to 100 KC, varies from 3/4 to 1 1/4 db at 500 KC.

Ranges: DC volts, 0-0.240-0.6-3-12-60-300-200-6000 @ 10,000 ohms/volt. 0-0.120-0.3-1.5-6-30-150-600-3000 @ 20,000 ohms/volt. AC volts, 0-3-12-60-300-1200-6000 @ 20,000 ohms/volt. 0-1.5-6-30-150-600-3000 @ 10,000 ohms/volt. Db, -30 to +70 in 12 ranges. DC current, 0-60-120-600 a plus 1.2-612-60-120-600-1200 ma plus 0-6-12 amperes. Ohms, 0-1K-10K-100K plus 0.1-1-100 megohms. With leads and batteries. 2 1/2x6 1/4x3 7/8". Shpg. wt., 7 lbs. 9 F 071..... **89.50**

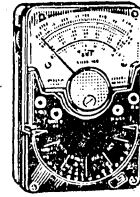
## MINIATURE VOM's



Model 10 Adapter



310 With Adapter



Model 310 VOM

Model 310 Miniature VOM. Shirt-pocket size. 20,000 ohms/volt DC sensitivity... self-shielded... 3% DC accuracy. Common probe fits into meter top freeing one hand. Ranges: DC volts, 0-3-12-60-300-1200 @ 20,000 ohms/volt. AC volts, 0-3-12-60-300-1200 @ 5000 ohms/volt. Ohms, 0-20K-200K plus 0-2-20 megohms. DC current, 0-600  $\mu$ a plus 0-6-60-600 ma. With leads and batteries. 2 1/4x4 1/4x1 3/8". Wt., 2 lbs. 69 FC 667..... **37.50**  
69 F 146. 369 Leather Case. For Model 310 only. Wt., 6 oz..... **3.20**

Model 310-C VOM. Same as 310 above but with polarity reversing switch, 15,000 ohms/volt AC sensitivity, fully enclosed range switch. Wt., 1 lb. 65 FC 096..... **44.50**

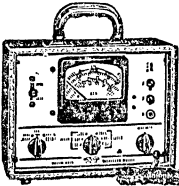
Model 310 AC Ammeter Adapter. Plugs into Model 310 or 310-C to make a clamp-on AC ammeter or can be used with any VOM with 3 v. AC scale at 5000 ohms/volt. Reads AC current, 0-6-12-30-60-120-300 amps. 4 1/4x1 1/4x3 3/4". Wt., 2 3/4 lbs. 69 F 231..... **15.50**  
66 F 590. 379 Leather Case for Models 10, 101, and 310. 1 lb..... **6.00**

Model 100 VOM and Clamp-On Ammeter Set. Consists of Models 310, 10, 101 (see below) with 379 leather case and #311 leads. 7 lbs. 65 F 095..... **64.50**

Model 101 Line Separator. Plugs into AC outlet to divide instantly 2-wire cords. Increases ammeter sensitivity 10x and 20x. Use up to 30 amps AC. Shpg. wt., 1 1/2 lbs. 69 F 232..... **6.00**

## DELUXE VTVM AND TUBE AND TRANSISTOR TESTERS

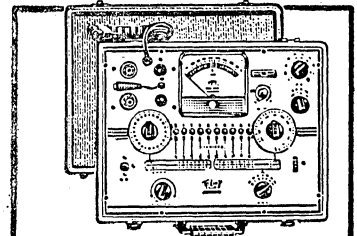
### 2590 TRANSISTOR TESTER



Checks all transistors under simulated operating conditions. Tests Beta,  $I_{cbo}$  and  $I_{ceo}$  for both power and signal types. Checks transistors for shorts and leakage, diodes for leakage and forward current. Easy to operate—no roll chart needed. Transistor socket plus external leads permit use with any basing arrangement. Only transistor-type information is needed; unit is always up-to-date. Meter has 5 scales in black-red-green. Gray catheterette case, 8 5/8x11 5/8x3 1/8". For 105-125 v., 50-60 cycle AC. 9 lbs. 9 F 618..... **59.50**

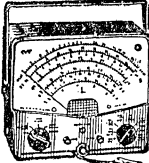
### 3414 TUBE TESTER

Modified plate conductance tester for fast, accurate checking of all receiving tubes. All switch settings made before tube warms up—rejects burned-out tubes instantly. Filament voltages from 0.65 to 117 v. in 23 steps. Includes neon indicator shorts test, variable leakage test; roll chart, 3-color 4" meter. With cover. 11 1/2x15 1/2x6 1/2". For 110-120 v., 50-60 cycle AC. Shpg. wt., 13 lbs. 69 FX 645..... **109.50**  
69 F 111. T-2247-BV CRT Adapter. For 3414 or 3444 testers. Tests TV CRTs while in set. 1 lb..... **7.20**



3414

### MODEL 850 VTVM

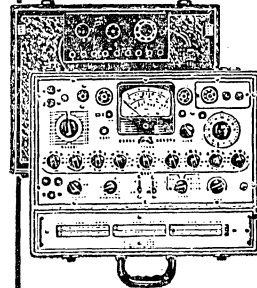


7" Meter Scale  
Overload Protected  
wide-range VTVM for lab and shop use. Meter has large 7" dial scale. Sensitive 100  $\mu$ a meter movement is protected against overload. Features 0.5 volt full scale range on DC for checking low voltage circuits; zero center on all DC scales for FM discriminator alignment; single-unit probe as switch for DC or AC ohms. Frequency response is from 15 cps to 3 mc.

Ranges: DC volts (11 megohms input resistance), 0-0.5-1.5-5-15-50-150-500-1500; AC RMS volts (0.83 megohms minimum input impedance), 0-1.5-5-15-50-150-500-1500; AC  $I_{cp}$  volts, 0-4-14-40-140-400-1400-4000; resistance, 0-1000-10,000-100,000 ohms and 1-10-100-1000 megohms. Molded case has aluminum panel. 6 7/8x7 5/8x3 3/4". With 48" leads and battery. For 110-120 v., 50-60 cycle AC. 5 lbs. 9 F 257..... **79.50**

### 3444 TUBE ANALYZER

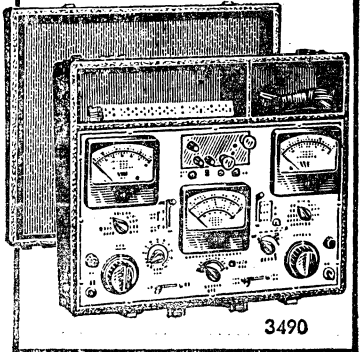
Lab-type dynamic mutual-conductance tester in portable case. Measures  $G_m$  without compensating factors, using proper DC potentials, 5 kc signal source and vacuum tube  $\mu$ ammeter. Self-checking circuit tests accuracy of  $G_m$  readings. Checks plate current cutoff, plots characteristic curves, tests for gas, etc. 15 1/2x18 1/2x7 3/4". For 110-120 v., 60 cycle AC. 24 lbs. 69 FU 617..... **349.50**  
69 F 236. CG Adapter. Extends 3444 range to low power industrial and transmitting tubes. 2 1/2 lbs..... **39.50**



3444

### 3490 TRANSISTOR ANALYZER

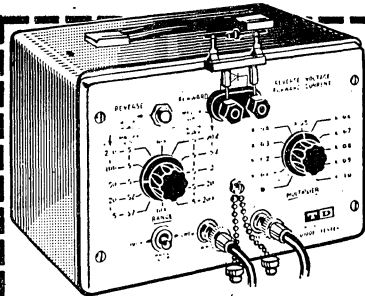
For the ultimate in transistor analysis, Model 3490 offers: 3 separate power supplies; collector currents to 10 amps; input currents to 1 amp; separate 4 1/2" input and collector meters for monitoring emitter or base; many other highlights. Collector voltage/current, emitter or base voltage/current, and tetrode voltage are all continuously variable. Measures at any potential of  $I_{co}$  or  $I_{ceo}$  DC alpha or beta on signal and power types, and AC beta on signal types at 1000 cps. Handles punch through, saturation, and floating potential measurements. Collector voltages to 120 v.; emitter or base voltage to 12 v. Tetrode, 0-10 v. calibrated control. Wood case, 18 1/2x15 1/2x8". 25 lbs. 65 FU 117..... **399.50**



3490



# Latest Mfr's Releases of Test Equipment

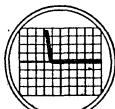


**NEW MODEL 1050 DIODE TESTER**

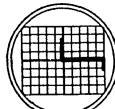
Provides low cost, rapid testing of power, zener, computer and tunnel diodes. Horizontal and vertical outputs display characteristic voltage-current (E-I) diode traces on all standard DC oscilloscopes. Range switch selects the voltage and current for the forward and reverse tests. Reverse—0-1 KV peak in 5 ranges. Forward—0-1.5 amps peak in 5 ranges. Reverse push button switches from forward to reverse test—multiplier switch provides continuous control of curve display. High voltage automatically removed when changing diode and limiting circuit gives overload protection. Accuracy  $\pm 5\%$ . Use with any DC scope with 1 megohm vertical input impedance, 100K or 1 megohm horizontal input impedance. BNC output terminals and banana jack test terminals. Supplied complete with output leads, diode holder and manual. For 115 v., 50-60 cycles. Size: 5 $\frac{3}{4}$ x 8x7 $\frac{1}{2}$ ". Shpg. wt., 7 lbs. 65 FU 234.....135.00

## TEST DEVICES, INC.

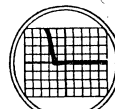
### Typical Scope Traces



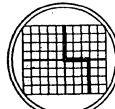
Power Diode Forward



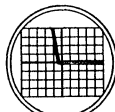
Power Diode Reverse



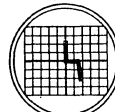
Zener Diode Forward



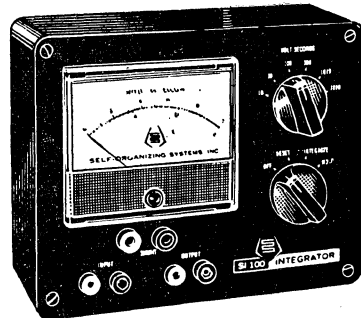
Zener Diode Reverse



Computer Diode Forward



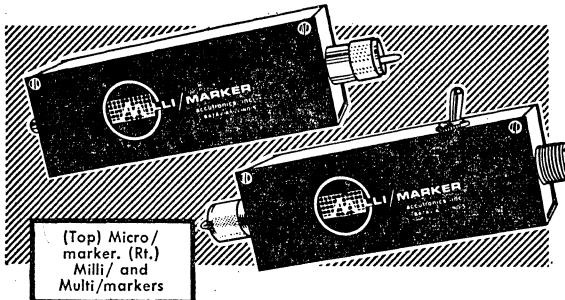
Computer Diode Reverse



## SELF-ORGANIZING SYSTEMS, INC.

### NEW MODEL SI-100 INTEGRATOR

A new kind of instrument—measures voltage integral over a period of time—up to 3000 volt-seconds! With appropriate shunts, measures current integral with time up to 3000 amp-second. Results are displayed on a meter calibrated in volts-seconds. This low cost, battery powered instrument measures integrals with the ease associated with voltage measurements. Simplifies measurement of charge, impulse, energy, heat; servo testing; temperature programming; low frequency noise measurements. Has six position range switch: 10-30-100-300-1000-3000 volt-seconds. Sensitivity, 3200 ohms/volt-seconds. Accuracy,  $\pm 3\%$ ; drift, less than .02 volt-seconds/second., reset time, less than 5 secs. Size, 6 $\frac{1}{2}$ x5 $\frac{1}{2}$ x2 $\frac{3}{4}$ ". Shpg. wt., 3 lbs. 65 F 281.....99.50



(Top) Micro/  
marker. (Rt.)  
Milli/ and  
Multi/markers

## ACCUTRONICS, INC.

### SCOPE MARKERS AND CALIBRATORS

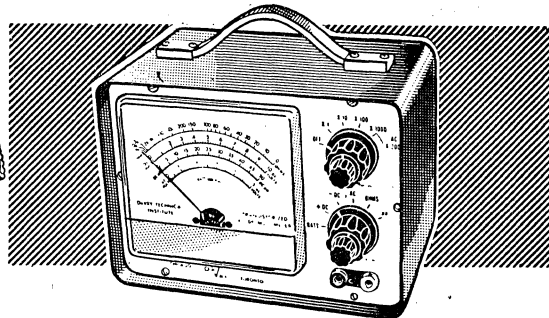
Harmonic-rich, pocket-size, plug-in time markers for calibrating scope sweeps, generators, etc. Provides extremely high accuracy and stability with outputs greater than 1 volt p-p and extended temperature range, from 0° to 60° C. Powered by long-life mercury batteries with reliable silicon transistors and printed circuitry. All are supplied with both UHF and BNC connectors and are housed in extruded aluminum cases. Less battery.

MICRO/MARKER. Provides crystal controlled 1-mc time marks with accuracy of  $\pm 0.01\%$ . Output impedance, 50 ohms. A basic instrument wherever scopes are used. 1 $\frac{1}{4}$ x1 $\frac{1}{4}$ x4 $\frac{1}{8}$ ". 1 lb. 65 F 279.....47.80

55 J 896. Mallory TR115 Batteries.....PKG. OF 2 FOR 3.40  
MILLI/MARKER. Provides time marks from 1 to 7 KC controlled by tuning fork. Accuracy,  $\pm 0.015\%$  @ 25° C. Rise time better than 3  $\mu$ sec. Output impedance, 10K-ohms. Square or spike waveforms available. Micro/marker can be plugged into Milli/marker to give Micro/Milli/marker. Switch feeds signal straight through in off position. Size, 1 $\frac{3}{4}$ x1 $\frac{1}{4}$ x5 $\frac{1}{8}$ ". Wt., 1 lb. 65 F 215.....74.50

55 J 891. Mallory TR126 Batteries.....PKG. OF 2 FOR 2.10  
MULTI/MARKER. Provides crystal controlled, switch selected time marks at 100 cps, 1 KC, 10 KC, 100 KC, 1 MC and 10 MC with accuracy of  $\pm 0.007\%$  and spike waveform. Also 1 KC square wave @ 1 volt p-p  $\pm 0.5\%$  for vertical scope calibration. Depending on marker selected, rise time varies from 100  $\mu$  sec to 10 nanosec—output impedance from 10K to 100 ohms. 1 $\frac{1}{8}$ x2 $\frac{3}{8}$ x5 $\frac{1}{8}$ ". 1 lb. 65 FU 426.....175.00

55 J 891. Mallory TR126 Batteries.....PKG. OF 2 FOR 2.10



## DeVRY TECHNICAL INSTITUTE

### NEW TRANSISTORIZED MULTIMETER

- High Input Resistance
- Silicon Transistors
- Battery Powered
- Burnout Protected Meter

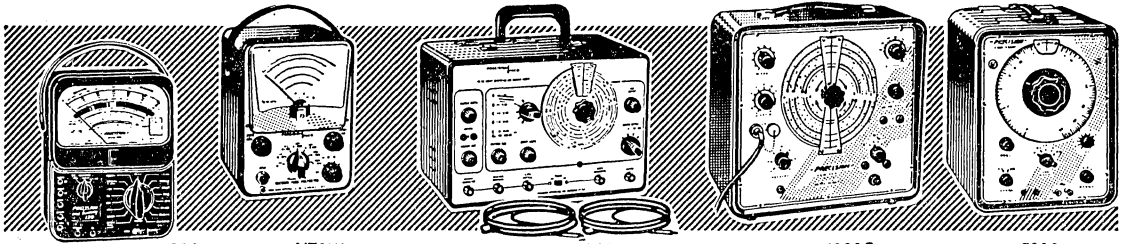
Now—a meter that combines the high input impedance of a VTVM with the freedom from power lines and current measuring capabilities of a VOM. Uses four extremely reliable silicon transistors to provide all the standard VTVM ranges plus DC current ranges. Transistors are operated far below rated voltage and should never require replacement. Overall accuracy is  $\pm 3\%$  with 1% multiplier resistors. Frequency response, 10 to 500,000 cps  $\pm 1.5$  db. No warm-up time is required and the amplifier circuit is designed so as to make meter burnout impossible. Has 3-color, easy-to-read meter and switching similar to VTVM. Function switch selects Battery Check, +DC Volts, -DC Volts, AC Volts, Ohms and DC  $\mu$ a. Range selects x1, x10, x100, and x1000 (x200 for AC Volts). Zero and ohms-adjust pots are concentric with switches.

Ranges (with input resistance): DC Volts, 0-1 (.92 meg)-10 (10.1 meg)-100 (9.19 meg)-1000 (9.1 meg). AC Volts, 0-5 (650K)-50 (1.75 meg)-500 (1.85 meg)-1000 (1.85 meg). Ohms, 0-10K-100K-1 meg-10 meg. DC Current, 0-50  $\mu$ a-500  $\mu$ a-5 ma-50 ma. With accessory shunts (below) 0-500 ma and 0-5 amps can be measured. Uses readily available batteries—three D cells and one C cell with expected life of 1000 hours under conditions of intermittent use. Current drain is only 6 ma. Size, 7 $\frac{3}{8}$ x5 $\frac{1}{2}$ x4 $\frac{1}{2}$ ". Wt., 6 lbs. 65 F 216.....89.50

69 F 766. Accessory Shunt for 0-500 Ma. Range.....4.00  
69 F 765. Accessory Shunt for 0-5 Amp Range.....4.00

# Portable Test Instruments

PRECISION  
PACO



120

V70W

G32W

E200C

E310

## 120 MULTI-RANGE VOM

A very sensitive instrument featuring: 61 ranges, 1% precision resistors,  $\pm 2\%$  full-scale meter accuracy, mirrored scale and polarity reversing switch. Extra-low ranges —0.3 volts DC and Rx1/10 (2 ohms center-scale). Other Ranges: AC, +DC, —DC, output v., 0-1.2-3-12-60-300-600-1200-6000 with 5000 ohms per volt on AC and 20,000 ohms per volt on DC; DC, 0-60-300  $\mu$ a, 0-1.2-12-120-600 ma, 0-12 amps; 0-200-2000-200,000 ohms. 0-2-20 megs; 8 db ranges, —20 to +77. Frequency response, 15 to 100,000 cps  $\pm$  db. Has full-view  $5\frac{1}{2}''$  meter. With batteries and leads. Size,  $7 \times 5\frac{1}{2} \times 3\frac{1}{4}''$ . Shpg. wt., 5 lbs.

69 F 106.....47.95

MODEL 120M VOM. As above but with  $\frac{1}{2}\%$  resistors, 1% meter, accuracy  $\pm 1\frac{1}{2}\%$  DC,  $\pm 3\%$  AC. Shpg. wt., 5 lbs.

69 F 186.....56.95

LC-3 "EVEREADY" CASE. For models 120 and 120M. Shpg. wt., 3 lbs.

69 F 109.....10.50

ST-1 RETRACTABLE STAND. For Models 88, 120 and 120M. Wt., 1 lb.

69 F 176.....1.00

## NEW MODEL V70W VTVM

Low-cost, high quality instrument with  $4\frac{1}{2}\%$  meter of  $\pm 2\%$  accuracy. Has 1% resistors, 3-way AC-DC probe and shielded metal case. DC input resistance is 11 megohms; AC frequency response, 40 cps to 3 mc  $\pm 1$  db. Ranges: DC and AC volts, 0-1.5-5-15-50-150-500-1500. AC volts p-p, 0-4-14-40-140-400-1400-4000. Ohms, 0-1K-10K-100K, 0-1-10-1000 megohms. (10 ohms center-scale on lowest range.) 7 db ranges. Size,  $7\frac{1}{2} \times 5\frac{1}{2} \times 4\frac{1}{2}''$ . With batteries and probe. For 110-120 v., 50-60 cycle AC. Shpg. wt., 6 lbs.

69 F 707.....55.95

## G32W SWEEP GENERATOR

Excellent for FM and TV alignment. Has built-in marker-adder to avoid overloading of receiver circuits when inserting markers. Fundamental sweep frequency from 3 mc to 213 mc in 5 ranges with width continually variable from 0-30 mc. Output impedance, 50 ohms. Dual attenuators control RF output. Has AGC to regulate voltage amplitude on any band. Use with marker generator.  $8\frac{1}{2} \times 13 \times 7''$ . With 4.5 mc crystal. For 110-120 v., 50-60 cycles AC. 10 lbs.

65 FU 245.....159.95

## E-200C SIGNAL GENERATOR

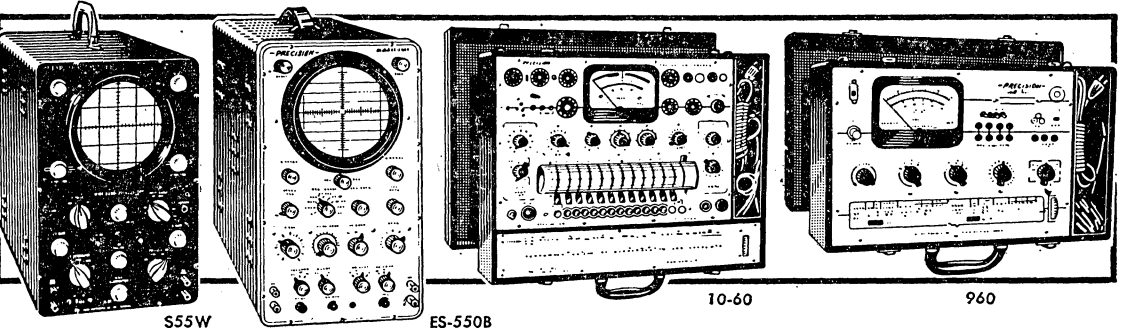
Deluxe signal-marker generator for AM, FM and TV alignment. 1% accuracy on 10 easy-to-read ranges. Frequency coverage: 88 kc to 440 mc; to 110 mc on fundamentals. Direct-reading  $6\frac{1}{2}''$  dial has 0-1000 vernier scale. Outputs: unmodulated RF; 400-cycle modulated RF; externally modulated RF; and 400-cycle sine wave output. Supplies 0-50 volts AVC-AGC voltage. Dual RF attenuators. With cable, connectors, and manual.  $11\frac{1}{2} \times 13 \times 6\frac{1}{2}''$ . For 110-120 v., 50-60 cycle AC. Shpg. wt., 17 lbs.

69 F 635.....109.95

## MODEL E-310 WIDE-RANGE SINE/SQUARE-WAVE GENERATOR

For the well-equipped electronics laboratory. Provides both sine and square wave coverage from 5 cps to 600 kc in five bands. Has  $6''$  fine tuning dial. Accuracy within 1% from 100 cps to 600 kc; within 1 cycle below 100 cps. Output is level within 1 db over each band. Distortion less than 1% at maximum output of 10 volts rms. Square wave rise time, 0.20  $\mu$ sec. Size,  $9 \times 11\frac{1}{2} \times 11\frac{1}{2}''$ . With detailed technical manual. For 110-120 v., 50-60 cycle AC. 20 lbs.

69 FU 637.....199.95



S55W

ES-550B

10-60

960

## S55W 5" DC OSCILLOSCOPE

Push-pull outputs in both amplifiers. Sensitivity: Vertical: DC—70 mv/in.; AC—25 mv rms/in.; Hor.—0.6 v. rms/in. Response: Vert.—DC,  $\pm 3$  db to 4.5 mc; AC,  $\pm 3$  db, 1 cps to 4.5 mc; Hor.—3 db, 1 cps to 400 kc. Input imp.: Vert.—1.5 megs; hor.—5 megs. Has p-p voltage calibrator and vertical polarity reversal switch.  $18\frac{1}{2} \times 14\frac{1}{2} \times 8\frac{1}{4}''$ . For operation from 110-120 v. 50-60 cycles AC-DC. Shpg. wt., 32 lbs

69 FU 756.....155.95

## ES-550B DELUXE 5" SCOPE

Offers 5-mc bandwidth and 3-KV intensifier anode potential. Push-pull vertical sensitivity, 10 mv/inch; response  $\pm 1$  db, 10 cps to 3.5 mc (3 db at 5 mc). Push-pull horizontal sensitivity, 100 mv/inch; response  $\pm 1$  db, 10 cps to 1 mc (3 db at 2 mc). Sweeps 10 cps to 100 kc, also 30 and 7875 cycles sync sweep. Negative, positive internal sync. Vertical pattern reversal switching.  $14\frac{1}{2} \times 8 \times 8\frac{1}{2}''$ . For 110-120 volts, 60 cycle AC. Wt., 47 lbs.

69 FU 636.....279.95

## 10-60 "ELECTRONAMIC" TUBE, TRANSISTOR AND DIODE TESTER

Industrial type instrument providing complete and thorough tests for tubes, transistors and crystal diodes in a single, well designed portable package. Five-window, geared roll chart lists data for all tube and transistor tests. Tube Tests: Ultra-sensitive gas test; all-inclusive performance test includes complete tube operation, not limited to mutual conductance test alone; lever for each tube element—protects against obsolescence; low voltage short check—eliminates possibility of tube damage; built-in pin straighteners. Transistor Tests: Provides Icbo ranges covering low, medium and high power, NPN and PNP types; collector potentials from 0.5 to 160 volts DC; direct reading Beta ranges; leakage current tests. Crystal Diode Tests: 22 selected DC voltages for forward and reverse current tests. Provides Icbo ranges covering low, medium and high power, NPN and PNP types; collector potentials from 0.5 to 160 volts DC; direct reading Beta ranges; leakage current tests. Crystal Diode Tests: 22 selected DC voltages for forward and reverse current tests. Housed in sturdy carrying case.  $20 \times 15 \times 7''$ . Complete with transistor adapter cable and manual. For 117 v., 50-60 cycle AC. Wt., 25 lbs.

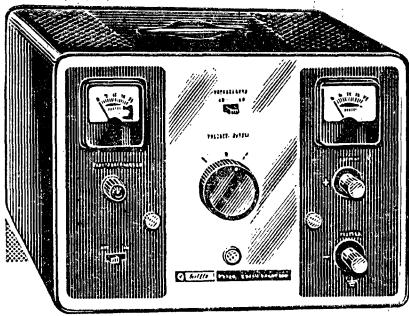
69 FU 762.....239.95

## MODEL 960 TRANSISTOR AND CRYSTAL DIODE TESTER

Tests all types of transistors (low, medium and high power) NPN and PNP types and crystal diodes. Uses special circuitry and operating parameters developed in cooperation with leading semiconductor manufacturers. Features and specifications include: direct Icbo readings in terms of true collector current... wide range of collector potentials—0.5 to 100 volts DC in 17 steps... direct reading Beta ranges with 5 separate injection currents for low, medium and high power transistors... leakage current tests... high speed, geared roll chart with all transistor test data—provides for quick and accurate settings.

Has 17 selected DC voltages for forward and reverse current tests of crystal diodes. Includes universal semiconductor adapter—accommodates future semiconductor releases. Housed in sturdy portable carrying case.  $18 \times 10\frac{1}{2} \times 6\frac{1}{4}''$ . For 117 volts, 50-60 cycles AC. Shpg. wt., 15 lbs.

69 FU 763.....109.95

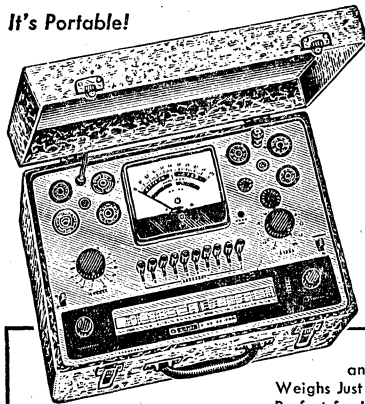


**NEW KG-660 BATTERY ELIMINATOR**

Now with latest electronic components—featuring automotive alternator-type silicon diode rectifiers for reduced size, increased efficiency, low heat, and rugged operation. Heavy-duty eliminator/charger has king-size-capacity 17,000-mfd filter capacitor of industrial grade for minimal ripple. Tops for transistorized, vacuum-tube, and hybrid equipment. An excellent battery charger. 0-15 VDC and 0-20 amp, rugged automotive-type meters.

Variable output, 0-8 and 0-15 VDC. Ratings: continuous—15 amps at 6 v., 7½ amps at 12 v.; intermittent—20 amps at 6 v., 10 amps at 12 v. Automatic thermal 20-amp cutout, 10 second delay. ⅛" aluminum front panel is heat sink for rectifiers. Fused transformer primary. Pilot light. Black metal case, charcoal-gray/silver panel. 9x12x5". For 105-125 v., 60 cycle AC. Shpg. wt., 14 lbs.  
**83 YX 573-D.....44.95**  
**83 YX 912-D In Kit Form..... 35.95**

*It's Portable!*



**Compact and Lightweight—**  
**Weights Just 17 Pounds ...**  
**Perfect for Home Servicing**

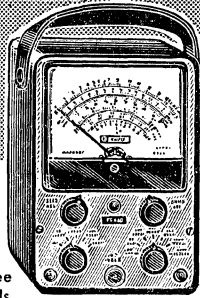
**KG-600B—OUR BEST EMISSION-TYPE TUBE TESTER**

Checks over 1800 receiving, TV and Hi-Fi tubes, including latest types. Sockets accept novistors, compactrons, novars, 4-, 5-, 6-, and 7-pin large, 7-, 9-, and 10-pin miniatures, octals, loktals, and pilot lamps. "GOOD?-REPLACE" scale on 3-color meter shows tube condition. Neon indicator shows filament-continuity, leakage or shorts. Line-adjust compensates for variations in line voltage. 16 filament ranges from 0.63 to 117 v. Illuminated roll chart; provision for setting up future tube types. Gray fibrikoid-covered wood case. 6½x14½x10½". For 110-125 v., 60 cycle AC. Shpg. wt., 17 lbs.  
**83 YX 578-D.....53.95**  
**83 YX 920-D. In Kit Form.....39.95**

**KG-600B BENCH OR COUNTER TUBE TESTER**

Electrically identical to above model, but is designed for stationary use. Housed in durable black steel case. Size, 5¼x14½x10½". Shpg. wt., 19 lbs.  
**83 YX 579-D.....49.95**  
**83 YX 951-D. In Kit Form.....35.95**

**knight®** **FACTORY ASSEMBLED**  
**EQUIPMENT—READY TO USE**

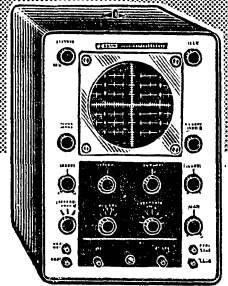


With Three Test Leads

**KG-620 PERFORMANCE-PROVEN VTVM**

Loaded with "plus" features: 11-meg input resistance, 1% multipliers, 200-µa movement, printed circuitry, polarity reversing switch, push-pull bridge circuit. DC v. (±3%) and AC rms v. (±5%): 0-1.5-5-15-50-150-500-1500. AC P-P v. (±5%): 0-4.2-14-42-140-420-1400-4200. 7 db ranges, -10 to +65. Response: 30 cps to 3 mc, ±1 db; to 5 mc, ±3 db. Ohms: 0-1000-10K-100K; 0-1-10-100-1000 megs. Center scales: 10, 100, 1000, 10K, 100K; 1 and 10 megs. 4½" meter. With battery, leads. 7¼x5½x4¼". For 110-125 v. 60 cycle AC. 7 lbs.  
**83 Y 576-D.....39.95**  
**83 Y 911-D. In Kit Form.....24.95**  
**83 Y 126-D. HV Probe Kit. 50 KVDC. 4.50**  
**83 Y 127-D. RF Probe Kit. 250 mc.....3.50**

Perfect for Color TV  
 With Leads

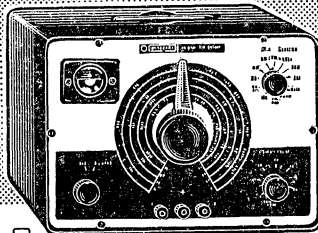


**KG-630 5" 5-MC WIDEBAND SCOPE**

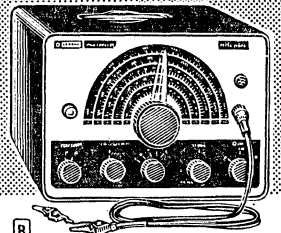
Has the all-important extras for industrial, TV, and high-frequency work. Push-pull vertical, sensitivity 20 mv (rms)/inch, ±3 db, 5 cps to 5 mc; 1 db down at 3.58 mc. Push-pull horizontal, sensitivity 600 mv (rms)/inch, down 3 db at 600 kc; locks in up to 9 mc. Sweep generator range, 15 cps to 600 kc. Internal pos. and neg. sync, cathode-follower inputs, 1-volt p-p calibrator, internal astigmatism set, Z-axis input, deflection-plate coupling, blanking circuit. 14¼x10¼x15½". For 110-125 v., 60 cycle AC. 32 lbs.  
**83 YU 577-D.....109.95**  
**83 YU 913-D. In Kit Form.....74.95**  
**83 Y 147-D. Low-Cap. Probe Kit. 8 oz....3.75**  
**83 Y 148-D. Demodulator Probe Kit. 8 oz. 3.75**

**SAVE TIME AND LABOR WITH THESE TROUBLE-SHOOTERS**

Up-to-date Equipment Increases Efficiency—Boosts Profits!



With Leads.



With Leads

**A VERSATILE KG-670 RESISTOR-CAPACITOR CHECKER**

- Tests Capacitors at Rated Voltage
- Measures Resistance to 5 Megs
- Direct Readings—No Calculations
- Indicates Power-Factor Directly

Measures resistance and capacity by the accurate bridge method. Checks for opens and shorts in all capacitors, indicates power factor of electrolytics. Easy-to-read dial and magic-eye null indicator show resistance and capacity values at a glance. Resistance ranges: 100 to 50K ohms, and 10K to 5 megs. Capacity ranges (in mfd): .00001 to .005; .001 to 0.5; 0.1 to 50; 20 to 1000. Leakage test volts DC: 50, 150, 250, 350, 450. Accuracy, ±10%. 7¼x10¼x5¼". For 110-125 v. 60 cycle AC. Wt., 10 lbs.  
**83 Y 580-D.....29.95**  
**83 Y 901-D. In Kit Form.....21.95**

**B LOW-COST KG-650 RF SIGNAL GENERATOR**

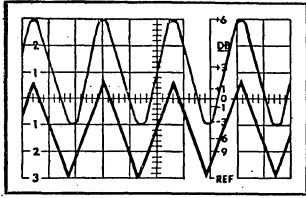
- 160 kc to 112 mc on Fundamentals
- To 224 mc on Harmonics
- Colpitts Oscillator Circuit—Requires No Calibration

Built with finest components consistent with top performance, moderate cost, and dependability. Colpitts oscillator for accurate alignment of RF and IF stages. Three outputs: modulated, unmodulated, and 400-cps audio at 10 volts. Fundamental frequencies: Band A, 160-550 kc; Band B, 550-1850 kc; Band C, 1850 kc-7 mc; Band D, 7-27 mc; Band E, 27-112 mc. Usable to 224 mc on harmonics. RF output, 0.4 volts or more. Size, 7¼x10¼x5¼". For 110-125 v., 60 cycle AC. Shpg. wt., 9 lbs.  
**83 Y 574-D.....32.95**  
**83 Y 953-D. In Kit Form.....22.95**

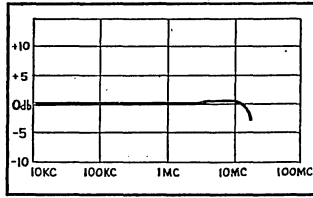
# **knight**®

## DC TO 15-MC DUAL TRACE

With Dual-Trace Preamp and Low-Capacity Probe—Hi-Gain Preamp Available



Dual-Trace Pattern



Frequency Response Curve

New, improved version of our DC to 10-mc scope. KG-636 meets or surpasses demands of research labs or exacting industrial service. Features DC to 15-mc response (with dual-trace preamp), 30 nsec rise-time, DC-coupled triggered sweep and push-pull amplifiers, 1% sweep accuracy, and complete cooling system. Preamp has dual step-type attenuators with vernier for P-P measurements. Low-capacity probe is included. For 1-mv sensitivity, order interchangeable plug-in preamp. 16½x 12½x21½". For 105-130 v. 60 cycle

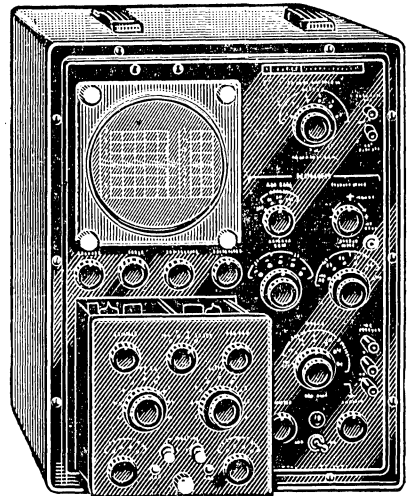
AC. 109 lbs. Shipped express.  
83 YZ 572-D.....795.00

83 YZ 998-D. Scope Only in Kit Form. 93 lbs. Shipped Express.....445.00

83 YZ 948-D. Dual Trace Preamp in Kit Form. 11 lbs. Shipped express....90.00

Differential Hi-Gain Preamp. 5000-1 ratio. Responds to 1-mv signal; DC to 100 kc. Calibrated 1 mv/cm to 50 v/cm in 15 steps. 10 lbs. Shipped express.

83 YZ 584-D.....100.00  
83 YZ 946-D. In Kit Form.....70.00



LOW-CAPACITY PROBE. Minimizes circuit loading. Shpg. wt., 1 lb.  
83 Y 949-D.....20.00

MOBILE TRANSPORT CART. Locks in 2 pos. Steel. 36¼-28½". 32 lbs.  
83 YU 677-D.....39.95

### SPECIFICATIONS

**VERTICAL BANDWIDTH** (with dual-trace preamp): DC to 15 mc, down 3 db. Ref. to 100 kc, vertical display ht. of 6 cm or less.  
**RISE TIME**: 30 nsec, vertical display ht. of 6 cm or less.  
**SENSITIVITY**: 50 mv/cm to 20 v/cm.  
**INPUT IMPEDANCE**: 1 meg shunted by 40 mmf.  
**HORIZONTAL BANDWIDTH**: DC to 2.5 mc within 3 db down.  
**CALIBRATED SWEEP RANGE**: 0.5 sec/cm to 50 nsec/cm in 30 ranges by use of basic sweep ranges (100, 10, 1 msec; 100, 10, 1 microsec) and amplifier gain (X1, X5, X20); also horizontal sweep 10:1 multiplier vernier control. Provision for adding external capacitor for very slow sweeps.  
**SENSITIVITY**: Approximately 0.1 v/cm and 1 v/cm. 10 to 1 attenuator. Gain control.  
**TIME MARKS**: Intensity modulated at 10, 100, 1000-microsec intervals—at front panel. Adjustable sweep-timing; 1% accuracy.

**TRIGGERING**: Sensitivity, 100-mv external, 2-mm deflection interval. Inputs, line, external AC or DC, and preset. Level, adjustable for triggering at selected waveform points.  
**VOLTAGE CALIBRATOR**: 1-kc square wave. 10 mv to 50 v, peak-to-peak ±1%, in 12 steps. Output available at front panel.  
**LOW-VOLTAGE POWER SUPPLY**. Regulated negative 150 volts; positive, 100, 250, and 420 volts.  
**HIGH-VOLTAGE POWER SUPPLY**. Regulated negative 1750 volts; positive, 3500 volts.  
**POWER CONSUMPTION**: 400 watts with dual-trace preamp.  
**NUMBER OF TUBES**: 38 (excluding preamp) plus Cathode Ray Tube and 15 diodes.  
**CRT**: 5" with P-2 phosphor 6x10 cm display area.  
**POWER REQUIREMENTS**: 105-130 volts, 60 cycle AC.  
**SIZE**: Height, 16½"; Width, 12½"; Depth, 21½".

## DC TO 5-MC TRIGGERED SWEEP

Precision, Reliability, and the Finest Engineering at an Economy Price

- DC to 5 mc; DC-Coupled Amplifiers
- Triggered Sweep: 85 nsec Rise Time

- Sensitivity: up to .005 v. P-P/cm
- Internal and External Triggering

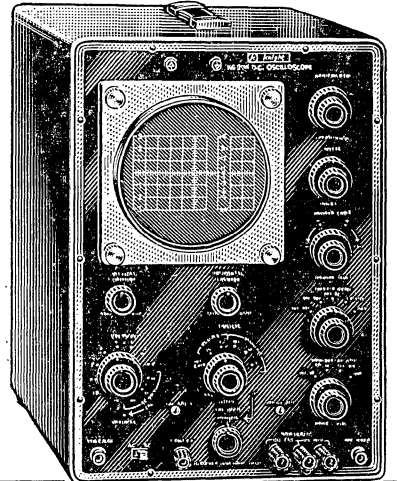
Low price—yes. But, a glance at the specs below will tell you the KG-2000 is of high caliber—for high performance. DC to 5-mc response permits display of pulses of fast rise-time.

Trigger and amplifier circuits are DC-coupled for applications where very low frequencies or DC levels must be displayed. Triggered sweep—200 nsec/cm down to .05 seconds. Has stable voltage-regulated power supply; frequency-compensated attenuators.

Preset signal lock-in may be disabled; a separate control permits locking-in on any portion of a signal. Other features include: choice of internal or external triggering; horizontal amplifier input; adjustments for intensity, focus, astigmatism and positioning; camera mounting studs; BNC-type connectors; illuminated graticule; vertical position indicators. X5 expand with switch control. Also has binding post to connect external capacitor for slower sweep speeds.

Uses triggered sweep: a signal as small as ½ cm on the CRT face permits triggering. Speed is adjustable from 1 μsec/cm to 50 msec/cm. Sweep accuracy within 3%. Controls grouped by function for fast, at-hand use. Size, 14½x 10½x15½". For 105-125 volts, 50-60 cycle AC. Shpg. wt., 35 lbs.

83 YU 575-D.....295.00  
83 YU 910-D. In Kit Form.....195.00  
83 Y 949-D. Low-Cap Probe. 1 lb. 20.00



### SPECIFICATIONS

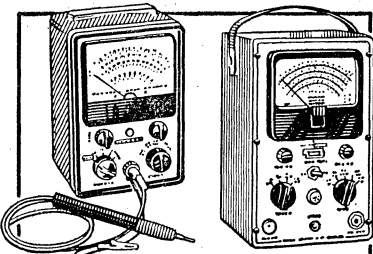
**VERTICAL BANDWIDTH ON DC**: DC to 5 mc, 3 db down. Ref. to 1 kc, vertical display ht., 6 cm (.05 to 20 v/cm).  
**VERTICAL BANDWIDTH ON AC**: With AC Preamp in .005, .01 and .02 v/cm ranges, 5 cps to 1.5 mc, 3 db down. Ref. to 1 kc, with vertical display ht., 6 cm. On ranges from .05 to 20 v/cm, AC, response 5 cps to 5 mc, 3 db down.  
**RISE TIME**: 85 nsec, vertical display ht., 6 cm or less.  
**SENSITIVITY**: DC-coupled, .05 v P-P/cm. AC, .005 v P-P/cm.  
**INPUT IMPEDANCE**: 1 megohm shunted by 40 mmf.  
**CALIBRATION VOLTAGE**: 1 v P-P, ±5% at front panel.  
**LOW-VOLT. POWER SUPPLY**: Reg., -150, +160, +365 v.  
**HIGH-VOLTAGE SUPPLY**: -1900 volts, regulated.  
**POWER REQUIREMENTS**: 105-125 volts, 50 to 60 cycle AC.  
**POWER CONSUMPTION**: 175 watts.  
**NUMBER OF TUBES**: 21, excluding CRT, plus 7 diodes. Cathode Ray Tube with flat face and P2 phosphor.

**HORIZONTAL BANDWIDTH**: DC to 500 kc within 3 db down.  
**SENSITIVITY**: Approx. .15 v/cm. Has variable attenuator.  
**INPUT IMPEDANCE**: 1 megohm.  
**SWEEP RANGE**: .05 sec/cm to 200 nsec/cm in 16 ranges by use of basic sweep ranges (10 millisecc, 1 millisecc, 100 microsec, 10 microsec, 1 microsec) and horizontal sweep plus X5 expansion. 10:1 multiplier vernier control; Multiplier switch. Provision for adding external capacitor for very slow sweeps. Sweep timing accuracy capability within 3%.  
**TRIGGERING**: Sensitivity, 200 mv external, ½ cm deflection interval. Inputs, line, external and internal AC and DC. Level adjusts for triggering at selected points on waveform, or preset.  
**CRT**: 5" with P-2 phosphor 6x10 cm display area.  
**SCALE CALIBRATION**: -6 to +9 db; x and y linear grid.  
**SIZE**: Height, 14½"; Width, 10½"; Depth, 15½".  
**COLOR**: Gray with red and white markings.



# Versatile Test Gear

## POPULAR VTVM KITS



222-K

221-K

**Model 222-K VTVM Kit.** Excellent general-purpose VTVM for the service shop. Features 11-meg DC input; 1 meg AC;  $4\frac{1}{2}''$  electronically-protected meter that's easy to read; 1% ceramic multiplier resistors; and zero center-scale. Ranges: AC-DC volts, 0-3-15-75-300-1500; resistance, 0.2 ohms to 1000 meg in 5 ranges.  $8\frac{1}{2} \times 5\frac{3}{4} \times 7''$ . With leads, parts, instructions. Less solder. For operation from 105-125 v., 50-60 cycle AC. Shpg. wt., 7 lbs.

65 FU 043 ..... 27.95

Model 222. As above, but factory-wired.

65 FU 042 ..... 42.95

**Model 221-K VTVM Kit.** Rugged test instrument for field, shop, lab or production line. 20-range unit has 25-meg DC input; 3-meg AC; protected  $4\frac{1}{2}''$  meter; zero-center scale; balanced bridge circuit; and 1% ceramic multiplier resistors. Ranges: AC-DC volts, 0-5-10-100-500-1000 meg; 5 db ranges, -20 to +55 db. Has etched aluminum panel; tough gray steel case. Size,  $9\frac{7}{8} \times 16 \times 5''$ . Supplied complete with leads, parts and instructions. Less solder. For 105-125 volts, 50-60 cycle AC. Shpg. wt., 7 lbs.

69 F 039 ..... 25.95

Model 221. As above, but factory-wired.

69 FX 625 ..... 39.95

**Model 214-K VTVM Kit.** (Not illustrated.) Same as 221-K above, but offers convenience of an extra-large  $7\frac{1}{2}''$  meter for exceptional legibility.  $9 \times 13\frac{1}{4} \times 6''$ , 11 lbs.

69 FX 611 ..... 34.95

Model 214. As above, but factory-wired.

69 FX 623 ..... 54.95

**Model 249-K Peak-to-Peak VTVM Kit.** Perfect for color and monochrome TV, as well as FM and AM servicing. Has extra-large, electronically protected  $7\frac{1}{2}''$  meter, balanced-bridge circuit, 1% precision ceramic multiplier resistors, "Uni-Probe" (selects DC or AC ohms), and zero-center scale. Ranges: p-p volts, 0-4-14-42-140-420-1400-4200 volts; DC/rms volts, 0-1.5-5-15-50-150-500-1500 volts; resistance, 0-1000 meg in 7 ranges. Etched aluminum panel; gray-wrinkle steel case. Size,  $8\frac{1}{2} \times 13 \times 5''$ . With "Uni-Probe," parts and instructions. Less solder. For 105-125 volts, 50-60 cycle AC. Wt., 9 lbs.

69 F 061 ..... 39.95

Model 249. As above, but factory-wired.

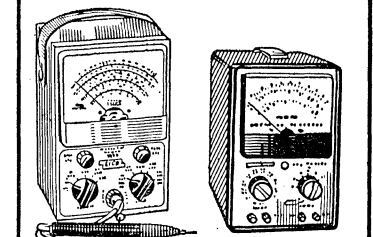
69 F 136 ..... 59.95

**Model 232-K Peak-to-Peak VTVM Kit.** Same as 249-K above, but has easy-to-read  $4\frac{1}{2}''$  meter. Size,  $8\frac{1}{2} \times 5 \times 5''$ . Wt., 5 lbs.

69 F 060 ..... 29.95

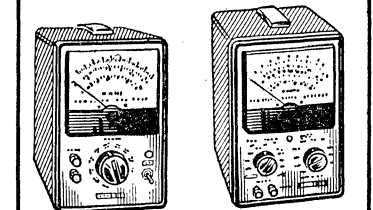
Model 232. As above, but factory-wired.

69 F 135 ..... 49.95



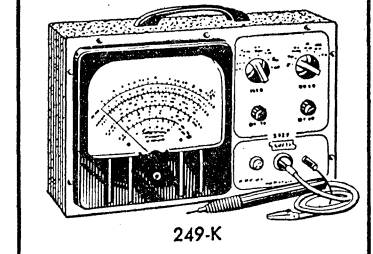
232-K

250-K

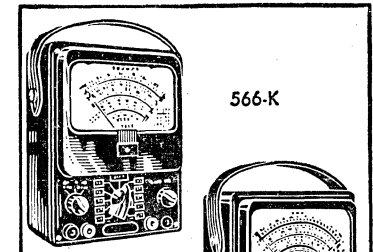


255-K

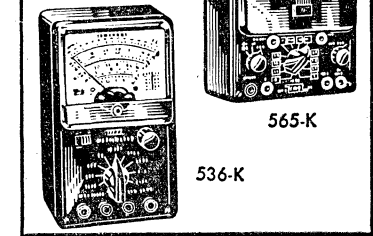
261-K



249-K



566-K



536-K

565-K

**Model 566-K VOM Kit.** Has easy-to-read  $4\frac{1}{2}''$  meter with 2-color scales. 38 ranges. Rectifier in dual-half-wave hook-up. Uses precision divider resistors. Ranges: AC-DC volts, 0-1-5-10-50-100-500-5000 v. at 1000 ohms per volt; current, 0-1-10 ma, and 0-1-1 amp; resistance, 0-5000-100,000 ohms, and 0-1 meg; 6 db ranges, -20 to +69. Has high-impact, black molded bakelite case.  $6\frac{3}{8} \times 5\frac{1}{4} \times 3''$ . Supplied with batteries. Less solder and leads. Shpg. wt., 3 lbs.

65 F 045 ..... 16.95

Model 566. As above, but factory-wired.

65 F 044 ..... 22.95

**Model 565-K VOM Kit.** Same as Model 566-K above, but employs 1% divider resistors. Shpg. wt., 3 lbs.

69 F 049 ..... 18.95

Model 565. As above, but factory-wired.

69 F 086 ..... 25.95

**Model 536-K VOM Kit.** Same as Model 566-K above, but has easy-to-read  $3''$  meter that covers 31 ranges. Wt., 3 lbs.

69 F 047 ..... 14.95

Model 536. As above, but factory-wired.

69 F 084 ..... 18.95

**Model 255-K AC VTVM Kit.** Lab-sensitive, 12-range unit. Has frame-grid triode cathode-follower input circuit; 2-stage R-C coupled amplifier. Ranges: 1-3-10-30-100-300 rms mv; 1-3-10-30-100-300 rms v. Response is flat from 10 cps to 600 kc. Accuracy,  $\pm 3\%$  of full scale.  $8\frac{1}{2} \times 5\frac{3}{4} \times 7''$ . Less solder. For operation from 105-125 v., 50-60 cycle AC. Shpg. wt., 7 lbs.

65 FU 039 ..... 44.95

Model 255. As above, but factory-wired.

65 FU 038 ..... 72.95

**Model 250-K AC VTVM and Amplifier Kit.** Same as 255-K above, but panel switch converts unit to amplifier with 60 db gain on 1-mv range. Max. output: 5 v., rms.

65 FU 037 ..... 49.95

Model 250. As above, but factory-wired.

65 FU 036 ..... 79.95

**Model 261-K AC Volt/Watt Meter Kit.** Load-compensated. AC rms volts, .01-.03-0.1-0.3-1-3-10-30-100-300-1000. 2-meg input. Reads power from .015 mv to 150 watts in 7 ranges. Response,  $\pm 0$  db, 10 cps to 100 kc. Silicon diode power supply.  $8\frac{1}{2} \times 5\frac{3}{4} \times 7''$ . For 105-125 v., 50-60 cycle AC. 6 lbs.

65 FU 041 ..... 49.95

Model 261. As above, but factory-wired.

65 FU 040 ..... 79.95

## VTVM PROBES

For use with Eico VTVM's. Av. wt., 1 lb.

Stock No.	Type	Description	EACH
65 F 049	PTP-11-K	P-P kit for 11 megs	4.95
65 F 048	PTP-11	As above but factory-wired	6.95
69 F 062	PTP-25-K	P-P kit for 25 megs	4.95
69 F 137	PTP-25	As above but factory-wired	6.95
69 F 063	PRF-25-K	RF kit for 25 megs	3.95
69 F 138	PRF-25	As above but factory-wired	4.95
69 F 068	PRF-11-K	RF kit for 11 megs	3.95
69 F 069	PRF-11	As above but factory-wired	4.95

**High-Voltage Probe.** Extends range of Eico VTVM's to 30,000 v. Wired.  $\frac{1}{2}$  lb.

65 F 050. HVP-1 ..... 6.95

69 F 139. For Models 214 and 221. .... 4.95

69 F 144. For Models 232 and 249. .... 4.95

"Uni-Probe." AC/DC probe.  $\frac{1}{2}$  lb.

65 F 052. UP-K Kit. .... 4.95

65 F 051. UP Wired. .... 6.95

## EASY-TO-BUILD VOM KITS

**Model 565-K VOM Kit.** 31-range battery-operated test instrument featuring 20,000 ohms per volt DC sensitivity, and easy-to-read  $4\frac{1}{2}''$  meter with 50  $\mu$ a movement and 2-color scale. Ranges: DC-AC output volts, 0-2-5-10-50-250-1000-5000 v. (AC at 1000 ohms per volt); current, 0-100  $\mu$ a, 0-10-100-500 ma, 0-10 amps; resistance, 0-2000-200,000 ohms, 0-20 megs; -12 to +55 db in 5 ranges. Bakelite case.  $6\frac{3}{8} \times 5\frac{1}{4} \times 3''$ . With batteries. Less test leads and solder. Shpg. wt., 4 lbs.

69 F 048 ..... 24.95

Model 565. As above, but factory-wired.

69 F 085 ..... 29.95

**Model 555-K VOM Kit.** Same as Model 565-K above, but employs 1% precision divider resistors. Shpg. wt., 3 lbs.

69 F 046 ..... 29.95

Model 555. As above, but factory-wired.

69 F 098 ..... 34.95

**Model 526-K VOM Kit.** Same as Model 536-K at left, but employs 1% precision divider resistors. Shpg. wt., 3 lbs.

69 F 045 ..... 15.95

Model 526. As above, but factory-wired.

69 F 097 ..... 19.95

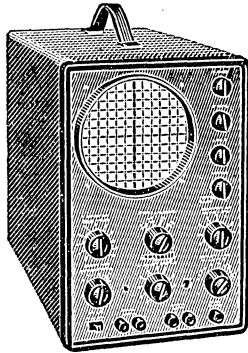


# ... In Kit Form or Factory Wired

## MODEL 427-K 5" WIDEBAND SCOPE KIT

Low-cost general-purpose wide-band scope with all the controls necessary for exacting service or industrial use. Features push-pull output in direct-coupled vertical amplifier; direct or capacitive input-coupling; 4-position frequency-compensated vertical input attenuator; saw-tooth output panel-jack; intensity, focus and astigmatism controls on front panel; instantaneous vertical and horizontal positioning. Vertical amplifier: flat from DC to 500 kc (-6 db at 1 mc); sensitivity, 10 mv, p-p, or 3.5 mv rms/cm. Horizontal amplifier: flat from 2 cps to 450 kc; sensitivity, 0.5 v., p-p, or 0.18 v. rms/cm. Sweep circuit: recurrent sweeps from 10 cps to 100 kc in 4 overlapping ranges; minimum ratio of forward sweep time to retrace time, 15:1. External sync provision. Calibrator: 60 cps square-wave, 100 mv, p-p. 12 $\frac{1}{2}$ x8 $\frac{1}{2}$ x16 $\frac{1}{16}$ ". With all parts and instructions. For 105-125 v., 60 cycle AC. Wt., 30 lbs.

65 FU 064.....**69.95**



Model 427. Same as above, but factory-wired.  
65 FU 065.....**109.95**

## OSCILLOSCOPE PROBES

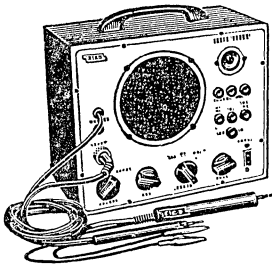
Fully shielded. Av. shpg. wt., 5 oz.

Stock No.	Type	Description	EACH
69 F 180	PSD-K	Demodulator Probe Kit.	3.95
69 F 129	PSD	As above, but wired.	5.95
69 F 055	PD-K	Direct Probe Kit.	2.95
69 F 130	PD	As above, but wired.	3.95
69 F 056	PLC-K	Low-Capacity Probe Kit.	3.95
69 F 131	PLC	As above, but wired.	5.95

## MODEL 147-K DELUXE SIGNAL TRACER KIT

Versatile transformer-operated instrument for servicing TV, FM, AM audio and other electronic equipment. High and low-gain RF channels with internal wide-frequency-range demodulator, permits direct observation of signal. Has output for VTVM or oscilloscope. Can be connected as substitute speaker, output transformer, or amplifier. Heavy filtering and hum-balance control. Both visual and aural monitoring of all RF and AF channels—magic-eye and 5" PM speaker. Calibrated wattmeter circuit indicates power consumption in unit under test. Detects B+ short, intermittent filament circuit, defective filter or bypass capacitors, etc. Noise-locator applies DC test-voltage to suspected component, and amplifies the effect. Aluminum panel; gray wrinkled steel case. 9x10x5 $\frac{1}{2}$ ". With probes, all parts and easy-to-follow instructions. Less solder. For 105-125 volts, 60 cycle AC. Shpg. wt., 10 lbs.

69 F 064.....**29.95**



Model 147. As above, but factory-wired.  
69 F 140.....**44.95**

## MODEL 315-K DELUXE RF SIGNAL GENERATOR

Professional-quality RF signal generator for servicing AM, FM and TV. Frequency dial reading accuracy of better than 1% on all ranges. Frequency range: 75 kc to 150 mc in 7 calibrated bands. Has fully shielded copper-plated chassis, attenuation controls and line filter for low-leakage output. Internal 400-cps sine-wave audio generator, with attenuator for RF modulation and external audio testing. Bandspread vernier tuning for precise frequency adjustment. Extra-large, illuminated 9" dial with gear-driven, anti-backlash, hair-line pointer protected by glass. Provision for external modulation. Also has VR150 voltage regulator for accuracy and stability. Deep-etched aluminum panel and rugged gray all-steel case. Overall size, 13x12x7". Supplied with all parts and easy instructions. Less solder. For 105-125 volts, 60 cycle AC. Shpg. wt., 18 lbs.

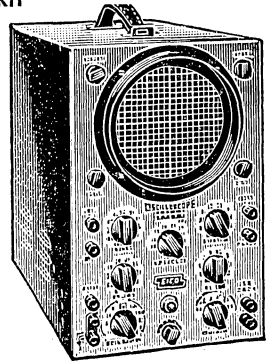
69 FX 609.....**49.95**



Model 315. As above, but factory-wired.  
69 FU 626.....**69.95**

## 460-K 5" WIDEBAND SCOPE KIT

Excellent for lab and color TV use. Response, flat from DC to 4.5 mc—usable to 10 mc. Accurately reproduces 3.58-mc color-TV sync burst. 4-step attenuator in both DC and AC positions. High vertical sensitivity—25 mv/inch. Built-in voltage calibrator injects accurately adjusted reference voltage into vertical amplifier to permit direct peak-to-peak voltage measurement. Full-screen DC vertical and 2X full-screen horizontal positioning. Sync is completely automatic. Sweep: 10 cps to 100 kc, plus low-frequency sweep with external capacitor. Push-pull vertical amplifier, direct-coupled. Cathode-follower inputs. 13x8 $\frac{1}{2}$ x16". With parts and instructions. Less solder. For 105-125 v., 50-60 cycle AC. 26 lbs.



69 FZ 612.....**89.95**

Model 460. Same as above, but factory-wired.

69 FU 631.....**129.50**

## MODEL 488-K ELECTRONIC SWITCH KIT

(Not illus.) Permits simultaneous viewing of two patterns on one oscilloscope. Continuously variable switching rates: 10-2000 cps. Response, 0-30,000 cps,  $\pm 2$  db. Can be used as square-wave generator. 6x8x6". With all parts and instructions. Less solder and leads. For 105-125 v., 50-60 cycle AC. Wt., 7 lbs.

69 F 059.....**23.95**

Model 488. Same as above, but factory-wired.

69 F 134.....**39.95**

## MODEL 495 VOLTAGE CALIBRATOR KIT

(Not illus.) Injects calibrated, semi-square wave on oscilloscope screen for comparison with any waveform. Ranges: 0.1-1-10-100 volts, peak-to-peak. Accuracy:  $\pm 5\%$  of full scale. Size, 5x7 $\frac{1}{2}$ x4". With all parts and instructions. Less solder and leads. For 105-125 v., 60 cycle AC. Shpg. wt., 4 lbs.

69 F 050.....**19.95**

Model 495. As above, but factory-wired.

69 F 093.....**24.95**

## MODEL 145-K LOW-COST MULTI-SIGNAL TRACER

A useful aid to the serviceman. Provides a quick method of locating the source of trouble in any radio, TV set or audio amplifier. Shielded RF crystal demodulator and direct probes. Noise locator circuit applies DC test-voltage through probe for stage-by-stage check of IF, RF, video and audio circuits—effect is amplified. Front-panel jacks for external scope or VTVM. Built-in 5" PM speaker and audio amplifier with volume control—can be used as a low-power utility sound system for phonograph, intercom, public address, etc. Also excellent for use as null detector, scope preamp, etc. Satin-finished, deep-etched aluminum panel and rugged gray-wrinkle all-steel case. Size, 7 $\frac{1}{2}$ x5 $\frac{1}{2}$ x5 $\frac{1}{2}$ ". Kit is supplied complete with probes, speaker, all parts, and easy-to-follow instructions and diagrams. Supplied less solder. For operation from 105-125 volts, 60 cycle AC. Shpg. wt., 7 lbs.



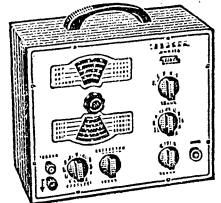
69 F 041.....**23.95**

Model 145. As above, but factory-wired.

69 F 094.....**32.95**

## MODEL 324-K RF SIGNAL GENERATOR

Accurate, wide-range signal-generator for FM, AM and TV servicing. Provides modulated or unmodulated RF signal and continuous output from 150 kc to 435 mc. Has expanded frequency range of 6 fundamental bands: 150-400 kc, 400-1200 kc, 1.2-3.5 mc, 3.5-11 mc, 11-37 mc and 37-145 mc. One harmonic band covers 111-435 mc. Calibration accuracy,  $\pm 1.5\%$ . Output impedance, 50 ohms. Internal modulation of 400 cps, variable from 0 to 50%; can be used for audio testing. Input has gain control for use with external modulator. Colpitts RF oscillator is directly modulated by cathode follower. Fine and coarse RF attenuators. 6:1 vernier tuning knob. Satin-finished aluminum front panel and gray-wrinkle all-steel case. Overall size, 8x10x4 $\frac{1}{4}$ ". With all parts and instructions. Less solder. For 105-125 v., 60 cycle AC. 8 lbs.



69 F 066.....**28.95**

Model 324. As above, but factory-wired.

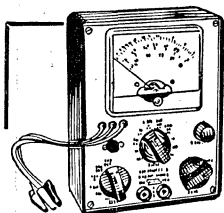
69 F 142.....**39.95**





# Test Equipment, Kit and Wired

## 680K TRANSISTOR AND CIRCUIT TESTER KIT

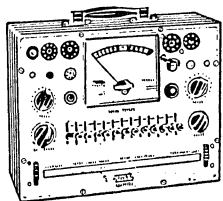


- Tests All Types of Transistors
- 5 DC Current Ranges, 2 DC Volt Ranges, 3 Resistance Ranges
- Powered By 5 Standard Batteries
- Bakelite Case, Aluminum Panel

Accurately measures basic transistor and diode characteristics. Measures ICBO, ICEO for all types of transistors, with separate test positions for signal and power transistors; DC Beta and simulated AC Beta. 20,000 ohm/v. meter reads 0-5-50 DC volts; 0-2000-200,000 ohms and 0-20 ohms resistance; also 0-50-500  $\mu$ a and 0-5-50-500 ma DC. Self-powered by five standard batteries: 4 size AA, 1 size C. Plastic case, 6 $\frac{1}{4}$ x5 $\frac{1}{4}$ x3 $\frac{1}{2}$ ". With leads, batteries. Less solder. 3 lbs.

65 F 054.....25.95  
 MODEL 680W. Same as Model 680K above, but factory-wired.  
 65 F 053.....39.95

## NEW 628K TESTER KIT



For checking emission, shorted elements, open elements and continuity. Full-vision, 4 $\frac{1}{2}$ " meter with 3-color "Replace-Weak-Good" scale and 0-100 scale for matching. Tests 7, 9 and 10 pin miniatures; octal; loctal; 5 and 7 pin novistors; novars and compactrons. Includes series string, VR's and "eye" tubes. Has 13 lever-type switches; overload lamp and fuse; roll chart for extra tube listings; snap-out chart window; pilot light test socket and line adjust control. 9 $\frac{1}{2}$ x12 $\frac{1}{2}$ x4 $\frac{1}{4}$ ". Less solder. For 105-125 v., 60 cycle AC. 11 lbs.

69 FX 730.....44.95  
 MODEL 628W. Same as above, but factory wired.  
 69 FX 729.....59.95  
 MODEL L-1. Lid for 628K and 628W above. 2 lbs.  
 69 FX 615.....3.98

## 902W IM/HARMONIC DISTORTION METER AND AC VTVM

Available in Factory-Wired Form Only



### NEW!

IM METER: 2 Toroidal Sections, Constant K High Pass Filter

HD METER: 20-20,000 cps Wien Bridge Rejection Filter

AC VTVM: Cathode Follower Input Circuit; 2-Stage Amplifier

POWER SUPPLY: V-R Tube Regulated Full-Wave Power Supply

Complete audio lab combining Intermodulation and Harmonic Distortion Meter, sensitive AC VTVM and DB Meter in one instrument. For critical measurement in audio design and development. Meets speed requirements of in-production quality-control and servicing. HD Meter has a 3-range, continuously variable 20-20,000 cps Wien Bridge rejection filter, a tuning capacitor providing 6:1 vernier tuning and a 300 degree scale. 0.3% distortion is read full-scale; less than 0.1% internal distortion. IM Meter features a 7 kc oscillator for the high frequency source and an additionally filtered line frequency signal for the low frequency source. Approximately .05% residual distortion. AC VTVM section provides 10 mv to 300 V range. Tubes: 1-12DW7, 1-12BY7, 2-ECF80, 1-EF86, 1-6D10, 1-6C4, 1-OA2, 1-6X4, 12 $\frac{1}{2}$ x8 $\frac{1}{2}$ x10 $\frac{1}{2}$ ". For 105-130 v., 60 cycle AC. 18 lbs.

65 FX 079.....250.00

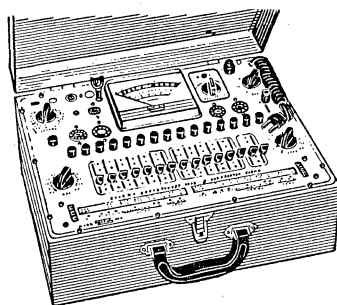
### SPECIFICATIONS

IM DISTORTION: Ratios of IF to HF: 4:1 and 1:1. Test Signal Output: 0-5 v. Output Termination: 600 ohms. Input Impedance: 500K ohms. Minimum Input Level: 0.7 v. Distortion Ranges: 0-0.3-1-3-10-30%. Accuracy:  $\pm$ 5% of full scale.

HARMONIC DISTORTION: Ranges: 20-200, 200-2000, 2000-20,000 cps. Input Impedance: 500K ohms. Input level: 0.7 min. Distortion Ranges: 0-0.3-1-3-10-30-100%. Accuracy:  $\pm$ 5% of full scale.

AC VTVM: Ranges: 0-.01-.03-0.1-0.3-1-3-10-30-100-300V rms. Input Impedance: 2 Megohms. Response:  $\pm$ 0 db from 10 cycles to 100 kc; 3 db down @ 300 kc. Accuracy:  $\pm$ 4% of full scale.

## NEW MODEL 667K TUBE AND TRANSISTOR TESTER KIT



200- $\mu$ a 4 $\frac{1}{2}$ " D'Arsonval meter reads composite Gm, Gp; peak emission, leakage of tubes; transistor coll. current and amplification factor. Tests virtually every domestic and foreign receiving tube made: 5 and 7-pin Novistors; 9-pin Novars; 12-pin Compactrons; 7, 9 and new 10-pin miniatures; 5, 6, 7 and 8-pin miniatures, octals and loctals. Also checks many low-power transmitting and special purpose tubes, voltage regulators, cold-cathode

regulators, electron ray indicators and ballast tubes. Special output in center of Novar socket tests pilot lamps. Tests are made under actual tube operating conditions. When one section of a multi-purpose tube is tested, all sections draw their full rated current. The 667K also features an up-to-date roll chart with snap-out window for easy entry of new data; a multi-circuit lever switch to rapidly set up plate, screen and control grid voltages; and 13 pushbutton switches for fast leakage testing of alternate tube elements. 12x15x4 $\frac{1}{2}$ ". For 105-130 v., 50-60 cycle AC. 20 lbs.

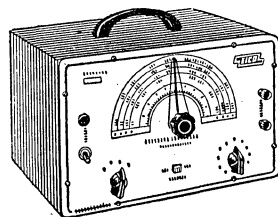
69 FX 727.....79.95  
 MODEL 667W. Same as above, but factory wired.  
 69 FX 726.....129.95

## MODEL CRU TV PICTURE TUBE TEST ADAPTER (Not Illus.)

For checking all types of TV picture tubes both color and black and white. Plugs into Models 628, 667 (at left and above, respectively) and similar tube testers. Wt., 6 oz.

69 F 728.....9.95

## MODEL 377K AUDIO GENERATOR KIT

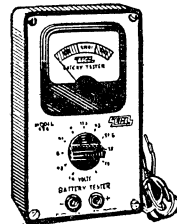


- Excellent Calibration Accuracy, Stability, Purity of Waveform
- Choke Filtering in Power Supply For Minimum Hum Level
- Constant High Power Output Over Wide Frequency Range

Employs Wein Bridge resistance-capacitance oscillator circuit with 1% precision resistors for sine and square waves. Perfect for audio engineers, radio-TV servicemen, hobbyists, etc. Sine wave range: 20-200,000 cps in 4 bands,  $\pm$ 1 $\frac{1}{2}$  db from 60-150,000 cps, less than 1% distortion. Square wave range: 60-50,000 cps in 4 bands. 50% tilt at 60 cps. 5% rounding at 30,000 cps. Output: 10 v. across 1000 ohms. 6 $\frac{1}{2}$ " dial has 0-100 reference scale. Calibration accuracy:  $\pm$ 3% or 1 cps. 7 $\frac{1}{4}$ x11 $\frac{1}{2}$ x7 $\frac{1}{2}$ ". Less solder, leads. For 105-125 v., 50-60 cycle AC. Shpg. wt., 14 lbs.

69 FX 610.....37.95  
 MODEL 377W. Same as 377K above, but factory wired.  
 69 FU 624.....54.95

## MODEL 584K BATTERY TESTER KIT



- Tests All A and B Portable Radio Batteries In or Out of the Receiver
- 10 Voltage Test Positions; 1 Spare Position
- In High Impact, Polished Black Bakelite Case

For a fast check of battery stock and testing of batteries commonly used in portable tube and transistor radios, hearing aids, flashlights, and photoflash equipment. Accurately tests all A and B portable radio batteries in or out of the receiver. Tests lantern batteries, and may be adapted to other types. During tests, rotary switch selection of the exact voltage of the battery under test inserts the proper resistor in series and in shunt with the meter. As a result, the battery's internal resistance reduces its terminal voltage exactly as under actual operating conditions. Test-switch positions (volts): 1.5, 4.5, 6.0, 7.5, 9.0, 22.5, 45, 67.5, 75, 90, plus a spare position. 6 $\frac{1}{4}$ x3 $\frac{3}{4}$ x2 $\frac{1}{2}$ ". With leads; less solder. Shpg. wt., 2 lbs.

69 F 067.....9.95  
 MODEL 584W. Same as above, but factory wired.  
 69 F 145.....12.95

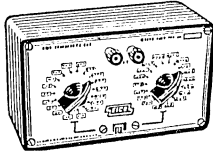


# Test Equipment, Kit and Wired



## MODEL 1100K RESISTANCE SUBSTITUTION BOX KIT

Makes possible the rapid substitution of all resistance values that are decade multiples of 15, 22, 33, 47, 68 and 100 ohms, from 15 ohms to 10 meg ohms. Uses standard 1-watt,  $\pm 10\%$  EIA resistors. 5-way binding posts.  $3\frac{3}{4} \times 6\frac{1}{2} \times 3\frac{1}{2}$ ". Satin aluminum front panel. Less solder, leads. Shpg. wt., 2 lbs.

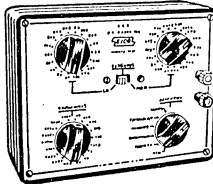


69 F 053.....7.95

MODEL 1100W. Same as above, but factory wired.  
69 F 128.....12.95

## 1140K SERIES/PARALLEL R-C COMBINATION BOX KIT

Versatile combination of Models 1100-K and 1120-K substitution units see specifications above and below right, respectively). With switching facilities that permit selection of any resistor, capacitor, or 1350 combinations in series or parallel. Allows development of differentiating, integrating and other wave-shaping R-C networks, 10% accuracy, using standard EIA values. Convenient jack-top binding posts. Open and short circuit positions provided. Less solder, leads.  $5\frac{1}{2} \times 6\frac{1}{2} \times 2\frac{1}{8}$ ". Wt., 3lbs.



69 F 258.....14.95

MODEL 1140W. Same as above, but factory wired.  
69 F 259.....19.95

## MODEL 1171K DECADE RESISTANCE BOX KIT

The 1171K is useful for known resistance in bridge circuits, ohmmeter calibration, determining the exact values required for meter or instrument multiplier resistors, determination by actual substitution of resistance values required in electronic circuits, and in determining the value of badly damaged or illegible resistors by substitution. Features an extremely wide range of 0-99,999 ohms in 1-ohm steps with 5 decades.  $\frac{1}{2}\%$  accuracy at any setting. Five 10-position switches. Comparator position and binding posts for instant substitution of actual equivalent component. Uses 1-watt resistors. Gray wrinkle steel case, with aluminum panels  $12 \times 3\frac{1}{2} \times 3$ ". Less solder, leads. Shpg. wt., 3 lbs.

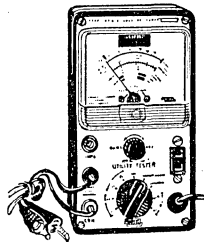


24.95

MODEL 1171W. Same as above, but factory wired.  
69 F 096.....29.95

## MODEL 540K READI-TESTER KIT

All-in-one AC/DC voltmeter, ammeter, ohmmeter, wattmeter and leakage tester. Ranges: AC/DC volts, 0-7.5-15-150-300; AC/DC amps 0-15; Resistance, 0-1000 ohms. Has neon indicator for continuity check of resistors from 1000 to 2,000,000 ohms and capacitors above .0005 mfd;  $3\frac{1}{2}$ " meter. Panel outlet for current metering. Aluminum panel and bakelite case. Supplied with leads. Less solder.  $6\frac{1}{2} \times 3\frac{3}{4} \times 3\frac{1}{2}$ ". Shpg. wt., 3 lbs.

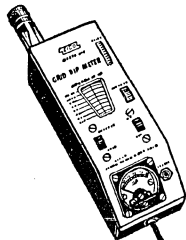


69 F 070.....12.95

MODEL 540W. Same as above, but factory wired.  
69 F 143.....15.95

## MODEL 710K GRID DIP METER KIT

An exceptionally versatile instrument for use in amateur radio and electronic servicing. Covers 400 kc to 250 mc in 8 overlapping ranges. Has 500-ma meter movement; complete set of plug-in coils, accurately wound to  $\pm 1\%$ ; illuminated scale. Used by servicemen for aligning traps, filters, IF's; peaking compensation networks; and as signal or marker generator. Sensitivity control and phone jack facilitate "zero beat" listening. Excels as an absorption wave meter. Used by hams for pretuning and neutralizing transmitters; power indication; locating parasitic oscillations; antenna adjustment; correcting TVI; determining C, L, Q; etc. Gray wrinkle steel case,  $2\frac{1}{4} \times 2\frac{1}{8} \times 6\frac{1}{8}$ ". Less solder. For 110-120 v., 60 cycle AC. Shpg. wt., 3 lbs.

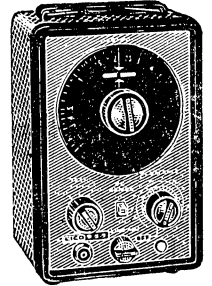


69 F 260.....29.95

MODEL 710W. Same as above, but factory wired.  
69 F 261.....49.95

## MODEL 955K BRIDGE-TYPE CAPACITOR TESTER KIT

Runs out-of-circuit or in-circuit short check with shunt resistance as low as 1 ohm. Reliable up to 2000 mfd. Closed bar pattern indicates short. 60 cps short test frequency. Maximum short test voltage, 6.3 volts. Runs out-of-circuit or in-circuit open test of capacitors as small as 15 mmf with instrument adjusted normally. For in-circuit testing, shunt resistance may be as low as 35 ohms for capacitors above 250 mfd. Closed bar pattern also indicates open. Approximately 19 mc test frequency, very low voltage. Wein Bridge with unique shunt resistance balancing measures capacity from 0.1 to 50 mfd. Permits  $\pm 10\%$  accuracy at any point on the capacity dial in either in-circuit measurement. Capacity scale is screened on  $4\frac{1}{2}$ " heavy-gauge lucite disc. 60 cps bridge operating frequency. Provides very wide RC product range for accurate capacity measurement, in or out of circuit.  $8\frac{1}{2} \times 5\frac{3}{4} \times 6$ ". With leads; less solder. For 105-130 v., 60 cycle AC. Shpg. wt., 6 lbs.

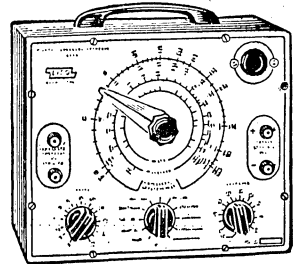


65 F 056.....19.95

MODEL 955W. Same as above, but factory wired.  
65 F 055.....39.95

## MODEL 950B-K RC BRIDGE AND R-C-L COMPARATOR KIT

Combines functions of R-C bridge and R-C-L comparator in one unit. Measures 0.5 ohms to 500 megs and 10 mmf to 5000 mfd in 4 separate capacity ranges and 4 separate resistance ranges. Has .05 to 20 comparator range and continuously variable 0-500 DC polarizing voltage,  $\pm 10\%$ . For capacitance measurement of paper, mica, electrolytic and ceramic capacitors; resistance measurement; comparison measurement of resistance, capacitance and inductance with a complementary component as a standard; power factor measurement on electrolytics; finding leaky and shorted capacitors; etc. Features direct reading measurement scales and direct reading ratio scale. Gray wrinkle steel case,  $8 \times 10 \times 3\frac{3}{4}$ ". Less solder, leads. For 105-125 v., 60 cycle AC. Shpg. wt., 10 lbs.

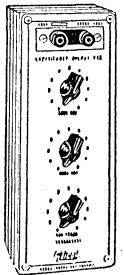


69 F 043.....23.95

MODEL 950B-W. Same as above, but factory wired.  
69 F 095.....29.95

## MODEL 1180K CAPACITOR DECADE BOX KIT

Useful in any lab as a tuned circuit element, bridge impedance, filter element or a component of any circuit where a wide-range variable capacitor is necessary, or for rapid determination of proper capacitance values. Range: 100 mmf to .111 mfd in 100 mmf steps. Voltage ratings: 350 WVDC continuous, 500 WVDC intermittent. Accuracy:  $\pm 1\%$ . Zero capacitance: 7 mmf. Has positive detent, ceramic wafer switches, low-loss lucite terminal board and 5-way, jack-type binding posts. Gray wrinkle steel case,  $9 \times 3\frac{1}{2} \times 3\frac{1}{2}$ ". Less solder, leads. Shpg. wt., 3 lbs.

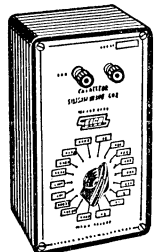


69 F 057.....17.95

MODEL 1180W. Same as above, but factory wired.  
69 F 132.....24.95

## MODEL 1120K CAPACITANCE SUBSTITUTION BOX KIT

Provides rapid substitution of a wide range of values from 0.0001 to 0.22 mfd in 18 steps. Useful in determining value needed for optimum performance and in discovering value of badly damaged or illegal capacitors.  $\pm 10\%$  accuracy. Uses silver-mica and molded plastic capacitors; most rated at 600 v, others at 400 v. An excellent companion to Model 1100K Resistance Substitution Box Kit, above left. Has convenient 5-way, jack-type binding posts. Gray wrinkle steel case,  $3\frac{3}{4} \times 6\frac{1}{2} \times 3\frac{1}{2}$ ". Less solder, leads. 2 lbs.

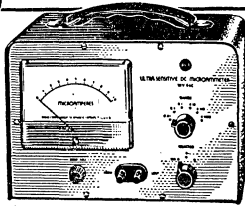


69 F 065.....6.95

MODEL 1120W. As above, but factory wired.  
69 F 141.....10.95

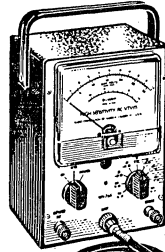
# Portable Test Equipment

USED BY LABS, SCHOOLS AND REPAIRMEN EVERYWHERE

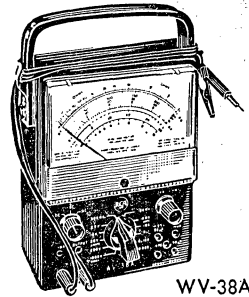


WV-84C

Ultra-sensitive—measure minute direct currents, current and voltage in electrolysis and corrosion investigations, and check current in motors, detectors, etc.



WV-76A



WV-38A

## WV-84C DC MICROAMMETER

An extremely sensitive, battery-operated, vacuum tube microammeter designed to measure minute direct currents. Converts to high-resistance voltmeter when used with external multiplier resistors (supplied), with an input resistance of at least 100 megohms per volt. Reads from 0.0002 to 1000 microamps in 6 direct-current ranges. Voltage-drop at full scale, 1/4-volt on all ranges. Overall accuracy is  $\pm 4\%$  of full-scale except on lowest range, which is  $\pm 5\%$  or better. Negligible circuit-loading makes the WV-84C ideal for measurements in circuits where loading is a critical factor. Precision meter is electronically protected from burnout. With 50 and 950-megohm multiplier resistors. Less batteries, below (requires 2 of each). Rugged case, 7 1/2 x 10 1/2 x 6 1/4". Shpg. wt., 10 lbs.

69 F 689.....**110.00**

55 J 003, Burgess #4F 1 1/2-v. Battery, Shpg. wt., 1 1/2 lbs.....**EACH 1.15**

55 J 560, Burgess #4156 22 1/2-v. Battery, Uses 2. Shpg. wt., 1 1/4 lbs.....**EACH 1.61**

## WV-76A AC VTVM

- Has 200-Microamp Meter
- Offers High Input-Resistance
- With Precision Resistors

Extremely sensitive, general-purpose VTVM that measures AC voltage from 10 millivolts to 100 volts, rms in 9 db ranges: -40 db to +40 db. Excellent for hi-fi and general low level audio work, such as hum and ripple measurements, IF gain and vibration analyzing. Has rugged 200-microamp meter—easy to read and protected by high-impact plastic cover. Uses 1% precision resistors. Accuracy: 4% of full scale deflection. Frequency response of amplifier: flat within 1/2 decibel between 20 cps and 500 kc. Input resistance: 1.0 megohms; shunt capacitance: 58 mmf at input terminals. Supplied complete with shielded direct/low capacitance probe and cable. Has brushed aluminum panel. In compact, durable case. Only 7 3/4 x 5 5/8 x 4 3/4". For 105-125 volts, 50-60 cycle AC. Shpg. wt., 5 lbs.

65 F 088.....**79.95**

## WV-38A VOM

All-purpose VOM featuring 1-volt and 250-mv ranges for transistor servicing. Offers 20,000 ohms-per-volt input resistance on all 8 DC ranges; 0-25-1-2.5-10-50-250-1000-5000 volts. DC accuracy,  $\pm 3\%$ . Has 5000 ohms-per-volt input resistance on 6 AC ranges; 0-2.5-10-50-250-1000-5000 volts. Frequency response on 2.5, 10 and 50 volt ranges is flat within 1/2 db from 10 cps to 50 kc. AC accuracy,  $\pm 5\%$ . Reads resistance from 0-20 megohms in 3 ranges. 8 DC current ranges: 0-50 microamperes, 0-1-10-100-500 ma, 0-10 amps. Reads decibels from -20 to +50 in 4 ranges. Internal DC-blocking capacitor for AC measurements. Large 5 1/4" meter is housed in high-impact plastic case. Red probe has slip-on alligator clip. 6 7/8 x 5 1/4 x 3 3/4". With batteries and leads. Shpg. wt., 5 lbs.

69 F 191.....**43.95**

69 F 192, Model WV-38A(K). As above, but in kit form. Shpg. wt., 5 lbs.....**29.95**

69 F 188, Model WG-270A Case, For above. Scuff-proof. Shpg. wt., 1 lb.....**4.95**

## WV-98C SENIOR VOLTOHMYST

Features an easy-to-read zero-center scale, electronic protection against burnout, a rugged 200-microamp meter movement, and 1% precision multiplier resistors. Large 6 1/2" meter is accurate to  $\pm 3\%$ . 7 ranges for each function. Reads AC rms and DC to 1500 volts. Measures resistance from 0.2 ohms to 1000 megs. AC input impedance of 830 K and 70 mmf to 1.5 megs and 60 mmf. Input resistance on DC is 11 megs. Has single-unit DC-AC-Ohms probe with built-in selector switch.

Excellent for measurement of complex TV waveforms—direct reading of peak-to-peak voltages up to 4200 volts in video, sync and deflection circuits of color or black-and-white TV receivers. Housed in die-cast aluminum case. Size, 6 1/2 x 7 x 3 3/4". With probe and shielded cable. For 105-125 volts, 50-60 cycle AC. Shpg. wt., 7 lbs.

65 F 134.....**79.50**

65 F 133, Model WV-98C(K). As above, but in kit form. Shpg. wt., 7 lbs.....**57.95**

## WV-77E JUNIOR VOLTOHMYST

Excellent for radio and TV servicemen. Features a fuse protected ohms-divider network plus an electronically protected 400-microampere movement. 11-meg. input. Ranges: resistance, 0-100-10,000-100,000 ohms (center scale is 10), 0-10-100-1000 megs; AC rms and DC volts, 0-1.5-5-15-50-150-500-1500; AC p-p volts, 0-4-14-40-140-1400-4000. Accuracy:  $\pm 3\%$  of full scale on DC ranges;  $\pm 5\%$  from 40 cps to 5 mc on 1.5, 5 and 15 volt rms ranges and 4, 14 and 40 volt p-p ranges. Has separate scale on

1 1/2-v. rms and 4-v. p-p ranges for high accuracy on low AC measurements. Tough metal case with brush aluminum panel eliminates effect of RF fields. Size, 7 3/8 x 5 1/2 x 4 3/4". Supplied complete with probes, flexible leads and complete instructions. For operation from 50-60 cycle AC. Shpg. wt. 5 lbs.

69 F 187.....**43.95**

69 F 078, Model WV-77E(K). As above, but in kit form. Shpg. wt., 5 lbs.....**29.95**

## ACCESSORY PROBES FOR ABOVE VOM'S AND VTVM'S

WG-289 High Voltage Probe. Extends DC voltage range of VOM's and VTVM's to 50,000 v. Less multiplier. Wt., 1 lb.

69 F 079.....**11.95**

Multipliers. For WG-289 Probe, 2 oz.

69 F 080, WG-206, 1090 meg.....**3.50**

69 F 081, WG-210, 900 meg.....**3.50**

WG-297 High-Voltage Probe. For WV-77E Volt ohmyst kit. Same as WG-289 above, but has banana plugs. Wt., 1 lb.

69 F 189.....**11.95**

WG-211 Multiplier, 495-meg multiple resistor for WG-289 and WG-297 high-voltage probes at left. Shpg. wt., 2 oz.

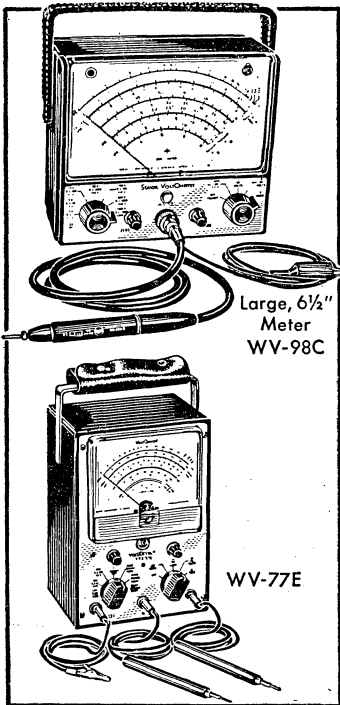
69 F 190.....**3.50**

WG-299D AC-DC-Ohms Probe. Replacement probe for RCA volt ohmysts. Wt., 1 lb.

69 F 185.....**7.95**

WG-301A Crystal Diode Probe. Slips on WG-299A, B or C. Extends the RF range up to 250 mc. Shpg. wt., 8 oz.

69 F 180.....**7.75**



Large, 6 1/2" Meter  
WV-98C

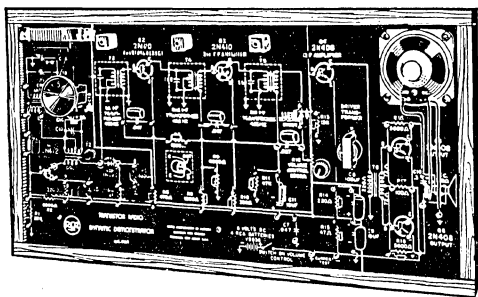
WV-77E

# Educational Devices and Test Equipment



## EDUCATIONAL DEVICES

### TRANSISTOR RADIO DEMO. KIT



#### TYPE WE 93A (K)

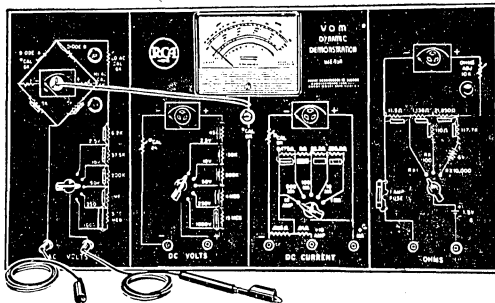
- Large Circuit-Panel for Positioning all Parts
- Easy Instructions • Error-Proof Wiring Diagram
- Includes Complete RCA Transistor Manual

An excellent educational technique for the class room or lab. Actually a powerful AM transistor radio converted into kit form, this receiver is assembled and mounted on a sturdy 12x24" color-coded panel. Each part is placed in its proper position on the schematic, and is readily identified. Makes an outstanding demonstrator for the class room instructor. The radio itself has a sensitive superheterodyne circuit that pulls in many stations. Features top-quality parts throughout.

Building the kit is extremely easy. The circuit diagram is drawn in a straightforward, easily understood manner; wiring diagram on the reverse side simplifies building and almost eliminates any chance of error. Component installation is extra-simple because of special silver-plated spring connectors. All components are positioned on the front panel only, and each circuit-function is color-coded. Supplied complete with all parts and assembly instructions, plus a 304-page RCA Transistor Manual with a complete section on basic theory, and detailed data on 373 semiconductor devices. Shpg. wt., 12 lbs.

69 FU 690..... 39.95

### VOM DYNAMIC DEMO. KIT



#### TYPE WE 95A (K)

- Components Positioned on Front of Layout Panel
- Each Circuit Function Is Color-Coded
- Can Be Used for Actual Radio Servicing

RCA's VOM Dynamic Demonstrator Kit allows easy assembly, permits clear demonstration of all functions and operations by a teacher, and can be used as an actual, efficiently functioning test instrument in all kinds of practical class room activities. Separate schematic and wiring diagrams are printed on a large (24x12"), easy-to-follow layout panel. Each component is positioned on front of panel in its proper place, and each circuit function is color-coded for quick and easy identification. Crystal-clear wiring diagram for each circuit is printed on rear of panel. Once assembled, the WE-95A VOM can be used to test and service TV receivers; AM, FM and short wave radios; hi-fi, stereo equipment, etc.

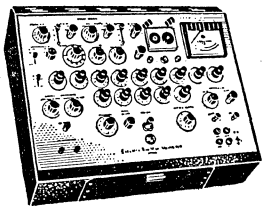
The WE-95 VOM has 5 DC (20,000 ohms/volt) and AC (5000 ohms/volt) voltage ranges—0-2.5-10-50-250-1000. Resistance: 12-1200-120,000 ohms center scale. DC current: 0-1-10-100-500 ma; 0-10 amps. Has large 5", easy-to-read meter. High-impact housing can be used as carrying case or display stand in class room. Supplied complete with carefully detailed, easy-to-follow instructions; all components and wire; a special instruction booklet detailing each circuit's function and operation. Shpg. wt., 10 lbs.

65 FU 087..... 37.95

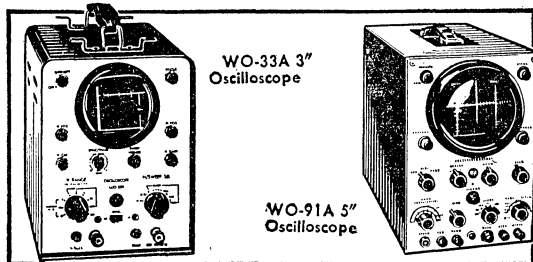
### WT-100A MICRO-MHO-METER

A remarkably accurate laboratory instrument. Measures tube characteristics under actual operating-voltage and current conditions, with an accuracy comparable to that of tube manufacturer's equipment. Measures: true transconductance to an accuracy of better than  $\pm 3\%$ ; transconductance up to 100,000 micromhos in 6 ranges; control-grid-to-plate and suppressor-grid-to-plate transconductance. Also includes pushbutton "short" test indicator. Measures individual electrode currents, AC heater currents, including 600-ma series-string TV types; voltage-drop across electron tubes, dry-disc rectifiers and crystal diodes. Built-in calibrating circuit—no null meters or extra devices required! Easy-to-read meter for all measurements. Regulated power supply for DC voltages. 250-ma DC supply for filaments of battery-operated tube types. Includes four multi-socket plug-in units (extra plug-ins, below). Blue-gray case, 8x18 $\frac{1}{2}$ x23 $\frac{1}{2}$ ". For 105-125 volts, 50-60 cycle AC. Shpg. wt., 110 lbs.

65 FZ 097..... 989.00



### 3" and 5" WIDEBAND OSCILLOSCOPES



**WO-33A 3" Oscilloscope.** Features dual-band response. Wide-band is flat from 5.5 cps to 5.5 mc; narrow band, 20 cps to 150 kc. Both within  $\pm 3$  db. Built-in calibrator for accurate p-p voltage measurements. Narrow-band sensitivity, .02 volt peak-to-peak per inch (.003 volt rms). Wideband, 0.6 volt peak-to-peak per inch (0.1 volt rms). Saw-tooth range, 15 cps to 75 kc. Sync: external and ( $\pm$ ) internal. Line sweep: 160° adjustable phase. Sync circuit locks in at frequencies as high as 4.5 mc. Vertical input impedance, 90 mmf and 1 meg direct; 50 mmf and 1 meg at panel connector; 10 mmf and 10 megs in low-capacitance position. 8 $\frac{3}{4}$ x6 $\frac{1}{2}$ x10 $\frac{1}{4}$ ". For 105-125 volts, 50-60 cycle AC. Shpg. wt., 15 lbs.

69 FU 641..... 129.95  
69 FU 642. WO-33A(K). As above, but in kit form..... 79.95

**WO-91A 5" Oscilloscope.** For color and black-and-white TV servicing. Features: dual-band response; wideband within  $\pm 1$  db from 10 cps to 4.5 mc; narrow-band within  $-6$  db from 10 cps to 1.5 mc; and voltage-calibrated, frequency-compensated 3-to-1 step attenuator. Vertical polarity reversal switch. Built-in calibration voltage. Plus or minus internal sync. Sensitivity, 0.05 v. p-p/inch (0.18 v. rms) in narrow-band position and 0.150 v. p-p/inch (0.053 v. rms) in wideband position. Vertical input, 75 mmf and 1 meg direct and 11 mmf and 10 meg low-capacitance position with WG300B probe (supplied). 13 $\frac{1}{2}$ x9x16 $\frac{1}{2}$ ". For 105-125 v., 30-60 cycle AC. 33 lbs.

69 FU 619..... 249.50

69 F 182. WG-300B Direct/Low-Capacitance Probe, 1 lb..... 9.95

69 F 183. WG-302A Demodulator Probe. When used with the WG-300B probe, extends range to 250 mc. Input, 2.2 mmf. 1 lb.... 8.50

### SOCKET PLUG-INS FOR WT-100A MICRO-MHO-METER

WG-229A Multiple, 7 and 9-pin miniature. 8-pin octal 7 oz.

65 F 068..... 25.00

WG-230A Multiple, Lock-in 8-pin. 7, 8-pin. Wt., 7 oz.

65 F 069..... 25.00

WG-231A Multiple, Small 4, 5, and 6-pin. Wt., 7 oz.

65 F 070..... 25.00

WG-232A Multiple, Acorn, submin. 7 and 8-pin. 7 oz.

65 F 071..... 25.00

WG-233A Industrial, Miniature 7-pin. Wt., 7 oz.

65 F 072..... 25.00

WG-234A Industrial, Octal 8-pin. Wt., 7 oz.

65 F 073..... 25.00

WG-235A Industrial, Noval 9-pin. Wt., 7 oz.

65 F 074..... 25.00

65 F 075. WG-236A Kit of Plug-in Socket Parts. Includes screws, lock-washers, spacers, connector assembly, and housing. 12 oz.... 15.00

# Portable Test Equipment, Transistor Testers



LAB INSTRUMENTS



WR-50A

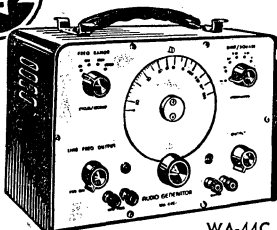
## WR-50A PORTABLE RF SIGNAL GENERATOR

- Tunable Output from 85 kc to 50 mc
- Dial Calibration Accurate Within 1%
- Built-in 400-Cycle Audio Oscillator

RCA's highly accurate, lightweight portable signal generator. Offers a variety of signal tracing applications in the repair and testing of AM and FM radios, and TV receivers both in the shop and field. Provides continuously tunable output from 85 kc to 50 mc, all on fundamentals. Dial calibration is accurate within 1%. Incorporates built-in 400-cycle oscillator. Provision for external modulation, too.

Cathode-follower output isolates oscillator from effects of load—maintains waveform, voltage regulation and stability. Attenuator for positive control of RF output level, has range of approximately 2000 to 1. RF output voltages at least 0.5 and 0.01 volts rms at high and low connectors, respectively. All outputs are shielded.

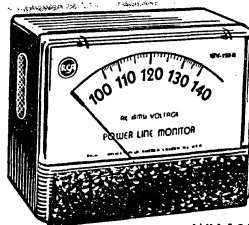
In rugged metal case. Has attractively styled panel with controls placed to ensure ease of operation. Compact size,  $7\frac{1}{2} \times 10\frac{1}{2} \times 6"$ . Supplied complete with leads, easy-to-follow instructions, and schematic. For operation from 105-125 volts, 50-60 cycle AC. Shpg. wt., 10 lbs. 69 F 755..... 59.95



WA-44C

## WA-44C SINE AND SQUARE-WAVE AUDIO GENERATOR

A necessary test instrument for every efficient electronics lab—perfect for research and development. Also excellent for testing on the production line. The WA-44C provides 20 to 200,000 cps output in four ranges. Switch selects sine or square-wave output. Square waves have less than 5% tilt; better than 0.15  $\mu$ sec rise time. Output: 8 volts rms minimum with rated load;  $\pm 1.5$  db, 30 to 100,000 cps. Distortion: less than  $\frac{1}{4}\%$  at maximum output. Has separate 60-cps output. 10-to-1 step attenuator; variable output control. Unit has carrying handle for convenient portability. Size,  $7 \times 10\frac{1}{2} \times 6\frac{1}{8}"$ . For operation from 105-125 volts, 50-60 cycle AC. Shpg. wt., 12 lbs. 69 FU 648..... 98.50



WV-120A

## WV-120A POWER LINE MONITOR

Convenient and easy to use—just plug line cord into AC outlet. The WV-120A immediately indicates fluctuations and "bounces" in line voltage. An excellent instrument for laboratories and factories—or wherever accurate knowledge of line voltage is important. Unit can be hung on the wall or placed on a workbench. Range: 110-140 volts. Accuracy,  $\pm 2\%$  at 120 volts. Scale has large, easy-to-read markings. Size,  $3\frac{1}{4} \times 6 \times 5\frac{3}{16}"$ . Shpg. wt.,  $1\frac{1}{2}$  lbs. 69 F 179..... 14.95



WR-51A

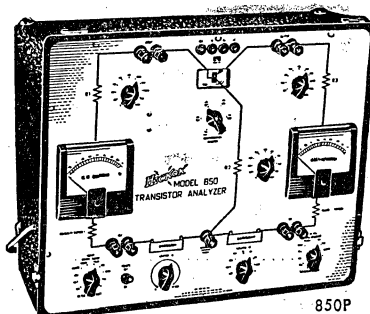
## WR-51A STEREO FM SIGNAL SIMULATOR

Compact, lightweight test instrument designed to generate signals needed to completely service and maintain multiplex adapters and stereo FM receivers. Generates composite stereo output signal for either left or right channel, and special phase-test signal for adjustment for sub-carrier transformers. These signals can be modulated with 400, 1000, or 5000-cps frequencies. A 19-kc ( $\pm 0.1\%$ ) crystal-controlled subcarrier signal checks lock-in range. Four sine-wave signals (23, 38, 48 and 67 kc) help to adjust bandpass networks. 100-mc adjustable carrier signal ( $\pm 8$  mc) aids in selecting quiet point in FM band. Can be modulated (adjustable deviation from 0-75 mc).

The 100-mc signal sweeps over a 0 to 700-kc range at 60 cps for overall RF-IF alignment checks. Crystal-controlled 5.35-mc signal provides 10.7-mc IF marker and harmonic markers at 90.95 mc, 96.30 mc, 101.65 mc and 107 mc for RF alignment. Has 60-db 3-step attenuator of RF output. Zero-center meter checks balance of stereo amplifier's audio output. Has two permanently wired cables for connection to amplifier voice-coil output. Blue-gray hammerloid case; aluminum panel.  $10 \times 13\frac{1}{2} \times 8"$ . With two connecting cables and bracket. For 110-120 v., 60 cycle AC. 14 lbs. 65 FU 285..... 249.50



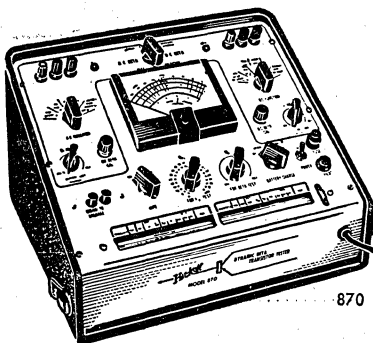
## TRANSISTOR TESTERS and ANALYZER



850P

## 850P TRANSISTOR ANALYZER

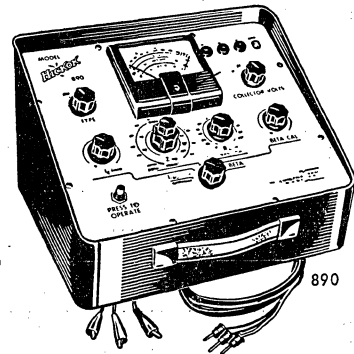
Tests transistors under actual operating conditions in any of 6 circuit configurations: common emitter, collector, or base NPN or PNP. Checks alpha, beta input and output resistance,  $I_{e0}$ ,  $I_{e00}$ ,  $I_{e00}$  and power gain. Panel controls set circuit conditions. Size,  $13\frac{1}{2} \times 16\frac{1}{2} \times 8"$ . With leads. Less batteries (uses 10), below. Wt., 20 lbs. 65 FU 124..... 169.50  
55 J 865. Battery. Pkg. of 2..... 26



870

## 870 TRANSISTOR TESTER

Tests transistors at specified  $I_b$ ,  $V_{ce}$ , and  $I_c$ . Measures both AC and DC beta to accuracies well within 5%. Checks collector saturation voltage. Provides low-voltage, high-current tests. Protected 100-amp meter. Controls laid out for fast testing. Built-in roll chart (listing 1500 transistors).  $7\frac{7}{8} \times 14\frac{1}{4} \times 11\frac{3}{4}"$ . For 110-120 volts, 60 cycles AC. Shpg. wt., 22 lbs. 69 FU 652..... 355.00



890

## 890 TRANSISTOR TESTER

Battery powered. Measures AC Beta to  $\pm 5\%$  in or out of circuit. Measures input resistance, base-emitter circuit impedance and  $I_c$  in circuit; input resistance,  $I_c$  and  $I_{e0}$  out of circuit.  $6\frac{1}{2} \times 10\frac{3}{4} \times 9"$ . Less batteries below (uses 4). Wt., 8 lbs. 69 FU 646..... 137.50  
55 J 105. K-15 Battery. Uses 1..... EA. 1.23  
55 J 865. Type 1 Battery... Pkg. of 2 for .26

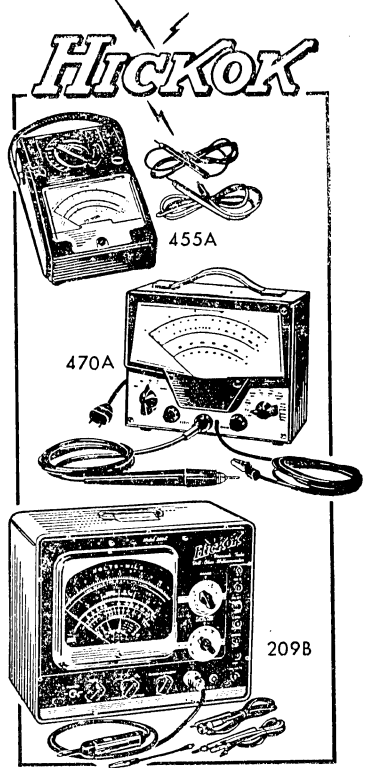
# Deluxe Test Equipment

## LABORATORY STANDARD MULTI-TESTERS

### MODEL 455A BURN-OUTPROOF VOM

Compact portable VOM. Rugged design withstands hard use. Unique overload circuit cut out and fuses protect meter and circuitry against burnout on any function, including ohms. Has full-wave bridge-type rectifier circuit. Single switch selects both function and range. Curved face and slanted meter dial permit easy reading while instrument is lying flat. Sensitivity: 20,000 ohms-per-volt, AC and DC. Ranges: AC-DC volts, 0.3-15-60-150-600-1200; resistance, 0-1000-100,000 ohms; 0-1-100 meg—5 ohms

center-scale; DC current, 0-50  $\mu$ a; 0-1-10-100-1000 ma; 0-10 amps; db, -18 to +57 in five ranges. Frequency compensated over entire audio range. High-impact phenolic case. With test leads. Less Burgess batteries, below (uses 1 of each). Wt., 5 1/2 lbs.  
**69 F 122..... 89.50**  
**69 F 754, Neoprene Carrying Case, For above. Shpg. wt., 1/2 lb..... 10.00**  
**55 J 066, U-20 Battery..... EACH 1.23**  
**55 J 867, Type 2 Battery..... Pkg. of 4 .52**



### MODEL 470A PORTABLE VTVM

Versatile, portable VTVM for the engineer and serviceman. Has 2-scale 7" meter. Single-unit AC-ohms-DC probe simplifies servicing by eliminating the inconvenience of separate test leads. Exceptional sensitivity permits transistor bias testing. Ranges: AC and DC volts, 0-0.5-1.5-5-15-50-150-500-1500; peak-to-peak AC volts, 0-1.4-4-14-40-140-400-1400-4000; resistance ranges (center scale = 10): X1, X10, X100, X1000, X10,000, X100,000, X1 meg; and X10 meg.

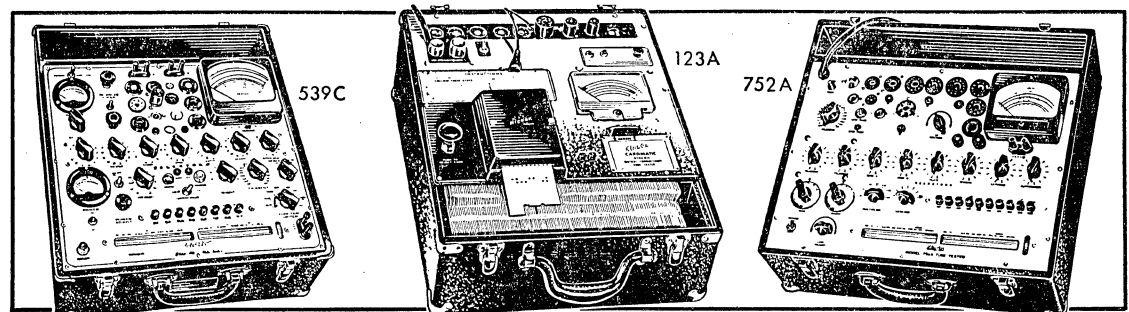
Frequency response, 15 cps to 2.5 mc. DC input resistance, 17.7 megohms. AC resistance, 17.7 megohms shunted by approximately 150 mmf. DC zero-center scale. Range switch for AC, DC and ohms. Lightweight metal case with convenient carrying handle. 6 3/8 x 7 1/2 x 4 1/2". Supplied complete with single-unit probe and lead. For operation from 105-125 volts, 50-60 cycle AC. Shpg. wt., 6 lbs.  
**65 F 118..... 79.50**

### MODEL 209B VOM AND CAPACITANCE METER

Professional-quality VOM with provisions for measuring capacitance. Has big, easy-to-read meter. 100-mv sensitivity. Stability; less than 1% change on all ranges with  $\pm 10\%$  change in line voltage. Ranges: +DC, -DC volts—0-0.1-0.3-1-3-10-30-100-300-1000; AC, 0-1-3-10-30-100-300 ohms (design center 10) X1, X10, X100, X1000, X10,000, X1 meg; capacitance (design centers 38 mfd)—X10 mfd, X1 mfd, X0.1 mfd, X0.01 mfd, X0.001 mfd, X100 mmf, X10 mmf. Response on AC, 10 cps

to 100 kc,  $\pm 1$  db. Has DC zero-center set. Measures RF volts in ranges of 0-1-3-10-30 with RF probe (not supplied; see probe listings elsewhere in catalog). Transistorized, regulated B+ and heater supplies. Self-contained 0.1 VDC reference supply for ohmmeter measurements—safe for checking transistors. Accuracy,  $\pm 3\%$  full scale. In rugged, lightweight metal case, size 13 1/2 x 18 x 8". With carrying handle. 110-120 v., 60 cycle AC. 26 lbs.  
**65 FU 119..... 239.50**

## PORTABLE and LAB-TYPE TUBE TESTERS



### MODEL 539C TUBE TESTER

- Special Transconductance Test Circuit
- Tests All Receiving and VR Tubes
- Has Meters for Line and Bias Voltages

Industrial and laboratory portable tube tester with Hickok-developed transconductance test circuit. Measures  $G_m$  under simulated operating conditions. Has 6 micromho ranges: 60,000, 30,000, 15,000, 6000, 3000, 600. Sockets: 4, 5, 6, 7-pin octal, local, 7 and 9-pin miniatures; 7-pin in-line, and 8-pin round subminiature; and acorn. Has provision for compactrons, novistors, and 10-pin types (adapters not incl.). Tests VR's, small thyratrons, 4-digit types. AC signal voltages: 0.25, 0.5, 1, and 2.5 rms. Filament voltage: 0-117 VAC in 20 steps. Plate voltage: 66 and 150 VDC. Screen voltage: 56 and 130 VDC. Fixed-bias variable from 0-40 VDC. Measures inter-element leakage to 50 megohms (indicated on meter or neon lamp). Provision for plate and heater current measurements. 3 meters (1% accuracy):  $G_m$  and VR voltage and leakage; line voltage; two-range bias. 7 1/2 x 16 3/4 x 18 3/4". Roll chart. For 105-125 volts, 50-400 cycle AC. 39 lbs.  
**65 F 005..... 485.00**

### 123A "CARDMATIC" TUBE TESTER

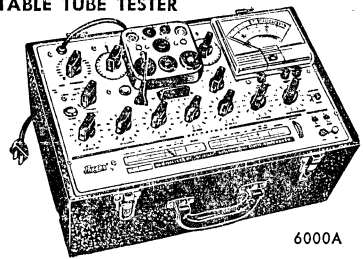
Uses card programming to set up tests for all industrial-type tubes. Makes "fringe," saturation and cut-off tests in addition to  $G_m$ . Shorts and leakage, too. With 500 test and calibration cards. For 105-125 v., 50-60 cycle AC. 57 lbs.  
**65 FZ 115..... 585.00**  
 Model 121A "Cardmatic" Tube Tester. Lowest-cost version of above. Makes fast tube manual tests. With 342 cards. 39 lbs.  
**69 FU 647..... 359.50**

### MODEL 752A TUBE TESTER

Portable transconductance tube tester. Tests 5 and 7-pin novistors, novars, compactrons, 10-pin types as well as 4, 5, 6, 7-pin octal, local, 7 and 9-pin miniatures, 7-pin in-line and 8-pin round subminiatures, voltage regulator tubes and acorn tubes. Dual-section tubes tested without set-up change. Illuminated meter. 7 1/2 x 18 3/4 x 16 3/4". With current roll chart. For 105-125 volts, 50-60 cycle AC. Wt., 27 lbs.  
**65 FU 116..... 355.00**

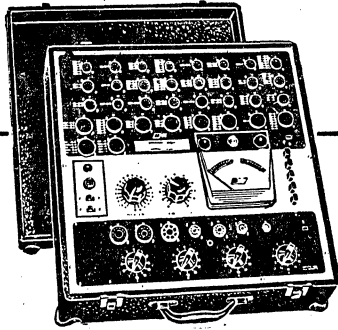
### MODEL 6000A PORTABLE TUBE TESTER

Time-saving, quick-testing portable unit. Checks transistors (both 5 and 7-pin), diodes, compactrons, novars, 5 and 7-pin novistors, and 10-pin miniatures, as well as octals, locals and 7 and 9-pin miniatures. Has Hickok-developed  $G_m$  circuit. Provides sensitive inter-element leakage and shorts tests, as well as a grid current check. Constant indication of line voltage. Immediate filament-continuity test. Has replaceable socket plate for obsolescence protection. Size, 7 1/2 x 16 3/4 x 11 1/4". Supplied with up-to-date roll chart. For 105-125 volts, 50-60 cycle AC. Shpg. wt., 21 lbs.  
**65 FU 006..... 239.50**





MODEL 700

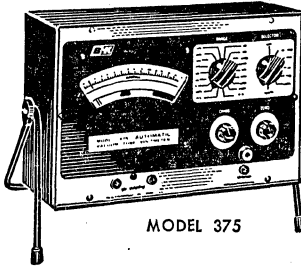


**MODEL 700 "DYNA-QUIK" TESTER**

- Multi-Socket Speed
- Gm Accuracy

Professional, dynamic mutual conductance tube tester that combines multiple-socket speed with Gm accuracy—plus obsolescence protection. Tests all TV and radio tubes, old and new, including Nuvistors, new 10-pin types, 12-pin Compactrons, hybrids, voltage regulators, thyristors, industrial types and European hi-fi tubes. Multiple-socket section permits quick-checking of most TV and radio tube types for mutual conductance. In addition, simplified switch section checks new tube types in Dyna-Quik emission circuit. Also includes provision for future new sockets. Checks each section of multi-section tubes separately. Tests for all shorts, grid emission, leakage and gas. Grid emission test is adjustable, with sensitivity to over 100 megohms. Makes quick "life" test. Has large 4 1/2" plastic meter with easy-to-read "Replace-Good" scale. Complete reference chart in cover. Leatherette-covered case, 16 1/8 x 15 3/4 x 5 7/8". For 105-125 v., 60 cycle AC. Shpg. wt., 16 lbs.

69 FX 660.....166.55

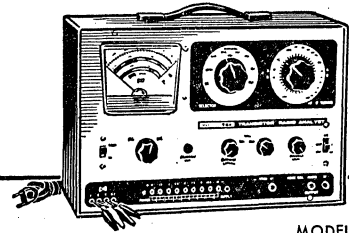


MODEL 375

**MODEL 375 AUTOMATIC VTVM**

Automatically selects correct scale. All scales are direct-reading, every scale is same full size—and only one scale is visible at a time. No multiplying to get your reading. It's fast, easy and accurate! Ranges: DC-AC rms and AC peak-to-peak volts, 0-1.5-5-15-50-150-500-1500; DC ma, 0-5-50-500; resistance, 0-500-5000-50,000-500,000 ohms, 0-5-1000 meg. Input, 11 meg. on all DC ranges. 100  $\mu$ a meter, accurate  $\pm$ 3% of full scale, AC and DC. 1% multipliers. With battery, probe, swivel stand. 10 3/4 x 6 3/4 x 4". For 110-120 v., AC. Shpg. wt., 9 lbs.

69 FX 665.....88.15

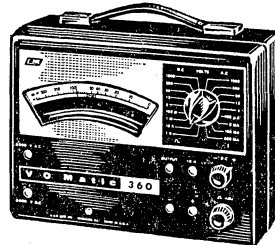


MODEL 960

**960 TRANSISTOR RADIO ANALYST**

Injects RF, IF signals and audio tones directly into all stages of transistor radios, to isolate and pinpoint exact trouble quickly. "Dyna-Trace" single-point probe speeds in-circuit testing. "Good-Bad" scale for leakage and beta. VTVM ranges, 1.5 and 15 volts. Signal generator, 250 kc to 2 mc in two bands. Ohmmeter, to 1 meg; tests diode front-to-back ratio. Built-in power supply provides 1-12 volts in 1 1/2-v. steps. Metal case, 12 1/8 x 7 3/4 x 4 7/8". With Japanese-American transistor cross-reference chart. For 110-120 v., AC. 9 lbs.

69 FX 659.....97.95



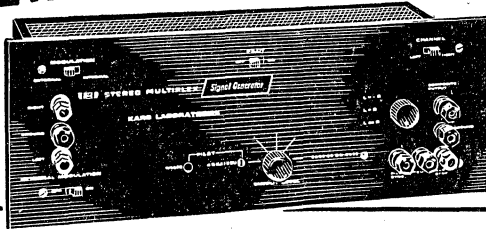
**360 "V-O-MATIC" AUTOMATIC VOM**

The 360 features automatic selection of scale, plus a burn-out-proof meter. Once you set the range switch properly, the correct scale comes into view—only one scale visible at a time and every scale full size. Every scale is direct-reading—no multiplying. Sensitivity, 20,000 ohms/volt DC; 5000 ohms/volt AC. Ranges: DC-AC volts, 0-3-15-60-300-1000-6000; o.p. volts, 0-3-15-60-300; DC current, 0-100  $\mu$ a, 0-5-100-500 ma, 0-10 amps; resistance, 0-1000-10,000 ohms, 0-1-100 meg. Also has 18 separate external overlay meter scales, for audio power, db, p-p volts and capacity. Accuracy,  $\pm$ 3%, DC; 5% AC. With batteries, leads. 6 1/4 x 8 3/4 x 1 1/4". Shpg. wt., 4 1/2 lbs.

69 F 240.....58.75

**STEREO MULTIPLEX GENERATORS**

**NEW**



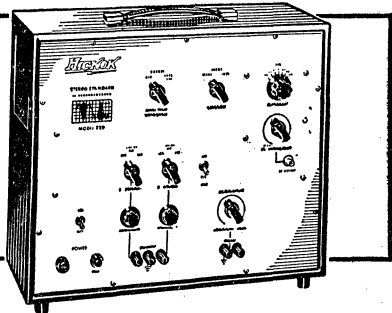
HICKOK 725

PRECISION E490

**PRECISION E490 MULTIPLEX GENERATOR**

A versatile compact instrument for generating the FCC-specified FM stereo multiplex signal. Features internal audio oscillator, front-panel switching to select stereo modulation of right, left or both channels simultaneously, or monophonic modulation of both channels with pilot signal on or off. Channel separation, sync pull-in and hold-in ranges, channel balance can be quickly measured and adjusted. Channel separation, 40 db minimum with respect to maximum composite output. Output level variable, 0-15 volts, peak-to-peak. Internal modulating oscillator frequency, 1 kc. Provision for external modulation. Pilot frequency, 19 kc,  $\pm$ 2 cps, crystal-controlled; adjustable 0-15% of composite. Sync output terminals provided: modulation frequency sync for scope; pilot frequency sync for scope; carrier frequency test jack (on chassis). Controls: Power-ON-OFF, Modulation—Internal or External, Pilot Signal ON-OFF, Channel Selector—Left-Right; Output Model—Single Channel Modulation, Both Channel Modulation, Monophonic Modulation; Composite Output Level. Screwdriver-adjust controls: Pilot Phase, Pilot Amplitude, Carrier Balance. Output impedance, 600 ohms. Frequency response, 40-15,000 cps,  $\pm$ 1 db. Required SCA input frequency from external oscillator, 20-75 kc; voltage required for 10% SCA modulation, 3 v. rms. Metal cabinet is 5" high, 5 1/2" deep and 15 3/8" wide. For operation from 105-125 volts, 60 cycle AC. Shpg. wt., 13 lbs.

69 FU 706.....249.95



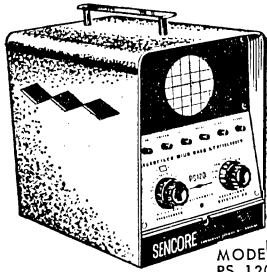
**HICKOK 725 FM MULTIPLEX GENERATOR**

- Generates Composite Stereo FM Signal
- Choice of 3 Selectable Modulation Frequencies
- Tunable From 92 to 104 mc—Output to 1000  $\mu$ v
- Generates 67 kc Signal for SCA Trap Adjust

From the laboratories of a famous producer of quality test equipment. A self-contained portable unit that generates a complete, composite FM signal. Designed for servicing and demonstrating stereo multiplex FM receivers, tuners and adapters. Provides excellent channel separation, to match the best stereo multiplex equipment. Composite output consists of RF carrier, 19-kc pilot carrier, Channel "L" (400 cycles modulated), Channel "R" (1200 cycles modulated) and "L" minus "R". External modulation input accommodates any stereo signal source (1-volt peak-to-peak minimum). Pilot phase check insures accurate composite signal. RF output: Tunable from 92-104 mc, variable 2-1000 microvolts. Also generates 67 kc signal for adjustment of SCA trap. Rugged portable case measures 13 1/4 x 16 1/4 x 7". For 105-125 volts, 50-60 cycle AC. Shpg. wt., 23 lbs.

65 FU 146.....495.00

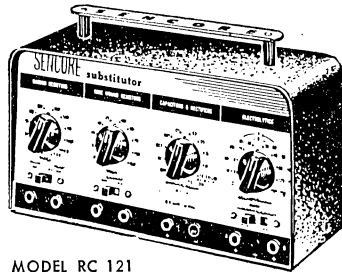
# Selected Test Equipment



MODEL PS 120

## PS120 PORTABLE 3" SCOPE

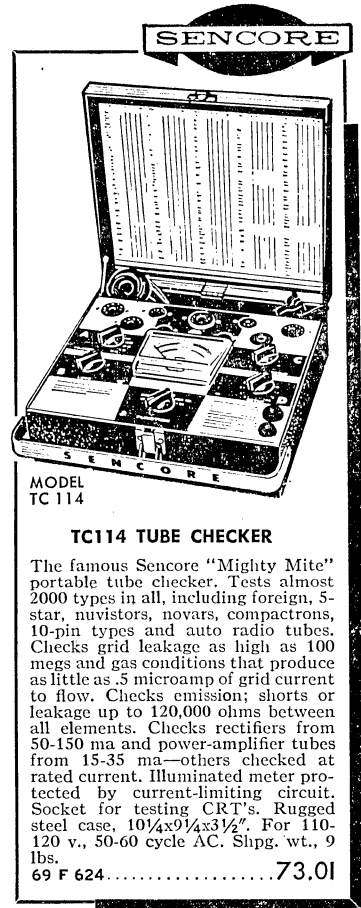
Wideband 3" oscilloscope designed to handle any servicing job, yet easy to use as a voltmeter. Offers many features normally found only in high-priced units. Truly portable—lightweight, with sturdy, comfortable handle. Perfect for servicing color TV sets. Response: vertical amplifier, within .5 db, 20 cycles to 5.5 mc, usable to 12 mc; horizontal, —3 db, 45 cycles to 330 kc, —6 db from 0 cps to 500 kc. Sensitivity: .035 v/in. rms; .1 v/in., p-p. Horizontal sweep: 4 ranges, 5 cps to 150 kc; sync range, 15 cps to 8 mc, usable to 12 mc. Input impedance: vertical, .7 megohms with 99 mmf shunt; horizontal, 30K to 4 megohms. Only two major controls. Case has steel handle and concealed storage compartment. Size, 9x7x11 1/4". Complete with low-capacity probe. For 105-125 v., 50-60 cycle AC. Shpg. wt., 12 lbs. 5 FU 063.....122.01



MODEL RC 121

## RC121 COMPONENT SUBSTITUTOR

Provides a complete range of carbon resistors, capacitors, electrolytics, universal selenium and silicon rectifiers for fast, on-the-spot substitution. Does away with unnecessary soldering and unsoldering. Combines all Sencore substitution time-savers in one compact unit. Each section operates independently, with a value close enough for every substitution need. Surge protector prevents arcing, sparking or healing of capacitors being bridged. 81 values in all: 12—1-watt resistors, 10 to 5600 ohms; 12—1/2-watt, 10K to 5.6 megohms; 20—20-watt, 2.5 to 15,000 ohms; 10—600WVDC capacitors, 100 mmfd to 0.5 mfd; 10—450 WVDC dual-section capacitors, 2 to 250 mfd; 1 selenium and 1 silicon rectifier, each rated 0.5 amp, 800 PIV. Complete with 4 test leads. Size, 6x7x3 1/2". Shpg. wt., 5 lbs. 69 F 072.....39.15



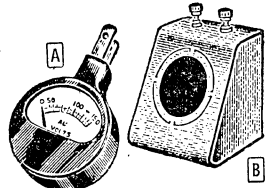
MODEL TC 114

## TC114 TUBE CHECKER

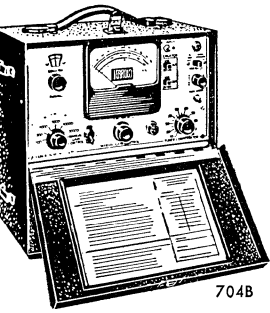
The famous Sencore "Mighty Mite" portable tube checker. Tests almost 2000 types in all, including foreign, 5-star, muvitors, novars, compactrons, 10-pin types and auto radio tubes. Checks grid leakage as high as 100 megohms and gas conditions that produce as little as .5 microamp of grid current to flow. Checks emission; shorts or leakage up to 120,000 ohms between all elements. Checks rectifiers from 50-150 ma and power-amplifier tubes from 15-35 ma—others checked at rated current. Illuminated meter protected by current-limiting circuit. Socket for testing CRT's. Rugged steel case, 10 1/4 x 9 1/4 x 3 1/2". For 110-120 v., 50-60 cycle AC. Shpg. wt., 9 lbs. 69 F 624.....73.01

UNIVERSAL METER CASE (A). Front panel holds 2" meter. With knockout ring for 3" meter. Size, 1 1/4 x 4 x 4 1/4". Shpg. wt., 1 1/4 lbs. 6 F 506.....1.49

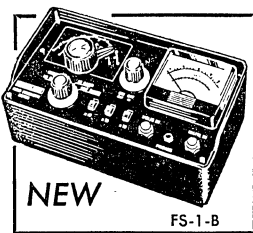
UNIVERSAL AC VOLTAGE TESTER (B). Range, 0-150 volts. 90° swivel head for easy reading. 2" meter with ramped movement. Accuracy, ±5%. With 2-range plug. Wt., 8 oz. 7 F 626.....3.38



## FIELD STRENGTH METERS

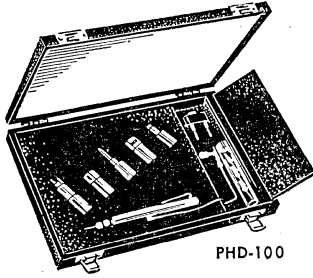


704B

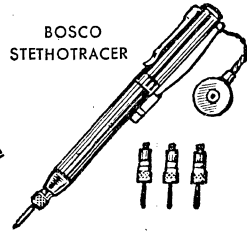


NEW

FS-1-B



PHD-100



BOSCO STETHOTRACER

## JERROLD 704B VHF FIELD STRENGTH METER

Professional-quality, direct-reading unit for TV and FM measurements. Reads db or  $\mu$ v from 5  $\mu$ v to 3 volts in 8 ranges; bandwidth, .6 mc. Separates audio carriers from adjacent video carrier. Reads modulation percentage of FM carriers; percent of AM distortion of M amplifiers, percent of AM or RF generators. Range: 54-220 mc. accuracy, ±0.8 db over full range. Image rejection, 90 db below signal level. Impedance, 75 ohms. Has scope output for examining composite video and phone outputs of monitoring FM signals. Aluminum case, 12x12 1/2 x 8". For 105-125 v., 50-60 cycle AC. Shpg. wt., 21 lbs. 9 FU 656.....395.00

## SADELCO FS-1-B PORTABLE FIELD STRENGTH METER

Compact, lightweight portable, transistorized field strength meter. Covers the VHF TV spectrum in two expanded ranges. Has separate M band. Four sensitivity ranges, 20 microvolts to 1 volt. Reads db's as well as microvolts. Headphone jack on front panel for identification of interference sources, TV channels, etc. Separates picture and sound carriers. Gives peak carrier readings. Uses 2 9-volt transistor-type batteries. 8 1/4 x 4 1/2 x 2 1/4". Less batteries. Carrying case, 3 lbs. Shpg. wt., 5 lbs. 9 F 701.....295.00

## DON BOSCO ST-III STETHOTRACER

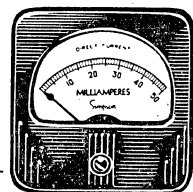
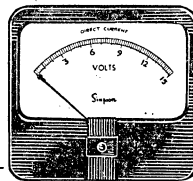
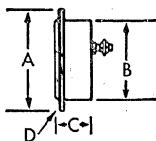
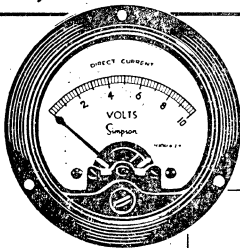
Pen-size, transistorized signal tracer—completely self-contained. Range, 60 cps to 200 mc. Gain, 60 db. 5 5/8" long, 1/2" dia. With earphone, three interchangeable attenuator probes, one RF detector—demodulator crystal diode probe, leads, battery. Wt., 3 oz. 65 F 018.....34.95

MODEL VT-170 VIBROTRACER. Vibration-sensing instrument, 200 cps through ultrasonic range. With battery. 65 F 017.....59.50

- ACCESSORIES FOR ABOVE.
- 65 F 019, SA-112 Vibration Pickup.....29.95
  - 65 F 021, SA-114 Microwave Demodulator.....39.95
  - 65 F 022, SA-115 Magnetic Tape Head.....24.95
  - 65 F 023, SA-116 Miniature Mike.....29.95
  - 65 F 020, SA-113 Scope Plug-In Adapter.....7.95
  - 65 F 024, SA-117 Input Adapter.....7.50
  - 65 F 025, SA-118 Pickup Telephone Input Adapter.....6.95
- "MOSQUITO" SIGNAL TRACER. Pocket-size, pen-type signal injector. Provides 1 kc signal with harmonics to 30 mc. With battery. 69 F 303.....9.95
- UNIVERSAL LAB SET PHD-100. Includes Stethotracer with: Vibration Pickup, Magnetic Tape Head, Miniature Mike, Microwave Demodulator, Input Adapter, Output Adapter. 69 F 700.....149.95



# Simpson Round and Rectangular Panel Meters



2 1/2" Models  
125, 135, 155

4 1/2" Models  
29, 39, 49; 59, 79, 142

2 1/2" Models 127, 137, 157  
3 1/2" Models 27, 37, 47, 57

DC UNITS have 100° dial arcs; accuracy is  $\pm 2\%$  of full scale. All have Simpson External-Type Movement calibrated for non-magnetic metal panels. Model 183 external multipliers are furnished on 2 1/2" meters with ranges of 750 volts or higher, and on 3 1/2" and 4 1/2" meters of 1000 volts and higher. All others are self-contained. AC AND RF UNITS also have 100° dial arcs and are accurate within  $\pm 2\%$ , full scale, except rectifier types  $\pm 3\%$ . AC meters have iron-vane movements calibrated for 25-125 cps, except for AC milliammeters and ammeters, which are calibrated for 25-800 cps. Model 183 external multiplier is furnished on 500-volt AC meters; all others have self-contained multipliers. (75-amp AC ammeters supplied less transformer required—write for price and delivery information.) ALL METERS are in black molded bakelite cases. Include hardware and template. \*Indicates depth behind panel, less terminals. Include range and Model No. on orders. 1 lb. (†DC ammeters of up to 25 amps are self-contained. External shunts for higher ranges are listed on facing page. Include 5' leads.)

## METER DIMENSIONS

Model	Flange (A)	Body Dia. (B)	Depth* (C)	Scale Length (D)
27, 37	3.12x3.00"	2.75"	1.36"	2.56"
29, 39	4.20x4.66"	2.75"	1.00"	3.91"
47	3.12x3.00"	2.75"	1.36"	2.56"
49	4.20x4.66"	2.75"	1.00"	3.91"
57	3.12x3.00"	2.75"	1.45"	2.56"
59	4.20x4.66"	2.75"	1.09"	3.91"
79	4.20x4.66"	2.00"	1.68"	3.91"
125, 135, 155	2.69"	2.17"	1.39"	1.88"
127, 137, 157	2.37x2.37"	2.17"	1.45"	1.88"
142	3.94x4.25"	3.25"	1.00"	3.50"
1150	4.63x5.75"	3.00"	1.00"	4.6"

## DC MILLIAMMETERS

Range	125		EACH			27			EACH			29			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3 1/2" Rect.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-1	68 F 816	68 F 817				67 F 520				67 F 420							
0-1.5	68 F 818	68 F 819	12.15	10.94	10.33	67 F 045	12.75	11.48	10.84	67 F 449	13.95	12.59	11.86				
0-3	68 F 820	68 F 821				68 F 800				68 F 801							
0-5	68 F 822	68 F 823				67 F 521				67 F 421							
0-10	68 F 824	68 F 825	12.15	10.94	10.33	67 F 522	12.75	11.48	10.84	67 F 422	13.95	12.59	11.86				
0-15	68 F 826	68 F 827				67 F 530				67 F 430							
0-25	68 F 828	68 F 829				67 F 523				67 F 423							
0-50	68 F 830	68 F 831	12.90	11.61	10.97	67 F 524	13.35	12.02	11.35	67 F 424	14.85	13.28	12.63				
0-75	68 F 965	68 F 956				67 F 531				67 F 431							
0-100	68 F 832	68 F 833				67 F 525				67 F 425							
0-150	68 F 834	68 F 835	12.90	11.61	10.97	67 F 532	13.35	12.02	11.35	67 F 432	14.85	13.28	12.63				
0-200	68 F 966	68 F 957				67 F 526				67 F 426							
0-250	68 F 967	68 F 958				67 F 533				67 F 433							
0-300	68 F 836	68 F 837	12.90	11.61	10.97	67 F 527	13.35	12.02	11.35	67 F 427	14.85	13.28	12.63				
0-500	68 F 838	68 F 839				67 F 528				67 F 428							
0-1000	68 F 968	68 F 959				67 F 529				67 F 429							

## DC VOLTMETERS

\*Have external multiplier resistors. 1.5-300 v. units are 1000 ohms/volt; 500-5000 v. units are 2000 ohms/volt.

Range	125		EACH			27			EACH			29			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3 1/2" Rect.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-1.5	68 F 986	68 F 987				67 F 610				67 F 611							
0-3	68 F 840	68 F 841	13.05	11.75	11.09	67 F 515	13.50	12.15	11.48	67 F 615	14.85	13.37	12.63				
0-5	68 F 842	68 F 843				67 F 516				67 F 616							
0-8	68 F 988	68 F 960				67 F 506				67 F 401							
0-10	68 F 844	68 F 845				67 F 501				67 F 402							
0-15	68 F 846	68 F 847	13.05	11.75	11.09	67 F 502	13.50	12.15	11.48	67 F 403	14.85	13.37	12.63				
0-25	68 F 848	68 F 849				67 F 517				67 F 417							
0-50	68 F 850	68 F 851				67 F 518				67 F 418							
0-100	68 F 852	68 F 853	13.05	11.75	11.09	67 F 507				67 F 405							
0-150	68 F 854	68 F 855	13.05	11.75	11.09	67 F 504	13.50	12.15	11.48	67 F 406	14.84	13.37	12.63				
0-200						67 F 519				67 F 419							
0-250	68 F 856	68 F 857	13.05	11.75	11.09	67 F 505				67 F 407							
0-300	68 F 858	68 F 859	13.05	11.75	11.09	67 F 508	13.50	12.15	11.48	67 F 408	14.85	13.37	12.63				
0-500	68 F 860	68 F 861	13.80	12.42	11.73	67 F 509	14.10	12.69	11.99	67 F 409	15.30	13.77	13.01				
*0-1000	68 F 862	68 F 863	16.95	15.25	14.41	67 F 510	17.55	15.80	14.92	67 F 410	19.20	17.28	16.32				
*0-1500						67 F 514	17.85	16.07	15.17	67 F 411	19.50	17.55	16.58				
*0-2000						67 F 511	18.15	16.34	15.43	67 F 412	19.80	17.82	16.83				
*0-3000						67 F 512	18.75	16.88	15.94	67 F 413	20.40	18.36	17.34				
*0-5000						67 F 513	19.35	17.42	16.44	67 F 414	21.00	18.90	17.85				

## DC AMMETERS

Range	125		EACH			27			EACH			29			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3 1/2" Rect.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-1	68 F 864	68 F 865				67 F 535				67 F 435							
0-2	68 F 866	68 F 867	12.90	11.61	10.97	67 F 536	13.35	12.02	11.35	67 F 436	14.70	13.23	12.50				
0-3	68 F 868	68 F 869				67 F 537				67 F 437							
0-5	68 F 870	68 F 871				67 F 538				67 F 438							
0-10	68 F 872	68 F 873				67 F 539				67 F 439							
0-15	68 F 874	68 F 875	12.90	11.61	10.97	67 F 046	13.35	12.02	11.35	67 F 047	14.70	13.23	12.50				
0-25	68 F 876	68 F 877				67 F 540				67 F 440							
0-50	68 F 878	68 F 879				67 F 542				67 F 442							
0-75	68 F 989	68 F 961				68 F 802				68 F 805							
0-100	68 F 880	68 F 881	12.45	11.21	10.58	68 F 803	12.90	11.61	10.97	68 F 806	14.40	12.96	12.23				
0-150	68 F 990	68 F 962				68 F 804				68 F 807							
0-200	68 F 882	68 F 883				68 F 963				68 F 964							

# Panel Meters

## DC MICROAMMETERS

Range	Model 125 2 1/2" Rnd.	Model 127 2 1/2" Rect.	EACH			Model 27 3 1/2" Rect.	EACH			Model 29 4 1/2" Rect.	EACH		
			1-9	10-24	25-49		1-9	10-24	25-49		1-9	10-24	25-49
0-15						68 F 808	22.95	20.66	19.51	68 F 809	25.05	22.55	21.29
0-25	68 F 884	68 F 885	19.65	17.59	16.70	67 F 544	20.55	18.50	17.47	67 F 444	22.65	20.39	19.35
0-50	68 F 886	68 F 887	17.10	15.39	14.54	67 F 545	17.55	15.80	14.92	67 F 445	18.90	17.01	16.07
0-100	68 F 888	68 F 889	14.85	13.37	12.62	67 F 546	15.45	13.71	13.12	67 F 446	17.25	15.53	14.66
0-200	68 F 890	68 F 891	13.20	11.88	11.22	67 F 547	13.95	12.55	11.86	67 F 447	15.45	13.71	13.13
0-500	68 F 892	68 F 893	12.75	11.48	10.84	67 F 548	13.35	12.02	11.35	67 F 448	14.85	13.37	12.62
25-0-25						67 F 684	17.70	15.93	15.05	67 F 691	19.05	17.15	16.19
50-0-50						67 F 685	15.60	14.04	13.26	67 F 692	17.40	15.66	14.89
100-0-100						67 F 686	14.10	12.69	11.99	67 F 693	15.75	14.18	13.39
500-0-500						67 F 687	12.90	11.61	10.97	67 F 694	14.10	12.69	11.99

## AC MILLIAMMETERS

Range	Model 155 2 1/2" Rnd.	Model 157 2 1/2" Rect.	EACH			Model 57 3 1/2" Rect.	EACH			Model 59 4 1/2" Rect.	EACH		
			1-9	10-24	25-49		1-9	10-24	25-49		1-9	10-24	25-49
0-50	67 F 072	67 F 022				67 F 565				67 F 465			
0-100	67 F 073	67 F 023				67 F 566				67 F 466			
0-250	67 F 074	67 F 024	11.55		9.87	67 F 567	12.15	10.94	10.33	67 F 467	14.40	12.96	12.24
0-500	67 F 075	67 F 025				67 F 568				67 F 468			

## AC VOLTMETERS

Range	Model 155 2 1/2" Rnd.	Model 157 2 1/2" Rect.	EACH			Model 57 3 1/2" Rect.	EACH			Model 59 4 1/2" Rect.	EACH		
			1-9	10-24	25-49		1-9	10-24	25-49		1-9	10-24	25-49
0-1.5	67 F 076	67 F 026				67 F 558				67 F 458			
0-3	67 F 077	67 F 027				67 F 550				67 F 450			
0-5	67 F 078	67 F 028	11.70	10.53	9.95	67 F 559	12.45	11.21	10.58	67 F 459	14.10	12.69	11.99
0-10	67 F 079	67 F 029				67 F 551				67 F 451			
0-15	67 F 080	67 F 030				67 F 552				67 F 452			
0-25	67 F 081	67 F 031		10.94	10.33	67 F 560	12.75	11.48	10.84	67 F 460	14.10	12.69	11.99
0-50	67 F 082	67 F 032		10.94	10.33	67 F 553	12.75	11.48	10.84	67 F 453	14.10	12.69	11.99
0-150	67 F 083	67 F 033		12.90	11.64	67 F 555	13.65	12.29	11.60	67 F 455	14.85	13.37	12.62
0-250	67 F 084	67 F 034		12.90	11.64	67 F 561	13.65	12.29	11.60	67 F 461	14.85	13.37	12.62
0-300	67 F 085	67 F 035		12.90	11.64	67 F 556	13.65	12.29	11.60	67 F 456	14.85	13.37	12.62
0-500	67 F 086	67 F 036		17.40	15.66	67 F 557	17.70	15.93	15.05	67 F 457	18.30	16.47	15.56

## AC AMMETERS

Range	Model 155 2 1/2" Rnd.	Model 157 2 1/2" Rect.	EACH			Model 57 3 1/2" Rect.	EACH			Model 59 4 1/2" Rect.	EACH		
			1-9	10-24	25-49		1-9	10-24	25-49		1-9	10-24	25-49
0-1	67 F 087	67 F 037				67 F 575				67 F 475			
0-3	67 F 088	67 F 038				67 F 577				67 F 477			
0-5	67 F 089	67 F 039	11.55	10.40	9.87	67 F 578	12.15	10.94	10.33	67 F 478	14.40	12.96	12.24
0-10	67 F 090	67 F 040				67 F 579				67 F 479			
0-15	67 F 091	67 F 041		10.40	9.87	67 F 582	12.15	10.94	10.33	67 F 482	14.40	12.96	12.24
0-25	67 F 092	67 F 042		11.85	10.67	67 F 580	12.45	11.21	10.58	67 F 480	15.00	13.50	12.75
0-30	67 F 093	67 F 048		11.85	10.67	67 F 612	12.45	11.21	10.58	67 F 613	15.00	13.50	12.75
0-50	67 F 094	67 F 043		11.85	10.67	67 F 581	12.45	11.21	10.58	67 F 481	15.00	13.50	12.75
0-75	67 F 095	67 F 044		11.55	10.40	68 F 810	12.15	10.94	10.33	68 F 811	14.40	12.96	12.24

## EXTERNAL PORTABLE SHUNTS FOR DC AMMETERS

Amps	Stock No.	Mfr's Type
50	66 F 921	6709
75	66 F 919	6711
100	66 F 922	6713
150	66 F 939	6714
200	66 F 941	6715

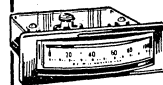
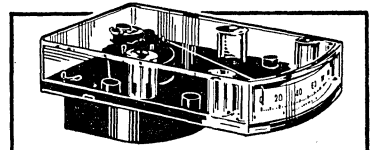
## RF AMMETERS (INTERNAL THERMO-COUPLE TYPE)

Amps	Stock No.	Mfr's Type	EACH			Model 37 3 1/2" Rect.	EACH			Model 39 4 1/2" Rect.	EACH		
			1-9	10-24	25-49		1-9	10-24	25-49		1-9	10-24	25-49
50	66 F 921	6709				67 F 585				67 F 485			
75	66 F 919	6711				67 F 586				67 F 486			
100	66 F 922	6713	6.90	6.21	5.87	67 F 587	15.00	13.50	12.52	67 F 487	17.25	15.53	14.66
150	66 F 939	6714				67 F 588				67 F 488			
200	66 F 941	6715				67 F 589				67 F 489			

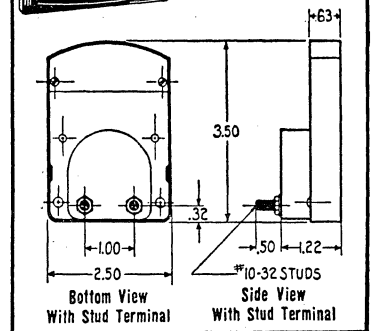
## 2 1/2" EDGEWISE PANEL METERS

Simpson edgewise meters solve many of your special-application design problems. Ideal for use where panel design calls for making every square inch count or where saving weight is an important consideration. Edgewise panel meters employ "self-shielded" core magnet movements—calibrations remain unaffected by stray magnetic fields. Scale length is comparable to a conventional 2 1/2" meter, but requires only half the panel area. Achieve accurate comparative readings by mounting edgewise meters next to each other. Scale length, 1 3/8".

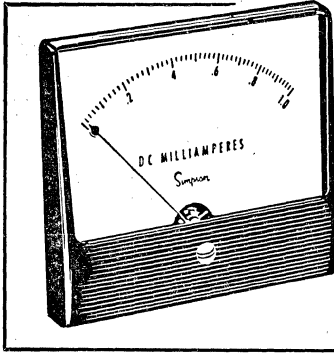
Meter accuracy is ±2% of full scale. DC voltmeters have 1000 ohms/volt sensitivity (except \*2000 ohms/volt sensitivity). Dust-proof, molded lucite case; requires 1 1/2" x 2 3/8" cutout, 1 x 3 1/4" flange. Schematic at right shows complete dimensions. Terminals are solder lug type, except 0-5 and 0-10 ammeters—stud type. Standard scale has black numbers on a white background. Supplied complete with all necessary mounting hardware for quick, simple installation. Includes bezel with two speed nuts. Approx. meter wt., 5 oz. Shpg. wt., 3/4 lb.



• Save Panel Space  
• Simple Installation



Specify Range and Model No. on All Meter Orders



# Simpson Meters

"Wide-Vue" 3 1/2" and 4 1/2"

## METER DIMENSIONS

Model	Flange	Body Dia.	Depth	Scale
1327	3.25x3.25"	2.73"	1.08"	3.14"
1329	4.00x4.68"	2.75"	1.08"	3.93"
1337	3.25x3.25"	2.73"	1.22"	3.14"
1339	4.00x4.68"	2.75"	1.20"	3.93"
1347	3.25x3.25"	2.73"	1.08"	3.14"
1349	4.00x4.68"	2.75"	1.08"	3.93"
1357	3.25x3.25"	2.73"	1.22"	3.14"
1359	4.00x4.68"	2.75"	1.20"	3.93"

EASIEST TO READ.....

Plastic covers for wide-angle readability and maximum protection. Feature longer scales—3 1/2" has scale more than 1/2" longer than conventional scale. DC meters except 0-25, 0-50 microamps have "self-shielded" core magnet movement not affected by steel panels or magnetic fields. 0-25, 0-50 DC microammeters have external magnet movement; AC meters iron vane movements. Accuracy ±2%. 1 lb.

## DC VOLTMETERS

Model 1327—3 1/2"				Range	Model 1329—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 991				0-5	68 F 992			
68 F 149				0-10	68 F 157			
68 F 150	14.25	12.83	12.11	0-15	68 F 158	15.75	14.18	13.39
66 F 870				0-30	66 F 884			
68 F 151				0-50	68 F 159			
68 F 152				0-100	68 F 160			
68 F 153				0-150	68 F 161			
68 F 993	14.25	12.83	12.11	0-200	68 F 994	15.75	14.18	13.39
67 F 660				0-250	67 F 661			
68 F 155				0-300	68 F 163			
68 F 905	15.00	13.50	12.75	0-750	68 F 906	16.20	14.58	13.77
68 F 995	18.60	16.74	15.81	0-1000	68 F 996	19.80	17.82	16.83

## DC MILLIAMMETERS

Model 1327—3 1/2"				Range	Model 1329—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 181				0-1	68 F 186			
67 F 662				0-3	67 F 663			
68 F 182	13.50	12.15	11.48	0-10	68 F 187	14.25	12.83	12.11
68 F 907				0-15	68 F 908			
68 F 969				0-20	68 F 997			
68 F 183				0-50	68 F 188			
68 F 184				0-100	68 F 189			
68 F 185				0-150	68 F 190			
68 F 909	13.80	12.42	11.73	0-200	68 F 910	15.00	13.50	12.75
68 F 998				0-750	68 F 999			
67 F 668				0-1000	67 F 669			

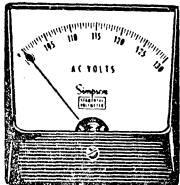
## DC AMMETERS

Model 1327—3 1/2"				Range	Model 1329—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 165				0-1	68 F 173			
68 F 911				0-1.5	68 F 912			
68 F 166	13.65	12.29	11.60	0-5	68 F 174	15.00	13.50	12.75
68 F 168				0-10	68 F 176			
68 F 170				0-15	68 F 178			
68 F 171				0-25	68 F 179			
68 F 913				0-30	68 F 914			
68 F 915	13.65	12.29	11.60	0-100	68 F 916	15.00	13.50	12.75
68 F 062				0-150	68 F 068			
68 F 063				0-200	68 F 069			
68 F 064	13.65	12.29	11.60	0-300	68 F 070			
68 F 065	13.65	12.29	11.60	0-500	68 F 071	15.00	13.50	12.75
68 F 066	14.55	13.10	12.37	15-0-15				
68 F 067	14.55	13.10	12.37	30-0-30				

## DC MICROAMMETERS

Model 1327—3 1/2"				Range	Model 1329—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 074	22.50	20.25	19.13	0-15	68 F 075	24.60	22.14	20.91
68 F 191	20.10	18.09	17.09	0-25	68 F 195	22.20	19.98	18.87
68 F 192	17.10	15.39	14.54	0-50	68 F 196	18.45	16.61	15.68
68 F 193	15.60	14.04	13.26	0-100	68 F 197	17.40	15.66	14.79
67 F 673	17.25	15.53	14.66	25-0-25	67 F 674	18.60	16.74	15.81
68 F 194	15.75	14.18	13.39	50-0-50	68 F 198	17.55	15.80	14.92
68 F 917	14.40	12.96	12.24	100-0-100				
				100	68 F 918	15.90	14.31	13.52
68 F 919	13.65	12.29	11.60	500-0-500				
				500	68 F 920	14.40	12.96	12.24

## SEGMENTAL VOLTMETERS



Type 1347C 3 1/2" Meter. Expanded segmental scale registers 100-130 AC volts—used primarily to monitor line voltage. 3.14" scale. Operating range, 20-20,000 cps. Accuracy ±.5% and frequency influence less than .5% of center scale value. Sensitivity: 160-100 ohms/volt end scale values. Magnet movement. Wt., 1 lb.

66 F 081.....40.80

Type 1349C 4 1/2" Meter. Expanded 3.93" scale registers AC voltages from 100-130. Accuracy, ±.5% of center scale value at 25°C and 60 cps sine wave. Frequency operating range, 20-20,000 cps. Frequency influence less than .5% of center scale value. Sensitivity 160 to 100 ohms/volt end scale value. Wt., 10 oz.

66 F 887.....40.95

## AC VOLTMETERS

Model 1357—3 1/2"				Range	Model 1359—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 921	12.60	11.34	10.71	0-15	68 F 922	14.40	12.96	12.24
68 F 923	13.05	11.75	11.09	0-50	68 F 924	14.40	12.96	12.24
68 F 154	13.95	12.56	11.86	0-150	68 F 162	15.00	13.50	12.75
68 F 156	13.95	12.56	11.86	0-300	68 F 164	15.00	13.50	12.75

## AC AMMETERS

Model 1357—3 1/2"				Range	Model 1359—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 167	12.45	11.21	10.58	0-5	68 F 175	14.55	13.10	12.37
68 F 169	12.45	11.21	10.58	0-10	68 F 177	14.55	13.10	12.37
68 F 076	12.90	11.61	10.97	0-25	68 F 077	15.00	13.50	12.75
68 F 172	12.90	11.61	10.97	0-50	68 F 180	15.00	13.50	12.75

## AC MILLIAMMETERS

Model 1357—3 1/2"				Range	Model 1359—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 925				0-50	68 F 926			
68 F 927	12.45	11.21	10.58	0-100	68 F 928	14.55	13.10	12.37
68 F 929				0-500	68 F 930			

## RF AMMETERS

Model 1337—3 1/2"				Range	Model 1339—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 931				0-1	68 F 932			
68 F 080				0-1.5	68 F 081			
68 F 933	15.90	14.31	13.52	0-3	68 F 934	18.15	16.34	15.43
68 F 935				0-5	68 F 936			
68 F 937				0-8	68 F 938			
68 F 939				0-10	68 F 940			

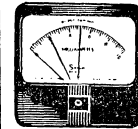
## RECTIFIER-TYPE AC VOLTMETERS

Model 1347—3 1/2"				Range	Model 1349—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 941				0-5	68 F 942			
68 F 943				0-10	68 F 944			
68 F 078	18.30	16.47	15.56	0-15	68 F 079	20.10	18.09	17.09
68 F 945				0-50	68 F 946			
68 F 947				0-300	68 F 948			

## VU METERS

Model 1349—A Scale—4 1/2"				Range	Model 1349—B Scale—4 1/2"			
Stock No.	EACH				Stock No.	EACH		
	1-9	10-24	25-49		1-9	10-24	25-49	
68 F 949	23.70	21.33	20.15	20to3	68 F 950	23.70	21.33	20.15

## ADJUSTABLE METER RELAYS



29XA. Current and voltage actuated. Ideal for alarm, control, or limit-setting applications. Non-locking contacts can be positioned along scale arc with external control. Meter front is 4 1/2x3 1/4". Body dia., 2 3/4". Depth (body plus front), 1 1/2". Contact positioning control extends 1 1/2" from front. Av. shpg. wt., 1 lb.

Stock No.	Type	Range	EACH		
			1-9	10-24	25-49
68 F 951	DC μa	0-50	44.10	39.69	37.49
68 F 952	DC μa	0-100	44.15	39.74	37.53
68 F 953	DC μa	0-500	39.00	35.10	33.15
68 F 954	DC Ma	0-1	38.10	34.29	32.39
68 F 955	DC Mv	0-50	38.25	34.43	32.51

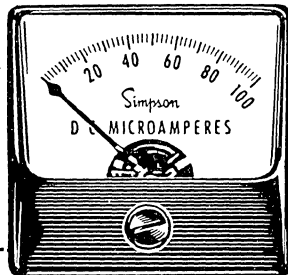
# Assorted Panel Meters by . . . .

**Simpson**

All in black molded bakelite cases, with recessed zero adjustments. Feature polished and shock mounted jewels. Include mounting hardware and template. Models 1212C and 1214C have "Wide-Vue" scales; self-shielded movements unaffected by stray magnetic fields. Accuracy: 1212C,  $\pm 2\%$ ; 1214C,  $\pm 3\%$  of full scale at 250° C and 60 cps sine wave; 47 and 49 rectifier-type AC voltmeters,  $\pm 3\%$  of full scale. Meter terminals are 8-32 studs. Av. shpg. wt., 1 lb.

## METER DIMENSIONS

Model	Flange	Body Dia.	Depth	Scale
1212C	1.76x1.76"	1.5"	1.37"	1.5"
1214C	1.76x1.76"	1.5"	1.37"	1.5"
47	3.12x3"	2.75"	1.36"	2.56"
49	4.2x4.66"	2.75"	1"	3.91"
79	4.2x4.66"	2"	1.68"	3.91"
27	3.12x3"	2.75"	1.36"	2.56"
1150	4.63x5.75"	3"	1"	4.6"
57	3.12x3"	2.75"	1.45"	2.56"
142	3.94x4.25"	3.25"	1"	3.5"



### 1212C DC AMMETERS

Stock No.	Range	Res. Ohms	EACH		
			1-9	10-24	25-49
69 F 552	0-1	.05	12.75	11.48	10.84
69 F 553	0-2	.025			
69 F 554	0-3	.0166			
69 F 555	0-5	.01			
69 F 556	0-10	.005	12.75	11.48	10.84
69 F 557	0-15	.0033			
69 F 558	0-25	.002			
69 F 559	0-50	.0017			

### 1212C DC VOLTMETERS

Stock No.	Range	1000 $\Omega$ /volt	EACH		
			1-9	10-24	25-49
69 F 541	0-5	1000 $\Omega$ /volt	12.75	11.48	10.84
69 F 542	0-10	1000 $\Omega$ /volt			
69 F 543	0-15	1000 $\Omega$ /volt			
69 F 544	0-25	1000 $\Omega$ /volt			
69 F 545	0-30	1000 $\Omega$ /volt	12.75	11.48	10.84
69 F 546	0-50	1000 $\Omega$ /volt			
69 F 547	0-100	1000 $\Omega$ /volt			
69 F 548	0-150	1000 $\Omega$ /volt			
69 F 549	0-300	2000 $\Omega$ /volt			
69 F 550	0-500	2000 $\Omega$ /volt	16.05	14.45	13.64

### 1212C DC MICROAMMETERS

Stock No.	Range	Resistance	EACH		
			1-9	10-24	25-49
69 F 572	0-50	5000	16.20	14.58	13.77
69 F 573	0-100	2000	14.40	12.96	12.24
69 F 574	0-200	1000	13.05	11.75	11.09
69 F 575	0-500	200	12.80	11.52	10.88
69 F 576	25-0-25	2000	16.35	14.72	13.90
69 F 577	50-0-50	2000	14.55	13.10	12.37
69 F 578	100-0-100	1000	13.20	11.88	11.22
69 F 579	500-0-500	46	12.45	11.21	10.58

### RECTIFIER-TYPE AC VOLTMETERS—1000 OHMS/V

Stock No.	Model 47—3 1/2" Rectangular			Range	Model 49—4 1/2" Rectangular			
	1-9	10-24	25-49		1-9	10-24	25-49	
67 F 569	18.15	16.34	15.43	0-1	67 F 490	19.95	17.66	16.96
67 F 570				0-5	67 F 491			
67 F 571				0-10	67 F 492			
67 F 572				0-15	67 F 493			
67 F 573	18.15	16.34	15.43	0-50	67 F 494	19.95	17.66	16.96
67 F 583				0-150	67 F 496			
67 F 584				0-300	67 F 497			

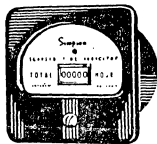
### MODEL 79 WATTMETERS

Dynamometer-type meters for measurement of DC and single-phase AC power to 250 cps. Can be used with power factors below 50% if maximum ratings are observed. Shpg. wt., 1 lb.

Stock No.	Range Watts	Max. Amps	Max. Volts	EACH		
				1-9	10-24	25-49
68 F 812	0-75	1.0	150	33.90	30.51	28.82
68 F 813	0-300	4.0	150	33.90	30.51	28.82
68 F 814	0-1500	10.0	300	36.45	32.71	30.97
68 F 815	0-3000	20.0	300	36.45	32.71	30.97

### 57ET ELAPSED TIME METERS

120-Volt Type. High-quality elapsed time meters. Excellent for keeping life and performance records based on operation time. Designed for panel mounting. Have self-starting synchronous clock motor. Counter indicates up to 9999.9 hours, then automatically recycles back to 0. Matches Simpson standard 3 1/2" meters. Flange size, 3 1/8x3"; body diameter, 2 3/4"; body depth, 2 1/8". Black molded bakelite case. For operation from 120 volts, 60 cycle AC. Shpg. wt., 2 lbs.  
 69 F 226 ..... 18.85  
 240-Volt Type. As above, but for 240 v., 60 cycle AC.  
 69 F 227 ..... 19.15



### 1212C DC MILLIAMMETERS

Stock No.	Range	Res. Ohms	EACH		
			1-9	10-24	25-49
69 F 560	0-1	46	12.30	11.07	10.46
69 F 561	0-5	23			
69 F 562	0-10	2.2			
69 F 563	0-15	6			
69 F 564	0-25	3	12.75	11.48	10.84
69 F 565	0-50	1.5			
69 F 566	0-100	1			
69 F 567	0-150	.75			
69 F 568	0-200	.6			
69 F 569	0-250	.5	12.75	11.48	10.84
69 F 570	0-300	.3	12.75	11.48	10.84
69 F 571	0-500	.....	12.90	11.61	10.97

### 1212C DC MILLIVOLTMETERS

69 F 551	0-50	10	12.75	11.48	10.84
----------	------	----	-------	-------	-------

### 1214C AC RECTIFIER TYPE VOLTMETERS

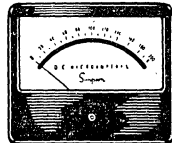
Stock No.	Range	Res. Ohms	EACH		
			1-9	10-24	25-49
69 F 580	0-5	1000/V.	17.70	15.93	15.05
69 F 581	0-10	1000/V.	17.70	15.93	15.05
69 F 582	0-150	1000/V.	17.70	15.93	15.05
69 F 583	0-300	2000/V.	18.30	16.47	15.56

### 1214C V.U. METERS

69 F 584	-20 to +3	.....	19.80	17.82	16.83
----------	-----------	-------	-------	-------	-------

### 1150 6" DC MICROAMMETERS

6" rectangular panel meters. Accuracy,  $\pm 2\%$ . Ranges 15 through 100 employ high-flux movements designated as Model 1150H and cannot be calibrated for operation on steel panels. Ranges 200 through 500 use a 1 1/2" shallow-core movement designated as Model 1150E. Shpg. wt., 2 lbs.



Stock No.	Range	1-9, EACH	10-24, EACH	25-49, EACH
66 F 241	0-15	29.95	26.96	25.46
66 F 242	0-25	26.85	24.17	22.82
66 F 243	0-50	24.45	22.00	20.62
66 F 244	0-100	23.40	20.16	19.89
66 F 245	0-200	20.40	18.36	17.34
66 F 246	0-500	19.80	17.82	16.83

### MODEL 27 DC GALVANOMETERS

500-0-500 Microamp. Provides accurate indication of small currents. Calibrated 50-0-50. Has D'Arsonval movement. Internal resistance, 46 ohms. 3 1/2" rectangular case. Outside dimensions and scale length listed at the top of page. 1 lb.

67 F 591. 1-9 ..... EACH 13.20  
 10-24 ..... EACH 11.88 25-49 ..... EACH 11.22

75-0-75 Microamp. Identical to above, except has 75-0-75 microamp range on 50-0-50 scale. Internal res., 2000 ohms. 1 lb.

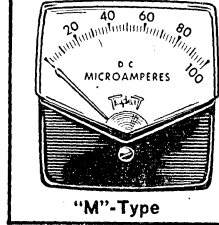
67 F 592. 1-9 ..... EACH 15.00  
 10-24 ..... EACH 13.50 25-49 ..... EACH 12.52

### VU METERS

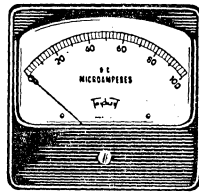
Show volume level both in VU and percentage modulation. VU scale A. -20 to +3. 3900-ohm internal impedance across 600-ohm lines (zero reference, 1 mw). \*Illuminated (2 5/8" deep). 1 1/4 lbs.

Stock No.	Model	1-9, EACH	10-24, EACH	25-49, EACH
67 F 597	47	22.35	20.12	19.00
67 F 598	142	24.15	21.74	20.53
67 F 599	142*	26.70	24.03	22.70

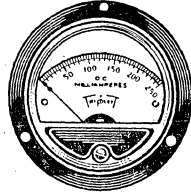
# TRIPLET



"M"-Type



2 1/2" and 4 1/2" Rectangular



2 1/2" and 3 1/2" Round Types

**METER DIMENSIONS**

Model	Flange	Dia.	Depth	Scale
221T	2 1/4"	2 1/4"	1 1/16"	1.76"
231S	2 1/4"	2 1/4"	1 1/16"	1.58"
321T	3 1/2"	2 3/4"	1 1/16"	2.49"
331S	3 1/2"	2 3/4"	1 1/16"	2.22"
361	3 1/2"	2 3/4"	2"	2.22"
227T	2 3/8x2 3/8"	2 3/8"	1"	1.76"
237S	2 3/8x2 3/8"	2 3/8"	1 3/8"	1.58"
327T	3x3"	2 3/4"	1"	2.49"
337S	3x3"	2 3/4"	1 3/8"	2.22"
420	4 5/8x4 3/16"	2 3/4"	2 7/32"	4.04"
430	4 5/8x4 3/16"	2 3/4"	3 3/32"	3.6"
220M	2 3/4x2 5/8"	2 1/4"	1 1/8"	2.5"
230M	2 3/4x2 5/8"	2 1/4"	1 1/8"	2.5"
320M	3 1/2x3 1/2"	2 3/4"	1 3/32"	3.34"
330M	3 1/2x3 1/2"	2 3/4"	1 3/32"	3.34"

Fast-response instruments. DC meters are D'Arsonval Type with Bar-Ring self-shielded magnets. AC meters are air-damped, moving iron-vane types. All have jewel bearings; highly polished, specially treated pivots; molded zero adjusters; cushioned pointer stops; spade pointers; and black bakelite cases. Accuracy is  $\pm 2\%$ . With mounting templates. Specify Model, Range and Stock No. when ordering. Write, wire or phone for quotations on larger quantities.

**DC MILLIVOLTMETERS**

Range	327T 3 1/2" Rect.	321T 3 1/2" Rnd.	EACH			EACH			
			1-9	10-24	25-49	420 4 1/2" Rect.	1-9	10-24	25-49
0-50	66 F 078	66 F 088	11.60	10.44	9.86	66 F 098	12.80	11.52	10.88
0-100	66 F 079	66 F 089				66 F 099			

**ZERO-CENTER DC MICROAMMETERS**

50.0-50	66 F 086	66 F 084	14.90	13.41	12.66	66 F 094	16.10	14.49	13.68
100.0-100	66 F 087	66 F 085	12.90	11.61	10.96	66 F 095	14.10	12.79	11.98

**DC MILLIAMMETERS**

Range	221T 2 1/2" Rnd.	227T 2 1/2" Rect.	EACH			327T 3 1/2" Rect.	321T 3 1/2" Rnd.	EACH			420 4 1/2" Rect.	EACH		
			1-9	10-24	25-49			1-9	10-24	25-49		1-9	10-24	25-49
0-1	66 F 150	66 F 170				66 F 120	66 F 100				66 F 136			
0-1.5	66 F 151	66 F 171				66 F 121	66 F 101				66 F 136			
0-3	66 F 165	66 F 185	10.90	9.81	9.26	66 F 118	66 F 115	11.60	10.44	9.86	66 F 136	12.80	11.52	10.88
0-5	66 F 152	66 F 172				66 F 122	66 F 102				66 F 137			
0-10	66 F 153	66 F 173				66 F 123	66 F 103				66 F 138			
0-15	66 F 154	66 F 174	10.90	9.81	9.26	66 F 124	66 F 104	11.60	10.44	9.86	66 F 139	12.80	11.52	10.88
0-25	66 F 155	66 F 175				66 F 125	66 F 105				66 F 140			
0-50	66 F 156	66 F 176				66 F 126	66 F 106				66 F 141			
0-75	66 F 166	66 F 186	11.30	10.17	9.60	66 F 119	66 F 116	12.00	10.80	10.20	66 F 138	13.20	11.88	11.22
0-100	66 F 157	66 F 177				66 F 127	66 F 107				66 F 142			
0-150	66 F 158	66 F 178				66 F 128	66 F 108				66 F 143			
0-200	66 F 159	66 F 179	11.30	10.17	9.60	66 F 129	66 F 109	12.00	10.80	10.20	66 F 144	13.20	11.88	11.22
0-250	66 F 160	66 F 180				66 F 130	66 F 110				66 F 145			
0-300	66 F 161	66 F 181				66 F 131	66 F 111				66 F 146			
0-400	66 F 167	66 F 187	11.30	10.17	9.60	66 F 135	66 F 117	12.00	10.80	10.20	66 F 147	13.20	11.88	11.22
0-500	66 F 162	66 F 182				66 F 132	66 F 112				66 F 147			
0-750	66 F 163	66 F 183				66 F 133	66 F 113				66 F 148			
0-1000	66 F 164	66 F 184	11.30	10.17	9.60	66 F 134	66 F 114	12.00	10.80	10.20	66 F 149	13.20	11.88	11.22

**DC MICROAMMETERS**

0-20	66 F 054	66 F 015	19.40	17.46	16.49	66 F 059	66 F 049	20.00	18.00	17.00	66 F 065	21.20	19.08	18.02
0-50	66 F 055	66 F 016	16.40	14.76	13.94	66 F 060	66 F 050	16.90	15.21	14.36	66 F 066	18.20	16.38	15.47
0-100	66 F 056	66 F 017	14.30	12.87	12.15	66 F 061	66 F 051	14.90	13.41	12.66	66 F 067	16.10	14.49	13.68
0-200	66 F 057	66 F 018	12.20	10.98	10.36	66 F 062	66 F 052	12.90	11.61	10.96	66 F 068	14.10	12.69	11.98
0-500	66 F 058	66 F 019	11.70	10.53	9.94	66 F 063	66 F 053	12.20	10.98	10.37	66 F 069	13.40	12.06	11.39

**DC AMMETERS**

0-1	66 F 510	66 F 525	10.90	9.81	9.26	66 F 450	66 F 440	11.60	10.44	9.86	66 F 460	12.80	11.52	10.98
0-5	66 F 511	66 F 526	11.80	10.62	10.03	66 F 451	66 F 441	12.30	11.07	10.45	66 F 461	13.50	12.15	11.47
0-10	66 F 512	66 F 527	11.80	10.62	10.03	66 F 452	66 F 442	12.30	11.07	10.45	66 F 462	13.50	12.15	11.47
0-15	66 F 513	66 F 528	11.80	10.62	10.03	66 F 453	66 F 443	12.30	11.07	10.45	66 F 463	13.50	12.15	11.47
0-25	66 F 514	66 F 529	11.80	10.62	10.03	66 F 453	66 F 443	12.30	11.07	10.45	66 F 463	13.50	12.15	11.47
0-30	66 F 515	66 F 530	11.80	10.62	10.03	66 F 541	66 F 561	12.30	11.07	10.45	66 F 466	13.50	12.15	11.47
0-50	66 F 517	66 F 532	11.80	10.62	10.03	66 F 542	66 F 562	12.30	11.07	10.45	66 F 467	13.50	12.15	11.47
0-100	66 F 518	66 F 533	20.30	18.27	17.26	66 F 543	66 F 563	20.10	18.09	17.08	66 F 468	21.30	19.17	18.10
0-200	66 F 519	66 F 534	20.30	18.27	17.26	66 F 544	66 F 564	20.10	18.09	17.08	66 F 469	21.30	19.17	18.10

**"M"-TYPE 2 1/2" and 3 1/2" WIDE-ANGLE PANEL METERS**

**DC VOLTMETERS**

Range	220-M 2 1/2" Rect.	EACH			320-M 3 1/2" Rect.	EACH		
		1-9	10-24	25-49		1-9	10-24	25-49
0-10	69 F 515	11.80	10.62	10.03	69 F 516	12.30	11.07	10.45
0-50	69 F 517	11.80	10.62	10.03	69 F 518	12.30	11.07	10.45
0-150	69 F 519	11.80	10.62	10.03	69 F 520	12.30	11.07	10.45
0-500	69 F 521	14.10	12.69	11.98	69 F 522	13.00	11.70	11.05

**DC MICROAMMETERS**

0-50	69 F 523	16.40	14.76	13.94	69 F 524	16.90	15.21	14.36
0-100	69 F 525	14.30	12.87	12.15	69 F 526	14.90	13.41	12.66
0-200	69 F 527	12.20	10.98	10.36	69 F 528	12.90	11.61	10.96

**DC MILLIAMMETERS**

0-1*	69 F 529	10.90	9.81	9.26	69 F 530	11.60	10.44	9.86
0-50	69 F 531	11.30	10.17	9.60	69 F 532	12.00	10.80	10.20
0-100	69 F 533	11.30	10.17	9.60	69 F 534	12.00	10.80	10.20

**DC MILLIAMMETERS (Cont'd)**

0-200	69 F 535	11.30	10.17	9.60	69 F 536	12.00	10.80	10.20
0-300	69 F 537	11.30	10.17	9.60	69 F 538	12.00	10.80	10.20
0-500	69 F 539	11.30	10.17	9.60	69 F 540	12.00	10.80	10.20

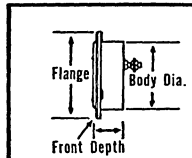
**AC VOLTMETERS**

Range	230-M 2 1/2" Rect.	EACH			330-M 3 1/2" Rect.	EACH		
		1-9	10-24	25-49		1-9	10-24	25-49
0-10	66 F 358	11.40	10.26	9.69	66 F 376			
0-50	66 F 359	11.40	10.26	9.69	66 F 377	12.00	10.80	10.20
0-150	66 F 360	12.50	11.25	10.63	66 F 378			
0-500	66 F 361	17.80	16.02	15.13	66 F 379			

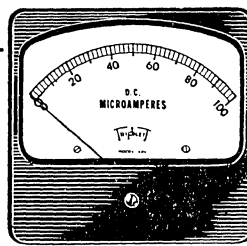
**AC AMMETERS**

0-1	66 F 362				66 F 380			
0-5	66 F 363				66 F 381			
0-10	66 F 364	11.40	10.26	9.69	66 F 382	12.10	10.89	10.29
0-15	66 F 365				66 F 383			
0-25	66 F 366				66 F 384			
0-50	66 F 367				66 F 385			

# Panel Meters



METER DIMENSIONS



4 1/2" RECTANGULAR

# TRIPLET

Featuring "BAR-RING" Magnet . . . an exclusive feature that gives internal shielding against external stray fields, more torque, linear scales, faster response, etc.

DC meters are D'Arsonval Type with "Bar-Ring" self-shielded magnets. AC meters are air-damped, moving iron-vane types. Have light moving parts. All instruments have black bakelite cases; selected jewel bearings; highly polished, specially treated pivots; molded zero adjusters; cushioned pointer stops; spade pointers. Steel parts are heat-treated and rust-proof. Accuracy is  $\pm 2\%$ . With mounting templates. Specify Model, Range and Stock No. when ordering. Write, wire or phone for quotations on larger quantities.

## AC AMMETERS

Range	231S		EACH			337S		331S		EACH			430			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3" Rect.	3 1/2" Rnd.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-1	66 F 340	66 F 350				66 F 320	66 F 300				66 F 330							
0-2	66 F 341	66 F 351	11.40	10.26	9.69	66 F 321	66 F 301	12.10	10.89	10.28	66 F 331	12.80	11.52	10.88				
0-3	66 F 342	66 F 352				66 F 322	66 F 302				66 F 332							
0-5	66 F 343	66 F 353				66 F 323	66 F 303				66 F 333							
0-10	66 F 344	66 F 354				66 F 324	66 F 304	12.10	10.89	10.28	66 F 334	12.80	11.52	10.88				
0-15	66 F 347	66 F 357				66 F 328	66 F 308	12.10	10.89	10.28	66 F 338	12.80	11.52	10.88				
0-25	66 F 345	66 F 355	11.40	10.26	9.69	66 F 325	66 F 305	12.10	10.89	10.28	66 F 335	12.80	11.52	10.88				
0-50	66 F 346	66 F 356				66 F 326	66 F 306	12.10	10.89	10.28	66 F 336	12.80	11.52	10.88				
0-75						66 F 327	66 F 307	13.30	11.97	11.30	66 F 337	14.50	13.05	12.32				

## AC MILLIAMMETERS

Range	231S		EACH			337S		331S		EACH			430			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3" Rect.	3 1/2" Rnd.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-10	66 F 570	66 F 580				66 F 490	66 F 470				66 F 496							
0-15	66 F 571	66 F 581	11.40	10.26	9.69	66 F 491	66 F 471	12.10	10.89	10.28	66 F 446	12.80	11.52	10.88				
0-25	66 F 572	66 F 582				66 F 488	66 F 476				66 F 447							
0-50	66 F 573	66 F 583				66 F 492	66 F 472				66 F 448							
0-100	66 F 574	66 F 584				66 F 493	66 F 473				66 F 497							
0-200	66 F 575	66 F 585	11.40	10.26	9.69	66 F 489	66 F 477	12.10	10.89	10.28	66 F 449	12.80	11.52	10.88				
0-250	66 F 576	66 F 586				66 F 494	66 F 474				66 F 498							
0-500	66 F 577	66 F 587				66 F 495	66 F 475				66 F 499							

## AC VOLTMETERS

†Have external resistors. Specify Range and Type No. when ordering. Av. shpg. wt., 1 1/2 lbs.

Range	231S		EACH			337S		331S		EACH			430			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3" Rect.	3 1/2" Rnd.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-3	66 F 259	66 F 279				66 F 218	66 F 209				66 F 239							
0-5	66 F 250	66 F 270	11.40	10.26	9.69	66 F 220	66 F 200	12.10	10.89	10.28	66 F 230	12.80	11.52	10.88				
0-10	66 F 251	66 F 271				66 F 221	66 F 201				66 F 231							
0-15	66 F 252	66 F 272				66 F 222	66 F 202				66 F 232							
0-25	66 F 253	66 F 273				66 F 223	66 F 203				66 F 233							
0-50	66 F 254	66 F 274	11.40	10.26	9.69	66 F 224	66 F 204	12.10	10.89	10.28	66 F 234	12.80	11.52	10.88				
0-100	66 F 255	66 F 275				66 F 225	66 F 205				66 F 235							
0-150	66 F 256	66 F 276	12.50	11.25	10.62	66 F 226	66 F 206	13.10	11.79	11.13	66 F 236	13.80	12.42	11.73	11.73	11.73	11.73	11.73
0-250	66 F 260	66 F 280	13.10	11.79	11.13	66 F 219	66 F 210	13.80	12.42	11.73	66 F 240	14.40	12.96	12.24				
0-300	66 F 257	66 F 277	13.80	12.42	11.73	66 F 227	66 F 207	14.30	12.87	12.15	66 F 237	15.00	13.50	12.75				
0-500	66 F 258†	66 F 278†	17.80	16.02	15.13	66 F 228†	66 F 208†	18.50	16.65	15.72	66 F 238†	19.10	17.19	16.23				

## DC VOLTMETERS

### 1000 OHMS PER VOLT—WITH CARBON FILM-TYPE RESISTORS

For use where high humidity is not encountered. †Have external resistors. Specify Range and Type No. Av. shpg. wt., 1 1/2 lbs.

Range	221T		EACH			327T		321T		EACH			420			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3" Rect.	3 1/2" Rnd.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-10	66 F 903	66 F 923				66 F 943	66 F 963				66 F 983							
0-15	66 F 904	66 F 924	11.80	10.62	10.03	66 F 944	66 F 964	12.30	11.07	10.45	66 F 984	13.50	12.15	11.47				
0-25	66 F 905	66 F 925				66 F 945	66 F 965				66 F 985							
0-50	66 F 906	66 F 926				66 F 946	66 F 966				66 F 986							
0-100	66 F 907	66 F 927				66 F 947	66 F 967				66 F 987							
0-150	66 F 908	66 F 928				66 F 948	66 F 968				66 F 988							
0-200	66 F 909	66 F 929	11.80	10.62	10.03	66 F 949	66 F 969	12.30	11.07	10.45	66 F 989	13.50	12.15	11.47				
0-250	66 F 910	66 F 930				66 F 950	66 F 970				66 F 990							
0-300	66 F 911	66 F 931				66 F 951	66 F 971				66 F 991							
0-500	66 F 912†	66 F 932†	14.10	12.69	11.98	66 F 952	66 F 972	13.00	11.70	11.05	66 F 992	14.20	12.78	12.07				
0-750	66 F 913†	66 F 933†	17.20	15.48	14.62	66 F 953	66 F 973				66 F 993							
0-1000	66 F 914†	66 F 934†	14.90	13.41	12.66	66 F 954†	66 F 974†	15.50	13.95	13.17	66 F 994†	16.70	15.03	14.19				
0-2000	66 F 915†	66 F 935†	15.50	13.95	13.17	66 F 955†	66 F 975†	16.20	14.58	13.77	66 F 995†	17.40	15.66	14.79				
0-3000	66 F 916†	66 F 936†	16.20	14.58	13.77	66 F 956†	66 F 976†	16.80	15.12	14.28	66 F 996†	18.00	16.20	15.30				
0-4000	66 F 917†	66 F 937†	16.50	14.85	14.02	66 F 957†	66 F 977†	17.20	15.48	14.62	66 F 997†	18.40	16.56	15.64				
0-5000	66 F 918†	66 F 938†	16.80	15.12	14.28	66 F 958†	66 F 978†	17.50	15.75	14.87	66 F 998†	18.70	16.83	15.89				

### 1000 OHMS PER VOLT—WITH WIREWOUND MULTIPLIER RESISTORS

Have moisture resistant, wirewound resistors. †Have external resistors. Specify Range and Type No. Av. shpg. wt., 1 1/2 lbs.

Range	221T		EACH			327T		321T		EACH			420			EACH		
	2 1/2" Rnd.	2 1/2" Rect.	1-9	10-24	25-49	3" Rect.	3 1/2" Rnd.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49				
0-1	66 F 900	66 F 920				66 F 940	66 F 960				66 F 980							
0-3	66 F 739	66 F 750	11.80	10.62	10.03	66 F 762	66 F 742	12.30	11.07	10.45	66 F 770	13.50	12.15	11.47				
0-5	66 F 740	66 F 751				66 F 763	66 F 745				66 F 771							
0-10	66 F 741	66 F 752				66 F 743	66 F 740				66 F 743							
0-25	66 F 743	66 F 754	14.40	12.96	12.24	66 F 765	66 F 747	15.00	13.50	12.75	66 F 773	16.20	14.58	13.77				
0-50	66 F 744	66 F 755	14.40	12.96	12.24	66 F 766	66 F 748	15.00	13.50	12.75	66 F 774	16.20	14.58	13.77				
0-100	66 F 745	66 F 756	15.00	13.50	12.75	66 F 767	66 F 749	15.60	14.04	13.26	66 F 775	16.80	15.12	14.28				
0-150	66 F 746	66 F 757	15.00	13.50	12.75	66 F 768	66 F 750	15.60	14.04	13.26	66 F 776	16.80	15.12	14.28				
0-300	66 F 748	66 F 759	18.30	16.47	15.55	66 F 769	66 F 751	18.90	17.01	16.06	66 F 777	20.10	18.09	17.08				
0-500	66 F 749†	66 F 760†	20.50	18.45	17.42	66 F 770†	66 F 752†	21.00	18.90	17.85	66 F 778†	22.20	19.98	18.87				

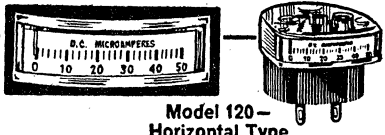
Specify Range and Model No. on Meter Orders



**ROUND AND RECTANGULAR  
PANEL METERS**

Advanced-design panel meters with wrap-around fronts of unbreakable plastic. Full, open dial provides much longer, more readable scale than most other conventional-type meters in the same case size. Designed to enhance the appearance of all test instruments and panels.

Meters have stud mountings and raised plastic "cover-glass" that allows full lighting from an extremely wide angle. Enamelled, white metal faces with black scales and characters are easy to read at a distance. Accuracy is within 2%, full scale. DC meters have D'Arsonval movements with extra-light moving coil. AC meters have accurate air-damped, iron-vane movements. All have jewel bearings with highly polished pivots. See table at left for meter dimensions. With mounting templates. Av. shgp. wt., 1 1/2 lbs. Specify Range and Model No. on all orders.

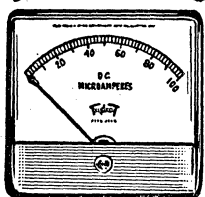


**Model 120—  
Horizontal Type**

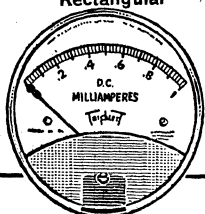
**METER DIMENSIONS**

\*Round †Rectangular

Model No.	Flange	Body Dia.	Depth	Scale Length
120†	3 3/4"x1 3/8"	1 7/8"	1 5/8"	1 1/4"
221-PL*	2 1/16"	2 13/64"	1"	2.197"
227-PL†	2 19/32x2 3/8"	2 5/32"	1 3/32"	2.197"
231-PL*	2 1/16"	2 13/64"	1"	1.92"
237-PL†	2 19/32x2 3/8"	2 5/32"	1 3/32"	1.92"
321-PL*	3 1/2"	2 3/4"	1"	3.11"
327-PL†	3 3/8x3 1/16"	2 3/4"	1 3/32"	3.11"
420-PL†	4 5/8x4 3/16"	2 3/4"	1 1/16"	4.14"



**2 1/2", 3", 4"  
Rectangular**



**2 1/2", 3"  
Round**

**DC MICROAMMETERS**

Range	221-PL		EACH			321-PL		327-PL		EACH			420-PL	
	2 1/2" Round	2 1/2" Rect.	1-9	10-24	25-49	3 1/2" Round	3 1/2" Rect.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49
0-50	66 F 807	66 F 809	16.40	14.76	13.94	66 F 836	66 F 873	16.90	15.21	14.36	66 F 874	18.20	16.38	15.47
0-100	66 F 808	66 F 810	14.30	12.87	12.15	66 F 837	66 F 876	14.90	13.41	12.66	66 F 875	16.10	14.49	13.68
0-200	66 F 737	66 F 738	12.20	10.98	10.37	66 F 838	66 F 877	12.90	11.61	10.96	66 F 871	14.10	12.69	11.99

**DC MILLIAMMETERS**

0-1	66 F 812	66 F 814	10.90	9.81	9.26	66 F 843	66 F 793	11.60	10.44	9.86	66 F 878	12.80	11.52	10.88
0-200	66 F 827	66 F 552	11.30	10.17	9.60	66 F 846	66 F 796	12.00	10.80	10.20	66 F 779	13.20	10.80	10.20

**DC VOLTMETERS (1000 Ohms Per Volt—Film-Type Multiplier Resistors)**

0-50	66 F 804	66 F 805	11.80	10.62	10.03	66 F 834	66 F 806	12.30	11.07	10.45	66 F 872	13.50	12.15	11.47
------	----------	----------	-------	-------	-------	----------	----------	-------	-------	-------	----------	-------	-------	-------

**AC VOLTMETERS**

Range	231-PL		EACH			331-PL		337-PL		EACH			430-PL	
	2 1/2" Round	2 1/2" Rect.	1-9	10-24	25-49	3 1/2" Round	3 1/2" Rect.	1-9	10-24	25-49	4 1/2" Rect.	1-9	10-24	25-49
0-150	66 F 825	66 F 826	12.50	11.25	10.62	66 F 860	66 F 781	13.10	11.79	11.13	66 F 888	13.80	12.42	11.73
0-300	69 F 290	69 F 291	13.80	12.42	11.73	66 F 861	66 F 782	14.30	12.87	12.15	66 F 889	15.00	13.50	12.75

**AC AMMETERS**

0-5	66 F 828	66 F 784	11.40	10.26	9.69	66 F 865	66 F 787	12.10	10.89	10.28	66 F 892	12.80	11.52	10.88
0-10	66 F 829	66 F 783				66 F 866	66 F 788				66 F 893			
0-25	66 F 833	66 F 786				66 F 867	66 F 789				66 F 858			
0-30	66 F 835	66 F 792				66 F 868	66 F 790				66 F 862			
0-50	66 F 832	66 F 785				66 F 869	66 F 791				66 F 896			

**MODEL 120 MINIATURE EDGEWISE PANEL METERS**

Offer minimum panel size and weight—require cutout of only 1/16"x1 1/16". Miniature D'Arsonval movements (AC units are rectifier type). Self-shielded Bar-Ring magnets. Horizontal mounting. Accuracy: DC, 2%; AC, 5%. Shgp. wt., 4 oz.

Stock No.	Range	EACH			Stock No.	Range	EACH		
		1-9	10-24	25-49			1-9	10-24	25-49
66 F 394	0-1 DC Milliammeter	10.90	9.81	9.27	66 F 405	0-50 DC Voltmeter	11.80	10.62	10.03
66 F 395	0-10 DC Milliammeter	10.90	9.81	9.27	66 F 406	0-150 DC Voltmeter	11.80	10.62	10.03
66 F 398	0-100 DC Milliammeter	11.30	10.17	9.61	66 F 407	0-50 DC Microammeter	16.40	14.76	13.94
66 F 400	0-200 DC Milliammeter	11.30	10.17	9.61	66 F 408	0-100 DC Microammeter	14.30	12.87	12.16
66 F 401	0-300 DC Milliammeter	11.30	10.17	9.61	66 F 409	0-200 DC Microammeter	12.20	10.98	10.37
66 F 402	0-500 DC Milliammeter	11.30	10.17	9.61	66 F 410	0-150 AC Voltmeter	19.70	17.73	16.75
66 F 403	0-10 DC Ammeter	11.80	10.62	10.03	66 F 411	0-300 AC Voltmeter	20.70	18.63	17.60
66 F 404	0-10 DC Voltmeter	11.80	10.62	10.03	66 F 412	"A" Scale VU Meter	21.90	19.71	18.62

**VOLUME UNIT METERS**

Meet CBS, NBC, Bell Lab specs. Type "A" scales; -20 to +3 VU on top arc; 0-100 on bottom. Highly damped. Internal res., 3900 ohms. Reference, 1 mw. For 600 ohms. Metal dials. Bakelite cases. \*Illuminated. †Portable 3x3x1 3/8" case.

327T 3" Rect.	1-9, EA.	10-24, EA.	25-49, EA.	420 4 1/2" Rect.	1-9, EA.	10-24, EA.	25-49, EA.
66 F 075	21.00	18.90	17.85	66 F 071	26.40	23.76	22.44
66 F 076*	23.00	20.70	19.55	66 F 072*	30.00	27.00	25.50
66 F 077†	25.30	22.77	21.50				

**DECIBEL METERS (+6 to -10 db)**

Read +6 to -10 db. Std. damping. Zero db, 1.73 v. For 500 ohm lines. Ref., 6 mw. Int. res., 5000 ohms. Zero adjust. Metal dials. Bakelite cases. \*Illuminated.

66 F 263	16.80	15.12	14.28	66 F 265	18.80	16.92	15.98
66 F 264*	19.00	17.10	16.15	66 F 266*	20.20	18.18	17.17

**TYPE 361 WATTMETERS**

Highly dependable electrodynamic-type instruments. Ideal for shops, labs and field service applications. Useful as appliance testers, wattmeters, voltmeters and ammeters. Accurate to within 2%, for either DC or single-phase AC up to 133 cps. Maximum voltage, 150 v. Bakelite case; 3 1/2" dia. flange, 2 3/4" dia. barrel, 2" depth. Shgp. wt., 1 1/2 lbs.

Stock No.	Watts	Amps	EACH		
			1-9	10-24	25-49
66 F 286	0-150	1			
66 F 285	0-300	2	26.40	23.76	22.44
66 F 287	0-750	5			

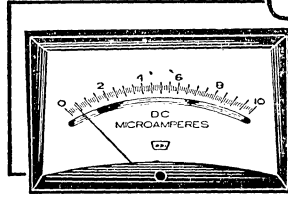


# Super-Calibrated Meters by

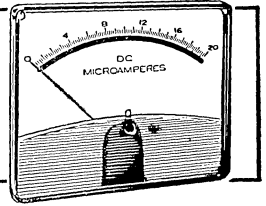
SUPER-CALIBRATED TAUT-BAND

## PANEL METERS

Extremely rugged Taut-Band meter movements are self-shielded for interchangeability between steel and aluminum panels. High sensitivity. Movements are frictionless, free from hysteresis and have near-perfect repeatability of 0.2%. Choice of Class II super-calibrated meters with 0.5% tracking (linearity) or Class I with 1% accuracy. All ranges have mirrored scales and knife-edge pointers to eliminate parallax, assure true measurements.

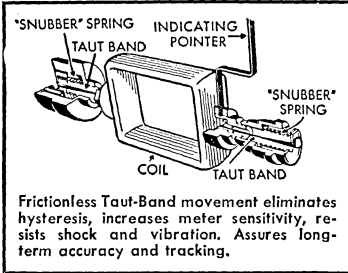


SUPER CALIBRATED TAUT BAND PANEL METERS



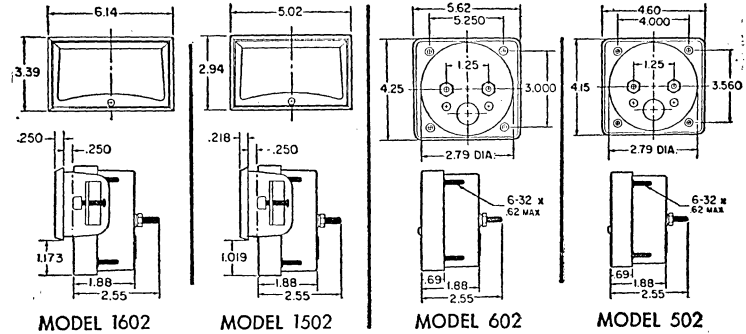
**STYLIST.** Crisp, clean lines improve panel appearance. Bottom third of meter is hidden behind panel for 30% more dial area in 15% less space.

**PANELIST.** Sturdy plastic case is treated to repel dust, eliminate static. Standardized dimensions for interchangeability with other models.



### HOW TO ORDER STYLIST MODELS

To order a Stylist meter, specify Range, Model and Stock No. of Panelist meter, and add Model and Stock No. for either the Model 1602 or 1502, below.  
 65 F 355, Model 1602.....1.50  
 65 F 356, Model 1502.....1.25



### MODEL 602-II PANELIST

DC Range	Ohms (±20%)	Stock No.	EACH		
			1-4	5-11	12-24
0-10 $\mu$ a	5000	65 F 300	52.00	46.80	41.60
0-20 $\mu$ a	3000	65 F 301	46.00	41.40	36.80
0-50 $\mu$ a	1900	65 F 302	40.75	36.67	32.60
0-100 $\mu$ a	1080	65 F 303	36.25	32.52	29.00
0-500 $\mu$ a	175	65 F 304	32.75	29.47	26.20
0-5 $\mu$ a	5000	65 F 305	52.00	46.80	41.60
50-0.50 $\mu$ a	1080	65 F 306	36.25	32.52	29.00
0-1 ma	100	65 F 307	32.75	29.47	26.20
0-10 mv	40	65 F 308	44.50	40.05	35.60
0-50 mv	50	65 F 309	34.25	30.82	27.40
5-0.5 mv	40	65 F 310	44.50	40.05	35.60

### MODEL 502-II PANELIST

DC Range	Ohms (±20%)	Stock No.	EACH		
			1-4	5-11	12-24
0-10 $\mu$ a	5000	65 F 311	50.00	45.00	40.00
0-20 $\mu$ a	3000	65 F 312	44.00	39.60	35.20
0-50 $\mu$ a	1900	65 F 313	38.75	34.87	31.00
0-100 $\mu$ a	1080	65 F 314	34.25	30.82	27.40
0-500 $\mu$ a	175	65 F 315	31.25	28.12	25.00
0-5 $\mu$ a	5000	65 F 316	50.00	45.00	40.00
50-0.50 $\mu$ a	1080	65 F 317	34.25	30.82	27.40
0-1 ma	100	65 F 318	31.25	28.12	25.00
0-10 mv	40	65 F 319	42.50	38.25	34.00
0-50 mv	50	65 F 320	32.75	29.47	26.20
5-0.5 mv	40	65 F 321	42.50	38.25	34.00

### CLASS II SUPER-CALIBRATED

#### PANEL METERS

Tracking (linearity) of 0.5% is achieved by API photo-electronic calibrator which makes individual scales fit the response of each meter movement. Full-scale accuracy is 2%. Ideal for adjustable circuits such as a VTVM or thermistor-bridge temperature measuring circuit where zero and full-scale are electrically adjustable. Used with this type circuit, Class II meters allow 0.5% readout accuracy. All ranges have 100-division mirrored scales. Dimensions given above. Shpg. wt., 1 lb.

### MODEL 602-I PANELIST

DC Range	Ohms (±20%)	Stock No.	EACH		
			1-4	5-11	12-24
0-10 $\mu$ a	5000	65 F 322	43.00	38.70	34.40
0-20 $\mu$ a	3000	65 F 323	37.00	33.30	29.60
0-50 $\mu$ a	1900	65 F 324	31.75	28.57	25.40
0-100 $\mu$ a	1080	65 F 325	30.25	28.22	24.20
0-500 $\mu$ a	175	65 F 326	28.75	25.87	23.00
5-0.5 $\mu$ a	5000	65 F 327	43.00	38.70	34.40
50-0.50 $\mu$ a	1080	65 F 328	30.25	28.22	24.20
0-1 ma	100	65 F 329	28.75	25.87	23.00
0-10 mv	40	65 F 330	35.50	31.95	28.40
0-50 mv	50	65 F 331	30.25	28.22	24.20
5-0.5 mv	40	65 F 332	35.50	31.95	28.40

### MODEL 502-I PANELIST

DC Range	Ohms (±20%)	Stock No.	EACH		
			1-4	5-11	12-24
0-10 $\mu$ a	5000	65 F 333	41.00	36.90	32.80
0-20 $\mu$ a	3000	65 F 334	35.00	31.50	28.00
0-50 $\mu$ a	1900	65 F 335	29.75	26.77	23.80
0-100 $\mu$ a	1080	65 F 336	28.25	25.42	22.60
0-500 $\mu$ a	175	65 F 337	27.25	24.52	21.80
5-0.5 $\mu$ a	5000	65 F 338	41.00	36.90	32.80
50-0.50 $\mu$ a	1080	65 F 339	28.25	25.42	22.60
0-1 ma	100	65 F 340	27.25	24.52	21.80
0-10 mv	40	65 F 341	33.50	30.14	26.80
0-50 mv	50	65 F 342	28.75	25.87	23.00
5-0.5 mv	40	65 F 343	33.50	30.14	26.80

### CLASS I SUPER-CALIBRATED

#### PANEL METERS

A long-needed stock item. Class I meters are best used with non-adjustable circuits for measuring absolute values; for example, with an ammeter or voltmeter. Full-scale accuracy is 1%. Interchangeable between magnetic and non-magnetic panels. All have 100-division scales. For both Class I and Class II: Model 602 scale arc is 4.85"; Model 502 scale arc, 4". Wt., 1 lb.

### MODEL 503 PYROMETER—2% ACCURACY

Medium-resistance, thermocouple-actuated pyrometer with copper error-compensation and automatic bimetal cold-junction correction. Adjustable external resistor compensates up to 10 ohms. Dual scales indicate

F° and C°. Mirrored scales, knife-edge pointers eliminate parallax. In table, I/C indicates meter is calibrated for Iron-Constantan, C/A for Chromel-Alumel. Black phenolic case. Scale arc, 4". 1 lb.

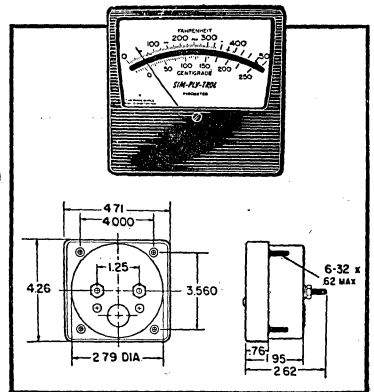
Stock No.	Temperature Range		Thermo-couple	EACH		
	°F	°C		1-4	5-11	12-24
65 F 344	-75/+225	-60/+110	I/C	35.00	31.50	28.00
65 F 345	0/300	0/150	I/C	34.00	30.60	27.20
65 F 346	0/500	0/260	I/C	32.00	28.80	25.60
65 F 347	0/750	0/400	I/C	32.00	28.80	25.60
65 F 348	0/1000	0/500	I/C	32.00	28.80	25.60
65 F 349	0/1500	0/800	C/A	29.00	26.10	23.20
65 F 350	0/2000	0/1100	C/A	28.00	25.20	22.40
65 F 351	0/2500	0/1650	C/A	28.00	25.20	22.40

### MODEL 602-I PYROMETER—1% ACCURACY

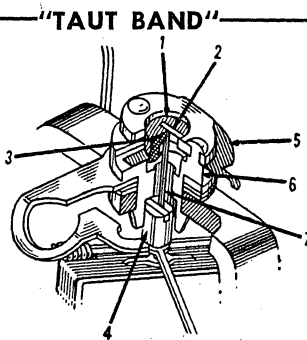
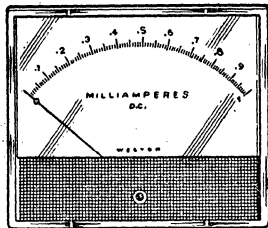
Same as Model 503 above, but offer 1% accuracy. In table, Cu/C indicates meter is

calibrated for Copper-Constantan thermocouple. Shpg. wt., 1 lb.

Stock No.	Temperature Range (°F)	Temperature Range (°C)	Thermo-couple	1-4	5-11	12-24
65 F 352	0/300	0/150	I/C	46.00	41.40	36.80
65 F 353	0/750	0/400	I/C	42.00	37.80	33.60
65 F 354	-450/+100	-265/+40	Cu/C	50.00	45.00	40.00



Specify Range and Model No. on All Meter Orders



1. Small hub has wedge . .
2. Which locks Taut-Band Ribbon in place.
3. Ribbon is soldered here. No soldering within active length of ribbon to disturb stress characteristics.
4. Threaded Anchor Nut into which moving coil is attached. Other end of ribbon is soldered here.
5. Tension spring maintains firm pressure on Taut Band, absorbs shock, increases ruggedness of instruments.
6. Nylon bushing prevents excessive axial and lateral motion.
7. Special Taut-Band Ribbon is made by Weston. Quality control assures precise characteristics in finished suspension ribbon.

Super-sensitive panel meters recognized for top reliability and dependability. Rated at  $\pm 2\%$  accuracy. Have specially-treated Alnico 5 magnets for long-term stability. "Taut-Band" mechanisms provide high sensitivity. Have lance-type scales,  $100^\circ$  arcs. Attractive plastic fronts are "Statnui" treated to remain completely dust and static-free. Also available with bakelite fronts. Screwdriver-slotted zero correctors are provided. 1931T Types are  $3\frac{1}{2} \times 3"$ . 1941T Types are  $4\frac{1}{2} \times 4"$ . All require  $\frac{1}{2}"$  in front of panel,  $1\frac{1}{2} \times \frac{3}{4}"$

behind panel, and have  $2\frac{3}{4}"$  body diameter. Milliampmeters with ranges of 50 ma or higher are shunted and have 100 millivolt drop. Ammeters have approximately 50 millivolt drop. All meet ASA electrical requirements in Spec No. C-39.1 for indicating instruments with 2600-volt AC dielectric test. Another important feature is exterior styling. Series 1900 meters present an overall appearance of harmony—even when random sizes are mounted side by side. Av. shgp. wt., 12 oz.

Range	1931T $3\frac{1}{2} \times 3"$		Res., Ohms	EACH			1941T $4\frac{1}{2} \times 4"$		Res., Ohms	EACH		
	Plastic	Bakelite		1-9	10-24	25-49	Plastic	Bakelite		1-9	10-24	25-49
0-50 Microamps	66 F 213		2350	22.90	20.61	18.32	66 F 318		950	24.10	21.69	19.28
0-100 Microamps	66 F 214	66 F 713	538	21.50	19.35	17.20	66 F 319	66 F 747	950	22.60	20.34	18.08
0-200 Microamps	66 F 215		440	20.50	18.45	16.40	66 F 329		350	21.70	19.53	17.36
0-500 Microamps	66 F 216		90	19.30	17.37	15.44	66 F 339		40	20.50	18.45	16.40
0-1 Milliamps	66 F 217	66 F 716	29	18.10	16.29	14.48	66 F 349	66 F 761	12.5	19.30	17.37	15.44
0-2 Milliamps	66 F 229		14.3				66 F 539		4.9			
0-5 Milliamps	66 F 247	66 F 718	3.3				66 F 547	66 F 768	3.0			
0-10 Milliamps	66 F 248	66 F 719	2.5	18.10	16.29	14.48	66 F 548	66 F 769	2.4	19.30	17.37	15.44
0-50 Milliamps	66 F 249	66 F 720	2.0				66 F 549		2.0			
0-200 Milliamps	66 F 261		0.5				66 F 550		0.5			
0-500 Milliamps	66 F 262	66 F 722	0.2				66 F 555		0.2			
0-1 Amps	66 F 267	66 F 723					66 F 556	66 F 801				
0-2 Amps	66 F 268			18.10	16.29	14.48	66 F 557			19.30	17.37	15.44
0-5 Amps	66 F 269	66 F 725					66 F 558	66 F 803				
0-10 Amps	66 F 281	66 F 726					66 F 559	66 F 816				
0-20 Amps	66 F 298	66 F 727		18.10	16.29	14.48	66 F 567	66 F 820		19.30	17.37	15.44
0-30 Amps	66 F 299			18.10	16.29	14.48	66 F 568			19.30	17.37	15.44
0-2 Volts	66 F 310	66 F 729	1000/v.	19.00	17.10	15.20	66 F 569		1000/v.	20.20	18.18	16.16
0-15 Volts	66 F 311	66 F 730	1000/v.	19.00	17.10	15.20	66 F 578	66 F 840	1000/v.	20.20	18.18	16.16
0-30 Volts	66 F 312		1000/v.	19.00	17.10	15.20	66 F 579		1000/v.	20.20	18.18	16.16
0-50 Volts	66 F 313	66 F 732	1000/v.				66 F 588		1000/v.			
0-100 Volts	66 F 314	66 F 733	1000/v.				66 F 589	66 F 850	1000/v.			
0-150 Volts	66 F 315	66 F 734	1000/v.	19.00	17.10	15.20	66 F 594	66 F 851	1000/v.	20.20	18.18	16.16
0-300 Volts	66 F 316		1000/v.				66 F 595		1000/v.			
0-500 Volts	66 F 317		1000/v.				66 F 596		1000/v.			

**PIVOT AND JEWEL TYPES**

Weston pivot and jewel-type panel meters resemble the Taut-Band types in reliability and dependability. Rated at  $\pm 2\%$  accuracy. Have Alnico 5 magnets. Feature spring-back jewels with locking nuts for fine adjustment. Available with either plastic or bakelite

fronts. 1931 Types are  $3\frac{1}{2} \times 3"$ . 1941 Types are  $4\frac{1}{2} \times 4"$ . All require  $\frac{1}{2}"$  in front of panel,  $1\frac{1}{2} \times \frac{3}{4}"$  behind panel, have  $2\frac{3}{4}"$  body diameters. Designed for minimum power consumption—minimum response time. Av. shgp. wt., 12 oz.

Range	1931 $3\frac{1}{2} \times 3"$		Res., Ohms	EACH			1941 $4\frac{1}{2} \times 4"$		Res., Ohms	EACH		
	Plastic	Bakelite		1-9	10-24	25-49	Plastic	Bakelite		1-9	10-24	25-49
0-50 Microamps	66 F 658		4800	19.10	17.19	15.28	66 F 681		2500	20.10	18.09	16.08
0-100 Microamps	66 F 659	66 F 609	1225	17.90	16.11	14.32	66 F 682	66 F 634	2500	18.80	16.92	15.04
0-200 Microamps	66 F 660	66 F 610	600	17.10	15.39	13.68	66 F 683		850	18.10	16.29	14.48
0-500 Microamps	66 F 661		240	16.10	14.49	12.88	66 F 686		240	17.10	15.39	13.68
0-1 Milliamps	66 F 662	66 F 612	88	15.10	13.59	12.08	66 F 687	66 F 637	115	16.10	14.49	12.88
0-2 Milliamps	66 F 901	66 F 613	45				66 F 690		16			
0-5 Milliamps	66 F 663	66 F 614	8.5				66 F 691	66 F 639	11			
0-10 Milliamps	66 F 664	66 F 615	2.5	15.10	13.59	12.08	66 F 692	66 F 640	2.7	16.10	14.49	12.88
0-50 Milliamps	66 F 665		2.0				66 F 693		2.0			
0-200 Milliamps	66 F 666	66 F 617	0.5				66 F 695		0.5			
0-500 Milliamps	66 F 667		0.2				66 F 696		0.2			
0-1 Amps	66 F 668	66 F 619					66 F 697	66 F 644				
0-2 Amps	66 F 669			15.10	13.59	12.08	66 F 699			16.10	14.49	12.88
0-5 Amps	66 F 670	66 F 621					66 F 700	66 F 646				
0-10 Amps	66 F 671	66 F 622					66 F 701	66 F 647				
0-20 Amps	66 F 672	66 F 623		15.10	13.59	12.08	66 F 702	66 F 648		16.10	14.49	12.88
0-30 Amps	66 F 902			15.10	13.59	12.08	66 F 703			16.10	14.49	12.88
0-2 Volts	66 F 673	66 F 625	1000/v.	15.90	14.31	12.72	66 F 704		1000/v.	16.90	15.21	13.52
0-15 Volts	66 F 674	66 F 626	1000/v.	15.90	14.31	12.72	66 F 705	66 F 651	1000/v.	16.90	15.21	13.52
0-30 Volts	66 F 675	66 F 627	1000/v.	15.90	14.31	12.72	66 F 706	66 F 652	1000/v.	16.90	15.21	13.52
0-50 Volts	66 F 676		1000/v.				66 F 707		1000/v.			
0-100 Volts	66 F 677	66 F 629	1000/v.				66 F 708	66 F 654	1000/v.			
0-150 Volts	66 F 678	66 F 630	1000/v.	15.90	14.31	12.72	66 F 709	66 F 655	1000/v.	16.90	15.21	13.52
0-300 Volts	66 F 679		1000/v.				66 F 710		1000/v.			
0-500 Volts	66 F 680		1000/v.				66 F 711		1000/v.			

# Weston and J-B-T Meters

## ACCURATE PANEL METERS

Rated at  $\pm 2\%$  accuracy (Type 302 rated at  $\pm 3\%$ ). Mount on magnetic or non-magnetic panel, close to other instruments, without adjustment. Shpg. wt., 1 lb.

**Type 301.** Self-shielding DC movement.  $2\frac{1}{2}''$  scale. Moving coil, core-type magnet. Self-contained shunts to 50 amps. "Cormag" unit eliminates need for external shielding. Terminal length:  $\frac{9}{32}''$ .

**Type 302.** As above, but rectangular, AC rectifier-type instrument. Maintains high accuracy in measuring minute AC currents.

**Type 304.** AC moving-iron movement. Unshielded, suitable where high sensitivities are required. Terminal length:  $\frac{1}{2}''$ .

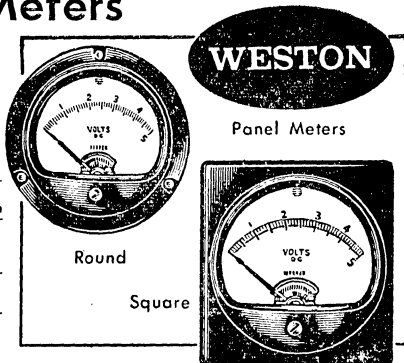
Allied has Weston meters in stock, ready to ship, at OEM prices. Inquire for prices on quantities larger than those shown.

### SQUARE FLUSH MOUNTING

Model No.	Flange	Body Dia.	Depth	Scale Length
301	3x3"	2 $\frac{3}{4}$ "	1"	2 $\frac{1}{2}$ "
302	3x3"	2 $\frac{3}{4}$ "	1"	2 $\frac{1}{2}$ "
304	3x3"	2 $\frac{3}{4}$ "	1 $\frac{3}{64}$ "	2 $\frac{1}{8}$ "

### ROUND FLUSH MOUNTING

301	3 $\frac{1}{2}$ "	2 $\frac{3}{4}$ "	1"	2 $\frac{1}{2}$ "
302	3 $\frac{1}{2}$ "	2 $\frac{3}{4}$ "	1"	2 $\frac{1}{2}$ "
304	3 $\frac{1}{2}$ "	2 $\frac{3}{4}$ "	1 $\frac{3}{64}$ "	2 $\frac{1}{8}$ "



### 301 DC MILLIAMMETERS

Range	Round	Square	EACH		
			1-9	10-24	25-49
0-1	69 F 356	69 F 355			
0-5	69 F 362	69 F 361			
0-10	69 F 365	69 F 363	14.40	12.96	11.52
0-15	69 F 367	69 F 366			
0-30	69 F 369	69 F 368			
0-50	69 F 375	69 F 370			
0-100	69 F 377	69 F 376	14.40	12.96	11.52
0-200	69 F 384	69 F 378			
0-300	69 F 386	69 F 385			
0-500	69 F 388	69 F 387			
1-0-1	69 F 391	69 F 390	14.40	12.96	11.52
100-0-100	69 F 394	69 F 393			

### 301 DC MICROAMMETERS

0-20	69 F 396	69 F 395	23.70	21.33	18.96
0-30	69 F 398	69 F 397	22.50	20.25	18.00
0-50	69 F 404	69 F 403	20.30	18.27	16.24
0-100	69 F 409	69 F 408	17.30	15.57	13.84
0-200	69 F 411	69 F 410	14.90	13.41	11.92
50-0-50	69 F 413	69 F 412	17.30	15.57	13.84
100-0-100	69 F 415	69 F 414	14.90	13.41	11.92
500-0-500	69 F 417	69 F 416	14.40	12.96	11.52

### 30A VU METERS

Stock No.	Mfr's Type	Description	Db Range	EACH		
				1-9	10-24	25-49
69 F 505	302-30A	3 $\frac{1}{2}$ " Square	-20 to +3	27.40	24.66	21.92
69 F 506	862-30A	4 $\frac{1}{4}$ " Square	-20 to +3	66.90	60.21	53.52

### 301 DC AMMETERS

Range	Round	Square	EACH		
			1-9	10-24	25-49
0-1	69 F 419	69 F 418			
0-2	69 F 420	69 F 419			
0-3	69 F 421	69 F 420	14.40	12.96	11.52
0-5	69 F 423	69 F 422			
0-10	69 F 425	69 F 424	14.40	12.96	11.52
0-15	69 F 427	69 F 426	15.40	13.86	12.32
0-30	69 F 429	69 F 428	15.40	13.86	12.32
0-50	69 F 431	69 F 430	15.40	13.86	12.32

### 301 DC VOLTMETERS (1 K/Volt)

0-3	69 F 433	69 F 432			
0-5	69 F 435	69 F 434			
0-10	69 F 437	69 F 436	14.90	13.41	11.92
0-15	69 F 439	69 F 438			
0-30	69 F 441	69 F 440			
0-50	69 F 443	69 F 442	14.90	13.41	11.92
0-100	69 F 445	69 F 444	14.90	13.41	11.92
0-150	69 F 447	69 F 446	14.90	13.41	11.92
0-200	69 F 449	69 F 448	15.40	13.86	12.32
0-300	69 F 451	69 F 450	15.40	13.86	12.32
0-500	69 F 453	69 F 452	15.90	14.31	12.72

### 302 AC VOLTMETERS (1 K/Volt)

0-3	69 F 454	69 F 453			
0-5	69 F 455	69 F 454	20.70	18.63	16.56
0-10	69 F 457	69 F 456			
0-15	69 F 459	69 F 458			
0-50	69 F 461	69 F 460	20.70	18.63	16.50
0-100	69 F 462	69 F 461	20.70	18.63	16.50
0-150	69 F 464	69 F 463	20.70	18.63	16.50
0-300	69 F 466	69 F 465	21.30	19.17	17.04

### 304 AC VOLTMETERS

Range	Round	Square	OEM NET EACH		
			1-9	10-24	25-49
0-3	69 F 467	69 F 466			
0-5	69 F 468	69 F 467			
0-10	69 F 470	69 F 469	18.10	16.29	14.48
0-15	69 F 472	69 F 471			
0-30	69 F 474	69 F 473			
0-50	69 F 476	69 F 475	18.10	16.29	14.48
0-130	69 F 478	69 F 477	18.50	16.65	14.80
0-150	69 F 480	69 F 479	18.50	16.65	14.80
0-300	69 F 482	69 F 481	20.10	18.09	16.08
0-500	69 F 484	69 F 483	21.50	19.35	17.20

### 304 AC AMMETERS

0-1	69 F 486	69 F 485			
0-3	69 F 488	69 F 487			
0-5	69 F 490	69 F 489	17.60	15.84	14.08
0-10	69 F 492	69 F 491			
0-20	69 F 494	69 F 493			
0-30	69 F 495	69 F 494			

### 304 AC MILLIAMMETERS

0-50	69 F 497	69 F 496			
0-100	69 F 499	69 F 498	17.60	15.84	14.08
0-500	69 F 501	69 F 500			

### 302 AC MICROAMMETERS

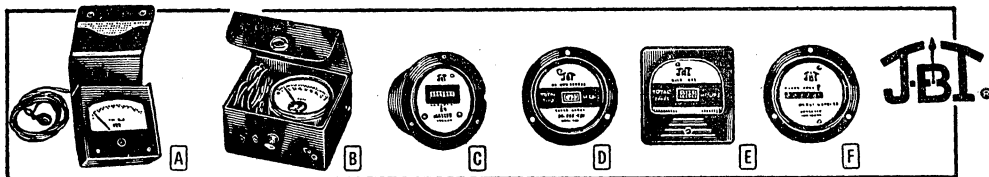
0-100	69 F 507	69 F 506	24.40	21.96	19.52
0-500	69 F 502	69 F 501	20.70	18.63	16.56

### 302 AC MILLIAMMETERS

0-1	69 F 503	69 F 502	20.70	18.63	16.56
0-5	69 F 504	69 F 503	20.70	18.63	16.56

## J-B-T METERS

Easy-To-Read Temperature, Frequency, and Elapsed Time Meters



**A** Type 32-JP-7 Temperature Tester. 4", easy-to-read scale covers temperature range of 0 to 650° Fahrenheit. Has automatic ambient temperature compensation, no calculating necessary.  $\frac{5}{16}''$  thermocouple. Size,  $5\frac{1}{2} \times 5 \times 2\frac{3}{8}''$ . With convenient carrying case. Shpg. wt., 3 lbs.  
65 F 086.....29.50

**B** Model 23-JP-1 Temperature Tester.  $2\frac{3}{8}''$  scale covers 0 to 650° Fahrenheit in ten divisions. Black metal panel. With  $\frac{5}{2}''$ -ft. calibrated thermocouple, clip, convection shield and leather case.  $4\frac{1}{2} \times 2\frac{7}{8} \times 4\frac{1}{4}''$ . Shpg. wt.,  $2\frac{1}{4}$  lbs.  
66 F 688.....26.00

**C** Vibrating Reed Frequency Meters. Accurate; use 9 reeds. Accuracy is  $\pm 0.3\%$  at 77° F. Flush panel, MIL-M-6A mounting. Flange,  $3\frac{1}{2}''$ ; body diameter,  $2\frac{1}{16}''$ ; depth,  $2\frac{3}{32}''$ . All have molded cases. For 110-130 volts.

**Model 34-FX.** Range: 56-64 cycles. Frequency in 1-cycle steps. 1 watt; 110 ohms-per-volt. Wt., 12 oz.  
66 F 685.....27.25

**Model 33-FX.** Range: 380-420 cycles. Frequency in 5-cycle steps. 1.5 watts; 90 ohms-per-volt. Wt., 12 oz.  
66 F 694.....34.10

**D** Model 31-EX Elapsed-Time Meter. Self-starting synchronous recorder of operating time of AC electrical equipment. Recommended where voltage or ambient temperatures fluctuate widely. One-tenth hour steps to 9999.9 hours; automatically resets. Flange,  $3\frac{1}{2}''$ ; mounts in  $2\frac{3}{4}''$  diameter hole; depth,  $3\frac{3}{32}''$ . For 110-125 volts, 60 cycle AC. Wt.,  $1\frac{1}{4}$  lbs.  
66 F 689.....15.95

**E** Model 31-ES Elapsed-Time Meter. Features the same self-starting synchronous operation of Model 31-EX, but is housed in a 3" square black molded case. Registers in one-tenth hour steps to 9999.9 hours, then automatically resets. Mounts in  $2\frac{1}{4}''$  square hole; depth,  $3\frac{1}{32}''$ . For 110-125 volts, 60 cycle AC. Shpg. wt.,  $1\frac{1}{2}$  lbs.  
66 F 898.....17.05

**F** Model 31-EXW Wide-Numeral Elapsed-Time Meter. Easily-read, wide six-digit numerals register to 99,999.9 hours, then automatically reset. Distinctive contemporary dial shows tenths in black on white, and hours in white on black background. Black molded case is interchangeable with Model 31-EX. Flange,  $3\frac{1}{2}''$ ; mounts in  $2\frac{3}{4}''$  diameter hole; depth,  $3\frac{3}{32}''$ . For 110-120 volts, 60 cycle AC. Shpg. wt.,  $1\frac{1}{2}$  lbs.  
66 F 899.....16.95

Specify Range and Model No. on Meter Orders

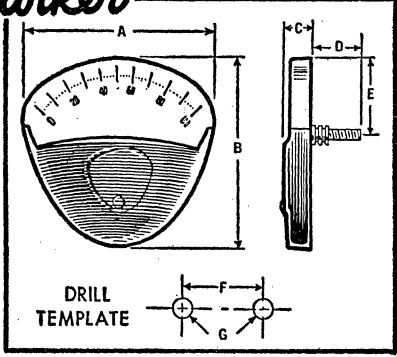
# Parker and Emico Panel Meters

## SURFACE-MOUNTING METERS

Self-shielded—  
Use with any  
type of panel.

### DIMENSIONS (Inches)

	S-25	S-35
A	2 1/2	3 1/2
B	2 1/2	3 1/2
C	1/2	1/2
D	1/2	1/2
E	3/8	1 1/2
F	1 1/2	1 1/2
G	3/8	3/8



- Withstand Continuous Electrical Overloads up to 10,000%
- ±2% Accuracy—Absorb 240g Shock Without Affecting Accuracy
- Total Thickness 1/2"—Saves Space and Manufacturing Costs
- Only Two 3/8" Holes Needed for Mounting—Integral Shielding

Lab Stand. Fusable meter stand for laboratory-bench use of S-25 and S-35 meters. Gray wrinkle finish. Shpg. wt., 12 oz.  
67 F 000..... 5.00

## DC MILLIAMMETERS

Range	Stock No.	Model S-25			Stock No.	Model S-35		
		EACH				EACH		
		1-9	10-24	25-99		1-4	5-24	25-99
0-1	67 F 001	13.95	11.86	10.46	67 F 009	14.40	12.24	10.80
1-0-1	67 F 002	14.40	12.24	10.80	67 F 010	14.90	12.67	11.18
0-2	67 F 003	12.95	11.01	9.71	67 F 011	13.20	11.22	9.90
0-5	67 F 004	11.60	9.86	8.70	67 F 012	12.00	10.20	9.00
0-10	67 F 005	11.60	9.86	8.70	67 F 013	12.00	10.20	9.00
0-50	67 F 006	12.50	10.63	9.38	67 F 014			
0-100	67 F 007	12.50	10.63	9.38	67 F 015	12.84	10.91	9.63
0-500	67 F 008	12.50	10.63	9.38	67 F 016			

## DC AMMETERS

0-5	67 F 017	12.50	10.63	9.38	67 F 018	12.84	10.91	9.63
-----	----------	-------	-------	------	----------	-------	-------	------

## DC MILLIVOLTMETERS

0-50	67 F 019	12.40	10.54	9.30	67 F 020	12.72	10.81	9.54
------	----------	-------	-------	------	----------	-------	-------	------

## DC VOLTMETERS

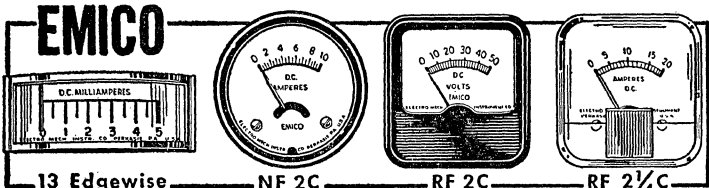
0-100	67 F 050	13.60	11.56	10.20	67 F 054	13.92	11.83	10.44
0-250	67 F 051	14.80	12.58	11.10	67 F 055	15.12	12.85	11.34
0-300	67 F 052	14.80	12.58	11.10	67 F 056	15.12	12.85	11.34
0-500	67 F 053	14.80	12.58	11.10	67 F 057	15.12	12.85	11.34

## AC VOLTMETERS

0-15	67 F 058	17.50	14.88	13.13	67 F 062			
0-100	67 F 059	17.50	14.88	13.13	67 F 063	18.00	15.30	13.50
0-150	67 F 060	17.50	14.88	13.13	67 F 064			
0-500	67 F 061	18.70	15.90	14.03	67 F 065			

## AC AMMETERS

0-1	67 F 066	18.40	15.64	13.80	67 F 067	18.84	16.01	14.13
-----	----------	-------	-------	-------	----------	-------	-------	-------



## 5% ACCURATE PANEL METERS

DC meters have "HI TORQ" magnetic movements. AC units are moving iron-vane type. All have 5% accuracy. Calibrated in steel cases. Sizes (depth and flange): NF-2C, 1 1/4 x 2 1/4"; RF-2C, 1 1/2 x 2 1/4"; RF-2 1/4 C, 1 1/2 x 2 1/2". \*Plexiglas front. Screw-terminal binding posts and/or solder lugs. With hardware. Av. shpg. wt., 9 oz.

## DC MILLIAMMETERS

Range	Model 13 Edgewise			Model NF-2C			Model RF-2C			*Model RF-2 1/4 C		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
		1-24	25-49	50-99		1-24	25-49	50-99		1-24	25-49	50-99
0-1	66 F 023	3.97	3.64	3.44	67 F 609	3.63	3.33	3.15	67 F 614	3.67	3.37	3.19
0-5	66 F 024	2.65	2.43	2.30	68 F 970	2.30	2.11	2.00	68 F 971	2.35	2.16	2.04
0-10	66 F 025	2.50	2.29	2.17	67 F 600	2.16	1.98	1.87	67 F 615	2.22	2.02	1.91
0-20	66 F 026				67 F 601				67 F 616			
0-30	66 F 027				67 F 602				67 F 617			
0-50	66 F 028	2.25	2.07	1.96	67 F 603	1.86	1.71	1.62	67 F 618	1.96	1.80	1.70
0-100	66 F 029				67 F 604				67 F 619			
0-150	66 F 030				67 F 605				67 F 620			
0-200	66 F 031				67 F 606				67 F 621			
0-300	66 F 032	2.25	2.07	1.96	67 F 607	1.86	1.71	1.62	67 F 622	1.96	1.80	1.70
0-500	66 F 033				67 F 608				67 F 623			

## DC AMMETERS

0-1				68 F 972				68 F 973				68 F 025				
0-5				68 F 974				68 F 975				66 F 043				
0-10	66 F 070	2.25	2.07	1.96	67 F 650	1.86	1.71	1.62	67 F 656	1.96	1.80	1.70	66 F 044	2.25	2.07	1.96
0-15	66 F 073				66 F 039				66 F 041				66 F 045			
0-25					68 F 976				68 F 977				66 F 046			
0-30	66 F 080				66 F 040				66 F 042				66 F 047			
3-0-3					67 F 651	1.86	1.71	1.62	67 F 657	1.96	1.80	1.70	68 F 026			
20-0-20	66 F 082	2.25	2.07	1.96	67 F 652				67 F 658				68 F 027	2.25	2.07	1.96
30-0-30	66 F 083				67 F 653				67 F 659				68 F 028			

## DC VOLTMETERS

0-3	66 F 168				67 F 630				67 F 635				68 F 082			
3-0-3					67 F 631				67 F 636				68 F 083			
0-10	66 F 188				67 F 632				67 F 637				68 F 084			
0-15	66 F 189	2.25	2.07	1.96	66 F 090	1.86	1.71	1.62	66 F 169	1.96	1.80	1.70	66 F 092	2.25	2.07	1.96
0-20	66 F 190				66 F 091				66 F 193				66 F 093			
0-30	66 F 191				68 F 980				68 F 981				66 F 096			
0-50	66 F 192				68 F 982				68 F 983				66 F 097			

## AC VOLTMETERS

0-15	66 F 034	3.38	3.10	2.93	67 F 665	2.99	2.74	2.59	67 F 670	3.09	2.83	2.68	68 F 022	3.38	3.10	2.93
0-50					68 F 978	2.99	2.74	2.59	68 F 979	3.09	2.83	2.68	66 F 038	3.38	3.10	2.93
0-150	66 F 035	3.92	3.60	3.40	67 F 666	3.53	3.24	3.06	67 F 671	3.63	3.33	3.15	66 F 023	3.92	3.60	3.40
0-300	66 F 036	4.46	4.09	3.87	67 F 667	4.12	3.78	3.57	67 F 672	4.16	3.82	3.61	68 F 024	4.46	4.09	3.87

## AC AMMETERS AND MILLIAMMETERS

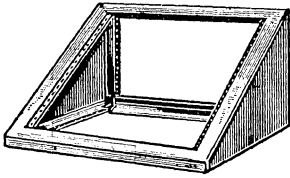
0-1 Amp					68 F 984				68 F 985				68 F 085			
0-5 Amp	66 F 195				67 F 645				67 F 648				68 F 086			
0-10 Amp					67 F 647	2.99	2.74	2.59	67 F 649	3.09	2.83	2.68	68 F 087	3.38	3.10	2.93
0-500 Ma	66 F 212	3.38	3.10	2.93	67 F 640				67 F 643				68 F 029			

# Series 60 Cabinet Racks and Accessories



## STEEL TURRETS

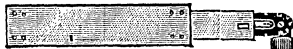
Made of rugged 16-gauge steel. Designed so that any of three sides may be attached to Series 60 upright racks or placed on any horizontal surface. This permits several viewing angles. Accommodate standard 19" rack panels. Mounting rails have universal hole spacing. Sides are easily removable. Available panel space (front, bottom, and rear): Type 2364—17½", 14", 8¾"; Type 2365—12¼", 10½", 7"; Type 2366—21", 17½", 10½". Panel spaces recessed ¾". All have smooth gray finish. Shpg. wts., Type 2364, 14 lbs.; Type 2365, 12 lbs.; Type 2366, 19 lbs.



Stock No.	Mfr's Type	Outside Size			EACH			
		H	W	D	1-14	15-24	25-34	35-49
88 PX 150	60-2364	12½"	22½"	17½"	39.05	35.15	31.25	29.29
88 PX 151	60-2365	10½"	22½"	14¾"	32.55	29.30	26.05	24.41
88 PX 152	60-2366	14¾"	22½"	20¾"	41.00	36.90	32.80	30.75

## CHASSIS SLIDE ASSEMBLIES

Quality ball-bearing chassis slides designed for the highest possible serviceability and operating convenience. All permit installation of a full 17" wide chassis when mounted in a standard 19" panel space relay rack or cabinet. All slides are drilled to accommodate either a panel bracket or direct slide-rail mounting. Supplied with brackets and hardware for mounting in standard relay racks. "Quick-detach" models permit immediate change of equipment directly at point of use. \*Indicates load capacity per pair when fully extended. Ratings are conservative; plus factor of 2 to 1 can be expected under normal conditions of use. †Indicates shpg. wt. per pair of slides. Write Allied for prices on quantities of 35-49 pairs.



SC-4500



SC-4400

Series SC-4300. (Not illus.) Full ball bearing chassis slides. Inner members do not disconnect or tilt. Aluminum extrusions used are made of 2014T6 per QQ-A-261. Precision broached for smooth, flawless operation. Amount of travel is same as slide length shown in table below.

Stock No.	Mfr's Type	Ht.	Lgth.	Load* (Lbs.)	Wt./Pr.† (Lbs.)	PER PAIR		
						1-14	15-19	25-34
88 P 207	SC-4312	2"	12"	150	2½	27.15	24.45	21.70
88 PX 208	SC-4316	2"	16"	110	5½	29.10	26.20	23.30
88 PX 209	SC-4320	2"	20"	95	4	31.80	28.60	25.45

Series SC-4400. Same as Series 4300 models above, except outer track is full ball bearing-type and inner track is dry-lubricated friction-type. These types have "quick-detach" facility and lock in the extended position.

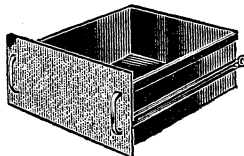
88 P 210	SC-4412	2"	12"	150	2½	39.30	35.35	31.45
88 PX 211	SC-4416	2"	16"	110	3¼	42.15	37.95	33.70
88 PX 212	SC-4420	2"	20"	95	4	44.10	39.70	35.30

Series SC-4500. Full ball bearing "quick-detach" and tilting type chassis slides which lock in extended position. Allow chassis to be tilted 90° above and 90° below the horizontal position in 45° increments for servicing.

88 P 213	SC-4512	3½"	12"	275	4½	56.25	50.65	45.00
88 PX 214	SC-4516	3½"	16"	215	5¾	60.90	54.80	48.70
88 PX 215	SC-4520	3½"	20"	180	7	64.65	58.20	51.70

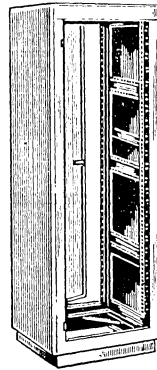
## SERIES 60 DRAWER

Type 60-2368SG. Handy, spacious roll-out drawer for use with entire Series 60 cabinet rack line. Smooth light gray harmonizes with finishes of Series 60 cabinet racks. Drawer slides out 16" on friction-free nylon rollers. Durable 16-gauge steel with 11-gauge steel 19" panel and brackets. Capable of supporting heavy loads—accommodates supplies of tubes, tape reels, cables, patch cords, sub-assemblies, etc.; also may be used for out-of-sight storage of test equipment needed for maintenance, phasing and analysis, reading, etc. Safety feature—drawer stops permit drawer to be extended to full depth without danger of falling out. Shipped completely assembled—ready for quick, easy attachment to panel mounting rails in rack enclosure. Handles are of silver-anodized aluminum. Inside dimensions, 6¾x16½x19¼". Requires 8¾" vertical panel space. Shpg. wt., 28 lbs.

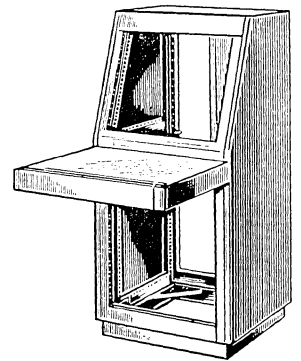


88 PU 682.	1-14,	EACH 32.05	15-24,	EACH 28.85
25-34,	EACH 25.65	35-49,	EACH 24.04	

## SERIES 60 CABINET RACKS



UPRIGHT UNIT



INCLINED WITH DESK TOP

## INCLINED PANEL RACKS

Feature panel mounting rails adjustable from front to rear on inclined, front and rear vertical sections. Rails accommodate a standard 19" panel and optional accessories (at left). Front rails drilled and tapped at 10-32 W.E. spacing. Welded frame of 14-gauge cold-rolled steel channels; sides and door of 16-gauge 2-tone gray steel with a 6" channel welded to door. Inclined panel is slanted 20° off vertical. Size: 50½" high, 24½" wide, 22" outside depth, 20¼" inside depth. \*I.P. in table is inclined top panel height; V.P. is vertical bottom panel height. Shipped assembled. Wt., 165 lbs.

Stock No.	Mfr's Type	I.P.*	V.P.*	EACH			
				1-9	10-14	15-19	20-24
88 PZ 674	60-2330	10½"	29¾"	165.25	148.70	132.20	123.94
88 PZ 675	60-2331	15¾"	24½"	175.15	157.65	140.10	131.36
88 PZ 676	60-2332	17½"	22¾"	175.15	157.65	140.10	131.36

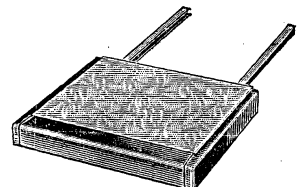
## UPRIGHT CABINET RACKS

Welded frame of 14-gauge cold-rolled steel channels. Sides have "U"-braces with perforated channels. Two pairs of vertical adjustable panel-mounting rails attach to braces. Rails support a 19" panel and other equipment (at left). No drilling necessary. Sides and rear door are of 16-gauge smooth two-tone gray steel with 6" channel welded to door. Door mounts to open from either left or right. Front rails are drilled and tapped at 10-32 W.E. spacing, rear rails are drilled with universal spacing. Size: 24½" wide, 23¾" inside depth except †20¼". Top opening 18½" wide, 17" deep on 22" outside depth types; 18½" wide, 20½" deep on all others. \*Panel space. Write Allied for prices on quantities of 20-24.

Stock No.	Type	Ht.	D.	P.S.*	Lbs.	EACH		
						1-9	10-14	15-19
88 PZ 700	60-2300	29½"†	22"	21"	126	106.30	95.67	85.05
88 PZ 701	60-2301	40½"†	22"	31½"	156	131.45	118.30	105.15
88 PZ 702	60-2302	50½"†	22"	42"	176	146.05	131.45	116.85
88 PZ 703	60-2303	61½"†	22"	52½"	192	166.25	149.60	133.00
88 PZ 704	60-2304	69½"†	22"	61¼"	208	180.25	162.20	144.20
88 PZ 705	60-2305	78½"†	22"	70"	224	200.00	180.00	160.00
88 PZ 706	60-2306	87½"†	22"	78¾"	240	218.65	196.80	174.90
88 PZ 707	60-2307	29½"†	22"	25½"	156	125.50	112.95	100.40
88 PZ 708	60-2308	40½"†	22"	31½"	176	151.20	136.10	120.95
88 PZ 709	60-2309	50½"†	22"	42"	192	168.00	151.20	134.40
88 PZ 710	60-2310	61½"†	22"	52½"	208	186.50	167.85	149.20
88 PZ 711	60-2311	69½"†	22"	61¼"	224	207.30	186.55	165.85
88 PZ 712	60-2312	78½"†	22"	70"	241	230.30	207.25	184.25
88 PZ 713	60-2313	87½"†	22"	78¾"	267	251.35	226.20	201.10

## SERIES 60 DESK TOP

Type 60-2360. Top for use with any Series 60 enclosure. Smooth gray enamel finish. Furnished assembled with durable, attractive wood-grained formica surface that resists stains, burns and scratches. Easily fastens to Series 60 cabinet racks by means of two pre-drilled channels which attach to panel mounting rails in the enclosure. Supports over 200 lbs. Size, 33¾x24½x19½". Shpg. wt., 22 lbs.



88 PU 680.	1-14,	EACH 36.05	15-24,	EACH 32.45
25-34,	EACH 28.85	35-49,	EACH 27.04	

# Bud Relay Racks and Rack Cabinets

## DELUXE ENCLOSED RELAY RACKS

**A** High-quality, deluxe enclosed relay racks. Ruggedly constructed of 16-gauge steel with 1/8" panel supports. Sturdy bottom supports permit fastening casters

directly to chassis-type base. Accurately drilled and tapped for 19" panels. Specify gray hammertone, gray wrinkle or black wrinkle. \*Gray hammertone only.

Stock No.	Mfr's Type	Overall Size	Panel Height	Wt., Lbs.	EACH			
					1-9	10-14	15-19	20-24
20 PZ 800-2C	CR-1774	42 1/16 x 22 x 17 1/8"	36 3/4"	90	45.17	40.65	36.14	33.88
20 PZ 801-2C	CR-1771	47 5/16 x 22 x 17 1/8"	42"	95	51.10	45.99	40.88	38.33
20 PZ 802-2C	CR-1772	66 5/16 x 22 x 17 1/8"	61 1/4"	122	63.96	57.56	51.17	47.97
20 PZ 803-2C	CR-1773	82 5/16 x 22 x 17 1/8"	77"	150	76.57	68.91	61.26	57.43
20 PZ 812-2*	CR-2072	66 5/16 x 22 x 22 1/8"	61 1/4"	150	89.35	80.42	71.48	67.01
20 PZ 813-2*	CR-2073	82 5/16 x 22 x 22 1/8"	77"	175	106.13	95.52	84.90	79.60

## ADD-A-RACK SERIES

Permit above racks to be assembled into banks of two or more to save space. Four sections: top, bottom, door and coupling panel. Replace either side of deluxe rack with coupling panel; add new top and bot-

tom; attach original side to new top and bottom; attach new door. Same sizes as deluxe racks. With hardware. Specify gray hammertone, gray wrinkle or black wrinkle. \*Gray hammertone only.

Stock No.	Mfr's Type	Used With	Wt., Lbs.	EACH			
				1-9	10-14	15-19	20-24
20 PZ 804-2C	AR-1775	CR-1771	77	49.01	44.11	39.21	36.76
20 PZ 805-2C	AR-1776	CR-1772	100	60.96	54.86	48.77	45.72
20 PZ 806-2C	AR-1777	CR-1773	127	74.90	67.41	59.92	56.18
20 PZ 807-2C	AR-1778	CR-1774	75	44.34	39.91	35.47	33.26
20 PZ 814-2*	AR-2276	CR-2072	130	85.17	76.65	68.14	63.88
20 PZ 815-2*	AR-2277	CR-2073	150	103.75	93.38	83.00	77.81

## OPEN-TYPE RELAY RACKS

**B** All have chassis-type base except \* has base of 1/4" iron angles and brackets.

Specify gray hammertone or black wrinkle finish. † Black wrinkle finish only.

Stock No.	Mfr's Type	Overall Size	Panel Height	Wt., Lbs.	EACH			
					1-9	10-14	15-19	20-24
20 PZ 822-2C	RR-1263	35 3/8 x 20 x 22"	31 1/2"	38	21.71	19.53	17.37	16.28
20 PZ 823-2C	RR-1363	40 5/8 x 20 x 22"	36 3/4"	37	21.96	19.76	17.57	16.47
20 PZ 824-2C	RR-1264	70 3/8 x 20 x 22"	66 1/2"	53	24.80	22.32	19.84	18.60
20 PZ 825-2†	*RR-1265	72 1/4 x 20 3/8 x 13"	66 1/2"	100	54.78	49.30	43.82	41.09
20 PZ 826-2C	RR-1364	75 5/8 x 20 x 22"	71 3/4"	46	25.13	22.62	20.10	18.85
20 PZ 827-2C	RR-1366	81 5/8 x 20 x 22"	77"	48	29.98	26.98	23.98	22.49

## DESK-TYPE RELAY RACKS

**C** Chassis-type base. Supporting angles assure steadiness. Choice of finishes.

Gray Hammertone	Black Wrinkle	Mfr's Type	Overall Size	Panel Height	Wt., Lbs.	EACH			
						1-14	15-24	24-34	35-49
86 PU 879	98 PU 848	RR-1248	24 x 20 3/8 x 12"	21"	15	9.10	8.19	7.28	6.83
86 PU 880	98 PU 849	RR-1249	31 x 20 3/8 x 12"	28"	17	11.19	10.07	8.95	8.39

## SUPER-DELUXE ENCLOSED 2-DOOR CABINET RACKS

**D** Like deluxe racks. (Fig. A.), but panel supports adjustable 1-6" behind cabinet front at 1" intervals. Front and rear

doors. 1/8" supports. Base takes casters. 16-gauge steel. With hardware. Specify gray hammertone, gray wrinkle, black wrinkle.

Stock No.	Mfr's Type	Overall Size	Panel Height	Wt., Lbs.	EACH			
					1-9	10-14	15-19	20-24
20 PZ 808-2C	CR-2174	42 1/16 x 22 x 17 1/8"	36 3/4"	108	64.13	57.72	51.30	48.10
20 PZ 809-2C	CR-2171	47 5/16 x 22 x 17 1/8"	42"	117	72.65	65.39	58.12	54.49
20 PZ 810-2C	CR-2172	66 5/16 x 22 x 17 1/8"	61 1/4"	146	93.77	84.39	75.02	70.33
20 PZ 811-2C	CR-2173	82 5/16 x 22 x 17 1/8"	77"	191	112.56	101.30	90.05	84.42

## GRAY HAMMERTONE HEAVY-DUTY CABINET RACKS AND ADD-A-CABS

**E** For use where increased depth is required; clear inside depth, 16 1/4"; 22" wide. Top and bottom similar to racks in Fig. A, above. Hinged removable rear door. Louvered sides and 2 1/2 x 17 1/2"

rear bottom vent. Save by using Add-A-Cabs for additional cabinets. Consist of top, bottom, back and one side. Use one common side. Write for Prices in Quantities of 35-49.

Overall Height	Panel Height	Stock No.	Mfr's Type	Wt., Lbs.	EACH			Stock No.	Mfr's Type	Used With	Wt., Lbs.	EACH		
					1-14	15-24	25-34					1-14	15-24	25-34
24 1/2"	19 1/4"	20 PZ 828-2C	CR-1736	48	26.65	23.98	21.32	20 PZ 831-2	ACR-1936	CR-1736	41	25.40	22.86	20.32
31 1/2"	26 1/4"	20 PZ 829-2C	CR-1737	55	28.75	25.87	23.00	20 PZ 832-2	ACR-1937	CR-1737	48	27.40	24.66	21.92
40 1/4"	35"	20 PZ 830-2C	CR-1738	64	34.15	30.73	27.32	20 PZ 833-2	ACR-1938	CR-1738	55	32.55	29.29	26.04

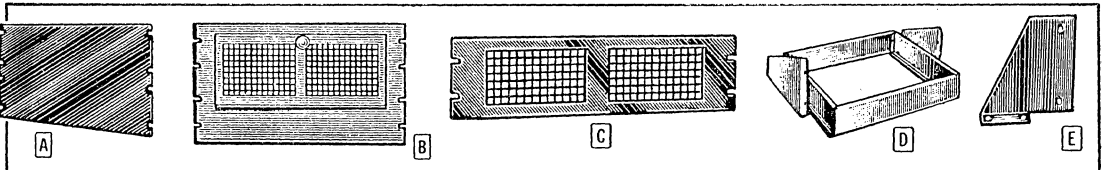
## GRAY HAMMERTONE SPACE SAVER RELAY RACKS AND ADD-A-RACKS

**F** 10" deep. 16-gauge steel. Panel mounting supports adjustable at 1" intervals. Removable rear door. 22" wide; inside depth 9".

Take 19" panels. Add-A-Racks consist of top, bottom and one side. Use one common side. Write for Prices in Quantities of 20-24.

Overall Height	Panel Height	Stock No.	Mfr's Type	Wt., Lbs.	EACH			Stock No.	Mfr's Type	Used With	Wt., Lbs.	EACH		
					1-9	10-14	15-19					1-9	10-14	15-19
47 5/16"	42"	20 PZ 816-2	RR-1271	64	36.60	32.95	29.28	20 PZ 819-2	AR-1275	RR-1271	54	34.90	31.41	27.92
66 5/16"	61 1/4"	20 PZ 817-2	RR-1272	84	45.85	41.26	36.68	20 PZ 820-2	AR-1276	RR-1272	69	43.75	39.37	35.00
75 5/16"	70"	20 PZ 818-2	RR-1273	93	53.75	48.37	43.00	20 PZ 821-2	AR-1277	RR-1273	76	51.25	46.12	41.00

# Bud Rack Panels and Accessories



## SERIES 60 STANDARD RACK PANELS

**A** Heavy-duty 1/8" thick aluminum or steel panels. 19" wide, have notched edges that fit mtg. screw spacing of all Series 60 standard and telephone-type relay racks. Wide variety of finishes. Allied

stocks the complete line of Bud relay racks and accessories. For prices on quantities larger than those shown in this catalog, write, wire or phone Allied Electronics.

### ALUMINUM

Ht.	Smooth Gray	Black Wrinkle	Gray Wrinkle	Gray Hammettone	Mfr's Type	Wt., Lbs.	EACH			
							1-49	50-99	100-149	150-199
1 3/4"	88 PX 180	98 PX 864	98 PX 895	88 PX 601	PA-1101	1/4	1.09	.98	.87	.82
3 1/2"	88 PX 181	98 PX 865	98 PX 896	88 PX 602	PA-1102	3/4	1.42	1.28	1.14	1.07
5 1/4"	88 PX 182	98 PX 866	98 PX 897	88 PX 603	PA-1103	1	1.92	1.73	1.54	1.44
7"	88 PX 183	98 PX 867	98 PX 898	88 PX 604	PA-1104	1 1/4	2.42	2.18	1.94	1.82
8 3/4"	88 PX 184	98 PX 887	98 PX 899	88 PX 605	PA-1105	2	2.84	2.56	2.27	2.10
10 1/2"	88 PX 185	98 PX 888	98 PX 877	88 PX 606	PA-1106	2 1/2	3.59	3.23	2.87	2.69
12 1/4"	88 PX 186	98 PX 889	98 PX 878	88 PX 607	PA-1107	2 3/4	4.09	3.68	3.27	3.07
14"	88 PX 187	98 PX 890	98 PX 879	88 PX 608	PA-1108	3	4.76	4.28	3.81	3.57
15 3/4"	88 PX 188	98 PX 891	98 PX 861	88 PX 609	PA-1109	3 1/2	5.34	4.81	4.27	4.01
17 1/2"	88 PX 189	98 PX 892	98 PX 862	88 PX 610	PA-1110	4	5.85	5.27	4.68	4.39
19 1/4"	88 PX 190	98 PX 893	98 PX 863	88 PX 611	PA-1111	4 1/4	6.43	5.79	5.14	4.82
21"	88 PX 191	98 PX 894	98 PX 803	88 PX 612	PA-1112	5	7.01	6.31	5.61	5.26

### STEEL

1 3/4"	88 PX 156	98 PX 723	98 PX 738	88 PX 589	PS-1250	1/4	.84	.76	.67	.63
3 1/2"	88 PX 157	98 PX 724	98 PX 739	88 PX 590	PS-1251	2/4	1.00	.90	.80	.75
5 1/4"	88 PX 158	98 PX 725	98 PX 740	88 PX 591	PS-1252	3/4	1.25	1.13	1.00	.94
7"	88 PX 159	98 PX 726	98 PX 741	88 PX 592	PS-1253	4/2	1.42	1.28	1.14	1.07
8 3/4"	88 PX 160	98 PX 727	98 PX 742	88 PX 593	PS-1254	6	1.75	1.58	1.40	1.31
10 1/2"	88 PX 161	98 PX 728	98 PX 743	88 PX 594	PS-1255	7	2.09	1.88	1.67	1.57
12 1/4"	88 PX 162	98 PX 729	98 PX 744	88 PX 595	PS-1256	8 1/4	2.42	2.18	1.94	1.82
14"	88 PX 163	98 PX 733	98 PX 745	88 PX 596	PS-1257	9 1/2	2.84	2.56	2.27	2.13
15 3/4"	88 PX 164	98 PX 734	98 PX 746	88 PX 597	PS-1258	10 3/4	3.09	2.78	2.47	2.32
17 1/2"	88 PX 165	98 PX 735	98 PX 747	88 PX 598	PS-1259	11 3/4	3.51	3.16	2.81	2.63
19 1/4"	88 PX 166	98 PX 736	98 PX 748	88 PX 599	PS-1260	13	3.84	3.46	3.07	2.88
21"	88 PX 167	98 PX 737	98 PX 749	88 PX 600	PS-1261	14 1/4	4.26	3.83	3.41	3.20

### STEEL DOOR RACK PANELS

**B** Extremely useful when accessibility to component parts on the chassis is important. Made of 1/8" sheet steel, panels are 19" wide. Special design, plunger-type lock makes certain door is easy to open and lock. Height: PS-814 and PS-615, 10 1/2"; PS-815 and PS-616, 12 1/4". Offered in both ventilated as well as solid door styles. \*Ventilated door (square perforations). Av. shpg. wt., 9 lbs.

Gray Wrinkle	Black Wrinkle	Gray Hmrtone	Mfr's Type	EACH		
				1-49	50-99	100-149
88 PX 613	88 PX 617	88 PX 620	PS-615	6.08	5.47	4.86
88 PX 614	88 PX 618	88 PX 621	PS-616	7.52	6.77	6.02
88 PX 615	88 PX 175	88 PX 622	PS-814*	7.52	6.77	6.02
88 PX 616	88 PX 619	88 PX 623	PS-815*	8.27	7.44	6.62

### VENTILATED GRILLE PANELS

**C** Constructed of durable 1/8" thick steel. The grille is die-stamped in the panel. Ideal for use where additional ventilation for equipment is needed. All panels are 19" wide and are available in a choice of finishes. \*Indicates 3 1/2" space provided from bottom of panel to ventilated portion of the panel to allow for chassis mounting. Av. wt., 5 lbs.

Ht.	Stock Number			Mfr's Type	EACH			
	Gray Wrinkle	Black Wrinkle	Gray Hmrtone		1-49	50-99	100-149	150-199
5 1/4"	88 PX 625	88 PX 630	88 PX 635	808	3.26	2.93	2.61	2.45
7"	88 PX 626	88 PX 631	88 PX 636	809	3.54	3.19	2.83	2.66
8 3/4"	88 PX 627	88 PX 632	88 PX 637	810*	4.26	3.83	3.41	3.20
10 1/2"	88 PX 628	88 PX 633	88 PX 638	811*	4.51	4.06	3.61	3.38
12 1/4"	88 PX 629	88 PX 634	88 PX 639	812*	4.84	4.36	3.87	3.63

### TRIANGULAR MOUNTING BRACKETS

(Not illus.) Provide rigid support for panel and chassis assemblies and for shelves where heavy weights are involved. Heavy-gauge steel, 3/4" flange. Black enamel finish. Sold only in pairs.

Stock No.	Mfr's Type	Ht.	Depth	Wt. Lbs.	PER PAIR			
					1-49	50-99	100-149	150-199
86 P 226	MB-1266	5"	5"	1	1.00	.90	.80	.75
86 P 227	MB-1267	7"	7"	1	1.17	1.05	.94	.88
86 P 228	MB-1268	9"	9"	1 1/2	1.42	1.28	1.14	1.07

### SPECIAL COLOR SERVICE

Bud racks and cabinets are available on special order in any desired color. Write Allied for prices—indicate color and quantity desired.

### RELAY RACK SLIDE DRAWER

**D** Type SD-1717. Sliding drawer assembly for any standard rack or cabinet. Excellent for record player or portable typewriter base, writing table and many other practical uses. Easily and quickly assembled and installed in any standard rack. Stop screw on slide rail prevents drawer from falling out of channel. Will support up to 50 lbs. Size, 16 1/2"x14"x3". Shpg. wt., 5 lbs.

88 PX 640, 1-14	EACH 11.43	15-24	EACH 10.29
25-34	EACH 9.14	35-49	EACH 8.57

Type TP-1718. Aluminum-plate bottom for drawer above. Attaches to top of drawer for shelf, desk top or support. 14-gauge aluminum with light gray hammettone finish. 16 3/4"x14". Wt. 1 3/4 lbs.

86 PX 257, 1-14	EACH 2.56	15-24	EACH 2.30
25-34	EACH 2.05	35-49	EACH 1.92

### CHASSIS MOUNTING BRACKETS

**E** Insure proper support of heavily loaded chassis. Heavy-gauge steel brackets cut away to accommodate chassis 3" high, except 4" chassis. Black enamel. Sold only in pairs.

Stock No.	Mfr's Type	Ht.	Depth	Wt. Lbs.	PER PAIR			
					1-49	50-99	100-149	150-199
86 P 219	MB-458	6 1/2"	8"	1 1/4	1.09	.98	.87	.82
86 P 220	MB-448	6 1/2"	10"	1 3/4	1.35	1.22	1.08	1.01
86 P 218	MB-459	6 1/2"	11"	2	1.50	1.35	1.20	1.13
86 P 221	MB-449	6 1/2"	12"	2	1.75	1.58	1.40	1.31
86 P 224	MB-460	6 1/2"	13"	2 1/2	1.69	1.52	1.35	1.27
86 P 222	MB-450	8 1/2"	10"	2 1/4	1.97	1.77	1.58	1.48
86 P 223	MB-451	8 1/2"	13"	3	2.09	1.88	1.67	1.57

### HEAVY-GAUGE STEEL RACK SHELVES

(Not illus.) Slide-in shelves for heavy power supplies, modulator units, etc. Require chassis support angles listed below. Black enamel finish. HWD: CB-1976, 1x19x15", CB-1977, 1x19x12".

Stock No.	Type	Lbs.	PER PAIR			
			1-24, Ea.	25-49, Ea.	50-99, Ea.	100-149, Ea.
86 PX 231	CB-1976	6 1/2	3.47	3.12	2.78	2.60
86 PX 232	CB-1977	5 1/2	2.64	2.38	2.11	1.98

### CHASSIS SUPPORTING ANGLES

(Not illus.) Relay rack runners of 7/8" steel. For heavy chassis, shelves. Distribute weight to sides of rack. Black enamel.

Stock No.	Mfr's Type	H. W. D.	Wt., Lbs.	PER PAIR			
				1-24	25-49	50-99	100-149
86 P 235	SA-1349	1 1/2"x3x14 1/2"	4	2.25	2.03	1.80	1.69
88 P 641	SA-1350	1 1/2"x3x12"	3	2.17	1.95	1.74	1.63

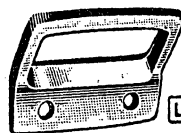
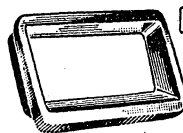
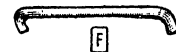
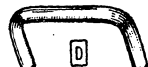
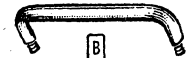
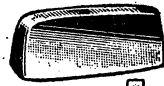
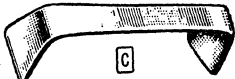
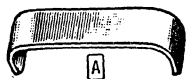




# Handles, Panels, and Cabinets

## BUD HANDLES

Quality handles, built for rugged applications.



**A** Made from 1x1/4" solid brass except \*5/8x1/4". With hardware. Hand clearance, 1". Av. shgp. wt., 3 oz.

Stock No.	Mfr's Type	Mtg. Ctrs.	PER PAIR			
			1-49	50-99	100-149	150-199
88 P 050	H-9100	4x1 1/2"	3.96	3.56	3.17	2.97
88 P 051	H-9101	8x1 1/2"	6.15	5.54	4.92	4.62
88 P 052	H-9102*	4"	3.15	2.84	2.52	2.36
88 P 053	H-9103*	6"	3.60	3.24	2.88	2.70

**B** Made from 3/8" steel rod. Chrome-plated. With mtg. hardware. Hand clearance, 1 1/16", except \*1 5/16". Av. wt., 3 oz.

Stock No.	Mfr's Type	Mtg. Ctrs.	PER PAIR			
			1-49	50-99	100-149	150-199
88 P 059	H-9115*	4"	2.40	2.16	1.92	1.80
88 P 060	H-9116*	6"	3.00	2.70	2.40	2.25
88 P 061	H-9160	3 1/2"	2.70	2.43	2.16	2.03
88 P 062	H-9161	5 1/4"	3.15	2.84	2.52	2.36
88 P 063	H-9162	7"	3.24	2.92	2.59	2.43
88 P 064	H-9163	8 3/4"	3.51	3.16	2.81	2.63
88 P 065	H-9164	10 1/2"	3.96	3.56	3.17	2.97
88 P 066	H-9165	12 1/4"	4.35	3.92	3.48	3.26

**C** Die-cast silver anodized-aluminum. With mtg. hardware. Shgp. wt., 3 oz.

Stock No.	Mfr's Type	Mtg. Ctrs.	Hand Clear.	PER PAIR			
				1-49	50-99	100-149	150-199
88 P 075	H-9151	5 5/8x5/8"	1 1/4"	5.10	4.59	4.08	3.83
88 P 076	H-9152	3 7/8"	1 1/8"	4.14	3.73	3.31	3.11

**D** Constructed of chrome-plated 1/4" brass rod. With two 5/32x1/2" screws. Shgp. wt., 4 oz.

Stock No.	Mfr's Type	Mtg. Ctrs.	Hand Clear.	PER PAIR			
				1-49	50-99	100-149	150-199
88 P 077	H-9166	1 29/32"	1"	1.20	1.08	.96	.90
88 P 078	H-9168	3"	1"	1.35	1.22	1.08	1.01

**E** Die-cast aluminum; silver-anodized except \*chrome-plated. Outside ctrs., 5/8". Hand clearance, 1". Shgp. wt., 3 oz.

Stock No.	Mfr's Type	Mtg. Ctrs.	PER PAIR			
			1-49	50-99	100-149	150-199
88 P 067	H-9120	4 3/8"	3.51	3.16	2.81	2.63
88 P 068	H-9121*	4 3/8"	4.95	4.46	3.96	3.71
88 P 069	H-9123	4 1/2"	2.61	2.35	2.09	1.96

**F** Made from 3/8" steel rod except \*1/2". Chrome-plated. With mounting hardware. Av. shgp. wt., 3 oz.

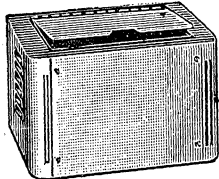
Stock No.	Mfr's Type	Mtg. Ctrs.	Hand Clear.	PER PAIR			
				1-49	50-99	100-149	150-199
88 P 054	H-9110	6"	1 1/4"	2.79	2.51	2.23	2.09
88 P 055	H-9111	4"	1 5/16"	1.50	1.35	1.20	1.13
88 P 056	H-9112	6"	1 5/16"	1.89	1.70	1.51	1.42
88 P 057	H-9113	8"	1 5/16"	2.10	1.89	1.68	1.58
88 P 058	H-9114*	8"	1 1/2"	3.51	3.16	2.81	2.63

All handles listed in table above are die-cast, silver-anodized aluminum. Durable, attractive finish provides long wear. All necessary mounting hardware is included. Type H-9122 has 1 1/2" hand clearance, includes 1/2" steel pins with hinge blocks. Type H-9131 is 4x2 7/8". Type H-9140 has 3/4" hand clearance. Type H-9150 has 1 1/4" hand clearance. Av. wt., 3 oz.

Stock No.	Mfr's Type	Fig.	Mtg. Ctrs.	PER PAIR			
				1-49	50-99	100-149	150-199
88 P 070	H-9122	G	7 1/4"	5.94	5.35	4.95	4.46
88 P 071	H-9130	H	3"	5.25	4.73	4.20	3.94
88 P 072	H-9131	J	2 1/4"	3.90	3.51	3.12	2.93
88 P 073	H-9140	K	3 1/2"	2.34	2.11	1.87	1.76
88 P 074	H-9150	L	4x3 7/8"	3.15	2.84	2.52	2.36

### STREAMLINED CABINETS

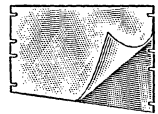
All have recessed hinged cover with convenient finger lift for easy opening. Panels fit flush with embossed, rounded corner fronts. Front panel removable for chassis installation and panel cut-outs. A 3 1/2" high opening is provided across back of cabinet for cables or rear controls, and with hinged top, permits easy access to sockets, terminals, etc. 8" high and 3 1/4" deep, except \*12" high and 1 1/2" deep, and have 1/2" vertical embossed strip on corners. Louvers on each side of cabinet provide ventilation for equipment. Sturdy, well built cabinets have unlimited applications. Can be used for power supplies, amplifiers, transmitters, receivers, etc. Attractive black wrinkle or gray hammertone finish.



Gray Hammertone	Black Wrinkle	Mfr's Type	Width	Panel Space	Wt. Lbs.	EACH			
						1-24	25-49	50-99	100-149
88 PX 650	88 PX 651	CD-1480	10 1/2"	8x8"	5 3/4	5.90	5.31	4.72	4.43
88 PX 652	88 PX 653	CD-1481	12 1/2"	8x10"	6	6.01	5.41	4.81	4.51
88 PX 654	88 PX 655	CD-1482	14 1/2"	8x12"	6 1/2	6.31	5.68	5.05	4.74
88 PX 656	88 PX 657	CD-1483	16 1/2"	8x14"	7	6.77	6.09	5.42	5.08
88 PX 658	88 PX 659	CD-1484	18 1/2"	8x16"	7 3/4	7.36	6.62	5.89	5.52
88 PX 660	88 PX 661	CD-1485*	20 7/8"	12x18"	15	14.95	13.45	11.96	11.21

### SURFACE-SHIELD RACK PANELS

1/2" thick bright aluminum alloy rack panels in blemish-free mill finish. Each panel is covered on both sides with sturdy, pressure sensitive white paper to protect against damage. Paper is excellent surface for indicating size and position of drilling or milling. Panels listed below are 19" wide with standard notching.



Stock No.	Mfr's Type	Ht.	Wt. Lbs.	EACH			
				1-49	50-99	100-149	150-199
88 PX 662	SFA-1831	1 3/8"	1/4	.97	.87	.78	.73
88 PX 663	SFA-1832	3 1/2"	3/4	1.34	1.21	1.07	1.01
88 PX 664	SFA-1833	5 1/4"	1	1.80	1.62	1.44	1.35
88 PX 665	SFA-1834	7"	1 3/4	2.21	1.99	1.77	1.66
88 PX 666	SFA-1835	8 3/4"	2	2.66	2.39	2.13	2.00
88 PX 667	SFA-1836	10 1/4"	2 1/2	3.34	3.01	2.67	2.51
88 PX 668	SFA-1837	12 1/2"	3 1/4	3.85	3.47	3.08	2.89
88 PX 669	SFA-1838	14"	3	4.45	4.01	3.56	3.34
88 PX 670	SFA-1839	15 3/4"	3 1/2	4.97	4.47	3.98	3.73
88 PX 671	SFA-1840	17 1/2"	4	5.47	4.92	4.38	4.10
88 PX 672	SFA-1841	19 1/4"	4 1/4	5.99	5.39	4.79	4.49
88 PX 673	SFA-1842	21"	5	6.50	5.85	5.20	4.88

### OTHER HANDLES

Type UH-70A. Etched, tubular aluminum, 5/8" long, 4 3/8" mtg. ctrs.  
 86 P 849. 1-49.....EACH .36  
 50-99.....EACH .32 100-149.....EACH .29  
 150-199.....EACH .27

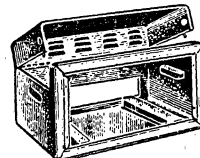
Type UH-71A. Smaller version of UH-70A above. Length, 3 3/4"; 3/4" mtg. centers.  
 86 P 899. 1-49.....EACH .30  
 50-99.....EACH .27 100-149.....EACH .24  
 150-199.....EACH .23



Type 9347. Combination handle and catch, standard on Bud racks. Fits flush with top of cabinet. Chrome plated. Replaces CL-7777.  
 86 P 743. 1-49.....EACH .98  
 50-99.....EACH .88 100-149.....EACH .78  
 150-199.....EACH .74

### "PRESTIGE" STEEL CABINETS

Stock cabinets of advanced design. Removable hinged cover with grommetted finger holes swings back. Cover snaps closed by means of pressure fasteners. Two recessed handles. Two adjustable supporting channels for chassis of different widths. Height of channels permits flow of cooling air and provides easy removal of cabinet contents. For standard 19" relay rack panels. Built of 16-gauge steel. Has embossed feet. Width: 21 9/16"; depth, 14 7/8". Inside depth 13 7/8". Rear opening, 18x3". Cover opening, 21 1/2"x12 3/4". Gray hammertone. Covers: \*solid; †perforated.



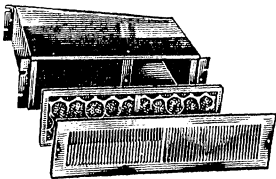
Stock No.	Mfr's Type	Height	Panel Space	Wt. Lbs.	EACH			
					1-14	15-24	25-34	35-49
86 PU 644	C-1440*	9 1/2"	7"	26	28.22	25.40	22.58	21.17
86 PU 645	C-1441*	11 1/4"	8 3/4"	27	30.06	27.05	24.05	22.55
86 PU 646	C-1442*	13"	10 1/2"	29	32.82	29.54	26.26	24.62
86 PU 647	C-1550†	9 1/2"	7"	26	30.56	27.50	24.45	22.92
86 PU 648	C-1551†	11 1/4"	8 3/4"	27	32.73	29.46	26.18	24.55
86 PU 649	C-1552†	13"	10 1/2"	29	35.57	32.01	28.46	26.68



# Metal Products

## "TRANS-AIRE" BLOWERS

Used where excessive heat is generated by gear in enclosed racks or cabinets. Serve as intake or exhaust fans; operate in any position. Two-speed motors are rubber mounted—have olive bearings. Thermal overload protection has automatic reset.



Uses oil impregnated disposable fiberglass filter (1 included), may be changed without removing units. Type B-23 uses Type BF-24 filter; B-25 uses BF-26; B-27 uses BF-28. Horsepower: B-23, 1/20; B-25, 1/6; B-27, 1/4. Panel width, all units, 19". May be mounted to rails of 19" racks or cabinets. \*Air displacement (at high and low speeds) at 0° static pressure. 18" 3-wire cord. For 110-120 v., 60 cycle AC. Shpg. wts.: B-23, 17 lbs.; B-25, 30 lbs.; B-27, 37 lbs. Shpg. wt. of Type BF-24, BF-26 and BF-28 oil impregnated filters listed below. 1 lb.

Stock No.	Mfr's Type	H x D	CFM*		EACH			
			High	Low	1-9	10-14	15-19	20-24
36 PU 414	B-23	3 1/2 x 12"	200	100	47.10	42.39	37.68	35.33
36 PU 412	B-25	5 1/2 x 14 1/2"	500	250	53.35	48.02	42.68	40.01
36 PU 309	B-27	7 x 14 1/2"	700	350	61.35	55.22	49.08	46.01

## FILTERS FOR ABOVE

Stock No.	Mfr's Type	EACH			
		1-24	25-49	50-99	100-149
36 P 415	BF-24	1.35	1.22	1.08	1.01
36 P 413	BF-26	1.50	1.35	1.20	1.13
36 P 359	BF-28	1.65	1.49	1.32	1.24

## MINIATURE AMPLIFIER FOUNDATION

Type CA-1754. An extremely compact, sturdily built amplifier foundation. Designed to meet the requirements of builders employing miniature tubes, transistors, capacitors and other miniaturized components. Excellent for portable-type P.A. amplifiers, recording preamplifiers, etc. Chassis, an integral part of the unit, is 2" high, 7" wide and 5" deep. With foundation cover fastened in place, stands only 6" high. Heavy gauge steel.



Removable cover includes a carrying handle for comfortable hand grip and convenient carrying. Cover heavily perforated to allow circulation of air for cooling. Foundation cover securely fastened to the chassis sides with 4 self-tapping screws. Black wrinkle finish. Shpg. wt., 2 lbs.

36 P 214, 1-24	.....	EACH 4.00
25-49	.....	EACH 3.20
50-99	.....	EACH 3.00
100-149	.....	EACH 3.00

## SWIVEL TRUCK CASTERS

Type RC-7756. Heavy duty, ball-bearing casters for Bud deluxe relay racks. Support up to 400 lbs. distributed on four casters. Wheels are high grade, hard rubber. Overall height 2 3/8".



Shpg. wt., 10 oz.	.....	EACH .90
38 P 624, 1-49	.....	EACH .81
50-99	.....	EACH .72
100-149	.....	EACH .68
150-199	.....	EACH .68

Type RC-7757. Light duty, ball-bearing casters for Bud relay racks. Wheels are precision constructed of durable, high grade hard rubber. Self-lubricating. Height, 2". Essentially same as above but designed for lighter load. Shpg. wt., 5 oz.

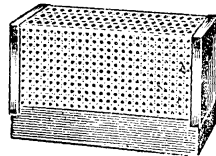
38 P 079, 1-49	.....	EACH .40
50-99	.....	EACH .36
100-149	.....	EACH .32
150-199	.....	EACH .30

Type RC-7758. Heavy-duty casters designed for use with Bud Series 60 cabinets. Ball-bearing wheels are hard tread composition, self-lubricating. Wheel diameter, 2 1/2". Height, 3 1/4". Shpg. wt., 1 1/2 lbs.

38 P 225, 1-49	.....	EACH 2.17
50-99	.....	EACH 1.95
100-149	.....	EACH 1.74
150-199	.....	EACH 1.63

## STANDARD AMPLIFIER FOUNDATIONS

Standard amplifier foundations that meet most amplifier requirements. Foundations consist of regular chassis with ruggedly constructed metal covers.

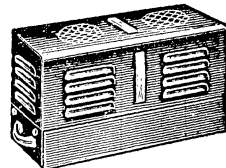


Solid pieces are used on ends of each cover to provide firm bracing and allow a snug fit to chassis. Entire side and top area between ends is enclosed by heavy-gauge metal screening; will provide excellent ventilation and proper protection of tubes and related components. Extreme regularity of pattern and long clean lines provide a neat, functional appearance. Smooth, easy-grip metal handles are attached to the chassis for increased portability. Types CA-699, CA-1125, and CA-1126 have 2 1/2" high chassis; Type CA-1128 has a 3" high chassis. Black wrinkle finish only. Shpg. wt.: CA-699, 3 lbs.; CA-1125, 4 3/4 lbs.; CA-1126, 6 lbs. CA-1128, 7 lbs.

Stock No.	Type CA	Size H. W. D.	EACH			
			1-24	25-49	50-99	100-149
80 PX 697	699	8 1/2 x 9 5/8 x 5 1/8"	5.61	5.05	4.49	4.21
80 PX 698	1125	8 1/2 x 13 3/8 x 5 1/8"	6.43	5.79	5.14	4.82
80 PX 699	1126	8 1/2 x 17 1/8 x 7 1/8"	7.26	6.53	5.81	5.45
80 PX 656	1128	8 1/2 x 12 1/8 x 10 1/8"	7.52	6.77	6.02	5.64

## STREAMLINED FOUNDATIONS

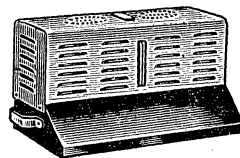
Deluxe foundation units for use where an especially neat, pleasing appearance is required. Ideal for all types of electronic equipment. Feature modern styling and rigid construction. Each unit consists of a removable top cover mounted on a chassis. Foundation covers are designed with louvered sides and perforated tops to provide proper ventilation and attractive styling. Strong aluminum handles are solidly fitted to each end of chassis. All chassis are 3" high. Available in either black wrinkle or gray wrinkle enamel finish.



Black Wrinkle	Gray Wrinkle	Mfr's Type	Size H. W. D.	Wt. Lbs.	EACH			
					1-24	25-49	50-99	100-149
80 P 493	80 P 497	CA-1750	9 x 10 1/2 x 5"	4 3/4	6.76	6.08	5.41	5.14
80 PX 494	80 PX 498	CA-1751	9 x 12 1/2 x 7"	5	8.02	7.22	6.42	6.02
80 PX 495	80 PX 499	CA-1752	9 x 17 1/2 x 7"	8	8.52	7.67	6.82	6.39
80 PX 496	80 PX 696	CA-1753	9 x 17 1/2 x 10"	9	9.27	8.34	7.42	6.95

## SLOPING CHASSIS AMPLIFIER FOUNDATIONS

Combine attractive design with rugged construction. Each has a 4" sloping front chassis with removable top cover. Sloping front provides panel space for controls or instruments. Front panel vents and louvered sides allow circulation of air. Top cover has gray wrinkle finish with chrome trim; chassis has contrasting black wrinkle finish. With handles. Height, 9 1/2". Cover, 6" high. Base, 3 1/2" high. \*TWC-top depth by chassis width by chassis depth.

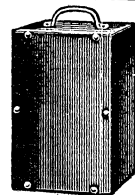


Stock No.	Mfr's Type	Size *TWC	Wt. Lbs.	EACH			
				1-24	25-49	50-99	100-149
88 PX 585	CA-1980	5x10x8"	5	8.68	7.81	6.94	6.51
88 PX 586	CA-1981	7x12x10"	6	9.35	8.42	7.48	7.01
88 PX 587	CA-1982	7x17x10"	8	10.69	9.62	8.55	8.02
88 PX 588	CA-1983	10x17x13"	10	11.19	10.07	8.95	8.39

## PORTABLE ALUMINUM AND STEEL CARRYING CASES

Offered in a wide selection of sizes. Ideal housings for portable transceivers, test instruments, power supplies, radio-control units, field strength meters, phono oscillators, etc. Top-mounted handle for portability. Front and back panels mount with self-tapping screws. Panels are removable to provide access to interior;

can be used for mounting components such as meters, transformers, power resistors, etc. Available in either welded steel for maximum strength, or in aluminum for light weight. Ruggedly constructed to withstand hard usage; rigid design assures proper support for components. Aluminum units weigh less than 2 lbs.



## STEEL CASES

Black Wrinkle	Gray Wrinkle	Mfr's Type	H. W. D.	Wt. Lbs.	EACH			
					1-24	25-49	50-99	100-149
80 P 798	80 P 813	CC-1095	9x6x5"	3 1/4	3.01	2.71	2.41	2.26
80 P 799	80 P 814	CC-1091	6x9x5"	3 1/4	3.01	2.71	2.41	2.26
80 P 808	80 P 816	CC-1096	12x7x6"	4	4.18	3.76	3.34	3.14
80 P 809	80 P 817	CC-1092	7x12x6"	4	4.18	3.76	3.34	3.14
80 PX 810	80 PX 818	CC-1097	15x7 3/4 x 7"	5	4.68	4.21	3.74	3.51
80 PX 811	80 PX 819	CC-1100	10x10x8"	5	4.84	4.36	3.87	3.63
80 PX 812	80 PX 848	CC-1093	9x15x7"	5	5.85	5.27	4.68	4.39

## ALUMINUM CASES

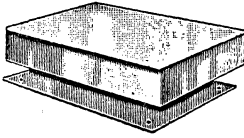
Size H.W.D.	Type ACC	Natural Finish	EACH				Gray Hammetone	EACH			
			1-24	25-49	50-99	100-149		1-24	25-49	50-99	100-149
9x6x5"	2095	88P 567	3.09	2.78	2.47	2.32	88P 571	3.51	3.16	2.81	2.63
6x9x5"	2091	88P 565	3.09	2.78	2.47	2.32	88P 569	3.51	3.16	2.81	2.63
12x7x6"	2096	88PX568	4.50	4.05	3.60	3.38	88PX572	5.09	4.58	4.07	3.82
7x12x6"	2092	88PX566	4.50	4.05	3.60	3.38	88PX570	5.09	4.58	4.07	3.82



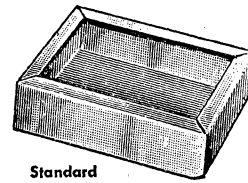
# Turkeyably Constructed Metal Bases

## STEEL CHASSIS BASES

Best quality chassis bases. Available in zinc-plated or black-wrinkle finished steel, standard (18-22 gauge) or heavy-duty (16 gauge). Carefully formed, one-piece construction; corners are reinforced and spot-welded. The four sides are folded at the bottom to provide additional strength; bottom fold also permits easy addition of bottom plate. Standard bases are less bottom plates, see below. Heavy-duty bases are for uses requiring extra strength to hold heavy weights, and include 20 gauge bottom plates with mounting screws. \*Punched to accommodate chassis mounting brackets.



Heavy-Duty



Standard

## STANDARD CHASSIS BASES

Size			Gauge	Wt. Lbs.	Black-Wrinkle		EACH				Zinc-Plated		EACH			
H	W	D			Stock No.	Type	1-24	25-49	50-99	100-149	Stock No.	Type	1-24	25-49	50-99	100-149
2"	7"	5"	22	1	80 P 456	CB-628	1.07	.96	.86	.80	86 P 277	CB-629	1.30	1.17	1.04	.98
2 1/2"	9 1/2"	5"	22	1 1/4	80 P 457	CB-644	1.37	1.23	1.10	1.03	86 P 905	CB-645	1.67	1.50	1.34	1.25
1 1/2"	9 1/2"	5"	22	1	80 P 458	CB-788	1.20	1.08	.96	.90	86 P 906	CB-776	1.69	1.52	1.35	1.27
3"	10"	5"	22	1 1/4	80 P 459	CB-604	1.27	1.14	1.02	.95	86 P 271	CB-605	1.84	1.66	1.47	1.38
3"	14"	6"	20	1 3/4	80 P 460	CB-755	1.75	1.58	1.40	1.31	86 P 907	CB-756	2.05	1.85	1.64	1.54
2"	7"	7"	20	1 1/2	80 P 461	CB-789	1.20	1.08	.96	.90	86 P 272	CB-1191	1.50	1.35	1.20	1.13
2"	9"	7"	20	1 1/2	80 P 462	CB-790	1.40	1.26	1.12	1.05	86 P 273	CB-1192	1.59	1.43	1.27	1.19
2"	11"	7"	20	1 1/2	80 P 463	CB-791	1.45	1.31	1.16	1.09	86 P 274	CB-1193	1.67	1.50	1.34	1.25
3"	12"	7"	20	1 3/4	80 P 464	CB-792	1.57	1.41	1.26	1.18	86 P 275	CB-793	1.95	1.85	1.64	1.54
2"	13"	7"	20	2	80 P 465	CB-646	1.54	1.39	1.23	1.16	86 P 276	CB-1194	1.92	1.73	1.54	1.44
2 1/2"	13 1/2"	5"	20	1 3/4	80 PX 466	CB-647	1.77	1.59	1.42	1.33	86 PX 908	CB-1198	2.17	1.95	1.74	1.63
3"	15"	7"	20	2	80 PX 467	CB-649	2.00	1.80	1.60	1.50	86 PX 909	CB-1189	2.40	2.16	1.92	1.80
3"	15"	8 1/2"	20	2 1/2	80 PX 468	CB-665	2.24	2.02	1.79	1.83	86 PX 910	CB-1066	2.71	2.44	2.17	2.03
3"	17"	4"	20	2 1/4	80 PX 469	CB-1068	1.80	1.62	1.44	1.35	86 PX 911	CB-1066	2.14	1.93	1.71	1.61
2 1/2"	17"	7"	20	2 1/2	80 PX 470	CB-648	1.99	1.79	1.59	1.49	86 PX 912	CB-1099	2.37	2.13	1.90	1.78
3"	17"	7"	20	1 3/4	80 PX 471	CB-757	2.15	1.94	1.72	1.61	86 PX 913	CB-758	2.59	2.33	2.07	1.94
2 1/2"	10"	8"	20	2	80 PX 472	CB-701	1.72	1.55	1.38	1.29	86 PX 914	CB-702	2.02	1.82	1.62	1.52
2 1/2"	12"	8"	20	2 1/2	80 PX 473	CB-703	1.75	1.58	1.40	1.31	86 PX 915	CB-704	2.24	2.02	1.79	1.68
3"	12"	8"	20	1 3/4	80 PX 474	CB-759	1.85	1.67	1.48	1.39	86 PX 916	CB-760	2.34	2.11	1.87	1.76
2"	17"	8"	20	2 1/2	80 PX 475	CB-650	1.70	1.53	1.36	1.28	86 PX 917	CB-774	2.34	2.11	1.87	1.76
3"	17"	8"	20	3 1/4	80 PX 476	CB-651*	2.05	1.85	1.64	1.54	86 PX 918	CB-775	2.62	2.39	2.10	1.97
3"	12"	10"	20	3	80 P 477	CB-652	1.89	1.70	1.51	1.42	86 P 919	CB-1195	2.25	2.03	1.80	1.69
3"	14"	10"	20	4	80 P 478	CB-653	2.04	1.84	1.63	1.53	86 P 920	CB-779	2.44	2.20	1.95	1.83
2"	17"	10"	20	3 1/4	80 PX 479	CB-654*	2.00	1.80	1.60	1.50	86 PX 928	CB-769	2.39	2.15	1.91	1.79
3"	17"	10"	20	4	80 PX 480	CB-636*	2.00	1.80	1.60	1.50	86 PX 921	CB-1196	3.05	2.75	2.44	2.29
3"	17"	10"	18	5	80 PX 481	CB-655*	2.54	2.29	2.03	1.91	86 PX 385	CB-637	2.84	2.57	2.27	2.13
3"	23"	10"	18	5 1/2	80 PX 482	CB-656	2.86	2.57	2.29	2.15	86 PX 922	CB-1197	3.42	3.08	2.74	2.57
2"	17"	10"	18	4 1/2	80 PX 483	CB-657*	2.35	2.12	1.88	1.76	86 PX 923	CB-770	2.81	2.53	2.25	2.11
3"	17"	11"	18	4 1/2	80 PX 484	CB-658*	2.77	2.49	2.22	2.08	86 PX 926	CB-771	3.49	3.14	2.79	2.62
2"	17"	12"	18	4 1/2	80 PX 485	CB-663*	2.44	2.20	1.95	1.83	86 PX 925	CB-661	3.09	2.78	2.47	2.32
3"	17"	12"	18	5 1/4	80 PX 486	CB-664*	2.91	2.62	2.33	2.18	86 PX 268	CB-662	3.67	3.30	2.94	2.75
2"	17"	13"	18	5	80 PX 487	CB-659*	2.91	2.62	2.33	2.18	86 PX 269	CB-772	3.72	3.35	2.98	2.79
3"	17"	13"	18	5 1/2	80 PX 488	CB-660*	3.41	3.07	2.73	2.56	86 PX 270	CB-773	4.07	3.66	3.26	3.05
4"	17"	10"	18	6 1/2	80 PX 489	CB-640*	2.92	2.63	2.34	2.19	86 PX 927	CB-641	3.51	3.16	2.81	2.63
4"	17"	13"	18	7 1/2	80 PX 490	CB-642*	3.92	3.53	3.14	2.94	86 PX 926	CB-643	4.68	4.21	3.74	3.51
5"	17"	10"	18	7 1/2	80 PX 491	CB-623	4.51	4.06	3.61	3.38	86 PX 928	CB-624	5.34	4.81	4.27	4.01
5"	17"	13"	18	8	80 PX 492	CB-625	4.93	4.44	3.94	3.70	86 PX 929	CB-625	5.93	5.34	4.74	4.45

## HEAVY-DUTY CHASSIS BASES

For heavy-duty applications. One-piece 1/8" steel; reinforced, spot-welded corners. Bottom-folded sides for added strength and easy attachment of bottom plate. In black wrinkle or zinc-plated finished steel. With bottom plates and mounting screws.

Size			Gauge	Wt. Lbs.	Black-Wrinkle		EACH				Zinc-Plated		EACH			
H	W	D			Stock No.	Type	1-24	25-49	50-99	100-149	Stock No.	Type	1-24	25-49	50-99	100-149
3"	17"	11"	16	7 1/2	86 PX 240	CB-1765	4.76	4.28	3.81	3.57	88 PX 536	CB-1758	4.26	3.83	3.41	3.20
3"	17"	11"	16	9	86 PX 242	CB-1767	4.84	4.36	3.87	3.63	88 PX 537	CB-1760	4.34	3.91	3.47	3.26
2"	17"	13"	16	9 1/2	86 PX 243	CB-1768	5.34	4.81	4.27	4.01	88 PX 538	CB-1761	4.84	4.36	3.87	3.63
3"	17"	13"	16	10	86 PX 244	CB-1769	5.43	4.89	4.34	4.07	88 PX 539	CB-1762	4.93	4.44	3.94	3.70
4"	17"	13"	16	11	86 PX 946	CB-1770	5.85	5.27	4.68	4.39	88 PX 540	CB-1763	5.26	4.73	4.21	3.95

## STEEL BOTTOM PLATES FOR STANDARD CHASSIS BASES

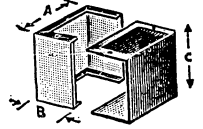
Bottom plates to fit standard chassis bases above. In zinc-plated or black wrinkle finished steel for exact matching with chassis. Effective shields against dust and dirt; protect wiring and components on the under side of the chassis. Bottom plates have four embossed feet in corners to prevent marring of table-tops or shelves. Drilled for No. 6 self-tapping screws.

Fits Chassis			Wt. Lbs.	Black-Wrinkle		EACH				Zinc-Plated		EACH			
D	W			Stock No.	Type No.	1-49	50-99	100-149	150-199	Stock No.	Type No.	1-49	50-99	100-149	150-199
5"	7"	1/2	80 P 386	BP-705	.57	.51	.46	.43	80 P 406	BP-706	.69	.62	.55	.52	
5"	9 1/2"	3/4	80 P 387	BP-680	.62	.56	.50	.47	80 P 407	BP-667	.75	.68	.60	.56	
5"	10"	3/4	80 P 388	BP-536	.67	.60	.54	.50	80 P 408	BP-538	.73	.66	.58	.55	
7"	7"	1	80 P 389	BP-681	.92	.83	.74	.69	80 P 409	BP-668	.97	.87	.78	.73	
7"	9"	1	80 P 390	BP-682	.94	.85	.75	.71	80 P 410	BP-669	.99	.89	.79	.74	
7"	11"	1	80 P 391	BP-683	.95	.86	.76	.72	80 P 411	BP-670	1.07	.96	.86	.80	
7"	12"	1 1/4	80 P 392	BP-537	.99	.89	.79	.74	80 P 412	BP-537	1.12	1.01	.90	.84	
7"	13"	1 1/4	80 P 393	BP-684	1.02	.92	.82	.77	80 P 413	BP-671	1.20	1.08	.96	.90	
5"	13 1/2"	1	80 P 394	BP-685	.84	.76	.67	.63	80 P 414	BP-672	1.00	.90	.80	.75	
4"	17"	1 1/2	80 P 395	BP-1069	.84	.76	.67	.63	80 P 415	BP-1067	1.07	.96	.86	.80	
7"	17"	1 1/2	80 P 396	BP-686	.90	.81	.72	.68	80 P 416	BP-673	1.37	1.23	1.10	1.03	
8"	10"	1 1/4	80 P 400	BP-707	.92	.83	.74	.69	80 P 417	BP-708	1.05	.94	.84	.79	
8"	12"	1 1/2	80 P 397	BP-709	1.06	.95	.85	.80	80 P 418	BP-710	1.34	1.21	1.07	1.01	
8"	17"	1 3/4	80 P 398	BP-687	.95	.86	.76	.71	80 P 419	BP-674	1.54	1.39	1.23	1.16	
10"	12"	1 1/2	80 P 399	BP-688	.95	.86	.76	.71	80 P 420	BP-675	1.57	1.41	1.26	1.18	
10"	14"	1 1/2	80 P 401	BP-517	1.25	1.13	1.00	.94	80 P 421	BP-514	1.33	1.20	1.06	1.00	
10"	17"	1 3/4	80 P 402	BP-689	1.20	1.08	.96	.90	80 P 422	BP-676	1.60	1.44	1.28	1.20	
11"	17"	1 1/2	80 P 403	BP-690	1.20	1.08	.96	.90	80 P 423	BP-677	1.60	1.44	1.28	1.20	
12"	17"	2	80 P 404	BP-691	1.27	1.14	1.02	.95	80 P 424	BP-678	1.87	1.68	1.50	1.40	
13"	17"	2 1/4	80 P 405	BP-692	1.47	1.32	1.18	1.10	80 P 425	BP-679	2.24	2.02	1.79	1.68	

# High-Quality Aluminum Products



## ALUMINUM MINIBOXES

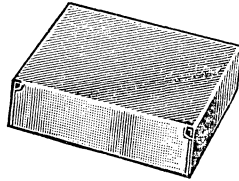


Two-piece boxes, suited for housing above-chassis or below-chassis assemblies. Also excellent for complete, self-contained units where effective shielding as well as protection from dust and dirt is desired. May be used for phono amplifiers, VHF and UHF converters, low-pass TVI filters, test and measurement units, etc. Valuable for experimenters, industrial and laboratory use. Two-piece construction permits installation of

more components than possible in a conventional box; also permits easy access to circuitry for servicing or wiring modifications. Flanges assure extremely low RF leakage and provide high rigidity. User has choice of snap-lock fastening or screw fastening; all hardware supplied. Made of high-quality aluminum, gray hammertone or natural finish; strong, yet easy to cut, punch and drill.

Size AxCxB	Wt., Lbs.	Gray Hammertone	Mfr's Type	EACH				Natural Aluminum	Mfr's Type	EACH			
				1-49	50-99	100-149	150-199			1-49	50-99	100-149	150-199
2 1/4 x 2 1/8 x 1 5/8"	1/4	80 P 342	CU-2100-A	.74	.67	.59	.56	80 P 360	CU-3000-A	.59	.53	.47	.44
3 1/4 x 2 1/8 x 1 5/8"	1/4	80 P 343	CU-2101-A	.76	.68	.61	.57	80 P 361	CU-3001-A	.61	.55	.49	.46
4 x 2 1/8 x 1 5/8"	1/4	80 P 344	CU-2102-A	.80	.72	.64	.60	80 P 362	CU-3002-A	.64	.58	.51	.48
4 x 2 1/4 x 2 1/4"	1/4	80 P 345	CU-2103-A	.90	.81	.72	.68	80 P 363	CU-3003-A	.72	.65	.58	.54
5 x 2 1/4 x 2 1/4"	1/4	80 P 346	CU-2104-A	.95	.86	.76	.71	80 P 364	CU-3004-A	.76	.68	.61	.57
5 x 4 x 3"	1/2	80 P 347	CU-2105-A	1.20	1.08	.96	.90	80 P 365	CU-3005-A	.96	.86	.77	.72
5 1/4 x 3 2 1/8"	1/4	80 P 348	CU-2106-A	1.02	.92	.82	.77	80 P 366	CU-3006-A	.82	.74	.66	.62
6 x 5 x 4"	3/4	80 P 349	CU-2107-A	1.50	1.35	1.20	1.13	80 P 367	CU-3007-A	1.20	1.08	.96	.90
7 x 5 x 3"	3/4	80 P 350	CU-2108-A	1.65	1.49	1.32	1.24	80 P 368	CU-3008-A	1.32	1.19	1.06	.99
8 x 6 x 3 1/2"	1	80 P 351	CU-2109-A	2.10	1.89	1.68	1.58	80 P 369	CU-3009-A	1.68	1.51	1.34	1.26
10 x 6 x 3 1/2"	1 1/4	80 P 352	CU-2110-A	2.35	2.12	1.88	1.76	80 P 370	CU-3010-A	1.88	1.69	1.50	1.41
12 x 7 x 4"	1 1/4	80 P 353	CU-2111-A	3.20	2.88	2.56	2.40	80 P 371	CU-3011-A	2.56	2.30	2.05	1.92
17 x 5 x 4"	2 1/4	80 P 354	CU-2112-A	3.20	2.88	2.56	2.40	80 P 372	CU-3012-A	2.56	2.30	2.05	1.92
10 x 2 x 1 3/8"	1/2	80 P 355	CU-2113-A	1.20	1.08	.99	.90	80 P 373	CU-3013-A	.96	.86	.77	.72
12 x 2 1/2 x 2 1/4"	3/4	80 P 356	CU-2114-A	1.55	1.40	1.24	1.16	80 P 374	CU-3014-A	1.24	1.12	.99	.93
4 x 2 x 2 3/4"	1/4	80 P 357	CU-2115-A	.92	.83	.74	.69	80 P 375	CU-3015-A	.74	.67	.59	.56
4 1/4 x 2 1/4 x 1 1/2"	1/4	80 P 358	CU-2116-A	.92	.83	.74	.69	80 P 376	CU-3016-A	.74	.67	.59	.56
3 1/4 x 2 1/8 x 1 1/8"	1/4	80 P 359	CU-2117-A	.78	.70	.62	.59	80 P 377	CU-3017-A	.62	.56	.50	.47

## ALUMINUM CHASSIS BASES



Construction and design same as the steel chassis bases on the previous page. Each made from one piece of sheet metal. Bases are welded on Government-approved spot-welders specially developed for aluminum welding of aircraft parts—assures utmost strength and long lasting qualities. Natural finish aluminum alloy 5005 H-14. All are 18 ga., except \*16 ga. and †14 ga. ‡Punched for chassis mounting brackets.

Stock No.	Mfr's Type	Size D. W. H.	Wt., Lbs.	EACH			
				1-24	25-49	50-99	100-149
86 P 930	AC-431	4x6x2"	1/2	1.10	.99	.88	.83
86 P 932	AC-430	4x6x3"	1/2	1.34	1.21	1.07	1.01
86 PX 937	AC-432††	4x17x3"	1 1/4	2.33	2.10	1.86	1.75
86 P 112	AC-402	5x7x2"	1/2	1.17	1.05	.94	.88
86 P 933	AC-429	5x7x3"	3/4	1.42	1.28	1.14	1.07
86 P 113	AC-403	5x9 1/2 x 2"	1/2	1.24	1.12	.99	.93
86 P 114	AC-421	5x9 1/2 x 3"	3/4	1.60	1.44	1.28	1.20
86 P 127	AC-404	5x10x3"	3/4	1.63	1.47	1.30	1.22
86 P 934	AC-422	5x13x3"	3/4	1.84	1.66	1.47	1.38
86 PX 935	AC-433††	6x17x3"	1 1/4	2.67	2.40	2.14	2.00
86 P 115	AC-405	7x7x2"	1/2	1.35	1.22	1.08	1.01
86 P 116	AC-406	7x9x2"	1/2	1.46	1.31	1.17	1.10
86 P 117	AC-407	7x11x2"	3/4	1.58	1.42	1.26	1.19
86 P 118	AC-408	7x12x3"	1	2.00	1.80	1.60	1.50
86 P 119	AC-409	7x13x2"	3/4	1.67	1.50	1.34	1.25
86 PX 936	AC-411††	7x15x3"	1 1/2	2.67	2.40	2.14	2.00
86 PX 938	AC-423†	7x17x3"	1	2.75	2.48	2.20	2.06
86 P 939	AC-424†	8x12x3"	1 1/2	2.42	2.18	1.94	1.82
86 PX 940	AC-425†	8x17x2"	1 1/2	2.51	2.26	2.01	1.88
86 PX 120	AC-412††	8x17x3"	1 1/4	2.84	2.56	2.27	2.13
86 P 121	AC-413†	10x12x3"	1 1/4	2.67	2.40	2.14	2.00
86 P 941	AC-414†	10x14x3"	2	2.84	2.56	2.27	2.13
86 PX 942	AC-415††	10x17x2"	2 1/4	2.68	2.41	2.14	2.01
86 PX 943	AC-416††	10x17x3"	2 3/4	3.17	2.85	2.54	2.38
86 PX 122	AC-426*†	11x17x2"	2 3/4	3.42	3.08	2.74	2.57
86 PX 123	AC-417*†	11x17x3"	2 1/2	3.97	3.57	3.18	2.98
86 PX 128	AC-418*†	12x17x3"	2 3/4	4.08	3.67	3.26	3.06
86 PX 944	AC-419*†	13x17x2"	2 1/2	3.51	3.16	2.81	2.63
86 PX 124	AC-420*†	13x17x3"	2 3/4	4.26	3.83	3.41	3.20
86 PX 125	AC-427*†	10x17x4"	3 1/2	4.51	4.06	3.61	3.38
86 PX 126	AC-428*†	13x17x4"	3 3/4	5.26	4.73	4.21	3.95

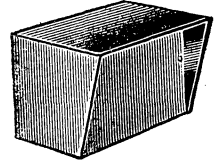
## BOTTOM PLATES FOR CHASSIS BASES ABOVE

Effective shields against dust and dirt. Embossed feet in corners prevent marring tables. Drilled for No. 6 self-tapping screws.

Stock No.	Mfr's Type	Size W. D.	Wt., Lbs.	EACH			
				1-49	50-99	100-149	150-199
80 P 426	BPA-1589	5x7"	1/8	.74	.67	.59	.56
80 P 427	BPA-1590	5x9 1/2"	1/4	.75	.68	.60	.57
80 P 428	BPA-1591	5x10"	1/4	.75	.68	.60	.57
80 P 429	BPA-1592	7x7"	1/8	.77	.69	.62	.58
80 P 430	BPA-1593	7x9"	1/8	.80	.72	.64	.60
80 P 431	BPA-1594	7x11"	1/8	.90	.81	.72	.68
80 P 432	BPA-1595	7x12"	1/2	.97	.87	.78	.73
80 P 433	BPA-1596	7x13"	1/2	1.14	1.03	.91	.86
80 P 434	BPA-1597	10x17"	3/4	1.52	1.37	1.22	1.14
80 P 435	BPA-1598	13x17"	3/4	2.07	1.86	1.66	1.55

## COWL-TYPE MINIBOXES

Sturdy 19-gauge aluminum. For housing VFO's, test equipment, etc. Easy to drill or punch. Projecting cover reduces glare from overhead lighting. Protects dials, switches and meter faces. Cover has two 1/2" box braces to which bottom is attached with 4 No. 6 self-tapping sheet metal screws provided with each "Minibox." Natural aluminum or gray hammertone finish.



## GRAY HAMMERTONE

Stock No.	Mfr's Type	Size H. W. D.	Wt., Lbs.	NET EACH			
				1-49	50-99	100-149	150-199
88 PX 684	SC-2130	6x10x7"	1 1/4	5.95	5.36	4.76	4.46
88 PX 685	SC-2131	7x12x8"	1 1/2	6.50	5.85	5.20	4.88
88 P 686	SC-2132	3x8x5"	1	3.45	3.11	2.76	2.59
88 P 687	SC-2133	5x5x5"	1	3.60	3.24	2.88	2.70

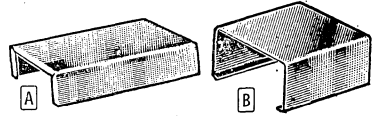
## NATURAL

88 PX 688	SC-3030	6x10x7"	1 1/4	4.30	3.87	3.44	3.23
88 PX 689	SC-3031	7x12x8"	1 1/2	4.70	4.23	3.76	3.53
88 P 690	SC-3032	3x8x5"	1	2.45	2.21	1.96	1.84
88 P 691	SC-3033	5x5x5"	1	2.60	2.34	2.08	1.95

## ALUMINUM OPEN-END CHASSIS

A Heavy-Gauge.

U-shaped construction with ends folded over 3/8" for added strength. Available in a wide variety of sizes for nearly every construction requirement. Fits all Bud cabinets listed in this section. Av. shpg. wt., 1 lb.



Stock No.	Mfr's Type	H. W. D.	EACH			
			1-24	25-49	50-99	100-149
80 P 437	CB-30	1 1/2 x 7 x 5"	.97	.87	.78	.73
80 P 438	CB-41	1 1/2 x 7 x 7"	1.24	1.12	.99	.93
80 P 440	CB-996	1 1/2 x 9 x 5 1/2"	1.09	.98	.87	.82
80 P 441	CB-976	1 1/2 x 9 x 7 1/2"	1.40	1.26	1.12	1.05
80 P 443	CB-997	1 1/2 x 11 x 7"	1.30	1.17	1.04	.98
80 P 444	CB-998	1 1/2 x 13 x 7"	1.59	1.43	1.27	1.19
80 P 436	CB-38	2x6x7"	1.00	.90	.80	.75
80 P 439	CB-39	2x8x7"	1.17	1.05	.94	.88
80 P 442	CB-40	2x10x7"	1.37	1.23	1.10	1.03

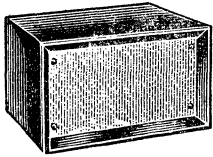
B Miniature. For miniature tubes and sub-assemblies. 1/4" mtg. flanges to fasten down or attach bottom plate. Av. shpg. wt., 3/4 lb.

Stock No.	Type	H. W. D.	EACH			
			1-24	25-49	50-99	100-149
80 P 446	CB-1624	1x3 1/8 x 1 3/4"	.42	.38	.34	.32
80 P 452	CB-1617	1x3 1/2 x 4"	.41	.37	.33	.31
80 P 448	CB-1626	1x4 1/8 x 2 3/4"	.45	.41	.36	.34
80 P 453	CB-1618	1x4 1/8 x 4"	.50	.45	.40	.38
80 P 454	CB-1619	1x5 1/8 x 4"	.53	.48	.42	.40
80 P 455	CB-1620	1x6 1/8 x 4"	.55	.50	.44	.41
80 P 445	CB-1623	1 1/4 x 2 3/4 x 2 5/8"	.38	.34	.30	.29
80 P 450	CB-1628	1 1/4 x 6 1/8 x 3"	.53	.48	.42	.40
80 P 449	CB-1627	1 1/2 x 4 1/8 x 3 3/4"	.45	.41	.36	.34
80 P 451	CB-1629	1 1/2 x 4 1/8 x 5 3/4"	.57	.51	.46	.43
80 P 447	CB-1625	2x4 1/2 x 3 1/4"	.48	.43	.38	.36



# Quality-Built Cabinets

## SHADOW CABINETS

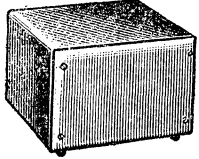


All-steel equipment cabinets. These units have been expertly engineered to provide attractive, functionally-styled housing for all types of electronic devices. Ruggedly constructed, they feature recessed front panel design which not only improves appearance, but also protects equipment knobs, controls and switches from being moved accidentally. Sturdy, two-piece bodies are made of 18-gauge steel and front and rear panels are of 16-gauge steel. Finish is light gray hammertone. Bottom, front, and rear panels are each attached by four self-tapping screws. All are equipped with four rubber feet to prevent marring surfaces on which they may be placed. SB-2140 (11½ lbs.) accepts Bud chassis AC-424; SB-2141 (9¾ lbs.) accepts chassis AC-408; SB-2142 (15½ lbs.) accepts CB-666; SB-2143 (9½ lbs.) accepts AC-409.

piece bodies are made of 18-gauge steel and front and rear panels are of 16-gauge steel. Finish is light gray hammertone. Bottom, front, and rear panels are each attached by four self-tapping screws. All are equipped with four rubber feet to prevent marring surfaces on which they may be placed. SB-2140 (11½ lbs.) accepts Bud chassis AC-424; SB-2141 (9¾ lbs.) accepts chassis AC-408; SB-2142 (15½ lbs.) accepts CB-666; SB-2143 (9½ lbs.) accepts AC-409.

Stock No.	Mfr's Type	Size H. W. D.	EACH			
			1-24	25-49	50-99	100-149
82 PX 746	SB 2140	8x14¼x10"	6.50	5.85	5.20	4.89
82 PX 747	SB 2141	7½x13¼x9"	5.00	4.50	4.00	3.75
82 PX 748	SB 2142	9½x17x11"	8.85	7.97	7.08	6.64
82 PX 749	SB 2143	6x13½x9"	4.85	4.37	3.88	3.64

## UTILITY CABINETS



Rugged utility cabinets for housing electronic equipment of all kinds. Sturdily constructed; made of 20-gauge steel throughout. Have rounded contoured corners; flanged panels also have rounded corners to preserve symmetry of design. Rear panel is louvered to assure complete ventilation of circuitry to be enclosed; unit has solid front panel. Both front and rear panels are attached with four 6-32 screws each, and are easily removed. Four rubber feet attached to base prevent scratching of surface on which unit is placed. Cabinets are attractively finished; bodies dark gray enamel, panels light gray enamel. Shpg. wts.: Type CU463, 1¾ lbs.; CU465, 2¼ lbs.; CU585, 3 lbs.; CU587, 3¾ lbs.; CU7125, 5 lbs.; CU7127, 6 lbs.

four 6-32 screws each, and are easily removed. Four rubber feet attached to base prevent scratching of surface on which unit is placed. Cabinets are attractively finished; bodies dark gray enamel, panels light gray enamel. Shpg. wts.: Type CU463, 1¾ lbs.; CU465, 2¼ lbs.; CU585, 3 lbs.; CU587, 3¾ lbs.; CU7125, 5 lbs.; CU7127, 6 lbs.

Stock No.	Mfr's Type	Size H. W. D.	EACH			
			1-24	25-49	50-99	100-149
88 P 692	CU463	4½x2x6½x3¾"	5.50	4.95	4.40	4.13
88 P 693	CU465	4½x2x6½x5¾"	6.35	5.72	5.08	4.76
88 P 694	CU585	5½x2x8½x5¾"	8.35	7.52	6.68	6.26
88 P 695	CU587	5½x2x8½x7¾"	9.10	8.19	7.28	6.83
88 P 696	CU7125	7½x2x12½x5¾"	9.70	8.73	7.76	7.28
88 P 697	CU7127	7½x2x12½x7¾"	10.35	9.32	8.28	7.76

## DELUXE CABINET RACKS

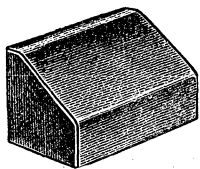


An excellent selection of ruggedly constructed, heavy-duty, 16-gauge steel cabinet racks. All have welded joints for extra rigidity and durability. Ideal for broadcasting stations, public address installations, test and measurement instruments, and a wide variety of laboratory equipment. Cabinets have rounded corners and are finished with a red inlaid chrome trim on their tops and front panel bottoms. This smart, modern styling gives all equipment associated with these cabinets a neat, professional appearance. All units accommodate standard 19" panels. All have recessed, hinged top doors with smooth-working, flush-type snap locks. Models CR-1727, CR-1728, CR-1743, CR-1744 and

CR-1745 have hinged rear doors with efficient snap locks. The remainder of the models have fixed, welded back panels. Exceptionally good ventilation is provided by means of louvered sides (see table below for information on louvers) and a 2½" opening in the bottom of the rack, extending the entire width of the cabinet. "No-scratch" metal feet are embossed on bottom of cabinets to minimize the possibility of marring the table top or the surface of any equipment upon which the cabinet is placed. All panel mountings are drilled for standard EIA notched panels and are tapped for 10-32 screws. Supplied with panel mounting screws and a full size aluminum panel covering entire available panel area. All units listed below measure 14¾" deep and 22" wide. Available in 3 finishes: gray wrinkle, black wrinkle, and light gray hammertone.

Ht.	Panel Space	Stock No.			Mfr's Type	Louvers				EACH			
		Gray Wrinkle	Black Wrinkle	Gray Hammertone		Hgt.	Per Set	Sets/Side	Wt., Lbs.	1-14	15-24	25-34	35-49
8½"	7"	88 PU 563	88 PU 564	88 PU 562	CR-1726	4½"	5	2	24	15.28	13.75	12.22	11.46
109½"	8¾"	86 PU 729	98 PU 835	88 PU 557	CR-1741	4½"	5	2	28	16.70	15.03	13.36	12.53
123"	10½"	86 PU 730	98 PU 804	88 PU 556	CR-1740	4½"	5	2	31	19.12	17.21	15.30	14.34
141"	12¼"	86 PU 731	98 PU 836	88 PU 558	CR-1742	9½"	10	2	32	20.12	18.11	16.10	15.19
151½"	14"	86 PU 893	86 PU 894	88 PU 555	CR-1739	9½"	10	2	35	21.96	19.76	17.57	16.47
171½"	17½"	86 PU 732	98 PU 837	88 PU 559	CR-1743	4½"	5	4	40	26.22	23.60	20.98	19.67
139"	31½"	86 PU 895	86 PU 896	88 PU 554	CR-1728	4½"	5	4	43	31.98	28.78	25.58	23.99
281"	26¼"	86 PU 733	98 PU 838	88 PU 560	CR-1744	4½"	5	6	51	30.14	27.13	24.11	22.61
221½"	21"	86 PU 897	86 PU 898	88 PU 553	CR-1727	4½"	5	6	58	28.06	25.25	22.45	21.05
361½"	35"	86 PU 734	98 PU 839	88 PU 561	CR-1745	4½"	5	6	63	33.65	30.29	26.92	25.24

## UNIVERSAL SLOPING-PANEL CABINETS

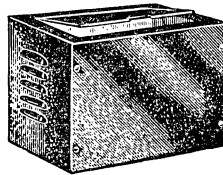


Ideal for control boxes, mike mixers, etc. Have one-piece detachable back and side attached with 4 screws. Accommodate most small chassis. All are 4¼" high, 4"

deep. Have gray hammertone finish. Shpg. wts.: 4 and 5" wide cabinets, aluminum, ½ lb., steel, ¾ lb. 6 and 7" cabinets, aluminum, ¾ lbs., steel, 1½ lbs.

Width	Stock No.	Mfr's Type	ALUMINUM EACH				Stock No.	Mfr's Type	STEEL EACH			
			1-49	50-99	100-149	150-199			1-49	50-99	100-149	150-199
4"	88 P 646	AC-1610	1.68	1.51	1.34	1.26	88 P 642	C-1606	1.45	1.30	1.16	1.09
5"	88 P 647	AC-1611	1.75	1.57	1.40	1.31	88 P 643	C-1607	1.55	1.39	1.24	1.16
6"	88 P 648	AC-1612	1.90	1.71	1.52	1.42	88 P 644	C-1608	1.65	1.48	1.32	1.24
7"	88 P 649	AC-1613	2.10	1.89	1.68	1.57	88 P 645	C-1609	1.90	1.71	1.52	1.42

## INSTRUMENT AND RECEIVER CABINETS

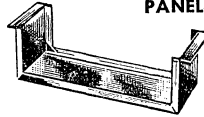


Ruggedly constructed, moderately priced steel cabinets. Particularly suitable for housing Amateur receivers, transmitters, signal generators, etc. Each unit has recessed hinged cover for easy access to all inside locations. Front panel is held securely in place with self-tapping screws. Panel extends full width of cabinet—provides maximum space for installation of controls. Louvers

on each side of cabinet assure ample ventilation of circuitry inside. Body of cabinet is constructed of 20 gauge steel; panels are all 18 gauge steel, except those marked \*, 16 gauge steel. Black wrinkle enamel finish.

Stock No.	Mfr's Type	Size H. W. D.	Wt., Lbs.	EACH			
				1-24	25-49	50-99	100-149
80 P 378	C-973	7x8x8"	5	4.18	3.76	3.34	3.14
80 P 379	C-993	7x10x8"	5½	4.84	4.36	3.87	3.63
80 PX 380	C-994	7x12x8"	5¾	5.01	4.51	4.01	3.76
80 PX 381	C-995	7x14x8"	6	5.26	4.73	4.21	3.95
80 PX 382	*C-1190	8x16x8"	7	7.60	6.84	6.08	5.70
80 PX 383	*C-975	9x15x11"	8	9.19	8.27	7.35	6.89
80 PX 384	*C-999	12x18x12"	15	9.92	8.93	7.94	7.44

## PANEL-MOUNTING CHASSIS



Rugged panel-mounting chassis designed for vertical installation in places where depth in space is limited or access from the front of chassis is desired. Ideally suited for professional type installations. Chassis are open-side type for standard 19" mounting. All are sturdily constructed of .062" aluminum sheet; have reinforced corners and natural finish. Have 1" flanged ends, with 4-elongated holes for mounting to any rack with standard panel notching. Front flange has standard notching suitable for mounting to a rack. Other edges have 5/8" flanges. All models are 17" wide, excluding flange, and 3½" deep. In heights from 1¾" to 14" (see table below).

Stock No.	Mfr's Type	Ht.	Wt., Lbs.	EACH			
				1-24	25-49	50-99	100-149
86 PX 185	CB-1370	1¾"	¾	2.30	2.07	1.84	1.73
86 PX 186	CB-1371	3½"	1¼	2.59	2.33	2.07	1.94
86 PX 187	CB-1372	5¼"	1½	2.84	2.56	2.27	2.13
86 PX 188	CB-1373	7"	2	3.26	2.93	2.61	2.45
86 PX 189	CB-1374	8¾"	2¼	3.76	3.38	3.01	2.82
86 PX 190	CB-1375	10½"	2¾	4.43	3.99	3.54	3.32
86 PX 191	CB-1376	12¼"	3	4.84	4.36	3.87	3.63
86 PX 192	CB-1377	14"	3¼	5.34	4.81	4.27	4.01

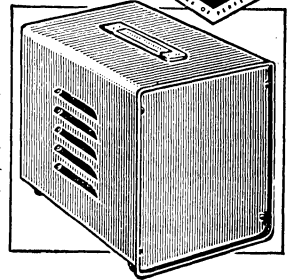
# Quality Metal Products



## PORTACAB CABINETS

For equipment requiring maximum portability. Sturdy one-piece body is .050" aluminum with contoured corners. Cabinet is louvered for adequate ventilation. Louvers point inward for side-to-side placement of cabinets without loss of space. Welded back has opening (table below) for

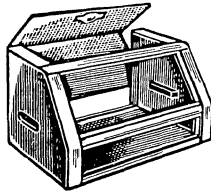
access to interior. .062" aluminum front panel recessed 1/2" to protect controls. Front panel mtg. flanges 1/2" wide. With 4 rubber feet. Gray hammertone finish. "Use With" column in table below indicates recommended Bud chassis (listed elsewhere in this section).



Stock No.	Type	Depth	Width	Ht.	Opening	Louvers Per Side	Lbs.	Use With	EACH			
									1-24	25-49	50-99	100-149
88 PX 226	WA-1541	12"	8 1/2"	9"	2x6 1/2"	2 Sets	3	AC-407	12.00	10.80	9.60	9.00
88 PX 227	WA-1540	8"	6 1/2"	8"	2x4 1/2"	1 Set	2 1/2	AC-402	9.20	8.28	7.36	6.90
88 PX 228	WA-1542	8"	10 1/2"	8"	2x8 1/2"	1 Set	3 1/2	AC-406	10.65	9.59	8.52	7.99
88 PX 229	WA-1543	18"	11 1/2"	11"	2x9 1/2"	3 Sets	6 1/2	AC-416	13.50	12.15	10.80	10.13
88 PX 233	WA-1544	18"	14 1/2"	12"	2x12 1/2"	3 Sets	7 3/4	AC-420	15.50	13.95	12.40	11.63

## "PRESTIGE" SLOPING PANEL CABINETS

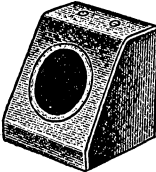
Expertly engineered to provide custom housings for quality apparatus. Features include: swept-back top panel; removable panel trim bar for chassis installation; recessed handle slots; ventilated top; rear opening for cables or controls. Uses 19" rack panels. Gray hammertone. Rear opening, 2 1/2x18". Panel recess, 1 1/4". Top depth, 9". Overall width 22". 3 1/2" vertical panel height; \*inclined panel height. Shpg. wts.: C-1555, 26 lbs.; C-1556, 28 lbs.; C-1557, 31 lbs.



Stock No.	Mfr's Type	HxD	Panel Space	EACH			
				1-14	15-24	25-34	35-49
88 PU 573	C-1555	11 7/8x14 3/8"	* 7"	36.00	32.40	28.80	27.00
88 PU 574	C-1556	13 3/4x15 1/2"	* 8 3/4"	38.65	34.78	30.92	28.99
88 PU 575	C-1557	14 3/4x16 1/8"	*10 1/2"	41.45	37.30	33.16	31.09

## UNIVERSAL METER CASES

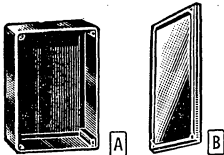
Modern, sloping-front meter housings. Supplied with front panel cut for 2" meters; an easily removable knock-out ring enlarges hole to accommodate 3" meters. Cases have one-piece back and sides attached by 4 self-tapping screws. Tops of cases have 2 convenient 3/4" knock-outs for easy mounting of terminal posts or feed-through insulators. Type CM 1935 is steel; Type CMA 1936, aluminum. In applications where it is necessary to minimize magnetic effect on meter, use aluminum case. In light gray hammertone. 4 1/4x4 1/4". Shpg. wts.: CM 1935, 1 lb.; CMA 1936, 3/4 lb.



Stock No.	Mfr's Type	EACH			
		1-49	50-99	100-149	150-199
88P541	CM1935	1.22	1.10	.98	.92
88P542	CMA1936	1.47	1.32	1.18	1.10

## HARRY DAVIES PLASTIC CASES AND COVERS

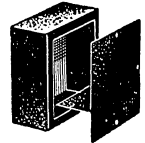
Molded black plastic cases (Fig. A) and panels (Fig. B) for test instrument mtg. Sturdily constructed to protect meter and components. Accommodate meters with flange sizes up to 4 5/8x4 3/8". Cases have recessed corner bosses for flush mtg. of covers. Bosses pre-drilled for 5/16" self-tapping screws. Case walls and covers 1/8" thick. Av. wt., cases, 1 1/2 lbs.; panels, 1 lb. \*Type 240; †260; ‡241; §261.



Stock No.	Fig.	Size	EACH			
			1-49	50-249	250-499	500-999
86P286	A*	6 1/4x3 3/4x1 7/8"	.66	.48	.44	.40
86P287	A†	6 1/2x5 1/2x2 3/8"	.84	.60	.56	.52
86P288	B‡	6x3 3/2"	.48	.36	.32	.28
86P289	B§	6 1/2x5"	.60	.44	.40	.36

## MINIATURE UTILITY CABINETS WITH ATTACHED CHASSIS

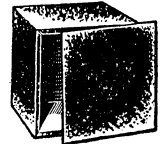
Sturdy steel cabinets with built-in chassis attached to front panel. For frequency meters, decade boxes, standing-wave bridges, etc. Removable front and rear panels fasten with self-tapping screws. Panels fit case flanges snugly; assure low RF leakage; protect components from dust. Black-wrinkle finish. Shpg. wts.: C-1793, 3/4 lbs.; C-1794 and C-1795, 1 lb.; C-1796 and C-1797, 1 1/4 lbs.; C-1798, 2 3/4 lbs.



Stock No.	Mfr's Type	Cabinet HWD	Chassis HWD	EACH			
				1-49	50-99	100-149	150-199
80P326	C-1793	4x4x2"	1x3 7/8x1 7/8"	1.34	1.21	1.07	1.01
80P327	C-1794	4x5x3"	1x4 1/2x2 7/8"	1.48	1.33	1.18	1.11
80P328	C-1795	5x4x3"	1 1/4x3 1/2x2 3/8"	1.62	1.46	1.30	1.22
80P329	C-1796	6x5x4"	1 3/4x4 1/2x3 3/8"	1.70	1.53	1.36	1.28
80P330	C-1797	5x6x4"	1 1/2x5 1/2x3 3/8"	1.92	1.73	1.54	1.44
80P331	C-1798	6x6x6"	1 3/4x4 1/2x5 5/8"	2.17	1.95	1.74	1.63

## METAL UTILITY CABINETS

Large selection of general-purpose cabinets. Excellent for housing receivers, VFO's, test equipment, etc. Well adapted for shielding high gain preamps, RF sections, and other circuits. Two removable panels provide easy access to inside of cabinets. Steel cabinets are offered in black wrinkle or gray hammertone finish; shpg. wts. are given in table below. Aluminum cabinets have natural aluminum or gray hammertone finish; all have shpg. wts. of 1 lb.

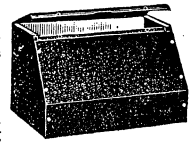


Size H.W.D.	Black Wrinkle	Gray Hammertone	Mfr's Type	Wt., Lbs.	EACH			
					1-49	50-99	100-149	150-199
4x4x2"	86 P 200	80 P 332	CU 883	3/4	1.09	.98	.87	.82
4x5x3"	86 P 201	80 P 333	CU 728	7/8	1.22	1.10	.98	.92
6x5x4"	86 P 202	80 P 334	CU 729	1 1/4	1.38	1.24	1.10	1.04
6x6x6"	86 P 203	80 P 335	CU 1098	2 1/2	2.09	1.88	1.67	1.57
9x6x5"	86 P 204	80 P 336	CU 1099	3	2.34	2.11	1.87	1.76
10x8x7"	86 P 205	80 P 337	CU 879	5	3.34	3.01	2.67	2.51
10x10x8"	86 P 207	80 P 339	CU 880	5 1/2	4.01	3.61	3.21	3.01
12x7x6"	86 P 206	80 P 338	CU 1124	4	3.29	2.96	2.63	2.47
12x11x8"	86 P 208	80 P 340	CU 881	6	4.34	3.91	3.47	3.26
15x9x7"	86 P 209	80 P 341	CU 882	7 1/2	4.51	4.06	3.61	3.38

Size H.W.D.	Mfr's Type	Natural Finish	EACH				Gray Hmrtone	EACH			
			1-49	50-99	100-149	150-199		1-49	50-99	100-149	150-199
4x4x2"	AU-1083	88 P 543	1.29	1.16	1.03	.97	88 P 548	1.50	1.35	1.20	1.13
4x5x3"	AU-1028	88 P 544	1.37	1.23	1.10	1.03	88 P 549	1.67	1.50	1.34	1.25
6x5x4"	AU-1029	88 P 545	1.50	1.35	1.20	1.13	88 P 550	1.84	1.66	1.47	1.38
6x6x6"	AU-1039	88 P 546	2.17	1.95	1.74	1.63	88 P 551	2.42	2.18	1.94	1.82
9x6x5"	AU-1040	88 P 547	2.51	2.26	2.01	1.88	88 P 552	2.84	2.56	2.27	2.13

## SLOPING-PANEL CABINETS

Sturdily built, sloping-panel steel cabinets for amplifiers, test equipment, power supplies. Smooth-action hinged tops for easy access to tubes and other components mounted on tops of enclosed chassis. Front panel can also be removed for effortless attachment of chassis. "Use With" column in table below indicates recommended Bud chassis (listed elsewhere). Other chassis with same length and width (though different heights) can also be used. Fit following size chassis: C-1584, 7x6x2"; C-1585, 7x8x2"; C-1586, 7x10x2"; C-1587, 7x7x2"; C-1588, 7x9x2"; C-1892, 8x12x2 1/2"; C-1893, 10x17x3"; C-1894, 7x13x2"; C-1896, 7x17x3".



Size H x W x D	Black Wrinkle	Gray Hammertone	Mfr's Type	Wt. Lbs.	Use With	EACH			
						1-24	25-49	50-99	100-149
6 1/2x7 1/2x7 3/8"	86 P 900	88 P 576	C-1584	2 1/2	CB-38	3.30	2.97	2.64	2.48
6 1/2x9 1/2x7 3/8"	86 P 901	88 P 577	C-1585	3	CB-39	3.75	3.38	3.00	2.81
6 1/2x11 1/2x7 3/8"	86 P 902	88 P 578	C-1586	3 1/2	CB-40	4.34	3.91	3.47	3.26
8x13 1/2x8 1/2"	86 PX 903	88 PX 581	C-1892	5 1/4	AC-407	5.95	5.31	4.76	4.46
10x18 1/2x10 1/2"	86 PX 904	88 PX 582	C-1893	8 1/2	AC-415	7.85	7.07	6.28	5.89
8x8 1/2x6x8"	86 P 968	88 P 579	C-1587	2 1/2	AC-405	4.51	4.06	3.61	3.38
8x10 1/2x6x8"	86 P 969	88 P 580	C-1588	3 1/4	AC-406	5.01	4.51	4.01	3.76
8x14 1/2x6x8"	86 PX 970	88 PX 583	C-1894	4	AC-409	5.34	4.81	4.27	4.01
9x18 1/2x6x8 1/2"	86 PX 971	88 PX 584	C-1896	7	AC-425	7.68	6.91	6.14	5.76

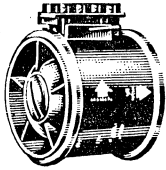
Hinged Top Permits Ready Access to Components Inside



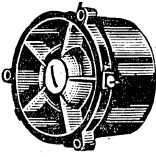


# Rotron Fans and Blowers

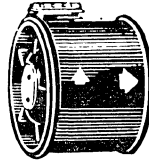
## FOR INSTRUMENT AND AIRBORNE APPLICATIONS



AXIMAX-1



AXIMAX-2



AXIMAX-3

### MINIATURE AXIMAX SERIES COOLING FANS

Vane-axial fans specifically designed for cooling tightly packed electronic equipment in instrument, airborne and missile applications. Aximax 2 and 3 are high-altitude units with "Altivar" motors — automatically change shaft-speed as altitude changes; meet MIL-E-5400. Aximax 1 is for ground level use. Estimated bearing life: high-speed units, 1000 hours; low-speed, 2500. Aximax 1 and 3 have servo rims at opposite ends of case for mounting. Aximax 2 has either servo rims or 3 mounting holes. Aximax 1: 1 1/2" diameter by 1 1/2" deep. Aximax 2: 2x1 1/2". Aximax 3: 3x2 1/4". Types 599VS and 606XS (Aximax 3) are for 60-cycles; all others are 400-cycle. \*Altivar® type speed changes with altitude.

#### AXIMAX 1

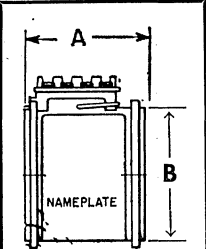
Stock No.	Type	Volts	Phase	RPM	CFM	1-4, EA.	5-9 EA.	10-24, EA.	25-49, EA.	50-99, EA.
8 E 551	367JS	200	3	22,500	22					
8 E 552	623YS	115	1	22,500	22	52.00	46.50	43.50	38.70	36.60
8 E 553	464YS	115	1	11,400	11					

#### AXIMAX 2

8 E 554	367JS	200	3	20,500	60	45.00	39.90	37.20	33.10	31.20
8 E 555	368YS	115	1	20,000	57	45.00	39.90	37.20	33.10	31.20
8 E 556	395JS	200	3	11,000	32	45.00	39.90	37.20	33.10	31.20
8 E 557	415YS	115	1	*11,000	32	45.00	39.90	37.20	33.10	31.20
8 E 558	464YS	115	1	11,000	32	45.00	39.90	37.20	33.10	31.20
8 E 559	606NS	115	1	3,300	8	48.00	42.90	40.20	36.10	34.20

#### AXIMAX 3

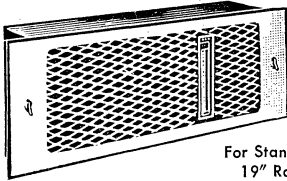
8 E 560	341JS	200	3	22,000	162	59.50	53.00	49.50	44.00	41.70
8 E 561	599VS	115	1	3,500	24	62.50	56.00	52.50	47.00	44.70
8 E 562	400YS	115	1	11,000	80	59.50	53.00	49.50	44.00	41.70
8 E 563	387JS	200	3	13,000	95	59.50	53.00	49.50	44.00	41.70
8 E 564	422DS	115	1	11,300	82	59.50	53.00	49.50	44.00	41.70
8 E 565	528YS	115	1	22,000	162	59.50	53.00	49.50	44.00	41.70



#### VANE-AXIAL

Fan Type	A	B
Aximax 1	1 1/2"	1 1/2"
Aximax 2	1 1/2"	2"
Aximax 3	2 1/4"	2 7/8"

### RF COOLING PANEL



For Standard 19" Rack

Flushes standard 19" relay racks (any height). Dissipates 1 kw of heat within 20°F, or 2 kw within 40°F. Ambient temperature limit, 125°F. Noise level: 54 db. Replaceable fiberglass dust filter. 7x19x8 3/4". For 115 v., 50-60 cycle AC.

8 EX 576, 1 to 4..... EACH 60.00

5-9..... EACH 54.00 10-24... EACH 51.00

25-49... EACH 48.00 50-99... EACH 45.00

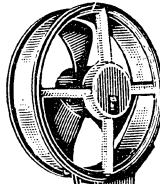
Replacement Filters. Pkg. of 6.

8 E 577..... PER PKG. 8.75

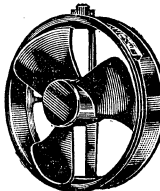
### FAN CLAMPS AND CLIPS

8 E 578. Syn Clamps. For Saucer, Propimax, and Aximax 1 and 3..... EACH .30

7 E 070. Panel Mounting Clips. For Saucer Fan only..... EACH .30



Vane-Axial for use where Components are Tightly Packed



### MINIATURE PROPIMAX 2 SERIES FANS

395JS and 415ZS for high altitude; meet MIL-E-5400. Others, ground level. Reversible airflow. 395JS and 415 ZS have variable-speed motors. 3 3/8" dia. x 1 1/4" d. Have single-phase motors, except \*3-phase. For 400 cycle, except †60 cycle.

Stock No.	Mfr's Type	V.	RPM	CFM (Max.)	EACH				
					1-4	5-9	10-24	25-49	50-99
8 E 579	367JS*	200	20,700	118	60.00	54.00	50.70	45.00	42.70
8 E 580	366ZS	115	21,500	120	60.00	54.00	50.70	45.00	42.70
8 E 581	395JS*	200	12,000	67	60.00	54.00	50.70	45.00	42.70
8 E 582	415ZS	115	12,500	68	60.00	54.00	50.70	45.00	42.70
8 E 583	464ZS	115	11,000	62	60.00	54.00	50.70	45.00	42.70
8 E 584	606NS†	115	3250	18	63.00	57.00	53.70	48.00	45.70

Require filter box, below. 6 7/8" dia. x 2 1/2" d. Single-phase, except \*3-phase. 115 VAC, 60 cycle, except †400 cycle.

Stock No.	Mfr's Type	V.	RPM	CFM (Max.)	EACH				
					1-4	5-9	10-24	25-49	50-99
8 E 585	654DS†	115	3600	310	109.00	101.50	97.75	82.50	75.10
8 E 586	650JS†	200	3580	310	109.00	101.50	97.75	82.50	75.10
8 E 587	340ZS	115	3300	270	64.00	57.00	53.00	47.20	44.70
8 E 588	544JS*	200	3300	270	64.00	57.00	53.00	47.20	44.70
8 E 589	559DS	115	1680	140	64.00	57.00	53.00	47.20	44.70

8 E 590. Filter Box, 1-4..... EACH 15.20 5-9..... EACH 14.39 10-24... EACH 13.80 25-49... EACH 12.60 50-99... EACH 12.10

8 E 591. Saucer Guard, Front, 1-4.EACH 4.50 5-9..... EACH 4.10 10-24... EACH 3.95 25-49... EACH 3.75 50-99... EACH 3.60

8 E 592. Saucer Guard, Rear, 1-4.EACH 4.50 5-9..... EACH 4.10 10-24... EACH 3.95 25-49... EACH 3.75 50-99... EACH 3.60

### TYPE CFG FAN AND PROPELLERS

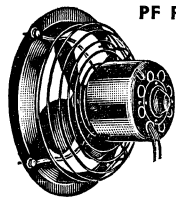
CFG Fan. For flushing instrument racks, transmitter cubicles and relay racks. Allows removal of up to 5 kw of heat dissipation with allowable temperature rise of 40°F. Less propeller, right, 10" dia. x 6 1/2" d. For 115 v., 50-

CFG Propellers. Choose propeller to fit cooling needs. L in type no. for push airflow; R for pull airflow.

Stock No.	Mfr's Type	CFM (Max.)	EACH
8 E 569	1-L	280	2.50
8 E 570	1-R	260	
8 E 571	2-L	340	
8 E 572	2-R	340	
8 E 573	3-L	540	
8 E 574	3-R	520	

CFG Screen, Type 12407.

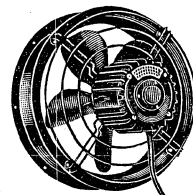
8 E 575. 1-4.EACH 4.20 5-9... EACH 3.90 10-24... EACH 3.75 25-49... EACH 3.30



### PF PROPELLER FAN

Compact low-cost units for efficient delivery of 220 cubic ft. per minute. Continuous duty at 125°. PF-L indicates push airflow; PF-R, pull airflow. 8 1/2" dia. x 4 1/2" deep. For 110-115 v., 60 cycle AC.

Stock No.	Mfr's Type	EACH			
		1-4	5-9	10-24	25-49
8 E 566	PF-L				
8 E 567	PF-R	15.30	13.80	13.00	12.30



60 cycle AC.

8 E 568, 1 to 4..... EACH 24.10 5 to 9..... EACH 22.50 10-24... EACH 21.50 25-49... EACH 18.80

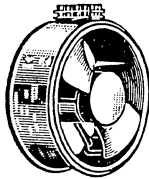


# Rotron Fans and Blowers

## FOR INDUSTRIAL APPLICATIONS

### FEATHER FAN

- Lightweight—Only 1.5 Pounds
- Only 2 7/8" Deep—7" Diameter
- 270 CFM Free Delivery



Type 103. Moves a large volume of air in limited-space areas requiring a shallow fan. Excellent for cooling computer consoles, relay racks, power supplies, etc. Has pre-lubricated miniature, precision stainless-steel ball bearings. Ambient temperature range, -55°C to +65°C. Reversible airflow. Tinned brass terminals. Constructed of high-impact, fungus-proof Lexan plastic. Filters air with box, below. Two-tone gray finish. 3380 rpm. 22 watts. For 115 volts, 50-60 cycle AC.

3 E 593, 1-4.....EACH 34.00 5-9.....EACH 32.00  
10-24.....EA. 30.20 25-49.....EA. 28.50 50-99.....EA. 26.90  
Finger Guards.

Stock No.	Mfr's Type	Description	EACH			
			1-4	5-9	10-24	25-49 50-99
8 E 591	14559	Rim Mount	4.50	4.10	3.95	3.75
8 E 592	14651	Panel Mount	4.50	4.10	3.95	3.75

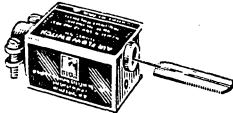
7 E 247, Type 16410 Mtg. Clamps, Uses 3.....EACH .12

Type 124110 Filter Box.

7 E 246, 1-4.....EACH 8.30 5-9.....EACH 7.70  
10-24.....EA. 7.40 25-49.....EA. 6.50 50-99.....EA. 5.90

### TYPE A AIRFLOW INTERLOCK SWITCH

SPDT switch designed to actuate when the air stream in an air duct varies from required velocity range. Can be used as interlock or on-off control, or as safety device to operate contacts at predetermined flow of air. Mounts against outside of air duct (round or flat surface). Small, lightweight stainless steel vane (not supplied—see below) protrudes through a hole in duct. Interlock switch actuates and de-actuates as the air flow increases or decreases. Switch is not influenced by static air-pressure in the duct. Easily mounted with a single screw. Metal-to-metal bearings are shielded by dust labyrinth. Rated 5 amps at 250 volts, AC.



3 E 600, 1-4.....EACH 8.45  
5-9.....EACH 7.45 10-24.....EACH 6.85  
25-49.....EACH 6.20 50-Up.....EACH 6.10

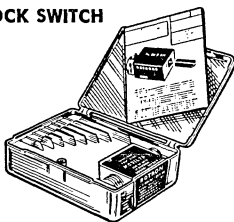
### VANES FOR AIRFLOW INTERLOCK SWITCH

Type No. indicates max. ft./min. air flow increase.

Stock No.	Type	Length	1-24 EA.	25-49 EA.	50-99 EA.
8 E 601	1000	27 3/32"	1.25	1.00	.80
8 E 602	1350	27 3/32"			
8 E 603	1600	1 1/16"			
8 E 604	1800	1 2/32"	1.25	1.00	.80
8 E 605	2000	1 1/16"			
8 E 606	2450	1 1/8"			
8 E 607	3000	1 5/16"			
8 E 608	4000	3/4"			

### DETERMINATOR KIT FOR INTERLOCK SWITCH

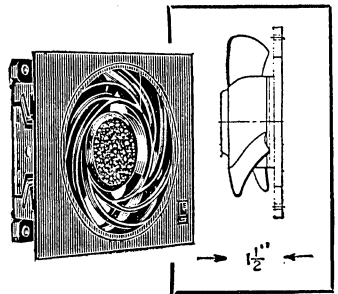
This convenient kit offers an excellent way to determine, by experiment, exactly which vane you need or a specific application of the interlock switch. Consists of a Model A airflow interlock switch and a complete set of 8 actuating vanes listed in the table above. By interchanging vanes on the switch you can quickly determine which vane offers the best sensitivity rating or the specific application. Interchanging is accomplished by a simple snap-on procedure. The switch and the vane with best sensitivity rating can be used in the final installation.



3 E 609, 1-4.....EACH 20.00 5-9.....EACH 19.00  
10-24.....EA. 18.00 25-49.....EA. 17.00 50-99.....EA. 16.00

### GOLD SEAL MUFFIN FAN

Developed from an original aerodynamic design, the muffin fan delivers 100 CFM—efficiently cools, directs heat, or ventilates. Only 4 1/16" square and 1 1/2" deep. For use with radar units, transmitters, receivers, microwave links, office machines, TV cameras, etc. Noise level only 42 db. Designed to operate within 40-110°F. range. Supplied with polystyrene frame and wire screen. For 105-120 volts 60 cycle AC.



8 E 596, 1-9.....EACH 14.50 10-24.....EACH 13.05  
25-49.....EA. 11.60 50-99.....EA. 10.15 100-499.....EA. 9.45

As above, but Less Wire Grill.

8 E 597, 1-9.....EACH 13.70  
10-24.....EACH 12.30 25-49.....EACH 10.95  
50-99.....EACH 9.60 100-499.....EACH 8.90

As above, but with Grille and Filter.

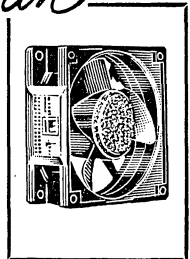
8 E 598, 1-9.....EACH 15.85  
10-24.....EACH 14.40 25-49.....EACH 12.95  
50-99.....EACH 11.50 100-499.....EACH 10.80

Skeleton Fan. Spider rotor and motor only.

8 E 599, 1-9.....EACH 12.80  
10-24.....EACH 11.50 25-49.....EACH 10.20  
50-99.....EACH 8.95 100-499.....EACH 8.30

### Whisper Fan

The Whisper Fan is engineered to operate at an inaudible sound-level while delivering a large amount of cooling air. Exceptionally reliable in operation—improves performance of equipment by reducing heat level. Perfectly suited for cooling electronic instruments, high-fidelity equipment, TV cameras and receivers, office machinery, public address sound systems, etc. The Whisper fan is dimensionally interchangeable with the Muffin Fan described above. Provides 65 cu. ft. per minute free delivery. Speech interference level is a low -18 db. Because of symmetrical physical and aerodynamic design, air flow is reversible by releasing mounting clips and turning venturi block in end-to-end position. Pre-lubricated bearings and relatively low speed ensure trouble-free, maintenance-free operation. Has high-impact polystyrene frame. Can be used in round or square opening in equipment panel, or with two mounting clips (not supplied—see below). Operates at 2000 rpm; draws only 7 watts. Compact size, only 4 1/16" x 1 1/2" deep. Single-phase. For 115 volts, 50-60 cycle AC.



8 E 610, 1-9.....EACH 14.90 10-24.....EACH 14.15  
25-49.....EA. 12.65 50-99.....EA. 11.20 100-499.....EA. 10.45

8 E 611. As above, Less Grille, 1-9.....EACH 14.10  
10-24.....EACH 13.35 25-49.....EACH 11.85  
50-99.....EACH 10.40 100-499.....EACH 9.65

8 E 612. Same as 8 E 610, With Filter. 1-9.....EACH 16.30  
10-24.....EACH 15.65 25-49.....EACH 14.15  
50-99.....EACH 12.70 100-499.....EACH 11.95

### ACCESSORIES FOR MUFFIN AND WHISPER FAN

Filter Fan Conversion Kit. Includes filter, frame and clips.

8 E 613. #15449, 1-499.....EACH 2.30

8 E 614. #16238 Standard Grill, 1-499.....EACH .80

8 E 615. #13996 Mounting Clips, 1-499.....PER PAIR .20

8 E 616. #16415 Plug and Cord Assembly, 1-499.....EACH .60

8 E 617. #16415 Fan Lubricant, 4-oz. can. 1-499.....EACH 1.50

8 E 618. #16415 Oil Syringe for Muffin Fan, 1-499.....EACH 1.50

8 E 619. #15448 Filter Cartridge for Muffin Fan, 1-499.....EACH 1.50

7 E 071. Filtercoat for Cart. #15448, 1-499.....EACH .75

8 E 620. #14798 Grille, 1-499.....EACH .60

7 E 072. #13967 Filter Frame, 1-499.....EACH .60

# WELLER Soldering Equipment for Industry

*Weller*

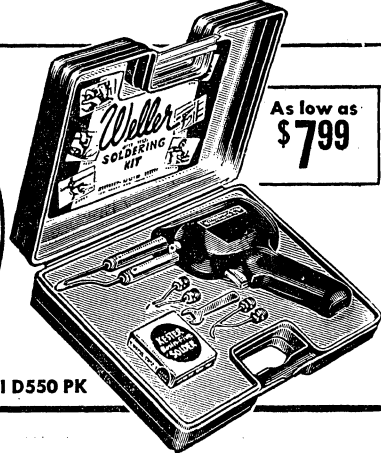


As low as  
**\$554**

**Model 8200 PK**

**COMPLETE SELECTION OF TOOLS AND SOLDERING EQUIPMENT**

- ✓ Widest Selection Offered
- ✓ Quality, Top-Name Brands
- ✓ Your Order Shipped Same Day It's Received
- ✓ Special Handling on Phone, Wire and TWX Orders



As low as  
**\$799**

**Model D550 PK**

**8200PK DUAL-HEAT SOLDERING KIT**

- 8-Piece Kit in Break-Proof Plastic Utility Case
- Soldering Gun Has High/Low Heat Feature
- Includes 3 Interchangeable Long-Life Weller Tips

**D-550PK HEAVY-DUTY SOLDERING KIT**


- 7-Piece Professional Kit in Plastic Case
- Heavy-Duty Soldering Gun Features High/Low Heat
- Includes Soldering, Smoothing and Cutting Tips

Everything you need for fast, professional soldering. Kit includes: Weller 8200, U.L. Listed, dual-heat soldering gun; soldering aid tool; nylon flux brush; tip-changing wrench; 3 Weller long-life soldering tips; coil of all-purpose solder; and break-proof plastic utility case. "Triggermatic" control permits instant switching to high 140-watt or low 100-watt heat, as the job requires. Prefocused spotlight illuminates work area. Compact gun is perfectly balanced, comfortable to hold—makes precision soldering easy, fatigue-free. Gun also features on-off fingertip control; instant heating. Tips are copper for high heat-transfer. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 2 1/4 lbs.  
51 N 059, 1-2.....EACH **6.57**  
3-11, EACH.....5.83 12-Up, EACH.....5.54

Versatile soldering kit for professional, heavy-duty applications. Kit includes: Weller D-550, U.L. Listed, dual-heat soldering gun 3 interchangeable Weller tips for soldering, smoothing and cutting; tip-changing wrench; coil of Kester "Resin Five" all-purpose solder; instruction booklet; and break-proof plastic utility case. D-550 gun features two trigger-positions for instant switching to high 325-watt or low 240-watt heat. Tip life is extended by using high-heat only when necessary. Prefocused spotlight eliminates shadows from work area. Dual-heat gun has on-off fingertip control—no need for constant unplugging. For 110-120 v., 60 cycle AC. Shpg. wt., 7 1/4 lbs.  
51 N 057, 1-2.....EACH **9.54**  
3-11, EACH.....8.48 12-Up, EACH.....7.99

## TOP VALUES IN WELLER DUAL-HEAT SOLDERING GUNS

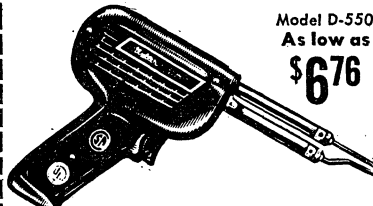
**MODEL 8200 GUN**  
As low as  
**\$407**



- Operates at 140 and 100 Watts
- Instant Heat—No Wasted Current

**MODEL 8200 SOLDERING GUN**  
Get both high and low temperatures from the same gun with Weller's dual-heat feature. "Triggermatic" control instantly selects high 140-watt or low 100-watt heat. You enjoy greater soldering convenience and longer tip-life. High-efficiency tip made of copper for superior heat transfer and long life. Prefocused spotlight lights-up work area. Exclusive wiping action of tip nuts eliminates contact resistance and oxidation—assures full heat. Compact, lightweight gun fits perfectly in hand—may be used for hours without fatigue. For 110-120 v., 60 cycle AC. Shpg. wt., 2 1/4 lbs.  
51 N 058, 1-2.....EACH **4.56**  
3-11, EACH...4.26 12-Up, EACH.4.07

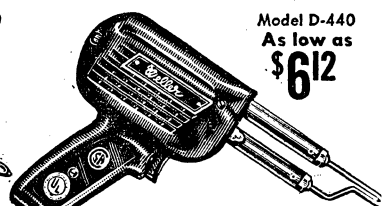
Model D-550  
As low as  
**\$676**



- Heavy-Duty Gun
- 240/325-Watt Heat
- Long-Life Tip

**MODEL D-550 SOLDERING GUN**  
The perfect gun for service shops, production lines, etc. Heavy-duty D-550 has Weller's dual-heat feature. Trigger switch selects high 325-watt or low 240-watt heat. Tip-life is prolonged by using just the right amount of heat for the job. Air-cooled transformer—gun stays surprisingly cool after hours of use. Dual spotlights illuminate work area, eliminate shadows for more exact soldering. Replacement and accessory tips listed below. U.L. Listed. For 110-120 v., 60 cycle AC. Wt., 4 lbs.  
46 N 641, 1-2.....EACH **7.98**  
3-11, EACH.....7.15 12-Up, EACH...6.76

Model D-440  
As low as  
**\$612**



- Medium-Duty Gun
- 145/210-Watt Heat
- Dual Spotlights

**MODEL D-440 SOLDERING GUN**  
Medium-duty, dual-heat gun. Essentially the same as Model D-550, except "Triggermatic" control delivers high 210-watt and low 145-watt heat. Has: long-life soldering tip with long reach for those hard-to-solder places; pre-focused dual spotlights. Use with smoothing and cutting tips, below, for furniture repair, cutting tile, etc. U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 3 lbs.  
46 N 644, 1-2.....EACH **7.30**  
3-11, EACH.....6.52 12-Up, EACH...6.12


**VERSATILE ACCESSORY TIPS**  
Average shpg. wt., 3 oz.

Stock No.	Type	Descrip.	For Models	EA.
46 N 681	6110	Cutting	WS-100, WD-135, S-400, D-440	.35
46 N 682	6120	Smoothing	8100 (B), 8200	.35
46 N 683	6130	Cutting	WS-200, S-500	.35
46 N 684	6140	Smoothing	D-550, 8250A	.35

**CHISEL-POINT TIPS**  
2 PER PACKAGE. Average shpg. wt. per pkg. 3 oz.

Stock No.	Type	Use With Models	PKG
46 N 574	7135	WS-100, WD-135, S-400, D-440, 8100	.25
46 N 573	7250	WS-200, WD-250, S-500, D-550, 8250A	.35
46 N 579	7300	S-107, D-207. Not interchangeable with above.	.25
50 N 209	8125	8100B, 8200	.35

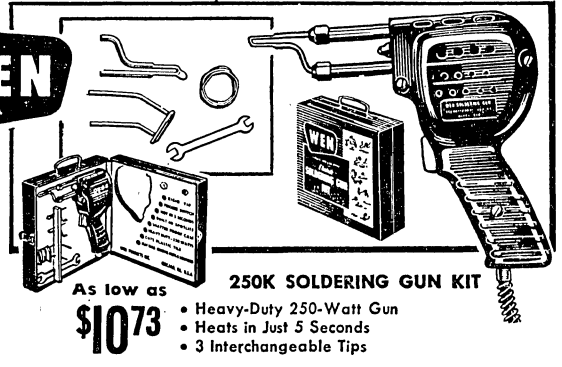
# General-Purpose and Industrial Guns by WEN



**As low as \$651**

**199K SOLDERING GUN KIT**

- Multi-Purpose Soldering Kit
- 130-Watt Instant-Heat Gun
- 3 Interchangeable Tips



**As low as \$1073**

**250K SOLDERING GUN KIT**

- Heavy-Duty 250-Watt Gun
- Heats in Just 5 Seconds
- 3 Interchangeable Tips

Multi-purpose soldering gun kit. Includes Model 199—130-watt gun; three separate tips; 5-ft. roll of rosin-core solder; plus metal storage box. Gun reaches temperature in just 2½ seconds! Well balanced gun has pistol-grip handle, spotlight, trigger switch. Tips are quickly interchangeable—include Model 19-B-4 standard tip for household wiring; Model 19-F-33 woodworking tip; Model 19-C-1 tip for cutting plastic, rubber and asphalt tile. U.L. Listed. For 110-120 v., 60 cycle AC. 4 lbs. 46 N 319, 1-2.....EACH 7.33  
3 or More.....EACH 6.51

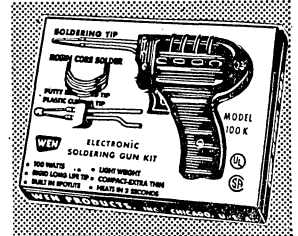
Heavy-duty soldering gun kit. Includes Model 250—250-watt gun; three separate tips; tip wrench; 5-ft. roll of rosin-core solder; and metal case. Gun heats in just 5 seconds! Features trigger switch control, pistol-grip handle, spotlight. Interchangeable tips are: Model 25-X-20 standard tip for home use; Model 25-F-33 flat-iron tip for woodworking and removing dents; Model 25-C-1 tip for cutting plastic and tile. U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 5 lbs. 50 N 250, 1-2.....EACH 11.72  
3 or More.....EACH 10.73

## VERSATILE 100K SOLDERING GUN KIT

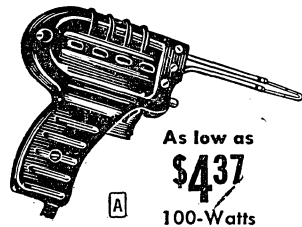
Versatile soldering gun kit. Includes: Model 100—100-watt gun; 5-ft. roll of rosin-core solder; two separate tips. Highly-efficient, transformer-type Model 100 develops full 100-watt heat in only 2½ seconds! Has built-in spotlight—pre-focused to completely illuminate work area; handy trigger switch; pistol-grip handle. Lightweight gun is compact, extra-thin. Quickly interchangeable tips are: extra-long, steel-nosed, general-purpose tip; and plastic-cutting, putty-removing tip. U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 2½ lbs. 50 N 191, 1-2.....EACH 5.83  
3 or More.....EACH 5.19

**As low as \$519**

- Develops Full 100-Watt Heat in 2½ Seconds!
- 2 Interchangeable Tips
- Model 100 Gun Is Transformer-Type



## POPULAR WEN GUNS AND REPLACEMENT TIPS

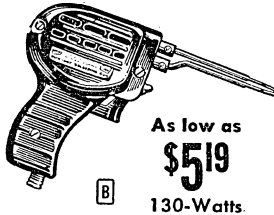


**As low as \$437**

**A** 100-Watts

### **A** MODEL 100—100-WATT GUN

Lowest-cost Wen gun for general-purpose soldering applications. Reaches temperature in 2½ seconds. Built-in spotlight, trigger switch. Black plastic case, 8" long with tip. U.L. Listed. For 110-120 v., 60 cycle AC. 2 lbs. 50 N 025, 1-2.....EACH 4.65  
3 or More.....EACH 4.37

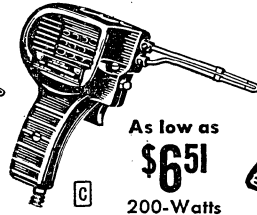


**As low as \$519**

**B** 130-Watts

### **B** MODEL 199—130-WATT GUN

Popular, low-cost soldering gun. Ideal for production line use. Heats in just 2½ seconds. Efficiency compares to guns of much higher wattage ratings. Long-life tip; spotlight; pistol-grip handle. Lightweight, only 1½ lbs. Heat and shock-resistant red plastic case, 5" long less tip. U.L. Listed. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 2¼ lbs. 46 N 358, 1-2.....EACH 5.83  
3 or More.....EACH 5.19

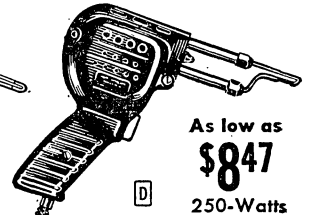


**As low as \$651**

**C** 200-Watts

### **C** MODEL 288—200-WATT GUN

Economy-priced, heavy-duty soldering gun. Lightweight and balanced for fatigue-free use. Ideal for all types of heavy soldering work. Tip is ideal for many delicate jobs—gets into hard-to-reach places. Built-in spotlight. Case of high-impact, ebony-black plastic. Length with tip, 9½". U.L. Listed. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 3½ lbs. 46 N 324, 1-2.....EACH 7.33  
3 or More.....EACH 6.51



**As low as \$847**

**D** 250-Watts

### **D** MODEL 250—250-WATT GUN

Low-cost, heavy-duty. Excellent for a variety of repair work. Heats in 3 seconds; has built-in spotlight. 6½" long with tip. U.L. Listed. For 110-120 v., 60 cycle AC. 4 lbs. 46 N 325, 1-2.....EACH 9.52  
3 or More.....EACH 8.47

**EXTRA TIP.** For above. Wt., 3 oz. 46 N 331......42

**REPLACEMENT TIPS.** For Model 199 gun and 199K, above.

Stock No.	Type	Description	Wt., Oz.	EACH
46 N 359	19-B-4	Standard Tip	2	.35
46 N 328	19-C-1	Plastic Cutting Tip	2	.42

### **U-4 FINE-SOLDERING TIP KIT**

Low-cost tip kit includes radio tip for Wen Models 100, 199, 288, and 250; 2 couplers; 5—10" tip extensions. 8 oz. 50 N 192, 1-2.....EACH .53  
3 or More.....EACH .47

**REPLACEMENT TIPS.** For Model 250 gun and 250K, above.

Stock No.	Type	Description	Wt., Oz.	EACH
46 N 326	25-A-4	Standard Tip	2	.17
46 N 327	25-X-20	Feraloy Tip	2	.35
46 N 330	25-C-1	Plastic Cutting Tip	2	.35

# Wall, Weller and Shopmate Soldering Supplies

**WALL BRAND**

**Model 58HD Iron**  
As low as **\$844**

- Heavy-Duty
- Fast-Heating
- Meets Govt. Specs.

**F** **212LT and 214LT**  
"Instant-Heat" Guns  
As low as **\$1140**

- Reach Temperature in Seconds
- No Transformers
- Spotlight Switch

**HEAVY-DUTY INDUSTRIAL SOLDERING IRONS.** For heavy production line use. Reach operating temp., recover quickly. Lengths: 18HD, 7½"; 14HD, 8"; 38HD, 12½"; 12HD, 13"; 58HD, 13½". U.L. Listed. For 110-120 v., AC-DC. \*Watts.

Stock No.	Mfr's Type	Fig.	W (*)	Tip	Wt.	EACH			
						1-9	10-49	50-249	250-Up
50 N 394	18HD	B	25	¼"	7 oz.	5.87	5.41	4.90	4.66
51 N 304	14HD	C	40	¼"	7 oz.	6.31	5.79	5.29	5.00
51 N 305	38HD	D	80	¾"	1 lb.	7.98	7.32	6.69	6.33
51 N 306	12HD	E	125	½"	1½ lb.	9.97	9.15	8.36	7.91
51 N 307	58HD	A	200	½"	1 lb.	10.63	9.76	8.92	8.44

**COPPER REPLACEMENT TIPS.** Av. shpg. wt., 3 oz.

Stock No.	Pyramid	Tip Size	Stock No. Chisel	Tip Size	For	EACH			
						1-9	10-49	50-249	250-Up
51 N 314	¼"	51 N 173	¼"	18HD	.18	.16	.13	.12	
51 N 316	¼"	51 N 315	¼"	14HD	.25	.23	.21	.20	
51 N 318	¾"	51 N 317	¾"	38HD	.39	.36	.33	.31	
51 N 321	½"	51 N 320	½"	12HD	.79	.73	.67	.63	
51 N 323	⅝"	51 N 322	⅝"	58HD	1.00	.92	.84	.79	

**WALL-KLAD REPLACEMENT TIPS.** Av. shpg. wt., 3 oz.

Stock No.	Pyramid	Tip Size	Stock No. Chisel	Tip Size	For	EACH			
						1-9	10-49	50-249	250-Up
51 N 324	¼"	51 N 170	¼"	18HD	2.02	1.59	1.29	1.17	
51 N 328	¼"	51 N 325	¼"	14HD	2.25	2.07	2.01	1.98	
51 N 330	¾"	51 N 329	¾"	38HD	2.45	2.25	2.18	2.14	
51 N 332	½"	51 N 331	½"	12HD	3.47	3.20	3.09	3.05	
51 N 334	⅝"	51 N 333	⅝"	58HD	4.13	3.80	3.68	3.62	

**REPLACEMENT ELEMENTS.** Av. shpg. wt., 6 oz.

Stock No.	For Type	Tip Temp.	Watts	EACH			
				1-9	10-49	50-249	250-Up
51 N 308	18HD	750	25	3.82	3.51	3.20	3.03
51 N 309	14HD	750	40	3.82	3.51	3.20	3.03
51 N 311	38HD	750	80	4.31	3.96	3.62	3.42
51 N 312	12HD	750	125	5.31	4.88	4.45	4.21
51 N 313	58HD	750	200	5.65	5.19	4.74	4.49

**F** "TRIG-R-HEAT" GUNS. Thermostatic action, transformerless design. 6½" barrel. U.L. Listed. For 110-120 v., AC-DC.

46 N 848. Model 212LT, 300-350 w., ½" steel-clad tip. With 7-watt spotlight. Shpg. wt., 1½ lbs. .... 13.93

46 N 889. Model 214 LT.As above, but 150-400 w., ¼" tip. Shpg. wt., 1¼ lbs. .... 11.40

**"MAGNASTAT"**  
CONTROLLED-TEMPERATURE IRONS

Magnastat sensing device in tip automatically maintains correct soldering temperature. Never any "peaks" or "lows" to cause faulty soldering. Half the weight of uncontrolled irons. More reliable—less down-time. Never overheats—saves current when idling. Much less tip redressing; reaches full heat quickly; rapid heat-transfer; delicate balance for precision soldering. Tip retaining-nut minimizes tip freezing, seals tip-receptacle from flux fumes. Rubber shock absorber protects handle and prevents iron from sliding off bench. Cool, impact-resistant plastic handle designed for extra strength and cooler handling. Rugged, non-arcing switch. Model TC552 provides two soldering temperatures: 600°F low heat for sensitive jobs; 700°F high heat for regular work. All you do is change the tips. Model TC602 uses 700°F tip. Less tips and cords. For 110-120 v., 60 cycle AC.

Stock No.	Mfr's Type	Fig.	Watts	Wt., Oz.	EACH		
					1-5	6-23	24-Up
50 N 667	TC552	H	55	3	5.32	4.73	4.25
50 N 668	TC602	G	75	3½	5.52	4.90	4.41

**WELLERTIPS FOR "MAGNASTAT" SOLDERING IRONS**  
Premium iron-plated copper. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Description	For Model	EACH		
				1-5	6-23	24-Up
50 N 671	5-DIN	⅜" Screwdriver	TC552	.56	.49	.44
50 N 672	5-CIN	⅜" Screwdriver	TC552	.56	.49	.44
50 N 673	6-EIN	¼" Screwdriver	TC602	1.12	.98	.88
50 N 674	6-DIN	⅜" Screwdriver	TC602	1.12	.98	.88

**CORDS FOR "MAGNASTAT" SOLDERING IRONS**

\*Standard type; †Industrial type. With plugs. Av. wt., 5 oz.

Stock No.	Type	Description	EACH
50 N 511	CS40	*2-wire for TC552, TC602	.73
50 N 512	CS50	†3-wire for TC552, TC602	1.47

**POWER Shopmate TOOLS**

Model **K-1225-13** Kit **\$567**

Model **KSG-250-1** Kit **\$997**

## LIGHT-DUTY 125-WATT SOLDERING KIT

**MODEL K-1225-13.** Includes: Model SG-125B 1.3-amp gun with 5" long barrel-cleaning brush, wire twister, joint cleaner, roll of all-purpose solder. Transformer-type gun heats in only 2½ seconds; ideal for reaching those hard-to-reach spots. Has prefocused "sight-light." Full-length soft-pull trigger eliminates finger fatigue. Gray, hi-impact, flame-resistant plastic housing. 10¼" long with tip. Weighs only 1¼ lbs. For 115 v., 60 cycle AC. Shpg. wt., 4 lbs. 49 N 250. .... 5.67

## HEAVY-DUTY 250-WATT SOLDERING KIT

**MODEL KSG-250-1.** Includes: Model SG-250 heavy-duty soldering gun, conical tip, chisel tip, tile cutting and putty removing tip, roll of rosin-core solder, heavy-gauge steel case. SG-250 gun has all features of SG-125B gun described above, but is rated at 2 amps, has 5" long barrel and black plastic housing. Positive pistol grip with soft-pull finger trigger. Weighs 2¾ lbs. 11½" long with tip. Shpg. wt., 5 lbs. 49 N 255. .... 9.97

## TIPS FOR 125-WATT AND 250-WATT GUNS

Scrub on in a jiffy—you need no tools. 2 oz.

Stock No.	Type	Description	EA.
49 N 252	47-83	Conical Point	.15
49 N 253	47-84	Chisel Point	.20
49 N 254	47-91	Needle Point	.80

## BARRELS FOR 125-WATT\* AND 250-WATT† GUNS

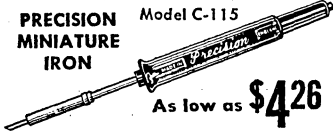
Stock No.	Type	Length	Oz.	EACH
49 N 257	ETS-1†	3½"	2	1.00
49 N 258	ETS-2†	6"	2	1.34
49 N 259	ETS-3†	8"	3	1.67
49 N 995	ETS-6*	3½"	2	1.00
49 N 996	ETS-7*	6"	2	1.34

# Soldering Equipment—Selected for Value

## ANTEX

**PRECISION  
MINIATURE  
IRON**

Model C-115



As low as **\$4.26**

- No Transformer Required
- Constant 626° F. Temperature
- Ideal for Miniaturized Circuits

Low-cost, feather-light miniature soldering iron for precision work. Weighs less than 1 oz. Heats to operating temperature (626° F.) in only 45 seconds. 50-megohm insulation between element and tip for work around semiconductors—no danger of current damage. Perfectly balanced for hours of fatigue-free use. Less 3-wire plug and tip, listed below. Length, 6 1/2". Made in England. Shpg. wt., 3 oz.  
50 N 427, 1-5..... EACH 4.75  
6 or More..... EACH 4.26

### 3-WIRE AC PLUG

EAGLE MODEL 209. For Antex C-115 iron, above. Wt., 3 oz.  
50 N 316..... .38

### ANTEX—PLATED TIPS

For use with Antex C-115 iron, above. Shpg. wt., 2 oz.

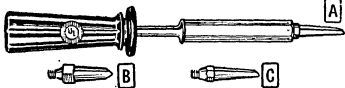
#### NICKEL-PLATED TIPS

Stock No.	Type	Size	EACH	
			1-49	50-Up
50 N 474	Spade	3/64"		
50 N 287	Chisel	3/32"	.54	.49
50 N 283	Spade	3/32"		

#### IRON-PLATED TIPS

Stock No.	Type	Size	EACH	
			1-49	50-Up
50 N 293	Chisel	3/32"		
50 N 290	Spade	3/32"	1.18	1.08
50 N 294	Chisel	3/32"		
50 N 291	Spade	3/32"		
50 N 295	Chisel	3/16"	1.18	1.08
50 N 292	Spade	3/16"		

### "KWIK-HEAT" IRON AND TIPS

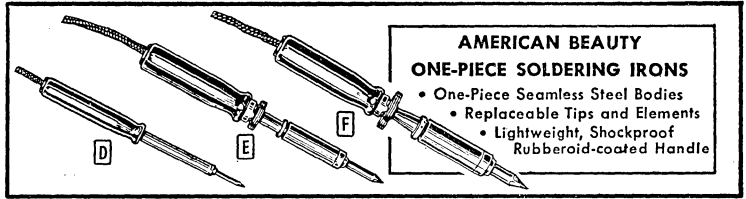


### A 150-WATT THERMOSTAT-CONTROLLED SOLDERING IRON

MODEL 200. Small, lightweight production-type iron for close, tight soldering on electronic components, printed circuits and other miniature applications. Soldering iron develops its full operating temperature within 80 seconds. Built-in thermostatic control maintains the correct temperature. Core assembly and outer shell are corrosion-resistant, long-lasting stainless steel. Overall length, 12 3/4". With chisel tip. For 110-125 volts, 60 cycle AC. Shpg. wt., 12 oz.  
6 N 634, 1-2..... EACH 6.97  
or More..... EACH 6.63

### TIPS FOR MODEL 200

Stock No.	Fig.	Description	EACH
46 N 562	C	Gradual taper point	1.30
46 N 565	B	Heavy, chisel tip	1.37



### AMERICAN BEAUTY ONE-PIECE SOLDERING IRONS

- One-Piece Seamless Steel Bodies
- Replaceable Tips and Elements
- Lightweight, Shockproof Rubberoid-coated Handle

Designed to fit any soldering application. Special iron-plated tips, available for all models, greatly reduce pitting and redressing. Casing and body are of one-piece seamless steel construction. Light-weight, shatterproof rubberoid-coated handles remain cool even after hours of use. With 6-ft. cords. U.L. Listed.

### D MODEL 3128—60 WATTS

For light work. 1/4" copper tip. With stand. Length, 12 1/4". For 110-120 volts, AC-DC. Shpg. wt., 1 lb.  
46 N 674, 1-5..... EACH 5.53  
6-Up..... EACH 5.25

### E MODEL 3138—100 WATTS

General-purpose iron. 3/8"-dia. copper tip. Chrome plated metal parts. Has cooling baffle; stand, 12 7/8" long. For 110-120 v., AC-DC. 2 1/4 lbs.  
46 N 655, 1-5..... EACH 8.47  
6-Up..... EACH 8.05

### F MODEL 3158—200 WATTS

For medium-heavy work. 5/8" copper tip. With stand. Overall length, 13 5/8". For 110-120 v., AC-DC. Wt., 3 lbs.  
46 N 650, 1-5..... EACH 10.15  
6-Up..... EACH 9.65

### REPLACEMENT TIPS, ELEMENTS FOR MODEL 3128

Type 9272 has mica insulation; with spring, tube, terminal assembly.

Stock No.	Type	Description	Oz.	EACH
51 N 122	67D	Superior-clad Element	1 1/2	1.05
46 N 670	9272	Element	3	2.80
46 N 675	3728	Copper-tip	1 1/2	.33

### FOR MODEL 3138

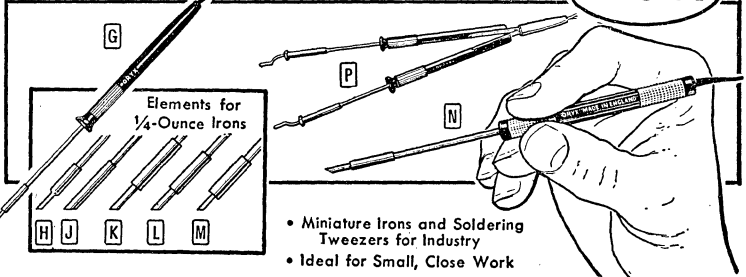
46 N 656	3738	Copper tip	2	.46
46 N 666	9273	Element	6	3.20
51 N 123	43D	Superior-clad	2	1.33

### FOR MODEL 3158

5/8" tips. Element is chrome-nickel wire on mica insulated steel rod.

46 N 652	3758	Copper tip	7	1.08
46 N 665	9275	Element	9	4.50
51 N 124	44D	Superior-clad	7	2.10

## MINIATURE IRONS AND ACCESSORIES by ORYX



- Miniature Irons and Soldering Tweezers for Industry
- Ideal for Small, Close Work

### G 1/4-OUNCE SOLDERING IRONS

6" long except 17 1/4" (3/4 oz.). Replaceable tips, except Model 6. Model 25 develops 1000° F. For 6-v. AC-DC; require transformer (bottom of page). 2 oz. \*Tip Fig.

Stock No.	Model	* W	1-11 EA.	12-Up EA.
46 N 817	6	J 6	5.34	4.85
46 N 818	6A	J 6	5.34	4.85
46 N 819	9-6	H 8.3	5.34	4.85
46 N 829	12-6	K 12	5.34	4.85
46 N 830	†18	L 18	7.35	6.91
46 N 909	25	M 25	7.84	7.40

### N MODEL 115-10W MINIATURE IRON

10 watts. Heats to 672° F. in 70 sec. Interchangeable 3/32" tip. Only 8 1/4" long. For 110-120 v., 50-60 cycle AC. 6 oz.  
50 N 506, 1-11..... EACH 6.81  
12-Up..... EACH 6.32

MODEL 115-15W. As above, but 15 watts. 5/32" tip reaches 717° F. in 50 sec.  
50 N 507, 1-11..... EACH 6.81  
12-Up..... EACH 6.32

### P SOLDERING TWEEZERS

TW-6, 6" long, weighs 1 oz. 6-watt elements; 3/32" fixed nickel tips; 554° F. temp. Detachable cord. For 6 v., AC-DC. 3 oz.  
50 N 989, 1-11..... EACH 14.65  
12-Up..... EACH 14.16  
TW-12 HEAVY-DUTY TYPE, 25-watt. 1/8" replaceable tips. 8" long. For 12 v., AC-DC. Wt., 2 oz.  
50 N 990, 1-11..... EACH 14.65  
12-Up..... EACH 14.16

### REPLACEMENT TIPS

Nickel-plated copper alloy. \*Pure nickel end. Av. wt., 2 oz.

Stock No.	Fig.	For Model	Dia.	EACH
46 N 831	H	6A, 9-6	5/32"	.49
46 N 843	J	6A, 9-6	3/32"	.49
46 N 844	K	12-6	3/16"	.49
46 N 898	L	18	3/16"	1.22
46 N 899	L*	18, 25	3/16"	1.81
46 N 912	M	25	1/4"	2.30

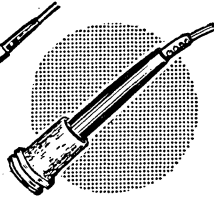
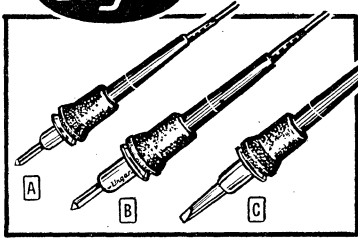
### STEP-DOWN TRANSFORMERS FOR ORYX TOOLS

46 N 923. For use with any 6-volt Oryx tool, 25 watts. 4 1/2-ft. cord, iron clip-holder. For 110-120. volts, 60 cycle AC. Wt.,

2 lbs..... 5.39  
50 N 988. Above, but 12-v. tools. Shpg. wt., 2 lbs..... 6.32



# "Standard Line" Soldering Tools



## TYPE 776 HANDLE AND CORD

Excellent for industrial soldering requirements. Handle accepts a wide selection of thread-in elements and tiplets. Ideal for work on printed circuitry and sub-miniature systems. Durable, lightweight and fatigue-free. Has stainless steel heat deflector, "Soft-Touch" cork grip, cord protector and phenolic housing. With 6-ft. cord. Handle length, 5". Less element and tip. U.L. Listed. Wt., 4 oz.

50 N 304, 1-9.....EACH 1.22  
10-49.....EACH 1.03 50-Up.....EACH .94

## COMPLETE SOLDERING PENCILS

Lightweight, compact soldering pencils—well-suited for printed and subminiature soldering work. Pencils consist of a Type 776 handle and cord (at right), and an element-tip. Handles accept all elements and element-tips shown on this page. U.L. Listed. For 110-115 v., AC-DC. 6 oz.

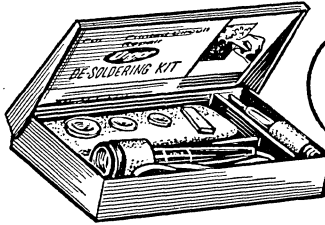
TYPE 536. Has copper pyramid tip; delivers 650 to 700° F.

TYPE 1236. Has silver-plated iron, pyramid tip; delivers 750 to 800° F.

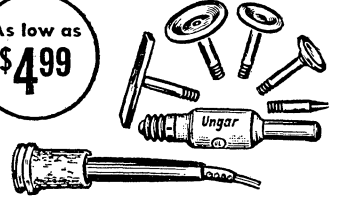
TYPE 4033. Has long chisel-tip of silver-plated iron-clad copper; 850 to 1000° F.

Stock No.	Fig.	W	Element Tip Type	EACH		
				1-9	10-49	50-Up
50 N 302	A	2 3/16"	536	2.25	1.90	1.74
50 N 303	B	3 7/16"	1236	2.44	2.06	1.88
50 N 305	C	4 7/16"	4033	3.57	2.98	2.74

## NO. 270 DESOLDERING KIT



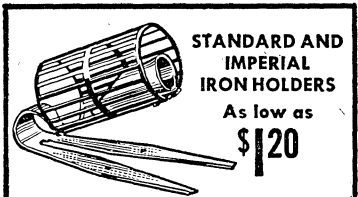
As low as \$4.99



For fast, safe rework and repair of P-C boards and sub-miniature systems. Special desoldering tips deliver just the right amount of heat exactly where it's needed. Helps prevent lug-breaking, P-C board rupturing and shorting. Kit consists of: Type 476 handle and 6-ft. cord; Type 4045 Super-Hi-Heat element; 3—cup-shaped tips to remove solder from circular multi-

lug components; 1—slotted tip to straighten leads and bent tabs, remove solder at same time; 1—bar tip to simultaneously melt solder on all multiple straight line network components. In lifetime metal case, 1 1/2 x 7 3/4 x 4 1/4". Wt., 1 1/4 lbs.

50 N 109, 1-5.....EACH 5.71  
6-11.....EACH 5.38 12-Up.....EACH 4.99



## STANDARD AND IMPERIAL IRON HOLDERS

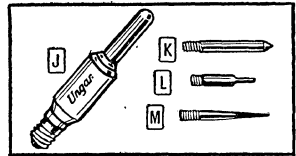
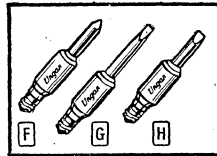
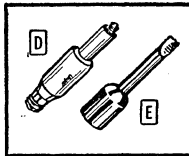
As low as \$1.20

TYPE 8000. For use with all irons on this page. Makes any soldering job safer. Wire-guard protects operator against "hot-tip" burns. Holder can be fastened to top, side or bottom of work bench, or fastened on wall. Angle is adjustable—may be positioned for easy, instant access to soldering iron. Shpg. wt., 8 oz.

47 N 024, 1-9.....EACH 1.57  
10-49...EA. 1.30 50-Up...EA. 1.20

TYPE 6800. As above, but for Ungar Imperial irons described on facing page. Shpg. wt., 8 oz.

50 N 702, 1-9.....EACH 1.57  
10-99...EA. 1.30 100-Up...EA. 1.20



## ELEMENT TIPS

Single-unit element-tips. All are designed for use with Ungar 776 handle and 260 pencil. Types 533, 536, 539 and 1233 are copper tips; 1236 and 1239 are silver-plated iron; 4033, 4036 and 4039 are iron-clad, silver-plated copper. Sizes: Types 1233 and 4033—1 5/8 x 1/4" tip; 1239, 4036 and 4039—1 1/8 x 3/8" tip; 536, 539 and 1236—1 1/8 x 5/16" tip; 533—1 5/8 x 3/16" tip. U.L. Listed. For 110-120 volts, AC or DC. Average shpg. wt., 2 oz.

### 23 1/2 WATTS—650-700° F. TIP TEMP.

Stock No.	Mfr's Type	Fig.	Description
50 N 400	533	G	Long Chisel
46 N 582	536	F	Pyramid
46 N 585	539	H	Chisel

1-9.....EACH 1.05  
10-49.....EACH .87  
50-Up.....EACH .80

### 37 1/2 WATTS—750-800° F. TIP TEMP.

Stock No.	Mfr's Type	Fig.	Description
50 N 401	1233	G	Long Chisel
46 N 592	1236	F	Pyramid
46 N 593	1239	H	Chisel

1-9.....EACH 1.22  
10-49.....EACH 1.03  
50-Up.....EACH .94

### 47 1/2 WATTS—850-1000° F. TIP TEMP.

Stock No.	Mfr's Type	Fig.	Description
46 N 647	4033	G	Long Chisel
46 N 648	4036	F	Pyramid
46 N 649	4039	H	Chisel

1-9.....EACH 2.35  
10-49.....EACH 1.95  
50-Up.....EACH 1.80

## J THREAD-IN ELEMENTS

Fit all Ungar Standard handles and 260 pencil. (Tiplets, below, thread into these elements.) Types 1235, 4035 and 4045 have nickel-plated steel shanks; 535 has nickel-plated iron shank. 535, 1235 and 4035 elements are for 300, PL-300 Series tiplets; 4045 for use with desoldering tips in No. 270 kit, above. U.L. Listed. For 110-120 v., AC or DC. Wt., 2 oz.

Stock No.	Mfr's Type	Watts	EACH		
			1-9	10-49	50-Up
46 N 605	535	23 1/2	1.05	.87	.80
46 N 609	1235	37 1/2	1.22	1.03	.94
46 N 622	4035	47 1/2	2.35	1.95	1.80
50 N 105	4045	47 1/2	2.35	1.95	1.80

## THREAD-IN TIPPLETS

PL-300 PLATED TIPLETS. For subminiature work. Thread into 535, 1235, 4035 elements, above. Silver-plated, iron-clad copper. 1/16" O.D., 1" long except PL-340—5/8" long, 3/16" point. PL-338 has 1/16" point. Wt., 2 oz.

Stock No.	Mfr's Type	Fig.	Description
46 N 495	PL-331	K	Pencil
50 N 101	PL-338	M	Tapered Needle
50 N 409	PL-340	L	Micro-Needle

1-9.....EACH .47  
10-49.....EACH .39  
50-Up.....EACH .36

TYPE 331. Same as PL-300 Series above but of unplated copper. Has pencil-type tip. Shpg. wt., 2 oz.

46 N 606, 1-9.....EACH .17  
10-49.....EACH .14  
50-Up.....EACH .12

## D THREAD-ON ELEMENTS

For heavy-duty industrial use. Element shanks are nickel-plated copper. Type 1237 delivers 750-800° F.; Type 4037 delivers 850-900° F. For use with "Mini-Tip", below. U.L. Listed. For 110-120 v., AC or DC. Av. shpg. wt., 2 oz.

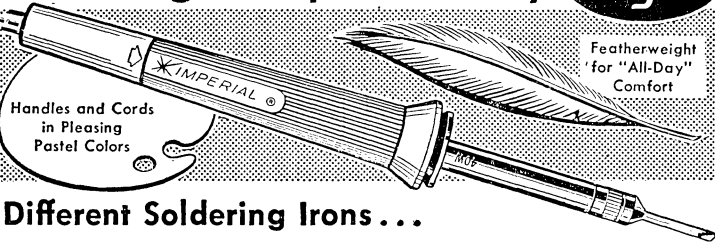
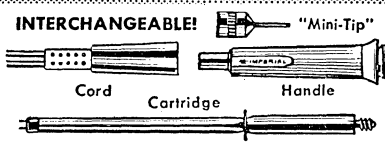
Stock No.	Type	Watts	EACH		
			1-9	10-49	50-Up
50 N 402	1237	37 1/2	1.39	1.16	1.06
50 N 403	4037	47 1/2	2.35	1.95	1.80

## E THREAD-ON "MINI-TIP"

TYPE PL-113. For use with thread-on elements above, only. Silver-plated iron-clad copper chisel-type tip. Size, 3/4 x 1/8" diameter. Shpg. wt., per 10, 4 oz.

50 N 405, 1-9.....EACH .59  
10-49.....EACH .49  
50-Up.....EACH .45

# IMPERIAL Soldering Components by Ungar



## You Can Assemble Many Different Soldering Irons ...

### FROM COMPONENTS SHOWN ON THIS PAGE

#### "PERMA-COOL" HANDLES

TYPE 6100. Slim, functionally-designed handles. Double cushion of air and five heat-transition surfaces keep handle cool and comfortable all day long. Polycarbonate resin, die-cast aluminum heat sink. 4.7" long; 0.8" dia. at grip. Weigh only 1 oz. For 115 v., AC-DC. U.L. Listed. Shpg. wt., 2 oz.

Stock No.	Color	EACH		
		1-9	10-99	100-Up
50 N 616	Beige	1.25	1.07	.96
50 N 617	Ivory	1.25	1.07	.96
50 N 618	Turquoise	1.25	1.07	.96

#### INTERCHANGEABLE CORD SETS

6-ft. long; color-matched to handles, above. \*With 2-wire plug; †with parallel ground plug. For 115 v., AC-DC. 3 oz.

Stock No.	Mfr's Type	Description	Color	EACH		
				1-9	10-99	100-Up
50 N 619	6102	*2-wire	Turquoise	1.25	1.07	.96
50 N 683	6102	*2-wire	Beige	1.25	1.07	.96
50 N 684	6102	*2-wire	Ivory	1.25	1.07	.96
50 N 620	6103	†3-wire	Turquoise	2.11	1.80	1.62
50 N 685	6103	†3-wire	Beige	2.11	1.80	1.62
50 N 686	6103	†3-wire	Ivory	2.11	1.80	1.62

### NEW! "MICRO-TIPS" and CARTRIDGE



TYPE 6206 15-WATT HEAT CARTRIDGE. Use with "Micro-Tips" below, only. 7 1/2" long. Wt., 1 oz. U.L. Listed. Shpg. wt. 2 oz.  
 51 N 294, 1-9 ..... EACH 3.21  
 10-99 ..... EACH 2.73 100-Up ..... EACH 2.46

"MICRO-TIPS". Use with 6206 cartridge above, only. Tips are iron clad, gold plated. U.L. Listed. Wt., 2 oz.

Stock No.	Mfr's Type	Description	Size	EACH		
				1-9	10-99	100-Up
51 N 295	6550	Tapered screwdriver	1/8x3/8"	.98	.84	.76
51 N 296	6551	Stepped spade	.040x3/8"	.98	.84	.76
51 N 297	6553	Stepped chisel	.040x3/8"	.98	.84	.76
51 N 298	6554	Stepped pencil	.040x3/8"	.98	.84	.76

### "LONG LIFE" HEAT CARTRIDGES

Sealed-element cartridges for use with "Mini-Tips", below. 7 1/2" long. Weigh 1.1 oz. U.L. Listed. Shpg. wt., 2 oz.

Stock No.	Type	Watts	1-9 EA.	10-99 EA.	100-Up EA.
50 N 622	6200	40	3.21	2.73	2.46
50 N 623	6201	30	3.21	2.73	2.46
50 N 624	6202	25	3.21	2.73	2.46

### 18 INTERCHANGEABLE THREAD-ON "MINI-TIPS"

\*In description column indicates 24-kt. gold-plated, iron-clad; †indicates tellurium copper. Micro-chisel and micro-spade "Mini-

Tips" are designed so that they may be bent to make offset tips. Av. shpg. wt., 3 oz.

Stock No.	Mfr's Type	Description	Size	EACH		
				1-9	10-99	100-Up
50 N 625	6304	*Micro-chisel	3/64x1/2"	.83	.71	.63
50 N 626	6305	*Micro-chisel	3/64x1/2"	.83	.71	.63
50 N 627	6312	†Pencil	1/8x3/4"	.31	.27	.24
50 N 628	6313	*Pencil	1/8x3/4"	.83	.71	.63
50 N 630	6316	*Pencil offset	1/8x3/4"	.83	.71	.63
50 N 631	6318	†Long taper chisel	1/8x3/4"	.31	.27	.24
50 N 632	6319	*Long taper chisel	1/8x3/4"	.83	.71	.63
50 N 633	6324	†Long taper pyramid	1/8x3/4"	.31	.27	.24
50 N 634	6325	*Long taper pyramid	1/8x3/4"	.83	.71	.63

Stock No.	Mfr's Type	Description	Size	EACH		
				1-9	10-99	100-Up
50 N 636	6331	*Screwdriver	1/8x3/4"	.83	.71	.63
50 N 637	6333	*Needle	1/8x3/4"	.83	.71	.63
50 N 639	6336	*Spade	1/8x3/4"	.83	.71	.63
50 N 641	6366	*Long taper chisel	3/16x3/4"	.98	.84	.76
50 N 645	6372	*Screwdriver	3/16x3/4"	.98	.84	.76
50 N 652	6390	*Screwdriver	3/16x1 1/2"	.98	.84	.76
50 N 658	6424	*Long taper chisel	1/4x3/4"	.98	.84	.76
50 N 662	6474	*Long taper chisel	3/8x3/4"	1.18	1.00	.90
50 N 981	6481	*Tapered screwdriver	3/4x3/32"	.83	.71	.63

## SOLDER POTS SPEED-UP PRODUCTION



**LECTROHM**

### ECONOMY SOLDER POTS

**\$649** • For Small Dip-Solder Jobs • Heating Elements are Replaceable

For tinning wires, leads, etc. Sizes: SP-200, 3/4x2 3/8" x 7/8" deep; SP-250, 3/4x2" x 1 1/4" deep. With cord. For 110 v., AC-DC. Indicates pot capacity. Av., 3 1/2 lbs.

Stock No.	Mfr's Type	Lbs.	Watts	EACH
46 N 880	SP-200	1 3/4	200	6.49
46 N 881	SP-250	2	250	6.49

REPLACEMENT ELEMENTS, Nickel-chrome. 3oz.  
 46 N 882, Type A, For SP-200 ..... 2.16  
 46 N 883, Type B, For SP-250 ..... 2.16

**NO. 12T—250 WATTS**

With Thermostat

**\$20<sup>95</sup>**

**NO. 70T—650 WATTS**

With Thermostat

**\$26<sup>95</sup>**

Ideal for individual dipping of small parts. Designed for continuous industrial use. Convenient, thin-lipped crucible. Thermostatic control maintains best operating temperatures for precision work. Temperature max., 650°F. Solder capacity, 3/4 lb. Inside dimensions: 1 1/2" deep, 1 1/8" dia. Shpg. wt., 6 lbs.  
 51 N 300 ..... 20.95

51 N 301, No. 12. As above, but 200 watts. Temp. max., 750° F. Less thermostat. Wt., 4 lbs. .... 9.40

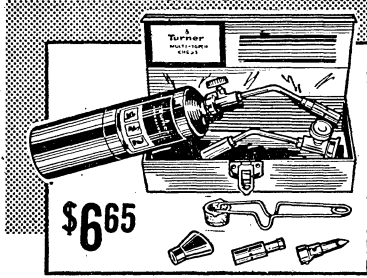
Large capacity industrial soldering pot. Perfect for multiple tinning, stripping and soldering of small parts. With thermostat for uniform heating. Temperature max., 650° F. Solder capacity, 9 lbs. Inside dimensions: 1 3/4" deep, 4 3/4" dia. For 110-120 v., AC. Shpg. wt., 8 lbs.  
 51 N 302 ..... 26.95

51 N 303, No. 70. As above, but 600 watts. Temp. max., 750° F. Higher heat, heat-drain capacity than above. (Less thermostat.) 6 3/4 lbs. .... 17.40



# Selected Torches and Soldering Accessories

## Turner



**\$665**

### TURNER GAS TORCH KIT

MODEL LP-99. Complete propane gas torch kit for soldering, heating, burning. All-brass torch has heavy-duty valve, drag spring on flame-control knob. Kit also includes: pencil-point burner; heavy-duty burner; brass flame-spreader; copper chisel-point solder tip; tank of fuel; spark lighter; steel carrying case, 3x10 1/4x6". Shpg. wt., 6 1/2 lbs. 50 N 081..... **6.65**

REPLACEMENT FUEL TANK. For LP-99, LP-1955. 5 lbs. 2 tanks per pkg. 50 N 082..... **PER PKG. 2.89**



Clips to Your Belt—Leaves Hands Free!

**\$865**

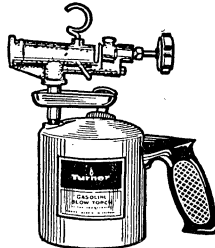
### FLEXI-HAND HOSE TORCH KIT

MODEL LP-1955. The handiest, most portable torch we offer. Simply clip the entire unit to your belt, and you have both hands free for carrying tools and equipment or for other work. Kit consists of: standard fuel tank; special clip assembly; 4-ft. hose with pistol-grip handle; and pencil-point burner assembly. Special pistol-grip handle offers a cool, comfortable grip. Long, 4-ft. flexible hose allows you to work in tight areas without trouble. Fuel tank is replaceable (see listing at left). Shpg. wt., 4 1/4 lbs. 51 NX 135..... **8.65**

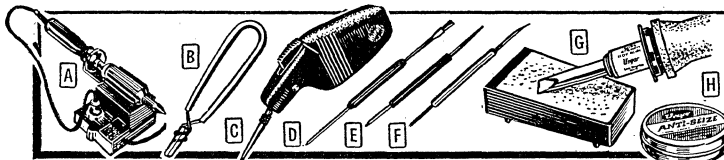
### ECONOMY PRICED GASOLINE BLOWTORCH

MODEL T-15A. An all-purpose torch at an economy price. Completely portable—can be used anywhere. Excellent for burning or melting, and as an aid in scraping. Seamless steel tank is turnace brazed, sprayed bronze. Durable cast bronze burner. Oversized drip-cup for quick generation. Comfortable pistol-grip handle provides well-balanced grip. Valve wheel stays cool. Detachable "backStop" cleaning needle for safe and simplified automatic adjustment and orifice cleaning. Torch holds 1 quart of gasoline. Shpg. wt., 4 lbs. 51 NX 134..... **8.95**

Gasoline Operated  
**\$895**



### SOLDERING AIDS AND TOOLS SPEED-UP PRODUCTION



#### AMERICAN BEAUTY STAND

**A** MODEL 475. Thermostatically-controlled. Maintains iron temperature, eliminates tip burning. Plastic body, copper cradle, heater cord, AC outlet. For 100-660 watt irons up to 240 v. AC. 2 1/2 lbs. 46 N 658..... **8.40**

#### G-C MODEL 9077 HEAT SINK

**B** Protects small parts from heat of soldering iron. Made of aluminum—solder will not stick. Self-closing—frees hands for easier soldering. Wt., 3 oz. 49 N 377..... **.35**

#### KORMAT SOLDER-DISPENSER

**C** Helps increase production efficiency. Prevents finger burns and other soldering hazards. Slide-button feeds solder through probe. Accepts all solder sizes from .028" to .074". Dispenser reloads in just 30 seconds. Has 7" alloy handle. Shpg. wt., 4 oz. 50 N 459..... **4.49**

#### G-C SOLDERING AIDS

**D** MODEL 9088. Wire brush and chrome-tipped holding end. 4 oz. 42 N 001..... **.98**

#### G-C SOLDERING AIDS (Cont'd)

**E** MODEL 9075 STRAIGHT END-TOOL. Double ends ream, hold or pry. Chromed steel. Shpg. wt., 4 oz. 49 N 358..... **.68**

**F** MODEL 9076 ANGLE END TOOL. Above, with angled end. 4 oz. 49 N 359..... **.68**

#### UNGAR SOLDERING AIDS

**G** NO. 400 "KLEEN-TIP" KIT. Removes oxides and excess solder. Includes sponge, tray and bracket. Wt., 2 oz. 50 N 421. 1-9..... **EACH .98**  
100-99..... **EACH .81**  
100-Up..... **EACH .75**

NO. 455 REFILL SPONGES. For "Kleen-Tip" kit, above. Wt., 2 oz. 50 N 422. 1-9..... **EACH .39**  
100-99..... **EACH .33**  
100-Up..... **EACH .30**

**H** ANTI-SEIZE COMPOUND. Lubricates tip threads, reduces seizure and corrosion. 2 oz. can. Wt., 3 oz. 47 N 025. 1-9..... **EACH .54**  
100-99..... **EACH .45**  
100-Up..... **EACH .42**

### ERSIN "MULTICORE" SOLDERS



"MULTICORE." 5-core solder. Non-corrosive Ersin flux; 40% tin, 60% lead. In 16-gauge (.064"), and 18-gauge (.048") 1 lb. spools. From Great Britain. Shpg. wt., 1 1/2 lbs.

Stock No.	Gauge	PER SPOOL	
		1-27	28-Up
46 N 991	16	1.45	1.30
50 N 313	18	1.48	1.33

PURE TIN/LEAD SOLDER. Non-corrosive Ersin flux. 60% tin and 40% lead.

Stock No.	Gauge	Spool Wt.	Shpg. Wt.	EACH
49 N 369	16	7 lbs.	8 1/2 lbs.	14.21
49 N 370	18	1 lb.	1 3/4 lbs.	2.12
49 N 371	18	7 lbs.	8 1/2 lbs.	14.56
49 N 372	20	1 lb.	1 3/4 lbs.	2.28
49 N 376	20	7 lbs.	8 1/2 lbs.	15.68

"SAVEBIT." High-strength copper-tin-lead alloy solder. Has greater strength than tin-lead solders.

Stock No.	Gauge	Spool Wt.	Shpg. Wt.	EACH
50 N 124	16	7 lbs.	8 1/2 lbs.	12.32
47 N 056	18	1 lb.	1 3/4 lbs.	1.81
47 N 057	20	1 lb.	1 3/4 lbs.	2.03

SPECIAL ALLOY INDUSTRIAL SOLDERS. Low-melting-point type is 62% tin, 36% lead, 2% silver. Melts at 354°F. Comsol high-melting-point type is 5% tin, 93.5% lead, 1.5% silver. Melts at 565°F. Eutectic 63/37 alloy has no plastic range. Melts at 361°F. Shpg. wt., 1-lb. spool, 1 3/4 lbs.; 28-lb. carton, 32 lbs.

Stock No.	Type	Gauge	PER SPOOL	
			1-27	23-Up
51 N 000	L.M.P.	16	3.40	3.06
51 N 001	L.M.P.	18	3.94	3.55
51 N 002	L.M.P.	22	4.86	4.38
51 N 003	Comsol	16	2.39	2.15
51 N 004	Comsol	18	2.43	2.19
51 N 005	Eutectic	16	2.71	2.44
51 N 006	Eutectic	18	2.76	2.48
51 N 007	Eutectic	20	2.84	2.56

### KESTER SOLDERS



"RESIN FIVE" CORE SOLDER. Features non-corrosive and non-conductive "Resin 5" flux. Coil, 1/16" dia; spool, 3/32" dia. 40% tin, 60% lead; \*60% tin, 40% lead.

Stock No.	Size	Spool Wt.	Shpg. Wt.	EACH
46 N 916	3/32"	1 lb.	1 1/4 lbs.	1.19
50 N 311	1/16"	5 lbs.	5 1/4 lbs.	7.99

PRINTED-CIRCUIT SOLDER. 60% tin, 40% lead, 1/16" dia. 1 1/4 lbs. 46 N 926. 1-lb. Spool..... **1.63**

ROSIN-CORE SOLDER. Plastic rosin. 3/32" for general-purpose work; 1/16" for delicate. 40% tin, 60% lead; \*50-50.

Stock No.	Size	Spool Wt.	Shpg. Wt.	EACH
46 N 930	1/16"	1 lb.	1 1/4 lbs.	1.21
46 N 931	1/16"	5 lbs.	5 1/4 lbs.	5.88
46 N 919	1/16"	1 lb.	1 1/4 lbs.	1.41
46 N 939	1/16"	5 lbs.	5 1/4 lbs.	6.86

ACID-CORE SOLDER. For non-electrical soldering. 1/8" dia. 40% tin, 60% lead 46 N 906. 1-lb. Spool..... **1.19**

SOLDERING PASTE. Distributes flux for easier soldering. 2 oz. cans. 5 oz. 46 N 915. 1-9..... **EACH .15**  
10-Up..... **EACH .12**

# Power Cutting-Tools for Light or Heavy Work

## A SKIL MODEL 566 PROFESSIONAL-QUALITY NIBBLER

Cuts fast—40" of 18-gauge in 1 minute. Cuts smooth—no curling or bending of either cut edge. Makes straight, curved, template or pattern cuts in corrugated and other metals. Inside cuts from any 1/2" dia. starting hole. Has built-in clip ejector; long-lasting carbide punch; 3-amp motor; 1 needle; and self-lubricating bearings. 750 strokes per minute, no-load speed. U.L. Listed. For 115 volts, 60 cycle AC. Shpg. wt., 6 1/2 lbs.

50 N 980..... 49.50

51 N 008, Extra Cutter. Wt., 8 oz..... 7.50

## B SKIL MODEL 537 DELUXE 7 1/4" CIRCULAR SAW

Moderately priced 7 1/4" saw with 10-amp motor that develops 1 1/2 hp. Handles even toughest rip-cuts. Has all the top SKIL features: anti-kickback clutch; sawdust blower; blade lock; easy-setting depth control; etc. Cuts vertically from 1/16" to 2 3/4"; max. depth of cut at 45°; 1 7/8". No-load speed, 5150 rpm. 12" long. With combination blade, wrench, 3-wire cord and plug, 2-prong adapter. U.L. Listed. For 110-120 v., AC-DC. 17 lbs.

50 NX 486..... 49.95

## C SKIL MODEL 536 6 1/2" CIRCULAR SAW

Economy model—tops for the shop, or construction site. 9-amp, 1-hp motor. Makes vertical cuts from 1/16" to 2 3/4" at 90°; 1 3/4" at 45°. Has safety clutch, depth/angle controls, blower, bind-free lower blade guard. No-load speed, 6300 rpm. 9 1/2" long. With comb. blade, wrench; 3-wire cord, 2-prong adapter. U.L. Listed. For 110-120 v., AC-DC. 12 lbs.

50 NX 534..... 38.95

## D SKIL 577 "RECIPRO-SAW" WITH 3 BLADES

A new power-saw concept. Cuts anything—6" logs to thin plastic sheeting. Makes rip, miter, bevel, straight, flush cuts. Has double-reduction gears, adjustable foot, 3-position side handle. 3-amp motor gives 2000—34" strokes per minute. 11 3/4" long. With 3 blades (1—Type 25922, 1—Type 20538, 1—Type 20541, described below); 3-wire cord, plug; 2-prong adapter. U.L. Listed. For 110-120 v., AC or DC. Wt., 6 1/2 lbs.

50 NX 789..... 36.95

### ACCESSORY BLADES FOR SKIL 577 SAW

50 N 790. Type 23608 6" Metal Cutting Blade. 2 oz..... 67

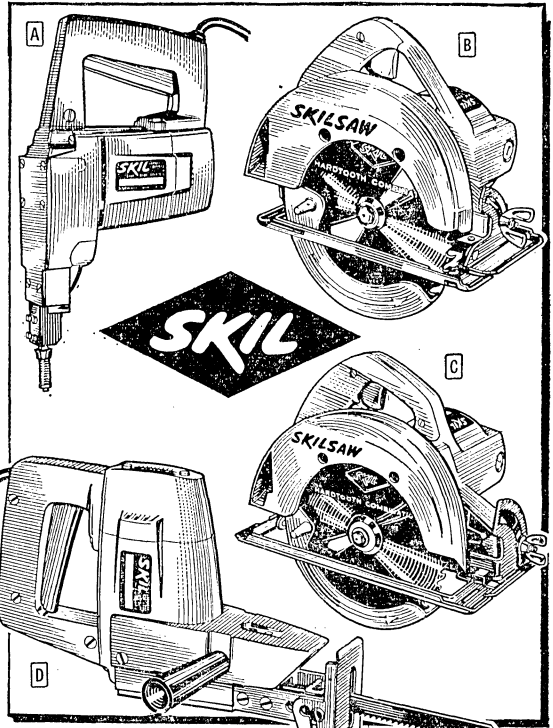
50 N 793. Type 23606 6" Plaster Cutting Blade. 2 oz..... 27

50 N 795. Type 20538 4" Wood Scroll Blade. 1 oz..... 60

50 N 796. Type 20541 4" Multi-Purpose Blade. For fast roughing-in cuts in wood with nails, soft metals, etc. 1 oz..... 20

50 N 797. Type 20543 12" Multi-Purpose Blade. 2 oz..... 47

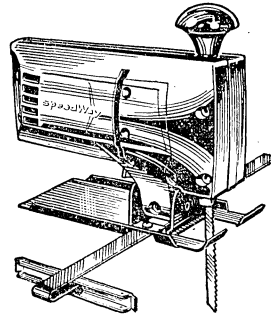
50 N 875. Type 25922 9" Wood Cutting Blade. Special design for heavy wood cutting. 3 oz..... 73



## THOR-SPEEDWAY

### MODEL 805 JIG SAW

**\$14.95** • Burnout-Proof  
• Cuts Up to 2" Wood, 1/2" Steel



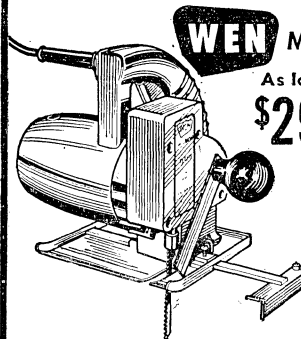
Powerful 3-amp motor with no-load speed of 3000—5/8" strokes per minute. Burn-out proof, too. Uses helical-cut steel gears. Cuts up to 2" in soft wood; 1/2" in steel. Adjustable plate for cutting 45° angles on either side; also curves, scrolls, circles, straight cuts and rips. Self-oiling, bronze alloy bearings. With

2 wood-cutting blades; 1 metal-cutting blade; wrench; rip fence; circle cutter; and saw guiding handle. U.L. Listed. For operation from 110-120 volts, AC or DC. Shpg. wt., 5 lbs.

50 N 830..... 14.95

## WEN MODEL 909 "ALL SAW"

As low as **\$29.37** • For Straight and Fancy Work  
• Cuts Almost Anything



Capable of producing a multitude of precision cuts. For straight cuts, arcs, circles, fine-pattern work in bakelite, wood, metal, tile, etc. Cuts 1/2" metals, 6" wood; 90° cuts in 6x6's; 45° cuts in 4x4's. Makes inside cuts, 1/2-hp, 6-amp motor has olive bearings, hardened gears. 3400—1/4" strokes per minute. Sawdust blower; ripguide, 3-wire cord, 2-prong adapter. 7 1/2x7x8".

U.L. Listed. For 110-120 v., AC-DC. 8 1/4 lbs.

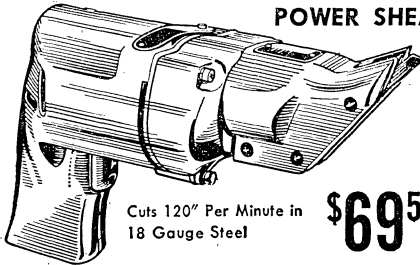
50 N 236, 1-2" EACH 32.88 3-Up EACH 29.37

50 N 237, Model 900 Replacement Blade Set. For Model 909, above.

7 assorted blades. Wt., 1/2 lb..... 2.50

**NEW!**

## Burke-Docken POWER SHEAR



Cuts 120" Per Minute in 18 Gauge Steel **\$69.50**

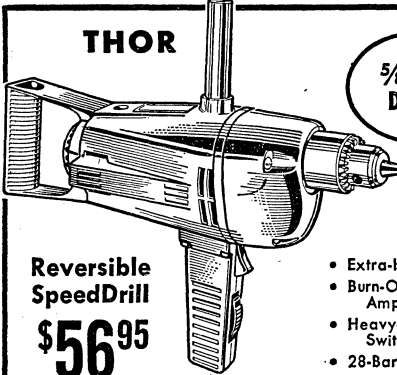
### BURKE-DOCKEN 002B POWER SHEARS.

- No Edge Distortion
- Makes Straight or Contour Cuts

Fast, safe, easy to maneuver. New power shear easily cuts steel, aluminum, brass, copper, fiberglass, formica, laminated plastics—virtually anything. Makes straight or contour cuts, and inside cuts from a 3/8" starting hole. Excellent for use in metal-working shops, aircraft and marine maintenance, air conditioning and auto shops. Long life, easily removable blades may be resharpened. No-load speed, 2200 strokes per minute. Powerful 3-amp, burn-out proof motor. Shears feature ball bearings in motor and spindle, needle bearing on blade driving eccentric; externally accessible brushes for quick inspection and change; and 22-bar commutator. Designed for unusually cool operation. Double-reduction gears are heat-treated alloy steel. With blades; 10-ft. 3-wire cord and plug. U.L. Listed. For 110-120 v., AC or DC. 5 lbs.

51 NX 130..... 69.50

# THOR Industrial Drills and Grinders



**THOR**

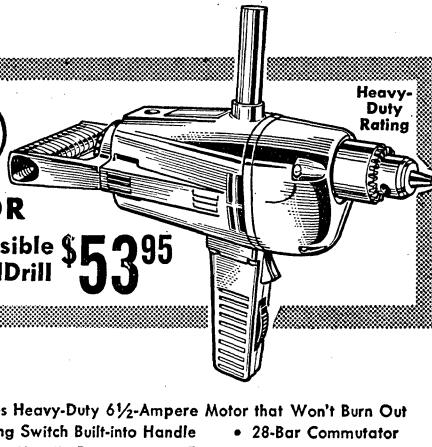
**5/8-INCH DRILLS**

**Reversible Speed Drill \$56<sup>95</sup>**

- Extra-Heavy-Duty
- Burn-Out Proof 6 1/2-Ampere Motor
- Heavy-Duty Reverse Switch in Handle
- 28-Bar Commutator

**NEW MODEL 1440R REVERSIBLE 5/8" SPEEDDRILL.** For Extra-heavy-duty industrial applications. Has rugged ball and needle bearings plus all-steel precision hobbled gears for smoothest, most powerful and dependable operation. Capacity: 5/8" dia. in steel; 1 1/2" in hardwood. No-load speed, 400 rpm; full-load speed, 260 rpm. Balanced die-cast aluminum housing. End-grip handle rotates—end and top handles remove. Has reversing switch, safety lock, quick release. 11 1/4" long, less handle. 6-ft. 3-wire cord; geared chuck, key, U.L. and C.S.A. Listed. Industrially rated. For 110-120 v., AC or DC. Shpg. wt., 13 lbs.

51 NX 160.....**56.95**  
51 NX 161. Model 1440. As above, less reverse.....**54.95**



**5/2-INCH DRILLS**

**THOR**

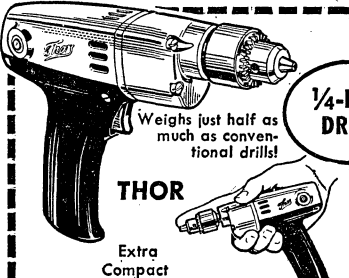
**Reversible Speed Drill \$53<sup>95</sup>**

**Heavy-Duty Rating**

- Features Heavy-Duty 6 1/2-Ampere Motor that Won't Burn Out
- Reversing Switch Built-into Handle
- 28-Bar Commutator
- End-Grip Handle Rotates
- End and Top Handles Remove

**MODEL 1435R REVERSIBLE 1/2" SPEEDDRILL.** U.L. and C.S.A. Listed for heavy-duty industrial applications. A real hard-worker at a moderate price. All ball and needle bearings plus precision all-steel hobbled gears for smooth, dependable operation. Drilling capacity: 1/2" dia. in steel; 1 1/4" in hardwood. No-load speed, 550 rpm; full-load speed, 400 rpm. End-grip handle rotates to any position—removes easily for close-quarter work. Threaded top-handle unscrews quickly. Oversize switch with safety locking pin, quick release. Reverse switch built into handle for easy access. Polished aluminum housing. Length, less end handle, 11 1/4". With 6-ft. 3-wire cord, geared chuck and key. For 110-120 v., AC or DC. Shpg. wt., 12 lbs.

50 NX 870.....**53.95**  
50 NX 871. Model 1435. As above, less reverse feature.....**49.95**



**THOR**

**1/4-INCH DRILLS**

Weights just half as much as conventional drills!

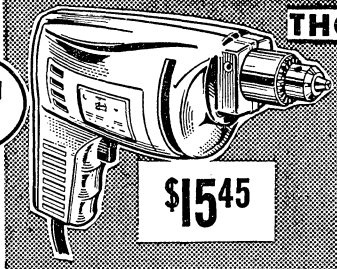
**Extra Compact**

**\$32<sup>50</sup>**

- Burn-Out-Proof Armature
- Permanent Magnet Stator
- Diode-Circuit Motor

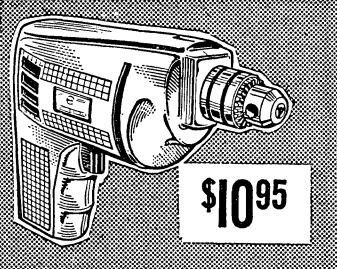
**MODEL E-100.** Palm-size, high-torque drill features 18-bar commutator; double-reduction gears; ball bearing motor; ball bearing on spindle. Drills 1/4" dia. in steel, 1/2" in hardwood. No-load speed, 1250 rpm; full load, 900 rpm. With 6-ft. 3-wire cord and plug. Only 6 7/8" long. For 115 v., 25-60 cycle AC. Shpg. wt., 3 lbs.

50 N 978.....**32.50**



**THOR**

**\$15<sup>45</sup>**



**\$10<sup>95</sup>**

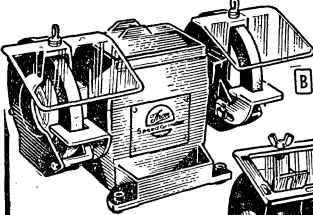
**MODEL 522 1/4" DRILL.** Perfectly balanced, rugged-duty 1/4" drill for all around use. Features 2 1/2-amp, burn-out proof motor; 22-bar commutator for plenty of power; heavy-duty bronze alloy ball bearing on spindle; sturdy die-cast, polished aluminum housing. Drills 1/4" dia. in steel; 1/2" dia. in hardwood. No-load speed, 2400 rpm; full-load speed, 1500 rpm. Easy-action trigger switch with locking pin, quick release. 6-ft. 3-wire cord; geared chuck and key. 7 3/8" long. Industrially rated by U.L. For 110-120 v., 60 cycle AC. Shpg. wt., 4 1/2 lbs.

51 N 159.....**15.45**

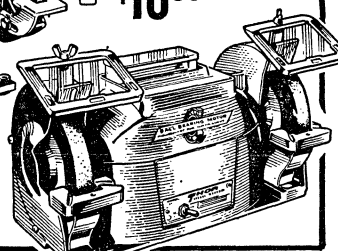
**MODEL 20 LOW-COST 1/4" DRILL.** Outstanding value in a highly-efficient 1/4" power drill. Ideal for shop, garage, farm. Husky 2 1/2-amp burn-out proof motor; 11-bar commutator; self-aligning ball-thrust bearing; die-cast aluminum housing. Drills 1/4" dia. in steel; 1/2" dia. in hardwood. No-load speed, 2400 rpm; full load, 1500 rpm. Momentary-contact trigger switch with locking pin, quick release. Overall length, 9". 6-ft. 3-wire cord and 3-prong plug; geared chuck and key. U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 3 1/2 lbs.

50 N 538.....**10.95**

## RUGGED, HIGH-QUALITY "SPEEDGRINDERS" by THOR



**\$16<sup>95</sup>**



**\$37<sup>95</sup>**

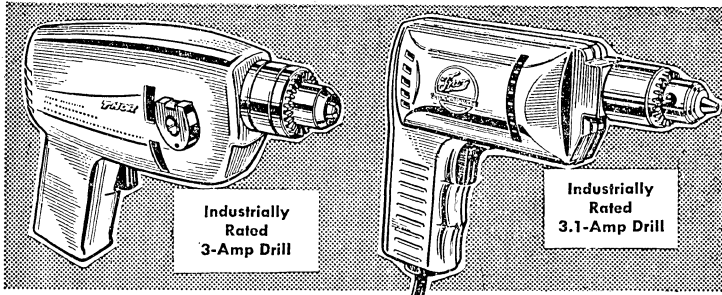
**A MODEL 1308 DELUXE BENCH GRINDER.** For heaviest jobs. Full 1/2-hp, ball-bearing motor won't burn out—produces 3450 rpm no-load speed. Offers removable plastic quench tray; die-cast tool-rests with angle guides; parts tray; reinforced eye shields; adjustable spark arresters. Die-cast aluminum alloy housing. With 2 grinding wheels (46- and 75-grit), 6x3/4", 1/2" holes, 16" long. 3-conductor cord. Industrially rated by U.L. For 110-120 v., 60 cycle AC. Shpg. wt., 27 lbs.

50 NU 868.....**37.95**

**B MODEL 118B LOW-COST BENCH GRINDER.** For light- to medium-duty use. Burn-out proof motor—no-load speed, 3450 rpm. Has sturdy, lightweight aluminum housing; water-cooling tray; tool rests; dust shields; eye shields. With 2 grinding wheels (40- and 70-grit), 4 1/2x1/2", 3/8" holes; 6-ft., 3-conductor cord. 9 1/4" long. Industrially rated by U.L. For operation from 110-120 volts, 60 cycle AC. Shpg. wt., 7 3/4 lbs.

50 NX 850.....**16.95**

# Selected Heavy-Duty Power Tools for Industry



## HEAVY-DUTY BIG-JOB 3/8" DRILLS AT UNUSUALLY LOW PRICES

**\$13<sup>95</sup>**

- Motor Won't Burn Out
- Adjustable "Speed Sight"
- 11-Bar Commutator

**THOR-SPEEDWAY 813SS 3/8" DRILL.** Industry rated by U.L. and suitable for many jobs. Features the "Speed Sight" for positive, errorless all-angle drilling. Just set the angle, level the bubble and drill through walls for TV, electrical or telephone wiring—splendid for boat construction, carpentry and masonry work as well.

Powerful 3-amp motor with 11-bar commutator is burn-out proof. Has special alloy self-oiling bronze bearings. Drills 3/8" diameter in steel; 1" in hardwood. No-load speed, 1750 rpm; full-load speed, 1150 rpm.

Gear-type chuck holds tight—no bit-slippage. Trigger switch has locking pin for continuous operation, quick release. Lightweight, rugged aluminum housing. 8 1/4" long. With 6-ft., 3-wire grounding-type cord; chuck key, U.L. Listed. For 110-120 volts, 60 cycle AC. Shpg. wt., 5 lbs. 51 N 163..... **13.95**

**\$22<sup>95</sup>**

- Motor is Burn-Out Proof
- With 22-Bar Commutator
- Heavy-Duty Ball Bearing

**THOR MODEL 533 3/8" DRILL.** Looks, acts and performs like far higher priced models. Ideal for commercial work—great for heavy-duty farm and shop use. An excellent buy at this low price.

Big-job-size 3.1-amp motor with balanced armature and 22-bar commutator is extra powerful, and burn-out-proof. Has heavy-duty thrust and spindle ball bearings. Drills 3/8" diameter in steel, 3/4" diameter in hardwood. No-load speed, 950 rpm; full-load speed, 610 rpm.

All-steel precision hobbled gears. 3-jaw precision geared chuck holds bit tight. Momentary-contact trigger switch with locking pin for continuous operation—quick release. Glistening "hi-polish" aluminum die-cast housing. 8 1/2" long. With 6-ft. 3-conductor cord, 3-prong plug; chuck key, U.L. Listed. For 110-120 v., AC-DC. Wt., 5 lbs. 51 N 178..... **22.95**



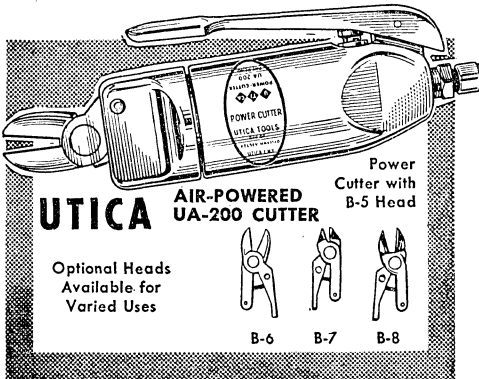
- 3-Amp Motor with Oversize Cooling Fan for Prolonged Operation
- Double-Reduction High-Torque Gears
- Side Handle Removes for Close Work

**SKIL MODEL 560 3/8" DRILL.** Deluxe quality—extra rugged and reliable. Versatile, too—excellent for working with wood augers or operating hole-saws as well as for normal drilling jobs.

Heavy-duty 3-amp motor gives plenty of power for big jobs. Oversize fan keeps drill cool-running even for prolonged periods. Smooth-action, precision ball bearing on spindle. Drills 3/8" diameter in steel, 3/4" in hardwood. No-load speed, 1000 rpm; full-load speed 600 rpm.

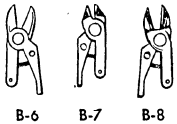
Trigger switch, lock pin—quick release. Aluminum housing, 9 3/4" long. 6-ft. 3-wire cord, plug, 2-prong adapter. U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. wt., 4 1/4 lbs. 50 N 542..... **24.47**

## UTICA and MILLERS FALLS SPECIAL POWER TOOLS



### UTICA AIR-POWERED UA-200 CUTTER

Optional Heads Available for Varied Uses



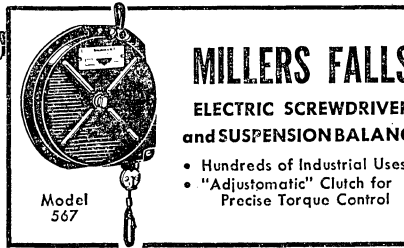
**MODEL UA-200 POWER CUTTER.** Air-activated (90 P.S.I.) with B-5 standard-edge diagonal head for cutting up to No. 10 gauge or cut and crimp up to No. 16 gauge soft copper wire. Cuts plastics, copper, and non-ferrous metals when used with 3 heads, below. With 8-ft. air hose; plastic air cylinder. 6x1/2". Wt., 1/2 lb. 51 N 012..... **74.50**

**B-5 Cutter Head Alone.** Shpg. wt., 2 oz. 51 N 030..... **8.50**

**B-6 Cutter Head.** Hairline, flush-edge diagonal cutter head. For most non-ferrous metals. Wt., 2 oz. 51 N 013..... **8.50**

**B-7 Cutter Head.** Cutter-crimper head. Suitable for use with printed circuits. Shpg. wt., 2 oz. 51 N 014..... **8.50**

**B-8 Cutter Head.** Diagonal cutting head for use with plastics only. Shpg. wt., 2 oz. 51 N 015..... **8.50**

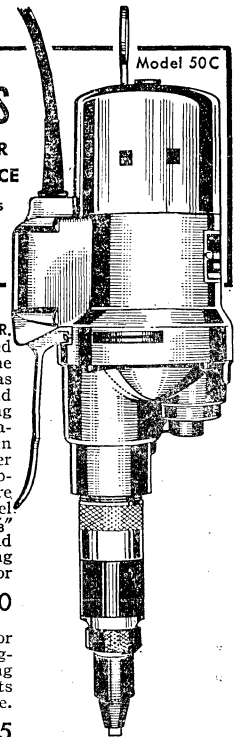


### MILLERS FALLS ELECTRIC SCREWDRIVER and SUSPENSION BALANCE

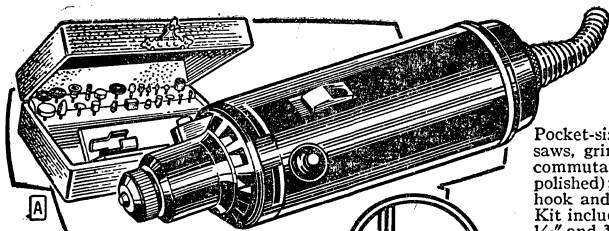
- Hundreds of Industrial Uses
- "Adjustomatic" Clutch for Precise Torque Control

**MODEL 50C REVERSIBLE ELECTRIC SCREWDRIVER.** Power-to-spare, sensitive torque-control and rugged dependability—respected on production lines the world over. Handles tiny, delicate assemblies as well as high-torque requirements of #12 wood and 1/4" machine screws. Features: unique rocker ring construction for extra-long brush life; special armature for long-lasting, dependable service; built-in reverse switch; interchangeable paddle and trigger switch levers; quick-change chuck; "Adjustomatic" clutch with heavy-duty spring; armature and spindle ball bearings; heat-treated alloy steel gears. Enameled cast aluminum housing, 10 5/8" long. No-load speed, 800 rpm. With 3/4" bit and sleeve for nos. 6, 8, 10 screws, clutch adjusting spanner. U.L. Listed. Rated 1.7 amps at 115 v. For 115 v., 60 cycle AC. Shpg. wt., 6 lbs. 51 N 261..... **96.50**

**MODEL 567 SUSPENSION BALANCE.** Perfect for Model 50 above—reduces operator fatigue. Spring-action brings screwdriver quickly into operating position—returns it securely overhead. Supports up to 10 lbs. 6-ft. nylon-covered wire-roped cable. Tension adjustment. 10 1/4 x 8 1/4". Wt., 8 lbs. 51 N 262..... **29.95**



# Famous-Name Power Tools and Kits for Shop

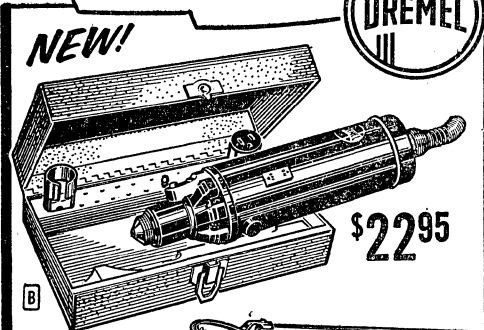


**A DREMEL MODEL 2 MOTO-TOOL KIT**  
**\$22<sup>95</sup>**

- For All Medium-Duty Applications
- Lightweight—Easy to Handle
- Portable—Take Moto-Tool to the Job
- Complete Kit Has Hundreds of Uses

Pocket-size precision "machine shop." Engraves, routs, sands, polishes, saws, grinds, drills, etc. Features oil-less, sealed bearing; heavy-duty commutator brushes; oversize armature shaft (hardened, ground, polished); shock-proof bakelite housing; on-off slide switch; hanger hook and cord protector; instant-action wrenchless chuck;  $\frac{1}{8}$ " collet. Kit includes: Model 221, 27,000 rpm Moto-Tool; 2 additional collets— $\frac{1}{16}$ " and  $\frac{3}{32}$ "; finger grip; 4 emery wheel points; dressing stone; 8 steel cutters and steel saw; 5 bristle brushes; 1 steel brush; shoulder mandrel with sanding disc; screw mandrel with felt wheel; drum sander; carrying case. With 3-wire cord, plug; 2-prong adapter. U.L. Listed. For 110-120 v., 60 cycle AC or DC. 4 lbs.

46 N 378.....22.95  
 50 N 598, Model 221 Moto-Tool Alone.....15.75

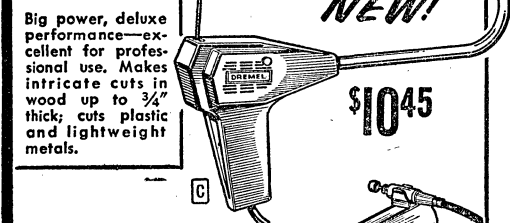


**\$22<sup>95</sup>**

**B NEW DREMEL MODEL 3 HEAVY-DUTY MOTO-TOOL**

Specially made for industry... sets a new standard for power and high torque in a compact, lightweight electric tool. Just as handy and just as easy to use as the popular No. 2 (above). But it's greater torque covers a wider range of industrial operations including: polishing; grinding of dies and molds; pattern making; industrial model building; and production deburring. Lightweight, too (only 18 oz.) for non-tiring operation. Develops 27,000 rpm and sustains high torque under load. High-velocity fan prevents motor overheating. Dynamic balancing assures vibration-free, precision grinding—holds close tolerances. Quick-action type chuck accommodated  $\frac{1}{16}$ ",  $\frac{3}{32}$ " and  $\frac{1}{8}$ " collets. With hanging bracket and wire cord-protector. Shockproof bakelite housing. Size,  $1\frac{1}{16}$ " dia. by  $7\frac{1}{2}$ " long. Model 232 Moto-Tool includes 3-conductor cord; 2 prong adapter; finger grip;  $\frac{1}{8}$ " and  $\frac{3}{32}$ " collets; sturdy steel case. U.L. Approved. For 110-120 v., AC or DC. Wt., 4 lbs.

51 N 265.....22.95



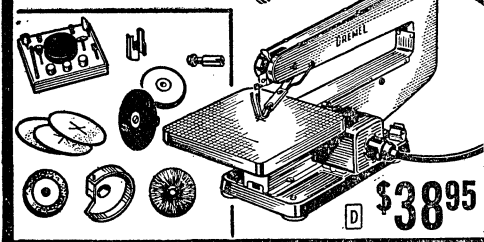
**\$10<sup>45</sup>**

**C NEW DREMEL MODEL 501 ELECTRIC SCROLL SAW**

The latest innovation in "free hand" cutting saws. Easily cuts intricate scroll work... saws wood up to  $\frac{3}{4}$ " thick; asphalt, rubber and plastic floor or wall tiles; aluminum and light metals. Indispensable for carpenters and craftsmen. High-speed reciprocating motor produces 7200 strokes per minute. 4-way blade holder permits cutting in any direction—no limit to length of stock it will cut. Deep  $9\frac{1}{2}$ " throat. Pistol grip with trigger switch. Shatterproof nylon housing, chrome-plated tubular saw frame.  $8\frac{1}{2} \times 10\frac{3}{4}$ " long. 6' 3-wire cord, 2-prong adapter, 7 blades. For 110-120 v., 60 cycle AC. Shpg. wt., 3 lbs.

51 N 127.....10.45

51 N 128, Package of 12 Replacement Blades, 1 lb.....4.9

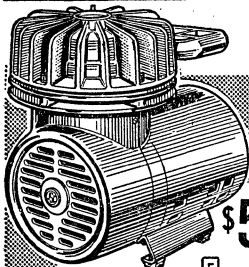


**\$38<sup>95</sup>**

**D DREMEL MODEL 572 DELUXE MOTO-SHOP KIT**

Top-performing, multiple-use industrial tool kit. Features jig saw with 15" throat—cuts to center of a 30" circle. Power takeoff and disc sander attachment. Handles all jobs around the shop. Rocker-action saw has tilting table, 3450-rpm ball-bearing rotary motor, blade guard. Flexible shaft, with light-weight handpiece, drives accessories; accepts  $\frac{1}{8}$ ",  $\frac{1}{16}$ " and  $\frac{3}{32}$ " collets. Complete with: jig saw with 4 saw blades; rubber backing pad and adapter; 3 sanding discs; grinding wheel; cloth buffing wheel; wire brush wheel; wheel guard; polishing-compound stick; and 12-piece set of abrasive wheels, collet adapters, router, brush and drill. An extremely versatile outfit. U.L. Listed. For 110-120 v., 60 cycle AC. Shpg. w 17 lbs.

46 NX 952.....38.95



**\$59<sup>65</sup>**

## SPRAY OUTFITS FOR SHOP

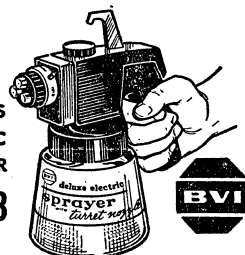
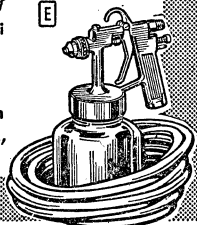
**E JOHNSON "POWER AIRE" OUTFIT**

Superbly engineered compressor unit designed for the limited compressed-air user. Small in size, but outstanding in performance. The "Power Aire" can: spray an oil base paint on a 100 sq. ft. surface in just 4 minutes, 12 seconds; inflate a 6.00x 16 auto tire from 1 to 30 lbs. in 30 seconds; inflate a farm tractor tire, 7.50x20, from 0 to 55 lbs. in  $3\frac{1}{2}$  minutes; develop a vacuum sufficient to act as an emergency milk or vacuum pump. Handles all paints including heavy house and barn paint, porch and deck enamel. Features: 1725 rpm,  $\frac{1}{2}$  hp split-phase ball-bearing motor; die-cast aluminum piston with molded Buna-N, nylon-reinforced air seal; heavy-duty, lifetime sealed ball bearings. Delivers 1.8 cfm at 50 psi (50 psi guaranteed by mfr.). With spray gun; fan nozzle; carrying handle; heavily insulated cord and plug; 15' air hose; tire chuck; fittings. For 110-120 v., 60 cycle AC. Shpg. wt., 30 lbs.

51 NU 129.....59.65

$\frac{1}{2}$ -hp, 50 psi  
 Portable  
 Compressor

Spray Gun  
 with Fan  
 Nozzle, 15'  
 Air Hose



**BURGESS  
 ELECTRIC  
 SPRAYER  
 \$14<sup>63</sup>**

MODEL VS-850. Deluxe unit with 3 sapphire nozzles on a rotating turret. Sprays paint, varnish, enamel, light oils, etc. Handy "dial-a-spray" produces fan-shaped spray for walls, floors; round spray for furniture, etc.; fogger for garden sprays, insecticides. Trouble-free and easy to clean. Reciprocating motor is housed in shockproof head. With 24-oz. container and 8-ft. cord. For 110-120 v., 50-60 cycle AC. 4 lbs.

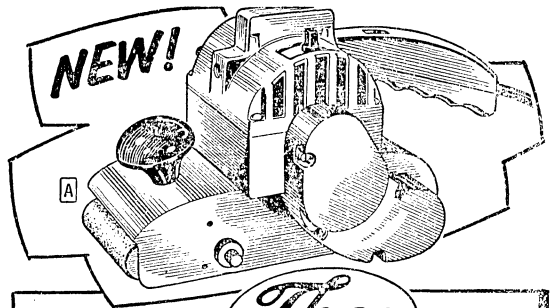
50 N 584.....14.63  
 50 N 502, Extra Container,  $\frac{1}{2}$  lb.....1.12

# and Industrial Use

## A ALL-NEW THOR VARIABLE SPEED BELT-SANDER

- Famous "Thermoweld" Motor—Won't Burn Out
- Variable Speed Control • Powerful Gear Drive
- 2-Position Auxiliary Knob • Open-Grip Handle
- Belt Adjustment • Heavy-Duty Slide Switch

**\$32<sup>95</sup>**



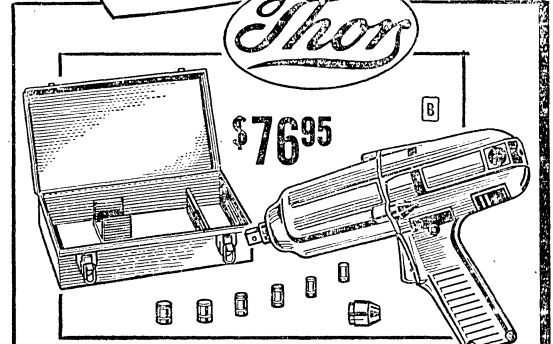
**MODEL 555—INDUSTRIALLY RATED BY U.I.** Powerful performer at an unusually low price. Built for fast removal of paint and varnish, extra-fine-finish sanding, cabinet work, etc. Highly-polished cast aluminum housing is lightweight to reduce operator fatigue. 2-position auxiliary knob in front and open grip handle with heavy-duty slide switch make the Speed-Sander remarkably easy to control. Constructed with lug on top for mounting in bench vise—can be used as a stationary table sander. Powerful burnout-proof "Thermoweld" motor is rated at 5 amps. All bearings are self-oiling bronze alloy. Has variable speed control—750 to 950 feet per minute. With 3x18" sanding belt; knob handle. 3-wire cord and plug. 6½" high, 8½" long. C.S.A. Listed. For operation from 110-120 v., AC or DC. Shpg. wt., 6½ lbs.

51 N 162..... **32.95**  
51 N 167. Pkg. of 5 Assorted Sanding Belts, 8 oz..... **2.75**

## B THOR IMPACT WRENCH/DRILL KIT

Powerful impact tool for shop, garage and farm. Industrially rated by U.I. Features heavy-duty slide switch in handle for instantaneous forward or reverse switching. Burnout-proof motor rated at 4 amps—develops 1900-rpm both forward and reverse. Powers a multitude of accessories for drilling in metal, masonry, wood; sanding, wire brushing, screwdriving, running-down lag screws, etc. Easily converts to ½" drill. All ball and needle bearings for smooth, dependable operation. Includes six most-used hexagon sockets (½", ⅝", ⅞", 1⅛", ¾", 1⅜"); 3-jaw, geared ½" chuck; rugged steel carrying case; 3-wire, 10-ft. cord with 3-prong plug; 2-prong adapter. 9½" long wrench. C.S.A. Listed. For 110-120 volt, AC or DC. Shpg. wt., 21 lbs.

50 NU 878..... **76.95**  
50 NU 879. Impact Wrench Alone. Wt., 9 lbs..... **64.95**



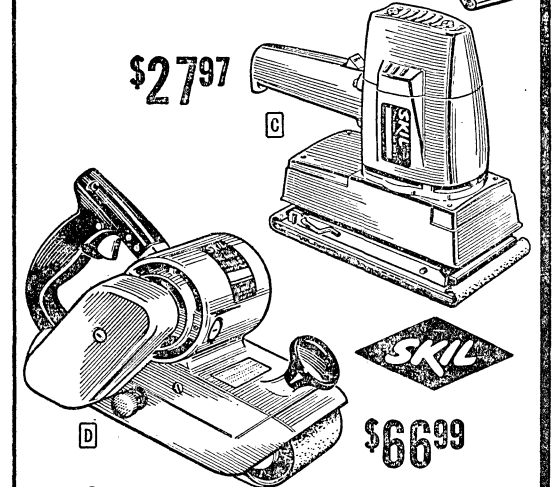
**\$76<sup>95</sup>**

## C SKIL 592 DELUXE ORBITAL SANDER/POLISHER

Much faster and far easier than hand sanding—better results, too. Full 25 sq. in. pad with orbital action covers a large area quickly—sands across or with the grain. Smooths unfinished wood and restores a new finish to scratched surfaces. Big 2.5-amp motor delivers 5500 orbits per minute to remove old paint and rust, sand wallboard and plaster. Sands flush on 3 sides. Lightweight for horizontal, vertical, even overhead use. Convenient rocker-type thumb-tip control switch. Spring-action levers hold up to six 3½x9" sheets—make changing easy. With 3 assorted 3½x9" sanding sheets, 3-wire cord with 3-prong plug, 2-prong adapter. Lambswool polishing pad separate, below, 7¼x3½x9¼". U.I. Listed. For 110-120 v., AC or DC. Shpg. wt., 7 lbs.

50 NX 520..... **27.97**  
50 N 096. Lambswool Polishing Pad, Wt., ¼ lb..... **1.12**

**\$27<sup>97</sup>**



## D SKIL MODEL 405 PROFESSIONAL 4" BELT SANDER

For fastest finishing and stock removal—one of the most dependable, top performing belt sanders you can buy. Extra-wide 4" belt speeds sanding of large areas. Flush design allows you to sand right up to vertical surfaces. Features powerful, extra-heavy-duty 7-amp motor; ball and sleeve bearings throughout; precision-cut gears with cog belt drive. Locking device makes belt change-over easy; control knob keeps belt centered on pulleys. Motor drives 4x21½" belt at 1350 ft. per minute. Overall size: 6¾" high, 6¾" wide, 12½" long. Die-cast aluminum housing. With sanding belt, 3-wire cord with 3-prong plug, and 2-prong adapter. U.I. Listed. For 110-120 v., AC or DC. Shpg. wt., 15 lbs.

50 NX 328..... **66.99**  
50 N 078. Box of 10 Assorted Belts. Wt., 1½ lbs..... **6.60**

**Weller**  
**\$14<sup>66</sup>**

## E WELLER MODEL 77 RECIPROCAL POWER SANDER

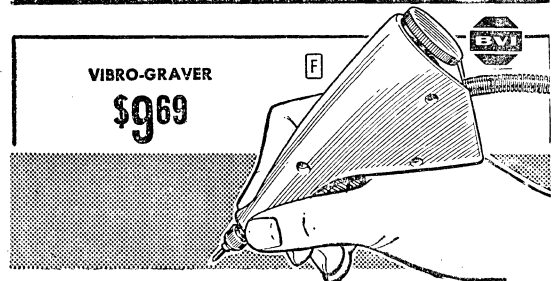
Easy-to-use sander designed for long, trouble-free life under hard usage. An unusually low price for such a fine quality electric sander. Reciprocating 4.8-amp motor is fan-cooled—drives unit at 14,444 strokes per minute, yet resists overheating. Stroke length, 5/8". Sanding area, 26 square inches. Side handle is removable for getting into close areas. Uses 3½x9" sanding sheets (not included). 9" heavy-duty plastic case. 8-ft. cord. U.I. Listed. For 110-120 volts, 60 cycle AC. Shpg. wt., 6½ lbs.

50 N 570..... **14.66**

## F BURGESS MODEL 73 DELUXE VIBRO-GRAVER

One of the most versatile engraving tools you can buy. Engraves clearly and permanently on steel, glass, aluminum, plastics, ceramics, brass, stone, hardwood, softwood—almost every material. No more difficult to handle than a pencil. Vibrator motor delivers 7200 strokes per minute for extremely fast, clean engraving. Excellent for factories, laboratories, hobby shops—use for labeling, design, etc. Lightweight, compact, and easy to operate—anyone can use it skillfully with just a few minutes practice. Includes tantalum carbide point. For 110-120 v., 50-60 cycle AC. Shpg. wt., 1 lb.

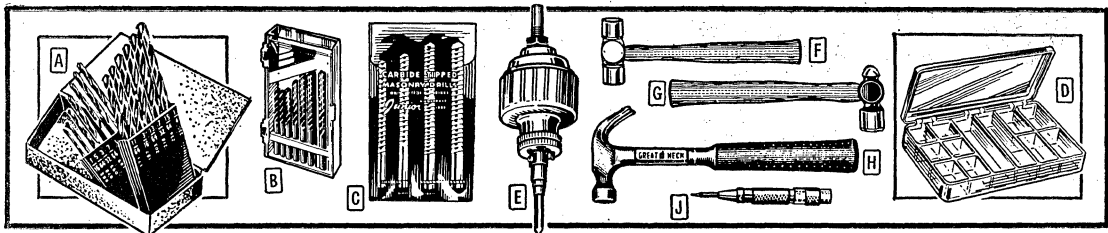
50 N 556..... **9.69**



VIBRO-GRAVER

**\$9<sup>69</sup>**





## CENTURY "MAGIC BLACK"

### HIGH-SPEED DRILL BITS

**A** 13-DRILL SET. Includes 13 drills from 1/16" to 1/2" in 1/8" graduations. Packed in Huot Index Drill Case. Every drill is instantly accessible. Case, 4 3/4 x 2 x 3/4". Shpg. wt., 9 oz.  
46 N 782.....5.85

15-DRILL SET. 15 drills in sizes from 1/16" to 1/2" in 1/8" steps. Sizes over 1/4" have 1/4" shanks. Case, 7 x 4 x 1 1/2". Wt., 3 lbs.  
46 N 786.....18.95

60-DRILL SET. Assortment of 60 drills, in drill sizes 1 to 60. Packed in steel Huot Index Drill Case. Opens like a book for quick accessibility. Case, 4 3/8 x 3 5/8 x 2 1/8". Shpg. wt., 1 1/4 lbs.  
46 N 717.....23.60

**B** 10-DRILL SET. 10 drills from 1/16" to 1/2" with 1/4" diameter shanks on sizes over 1/4". Indexed, transparent plastic container. Shpg. wt., 9 oz.  
50 N 968.....7.95

### SPECIAL-PURPOSE DRILL BITS

**C** 4-PC. MASONRY DRILL SET. 4 drills in sizes 1/4", 3/8", 1/2" and 5/8". 1/4" shanks. Extra-hard carbide tips drill concrete, bricks, plaster. In clear-plastic roll. 5 oz.  
46 N 718.....2.95

## D VLCHECK CLEAR-PLASTIC STORAGE BOXES

Rugged all-plastic hinged-top storage boxes with from 12 to 24 compartments. Ideal for storing small parts, hardware, fuses, etc. Boxes are light, strong, scratch-resistant and easy to clean. \*Indicates total number of compartments. Weight shown is for 2 boxes.

Stock No.	Mfr's Type	*No. of Comp.	Size of Compartments	Overall Size, H. W. D.	Wt., Lbs.	TWO FOR
51 N 381	P612	12	6-1 1/8 x 1 1/2"; 6-1 1/8 x 1 1/4"	11 x 6 3/4 x 1 3/4"	2	2.44
51 N 382	P200	18	1 1/4 x 1 1/4"	8 1/4 x 4 1/2 x 1 3/8"	3/4	1.02
51 N 383	P618	18	1 5/8 x 1 1/2"	11 x 6 3/4 x 1 3/4"	2 1/4	2.56
51 N 384	P818	18	12-2 x 2"; 6-2 x 3/16"	13 1/8 x 9 x 2 1/8"	3	3.90
51 N 385	P824	24	2 x 2"	13 1/8 x 9 x 2 1/8"	3 1/2	4.06

## E BABCO 5-1 SPEED REDUCER

MODEL 825. For any 1/4" electric drill or drill press. Drives or removes up to No. 14 screws; drills masonry or wood. Reverse feature allows tapping up to 5 holes per minute. With 1/2" and 1/4" adapters; 1/4" adapter sleeve; screwdriver bit with sleeve.  
Shpg. wt., 3 lbs.  
50 N 005.....10.25

### SPECIAL-PURPOSE HAMMERS

**F** FLEET MODEL HM-16 SOFT-FACE HAMMER. Soft plastic-faced for driving bushings and wrist pins, body bumping, straightening bent chassis, many other applications. 1 3/8" diameter plastic faces are red vinyl and amber tenite. Will not mar aluminum or other soft metals. Steel head, strong hickory handle. Overall length, 12 3/4". Shpg. wt., 1 lb.  
50 N 161.....2.73

## HAMMERS (Cont'd)

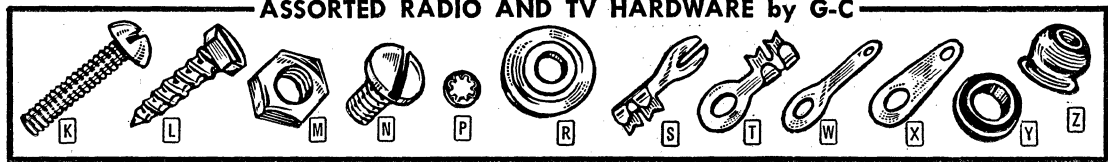
**G** FLEET MODEL X-164 BALL PEEN HAMMER. Drop forged. Finished in black baked enamel. Hickory handle. Length, 14". Shpg. wt., 1 1/2 lbs.  
50 N 577.....1.33

**H** GREAT NECK MODEL R-16C CLAW HAMMER. One-piece steel construction; rubber-cushioned handle absorbs shock. 13" long. Wt., 1 1/2 lbs.  
45 N 848.....3.53

## J ADJUSTABLE CENTER PUNCH

G-H MODEL 79. Hand pressure on handle triggers powerful spring which drives punch. Top of handle turns to adjust tension for light or heavy punch. Size, 5" x 1 1/2" dia. Shpg. wt., 5 oz.  
46 N 195.....3.10  
46 N 196. Extra Point.....44

## ASSORTED RADIO AND TV HARDWARE by G-C



High-quality hardware for radio-TV construction and repair. Nuts, screws and washers are nickel-plated. In pkgs. of 100.

**K** ROUND-HEAD SCREWS. Wt., 14 oz.

Stock No.	Part No.	Size	PER PKG. of 100		
			1-9	10-49	50-UP
42 N 700	6005	4-36x1/4"	.47	.37	.33
42 N 701	6006	4-36x1/2"	.51	.40	.36
42 N 703	6008	6-32x1/4"	.52	.41	.37
42 N 704	6009	6-32x1/2"	.61	.48	.43
42 N 710	6015	8-32x1/2"	.80	.63	.56

**L** SELF-TAPPING SCREWS. Flat-slotted type. Hex head. Wt., 12 oz.

Stock No.	Part No.	Size	.83	.66	.59
42 N 717	6091	6x1/4"	.83	.66	.59
42 N 718	6093	6x1/2"	.90	.71	.64
42 N 719	6096	8x1/2"	1.06	.84	.75

**M** HEX NUTS. Wt., 8 oz.

Stock No.	Part No.	Size	.66	.51	.46
42 N 728	6041	4-36x1/4"	.66	.51	.46
42 N 729	7230	6-32x3/16"	.72	.57	.51
42 N 730	7233	8-32x1/32"	.72	.57	.51
42 N 731	6044	10-32x3/8"	.95	.75	.67
42 N 732	6042	6-32x1/4"	.67	.53	.47
42 N 733	6043	8-32x1/4"	.72	.57	.51
51 N 335	7225	2-56x3/16"	.67	.53	.47
51 N 336	7226	3-48x3/16"	.67	.53	.47
51 N 337	7235	1/4-20x3/16"	1.30	1.04	.93
51 N 338	6050A	3/8-32x3/16"	1.44	1.14	1.02

**N** BINDING-HEAD MACHINE SCREWS. 7 oz.

Stock No.	Part No.	Size	PER PKG. of 100		
			1-9	10-49	50-UP
42 N 723	7152	6-32x1/4"	.52	.41	.37
42 N 724	7153	6-32x3/8"	.56	.44	.39
42 N 725	7118	6-32x1/2"	.64	.51	.45
42 N 726	7119	8-32x3/8"	.71	.56	.50

**P** INTERNAL STAR LOCK WASHERS. Wt., 4 oz.

Stock No.	Part No.	Size	.44	.35	.31
42 N 798	7324	#4 screw	.44	.35	.31
42 N 736	7326	#6 screw	.44	.35	.31
42 N 737	7328	#8 screw	.49	.39	.35
42 N 738	7330	#10 screw	.49	.39	.35
51 N 339	7322	#2 screw	.71	.56	.50
51 N 340	7335	#3/8 screw	1.22	.97	.87

**R** EXTRUDED FIBER WASHERS. 1/16" thick. Shpg. wt., 14 oz.

Stock No.	Part No.	No.	.85	.67	.60
42 N 739	6525	No. 6	.85	.67	.60
42 N 740	6526	No. 8	.85	.67	.60
42 N 741	6527	No. 10	.93	.73	.65
42 N 742	6528	1/4"	.93	.73	.65

**Z** RUBBER FEET. Wt., 9 oz.

Stock No.	Part No.	O.D.	2.18	1.73	1.55
42 N 765	1075F	3/8"	2.18	1.73	1.55

**SOLDER LUGS.** Tinned. For screws in table. No. 8 holes also take No. 6 screws. Shpg. wt., 4 oz.

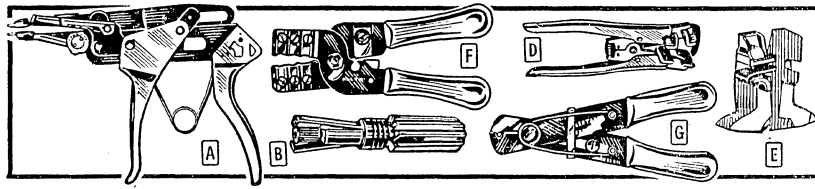
Stock No.	Part No.	Size	PER PKG. of 100		
			1-9	10-49	50-UP
42 N 747	7445	#8 Fig. S	1.18	.94	.84
42 N 748	1021A	#10 Fig. T	1.11	.88	.79
42 N 749	7455	#8 Fig. W	.84	.67	.60
42 N 750	7451	#8 Fig. X	.85	.68	.61
51 N 341	8468	#8 Fig. S	2.60	2.08	1.87
51 N 342	5704	#8 Fig. W	1.65	1.32	1.18
51 N 343	7460	#8 Fig. T	1.83	1.46	1.31
51 N 344	7463	#8 Fig. X	1.05	.84	.75
51 N 345	5707	#8 Fig. X	1.65	1.32	1.18

**Y** RUBBER GROMMETS. Black. Sizes are mtg. hole and inner dia. Wt., 8 oz.

Stock No.	Part No.	Size	1.10	.87	.78
42 N 751	1041-2	1/4", 1/8"	1.10	.87	.78
42 N 752	1041	3/16", 3/16"	1.24	.98	.88
42 N 753	1042	3/8", 1/4"	1.65	1.32	1.19
42 N 754	1043	1/2", 3/8"	1.86	1.48	1.33
42 N 755	1043-1	3/8", 1/2"	2.82	2.25	2.03
42 N 757	5716	7/8", 5/8"	5.61	4.49	4.05
51 N 346	5710	3/16", 3/16"	3.72	2.97	2.67
51 N 347	7566	1/4", 3/8"	2.40	1.91	1.71
42 N 756	5711	5/8", 3/4"	3.46	2.76	2.48
51 N 348	5712	1/16", 3/16"	5.05	4.04	3.63



# Time-Saving Tools for the Workshop



## A UTICA WIRE STRIPPER

MODEL SW-1 "STRIPWRIGHT." Designed for electronics industry use. Prevents wire nicking; strips teflon and most other solid and stranded wire. Cam-action calibrated dial adjusts to wire sizes from No. 12 through No. 26. For limited access areas; permits stripping at any point. Comfort-grip handles. Wt., 7 oz.  
50 N 680.....14.90

## B WALSCO WIRE STRIPPER

TYPE 592-00 "TWISTO." For rapid removal of insulation from wire sizes 12 through 22. Built-in stop for production stripping. Spring steel blades. Overall length, 4 1/2". Shpg. wt., 8 oz.  
46 N 440.....2.94

## G-C WIRE STRIPPERS

C TYPE 766 KIT. Contains 766 Strripper, 7 blades, blade guide. For No. 8 through No. 30 wires. 2 1/4 lbs.  
46 N 225.....11.73

46 N 229. Deluxe Model 766 Strripper. Will not pull or crush wire. Hardened steel blades. For No. 12 through No. 20 wires. 1 1/4 lbs.....5.81

46 N 226. Model 766A. As 766, but for No. 14 through No. 30 wires. 1 1/4 lbs.....5.81

D MODEL 802. For No. 10-22 wires. Automatic stop return; cutter. 8 oz.  
50 N 341.....5.81

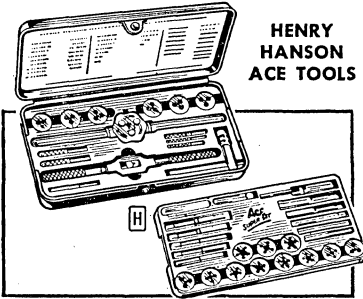
E TYPE 777 TEFLON ADAPTER.  
50 N 346.....1.22

## K. MILLER WIRE STRIPPERS WITH CUTTERS

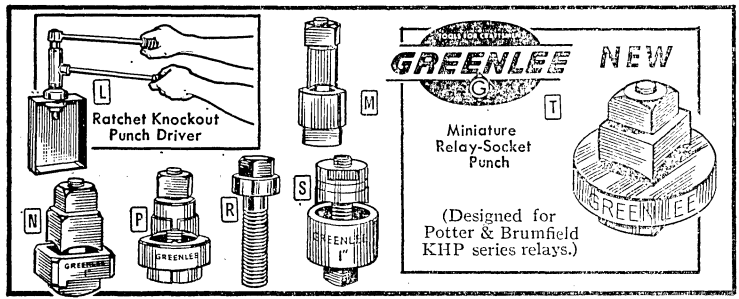
F MODEL 200. Handy coaxial cable stripper, cutter and slitter. Strips without nicking center conductor. Adjustable blades preset for RG59/U cable. With hardened tool steel blades. Wt., 8 oz.  
50 N 339.....13.47

G MODEL 101-S. For wires up to No. 8, solid or stranded. Spring-lock holds blades closed. 5". Wt., 4 oz.  
46 N 246.....1.17

50 N 338. Model 100. As above, without spring action. 4 oz......87



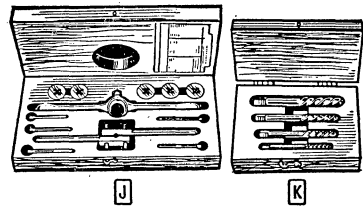
HENRY HANSON ACE TOOLS



**GREENLEE NEW**

Miniature Relay-Socket Punch

(Designed for Potter & Brumfield KHP series relays.)



H MODEL 614V TAP AND DIE SET. 1 each tap and die: 4-36, 6-32, 8-32, 10-24, 10-32 and 12-24 (Machine Screw Standard), 1/4-20, 3/16-18, 3/8-16, 7/16-14 and 1/2-13 NC (U.S. Standard), 1/4-28, 3/16-24, 3/8-24, 7/16-20 and 1/2-20 NF (S.A.E. Standard), 1/8" pipe. Includes die stock, tap and reamer wrench, "T" tap wrench, screwdriver, screw pitch gauge. 4 lbs.  
46 N 245.....27.95

INDIVIDUAL TAPS. Tough carbon steel. Right-hand thread.

Stock No.	Size	Oz.	EACH
46 N 701	6-32	2	.34
46 N 702	8-32	2	.34

J MODEL S-21 RADIO TAP-DIE SET. Has: 1 each plug tap and die: 6-32, 8-32, 10-24, 12-24 (Machine Screw Standard), 1/4-20 (U.S. Standard). Solid dies, 1" dia. High-carbon tempered steel. With tap-reamer wrench. Mahogany box. 3 lbs.  
46 N 025.....7.49

K MODEL S-20 SCREW-EXTRACTOR SET. 4 extractors remove broken screws 3/32" to 3/8", bolts, studs, 1/8" and 1/4" pipe. Alloy steel—practically unbreakable. In hardwood box. 1 lb.  
46 N 264.....2.09

## GREENLEE FAST-CUTTING CHASSIS PUNCHES

L RATCHET KNOCKOUT PUNCH DRIVER. Lightweight punch driver is 6 to 8 times faster than wrench method. For use with standard punches 1/2" to 3" and 730 punches (at right) 1 1/16" and larger. Fast cutting action in 10-gauge or lighter material. Includes knockout driver assembly; leverage handle; ratchet handle; 3 adapter screws for 1/2" to 3" punches and round punches 1 1/16" to 2 23/32". In metal carrying case. Less punches. 13 lbs.  
47 N 017.....48.51

M Type 733 "D" PUNCHES. For cutting "D" shape hole in chassis with ordinary wrench. Cuts metal up to 16-gauge. Shpg. wt., 2 lbs.  
50 N 973. For 1/2" hole.....4.08

50 N 974. For 5/8" hole.....4.30

N TYPE 731 SQUARE PUNCHES. Cut square hole in up to 16-gauge metal with wrench. Drive screw requires 1/2" hole. Hardened tool steel. Wt., 2 lbs.  
46 N 269. For 1/2" hole.....4.79

46 N 277. For 3/4" hole.....5.65

46 N 278. For 1" hole.....6.80

P TYPE 732 "KEYED" PUNCHES. Insert punch in drilled hole, turn with wrench. Require 1/2" hole except 1/4" hole. 1 1/2 lbs.

Stock No.	Size	EA.	Stock No.	Size	EA.
46 N 214	*15/32"	4.43	46 N 186	1 1/16"	4.98
46 N 184	15/16"	4.50	46 N 189	1 1/4"	5.40

R BALL-BEARING DRIVE SCREWS.  
47 N 019. AV112-BB. For 1" and 1 1/2" punches. Wt., 1 lb......99


50 N 168. AV249-BB. For 1 3/32", 1 5/8" and 1 3/4" punches. 1 lb.....2.29

S TYPE 730 ROUND PUNCHES. For sockets, controls, panel lights, etc. Cut through sheet metal, bakelite, hard rubber, etc. Cut through metals of up to 16-gauge thickness. Operate with ordinary wrench—no reaming or filing necessary. \*Meter cutout. Av. shpg. wt., 1 1/2 lbs.

Stock No.	Hole Size	Lead Size	EACH
46 N 169	1/2"	1/4"	2.29
46 N 177	5/8"	1/4"	2.29
47 N 014	9/16"	1/4"	2.29
46 N 000	1 1/16"	3/8"	2.29
46 N 170	3/4"	3/8"	2.29
46 N 001	13/16"	3/8"	2.29
46 N 171	7/8"	3/8"	2.29
47 N 015	1 1/16"	3/8"	2.51
46 N 172	1"	3/8"	2.51
46 N 178	1 1/16"	3/8"	2.65
46 N 173	1 1/8"	3/8"	2.65
46 N 179	1 5/16"	3/8"	2.65
46 N 174	1 3/16"	3/8"	2.65
46 N 175	1 1/4"	3/8"	2.65
46 N 176	1 3/8"	3/8"	3.18
46 N 180	1 1/2"	3/8"	3.62
46 N 011	1 5/8"	3/4"	4.28
46 N 110	1 3/4"	3/4"	4.84
46 N 116	2"	3/4"	6.52
46 N 181	2 1/4"	3/4"	7.02
47 N 016	2 1/2"	3/4"	11.47
46 N 209	2 25/32"*	3/4"	11.02

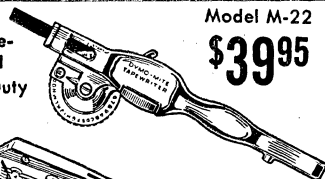
T NEW TYPE 731R RELAY-SOCKET PUNCH. Punches clean holes for miniature relay sockets. Cuts up to 16-gauge metal. Insert punch in 9/16" drilled hole, turn with wrench, and job is done. Finished hole, .861"x1.013". (Designed for Potter & Brumfield KHP series relays.) Wt., 10 oz.  
51 N 276.....12.59

# "Tapewriters," Staplers, Vises . . . Real Time Savers!

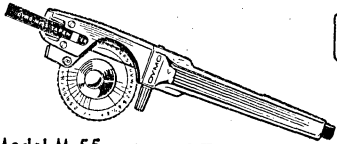


**NEW DYMO TAPEWRITERS**

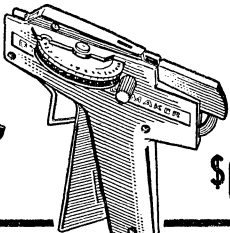
Chrome-Plated Heavy Duty



Model M-22  
**\$3995**

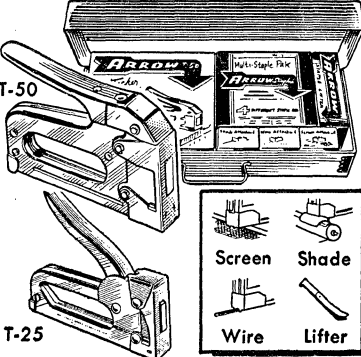


Model M-55 Chrome Plated  
**\$1995**




Model M-4 Office Labelmaker  
**\$688** Plastic Case


T-50MP Stapler Kit




Attachments




Screen



Shade



Wire



Lifter

## NEW MODEL M-55 TAPEWRITER

Makes professional raised-letter labels for 1001 applications. Has full 44 characters: (A-Z 0-9 \$ & % & / + - and '.) New transparent embossing wheel lets you see letters as you make them. Tab cut-off. 10" long. Uses 3/8" tape, below. Wt., 1 1/4 lbs.  
51 N 148. . . . . **19.95**

## MODEL M-22 TAPEWRITER

Heavy-duty tool uses 1/2" plastic tape. Straight cut-off; plastic embossing wheel; 3/32" Characters: (A-Z 0-9.) Chrome-plated. 10 5/8" long. Less tape, below. 3 lbs.  
50 N 849. . . . . **39.95**

## NEW MODEL M-4 OFFICE LABELMAKER

Low-cost unit, designed for home and office use. Makes permanent, raised-letter labels on 1/4" vinyl tape. Has same 44 characters as Model M-55. 6 1/2" long. 7 oz.  
51 N 142. . . . . **6.88**

## VERSATILE T-50MP STAPLER KIT

Handles any stapling job. Consists of: heavy-duty T-50 stapler gun; 5000 staples (assorted, 1/4" to 3/8"); and 4 attachments—for screen, wire, window shade, plus staple lifter. T-50 has double leverage action for powerful drive with minimum squeeze pressure. Patented non-jamming mechanism. All-steel—chrome finish. 5 1/2 lbs.  
50 N 466. . . . . **14.57**

T-50 STAPLER. Described in kit above. Loads 85—,050" staples, takes other sizes. 5 1/2 x 7 1/8 x 3/4". 2 lbs.  
46 N 292. . . . . **10.41**

T-25 CABLE STAPLER. Staples round objects of up to 1/4" dia. Jamproof. Loads 85 staples. 5 1/2 x 7 3/4". 2 1/4 lbs.  
46 N 491. . . . . **12.49**

## STAPLES FOR ARROW GUNS

\*For ceiling tiles. 5000 per box. 1 lb.

Stock No.	For	W x L	EACH
45 N 793	T-50	3/8 x 1/4"	2.08
45 N 789	T-50	3/8 x 3/16"	2.20
45 N 792	T-50	3/8 x 3/8"	2.29
46 N 294	*T-50CT	3/8 x 3/16"	3.20
45 N 790	T-25	1/4 x 3/8"	3.33
46 N 492	T-25	1/4 x 3/16"	3.33

### TAPE FOR M-55

Each "throw-away" magazine has 120" of 3/8" vinyl adhesive tape. Wt., 4 oz. Specify Type and Color.

Type	Color	Type	Color
5201-2	Red	5201-7	Yellow
5201-4	Orange	5201-8	Brown
5201-5	Green	5201-9	Black
5201-6	Blue	5201-13	Gold

50 NN 884. . . PER ROLL 1.25

### TAPE FOR M-22

1/2" vinyl pressure tape. Long-lasting, 144-in. per roll. Wt., 5 oz. Specify Type and Color.

Type	Color	Type	Color
158-1	Clear	158-6	Blue
158-2	Red	158-8	Brown
158-4	Orange	158-9	Black
158-5	Green		

50 NN 903. . . PER ROLL 1.65

### TAPE FOR M-4

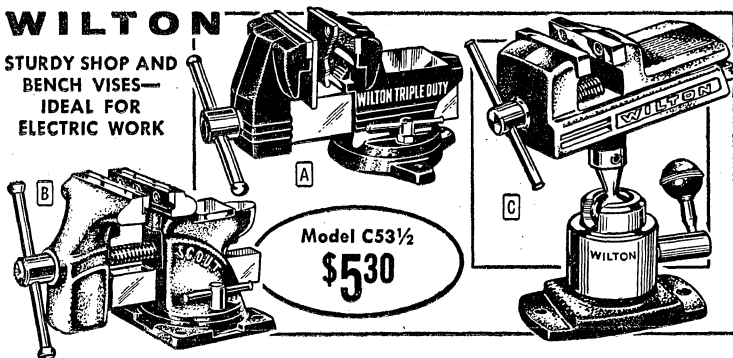
1/4" vinyl tape, 72" rolls. "Throw-away" magazines. 3 oz. Specify Type and Color.

Type	Color	Type	Color
5204-1	Clear	5204-7	Yellow
5204-2	Red	5204-8	Brown
5204-4	Orange	5204-9	Black
5204-5	Green	5204-12	Gray
5204-6	Blue	5204-13	Gold

51 NN 143. . . PER ROLL .75

## WILTON

STURDY SHOP AND BENCH VISES—IDEAL FOR ELECTRIC WORK



### A MODEL 665 VISE

Three vises in one—woodworking, metal-working and pipe. Removable fiberboard jaw faces clamp wood without marring. 5" wide steel jaws provide powerful grip for metal jobs. Pipe jaws hold pipes of 1/2" to 2 1/2" dia. Jaws are 3/4" deep; open to 3/4". Swivel base. 35 lbs.  
46 NU 953. . . . . **16.20**


### B MODEL C53 1/2 VISE

Economy 3 1/2" jaw vise. Handles most types of light, general work. Features removable steel insert jaws, built-in pipe jaws, precision-machined screw. Swivel base allows unit to be swung instantly to any desired position. Base locks in place. Large anvil with forming horn. Wt., 12 lbs.  
50 N 487. . . . . **5.30**

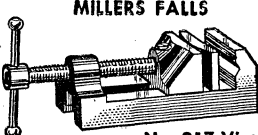
### C MODEL 364 VISE AND POSITIONER

Ruggedly-built utility vise is mounted on famous PowRarm positioner. Excellent combination for work on small electronic assemblies or parts. Single-handed release of positioner level-bar permits rotating or tilting work to any desired angle. Tighten-

ing of lever-bar freezes work solidly in place. Positioner is cadmium-plated steel. Capacity, 15 lbs. Vise jaws are smooth steel. Jaw width, 2 1/4"; open to maximum of 2 1/4". Wt., 5 lbs.  
50 N 149. . . . . **13.93**



**BRINK & COTTON**  
No. 149 Vise



**MILLERS FALLS**  
No. 217 Vise

### MILLERS FALLS NO. 217 VISE

For holding work on drill-press bed or work bench. Sturdy steel jaws are 2 3/8" wide. Have parallel faces extending to 3 1/8". Removable swivel jaw is provided for holding odd-shaped parts. Slide-bar type handle and fine thread on screw give excellent leverage for solid, reliable grip on work. Shpg. wt., 5 lbs.  
46 N 064. . . . . **8.99**

### BRINK & COTTON NO. 149 VISE

Sturdy, clamp vise ideally suited for radio work. Securely holds small parts for soldering, filing, cutting, etc. Smooth, easy action. Compact vise can be clamped to any bench or table up to 2" thick. Jaws are 1 3/4" wide; open to 1 1/4". Free-action tightening bar. Wt., 2 1/4 lbs.  
46 N 015. . . . . **1.50**

# Alloy Steel Socket Sets, Slide Rules, Tube Caddies

## STEVENS-WALDEN STEEL SOCKET SETS

Hot-forged, alloy-steel socket sets—heat-treated and tempered in accordance with the highest standards of professional quality. So strong, they meet U.S. Government specification. Used and recommended by mechanics from coast-to-coast. Openings are precision-broached to close tolerances. All parts chrome-plated for a lasting finish. American made by one of the oldest tool manufacturers in the country.

### 24-PIECE 1/4" AND 3/8" DRIVE SOCKET SET

Combines the best features of the 3/8" and 1/4" drive sets. Ideal for the radioman, mechanic or home repairman. Consists of: 17 sockets—7 regular 12-pt. sockets, sizes 3/8" to 3/4" in 1/32" steps; 7 hex sockets, 1/4" drive, sizes 3/16", 1/8", 5/16", 3/8", 1/2", 5/8", 3/4"; 3 regular 8-pt. sockets, 1/4" drive, sizes 1/4", 3/8", and 1/2"; 1—3/8" to 1/4" adapter; 1—round head 3/8" ratchet; 1—1/4" spinner handle; 1—6" extension, 3/8" drive; 1—3" extension, 3/8" drive; 1—13/16" spark plug socket with protective neoprene insert. In metal box, 11 1/2x4 3/4x1 3/4". Shpg. wt., 4 1/2 lbs.

51 NX 245.....13.50

### 16-PIECE 1/4" DRIVE SOCKET SET

An excellent set of sockets for radio and electrical repair, industrial, mechanical and instrument work. Consists of: 11 sockets—4 regular 12-pt. sockets, sizes 3/16", 1/8", 5/16", 3/8"; 4—6-pt. hex sockets, sizes 3/16", 7/32", 1/4", 5/32"; 3—8-pt. sockets, sizes 1/4", 3/8", 1/2"; 1—reversible ratchet; 1—hinge handle; 1—cross bar; 1—3" extension; metal box, 6 1/2x2 3/4x1 1/4". Wt., 1 1/2 lbs.

51 N 209.....7.95

### 21-PIECE 3/8" DRIVE SOCKET SET

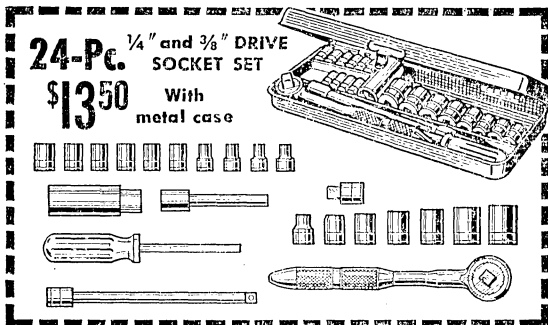
Complete, compact set of wrenches for the home owner or automotive mechanic. Consists of: 15 sockets—7 regular 12-pt. sockets, sizes 3/8" to 3/4" in 1/32" steps; 8, deep 12-pt. sockets, sizes 3/8" to 3/4" in 1/32" steps; 1—hinge handle; 1—cross bar; 1—universal joint; 1—3" extension; 1—round head reversible ratchet. Metal storage box, 11 1/2x4 3/4x1 3/4". Shpg. wt., 4 lbs.

51 NX 243.....13.95

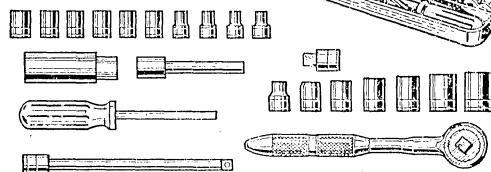
### 17-PIECE 1/2" DRIVE SOCKET SET

An economy-priced set for use at home, on the farm, or in the factory. Consists of: 11 regular 12-pt. sockets, sizes 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4"; 1—5" extension; 1—10" extension; 1—flex handle; 1—speeder; 1—reversible ratchet; metal storage box, 16 1/4"x3 1/2"x2". Shpg. wt., 7 3/4 lbs.

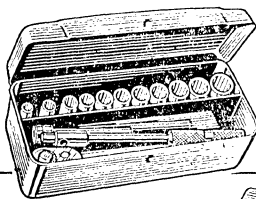
51 NX 244.....19.50



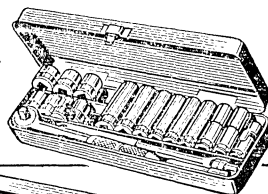
**24-Pc.** 1/4" and 3/8" DRIVE SOCKET SET  
\$13.50 With metal case



**16-Pc.** 1/4" DRIVE SOCKET SET  
\$7.95 With metal case



**21-Pc.** 3/8" DRIVE SOCKET SET  
\$13.95 With metal case



**17-Pc.** 1/2" DRIVE SOCKET SET  
\$19.50 With metal case

## DIETZGEN SLIDE RULES

### A DECIMAL TRIG-TYPE LOG LOG

MODEL 1734L. Teflon grooves for smooth, easy settings. Scales on front side: LL02, LL03, DF, CF, CIF, L, CI, C, D, LL3, LL2. Scales on back side: LL01, K, B, T > 45, T < 45, A, ST, S, D, DI, LLL. Scales S, ST, T divided to read degrees, decimals of degrees. 10" long. Leather case. Shpg. wt., 1 1/4 lbs.

49 NC 055.....EACH 23.95  
6-Up.....EACH 22.45

### B VECTOR-TYPE LOG LOG

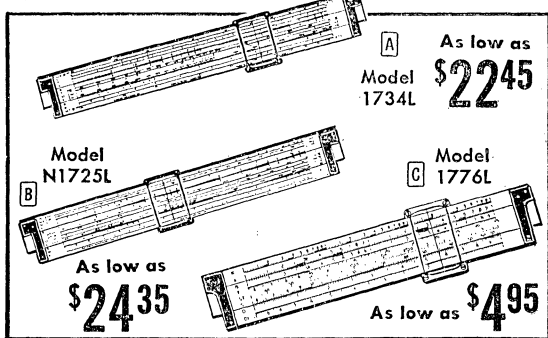
MODEL N1725L. Same as 1734, above, plus Sh1, Sh2, and Th scales. Leather case. Shpg. wt., 1 1/4 lbs.

49 NC 053.....EACH 25.95  
6-Up.....EACH 24.35

### C 5" POCKET SLIDE RULE

MODEL 1776. Scales: DF, CF, CIF, CI, C, D, L, K, A, B, T, ST, S, DI. Leather case, pocket clip. Wt., 5 oz.

49 NC 054.....EACH 5.35  
6-Up.....EACH 4.95



As low as  
Model 1734L \$22.45

As low as  
Model N1725L \$24.35

As low as  
Model 1776L \$4.95

## ARGOS TUBE CADDIES—A SERVICE "MUST"

### JUNIOR TUBE CADDY

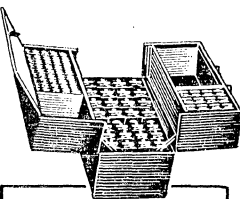
TYPE TC-201. Low-cost, easy-to-carry caddy. Only 2/3 the size and weight of ordinary caddies. Perfect for quick servicing trips. Holds up to 143 tubes with room for meters, tools, etc. Features a "break-open" section with cover and snap-lock for keeping small parts in order. Long-wearing brown vinyl covering. Single-clasp lock, full-grip handle. 12 1/2x15 3/4x8". Wt., 10 lbs.

87 NX 591.....9.55

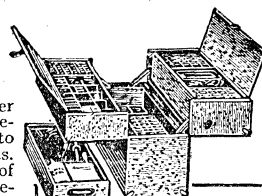
### SUPER TUBE CADDY

TYPE TC-5. Extra-large caddy—over 3300 cu. in. volume. Rugged, double-door model provides quick access to tubes, tools, meters and parts. Holds up to 325 tubes with lots of extra space for small parts. Has removable tray 2 3/4" deep, featuring "egg crate" design for safely carrying fuses, bulbs, etc.; cutouts for easy removal. Brown vinyl. 16 1/2x 24x8 1/2". Shpg. wt., 19 lbs.

52 NX 738.....20.98

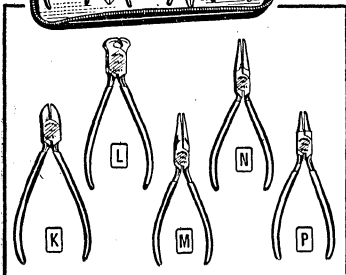
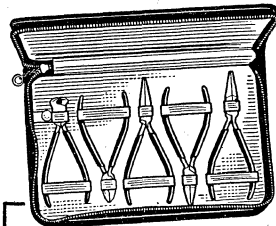


\$9.55 Junior Tube Caddy



\$20.98 Super Tube Caddy

# Krauter Industrial Pliers, and Snips



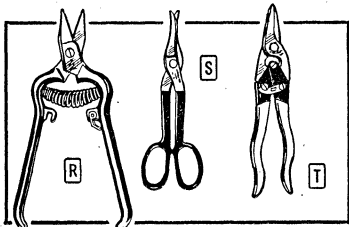
## TYPE CG90 JEWELERS' PLIER SET

A matched set of five professional small precision pliers (listed individually in table below) contained in a black zipper fastened, leatherette carrying case. Size, 5 3/4 x 9 1/4". Shpg. wt., 1 1/4 lbs.  
46 N 423.....EA. 14.70 6-Up..EA. 13.32

## 4 1/2" JEWELERS' PLIERS

Fine precision pliers with resilient vinyl cushion grips—will not crack or peel. Smooth polished head and handles; drop forged from selected, fine grain tool steel. Type CG81 is for close cutting of small, soft wires. CG82 is for end cutting as in printed circuit assemblies. CG83, 84 and 85 have smooth jaws. Av. wt., 5 oz.

Stock No.	Fig.	Mfr's Type	Descrip.	EACH	
				1-5	6-Up
46 N 418	K	CG81	Diag. Cut	2.64	2.40
50 N 333	L	CG82	End Cut	3.12	2.82
46 N 415	M	CG83	Chn. Nose	2.49	2.26
46 N 416	N	CG84	Flt. Nose	2.49	2.26
46 N 417	P	CG85	Rnd. Nose	2.49	2.26



## ELECTRONIC AND AVIATION SNIPS

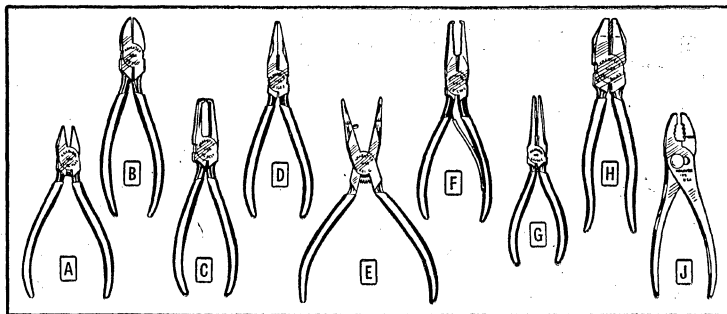
**R** E-4 Short-Bladed Electronic Snips. For cutting fine wires and filaments, removing insulating coverings. Straight 3/4" cut. Length, 6 1/2". Shpg. wt., 10 oz.  
49 N 069.1-5...EA. 3.49 6-Up...EA. 3.16

**S** K-13 Combination Pattern Snips. Cuts up to 26-gauge metal. Curved or straight 2" cut. Length, 7". Shpg. wt., 7 oz.  
46 N 422. 1-5...EA. 1.84 6-Up...EA. 1.66

**T** CG53 Compound Leverage Aviation Snips. Cuts 18-gauge metal. Serrated, drop forged blades. Cushion grips. Straight 1 1/2" cut. Length, 10". Shpg. wt., 1 lb.  
50 N 334. 1-5...EA. 3.23 6-Up...EA. 2.93

CGL1 Aviation Snips. Same as above, but for left cut.  
49 N 027. 1-5...EA. 3.23 6-Up...EA. 2.93

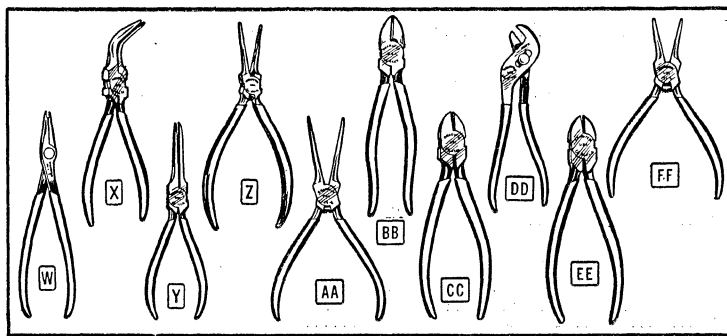
CGR2 Aviation Snips. Same as above, but for right cut.  
49 N 028. 1-5...EA. 3.23 6-Up...EA. 2.93



## ELECTRONIC PLIERS AND CUTTERS

Sturdily built Krauter cutters and pliers. All are hammer forged from selected fine grain tool steel, and have full polished heads and handles. Among types listed in table below, "CG" prefix indicates vinyl cushion-grip; "CCG"—spring-loaded, Vinyl cushion grip. Av. shpg. wt., 12 oz.

Stock No.	Fig.	Mfr's Type	Description	EACH	
				1-5	6-Up
50 N 110	A	CCG4625	5" Needle-Point Diagonal Cutters with Spring	3.65	3.32
50 N 433	B	CG4501	4 1/2" Narrow Head Diagonal "Oblique" Cutters	2.38	2.16
46 N 402	B	CG4501	5" Narrow Head Diagonal "Oblique" Cutters	2.58	2.33
46 N 403	B	CG4501	6" Narrow Head Diagonal "Oblique" Cutters	2.94	2.66
46 N 414	B	CG2612	6 1/2" Wire-Stripping Diag. Cutters (with spring)	3.65	3.32
50 N 113	C	CG5627	5 1/2" Resistor Terminal End Cutting Pliers	3.63	3.30
49 N 064	D	CCG102	4 1/2" Needle Nose Pliers—Radiused Edges	2.49	2.26
50 N 330	D	CG1641	5" Short-Chain Needle-Nose Pliers (with cutter)	2.65	2.40
46 N 401	D	CG1661	6" Long-Chain Needle-Nose Pliers (with cutter)	2.94	2.66
46 N 404	D	CG1671	6" Long-Chain Needle-Nose Pliers (no cutter)	2.20	2.00
50 N 331	D	CG1771	7" Long-Chain Needle-Nose Pliers (with cutter)	3.53	3.20
49 N 011	D	CG1771	7" Long-Chain Needle-Nose Pliers (no cutter)	2.65	2.40
49 N 052	E	CCG141	6" Pinned Electronic Nose Cutting Pliers	4.41	4.00
50 N 112	F	CG1650	6" Long-Jaw End-Cutting Pliers (with spring)	3.67	3.33
46 N 413	G	CG1741	6" Long Flat-Nose Pliers (no cutter)	2.49	2.27
50 N 332	H	CG1801	6" Linemen's Side Cutting Pliers	3.38	3.06
46 N 408	H	CG1801	8 1/2" Linemen's Side Cutting Pliers	4.05	3.66
46 N 400	H	CG1830	6 1/2" Electrician's Side Cutting Pliers	2.58	2.33
49 N 025	J	156	10" "Duo-Brite" Combination Pliers	1.58	1.43

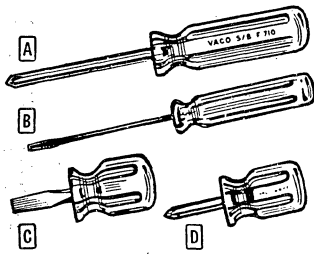


## INDUSTRIAL AND ELECTRONIC PLIERS

Professional-quality pliers for industrial and electronic applications. All are hammer forged from selected fine grain tool steel, and have full polished heads and handles. Among types listed in table below, "CG" prefix indicates vinyl cushion-grip; "CCG"—spring-loaded, Vinyl cushion grip. Av. shpg. wt., 10 oz.

Stock No.	Fig.	Mfr's Type	Description	EACH	
				1-5	6-Up
50 N 111	W	CG71	8" Long-Reach Short-Jaw Nose Cutting Pliers	3.65	3.32
49 N 012	W	CG61	8" Long-Reach Short-Jaw Nose Pliers (no cutter)	3.07	2.79
49 N 009	X	CG1631	5 1/2" Curved-Needle or Snipe-Nose Pliers (no cutter)	3.07	2.78
49 N 010	Y	CG1621	6" Long-Needle or Snipe-Nose Pliers (no cutter)	2.68	2.42
49 N 013	Z	CCG140	6" Long-Nose Electronic Pliers—1/2" Tip (with spring)	3.31	3.00
49 N 014	AA	CCG160	7" Extra Fine Long-Nose Electronic Pliers (with spring)	2.79	2.52
49 N 018	BB	CG4206	6" Hard Wire Diagonal Cutting Pliers	3.67	3.33
49 N 019	CC	CG4502	7" Diagonal Cutting Pliers—Full Fashioned Handles	3.38	3.06
49 N 012	Y	CCG144	6" Extra Slim Pinned Long Nose Pliers—Std. Serrated Tips	3.42	3.10
49 N 063	Y	CCG145	6" Pliers as Above, but Smooth Jaws and Radiused Edges	3.57	3.23
49 N 022	DD	CG643	5" Blue Temper Finish Ignition Pliers	1.47	1.33
49 N 036	EE	CG3601	6" Short-Nose Diagonal Cutting Pliers	3.31	3.00
49 N 061	FF	CG121	5" Precision Slim Nose Pliers—Std. Serrated Tips	2.58	2.33

# Knight Precision Pliers, Cutters and Screwdrivers



**A** Philips Screwdrivers. No. 1:  $\frac{3}{16} \times 3''$  shaft;  $6\frac{1}{2}''$  length; 2 oz. No. 2:  $\frac{1}{4} \times 4''$  shaft;  $7\frac{5}{8}''$  length; 6 oz.  
**45 N 382.** # 1, 1-5, EA. .60 6-Up, EA. .53  
**45 N 383.** # 2, 1-5, EA. .71 6-Up, EA. .63

**B** Regular Screwdrivers. Chrome vanadium steel. Amber handles.

Stock No.	Shaft	Lgth.	EACH	
			Wt., Oz.	1-5 6-Up
45 N 374	$\frac{1}{8} \times 4''$	$6\frac{3}{4}''$	2 .33	.29
45 N 375	$\frac{1}{8} \times 6''$	$8\frac{3}{4}''$	2 .36	.31
45 N 377	$\frac{1}{4} \times 4''$	$7\frac{5}{8}''$	4 .63	.55
45 N 378	$\frac{1}{4} \times 6''$	$9\frac{5}{8}''$	4 .68	.60
45 N 379	$\frac{1}{4} \times 8''$	$11\frac{5}{8}''$	7 .71	.63
49 N 039	$\frac{3}{16} \times 4''$	$7\frac{1}{2}''$	2 .51	.45
49 N 040	$\frac{3}{16} \times 6''$	$9''$	2 .58	.52

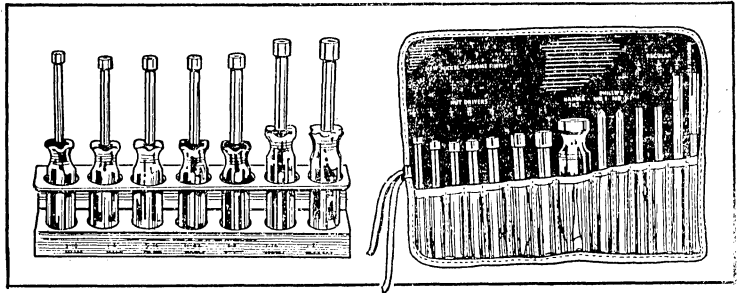
**C** Regular Stubby.  $\frac{1}{4} \times 1\frac{1}{4}''$  shaft;  $3''$  length; 2 oz.

**49 N 048.** 1-5, EA. .51 . . . . . 6-Up, EA. .45

**D** Phillips Stubby. No. 1:  $\frac{3}{16} \times 1\frac{1}{4}''$  shaft;  $3\frac{7}{8}''$  length. No. 2:  $\frac{1}{4} \times 1\frac{1}{4}''$  shaft;  $3\frac{7}{8}''$  length. Wt., 2 oz.

**49 N 049.** # 1, 1-5, EA. .58 6-Up, EA. .52  
**49 N 051.** # 2, 1-5, EA. .60 6-Up, EA. .53

## RIGID FACTORY TESTING ASSURES TOP PERFORMANCE



### 8-PIECE NUTDRIVER KIT

**\$575**

- One Year Guarantee
- Durable High-Grade Tool Steel
- Hollow Steel Shafts

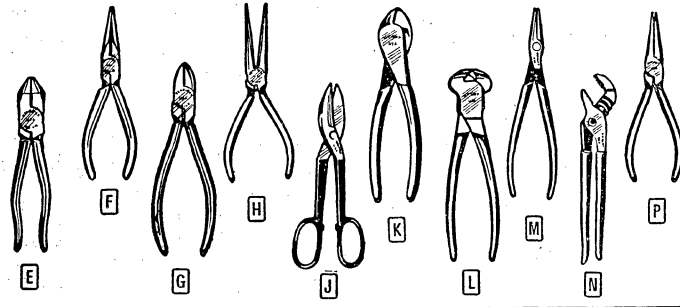
### 15-PC. NUT-SCREWDRIVER KIT

**\$795**

- One Year Guarantee
- 7 Nutdrivers and 5 Screwdrivers
- Heavy-Duty Vinyl Roll-Up Pouch

A high-quality line of hex nutdrivers made especially for Allied by nationally known tool manufacturer. Factory tested according to Allied's rigid specifications. Kit includes: 7 nutdrivers:  $\frac{3}{16}''$ ,  $\frac{1}{4}''$ ,  $\frac{5}{16}''$ ,  $\frac{11}{32}''$ ,  $\frac{3}{8}''$ ,  $\frac{7}{16}''$ , and  $\frac{1}{2}''$  in self-supporting rack. Feature molded, color-coded "Amberlyl" plastic handles. Nickel-chrome plated drivers. Shafts are  $6\frac{3}{4}''$ , except  $6\frac{7}{8}''$  on  $\frac{7}{16}''$  and  $\frac{1}{2}''$  drivers. Drop-forged from selected tool steel and heat treated for maximum hardness and durability. Accurately machined for smooth action. Shpg. wt.,  $1\frac{3}{4}$  lbs.  
**50 N 787.** 1-5, EA. .575 6-Up, EA. .529

A complete nut and screwdriver set in a heavy-duty vinyl plastic roll-up pouch. Individual holders marked for shaft size. Handy  $8\frac{1}{2} \times 11''$  pouch that conveniently rolls up to  $3 \times 8''$ , contains: molded "Amberlyl" plastic handle;  $6''$  extension; 7 nutdrivers— $\frac{3}{16}''$ ,  $\frac{1}{4}''$ ,  $\frac{5}{16}''$ ,  $\frac{11}{32}''$ ,  $\frac{3}{8}''$ ,  $\frac{7}{16}''$ , and  $\frac{1}{2}''$ ; No. 1 and No. 2 Phillips, and  $\frac{1}{8}''$ ,  $\frac{3}{16}''$ ,  $\frac{1}{4}''$  slotted screwdrivers. Screwdrivers have precision ground blades for accurate fit; all nutdrivers are equipped with hollow chrome-vanadium steel shafts. Made for Allied by a leading domestic tool manufacturer. Wt.,  $1\frac{1}{2}$  lbs.  
**50 N 788.** 1-5, EA. .795 6-Up, EA. .695

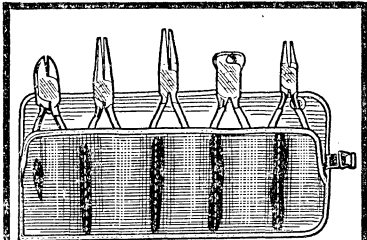


### KNIGHT FACTORY-TESTED PLIERS, CUTTERS, NIPPERS AND SNIPS

- Forged From Durable High-Grade Tool Steel
- Made By Nationally Known Manufacturer
- Unconditionally Guaranteed for One Year
- Feature Comfortable Plastic Cushion Grips

Knight precision pliers, cutters, nippers and snips—made for Allied by a leading domestic tool manufacturer. Quality-controlled at the factory to meet Allied's exacting standards. Drop forged from selected, high-grade tool steel and carefully heat treated for optimum temper. Accurately machined, fitted and adjusted to assure smooth action and maximum ease of handling. All, except  $8''$  Straight Cut Tin Snips, have easy-on-the-hand plastic cushion grips. Av. shpg. wt., 10 oz.

Stock No.	Fig.	Description.	1-5, EA.	6-Up, EA.
50 N 131	E	$6\frac{1}{2}''$ Side Cutting Pliers	2.03	1.81
50 N 132	F	$6''$ Chain-Nose With Cutters	2.26	2.02
50 N 210	F	$6''$ Chain-Nose Pliers	1.85	1.65
50 N 133	G	$5''$ Diagonal Cutting Pliers	1.98	1.77
50 N 134	G	$6''$ Diagonal Cutting Pliers	2.29	2.04
49 N 029	K	$7''$ Diagonal Cutting Pliers	2.29	2.05
50 N 135	H	$7''$ Chain-Nose With Cutters	2.72	2.42
49 N 038	J	$8''$ Straight Cut Tin Snips	1.64	1.46
49 N 067	L	$6''$ End Cutting Nippers	2.59	2.32
49 N 066	L	$8''$ End Cutting Nippers	3.33	2.97
49 N 031	M	$8''$ Assembly Pliers	2.84	2.53
49 N 032	N	$10''$ Tongue and Groove Joint Pliers (5 Adjustments)	2.18	1.94
49 N 065	N	$6\frac{1}{2}''$ Tongue and Groove Joint Pliers (5 Adjustments)	1.82	1.62
49 N 033	N	$14''$ Tongue and Groove Joint Pliers (5 Adjustments)	2.58	2.30
49 N 034	P	$6''$ Cutting/Stripping Pliers	2.98	2.66



### NEW JEWELERS' PLIERS KIT

**\$1239**

Complete 5-Pc. Set

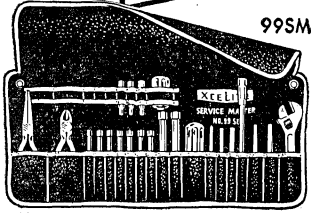
A handy set of five precision pliers in a heavy-duty vinyl plastic roll-up pouch. Made by a leading manufacturer for work on miniaturized assemblies and delicate mechanisms. Drop forged from selected, fine grain tool steel, and carefully heat treated for durability. Accurately tooled for smooth action. Feature comfortable plastic cushion grips. Vinyl roll pack contains  $4\frac{1}{2}''$  pliers listed separately below. \*Smooth jaws with no cutters.  $1\frac{1}{4}$  lbs.  
**49 N 068.** . . . . . **12.39**

### INDIVIDUAL PLIERS (Wt. 5 oz.)

Stock No.	Description	EACH	
		1-5	6-Up
45 N 370	$4\frac{1}{2}''$ Diagonal Cutting	2.19	1.98
45 N 371	$4\frac{1}{2}''$ Chain-Nose*	2.08	1.86
45 N 373	$4\frac{1}{2}''$ End-Cutting	2.56	2.29
45 N 372	$4\frac{1}{2}''$ Flat-Nose*	2.08	1.86
49 N 037	$4\frac{1}{2}''$ Round-Nose	1.98	1.79

# XCELITE

# Quality Screwdrivers and Nutdrivers

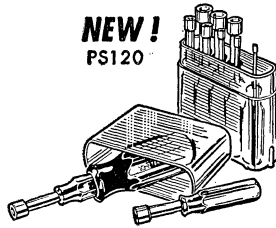


**\$22.89** • 23-Piece Set  
• Handy Roll-Up Kit  
**995M SERVICE MASTER KIT**

Versatile 23-piece set of Xcelite tools meets almost every servicing need for radio, TV, other types of equipment. Provides a variety of quick-change tools and tool combinations to speed up work.

Set contains: 6" long-nose pliers; 5" diagonal pliers; 6" adjustable wrench; nine regular nutdrivers in sizes from 3/16" through 1/2" in 1/16" steps; 1/4" stubby nutdriver; 3/16" stubby nutdriver; 3/8" stubby nutdriver; 3/16" slotted screwdriver; 9/32" slotted screwdriver; No. 1 Phillips screwdriver; 1/8"-3/8" reamer; 1/4"-1/2" reamer; 8" extension blade; regular handle; and stubby handle. Amber plastic handles are breakproof and shockproof. In handy roll-up kit with individual pockets for each piece. 2 3/4 lbs.  
**43 N 884.....22.89**

**NEW!**  
**PS120**



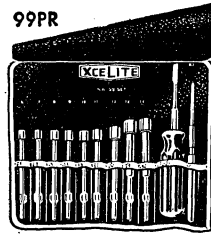
### NEW PS120 NUTDRIVER SET

Ten pocket-size nutdrivers, plus a "torque amplifier" handle that slips over regular nutdriver handles for extra driving-power. Sizes: 3/32" to 3/8" in 1/32" steps. Color coded. Nutdrivers are only 3 1/2" long. Slip-on handle, 1x3 1/8". Pocket-size plastic case. Shpg. wt., 2 lbs.  
**51 N 194.....4.95**

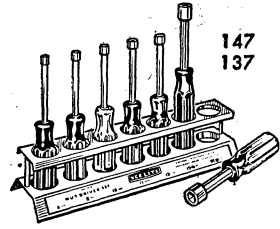
### 999 NUT & SCREWDRIVER SET

Chrome-plated 13-piece set in plastic roll-up kit. 9 nutdrivers, 3/16" to 1/2" in 1/32" steps; 2 combination screwdrivers (3/16" and 9/32" std., Nos. 1 and 2 Phillips); plastic handle. Shpg. wt., 2 lbs.  
**45 N 738.....8.65**  
**45 N 787, Model 99X10 8" Extension, For 99 series. Wt., 5 oz.....87c**

**99PR**



### HANDY HEX NUTDRIVER SETS



### 147 HOLLOW-SHAFT NUTDRIVERS

Seven nutdrivers in commonly used sizes for radio-TV work. All have hollow shafts—slip over bolts to get at otherwise hard-to-reach nuts. Sizes and colors: red, 1/4"; orange, 3/8"; yellow, 5/16"; green, 11/32"; blue, 3/8"; brown, 7/16"; and red, 1/2". With self-supporting metal bench stand. Shpg. wt., 2 lbs.  
**47 N 092.....7.98**

### 137 NUTDRIVER SET

Seven color-coded nutdrivers in self-supporting bench stand. Sizes and colors: black, 3/16"; red, 1/4"; yellow, 5/16"; green, 11/32"; blue, 3/8"; red, 1/2"; orange, 3/8". Polished steel shanks. Only the 1/2" and 1/4" drivers have hollow shafts. Shpg. wt., 3 lbs.  
**45 N 734.....6.98**



### HIGH-QUALITY SCREWDRIVERS

- Chrome Vanadium Steel Shafts
- Plastic Handles

### A ROUND-SHAFT SCREWDRIVERS. Winged design prevents turning of blade in handle. In lengths from 4 1/4" to 12".

Stock No.	Mfr's Type	Shaft Size		Overall Length	Shpg. Wt.	EACH
		Dia.	Length			
43 N 845	R-182	1/8"	2"	4 1/2"	3 oz.	.33
43 N 846	R-184	1/8"	4"	6 1/2"	3 oz.	.39
43 N 847	R-186	1/8"	6"	8 1/2"	4 oz.	.42
43 N 848	R-188	1/8"	8"	10 1/2"	4 oz.	.54
45 N 795	R-144	1/4"	4"	8"	6 oz.	.78
45 N 796	R-146	1/4"	6"	10"	6 oz.	.84
45 N 797	R-148	1/4"	8"	12"	7 oz.	.90

### B SET-SCREW TYPE SCREWDRIVERS. Narrow-blade screwdrivers fit standard set-screws. Have pocket clips.

Stock No.	Mfr's Type	Shaft Size		Overall Length	Shpg. Wt.	EACH
		Dia.	Length			
43 N 830	R-3323SS	3/32"	3"	5"	2 oz.	.27
43 N 831	R-184SS	1/8"	4"	6"	2 oz.	.39

### C SQUARE-SHAFT SCREWDRIVERS. Lengths from 7 3/8" to 18".

Stock No.	Mfr's Type	Shaft Size		Overall Length	Shpg. Wt.	EACH
		Dia.	Length			
43 N 829	S-3164	3/16"	4"	7 3/8"	4 oz.	.69
43 N 832	S-144	1/4"	4"	8"	6 oz.	.87
43 N 833	S-146	1/4"	6"	10"	6 oz.	.93
43 N 834	S-148	1/4"	8"	12"	7 oz.	.99
43 N 837	S-388	3/8"	8"	12 1/8"	1 lb.	1.38

### D PHILLIPS SCREWDRIVERS. \*Stubby type. †With pocket clip.

Stock No.	Mfr's Type	Shaft		Overall Length	Shpg. Wt.	EACH
		Tip	Length			
45 N 345	P-12St†	No. 0	2"	4"	3 oz.	.39
43 N 876	X-101	No. 1	3"	6 3/8"	5 oz.	.69
43 N 877	X-108	No. 1	6"	10"	5 oz.	.75
43 N 878	X-102	No. 2	4"	7 3/4"	6 oz.	.87
43 N 879	X-1020	No. 2	10"	13 3/4"	8 oz.	1.17
43 N 881	X-103	No. 3	6"	10"	10 oz.	1.17
43 N 882	SX-101*	No. 1	1 7/16"	2 3/4"	3 oz.	.63
43 N 883	SX-102*	No. 2	1 5/16"	3 1/4"	5 oz.	.69

### E CLUTCH-HEAD SCREWDRIVERS. Fit clutch-head screws used in sheet metal assemblies, electronic gear, etc.

Stock No.	Mfr's Type	Shaft Size		Overall Length	Shpg. Wt.	EACH
		Tip	Length			
50 N 144	G-183	1/8"	4"	6 1/2"	3 oz.	.72
50 N 145	G-5324	5/32"	4"	7 1/2"	4 oz.	.81
50 N 146	G-3164	9/16"	4"	7 1/2"	4 oz.	.81

### F COMBINATION-BLADE SCREWDRIVERS. With handle.

Stock No.	Mfr's Type	Blade Combination	Length	Shpg. Wt.	EACH
45 N 747	CR2	1/4" Regular; #2 Phillips	7"	5 oz.	1.38
45 N 748	CR3	3/16" Regular; #3 Phillips	7"	10 oz.	1.38

## HEX NUTDRIVERS FOR FASTER SERVICING

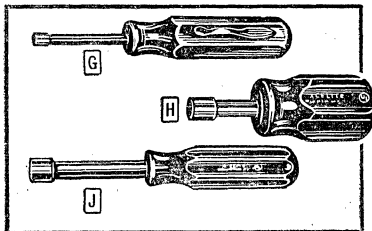


Figure J has hollow shaft for tightening nuts on long screws. Figure H is stubby type for limited space. Figure G is pocket-

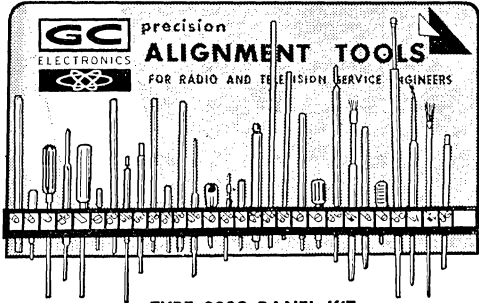
Stock No.	Type	* Size	Handle	L	EA.
45 N 324	P-3	G 3/32"	Blue	3 3/8"	.48
45 N 325	P-4	G 1/8"	Red	3 3/8"	.48
45 N 326	P-5	G 5/32"	Amber	3 3/8"	.48
50 N 141	P-8	G 1/4"	Red	3 3/8"	.48
45 N 857	S-8	H 1/4"	Red	3 1/4"	.63
49 N 007	HS-6	J 3/16"	Black	6"	.93
49 N 008	HS-7	J 1/2"	Brown	6"	.93
45 N 779	HS-8	J 1/4"	Red	6"	.93

style nutdriver. Type HS-18 fits 3/16" volume control nuts. \*Figure. "L"-Length. Shpg. wt., 6 oz., except Type HS-8, 5 oz.

Stock No.	Type	* Size	Handle	L	EA.
47 N 093	HS-9	J 9/32"	Orange	6 7/8"	.89
45 N 780	HS-10	J 3/16"	Amber	6"	.93
45 N 781	HS-11	J 1/32"	Green	6"	.93
45 N 782	HS-12	J 3/8"	Blue	6"	.93
45 N 783	HS-14	J 7/16"	Brown	7"	1.05
45 N 784	HS-16	J 1/2"	Red	7"	1.08
45 N 785	HS-18	J 9/16"	Orange	7"	1.14
45 N 786	HS-20	J 5/8"	Amber	7"	1.26

# Alignment Tools and Repair Aids

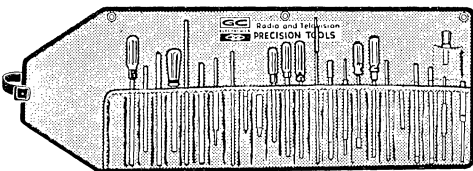
## TOP-QUALITY RADIO-TV ALIGNMENT TOOL KITS



TYPE 9200 PANEL KIT

Convenient, wall-mounting kit of 27 most needed radio-TV alignment tools. Each tool has an individually marked slot in the panel. All tools are made of the finest materials—low-loss plastics, tips of hardened spring steel, extra-hard bone fiber. Kit includes: various length alignment screwdrivers; special short tools; alignment wrenches; channel tuners; core aligners; oscillator adjustment tools; trimmer and IF aligners; solder probe; nylon replacement tip for long-reach aligner; hex tools; etc. Three-color steel panel keeps immediately-needed tools at your fingertips. 2-hole mounting. Shpg. wt., 3 lbs.

42 NX 341 ..... 16.95

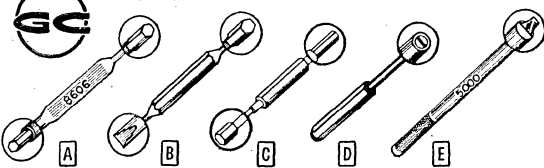


TYPE 8283 MASTER DELUXE TV TOOL KIT

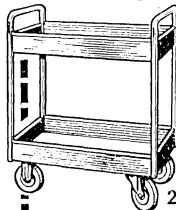
Complete 25-piece television alignment tool kit. High-quality tools, none over 9" long. Includes: K-Tran tool; core aligner; long-reach aligner; flexible wand; short tool, etc. Roll-up case. Shpg. wt., 1 lb.

42 N 005 ..... 13.88

## TV ALIGNMENT AND TUNING TOOLS



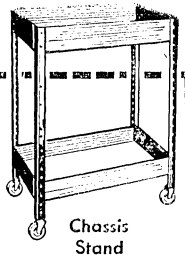
Stock No.	Type	Fig.	Description	Oz.	EA.
42 N 377	8606	A	Zenith-Admiral nylon hex wrench	3	.47
42 N 380	8282	B	Zenith wrench and aligner	3	.36
42 N 346	9296	C	1 1/2" nylon hex (.075") wrench	4	.62
42 N 347	9050-L	D	Zenith nylon hex wrench	3	.52
42 N 396	5000	E	Alignment screwdriver	3	.41



## EQUIPTO STEEL TRUCKS AND CHASSIS STANDS

- All-Steel Construction
- Rubber-Tired Wheels

2-Tray Truck



Chassis Stand

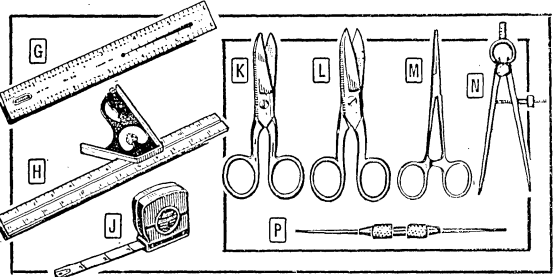
**STEEL TRUCKS.** Rugged trucks with round beaded edges for strength and rigidity. Rubber-tired 5" wheels; rear wheels swivel; 4" deep trays hold up to 600 lbs. Top tray inverts to become table top. Olive-green finish.

Stock No.	Type	Size (HWD)	Wt., Lbs.	EACH
52 NZ 716	150	36x24x36"	70	39.90
52 NX 719	145	36x16x30"	60.	29.90

52 N 913. Type 146 Shelf. Attaches to above trucks. Size, 8 1/2 x 11". Shpg. wt., 5 lbs. .... 2.50

**CHASSIS STANDS.** For moving or working on radio-TV chassis, heavy test equipment, etc. Rugged steel construction; 2 1/2" solid rubber-tired wheels. Lower shelf may be used for tools, parts, etc. Size, 34x18x24".

Stock No.	Type	Description	Wt., Lbs.	EACH
52 NZ 714	710	Metal top	55	16.30
52 NZ 715	711	Wood top	57	17.80



G 46 N 061. 6" Rule and Wire Gauge. Graduated to 64ths. Has B&S wire gauge, decimal equivalents. Shpg. wt., 2 oz. .... 44

46 N 088. 12" Stainless-Steel Bench Rule. (Not illus.) Both sides graduated to 64ths. 7/8" wide. 2 oz. .... 75

H 50 N 308. 12" Combination Rule. Etched steel. Graduated to 32nds. Head locks on 1" blade. Scriber in head. 1 3/4 lbs. .... 84

J LUFKIN "MEZURMATIC" TAPE RULES. Ball-bearing rewind, non-slip cases. Both edges graduated to 16ths; first 12" to 32nds on one edge. Black on white, except \*chrome-plated.

Stock No.	Type	Feet	Oz.	EACH
50 N 179	W728	8	7	1.13
50 N 180	W7210	10	7 1/2	1.33
50 N 181	W7212	12	8	1.53
50 N 182	C728*	8	7	1.60
50 N 183	C7210*	10	7 1/2	1.80

K 45 N 896. Clauss Industrial Scissors. Type 925 electrician's scissors. 5" long. 1 3/4" cut-length. 3 oz. .... 1.84

L 45 N 842. Above, with wire-stripping notches. .... 2.14

M 45 N 666. Xcelite 42H "Seizer". Straight-nose. 3 oz. .... 4.27

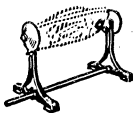
45 N 667. Type 43H. As above, but curved-nose. .... 4.42

N 46 N 089. 6" Steel Dividers. Bow-sprung, tapered fulcrum for accuracy. Adjusting nut. Shpg. wt., 6 oz. .... 2.74

P 50 N 309. 9" Scriber. Knurled finger-hold. 3 oz. .... 44

## JFD "REPAIRACK"

\$2940 • Cast-Iron Rack • Rotates 360°



Unusually sturdy. Chassis clamps hold any radio or television chassis up to 200 lbs. in weight and 32" in length. "Repairack" rotates 360° for easy accessibility to all sides of chassis. Overall size, 14 3/4 x 32 x 15". Shpg. wt., 18 lbs.

52 NX 711 ..... 29.40

## HANSON 1" MICROMETER

\$375 • Factory-adjusted • Economy-priced • Has .0005" Accuracy • Chrome-plated



Precision, economy micrometer has .0005" accuracy. Screw-type anvil simplifies zero adjustment. Spring-friction stop. Frame, thimble and ratchet are chrome to inhibit rust. Factory-adjusted. 7 oz.

46 N 249 ..... 3.75

## CENTRAL 12 RL 1" MICROMETER

\$1095 • Meets Government Spec GGG-C-105 • Positive Lock • Forged Steel Frame



Deluxe, moderately priced micrometer. Easy to read, has positive lock. Extremely accurate, meets Government Spec GGG-C-105. Polished spindle and anvil, forged steel frame. Shpg. wt., 8 oz.

50 N 060 ..... 10.95



*Moody*

# High-Quality Special-Purpose Hand Tools



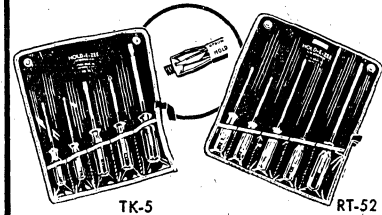
**30 Tools**  
**\$12.95**  
With case

An absolute necessity for anyone who works with small objects—radio-TV serviceman, hobbyist, sportsman. Contains 6 individual tiny tool sets, described at right. Each set has its own chuck-type handle and plastic case, and all are contained in a leatherette carrying case. Tools are precision manufactured. Wt., 1 lb.  
51 N 282 ..... 12.95

## PRECISION SMALL TOOL SETS

The Moody Master Kit Consists of 6 Individual Tiny Tool Sets—Each in Its Own Container, Each with Its Own Handle. The Sets Are:

- SC-5 Tiny Screwdriver and Awl Set, Screwdriver Sizes: .055", .070", .080", .100"; and Awl
- PA-5 Tiny Phillips Driver and Allen-Type Wrench Set, Phillips Sizes: #0, #1; Allen Sizes: #4, #6, #8
- SW-5 Tiny Socket Wrench Set, Hex Socket Sizes: 5/64", 3/32", 7/64", 1/8", 5/32"
- OE-5 Tiny Offset Open End Wrench Set, 5 Wrenches, Sizes: 5/64", 3/32", 7/64", 1/8", 5/32", 3/16", 1/4", 5/16"
- TS-5 Tiny Tap Set, Sizes: 0-80, 1-72, 2-56, 3-48, 4-40
- FR-5 Hex Wrench, Screwdriver Kit, Sizes: 1/4" and 3/16" Hex Wrenches, 1/10" and 7/32" Screwdrivers, and a Handy Awl



## "HOLD-E-ZEE" SCREWDRIVER KITS

Popular "Hold-E-Zee" screwdrivers with special clamp that holds the screw in the bit. Ideal for use in hard-to-reach spots and with hard-to-hold small screws.

**MODEL TK-5 ROLL KIT.** Five screwdrivers for regular use. Includes: TR-4, 5/32x4"; PR-4, 5/32x4" crosspoint; TS-4, 7/32x4"; PS-4, 7/32x4" crosspoint; and TH-6, 5/16x6". In handy roll-up plastic kit. Shpg. wt., 1 1/2 lbs.  
51 N 285 ..... 3.86

**MODEL RT-52 ROLL KIT.** Five special electronics screwdrivers. Kit includes: TR-4, 5/32x4"; PR-4, 5/32x4" crosspoint; TR-6, 5/32x6"; TR-8, 5/32x8"; and TS-7, 7/32x7". In handy roll-up plastic carrying kit. Shpg. wt., 1 1/4 lbs.  
51 N 286 ..... 3.31

## HP MODEL 500 NUT CRACKING TOOL



**\$5.95** Can't Damage Bolts

An exceptionally handy tool. Removes rusted, stripped or otherwise damaged nuts—cannot damage bolts. Cracks nuts from 3/16" to 1 3/16". Tool is easy to use; simply set chisel at right angle to the flat of the nut—grip firmly—then swing ratchet on forcing screw. Provides up to 25,000 lbs. of pressure. Shpg. wt., 1 1/4 lbs.  
50 N 583 ..... 5.95

## ADEL METAL "NIBBLING" TOOL

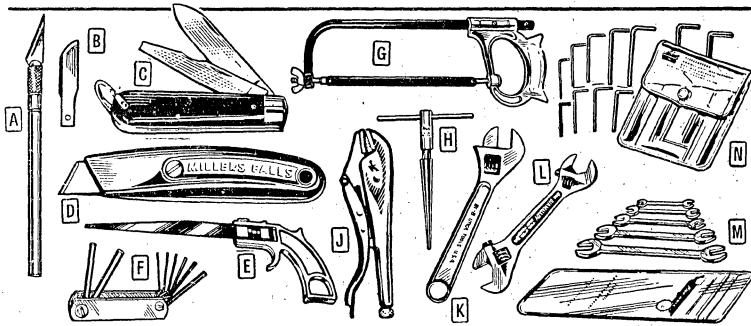
—for Up To 1/16" Metal



As low as **\$3.60**

A real time-saver. Handy device easily munches metal up to 1/16" thick. "Nibbles" holes, slots or openings in 18-gauge steel, aluminum or other soft metals. Leaves safe, smooth, flat edges on all openings. Minimum hole size is 7/8" diameter. Durable construction; punch can be replaced (see listing below). Shpg. wt., 8 oz.  
43 N 863 1-11 ..... EACH 3.85  
12-Up ..... EACH 3.60

REPLACEMENT PUNCH FOR ABOVE, Easy to install. Wt., 2 oz.  
50 N 130 ..... 1.87



**A** X-ACTO NO. 1 KNIFE. For light to medium work. 5" aluminum handle; 3/16" dia. With No. 11 blade. 3 oz.  
50 N 608 ..... .53

**B** NO. 10 BLADES, 5 per pkg, 2 oz.  
50 N 609 ..... PER PKG. .53

**C** NO. 11 BLADES, 5 per pkg, 2 oz.  
50 N 610 ..... PER PKG. .53

**D** ULSTER K-29W ELECTRICIANS' KNIFE, Two 2 1/2" blades: screwdriver-wirescraper; and spear shape. Overall length, 3 3/4". Shpg. wt., 5 oz.  
45 N 843 ..... 1.49

**E** MILLERS FALLS UTILITY KNIFE. Cuts veneer, etc. 5" long. With 5 blades. Wt., 1/2 lb.  
46 N 308 ..... .75  
50 N 171. Pkg. of 5 Blades, 2 oz. .... .37

**F** FORSBERG V-35 4-WAY KEYHOLE HACKSAW, 7 1/2" blade, 6 oz.  
46 N 341 ..... .34

EXTRA BLADE, Wt., 2 oz.  
46 N 342 ..... .14

**G** FLEET HEX-KEY WRENCH SET, Nickel-chrome steel wrenches in steel frame. Sizes, .050" to 3/16", 4 oz.  
50 N 128 ..... .88

**H** HACKSAW, Takes 10-12" blades. Tough plastic handle, chrome-plated frame. With 10" blade, 1 1/2 lbs.  
51 N 096 ..... 1.49

**I** HENRY HANSON 120 HAND REAMER, 1/8" tip, 5 1/2" long, 9 oz.  
46 N 243 ..... 1.19

**J** TRU-CUT 10-DC LOCK WRENCH. Up to 1000 lbs. pressure. Fingertip release. Opens to 1 1/2". 10" long, 1 1/4 lbs.  
46 N 434 ..... 1.72

**K** UTICA 91 ADJUSTABLE WRENCHES. Drop forged alloy steel, with chromed heads. \*Indicates tip thickness.

Stock No.	*	Size	Jaw Open	Shpg. Wt.	EACH
46 N 481	1/8"	4"	1/2"	2 oz.	1.93
46 N 482	3/16"	6"	3/4"	4 1/2 oz.	1.93
46 N 483	1/4"	8"	1 1/16"	8 oz.	2.22
46 N 484	3/8"	10"	1 1/8"	1 lb.	2.78
46 N 485	1/2"	12"	1 3/8"	1 1/2 lbs.	4.10

**L** DB-76 ADJUSTABLE DIAMOND WRENCH, 6" double-end—1/2" (1/8" at tip) and 3/4" (7/32" at tip) jaw capacities. Drop forged tool-steel, 6 oz.  
45 N 770 ..... 2.74

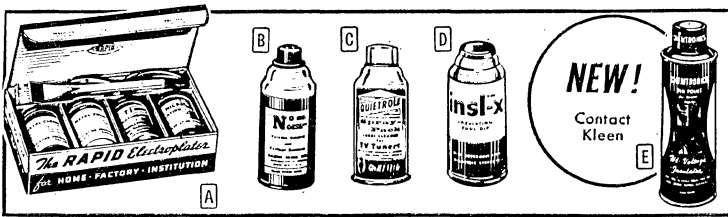
**M** FLEET OPEN-END WRENCH SET, 5 wrenches. On each end: 3/8"-7/16", 1/2"-9/16", 13/32"-11/16", 5/8"-3/4", and 13/16"-7/8". Chrome plated. In handy plastic carrying pouch. Shpg. wt., 1 1/4 lbs.  
46 N 266 ..... 1.79

FLEET OPEN AND BOX-END WRENCH SET, 5 wrenches. On each end: 3/8", 7/16", 1/2", 9/16", and 5/8". Chrome plated. In handy pouch. Wt., 3/4 lb.  
50 N 120 ..... 2.10

**N** WALSCO HEX SPLINE KEYS, 7 Allen and 4 Bristol key-type, L-shaped wrenches. Fit screw sizes No. 2 to 3/8". In leatherette case. Wt., 1/2 lb.  
46 N 166 ..... 1.32

# Chemicals for Shop and Service

## QUALITY PAINTS AND CHEMICALS



**A** **RAPID "ELECTROPLATER."** Includes: Type 200 nickel compound; 1 oz. cleaner; 1 oz. polish; 5/8" brush with wires and clips; and polishing stick. Requires 2 No. 6-1/2 v. dry cells. 1 lb. **43 N 080.....1.67**

**B** **"NO NOISE" SOLUTION.** Cleans and lubricates controls, switches, etc. Available in 6-oz. spray can or 2-oz. bottle with dropper. Shpg. wts.: can. 10 oz.; bottle. Shpg. wt., 6 oz. **43 N 142, 6-oz. Can.....2.20**  
**43 N 143, 2-oz. Bottle......98**

**C** **QUIETROLE SPRAY PACK.** Eliminates noise from controls, etc. Non-flammable. In handy spray can. 10 oz. **50 N 719.....2.73**

**D** **INSL-X TOOL DIP.** Red liquid-plastic hardens into insulating coating when applied to handles of pliers, wrenches, etc. Corrosive resistant. Dries in 24 hours. Easy to use—just dip handles into can. In 32-oz. can. Wt., 2 1/4 lbs. **42 N 401, 1-23.....EACH 3.40**  
**24-Up.....EACH 3.06**

**NEW!**  
Contact Kleen **E**

**INSL-X E-26 INSULATING SPRAY.** Clear plastic electrical insulation. Insulates electronic components, terminals, circuit wiring, tools. Tough and durable. Dielectric strength, 800-1200 volts/mil. In 8-oz. spray-can. Wt., 1 1/2 lbs. **42 N 402, 1-23.....EACH 1.19**  
**24-Up.....EACH 1.07**

**E** **NEW CHEMTRONICS CONTACT-KLEEN.** Electrical contact and control cleaner. For relays, thermostats, switches, etc. 8-oz. spray can. Wt., 12 oz. **51 N 290.....1.29**

**CHEMTRONICS "NO-ARC."** High-voltage insulator. 20,000 v. breakdown. In 8-oz. spray can. Wt., 12 oz. **50 N 694.....2.79**

**CHEMTRONICS TUN-O-LUBE.** High-quality lubricant. Cleans and lubes all types of tuners. 8-oz. spray can. Wt., 12 oz. **51 N 270.....1.69**

**CHEMTRONICS TROL-AID.** Cleans and lubes controls and switches. In 8-oz. spray can. Wt., 12 oz. **51 N 271.....1.69**

**JET-PAK  
SPRAYON  
OUTFIT**

**\$198**

Sprays Paint,  
Waxes, etc.



Sprays any liquid. Uses no cords, no hoses. Powerful gas cartridge acts as power unit. Works at the touch of a button. Sprays up to 32 oz. of paints, etc. Includes head assembly, 4-oz. glass jar, 15-oz. power unit. Shpg. wt., 1 1/2 lbs. **47 N 086.....1.98**  
**47 N 087, 15-oz. Refill, 1 lb.....1.20**  
**47 N 088, Extra 4-Oz. Jar......13**

### GC "EPOX" CEMENT KIT

**2-Tube Kit \$191**

- For Strong-As-New Repairs
- Fast, Easy to Use

Super-strong adhesive provides high adhesion and bond strength. Excellent for cementing ceramics, glass, metals and other non-porous materials. Resists the ill-effects of moisture, solvents, fungus, heat, etc. Two tubes. 4 oz. **50 N 574.....1.91**



### SELECTED SERVICING CHEMICALS



**F** **NO. 21 SILVER PRINTED-CIRCUIT PAINT.** Use to repair or design printed-circuits. 1 Troy oz. Wt., 4 oz. **43 N 159.....4.56**

**G** **"SPRA-KLEEN" CONTACT CLEANER.** Efficient cleaner—simple spray and work mechanism. 6 oz. Wt., 10 oz. **43 N 025......97**

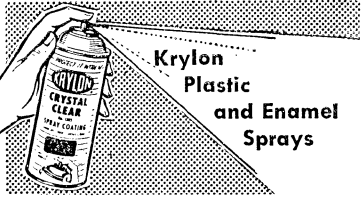
**H** **"SPRA-KOAT" WRINKLE VARNISH.** For professional-looking wrinkle finish. Can be air-dried or baked. 16-oz. spray can. Wt., 1 1/4 lbs. **43 N 028, 60-12 Black, 1-5.....EACH 2.20**  
**6-Up.....EACH 1.98**

**HAMMER FINISH.** For professional hammer finish on panels and instrument cases. Moisture-proof. Dries quickly. 16-oz. Wt., 1 1/4 lbs. **43 N 037, 85-12 Silver, 1-5.....EACH 2.25**  
**6-Up.....EACH 2.02**

**J** **TELEPHONE BLACK AND GRAY.** Satin finish enamel. For wood or metal. 16 oz. Wt., 1 1/4 lbs. **43 N 033, 62-12 Black, 1-5.....EACH 2.25**  
**6-Up.....EACH 2.02**

**K** **SILICONE RESIN SPRAY.** Insulates, waterproofs. 6-oz. Wt., 10 oz. **43 N 027.....2.37**

**L** **ZINC-CHROMATE PRIMERS.** Form strong bond with metal. Resist cracking, rusting. 16-oz. spray can. 1 1/2 lbs. **45 N 210, Yellow, 1-11.....EACH 1.27**  
**12-Up.....EACH 1.17**  
**45 N 211, Green, 1-11.....EACH 1.27**  
**12-Up.....EACH 1.17**



**Krylon  
Plastic  
and Enamel  
Sprays**

### CLEAR PLASTIC SPRAY

Can sprays a crystal-clear acrylic that dries in minutes. Forms hard, waterproof coating of high dielectric strength. Eliminates corona, arcing. Dielectric strength: 400 v./mil. 16-oz. can. 1 1/2 lbs. **43 N 133, 1-11.....EACH 1.27**  
**12-Up.....EACH 1.17**

### ENAMEL SPRAYS

Attractive, non-fading enamels. Dry in 3 minutes. Non-clogging spray valve. 16-oz. can. 1 1/4 lbs.

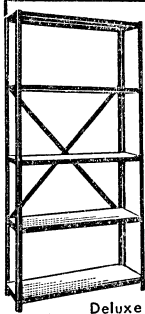
Stock No.	Color
43 N 134	Bright Silver
43 N 064	Bright Copper
43 N 059	Flat White
43 N 137	Glossy White
45 N 206	Antique Ivory
43 N 106	Flat Black
43 N 138	Glossy Black
43 N 053	Light Gray
43 N 108	Machine Gray
45 N 207	Dove Gray
43 N 109	Bright Gold
43 N 107	Hunter Green
45 N 208	Surf Green
43 N 054	Chrome Yellow
43 N 384	Champion Blue
43 N 055	Regal Blue
43 N 056	Cherry Red
43 N 044	Olive Drab Khaki
43 N 043	International Orange
43 N 383	Brass

1-11.....EACH 1.17  
12-Up.....EACH 1.07

### GC LUBRICANTS, CEMENTS CLEANERS, AND MISCELLANEOUS CHEMICALS

Stock No.	Type	Size	Wt.	Description	EACH
43 N 046	65-16	16 oz.	1 1/4 lbs.	Control cleaner and lubricant	1.91
47 N 041	9402	3/4 oz.	2 oz.	Radio-TV oil; vial dispenser	.37
43 N 456	30-2	2 oz.	16 oz.	Radio and speaker service cement	.47
43 N 166	30-8	8 oz.	1 1/4 lbs.	Radio and speaker service cement	1.23
43 N 210	43-2	2 oz.	6 oz.	"Pli-O-Bond" plastic cement	.52
43 N 128	19-2	2 oz.	6 oz.	"De-Ox-Id" contact cleaner	.94
47 N 044	211-4	4 oz.	1/2 lb.	Carbon tetra-chloride	.52
43 N 472	37-2	2 oz.	6 oz.	"Q-Dope" (coil dope)	.47
50 N 732	37-16	16 oz.	2 1/4 lbs.	"Q-Dope" (coil dope)	2.14
47 N 048	1215	2 oz.	6 oz.	Liquid non-slip (cables, belts, etc.)	.47
43 N 009	8101	1 oz.	2 oz.	Transistor Z5 silicone compound	2.06

# Useful Workshop Furnishings at Low Prices

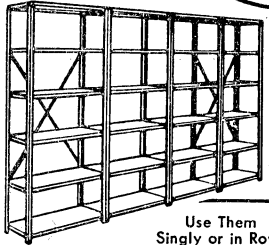


## ALL-STEEL STORAGE RACKS

As low as  
**\$5.95**



Deluxe Storage Racks  
Hold Up To 500 Lbs.



Use Them  
Singly or in Rows

## DELUXE HEAVY-DUTY STEEL STORAGE RACKS

Provide compact storage facilities. Units are complete and independent. Easy to assemble—bolt the tops and bottoms; shelves are held by unique "Kwik-Klip" fasteners. With 5 shelves; extra shelves, listed below. Posts punched at intervals for easy shelf adjustment. 75" high, 36" wide. Gray enamel finish. Deluxe shelves hold up to 500 lbs.

- 88 NZ 087. With 12" Deep Shelves. 47 lbs. .... 8.95
- 88 NZ 088. With 18" Deep Shelves. 60 lbs. .... 11.45
- 88 NX 085. 12" Extra Shelf. 6 lbs. .... 1.39
- 88 NX 086. 18" Extra Shelf. 8 lbs. .... 1.89

## ECONOMICAL STEEL STORAGE RACKS

Low-cost shelf and rack units. Each has 5 shelves; 4-bolt construction. Shelves hold up to 275 lbs.

- 50 NZ 801. Type 7230. 73x30x12". 23 lbs. .... 5.95
- 50 NZ 802. Type 7218. 73x36x18". 29 lbs. .... 8.45
- 50 NU 803. Extra 12x30" Shelf for 7230 Unit. 3 lbs. .... 1.10
- 50 NU 804. Extra 18x36" Shelf for 7218 Unit. 5 lbs. .... 1.60

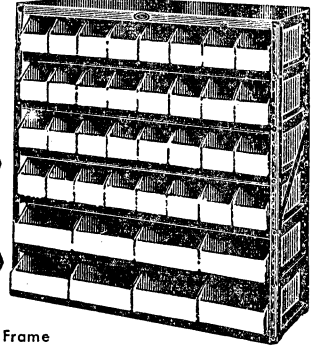


## NEW! JUMBO SIZE 40-DRAWER SMALL PARTS CABINET

**\$14.95**

32 4x11" Drawers

8 8x11" Drawers

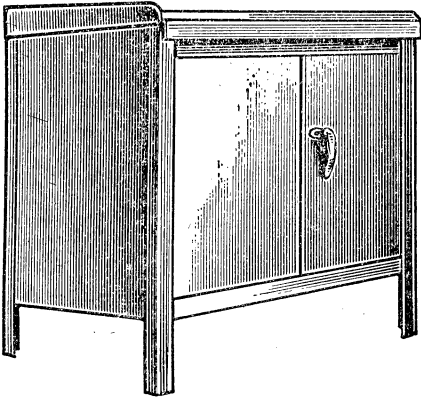


- Total of 40 Drawers
- Heavy-Duty, All-Steel Frame

One of the handiest parts storage cabinets on the market today. Features a total of 40 drawers—32 big 4x11" and 8 jumbo-size 8x11" drawers in a single, portable frame. All drawers are 4 1/2" high. Excellent for keeping all kinds of small parts, tools and hardware in one central location. Holds everything from nuts and bolts to electronic components. Several of the compact cabinets, used side by side, will provide you with unlimited storage space. One-piece drawers are sturdy corrugated board construction. A special stop-tab built into the rear of the cabinet keeps drawers from being pushed in too far or pulled out too far—prevents spilling. Heavy-duty all-steel frame is 37x36x12". Shpg. wt., 37 lbs.

51 NZ 145 ..... 14.95

## HEAVY-DUTY CABINET-TABLE COMBINATION



As low as  
**\$23.95**

- Locking Doors Assure Safe Storage
- Sturdy, Adjustable Center Shelf

MODEL 59243. Versatile, combination storage cabinet and worktable. Smooth, sturdy top is perfect for mounting vises, grinders, office machines and other small power tools. Large heavy-gauge steel cabinet provides 18 cu. ft. of storage space. Two full-size swinging doors. Cylinder-lock built into handle assures safe storage of tools and equipment. 1 1/2" center-shelf is adjustable within 1 1/2". Gray baked enamel finish resists chipping. With two keys. Size, 34x36x24". Shpg. wt., 110 lbs.

51 NZ 168 ..... 34.95

51 NZ 169. Model 59242. As above, but 34x24x24". Wt., 73 lbs. .... 23.95

## DEPEND ON ALLIED FOR QUALITY TOOLS AND ACCESSORIES

- Widest Selection Offered
- Top-Name, Top-Quality Brands
- Same-Day Order Shipment

Yes, at Allied one order fills the whole bill. Choose what you need from our extensive selection of famous-name tools and accessories, and rest assured that your order will be filled promptly, handled carefully and shipped to you the same day we receive your order. Phone, wire and TWX orders receive special handling.



As low as  
**\$15.95**

## EQUIPTO HEAVY-DUTY STORAGE CABINETS

NO. 11—18-DRAWER CABINET. Ideal for storing small parts in easily accessible order. Especially suited for radio-TV service shops, machine shops, labs, offices, etc. Each drawer is equipped with two removable cross-dividers—adjustable to any 1" interval of drawer length. Jamproof drawers have large, convenient handles. Instant-visibility label holders on drawers and dividers for quick identification. Heavy-duty all-steel frame. Olive-green finish. Drawers are 3/8" deep, 5 3/8" wide, 1 1/2" long. Cabinet size, 13 3/4x34x12". Cabinets may be

stacked. Shpg. wt., 62 lbs.

52 NZ 705 ..... 29.95

52 NZ 720. No. 22—18-Drawer Cabinet. As above, but 18" long. Cabinet, 3 1/8x5 3/8x17". Shpg. wt., 95 lbs. .... 39.95

52 NU 706. No. 8—8-Drawer Cabinet. As above, but with eight 3 1/8x5 3/8x11" drawers. Wt., 95 lbs. .... 15.95

52 N 916. 8505 Drawer. As in cabinets No. 8 and 11. Less dividers. 3 1/8x5 3/8x11". Wt., 2 1/2 lbs. .... 19.00



Any Number of Drawers  
May Be Locked Together

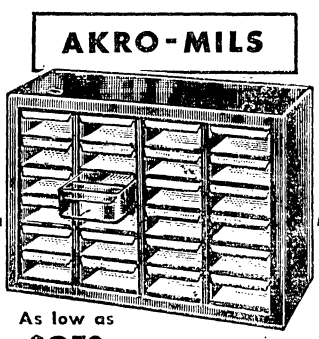
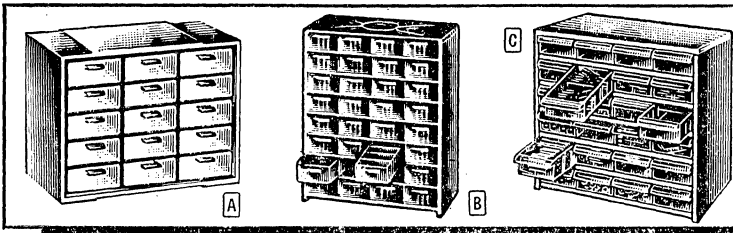
## DIXIE INDIVIDUAL INTERLOCKING DRAWERS

Economical aluminum storage trays provide excellent accommodations for a wide variety of radio and TV small parts and hardware. Lock together on tops, bottoms and sides. Any number of drawers may be

locked together to fit irregularly shaped spaces. Drawer dividers may be added. With label holders. 2 7/8x2 1/4x5". Wt., 10 oz.

52 N 911. 1-9 ..... EACH 4.6  
10 or More ..... EACH 3.8

# Top-Value Parts Cabinets and Tool Storage Chests



### A HB-SERIES CABINETS

Compact "Handy-Bin" plastic cabinets. See-thru, spillproof styrene plastic drawers, 1 1/4 x 2 3/4 x 5 3/4". Each drawer has one divider and index labels. Styled in beige colored frames. All are 9 3/4" wide, 6 1/4" deep. \*Total no. of drawers.

Stock No.	Type	*	Ht.	Lbs.	EACH
52 N 915	9HB	9	5"	2	1.99
52 NX 740	15HB	15	7 1/2"	4	2.99
52 NX 741	21HB	21	10 3/8"	6	3.99

### B J-SERIES CABINETS

Space-saving deluxe steel cabinets. Stand, stack or hang on wall. Clear-plastic drawers, 1 7/8 x 2 3/4 x 5 7/8" long, are separated into 3 sections by removable dividers. With index labels. Gray hammertone finish. All are 6" deep. \*Total no. of drawers.

Stock No.	Type	*	HxW	Lbs.	EACH
52 NX 713	J-32	32	15 1/4 x 12 1/2"	13	11.98
50 NX 902	J-48	48	22 1/2 x 12 1/2"	20	18.98
88 NZ 080	J-128	128	30 1/2 x 25 1/8"	51	52.98

### C M4B-SERIES METAL SMALL-PARTS CABINETS

Sturdy welded steel frame cabinets can be stacked in any combination or hung conveniently on the wall. Feature large 2x11x4" molded plastic drawers with full-width pull handles; adjustable snap-in dividers; and press-on labels. Stop-tab at the rear of the cabinet anchors drawers, prevents spillage. Full-length runners make sliding easy and

effortless. Baked-on gray hammertone finish. Cabinets are 17 7/8" wide, 11" deep. \*Total no. of drawers.

Stock No.	Type	*	Ht.	Lbs.	EACH
52 NX 749	M4B16	16	11 1/2"	18	17.98
52 NZ 750	M4B24	24	16 7/8"	25	31.98
52 NZ 752	M4B40	40	27 5/8"	47	52.98

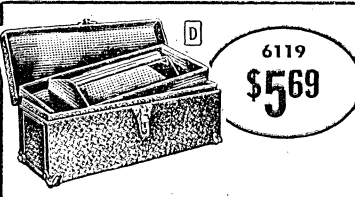
As low as  
**\$279**

- "See-Thru" Drawers
- Adjustable Dividers

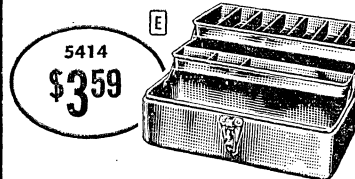
### HBA "HANDY-BIN" CABINETS

Rugged welded steel frame cabinets. Clear plastic drawers are 2 3/4 x 5 3/4 x 1 1/4"; have adjustable snap-in divider. Safety-tab stops drawers, prevents spilling. Baked-on silver-gray hammertone finish won't chip or rub off. With labels and one divider per drawer. All are 6" deep.

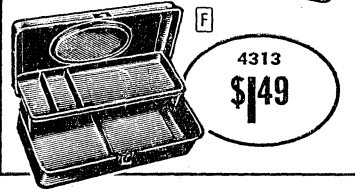
Stock No.	No. of Drawers	HxW	Wt. Lbs.	EACH
88 NX 081	12	6 1/2 x 10"	4	2.79
88 NX 082	18	9 x 10"	5 1/2	3.84
88 NX 083	24	9 x 13"	7	4.95



6119  
**\$569**



5414  
**\$359**



4313  
**\$149**

## UNION

4-DRAWER ALL-STEEL CHEST

410  
**\$549**

With Adjustable Dividers

Rugged all-steel storage chest. Four easy-slide drawers, 2x9x11 1/2" long, have label holders, large pull-handles, and removable dividers that can be arranged to make up to 12 compartments per drawer. Silver finish. Overall, 10x10x11 1/2". Wt., 10 1/2 lbs.

52 NX 709 ..... 5.49

## PARK

### CHEST-DRAWER OUTFIT

975  
**\$975**

- Heavy-Gauge Steel Construction
- Weather-Resistant Enamel Finish
- Extra-Safe, Locking Drawers

#### HANDYMAN

### 2-DRAWER TOOL CHEST

Unique chest-drawer combination. Features a 2 9/8 x 19 3/4 x 8 3/4" chest on top, with two large 2 1/4 x 18 1/4 x 8 3/4" long drawers below. Perfect for keeping tools in easy-to-find order. Hinged steel bar automatically locks drawers when cover is closed. Chest has two heavy-duty drawbolts and a center padlock eye, integral full-length hinges, and a full-grip steel handle for easy carrying. Silicone-treated baked enamel finish\* is long-lasting, won't chip or rub off. Overall, 9 3/4 x 20 x 9 1/8". Wt., 16 lbs.

51 NX 149 ..... 9.75

**D 6119 "SUPER STEEL" CHEST**  
Sturdy steel chest with 3-compartment removable tray. Has 2 heavy-duty drawbolts plus center padlock eye. Continuous hinge welded to cover and case. Carefully balanced with steel handle for easy carrying. Blue enamel interior; silver-gray hammertone exterior. 7x19x7". 7 lbs.  
52 NX 707 ..... 5.69

52 NX 708, Type 6116. Above, with 2 compartments. 7x16x7". 7 lbs. .... 5.25

**E 5414 "WATERTITE" CHEST**  
A ruggedly constructed tool chest featuring 2 cantilever-mounted trays and Union's famous watertite design. Extra-large tray capacity. Push-button self-latching drawbolt. Upper tray has 7 individual compartments; lower tray contains one full length, one 1/2 length and 2 smaller compartments. Full grip steel handle for balanced carrying. Green enamel finish. Size, 7x14 1/2 x 7 1/4". Shpg. wt., 5 lbs.  
52 NX 712 ..... 3.59

**F 4313 ALL-PURPOSE STEEL CHEST**  
Low-cost steel chest with a single-cantilever 3-compartment tray. Has full-drawn leak-proof seamless body and snap catch with provision for padlock. Hardware fittings are machine riveted. Has 12" rule embossed in cover. Full-grip handle. Blue enamel finish.

Ideal for tools, parts or fishing gear. Size, 4 1/2 x 13 1/2 x 6 1/2". Wt., 2 1/2 lbs.  
91 NX 234 ..... 1.49

91 NX 233, Type 4013. As above, but without tray. Wt., 2 lbs. .... 1.19

# Silicone and Epoxy Materials

## G.E. ADHESIVE SEALANT

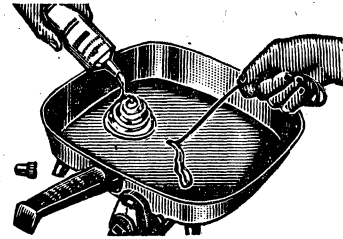


RTV-102. New all-purpose silicone rubber adhesive-sealant in a squeeze tube that requires no added catalyst, and adheres to most materials without priming. Can be applied from the tube and adheres at room temperature to form a durable, resilient silicone rubber. Applications include electrical terminal connections, bonding of strain gauges, patching and repairing silicone rubber parts, bonding silicone rubber gaskets to metal surfaces, and sealing and encapsulating electronic equipment. With-

stands temperatures from  $-75^{\circ}\text{F}$  to  $300^{\circ}\text{F}$  for extended periods, and up to  $500^{\circ}\text{F}$  for shorter time periods. Resistant to moisture, weathering and aging effects. Cures to a solid rubber with a Shore A hardness of 28, a tensile strength of 350 psi, a tear resistance of 40 lbs./in., and elongation of 500%.

7 E 227. 2-oz. Tube. 1-5	EACH 1.75
6-47	EACH 1.50
7 E 228. 12-oz. Tube. EACH 7.50	48-Up
12-47	EACH 6.37
	2-11
	EACH 6.90
	48-Up
	EACH 6.12

## G.E. SILICON DIELECTRIC COMPOUND



SS-4005. Particularly useful in electrical, electronic, aircraft, automotive and military applications as an insulator, water repellent corrosion inhibitor, protective coating. Lubricant, potting compound, and heat transfer compound. Has high dielectric strength greater than 500 volts/mil with  $0.010^{\circ}$  gap. Arc resistance over 100 seconds. Evaporation is less than 2% in 30 hours at  $400^{\circ}\text{F}$ . Low bleed is less than 10% in 30 hours at  $400^{\circ}\text{F}$ . Adheres tenaciously to almost any type of material. Meets specifications of MIL-1-8660. Excellent for use as a release agent in casting epoxy molds. Choice of 2- or 8-oz. tubes.

7 E 193. 2-oz. Tube. 1-11	EACH 1.25
12-Up	EACH .95
7 E 194. 8-oz. Tube. 1-11	EACH 3.50
12-47	EACH 2.85
	48-Up
	EACH 2.60

Mix Proper Catalyst with Liquid Resin

Pour into Mold Around Circuits, Transformers, etc.

Solidifies Around Component to Opaque Plastic

Vary from Rigid to Flexible

Also Seals Against Moisture . . . Protects Against Shock and Vibration

### 1225 MOLD RELEASE IN AEROSOL SPRAY CAN

A necessary release agent in a handy aerosol spray can. Simply spray entire inside surface of the mold before using . . . prevents epoxies from adhering to the mold for easy removal of encapsulated component. Supplied in 6 oz. aerosol can.

7 E 229 . . . . . 4.50

### ECPOSTRIP 57 EPOXY SOLVENT

This is one of the few available chemicals that will effectively dissolve epoxy resins. Items to be dissolved must be completely submerged in the epoxy solvent for several hours, during which time, the epoxy resin will slowly dissolve into the solvent solution. This also serves as an excellent solvent for use in the clean-up of any uncured epoxy and catalyst. 2-lb. can.

7 E 230 . . . . . 3.00

Allied Electronics is your best source for components at OEM prices. Our tremendous stocks assure you of fastest shipment. Special handling on TWX and phone orders.

## CHEMISTRY FOR ELECTRONICS by EMERSON AND CUMING

### FINEST QUALITY POTTING AND ENCAPSULATING MATERIAL

#### STYCAST EPOXY CASTING RESINS

Must cure at room temperature to rugged black opaque plastic; acid resistant and machinable. Kits include 2 lbs. of resin, catalyst and instructions.

2651 General Purpose. Stable  $-100^{\circ}\text{F}$ . to  $+400^{\circ}\text{F}$ . Quite viscous prior to cure; used for larger imbedments; cures rigid. 7 E 231 . . . . . 5.98

2651MM Low Viscosity. Similar to above, but possesses extremely low viscosity prior to cure. Used for smaller imbedments for easier impregnation of voids. 7 E 232 . . . . . 5.98

2741 Adjustable Flexibility. By controlling amount of catalyst, flexibility and hardness can be controlled. For delicate parts as temperature change will not cause cracking. Usable  $-94^{\circ}\text{F}$  to  $+302^{\circ}\text{F}$ . 7 E 233 . . . . . 5.98

2662 High Temperature. Withstands temperatures up to  $500^{\circ}\text{F}$ ; must be baked 3 hours at  $212^{\circ}\text{F}$ , or 24 hours at  $130^{\circ}\text{F}$ . If cured 3 hours at  $300^{\circ}\text{F}$ , usable to  $600^{\circ}\text{F}$ . 7 E 234 . . . . . 6.00

1264 Transparent. Water-clear and slightly flexible when cured. For display imbedments or bonding sheets of glass for visibility. Cures in 48 hours at room temp. 7 E 235 . . . . . 6.00

#### ECCOGEL 1265 TRANSPARENT EPOXY

Cures into a firm, water-clear solid. Used to imbed components in circuits where it is desired to see into the completed unit. Extremely tough and flexible . . . can be cut with a knife to expose imbedded parts for repair or removal. Fresh 1265 can be poured into cavity and cured again. 7 E 236 . . . . . 6.00

#### ECCOCOAT EPOXY RESIN COATINGS

EP3 Clear. Provides protection for printed circuit boards, components and assemblies. Easily applied by spray, brush or dip. Leaves a flexible, clear tough film with excellent electrical characteristics. Usable from  $-70^{\circ}\text{F}$  to  $+250^{\circ}\text{F}$ . 7 E 237 . . . . . 6.00

D-30 Dip Coat. Dip component in resin; cure at  $350^{\circ}\text{F}$ ; will not drip during cure. Thickness depends on immersion time. 7 E 238 . . . . . 6.00

#### ECCOBOND EPOXY ADHESIVES

#51 General Purpose. A very easy to use epoxy adhesive, stable over a range of  $-100^{\circ}\text{F}$  to  $+300^{\circ}\text{F}$ . Can be cured at room temperature in 24 hours, or shorter time at elevated temperatures. Incl. 2 lbs. resin plus catalyst, instructions. 7 E 239 . . . . . 6.00

Paste E Patching Material. Has a consistency similar to putty at room temperature. Apply with spatula, knife or trowel—will not flow. Useful where ill-fitting joints are to be bonded. Easily machined. 2 lbs. resin plus catalyst. 7 E 240 . . . . . 6.00

#45 Variable Flexibility. Especially useful for bonding materials which have widely different thermocoeficients of expansion or where bond must be maintained over very wide ranges of temperatures. Includes 2 lbs. of resin plus catalyst. 7 E 241 . . . . . 6.00

Model 26 Patch Kit. In handy kit for laboratory, bench or production line use. In two toothpaste-type tubes. Equal amounts of resin are squeezed, mixed and applied. Cures at room temperature in 4 hours or in minutes at  $100^{\circ}\text{F}$ . 7 E 242 . . . . . 1.98

#### ECCOSIL RTV SILICON RUBBER

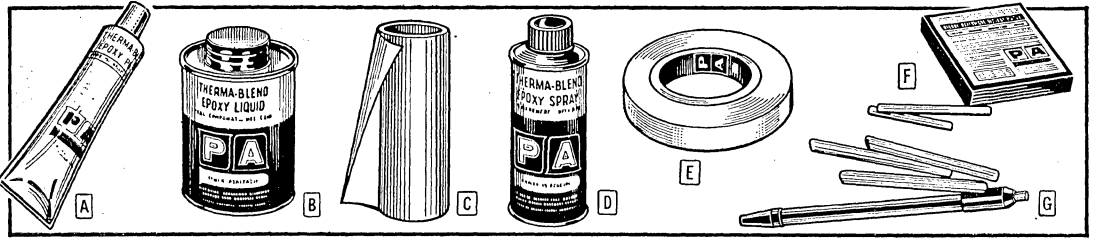
4850 General Purpose. Curable at room temperatures, white in color. Excellent for potting and encapsulating and for making flexible molds. Usable to  $600^{\circ}\text{F}$  for prolonged periods. Includes 2 lbs. of resin, catalyst and instructions. 7 E 243 . . . . . 10.00

4712 Epoxy-Silicone. Must be cured for two hours at  $250^{\circ}\text{F}$ . Usable to  $450^{\circ}\text{F}$ . For cable connector potting and applications where high temperature resilience is needed. 2 lbs. of resin, catalyst. 7 E 244 . . . . . 10.00

Type 5000 RTV Foam. Mix two compounds, pour and cure at room temp. Uniform unicellular sponge of 30 lbs. per cu. ft. Usable to  $500^{\circ}\text{F}$ . 2 lbs. resin, catalyst. 7 E 245 . . . . . 10.00

ELECTRICAL ENCAPSULATION. By Vosk, Leforge and Stetson. Includes case histories and complete procedures on electrical encapsulation. 238 pages. 37 K 675. Postpaid in U.S.A. . . . . 8.00

# Plastic Associates and Devcon Epoxy Cements



## PLASTIC ASSOCIATES NO-MIX READY-TO-USE EPOXY CEMENTS

"Therma-Blend" epoxy cements are thoroughly factory-mixed and ready-to-use. Save labor time in cementing, scaling, insulating, and protecting nearly all porous and non-porous materials. Cure by application of heat and bond perfectly and permanently.

**A** PA-1101 Thermo-Blend Epoxy Cement Paste. Easy to apply and spread. Great shear strength at high temperatures. 1½ oz. tube. 7 E 680, 1-24.....EACH 2.00 25-49.....EACH 1.70 50-99.....EACH 1.60 100-Up.....EACH 1.50

**B** Thermo-Blend Epoxy Cement Liquid. 30% solid-resin compound. Applies tough, flexible coating that resists moisture, vibration, thermal shock, chemical action. Ideal for laminating uses. May be applied by brushing, dipping, or spraying. Supplied in cans.

Stock No.	Mfr's Type	Can Size	Wt., Lbs.	EACH			
				1-24	25-49	50-99	100-Up
7 E 681	PA-3116	Pint	1½	5.00	4.25	4.00	3.75
7 E 682	PA-3126	Quart	3	9.50	8.08	7.60	7.13
7 EX 683	PA-3136	Gallon	10	30.00	25.50	24.00	22.50

**D** PA-3106 Thermo-Blend Epoxy Cement Liquid in Aerosol Can. Same as above, but 20% resin. 6 oz. aerosol spray can. 7 E 684, 1-24.....EACH 2.70 25-49.....EACH 2.30 50-99.....EACH 2.16 100-Up.....EACH 2.02

**G** PA-5112 Thermo-Blend Epoxy Cement Sheet. Easily cuttable. (Use same as tape, below.) 12x12". 7 E 685, 1-24.....EACH 2.00 25-49.....EACH 1.70 50-99.....EACH 1.60 100-Up.....EACH 1.50

**E** Thermo-Blend Epoxy Cement Tapes. Consist of thin "Dacron" webbing, pre-impregnated with stable, single-component epoxy resin. Contains 80% uncured epoxy and 20% dacron. For all laminating uses. Can be die-cut into wafers, washers, and gaskets.

Stock No.	Mfr's Type	Size	EACH			
			1-24	25-49	50-99	100-Up
7 E 686	PA-5101	½" x 36 yds.	5.40	4.59	4.32	4.05
7 E 687	PA-5141	1" x 36 yds.	10.80	9.18	8.64	8.10

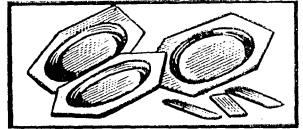
**F** PA-1103 Thermo-Blend Epoxy Cement Rods. Stable, single-component heat-cure formulations—requires no mixing. Resin and hardener are lab-blended. 3 oz. 10 rods per package. 7 E 688, 1-24.....PER PKG. 1.80 25-49.....PER PKG. 1.53 50-99.....PER PKG. 1.44 100-Up.....PER PKG. 1.35

**G** PA-1113 Thermo-Blend Epoxy Cement Rod and Holder Kit. Consists of 3 single-component epoxy rods (same as above), and convenient aluminum holder. 7 E 689, 1-24.....PER KIT 2.00 25-49.....PER KIT 1.70 50-99.....PER KIT 1.60 100-Up.....PER KIT 1.50

## "REDI-BLEND" PACKAGE—CURES AT ROOM TEMPERATURE

No waste or mess with the convenient "PA-Kit". Catalyst and resin are sealed in a vacuum-formed polyethylene container. One component is in a central dish, the other in a concentric ring around the dish. Contents are mixed easily on the job. Poly-film cover is peeled back with the stirring stick used to push down center of container. This collapses outer ring, causing it to merge with the central dish. The two components are then mixed directly in package. Resin and catalyst are of contrasting colors for visual indication of an even mixture. After use, package is discarded. Has tensile strength of 1900 psi when cured. Operating temperature range of -50°F to 250°F. Shelf life of 12 months. Mixer pack and stick included with each pkg.

- Strong, Waterproof, and Lasting Bonds
- For Most Porous and Non-Porous Materials
- Cures at Room Temp.



Stock No.	Mfr's Type	Size	PER PKG. OF 10			
			1-24	25-49	50-99	100-Up
7 E 690	PA-1000	1/10 oz.	2.50	2.13	2.00	1.88
7 E 691	PA-1001	1/5 oz.	4.00	3.40	3.20	3.00

## DEVCON EPOXY PLASTICS

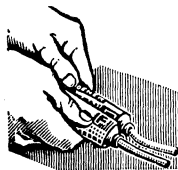
### PLASTIC STEEL

80% steel, 20% epoxy plastics. For repairing leaking pipes and tanks; altering parts and gears; rebuilding pumps and valves; salvaging ferrous and non-ferrous castings; making jigs, fixtures, and other tools. Approved under MIL spec 15202 for repairing corroded metal ship hull surfaces. As easy to use as modeling clay. 1-lb. can. 7 E 039.....3.00



### DEVCON F SPECIAL REPAIR KIT

For filling blow holes and for general repairs. Hardens to aluminum finish which can be "plated out" with steel wool to match original part. Bonds to aluminum, steel, iron, wood, many other materials. Includes 2 self-metering tubes, and mixing paddles. Net wt., 6.8 oz. 7 E 040.....1.75



### DEVCON "Z" ZINC

Zinc-rich coating—95% pure zinc with 5% epoxy binders. Not only seals out moisture, but stops rust and rust-creepage by galvanic action—even when coating is scratched. Two coats provide more protection than afforded by standard hot-dip galvanizing. Exceeds MIL-P-26915A, MIL-P-21035 (Ships). Adheres to iron or steel. Applied by brush, dip, or spray. 1-gal. can. 7 E 041.....1.95



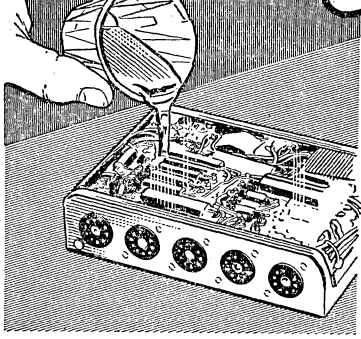
## FLUOROCARBON BONDING KITS

**Bonding Kit No. 1.** Contains all the materials required to bond "non-bondable" "teflon" to itself and other substances. Each kit contains a bottle of teflon treating agent, and two tubes of Thermo-Blend Epoxy Cement. Treating agent is applied to teflon surface until surface turns permanently brown. Then surface is cleaned. Bonding agent is then applied, parts are fitted together. Cures in about four hours at 300°F, plus 1 hour at 340°F. With instructions. 7 E 037.....PER KIT 10.00

**Bonding Kit No. 2.** For ambient temperature cure. Kit contains all materials in Kit No. 1 (left), but bonding agent supplied with the kit cures at room temperature to form a tough, flexible bond that holds its strength at temperatures up to 175°F. For higher temperature applications, Kit No. 1 should be ordered. This material is similar in strength, but requires a higher temperature cure. (See description of Kit No. 1 at left for procedure). With complete instructions. 7 E 038.....PER KIT 10.00



# DOW CORNING FIRST IN SILICONES



Flows Easily, Even Around Intricate Parts. Has Excellent Pot Life.

# Plastics for Electronics

## FAMOUS SYLGARD® AND SILASTIC® PRODUCTS FOR POTTING, IMBEDDING, AND ENCAPSULATING APPLICATIONS

**SYLGARD 182.** A clear, solventless silicone resin with many applications, including potting, filling, embedding and encapsulating. Transparency of the cured resin makes possible easy visual inspection of embedded parts. If a malfunction arises in embedded circuit, resin can be cut out, repairs completed and new resin poured in place. When blended with its curing agent, easy flowing resin cures in any thickness in 4 hours at 149°F. Shelf life of resin before mixing with curing agent, approximately 6 months. Pot life, after curing agent added, 8 hours. Specifications after curing: hardness, shore A scale 40; coefficient of expansion, .00096; passes 10 cycles Mil-I-16923C thermal shock resistance from -55 to 155°C; water absorption after 7 days immersion at 25°C, .1%; mechanical strength, 800 to 1000 psi; brittle point, lower than -70°C; 500 volts per mil minimum dielectric strength (ASTM D 149). Curing agent sup-

plied with resin is blended in ratio of 100 parts resin to 10 parts curing agent, by weight. Sold by gallon or lb.—one gallon is equivalent to 8.8 lbs. Sylgard 182 can be cured in contact with metals, plastics, glass, asbestos, natural and synthetic fibers and ceramics. Can be cured completely sealed or exposed to air.

7 E 001, 1-11 Lbs. .... PER LB. 8.00  
 12-47 .. PER LB. 7.50 48-Up. .... PER LB. 7.00

7 E 002, 1-5 Gallons. .... PER GALLON 52.80  
 6 or More Gallons. .... PER GALLON 51.00

**SYLGARD 183.** Identical to above but opaque black. Heat stability, up to 482°F.

7 E 003, 1-11 Lbs. .... PER LB. 7.00  
 12-47 .. PER LB. 6.00 48-Up. .... PER LB. 5.50

7 E 004, 1-5 Gallons. .... PER GALLON 41.80  
 6 or More Gallons. .... PER GALLON 39.15

**SILASTIC RTV 881.** A pourable silicone potting and encapsulating compound specially designed for use in a wide variety of electrical and electronic applications. It's really easy to use—just stir in the catalyst, pour in place and allow to stand at room temperature for 24 hours. Both catalyst and silicone are free-flowing and easily mixed—absolutely no preheating is necessary. After application, RTV 881 solidifies to form a tough, rubbery dielectric material. Remains rubbery from -55°C to over 250°C. Produces no pressure or exothermic heat as it solidifies—will not crush or disarrange components such as toroidal coils. Can be used with heat-sensitive components as selenium rectifiers and germanium transistors. Rubbery jacket efficiently protects components and assemblies against dust, moisture, oxidation, mechanical shock, weathering, and corrosive chemicals. Compound remains workable for approximately 3 hours at room temperature after mixing. Can be bonded to metals, glass, silicone or organic resin laminates, or vulcanized silicone rubber. Packed in choice of 1 and 10-lb. packages.

- 7 E 005, 1-Lb. Package, 1-5 Pkgs. .... PER PKG. 6.00  
 6 or More Pkgs. .... PER PKG. 4.75
- 7 E 006, 10-Lb. Package, 1-9 Pkgs. .... PER PKG. 43.00  
 10 or More Pkgs. .... PER PKG. 40.00

**SILASTIC RTV 882.** Similar to Type RTV 881 listed above but cures in 30 minutes.

7 E 007, 1-Lb. Package, 1-5 Pkgs. .... PER PKG. 6.00  
 6 or More Pkgs. .... PER PKG. 4.75

7 E 008, 10-Lb. Package, 1-9 Pkgs. .... PER PKG. 43.00  
 10 or More Pkgs. .... PER PKG. 40.00

**SYLGARD PRIMER.** A surface treatment designed to promote adhesion of Sylgard 182 and 183 resin to other surfaces. Primer can be used with virtually all materials commonly found in today's electronic circuitry including most metals and organic resins, glass, and silicone-glass laminates. Produces a strong chemical bond between primed surfaces and resin. Supplied as a dilute solution in heptane.

7 E 009, 3/4-Lb. Pkg. .... PER PKG. 6.00  
 7 E 010, 5 1/2-Lb. Pkg. .... PER PKG. 11.00

**SILASTIC RTV 1201 PRIMER.** Useful material designed to improve the adhesion of Silastic RTV to various substrates. Silastic RTV 1201 may be applied by dipping, spraying, or brushing and provides good adhesion almost immediately. Supplied as a dilute solution in acetone.

7 E 011, 3/4-Lb. Package. .... PER PKG. 3.75  
 7 E 012, 6-Lb. Package. .... PER PKG. 6.60

**SILASTIC RTV THINNER.** Designed to lower consistency of the many Silastic RTV compounds. Consists of 100% silicone oil—maintains Silastic RTV system virtually free of all volatile solvents. Desired consistency can be easily controlled by amount of thinner added. Addition of 10% thinner by weight reduces consistency by 75% without significantly altering the physical properties of finished rubber.

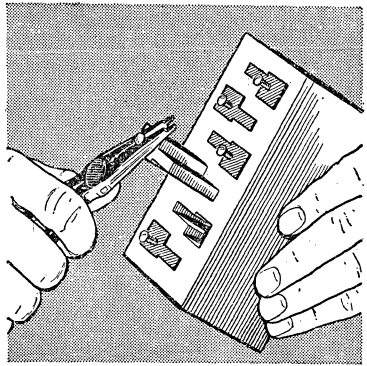
- 7 E 013, 1-Lb. Package, 1-5 Pkgs. .... PER PKG. 6.00  
 6 or More Pkgs. .... PER PKG. 4.00
- 7 E 014, 8-Lb. Package, 1-5 Pkgs. .... PER PKG. 24.00  
 6 or More Pkgs. .... PER PKG. 23.20

### SILICONE BALL-BEARING LUBRICANT

**TYPE 33 GREASE.** Designed primarily for use in ball bearings operating at temperatures ranging from -100°F to +350°F under light to moderate loads. Available in choice of either light or medium consistencies. Light consistency is for use with sealed type ball bearings, medium is for use with ball bearing installations which are not tightly sealed. Advantages include these characteristics: highly resistant to oxidation, heat decomposition, and breakdown due to shear. Dispersible in carbon tetrachloride, toluene, and other solvents. Insoluble in water.

- 7 E 015, 2-Oz. Container (Light), 1-11 ..... EACH 1.25  
 12-47 ..... EACH 1.12 48-Up. .... EACH .95
- 7 E 016, 8-Oz. Container (Light), 1-11 ..... EACH 4.00  
 12-47 ..... EACH 3.10 48-Up. .... EACH 2.85
- 7 E 017, 2-Oz. Container (Medium), 1-11 ..... EACH 1.25  
 12-47 ..... EACH 1.12 48-Up. .... EACH .95
- 7 E 018, 8-Oz. Container (Medium), 1-11 ..... EACH 4.00  
 12-47 ..... EACH 3.10 48-Up. .... EACH 2.85

### SILASTIC RTV 860 MOLD-MAKING MATERIAL



Mix With Catalyst and Allow to Stand at Room Temperature. Becomes Rubbery Solid.

Room temperature vulcanizing rubber compound designed for making flexible molds. Easy to use. Primary applications include making molds for casting transformers, filter networks, micromodules and similar electrical and electronic equipment in epoxies, polyesters and other plastics. Rubber parts for models or prototypes, can be made in your own plant without expensive tooling.

RTV 860 flows readily and fills all openings and indentations to make a mold with exact detail. After catalyst is added, it remains workable for 3 hours at room temperature and vulcanizes within 24 hours. Moderate heating, below 140°F, can be used to accelerate the vulcanization process. Cured RTV 860 can be used for approximately 6 months at 300°F and 2 weeks at 500°F. Although usable after 24 hours of vulcanizing, optimum properties are developed in 4 to 7 days.

Color of the catalyst is different from that of the base—indicates when mixing is complete. Specifications: ASTM D746 brittle point, -100°F; water absorption after 7 days immersion at 77°F, .4%; tensile strength, 650 psi; ASTM D676 durometer hardness, short A scale, 65; color, red after vulcanizing. Consistency of RTV 860 can be lowered by the addition of Silastic RTV Thinner, listed above.

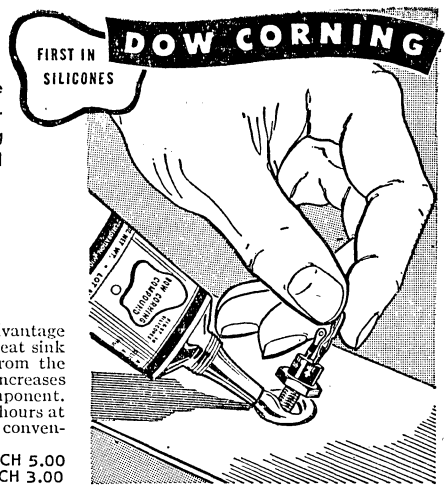
Both Silastic and catalyst have a shelf life of 6 months when stored below 70°F. Packed in 1 and 10-lb. containers—each also includes a more-than-adequate supply of pre-tested catalyst.

- 7 E 019, 1-Lb. Package, 1-5. .... PER PKG. 6.00  
 6 or More Pkgs. .... PER PKG. 4.75
- 7 E 020, 10-Lb. Package, 1-9 PER PKG. 43.00  
 10 or More Pkgs. .... PER PKG. 40.00



# Industrial Silicones by ...

Allied presents a new series of silicone products by Dow Corning which have numerous electronic applications. Listed on these pages are silicones for potting, encapsulating, thinning, lubricating, mold releasing, waterproofing, making molds, adhesives and heat sinks. Characteristics include ability to withstand extreme temperatures and outstanding properties under humid conditions.



## TYPE 340 SILICONE HEAT SINK COMPOUND

Specially Suited for Transistors and Diodes

Grease-like silicone material, heavily filled with heat conductive metal oxides. Combination of base and fillers produces a material with higher thermal conductivity than previously available silicone heat sink compounds. Specially designed for applying to the base of mounting studs of electronic components such as transistors and diodes—will not dry out, harden or melt. Engineered to withstand long term exposure to tem-

peratures up to 200°C. Another advantage is compound maintains a positive heat sink seal that improves heat transfer from the device to heat sink or chassis, thus increases life and overall efficiency of component. Evaporation, 1% after period of 24 hours at temperature of 200°C. Supplied in convenient 5-oz. tubes.

7 E 021, 1-11.....EACH 5.00  
12-47....EACH 4.00 48-Up....EACH 3.00

## SILICONE SURFACE COATING COMPOUNDS

### TYPE 3 COMPOUND

Greaselike, nonmelting silicone material with excellent electrical insulating properties, water repellency, and oxidation resistance. Retains consistency and electrical properties from temperatures of -400 to over 400°F. Easily applied with a grease gun, by wiping or rubbing. Can be brushed or sprayed on if thinned first with xylene, mineral spirits, perchloroethylene, or lacquer thinner. Compound acts as a fine lubricant and preservative for various rubber and plastic products. Prevents sticking of switches exposed to icing conditions, lampbulb bases exposed to corrosive conditions, rubber door seals, and splashed solder, glue, casting resins, etc. Insulates and repels water from industrial control switches and circuit breakers.

7 E 022, 2-Oz. Container, 1-11.....EACH 1.25  
12-47.....EACH 1.12 48-Up.....EACH .95  
7 E 023, 8-Oz. Container, 1-11.....EACH 4.00  
12-47.....EACH 2.70 48-Up.....EACH 2.45

### TYPE 20 COMPOUND

An economical, semi-permanent silicone release agent for use in applications involving phenolics, melamines, polyesters, and epoxies. Heat-stable, non-carbonizing, and non-oily—permits multiple release and will not discolor molded parts. Compound is supplied at 50% solids and is used at 5 to 10% solids by diluting in Stoddard solvent or VM & P naphtha. Can be applied by spraying, brushing, or wiping.

7 E 025, 1-Lb. Container.....EACH 5.00  
7 E 026, 7.5-Lb. Container.....EACH 16.45

### TYPE 4X™ SPRAY

Handy mold release, rubber preservative, and water repellent. Acts as a lubricant and insulator. Sprayed directly from its aerosol container, it is quickly and easily applied to a wide variety of maintenance and production problems in electronics plants. Applications include: lubricating threads of studs, bolts, and adjusting screws; easing dismantling of equipment; releasing epoxies, plastics, and rubber; preventing solder from sticking where it is not wanted. Can be used around the home to keep motor ignitions dry, ease cleaning of stove burner reflectors, and prevent locks and freezer trays from sticking. The sportsman can waterproof his fishing lines, facilitate removal of nuts, bolts and screws on boat motors or outdoor equipment, prevent rubber seals from sticking or freezing, and reduce battery terminal corrosion on storage batteries. Supplied in compact, easy-to-use 16-oz. aerosol containers.

7 E 024, 1-11 Cans..EACH 1.95 12 or More.....EACH 1.65

### TYPE 4 COMPOUND

A versatile silicone seal and lubricant for switches, cable and cable connectors, battery terminals and lamp bulb bases. Will not impair electrical properties of parts. Apply with a grease or putty gun, or by brushing or wiping. Translucent and colorless with petroleum-type consistency. Meets MIL-I-8660A.

7 E 027, 2-Oz. Container, 1-11.....EACH 1.25  
12-47.....EACH 1.12 48 or More.....EACH .95  
7 E 028, 8-Oz. Container, 1-11.....EACH 4.25  
12-47.....EACH 2.85 48 or More.....EACH 2.60

## COATING AND IMPREGNATING VARNISHES

### TYPE 991 VARNISH

Supplied as a 50% solution of a silicone resin in xylene. Improves surface resistivity of printed circuits or electronic equipment exposed to high humidity. Air-dries to a water repellent, heat-stable film. Prevents formation of a continuous conducting film under moist operating conditions, and reduces moisture absorption and surface contamination of equipment during storage.

7 E 029, Pint Can, 1-11....EACH 6.00 12-Up.....EACH 5.00  
7 E 030, Gallon Can, 1-5....EACH 18.80. 6-Up.....EACH 17.90

### TYPE 997 VARNISH

For dipping and impregnating motors, transformers, generators, solenoids and other electrical equipment. Designed to hold bubbling to a minimum, varnish is water-repellent and chemically resistive. Unaffected by corrosive atmospheres or the high heat of overloads, severe duty cycling, and high ambients. Dielectric life 50 times better than best class B varnishes. Cures at 200°C.

7 E 031, Pint Can, 1-11....EACH 6.00 12-Up.....EACH 5.00  
7 E 032, Gallon Can, 1-5..EACH 16.30 6-Up.....EACH 15.95

## EXTRA-STRONG RELIABLE SILICONE ADHESIVES

Easily and Quickly Applied to a Variety of Materials

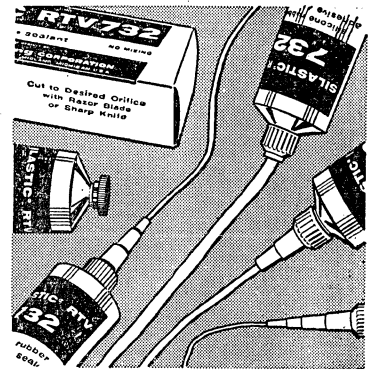
**SILASTIC RTV 732.** A general purpose silicone rubber adhesive and sealant, ready-to-use as supplied. Requires no catalyst or heat to initiate vulcanization—reacts with moisture in the air and immediately begins curing to rubber. Vulcanizes in 24 hours at 77°F and 50% relative humidity. Typical silicone properties of moisture resistance and heat stability make it suitable for use in a wide variety of adhesive, sealing, and caulking applications. Ideal for use in sealing generators for completely submerged or high moisture operating conditions, waterproofing strain gauges in place, and securing metal shield plates to printed circuits. Specifications after vulcanizing: color, white; brittle point, -100°F; durometer hardness Shore A Scale, 25; tensile strength, 150 psi; tack free time, less than 1 hour at 77°F and 50% humidity. Supplied in convenient,

easy-to-use and dispose-of collapsible tubes.

7 E 033, 2-Oz. Tube, 1-5.....EACH 1.75  
6-143...EACH 1.50 144-Up....EACH 1.35  
7 E 034, 5-Oz. Tube, 1-5.....EACH 3.50  
6-71...EACH 2.95 72-Up.....EACH 2.65

**TYPE 40C ADHESIVE.** High-solids, low-viscosity solution. After drying and curing, forms a dry, hard bond. Heat-stable, moisture-resistant seal and saturant for asbestos felted, glass served thermocouple and appliance wire. Light straw color. Solvent, acetone; maximum drying time at 100°C, 1 hour. Applied by brushing or dipping.

7 E 035, 1-Lb. Container, 1-5.....EACH 6.00  
6 or More.....EACH 5.00  
7 E 036, 8-Lb. Container, 1-5....EACH 26.80  
6 or More.....EACH 24.80



# Fiberscopes, Light Guides, Illuminators

## AMERICAN OPTICAL FIBER OPTICS

Very thin optical glass fibers utilizing the principle of Total Internal Reflection transmit light and images over irregular paths. Flexible light-guides consisting of bundles of glass fibers sheathed in plastic tubing are available in standard

configurations as shown below. Image conduit, shown below, consists of thousands of 12-micron fibers fused together to form a rigid rod that can be bent into any shape by the application of heat.

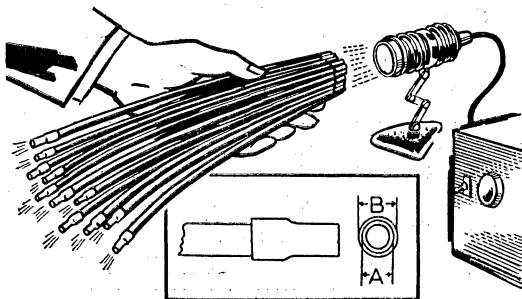


FLEXIBLE  
FIBERSCOPIES

Composed of flexible fibers, coherently oriented, so that an image may be transmitted from one end of the element to the other. Ideal for visual inspection of coils and tubing by transmitting images to camera lenses. Fibers are 10 microns in diameter providing a resolution of at least 35 optical line-pairs per millimeter. Sheathed in flexible metal hydraulic hose having an inner core of teflon and an outer sheath of stainless-steel braid. FS-161 supplied with "C" mount adapters. "D" mount adapters for the FS-81 and accessory lenses for both models available from manufacturer. Other Fiberscope lengths available: 2, 3, 5, 9, and 12½ ft. Forward-viewing and right-angle viewing assemblies can be supplied on Special Order.

Stock No.	Mfr's Type	Image Format	No. of Fibers	Distal Thread	Length	EACH
7 EZ 195	FS-81	5x5 mm.	210,000	.445-32	4 ft.	1250.00
7 EZ 196	FS-161	8x10 mm.	675,000	1-32	6 ft.	2350.00

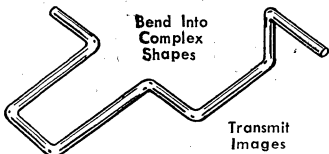
### FLEXIBLE FIBER-OPTICS LIGHT GUIDES



Bundles of glass fibers in plastic tubing, with epoxy potted, ground, and polished ends. LG-2 through LG-5 have plastic tips 1½" in length; LG-1 has stainless steel tips. About 70% of the light striking an end will enter the fibers—about 10% of this light will be lost for every ft. of length. Transmit wavelengths of 400 to 2000 millimicrons. Efficiency not affected by bending.

Stock No.	Mfr's Type	Min. Rad. of Bend	Bundle Dia.	A	B	Lgth.	EACH
7 E 197	LG-1	3/8"	.020"	.032"	.065"	12"	12.30
7 E 198	LG-2	5/8"	1/16"	5/32"	13/64"	12"	14.25
7 E 199	LG-2	5/8"	1/16"	5/32"	13/64"	36"	17.25
7 E 200	LG-2	5/8"	1/16"	5/32"	13/64"	72"	21.75
7 E 201	LG-3	3/4"	1/8"	7/32"	9/32"	12"	16.25
7 E 202	LG-3	3/4"	1/8"	7/32"	9/32"	36"	23.25
7 E 203	LG-5	1½"	1/4"	21/64"	13/32"	12"	26.00
7 E 204	LG-5	1½"	1/4"	21/64"	13/32"	36"	53.00

### IMAGE CONDUIT

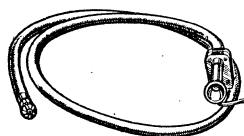


Consist of thousands of fibers fused together to form a rigid fiber bundle or rod which is capable of transmitting images from one end to the other. These rods can be heated and bent into complex shapes. Carbon rods or blocks may be

used as forms to bend to desired configuration. Conduit supplied with polished ends. \*Resolution in total lines per millimeter.

Stock No.	Mfr's Type	Cross Section	Lgth.	No. of Fibers	Fiber Dia.	Res.*	EACH
7 E 205	IC-1-6	1/8" hex	6"	73,000	.0005"	80	7.00
7 E 206	IC-1-12	1/8" hex	12"	73,000	.0005"	80	12.50
7 E 207	IC-10-6	1/4"x1/8"	6"	125,000	.0005"	80	19.20
7 E 208	IC-10-12	1/4"x1/8"	12"	125,000	.0005"	80	36.90

### TYPE FS-1 INSPECTION FIBERSCOPE



Specially designed fiberscope (see description at left) for the internal inspection of small and highly inaccessible areas such as the interior of tubing. Light is no problem, as fiberscope is provided with six miniature lamps mounted in the distal end. Comes complete with 2.5/110 v. power supply. Ideal for checking scale, pits, cracks, holes, etc. Negotiates a minimum bend of 2½" in .790" I.D. tubing. Provides an image format of 5x5mm. Consists of 210,000 fibers sheathed in monel bellows and outer jacket of stainless steel braid.

7 EZ 209.....2950.00

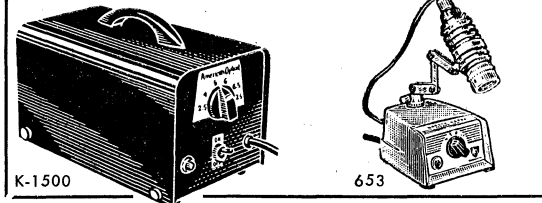
### FLEXIBLE COHERENT FIBER-OPTICS BUNDLE



Bundles of ultra-fine (.0004" dia.) optical glass fibers capable of transmitting images. Ideally suited for remote-viewing of instruments. Ready for installation in your own hardware, they are in flexible tubing with metal end fittings bonded to each bundle. Ends are optically ground and polished. \*Image Format given in millimeters; †No. of Fibers given in thousands.

Stock No.	Type FS-B	Lgth.	*Image Format	†No. of Fibers	Inches (Nom.)				EACH
					A	B	C	D	
7 E 218	55	24"	5x5	210	.209	.209	.688	1.25	825.00
7 E 210	55	36"	5x5	210	.209	.209	.688	1.25	875.00
7 E 211	55	48"	5x5	210	.209	.209	.688	1.25	950.00
7 E 212	55	60"	5x5	210	.209	.209	.688	1.25	1025.00
7 E 213	55	72"	5x5	210	.209	.209	.688	1.25	1100.00
7 E 220	810	24"	8x10	675	.438	.341	.688	1.75	1700.00
7 E 214	810	36"	8x10	675	.438	.341	.688	1.75	1750.00
7 E 215	810	48"	8x10	675	.438	.341	.688	1.75	1825.00
7 E 216	810	60"	8x10	675	.438	.341	.688	1.75	1900.00
7 E 217	810	72"	8x10	675	.438	.341	.688	1.75	1975.00
7 E 219	1010	48"	10x10	840	.438	.341	.688	1.75	2250.00
7 E 221	1010	72"	10x10	840	.438	.341	.688	1.75	2400.00

### ILLUMINATORS



Model K-1500. For LG-2, LG-3 light guides. 6.5-volt, 2.75-amp, single-filament, clear-glass lamp, parabolic mirror, and efficient condensing system provide an intense cone of illumination of 80° included angle. A 2-ft. LG-2 light guide coupled to the illuminator provides 100 foot-candles 4" from the end of the guide. Variable transformer gives control over intensity. 5¾x5¾x8½". For 110-120 v. 60 cycle AC.

7 E 222.....198.00

Model 653. Compact, intense illuminator having a 3-step variable voltage control and focusable triple-lens condensing system. Coupled with adapter listed below, provides abundant illumination for LG-2, LG-3 light guides.

7 E 223.....70.00

Model 653 Adapter. For use with Model 653, above.

7 E 224.....18.95

### LIGHT-TRANSMITTING CLAD ROD

Consists of core of n 1.62 glass, cladding of n 1.52 glass. Transmits light only.

7 E 225, Type CR-1-6, 1/8"x6".....2.30

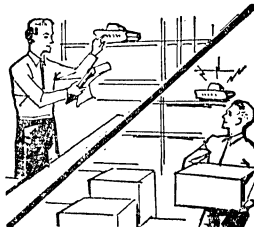
7 E 226, Type CR-1-12, 1/8"x12".....3.25

# Let an INTERCOM System Save You Time . . . Save You Steps . . . Cut Your Operating Costs



Is your organization suffering from inadequate means of communication? Here are but a few ways you'll profit by installing an Intercom System in your office or plant now.

An Intercom System saves you time—important executive decisions and up-to-the-minute reports are yours in an instant. An Intercom System saves you steps—key personnel stay where they're needed most, and inter-departmental traffic is reduced to a minimum. An Intercom System saves you money—expedites work in every productive area. An Intercom System reduces switchboard congestion—keeps telephone lines open for important incoming calls. An Intercom System provides a link between departments—key people are in constant contact. An Intercom System is so inexpensive to own and operate—costs only pennies a day. Whatever your organizational structure, there's an Intercom System for you—and you can depend on Allied to fill your needs.



## ALL-TRANSISTOR "INTERCOMPACT" SYSTEMS

**WI-8101 MASTER-REMOTE 2-STATION SYSTEM.** A rugged, compact, four-station-capacity system. Consists of: one Master and one Remote (Master accepts up to 3 Remotes); 50-ft. of 3-conductor cable; terminal box and necessary hardware. Fully transistorized system has self-contained AC power supply built in the Master unit. Designed for reliable and super-economical use. Remote needs no AC outlet and may originate calls to Master, even with Master off. May answer calls at a distance without operating switch. Pleasing Desert Sand finish blends in well with most color schemes. Master and Remote are both only 4x6 $\frac{3}{4}$ x5 $\frac{5}{8}$ ". For 110-120 volts, 60 cycle AC. Shpg. wt., 10 lbs.

58 RX 012..... 33.35

**WI-8121 EXTRA REMOTE.** Shpg. wt., 5 lbs.

58 R 013..... 7.35

58 R 016. 3-Cond. Cable. 150-ft. roll. Wt., 4 $\frac{1}{2}$  lbs..... 2.00

58 R 017. 3-Cond. Cable. 500-ft. roll. Wt., 8 lbs..... 6.34

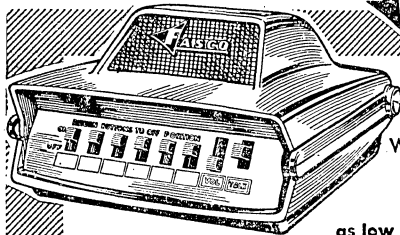
**WI-8102 MASTER STATION.** Accommodates up to 6 other Masters. Unlimited flexibility. Stations can call one, two, or all others—providing completely private or conference-type communications. All-transistor design assures super-reliability. No tubes to replace—extremely cool-running, too. All-Master systems require one WI-8151 Power Supply (below). Stations require no AC outlets, affording full freedom of location. Supplied with terminal box and all necessary hardware for easy installation. Less cable, below. Desert Sand finish. 4x6 $\frac{3}{4}$ x5 $\frac{5}{8}$ ". Shpg. wt., 6 lbs.

58 R 014..... 17.00

**WI-8151 POWER SUPPLY.** Transistorized. Use one for each system, regardless of no. of stations. For 110-120 v., 60 cycle AC. 3x5x13". Shpg. wt., 8 lbs.

58 R 015..... 30.35

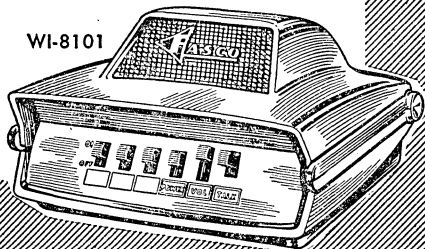
58 R 018 9-Cond. Cable, 250-ft. roll. 17 lbs..... 20.68



WI-8102

as low as  
**\$33<sup>35</sup>**

MASTER and  
MASTER-REMOTE  
SYSTEMS



WI-8101

## SMART, NEW INTERCOM SYSTEMS by BETACOM

**BI-605J INTERMIX SYSTEM.** Versatile system provides instant communications between intermixed Masters and Remotes. Up to 6 Masters can selectively call each other. Hold-down tab allows "hands-off" operation for either talking or listening. Remotes cannot originate calls, but can reply at a distance. All-transistor design reduces current consumption, heat and maintenance costs. Master operates from 9-volt battery, or can be converted for operation from 110-120 v., 60 cycle AC with AC Power Pak, listed below.

**BI-605J INTERMIX MASTER.** Uses up to 6 per system. 6 lbs.

58 RX 186..... 31.95

**BI-601J REMOTE.** Non-private, does not originate calls. 5 lbs.

58 RX 187..... 10.50

**BI-6M JUNCTION BOX.** Facilitates wiring of units. 6 oz.

58 RX 190..... 4.95

**BI-105 AC POWER PAK.** For conversion to 110-120 v., 60 cycle AC. 8 oz.

58 R 197..... 7.95

**47 W 332. 8-Conductor Cable.** For connecting Masters to Masters. Shpg. wt., 4 $\frac{3}{4}$  lbs. per 100-ft..... PER FT. 9c

**48 W 890. 2-Conductor Cable.** For connecting Remotes to Masters. Shpg. wt., 1 $\frac{3}{4}$  lbs. per 100-ft..... PER FT. 2c

**BI-605 MASTER-REMOTE SYSTEM.** Fully transistorized communication between one Master and up to five Remotes. Economical all-transistor design keeps operating and maintenance costs at a minimum. Master supplies power for system—operates from either two 9-volt batteries, or from BI-105 AC Power Pak, listed below. Remotes require no plug-in. Non-private remotes may initiate calls to Master, even with Master off, but cannot call each other. Exclusive 2-position "Rockomatic" switch controls call/listen functions. May be locked in listen position for monitoring, or in talk position for dictating. All-metal cases are 2x6 $\frac{3}{4}$ x6". May be placed on desk or wall-mounted.

**BI-605 MASTER.** Accepts up to 5 Remotes per system. 5 lbs.

58 RX 200..... 23.95

**BI-601 REMOTE.** Non-private. Can originate calls. 5 lbs.

58 RX 205..... 11.50

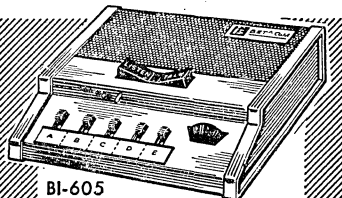
**BI-6 JUNCTION BOX.** Facilitates wiring of units. 6 oz.

58 RX 210..... 3.95

**BI-105 AC POWER PAK.** For conversion to 110-120 v., 60 cycle AC. 8 oz.

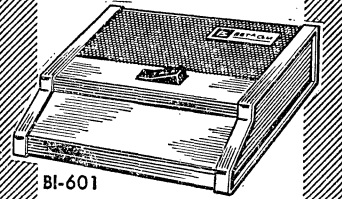
58 R 197..... 7.95

**47 W 372. 4-Conductor Cable.** Shpg. wt., 2 $\frac{1}{4}$  lbs. per 100-ft..... PER FT. 5c

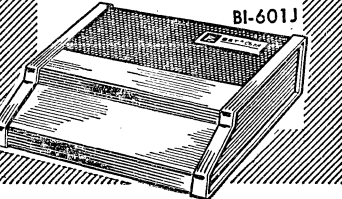


BI-605

BETACOM



BI-601



BI-601J

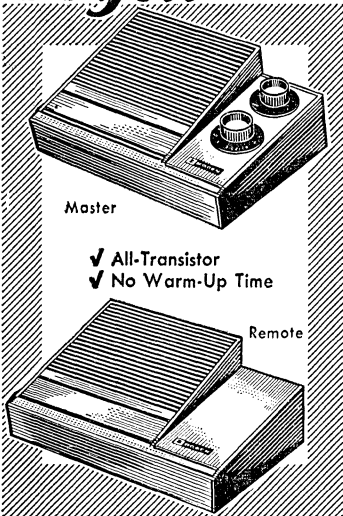
Write Us for Help in Planning Your Intercom System

ALLIED • 467

# Bogen

## Advance-Design Intercoms and Phones

### COMPACT ALL-TRANSISTOR INTERCOMS



Master

- ✓ All-Transistor
- ✓ No Warm-Up Time

Remote

**ALL-MASTER SYSTEM.** An instant-operating intercom system, using up to six TIA-6, or up to twelve TIA-12 Masters. Any Master can call any other, and in a TIA-6 system, all simultaneously. Each Master has volume control, press-to-talk bar, and selector switch with "mute" position. All-transistorized. 7 $\frac{3}{4}$ x4x7". Less cable, listed below—use cable with at least one more conductor than the number of stations in the system. For 110-120 v., 60 cycle AC.

**MASTER-REMOTE SYSTEM.** Consists of one TIA-6 Master and up to five RIA-1 Remotes; or one TIA-12 Master and up to eleven RIA-1 Remotes. Master can call any Remote, and in a TIA-6 system, can call all simultaneously. Remotes have press-to-talk bar, but can be used for non-private operation (controlled by jumper). Remotes can originate calls to one Master. Size of Remotes, 7 $\frac{3}{4}$ x4x7". Less cable, listed below—use 3-conductor cable between each station.

**INTERMIX SYSTEM.** TIM-12 Intermix Master Stations are used in systems with a total of 12 stations in any combination of Masters and Remotes. Use either RIA-1 or

RIM-6 Remotes. RIM-6 Remote can initiate calls to any one of six TIM-12 Masters; RIA-1 Remote can initiate calls to only one Master.

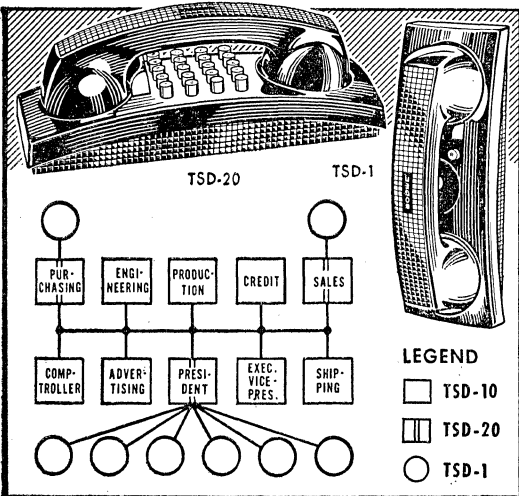
- TIA-6 6-STATION MASTER, 7 lbs. 58 R 019..... **34.45**
- TIA-12 12-STATION MASTER, 7 lbs. 58 R 020..... **38.25**
- RIA-1 REMOTE. Calls only 1 Master. Called by any Master. 6 $\frac{1}{2}$  lbs. 58 R 021..... **10.45**
- TIM-12 INTERMIX MASTER. Permits mixing any combination of Masters and Remotes up to 12. Wt., 7 lbs. 58 R 022..... **47.00**
- RIM-6 REMOTE. Originates calls to any of 6 Masters. Wt., 6 lbs. 58 R 023..... **23.40**

### CABLE FOR INTERCOMS

Shpg. wts. and prices for cables listed below are per 100-ft. roll.

- 47 W 362, 3-Cond. 2 lbs..... **2.43**
- 48 W 759, 8-Cond. 7 $\frac{1}{2}$  lbs..... **4.26**
- 48 W 894, 18-Cond. 11 lbs..... **7.94**

### FLEXIBLE SERIES TSD BOGEN-PHONES



An extremely flexible phone system adaptable to any need, and offering private (no eavesdropping), multi-conversation. Typical system, diagramed at left, shows how Masters and Remotes may be intermixed. Masters can converse with each other privately (up to 5 simultaneous private conversations in 10-phone system—10 in 20-phone system), or with others together (TSD-10 can call up to 9 stations individually or together—TSD-20 up to 19). TSD-1 Remote can receive calls from any Master but initiates them only to Master to which it is directly connected. Stylish phones can be used on desk or wall-mounted. Sizes: Masters, 3 $\frac{1}{4}$ x9 $\frac{1}{2}$ x3 $\frac{1}{4}$ "; Remote, 3 $\frac{1}{4}$ x9 $\frac{1}{2}$ x3 $\frac{1}{4}$ ". Use unshielded cable with at least 4 conductors more than the number of phones in the system. Connect Remote with 5-conductor cable. Only one PRS-10 Power Supply required for each phone system.

- TSD-10 TEN STATION MASTER, 6 $\frac{1}{2}$  lbs. 58 R 024..... **34.25**
- TSD-20 20-STATION MASTER, 7 lbs. 58 R 025..... **39.95**
- TSD-1 REMOTE. Non-selective, single-pushbutton. 6 lbs. 58 R 026..... **24.95**
- PRS-10 POWER SUPPLY. One required for each system. 4x7". For 110-120 v., 50-60 cycle AC. 8 lbs. 58 R 027..... **33.25**
- TRB PUSHBUTTON PHONE-PAGE ADAPTER. Same as Model TRA (used with Series TQ phones), but used to adapt TSD Series Bogen phones for paging through your P.A. system. Needs no separate power supply. Use 3-conductor cable. 4x4x2". 6 lbs. 58 R 128..... **45.80**

### POPULAR BOGEN "TQ" PHONE SYSTEMS

Efficient Bogen TQ Phone Systems for Office or Home

Bogen TQ phones have selective ringing with common talk-line. One or all stations may be called simultaneously—permits single conversation or conference-type calls. Phones have 4-ft. coiled cord—can't tangle. Supplied less connecting cable and power supply, listed below. Select phone cable with at least 3 conductors more than the number of phones in each system. Handsomely styled in gray plastic—may be placed on desk or counter, or wall-mounted. Size, 9 $\frac{1}{2}$ x3 $\frac{1}{4}$ x3 $\frac{1}{4}$ ".

- TQ-6 SELECTIVE RINGING PHONE. Up to 7 stations per system. Has 6 pushbuttons. Wt., 6 $\frac{1}{2}$  lbs. 58 R 118..... **20.95**
- TQ-12 SELECTIVE RINGING PHONE. Up to 13 stations per system. Has 12 pushbuttons. Wt., 6 $\frac{1}{2}$  lbs. 58 R 119..... **25.70**
- PRS-1 POWER SUPPLY. Only one required per system. Use 3-conductor cable. 4x5x1 $\frac{1}{2}$ ". For 110-120 v., 50-60 cycle AC. Wt., 6 lbs. 58 R 133..... **22.50**
- TRA PUSHBUTTON PHONE-PAGE ADAPTER. Adapts Bogen TQ phones for paging through your P.A. system. Handles music equipment—needs no separate power supply. Volume control permits separate levels for paging and music. 4x4x2". 5 lbs. 58 R 126..... **31.65**

### POWER AND PHONE CABLE

Stock No.	Cond.	Lbs. per 100'	PER FT.	Per 100'
48 W 879	3	7	2 $\frac{1}{2}$ c	1.91
48 W 891	7	2 $\frac{1}{2}$	3 $\frac{1}{2}$ c	2.89
48 W 892	6	6 $\frac{1}{2}$	5c	3.82
48 W 893	12	9	7c	5.88
48 W 894	18	9 $\frac{3}{4}$	9 $\frac{1}{2}$ c	7.94
48 W 845	26	14	15c	12.15

# Versatile Intercoms Raise Efficiency—Cut Costs

## NEW BOGEN SERIES "X" INTERCOMS

OFFER MAXIMUM FLEXIBILITY OF SYSTEM INSTALLATION

Series "X" intercoms by Bogen keep key men and departments at your fingertips. You enjoy unlimited flexibility of installation and unmatched privacy. Masters feature fast station-selector pushbuttons.

Both Masters are equipped to accommodate the new HSX Telephone Handset. When handset is plugged-in to Master, loud-speaker is disconnected, permitting completely private conversations—without operating the talk-listen lever. However, lever must be operated when Master with HSX talks to Remote. Talk-listen lever offers optimum convenience—simply press to talk, it returns to listen position automatically. Can be placed in "hold" position—allowing you to dictate at length with hands free.

Two types of Remotes are available. The REM1A can initiate calls only to the Master with which it is directly connected—REM3A can initiate calls to 3 separate Masters. Remotes can be either private or non-private, depending on installation. For

- 110-120 v., 60 cycle AC.  
 X120B MASTER. For use in up to 11-station system. 18 lbs.  
 58 RX 086 ..... 84.90  
 X220B MASTER. Same as above, but for up to 22-station system. 19 lbs.  
 58 RX 275 ..... 104.35  
 JB2 JUNCTION BOX. Facilitates wiring. 1 required for each X120B, 2 required for each X220B. Shpg. wt., 5 lbs.  
 58 RX 154 ..... 5.80  
 HSX TELEPHONE HANDSET. For converting Masters to totally private operation. Wt., 6 lbs.  
 58 RX 100 ..... 39.95  
 REM1A REMOTE. Can originate call to 1 Master. Wt., 6 lbs.  
 58 RX 104 ..... 18.60  
 REM3A REMOTE. Can originate calls to 3 Masters. Wt., 6 lbs.  
 58 RX 113 ..... 22.65

### WIRING REQUIREMENTS

I—Single Master-Multiple Remote. Private—1 length 48 W 890 and 1 length 49 W 373 to each station. Non-private—2 lengths 49 W 373 to each station. II—All-Master System. Same number of twisted pairs as Masters. III—Multiple-Master-Multiple Remote. Between Masters—same number of twisted pairs as stations, including private Remotes. Between Remotes and Masters—

for REM1A, see I. For REM3A, use 1 length 48 W 890 to nearest Master and 1 length 49 W 373 to each Master to be called.  
 48 W 890, 1 Pair Twisted ..... .02/FT.  
 48 W 891, 2 Pair Twisted ..... .035/FT.  
 48 W 893, 6 Pair Twisted ..... .07/FT.  
 48 W 898, 11 Pair Twisted ..... .13/FT.  
 49 W 373, 1 Pair Twisted, Shielded ..... .03/FT.

## SELECTIVE WIRELESS INTERCOM SYSTEMS

### ALL-MASTER SYSTEMS

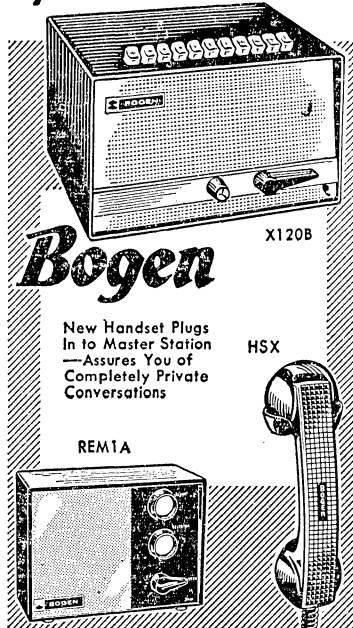
T-LCM MASTER STATION. Any Master station can call any other selectively, or all others together. Attractively styled in charcoal gray and chrome finish. Plug each Master into AC outlet on same power company transformer line, and you're ready to

- communicate. Size,  $3\frac{1}{8} \times 14 \times 8\frac{3}{4}$ ". For 110-120 v., 50-60 cycle AC-DC. U.L. Listed.  
 T-LCM 8909. To 6 stations. 13 lbs.  
 58 RX 043 ..... 79.50  
 T-LCM 8912. To 12 stations. 15 lbs.  
 58 RX 050 ..... 89.80

### MASTER-AUXILIARY SYSTEM

T-LCS. Consists of one or more T-LCM Masters and any number of auxiliary stations, listed at right. Auxiliary is on fixed channel—can reply but cannot originate calls. System offers selective area paging without high installation costs. Place one or more channel-1 auxiliaries in one room, one or more channel-2 in another, etc. Master can then page any area. Last digit in Type No. of T-LCS auxiliary indicates the pre-

- fixed channel. Size,  $3\frac{1}{8} \times 10\frac{1}{2} \times 8\frac{3}{4}$ ". For 110-120 v., 50-60 cycle AC-DC. Wt., 10 lbs.  
 58 RX 044. T-LCS-901 ..... 45.00  
 58 RX 045. T-LCS-902 ..... 45.00  
 58 RX 046. T-LCS-903 ..... 45.00  
 58 RX 047. T-LCS-904 ..... 45.00  
 58 RX 048. T-LCS-905 ..... 45.00  
 58 RX 049. T-LCS-906 ..... 45.00

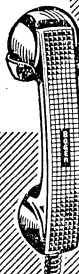
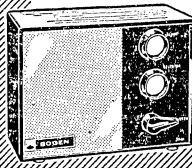


**Bogen**

New Handset Plugs In to Master Station—Assures You of Completely Private Conversations

HSX

REM1A



**TALK-A-PHONE**

- ✓ No Wires to Connect
- ✓ Plug Into Any AC Outlet

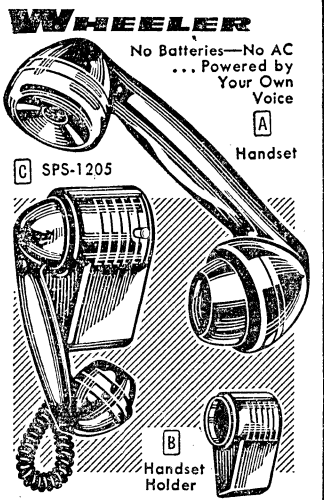
T-LCS

## "SOUND-POWERED" TELEPHONE SYSTEMS by

The ultimate in communications reliability—comparable in size and ruggedness to the finest commercial telephone equipment. Use these sound-powered telephone handsets for maintenance-free communications in the plant, on construction projects, on the farm, or wherever electrical power is not available. Completely self-contained, these telephones don't even require batteries—your own voice generates the current needed for transmission, and with remarkable speech fidelity. Electrical spark and fire hazards are eliminated. Sound-powered phones can remain on an indefinite "standby" basis for emergency service when other facilities are not in working order. As many as 12 telephones may be connected in parallel, providing quick communication with low installation costs. The SPT-102 handset comes with a 3-foot non-coiled, neoprene cord and insulated clips. SPT-123 and SPT-150 have a 4-foot coiled-cord. All handsets are supplied less connecting cable, listed below. The SPS-1205 wall-mounting handset holder will accommodate up to 3 telephones in a common-ringing system. All units are made of corrosion-resistant materials, for trouble-free use in any outdoor climate.

Stock No.	Type	Fig.	Description	Lbs.	EACH
58 R 087	SPT-102	A	Handset. Up to 12 can be paralleled.	1 1/2	12.88
58 R 093	SPT-123	A	Hi-level handset for noisy areas (less clips)	1 1/2	14.41
58 R 094	SPT-150	A	Same as SPT-123 but with insulated clips.	1 1/2	14.96
58 R 091	SPS-305	B	Wall mount handset holder. For installations with separate ringing systems. 2 7/8 x 5 5/8 x 3".	1 1/2	13.17
58 R 092	SPS-1205	C	Same as SPS-305 but with bell.	1 1/2	18.21
58 R 097	B-5446		Handset hook. For wall or desk-side mtg.	1/4	1.49

48 W 826. Cable for Sound-Powered Phones, 2-conductor. 100-ft. roll. Measure from Phone 1 to Phone 2, 2 to 3, etc. Wt., 3 lbs. .... 3.38



**WHEELER**

No Batteries—No AC  
 ... Powered by  
 Your Own Voice

A

Handset

C SPS-1205

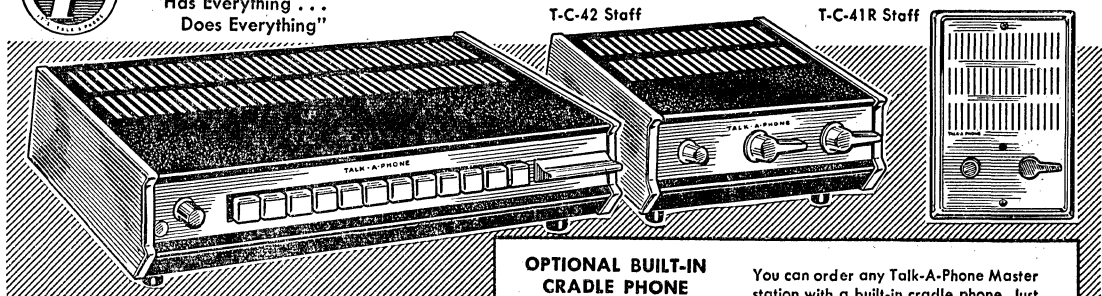
B

Handset Holder



# TALK-A-PHONE All-Transistor Intercoms

"Has Everything . . .  
Does Everything"

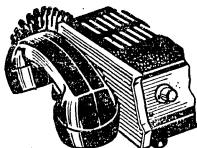


T-C-4912 Master

T-C-42 Staff

T-C-41R Staff

## OPTIONAL BUILT-IN CRADLE PHONE



You can order any Talk-A-Phone Master station with a built-in cradle phone. Just select the Master, and in place of its regular stock number, insert the word, "Special" and add "H" to the Mfr's Type No. Example: Special, Talk-A-Phone Model T-C-4906H Master with Cradle Phone. Add \$35.00 to price of Master for Model with Cradle Phone.

- ✓ Easy-to-Use Intercoms with "Built-In Brain" Registers Busy Signals, Priority Break-Ins
- ✓ Dozens of Practical, Cost-Saving Applications
- ✓ Private or Non-Private, Noise-Free Operation

### "CHIEF" ALL-TRANSISTOR MASTER STATIONS

Deluxe, all-transistor universal Master stations that can be used in all-Master or Master(s)-Staff(s) systems with capacities of 6, 12, 20 or 30 stations. Effects savings of thousands of man-hours in offices, plants, factories, etc. Masters can operate privately or non-privately and engage in conference calls with any number of stations. In private operation, talk-listen switch is necessary to reply; in non-private, a control is not necessary.

Built-in signal indicates whether line is busy—priority calls can over-ride a busy line. Incoming call is indicated by a light and chime. Master unit includes pushbutton selector, push-to-talk bar, dictation control and volume control. Stations may be placed several thousand feet apart.

Relays to operate horns, sirens or lights can be put into a system—any Master can operate relays. In high-noise areas if horn or siren is operated instead of chime, Master is still fully operational—relay does not take place of Master. Each Master has a junction box with a power supply, and 6-ft. of cable. Steel cases are styled in leather-textured, gray vinyl and brushed chrome. Size, 3 1/8x14x 8 3/4". For operation from 110-120 volts, 50-60 cycle AC.

Stock No.	Mfr's Type	Capacity	Wt. Lbs.	EACH
58 RX 068	T-C-4906	6 stations	17	79.50
58 RX 069	T-C-4912	12 stations	18	89.80
58 RX 070	T-C-4920	20 stations	18	107.40
58 RX 071	T-C-4930	30 stations	21	125.00

### "CHIEF" ALL-TRANSISTOR STAFF STATIONS

Staff stations are for use in mixed systems with Masters. A Staff can originate calls to the Master station with which it is directly connected, and answer calls from any Master station in the system. A Staff cannot speak to another Staff. In private operation, Staff Talk-Listen switch must be pressed for Master to hear call. In non-private operation, Staff can answer calls without using controls. Each Staff has monitoring and busy signals. Visual monitoring signals that another station is calling. Staffs do not have to be connected to power outlet and consume no power. High-Power stations that give greater volume for use in noisy areas are listed at left, below. Units with "M" in type number have grained, baked enamel-gray finish; others are styled in charcoal gray finish with brushed chrome trim. Metal cases, 3 1/8x7 1/2x8 3/4".

Stock No.	Mfr's Type	No. of Masters Staff Can Call	Wt. Lbs.	EACH
58 RX 074	T-C-41	one	8	21.50
58 RX 075	T-C-41M	one	8	17.50
58 RX 076	T-C-42	two	8	26.50
58 RX 077	T-C-42M	two	8	22.50

58 RX 144, Type T-C-41R Flush Wall-Mount Staff. Same as T-C-41 in operation. 4 1/8x7 3/8". Shpg. wt., 7 lbs. . . . . 17.50

58 R 136, Type T-SM-L Surface Mounting Accessory, 2 lbs. . . . . 4.60

58 R 125, Type TW-1 Wall-Mounting Brackets. For Staffs (except TC-41R). 2 needed for each station. 8 oz. . . . . PER PAIR .75

### "CHIEF" ALL-TRANSISTOR EXTRA-POWER MASTER STATIONS

Use "Redi-Power" Masters in any "Chief" system where extra power is needed for many stations, or for overcoming high ambient noise. Speech from called stations is received at normal volume. Built-in 20-

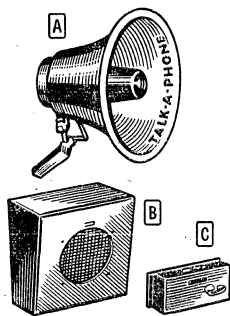
watt amplifier. Network automatically adjusts output to pre-selected level—when several stations are called, individual volumes are not affected. Same size, finish and AC power rating as Masters sold above.

Stock No.	Mfr's Type	Capacity	Wt. Lbs.	EACH
58 RU 072	T-CRP-5912	12 stations	22	138.00
58 RU 073	T-CRP-5920	20 stations	24	155.00

### HIGH-POWER STAFF STATIONS AND ORIGINATION SWITCHES

HIGH-POWER STAFF STATIONS. Provide higher volume output than standard units—specifically designed for use in noisy surroundings and outdoor areas. Staff can answer Master and, with origination switches listed below, can originate calls. Use with any "Chief" system.

- A** T-C-20 TRUMPET-TYPE, 9", weatherproof talk-back horn. Power capacity, 15 watts. Trumpet is finished in charcoal gray. Shpg. wt., 8 lbs.  
58 RX 067. . . . . 26.50
- B** T-HP-3 INDOOR-TYPE, 8" speaker in a charcoal-gray metal baffle. Power capacity, 5 watts. Baffle size, 12x12x8". Shpg. wt., 13 lbs.  
58 RX 066. . . . . 16.50
- C** ORIGINATION SWITCHES. Make T-C-20 or T-HP-3 operationally equivalent to T-C-41 or T-C-42. With incoming call and busy lights. Shpg. wt., 2 lbs.  
58 R 121, Type T-S-101. Calls 1 Master. . . . . 6.95  
58 R 124, Type T-S-102. Calls 2 Masters. . . . . 11.70



### CABLE FOR "CHIEF" SYSTEMS

CONNECTING MASTER TO MASTER. To connect Master to Master, in an all-Master or a Master(s)-Staff(s) "Chief" system, measure from first to second Master only; from second to third Master only, etc. Then add all the measurements together. For 6-station Masters, use Type 6214 cable; for 12-station Masters, 6226 cable. For 20-station Masters, double the total measured length (two equal lengths of cable run parallel to each other between Masters) and order 6226 cable. For 30-stations, triple the total and order Type 6226 cable.

CONNECTING STAFF TO MASTER. Use a single length of Type 6206 cable to connect T-C-41, T-C-41R, T-C-41M, T-C-42 and T-C-42M Staffs to their Masters.

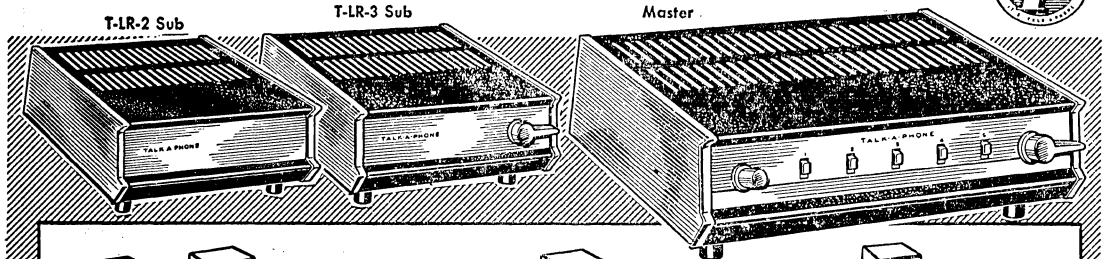
CONNECTING HIGH-POWER STAFFS. Connect in same way as Staffs above, using 6206 cable, if origination switch is used; if not used, connect each station to nearest Master with single length of 6902 cable.

TALK-A-PHONE INTERCOM CABLE. For both indoor and outdoor connections.

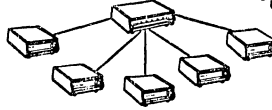
Stock No.	Type No.	Pairs	Lbs. 100'	PER FT.
49 W 616	6214	7	5	.14
49 W 615	6226	3	9	.28
49 W 622	6206	3	2 1/2	.085
49 W 613	6902	1	2	.02



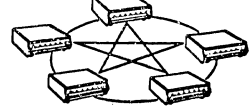
# Deluxe Systems by TALK-A-PHONE



Mixture of Masters and Subs up to an overall total of 10 stations. Masters can call; Subs can only answer.



One Master can communicate with up to a total of ten Subs. Subs can call Master station, but not each other.



Most versatile Master-Station System. Each unit can originate calls and communicate with any other station.

## COMBINATION SYSTEMS

**MASTERS AND STANDARD SUBS.** Master calls can be private or non-private. Masters can call each other or any Sub, selectively. Subs can't originate calls. Masters and T-LR-2 Sub have steel cases in leather-textured gray vinyl and chrome. T-LR-2M Sub in grained enamel. \*Stainless steel front panel. Masters,  $3\frac{1}{2} \times 10\frac{1}{2} \times 8\frac{3}{4}$ "; Desk Subs,  $2\frac{7}{8} \times 7\frac{1}{2} \times 8\frac{3}{4}$ ". Wall-mtg. opening,  $4\frac{1}{8} \times 4\frac{1}{8} \times 2$ "; front-panel,  $4\frac{1}{8}$ " sq. Less cable, below. For 110-120 v., 50-60 cycle AC-DC. U.L. Listed.

### MASTER STATIONS

**T-CL-5 MASTER.** To be used with 5-station systems. 10 lbs.  
**58 RX 063.....42.00**  
**T-CL-10 MASTER.** For use with up to 10-station systems. 10 lbs.  
**58 RX 064.....51.00**  
**T-AC-605 HIGH-POWER MASTER.** For paging; noisy locations. For 5-stations. Wt., 10 lbs.  
**58 RX 148.....51.00**  
**58 RX 149.** T-AC-610 High-Power Master. For 10-station systems. Wt. 10 lbs...**59.95**

### SUB STATIONS

**T-LR-2 SUB.** Shpg. wt., 8 lbs.  
**58 RX 051.....15.95**  
**\*T-LR-2M SUB.** Shpg. wt., 5 lbs.  
**58 RX 065.....11.95**  
**T-LR-2R BUILT-IN WALL SUB.** 4 lbs.  
**58 R 137.....11.95**  
**58 RX 147.** TSM Mtg. Accessory. For above.  $4\frac{1}{8} \times 2\frac{1}{8}$ ". Shpg. wt., 1 lb.....**4.00**  
**HIGH-POWER SUBS.** See accessories, below.

### INTERCONNECTING CABLE

Use Type 6210, 5-pair cable with 5-station Masters; 6226, 13-pair cable with 10-station Masters; 6902, 2-cond. cable to connect Sub to nearest Master only.  
**49 W 617.** Type 6210 Cable. Shpg. wt., per 100 ft., 6 lbs.....PER FOOT .14  
**49 W 615.** Type 6226 Cable. Shpg. wt., per 100 ft., 12 lbs.....PER FOOT .28  
**49 W 613.** Type 6902 Cable. Shpg. wt., per 100 ft., 2 lbs.....PER FOOT .02

**HIGH-POWER SUB STATIONS.** Subs can answer Master, as well as originate calls when used with T-S-100 switch, at right.  
**58 RX 067.** T-C-20 Trumpet-Type, 9" re-entrant horn. Shpg. wt., 8 lbs.....**26.50**  
**58 RX 066.** T-HP-3 Indoor-Type, 8" speaker. Shpg. wt., 13 lbs.....**16.50**

## MASTER-SELECTIVE SYSTEMS

**STANDARD-POWER MASTERS AND SUBS.** For systems using one Master and up to ten Subs. Master can call and listen to one, several or all Subs simultaneously. Subs can call and converse with Master, but not other Subs. Subs can be private or non-private, and originate calls. When private, Sub cannot be monitored. Only Master needs power outlet. T-LR-3M Sub is finished in baked enamel; all others styled in leather-textured gray vinyl and chrome. Masters,  $3\frac{1}{8} \times 10\frac{1}{2} \times 8\frac{3}{4}$ "; Subs,  $3\frac{1}{8} \times 7\frac{1}{2} \times 8\frac{3}{4}$ ". T-LR-3R; panel,  $7\frac{3}{8} \times 7\frac{3}{8}$ "; opening,  $6\frac{1}{2} \times 4\frac{1}{8} \times 2$ ". Less cable, below. For 110-120 v., 50-60 cycle AC-DC. U.L. Listed.

### MASTER STATIONS

**T-LM-5 MASTER.** Accommodates up to 5 Sub stations. Shpg. wt., 10 lbs.  
**58 RX 058.....34.95**  
**T-LM-10 MASTER.** Accommodates up to 10 Sub stations. Shpg. wt., 10 lbs.  
**58 RX 059.....44.00**  
**T-AC-5406 HIGH-POWER MASTER.** 10 times greater volume. For up to 5 Subs. 10 lbs.  
**58 RX 060.....44.00**  
**T-AC-5411 HIGH-POWER MASTER.** For use with 10 Sub stations. Shpg. wt., 10 lbs.  
**58 RX 061.....52.50**

### SUB STATIONS

**T-LR-3 SUB.** Shpg. wt., 7 lbs.  
**58 RX 052.....15.95**  
**T-LR-3M SUB.** Shpg. wt., 10 lbs.  
**58 RX 062.....11.95**  
**T-LR-3R BUILT-IN WALL SUB.** Shpg. wt., 4 lbs.  
**58 R 138.....11.95**  
**58 R 136.** T-SM-L Mtg. Accessory. For above.  $7\frac{7}{8} \times 4\frac{3}{8} \times 2\frac{1}{8}$ ". Wt., 2 lbs.....**4.60**  
**HIGH-POWER SUBS.** See accessories, below.

### INTERCONNECTING CABLE

Use 3-conductor cable, listed below. Each Sub must be wired to Master.  
**49 W 604.** Type 5303 Unshielded Cable. Wt., per 100 ft., 1 lb.....PER FOOT .03  
**47 W 070.** Type 6303 Shielded Cable. Wt., per 100 ft., 2 lbs.....PER FOOT .04

## SUPER-SELECTIVE SYSTEMS

**SELECTIVE MASTER STATIONS.** Most versatile type of intercom systems consisting entirely of Master units. Any station can originate a call to any other station or stations and converse with them—several separate conversations can be held simultaneously without interfering with each other. Conference calls are easily arranged.

Each unit has a translucent indicator that lights up when the unit is in operation. Additional features: slide-switch for each station in the system; spring-return, press-to-talk lever and volume control. All stations may be more than 1000 feet apart and still maintain excellent communications. Impressively finished in bonded leather-textured gray vinyl, trimmed in brushed chrome. Supplied less interconnecting cables, listed below. *The power consumed by this type of system costs only a few pennies per day.* Case size,  $3\frac{1}{2} \times 10 \times 8\frac{3}{4}$ ". For 110-120 v., 50-60 cycle AC or DC. U.L. Listed.

### MASTER STATIONS

**T-LS-5 MASTER.** For use in systems with up to 5 Master stations. Wt., 10 lbs.  
**58 RX 054.....34.95**  
**T-LS-10 MASTER.** For use in systems with up to 10 Master stations. Shpg. wt., 10 lbs.  
**58 RX 055.....44.00**  
**T-AC-505 HIGH-POWER MASTER.** For high-noise areas. Accommodates up to 5 Master stations. Shpg. wt., 10 lbs.  
**58 RX 145.....44.00**  
**T-AC-510 HIGH-POWER MASTER.** For 10-station systems. Shpg. wt., 10 lbs.  
**58 RX 146.....52.50**

### INTERCONNECTING CABLE

For T-LS-5 or T-AC-505 Masters, use 5506 cable. For T-LS-10 or T-AC-510, use 911 cable. To determine quantity of cable required, measure from 1st station to 2nd only, 2nd to 3rd only, etc. Add for total. Do not connect last station to 1st.  
**49 W 605.** Type 5506 6-Conductor Cable. Shpg. wt. per 100 ft., 4 lbs.....PER FOOT .075  
**49 W 603.** Type 9111 11-Conductor Cable. Shpg. wt. per 100 ft., 12 lbs.....PER FOOT .14

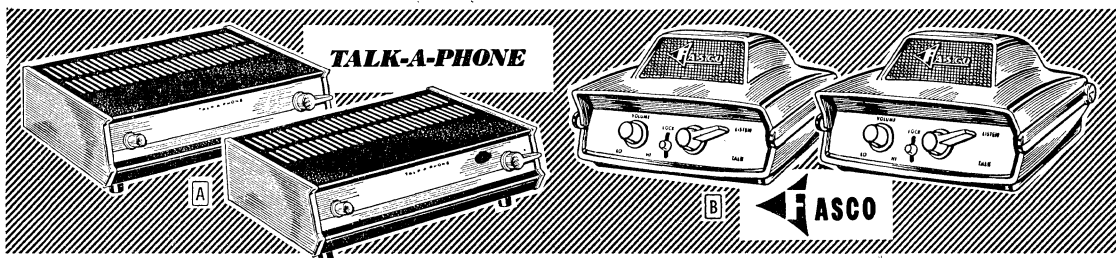
## TALK-A-PHONE INTERCOM SYSTEM ACCESSORIES

**TYPE T-S-100 ORIGINATION SWITCH.** Wall-switch, allows High-Power Subs to originate calls.  $1\frac{3}{4} \times 5\frac{3}{4} \times 2\frac{1}{2}$ ". Wt., 2 lbs.  
**58 R 120.....3.50**  
**WALL-MOUNTING BRACKETS.** For use with all Subs in above systems. Wt.,  $\frac{1}{2}$  lb.  
**58 R 125.....PER PAIR .75**

**OPTIONAL BUILT-IN CRADLE PHONE.** To order any Master station with built-in cradle phone, insert the word, "Special" in place of regular Master's stock number, and add "H" to Mfr's Type No. Example: Special, Talk-A-Phone T-LM-5H Master with Cradle Phone. Add \$35.00 to price of the Master for Model with Cradle Phone.



# Highly Versatile Intercoms for Office or Plant



## PORTABLE WIRELESS INTERCOM SYSTEMS

### A DELUXE SYSTEM

TALK-A-PHONE T-1C-33. Just plug each station into any outlet on the same power company line-transformer, and you establish instant communications. "Uni-Trans" switch permits dictating or listening. Beautifully finished in charcoal gray and brushed chrome—resist effects of liquids and air. Each unit,  $3\frac{1}{8} \times 10\frac{1}{2} \times 8\frac{3}{4}$ ". For 110-120 volts, 50-60 cycle AC or DC. Shpg. wt., 19 lbs.

58 RX 056.....79.90

T-1C-17 EXTRA STATION. Add any number—same as above units, 11 lbs.

58 RX 057.....39.95

### B ALL-TRANSISTOR SYSTEM

FASCO CI-8202. Two-station outfit for economical two-way conversation. Draws less current than an electric clock! Accepts any number of extra stations (below) on same line transformer. Has press-to-talk switch with lock control, allowing for extended dictation. May also be used for monitoring. All-transistor circuitry eliminates warm-up time—provides immediate communication. Each station,  $4\frac{6}{8} \times 5\frac{5}{8}$ ". For 110-120 v., 50-60 cycle AC. 8 lbs.

58 RX 031.....52.50

58 RX 102, Extra Station. Add any number. Shpg. wt.,  $5\frac{1}{2}$  lbs.....26.25

### C ECONOMY-PRICED SYSTEM

NEW RMS WDT-2. Plug stations into any electrical outlet, and you're ready to talk. Provide excellent inter-room communication. No wiring! Beautiful hand-rubbed walnut cases enhance nearly any decor. A single 3-position switch controls talk, listen and dictate functions. Adjustable squelch and volume controls. 4 tubes, rectifier. Each,  $4\frac{3}{4} \times 8 \times 5\frac{1}{4}$ ". For 110-120 v., 50-60 cycle AC-DC. From Japan.  $8\frac{1}{2}$  lbs.

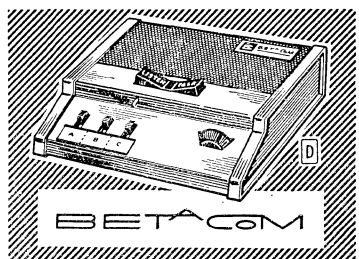
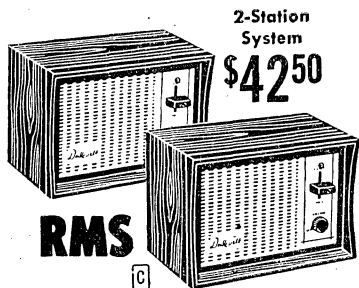
58 RX 216.....42.50

58 RX 217, Extra Station. Add any number. Shpg. wt.,  $7\frac{1}{4}$  lbs.....21.25

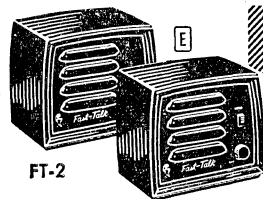
### D SELECTIVE MASTER

NEW BETACOM 303. An innovation in intercom design. Sends an FM signal over your regular AC wiring for full-fidelity 2-way communications. Has 3 separate operating frequencies for up to 3 private, simultaneous conversations in a 6-station system! (Any number of units can be used in a system.) Squelch completely silences units when no calls are being made. Push-to-talk switch, on-off/volume control. 5 tubes, rectifier. Beige enamel finish.  $1\frac{1}{8} \times 8\frac{7}{8} \times 8\frac{1}{4}$ ". For 110-120 v., 50-60 cycle AC. 4 lbs.

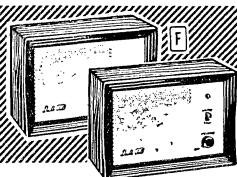
58 RX 220.....EACH 36.95



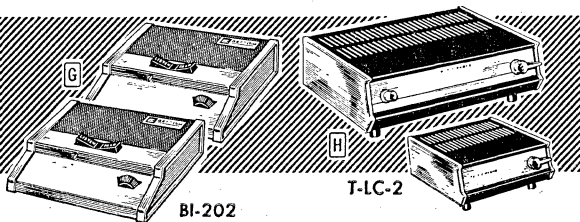
## SELECTED-FOR-VALUE TWO-STATION WIRED INTERCOM SYSTEMS



FT-2



DT-200



BI-202

T-1C-2

### E NEW LOW-COST SYSTEM

RMS FT-2. An inexpensive 2-station system that you can use in a dozen different ways. Slave units can answer but not originate calls. Use as a monitoring device, or for calling out-office or stock room. Master has talk/listen switch and volume control. Only Master must be plugged into outlet. 3 tubes. Supplied with 50-ft. of cable. Each unit,  $5\frac{1}{4} \times 5\frac{3}{4} \times 4$ ". For 110-120 volts, 50-60 cycle AC. Wt., 5 lbs.

58 RX 163.....13.88

### F ECONOMY-PRICED SYSTEM

RMS DT-200. Economy 2-station system that takes only minutes to install. Simply connect cable, plug Master into any AC outlet, and you're ready to talk. Remote can originate calls to Master. Units have talk/listen switches; volume controlled by Master. Walnut cabinets,  $4\frac{3}{4} \times 8 \times 5\frac{1}{4}$ ". With 50-ft. of cable. For 110-120 v., 50-60 cycle AC. From Japan.  $8\frac{1}{2}$  lbs.

58 RX 224.....18.88

58 RX 275, Extra Remote,  $1\frac{3}{4}$  lbs.....7.20

### G NEW ALL-TRANSISTOR BATTERY-POWERED SYSTEM

BETACOM BI-202. Place it anywhere! No AC power necessary. (System may be converted to AC—see below, right.) Stations are transistorized for low-current consumption, heat-free operation and long battery-life. Provide instantaneous 2-way communication. Remote is powered from Master, and can initiate calls even when Master is off. Hold-down tab on Master provides "hands-off" operation for both talking and listening. Both units are in compact, handsomely styled metal cases. Completely

portable—may be placed on desk or wall-mounted. With 50-ft. cable. Each unit,  $6\frac{1}{2} \times 5\frac{7}{8} \times 1\frac{1}{8}$ ". Shpg. wt., 9 lbs.

58 RX 171.....29.95

55 J 650, 9-Volt Battery. One required per system. 2 oz.....48¢

BI-105 POWER PAK. Converts above system to AC operation. U.L. Listed. For 110-120 v., 50-60 cycle AC. Wt.,  $\frac{1}{2}$  lb.

58 R 221.....7.95

### H DELUXE SYSTEM

TALK-A-PHONE T-1C-2. Ruggedly constructed 2-station intercom for your office or plant. Includes one Master, one Remote, and 50 feet of interconnecting cable (up to 2000 feet more can be added). Both Master and Remote can originate calls. Remote can be set for private or non-private operation.

When private, Master cannot listen in; when non-private, persons at Remote can answer calls at a distance without operating controls. Only Master needs to be connected to AC outlet.

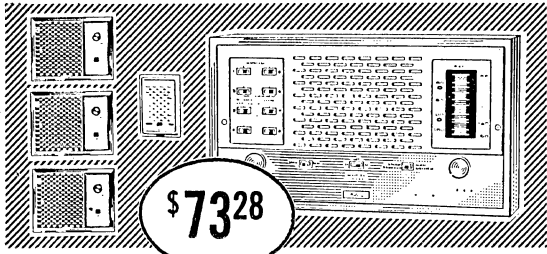
Master has volume control and pilot light. Steel case attractively finished in charcoal gray vinyl and brushed chrome. Case resists harmful effects of weather and liquids. Remote's steel case finished in matching baked enamel. Master,  $3\frac{1}{8} \times 10\frac{1}{2} \times 8\frac{3}{4}$ "; Remote,  $3\frac{1}{8} \times 7\frac{1}{2} \times 8\frac{3}{4}$ ". For 110-120 v., 50-60 cycle AC or DC. U.L. Listed. Shpg. wt.,  $14\frac{1}{2}$  lbs.

58 RX 053.....36.00

T-1R-3M EXTRA REMOTE. Wt.,  $7\frac{1}{2}$  lbs.

58 RX 062.....11.95

# Custom Built-In Intercom Systems by *NuTone*

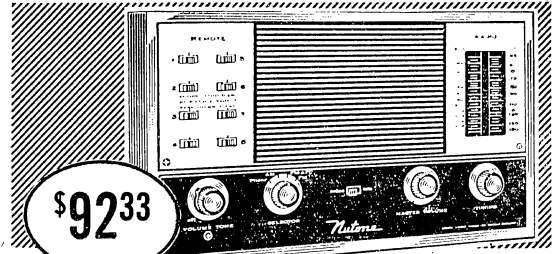


**\$7328**

## MODEL 2031 AM RADIO-INTERCOM SYSTEM

The 2031 is a complete 5-station music distribution and intercom system that "broadcasts" AM radio programs to any room. In addition, all Remotes can converse with one another, and can originate calls. Door Remote even lets you answer the door from inside. Inside Remote stations have volume controls and privacy switches. Master has phono input—allows you to play recorded music through the system. Eight slide-switches on Master allow for easy addition of up to four more Remote stations (use only Model 2027, listed below). System includes: Master; 3 Model 2027 Inside Remotes; Model 2006 Door Remote; 200-ft. 3-conductor cable; antenna wire. Master has 16x8 $\frac{3}{4}$ " Colonial copper-finished front panel—extends 1 $\frac{1}{2}$ " out from wall; box is 7 $\frac{3}{8}$ x14 $\frac{1}{4}$ x1 $\frac{3}{4}$ ". Fits any wall 2 or more inches thick. Remotes described below. For 110-120 v., 50-60 cycle AC. 24 lbs.

58 RU 038.....**73.28**



**\$9233**

## NEW MODEL 2055 FM-AM 8-STATION MASTER

Moderate in cost, but great in performance. Enjoy FM and AM radio broadcasts, plus the many advantages of a top-quality Master. Ideal for use in professional offices. The 2055 Master has selector-switches for 8 Remotes; talk/listen switch for door answering. Remote stations are described below. Built-in FM-AM radio features slide-rule tuning; function switch; volume and tone controls; and Automatic Frequency Control for "drift-free" FM reception. Also has 7x5" speaker; phono input jack; pilot light. 6 tubes, rectifier. Silver anodized panel finish. Box is 9 $\frac{1}{2}$ x15 $\frac{3}{4}$ x2 $\frac{3}{4}$ "—extends 1 $\frac{3}{4}$ " from wall. Fits any wall 2 or more inches thick. For 110-120 v., 60 cycle AC. 19 $\frac{1}{2}$  lbs.

58 RX 173.....**92.33**  
 58 RX 174. 2056. As above, but copper finish.....**92.33**  
 58 RX 175. 2053. As above, but AM only, silver finish.....**55.65**  
 58 RX 176. 2054. As above, but AM only, copper finish.....**55.65**

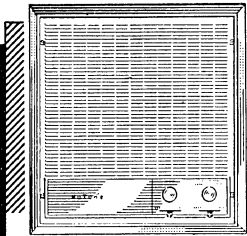
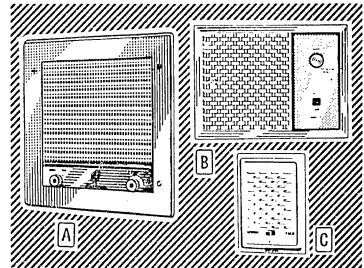
## NUTONE REMOTE STATIONS AND INTERCONNECTING CABLE

**A** MODEL 2220B HI-FI INDOOR REMOTE. 8" speaker. Rotary controls for volume, talk/listen intercom and door answering. Can originate calls. Desert Sand and gold frame; walnut grille. Panel, 12 $\frac{5}{8}$ x12 $\frac{5}{8}$ "; frame, 12 $\frac{1}{2}$ x18". Shpg. wt., 8 $\frac{1}{2}$  lbs.  
 58 RX 041.....**13.17**  
 58 RX 042. Model 2411A Rough-In Box. For 2020B. 4 lbs.....**1.51**

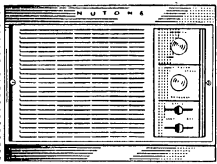
**B** MODEL 2027 INDOOR REMOTE. 5" speaker. Originates calls; can be set up for private operation. 6 $\frac{3}{8}$ x8 $\frac{5}{8}$ ". 5 lbs.  
 58 RX 172.....**5.67**

**C** MODEL 2006 DOOR REMOTE. Answer the door without leaving your desk. Can be answered from any room with a remote. Has 3" speaker; talk/listen switch. Weather-proof. Gold anodized, non-tarnish finish. Panel, 5 $\frac{7}{8}$ x4 $\frac{3}{8}$ "; box, 5 $\frac{7}{8}$ x4 $\frac{3}{8}$ x1 $\frac{3}{4}$ ". Shpg. wt., 1 $\frac{3}{4}$  lbs.  
 58 RX 036.....**5.00**

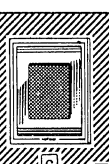
3-COND. CABLE. For FM-AM. AM in-tc coms. Measure from Station 1 to 2, 2 to 3, etc.  
 58 RX 039. 200' Roll. 6 lbs.....**4.48**  
 58 RX 040. 1000' Roll. 17 lbs.....**16.33**



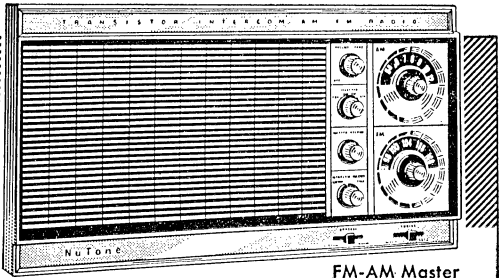
8" Hi-Fi Remote



5" Remote



Door Speaker



FM-AM Master

## NEW! ALL-TRANSISTOR FM-AM RADIO-INTERCOM MUSIC SYSTEM

**D** MODEL 2561 MASTER STATION. Deluxe, all-transistor FM-AM radio-intercom station. Transistors reduce operation and maintenance costs. Virtually free of heat and hum.

Master offers independent room-to-room intercom and door-answering from any station, PLUS FM-AM radio. FM has AFC—"locks-in" signal for "drift-free" reception. Radio is automatically silenced when intercom is used. Turn off music at any Remote and still send and receive calls. Remotes can be answered without walking to speaker.

Use of 8-conductor cable allows you to install up to 16 Remote stations (listed at right). Low-voltage design makes simple "frame" installation possible—no protective "A" box required. Master has 11 transistors, 6 diodes and a full-wave rectifier. Big 6x9" wide-range speaker. Comes complete with FM and AM antennas and all necessary hardware. Sealed-in metallic finish—can't corrode. Silver panel, 16 $\frac{1}{2}$ x8 $\frac{1}{2}$ "; wall frame, 14 $\frac{5}{8}$ x7 $\frac{3}{4}$ ". For 110-120 v., 60 cycle AC. 19 lbs.  
 58 RX 180.....**129.67**

58 RX 181. Model 2562. As above, but copper finish...**129.67**

**E** MODEL 2572 HI-FI INDOOR REMOTE. 8" speaker. Features "Break-Away" control panel that may be removed from main unit for more convenient placement. Has volume and function controls, and talk/listen levers for inside and door Remotes. Desert sand panel, 12x12" Shpg. wt., 8 $\frac{1}{2}$  lbs.  
 58 RX 184.....**18.01**

**F** MODEL 2570 INDOOR REMOTE. 5" speaker. Volume and function controls, and talk/listen levers for inside and door Remotes. Desert sand panel, 6 $\frac{1}{2}$ x9 $\frac{1}{8}$ ". Wt., 5 $\frac{1}{4}$  lbs.  
 58 RX 182.....**11.18**

**G** MODEL 2571 WEATHERPROOFED DOOR REMOTE. Needs no switch, inside Remotes control calls. Mount in wall or ceiling. Black and gold panel, 6 $\frac{1}{4}$ x4 $\frac{3}{8}$ ". Wt., 1 $\frac{3}{4}$  lbs.  
 58 RX 183.....**8.51**

8-COND. CABLE. For transistorized system. Measure from Master to Remote, then from Remote to Remote.  
 58 RX 083. 50' Roll. Wt., 5 lbs.....**3.97**

58 RX 185. 250' Roll. Wt., 12 lbs.....**11.67**

# DEPEND ON *ALLIED* FOR THE FINEST IN SOUND EQUIPMENT



## SELECT YOUR SYSTEM

Mail a list of components needed to your nearest Allied office. We'll appraise it and quote a special discount system price.

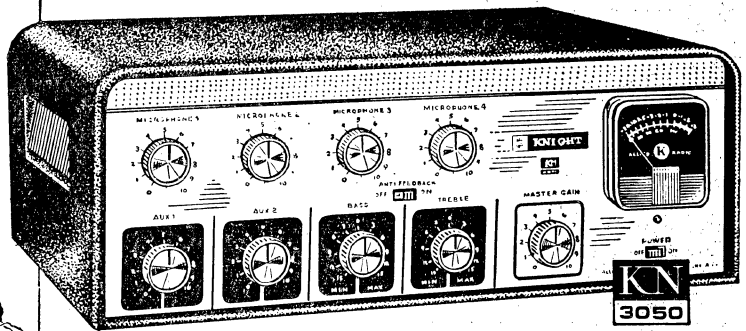
## FREE CONSULTATION

Want us to plan your system? Just tell us approximate crowd size, and include area sketch with dimensions.



## KNIGHT® FIRST CHOICE FOR PERFORMANCE, VALUE

- Your Best Buy—More Watts per Dollar
- Advanced Features—Newest Styling
- Larger Transformers Give Cleaner Sound
- Allied Guarantees Your Satisfaction



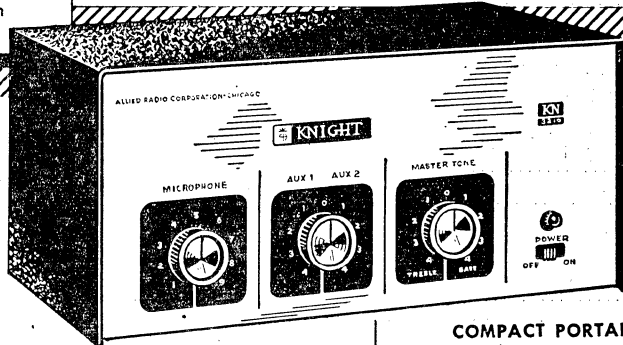
50 Watts  
**\$129<sup>50</sup>**

- ✓ 50 Watts (100 Peak) Power—Maximum Fidelity
- ✓ 4 Locking, Broadcast-Type Microphone Inputs
- ✓ Calibrated Meter for Sound-Level Indication
- ✓ Master Gain, Separate Bass, Treble Controls
- ✓ Output Jack for Direct Tape Recording Use

## KNIGHT® Sound Components

### KN-3210 Specifications

- Power:** 10 watts (20 watts peak).  
**Response:** ±2 db, 40-20,000 cps.  
**Inputs:** 1 Microphone; 2 Auxiliary (for high-level Phono, Tuner or Tape Recorder).  
**Controls:** Microphone; Auxiliary Fader; Master Tone control; On-Off power switch.  
**Outputs:** 4, 8, and 16-ohms; 25 and 70.7 volts.  
**Tube Complement:** 12AX7A; 6L6GC; 6CA4 Rectifier.



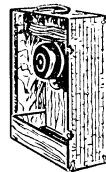
**KN 3210**  
10 Watts  
**\$29<sup>70</sup>**

### COMPLETE INDOOR SYSTEM



as low as **\$44<sup>95</sup>**

### COMPACT PORTABLE SYSTEM

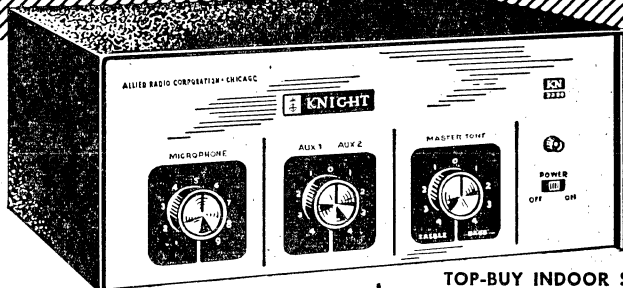


**\$56<sup>95</sup>**



### KN-3220 Specifications

- Power:** 20 watts (40 watts peak).  
**Response:** ±2 db, 30-20,000 cps.  
**Inputs:** 1 Microphone; 2 Auxiliary (for high-level Phono, Tuner or Tape Recorder).  
**Controls:** Microphone; Auxiliary Fader; Master Tone control; On-Off power switch.  
**Outputs:** 4, 8, and 16-ohms; 25 and 70.7 volts.  
**Tube Complement:** 12AX7A; 6AV6; Two 7189's; and 6CA4 Rectifier.



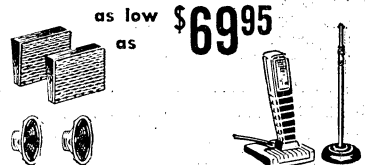
**KN 3220**  
20 Watts  
**\$41<sup>50</sup>**

### DELUXE PORTABLE SYSTEMS



as low as **\$119<sup>50</sup>**

### TOP-BUY INDOOR SYSTEMS



as low as **\$69<sup>95</sup>**

## KN-3050 "PROFESSIONAL" 50-WATT HIGH-FIDELITY P.A. AMPLIFIER

Professional-quality amplifier of outstanding versatility, suited to the most demanding applications—for use where maximum audio response is required. Engineered for exceptional convenience and highest quality, this truly deluxe unit delivers a full 50 watts of audio power with genuinely impressive high-fidelity reproduction. Special trumpet-protector permits attenuating response sharply below 150 cps. Allows operating at high power levels without danger of driver burnout—even over prolonged periods. Anti-feedback switch greatly reduces possibility of acoustical feedback without compromising power output. VU meter gives visual check of exact power output at all times. Other features include: full mixing of 4 microphones; remote mixing facilities; sockets for plug-in low-impedance microphone transformers (see below); balance controls for output tubes and hum; boost and cut-type tone controls; pilot light. Output jack permits simultaneous tape recording. Handsomely styled in aluminum and black. 6 $\frac{7}{8}$ x17 $\frac{1}{4}$ x11". For 110-120 v., 60 cycle AC. Shpg. wt., 29 lbs.

95 DU 115-D ..... 129.50

PLUG-IN LOW-IMPEDANCE TRANSFORMER. For use with 50 to 600-ohm microphones. Shpg. wt., 1 lb.

95 D 130 ..... 13.50

3-CHANNEL REMOTE MICROPHONE MIXER. For use with KN-3050 amplifier only. Operates at up to 100-ft. away. Supplied with 50-ft. cable. 5x2 $\frac{1}{2}$ x1". Shpg. wt., 1 $\frac{1}{2}$  lbs.

95 D 131 ..... 12.75

### KN-3050 Specifications

**Power:** 50 Watts (100 watts peak).

**Response:**  $\pm 1$  db, 30-20,000 cps

**Inputs:** Total of 7. 4 Microphone; 2 Auxiliary (for high-level Phonograph, Tuner or Tape Recorder); 1 low-level for Magnetic Cartridge Phonograph.

**Controls:** Total of 15. 4 Microphone; 2 Auxiliary; Bass; Treble; Master Gain; Anti-Feedback switch; Local/Remote Microphone-Control Adapter switch; Output Tube Balance; Hum Balance; Meter Calibration switch; On-Off switch.

**Hum and Noise:** 75 db below rated output.

**Input Required for Rated Output:** Microphone, .006 volts; Auxiliary, 0.25 volts; Magnetic Phono, .012 volts.

**Outputs:** 4, 8, and 16 ohms; 25 and 70.7 volts; plus convenient Tape Recording Output.

**Tubes:** Two 6CA7/EL34; Four 12AX7; 6AV6; 5V3 Rectifier.

**Power Consumption:** 160 watts at 120 volts, 60 cycle AC.

## and Systems—Made to Give You EXTRA VALUE

### KN-3210 10-WATT P.A. AMPLIFIER AND COMPLETE SYSTEMS

- Knight's Lowest-Priced Public Address Amplifier
- Excellent for High-Quality Coverage in Quiet Areas
- Handy "Quick-Change" Output-Impedance Selector
- Inverse Feedback Circuit for Lower Distortion
- Guaranteed for One Full Year

The KN-3210 is an outstanding amplifier value for use in medical clinics, banquet rooms, or any area of up to 5000 square feet. Excellent for meeting and conference rooms or sales demonstrations when used with complete P.A. systems described at right. Designed to give full-fidelity P.A. coverage, at minimum cost, in all low-power applications. Highlights include: "Quick-Change" octal selector plug that lets you instantly choose the output impedance you need—4, 8, 16 ohms, and 25 or 70.7 volts for constant-voltage distribution systems; simple 2-screw output terminal for easy speaker connection; a true inverse feedback circuit for a pleasing wide-range frequency response, plus greatly reduced hum and distortion; a master tone control for easy setting of tonal emphasis on both microphone and auxiliary inputs; and a convenient pilot light. Compact case with handsome black and aluminum finish measures 5" high, 12 $\frac{1}{2}$ " wide, and 10 $\frac{1}{4}$ " deep. Guaranteed for one full year—both parts and labor included. For operation from 110-120 v., 50-60 cycle AC. Shpg. wt., 12 lbs.

95 DX 111-D ..... 29.70

#### COMPLETE INDOOR SYSTEM—SAVE \$4.02

Individual components sold separately in this catalog for \$48.97. System is splendid for quiet areas—offers excellent fidelity. Complete system includes: Knight KN-3210 Amplifier; Argos WB-8C Wall Baffle with 8" Utah Speaker; Electro-Voice 727SR Ceramic Mike with Stand; 50' Speaker Cable. Baffle available in blonde or walnut—specify finish when ordering. Shpg. wt., 22 lbs.

21 PA 219 ..... 44.95

ALTERNATE SYSTEM. As above, but with 2 Speaker-Baffles and 2—50' cables. For larger areas. System price saves you \$4.98—individually, components cost \$56.48. Specify finish, 27 lbs.

21 PA 220 ..... 51.50

#### COMPACT PORTABLE SYSTEM—SAVE \$6.63

Knight's lowest-priced, most compact portable sound system—separately, components cost \$63.58. Combines lightweight design and easy set-up with a "big sound." Gives full-fidelity audio reinforcement for small combos, sales demonstrations, indoor sports events, etc. Includes: Knight KN-3210 Amplifier; Combination Baffle-Carrying Case with Heavy-Duty Utah 8" Speaker; Electro-Voice 727SR Ceramic Mike; Atlas MS-10C Floor Stand; 50' Speaker Cable. Carrying case holds entire system. Shpg. wt., 28 lbs.

21 PA 221 ..... 56.95

### KN-3220 20-WATT P.A. AMPLIFIER AND COMPLETE SYSTEMS

- Outstanding Buy for Medium-Power Applications
- High-Efficiency Circuit for More Watts per Dollar
- "Quick-Change" Plug for Instant Impedance Changes
- Inverse Feedback Circuit for Excellent Fidelity

The popular KN-3220 gives you more power, more features and more quality than any other comparably priced P.A. amplifier. The 30-20,000 cps audio response gives you crystal-clear coverage in any medium-size area. Sound quality is even further improved by an inverse feedback circuit that assures extremely low hum and distortion levels. Other features: noise-free Amphenol 75MCIF mike connectors; handy octal impedance-selector plug; master tone control that operates on both mike and auxiliary inputs. Handsomely finished in black and aluminum. Size: 5" high, 12 $\frac{1}{4}$ " wide, 10 $\frac{1}{4}$ " deep. Guaranteed for one full year. For operation from 110-120 volts, 50-60 cycle AC. Shpg. wt., 25 lbs.

95 DU 112-D ..... 41.50

KNIGHT KN-3201 PHONO TOP. For use with KN-3220 amplifier. Completely assembled—just attach to amplifier with a screwdriver. Plays 4 speeds: 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 45 and 78 rpm. Cartridge included. Shpg. wt., 4 lbs.

95 DX 116-D ..... 17.95



#### 20-WATT PORTABLE SYSTEMS

MODERATELY-PRICED PORTABLE SYSTEM—SAVE \$7.04. System includes: KN-3220 Amplifier; two Utah 12" Speakers installed in a 2-section Carrying Case; Electro-Voice 727SR Desk Mike with Floor Stand Adapter; Atlas Floor Stand; two 50' Speaker Cables. Mike has On-Off switch, 10' cord. Shpg. wt., 67 lbs.

21 PA 222 ..... 83.55

21 PA 223. As above, plus Phono Top (left). Wt., 71 lbs. ... 100.45

DELUXE PORTABLE SYSTEM—SAVE \$18.09. Hi-Fi reproduction. Includes: KN-3220 Amplifier; Amplifier Carrying Case; two 8" Coaxial Speakers installed in a 2-section Carrying Case; Electro-Voice 664 Variable "D" Mike; Atlas MS-10C Floor Stand; Atlas DS-7 Desk Stand; two 50' Speaker Cables. Cardioid-pattern 664 dynamic mike has On-Off switch, 18' cord. 70 lbs.

21 PA 224 ..... 119.50

21 PA 225. As above, plus Phono Top (left). Wt., 74 lbs. ... 136.95

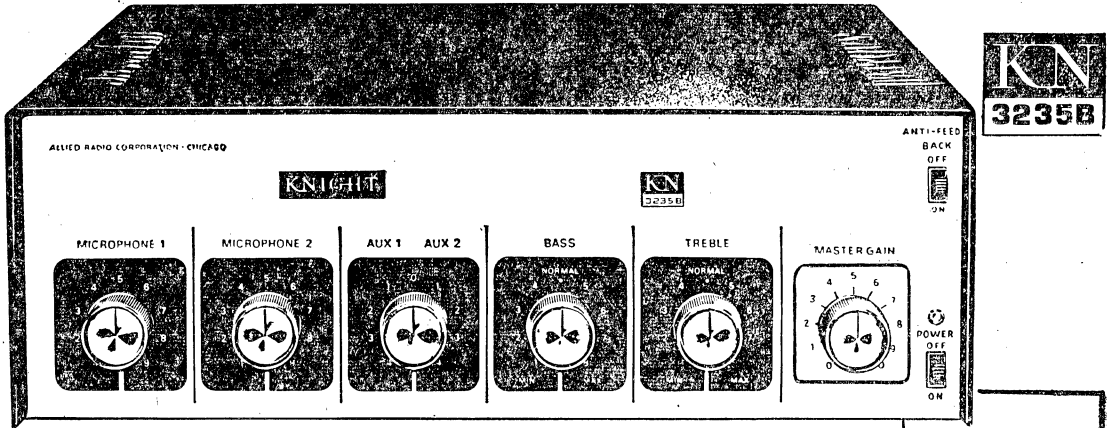
#### TOP-BUY INDOOR SYSTEM—SAVE \$7.38

Includes: KN-3220 Amplifier; two Deluxe Argos Wall Baffles with Utah 8" Speakers; Electro-Voice 727SR Desk Mike with Floor Stand Adapter, On-Off Switch; Atlas MS-10C Floor Stand; two 50' Speaker Cables. Baffles in blonde or walnut. 44 lbs.

21 PA 226. Specify finish. .... 69.95

21 PA 227. As above, but 12" speakers and baffles. Save \$7.40. Specify finish. Shpg. wt., 47 lbs. .... 74.55

# KNIGHT Sound Systems Featuring the All-New



## KN-3235B 35-WATT AMPLIFIER

**\$54.70** • Separate Treble and Bass Controls  
• Anti-Feedback Switch • Master Gain Control • On-Off Switch

Truly a deluxe amplifier. Delivers full 35 watts of output power and is virtually distortion-free. Extremely versatile—new model KN-3235B is perfect for music, paging, general coverage under high-noise conditions, and a multitude of other applications—can accommodate up to 70 speakers. This remarkable amplifier is included with all sound systems on these two pages—choose the system that best suits your needs, or buy the amplifier alone.

Outstanding features: separate Treble and Bass controls; Master Gain control with separate On-Off power switch (eliminates the need to re-set Gain each time the amplifier is turned on); two Microphone controls; Auxiliary Fader control for use with phonograph, tuner, or tape recorder. Low-frequency filter serves as an anti-feedback control—also serves as trumpet-diaphragm protector. Speaker impedances are matched instantly by adjusting the special selector. Inverse feedback gives superior audio quality and tone. 4, 8, 16 ohms; 25 and 70.7-volt outputs allow use of up to 70 speakers. With five tubes, plus rectifier.

Smartly styled case in rich-looking black and silver. Case measures 5" high, 15¼" wide, 10¼" deep. The KN-3235B amplifier is complete with one microphone connector and one auxiliary plug. For operation from 110-120 volts, 50-60 cycles AC. Shpg. wt., 28 lbs.

95 DU 113-D.....**54.70**

### KN-3235B SPECIFICATIONS

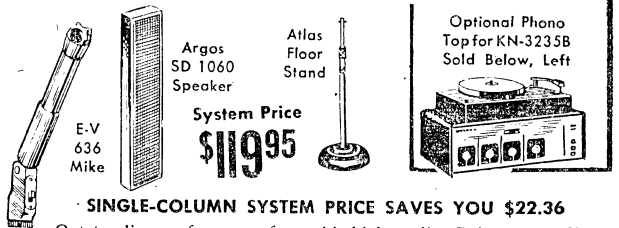
- Power Output:** 35 watts (70 watts peak).
- Inputs:** 2 Microphone; 2 Auxiliary (for high-level Phonograph, Tuner or Tape Recorder).
- Frequency Response:** ± 2 db, 30 to 20,000 cps.
- Controls:** 2 Microphone; 1 Auxiliary Fader; Separate Treble; Separate Bass; Anti-Feedback Switch; Master Gain Control; On-Off Power Switch.
- Tube Complement:** two 12AX7A; one 6AV6; two 6L6GC; one 5A5A Rectifier.
- Outputs:** 4, 8, 16 ohms; 25 and 70.7 volts.
- Power Consumption:** 110 watts at 120 volts AC.

### A OPTIONAL PHONO TOP FOR KN-3235B

MODEL KN-3201. Useful accessory for amplifier. Plays all 4 record speeds manually: 16⅓, 33⅓, 45 and 78 rpm. With turnover ceramic cartridge. Easy to attach—only a screw-driver is required. Shpg. wt., 5½ lbs.

95 DX 115-D.....**17.95**

## INDOOR "SOUND COLUMN" SYSTEMS



### SINGLE-COLUMN SYSTEM PRICE SAVES YOU \$22.36

Outstanding performance from this high-quality P.A. system. Excellent for use in smaller auditoriums, churches, gymnasiums, etc. Features matched components that sell for \$142.31 at our regular catalog prices. System includes: Knight KN-3235B 35-Watt Amplifier; Argos SD 1060 Sound Director; E-V 636 "Slim" Dynamic Mike; and Atlas MS-10C Floor Stand. Argos SD 1060 Sound Director is designed for speech clarity and wide-range sound projection. Has 6 speakers. Capacity, 30 watts. Dispersion: horizontal, 120°; vertical, 22°. Response, 200-10,000 cps. Impedance, 8 ohms. Size, 30¼x7x3¼". Omni-directional Electro-Voice 636 microphone has On-Off switch, 18-ft. 2-conductor cable; response, 60-13,000 cps. Shpg. wt., 55 lbs.

21 PA 205.....**119.95**

### TWO-COLUMN SYSTEM PRICE SAVES YOU \$31.46

Same system as above, but with two Argos SD 1060 Sound Directors for increased coverage. Components sell for \$181.41 at our regular prices if bought separately. Shpg. wt., 78 lbs.

21 PA 207.....**149.95**

## INDOOR E-V "SOUND COLUMN" SYSTEM



### SYSTEM PRICE SAVES YOU \$45.85

Carefully selected for maximum efficiency, this deluxe 35-watt system is tailored for use in most auditoriums, churches, gymnasiums, etc. System consists entirely of big-name components—sell for \$245.80 at regular catalog prices. System includes: Knight KN-3235B 35-Watt Amplifier; 2 Electro-Voice LR-4A Line Radiators; Electro-Voice 664 Wide-Range Dynamic Mike; and Atlas MS-10C Floor Stand. Electro-Voice LR-4A line radiator is designed to control feedback in difficult installations for natural sound reinforcement. 12 top-quality 4" speakers. Dispersion: horizontal, 160°; vertical, 60°. Response, 150-10,000 cps. Impedance, 8 ohms. Size, 49x7x13". Cardioid-pattern Electro-Voice 664 microphone has On-Off switch, 18-ft. 2-conductor detachable cable; response, 40-15,000 cps. Shpg. wt., 89 lbs.

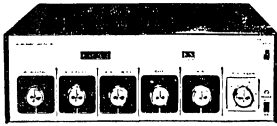
21 PA 209.....**199.95**

# Deluxe KN-3235B 35-Watt P. A. Amplifier

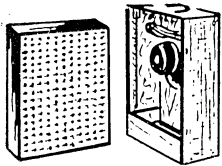
STANDARD AND DELUXE COMPLETELY PORTABLE SYSTEMS



## KN-3235B Amplifier QUICK-PACK PORTABLE SYSTEM



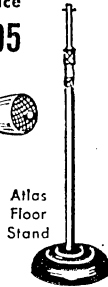
System Price  
**\$109<sup>95</sup>**



"ALL-IN-ONE"  
CARRYING CASE



E-V  
951  
Mike



Atlas  
Floor  
Stand

SYSTEM PRICE SAVES YOU \$14.13

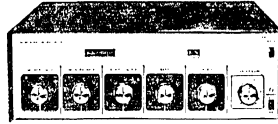
Complete 35-watt portable system that sets-up in just a few moments—then, after using, neatly packs away just as quickly. The ideal system for traveling dance bands, small vocal groups, outdoor events, indoor meetings, etc. Carefully matched components deliver fine quality sound. System includes: Knight KN-3235B 35-Watt Amplifier; Electro-Voice 951 Crystal Cardioid Microphone; Two Utah Heavy-Duty 12" Speakers; Atlas MS-10C Microphone Floor Stand; Speaker-Amplifier Carrying Case; and Two 50' Speaker Cables. Case separates into two individual baffles when opened—covered in smart blue-green and ivory leatherette. Separately, components cost \$124.08. Size, 24x18½x12¼". Shpg. wt., 69 lbs.

21 PA 203.....109.95

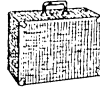
SYSTEM ABOVE PLUS PHONO TOP. Phono Top installs easily—see complete description under (A) on facing page. 72 lbs.

21 PA 204.....127.50

## DELUXE PORTABLE SYSTEM



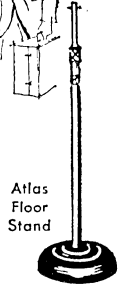
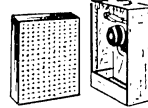
System Price  
**\$134<sup>95</sup>**



KN-3235B  
with Case



E-V 664  
Mike  
Speakers  
with Case



Atlas  
Floor  
Stand

SYSTEM PRICE SAVES YOU \$16.41

Truly deluxe portable P.A. system. Carefully balanced audio distribution system for both music and voice reproduction. Excellent for dance orchestras requiring true high-fidelity sound, for use at meetings and conferences, plus many other applications. System includes: Knight KN-3235B 35-Watt Amplifier with Charcoal Carrying Case; Electro-Voice 664 Dynamic Microphone; Two Full-Range 12" Coaxial Speakers; Atlas MS-10C Microphone Floor Stand; Two 50' Cables; Speaker Carrying Case. Cardioid-pattern Electro-Voice 664 microphone has On-Off switch, 18' 2-conductor detachable cable; 40-15,000 cps. Separately, components would cost \$151.36. Amplifier case, 12x16x9¼". Spkr. case, 20x16x13¾". 78 lbs.

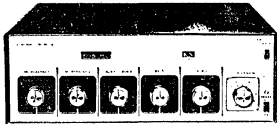
21 PA 201.....134.95

SYSTEM ABOVE PLUS PHONO TOP. Easy to install phono top is fully described under (A) on facing page. Shpg. wt., 84 lbs.

21 PA 202.....152.50

## INDOOR AND OUTDOOR STATIONARY P.A. SYSTEMS

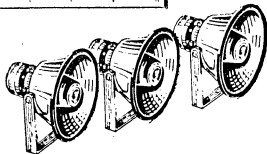
### DELUXE OUTDOOR SYSTEM



System Price  
**\$119<sup>95</sup>**

KN-3235B  
Amplifier

3 E-V 844  
Speakers



Shure 520SL  
Microphone

SYSTEM PRICE SAVES YOU \$25.53

Moderately-priced system that offers outstanding performance. Provides exceptional full-range coverage where large indoor or outdoor areas—up to 100,000 sq. ft.—must be blanketed with sound. Matched components give excellent voice reproduction as well as fine-quality music (system with phono top listed below).

System includes: Knight KN-3235B 35-Watt Amplifier; Shure 520SL Microphone with Lockable Grip-to-Talk Switch; and Three E-V 844 Weatherproof Speakers. Separately, components cost \$145.48.

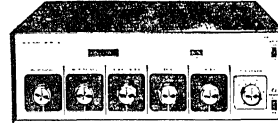
Shure 520SL is a rugged, controlled-magnetic mike. Response of 100-9000 cps. Chrome and green. Has 7' two-conductor shielded cable. Electro-Voice 844 speakers have capacity of 30 watts; response, 250-13,000 cps; sound dispersion, 90°. Impedance, 8 ohms. Size, 9¾x8¾". KN-3235B delivers 35 watts power. Features 2 microphone controls; 1 auxiliary fader; separate treble and bass controls; master gain control. Shpg. wt., 61 lbs.

21 PA 215.....119.95

SYSTEM ABOVE PLUS PHONO TOP. Installs with just a screwdriver. See description under (A) on facing page. 67 lbs.

21 PA 216.....137.70

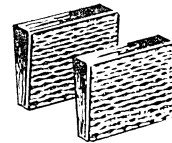
### COMPLETE INDOOR SYSTEMS



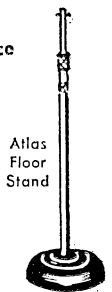
System Price  
**\$91<sup>95</sup>**

KN-3235B  
Amplifier

Argos 208SL  
Speaker-Baffles



E-V 729SR  
Microphone



Atlas  
Floor  
Stand

SYSTEM PRICE SAVES YOU \$9.39

Dependable performer for offices, stores, halls, etc. Provides clear voice reproduction for paging and has provision for addition of extra speakers and other sound sources. System includes: Knight KN-3235B 35-Watt Amplifier; Two Argos 208SL Baffle-Speaker Combinations with Level Controls; Electro-Voice 729SR Ceramic Microphone with Desk Stand; and Atlas MS-10C Floor Stand. 208SL Baffles have 8" Jensen speakers. Size, 9½x12x4¼". In blonde or walnut finish—specify. Separately, components would cost \$101.34. 57 lbs.

21 PA 210.....91.95

SYSTEM ABOVE PLUS PHONO TOP. Complete description of phono top is given (A) on facing page. Shpg. wt., 63 lbs.

21 PA 211. Specify finish.....109.25

ALTERNATE SYSTEM. Save \$16.17 on system price. Same as 21 PA 210, but with 4 Argos 208SL's instead of two 208SL's. 8" Jensen speakers have level controls, 70.7 v. transformers. 67 lbs.

21 PA 213. Specify finish.....119.95

ALTERNATE SYSTEM ABOVE PLUS PHONO TOP. Top is fully described under (A) on facing page. Wt., 73 lbs.

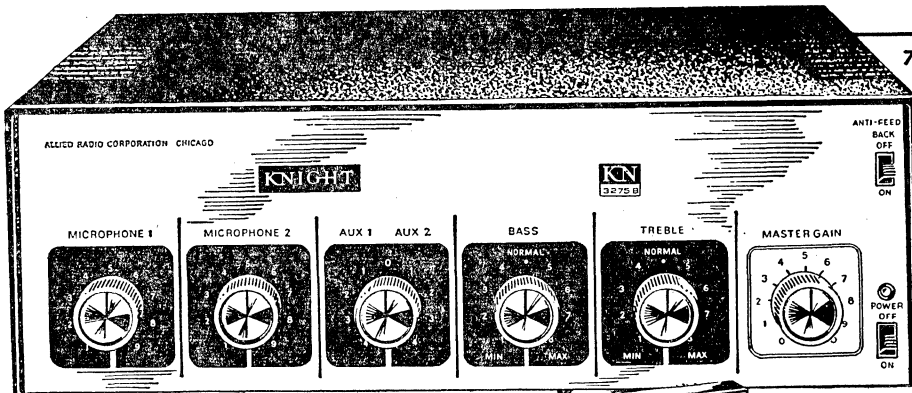
21 PA 214. Specify finish.....137.70

Allied Gives You Highest Quality, Best Service, Lowest Prices

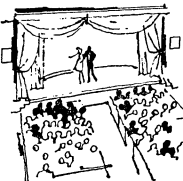
ALLIED • 477

## 75-Watt Industrial Sound Systems

DESIGNED TO MEET EVERY HIGH POWER APPLICATION



### 75-WATT INDOOR SOUND SYSTEM



Complete  
**\$154<sup>95</sup>**

COVERS UP TO  
200,000 SQUARE FEET



**FULL 75 WATTS  
OF AUDIO POWER**

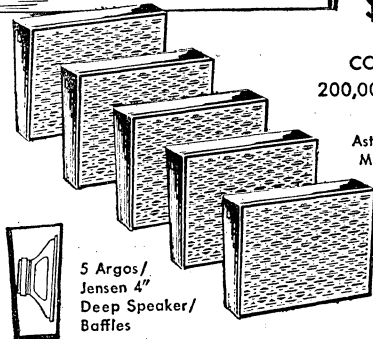
#### MODEL KN-3275B P.A. AMPLIFIER

**\$82<sup>95</sup>**

- Now Has Master Gain Control
- Special Anti-Feedback Circuitry
- 25-Volt Output—No Conduit Needed

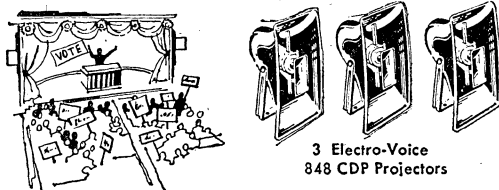
Newly designed to give you the most for your P.A. dollar, the new KN-3275B is the perfect amplifier for sound systems in stadiums, factories, auditoriums—any application where maximum coverage is essential. Provides a full 75-watt output with up to 150 watts output on peaks. Has separate bass and treble controls, new master gain control, plus separate mixer controls and inputs for two mikes, mixer control for two auxiliary inputs that take a phono, tuner or recorder. "Anti-feedback" circuit minimizes acoustical feedback and guards against trumpet burnout. "Quick-change" octal selector plug lets you instantly choose proper output impedance. Inverse feedback gives superior audio quality. With noise-free Amphenol 75MC1F mike connector. Choice of 8 or 16-ohm and 70.7-volt outputs, plus 25-volt output that permits installation of a constant-voltage sound system without conduit for speaker wires. Case is handsomely styled in black and aluminum. Size, 5x15¼x10¼". For 110-120 v., 50-60 cycle AC. Shpg. wt., 39 lbs.

95 DU 114-D.....**82.95**



Astatic Mike

#### ALTERNATE OUTDOOR SPEAKERS



3 Electro-Voice  
848 CDP Projectors

#### INDOOR SYSTEM—SAVE \$15.59

Specially selected system gives highest quality voice and music reproduction in large noisy auditoriums, restaurants, offices, etc. System includes: Knight KN-3275B 75-Watt Amplifier; 5 Argos "Thin-Line" Wall Baffles with Jensen 8" Speakers, 70.7-V. Line Transformers and L-Pad Controls installed; Astatic 200-S Microphone with Desk Stand and 8-ft. Cord. Less speaker cable. Amplifier is described at left. Baffles extend only 4¼" from wall. Microphone has on-off switch, sensitive crystal element, gold and chrome finish. Baffles come in blonde or walnut finish—specify. Shpg. wt., 67 lbs.

21 PA 228. *Specify Finish*.....**154.95**

21 PA 229. As above, but with KN-3201 4-Speed Phono Top. 73 lbs. *Specify Finish*.....**172.60**

#### OUTDOOR SYSTEM—SAVE \$41.62

Provides maximum intelligibility over an extremely wide area. Covers up to 50,000 persons. System includes: Knight KN-3275B 75-Watt Amplifier; Astatic 200-S Mike with Desk Stand; Three Electro-Voice Model 848 CDP Projectors. Less speaker cable. Weatherproof projectors may be mounted horizontally or vertically, for augmented sound dispersion. Feature virtually indestructible spun fiberglass construction, mesa tan finish. Shpg. wt., 81 lbs.

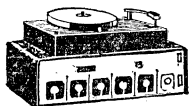
21 PA 230.....**199.50**

21 PA 231. As above, but with KN-3201 4-Speed Phono Top. 90 lbs.....**216.95**

#### KN-3275B SPECIFICATIONS

- Power Output:** 75 watts (150 watts peak).
- Frequency Response:** ±2 db, 30-20,000 cps.
- Inputs:** 2—Mic; 2—Aux (Phono, Tuner or Tape).
- Controls:** 2—Mic; Aux Fader; Master Gain; Bass; Treble; Anti-Feedback; On-Off.
- Gain:** Microphone, 139 db; Aux., 97 db.
- Hum and Noise:** 70 db below rated output.
- Input Voltage for Rated Output:** Mic, .0028 volts; Aux., .20 volts.
- Outputs:** 8, 16 ohms; 25 and 70.7 volts.
- Tubes:** 2—12AX7A; 6AV6; 2—6CA7; 5A5A4; 5Y3GT.
- Power Consumption:** 180 watts at 120 v. AC.

#### OPTIONAL PHONO TOP FOR KN-3275B



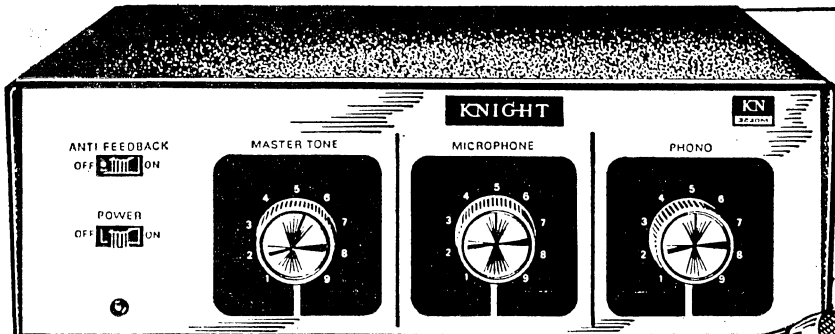
MODEL KN-3201. Manual phono top plays up to 12" records at 16⅓, 33⅓, 45 and 78 rpm. Arm has flip-over cartridge with sapphire needles. Powered by amplifier; includes cables and plugs. Completely assembled. Attaches with a screwdriver. Shpg. wt., 5½ lbs.

95 DX 116-D.....**17.95**



# All-Transistor Mobile Sound System

FULL 30 WATTS OF AUDIO POWER WHEREVER YOU GO



Great for Boat Hailing,  
Ship-Board Entertainment

Ideal for Sound Trucks,  
CD, Fire, Police Cars

## MODEL KN-3230M MOBILE AMPLIFIER

**\$69<sup>95</sup>**

- For Autos, Sound Trucks, Boats
- Works from 12-Volt Battery
- Just ¼-Amp Idling Current

A triumph of skillful engineering, this ultra-modern all-transistor powerhouse provides a full 30 watts of audio power anywhere you go. Operates from any source of 12 volts DC, negative or positive ground—power cord plugs into your auto's cigarette lighter receptacle. It's ideal for sound trucks, civil defense units, fire and police vehicles, as well as marine patrol activities and ship-board entertainment. Efficient 6-transistor circuit has extremely low battery drain—idling current is only ¼ amp. At full output power, it uses only 4.5 amps.

Lightweight, sets up in moments—perfect for use in parks, picnic areas, advertising campaigns, etc. What's more, it's always ready for immediate use—no warm-up time required. Has inputs and mixer controls for microphone and phonograph, master tone control. "Anti-feedback" circuitry stops annoying feedback while protecting your speakers—prevents trumpet burnout. "Quick-change" selector plug lets you choose the correct impedance output instantly. Uses low-noise Amphenol 75MC1F microphone connector. Has speaker jacks on rear panel. Handsomely styled, functional black cabinet has aluminum finish panel. 3½x10¾x6". 11 lbs.

95 DX 117-D.....69.95

### KN-3230M SPECIFICATIONS

- Rated Output Power:** 30 watts
- Frequency Response:** ±3 db, 100 to 10,000 cycles per second.
- Hum and Noise:** 67 db below rated output.
- Inputs:** 1—Low-Impedance Microphone, 1—Phono.
- Controls:** Microphone, Phono Volume, Master Tone, Off-On and "Anti-Feedback" Trumpet Protector Switch.
- Output Impedances:** 4, 8 and 16 ohms.
- Current Drains:** 4.5 amps at full output power; ¼ amp idling.

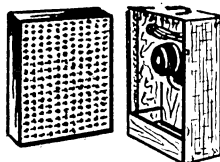
### OPTIONAL 12-VOLT PHONO TOP FOR KN-3230M

Manual phonograph top takes records up to 12"; plays at 33½, 45 and 78-rpm speeds. Lightweight pickup arm has a ceramic flip-over cartridge with dual sapphire needles. Powered by amplifier; includes cables and plugs. Easy to install. 6 lbs.



95 DX 118-D.....32.40

## MOBILE/PORTABLE SOUND SYSTEM

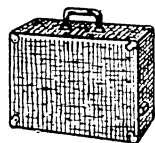


Two 8" Speakers, Case



E-V  
Mike

Atlas  
Floor  
Stand



Amp Case

**\$129<sup>95</sup>**

### MOBILE/PORTABLE SYSTEM—SAVE \$14.93

The ideal system for outdoor use at picnics, sports events, etc. Needs no AC outlet—just plug amplifier into your automobile's cigarette lighter—speakers can be set up as far or as near as desired. System includes: Knight KN-3230M All-Transistor 30-Watt Mobile Amplifier and Carrying Case; 2—8" Coax Speakers (each with 50-ft. cable) and Carrying Case that separates into two Speaker Baffles; Electro-Voice Model 951 Crystal Microphone with 18-ft. cable; Atlas Floor Stand. Microphone uses variable "D" principle to achieve cardioid directivity and uniform response; has on-off switch. Atlas floor stand adjusts from 35 to 64". Carrying cases have attractively styled plastic brown tweed covering with green grilles. Speaker case, 20x16x13¾". 60 lbs.

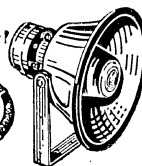
21 PA 232.....129.95

21 PA 233. Same as above system, but with Knight 4-Speed Phono Top. Shpg. wt., 66 lbs.....161.95

### HIGH-QUALITY MOBILE SOUND SYSTEMS

as low as  
**\$99<sup>50</sup>**

E-V 844  
Projector!



Alternate  
E-V 848 Projectors



Shure 404B  
Microphone

### MOBILE SYSTEMS—SAVE UP TO \$31.42

Get top-notch performance and reliable sound coverage with this great system. It's perfect for political campaigning, outdoor rallies, advertising and any outdoor activity. Operates from 12 v. DC in cars, trucks or boats. System includes: Knight KN-3230M All-Transistor 30-Watt Mobile Amplifier; Shure 404B Controlled Magnetic Microphone and Cable; Electro-Voice 844 Paging Speaker. Less speaker cable. Shure's microphone is ideally suited for outdoor P.A. work—combines rugged construction with excellent speech intelligibility. Has push-to-talk switch. E-V's 844 speaker will handle 30 watts of material with good response; aluminum horn. 21 lbs.

21 PA 234. Save \$11.31.....99.50

Optional System. Save \$16.32. Above, but with 2 E-V 844 Paging Speakers. 29 lbs.

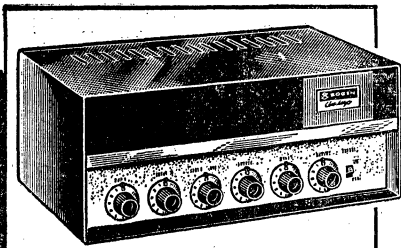
21 PA 235.....115.95

Alternate System. Save \$31.42. Above, but with 2 E-V 848 Fiberglass Projectors. 43 lbs.

21 PA 236.....154.95

# BOGEN P. A. Amplifiers and Mixer-Preamps

FOR ALL P.A. APPLICATIONS



**P.A. AMPLIFIERS**

**MODEL CHB35 35-WATT AMPLIFIER.** An excellent value for medium-power Public Address work. Has 2 mike inputs with individual controls; 2 phono inputs with fader; separate bass and treble controls; master volume control. Magnetic-type phono cartridge can be used. Response:  $\pm 2$  db, 20-20,000 cps. Gain: Mic, 125 db; Phono, 100 db. Magnetic, 115 db. Hum and Noise: -80 db. Outputs: 4-, 8, 16 ohms; 25 and 70-volt lines. Has 5 tubes, plus rectifier. Complete with gray case. Size,  $6\frac{3}{4} \times 15\frac{1}{2} \times 10$ ". U.L. Listed. For 105-125 v., 50-60 cycle AC. Shpg. wt., 21 lbs.

57 SX 346 ..... 71.95

**MODEL CHB20.** As above, but 20-watts; has 1 mike input. Wt., 19 lbs.

57 SX 358 ..... 53.95

**MODEL CHB50.** Similar to CHB35, but 50-watt output. Wt., 24 lbs.

57 SX 347 ..... 82.45

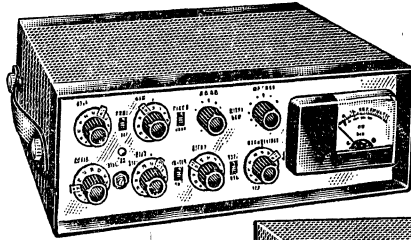
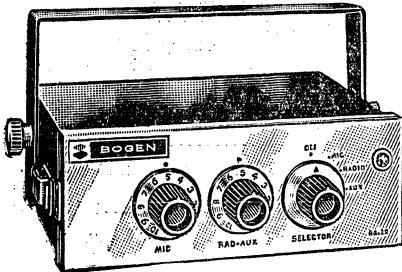
**MODEL CHB100.** Similar to Model CHB35, but has higher output of 100 watts for large-area coverage. 29 lbs.

57 SX 348 ..... 112.45

**MODEL MU50M 50-WATT UNIVERSAL AC/DC MOBILE AMPLIFIER.** Versatility with a minimum of auxiliary equipment—built-in inverter lets you run amplifier from 12-volt battery or regular AC line. Features: all-transistor circuit (12 plus silicon rectifier); mixing/fading of 2 mikes and 2 auxiliary signals; chassis-mounted switches permit use of tape head, magnetic phono cartridge, high or low-impedance mikes. Response:  $\pm 2$  db, 30-15,000 cps. Gain: Mic, 125 db; Aux., 95 db. Hum and Noise: -80 db. Outputs: 4, 8, 16 ohms; 25 and 70-v. line. With case, 4-ft. power leads with battery clips, AC line cord. Less battery,  $6\frac{3}{4} \times 15\frac{1}{2} \times 10$ ". For 117 v., 60 cycle AC/12-v., DC. Wt., 18 lbs.

57 SX 359 ..... 142.50

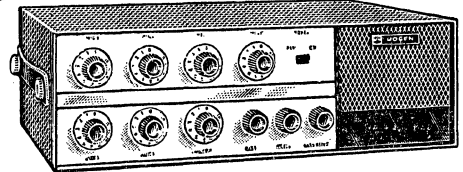
**57 SX 360, LPD-3 3-Speed Manual Phono.** Attaches to top of MU50M. Supplied complete with turnover cartridge, rubber turntable mat, 45-rpm adapter.  $4\frac{1}{2} \times 13 \times 9\frac{1}{2}$ ". Wt., 11 lbs. .... 29.40



**MXM Mixer-Preamplifier**

**MTX-30 Deluxe 30-Watt All-Transistor Amplifier**

Portable units incorporating all of the latest refinements for top-versatility



## MXM MIXER-PREAMPLIFIER

For use in critical P.A. or recording applications. Has five independently controlled microphone inputs—one converts for use as a magnetic phono or tuner input. Accurate, easy-to-read meter permits continuous monitoring of combined output. Built-in sockets accept plug-in low-impedance transformers.

Has high-impedance output (convertible to low-impedance with T-165B, listed below) for connection to supplementary booster amplifiers. Features: individual speech filters for each channel; variable level markers; distortion-free tone controls. Output:  $\pm 18$  dbm at less than 1% distortion. Controls: 5—Gain; 4—Speech Filter; Mike-Tuner-Phono; Bass; Treble; Master Gain. 8-tubes, plus rectifier.

Response:  $\pm 2$  db, 20-20,000 cps. Hum: -60 db.  $5\frac{3}{4} \times 16\frac{1}{4} \times 13$ ". For 110-120 v., 50-60 cycle AC. Shpg. wt., 28 lbs.

57 SU 310 ..... 147.75

57 S 336, T-155 Transformer, 200-ohm plug-in mike transformer. 1 lb. .... 9.40

57 S 333, T-165B Output Transformer. Converts output of MXM to 600-ohm broadcast standard. Shpg. wt., 1 lb. .... 12.00

**MODEL MT-30 BOOSTER AMPLIFIER.** Gives 30 watts at less than 1% distortion.  $\pm 1$  db, 10-25,000 cps. All-transistor circuit. Hi-Z input (requires 1 v., min.),  $5 \times 8 \times 13$ ". For 105-125 v., 50-60 cycle AC. 22 lbs.

57 SX 361 ..... 103.90

**MODEL MO-100 BOOSTER.** Similar to above, but 100-watts. Requires 2 v. input. 7-tube circuit. Shpg. wt., 38 lbs.

57 SU 316 ..... 129.45

## MOBILE P.A. AMPLIFIERS

**MODEL BT35 35-WATT AMPLIFIER.** Compact, fully-transistorized unit ideal for use in cars and boats, etc. for a wide variety of mobile P.A. applications. Delivers 35-watt continuous output at less than 10% distortion within temperature range of -20 to +65°C. Has low-impedance microphone input, two high-level auxiliary inputs for tuner, tape, phono, or accessory siren or foghorn signals.

Features: splash-proof design; polarity protection to prevent improper connection to battery; 5 transistors, plus silicon diode—no vibrator hash. Response:  $\pm 3$  db, 150-15,000 cps. Gain: Mic, 110 db; Aux., 90 db. Hum and Noise: -90 db. Outputs: 4, 8, 16 ohms. With case,  $3 \times 8 \times 6\frac{1}{4}$ ". For 12 v., DC. Shpg. wt., 11 lbs.

57 SX 364 ..... 79.45

**MODEL BT20.** Similar to above, but 20 watt unit for moderate-power applications. Has 2 inputs—low-impedance microphone and auxiliary. Response:  $\pm 3$  db, from 250 to 12,000 cps. Complete with case. Size,  $6\frac{1}{2} \times 4\frac{1}{2} \times 4$ ". Shpg. wt., 8 lbs.

59 SX 365 ..... 59.95

## MTX-30 30-WATT P.A. AMPLIFIER

A remarkably versatile unit that offers a full 30-watts output at less than 1% distortion—plus a total of 13 input connections—six of which may be mixed and faded simultaneously. Its full array of controls gives you complete mastery of almost every input source.

Advanced, all-transistor design permits continuous operation at full output, even at a temperature as high as 65°C (149°F). Modern circuit uses 32 transistors, and 2 silicon diodes. Provides low power-consumption and reduced heat.

Inputs: 6—Microphone (4 convertible to low-impedance with transformers); 2—Magnetic Phono or Tape Playback Head; 2—Auxiliary (high-impedance for high-level signals—tuner, etc.); 1—600-ohm Balanced Line; 2 bridging. Each of the 6 input channels has an individual speech filter switch; and can be used with optional, accessory controls. Other controls include: Master Volume, Bass, Treble, and a calibrated, Low-Frequency Filter.

Response:  $\pm 1$  db, 10-25,000 cps. Gain: Microphone 125 db; Magnetic, 120 db; Auxiliary, 95 db. Hum and Noise -70 db. Outputs: 4, 8, 16 ohms; 25-v. balanced; 70-v. balanced; tape recorder and booster-amplifier jacks. Includes thumbscrew-fastened, slide-back case for easy access to chassis. Case has leather carrying handles for portable use. Size,  $4\frac{3}{4} \times 16\frac{1}{2} \times 12$ ". For operation from 105-125 v., 50-60 cycle AC. Shpg. wt., 27 lbs.

57 SX 363 ..... 224.60

57 S 371, T-200 Transformer, 200-ohm mike transformer for above. 1 lb. .... 14.10



## LOW-COST MIXER-PREAMPLIFIER

**MODEL MX6-A.** Both mixes and preamplifies any combination of 4 of its 6 inputs, which include 4 high-impedance mike inputs, and 2 high-level inputs. Invaluable for multi-mix applications in Public Address and tape recording work. Lets you combine signal from radio, phono, or recorder with voice. Features a numerically marked gain control for each input channel to permit precise adjustment of signals being mixed. Has power on-off indicator light; cathode-follower output for long-line connection to amplifier. Gain: 59 db for mike; 30 db for phono. Complete with case.  $5\frac{1}{2} \times 8 \times 4\frac{3}{4}$ ". For 110-120 v., 60 cycle AC. Shpg. wt., 6 lbs.

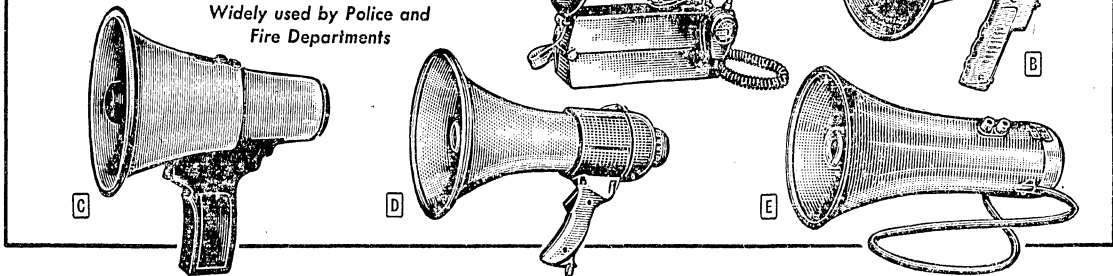
57 SX 337 ..... 40.50

# Multi-Purpose Portable Power Megaphones

Ideal for Lifeguards, outdoor construction work, high-noise areas, etc.

Perfect for use at sports events—both indoor and outdoors—track and field, gyms, etc.

Widely used by Police and Fire Departments



## UNIVERSITY HI-POWER "POWRPAGE"

**A** MODEL PP-1. Powerful portable P.A. system delivering 25 watts for intelligible voice throw. For distance of up to 1000 yards. Offers high reliability under all conditions. Gives you 3-in-1 versatility—use it as a portable megaphone, long-range listener, or connect output from record player, tuner or tape recorder to input jack on "PowrPage" for a portable music center. Talk/Listen switch is used for directional listening—"receive" sounds from far beyond normal hearing range. Talk at normal voice level, and you can be heard up to 1 mile away. When press-to-talk button is depressed, music is automatically reduced by 6 db for speech "talk-over." In straight speech communication, "Powersaver" mike-switch gives instantaneous operation, lengthens battery life. CD-approved for fund matching. With mike, carrying strap. Less batteries. Horn dia., 9", 16 lbs.  
57 SX 302.....61.45

**A** MODEL PP-1T. Fully-transistorized version of above. Shpg. wt., 11 lbs.  
57 SX 301.....166.55  
55 J 853, Battery, Uses 4, 2 lbs.....EA. .79

## UNIVERSITY PORTABLE MEGAPHONE

**B** MODEL PP-2. Medium-power "Powr-Page," excellent for general purpose, "on-the-move" applications. Has coverage range of 440 yards. Easy to handle—weighs only 5 lbs. Conveniently located jack permits use with external 6 or 12-volt DC source. Controlled-reluctance magnetic microphone section has press-to-talk switch for instantaneous use. Horn diameter, 8". Less batteries (uses 6), below. Wt., 9 lbs.  
57 SX 323.....48.51  
55 J 870, Batteries, 4 oz....Pkg. of 2 for .20

## HOLMIN VOICE GUN

**C** MODEL A-12. Heavy-duty, hand-held P.A. unit. Has husky 3-transistor amplifier to punch out voices to cover a range of 500 yards or more. Withstands all weather conditions. Transistors, plus press-to-talk switch give instant operation and long battery life—up to 1 year under normal usage. Supplied with convenient leather carrying strap. Less batteries (uses 8), below. Horn diameter, 7¼". Shpg. wt., 9 lbs.  
57 SX 319.....89.96  
55 J 870, Batteries, 4 oz....Pkg. of 2 for .20

## FANON DELUXE MEGAPHONE

**D** MODEL MV-8. Professional, all-transistor unit. Power output of 8 watts provides coverage up to 600 yards. Offers excellent speech intelligibility. Constructed of weather-resistant, lightweight aluminum with baked-enamel finish. Features rugged, waterproof dynamic microphone section with quick-acting, pistol-grip trigger switch; variable volume control; 5-transistor circuit. Average continuous battery life, 10 hours. With strap; less batteries (uses 8), below. Horn dia., 9". Wt., 9 lbs.  
57 SX 321.....66.15  
55 J 865, Batteries, 6 oz....Pkg. of 2 for .26

## FANON ECONOMY MEGAPHONE

**E** MODEL MV-1. Low-priced unit for projecting voice up to 300 yards. Two switches instantly select high or low volume level for most efficient battery use. Made of durable aluminum with enamel finish. Average continuous battery life, 10 hours. Has strap. Less batteries (uses 4), below. Horn diameter, 6½". Wt. 7 lbs.  
57 SX 320.....26.41  
55 J 868, Batteries, 1 lb....Pkg. of 4 for .64

# Portable Transcription Players by BOGEN

## VP20 ALL-PURPOSE PLAYER

Meets the requirements for excellent music reproduction, ease of operation and durable service. Widely used in educational and commercial applications. Includes a B50 hi-fi player and 20-watt P.A. system in a single, compact carrying case. "Break-a-part" design—one side of case houses amplifier/player; other has 12" speaker and 25-ft. of cable. Turntable speed variable from 29 to 86-rpm with click-stops at 16, 33½, 45, and 78-rpm. With rubber turntable mat, 45-rpm adapter, 16½x15¼x12¼". For 117 v., 60 cycle AC. Shpg. wt., 46 lbs.  
57 SU 344.....140.90

## VP40A DELUXE PLAYER

Similar to Model VP20, above, but has a more powerful 40-watt amplifier that includes a built-in Speech Filter. Filter attenuates low-end frequencies of signal from Mic 1 input to ensure best-possible intelligibility even under difficult acoustic conditions. B51 player and amplifier are housed in case, 18¼x16½x8½". Less speakers, see below. Shpg. wt., 40 lbs.  
57 SX 370.....150.05

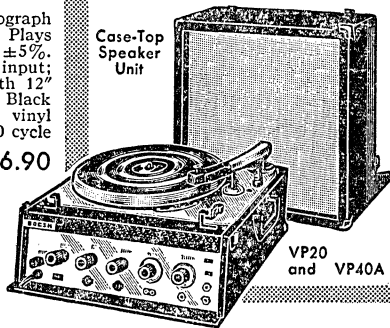
57 SX 366. Model SCC-12 Speakers and Case. For use with above players. Includes two 12" heavy-duty speakers; with 25-ft. cables in "Break-a-part" portable case. Forms two separate speaker units. Matching gray and black vinyl fabric covered case, 16x15¼x11½". Shpg. wt., 25 lbs....54.90

## VP10 RECORD PLAYER

Budget-priced 10-watt portable phonograph ideal for classroom use. (Not illus.) Plays all 4-speeds; with speeds adjustable ±5%. Amplifier has high-impedance mike input; bass, treble and level controls. With 12" speaker and 25-ft. cable in cover-case. Black and gray water-and-stain-resistant vinyl finish, 15½x14x11½". For 117 v., 60 cycle AC. Shpg. wt., 29 lbs.  
57 SU 345.....96.90

## PORTABLE VP SERIES

VP20  
**\$140.90**  
complete with speaker  
Designed for Professional, Automatic and Precise Cuing



## FEATURES OF THE VP20 AND VP40A SERIES PLAYERS

**HI-FI PLAYER.** Less than 0.5% flutter and wow; has 4-pole shielded motor; plug-in head with G.E. magnetic cartridge; tone arm pressure adjust; takes up to 16" discs.

**CONTINUOUSLY VARIABLE SPEED.** 29 to 86 rpm.

**AUTOMATIC CUING.** Lever for raising or lowering arm at any point on record.

**RESPONSE.** ±1½ db, 50 to 15,000 cps.

**INPUTS.** Phono (internal connection), Tuner (or Tape Recorder), 2—High-Impedance Microphones.

**OUTPUTS.** Monitor, Tape, and Speakers.  
**CONTROLS.** Master Power, Bass, Treble, Scratch Filter, Volume Input 2, Volume Mic Input, Input 2 Selector [high-level [phono] or Mic 2], Speech Filter (VP40A only).

**CASE FINISH.** Gray and black vinyl.

# KNIGHT

## SPECIAL OFFER!

Order the KN-4510 with desk stand, and get both units for \$9.50. A regular \$10.50 value—you save \$1.00.

**\$7.95**

less stand



**KN**  
4510

## KNIGHT ECONOMY-PRICED CERAMIC MICROPHONE

MODEL KN-4510. Carefully designed to give you a budget-priced mike, well-suited for a variety of uses. A tremendous value at such a low price! Compact and lightweight, it can be held in hand or placed on a stand (optional, below).

Its omni-directional coverage pattern makes it ideal for home tape-recording, group functions, panel discussions, lectures, public address, paging, etc.

Provides -56 db. high-impedance output, with a 50-11,000 cps response for natural voice reproduction. Extremes in temperature and humidity do not affect the ceramic pick-up element. Microphone is attractively styled in brushed chrome with a gold-finished wire grille. Size, 5 1/8 x 1 3/8". With 7' shielded cable and phone plug. Shpg. wt., 2 lbs.

95 S 135-D..... **7.95**

95 S 136-D. Swivel-Mount Stand. For above. Chrome-finished. Padded felt removable base, 3/8"-27 thread. 2 lbs..... **2.55**

SPECIAL OFFER. KN-4510 with Stand, Shpg. wt., 4 lbs. **Save \$1.00.**  
95 S 137-D..... **BOTH FOR 9.50**

**KN**  
4500



Includes Desk Stand with Tip-Proof Base

Screw-Type Connector and Phone Plug Adapter Come Already Attached

**KN**  
4550



High Front-to-Back Ratio Sharply Lowers Audience-Noise Pickup

## Versatile KNIGHT Microphones

### HIGH-IMPEDANCE DYNAMIC MIKE

**\$23.95**

- Plugs Into 90% of All Tape Recorders
- 60-12,000 Cps Response
- Resists Heat, Humidity

MODEL KN-4500. An unexcelled microphone value. Includes matching desk stand with base, 10' cord plus a screw-type connector and phone plug already attached. Connects instantly to 90% of all tape recorders. Has 3/8"-27 threading to match any floor stand.

KN-4500's all-directional pick-up pattern and broad frequency response make it splendid for home recording; P.A. and paging use; recording of conferences, lectures, etc. Its moving-coil dynamic element is virtually immune to humidity and temperature changes.

Has output impedance of -56 db. Styled in attractive gold and black. Mike is 7 1/2 x 1 3/8"; die-cast base has 5 1/8" diameter. Shpg. wt., 4 lbs.

95 S 140-D..... **23.95**

### CARDIOID DYNAMIC MIKE

**\$34.50**

- Super-Cardioid Anti-Feedback Pattern
- 50-13,000 Cps Response
- Fits All Mike Stands

MODEL KN-4550. A professional-quality dynamic microphone with a cardioid pick-up pattern. High-directivity plus "peak-free" response make this a superb P.A. mike—sharply reduces feedback and unwanted audience-noise pick-up.

Two separately tuned chambers assure a smooth frequency response and excellent directivity, while providing marvelous clarity of tone. Tough acoustalloy diaphragm withstands extreme variations in temperature and humidity.

3/8"-27 threading fits all floor and desk stands. -56 db output. Has satin-chrome cast case with on-off switch. 7 1/4 x 1 1/8". Wired for high impedance; easily changed to low impedance. With 18-ft. cord—less connector. Shpg. wt., 2 lbs.

95 S 132-D..... **34.50**

### LOWEST-COST KNIGHT CRYSTAL MIKE

High-quality, shock-mounted crystal element. Provides 60-8500 cps response. High output level: -45 db. Tough plastic case, 2 1/16 x 2 7/16 x 1". With 5' cable. Less connector. 1 lb.

95 S 133-D..... **2.59**



## VEGA Wireless Mikes, Receiver and Accessories

### GIVES YOU UNLIMITED FREEDOM OF MOVEMENT

Dynamic microphone, transistorized wide-band FM transmitter and mercury-cell battery—all in one tiny unit. Gives you the convenience of complete mobility, with no trailing cable. No changes in sound level—even when you turn your back to the audience. Transmits on 33.13 mc to tunable receiver that easily connects to any public address system. Other transmitting frequencies are also available on special order—write for data.

**A** VEGA FM RECEIVER. Tunes 25-45 mc. Tuning eye; squelch; AFC; low-high outputs; "Vegatrol" output. 9 5/8 x 6 3/4 x 12 5/8". For 110-120 v., 50-60 cycle AC. 23 lbs.  
57 SX 296..... **267.75**

**B** 57 SC 298. Vega Hand-Held Mike/Transmitter. 5 5/8 x 1". Whip antenna, 2 mercury batteries (uses 1). 1 lb..... **249.75**

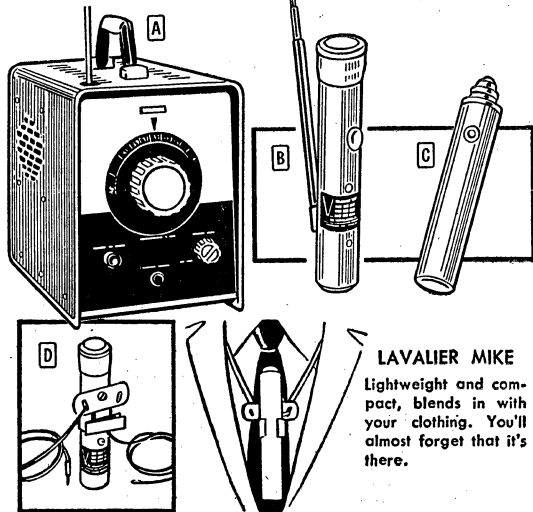
**C** 57 SC 288. Press-to-Talk Accessory. For above. Controls transmitter. Extends 4 3/4" below mike. 1 lb..... **18.00**

**D** 57 SC 287. Vega Lavalier Mike. Pull-switch controls transmitter; voice switch controls audio. 5 1/8 x 1". Neck-cord ant., 2 batteries. 1 lb..... **288.00**

57 SC 297. "Vegatrol" Control Relay. Connects to receiver for controlling accessories from mike. 5 1/2 x 4 1/4 x 7 5/8"..... **69.90**

55 J 896. Battery for Mike. 6 oz..... **Pkg. of Two 3.40**

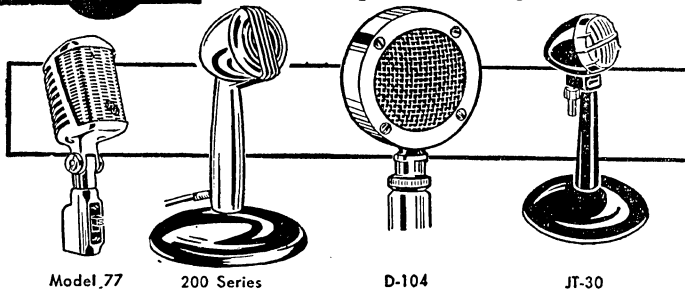
57 SC 299. Slip Cover for Receiver. 12 oz..... **4.95**



### LAVALIER MIKE

Lightweight and compact, blends in with your clothing. You'll almost forget that it's there.

# ASTATIC Quality Microphones



Model 77

200 Series

D-104

JT-30

## DELUXE CARDIOID MIKE

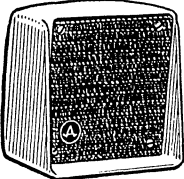
**MODEL 77.** A fine uni-directional dynamic cardioid microphone. Features extremely high front-to-back cancellation of 18 db for highest resistance to rear pick-up—virtually eliminates feedback. Has suspended dynamic cartridge; 30-15,000 cps response; "pop" and "blast-proof" diaphragm. Output: -52 db. Switch selects 30-50 ohms, 150-250 ohms and high-Z,  $\frac{5}{8}$ "-27 thread. Satin-chrome.  $8 \times 2\frac{1}{8} \times 2\frac{3}{8}$ ". With 20-ft. 2-conductor shielded cable. Wt., 3 lbs.  
57 S 177.....48.51

## BUDGET CRYSTAL MIKES

**MODEL 200.** An all-purpose crystal mike for CB, Hams, home recording, paging, etc. Response: 30-10,000 cps; output: -50 db. High-impedance. Includes detachable base, with  $\frac{5}{8}$ "-27 thread. Gold and chrome.  $8 \times 2\frac{1}{2}$ " diameter. 8-ft. single conductor shielded cable. Shpg. wt.,  $\frac{1}{4}$  lbs.  
57 S 126.....11.47

**MODEL 200-S.** Same as microphone above, but with convenient on-off switch in handle. Shpg. wt.,  $\frac{1}{4}$  lbs.  
57 S 402.....12.64

## LOW COST MICROPHONES



**MODEL 150 CRYSTAL.** High-output mike offering semi-directional pick-up pattern. 30-10,000 cps frequency response with 5 megohm load resistance. -44 db output level. Size,  $2\frac{3}{16} \times 2\frac{1}{16} \times 1\frac{1}{4}$ ". High impact gray plastic case with gold metal grille. With 5' single conductor shielded cable. Shpg. wt.,  $\frac{1}{2}$  lb.  
57 S 144.....3.82

**MODEL 151 CERAMIC.** As above, but -48 db output. 30-8000 cps.  
57 S 130.....3.82

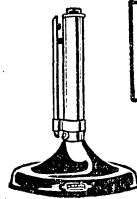
## "PREMIER" CRYSTAL MIKE

**MODEL D-104.** A high-impedance mike for Citizens Band and Ham use, producing maximum amount of speech intelligibility. Response: 30-7,500 cps; output level: -46 db.  $\frac{5}{8}$ "-27 thread. Includes 5-ft. shielded cable. Shpg. wt.,  $1\frac{1}{4}$  lbs.  
18.23  
57 S 401. Repl. Cartridge, 2 oz.....5.59

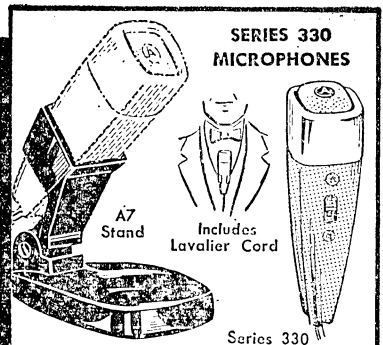
## ECONOMY CRYSTAL MIKES

**MODEL JT-30.** Low-priced, general purpose microphone for CB, Hams, P.A., recording, etc. High impedance. With removable hand grip and desk-type stand. Detaches easily from hand grip for mounting on standard floor stands. Response: 30-10,000 cps; output: -49 db. Gray Hammerlin finish; chrome grille. 8" high. With 8' shielded cable.  $2\frac{1}{2}$  lbs.  
57 S 223.....10.82

**MODEL JT-30F.** Same crystal mike as above, but less handle and base—mike head only.  $\frac{5}{8}$ "-27 thread; fits any standard desk or floor stand.  $1\frac{1}{2}$  lbs.  
57 S 123.....9.35



MODEL G STAND



SERIES 330 MICROPHONES

A7 Stand

Includes Lavalier Cord

Series 330

Slim, all-purpose microphones for communications, recording and P.A. Have on-off switch, except 331 has momentary "On" spring-return switch. With lavalier and adapter for  $\frac{5}{8}$ "-27 thread stand. Less stand,  $4\frac{1}{2} \times 1\frac{1}{4}$ ". 1 lb.

**MODEL 331 CERAMIC.** For CB, Hams, paging, etc. Press-to-talk switch with provision for relay control. Frequency response: 300-5000 cps; output level: -56 db. High-impedance. Black and chrome. With hang-up bracket.  
10.52  
57 S 127.....

**MODEL 332 CRYSTAL.** For CB, Hams, high-quality tapes and P.A. 30-15,000 cps response; -54 db output level. High-impedance. Attractively styled in black and chrome.  
10.52  
57 S 122.....

**MODEL 335H DYNAMIC.** 50-12,000 cps; -56 db output. High-imp. Gray.  
15.58  
57 S 129.....

**MODEL 335L DYNAMIC.** As above, but low imp. -57 db output.  
13.82  
57 S 403.....

**MODEL A-7 DESK STAND.** For 330 mikes above. Black plastic. 5 oz.  
1.44  
57 S 147.....

**MC-151 REPLACEMENT CARTRIDGE.** For Astatic crystal mikes, Models CX, CX-1, 200, 241, JT-30, JT-30F, JT-40 and T-3. Shpg. wt., 3 oz.  
4.12  
57 S 150.....

**MODEL G STAND.** Built-in grip-to-talk on-off switch. For use with Models T-3, D-104, 77 and other Astatic microphones.  $\frac{5}{8}$ "-27 thread. Chrome and gray Hammerlin finish. Supplied with 6' cable. Shpg. wt.,  $2\frac{1}{4}$  lbs.  
14.67  
57 S 185.....

# Multi-Purpose SONOTONE "Ceramikes"

## "MATCHED TWINS" STEREO MIKES

**CM-T10A.** Pair of deluxe ceramic mikes for tape recording, acoustically matched to capture the full brilliance of live stereo sound. 50-11,000 cps response. Unaffected by temperature and humidity. -56 db output. All-directional; high-impedance. One-piece metal case in brushed chrome, with gold finished wire grille. Size,  $5\frac{1}{8} \times 1\frac{1}{4}$ ". 7' shielded cable with phone plug. Less CMS-10 stand, below. 8 lbs.  
57 S 151.....BOTH FOR 20.87

## MODEL CM-10A MIKE

Single mike, similar to CM-T10A above, for monophonic recording, P.A., etc. With 7' cable and phone plug. Less CMS-10 stand, below. Shpg. wt., 2 lbs.  
10.29  
57 S 178.....

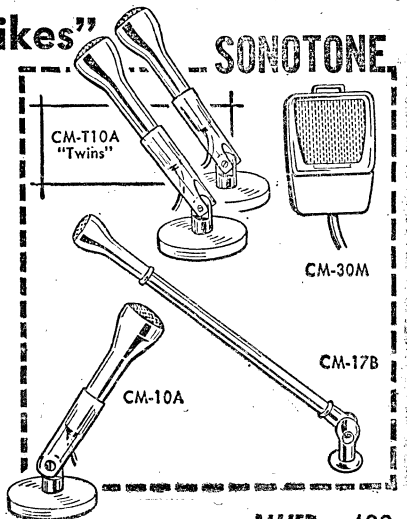
**CMS-10 MIKE STAND.** Chrome-finished, swivel mount. Padded felt removable base with  $\frac{5}{8}$ "-27 thread. 2 lbs.  
2.94  
57 S 179.....

## COMMUNICATIONS MIKE

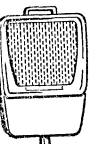
**CM-30M.** For CB and other communications applications. Features high-impedance ceramic element, immune to humidity and temperature changes. 60-7000 cps frequency response assures superior transmission in noisy locations. -49 db output level. Push-to-talk button. High-impact plastic case; magnet on back for easy "pick up-put down" use. Size,  $3 \times 2 \times \frac{1}{2}$ ". With 6' 4-conductor shielded coil cable. 1 lb.  
9.70  
57 S 277.....

## 13" SOLID BOOM MIKE

**CM-17B.** Multi-purpose, high-impedance mike, perfectly suited to audio-visual, paging, public address, and lectern applications. Frequency response: 50-11,000 cps; -56 db output level. Controlled presence peak in mid-range adds vocal realism. Has 13" solid boom with 350° swivel mount and  $\frac{1}{2}$ " stud pipe base. Brush chrome with gold finished wire grille. With 6' shielded cable. Shpg. wt., 4 lbs.  
16.76  
57 S 448.....



CM-T10A "Twins"



CM-30M

CM-10A

CM-17B

Complete Satisfaction Guaranteed or Your Money Back

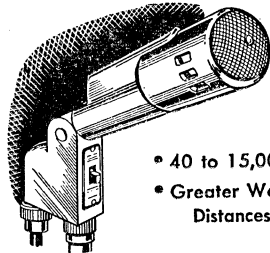
ALLIED 483



# General-Purpose Cardioid Microphones

DESIGNED TO ACCEPT SOUND FROM IN FRONT . . .  
REJECT UNWANTED SOUND FROM THE REAR

MODEL 664—SPECIALLY  
DESIGNED FOR P.A. USE



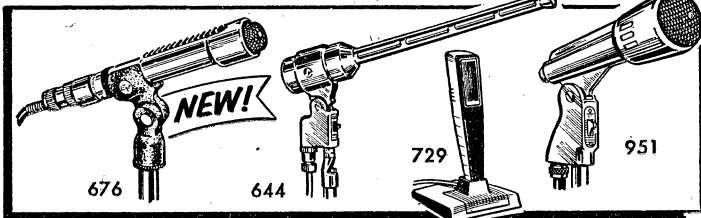
- 40 to 15,000 cps
- Greater Working Distances

**MODEL 664 VARIABLE "D."** This ruggedly constructed dynamic mike is a superb Public Address performer. Cardioid pattern offers high front-to-back discrimination against unwanted sounds without close-talking boominess. Variable distance construction produces cardioid pattern at all frequencies.

The 664 ensures natural reproduction of voice and music; permits greater working-distances from the mike; offers exceptional protection against annoying feedback. A "pop-proof" wire-mesh grille minimizes wind and breath blasts. Acoustalloy diaphragm is shielded from dust and magnetic particles.

Response is very wide—40 to 15,000 cps. Output, -55 db. Impedance, 150 ohms and high impedance. Impedance is changeable by single wire. On-off switch and detachable 18-ft. 2-conductor cable. Cast zinc case finished in chrome. 5/8"-27 thread. 7/16x1 1/8" dia. Shpg. wt., 2 lbs.

57 S 241.....49.98



**NEW MODEL 676.** A dynamic mike with an outstanding cardioid pattern—features "Variable D" design and 3-position low-frequency attenuation switch. Permits recording from farther away from mike. Frequency response, 40 to 15,000 cps. Output level, -58 db, high impedance. Impedance, 150 ohms and high Z. 18-ft. 3-conductor cable. 5/8"-27 thread. 7/16x 1 1/4". Wt. 3 lbs.

57 S 432.....58.80

**MODEL 644.** Highly directional dynamic mike that lets you stand four times as far away as you would with ordinary mikes. Combines cardioid and distributed-front opening to give greatly extended frontal pickup. Above 700 cps, sound rejection at sides and rear is 20 to 25 db. Reduces reverberation and feedback almost to the vanishing point; lessens wind noise and shock. Response, 40 to 12,000 cps. Output, -53 db, high Z. Impedance, 150 ohms and high impedance. Change cable connector for high Z. On-off switch, 18-ft. 2-conductor cable. Satin-chromed case with 3/4" aluminum tube. 5/8"-27 thread. 16x2 3/8" dia. Shpg. wt., 3 lbs.

57 S 121.....64.68

**MODEL 729.** Low-cost ceramic cardioid mike. Has a front pickup range nearly double that of pressure mikes. Ideal for Hams. Also excellent for P.A., call and paging systems and home tape recorders. Frequency response, 60 to 8000 cps. Output, -60 db. High impedance. Gray die-cast front; plastic back, 10-ft. cable. With desk stand, and floor-stand adapter. 1 7/16x 1 1/2". Shpg. wt., 1 lb.

57 S 173.....14.41

**MODEL 729SR.** As above, but with mike/relay control switch. Wt., 1 lb.

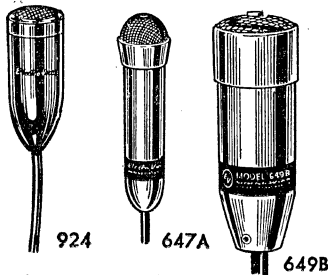
57 S 181.....15.58

**MODEL 951.** An excellent crystal P.A. mike that handles a variety of acoustical situations. Uses variable "D" principle for cardioid directivity. "Pop-proof" wire-mesh grille minimizes wind and breath noises. Polar response makes the 951 suitable for noisy locations or where much echo is present. Boasts wide-range response of 50 to 11,000 cps. Output, -63 db. High impedance. TV-gray, die-cast case. 18-ft. cable. 5 3/8"x1 1/4" dia. Shpg. wt., 1 1/2 lbs.

57 S 218.....32.05

## VERSATILE ELECTRO-VOICE LAVALIER MICROPHONES

LIGHTWEIGHT FOR HAND USE—ALSO CAN BE MOUNTED ON DESK OR FLOOR STAND



**MODEL 649B.** This tiny E-V lavalier mike represents a significant achievement in miniaturization. Weighing only 31 grams (less cable), the dynamic, omnidirectional 649B presents dozens of new possibilities in "walk-about" applications. Almost invisible, it's the perfect mike for any programming that requires concealed or unobtrusive mike placement. Offers top-quality performance. Frequency response, 60 to 12,000 cps. Output level, -61 db. Low impedance. With 30-ft. cable. Aluminum case finished in non-reflecting gray. Supplied complete with neck cord and belt clip. Miniature size, only 2 1/4x3/4" diameter. Shpg. wt., 1 lb.

57 S 118.....61.74

**MODEL 647A.** Extremely small and rugged dynamic, omnidirectional mike. Just right for concealment, freedom of movement and of hands. Weighs only 2 oz. 60-12,000 cps. Output, -58 db. Impedance, 150 ohms or high impedance (supplied wired for high Z). TV-gray. 18-ft. 2-cond. cable. 2 1/4x3/4" diameter. 1 lb.

57 S 264.....48.51

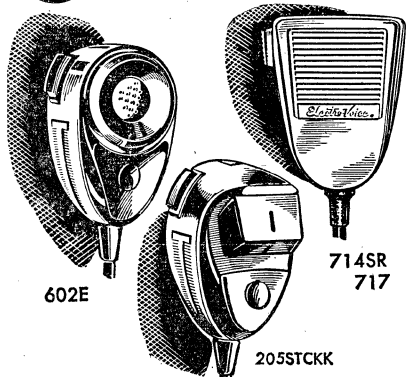
**MODEL 924.** Miniature crystal, omnidirectional mike. Wire-mesh head acoustically treated against wind and moisture. 60 to 8000 cps. Output, -60 db. High impedance. Cable has integral strain relief. 3 1/8x 1 1/4". Shpg. wt., 8 oz.

57 S 447.....11.76



## CHOICE SELECTION OF COMMUNICATIONS MICROPHONES

DESIGNED SPECIFICALLY FOR CITIZENS BAND AND HAM COMMUNICATIONS



**MODEL 602E.** Differential dynamic mike. For 2-way radio, mobile P.A. and other uses, where noise cancellation and high articulation for maximum intelligibility are vital. Press-to-talk DPDT switch controls mike and relay. Response, 100-7000 cps. Output, -55 db. High impedance. 6-ft. coiled cable. Black phenolic case. With mounting bracket. Size, 2 1/4x 2x4". Shpg. wt., 10 oz.

57 S 034.....33.81

**MODEL 205STCK.** Differential carbon mike for aircraft. Articulation 97% under quiet conditions; 88% under 115-db. ambient noise. Blastproof, shock resistant. Output, -55 db. 100-4000 cps. DPDT press-to-talk switch. 6-ft. coiled cable. With mounting bracket. 2 1/4x 2 1/4x4". 1 lb.

57 S 035.....26.46

**MODEL 714SR.** High-output ceramic mobile communications mike. Designed especially for Ham radio, Citizens Band and paging use. Features exceptional speech intelligibility. Frequency response, 60 to 7000 cps. Output, -55 db. High impedance. Press-to-talk DPDT switch controls mike and relay circuit. Tough beige Cycloc case ensures maximum durability, 10" (retracted) 3-conductor coiled cable. With hang-up bracket. Microphone size, 2 1/2x1 7/16x3 5/8". Shpg. wt., 1 lb.

57 S 167.....9.70

**MODEL 717.** As above, but specially designed as a noise-cancelling microphone to provide very intelligible speech in situations where background noise is a problem. Shpg. wt., 1 lb.

57 S 433.....11.47

# Broadcast-Quality Dynamic Microphones



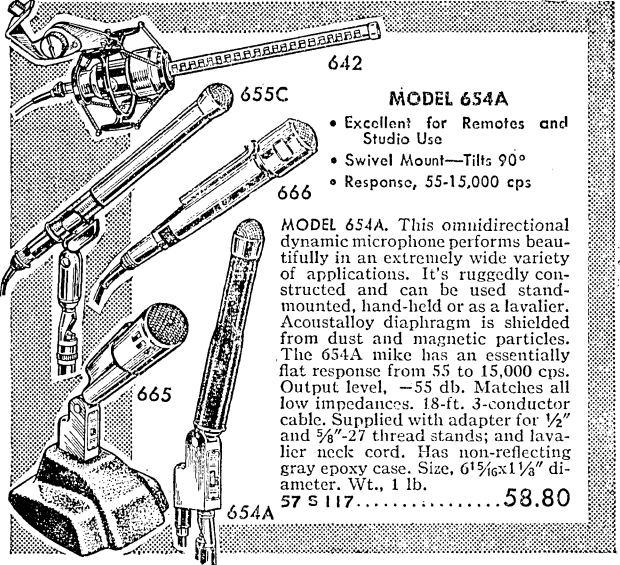
**RUGGEDLY CONSTRUCTED MICROPHONES OFFERING  
EXTREMELY WIDE RANGE AND SMOOTH RESPONSE**

**MODEL 642.** "Cardiline" dynamic mike that's perfect for TV use. 90° pattern lets you "aim" mike for maximum audio pickup. Cardioid action plus distributed-front opening ensure high directivity over entire 30-10,000 cps range, and greatly reduce wind noise. Effective working distance is 2 to 3 times that of conventional-type directional mikes. Choice of 5 or 10 db of bass attenuation. Impedance, 50, 150 and 250 ohms. Output, -48 db. Hum pickup, -120 dbm. 20-ft. 3-cond. cable. Aluminum case. 17 $\frac{1}{8}$ x3 $\frac{1}{16}$ ". Less mount. Shpg. wt., 4 lbs.  
**57 S 448.....229.32**

**MODEL 666.** Cardioid mike employing variable "D" design for high discrimination against sound from back. Permits close talking without bass emphasis. 30-16,000 cps. Output, -58 db. Impedance, 50, 150 and 250 ohms (wired for 150 ohms). 20-ft. 3-conductor cable. Gray, aluminum-cast case. With adapter for 1/2" and 5/8"-27 thread stands. Size, 7 $\frac{1}{2}$ x13 $\frac{1}{4}$ " diameter. Shpg. wt., 1 lb.  
**57 S 249.....149.94**

**MODEL 665.** Similar to above, but 50-14,000 cps; output of -55 db; impedance of 50 and 250 ohms selected by recessed switch. 18-ft. 3-cond. cable, stand adapter. 1 $\frac{1}{8}$ x7 $\frac{3}{16}$ " dia. Shpg. wt., 2 lbs.  
**57 S 240.....88.20**

**MODEL 655C.** Deluxe "Slim-Trim" omnidirectional mike that can be used on a stand, in your hand, or on a boom. Weighs only 7 oz. Has "pop-proof" grille. Response, 40 to 20,000 cps. Output, -55 db. Impedance, 50, 150 and 250 ohms (wired for 150 ohms). Detachable 20-ft. 3-conductor cable. Gray case. With clamp-on adapter for 1/2" and 5/8"-27 thread stands. Size, 10 $\frac{3}{8}$ x1 $\frac{1}{8}$ " dia. Wt., 1 $\frac{1}{4}$  lbs.  
**57 S 243.....117.60**



642

655C

666

665

654A

## MODEL 654A

- Excellent for Remotes and Studio Use
- Swivel Mount—Tilts 90°
- Response, 55-15,000 cps

**MODEL 654A.** This omnidirectional dynamic microphone performs beautifully in an extremely wide variety of applications. It's ruggedly constructed and can be used stand-mounted, hand-held or as a lavalier. Acoustalloy diaphragm is shielded from dust and magnetic particles. The 654A mike has an essentially flat response from 55 to 15,000 cps. Output level, -55 db. Matches all low impedances. 18-ft. 3-conductor cable. Supplied with adapter for 1/2" and 5/8"-27 thread stands; and lavalier neck cord. Has non-reflecting gray epoxy case. Size, 6 $\frac{1}{8}$ x1 $\frac{1}{8}$ " diameter. Wt., 1 lb.  
**57 S 117.....58.80**

## SELECTED ELECTRO-VOICE OMNIDIRECTIONAL MICROPHONES

**UNIFORM RESPONSE FROM ANY DIRECTION SOLVES PLACEMENT PROBLEMS**

**MODEL 630.** Popular dynamic mike for dispatching, tape recording and general use. Becomes directional at high frequencies. Can be stand-mounted (tilting 90°) or hand-held. Response, 60 to 11,000 cps. Output, -55 db. High impedance. 18-ft. cable. On-off switch. Chrome-plated. 5/8"-27 thread. 6 $\frac{1}{4}$ x2 $\frac{1}{2}$ " dia. Wt., 2 lbs.  
**57 S 226.....30.87**

**MODEL 715.** The "Century"—an omnidirectional ceramic mike for home recording, paging, etc. Resists extremes of temperatures and humidity. Response, 60 to 7000 cps. Output, -55 db. High impedance. 5-ft. cable. 5/8"-27 thread adapter. Size, 3x2 $\frac{3}{16}$ x1". Shpg. wt., 1 lb.  
**57 S 245.....7.65**

**MODEL 715-S.** As above, but with "lock-on" press-to-talk switch. 1 lb.  
**57 S 176.....8.82**

**MODEL 415 DESK STAND.** For above. 15° tilt. Chrome. Wt., 6 oz.  
**57 S 194.....1.03**

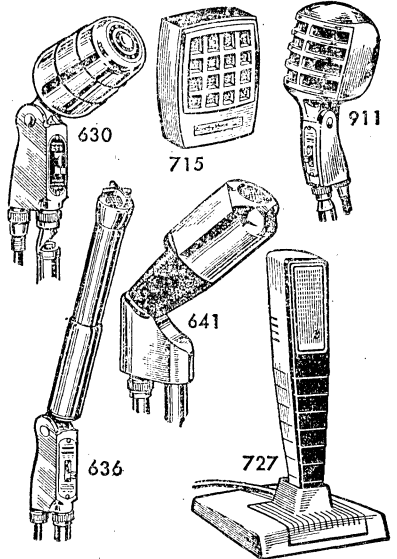
**MODEL 911.** Low-cost crystal mike for P.A., recording, Ham use, etc. Directional at higher frequencies. 50 to 9000 cps. Output, -50 db. High impedance. 18-ft. cable. Upright swivel mounting. On-off switch. Chrome-plated. 5/8"-27 thread. 2 $\frac{3}{8}$ x3 $\frac{1}{8}$ x6 $\frac{3}{4}$ ". 2 $\frac{1}{2}$  lbs.  
**57 S 242.....19.11**

**MODEL 636 "SLIMAIR."** Slender dynamic microphone for P.A. use and tape recording. Wire-mesh blast filter. 90° swivel. Response, 60 to 13,000 cps. Output, -58 db. Impedance, 150 ohms or high impedance (wired for high Z). Detachable, 18-ft. 2-conductor cable. On-off switch. Chrome-plated steel case. 5/8"-27 thread. Size, 10 $\frac{1}{4}$ x1 $\frac{1}{8}$ " diameter. Wt., 2 lbs.  
**57 S 244.....42.63**

**MODEL 641.** Low-cost dynamic mike designed for use in communications, P.A., home recording, paging systems, etc. Response, 70 to 10,000 cps. Output, -57 db. 6-ft. cable. On-off switch. Two-tone case of chrome-plated die-cast zinc and gray plastic. 5/8"-27 thread. Size, 4 $\frac{3}{4}$ x1 $\frac{1}{3}$ " diameter. Shpg. wt., 1 lb.  
**57 S 265, Low Impedance.....20.58**  
**57 S 451, High Impedance.....20.58**

**MODEL 727.** Low-cost omnidirectional ceramic mike for P.A., home recording and general use. Withstands extremes of temperature and humidity. 60 to 8000 cps. -55 db. High impedance. 5-ft. cable. With desk stand, and floor-stand adapter. Gray front; medium-gray back. 5/8"-27 thread. 7 $\frac{7}{8}$ x1 $\frac{1}{2}$ x1 $\frac{1}{4}$ ". 1 lb.  
**57 S 175.....10.58**

**MODEL 727SR.** Above with on-off switch.  
**57 S 257.....11.76**



630

715

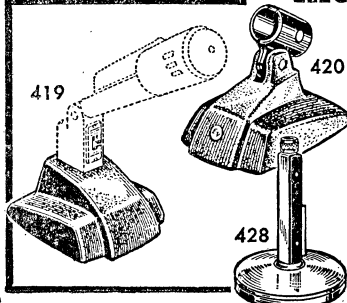
911

636

641

727

## ELECTRO-VOICE MICROPHONE ACCESSORIES



419

420

428

**MODEL 419 DESK STAND.** For use with Electro-Voice Models 665, 664 and 644 mikes. Die-cast base. Gray finish. 3 lbs.  
**57 S 209.....5.88**

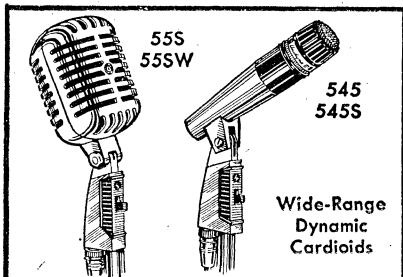
**MODEL 420 DESK STAND.** For use with E-V Models 666, 655C, 654A, 652, 652A microphones. Clamp attachment for mounting 1" cylin. mike without tools. 3 lbs.  
**57 S 196.....11.76**

**MODEL 428 TOUCH-TO-TALK STAND.** Touch-bar on stem actuates DPDT switch. Has locking button. 5/8"-27 thread. Satin-chrome finish. 7x5 $\frac{1}{8}$ " base dia. 2 lbs.  
**57 S 195.....10.29**

**MODEL 300 MICROPHONE CLAMP.** (Illustrated with the Model 420 desk stand.) Lightweight—fits any 1" cylindrical microphone. 1/2" thread with adapter for 5/8"-27 thread stands. Shpg. wt., 4 oz.  
**57 S 253.....5.88**

**MODEL 502A TRANSFORMER.** (Not illustrated.) Designed for connecting long-line, low-impedance (50, 150, 250 and 500-ohm) microphones to high-impedance. Frequency response,  $\pm 1$  db, 40 to 20,000 cps. With MC-4 input connector and 2-ft. cable. Size, 2 $\frac{7}{8}$ x1 $\frac{1}{8}$ ". Shpg. wt., 1 lb.  
**57 S 210.....10.29**





**Wide-Range Dynamic Cardioids**

**MODEL 555.** Rugged, dynamic mike that can take mechanical shock as well as heat and moisture. Response, 50-15,000 cps. Switch-selected impedances. Output levels: 35-50 ohms, -54 db; 150-250 ohms, -55 db; hi-Z, -57 db. Swivel mounting. Chrome.  $\frac{5}{8}$ "-27 thread. 18-ft. 2-cond. cable.  $7\frac{3}{8}$ "x2 $\frac{1}{2}$ "x3 $\frac{1}{16}$ ". Shpg. wt., 3 $\frac{1}{2}$  lbs.

57 S 234.....**48.80**

**MODEL 555W.** As above, but with on-off switch for added convenience.

57 S 135.....**49.98**

**MODEL 556S.** Deluxe version of 55S. Built to close tolerances for wider response (40-15,000 cps). Shock mounted to endure rough treatment. Shpg. wt., 3 $\frac{1}{2}$  lbs.

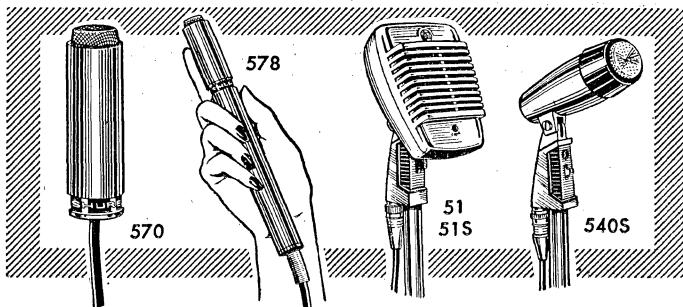
57 S 235.....**79.38**

**MODEL 545 "UNIDYNE III."** Slender cardioid-patterned mike. Head tilts 180° for "aiming." Smooth response, 50-15,000 cps. Dual-impedance. Output levels: high-Z, -55 db; 50-250 ohms, -57 db. Satin chrome and black. Width A-25B swivel adapter;  $\frac{5}{8}$ "-27 thread. 18-ft. 3-cond. cable.  $5\frac{1}{2}$ "x1 $\frac{1}{4}$ " diameter. Shpg. wt., 2 $\frac{1}{4}$  lbs.

57 S 161.....**49.98**

**MODEL 545S.** As above, with on-off switch; permanently attached swivel.

57 S 133.....**52.89**



**NEW MODEL 570.** Lightweight, professional-quality dynamic lavalier mike specifically designed for TV use, lectures, etc. Permits maximum mobility. "Flex-Grip" lavalier assembly ensures firm hold at all times. 50 to 12,000 cps with generally rising response to 6000 cps. Output, -59 db. Impedance 50-250 ohms. 30-ft. flexible 2-cond. cable. With adjustable lavalier cord and belt clip for cable. Non-reflecting gray metal case. Stainless steel grill. 2 $\frac{1}{2}$ "x $\frac{3}{4}$ " diameter. 11 oz.

57 S 443.....**55.86**

**NEW MODEL 578. "OMNIDYNE."** Dynamic microphone. Ideal for public address, theater-stage sound systems and all recording applications demanding a top-quality omni-directional mike. The 578 is ruggedly built—withstanding hard use and temperature and humidity variations. Frequency response, 50 to 17,000 cps. Dual impedance. Output levels: 200 ohms, -60 db; hi-Z, -59 db. Has on-off switch and a swivel adapter. 18-ft. 3-conductor cable. Satin chrome case.  $\frac{5}{8}$ "-27 thread. Size,  $7\frac{3}{8}$ "x $\frac{3}{4}$ " diameter. Shpg. wt., 11 oz.

57 S 442.....**48.51**

**MODEL 51 "SYNODYNE."** Semi-directional microphone. Fine for P.A., tape recording, etc. Offers excellent voice and music reproduction. Frequency response, 60 to 10,000 cps. 3-way impedance switch. Output levels: 35-50 ohms, -53 db; 150-250 ohms, -52.5 db; hi-Z, -52 db. Swivel mount allows head-tilt through 90°. Detachable 15-ft. 2-cond. cable.  $\frac{5}{8}$ "-27 thread.  $5\frac{1}{2}$ "x3 $\frac{1}{8}$ "x2 $\frac{1}{8}$ ". Shpg. wt., 3 $\frac{1}{2}$  lbs.

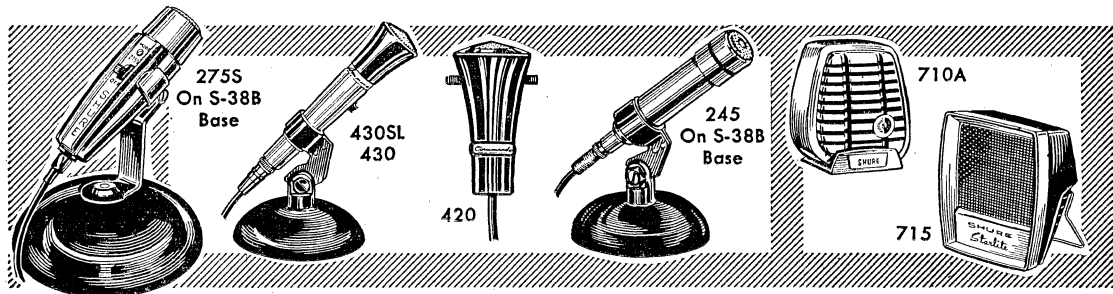
57 S 228.....**29.11**

**MODEL 51S.** Same as above, but with on-off switch.

57 S 136.....**30.28**

**MODEL 540S "SYNODYNE II."** This versatile omni-directional dynamic microphone features provisions for varying frequency response to suit the application. Switch to 60-10,000 cps for music, and 150-6500 cps for speech reproduction. Swivel mount permits head tilting through 150°. Dual-impedance. Output levels: 50-250 ohms, -57 db; high impedance, -55 db. Modern-styled, in satin-chrome and black. 15-ft. 2-cond. cable.  $\frac{5}{8}$ "-27 thread. Size,  $3\frac{5}{8}$ "x1 $\frac{1}{2}$ " diameter. Shpg. wt., 2 $\frac{1}{4}$  lbs.

57 S 132.....**29.37**



**MODEL 275S.** Omni-directional ceramic mike featuring rugged, lightweight construction and broad response. Just the mike for tape recording, public address, communications applications, etc. Built-in filter reduces voice "pop." Slide-to-talk locking switch. 40 to 12,000 cps. Output level: -59.5 db. High impedance, 1.5 megs. Black plastic case with satin anodized cap and filter. 7-ft. cable. Adapter and lavalier.  $\frac{5}{8}$ "-27 thread.  $4\frac{1}{16}$ "x1 $\frac{1}{16}$ " dia. 1 lb.

57 S 284.....**8.81**

**MODEL 430SL.** Controlled magnetic. Omni-directional. 60-10,000 cps. Output: -52 db at 150-250 ohms and also at high-Z. With mike and relay switch, 15-ft. 3-cond. cable, black desk stand.  $\frac{5}{8}$ "-27 thread.  $6\frac{9}{16}$ "x1 $\frac{3}{4}$ " dia. 2 $\frac{3}{4}$  lbs.

57 S 283.....**29.37**

**MODEL 430.** As above, with mike switch; A-25B adapter only; less desk stand. 2 $\frac{1}{2}$  lbs.

57 S 213.....**22.64**

**MODEL 420.** Controlled magnetic, omni-directional microphone for general-purpose voice and music applications. Response, 60 to 10,000 cps. Output levels: 150-250 ohms and hi-Z, both -52 db. Gray plastic case. 20-ft. 2-conductor cable. With detachable lavalier cord and clip assembly.  $3\frac{1}{16}$ "x1 $\frac{3}{4}$ " diameter. Wt., 1 $\frac{1}{4}$  lbs.

57 S 212.....**17.64**

**MODEL 245 "UNIPLEX."** Ceramic mike. Uni-directional pattern makes it fine for public address, stereo tape recording, communications, paging applications, etc. Frequency response, 50 to 7000 cps. Output, -59 db. High impedance, 1-5 megs. With 15-ft. cable and A-25B swivel adapter.  $\frac{5}{8}$ "-27 thread. Microphone's size,  $4\frac{3}{4}$ "x1 $\frac{1}{8}$ " diameter. Shpg. wt., 1 $\frac{1}{4}$  lbs.

57 S 285.....**20.58**

**MODEL 245S.** Same as above, but with on-off switch. Shpg. wt., 1 $\frac{1}{4}$  lbs.

57 S 286.....**21.76**

**MODEL 710A "REX."** Crystal hand mike offering high speech intelligibility. Response, 60 to 9000 cps. Omni-directional. High-impedance. Output, -50 db. 7-ft. cable. With adapter;  $\frac{5}{8}$ "-27 thread.  $3\frac{1}{8}$ "x2 $\frac{1}{16}$ "x1 $\frac{1}{16}$ ". Shpg. wt., 1 $\frac{1}{4}$  lbs.

57 S 231.....**7.05**

**MODEL 715 "STARLITE."** Low-cost, semi-directional mike. Use in hand or atop desk. Built-in stand. 50-10,000 cps. Output, -50 db. High impedance. 5-ft. cable.  $3\frac{5}{8}$ "x2 $\frac{1}{16}$ "x1 $\frac{1}{4}$ ". Shpg. wt., 8 oz.

57 S 215.....**4.70**

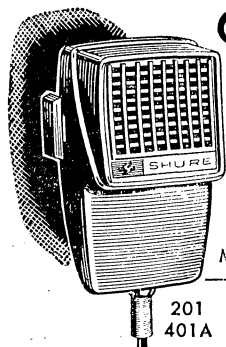
**MODEL 777 "SLIM-X."** Similar style to Model 245. 6-oz., all-directional mike for "walk-around" use. Response, 60-10,000 cps. Output, -62 db. High impedance. Chrome. Detachable, 7-ft. cable; neck cord.  $\frac{5}{8}$ "-27 thread.  $4\frac{1}{2}$ "x1" diameter. Wt., 1 lb.

57 S 252.....**14.70**

**MODEL 777S.** Above, with on-off switch.

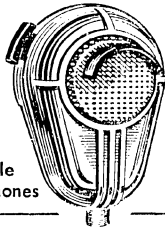
57 S 253.....**15.88**

# Communications Microphones **SHURE**



Mobile  
Microphones

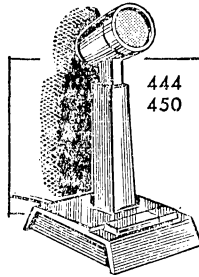
201  
401A



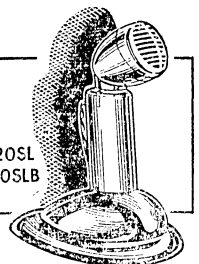
488A  
488B



404C  
404B



444  
450



520SL  
520SLB

**MODEL 201.** Hand-held ceramic mike for clear voice quality. 200-4000 cps. -55.5 db. High impedance. 5-ft. retractable cable. With mounting bracket. Also press-to-talk switch. 4x2 1/2x1 3/8". Shpg. wt., 1 lb.  
57 S 280.....10.58

**MODEL 401A.** As above, but controlled magnetic mike. Output, -49 db.  
57 S 281.....12.94

**NEW MODEL 488A.** Controlled reluctance, noise-cancelling mike. 200-4000 cps. Output, -58 db. High impedance. 5 1/2-ft. 3-cond. coiled cable. Press-to-talk switch. Relay wired. 3 1/16x2 5/8x2 1/2".  
57 S 439.....33.81

**MODEL 488B.** As above, low-impedance.  
57 S 440.....33.81

**MODEL 404C.** Controlled magnetic mike with top speech quality. 200-8000 cps. Output, -50.5 db. Mtg. bracket. Grip switch. Relay wired. 3 1/16x2 5/8x1 1/4". 1 lb.  
57 S 141.....19.40

**MODEL 404B.** Above, low-impedance; 4-cond.  
57 S 140.....19.40

**NEW MODEL 444.** Controlled magnetic mike specifically designed for Hams. Features press-to-talk switch, separate VOX switch and adjustable stand to ensure ideal talking position. Response, 300-3000 cps. Output, -52.5 db. High impedance. 7-ft. 2-conductor cable. Smart two-tone gray case. 10 5/16x4". Shpg. wt., 3 1/2 lbs.  
57 S 441.....24.99

**NEW MODEL 450 "DISPATCHER."** Rugged, controlled-magnetic mike for paging use; Press-to-talk mike/relay button. 100-9000 cps. Output, -52.5 db, high Z. Impedance; 50-250 ohms and high Z. 7-ft. 4-conductor cable. 10 5/16x5 1/16"x4". Wt. 3 1/2 lbs.  
57 S 444.....29.11

**MODEL 520SL "DISPATCHER."** Controlled magnetic mike. Grip-to-talk, lockable mike/relay switch. 100-9000 cps. High Z. Output, -52.5 db, 7-ft. 2-conductor cable. Chrome and green finish. 9 3/8" high; 5" base. Shpg. wt., 3 1/2 lbs.  
57 S 233.....26.46

**520SLB.** As above, but low-Z. -51 db. 4-cond. (2 shielded) cable. 3 1/2 lbs.  
57 S 163.....28.96

## SHURE MICROPHONE ACCESSORIES

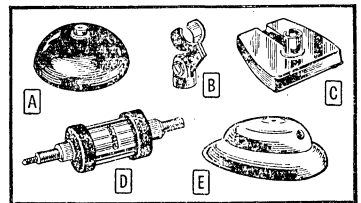
**A** S-38B BASE. For 245, 275S and 430 series of microphones. 1 1/2 lbs.  
57 S 445.....2.65

**B** A-25B SWIVEL ADAPTER. For the 777 microphone and any stand in our catalog. 3/8"-27 thread. 90° swing. 1/2 lb.  
57 S 446.....3.23

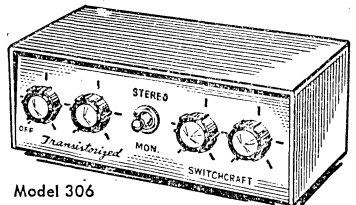
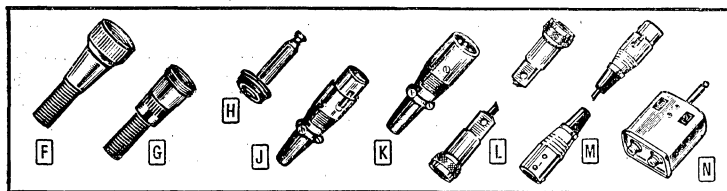
**S-33 BASE.** For any mike with the A-25 swivel adapter or 5U5, 556S, and 578 mikes without adapter. 1 1/2 lbs.  
57 S 295.....8.82

**D** A86A TRANSFORMER. For running lines from low-impedance microphones to high-impedance amplifier inputs. The A86A matches 35-50 ohms or 150-250 ohms. Frequency response, ±1 db, 20-20,000 cps. Size, 2 7/8x1 1/2". Shpg. wt., 1 lb.  
57 S 107.....10.29

**S-36A DESK MOUNT.** Streamlined. Fits the models 55S(W), 51(S), 545S, and 540S microphones. Wt., 1 1/4 lbs.  
57 S 191.....3.82



## CABLES, CONNECTORS and MIXERS



Model 306

### SWITCHCRAFT STEREO MIXERS

**MODEL 306.** Flip a switch and this mike mixer's 4 monophonic channels convert to two stereo's. Four input jacks on rear panel; high-impedance circuitry. Two phono jacks for output to amplifier or tape recorder. Size, 2x3x6". Shpg. wt., 1 1/2 lbs.  
57 S 171.....13.23

**MODEL 306TR.** As above, but with two battery-operated transistor amplifiers. Complete with battery. Wt., 1 1/2 lbs.  
57 S 172.....22.05

### SWITCHCRAFT MONOPHONIC MIXERS

**MODEL 301.** (Not illus.) Similar to the 306, above. Permits mixing four signals into a single output. Accepts stand. 2-cond. phone plugs; stand, phono jack output to recorder or amplifier. 2x2x6". 1 1/2 lbs.  
57 S 169.....11.47

**MODEL 301TR.** As above, but battery-powered and transistorized. Complete with battery. Shpg. wt., 1 1/2 lbs.  
57 S 170.....17.64

**41 H 341.** 36" Connector Cable. Pin plug one end, phono plug, other. 4 oz.....88c

### BELDEN SHIELDED CABLES

Single-conductor. For high-imp. mikes.

Mfr's Type	O. D. In.	Lbs. 100'	Stock No.	50-Ft. Spool	100-Ft. Spool
8401	200	2 1/2	47 TT 564	2.30	4.21
8410	245	4	47 TT 444	3.82	7.20
8411	144	1 3/4	47 TT 604	1.71	3.09

Two-conductor. For low-imp. mikes.

Mfr's Type	O. D. In.	Lbs. 100'	Stock No.	50-Ft. Spool	100-Ft. Spool
8428	295	5 1/4	47 TT 468	10.29	
8422	234	4	47 TT 456	3.18	5.73

### SWITCHCRAFT CONNECTORS

**SINGLE-CONTACT TYPES.** Standard 5/8"-27 threads. 2501F fits all Knight P.A. amplifiers. When splicing 2 cords, use two 2501F (as plugs or jacks). Wt., 3 oz.

Stock No.	Fig.	Type	Description	EA.
57 S 405	F	2501F	Plug or Jack	.35
57 S 406	G	2501M	Plug	.26
41 H 657	H	44	Phone Plug Adap.	.30

### COMPLETE-GROUNDING CONNECTORS

Switchcraft 3-contact audio connectors with "ground terminal" on shell. Loss-proof insert-screw and "wedge action" socket and pin assemblies. Av. wt., 2 oz.

Stock No.	Fig.	Type	Description	EA.
41 H 351	J	A3F	Fem. Plug	1.35
41 H 352	K	A3M	Male Plug	1.14

### MIKE EXTENSION CABLES

Plug extension cable into mike; connect old cable to free end of extension. Two-conductor 25-ft. shielded cable. 1 1/4 lbs.

Stock No.	Fig.	Type	Description	EA.
57 S 156	L	87AU87	One 75-MCIF at each end	2.94
57 S 158	M	91BU92	Cannon XL3-11; XL-12 plugs	7.35

### MINI-MIX AUDIO MIXERS

**N** Accept 2 high-impedance sources. Separate gain controls. Size, 2 1/16x1 1/16x1 1/16". Av. shpg. wt., 4 oz.

**57 S 112.** Phone jack input and plug output for standard jacks.....4.67

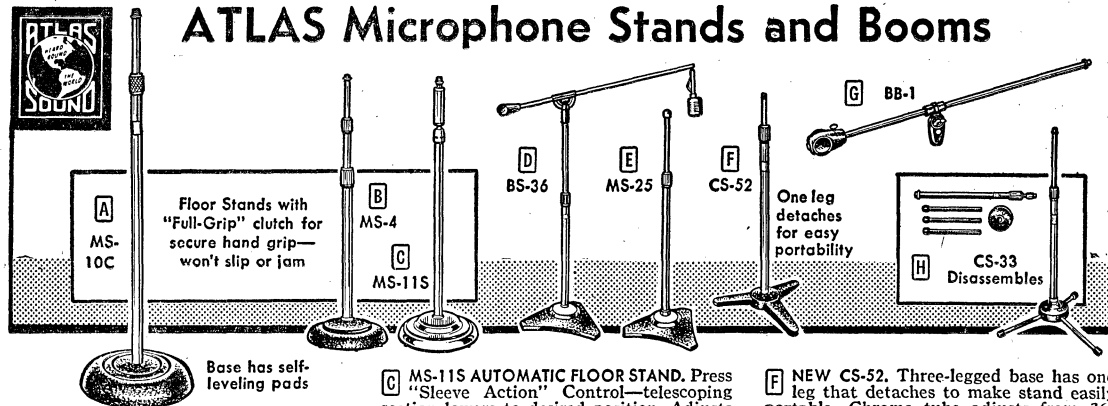
**57 S 114.** As above, but with longer output for recessed jacks.....5.26

**57 S 113.** Male inputs, female output for 3/8"-27 screw-type connect.....4.67

**57 S 404.** For late-model Wollensak and Revere recorders.....5.26



# ATLAS Microphone Stands and Booms

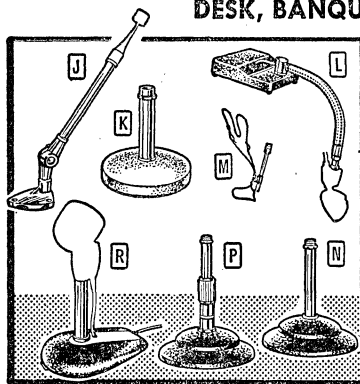


- A MS-10C FLOOR STAND.** Excellent for average weight mike. Clutch is designed for secure hand grip—won't slip or jam. Adjusts from 35" to 64". Gray base has self-leveling, shock absorbing pads. 2-section chrome tube. 10" base diameter.  $\frac{5}{8}$ "-27 thread. Shpg. wt., 13 lbs.  
57 SX 325-2 ..... **5.88**
- MS-11C.** As above, but base and tube in all chrome. Shpg. wt., 13 lbs.  
57 SX 326-2 ..... **8.09**
- B MS-4 TELESCOPING FLOOR STAND.** Three sections permit frequent adjustments with ease—from 26" to 61" high. 10" diameter gray shrivel base, chrome-plated tube.  $\frac{5}{8}$ "-27 thread. Shpg. wt., 14 lbs.  
57 SX 270-2 ..... **9.26**

- C MS-11S AUTOMATIC FLOOR STAND.** Press "Sleeve Action" Control—telescoping section lowers to desired position. Adjusts from 35" to 65". All chrome. Base dia., 10".  $\frac{5}{8}$ "-27 thread. 16 lbs.  
57 SX 271-2 ..... **14.70**
- D BS-36 PROFESSIONAL BOOM STAND.** Similar to MS-25 (below) but with removable 62" arm. Adjusts from 48" to 72". All chrome. Base dia., 17". 37 lbs.  
57 SU 329-2 ..... **39.10**
- BS-36W.** As above, but mobile. 43 lbs.  
57 SU 318-2 ..... **44.98**
- E MS-25 PROFESSIONAL FLOOR STAND.** "Air Lock" controls drop—prevents mike damage. Adjusts from 37" to 66". Base dia., 17"—extra stable. Chrome and gray base; chrome tube. 25 lbs.  
57 SU 330-2 ..... **16.46**

- F NEW CS-52.** Three-legged base has one leg that detaches to make stand easily portable. Chrome tube adjusts from 36" to 52". Shrivel gray base diameter, 16". With base pads.  $\frac{5}{8}$ "-27 thread. 16 lbs.  
57 SX 450 ..... **6.91**
- G BB-1 "BABY BOOM" STAND ATTACHMENT.** Converts any floor stand with  $\frac{5}{8}$ "-27 thread to boom-type stand. Large 5-ft. circle positioning; adjustable counter-balance. Chrome plated. 32" long. 7 lbs.  
57 SX 328 ..... **4.70**
- H CS-33 "TAKE-APART" FLOOR STAND.** Disassembles into 5 parts—stores easily in speaker case. Spring lock leg-holding mechanism—no tools needed. Chrome-plated tube with "Velvet Action" adjusts from 26" to 64".  $\frac{5}{8}$ "-27 thread. 8 lbs.  
57 SX 327 ..... **8.53**

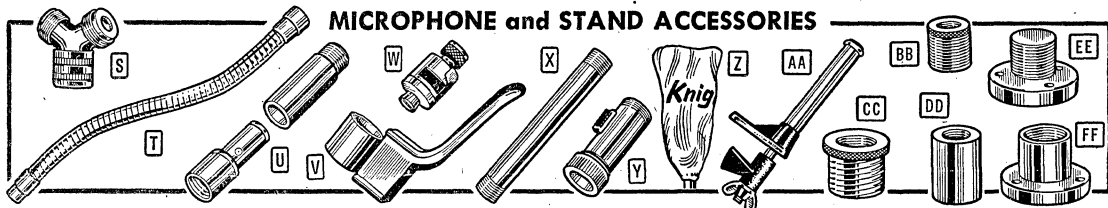
## DESK, BANQUET and SWITCHBOARD MICROPHONE STANDS



- J US-2 STAND.** Floating vertical (180°) and rotation (360°) movement. Arm, 12 $\frac{3}{4}$ " long. Base dia., 2 $\frac{5}{8}$ ". Chrome.  $\frac{5}{8}$ "-27 thread. Shpg. wt., 2 lbs.  
57 S 273 ..... **5.59**
- K DS-4 DESK STAND.** Attractively styled—light beige finished base and detachable chrome tube. Base dia., 4"; tube 4" high.  $\frac{5}{8}$ "-27 thread.  $\frac{1}{2}$  lb.  
57 S 272 ..... **1.47**
- L SB-1 SWITCHBOARD STAND.** Sits atop switchboard. Flexible 12" arm ( $\frac{5}{8}$ "-27 thread). Base, 9x6 $\frac{1}{2}$ ". 13 lbs.  
57 S 145 ..... **9.26**
- M NS-1 NECK and CHEST HOLDER.** With neck cord, chest support and removable goose-neck holder. 10 oz.  
57 S 183 ..... **3.23**

- N DS-5 DESK STAND.** Chrome plated tube. 4" high. Cast-iron base, 6" dia. Rubber pads.  $\frac{5}{8}$ "-27 thread. 2 lbs.  
57 S 208 ..... **1.91**
- P DS-7 ADJUSTABLE DESK STAND.** Clutch adjusts 8" to 13". Two-section, chrome-plated tube. Gray base dia., 6". Rubber pads.  $\frac{5}{8}$ "-27 thread. 3 lbs.  
57 S 186 ..... **3.23**
- R DS-10 DESK STAND.** Cable fits in slot under chrome-plated trim. Gun-metal enamel.  $\frac{5}{8}$ "-27 thread. 1 $\frac{1}{2}$  lbs.  
57 S 205 ..... **3.23**
- TS-6 BANQUET STAND.** (Not illus.) For speaker's table. Extends from 14 $\frac{1}{2}$ " to 26" with "Velvet Action" adjustment. Base diameter, 8". Shpg. wt., 6 lbs.  
57 S 188-2 ..... **5.73**

## MICROPHONE and STAND ACCESSORIES



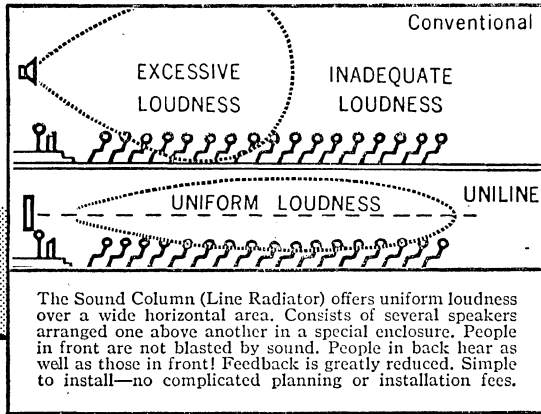
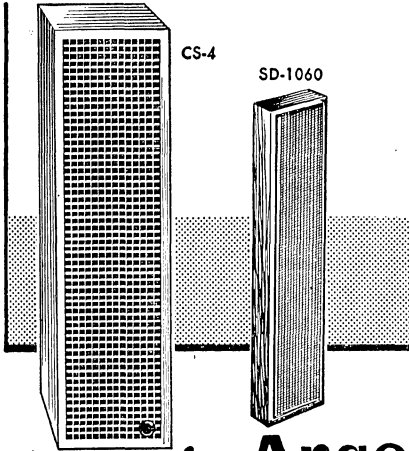
**MICROPHONE ADAPTERS and FITTINGS.** Make your P.A. mike equipment more versatile. For use with most all microphones.

Stock No.	Fig.	Description	Wt.	EACH
41 H 996	S	"Y" Mike Connector	2 oz.	.99
57 S 189	T	Flexible 13" Gooseneck	1 lb.	1.62
57 S 206	T	Flexible 19" Gooseneck	1 $\frac{1}{2}$ lbs.	2.35
57 S 187	U	Snap-on Mike Attachment	1 lb.	1.62
57 S 207	V	Cable Hanger; fits all stems $\frac{7}{8}$ " to 1 $\frac{1}{4}$ " in diameter	$\frac{1}{2}$ lb.	1.62
41 H 946	W	Mike Volume Control; HI-imp.	6 oz.	4.17
57 S 106	X	3" Extension Rod; $\frac{5}{8}$ "-27 ends	3 oz.	.38
57 S 105	X	6" Extension Rod; $\frac{5}{8}$ "-27 ends	4 oz.	.44
41 H 950	Y	Push-to-Talk Switch with lock	6 oz.	1.89
57 S 115	Z	"Save-Ur-Mike" Plastic Cover	2 oz.	.69
57 S 190	AA	Bracket Clamp; 6" stem	1 lb.	2.06
57 S 204		Gyromatic Mike Lock Swivel	1 $\frac{1}{2}$ lbs.	2.79

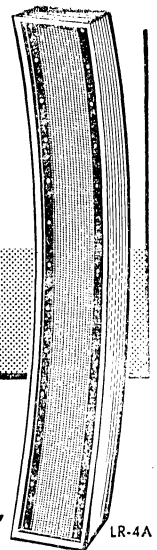
**ATLAS MICROPHONE STAND ADAPTERS.** Suitable for both desk and floor-type microphone stands. Chrome-plated for long wear, easy installation, glistening appearance. Thread sizes specified as  $\frac{1}{2}$ " pipe are International Pipe Standard.  $\frac{5}{8}$ " diameter, 27 threads-per-inch is standard—fittings can be used with all Atlas microphone stands on this page. Shpg. wt.: Models AD1, AD2, AD3, AD4, and AD5, 2 oz.; Models AD11 and AD12, 6 oz.

Stock No.	Type	Fig.	Description	EACH
57 S 108	AD1	CC	For adapting RCA mikes. $\frac{1}{2}$ " male to $\frac{5}{8}$ "-27 female.	53¢
57 S 198	AD2	BB	$\frac{1}{8}$ " pipe female to $\frac{5}{8}$ "-27 male.	38¢
57 S 199	AD3	DD	$\frac{1}{8}$ " pipe female to $\frac{5}{8}$ "-27 female.	38¢
57 S 201	AD4		$\frac{3}{4}$ " long $\frac{5}{8}$ "-27 male coupling.	20¢
57 S 202	AD5	DD	$\frac{5}{8}$ "-27 to $\frac{5}{8}$ "-27 female coupling.	38¢
57 S 104	AD11	FF	Mike base flange. Female. $\frac{5}{8}$ "-27.	44¢
57 S 103	AD12	EE	Mike base flange. Male. $\frac{5}{8}$ "-27.	44¢

# "Sound Columns" for Uniform Sound Level



The Sound Column (Line Radiator) offers uniform loudness over a wide horizontal area. Consists of several speakers arranged one above another in a special enclosure. People in front are not blasted by sound. People in back hear as well as those in front! Feedback is greatly reduced. Simple to install—no complicated planning or installation fees.



LR-4A

**University Argos**

Choose from three famous brands for the newest in P.A. Speaker Systems

**Electro-Voice**

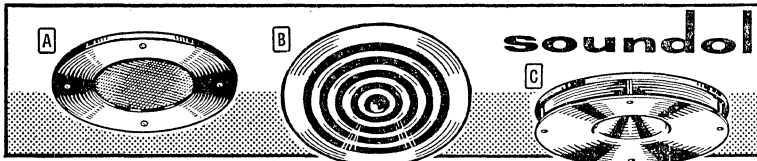
**UNIVERSITY MODEL CS-4.** Provides excellent music and voice reproduction—higher sound output without feedback. Gives high power-handling capacity while maximizing directional characteristics of the sound column design. "Acoustic Tapering" gives uniform dispersion and response. Uses four 8" extended-range speakers with coaxially-mounted subsidiary radiators. Capacity, 80 watts. 70-17,000 cps. Impedance, 8 ohms. Dispersion: horizontal, 120°; vertical, 22°. Neutral finish—waffle grille. 40 $\frac{3}{8}$  x 11 x 9 $\frac{1}{8}$ ". Shpg. wt., 55 lbs.  
57 DZ 531.....127.35

**ARGOS MODEL SD-1060.** Splendid for conference rooms, smaller restaurants, etc. Easy to move from place to place. Has exclusive "focusing" adjustment for optimum coverage. Just determine room-length, and turn set-screw until built-in pointer coincides with room length scribed on built-in gauge. Covered in rich walnut-grain pyroxylin—plastic cane grille cloth. Six wide-range speakers. 30-watt capacity. 200-10,000 cps. 8 ohms. Dispersion: horizontal, 120°; vertical, 15-22°. 30 $\frac{1}{2}$  x 7 x 3 $\frac{1}{8}$ " deep. With mtg. clips. 17 lbs.  
57 DX 877.....39.10

**E-V MODEL LR4A CURVED LINE RADIATOR.** Wide-range projector designed specifically to control feedback in difficult P.A. installations for natural sound reinforcement. Has twelve speakers. Capacity, 25 watts. 150-10,000 cps. Impedance, 8 ohms. Dispersion: horizontal, 160°; vertical, 60°. Neutral Tan. 49 $\frac{1}{2}$  x 7 x 13". 25 lbs.  
57 DZ 529.....73.50

**E-V MODEL LR4SA STRAIGHT LINE RADIATOR.** Horizontal, 160°; vertical, 30°. Impedance, 16 ohms. 52 $\frac{1}{2}$  x 7 $\frac{1}{2}$  x 4 $\frac{3}{8}$ ". 19 lbs.  
57 DX 698.....82.32

## CEILING AND WALL-MOUNTING BAFFLES



**soundolier**

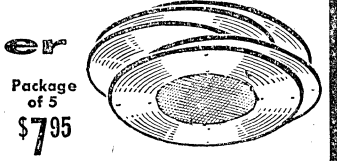
**A MODEL 61-8 TRIM-RING BAFFLE.** Highly polished 20-gauge steel. Attractive flush appearance. Will not "give" or buckle when installed. For 8" speakers only. O.D., 12 $\frac{3}{4}$ ". Hole-size required, 8 $\frac{1}{2}$ ". Use with 95-8 protective enclosure, at right. Less speaker. Shpg. wt., 1 lb.  
57 DX 548. 1-4.....EACH 2.95  
5-Up.....EACH 2.59

**C MODEL 68-8 LOW-CEILING BAFFLE.** Attractive styling. Has satin-brushed aluminum sound diffractor to avoid "beaming" in low-ceiling use. For 8" speakers only. O.D., 12 $\frac{3}{4}$ ". Hole-size required, 8 $\frac{1}{2}$ ". Use with 95-8 protective enclosure, below. Less speaker. Shpg. wt., 2 lbs.  
57 DX 547. 1-4.....EACH 6.93  
5-Up.....EACH 6.07

**B MODEL 67-8 LOUVERED BAFFLE.** Similar to air diffusers in appearance—produces fine sound. Welded construction makes unit vibration and rattle-free. For 8" speakers only. O.D., 12". Hole-size required, 10 $\frac{1}{4}$ ". Use with 95-8 protective enclosure, at right. Less speaker. 1 $\frac{1}{2}$  lbs.  
57 DX 546. 1-4.....EACH 4.53  
5-Up.....EACH 3.98

**MODEL 95-8 PROTECTIVE ENCLOSURE.** Installs in new or existing ceilings. Enclosures mount through 4 holes in flange in existing ceilings. For new construction, 4 straps install in plaster. Undercoated, jute lined. For use with: 51-8, 61-8, 67-8, 68-8. O.D., 9 $\frac{7}{8}$ ". Depth, 4 $\frac{1}{4}$ ". 10 lbs.  
57 DX 550. 1-4.....EACH 4.86  
5-Up.....EACH 4.26

## BUY IN BULK

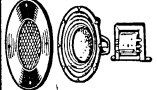


Package of 5  
**\$795**

**MODEL 51-8 TRIM-RING BAFFLES.** Take advantage of lot-price savings—have a complete 5-baffle system for less than \$1.60 per unit. Suitable for music-intercom systems, restaurants, office paging, etc., when combined with protective enclosures 95-8 (at left) and 8" speakers.

Steel baffles are ruggedly made and ideal for fast installation. Offer attractive flush appearance when installed—may be painted to match any motif desired. Outer diameter, 12 $\frac{3}{4}$ ". Hole-size required, 8 $\frac{1}{2}$ ". 5 baffles per package. Shpg. wt. per package, 1 lb.  
57 DX 502. Pkg. of 5.....7.95

## SPEAKER-BAFFLE PACKAGES

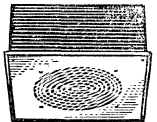


Packages consist of baffle, 8" speaker and transformer. Utah speaker has 3.16-oz. magnet. Response, 40-15,000 cps. Transformer has 2/1.5 ohms, and 70.7-v. taps.

Stock No.	Mfr's Type	Includes Baffle No.	Wt., Lbs.	EACH	
				1-4	5-Up
57 DX 837	PK-51-8	51-8	6	9.18	8.05
57 DX 838	PK-61-8	61-8	6	9.94	8.56
57 DX 829	PK-67-8	67-8	8	11.33	9.95
57 DX 830	PK-68-8	68-8	6	13.72	12.04
57 DX 831	PK-169-8	169-8	6	9.18	8.05

## SQUARE BAFFLES and ENCLOSURES

**MODEL 169-8 TRIM SQUARE BAFFLE.** Constructed of 24-gauge steel. Gleaming white finish. Complete with all mounting hardware. Fits protective enclosure 193-8, below. 10 $\frac{1}{2}$ " square. Less speaker. Shpg. wt., 2 lbs.  
57 DX 554. 1-4.....EACH 2.37  
5-Up.....EACH 2.08

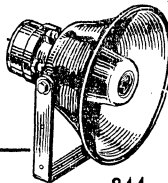


**MODEL 193-8 PROTECTIVE ENCLOSURE.** Made to fit 169-8 trim square baffle above. Extra-sturdy, all-welded metal. Undercoated to resist moisture, rust, and corrosion. Has 4 conduit knockouts. Less speaker. 9 $\frac{5}{8}$  x 9 $\frac{5}{8}$  x 3 $\frac{3}{4}$ ". Shpg. wt., 8 lbs.  
57 DX 555. 1-4.....EACH 3.96  
5-Up.....EACH 3.47

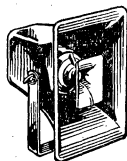
# Speakers, Trumpets and Drivers for Industrial Sound

## Electro-Voice

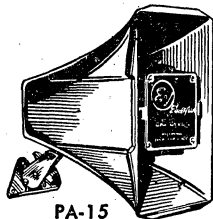
World-Famous  
Public Address Equipment



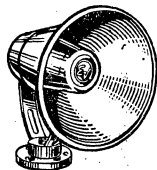
844



847  
CDP



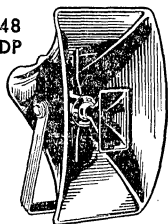
PA-15



PA-7

ELECTRO-VOICE'S FINEST QUALITY  
COMPOUND DIFFRACTION PROJECTOR

848  
CDP



**\$48<sup>51</sup>**

Compound Driver for Wide-Angle Coverage with Low Distortion

## ELECTRO-VOICE SOUND EQUIPMENT

### PAGING SPEAKERS AND COAXIAL PROJECTORS

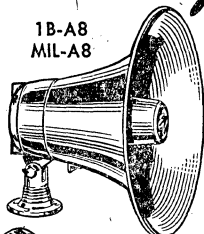
High-efficiency re-entrant type paging speakers and coaxial projectors for outdoor or indoor applications. Models PA-15, PA-7 and 844 speakers have rugged die-cast horns. Ideal for police and emergency vehicles. Compound projectors have a single driver—feature virtually indestructible spun fiberglass construction, and offer wide horizontal dispersion and a smooth frequency response from two horns coupled to opposite sides of the driver diaphragm. All units are weatherproof; Suffix CDP in manufacturer's type no. indicates Compound Diffraction Projectors. Supplied with drivers and mounting brackets. Install easily—sturdy brackets assure secure mounting. \*Wattage.

Stock No.	Mfr's Type	Frequency Response	* W.	Dispersion	Ohm	Size	Wt., Lbs.	EACH
57 DX 819	PA-7	400-13,000	7 1/2	120°	16	6 3/4 x 6"	6	16.67
57 D 676	PA-15	350-13,000	15	120°	8	8 3/4 x 5 3/4 x 8 3/8"	5 1/2	19.99
57 DU 540	848 CDP	150-10,000	30	120°	16	20 1/2 x 10 1/2 x 20"	18	48.51
57 DX 542	847 CDP	250-10,000	25	120°	16	11 3/4 x 7 3/4 x 10 1/2"	13	29.99
57 DX 544	844	250-13,000	30	90°	8	9 7/8 x 8 3/16"	13	22.93

## University

GENERAL-PURPOSE  
ECONOMY SPEAKERS

1B-A8  
MIL-A8



as low as  
**\$16<sup>67</sup>**

High Power Capacity with Improved Lower Frequency Response

## UNIVERSITY SPEAKERS, TRUMPETS, and HEAVY-DUTY DRIVERS

### PAGING AND TALK-BACK SPEAKERS

Highly efficient reflex-type air-column reproducers. All speakers listed below are complete driver-trumpet units, designed for maximum speech intelligibility. Speakers are weatherproofed, rugged and reliable. Driver units are hermetically-sealed PM dynamic types. LIL-8 is a smart, decorator-styled pager; IB-A8 is for general purpose; CIB-A8 features wide-angle design for uniform coverage. MIL-A8 and CMLL-A8 for low-power systems. IBR-A8 for widest dispersion. Complete with mounting accessories. All have 8-ohm impedance. \* (Height, Width, Depth for CIB-A8 and CMLL-A8.) †Wattage.

Stock No.	Mfr's Type	Frequency Response	† W.	Dispersion	Dia.	Length	Wt., Lbs.	EACH
57 DX 818	LIL-8	300-10,000	15	110°	6 7/8"	15 3/4"	8	24.45
57 DX 504	IB-A8	250-13,000	25	90°	10 1/4"	9"	8	20.29
57 DX 515	CIB-A8	250-13,000	25	120x60°	.....	*7 3/8 x 14 x 12"	9	27.05
57 D 569	MIL-A8	350-13,000	7 1/2	120°	6 3/8"	7"	3 1/4	16.67
57 D 572	CMLL-A8	350-13,000	7 1/2	120x60°	.....	*6 7/32 x 9 1/2 x 8 7/16"	4	19.25
57 DX 516	IBR-A8	300-10,000	25	360°	13"	10 1/4"	9	28.71

### DIRECTIONAL REFLEX TRUMPETS

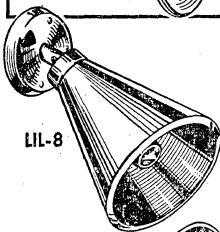
Directional P.A. trumpets produce deep sound-penetration with a narrow distribution angle. Excellent for applications where an exceptionally "long throw" is necessary, or for areas where high noise levels have to be overcome. The large horn diameters of the units listed below provide a sharper distribution pattern than would be obtained with smaller units—provide more sound intensity along the speaker axis. (Model SMH is for voice reproduction only.) With mounting brackets. Less drivers, below.

Stock No.	Mfr's Type	Low Cutoff	Dispersion	Length	Dia.	Wt., Lbs.	EACH
57 DZ 563	PH	150 cps	85°	15 3/4"	20 1/4"	11 3/4"	20.07
57 DZ 564	SMH	200 cps	95°	12"	16 1/4"	8	16.98
57 DU 559	CLH	120 cps	120x60°	21 1/2 x 11 1/2"	20"	15	27.34
57 DX 543	2WP	350 cps	120°	20 1/2"	8 1/2"	8	17.29
57 DX 566	Cobreflex II	200 cps	120x60°	18 1/2 x 9 1/4"	10 1/4"	10 1/4"	23.67

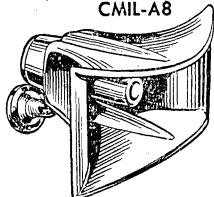
### HEAVY-DUTY DRIVERS FOR TRUMPETS

Top-quality drivers for any trumpet listed above. All are PM type, hermetically sealed, with 16-ohm impedances. ID-40T has built-in multi-impedance transformer with power taps—for use with 70.7-volt system.

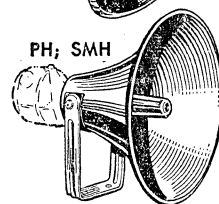
Stock No.	Mfr's Type	Frequency Range	Wattage of Taps	Max. Watts	Wt., Lbs.	EACH
57 D 573	ID-20	120-6500	.....	20	3	14.70
57 D 574	ID-30	85-7500	.....	30	3 3/4	18.52
57 D 575	ID-40	80-12,000	.....	40	4 1/2	23.23
57 D 576	ID-40T	80-12,000	40, 20, 10, 5, 2.5	40	5 1/4	31.02



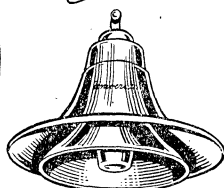
LIL-8



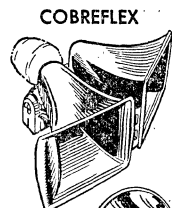
CIB-A8  
CMLL-A8



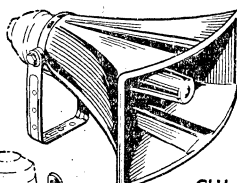
PH; SMH



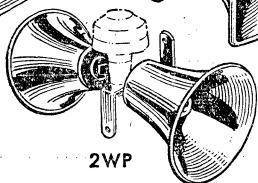
IBR-A8



COBREFLEX

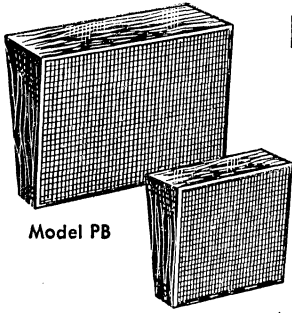


CLH



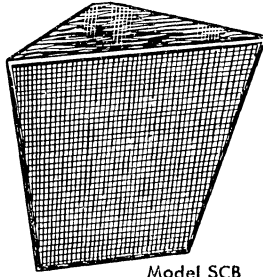
2WP

# High-Efficiency Baffles by . . . Argos

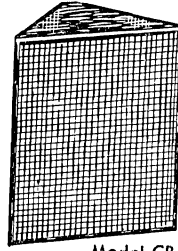


Model PB

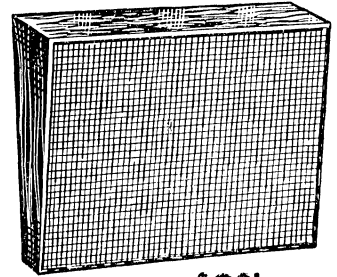
Models DWB/WB



Model SCB



Model CB



Low as \$6.61

## "PRESTIGE" WALL-MOUNTED BAFFLES

New rectangular shape—ideal where extra air volume and larger appearance are needed. Give almost twice the internal cubic footage for far better sound quality. Include "Speedy Mounting" clips for easy hanging. Wood-grained pyroxylin covered, with plastic grilles. Available in walnut or blonde finish—specify choice.

Stock No.	Model	Size	For	Lbs.	1-5, EA.	6-Up, EA.
57 DX 527C	PB-8A	10 $\frac{3}{4}$ x14x7"	8"	7	5.73	5.42
57 DX 528C	PB-12A	13 $\frac{3}{4}$ x18 $\frac{1}{4}$ x9"	12"	9	8.09	7.65

## DELUXE WOOD WALL BAFFLES

Beautifully finished baffles for the finest surroundings. Of genuine birch with durable plastic grille. All hardware and mounting clips included. In walnut or blonde finish—specify choice.

Stock No.	Model	Size	For	Lbs.	1-5, EA.	6-Up, EA.
57 DX 523C	DWB-8A	10 $\frac{1}{2}$ x9 $\frac{3}{4}$ x6 $\frac{1}{2}$ "	8"	6	5.88	5.60
57 DX 524C	DWB-12A	14x13 $\frac{3}{8}$ x9 $\frac{1}{8}$ "	12"	8	8.23	7.80

## LOW-COST WALL-MOUNTED BAFFLES

Wood baffles, pyroxylin covered. Can be washed or repainted. All hardware included. Blonde or walnut finish—specify.

Stock No.	Model	Size	For	Lbs.	1-5, EA.	6-Up, EA.
57 D 590C	WB-4/5C	6 $\frac{1}{8}$ x6 $\frac{1}{4}$ x4"	4-5"	1 $\frac{1}{2}$	2.89	2.73
57 D 592C	WB-6C	8 $\frac{1}{2}$ x7 $\frac{7}{8}$ x5 $\frac{5}{8}$ "	6"	2	3.53	3.34
57 D 591C	WB-8C	10 $\frac{1}{2}$ x9 $\frac{3}{4}$ x6 $\frac{1}{2}$ "	8"	3	4.22	3.98
57 DX 526C	WB-12C	14x13 $\frac{3}{8}$ x9"	12"	8	5.73	5.42

## SLANTING-FRONT CORNER BAFFLES

"Clip-In" front goes on or off in seconds without front screws—entire cabinet mounts easily on wall with "Speedy Mounting" clips. Bass-reflex type. Screw terminals; acoustic padding. Wood-grained pyroxylin covered. Walnut or blonde finish—specify.

Stock No.	Model	Size	For	Lbs.	1-5, EA.	6-Up, EA.
57 DX 510C	SCB-8D	15x17 $\frac{3}{4}$ x9"	8"	8	8.18	7.73
57 DX 511C	SCB-12D	20x20 $\frac{3}{4}$ x10 $\frac{1}{2}$ "	12"	11	11.02	10.42

## STRAIGHT-FRONT CORNER BAFFLES

As above, but straight-front. Walnut or blonde finish—specify.

Stock No.	Model	Size	For	Lbs.	1-5, EA.	6-Up, EA.
57 DX 512C	CB-8D	14x12 $\frac{1}{4}$ x6 $\frac{1}{2}$ "	8"	7	7.35	6.95
57 DX 513C	CB-12D	20x18x9"	12"	11	10.58	9.97

## MODERN THINLINE

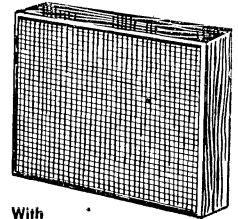
### BAFFLE WITH JENSEN HEAVY-DUTY SPEAKER

Modern-looking, space-saving baffles complete with heavy-duty ceramic-magnet Jensen speaker, installed and wired. Available with optional L-pad and/or 70.7-volt transformer. Handy screw terminals—no soldering is necessary. Pyroxylin covering is easy to clean—provides lasting beauty. Complete with "Speedy Mounting" clips for easy set-up. Series 208 are 8", 15-watt rating. Series 212 are 12", 18-watt rating. Type 108 is 8", 6-watt—excellent for background music. Letter "L" in model number indicates L-pad; letter "T" in model number indicates 70.7-volt transformer. All speakers have 8-ohm impedance. Available in choice of walnut or blonde finish—specify choice.

Stock No.	Model No.	Baffle Size	Wt., Lbs.	EACH	
				1-5	6-Up
57 DX 505C	WB-108AS	9 $\frac{1}{2}$ x12x4 $\frac{1}{4}$ "	6	7.01	6.61
57 DX 506C	WB-208S	9 $\frac{1}{2}$ x12x4 $\frac{1}{4}$ "	7	10.19	9.68
57 DX 507C	WB-208SL	9 $\frac{1}{2}$ x12x4 $\frac{1}{4}$ "	7	12.59	11.97
57 DX 825C	WB-208SLT	9 $\frac{1}{2}$ x12x4 $\frac{1}{4}$ "	8	14.99	14.24
57 DX 508C	WB-212S	13 $\frac{3}{4}$ x16x6 $\frac{1}{4}$ "	10	14.85	14.10
57 DX 509C	WB-212SL	13 $\frac{3}{4}$ x16x6 $\frac{1}{4}$ "	10	17.25	16.39
57 DX 827C	WB-212SLT	13 $\frac{3}{4}$ x16x6 $\frac{1}{4}$ "	11	19.65	18.67

## NEW WALL/CEILING BAFFLES

Contemporary design in top performing, extremely versatile baffles. Wood-grained pyroxylin covering; plastic cane grille. Supplied complete with volume control; all hardware including "Speedy Mounting" clips. MBX models are surface-mount; MBR are recess-mount—require 6" speaker cut-out. L in model no. indicates L-pad; T indicates 70.7-volt transformer. All take 8" speakers. Available in choice of walnut or blonde finish—specify your choice.

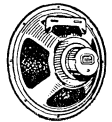


With Volume Control

Stock No.	Model No.	Baffle Size	Wt., Lbs.	EACH	
				1-5	6-Up
57 DX 846C	MBX-8S	14x10 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	9	11.66	11.02
57 DX 847C	MBX-8SL	14x10 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	9	14.11	13.33
57 DX 848C	MBX-8SLT	14x10 $\frac{1}{2}$ x3 $\frac{1}{2}$ "	9	16.51	15.66
57 DX 849C	MBR-8S	14x10 $\frac{1}{2}$ x1 $\frac{1}{2}$ "	8	11.37	10.74
57 DX 879C	MBR-8SL	14x10 $\frac{1}{2}$ x1 $\frac{1}{2}$ "	8	13.82	13.06
57 DX 876C	MBR-8SLT	14x10 $\frac{1}{2}$ x1 $\frac{1}{2}$ "	9	16.22	15.41

## SELECTED P.A. SPEAKERS and LINE TRANSFORMERS

Quam



### LINE-TO-VOICE-COIL TRANSFORMERS

Economy-priced, high-quality transformers constructed of quality materials. Carefully made for high performance and dependability of operation. Excellent for replacement applications as well as installation in new equipment. Recommended for Public Address sound equipment on these 2 pages. Nos. 57 D 820 and 57 D 821 are 70.7 volts. Nos. 57 D 822 and 57 D 823 are 25 volts. Secondary impedances of 4, 8, and 16 ohms. Average shpg. wt., 1 lb.

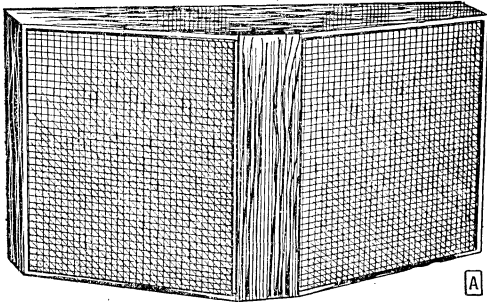
Stock Number	Watt Taps	Size	EACH	
			1-11	12-Up
57 D 820	5, 2.5, 1.25, .62, .31	$\frac{1}{2}$ x3 $\frac{3}{8}$ "	1.59	1.45
57 D 821	10, 5, 2.5, 1.25, .62	$\frac{3}{8}$ x3 $\frac{3}{8}$ "	1.69	1.57
57 D 822	5, 2.5, 1.25, .62, .31	$\frac{3}{8}$ x3 $\frac{3}{8}$ "	1.59	1.47
57 D 823	10, 5, 2.5, 1.25, .62	$\frac{7}{8}$ x3 $\frac{3}{8}$ "	2.24	2.05

### QUALITY P.A. SPEAKERS

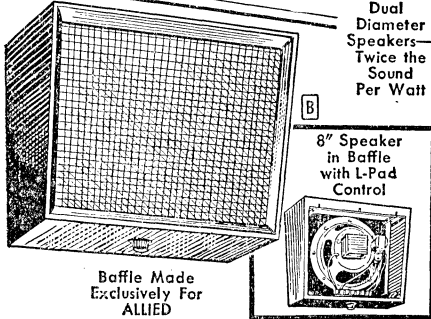
Alnico V magnets; baked enamel finish; Ad-just-A-Cone suspension. 8 ohms. 8A6PAOT is weather-proofed. \*Ring-type magnet.

Stock No.	Mfr's Type	Size	Watts	Magnet Wt.	Lbs.	EACH
57 D 650	8A21PA	8"	8	2.15 oz.	1 $\frac{1}{2}$	4.82
57 D 651	8A31PA	8"	10	3.16 oz.	2	5.59
57 D 654	8A4PA	8"	12	4.64 oz.	3	6.47
57 D 655	8A6PA	8"	12	6.8 oz.	4	7.64
57 D 599	8A6PAOT	8"	12	6.8 oz.	4	8.06
57 DX 536	12A31PA	12"	12	3.16 oz.	6	7.03
57 DX 537	12A4PA	12"	15	4.64 oz.	6	8.38
57 DX 538	12A6PA	12"	15	6.8 oz.	7	9.38
57 DX 539	12A10PA*	12"	25	10.0 oz.	8	11.73





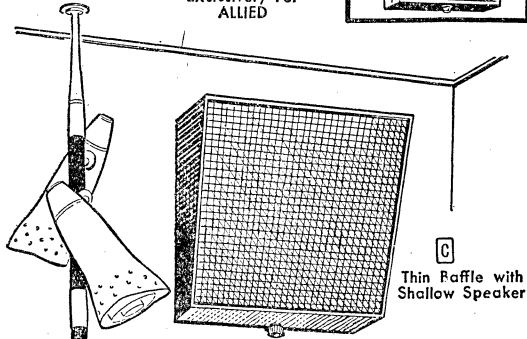
NEW 2-Speaker Wide-Angle Baffle



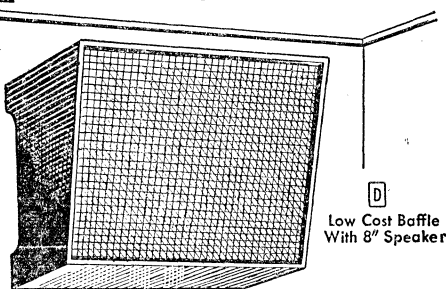
Dual Diameter Speakers—Twice the Sound Per Watt

8" Speaker in Baffle with L-Pad Control

Baffle Made Exclusively For ALLIED



Thin Baffle with Shallow Speaker



Low Cost Baffle With 8" Speaker

### E UNIQUE CEILING Baffle-SPEAKER

Really convenient—eliminates the need of making ceiling cut-outs. This fine-performing speaker-baffle combination measures only 2½" deep—quickly mounts on ceilings ¾" to ¾" thick with mounting hardware supplied. The exceptionally shallow cone and basket of this newly designed Utah speaker make possible the total depth of only 2½"—while maintaining very high sensitivity and extremely wide frequency response. Excellent for voice and music. Size, 2½x12½x12½". Capacity, 6 watts. Impedance, 8 ohms. Handsomely styled in light beige. Finish may be repainted to match any existing color scheme. Shpg. wt., 10 lbs.

57 DX 844..... 9.95  
57 DX 845. Shallow Speaker Only, 6 lbs..... 5.65

### A TP-88 WIDE-ANGLE SPEAKER/BAFFLE COMBINATION

Latest addition to Utah's line of deluxe speaker-baffle combinations. Unique design uses two 8" shallow-cone speakers mounted at oblique angles to each other—effectively distributes music to all corners of the room. Enclosure measures only 4" deep at center and tapers to 2" at outside edges. Full 180° sound dispersion and attractive modern styling make it suitable for use in restaurants, clubs, schools and offices. Speakers feature efficiency and power boosting dual-diameter design. One specially machined, permanent magnet combines two magnetic field alignments into a single unit and delivers twice the sound per watt. Results in increased economy in any installation due to lower sound power requirements. Enclosure made of durable ¾" plywood. Thin, compact design permits easy installation anywhere. Overall size, 10x20x4". Power handling capacity, 15 watts. Impedance, 8 ohms. Includes all necessary mounting hardware; screw terminal board for connection to amplifier. Available in fine walnut or blonde furniture finishes. Shpg. wt., 9 lbs.

57 DX 841 C. Specify Finish..... 19.90

### B 8-OHM WALL SPEAKER-BAFFLE COMBINATION

Ruggedly constructed, tastefully styled and completely wired, it's a wonderful choice as an extension speaker for the recreation room or den. Delivers twice the sound per watt! Features dual-diameter 8" speaker with 10-watt capacity; L-pad volume control; 8-ohms impedance. 9½x12x6". Available in choice of mahogany, walnut or blonde finish. Shpg. wt., 8 lbs.

57 DX 552 C. Specify Finish..... 13.95

70.7-VOLT SPEAKER-BAFFLE. As above, plus 10-watt, 70.7-volt transformer for multiple speaker installations. 7 lbs.

57 DX 553 C. Specify Finish..... 15.95

8-OHM SPEAKER ONLY. With wired L-pad, 18" cable. 3 lbs.

57 D 570..... 6.65

70.7-V. SPEAKER. As above, for 70.7-v. systems. 4 lbs.

57 D 571..... 8.65

### C EXTRA-THIN SPEAKER-BAFFLE COMBINATION

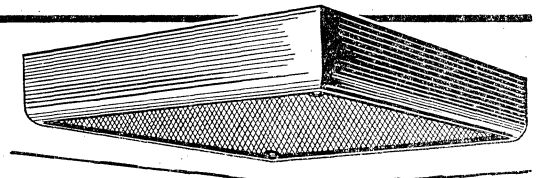
This streamlined, thin silhouette sloping baffle can be hung on the wall just as easily as you hang a picture. Use it as a remote speaker to carry hi-fi music to other rooms in the home—also excellent for use in offices, dens, on patios, and many other applications. Features the remarkable 8" shallow speaker designed by Utah to give twice the sound per watt. Built-in L-pad volume control allows you to adjust the remote speaker volume without changing setting at the main source. Size, 9" high, 12" wide and 4" deep. Power handling capacity, 6 watts. Impedance, 8 ohms. Available in choice of two handsome wood grain finishes, blonde, or walnut. Finish may be repainted to match surrounding decorative motif. Beige grille cloth matches finish ordered. Comes complete with all mounting hardware and instructions plus convenient screw terminal connections. Shpg. wt., 5 lbs.

57 DX 842 C. Specify Finish..... 10.95

### D NEW LOW-COST EXTENSION SPEAKER-BAFFLE

Compact and lightweight, this all-wood wall baffle and speaker combination gives realistic reproduction of voice and music. Use as low-cost extension speaker system with hi-fi or stereo sets, television sets, radios, etc. Excellent for use in dens, patios, offices, kitchens, bedrooms, or wherever background music is desired. Features the highly efficient Utah 8" speaker—permits the use of lower-powered, less expensive amplifiers. Baffle is ruggedly constructed to eliminate disturbing rattles and vibrations. Comes complete with all necessary mounting hardware for quick, easy installation. Has convenient screw terminals for connection to amplifier. Size, 9½x12x3". Power handling capacity, 6 watts. Impedance, 8 ohms. Available in choice of two attractive finishes, blonde and walnut. Tasteful light beige grille cloth perfectly matches either finish ordered. With mounting hardware. Shpg. wt., 8 lbs.

57 DX 843 C. Specify Finish..... 9.95



Ideal for Tiled or Regular Ceilings—Needs No Cut-Out



# Selected Industrial Electronics Books

## ALLIED'S OWN POPULAR ELECTRONICS PUBLICATIONS

### ELECTRONICS DATA HANDBOOK

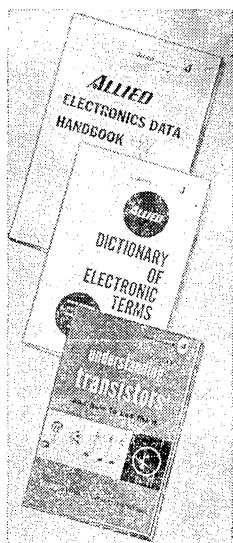
Newly revised handbook, edited by Nelson M. Cooke, Lt. Commander, U.S.N. (Ret.). Contains a comprehensive listing of formulas, symbols, data, standards, tables and charts used in solution of everyday problems encountered in all fields of electronics. Packed with essential information for students, servicemen, engineers, etc. Contents include Log and Trig tables; new transistor formulas and symbols; transistor amplifier circuit configurations; EIA and military color codes for resistors, capacitors, and chassis wiring; math constants; db ratios; speaker matching and coil winding formulas; tube and pilot lamp data; interchangeable tube data, American and Foreign; etc. 88 pages. 6x9".

37 K 398.....50

### DICTIONARY OF ELECTRONIC TERMS

Don't guess the meaning of that technical term! Look it up in Allied's dictionary and be sure. Provides up-to-date, clear definitions of more than 3800 electronics terms encountered in general commercial and professional usage. Edited by Robert E. Beam, Ph.D., Professor of E.E., Northwestern U. Includes over 125 illustrations and diagrams. Appendix covers the EIA color code, standard schematic symbols, Greek alphabet, letter symbols for vacuum tubes, series-parallel formulas, abbreviations, etc. Also has Ohm's Law, how to get started in Amateur radio, and a special section with definitions of terms used in Citizens Band radio. A valuable reference for everyone in electronics. 88 pages. 6x9".

37 K 756.....50



### UNDERSTANDING TRANSISTORS—AND HOW TO USE THEM

A clearly written presentation on transistor applications, characteristics, and construction. Ideal for home study—unexcelled for supplementing a course in electronics, whether the student's interest is primarily in transistors, or electronics in general. Circuit theory, as related to transistor operation, is discussed in simple terms. Discusses in simple

terms: NPN, PNP, alloy-junction, drift, tetrode, surface barrier, power types, etc. Contains transistor symbols, diagrams of various amplifier circuits, interesting transistorized construction projects for useful and exciting devices. 96 pages of valuable information. Size, 5½x8½".

37 K 602.....50

**ATTENTION: Schools, Colleges, Libraries, Training Classes, Book Stores—Write for special quantity prices on any Allied publication!**

### HOWARD W. SAMS COMPUTER BASICS SERIES

An encyclopedic 6-volume course in electronic computer theory, design, operation and maintenance. Considered a definitive study that covers the complete technology of computers and data-processing—past, present and future. Well illustrated.

37 K 490. Volume 1. Introduction to Analog Computers. 288 pages. Size, 5½x8½"......4.95

37 K 491. Volume 2. Analog Computers—Mathematics and Circuitry. 224 pages. 5½x8½"......4.95

37 K 492. Volume 3. Digital Computers—Mathematics and Circuitry. 224 pages. 5½x8½"......4.95

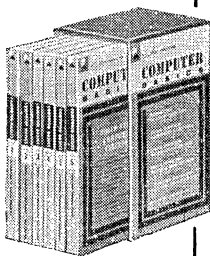
37 K 494. Volume 4. Digital Computers—Storage and Logic Circuitry. 256 pages. 5½x8½"......4.95

37 K 495. Vol. 5. Analog/Dig. Computers—Organization, Program, Maint. 224 pgs. 5½x8½". 4.95

37 K 502. Volume 6. Solid-State Computer Circuits. 224 pages. Size, 5½x8½"......4.95

37 K 693. Volumes 1-6. In sturdy slipcase.....27.00

1,440  
Pages  
1,123  
Illus.  
55  
Chapters  
300  
Review  
Exercises

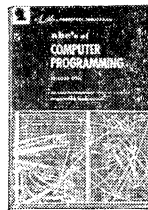


6-Vol. in Case  
SAVE \$2700  
\$2.70

**NEW!**

### ABC'S OF COMPUTER PROGRAMMING

An Invaluable Guide to Computer Technology



By the staff of Howard W. Sams. A complete, easy-to-understand introduction to the principles and applications of digital computer programming. Begins with simple sub-programs and progresses to intricate assembly and compiler programs. Chapters include: What is Programming?; Fundamentals of Programming; Programming Instructions; Programming Algebra; etc. 128 pages. 5½x8½".

37 K 789.....1.95

### ELEMENTS OF TRANSISTOR TECHNOLOGY

By Robert G. Middleton (Sams Publications). A practical coverage of transistor principles and applications. Of special value as a guide and reference work for students, technicians, and engineers. Chapters include: Principles of Transistor Action; Transistors as Circuit Components; Bias Stabilization and DC Feedback; Amplifier Fundamentals; Transistor Amplifier Equivalent Circuits; Audio Amplifiers with Negative Feedback; Fundamentals of Logic and Computers; etc. 288 pages. Hardbound. 5½x8½".

37 K 770.....6.95

### INDUSTRIAL TRANSISTOR

#### AND SEMICONDUCTOR HANDBOOK

By Robert B. Tomer (Sams). Modern sourcebook of industrial semiconductor data. All essential information is presented for understanding of the various types of semiconductors now available. Includes operating characteristics, circuit-design procedures, typical applications, and various processes used to manufacture semiconductors. Covers all newer semiconductor areas—thermoelectricity, energy conversion, power inverters and converters, epitaxial mesa transistors, etc. 256 pages. 5½x8½".

37 K 792.....4.95

### ELEMENTARY INDUSTRIAL ELECTRONICS

By Leonard C. Lane (Rider). 2-volumes. Detailed elementary course in industrial electronics meeting needs of service technicians already familiar with electricity and electronics, as well as students who want to learn about this fascinating field. Mathematics is held to an absolute minimum, and many "teaching" pictures and diagrams are used. Subjects covered include: relays and switching, magnetic amplifiers, motor control, electronic heating, instrumentation, etc. 344 pages. Softbound. 5½x8½".

37 K 796.....7.64

### EXPERIMENTS IN INDUSTRIAL ELECTRONICS

By Melvin Whitmer (Sams). A step-by-step introduction to industrial electronics that helps you learn by "doing." Presents building information for assembling typical industrial-electronics devices. Includes schematics, chassis layouts, photos, and parts list for each project. Chapters include: Introduction to Industrial Electronics; Photoelectric Controls; Electronic Timers; Electronic Heating; Measurement Transducers; Proximity Detector; DC Motor Controls; and Servo Systems. 96 pages. Size, 5½x8½".

37 K 303.....1.95

### BASIC INDUSTRIAL ELECTRONICS COURSE

By Alfred Haas (The Gernsback Library). A simplified, practical picture of this dynamic, profit-making electronics branch. The author has masterfully boiled down the apparently complex apparatus used in this field into a sense-making assembly of standard elementary circuits, power supplies and relays. This easy-to-understand approach includes an overall presentation of nearly every type of industrial-electronics units: regulators, servomechanisms, electronic heating and welding, automation, ignitrons, thyatronns, ultra-sonics, detectors, safety and alarm systems, etc. Fully illustrated. 224 pages. Paperback. 5½x8½".

37 K 777.....4.10

### ABC'S OF LASERS AND MASERS

By Allan Lytel (Sams). A complete explanation of principles involved in one of the most phenomenal devices ever developed—the LASER. Written in an understandable manner, for anyone with a fair grasp of high-school physics. After a basic discussion of quantum theory, the author progresses to simple explanations of the development of the MASER, and how these theories evolved into development of the Light MASER, or LASER. Chapters: LASERS and MASERS; Quantum Electronics; LASER Modulators and Detectors; LASER Power Supplies; LASER Communications; LASER Applications. With Glossary and Subject Index. 96 pages. 5½x8½".

37 K 771.....1.95

Allied Prepays Postage on All Books Mailed Within the U.S.A.

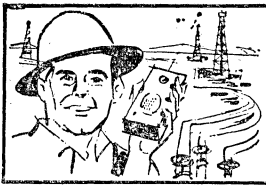
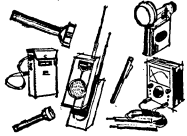
**ALLIED • 493**

# Burgess Portable Batteries

## BATTERIES FOR ALL APPLICATIONS

- Allied's Selection Includes Most Up-to-Date Types
- Rapid Turnover Assures a Continuous Fresh Supply

Incorporate chrome for guaranteed freshness, silver wax for improved cell-to-cell conductivity and steel for protection of conductivity in handling. Zinc carbon types are for general use; alkaline, for high and constant drain; nickel-cadmium, for compact, hermetically sealed rechargeable applications.



### PORTABLE BATTERIES FOR TRANSISTOR RADIOS

Stock No.	Mfr's Type	Price	Volts	Size	Wt. Lbs.	Replaces			
						Eveready	Mallory	RCA	NEDA
55 J 769	2MN6	.65 ea.	9	1x3 <sup>9</sup> / <sub>16</sub> x17 <sup>7</sup> / <sub>8</sub> " dia.	1/8	216		VS323	1602
55 J 661	2N6	1.30 ea.	9	23/4x13/8x13/8"	1/8	246	M-1602	VS305	1602
55 JC650	2U6	.48 ea.	9	13/8x3 <sup>9</sup> / <sub>16</sub> x4 1/4"	1/8	216	M-1604	VS312	1604
55 J 105	2Z3	1.11 ea.	4 1/2	13/8x13/8x2 3/4"	1/8	243	M-1610	VS324	1610
55 J 860	7	Pkg. of 2 for .20	1 1/2	13/4x13/32" dia.	1/4	912	M-24F	VS074	400
55 J 861	130	Pkg. of 2 for .32	1 1/2	113/16x63/64" dia.	1/2	635	M-14R	VS335	14
55 J 862	230	Pkg. of 2 for .32	1 1/2	225/64x121/64" dia.	1/2	A100	M-13R	VS336	13
55 J 863	930	Pkg. of 4 for .64	1 1/2	131/32x39/64" dia.	1/2	1015E	M-15R	VS034	15
55 J 666	A4	.69 ea.	6	211/32x173/32x13/32"	3/4				
55 J 670	C6X	1.10 ea.	9	23/6x113/32x61/16"	1/4	2356			1612
55 J 098	D5	1.05 ea.	7 1/2	295/64x2x223/32"	7/8	707	M-26	VS315	26
55 J 652	D6	1.26 ea.	9	335/64x2x293/64"	1	276	M-1603	VS306	1603
55 J 667	D6P1	1.76 ea.	3, 6, 9	723/32x171/16x219/32"	1 1/2	2506	M-1601	VS301	1601
55 J 103	D6S	1.36 ea.	9	213/4x114x729/32"	1 1/2	2761	M-1608		1608
55 J 174	L6	.53 ea.	9	131/32x43/64" dia.	1/8	206		VS337	1611
55 J 102	M6	1.05 ea.	9	113/16x131/16x221/16"	1/2	266	M-1605	VS322	1605
55 J 864	NE	Pkg. of 6 for .48	1 1/2	1113/64x7/64" dia.	1 1/2				716
55 J 093	P6	.62 ea.	9	115/16x1" dia.	1/4	226		VS300	1600
55 J 770	PM6	.80 ea.	9	115/16x1" dia.	1/4	226		VS300	
55 J 657	XX9	1.05 ea.	9, 13 1/2	193/32x293/32x217/32"	1/4	239	M-1900	VS304	1900
55 J 364	Y6	.83 ea.	9	193/32x19/32x129/32"	1/8	E177		VS309A	1606

### PORTABLE "A" BATTERIES

55 J 865	1	Pkg. of 2 for .26	1 1/2	113/16x63/64" dia.	1/2	935	M-14F	VS035A	11P
55 J 051	2D	.84 ea.	1 1/2	295/64x193/32x231/32"	3/4	720	M-18	VS069	18
55 J 866	2R	Pkg. of 2 for .26	1 1/2	225/64x121/64" dia.	1 1/2	950	M-13R	VS036	13
55 J 644	21R	.32 ea.	1 1/2	413/8x121/64" dia.	1/2	964	M-20	VS236	20
55 J 041	B5	1.58 ea.	7 1/2	329/32x78x273/8"	1 1/2	713	M-8	VS129	8
55 J 044	C5	1.05 ea.	7 1/2	235/32x115/16x31/32"	3/4	717	M-9	VS065	9
55 J 052	D3	.95 ea.	4 1/2	378/32x151/6x213/16"	3/4	726	M-19	VS072	19
55 J 592	F3	.95 ea.	4 1/2	4x117/64x41/8"	1 1/4	736	M-3	VS067	3
55 J 053	T5	1.32 ea.	1 1/2	213/32x219/32x329/64"	1 1/2	W360			10
55 J 593	Z4	.70 ea.	6	131/6x131/6x273/32"	1/4	724	M-2	VS068	2

### PORTABLE "B" BATTERIES

55 J 570	A30	2.49 ea.	45	331/6x217/4x493/16"	13/4	W359	M-206	VS014	206
55 J 571	B30	3.29 ea.	45	41/6x217/32x593/16"	2 1/4	484	M-207	VS012	207
55 J 596	K45	2.42 ea.	67 1/2	211/6x191/6x21 1/4"	1 1/2	457	M-203	VS082	M203
55 J 576	M30	2.70 ea.	45	51/6x134x393/16"	2	482	M-202	VS013	M202
55 J 597	V60	3.15 ea.	90	311/6x193/32x319/32"	1	490	M-204	VS090	M204
55 J 669	N60X	3.47 ea.	90	178/16x113/32x71/8"	1 1/8	495	M216	VS316	216
55 J 645	P45	2.17 ea.	67 1/2	1293/32x11x393/32"	3/4	477	M211P	VS218	211P
55 J 651	P60	2.77 ea.	90	1293/32x11x713/32"	1	479	M-214	VS219	214
55 J 649	U30	1.75 ea.	45	1323/32x193/32x313/32"	1/4	415	M-213	VS086	213
55 J 668	UX45	2.07 ea.	67 1/2	1323/32x193/32x313/32"	1/2	416	M-217	VS318	217
55 J 772	V45	2.45 ea.	67 1/2	234x1113/32x343/64"	1	468			200
55 J 573	W30P1	2.33 ea.	45	231/32x173/32x329/32"	3/4	733	M-201		N30P
55 J 575	XX30	1.92 ea.	45	211/32x313/32x321/32"	3/4	455		VS055	201
55 J 574	XX45	2.45 ea.	67 1/2	234x1113/32x343/64"	3/4	467	M-200	VS016	200
55 J 586	XX50	3.15 ea.	75	1273/32x191/6x693/16"	1 1/4	437	M-212	VS217	212
55 J 581	XX69	4.60 ea.	103 1/2	1113/32x111/4x1123/32"	1 1/4	W361			69N
55 J 572	Z30	2.76 ea.	45	3x25/16x41/8"	1 1/2	738	M-205	VS015	205

### PORTABLE "AB" PACKS

Stock No.	Mfr's Type	Volts	Size	Wt. Lbs.	Price	Replaces			
						NEDA	RCA	Eveready	Mallory
55 J 654	4TZ60	1 1/2, 90	75/32x217/8x33/4"	4	4.38 ea.	425	VS064	729	M425
55 J 578	6TA60	1 1/2, 90	93/32x217/8x47/16"	4 1/2	5.48 ea.	410	VS054	W369	M410
55 J 589	F6A60P	9, 90	97/16x293/4x41 1/2"	6 1/2	5.57 ea.	406	VS058	757	M406
55 J 579	G6B60	9, 90	1329/32x213/6x421/32"	7	5.78 ea.	400	VS047	752	M400
55 J 653	TSZ50P	7 1/2, 75	812x311/32x23/6"	3 1/2	4.83 ea.	431	VS060	785	M431
55 J 587	T6Z60	7 1/2, 9, 90	231/6x83/16x313/16"	4 1/2	4.87 ea.	405	VS057W	756	M405



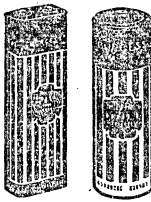
130 930



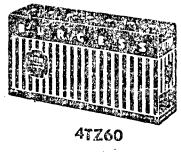
M6



C5



P45 21R



4TZ60

### 2U6 TRANSISTOR RADIO BATTERY



2U6

Equivalent to the following American-made batteries: Eveready 216; RCA VS-323; NEDA 1604; Ray-O-Vac 1604; Mallory M1604; General 179; Western Auto 3B6469; Marathon 1604; Montgomery Ward 123; Sears 6417; Zenith 216. Also fits most Japanese-made transistor portables. 17/8x3/4x1". Shpg. wt. 2 oz.

55 J C 650.....EACH .48

### XX45 PORTABLE RADIO "B" BATTERY

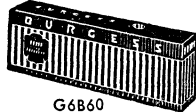


XX45

Replaces National Carbon 467; RCA VS-016; NEDA 200; Ray-O-Vac 200; Mallory M200; General 108; Bright Star 45N; Western Auto 3B6258; Marathon 4200; Montgomery Ward 43; Sears 6480; Zenith Z67. 67 1/2 volts. Snap-type terminals. Size 294x111/32x343/64". Shpg. wt., 12 oz.

55 J 574.....EACH 2.45

### G6B60 PORTABLE "A & B" BATTERY



G6B60

Equivalent of National Carbon 752; RCA VS-047; NEDA 400; Ray-O-Vac A400; Mallory M400; General 343; Bright Star 66-03; Marathon 5400; Montgomery Ward 37; Sears 6401; Zenith Z985. Volts: A section, 9; B section, 90. Size, 1329/32x213/6x421/32". Shpg. wt., 7 lbs.

55 J 579.....EACH 5.78

# Burgess Batteries

## BATTERIES FOR ALL PURPOSES

Choose from this extensive selection. Allied's rapid turnover of batteries throughout the year is your assurance of freshness. Battery power is never dissipated on our shelves.



Stock No.	Mfr's Type	Price	Volts	Size	Wt., Oz.	Replaces					
						RCA	Zenith	Sono-tone	Eveready	Acous-ticon	Ray-O-Vac
55 J 054	XX15	1.37 ea.	22½	1 1/32x1 9/16x3 7/8"	4				425P	22EW	PN15
55 J 055	XX22	1.72 ea.	33	2 1/32x3 1/2x4 1/4"	6				433P	33EW	PN22
55 J 060	XX30PI	2.10 ea.	45	2 1/32x3 1/2x4 1/2"	12		Z30	230	455P	45EW	PN30P
55 J 104	K-10	1.16 ea.	15	1 1/4x7/8x1 1/2"	2				417		
55 J 105	K-15	1.23 ea.	22½	1 1/4x7/8x2 9/32"	2				420		
55 J 061	K-20	1.51 ea.	30	2 1/32x1 9/16x1 1/4"	3				430		
55 J 064	U15	1.05 ea.	22½	1x39/64x1 31/32"	2	VS084	Z12M	212	412	712H	215
55 J 066	U20	1.23 ea.	30	1x39/64x2 1/8"	2	VS085	Z13M	213	413	713C	A210
55 J 069	Y10	.81 ea.	15	19/32x1 9/32x1 23/64"	3		Z5M	Z5	504	715C	220
55 J 075	Y15	1.05 ea.	22½	19/32x1 9/32x1 31/32"	3		Z6M	Z6	505	722G	221
55 J 068	Y20	1.30 ea.	30	1 3/16x1 9/32x1 13/32"	3			Z7	506		
55 J 077	Y20S	1.30 ea.	30	1 9/32x1 9/32x2 9/16"	3				507		

### STANDARD DRY BATTERIES

For all radio, laboratory and hobby requirements, and for running model boats, planes, cars, transmitters, etc. PI in Type No. denotes plug-in terminals; SC—spring clip terminals. All others have screw terminals.



#### "A" BATTERIES

Stock No.	Mfr's Type	Volts	Size	Wt., Lbs.	Price
55 J 590	2BBP	1½	1 1/32x2 3/32x2 1/16"	¼	1.16 ea.
55 J 001	2F	1½	2 1/32x1 7/8x4 1/4"	¾	.77 ea.
55 J 010	2F2H	3	2 5/8x2 5/8x4 1/16"	1½	1.08 ea.
55 J 033	2F2BP	3	5 1/16x1 1/16x4 5/32"	1½	2.23 ea.
55 J 002	2F4	6	4x2 1/16x5 7/16"	2½	2.73 ea.
55 J 030	2FBP	1½	2 21/32x1 3/8x4 1/32"	1	.79 ea.
55 J 585	2Z2P1	3	1 3/32x1 5/32x2 1/32"	¼	.68 ea.
55 J 048	37	1½	6 1/8x1 5/8" dia.	¼	.65 ea.
55 J 003	4F	1½	2 5/8x2 5/8x4 3/32"	1½	1.15 ea.
55 J 034	422	3	2 5/16x2 3/32x1 1/32"	¼	.57 ea.
55 J 026	432	4½	2 1/4x1 3/16x2 1/32"	¼	.66 ea.
55 J 045	5R	1½	2 1/32x4 3/16" dia.	¾	.24 ea.
55 J 091	532	4½	2 1/32x4 1/16x2 2/32"	¼	.68 ea.
55 J 595	6F	4½	4 3/32x2 3/4x4 1/16"	2¼	1.93 ea.
55 J 004	8F	1½	3 29/32x2 23/32x5 1/2"	3	2.42 ea.
55 J 046	8R	1½	3 15/16x1 3/32" dia.	¼	.60 ea.
55 J 047	9R	1½	1 63/64x3 3/64" dia.	¼	.12 ea.
55 J 582	B2BP	3	1 5/8x1 3/16x2 1/16"	¼	.94 ea.
55 J 011	F2BP	3	2 21/32x1 3/8x4 1/32"	1	.79 ea.
55 J 009	F4BP	6	2 5/8x4 25/64"	1½	.79 ea.
55 J 007	F4P1	6	2 21/32x2 21/32x4 1/8"	1½	1.16 ea.
55 J 008	G3	4½	4 1/16x1 7/8x4 1/16"	1¼	1.05 ea.

#### "B" BATTERIES

Stock No.	Mfr's Type	Volts	Size	Wt., Lbs.	Price
55 J 556	10308PI	45	8 1/2x4 1/32x7 3/16"	11½	4.84 ea.
55 J 557	10308SC	45	8 1/2x4 1/32x7 3/16"	11¼	4.84 ea.
55 J 555	21308SC	45	8 1/8x4 1/32x7 9/32"	13	5.36 ea.
55 J 558	2308SC	45	8 3/32x2 3/32x7 1/4"	8	3.84 ea.
55 J 560	4156	22½	3 1/2x2 1/8x2 29/32"	1	1.61 ea.
55 J 561	5156PI	22½	4 7/8x2 3/8x2 25/32"	1¾	3.12 ea.
55 J 562	5156SC	22½	4 1/8x2 1/2x2 3/4"	1¾	3.12 ea.
55 J 559	5308	45	4 1/8x2 29/64x5 1/8"	3	3.05 ea.
55 J 594	U-200	300	2 3/4x2 29/32x3 7/8"	1	8.37 ea.
55 J 109	Z30T	45	3x2 5/16x4 1/8"	1½	2.62 ea.
55 J 567	W30BPX	45	3x1 1/4x3 29/32"	¾	2.49 ea.
55 J 569	Z30NX	45	1 7/8x1 3/32x4 1/32"	1½	2.69 ea.
55 J 598	Z60BP	90	3 3/4x2 1/32x5 1/16"	2¾	8.90 ea.

#### "C" BATTERIES

Stock No.	Mfr's Type	Volts	Size	Wt., Lbs.	Price
55 J 583	2370	4½	3 15/16x1 3/8x2 7/8"	¾	1.33 ea.
55 J 563	2370PI	4½	4 1/8x2 1/2x4 23/64"	1	1.58 ea.
55 J 565	5360	4½	2 1/16x2 7/32x2 1/32"	¼	.88 ea.
55 J 564	5540	7½	4x7/8x2 3/4"	½	1.65 ea.
55 J 591	A9BP	13½	2 3/32x2 3/32x2 13/32"	½	3.76 ea.
55 J 568	W5BP	7½	2 31/32x2 3/32x1 3/4"	¼	1.47 ea.

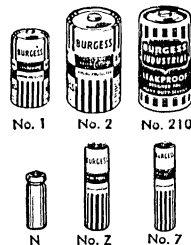
### SPECIAL-PURPOSE TAPE RECORDER BATTERIES

Extremely compact, highly dependable batteries. Designed specifically for use in pocket tape recorders. Type 3X X7 has flat contacts; Types 2X 62X and 2X 7 are snap type.

Stock No.	Type	Volts	Size	Lbs.	Price
55 J 110	2X 62X	1½, 9	2 1/2x1 1/2x2 3/32x2 11/32"	1½	1.82 ea.
55 J 111	2X 7	10½	2 1/8x1 2/32x2 11/32"	½	1.82 ea.
55 J 112	3X X7	10½	1 3/8x1 1/32x3 5/8"	½	2.00 ea.

### FLASHLIGHT BATTERIES

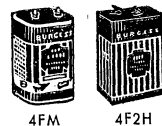
Have chrome for guaranteed freshness, silver wax for improved cell-to-cell conductivity, steel for seal protection in handling. Types 2 and 210 cells sealed in plastic and steel. Type 1 (size C)—for baby tubular flashlights; Types 2 and 210 (size D) are for standard flashlights; Type Z (size AA), standard penlights; Type 7 (size AAA), slim penlights; Type N, miniature and novelty lights. \*Heavy-duty type. Av. wt. per pkg., 10 oz.



Stock No.	Mfr's Type	Size (Lx Dia.)	Price	Replaces	
				Eveready	Ray-O-Vac
55 J 865	1	1 15/16x3 5/64"	Pkg. of 2 for .26	935	11P
55 J 867	2	2 3/8x1 21/64"	Pkg. of 4 for .52	950	21P
55 J 860	7	1 3/4x1 3/32"	Pkg. of 2 for .20	912	400
55 J 868	210*	2 3/8x1 21/64"	Pkg. of 4 for .64	1050	31P
55 J 869	N	1 11/64x7/64"	Pkg. of 6 for .48	904	716
55 J 870	Z	1 13/32x3 5/64"	Pkg. of 2 for .20	915	7R

### IGNITION, TELEPHONE AND ALARM BATTERIES

Designed for emergency illumination, portable lighting, alarm systems. Used by railroads, police, fire departments and emergency crews. Dependable, leakproof metal container. Type 4F2H is recommended for general ignition, telephone and lantern service, etc. Type 4FM is for model ignition.



Stock No.	Mfr's Type	Volts	Size	Wt., Lbs.	Price
55 J 871	4FM	1½	2 5/8x2 5/8x4"	1½	.84 ea.
55 J 015	4F2H	3	3 29/32x2 1/16x5 13/32"	2¾	1.45 ea.
55 J 014	4F4H	6	8 5/8x2 1/32x5 13/16"	6¼	3.34 ea.
55 J 584	4F5H	7½	7 7/8x3 1/32x5 13/16"	7½	4.86 ea.
55 J 021	4F6H	9	8 1/2x3 1/32x5 13/16"	9	5.53 ea.
55 J 641	6-Ign.	1½	6 5/8x2 1/2" dia.	2	.84 ea.
55 J 642	6-Tel.	1½	6 5/8x2 1/2" dia.	2½	.84 ea.
55 J 647	6-Ind.	1½	6 5/8x2 1/2" dia.	2	.90 ea.
55 J 643	S461	6	10 1/2x2 3/4x7 13/32"	8½	3.34 ea.

### LANTERN BATTERIES

For use with railroad-type lanterns. Type F4H has positive coiling contacts—a favorite of railroadmen. Type TW1S for underwater use. All have chrome for guaranteed freshness.



Stock No.	Mfr's Type	Volts	Size	Wt., Lbs.	Price
55 J 853	F4M	6	2 5/8x2 5/8x4 3/8"	1½	.79 ea.
55 J 009	F4BP	6	2 5/8x2 5/8x4"	1½	.79 ea.
55 J 113	F4SC	6	2 5/8x2 5/8x4 1/4"	1½	.79 ea.
55 J 658	TW1	6	5 3/8x2 7/8x4 15/16"	3¼	1.83 ea.
55 J 114	TW1S	6	5 3/8x2 7/8x4 15/16"	3¼	2.05 ea.
55 J 500	TW2	12	5 3/8x2 7/8x4 15/16"	3¼	1.83 ea.



# Mallory and Burgess Batteries



## MALLORY MERCURY TRANSISTOR RADIO BATTERIES

Assure peak performance of portable radios, uniform discharge voltage, exceptionally long storage life.

Ideal for applications where high reliability and long, dependable life are required. Av. wt. per pkg. 4 oz.



TR-146

Stock No.	Mallory Type	Price	Volts	Size (Dia. x Ht., or HWD)	Replaces		
					Eveready	Burgess	RCA
55 J 881	ZM-9	Pkg. of 2 for 1.02	1.4	1/2x1 3/32"	E9	HG9	VS-313
55 J 882	DM-9N	Pkg. of 2 for 1.08	1.4	1/2x1 3/32"	E9N		
55 J 891	TR-126	Pkg. of 2 for 2.10	8.4	3/4x1 15/16"	E126	H126	VS-327
55 J 883	TR-133	Pkg. of 2 for 2.00	4.2	2 1/2x2"	E133	H133	VS-149
55 J 884	TR-146	Pkg. of 2 for 2.10	8.4	1x1 3/32x1 15/16"	E146	H146	VS-312
55 J 885	TR-164	Pkg. of 2 for 2.30	5.6	2 1/2x2 1/2"	E164	H164	VS-164
55 J 886	TR-175	Pkg. of 2 for 2.10	7.0	3 1/4x1 3/32"			
55 J 887	TR-177	Pkg. of 2 for 2.30	9.8	1 1/2x1 3/4"	E177	H177	VS-309A
55 J 888	TR-233	Pkg. of 2 for 3.80	4.2	1x2"	E233	H233	VS-400
55 J 889	TR-286	Pkg. of 2 for 2.70	8.4	1x1 15/16"	E286		
55 J 890	RM-401	Pkg. of 2 for .68	1.4	1 5/32x1 1/8"	E401	HQ401	VS-401
55 J 892	RM-640	Pkg. of 2 for .60	1.4	5/8x7/16"	E640	HQ640	VS-150



TR-133

## MALLORY MERCURY GENERAL PURPOSE BATTERIES Av. wt. per pkg. 6 oz.

Stock No.	Mallory Type	Price	Volts	Size (Dia. x Ht., or HWD)	Replaces		
					Eveready	Burgess	RCA
55 J 921	RM-1	Pkg. of 2 for .76	1.4	5/8x2 1/4"	E1	HG1	
55 J 922	RM-1R	Pkg. of 2 for .88	1.35	5/8x2 1/4"	E1N	HG1R	VS-143
55 J 923	RM-1RT2	Pkg. of 2 for 1.06	1.35	5/8x2 1/4"			
55 J 924	RM-3R	Pkg. of 2 for 1.34	1.35	1x2 1/2"	E3	HG3	
55 J 925	RM-4R	Pkg. of 2 for 1.72	1.35	1 1/2x2 1/2"	E4	HG4R	
55 J 926	RM-4RT	Pkg. of 2 for 1.82	1.35	1 3/16x1 1/16"			
55 J 927	RM-4Z	Pkg. of 2 for 1.16	1.4	1 3/16x1/2"			
55 J 928	RM-12	Pkg. of 2 for 1.50	1.4	5/8x2"	E12	HG12	
55 J 929	RM-12R	Pkg. of 2 for 1.64	1.35	5/8x2"	E12N	HG12R	VS-144
55 J 930	RM-12RT	Pkg. of 2 for 1.74	1.35	5/8x2"			
55 J 931	RM-12RT2	Pkg. of 2 for 1.84	1.35	5/8x2"			
55 J 687	RM-42R	1.85 ea.	1.35	1 1/16x2 3/8"	E42N	HG42R	
55 J 375	RM-42RT2	1.95 ea.	1.35	1 1/16x2 3/8"			
55 J 950	RM-312	Pkg. of 2 for .48	1.4	3/4x5/16"	E312	HG312	
55 J 951	RM-400R	Pkg. of 2 for .58	1.35	1 5/32x1 1/8"	E400N	HG400R	VS-145
55 J 952	RM-411	Pkg. of 2 for 4.00	14.0	1 1/2x1 1/2"			
55 J 953	RM-412	Pkg. of 2 for 5.10	22.4	1 1/2x1 1/2"			
55 J 954	RM-413	Pkg. of 2 for 6.50	28.0	1x1 3/32x2 1/2"			
55 J 955	RM-415	Pkg. of 2 for 10.20	42.0	1 1/16x3/16x3 1/2"			
55 J 956	RM-450R	Pkg. of 2 for .88	1.35	1 5/32x1/2"	E450	HG450R	
55 J 957	RM-502R	Pkg. of 2 for 1.24	1.35	1/2x2"	E502	HG502R	
55 J 958	RM-520	Pkg. of 2 for .32	1.4	9/4x1/2"	E520	HG520	
55 J 961	RM-625R	Pkg. of 2 for .68	1.35	39/64x1 5/8"	E625	HG625R	
55 J 962	RM-625RT	Pkg. of 2 for .78	1.35	39/64x1 5/8"			
55 J 959	RM-625RT2	Pkg. of 2 for .88	1.35	39/64x1 5/8"			
55 J 960	RM-640RT2	Pkg. of 2 for .80	1.35	7/16x5/8"			
55 J 899	RM-675	Pkg. of 6 for 1.56	1.4	29/64x1 3/4"	E675	HG675	
55 J 893	TR-113R	Pkg. of 2 for 3.30	4.05	2 1/2x2 1/2"	E113	H113R	
55 J 895	TR-114RT2	Pkg. of 2 for 3.20	5.4	1 1/16x3/16"			
55 J 896	TR-115R	Pkg. of 2 for 3.40	6.75	2 1/2x1 1/2"	E115N		
55 J 898	TR-132R	Pkg. of 2 for 1.84	2.7	2 1/2x1 1/16"	E132N	H132R	VS-148
55 J 891	TR-126	Pkg. of 2 for 2.10	8.4	1 6/16x4 1/16"	E126	H126	VS-327
55 J 932	TR-133R	Pkg. of 2 for 2.36	4.2	2x2 1/2"	E133N	H133R	
55 J 933	TR-134R	Pkg. of 2 for 2.90	5.4	2 1/2x2 5/8"	E134N	H134R	
55 J 934	TR-135R	Pkg. of 2 for 3.70	6.75	2 1/2x2 3/4"	E135N	H135R	
55 J 935	TR-136R	Pkg. of 2 for 4.36	8.1	2 1/2x3 29/32"	E136N	H136R	
55 J 936	TR-145	Pkg. of 2 for 3.10	7	2 1/2x1 13/16"	E145	H145	
55 J 937	TR-152R	Pkg. of 2 for 1.56	2.7	1/2x1 1/2"	E152N	H152R	
55 J 938	TR-153R	Pkg. of 2 for 2.50	4.05	1/2x1 23/32"	E153N	H153R	
55 J 939	TR-162R	Pkg. of 2 for 1.74	2.7	2 3/32x2 9/32"	E162	H162R	
55 J 940	TR-163	Pkg. of 2 for 2.10	4.2	2 1/2x1 15/16"	E163	H163	VS-163
55 J 941	TR-165	Pkg. of 2 for 3.20	7.0	2 1/2x2 7/16"	E165	H165	VS-165
55 J 942	TR-169	Pkg. of 2 for 7.00	12.6	2 1/2x3 3/16"	E169		
55 J 360	TR-234R	2.50 ea.	5.6	1x1 9/32"	E234N		
55 J 943	TR-235R	Pkg. of 2 for 5.86	6.75	1x3 1/4"	E235N		
55 J 839	TR-286	Pkg. of 2 for 2.70	8.4	1x1 15/16"	E286		
55 J 944	TR-289	Pkg. of 2 for 4.10	12.6	1x2 3/64"	E289		
55 J 945	302125M	5.25 ea.	7	1 9/32x2 31/32"	E302125	302125	
55 J 361	303145	6.33 ea.	8.4	4 3/8x1 1/16x2 1/8"			



RM-401

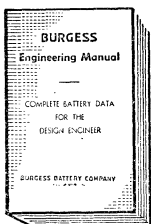


RM-1



RM-625R

## BURGESS BATTERY ENGINEERING MANUAL



Handy guide to selecting the correct dry battery for all types of equipment. Contains basic information on dry and reserve-type power batteries; explanation of various cell types; performance on standard tests; hundreds of graphs, charts and illustrations for estimating dry, mercury and nickel-cadmium battery performance; specification check sheets for new battery design and reserve battery. 136 pp. 6x9 1/2". 38 K.874. Postpaid in U.S.A. .... 1.00

## BURGESS PHOTO-FLASH BATTERIES

Types 120, 220 and 920 are designed specifically for high initial current discharge.

Stock No.	Mfr's Type	Volts	Size	Shpp. Wt.	Price	Replaces Eveready
55 J 878	120	1 1/2	1 15/16x1"	8 oz.	Pkg. of 2 for .32	835
55 J 879	220	1 1/2	1 11/32x2 25/64"	12 oz.	Pkg. of 2 for .32	850
55 J 880	920	1 1/2	3 7/64x1 31/32"	8 oz.	Pkg. of 2 for .26	815
55 J 052	D3	4 1/2	3 7/8x2 3/8x2 15/16"	3/4 lb.	.95 ea.	726
55 J 596	K45	67 1/2	2 11/16x1 15/16x2 1/4"	1/4 lb.	2.42 ea.	457
55 J 576	M30	45	3 39/64x1 3/4x5 1/2"	2 lbs.	2.70 ea.	482
55 J 659	N150	225	3 39/64x2 3/4x4 3/4"	2 1/2 lbs.	6.13 ea.	492
55 J 597	Y60	90	3 32/32x1 9/32x3 11/16"	1 lb.	3.15 ea.	490
55 J 062	U10	15	1x3 39/64x1 7/16"	1 oz.	.81 ea.	411
55 J 656	U160	240	2 29/16x1 15/16x4 13/32"	3/4 lb.	5.56 ea.	491
55 J 066	U20	30	1x3 39/64x2 17/32"	2 oz.	1.23 ea.	413
55 J 594	U200	300	2 3/4x2 39/32x3 7/8"	1 lb.	8.37 ea.	493
55 J 660	U320	510	2 15/16x1 7/32x5 7/16"	1 1/2 lbs.	11.16 ea.	497
55 J 655	XX150	225	4 1/4x2 29/64x4 1/4"	2 1/2 lbs.	6.96 ea.	489
55 J 574	XX45	67 1/2	2 3/4x1 11/32x3 3/64"	3/4 lb.	2.45 ea.	467
55 J 069	Y10	15	1 19/32x1 9/32x1 23/64"	1 oz.	.81 ea.	504
55 J 075	Y15	22 1/2	1 19/32x1 9/32x1 31/32"	1 oz.	1.05 ea.	505

# Batteries, Plugs, Holders and Battery Eliminator

## BURGESS NICKEL-CADMIUM BATTERIES

High energy, compact, hermetically sealed nickel-cadmium batteries and cells. Long-lasting, economical power—may be recharged many times. Batteries respond equally well to a trickle charge or a quick charge. Unaffected by idle periods. All batteries below have pressure contacts, except \*supplied with solder lug terminals. 10 hour discharge rate (ma.). Sealed in steel for leakproof protection.



### BUTTON CELLS

Stock No.	Mfr's Type	Volts	Size	Oz.	†	Replaces Eveready	PRICE
55 J 377	CD1	1.25	29/64x7/32"	2	2	N22	1.16 ea.
55 J 378	CD2	1.25	39/64x19/64"	2	5	N24	.81 ea.
55 J 379	CD3	1.25	63/64x9/32"	2	15	N28	.92 ea.
55 J 380	CD3L*	1.25	63/64x19/64"	2	15	N28T	1.01 ea.
55 J 381	CD4	1.25	63/64x11/32"	2	22	N32	.95 ea.
55 J 382	CD4L*	1.25	63/64x3/8"	2	22	N32T	1.21 ea.
55 J 383	CD5	1.25	11/16x19/64"	2	45	N36	1.47 ea.
55 J 384	CD5L*	1.25	17/16x21/64"	2	45	N36L	1.60 ea.
55 J 497	CD8	1.25	63/64x1/2"	2	10	N26	.90 ea.
55 J 498	CD8L*	1.25	63/64x1/4"	2	10	N26L	.99 ea.

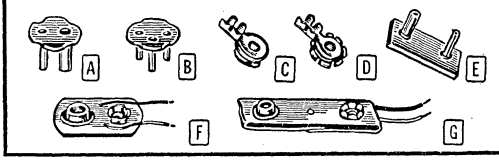
### CYLINDRICAL CELLS

Stock No.	Mfr's Type	Volts	Size	Oz.	†	Replaces Eveready	PRICE
55 J 385	CD6	1.20	3/8x11/16"	2	45	N46	1.93 ea.
55 J 386	CD6L*	1.20	11/16x29/32"	2	45	N46L	2.20 ea.
55 J 387	CD7	1.20	11/16x21/64"	7	230	N56	3.50 ea.
55 J 388	CD7L*	1.20	11/16x21/64"	7	230	.....	3.75 ea.
55 J 499	CD9	1.25	39/64x31/16"	3	90	N52	3.01 ea.
55 J 836	CD10	1.25	11/16x29/32"	2	400	.....	6.12 ea.
55 J 837	CD10L*	1.25	11/16x29/32"	2	400	N57	6.40 ea.
55 J 838	CD11	1.25	11/16x29/32"	2	300	.....	4.53 ea.
55 J 840	CD12	1.25	7/8x113/64"	2	210	.....	2.70 ea.

### NICKEL CADMIUM BATTERIES

Stock No.	Mfr's Type	Volts	Size	Oz.	†	Replaces Eveready	PRICE
55 J 389	CD21	6.1	11/16x117/32"	12	15	.....	5.74 ea.
55 J 390	CD22	6.1	11/16x131/32"	12	22	.....	5.90 ea.
55 J 392	CD24	9.7	11/16x21/32"	12	15	.....	9.39 ea.
55 J 394	CD26	9.7	131/64x29/64"	16	45	.....	15.85 ea.
55 J 395	CD27	12.2	11/16x259/64"	12	15	.....	11.56 ea.
55 J 396	CD28	12.2	11/16x319/32"	12	22	.....	11.95 ea.
55 J 397	CD29	12.2	131/64x33/64"	20	45	.....	19.50 ea.
55 J 399	CD31	6.0	39/64x113/32x31/16"	36	150	.....	23.79 ea.

### CINCH-JONES PLUGS FOR BATTERIES

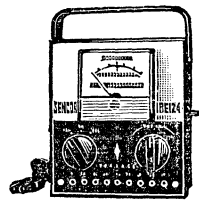


Cinch-Jones plugs for "A," "B" and various other batteries. Av. shpg. wt., 1 oz. 2 per package.

Stock No.	Type	Fig.	For Burgess Battery	For RCA Battery	PKG.
55 J 178	5A1	A	2F, 4F, 6F, 8F, 2D, 8R	VS069, VS070, VS141	.10
55 J 176	5B1A	B	XX15, XX22, XX30P1	.....	.10
55 J 301	5M	C	P6, D5, P6M, M6, XX45, XX30, XX50, K45, P45, P45M, P60, D6, 4D4, N60X, C6X	VS300A, VS315, VS322, VS016, VS055, VS217, VS082, VS218, VS215, VS219, VS306, VS316	.12
55 J 302	5F	D	.....	.....	.12
55 J 175	5A4	E	2F4, F4P1, XX15, XX22, XX30P1	.....	.10
55 J 184	5D	F	U30, 2U6, 2N6, UX45	VS086, VS323, VS312, VS305	.69
55 J 307	5D1	G	XX50, P45, P45M, P60, N60X, C6X	VS218, VS215, VS219	.67
55 J 308	5D2	G	N60	.....	.67
55 J 309	5MFA	G	XX45, XX30, K45	VS016, VS055, VS082	.67

### NEW SENCORE BE-124 BATTERY ELIMINATOR/ NICKEL-CADMIUM BATTERY CHARGER

Power supply charges rechargeable batteries and replaces batteries during radio repair. Tapped voltages at 1.5-volt DC intervals from 0 to 12 volts on front panel for easy connection and to assure center tap and bias voltages when required. Function switch converts meter to trouble shooting, 0 to 50 ma, current reading device to monitor current drain of transistor radio. Improved regulation and voltage calibrate potentiometer for accurate, well-filtered output. 4 1/2 x 5 x 2 1/4". Wt., 12 lbs.



24.45

Allied Gives You the Fastest Service in Electronic Supply

## BURGESS ALKALINE ENERGIZER BATTERIES

Revolutionary alkaline energizer batteries specially designed for high drain, continuous service applications. Deliver higher amperage over a much longer period than do standard flashlight batteries. Ideal for use in portable TV sets, flashlights, etc. Applications: AL-2-D; AL-1-C; AL-9-AA; AL-7-AAA; AL-N-N; AL-133 —Transistor Radio. All have flat contacts. All are 1 1/2 volts, except AL-133—4 1/2 volts.



Stock No.	Mfr's Type	Size	Replaces		Price
			Mallory	Eveready	
55 J 872	AL-2	1 1/2x1 1/2x2 1/8"	MN1300	E95	.65 ea.
55 J 873	AL-1	63/64x115/32"	MN1400	E93	.51 ea.
55 J 874	AL-9	1 7/8x1 3/16"	MN1500	E91	Pkg. of 2 for .66
55 J 875	AL-7	1 3/32x1 3/4"	MN2400	.....	Pkg. of 2 for .62
55 J 876	AL-N	2 5/8x1 1/8"	MN9100	904	Pkg. of 2 for .48
55 J 877	AL-133	2 3/32x2"	MN1306	333	Pkg. of 2 for 1.30

### WILLARD RECHARGEABLE BATTERIES

Type 25-2. For Portable Radios. Spill-proof, rechargeable battery in lightweight polystyrene container. Supplies 2 volts for 21 ampere-hours. Plug-in terminals. Original equipment in G.E. Model 250 and 260 portables. Shipped dry. 6x2 1/2x2 1/8". 3 1/4 lbs.



55 J 851..... EACH 9.41

Type ER6-2B. For Photo Flash. Above, but for photo flash units. 2 v. for 6 amp-hours. Up to 250 flashes per charge. Shipped dry. 1 1/16x2 3/8x4 1/4". 1 1/2 lbs.

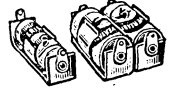
55 J 849..... EACH 6.39

Type ER-34-2. For Portable Radios. 2 volts for 34 ampere-hours. Has plain posts. Shipped dry. 4 1/2x3 1/16x4 1/2". 5 1/4 lbs.

55 J 852..... EACH 12.53

### KEYSTONE BATTERY HOLDERS

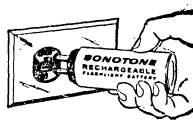
Battery holders for transistor assemblies, radios, meters, model airplanes, etc. Feature snap-clips, moisture-proof fiber washers. \*End to end. Av. shpg. wt., 3 oz. 2 per pkg.



Stock No.	Mfr's Type	Holds	Burgess	Mallory	Eveready	Per Pkg.	
						1-19	20-299
55 J 900	104	1	.....	RM3R	E3	.60	.52
55 J 901	139	1	.....	RM12R, TR133R, RM502R, ZM-9	E-9, E-12, E133, ES02, 915, 1015E, 505, 1015E	.46	.42
55 J 902	140	2	Z, 9R, Y15	.....	.....	.76	.68
55 J 903	171	3		.....	.....	.98	.88
55 J 904	182	4		.....	.....	1.28	1.14
55 J 905	189	2	*	.....	.....	.90	.72
55 J 906	173	1	} 1	TR233R	E233, 635	.60	.48
55 J 907	174	2		.....	.....	.76	.68
55 J 908	185	2		*	.....	935	.90
55 J 911	132	1	.....	TR132R, TR115R	E132	.60	.48
55 J 912	175	1	} 2, Z4	RM42R	D-99, A-100	.60	.48
55 J 913	176	2		.....	724	.76	.68
55 J 914	186	2		*	.....	950	.92
55 J 915	166	1	U10	.....	411	.60	.48
55 J 916	177	1	U15	RM412R	412	.60	.48
55 J 918	183	1	U20	.....	413	.60	.48
55 J 919	225	1	Y10	.....	504	.42	.40

### SONOTONE RECHARGEABLE BATTERY

Model FC-3. Can be used in place of 2 "D" cells. Unit plugs into any 110 v. AC wall outlet. Built-in charger fully charges nickel-cadmium cells overnight. Battery will power a PR-2 bulb continuously for 2 hours without recharge. Leakproof; cannot overcharge. 1 3/8x4 1/8". 10 oz.



Recharges in any AC outlet... charges overnight



55 JC 332. 1-3..... EACH 8.50  
4-36..... EACH 7.80  
36-Up..... EACH 7.20

FC-2 As above, but powers PR-2 bulb for 45-55 minutes. 8 oz.

55 JC 331..... EACH 5.57

### 9-VOLT TRANSISTOR BATTERY

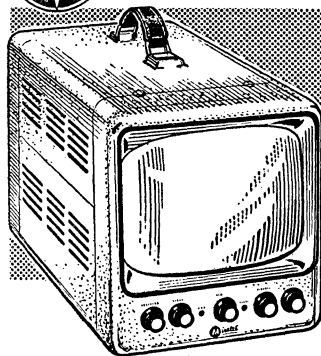
Priced so low you can replace your weak or dead batteries at real savings. Replaces Burgess 2U6, RCA VS323, Eveready 216, Zenith Z216, Mallory M1604, NEDA and Ray-O-Vac 1604, Marathon 1604, Western Auto 3B6469, General 179, Montgomery Ward 123, Sears 6417, and many others. Size, 1 7/8x3 3/4x1". From Japan. Wt., 2 oz.



55 J 147. Pkg. of 3..... PER PKG. .59



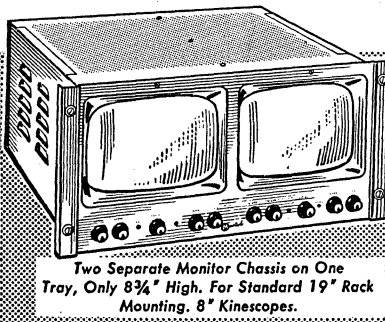
# Television Cameras and Monitors



## NEW L8M PORTABLE 8" TV MONITOR

Compact professional monitor. 8" aluminized, industrial-type kinescope. 10-megacycle bandwidth for extremely sharp pictures. Video input, -0.2 volts peak-to-peak. Selector switch for internal or external sync, 1-8 volts, negative. SO-239 fittings for video, sync input.

Major controls in front. Removable front-panel. Self-contained ventilating fan. Die-stamped, gray hammertone, steel case with handle. Size, only 9 1/4 x 8 3/4 x 17". For 110-120 v., 60 cycle. Shpg. wt. 32 lbs. **86 SU 176-D.....285.00**

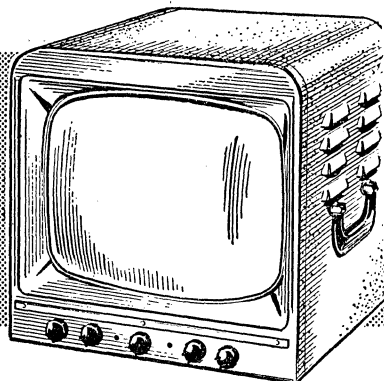


Two Separate Monitor Chassis on One Tray, Only 8 3/4" High. For Standard 19" Rack Mounting. 8" Kinescopes.

## NEW L8RT TWIN 8" TV MONITOR

For micro-wave in-out, A-B signal checks, etc. Excellent isolation! Run one monitor on color signal, other on black and white—no cross-talk. 10-megacycle bandwidth produces ultra-sharp images. Aluminized 8" industrial-type kinescope. Video, 0.3 v. p-p negative. Switch selects internal or external -3 to -8 v. sync pulse. High-Z inputs for video, sync.

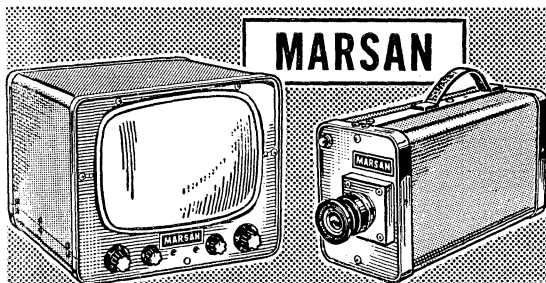
Basic controls for each chassis on removable front panel; top also removes. Ventilating fan. Each chassis 8 7/8" wide, 15 3/4" long. Chassis tray mounts independently; each monitor removable. Tray, 17 1/4 x 16 7/8" deep. For operation from 110-120 v., 60 cycle. Wt., 60 lbs. Shipped express. **86 SZ 177-D.....555.00**



## NEW L27M PORTABLE 27" TV MONITOR

10-megacycle bandwidth—excellent clarity for engineer's test circuits, remote pickup consoles, etc. Aluminized 27" industrial-type kinescope. Input, 0.2 v., p-p, neg. High-impedance looping inputs for composite video (SO-239 fittings). All major controls on front panel. Steel, die-stamped case; heavy-duty handles. Size, 24 5/8 x 26 5/8 x 24 5/8". For 110-120 v., 60 cycle. Shpg. wt., 115 lbs. Shipped express.

**86 SZ 180-D.....425.00**  
**86 SZ 181-D. With 21" Kinescope...345.00**  
**86 SZ 182-D. With 17" Kinescope...305.00**  
**86 SZ 183-D. With 14" Kinescope...295.00**



## MARSAN

### MODEL TM-8

### CLOSED-CIRCUIT TELEVISION MONITOR

High-quality unit for use with TC-2 TV camera, at right. Utilizes 8" rectangular aluminized 90° kinescope. Contains horizontal and vertical sweep circuits, high and low-voltage power supply. Requires video sync input of -0.3 to -2.5 v. peak-to-peak through rear-panel SO-239 connectors (2 bridged).

Video response: 600 lines (8 mc ± 1 db). High voltage: 14 kv. Front panel controls: On/Off-Brightness, Contrast, Horizontal Hold, Vertical Hold, Height, Vertical Linearity. Rear panel controls: Horizontal Drive, Horizontal Stability, Centering control on yoke. Fused. Metal case. Size, 8 1/2 x 10 1/4 x 10 1/2" with knobs. For 110-120 v., 50-60 cycle. Shpg. wt., 22 lbs. **89 SU 057-D.....189.00**

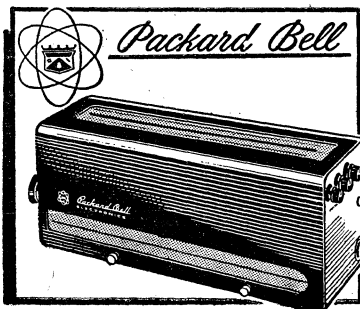
### MODEL TC-2 CLOSED-CIRCUIT PORTABLE TELEVISION CAMERA

Low-cost, completely self-contained portable TV camera. Fine for continuous visual observation of hazardous operations. Finds many uses in the factory or warehouse, as in monitoring loading platforms, entrance gates, storage areas or production lines. Excellent for instruction and training in schools, and enlargement of small objects. Offers good resolution and high light-sensitivity. Transmits picture to any TV set or monitor such as the TM-8 at left, or master TV cable system. Produces clear images of any object or scene—similar in quality to those on standard TV channels.

Produces tunable RF output on Channels 2 to 6, as well as video signal output. Features automatic light level compensation circuit. Has resolution of 400 lines on video output and 300 lines on RF output. Hand-wired chassis utilizes six tubes. Output: RF channels, 0.1 volt; video, 1.5 volts peak-to-peak. Lens is 48-mm coated f 1.9, auxiliary lenses listed below. Only 6 1/4 x 4 1/2 x 10". For 110-120 v., 50-60 cycle. Shpg. wt., 16 lbs. **89 SX 059-D.....449.00**

Model P-1 Tripod. Three sections; opens to 70", closes to 27". Has elevator, pan head, quick-release nylon locks, and no-slip rubber tips. Gray finish. Shpg. wt., 11 lbs.

**89 SX 060-D.....17.95**  
**89 SX 061-D. W-1 Wall Mount. With pan head. Wt., 5 lbs. 14.95**  
**89 SC 062-D. 15mm Coated F 1.9 Lens. Shpg. wt., 2 lbs.....41.25**  
**89 SC 063-D. 25mm Coated F 1.9 Lens. Shpg. wt., 2 lbs.....29.25**  
**89 SC 064-D. 3" 75mm Coated F 1.9 Lens. Shpg. wt., 2 lbs...37.50**  
**89 SC 065-D. 6" 150mm Coated F 3.5 Lens. Shpg. wt., 2 lbs...67.50**



## Packard Bell

### NEW SERIES 910 TRANSISTORIZED SELF-CONTAINED TV CAMERA

True ruggedness and excellent picture quality are achieved by solid-state components and 640 lines of resolution (8 mc bandwidth). Built-in regulated power supply. Needs no sync generator. Light control automatically adjusts for changing light levels. Produces 10 shades of gray.

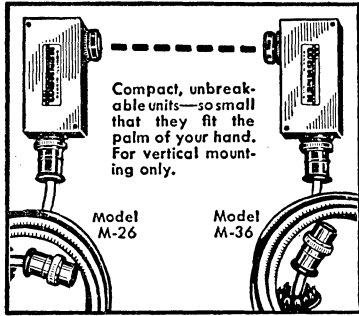
Video output, 2 volts maximum—more than enough to handle 2000 feet of cable without additional amplification. Vidicon pick-up tube assembly is shielded against magnetic fields. Optical focus of vidicon permits adaptation to various lenses without disassembling camera. Fail-safe circuit protects vidicon in event of sweep loss. Has 25mm, f 1.9 lens. Provision for remote

control. Deflection and video circuit boards are epoxy-impregnated fiberglass. Has standard type "C" lens mount.

Extremely sensitive—0.1 v. output at 2-foot candles provides usable picture. 50 db gain. 525-line scanning circuits. Less than 5% differential gain distortion. Low-impedance output. Positive locking, ring-type connectors. -40°C to +70°C. Complete with 25mm f/1.9 lens, vidicon (pickup) tube, 25" camera cable with connector, and with automatic light control and focus regulator factory installed. Epoxy-coated aluminum case, 16x5 1/2 x 7". For 105-120 v., 60 cycle. 23 lbs. **86 SU 184-D.....895.00**

# Selected Photoelectric Equipment

## WORNER PHOTOELECTRIC SYSTEMS



Compact, unbreakable units—so small that they fit the palm of your hand. For vertical mounting only.

Model M-26

Model M-36

### MINIATURE UNITS

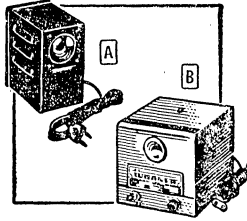
**MODEL M-36 EXCITER LAMP.** Miniature exciter lamp for use in areas with severe space limitations. Excellent for high-speed counting. Up to 500 counts per minute when used with Model 67 Amplifier-Relay, below. Unit projects diverging beam for detection of objects as small as 1" square at distances up to 8 ft. Has rugged one-piece case, made of solid aluminum. For vertical installation only. For use with Model M-26 PhotoCell Receiver and Model 67 Amplifier-Relay, listed below. Supplied with six feet of cable. Size, 1 1/4 x 3/4 x 2 1/2". Takes operating voltage from Model 67 Amplifier Relay unit, listed below. Shpg. wt., 3/4 lb.  
**77 P 318.....24.96**

**MODEL M-37 EXCITER LAMP.** (Not illus.) As above but for horizontal installation. Shpg. wt., 3/4 lb.  
**77 P 380.....24.96**

**MODEL M-26 PHOTOCCELL RECEIVER.** Miniature mate for Exciter Lamp above. Compact, unbreakable case. One piece aluminum construction. With six feet of cable, positive prong-type connectors and screw band collar. For vertical installation. Size, 1 1/4 x 3/4 x 2 1/2". Shpg. wt., 12 oz.  
**77 P 319.....28.31**

**MODEL M-27 PHOTOCCELL RECEIVER.** (Not illus.) As above but for horizontal installation. Shpg. wt., 12 oz.  
**77 P 378.....28.31**

**MODEL 67 DPTD AMPLIFIER-RELAY.** Designed for general industrial applications such as counting, level control and sorting. Up to 500 counts per minute. Contacts rated 10-amp non-inductive and 5-amp inductive at 110 v. 60 cycle AC. Size, 7 1/4 x 5 1/4 x 10 1/4". For 110-120 volts, 50-60 cycle AC. Shpg. wt., 10 lbs.  
**77 P 323.....69.90**



### "2 UNIT EQUIPMENT"

**A MODEL 101 FIXED LIGHT SOURCE.** Excellent fixed light source for use with Model 103 Receiver, below. Projects straight, 1", fixed beam up to 10 feet. Objects 2" wide and larger will interrupt the beam and activate any solenoid, counter, etc. Heavy-gauge, hammerloid-finished steel case measures 2 1/2 x 4 1/2 x 4". Complete with 6-ft. line cord and plug. For operation from 110-120 v., 50-60 cycles AC. Wt., 2 lbs.  
**77 P 343.....13.80**

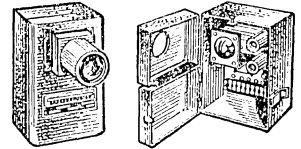
**MODEL 102 ADJUSTABLE LIGHT SOURCE.** (Not illus.) Ideal for detecting small objects less than 2" wide. For use with Model 103 Receiver, listed below. Adjustable beam, from 1/8 x 1/4" at 9 inches, to 1 1/2" at maximum distance of 15 feet. Hammerloid-finished heavy-gauge steel case. Complete with 6 ft. line cord and plug. For operation from 110-120 v., 50-60 cycles AC. Wt., 5 lbs.  
**77 P 348.....27.23**

**B MODEL 103 PHOTOCCELL RECEIVER.** Combines photocell, amplifier and relay in a single compact unit. Designed for use with either 101 or 102 light sources, listed above. Effective up to 10 feet from Model 101; 15 feet from 102. Applications include counting objects on a conveyor belt, operating timers at races, opening doors, counting store traffic, etc.

Up to 450 counts per minute with 2" objects. Extremely sensitive to small changes in light intensity. RCA power photocell operates SPDT relay. Has special light rejection shield—minimizes extraneous light falling on the photocell. Relay contacts rated 12 1/2 amperes, 115-v. AC non-inductive load. Fused circuit protects relay and controlled mechanisms.

Provides reliable continuous-duty service. Mounts easily across area to be supervised, directly opposite light source. Combination of amplifier and relay in a single unit eliminates interconnecting cables and simplifies installation. Hammerloid-finished steel case, 5 x 5 x 5 1/2". For 110-120 v., 50-60 cycles AC. Shpg. wt., 5 lbs.  
**77 P 349.....34.49**

## NEW! WORNER SMOKE DETECTOR SETS



Light Source

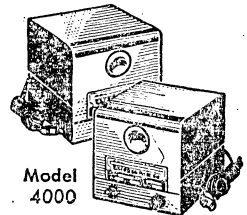
Amplifier Unit

**MODEL 201.** New 2-unit electronic smoke detector device. Ideal for store, factory, or home fire detection. Activates alarm when smoke interrupts light beam—detection is substantially before automatic sprinklers, etc. go into operation. System consists of a photocell amplifier and a 3 stage light source adjustable for distances up to 75 ft. Units are installed high above floor traffic, suspended from ceiling or walls. Dimensions: photocell amplifier, 5 3/4 x 7 x 5 1/4"; light source, 4 1/2 x 7 x 4 1/4". For 110-120 v., 50-60 cycle AC. Shpg. wt., 20 lbs.  
**77 PU 379.....112.50**

**MODEL 202.** (Not illus.) Electronic smoke detection system for use in large industrial plants or warehouses. Range: 75 to 500 ft. Installation and operation is identical to Model 201 listed above. Dimensions: each unit, 5 3/4 x 7 x 15 3/4". For operation from 110-120 v., 50-60 cycle AC. Shpg. wt., 20 lbs.  
**77 PU 436.....142.50**

### BURGLAR ALARM

- Variable Sensitivity
- Infra-Red Filter
- 50-Foot Range



Model 4000

**MODEL 4000.** Photo-electric burglar alarm designed for indoor use. Light source has removable infra-red filter for invisible beam. Amplifier relay unit has 6-v. AC power supply for alarm. Switch for continuous or intermittent alarm. Hammerloid cases, 5 x 5 x 5 1/2". For 110-120 v. 50-60 cycle AC. Wt., 14 lbs.  
**77 PU 232.....63.00**

**MODEL 5100.** (Not illus.) As above, but has meter jack for plate circuit test and alarm setting protected by lock. For distances to 100 ft. 5 x 5 x 5 1/2". For 110-120 v., 50-60 cycles AC. Shpg. wt., 14 lbs.  
**77 PU 441.....105.15**

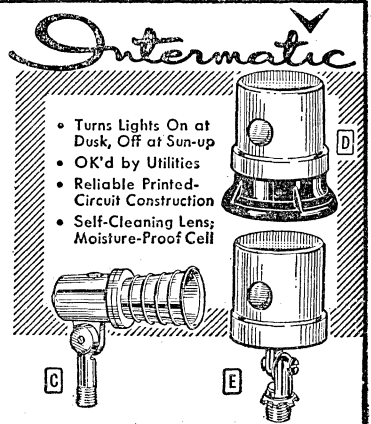
## PHOTOELECTRIC LIGHT CONTROL DEVICES

New Intermatic light control devices are ideal for controlling window signs, yard lights, stairway lights, street lights. Each model has dependable printed circuit, relay type construction with fail-safe operation unaffected by humidity or temperature changes. Turns lights on when natural daylight fades—keeps lights on to dawn. Has self cleaning lens and moisture-proof cell eye. Aluminum housing is lightweight and weather-resistant. All offer full wattage rating for tungsten, mercury vapor and fluorescent loads.

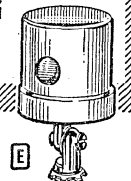
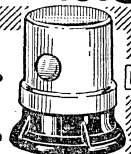
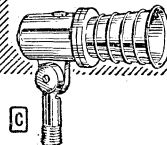
**C MODEL K1611.** Complete photo cell and Par lamp holder in one unit. External switch leg provides instantaneous control of other light clusters. 1000 watts. 125 v. 60 cycle AC. Shpg. wt., 1 lb.  
**74 P 299, 1-5.....EACH 11.02**  
**6-11.....EACH 10.17**

**D MODEL K1221.** Has 3-prong plug, lightning arrester. Meets NEMA and EEL specs. 1500 watts, 125-v., 60 cycle AC. Wt., 1 lb.  
**74 P 293, 1-5. EA. 13.62 6-11. EA. 12.57**  
**74 P 294, K120 Adaptor.** Adapts std. wire to twist-lock plug. 6 oz.....EACH 3.00

**E SERIES K1121.** Has adjustable stem for angle mtg. Suffix "L", late activation (2-5 ft. candles on, 5-12 off). Suffix "E", early (6-12 on, 8-16 off). 1500 watts, 125-v., 60 cycle AC. Wt., 1/2 lb.  
**74 P 295, K1121-L 1-5.....EACH 13.62**  
**6-11.....EACH 12.57**  
**74 P 296, K1121-E 1-5.....EACH 13.62**  
**6-11.....EACH 12.57**  
 Series K1111. As above but 650 watts.  
**74 P 297, K1111-L 1-5.....EACH 12.32**  
**6-11.....EACH 11.37**  
**74 P 298, K1111-E 1-5.....EACH 12.32**  
**6-11.....EACH 11.37**



- Turns Lights On at Dusk, Off at Sun-up
- OK'd by Utilities
- Reliable Printed-Circuit Construction
- Self-Cleaning Lens; Moisture-Proof Cell



C

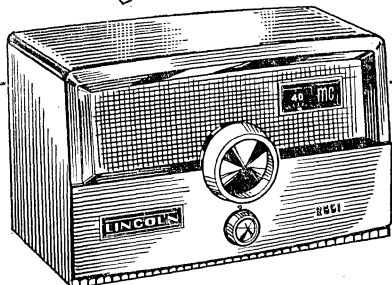
D

E



# Special-Purpose VHF Receivers

For Reception of Police, Fire, Utility, Industrial, Paging, Mobile Telephone, Civil Defense Communications and Other Services.

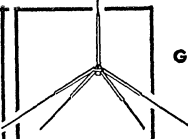


## LINCOLN

NEW FM RECEIVERS

**\$4495**  
Ea.

for 30-50 or 152-174 mc



**HY-GAIN  
GROUND-PLANE  
ANTENNAS**

**MODEL 2551**—30 to 50 mc. Dependable FM reception at an extremely economical price. Compact new unit features temperature-compensated superheterodyne circuit for highly stable, virtually drift-free reception. Ratio detector minimizes interference from static and amplitude-modulated signals. Provides 100-kc selectivity and sensitivity of 10 microvolts. A 4" PM speaker is self-contained. Employs 5 tubes plus recti-

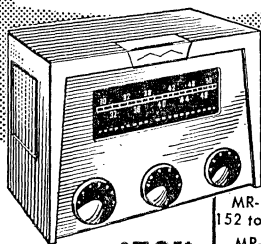
fier. Antenna impedance is 50-72 ohms. Unit is housed in plastic cabinet, 6x9½x5½". For operation from 110-120 volts, 50-60 cycle AC, or DC. Wt., 8 lbs.  
90 S 466..... **44.95**

**MODEL 2552**—152 to 174 mc. Identical to above receiver, but for coverage of the higher, 152 to 174-mc FM band.  
90 S 499..... **44.95**

**MODEL GP-150**—144 to 174 mc. Low cost yet ruggedly constructed ¼-wave ground plane antenna for use with Lincoln 2552, Monitoradio MR-10 and PR-155B, and other 152-174 mc FM receivers. Radiator and radials are of iridite-treated aluminum. Provides 360° omnidirectional pattern and unity gain. Built to commercial-duty standards. Ht., 14". Wt., 2 lbs.  
86 S X 210..... **5.40**

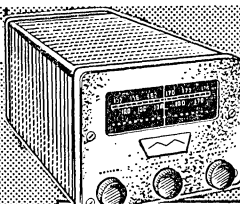
**MODEL GP-50**—30 to 50 mc. Above, for use with Lincoln 2551, Monitoradio MR-33 and PR-35B, etc. Wt., 6 lbs.  
86 S X 211..... **12.95**

## MONITORADIO FM RECEIVERS

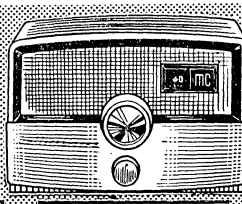


**\$7250**  
Ea.

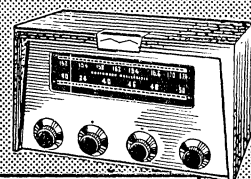
MR-10 for  
152 to 174 mc  
MR-33 for  
30 to 50 mc



M-40: 30-50 mc  
M-160: 152-174 mc



PR-35B: 30-50 mc  
PR-155B: 152-174 mc



DR-200: Both 30-50  
and 152-174 mc

**MODELS MR-10 and MR-33.** Deluxe receivers for monitoring police, fire, industrial, road maintenance, utility, paging, mobile telephone, civilian defense and other services in the 30-to-50 or 152-to-174 mc FM bands. Excellent for emergency, commercial or industrial installations. Feature sensitivity of 4 µv, adjustable squelch control for muting speaker under no-signal conditions, and self-contained 5" speaker. Circuit employs 7 tubes plus 6X4 rectifier. Compact cabinet is 7½x11¼x6½". Transformer-type power supply is for 110-120 volts, 50-60 cycle AC. Shpg. wt., 22 lbs.  
90 S X 667, MR-10, 152-174 mc..... **72.50**  
90 S X 668, MR-33, 30-50 mc..... **72.50**

**Crystal-controlled Models MRC-10 and MRC-33** priced at \$79.95 available on special order. Specify crystal frequency desired.

**MOBILE MODELS M-40 and M-160.** Deluxe FM mobile receivers with tuned RF stage, 4" speaker, and adjustable squelch control for muting speaker. Size, a compact 4½x6½x8¾". For operation from 12-volts DC only. Shpg. wt., 14 lbs.  
90 S 669, M-40, 30-50 mc..... **103.55**  
90 S 670, M-160, 152-174 mc..... **103.55**

**Crystal-controlled Models MC-40 and MC-160** priced at \$122.95 available on special order. Specify crystal frequency desired.

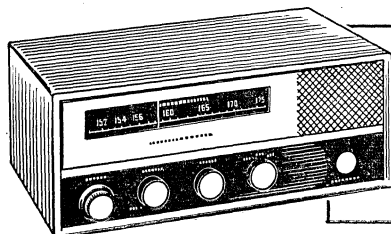
**MODELS PR-35B and PR-155B.** Moderate-cost units have adjustable squelch, highly stable temperature-compensated superhet circuit and built-in 4" speaker. Provide 100-kc selectivity with 10 µv sensitivity. Efficient ratio-type detector is inherently insensitive to amplitude-modulated signals and atmospheric for minimal interference to FM reception. Receivers employ 5 tubes plus rectifier, and are housed in compact plastic cabinets. Size, 6x9x5½". For operation from 110-120 volts, 50-60 cycle AC, or DC. Shpg. wt., 8 lbs.  
90 S 664, PR-35B, 30-50 mc..... **54.40**  
90 S 665, PR-155B, 152-174 mc..... **54.40**

**MODEL DR-200 2-BAND FM RECEIVER.** Popular receiver covering both high and low emergency-frequency FM ranges—excellent for central installations which must communicate with very weak outlying stations. Employs adjustable squelch control and double-conversion superheterodyne circuit with provision for one crystal-controlled frequency in each of its 2 ranges (supplied less crystals).

Sensitivity for 20 db quieting is 1 µv from 30 to 50 mc, and 2 µv from 152 to 174 mc. Circuit utilizes 14 tubes plus 5Y3GT rectifier. Cabinet size: 8x14¼x9½". Built-in power supply is for operation from 105-125 volts, 50-60 cycle AC. Less external speaker, below. Shpg. wt., 23 lbs. **Crystals for fixed-frequency reception are available on special order for \$11.95 each. Specify frequency or frequencies desired and allow 3 weeks for delivery.**  
90 SU 666..... **169.50**

**MODEL DRS-1 METAL-ENCLOSED 6" SPEAKER.** For use with DR-200 receiver, above. Size, 8x7½x7½". Shpg. wt., 7 lbs.  
90 SU 672..... **14.95**

# hallicrafters



## INDUSTRIAL, PUBLIC SAFETY AND AIRCRAFT RECEIVERS

CRX-1:  
30-50 mc FM

CRX-2:  
151-174 mc FM

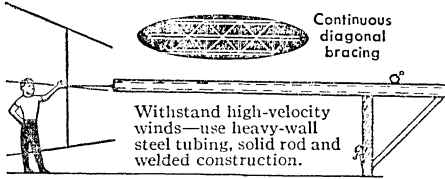
CRX-3:  
108-135 mc AM

**MODEL CRX-2 FM RECEIVER.** Receives split-channel narrow-band FM commercial and public service communications from 151-174 mc. Has triple-conversion, 10-tube circuit. Switch selects dual vernier tuning or 2 crystal-controlled channels (less crystals). Just 1½ µv signal opens adjustable squelch. 57½x13½x8¾". Has built-in speaker. For 110-120 v., 50-60 cycle AC. Wt., 17 lbs.  
90 S X 674..... **109.95**  
90 S X 675, Model CRX-1, Above, for 30-50 mc. 9 tubes..... **99.95**

**MODEL CRX-3 AM AIRCRAFT MONITOR RECEIVER.** Tunes 108-135 mc aircraft band. Has dual-conversion, squelch, 7 tubes plus 3 diodes. 5¾x13½x8". For 115 v., 50-60 cycle AC. Wt., 17 lbs.  
90 S X 676..... **94.95**

# Towers, Rotators, Alternator System

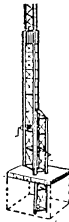
## E-Z WAY TILTOVER ANTENNA TOWERS



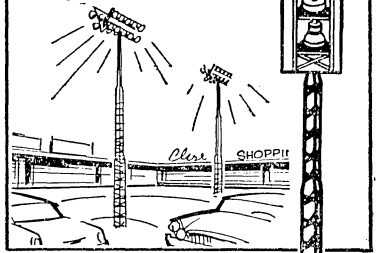
Withstand high-velocity winds—use heavy-wall steel tubing, solid rod and welded construction.

as low as  
**\$99.50**

Shown with TOP kit & concrete base



## SPAULDING Strato-Tower Packaged Antenna Towers



- All-Riveted Construction
- 100% Galvanized Steel
- Assembled 8-Ft. Sections
- Choice of Screw-Anchor or Std. Concrete Mtg.

**SERIES HAX STANDARD TOWERS.** Will support smaller-sized Amateur beam, rotator and clutch brake assembly—also ideal for TV antenna systems, store signs, floodlights and other commercial and business applications. Factory-assembled 8-ft. sections; all-riveted construction. Withstand high wind-loading. Top of HAX-48 is 10 3/4" across one side of triangle; bottom, 25" across. Choice of tri-channel screw-anchor hinge-over base or stub base. HAX-B types are free-standing with screw-anchor base—no concrete needed. Others have stubs for concrete mtg. All types are packaged with rotor plate and top plate assembly. Less mast. *Shipped F. O. B. Frankfort, Ind. Shipping charges will be collected on delivery. No C. O. D.*

Stock No.	Type	Ht.	Sec.	Lbs.	EACH
D90 CZ 438	HAX-32B	32'	4	184	78.05
D90 CZ 439	HAX-40B	40'	5	229	98.17
D90 CZ 440	HAX-48B	48'	6	367	134.55
D90 CZ 441	HAX-32	32'	4	115	58.85
D90 CZ 442	HAX-40	40'	5	160	80.70
D90 CZ 443	HAX-48	48'	6	220	111.35

**SERIES HDX HEAVY-DUTY TOWERS.** Similar to above, but of extra-heavy galvanized steel—support full-sized beams. HDX-48 top is 12 3/4" (bottom 28") across one side of triangle. HDX-B types have screw-anchor base; others, base stubs for concrete mtg.

Stock No.	Type	Ht.	Sec.	Lbs.	EACH
D90 CZ 444	HDX-32B	32'	4	212	100.35
D90 CZ 445	HDX-40B	40'	5	361	143.95
D90 CZ 446	HDX-48B	48'	6	430	181.50
D90 CZ 447	HDX-32	32'	4	143	79.45
D90 CZ 448	HDX-40	40'	5	205	110.10
D90 CZ 449	HDX-48	48'	6	280	145.25

Specify rotator to be used when ordering. Towers shipped prepaid by rail from Tampa, Fla.—slight extra charge for truck shipment. Send remittance on cash orders—no C. O. D.

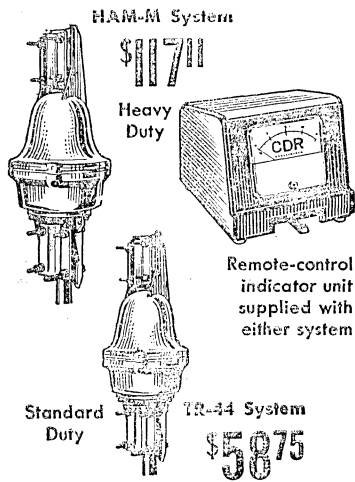
Stock No.	Type	Ht.	Lbs.	EACH
D86 CZ 212	HD-40P†	40	140	99.50
D86 CZ 827	RBS-40P†	41	180	169.50
D89 CZ 826	RBS-40G	41	190	209.50
D89 CZ 836	RBS-50G	51	235	279.50
D86 CZ 233	6046P†	55	270	189.00
D89 CZ 854	RBX-60-3G*	60	355	410.00

## E-Z WAY TOWER MOUNTING KITS

Kits contain all necessary mtg. equipment.

Stock No.	Type	For Tower	Lbs.	EACH
D86 CZ 248	BAK-D	HD-40P	8	6.75
D86 CZ 864	BAK-S40	Any RBS	10	10.50
D89 CZ 894	CPK-S40	RBS-40P/G	150	75.00
D86 CZ 239	TOP-S40	RBS-40P/G or 6046P	75	75.00
D86 CZ 241	TOP-S50	RBS-50G	90	90.00
D86 CZ 247	TOP-X60-3	RBX-60-3G	120	120.00

## CDR ANTENNA ROTATOR AND CONTROL SYSTEMS

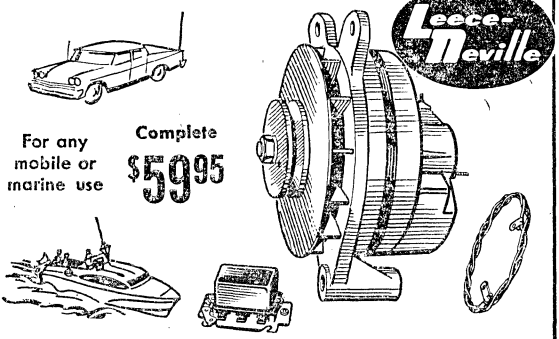


**MODEL TR-44.** New economically priced rotator system for support, control and rotation of beam antennas—will support any TV antenna or full-sized Amateur 20-meter beam in high winds. Rotator features streamlined weather design, 50 heavy-duty bearings in two 6 1/2" ball races, 450 inch-lbs. average rotating torque, and heavily reinforced die-cast aluminum housing. Accurately calibrated remote-control indicator unit has large meter calibrated in compass points and 3° increments; double-stage switch permits instant direction reading without moving rotator. Rotator can be easily mounted on any standard tower. Accommodates mast or pipe up to 2 1/4" O.D. Requires 7-wire control cable. For 110-120 volts., 50-60 cycle AC. Wt., 20 lbs. 90 SX 479.....**58.75**

**MODEL HAM-M.** Heavy-duty rotator system featuring rugged stainless steel motor gears and pinions, 98 ball bearings, and solenoid brake release. Vertical load rating is over 1000 lbs.; heavy plates distribute stress. Provides 365 inch-lbs. rotating torque, 3500 inch-lbs. braking. Same indicator as in TR-44, above. Less 8-wire control cable. For 115 v., 60 cycle AC. 27 lbs. 89 SX 025.....**117.11**

## COMPLETE 53-AMP ALTERNATOR OUTFIT

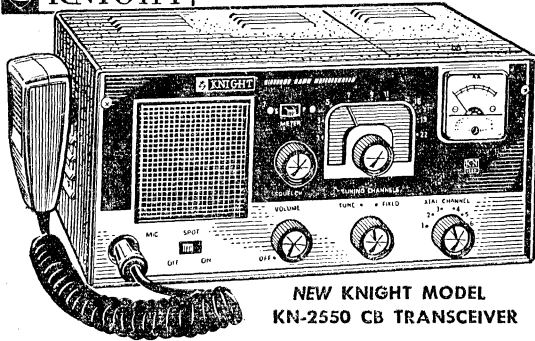
An excellent alternator to replace conventional generators in public, private, Citizens Band and Amateur mobile installations as well as marine mobile communications setups. Also useful for any car equipped with air conditioner or power accessories, and for replacing older, lower-output alternators. Powerful 53-amp type 6200 alternator prolongs battery life by keeping it fully charged at all times—charges at 15 amps even at curb idle. Amazingly easy to install, too—no special skill or experience is required; needs no lubrication, maintenance or other special care. Alternator features: replaceable silicon rectifiers mounted in efficient heat sinks; anti-friction/roller bearings; shielded slip-ring assembly; self-limiting current; compact design. Supplied complete with alternator, voltage regulator, pulley, universal mounting bracket for any car, all cable, and easy-to-follow installation instructions. For any 12-volt DC system, negative or positive. Shpg. wt., 17 lbs. 86 SX 106.....**59.95**



For any mobile or marine use  
**Complete \$59.95**

# Citizens Band 2-Way Radios for Industry . . .

**KNIGHT**



**NEW KNIGHT MODEL  
KN-2550 CB TRANSCEIVER**

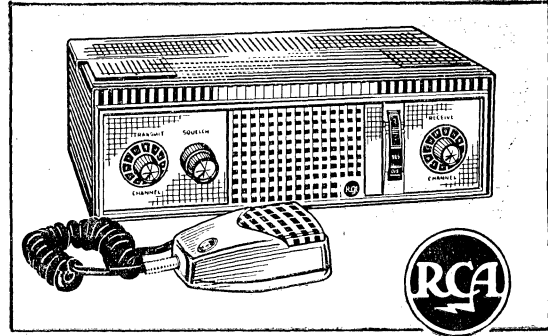
**\$94.95**

Each in Pairs

- Crystal-Controlled Transmit/Receive on Any 6 Channels • 22-Channel Receiver Tuning
- Includes Noise-Cancelling Microphone

New from Knight, this value-packed transceiver offers exceptionally economical 2-way communications. Features full-electronic antenna switching—uses no relays. Accepts 6 transmitting and receiving crystals; switch also permits manual 22-channel receiver tuning. "Positune" frequency-spotting circuit locates your transmit channel—just press switch and manually tune receiver to channel. Superhet receiver circuit boasts RCA "nuvistor" in RF stage for 1- $\mu$ v sensitivity. Also has 3-stage IF, adjustable squelch, automatic noise-limiter, AVC, and headphone terminals. Illuminated dial and planetary mechanism give accurate backlash-free tuning. Transmitter offers full 5-watt input, and matches 30 to 100-ohm antennas. Controls: On-off/Volume; Tuning; Squelch; Channel Selector; Spot Switch; Standby Switch; Meter Switch (has front panel output/S meter); Tune-Fixed Selector. With ceramic, press-to-talk noise-cancelling mike; crystals for one channel. Socket for selective call. Less mobile power supplies, below. 15 tube-functions; silicon rectifier. 5x 11 $\frac{1}{2}$ x6 $\frac{5}{8}$ ". For 110-120 v., 50-60 cycle AC, 15 lbs.

86 SX 456 D.....EACH 99.95  
Save \$10.00.....2 FOR 189.90  
90 SX 679 D, 12 VDC Power Supply, Wt., 5 lbs.....11.95  
90 SX 680 D, 6 VDC Power Supply, Wt., 5 lbs.....11.95



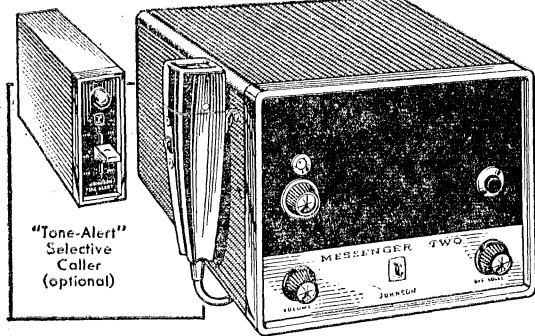
**MARK VIII CB TRANSCEIVER**

- Compact—Only 3 $\frac{1}{2}$ " High • Weighs Only 9 lbs,
- 9 Transmit/Receive Crystal-Controlled Channels
- 5-Watt Transmitter • Illuminated "Working" Channel

Deluxe 5-watt transceiver offering provision for 9 crystal-controlled transmit and receive channels plus vernier tuning of all 23 Citizens Band channels. Voice intelligibility is excellent. Sensitive receiver has ultra-selective superhet circuit with one RF and two IF stages. Also; automatic noise limiter to reduce ignition noise and other interference; adjustable squelch control to quiet receiver between calls; AVC; TVI trap to eliminate TV interference. Calls from nearby stations can be heard even when volume is turned all the way down, thanks to unique "message monitor." Electronic switching. Pilot light illuminates channel in use. Tunable receiver dial is calibrated both in channel numbers and frequencies. Five simple front-panel controls make operation easy for anyone. Attractive blue and gray metal case, only 3 $\frac{1}{2}$ x11 $\frac{1}{4}$ x8". With ceramic press-to-talk mike, power cords, transmit and receive crystals for channel 7. Less DC power supplies, below. For 110-120 v., 60 cycle AC. Shpg. wt., 10 lbs.

86 SX 075 D.....149.50  
86 SX 077. 12 VDC Power Supply, Wt., 7 lbs.....19.95  
86 SX 078. 6 VDC Power Supply, Wt., 7 lbs.....19.95

## Available with SELECTIVE CALLING



"Tone-Alert"  
Selective  
Caller  
(optional)

### JOHNSON MESSENGER II 10-CHANNEL TRANSCEIVER

MODEL 242-163. New, mobile or fixed-station transceiver—the Messenger II, equipped for 10 crystal-controlled transmit/receive channels, and offering many other deluxe features. Super-sensitive superhet receiver is complemented by a full 5-watt transmitter. Any of 10 channels is quickly selected by a front-panel switch. Also tunable for all 22 channels. Automatic noise limiter helps block out interference, and squelch control keeps receiver silent between calls. Has function-indicator lights. Chrome and black panel. With transmit/receive crystals for one channel; chrome-plated press-to-talk microphone; and power cords. Less antenna. For 110-120 v., 50-60 cycle AC or 12 v., DC. 5 $\frac{1}{2}$ x7x11". Wt., 17 lbs.

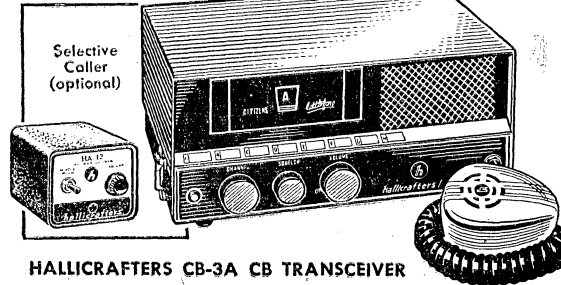
86 SX 002 D.....169.95  
86 SX 003 D, 242-162. Above, but for 110 VAC/6 VDC...169.95

MODEL 250-811 TONE-ALERT. For Model 242-163. For selective calling. Mutes receiver speaker until called by another unit in your system using a Tone-Alert. When called, audio note sounds and light goes "on" until answered. Switch has Standby, Operate, and Call positions. Easy to attach. 4x1 $\frac{1}{2}$ x7 $\frac{3}{4}$ ". 5 lbs.

89 S 389.....EACH 59.95  
89 S 393, 250-810. As above, but for Model 242-162.....EA. 59.95

*hallicrafters*

8 Transmit/  
Receive Channels



Selective  
Caller  
(optional)

### HALLICRAFTERS CB-3A CB TRANSCEIVER

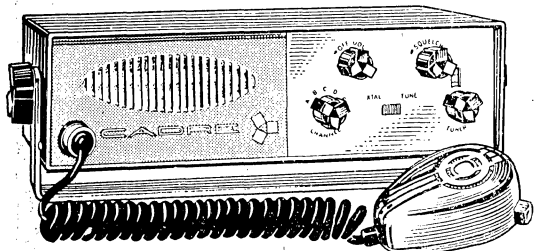
Highly efficient fixed-station or mobile transceiver with provision for 8 crystal-controlled transmit and receive channels. Dual-conversion receiver section has 6-kc selectivity—drastically reduces adjacent channel interference. Sensitivity: exceeds 1.0  $\mu$ v for 10 db signal-to-noise ratio. Dual limiters reduce impulse noises. 5-watt loop neutralized transmitter has link-coupled output—matches 25 to 75-ohm transmission lines. Series-trap reduces TVI. Self-contained dual power supply uses efficient silicon diodes. Two tone gray enamel finished cabinet. 5 $\frac{1}{2}$ x12 $\frac{1}{8}$ x8". With press-to talk mike and transmit/receive crystals for channel 11. For 110-120 v., 50-60 cycle AC, or 12 v., DC, 14 lbs.

90 SU 411.....159.95  
90 SU 454. As above, but for 110 VAC/6 VDC.....159.95

HA-12 ENCODER/DECODER. For units above. For selective calling. Keeps receiver quiet until called by another unit in your system using an HA-12. Also actuates stations using the HA-12. 2 $\frac{1}{8}$ x3 $\frac{3}{8}$ x4 $\frac{1}{2}$ ". Shpg. wt., 2 lbs.

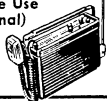
86 SX 300 D.....EACH 79.95  
86 SX 303 D, HA-12A, Encoder Only. Actuates units with HA-12 above, but cannot be actuated by others.....EACH 44.95

# Your Low-Cost Way to Boost Efficiency, Save Time



**CADRE MODEL 510A**  
ALL-TRANSISTOR 5-CHANNEL TRANSCEIVER

Case and Power Pack for Portable Use (optional)



Compact, completely transistorized 5-channel transceiver. Uses 18 transistors and 8 diodes for low extremely current drain. Excellent for mobile or portable applications. Has provision for 5 crystal-controlled transmit and receive channels. In addition, provides manual tuning that covers all Citizens Band channels. Features dual-conversion superhet receiver section;

1/2- $\mu$ v sensitivity for dependable long-distance reception. Also has adjustable squelch, automatic noise limiter circuit, pi-network output filter, and speech clipping. Output jack for headphones or an external speaker. Includes provision for selective calling.

Brushed aluminum and charcoal metal case. 3 1/2 x 11 3/8 x 5 3/8". With press-to-talk mike, crystals for channel 11, mounting bracket, power cords. Less portable case/power pack, below. For 110-120 v., 50-60 cycle AC, or 12 v., DC. Shpg. wt., 11 lbs.

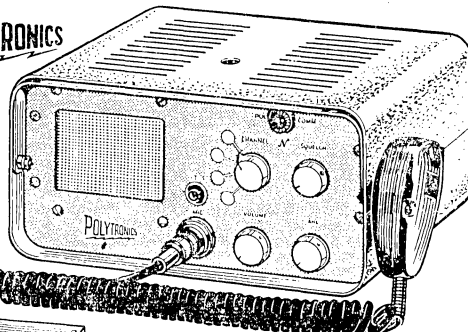
86 S X 267 D.....199.95

500-1 PORTABLE CASE/POWER PACK. High-impact plastic case with built-in battery charger and 42" 6-section whip antenna. 4x12x6". Less batteries, below. Wt., 3 lbs.

86 S 005.....34.95

86 S Q06. Rechargeable 6-v. Battery. Uses 2. Wt., 14 oz. JEA. 10.95

**POLYTRONICS**



22-Channel "Poly-Tuner" (optional)

Model PC-"N" 12

**POLY-COM PC-"N" 12 CB TRANSCEIVER**

Deluxe, precision engineered transceiver. Dual-conversion superhet receiver features an RF stage that provides better than 0.1  $\mu$ v sensitivity—ensures excellent reception over a long distance. Has adjustable squelch; automatic noise limiter; 4" PM speaker. 5-watt transmitter has adjustable output that matches 52-ohm or 72-ohm antennas. Extremely high adjacent-channel signal rejection. Modulation indicator. Provision for 4 crystal-controlled transmit and receive channels. 11-tube circuit. With crystals for one channel. AC-DC power cords, press-to-talk microphone, mounting brackets. Rugged steel cabinet. 7 1/2 x 11 x 5". For 110-120 v., 50-60 cycle AC, or 12 v., DC. Shpg. wt., 19 lbs.

90 SU 423 D.....189.50

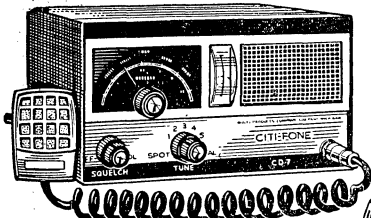
90 SU 424 D. Model PC-"N" 6. For 115 VAC, or 6 VDC... 189.50

POLY-TUNER. Plugs into Poly-Comm "N" or "11 G." Provides manual receiver tuning of all 22 channels. Includes S-meter. Supplied with mounting bracket. Shpg. wt., 1 lb.

90 S 425.....34.95

**MULTI-ELMAC**

**MULTI-PRODUCTS**  
CITI-FONE CD-7



- 5 Transmit and Receive Channels
- Squelch • Automatic Noise Limiter
- 1/2  $\mu$ v Receiver Sensitivity

Deluxe 5-channel Citizens Band transceiver for mobile or fixed station use. Convenient function switch instantly selects crystal-controlled receive, tunable receive, or selects crystal "spot" to permit locating of transmitting crystal frequencies. Has illuminated dial and 4-1 vernier receiver tuning. Dual-function meter shows signal strength and power output.

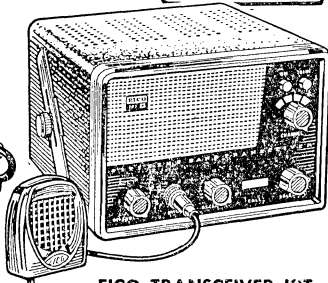
Very sensitive superhet receiver section has 8 tuned circuits; squelch for quieting between calls; automatic noise limiter to help prevent ignition noise and other types of interference. Sensitivity: 1/2  $\mu$ v for 6 db signal-to-noise ratio.

Efficient 5-watt transmitter operates on any of 5 switch-selected crystal frequencies. Has high-level AM modulation, adjustable antenna coupler, high-Q tank coil. Quality speaker. Heavy-duty power supply. 4 3/4 x 9 1/2". With press-to-talk mike, two power cords, and transmit/receive crystals for one channel. For 110-120 v., 50-60 cycle AC, or 12 v., DC. Wt., 16 lbs.

90 SU 418 D.....189.50

90 SU 419 D. For 115 VAC/6 VDC 189.50

**EICO**



**EICO TRANSCEIVER KIT**

**MODEL 770.** An easy-to-build transceiver that provides more effective Citizens Band communications. Front-panel selection of four transmit crystals. Sensitive tunable superheterodyne receiver section has RF stage for 1  $\mu$ v sensitivity, automatic noise limiter, and adjustable squelch control. 5-watt transmitter section features press-to-talk microphone, pi-network output, plate modulation with automatic limiting. Eight tubes and a germanium diode ensure reliable performance. Metering jack in cathode circuit for input-power checking. Has convenient function-indicator lights. Supplied complete with mounting bracket, microphone, one crystal, easy to follow instructions, and all parts. For 110-120 volts, 50-60 cycle AC. Shpg. wt., 13 lbs.

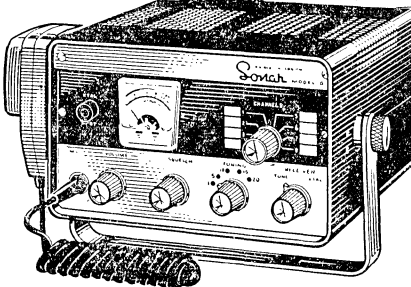
90 SX 137 D.....79.95

90 SX 138 D. Same as Above, but factory wired and tested.....109.95

90 SX 139 D. Model 772 Kit. As above, but for 120 VAC or 12 VDC.....89.95

90 SX 140 D. Same as Above, but factory wired and tested.....119.95

**Sonar**



**SONAR MODEL G TRANSCEIVER**

Precision built to offer premium-quality Citizens Band communications at all times, as a fixed or mobile station. Features 8 crystal-controlled transmit and receive channels, plus manual receiver tuning of all CB channels. Dual-conversion receiver provides 1.0  $\mu$ v sensitivity for 10 db quieting, and 3-cc selectivity at 6 db down. Has adjustable squelch control and automatic noise limiter.

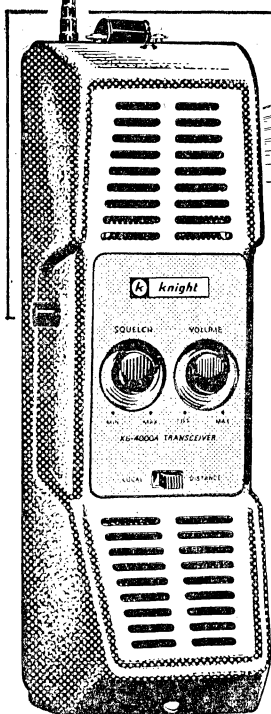
Full 5-watt transmitter circuit has Class B push-pull modulation with 100% capability. Front-panel meter serves as RF power indicator and also as S-meter. Also: push-button crystal-frequency spotter; TVI trap; indirect illuminated panel; heavy-duty aluminum construction; built-in 2-way power supply; press-to-talk mike provision. 4 3/4 x 9 1/2 x 11 1/4". With mike, universal mounting bracket, and a pair of crystals for one channel. For 110-120 v., 50-60 cycle AC, or 12 v., DC. Shpg. wt., 10 lbs.

90 SU 428 D.....229.50

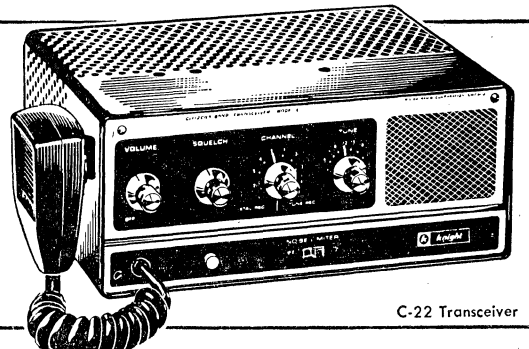
90 SU 429 D. As above, but for 115 VAC or 6 VDC. 10 lbs.....229.50

Depend Upon Allied for the Latest in Citizens Band Equipment

**ALLIED • 503**



KG-4000A  
Walkie-Talkie



C-22 Transceiver

### KG-4000A 1-WATT WALKIE TALKIE

Has many industrial applications. Full 1-watt RF input permits 2-way communications up to 5 miles. Offers: less than 1  $\mu$ v receiver sensitivity; ANL; AVC; squelch, Distance-Local switch; press-to-talk; RF indicator; weatherproof-mike and speaker; 52" whip; external antenna and earphone jacks. Uses 9 transistors and 3 diodes. Less batteries (uses 8, below) and crystals (uses 1 transmit, 1 receive, below). With FCC-permit application, tan case with strap. 10 $\frac{1}{2}$ "x3 $\frac{3}{8}$ "x14 $\frac{1}{2}$ " Wt., 6 lbs.

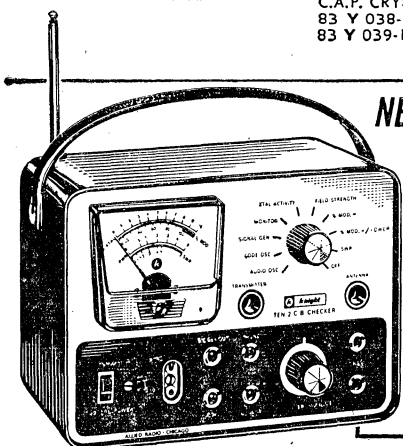
- 83 YX 500-D, Factory Assembled... 89.95
- 83 YX 808-D, In Kit Form... 59.95
- 83 Y 012-D, "C" Cell, Wt., 2 oz., EACH 1.14
- 83 Y 551-D, Rechargeable Battery/Charger Combination, Replaces "C" cells, Factory assembled, 1 lb. 29.95
- 83 Y 011-D, Above, in Kit Form... 19.95
- 83 Y 047-D, 12-V, Adapter, Plugs into auto cigarette lighter, 6 oz. 1.00

CRYSTALS, Specify Channel 1-22, 3 oz.  
 83 YY 041-D, Receive... EACH 1.95  
 83 YY 034-D, Transmit... EACH 1.95  
 C.A.P. CRYSTALS, 26.620 mc, 3 oz.  
 83 Y 038-D, Receive... EACH 1.95  
 83 Y 039-D, Transmit... EACH 1.95

### C-22 5-WATT CB TRANSCEIVER KIT

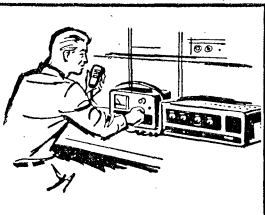
Magnificent-performing transceiver kit. Operates on any 5 switch-selected channels—or flip the switch and manually tune receiver through all 22 channels. Ideal for fixed-station or mobile use, has built-in 115 VAC/12 VDC power supply. 5-watt transmitter has RF output indicator, 54-mc harmonic trap, adjustable pi-net loading circuit. Superhet receiver has 1  $\mu$ v sensitivity, selectivity of 6.5 db at 6 kc, two 1650-kc IFs, vernier tuning, squelch, AVC, ANL, 3" speaker, 12 tube functions, 4 $\frac{3}{8}$ "x10 $\frac{1}{2}$ "x10 $\frac{1}{2}$ ". With wire, solder, press-to-talk mike, coil cord, instructions. Less crystals below. For operation from 110-125 v., 60 cycle AC or 12 VDC. Shpg. wt., 19 lbs.

- 83 YX 802-D... 69.95
- 83 YX 801-D, Standard Model, For fixed-station use, For 115 VAC only... 64.95
- 83 YX 009-D, Mobile Mtg. Bracket, 6 lbs. 4.95
- 83 YY 046-D, Transmit Crystal, Specify Channel 1-22 (C-22 takes 5), 3 oz. EACH 2.50
- 83 YY 045, Receive Crystals, Specify Channel 1-22 (C-22 takes 5), 3 oz. EACH 2.50
- C.A.P. CRYSTALS, 26.620 mc, 3 oz.  
 83 Y 043-D, Transmit... EACH 2.50  
 83 Y 042-D, Receive... EACH 2.50



### NEW! MODEL TEN-2 CITIZENS BAND TESTER

Actually ten precision instruments in one.



New, highly useful and completely portable all-transistor ten-function test instrument. Permits you to easily and quickly evaluate and improve the performance of Citizens Band transceivers in either fixed or mobile installations. Servicemen, technicians and CB operators will find it invaluable for fast, accurate troubleshooting.

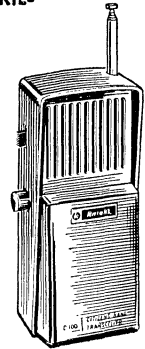
Actually ten precision instruments in one, the "10-2 Checker" measures, with 10% accuracy, relative standing-wave-ratio of antenna arrays and transmission lines; percentage of either positive or negative modulation, relative field strength, power output, and relative crystal activity. May also be used as a signal monitor, crystal-controlled rf generator, audio generator, and code-practice oscillator.

Large, easy-to-read 2" meter has four scales and sensitive movement. Front-panel sockets accept any standard or miniature CB transmitting crystals. Front-panel jacks for key, headphone output, scope output, rf generator output, as well as Motorola connectors for CB antenna and transceiver inputs. A 40" antenna collapses into cabinet when not in use.

Charcoal gray cabinet has brushed aluminum panel with black and satin knobs. Cabinet size, 5 $\frac{1}{2}$ "x7 $\frac{1}{8}$ "x4 $\frac{1}{4}$ ". Complete with 9-volt battery and instructions. Shpg. wt., 4 lbs.  
 83 Y 561-D, Factory Assembled. 39.95  
 83 Y 823-D, In Kit Form... 25.95  
 41 H 199, PL-259 Socket Plug To Motorola Adapter, Shpg. wt., 8 oz. 44

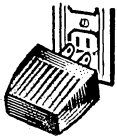
### MODEL C-100 WALKIE-TALKIE KIT

- Transistorized
- Easy to Assemble
- No License Needed
- 100 Milliwatt Input
- Crystal-Controlled Transmitter
- Super-Regenerative Receiver
- Press-To-Talk Switch
- 2" Speaker-Mike
- High-Impact Case
- With Transmitting Crystal
- Up To 75 Hours on A Low-Cost Battery



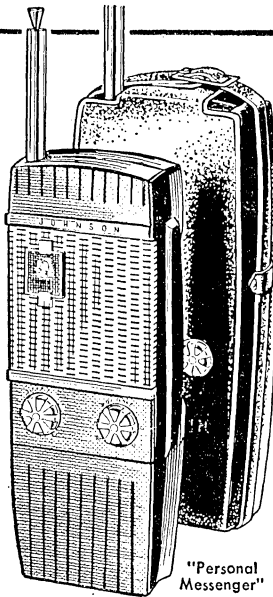
Great value in a walkie-talkie that comes in easy-to-build kit form. Lends itself to many uses in industry—warehousing, construction, inventories, security—wherever on-the-move 2-way communications up to 1/4 mile is desired. No license requirements—meets FCC regulations for unlicensed 100-milliwatt units. Press-to-talk and you're on the air. The three-transistor circuit has a crystal-controlled transmitter section and sensitive super-regenerative receiver section. A 2" speaker doubles as a microphone when you transmit. Has a 40" telescoping whip, 5 $\frac{3}{8}$ "x2 $\frac{1}{8}$ "x1 $\frac{1}{4}$ ". With transmitting crystal, parts, wire and solder. Less battery and optional carrying case, below. Shpg. wt., 9 oz.  
 83 Y 804-D... EACH 9.95  
 83 Y 821-D... TWO FOR 18.88  
 83 Y 013-D, Carrying Case, 6 oz. 98  
 83 Y 002-D, 9-V, Battery, 4 oz. EACH 2.1

# Compact Citizens Band Walkie Talkies



**\$1 BONUS—Get This Rechargeable Battery Pack, Worth \$19.95, for Just \$1.00 More When You Buy the Johnson 1-Watt Walkie Talkie.**

- 11 Transistors, 4 Diodes
- Reliable Printed Circuit Construction
- Powerful 1-Watt Crystal-Controlled Transmitter
- Crystal-Controlled Superhet Receiver
- ANL and Squelch
- "Push-Pull" Output
- Moisture-Proof Speaker/Mike
- Telescoping Antenna
- Bonus Nickel-Cadmium Rechargeable Battery



"Personal Messenger"

## JOHNSON 1-WATT WALKIE-TALKIE SPECIAL

Save \$18.95 On Rechargeable Battery Pack

"Personal Messenger" gives ten times the power of most Citizens Band walkie-talkies... doubles your effective operating range. Ideal for industrial, business and personal applications requiring dependable on-the-move communications. Meets FCC requirements for licensed Citizens Band station use. Offers a sensitive crystal-controlled superhet receiver section with RF amplifier, powerful 2-stage transmitter section that punches signal home—even at extreme ranges. "Push-pull" audio circuit gives crisp, clear voice reproduction. Uses rugged printed circuit chassis board. Has press-to-talk switch, moisture-proof speaker/mike, squelch for silent standby, on-off/volume control, telescoping antenna, earphone jack. With transmitting and receiving crystals for all channels. Uses battery pack (included) or 8 penlight cells, below. Battery pack recharges from 115 v. AC outlet. Size, 8x3 1/2x2". Shpg. wt., 2 1/2 lbs.

20 SC 487, Walkie-Talkie and Battery Pack. . . . .130.95

24 SC 196, Walkie-Talkie Alone, Wt., 2 lbs. . . . .129.95

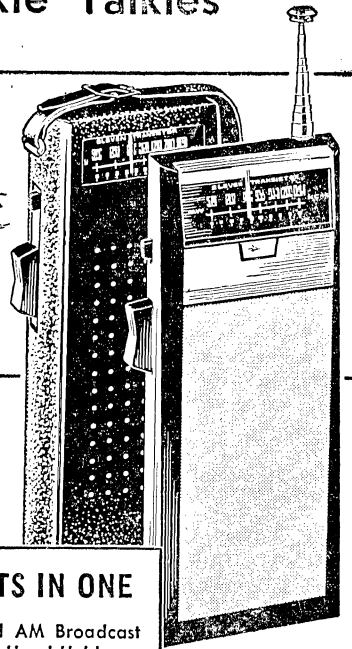
24 SC 185, Battery Pack Alone, Wt., 4 oz. . . . .19.95

24 SC 198, Leather Case, For above, Wt., 8 oz. . . . .8.50

39 A 677, Penlight Cells, 2 per pkg, 4 oz. . . . .PER PKG. .17



- 11 Transistors, 1 Thermistor, 1 Diode
- 1-Mile Range
- AM Radio
- Batteries, Case, Earphone



## TWO UNITS IN ONE

It's a Standard AM Broadcast Receiver and a Hand-Held Citizens Band Transceiver

## 11-TRANSISTOR CB WALKIE-TALKIE WITH AM RADIO

Low-cost transistorized marvel features high-efficiency amplitude modulation for clearer, more powerful transmissions. Provides 2-way communications at distances up to a mile. No license needed—meets FCC requirements for unlicensed Citizens Band units. Built-in AM radio keeps you posted on news, sports and weather. Tunes 540 to 1600 kc, has Automatic Volume Control to prevent blasting; high-gain ferrite bar antenna. Also: push-pull audio output, 2 1/2" speaker, chrome-plated telescoping 4 1/2-ft. whip antenna, 100-mw transmitter input. 11 transistors, 1 diode, 1 thermistor. Uses 8 penlight batteries (supplied). With transmit and receive crystals for Channel 9, earphone and leather case. Size, 7 3/4x3 1/4x1 1/2". From Japan. Shpg. wt., 2 1/2 lbs.

24 SC 180. . . . .EACH 37.95

Save \$2.00 Per Unit . . . . .2 or More, EACH 35.95

39 A 677, Batteries, 2 per pkg, 4 oz. . . . .PER PKG. .17

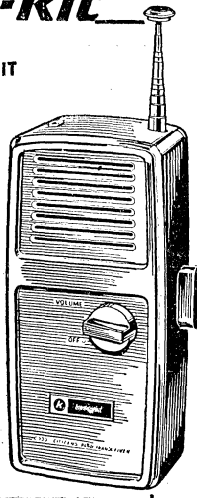
# NEW! knight-kit®

## C-555 SUPERHET WALKIE-TALKIE KIT

Uses 5 transistors, 1 diode. Printed circuit board for assembly ease. Crystal-controlled transmitter and receiver. Press-to-talk transmitter has 100-mw input, up to 3/4-mile operating range. Superhet receiver gives top gain and reliability. 2" speaker doubles as mike. 40" telescoping whip, on-off/vol. control, earphone jack. Coral red case, 7x3 1/2x2". No license or permit needed. With instructions. Less battery, crystals, optional carrying case below. Shpg. wt. 1 lb.

83 Y 822-D. . . . .EACH 19.95

- CRYSTALS. Specify Chan. 2-22, 2 oz.
- 83 YY 034-D, Transmit. . . . .1.95
- 83 YY 041-D, Receive . . . . .1.95
- C.A.P. CRYSTALS, 26.620 mc. 2 oz.
- 83 Y 038-D, Receive . . . . .1.95
- 83 Y 039-D, Transmit. . . . .1.95
- 83 Y 014-D, 9-V. Battery, 4 oz. . . . .35
- 83 Y 092-D, Carrying Case, 6 oz. . . . .1.98
- 83 Y 094-D, Earphone, 3 oz. . . . .79



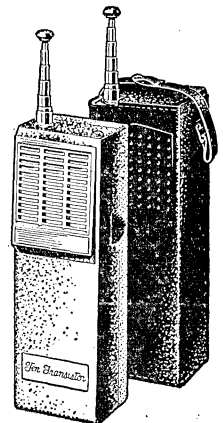
## 10-TRANSISTOR WALKIE-TALKIE

Terrific value in a moderately-priced, easy-to-handle Citizens Band transceiver. Provides reliable 2-way communications at distances of a mile or more. No license is required—meets FCC requirements for unlicensed Citizens Band units. Has a sensitive crystal-controlled receiver section with 2" speaker that doubles as a microphone when you transmit. Crystal-controlled transmitter section has convenient press-to-talk button, 100% modulation capability, 57" telescoping whip antenna. Rugged gray metal case. With earphone for private listening, carrying case and strap, crystals for channel 7. Less batteries, below (requires 7). Size, 6 5/8x2 1/2x1 1/2". From Japan. Shpg. wt., 1 1/2 lbs.

24 SC 193. . . . .EACH 32.50

2 or More . . . . .EACH 29.95

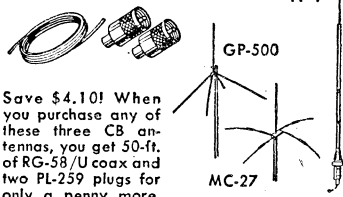
39 A 677, Batteries, 2 per pkg, Shpg. wt., 4 oz. . . . .PER PKG. .17





# CB Base Station Antennas and Useful Accessories

## 1/2 Bonus Offer



Save \$4.10! When you purchase any of these three CB antennas, you get 50-ft. of RG-58/U coax and two PL-259 plugs for only a penny more. \$4.11 value!

**BONUS OFFER.** Get 50 ft. of RG-58/U coaxial cable and two PL-259 coaxial connectors for only 1¢ more, when you buy any of these popular Citizens Band antennas. You save \$4.10 off catalog prices.

**NEW HY-GAIN GP-500.** Omnidirectional ground-plane antenna provides unity gain. Has a 9" aluminum radiator, 9" aluminum radials. Fits 1 to 1 3/8" dia. masts. Shpg. wt., 8 lbs.

23 SU 215-2 D, GP-500 Plus Bonus **14.96**  
90 CZ 396-D, GP-500 Alone, 6 lbs. **14.95**

**ANTENNA SPECIALISTS MC-27.** Omnidirectional ground-plane antenna has 108" solid

aluminum heat-treated radiator and radials that bend to match 50-ohm transmission lines. Fits 1" to 1 1/4" masts. Shpg. wt., 7 lbs.

23 SU 216-2 D, MC-27 Plus Bonus... **15.65**  
89 CU 817, MC-27 Alone, 5 lbs. .... **15.64**

**NEW HY-GAIN VP-1.** Extended 1/2-wave omnidirectional vertical antenna. Voltage-fed at base. Provides 10 db circuit gain. Heavy-wall, high-grade aluminum tubing, Fiberglass base insulator, 16 ft. long. Shpg. wt., 6 lbs.

23 SU 217-2 D, VP-1 Plus Bonus... **19.96**  
90 SX 397-D, VP-1 Alone, 4 lbs. .... **19.95**

**MOUNTING KIT BONUS OFFER**  
Hy-Gain UMKW Listed at right.

Save \$5.95 with Either CB Antenna.

**NEW HY-GAIN CLR-II.** Omnidirectional ground-plane provides low radiation angle, 3.4 db gain, 8 db circuit gain. Matches 52-ohm lines, has 1.2:1 SWR. DC-grounded to prevent static buildup and protect from lightning. Heavy-wall aluminum tubing, Height, 19" 11", radials, 9". For 1 1/4 to 1 3/4" masts. 16 lbs.

23 SU 213-2 D, CLR-II Plus UMKW Kit **34.95**  
86 SX 422-D, CLR-II Alone, 10 lbs. . . **29.95**

**ANTENNA SPECIALISTS M-81 "MAGNUM."** Omnidirectional ground-plane provides low radiation angle, effective 6 db gain. Has 5-

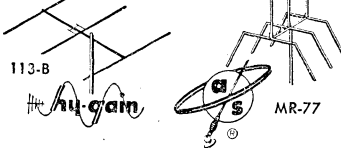
section 207" 1/2-wave aluminum radiator and 54" aluminum radials. Shunt-fed radiator is DC-grounded to prevent static buildup. Matches 52-ohm lines. For most masts. Shpg. wt., 16 lbs.

23 SU 214-2 D, M-81 Plus UMLW Kit **29.37**  
90 CU 278, M-81 Alone, 10 lbs. .... **24.37**

**HY-GAIN UMKW UNIVERSAL MOUNTING KIT ONLY.** Includes 50 ft. of RG-58/U coaxial cable, 2--PL-259 connectors, roof saddle mount, 30 ft. of guy wire, 3 eye-hooks, 2 adapters. Shpg. wt., 6 lbs.

86 SX 386-D, ..... **10.95**

## CITIZENS BAND BEAM ANTENNAS



**NEW HY-GAIN 113-B.** 5-element beam provides 12.7 db gain, 25 db F/B ratio. 52-ohm feed with Beta match. Aluminum construction with high-impact plastic insulators. 2" dia. boom is 24" long. Longest element, 9". Turning radius, 14'6". With mtg. bracket. Wt., 27 lbs.

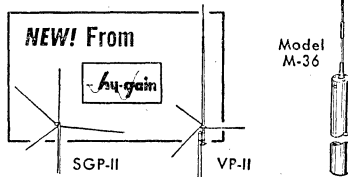
86 CZ 389-D..... **69.95**

**HY-GAIN 113-B.** As above, but 3 elements, provides 9 db gain. Has 8" boom. Longest element, 16'6". Turning radius, 6'. Shpg. wt., 15 lbs.

89 CZ 826..... **31.50**

**NEW ANTENNA SPECIALISTS MR-77.** 3-element beam has separate 52-ohm coax inputs to vertical and horizontal radiating elements. Provides 6 db horizontal gain and 7 db vertical gain; 15 db F/B ratio. SWR, below 1.5:1. 1 3/8" dia. boom is 10' long. Turning radius, 8'6". All aluminum. Fits masts to 1 3/8". Shpg. wt., 24 lbs.

86 CZ 397-D..... **58.75**



**NEW HY-GAIN SGP-II.** Low-cost omnidirectional 1/4-wave ground-plane antenna provides unity gain. Matches 52-ohm coax lines. 9" radiator and 9" radials are constructed of heavy-wall, 3/8" and 7/16" O.D. aluminum tubing. For all masts up to 1 1/2". Wt., 5 lbs.

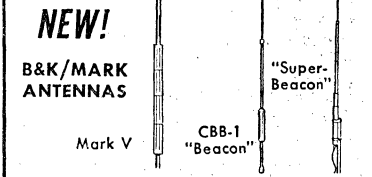
86 SX 399-D..... **12.95**

**NEW HY-GAIN VP-II.** Omnidirectional ground-plane antenna provides effective 6 db gain. Matches 52-ohm coax lines. Has telescoping aluminum 16' radiator and 54" aluminum radials. Fits up to 1 1/2" dia. masts. Wt., 10 lbs.

86 SX 400-D..... **24.95**

**ANTENNA SPECIALISTS M-36.** Omnidirectional vertical 1/2-wave coaxial antenna. Matches 52-ohm coax inputs. 9" aluminum radiator bolts to 9" long, 2" dia. 1/4-wave aluminum skirt. Overall height, 18". For 3/4" dia. pipe mtg. Shpg. wt., 7 lbs.

89 CZ 819..... **19.56**



**NEW MARK V.** Omnidirectional colinear vertical antenna with low radiation angle. Needs no radials. 20' aluminum radiator matches 50 ohm lines. Accepts PL-259 connector. For up to 1" to 1 1/4" masts. Shpg. wt., 16 lbs.

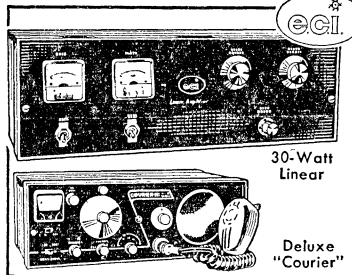
86 CZ 408-D..... **48.95**

**CBB-1 "BEACON" VERTICAL.** Unique 1/2-wave antenna requires no radials or skirts, yet provides 1 db gain over standard ground-planes. Has 17' aluminum radiator, fiberglass mounting section and 50-ohm matching stub. Accepts PL-259. Fits up to 1 3/4" masts. Shpg. wt., 8 lbs.

90 CZ 136..... **21.95**

**"SUPER-BEACON"** Full-size, omnidirectional 1/2-wave vertical provides low radiation angle. 19' radiator has coating to reduce static and improve receiver sensitivity by up to 20 db. Needs no radials. For 52-ohm line. For masts up to 1 3/4"

90CZ 186..... **36.95**



30-Watt Linear

Deluxe "Courier"

## 30-WATT LINEAR AMPLIFIER

Provides minimum of 30 watts rf output on 10-meter Ham band, Channel 23 of Citizens Band (Class "C" permit required), or other services in the 25-30 mc range. With simple coil change, also works on 6 meters. Requires just 1 watt drive from any CW, AM, SSB or FM transceiver. Connects to transceiver's antenna output, is automatically switched on and off by rf output of transceiver. Provides 30 watts AM, 45 watts CW, SSB, FM. Has: Pi-network loading, plate and grid meters. Uses 6146, 12AU7, 0C2 and 0B2 tubes. 4 3/4"x14 1/8"x7 3/16". For 110-120 v. AC, 20 lbs.

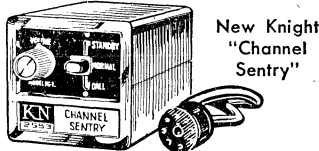
86 SX 237-D..... **159.50**

## "COURIER" 1M CB TRANSCEIVER

For fixed or mobile use. Provision for 12 crystal-controlled transmit channels, 4 fixed-frequency receive channels that need no crystals, plus tunable 23-channel receive. Triple-conversion receiver has nuvistor rf, 0.25  $\mu$ v sensitivity, 4 kc selectivity (-10 db), series-gate noise limiter delayed squelch. Transmitter provides 3.4 watt rf output, 100% modulated. Electronic switching, TVI trap, S-unit/rf meter, press-to-talk mike, 14x7 1/8"x4 3/8". For 110-120 v. AC or 12 v. DC, 18 lbs.

86 SX 236-D..... **229.50**

86 S 238-D, Dash Mtg. Kit, 1 lb. .... **5.95**



New Knight "Channel Sentry"

**NEW KNIGHT KN-2553 "CHANNEL SENTRY."** 2-tone squelch unit stops unwanted signals. Receiver remains silent until called by another unit with "Channel Sentry." Then tone sounds, signal lights, receiver is activated. Light stays on until reset. Can transmit 6 combinations of dual-tone frequencies. Change frequencies quickly and easily.

Standby/Normal/Call switch; volume control. Plugs into Knight KN-2550; Sonar "E" and "G"; and RCA Mark VIII. Wires to any push-to-talk CB transceiver. With cable, 8-prong plug. Size, 3 5/8"x3 1/8". Wt., 3 1/2 lbs.

86 S 384-D..... **EACH 32.50**

Buy Two—Save \$2.50..... **TWO FOR 62.50**



# Selected Citizens Band Mobile Antennas

## 1¢ Bonus

Static Arrester  
with B&K/Mark  
Antenna for  
1¢ Extra  
Save \$1.64

**NEW!**  
B&K/Mark HW-11-6  
6-Ft. Heavy-Duty  
"Heliwhip"

HW-11 "HELIIWHIPS." Loaded fiberglass whips for compact installations. \*Heavy duty. Fit std. or IHWM mounts, below. Wt., 1 lb.

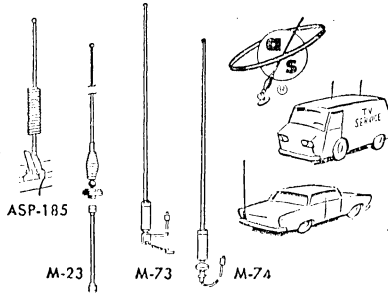
Type HW-11-	Fl.	Alone		With Bonus	
		Stock No.	E.A.	Stock No.	E.A.
4"	4	89 SX 799	9.95	23 SU 218-2D	9.96
6"	6	86 SX 401	10.95	23 SU 219-2D	10.96
	4	90 SX 132	7.20	23 SU 220-2D	7.21
S3	3	90 SX 133	7.20	23 SU 221-2D	7.21
S18	1½	90 SX 134	7.20	23 SU 222-2D	7.21

## B&K/MARK ANTENNA MOUNTS



IHWM heavy-duty flat-surface mount. HWM-3 light-duty mount with angle mtg. swivel SA-1 90° swivel adapter. 1 lb.

Stock No.	Type	Use With	EACH
89 S 614	HWM-1	HW-11 whips	7.50
90 S 135	HWM-3	HW-11S whips	4.25
90 S 122	SA-1	HWM mount	3.00



## ANTENNA SPECIALISTS KITS

ASP-185. Clamp-on, base-loaded 40" whip with 12' RG-58/U, PL-259. Clamps to rain gutter. Wt., 2 lbs.  
89 S X 792.....12.23

M-23. 102" stainless steel whip, coax body mount, spring, 20' RG-58/U, 2—PL-259 connectors, hardware, mounting pads. Shpg. wt., 6 lbs.  
89 CZ 793.....17.46

M-73. 44" base-loaded stainless whip with trunk-groove mount, 12' RG-58/U, PL-259 Plug, 2 lbs.  
89 S X 796.....16.72

89 S X 797, M-74. Above, cowl mt., 18.94

**1¢ Sale!**

Get A Static Arrester for 1¢ Extra When You Buy Either Antenna. A \$1.65 Value

Save \$1.64

MB-24 M-67

## ANTENNA SPECIALISTS 1¢ BONUS

Get a Hy-Gain DCGK Static Arrester for just 1¢ more when you buy either antenna kit. Reduces ignition noise and lightning hazards.

MB-24 KIT. 102" whip, spring, double-chain bumper mount, 20' RG-58/U, PL-259, hold-down clip, 7 lbs.  
23 SU 223-2-D, MB-24 Kit Plus Bonus 18.68

89 CZ 794, MB-24 Kit Alone.....18.67

M-67 KIT. 44" base-loaded stainless steel whip with roof-top mount, 12' RG-58/U, PL-259 connector. 1½ lbs.  
23 SU 224-2-D, M-67 Plus Bonus.....13.19

90 SX 142, M-67 Alone, 1½ lbs.....13.18

## POPULAR hy-gain ANTENNAS

**NEW COMBINATION WHIPS FOR CB AND BROADCAST BAND**

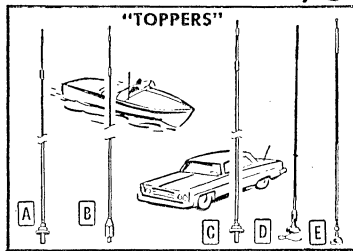
Hy-gain Model M-103

Model TLTC M-104

NEW HY-GAIN TLTC. Top-loaded whip antenna works on both CB and AM broadcast bands. Isolating coupler permits dual-band use without switching. Chrome-plated telescoping whip has single-hole chrome body mount. Coupler has necessary cables and plugs. Easily installed. 3 lbs.  
86 S X 409-D.....14.65

NEW ANTENNA SPECIALISTS M-103. Eliminates need for two antennas. Center-loaded 46" telescoping chromed whip works on both CB and AM broadcast bands without switching, has single-hole body mount. Divider has cables and plugs for your AM radio and CB unit. 3 lbs.  
90 S X 459-D.....14.64

NEW ANTENNA SPECIALISTS M-104. Dividing harness and 5' cable alone. Adapts any ungrounded CB whip for dual band use. Shpg. wt., 1½ lbs.  
86 S 410-D.....6.78



Top-loaded stainless-steel whip antennas. Reduced size permits higher mounting and improved matching provides better radiation efficiency. Match 52-ohm lines. Encapsulated top loading coils are permanently fused to the same-diameter whips.

- A TLW-M. 50" whip with chromed single-hole body mount. 1 lb.  
90 S X 127.....8.95
- B TLWT-M. Telescoping 50" whip with chrome-plated body mount. Whip closes to 28". Shpg. wt., 1 lb.  
90 S X 129.....8.95
- C TLWR. 29" whip with mount for roof or trunk, chrome-plated miniature spring. Shpg. wt., 1 lb.  
86 S X 411-D.....11.97
- D TLMA. For marine use. 6-ft. whip has heavy-duty cycloc plastic mount with quick-disconnect fitting. 3 lbs.  
86 S X 418-D.....19.95
- E TLW WHIP. 50" whip has standard ¾"-24 threaded stud. 1 lb.  
90 S X 128.....6.96

**1¢ Sale**

On Hy-Gain BPRW Mobile CB Antenna Package

Save \$1.64

Get the Hy-Gain Static Arrester for 1¢ More.

BPRW WHIP/MOUNT. 102" stainless steel whip antenna has cadmium-plated steel bumper mount with stainless steel strap. Shpg. wt., 3 lbs.  
23 SU 225-2-D, BPRW Plus Bonus....10.33

86 CZ 419-D, BPRW Alone.....10.32

DCGK STATIC ARRESTER. Drains off static, reduces lightning hazard. 3 oz.  
86 S 407-D.....1.65

**Hy-gain MOBILE MOUNTS**

JM BDY BPR W-102 W-108

86 S 420-D. JM "Jiffy" Mount. Attaches under edge of trunk. Needs two ¼" holes. Accepts standard ¾"-24 studs. Cadmium-plated steel. ½ lb.....3.15

86 S 280-D. BDY Deluxe Body Mount. Heavy-chromed split ball on cycloc base. For standard ¾"-24 studs. 1 lb.....4.77

89 S 823. BPR Deluxe Bumper Mount. Stainless steel mount and strap. Fully adjustable. Shpg. wt., 1 lb.....6.57

STAINLESS STEEL WHIPS, 1¼ lbs.  
90 CZ 141, W-102, 102".....4.35  
86 CZ 294-D, W-108, 108".....4.50

## WARD MOBILE CITIZENS BAND ANTENNA PACKAGES

LOW-COST ANTENNA PACKAGE. Includes a 102" stainless steel mobile whip antenna, standard chrome-plated double-taper spring, chrome-plated adjustable ball-type body mount. 6 lbs.  
89 CZ 812.....6.95

89 CZ 814. Deluxe Antenna Package. As above, but with chrome-plated heavy-duty spring and ball mount. Shpg. wt., 7 lbs.....10.95

As Low As \$6.95



# Garage Door Opener-Remote Controls

## ELECTRONIC GARAGE-DOOR OPENER

EASY-TO-INSTALL

**\$149.50**

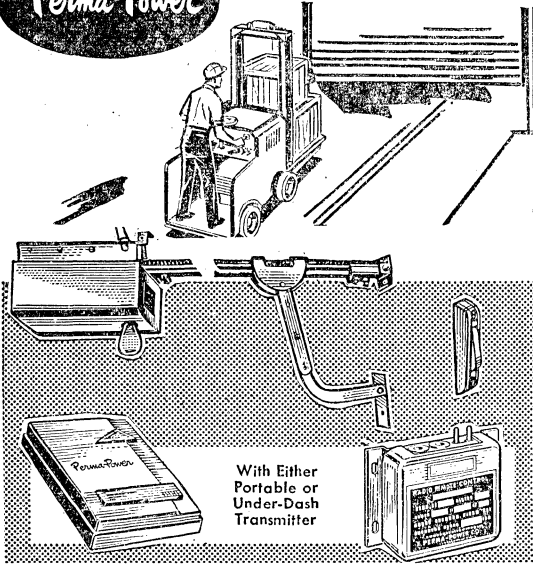
- All-Transistor Remote Control System
- Automatically Opens or Shuts Door and Turns On Lights from Car or Truck

Touch a button—your overhead door opens and the light goes on! Press the button again, or use the wall-mounted pushbutton switch, and the door closes and locks—and after a few minutes the light automatically goes out. Power shuts off automatically if door-travel is obstructed. Door can be operated manually at any time. Choose from two handy, all-transistor control units—a pocket-size portable transmitter, or an under-dash transmitter with dashboard pushbutton. Both units are crystal-controlled on the FCC-authorized frequency of 27.255 mc. No license is required to operate the Door Opener. Easy-to-install system is powerful enough to raise any overhead door up to 18-ft. wide and 8-ft. high, using either a horizontal or curved roller track. Requires only 2 1/4" clearance between high-arc of door and ceiling. Includes motor mechanism and receiver (for 110-120 v., 50-60 cycle AC), 1 transmitter (for 12 VDC), antennas, manual pushbutton, wire, hardware and instructions.

G-663 SYSTEM. With portable transmitter. 67 lbs. .... **149.50**  
89 SX 007 D.....

G-664 SYSTEM. With under-dash transmitter. 67 lbs. .... **149.50**  
89 CZ 013 D.....

89 S 015. Key Switch. With 2 keys. 9 oz. .... **4.20**



With Either Portable or Under-Dash Transmitter

### PORTABLE TRANSMITTER UNITS

G-340 EXTRA TRANSMITTER. Has built-in antenna and clip for mounting on sun visor in car or truck. 1 lb. .... **19.50**  
89 SX 018.....

G-663 ALTERNATE-FREQUENCY SYSTEM. Like G-663 above right; use where another Door Operator is in use-near by. .... **149.50**  
89 CZ 020 D.....

G-340 ALTERNATE-FREQUENCY EXTRA TRANSMITTER. For use with Alternate-Frequency System, above. .... **19.50**  
89 SX 021.....

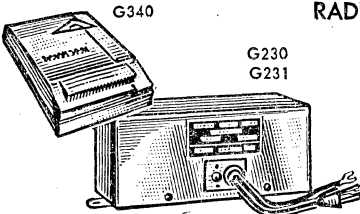
### UNDER-DASH TRANSMITTER UNITS

G-350 EXTRA TRANSMITTER. With hardware, dash-mounting pushbutton and installation instructions. 3 lbs. .... **19.50**  
89 SX 022.....

G-664 ALTERNATE-FREQUENCY SYSTEM. Like G-664 above; use where another Door Operator is in use near by. .... **149.50**  
89 CZ 023 D.....

G-350 ALTERNATE-FREQUENCY EXTRA TRANSMITTER. For use with Alternate-Frequency System, above. .... **19.50**  
89 SX 024.....

### RADIO REMOTE-CONTROL COMPONENTS



All Perma-Power Garage-Door-Operator Transmitters are compatible—may be used with any Perma-Power Receiver operating on same channel (code). For special codes (channels), order with the following Part Number, and add the Receiver Model Number and Receiver Code:

D86 SX 375 D..... **19.50**

To order Garage-Door-Operator, including radio controls, for a specific code, use the following Part Numbers: for G663 System (Portable Transmitter), use

D86 CZ 376..... Code..... **149.50**

for G664 System (Under Dash Transmitter, use D86 CZ 377..... Code..... **149.50**

For any additional information or for aid in selecting special control systems, write to: Allied Industrial Technical Service Dept.

### LOW-COST RESIDENTIAL COMPONENTS

- All Transmitters and Receivers are Compatible
- Operate Garage Doors, Gates, Lighting Systems, Etc.

Low-cost residential control components. Designed to replace older Garage-Door-Operator controls and for installation as control systems for gates, lights, etc.

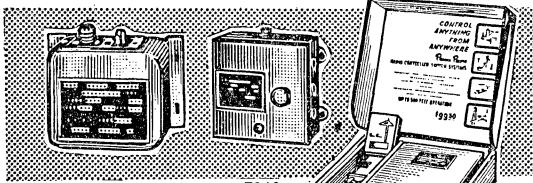
MODEL G230. Superhet receiver. All-transistor design provides high sensitivity, selectivity and image rejection—assures economical, trouble-free performance. Normally-open relay is rated at 1 amp, 115 v. AC. With 8-ft. wire antenna. Range, up to 200 feet. Metal case is 9x3x3 1/2". For 95-130 v., 60 cycle AC. Shpg. wt., 4 lbs. .... **36.95**  
90 SX 150.....

86 SX 334 D. Model G231. As above, but for operation from 20-28 v. AC. Shpg. wt., 3 lbs. .... **36.95**

MODEL G340. Hand-size portable transmitter. Has built-in antenna. Range, up to 100 feet. With 9-v. battery. Size, 2 3/4 x 3 3/4 x 1". Shpg. wt., 1 lb. .... **19.50**  
89 SX 018.....

MODEL G451. All-transistor control. Includes: Receiver, for 117 v. AC; Transmitter, completely self-contained (includes battery); complete instructions. Wt., 7 lbs. .... **56.00**  
86 SX 338 D.....

MODEL G450. All-transistor control. Includes: Receiver, for 117 v. AC; Transmitter for installation in 6 or 12 volt auto electrical systems (uses auto antenna); and complete instructions. Shpg. wt., 10 lbs. .... **56.00**  
86 SX 342 D.....



### INDUSTRIAL AND COMMERCIAL COMPONENTS

MODEL RT400 SYSTEM. Ideal for a wide variety of switching applications. Consists of: all-transistor receiver for 117 v. AC; pocket-size self-contained transmitter; complete instructions and wiring diagrams. Range, up to 500'. Receiver has two load-switching relays for maximum flexibility—momentary, actuated during signal reception; and sequence, maintains its position until second signal is received. Shpg. wt., 12 lbs. .... **99.50**  
86 SX 333 D.....

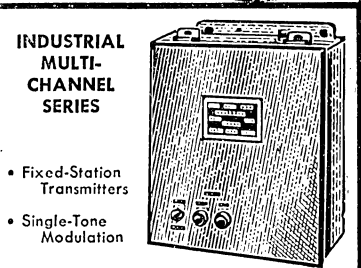
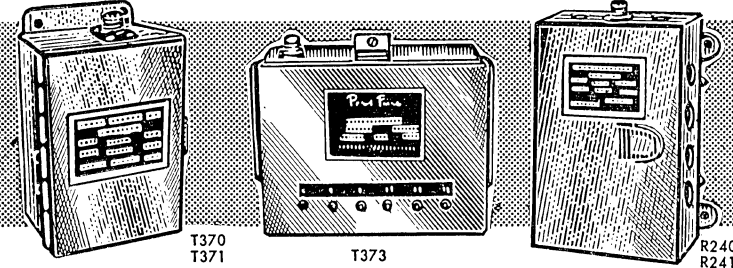
89 SX 018. Model G340. Additional portable transmitter. With 9-v. battery, built-in antenna. Range, up to 100'. Pocket-size, 2 3/4 x 3 3/4 x 1". Shpg. wt., 1 lb. .... **19.50**

90 SX 152 D. Model T351. Additional mobile transmitter. Coax. Range, up to 500'. With 20' whip antenna. For 6, 12, 24 or 36 v. DC. 5x4x2 1/2". Shpg. wt., 2 lbs. .... **50.00**

90 SX 153 D. Model T360. Additional fixed-station transmitter. Coax. Range, up to 500' with wire antenna. 6x6x3". For 95-130 v., 60 cycle AC. Shpg. wt., 4 lbs. .... **55.00**

# Electronic Switching Devices

## RADIO CONTROL SYSTEM COMPONENTS



**INDUSTRIAL MULTI-CHANNEL SERIES**

- Fixed-Station Transmitters
- Single-Tone Modulation

Operate switching devices automatically, accurately and economically with these remote-control all-transistor components. Control doors, gates, signals, lights, etc. No license required—crystal-controlled for 27-mc Citizens Band. Single and multi-channel systems. Up to 10-mile range. "Coax" in descriptions indicates 50-ohm output, PL-259 connector. Ranges given are with antennas supplied; ranges can be extended by using higher gain CB antennas (see index). *Systems for other voltages, and other special units also available. Write to: Allied Industrial Technical Service, attention P. Power*

**D86 SX 351-D, Model T372.** Transmits on any 1 of 6 Class C, CB frequencies with up to 6 audio tone combinations, 6x8x3". For 115VAC. Specify number of signals when ordering. \$115.00 plus \$20.00 per signal.

**D86 SX 355-D, Model T373.** As above, but for 6, 12, 18, 24, 36 VDC. \$85.00 plus \$20.00 per signal.

**D86 SX 362-D, Model T374.** Same as T372 above, but with up to 12 audio tone combinations, 8x10x4", 5 lbs. \$190.00 plus \$10.00 per signal.

**D86 SX 357-D, Model T375.** As above, but for 6, 12, 18, 24, or 36 VDC. \$160.00 plus \$10.00 per signal.

**MODEL T381.** For permanent location. Has 2 individual signals for use with 2-channel receiver, 10x12x5". For 115 VAC, 17 lbs.

**86 SX 360-D.....225.00**

In multiple installations, units must be specially ordered to guarantee non-interference with each other. Contact Allied Industrial Technical Service Dept. for assistance with special requirements.

**COMMERCIAL SERIES**

**MODEL R241, Receiver.** Wire antenna, 500' range. DPDT relay rated @ 5 amps, 115 v., AC. Uses 6 transistors, 2 diodes, rectifier. Metal cabinet, 8x10x4". For 20-28 v., AC (1 watt), 6 lbs.

**86 SX 361-D.....65.00**

**90 SX 151, Model R240.** Above, for 90-130 v., AC (3.5 watts), 7 lbs.....70.00

**MODEL T351, Mobile transmitter.** Whip antenna, 500' range. Pushbutton control. Operates from vehicle ignition. Draws power only when transmitting. For 6, 12, 18, 24 or 36 v., DC. 5x4x2 1/2", 2 lbs.

**90 SX 152.....50.00**

**MODEL T360, Crystal-controlled RF,** single-tone modulation. Coax. Pushbutton operation; terminals for additional 24 v., AC stations, 3 transistors, 6x6x3". For 95-130 v., AC, Wt., 4 lbs.

**90 SX 153.....55.00**

**86 SX 347-D, Model T361.** Above, but for 9-v. battery operation; less battery...45.00

**INDUSTRIAL SERIES**

**MODEL R250, Fixed-station superhet** receiver. Two individually controlled relay outputs DPDT relay rated @ 5 amps, 115 v., AC. Coax, 10-mile range with CB antennas, 8x10x4". For 95-130 v. (3.5 watts), 60 cycle AC. Wt., 10 lbs.

**90 SX 154.....175.00**

**MODEL R252, Two-channel version of fixed** receiver above. Each channel will control leads of 1000 watts at 115 v., AC. Two relays may be interconnected for more flexible operation, 10-mile range with CB antennas, 10x12x5". For 95-130 v. (3.5 watts), AC, 15 lbs.

**86 SX 349-D.....225.00**

**MODEL T371, Mobile transmitter.** Coax. For semi-permanent installation in moving vehicle. Operates from ignition system. Draws power only when transmitting. Heavy-duty pushbutton control, 4x6x3". For 12, 18, 24 or 36 v., DC, 4 lbs.

**90 SX 155.....95.00**

### CB TRANSMITTING AND RECEIVING CRYSTALS

Available for any channel, 1 to 22. Tolerance: ±.005%—meet FCC requirements. \*Indicates none required. "Special" indicates Special Order—30 day delivery. Specify Stock No. and Channel Desired. Shpg. wt., 3 oz.

Manufacturer and Model	Stock No.	
	Transmit	Receive
Airline (Wards) 587	90 SS 368	90 SS 363
Action Labs TCI-77	90 SS 350	Special
Arky (All Units)	90 SS 366	90 SS 360
Arvin (All Units)	90 SS 353	90 SS 375
Bendix BC-6	90 SS 351	90 SS 358
Browning Mobilair	90 SS 367	*
Browning S-9	90 SS 366	*
Cadre 500	90 SS 394	90 SS 370
Cadre 510, 510A	86 SS 600	86 SS 601
Citifone CDS, SA, 6, 7	90 SS 371	90 SS 372
Courier I (ECD)	90 SS 373	*
D.A.W. (All Units)	90 SS 366	*
Dewald TR910	90 SS 366	*
Dixon (All Units)	90 SS 366	*
Edco (All Units)	90 SS 366	Special
Eico 762 Series	90 SS 371	*
Eico 772 Series	90 SS 366	90 SS 356
General Radiotelephone MC-1, 2, 3	90 SS 366	90 SS 363
Gen. Radiotele. MC-4	90 SS 354	90 SS 363
Globe CB100	90 SS 366	90 SS 357
Globe CB100A	90 SS 366	90 SS 360
Globe CB200	90 SS 350	90 SS 357
Gonset G11, 12, 14, 15	90 SS 351	90 SS 358
Grove Electric	90 SS 366	*
Hallcrafters CB2, 3, 5	90 SS 352	90 SS 359
Halmark (All Units)	90 SS 366	*

Manufacturer and Model	Stock No.	
	Transmit	Receive
Hammarlund/HQ105TR	90 SS 366	*
Heath CBI	90 SS 366	*
Heath GW10	90 SS 366	90 SS 360
Heath GW21	90 SS 353	90 SS 365
Heath GW30	90 SS 363	*
Heath GW31	90 SS 353	*
Int'l Executive	90 SS 354	90 SS 361
Int'l. Exec. 50, 100	90 SS 354	90 SS 374
Johnson Personal Mess.	90 SS 353	90 SS 375
Johnson Mess. I, II	90 SS 352	90 SS 362
Kaar TR330, 326A, 327	90 SS 354	90 SS 376
Knight KN-2500	90 SS 366	90 SS 358
Lafayette HE15	90 SS 366	*
Lafayette HE20	90 SS 366	90 SS 358
Lafayette HE29	90 SS 366	90 SS 363
La Salle LA101	90 SS 366	90 SS 363
Lincoln L2700A, 2000A	90 SS 366	*
Lincoln L-2710, Walkie-Talkie	90 SS 353	90 SS 375
Magnavox	90 SS 366	90 SS 363
Minifone 400M1	90 SS 353	90 SS 375
Minifone 400M2	90 SS 353	90 SS 375
Miratel CR17	90 SS 366	90 SS 363
Philmore TC-11	90 SS 371	*
PolyComm PC-11, 11G, N	90 SS 355	90 SS 364
Radifon	90 SS 366	90 SS 363

Manufacturer and Model	Stock No.	
	Transmit	Receive
Radson RT70A	90 SS 368	90 SS 358
Raytheon TWR-1	90 SS 368	90 SS 363
Ray Jefferson	90 SS 366	*
RCA (AllbutMarkVIII)	90 SS 366	90 SS 358
RCA Mark VIII	86 SS 602	90 SS 359
Regency CBM27	90 SS 366	*
RME 4303	90 SS 353	*
Shell CB-12	90 SS 366	*
Sonar Model D	90 SS 366	90 SS 363
Sonar "E" Serial No. 915 and lower	90 SS 377	90 SS 363
Sonar "E" Serial No. 916 and Higher	90 SS 377	90 SS 378
Sonar "G"	86 SS 603	90 SS 378
Transcender 1000	90 SS 352	90 SS 362
Transpace (All Units)	90 SS 368	90 SS 358
Triumph TC-900	90 SS 353	90 SS 375
USL R800, TR910	90 SS 366	*
USL TR1000	90 SS 366	90 SS 358
Universal CT2701	90 SS 353	90 SS 375
Utica T&C MC27	90 SS 366	90 SS 357
Vanguard (All Units)	90 SS 352	*
Vocaline ED27M	90 SS 367	*
Wards, See Airline		
Webster 4-11	90 SS 368	90 SS 363
Westron 909	90 SS 366	90 SS 363
WRL ECBK	90 SS 366	*

Be Sure to Specify Stock No. and Channel Desired..... EACH 2.50

**JK INDUSTRIAL CRYSTALS.** H-17, 4 1/4x2 1/2x5/16"; H-17T, 1 3/4x3/8x5/16". Pin spacing, .486". Pin dia., .050". Special Order. Allow 30 days for delivery. Specify Type and freq. 3 oz.

**JK SPECIAL-APPLICATION CRYSTALS.** Size, 3/4x3/8x5/16". Pin spacing, .486". Pin dia., .093". \*3rd overtone type. 3 oz.

Stock No.	Type	Frequency	Tolerance	EACH
90 SS 388	H-17T (HC-13/U)	30 kc-200 kc	±0.01%	14.95
90 SS 389	H-17 (HC-6/U)	200 kc-750 kc	±0.005%	13.90
86 SS 363	H-17 (HC-6/U)	750 kc-50 mc	±0.005%	14.95
90 SS 390	H-17 (HC-6/U)	50 mc-100 mc	±0.005%	13.18

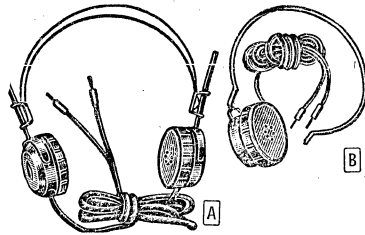
Stock No.	Type	Frequency	Tolerance	Application	EACH
90 S 386	H-17L	4.5 mc	±.005%	TV alignment	4.80
90 S 387	H-17L*	27d 255 mc	±.005%	Radio control	2.50

**BLILEY MC-9.** Alignment crystals, 1 1/4x1 1/4x5/16". Tol.: ±.02%. Pin spacing, .486". Pin dia., .093". 3 oz.

90 S 391, 5.0 mc. 90 S 392, 10.7 mc.....3.95

# LINCOLN

# Headphones and Accessories



### STANDARD DUAL HEADPHONES

- A** Comfortable phones have double headband with firmly-gripping, easily adjustable yokes. Powerful Alnico permanent magnets provide high sensitivity over a wide frequency range. Shock-resistant inside terminal connections. Diaphragm diameter, 1 7/8". 4 1/2-ft. cotton-covered tinsel cords. Shpg. wt., 2 lbs.
- 59 D 110. 2000 Ohms.....2.08  
 59 D 111. 3000 Ohms.....2.16  
 59 D 149. 4000 Ohms.....2.24  
 59 D 141. 11 Ohms.....2.08

### SINGLE HEADPHONES

- B** Dependable, economy-priced single phones. Ideal for hard-of-hearing installations, receivers, crystal sets, Geiger counters, etc. Diaphragm is 1 7/8" in diameter. Has comfortable, adjustable spring-metal headband which is permanently attached to back of case. Equipped with 4 1/2-ft. cotton-covered tinsel cord and phone tip terminals. Shpg. wt., 8 oz.
- 59 D 112. 1000 Ohms.....1.08  
 59 D 113. 1500 Ohms.....1.15

**HIGH QUALITY AT LOW COST**

A wide variety of headphones with choice of single or dual types. All have adjustable headbands, internal terminals, molded-bakelite cases and caps. 4 1/2-ft. cords are cotton-covered tinsel. Standard phone tip terminals. Low-impedance models connect directly to speaker taps.

### INSTITUTIONAL DUAL HEADPHONES

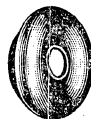
(Not illus.) For schools, hospitals, and other institutions where dependable, lightweight headphones are needed. Durable, easily cleaned bakelite cases, inside terminal connections for safety. Alnico magnets provide crisp, clear reproduction of voice and music. 4 1/2 ft. cord. Comfortable, easily adjustable, plastic headband. Shpg. wt., 2 lbs.

59 D 100. 2000 Ohms.....2.20  
 59 D 101. 3000 Ohms.....2.28

### HEADPHONE REPLACEMENT PARTS

Replacement parts for the Lincoln headphones listed on this page.

Stock No.	Description	Wt., Oz.	EACH
59 D 104	Diaphragm, Pkg. of 2	2	.13
59 D 106	Bakelite cap	2	.13
59 D 174	Headband with yokes	9	.58



### RUBBER HEADPHONE CUSHIONS

For All Lincoln Headphones

Molded rubber slip-on ear cushions. Provide maximum comfort. 6 oz.

59 D 168. 1-9 Pairs,.....PER PAIR .64  
 10 or More Pairs,.....PER PAIR .58

### HEADPHONE CORDS



Fit headphones listed on this and on following page. Copper tinsel conductors are insulated with attractive woven cotton braid covering. All have two standard phone tip terminals at one end. \*Refers to terminals at end of cord that connect to headphone. Av. shpg. wt., 2 oz.

### 4 1/2 FT. DOUBLE CORDS

Stock No.	*Terminals	For Use With	EACH
59 D 220	Eyelet type. For inside terminals.	59 D 100	
		59 D 101	
		59 D 110	
		59 D 111	
		59 D 125	
		59 D 126	
		59 D 135	
		59 D 136	
		59 D 137	
		59 D 172	
59 D 215		.50	
59 D 205	Eyelet type.	59 D 130	.50
59 D 002	Small blunt tips.	59 D 070	.50

### 5 FT. DOUBLE CORDS

59 D 181	Eyelet type.	59 D 151	
		59 D 163	.54

### 8 FT. DOUBLE CORDS

59 D 221	Eyelet type.	Same as 59 D 220, above	.74
		59 D 218	.74
59 D 200	4 ft. cord with eyelet type.	59 D 112	
		59 D 113	.33

### SINGLE CORD

59 D 200	4 ft. cord with eyelet type.	59 D 112	
		59 D 113	.33

## SELECTED STEREO HEADPHONES FOR PERSONAL LISTENING



Telex ST-10



Sharpe



Koss SP-3X



Koss Pro-4



### KNIGHT KN-845 HEADSET

Brings you fabulous stereo realism that can't be duplicated by regular speaker systems. Each earcup is actually a precision, 3 1/2" dynamic transducer in an acoustic chamber. Provides maximum channel separation, perfect balance, freedom from external noise, and crisp 25-16,000 cps response. Lightweight design and soft, sponge-rubber-padded earcups and headband permit long periods of comfortable listening. Adjusts to fit anyone. Ear cushions are removable for cleaning. Beautiful blue leatherette covering on earpieces and headband. With 8-ft. cord, phone plug, and phone jack mounted on "L" bracket for handy hookup. Imp., 4-16 ohms. Wt., 2 1/2 lbs.

95 D X 825.....19.95

### NEW KNIGHT DELUXE KN-848

Brings you superb stereo, unsurpassed channel separation, maximum comfort. Contoured liquid-filled cushions eliminate 99% of external noises—you listen in complete privacy, without disturbing others. Padded headband easily adjusted for perfect fit. And you hear the full musical spectrum from 20 to 20,000 cps. Shock-resistant and shatterproof. With 8-ft. cord and plug. Impedance, 4-16 ohms. Styled in gray and black. Wt., 3 1/2 lbs.

95 DX 305.....29.95

### TELEX ST-10 HEADSET

30-15,000 cps. Weighs only 12 oz. Foam rubber ear muffs keep music in—noise out. Dynamic driver elements. Impedance, 8 ohms. Shpg. wt., 14 oz.

71 D 016.....24.40

### SHARPE HEADSET

20-20,000 cps. Liquid-filled "Live Tone" circumaural ear cushions. Shockproof and shatterproof. Imp., 10 ohms. 1 1/2 lbs.

71 D 017.....43.50

### KOSS SP-3X HEADSET

Adds a new dimension of enjoyment to any stereo or monophonic music system. Thrill to concert-hall realism without disturbing others—and without annoying outside noises. Utilizes a 3 1/2" dynamic reproducer in each earphone to give smooth, wide-range response from 20 to 16,000 cps. Adjustable padded headband provides maximum comfort for fatigue-free listening. Comes with 8-ft. cord and stereo phone jack for easy connection to any amplifier. Impedance, 4 ohms. Shpg. wt., 2 lbs.

71 D 018.....24.45

### KOSS PRO-4 HEADSET

Professional-quality stereo headset features removable fluid-filled ear pads. Provides response from 30 to 20,000 cps. Distortion is less than 1% at maximum output. Extremely rugged, shatterproof and shockproof construction provides long life. Impedance, 4 ohms. Handles 10 watts per channel. With 8-ft. cord. 2 lbs.

71 D 020.....44.10  
 71 D 043. As above, but 600 ohms. .49.00

# Selected Headphones and Headphone Accessories

## CLEVITE "BRUSH" HEADPHONES



**A** BA-200 Headphones. Very sensitive headphones with high impedance (45,000 ohms at 1000 cps.) except \*wired for stereo (90,000 ohms). Frequency response, 100 to 5000 cps. Require small DC blocking capacitor for DC circuits. With 5-ft. cord. Shpg. wt., 2 lbs.

Stock No.	Mfr's Type	Termination	EACH		
			1-9	10-24	25-Up
59 D 151	BA-200-1	Std. Phone Plug	16.90	16.45	15.50
59 D 260	BA-200B*	Eyelet Terminals	19.11	18.55	17.45

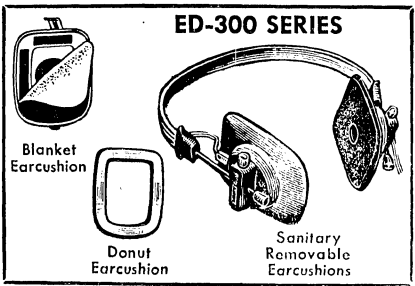
**BA-201 Headphone.** Similar to model BA-200 but, single headphone. 90,000 ohms. Phone tips. Shpg. wt., 1 lb.  
 59 D 156. 1-9.....EACH 14.65  
 10-24.....EACH 14.20 25-Up.....EACH 13.45

**B** BA-206 Hi-Fi Headsets. Feature flat response from 50-10,000 cps with low distortion and excellent bass reproduction. \*Wired for stereo. Impedance @ 1000 cps: 50K, \*100K. 2 lbs.

Stock No.	Mfr's Type	Termination	EACH		
			1-9	10-24	25-Up
59 D 163	BA-206-1	Std. Phone Plug	30.28	29.30	27.75
59 D 154	BA-206B*	Eyelet Terminals	32.54	31.55	29.90

**C** BA-220 Hi-Fi Headsets. Quality headphones with ear cushions and wired for stereo or monophonic listening. 50-10,000 cps. Impedance 50,000 ohms. Eyelet terminals. Wt., 2 lbs.  
 59 D 052. 1-9.....EACH 33.81  
 10-24.....EACH 32.75 25-Up.....EACH 31.00

**BA-315 Earcushions.** Foam cushions same as illustrated in Fig. C. Fit all Clevite "Brush" phones except ED-300. Shpg. wt., 5 oz.  
 59 D 053.....PER PAIR 3.28



**Clevite "Brush" ED-300 Series Headphones.** Designed to meet the unique requirements of the modern language training center—highly practical and economical instruments for the classroom. Most important innovation is the removable washable, foam rubber earcushions which pull right off and attach by pressing together the "Velcro" patented hook-and-eye fabrics. Low cost of cushions makes possible a personal sanitary set for every student. Each headset includes std. phone plug and blanket cushion. Alternative donut cushion accessory is desirable for extended listening or where external noises would otherwise be distracting.

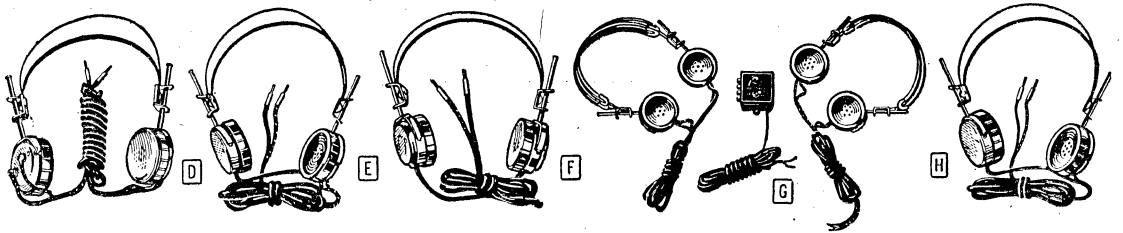
Other features include: Balanced, light construction for listener comfort with wide headband to accommodate any hairstyle. Push-button release to permit instructor to rotate either phone 90° for monitoring. Exceptionally flat frequency response, 50-10,000 cps; high impedance, 50,000 ohms at 1000 cps. Specify color: Black, Coral, Suntan, or Spruce Green. Wt., 1 lb.  
 59 D 009C. 1-9.....EACH 27.44  
 10-24.....EACH 26.50 25-Up.....EACH 23.00

**Blanket Earcushion.** Comfortable, easy-to-clean, polyurethane foam cushions. Easily attached and detached. Shpg. wt., 2 oz.  
 59 D 016.....PER PAIR .73

**Donut Earcushion.** Has extra foam padding for extended listening and to cut off external noise. Shpg. wt., 3 oz.  
 59 D 015.....PER PAIR 1.22

**Boom-Type Microphones for ED-300 Series Headsets.** Quality microphone for use with above educational headsets—offers matching frequency response of 50 to 10,000 cps. Attach directly to headset and are of high impedance type, 1 megohm @ 1 kc, with -60 db sensitivity. With 5-foot ivory cord. Shpg. wt., 4 oz.  
 59 D 017. 1-9.....EACH 17.39  
 10-24.....EACH 16.85 25-Up.....EACH 14.60

## C.F. CANNON QUALITY HEADPHONES AND ACCESSORIES



**BRANDES BS-2 "SUPERIOR"**  
**D** Extremely rugged 2000-ohm headset. Has outside terminal connections, metal cases, bakelite caps, 2 1/8" diameter diaphragms. Two coils in each case give high sensitivity. Adjustable metal headband. With 4 1/2-ft. cord. 2 lbs.  
 59 D 130.....2.50

**REPLACEMENT CAPS AND DIAPHRAGMS.** For above. Av. wt., 2 oz.  
 59 D 138. Caps.....EACH .21  
 59 D 140. Diaphragm. Pkg. of 2.....13

**CANNON-BALL "MASTER"**  
**E** High-quality headset for general-purpose and communications use. Metal cases have bakelite caps, inside terminals. Powerful, corrosion-resistant chrome steel magnets. With cord. 2 lbs.  
 59 D 215. MC-2. 2000 ohms.....2.50  
 59 D 125. MC-3. 3000 ohms.....2.65  
 59 D 126. MC-5. 5000 ohms.....2.92

**REPLACEMENT CAPS AND DIAPHRAGMS.** For above. Av. wt., 2 oz.  
 59 D 127. Caps.....EACH .21  
 59 D 129. Diaphragm. Pkg. of 2.....13

**CANNON-BALL CC-2 "CHIEF"**  
**F** Sensitive headset for general use. Inside terminals, 2 1/8" diaphragms, bakelite case and cap. Vinyl-covered headband. 2000 ohms. 4 1/2-ft. cord. 2 lbs.  
 59 D 172.....2.42

**REPLACEMENT PARTS.** 2 oz.  
 59 D 127. Caps.....EACH .21  
 59 D 129. Diaphragm. Pkg. of 2.....13

**CANNON TV HEADPHONE KIT**  
**G** Aids the hard-of-hearing. Provides "silent" listening. Vol. control and switch on control box. 15-ft. cord, 2 pairs of headphones. Wt., 3 lbs.  
 59 D 175.....9.20  
 59 D 176. Above, but with only one pair of phones. 2 lbs.....6.93  
 59 D 177. Control Box Alone. 9 oz.....4.62  
 59 D 173. 11-Ohm Dual Headset Alone. Shpg. wt., 1 1/4 lbs.....2.42

**NEW LORNETTE EARPHONE**  
 Not illus. Earphone 3/4x2 1/8" dia. Handle extends to 14". Imp., 1000 ohms. With cord and plug. Wt., 10 oz.  
 59 D 085.....4.50

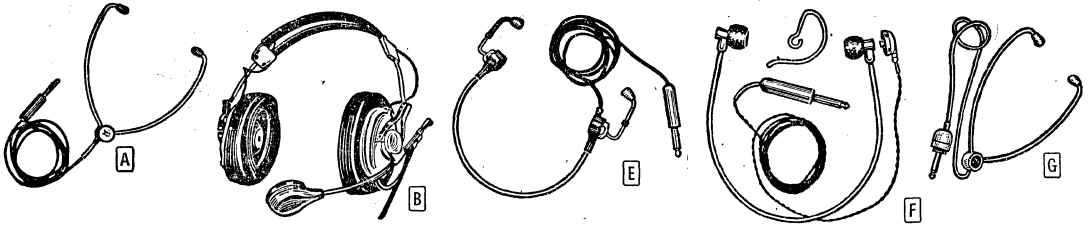
**BRANDES "ADMIRAL"**  
**H** Rugged headsets are similar to "Superior" phones, at left, but have inside terminals. Shpg. wt., 2 lbs.  
 59 D 135. BA-2. 2000 ohms.....2.50  
 59 D 136. BA-3. 3000 ohms.....2.66  
 59 D 137. BA-5. 5000 ohms.....3.08

**REPLACEMENT CAPS AND DIAPHRAGMS.** 2 oz.  
 59 D 138. Caps......21  
 59 D 140. Diaphragms. Pkg. of 2.....13

**NEW ALNICO V PHONES**  
 Not illus. Alnico V magnets for better sensitivity, response, dual coils, 1 1/8" dia. diaphragms. Inside terminals. Adjustable band. 4 1/2-ft. cord. 2 lbs.  
 59 D 067. AM-25-2. 2000 ohms.....4.45  
 59 D 068. AM-25-4. 4000 ohms.....5.19  
 59 D 072. AM-25-24. 24,000 ohms.....5.89

**SWITCHCRAFT CONTROL**  
 Not illus. Universal control box. Has screw terminals, phone tip jacks, standard phone jack to adapt to most headphone terminations. With volume control. Size, 2x2 3/4x 1 3/4". Shpg. wt., 4 oz.  
 59 D 073.....2.69

# Earphones, Accessories, and Telephone Pickups



## NEW! HM-100 TELESET

- High-Quality Magnetic Unit
- Response of 50-10,000 cps



Delivers Excellent Tonal Quality. Suited for language laboratories, radio operators, hobbyists, etc. Sturdy construction withstands vibration, shock, humidity. 7-way yoke adjusts accurately to every head shape. Impedance, 2000 ohms. Shpg. wt., 1 1/2 lbs.

59 D 083.....13.17  
59 D 084. Model ACT-1 Foam Plastic Cushions. For above. 8 oz.....PAIR .92

## METAL MONOSET

**A** Comfortable, lightweight (only 1.2 oz.) headphones designed to prevent fatigue when worn for long periods. Rugged magnetic speaker unit. Response, 50-6500 cps. Normal listening level requires only 1 mw input—maximum level 25 mw. Metal housing with removable white plastic ear-plugs. 5' cord; std. 1/4" phone plug. 8 oz.

59 D 223. HMV-2. 125 ohms.....7.75  
59 D 222. HMY-2. 2000 ohms.....7.75

## MAGNA-TWIN MARK III HEADSET

**B** Wide-range headset with muff-style foam rubber ear cushions. Combines high sensitivity with rugged construction. Specially designed for language-learning laboratories, general communications applications, and dental analgesic systems. Also available with boom mike (below) as illustrated. Close coupling of headphones gives outstanding intelligibility over frequency range of 50-9000 cps. Gray color. Complete with 5' cord and standard 1/4" phone plug. Shpg. wt., 1 1/2 lbs.

59 D 029. MR-6. 500/600 ohms.....17.16  
59 D 032. MR-4. 10,000 ohms.....17.16

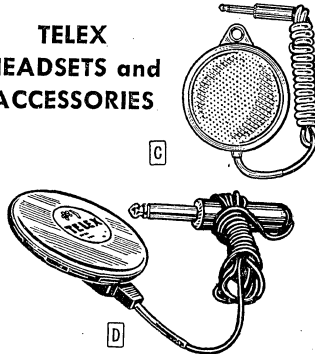
Model MRB-45 Headset with Boom Mike. 500/600 ohm headset with 50-ohm carbon mike (300-4000 cps). Wt., 2 lbs.

59 D 034.....29.10

59 D 081. As above, but 10K with 20-ohm dynamic mike (100-9000 cps). 2 lbs.....27.20

59 D 082. As above but 10K with High-Z ceramic mike (50-9000 cps). 2 lbs.....29.10

## TELEX HEADSETS and ACCESSORIES



## DYNAMIC PILLOW SPEAKER

**C** For comfortable "through-your-pillow" listening. Popular for late-TV bedroom viewing, and in institutions. Moving-coil diaphragm gives extra-wide-range audio response. Insulated—no shock hazard. Veteran's Administration Hospital approved. Easy-to-sterilize stainless steel shell. Weighs only 4 oz., less cord. 1 1/8" thick, 3 3/4" dia. With 5' cord and standard 1/4" phone plug. Shpg. wt., 12 oz.

59 D 276. SDM-2A. 3.2 Ohms.....6.18  
59 D 277. SDM-2A. 10,000 Ohms.....9.22

## MAGNETIC PILLOW SPEAKER

**D** Model SMY-2A. Similar to above, but only 3/8" thick, and with somewhat narrower response. Magnetic element sealed against corrosion, moisture. Tough plastic case may be immersed in alcohol for sterilization. Veteran's Administration Hospital approved. 2 1/2" dia. With 5' cord, std. 1/4" phone plug. 2000 ohms. 6 oz.

59 D 226.....5.46

## FAA-APPROVED TWINSET

**E** Makes any Nav/Com system perform better for pilots. Weighs only 1.6 oz. Approved by the Federal Aviation Agency, it's original equipment on many new aircraft. Magnetic receivers rest lightly at the temples with sound piped directly into the ear through adjustable tone arms and non-irritating ear-tips. Ambient sound remains intelligible for cockpit conversation. 5' cord plugs into either earpiece; other end has std. 1/4" phone plug. Nickel-plated parts. With carrying pouch. Wt., 10 oz.

59 D 289. HTW-2. 500 ohms.....14.12  
59 D 027. HTX-2. 1000 ohms.....14.12

## PRIVATE TV LISTENER

- Easily Installed —No Soldering
- Switch Turns TV Speaker On/Off

Model LCP-90. Provides private radio/TV listening, or more volume for the hard-of-hearing. Control case has jacks for 2 earsets, volume control for earsets, and on-off switch. Works with or without speaker being on. With one earset, 15' cord. Shpg. wt., 1 lb.

59 D 263.....9.37  
59 D 292. Extra Earset.....EACH 2.87

## SECRETARIES' TELE-FI

**F** The ideal headset for secretaries, switchboard operators, radio-TV monitoring, etc. Designed so that the tone arm connecting ear tips delays sound to one ear by one milli-second to give surprisingly greater clarity and intelligibility. Weighs only 1/2 oz.—wearer will hardly know it's on. Response, 60 to 6000 cps. Ear loop included for one-ear listening. Worn under the chin—can't muss hair. With 5' cord and standard 1/4" phone plug. Shpg. wt., 6 oz.

Stock No.	Type	Impedance	EACH
59 D 214	HFR-91	15 ohms	6.35
59 D 257	HVF-91	125 ohms	
59 D 028	HFV-91	500 ohms	
59 D 258	HFX-91	1000 ohms	
59 D 217	HFV-91	2000 ohms	

## DICTION DYNASET

**G** Model HUP-01. Extremely high sensitivity along with exceptional tonal quality makes this headset especially useful in office applications, television and radio monitoring, and other commercial applications. Designed for user comfort—weighs only 1 1/4 ounces. Fully adjustable tone arms. Magnetic driver element in plug directs sound to ear through tubing. Frequency response is 50 to 6500 cps, or better. Impedance, 15 ohms. Maximum power input, 25 milliwatts. Attractive light gray finish with white removable ear-tips—easy to keep clean. Complete with 5' cord and standard size 1/4" phone plug. Shpg. wt., 6 oz.

59 D 239.....8.33

## CONVENIENT TELEPHONE PICKUPS



\$895

## TRANSISTORIZED "PHONE-TALK" TELEPHONE AMPLIFIER

Listen to your telephone from any part of the room. Ideal for conferences or in the home—any number of people can listen-in. Volume control; battery-saver switch. Smart plastic case, 4 1/4 x 4 1/8 x 2 3/4". With 9 v. battery. From Japan. Wt., 2 lbs.

58 S 290.....8.95



H



J

## LOW-COST PHONE PICKUPS

Pickups need no electrical connection to telephone. Plug into recorder or amplifier.

**H** Kord-O-Koil Pickup. For cradle phone. 6' cord; 1/4" phone plug. 1 3/4 lbs.

58 S 295.....5.88

**J** VM-938 Magnetic Pickup. Includes 5' cable; less plug. 1/2 lb.

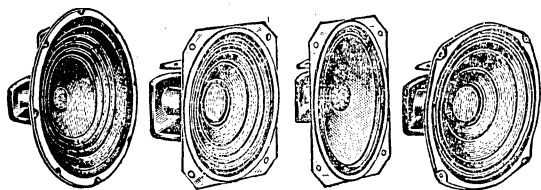
58 S 296.....2.98

## CORDS, EXTRA TIPS AND ACCESSORIES

Stock No.	Type No. and Description	Connects to Fig.	EACH
59 D 270	CMM-2. Gray 5' cord with std. 1/4" phone plug.	D, E	2.34
59 D 253	CMT-2. Gray 5' cord with std. 1/4" phone plug.	A, F	2.34
59 D 252	CMM-92. Gray 5' cord with 90° 3/4" min. plug.	D, E	1.82
59 D 037	CMT-92. Gray 5' cord with 90° 3/4" min. plug.	A, F	1.82
59 D 293	VVT-2. Cord with 125 ohm volume control.	A, F	5.93

# Replacement and New-Equipment Speakers

## QUAM GENERAL REPLACEMENT SPEAKERS



Round Square Oval Pincushion

Heavy-gauge metal baskets; Alnico-V magnets. Baked enamel finish. \*Indicates very shallow frame. Impedance, 3.2 ohms except f-speakers for transistor application; (impedance indicated by digits following Z in Type No.). Av. shpg. wt., 1 lb., except type 10A6A is 3 1/2 lbs.; 12A6A is 4 1/2 lbs.

Stock No.	Mfr's Type	Shape	Size	Max. Watts	Magnet Oz.	EACH
59 D 424	22A06Z8	Round†	2 1/4"	.25	.45	2.79
59 D 425	22A06Z100	Round†	2 1/4"	.25	.45	3.09
59 D 422	25A07	Square	2 1/2"	2.0	.65	2.35
59 D 426	27A06Z12	Round†	2 3/4"	.25	.55	2.76
59 D 453	3A07	Square*	3 1/2"	2.5	.65	2.35
59 D 417	4A05	Square	4"	2.5	.55	1.73
59 D 421	35A05	Oval	3x5"	2.0	.55	2.47
59 D 434	4A07	Square*	4"	3.0	.65	2.53
59 D 435	4A1	Square	4"	3.0	1.0	2.70
59 D 436	4A15	Square	4"	3.0	1.47	2.97
59 D 454	46A07	Oval*	4x6"	3.5	.65	2.79
59 D 460	46A1	Oval	4x6"	3.5	1.0	3.00
59 D 461	46A15	Oval	4x6"	3.5	1.47	3.23
59 D 427	48A2	Oval*	4x8"	4.5	1.4	4.67
59 D 484	410A2	Oval	4x10"	6.0	1.4	5.26
59 D 437	5A07	Pincushion*	5"	3.5	.65	2.65
59 D 438	5A1	Pincushion	5"	3.5	1.0	2.85
59 D 439	5A15	Pincushion	5"	3.5	1.47	3.09
59 D 478	52A1	Pincushion	5 1/4"	4.0	1.0	2.91
59 D 433	52A21	Pincushion	5 1/4"	4.0	2.15	3.56
59 D 405	52C10	Pincushion	5 1/4"	10.0	10.0	5.85
59 D 455	57A1	Oval	5x7"	5.0	1.0	3.24
59 D 447	57A21	Oval	5x7"	5.0	2.15	3.97
59 D 440	6A1	Pincushion	6 1/2"	5.0	1.0	3.12
59 D 441	6A15	Pincushion	6 1/2"	5.0	1.47	3.38
59 D 442	6A21	Pincushion	6 1/2"	5.0	2.15	3.79
59 D 445	6A31	Pincushion	6 1/2"	6.0	3.16	4.47
59 D 462	69A2	Oval*	6x9"	8.0	1.4	4.41
59 D 463	69A3	Oval	6x9"	10.0	3.2	5.41
59 D 428	69A1	Oval*	6x9"	6.0	1.2	3.53
59 D 407	69A1S	Oval	6x9"	6.0	1.2	5.00
59 D 464	7A31	Pincushion	7"	9.0	3.16	5.14
59 D 443	8A21	Pincushion	8"	7.0	2.15	4.56
59 D 444	8A31	Pincushion	8"	9.0	3.16	5.29
59 D 480	10A6A	Round	10"	12.0	6.8	8.53
59 DX 533	12A6A	Round	12"	14.0	6.8	9.38

## QUAM WEATHERPROOFED OUTDOOR SPEAKERS

Feature exclusive "Humi-Gard" cone of plastic impregnated fiber fabric for longer life. 3.2 ohms. *Save by buying in quantity. Inquire for price quotations. Av., 1 lb.*

Stock No.	Type	Size	Shape	Watts	Magnet	EACH
59 D 432	3A07OT	3 1/2"	Square	2.5	.65 oz.	2.35
59 D 467	4A1OT	4"	Square	3	1.0 oz.	2.73
59 D 431	5A15OT	5"	Pincushion	3.5	1.47 oz.	3.15
59 D 496	6A15OT	6"	Pincushion	5	1.47 oz.	3.53

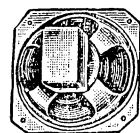
## 45-OHM INTERCOM SPEAKERS

Permanent magnet replacement speakers.

Stock No.	Type	Size	Shape	Magnet	Wt.	EACH
59 D 481	3A07Z45	3 1/2"	Square	.65 oz.	1/2 lb.	2.50
59 D 482	4A1Z45	4"	Square	1.0 oz.	3/4 lb.	2.85
59 D 483	5A1Z45	5"	Pincushion	1.0 oz.	1 lb.	3.00

## TOP BUYS IN REPLACEMENT SPEAKERS

Excellent-quality permanent magnet, dustproofed speakers at low prices. Actually cost less than original speaker. Designed for universal replacement use—also recommended for original equipment. Big money savers for radio and TV servicemen, as well as "do-it-yourselfers." Built to EIA standard dimensions—rugged construction throughout. Rigid frame assures permanent alignment of integral parts. Magnet and voice coil are precision centered. 4" and 5" speakers have four holes in pot for easy mounting; furnished with universal mounting bracket. Impedance, 3.2 ohms except f8 ohms. \*Extended range.

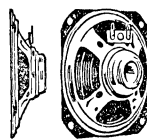


As Low As **99c**

Stock No.	Size	Shape	Mag. Wt.	Max. Watts	Wt.	EACH	
						1 to 9	10-Up
59 D 476	4"	Square	.68 oz.	3.0	1/2	1.13	.99
59 D 477	5"	Round	.68 oz.	3.5	3/4	1.30	1.17
59 D 472	5x7"	Oval	1.0 oz.	5.0	1	1.60	1.44
59 D 471	6x9"	Oval	1.47 oz.	8.0	1 1/4	2.15	1.94
59 D 493	*6x9"	Oval	1.47 oz.	8.0	1 1/4	2.30	2.07
59 D 416	†6x9"	Oval	1.47 oz.	8.0	1 1/4	2.15	1.94
59 D 470	8"	Round	2.15 oz.	9.0	1 1/2	2.30	2.07
59 DX 529	12"	Round	3.16 oz.	10.0	3 3/4	3.90	3.51

## UTAH "THIN-DRIVE" SPEAKERS

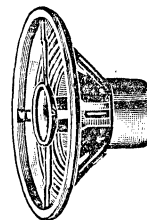
A major breakthrough in design ends speaker replacement guesswork! These super Thin-Drive speakers are sure to fit because they're thinner than original speakers. The slim profile is made possible by a wafer-thin Lodex magnet developed by G.E. And you get far more drive per ounce with the new featherweight one-piece pot. Highly resistant to changes in temperature, humidity. 3 watt max. Impedance, 3.2 ohms.



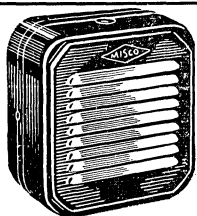
Stock No.	Type	Size	Shape	Lbs.	1-9 EA.	10-Up EA.
59 D 408	SP3RY	3"	Square	1/4	2.18	2.09
59 D 409	SP35RY	3 1/2"	Square	1/4	2.00	1.89
59 D 410	SP4RY	4"	Square	1/2	2.06	1.96
59 D 413	SP46RY	4x6"	Oval	1/2	2.53	2.39
59 D 411	SP5RY	5"	Pincushion	1/2	2.23	2.13
59 D 414	SP57RY	5x7"	Oval	3/4	2.76	2.62
59 D 412	SP6RY	6"	Pincushion	3/4	2.59	2.46
59 D 415	SP69RY	6x9"	Oval	3/4	3.16	2.99

## TOP BUYS IN COAXIAL SPEAKERS

Outstanding coaxial speaker values for budget-minded music lovers. Ideal for use in economy hi-fi systems, as extension speakers in recreation room or den, and for improving the tone of radios and phonographs. Clear-highs and faithful lows. Impedance, 8 ohms. Large "Alnico V" magnets. Built-in crossovers.



6x9" Coaxial Speaker. 6x9" cone; has big 2.15-oz. magnet. 2" tweeter with 0.53 oz. magnet. Rated at 8 watts. Range: 50-10,000 cps. Crossover frequency: 3500 cycles. Shpg. wt., 1 1/2 lbs.	59 D 535	5.95
8" Coaxial Speaker. 8" cone. Has large 2.15-ounce magnet. Handles up to 8 watts. Frequency response: 55-12,000 cycles. Crossover frequency: 3000 cycles. Shpg. wt., 3 lbs.	59 D 475	5.95
12" Coaxial Speaker. 12" cone; has 6.8-oz. magnet. 3 1/2" tweeter with 1-oz. magnet. Rated at 15 watts. Range: 55-12,000 cycles. Crossover: 2000 cycles. Shpg. wt., 8 lbs.	59 DX 531	7.85
15" Coaxial Speaker. 15" cone; has 6.8-oz. magnet. 5" tweeter with 1.47-oz. magnet. Rated at 20 watts. Range: 45-12,000 cycles. Crossover frequency: 1800 cycles. Shpg. wt., 11 lbs.	59 DX 530	13.95



## MISCO MODEL MS-3-B ALL-WEATHER SPEAKER

**\$479**

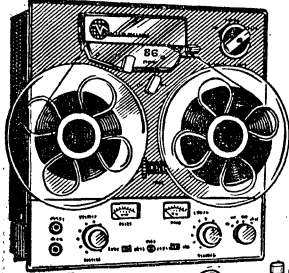
Speaker in 20-Gauge Steel Enclosure

Complete self-contained "Mini-Speaker" in 20-gauge steel enclosure. Compact, completely weatherproof and dustproof. So well constructed, it's used in U.S. Navy atomic submarines. Withstands extreme humidity, temperature and shock. Many applications—for outdoor theater speakers, extension, test, P.A., intercom, paging, etc. All-weather enclosure is electro-static finished with two coats of baked-on enamel. Acoustically designed with horizontal louvers and perforated plate backing. Alnico V, 1-oz. magnet; removable audio input phono jack. Impedance, 8 ohms. Size: 3 3/4" high, 3 3/4" wide, only 2 1/2" deep. Shpg. wt., 1 1/2 lbs.

59 D 404.....4.79

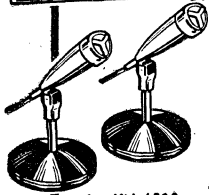


# Stereo Tape Recorders and Outfits



Here's a complete outfit featuring the Viking 86RMQ Compact. Make professional-quality stereo recordings—and save \$35.35!

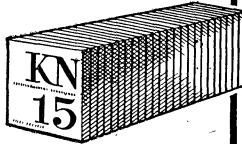
- 2-VU Meters for Accurate Recording
- Plays Back Both 2 and 4-Track Stereo Tapes
- Plays at 3 3/4 and 7 1/2 ips; Digital Counter



2—KN-4500 Mikes

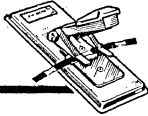


Lube Kit and Booklet



20 Reels of Tape

Handy Tape Splicer



With this outfit, you easily make superb stereo or monophonic recordings—and you save \$35.35 on the cost of components purchased separately. Outfit consists of: Viking 86RMQ recorder; 2—Knight KN-4500 microphones with desk stands and 10 ft. of cable; 20 reels of Knight KN-15 1 1/2-mil acetate tape; tape splicer; Robins cleaner-lube kit and booklet. Series 86RMQ tape transport combined with record/play preamp offers 25-18,000 cps ( $\pm 3$  db) response at 7 1/2 ips. Recorder has: front panel selection for sound-on-sound and special effects, equalization setting for 7 1/2 or 3 3/4 ips and head-shift control for playback of 2 or 4-track tapes. Recorder, 13x13x7 3/4". Requires 12 1/2" square cutout. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 58 lbs.

20 HF 858-D.....379.95

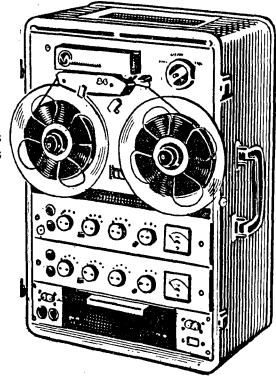
MODEL 86RMQ RECORDER ONLY. Shpg. wt., 28 lbs.  
79 RU 421-D.....324.50

MODEL 86RMQ TAPE TRANSPORT. Less preamps. 17 lbs.  
79 RU 427-D.....163.50

MODEL RP83-3 PREAMP. For RMQ Transport, above. 8 lbs.  
79 RU 472-D.....94.50

## MODEL 86RMQ "STEREO SUPER-PRO"

- ease of portability, flawless professional quality recordings and special effects facilities.
- Separate Erase, Record, and Playback Heads
- 30-16,000 cps Response
- Separate VU Meter For Each Channel
- Operates at 3 3/4 and 7 1/2 ips



The "Stereo Super-Pro" is a professional quality, portable stereo tape recorder using the Viking 86 transport and two RP83-3 preamplifiers. Records 4-track stereo or mono—plays back 2 and 4-track stereo or mono tapes. Playback section permits you to monitor with stereo high impedance earphones as you record. Recorder is easily set up in seconds. Dual microphone jacks are provided on front panel as are output jacks for earphone monitoring or for high level inputs to your music system. Fold-down panel at bottom of unit provides convenient storage space for tapes and accessories.

Preamp and transport have matching satin finished panels and machined, polished aluminum control knobs. Each preamplifier features a large, easy-to-read VU meter for accurate level settings and superb sounding tapes free from over-recording distortion. Meter calibration adjustment is provided on back of preamp as well as a calibrated bias-current adjustment. Independent controls for high and low level inputs enable user to mix program material in a professional manner. Recording equalization fixed at NAB standard. Slide-switch provided for specific equalization of both recording and playback at either 3 3/4 or 7 1/2 ips. A red neon indicator light is energized when amplifier is in record position. Transport drive is furnished by 2 heavy-duty motors.

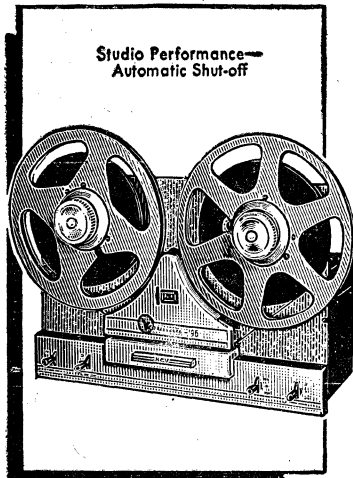
Specifications: Speed, 7 1/2 and 3 3/4 ips. Reel Size, 7" maximum. Frequency Response, 30 to 16,000 cps flat within  $\pm 3$  db at tape speed of 7 1/2 ips. Flutter and Wow, less than .2%. Signal-to-Noise Ratio, 55 db. Bias Oscillator Frequency, 80 kc. Inputs, microphone 1.5 mv, high level 100 mv. Outputs, playback/monitoring and headphone. Matches headphones of 4000 ohms impedance and higher. Additional features include sound-on-sound recording facilities, "Erase Protek" switch to prevent accidental erasure of recorded tapes, and carrying case covered in brown, scuff-resistant plastic with heavily reinforced corners. Size, 20 3/4x13 3/4x10 1/4". For operation from 110-120 v., 60 cycle AC. Shpg. wt., 43 lbs.

79 RU 429-D.....392.00

## NEW MODEL 96 RMQ HEAVY-DUTY TAPE TRANSPORT

**\$585.00**

- Accepts Up To 10 1/2" Reels For Longer Recording Time
- Dynamic Braking With Fail-Safe Intergrated Controls
- Improved Takeup Torque For Smoother Starts



Studio Performance—  
Automatic Shut-off

Heavy-duty tape transport designed for commercial, broadcast, and other critical recording applications. Features simplified controls and exceptional flutter and wow characteristics. Equipped with new hyperbolic heads for quarter track erase, record and playback functions. Less maintenance is assured because no pressure pads are used.

Automatic tape shutoff is controlled by a photoelectric excitor lamp—improved circuitry uses fewer components for greater reliability. Cueing feature retracts tape lifters allowing tape to contact heads in addition to reducing braking on supply and takeup motors. Ideally suited for use with Viking RP62VU recording-playback amplifier, listed below.

Operation is normally controlled by four telephone type switches located on front of unit. Time delay circuits provide virtually fool-proof operation of control switches. Has input connector for remote control of play-stop and fast forward-stop-rewind functions. Second connector provides circuits for integrated control of associated

electronic equipment. Transport is designed for use in a conventional 19" relay rack mounting, requires 19x12 1/4"; 2" clearance front, 7" rear. Equipped with stereo/mono quarter-track erase, record and play heads.

Specifications: Speeds, 7 1/2 and 3 3/4 ips. Reel Size, 10 1/2" maximum. Signal-to-Noise Ratio, better than 55 db measured with signal recorded 12 db below saturation at 7 1/2 ips. Long Term Speed Regulation, .5%. Total Harmonic Distortion, less than 1% with tape recorded using RP62VU amplifier. Capstan drive with triple belt; 3 1/2-lb. dynamically balanced capstan flywheel; hysteresis synchronous capstan drive motor. Fast forward and rewind time, 2400-ft. reel in 70 seconds. Dynamic brakes. For 105-130 v., 60 cycle AC. Shpg. wt., 59 lbs.

79 RU 958-D.....585.00

MODEL RP62VU RECORD/PLAYBACK AMPLIFIER. Designed for use with Model 96 transport, above. Requires only 5 1/4" vertical space in relay rack. Shpg. wt., 11 lbs.

79 RU 959-D.....143.75

# Professional Tape Recorders by Ampex

## MODEL PR-10-2 STEREO RECORDER

Compact 2-channel, 2-track recorder for portable or rack mounted use. PR-10-2 is ideal as a field or studio recorder/player for broadcasters, recording studios, churches, or classrooms. Correct speeds are assured by the large, continuous duty hysteresis synchronous motor. Tape lifters permit touch cueing on fast wind and rewind. Electro-dynamic clutches and lower operating and braking tension permit use of thin-base tapes. Specifications: *Speeds*, 7½ and 15 ips. *Frequency Response*, ±2 db 30-15,000 cps at 15 ips; ±2 db 40-12,000 cps at 7½ ips. *Output*, +4 dbm into 600 ohm balanced or unbalanced load; one line input for each channel. *Dimensions*: transport, 8¾x19x6"; electronics, 5¼x19x5½". Less case. For 110-120 volts, 60 cycle AC. Shpg. wt., 60 lbs.

- 79 RU 950 D.....1195.00  
 PR-10-1. As above but single channel, full track, 2 inputs.  
 79 RU 951 D.....995.00  
 PR-10-1. As above, single channel, but half track, 2 inputs.  
 79 RU 952 D.....995.00

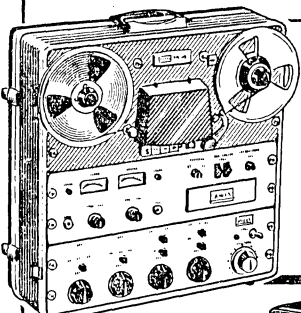
## PR-10 RECORDER ACCESSORIES

**MODEL MX-10 MIXER.** Permits up to 4 microphones or 2 mikes and 2 lines to be controlled to either or both recorder input channels. Styled to match PR-10. 5¾x19x5¾". 16 lbs.

- 79 RU 953 D.....395.00

**MODEL SA-10 SPEAKER AMPLIFIER.** Speaker/amplifier system with 40-watt voltage-regulated amplifier. 19x14". 50 lbs.

- 79 RU 954 D.....295.00  
 79 RU 955 D, 96510-01 Remote Control, 30' Cord, 6 lbs.....50.00  
 79 RU 956 D, 96010-01 Case for PR-10, 10 lbs.....60.00  
 79 RU 957 D, 960940-01 Case for PR-10 and MX-10, 16 lbs..125.00

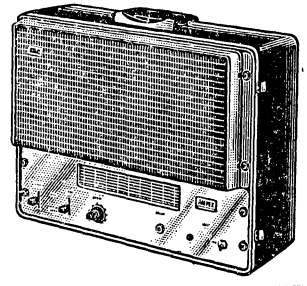
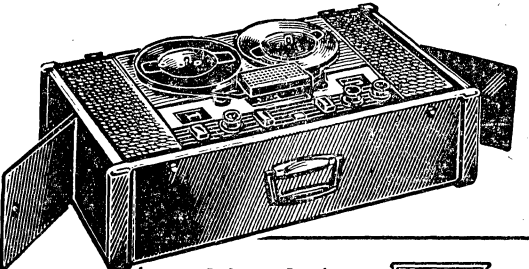


**AMPEX**  
**NEW!** Model PR-10 Professional Tape Recorder

- Monitor from Tape
- Separate Erase, Record and Playback Heads
- Solenoid Operation with PushButton Controls

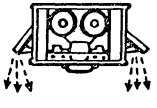
**Model SA-10 Professional Speaker/Amplifier For Rack Mounting Or Portable Use.**

- 40-Watts Power Output
- 22-20,000 cps +0,-2db Response to 40 Watts
- Extremely Low Distortion

Records Four-Track Stereo and Mono

Deflecting Panels for Effective Stereo Separation—Fold Away for Carrying.



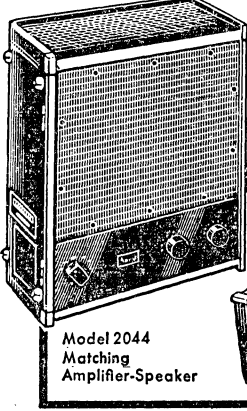
## MODEL F-4470 STEREO MONITOR RECORDER

Superb professional results are yours with this extraordinary portable recorder. Records 4-track stereo and monophonic tapes; plays 4-track stereo and monophonic tapes. Equipped with built-in amplifier-speakers for top-quality monitoring or listening—elliptical speakers are 7", and utilize deflecting panels for effective stereo separation. Also offers: output circuits and jacks for monitoring while recording, with the use of optional stereo headsets; 2 automatic shut-off positions for unattended recording or playback; selective erase head for monophonic flexibility with sound-on-sound and language study; automatic tape take-up; master selector switch; built-in mixer, 2 mic., 2 line for professional techniques; 2 recording level meters; hysteresis synchronous motor for greater timing accuracy.

**Specifications:** *Speed:* 7½ and 3¾ ips. *Reel Size:* 7" maximum. *Frequency Response:* 50 to 15,000 cps at 7½ ips; 50 to 8,000 cps at 3¾ ips. *Timing Accuracy:* ±1%. *Flutter and Wow:* less than 0.2% rms at 7½ ips. *Recording Inputs:* Radio/TV/Phono/Auxiliary; high-impedance microphone inputs. *Playback Outputs:* cathode follower. *Monitor Amplifier/Speakers:* dual-channel, two-stage amplifiers with integral power supply, utilizing negative feedback for low distortion—peak output power in excess of 5 watts per channel.

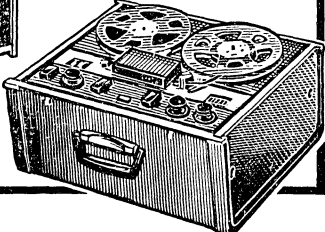
Recorder is supplied with an attractive, two-tone brown, scuff-resistant portable case. Lid is completely removable from recorder. Extremely compact size, only 9x15x2½". Supplied less microphones—see microphone section of this catalog. For operation from 110-120 volts, 60 cycle AC. Shpg. wt., 49 lbs.

- 79 RU 980 D.....695.00



Has 3 Precision Heads... Exact Tape Tracking... Selective Erase Head... Two Automatic Shut-Offs... New Design Hysteresis Synchronous Motor.

Model F-4460 Portable Stereo Tape Recorder.



Model 2044 Matching Amplifier-Speaker

## MODEL F-4460 STEREO RECORDER

A portable recorder that's professional all the way. Records 4-track stereo and mono; plays 4-track stereo or monophonic tapes. Features: 3 precision heads for quarter-track recording; exact tape tracking with improved tape guidance system; 2 automatic shut-off; new selective erase head; automatic take-up; master selector switch; hysteresis synchronous motor for ±1% timing accuracy; 2 record level meters; built-in mixer. Operates at 7½ and 3¾ ips. Frequency response, 50 to 15,000 cps at 7½ ips; 50 to 10,000 cps at 3¾ ips. Only 9x15x17½". Has smart brown portable case. Plays back through external power amplifiers and speakers—will drive high-impedance headsets directly. Less power amplifiers and speakers (see Model 2044 Amplifier-Speaker, below); and less mikes. For 110-120 v., 60 cycle AC. Shpg. wt., 41 lbs.

- 79 RU 979 D.....595.00

Model F-4450 Recorder. As above, but less portable case. Finished in brown. Shpg. wt., 31 lbs.

- 79 RU 978 D.....549.50

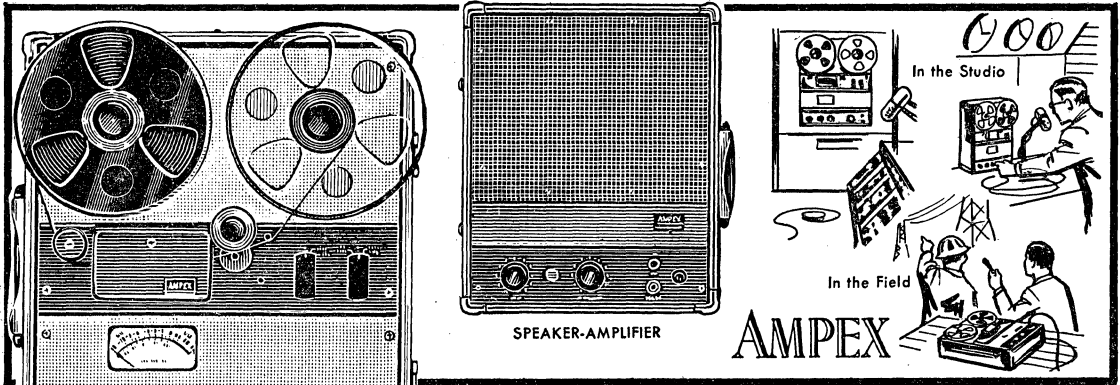
## MODEL 2044 MATCHING AMPLIFIER-SPEAKER

Designed for use with Ampex F-44 Series recorders, but can be used with any recorder for excellent audio response and clarity. Has separate tweeter and 8" woofer with crossover network. Output, 10 watts (20 watts peak) flat, ±0.1 db. Response, 70-13,000 cps. In handsome portable brown case, 9x17½x15". For operation from 110-120 volts, 60 cycle AC. Shpg. wt., 37 lbs.

- 79 RU 981-D.....179.50

Tape Recorders Are Shipped via Express or Truck

# Ampex Deluxe Tape Recorder... for Field or Studio



**Professional Portable Recorder for Field Use or Broadcast Studio**

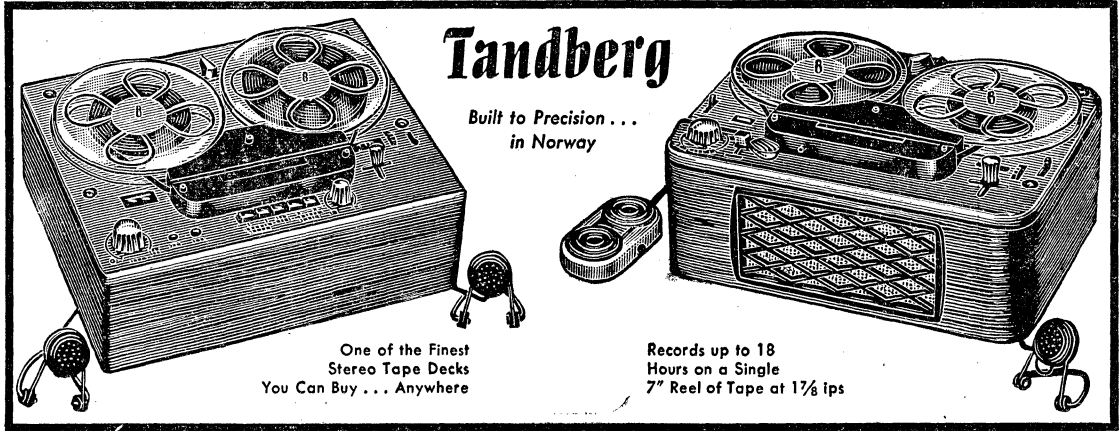
## AMPEX MODEL 602-01 MONOPHONIC RECORDER

Broadcast-quality half-track recorder with three separate heads (erase, record and playback) and hysteresis-synchronous drive motor. Designed for rugged use in the field or studio. Additional features include low-impedance input and output; new dynamically balanced flywheel; record safety button; separate record and playback preamps; 3" professional VU meter; provision for monitoring tape or source; heavy-duty clutches; horizontal or vertical operation; separate mixing controls for mike and line; silicon diode rectifiers. Extra-rugged portable case, 8x13 $\frac{3}{4}$ x16 $\frac{1}{2}$ ". For 110-120 v., 60 cycle AC. Shpg. wt., 51 lbs.  
**79 RU 983 D.....625.00**

**MODEL 622 HI-FI SPEAKER-AMPLIFIER.** Superior quality 10-watt amplifier and 8" speaker combination in one case, for recorder above. Frequency response, 65 to 10,000 cps. 13x16x8". For 110-120 volts, 60 cycle AC. Shpg. wt., 31 lbs.  
**79 RU 984 D.....189.50**

### 602-01 SPECIFICATIONS

Heads (3): half-track erase, record and playback. Speed: 7 $\frac{1}{2}$  ips. Reel Size: 7" maximum. Frequency Response: 40 to 15,000 cps. ( $\pm 2$  db from 40 to 10,000 cps.) Signal-to-Noise Ratio: over 55 db. Flutter and Wow: less than 0.17%. Timing Accuracy:  $\pm 0.2$  % at 7 $\frac{1}{2}$  ips. Fast Forward and Rewind: 90 seconds for full 1200 ft. Inputs: 30-250-ohm mike (Cannon XL connector) and 100K unbalanced line (gain control on each). Outputs: +4 dbm into 600-ohm balanced or unbalanced line, and headphone.



## Tandberg

Built to Precision... in Norway

One of the Finest Stereo Tape Decks You Can Buy... Anywhere

Records up to 18 Hours on a Single 7" Reel of Tape at 1 $\frac{1}{8}$  ips

### MODEL 64 4-TRACK STEREO TAPE DECK

### MODEL 841F 4-TRACK MONOPHONIC RECORDER

- Records and Plays Stereo and Mono
- Three Separate 4-Track Heads
- Hysteresis-Synchronous Drive Motor
- 3 Speeds
- Multiplex Filter

- 1/4-Track Record/Playback Head and Separate Erase Head
- P.A. Use
- Two Speeds—3/4 and 1/6
- Remote-Control Foot Pedal

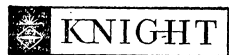
Feature-studded tape deck offering extraordinary stereo realism and depth. Three 4-track heads, including ferrite-core erase head, plus two record and two playback preamps, permit 4-track Stereo and Monophonic Recording, Sound-on-Sound, Echo, etc. Has automatic shut-off, direct-monitoring provision, and multiplex filter for taping stereo FM. Response:  $\pm 2$  db, 30 to 16,000 cps at 7 $\frac{1}{2}$  ips; 40 to 11,000 cps at 3 $\frac{3}{4}$  ips; 50 to 5500 cps at 1 $\frac{1}{8}$  ips. Flutter and Wow: under 0.1% at 7 $\frac{1}{2}$  ips. S/N Ratio: 55 db. Cathode-follower outputs. 6x16x12". Teakwood case. Less mikes, below. For 110-120 v., 60 cycle AC. Shpg. wt., 33 lbs.  
**79 RU 488 D.....498.00**

This compact, attractively styled portable recorder offers dependable and precision performance. The extremely long recording time available from the 841F is a boon to schools, business organizations and other institutions. Records and plays 4-track monophonic tapes in brilliant high-fidelity sound. Can be switched directly from playback to P.A. Has 4-digit, illuminated tape-footage counter for cueing and editing, and 7x4" hi-fi speaker. Response: 20-13,000 cps at 3 $\frac{3}{4}$  ips; 20-8,000 cps at 1 $\frac{1}{8}$  ips. Flutter and Wow: .2% at 3 $\frac{3}{4}$  ips; .3% at 1 $\frac{1}{8}$  ips. Signal-to-Noise Ratio: 50 db. In handsome Teakwood cabinet, 6 $\frac{3}{4}$ x15x11 $\frac{1}{2}$ ". Supplied with start-stop foot pedal, take-up reel and patch cords. Less microphone (at lower left) and carrying case, below. For operation from 110-120 v., 60 cycle AC. Shpg. wt., 29 lbs.  
**79 RU 972 D.....287.50**

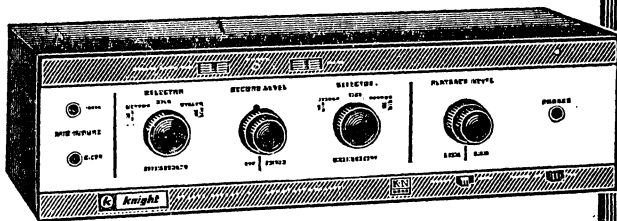
- 79 RU 489-2 D 64-1.** Above with carrying case. 38 lbs. .... **519.00**
- 79 R 446.** 22-FP Foot Pedal. For remote operation. Controls start and stop. Shpg. wt., 3 lbs. .... **18.00**
- 79 R 439.** CM-6 Mike. 30-12,000 cps. 12' cable 4 oz. .... **15.00**

- 79 RU 973 D.** TC-58 Carrying Case. Luggage-type styling. Simulated leather. With brass locks and key. Wt., 5 lbs. .... **24.50**

# Allied's Own Tape Equipment by



Reduced \$20.00 from  
last year's catalog price!



## KN-4002 STEREO RECORD/PLAY PREAMP



2 Indicators Show  
Recording Levels



Dual, Concentric  
Playback and Record  
Level Controls



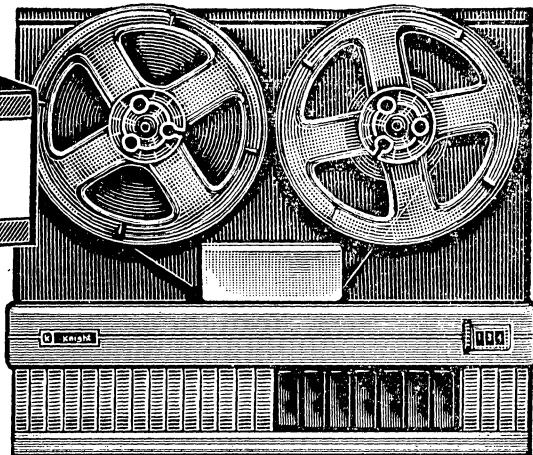
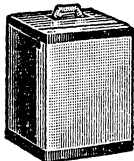
Multiple Recordings  
and Other Special  
Effects



Echo Effects Add  
Depth to Recordings

### CASE FOR KN-4000 and KN-4002

Holds both the Knight tape transport and preamplifier, plus mikes, mike cable, tape and other accessories. Scuff-proof covering in cream and beige. Positive snap-locks. 20x 16½x11½". Shpg. wt., 18 lbs.  
79 RU 870 D. .... 24.95



## KN-4000 DELUXE RECORD/PLAY TRANSPORT

Our professional-quality KN-4000 stands far above all other transports in its price range. Use it with the KN-4002, at left, to record and play 4-track stereo and monophonic tapes in thrilling high-fidelity sound. Produces sound-on-sound, "echo," musical accompaniment, add-a-track, and other special effects. Features three heavy-duty, 4-pole motors (two direct-drive spooling; one capstan), and 3 separate heads for erase, record, and playback.

Also boasts these outstanding features: DC dynamic braking for gentle, but instant stops; provision for monitoring from source or tape as you record; digital footage counter; automatic shut-off when tape runs out. Has seven fingertip, piano-key pushbutton controls: Tape Speed (7½ and 3¾ ips); Off-On; Run; Fast Forward; Reverse; Standby (to disengage idler from capstan). Frequency response: ±3 db, 30-16,000 cps at 7½ ips. Flutter and Wow: 0.25% at 7½ ips. Signal-to-Noise Ratio: 55 db. Desert Beige and Sand Gold finish. 13½x15¼x7". For operation from 110-120 volts, 60 cycle AC. Shpg. wt., 27 lbs.  
79 RU 879 D. .... 129.95



3 Heavy-Duty  
Precision Motors



3 Separate Heads  
for Record, Play-  
back and Erase



7 Fingertip Piano-  
Key Controls

## KN-4400 DELUXE-QUALITY STEREO HI-FI TAPE DECK



Two Precision, Easy-to-Read  
VU Meters Allow Accurate  
Setting of Recording Level



Convenient Slide-  
Lever Selects  
Forward-Play,  
Stop-Rewind  
Functions



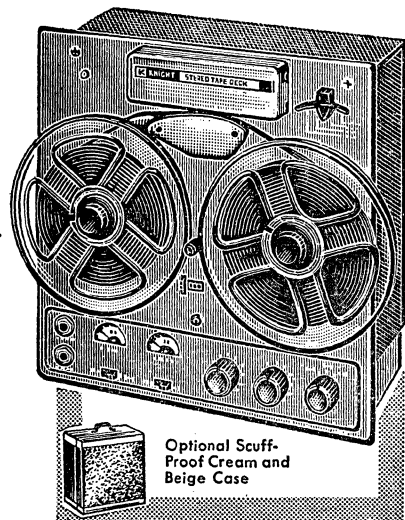
Digital Counter

Precision Digital Tape Footage Counter  
Offers Essential Aid in Cuing, Editing,  
and Indexing of Tapes

You experience the full potential of taped stereophonic sound with this compact tape deck. The KN-4400 offers complete 4-track stereo and monophonic tape facilities. Features a professional-quality laminated 4-track record/play head and a double-gap erase head. Built-in stereo record/play preamplifiers include dual VU meters for precise recording-level adjustment. Attractively styled in matte beige.

Single lever selects Rewind, Stop, Record/Play or Fast Forward. Just touch a button to change speeds. Digital tape-counter helps to edit and cue tape. Controls: record-play-off volume 1 and 2 (record and play); stereo-mono; mike/tape-head. Inputs: mike/tape-head 1 and 2; high-level 1 and 2.

Speeds: 7½ and 3¾ ips. Response: ±3 db, 50-15,000 cps at 7½ ips; ±3.5 db, 50-10,000 cps at 3¾ ips. Signal-to-Noise Ratio: more than 40 db. Flutter and Wow: less than 0.2% rms. Hum & Noise: 50 db below peak recording level. Max. Reel size: 7". Only 13x13x6¼". Requires 12½" square cutout. For 110-120 v., 60 cycle AC. Shpg. wt., 31 lbs.  
79 RU 882 D. .... 179.95  
CARRYING CASE. Was \$24.95. Cream and beige. Detachable front cover. 15 lbs.  
79 RU 871 D. .... 19.95

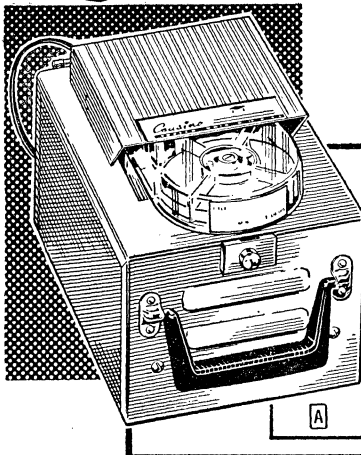


Optional Scuff-  
Proof Cream and  
Beige Case



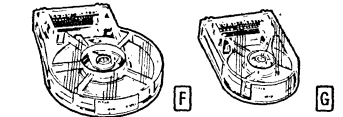
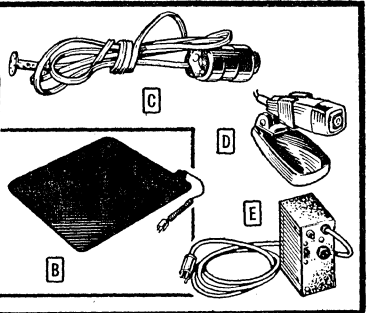
# Cousino Automatic Tape Equipment

**VOICE RECORDINGS PLAYED AUTOMATICALLY**



Tape equipment designed to automatically deliver voice messages to selected areas as often as desired. Offers unlimited possibilities for instruction and sales promotion. Can be used to explain sales displays, give sales presentations at exhibits, or provide in-

struction for factory assembly projects. Also excellent for training employees, delivering important spot-announcements, etc. Equipment operates continuously, periodically, or when cued. Available in playback units alone, or with recording facilities.



**F ECHO-MATIC TAPE CARTRIDGES**

For all Cousino units. Running time, in minutes, at 3 3/4 ips, except \*seconds. 1 lb.

Stock No.	Type	Min.	1-9, EA.	10-Up, EA.
80 R 909	1410-70S	70*	3.00	2.70
80 R 910	1410-3	3	3.25	2.93
80 R 911	1410-6	6	3.75	3.38
80 R 912	1410-12	12	4.60	4.14
80 R 913	1410-15	15	4.95	4.46

**G TAPE CARTRIDGE SHELLS**

Empty cartridges. Take Cousino "friction free" tape (lower left). 8 oz. 1410-MT. 15-min. capacity at 3 3/4 ips. 80 R 914. 1-9. 2.00 10-Up.....1.80 1430MT. 40-min. capacity at 3 3/4 ips. 80 R 916. 1-9. 3.00 10-Up.....2.70

**LOADING DISC**

(Not illus.) For loading of "friction free" tape into tape cartridges. With instructions. Shpg. wt., 6 oz. 80 R 919.....1.50

**AUDIO VENDORS (TAPE MAGAZINES)**



For continuous play. Fit most recorders. Last digit(s) in Type No. are running time in min. @ 3 3/4 ips (doubled with amoebias loop). Clockwise except counter-clockwise. 12 oz.

Stock No.	Type No.	1-9, EA.	10-Up, EA.
80 R 145	U-1310C-3	5.10	4.60
80 R 146	U-1310C-5	5.50	4.95
80 R 135	U-1310C-12	7.40	6.65
80 R 147	U-1310CC-3†	5.10	4.60
80 R 148	U-1310CC-5†	5.50	4.95
80 R 136	U-1310CC-12†	7.40	6.65

- A** AA-7320 Audio Announcer. All-transistor, cartridge-loading playback unit. Operates continuously or shuts off automatically, or on cue. For use with external amplifier or headset. Speeds: 3 3/4, 1 1/2 ips. 4-pole motor. 6x6x9". For 105-120 v., 60 cycle AC; 22 watts. 14 lbs. 80 RC 900 D.....99.95
- A** AR-7328 Audio Repeater. As above, but has 2-watt audio amplifier; built-in 4" speaker; external-speaker jack. 15 lbs. 80 RC 901 D.....124.95
- A** RR-7331 Audio Repeater-Recorder. As above, but also records tapes. 16 lbs. 80 RC 902 D.....169.95
- A** SR-7341 Synchro Repeater-Recorder. As above, but has facility for audio-synchronized recording on playback. 17 lbs. 80 RC 903 D.....199.95

**ACCESSORIES FOR ALL MODELS**

- SL-6278 Snap-Lock Cover. (Not illustrated.) Hinged. Shpg. wt., 1 lb. 80 R 904.....4.50
- B** MS-4547 Footmat Start-Switch. Has 6-ft. cord and plug. Wt., 1 lb. 80 R 905.....22.50
- C** PC-4541 Remote-Start Pushbutton, Panel mounted. 6-ft. cord; plug. 10 oz. 80 R 906.....4.50
- D** M-4310 Mike and Stand, Dynamic mike for RR-7331 and SR-7341. 1 lb. 80 R 907.....19.95
- E** PE-4545 Photoelectric Start-Control. With clamp for partition or shelf-mounting. 5-ft. cord and plug. Wt., 1 lb. 80 R 908.....24.75

**TAPE SPLICING KIT**

Complete splicing kit with self-mounting splicing block and pre-cut tabs for splicing Cousino "friction free" tape. With instructions. Shpg. wt., 4 oz. 80 R 920.....1.25 Extra Tabs. 2 oz. 80 R 921. Pkg. of 24.....19c

**"FRICTION-FREE" TAPE**

\*450 ft. †900 ft. ‡1800 ft. Av. wt., 12 oz.

Stock No.	Mfr's Type	EACH	
		1-9	10-Up
80 R 927	ff-510-4.5*	2.50	2.25
80 R 928	ff-510-9†	4.10	3.69
80 R 929	ff-510-18‡	7.50	6.75

**"FIDELIPAC" AUTOMATIC TAPE CARTRIDGES by CONLEY ELECTRONICS**

**CONLEY**

Operates on Endless-Loop Principle

FIDELIPAC cartridges are the standard of the broadcasting industry and are compatible with all major-brand cartridge equipment available on the market today.

Continuous, self-contained automatic tape cartridges. Designed for both recording and playback, and utilizing the endless loop principle of tape operation, the Fidelipac cartridge offers unlimited applications in all fields. The entire cartridge is constructed of

plastic, and its specially lubricated tape is self-enclosed (with transparent cover) affording complete protection from dust, tearing, marring, and offering the utmost handling ease. Three model sizes for program flexibility. \*Indicates empty cartridge.

**MODEL 300 TAPE CARTRIDGES**

Stock No.	Length	Time at 7 1/2 ips	Size	Wt., Oz.	EACH		
					1-5	6-95	96-Up
80 R 915	25'	40 sec.	4x5 3/32x7/8"	4	2.45	2.35	2.25
80 R 917	44'	70 sec.	4x5 3/32x7/8"	4	2.55	2.45	2.35
80 R 942	63'	100 sec.	4x5 3/32x7/8"	4	2.65	2.50	2.40
80 R 918	132'	3 1/2 min.	4x5 3/32x7/8"	4	3.00	2.80	2.70
80 R 940	207'	5 1/2 min.	4x5 3/32x7/8"	5	3.50	3.25	3.10
80 R 941	394'	10 1/2 min.	4x5 3/32x7/8"	8	4.55	4.25	4.05
80 R 930	....	*	4x5 3/32x7/8"	3	2.20	2.05	1.95

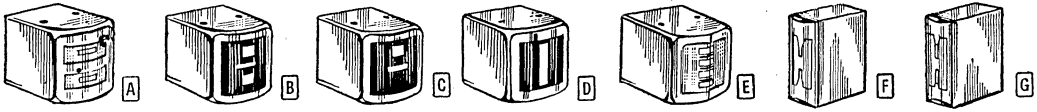
**MODEL 600 TAPE CARTRIDGES**

80 R 924	600'	16 min.	6x6 3/32x7/8"	9	7.00	6.60	6.45
80 R 931	....	*	6x6 3/32x7/8"	5	3.30	3.10	2.95

**MODEL 1200 TAPE CARTRIDGES**

80 R 926	1163	31 min.	7 5/8x8 1/32x7/8"	16	11.40	10.90	10.75
80 R 932	....	*	7 5/8x8 1/32x7/8"	10	4.70	4.40	4.25

# Best-Quality Magnetic Tape Heads *Nortronics*



## NO-MOUNT 2-TRACK AND 4-TRACK STEREO AND MONOPHONIC TAPE HEADS

**Record/Playback Heads.** Professional type, with laminated cores. Frequency response: 30-15,000 cps at 7½ ips. Crosstalk rejection on stereo heads: 50 db except Type 5600, 38 db. Types 1106, 1904, 4103, 5600 have hyperbolic face; others cylindrical. Av., 6 oz.

**Erase Heads.** Efficient double-gap types with all-metal cases. 60-kc operating voltages: high-impedance, 100-150 v. Medium impedance, 30-50 v. Medium-Low impedance for Ampex: 45 v. at 100 kc. \*Indicates impedance at 60 kc. Av. shpg. wt., 6 oz.

"Quik-Kit" Hardware. Permits you to quickly and easily adapt no-mount heads listed in the table at right, to side or base-mount styles. Shpg. wt., 4 oz.

For Heads	Side-Mount		Base-Mount	
	Stock No.	Type	Stock No.	Type
All R/P	80 RC 850	38	80 RC 852	66
All Erase	80 RC 851	18	80 RC 853	19

Above Kits.....EACH 1.00

Stock No.	Mfr's Type	Fig.	Description	Ind. MHY	Gap $\mu$ in.	EACH
80 RC 854	1000	A	4-tr. stereo R/P high-imp. for tubes	750	100	21.00
80 RC 855	1001	A	4-tr. stereo R/P med. imp., tubes/trans.	350	100	21.00
80 RC 856	1002	A	4-tr. stereo R/P low-imp. for trans.	100	100	21.00
80 RC 857	1003	A	4-tr. stereo Record-only, tubes/trans.	60	500	21.00
80 RC 880	1106	A	4-tr. stereo Record-only, tubes/trans.	9	500	22.50
80 RC 858	1800	B	2-tr. stereo R/P high-imp. for tubes	700	160	23.30
80 RC 859	1801	B	2-tr. stereo R/P med.-imp., tubes/trans.	350	160	23.30
80 RC 860	1802	B	2-tr. stereo R/P low-imp., for trans.	100	160	23.30
80 RC 861	1803	B	2-tr. stereo Record-only, tubes/trans.	60	500	23.30
80 RC 881	1904	B	2-tr. stereo Record-only, tubes/trans.	9	500	24.80
80 RC 862	2600	C	2-tr. mono R/P high-imp. for tubes	700	160	15.90
80 RC 863	2601	C	2-tr. mono R/P med.-imp., tubes/trans.	350	160	15.90
80 RC 864	2602	C	2-tr. mono R/P low-imp. for trans.	100	160	15.90
80 RC 865	2603	C	2-tr. mono Record-only, tubes/trans.	60	500	15.90
80 RC 878	4000	D	Full-track R/P med.-imp., tubes/trans.	250	160	33.20
80 RC 879	4103	D	Full-track Record-only, tubes/trans.	9	500	34.70
80 RC 888	5600	E	4-channel R/P low-imp. for trans.	.....	.....	99.00
80 RC 866	1400	F	4-tr. stereo erase, high-impedance	80	30K*	12.00
80 RC 867	1401	F	4-tr. stereo erase, medium-impedance	10	3K*	12.00
80 RC 882	1403	F	4-tr. stereo erase, med./low-impedance	4	1K*	12.00
80 RC 868	2200	G	2-tr. stereo erase, high-impedance	80	25K*	12.00
80 RC 869	2201	G	2-tr. stereo erase, med.-impedance	8	2K*	12.00
80 RC 883	2203	G	2-tr. stereo erase, med./low-impedance	4	1K*	12.00
80 RC 870	3600	.....	2-tr. mono erase, high impedance	80	25K*	8.00
80 RC 871	3601	.....	2-tr. mono erase, med.-impedance	8	2K*	8.00
80 RC 884	4400	.....	Full-track erase, high impedance	40	12K*	14.00
80 RC 872	4401	.....	Full-track erase, med.-impedance	4	1K*	14.00
80 RC 873	4402	.....	Full-track erase, med./low-impedance	2	5K*	14.00

### TAPE HEADS DO WEAR OUT Check Yours Now!

Even the best tape head will wear, causing a definite drop in the sound quality and response of your tapes. Examine your tape head now. Inspect it for: a worn spot—this causes loss of high frequencies; a vertical black line dividing either pole piece—this causes loss of gain. If head shows either or both of these symptoms, it should be replaced immediately!

### FREE BOOK

Nortronics Tape-Head Replacement Guide. Lists over 440 recorders. Ask for 80 RC 896.

## NORTRONICS HEADS/MTG. ASSEMBLIES FOR MAGNECORD, AMPEX

**H** "Quik-Kit" 70. Magnecord 3-Head Nest. (Less heads.) For Magnecord Models PT6, F35, S36, M30, and PT63 Series tape transports. This nest accepts any erase head or record/playback head listed in the table above. Magnecord electronics is not compatible. Use Nortronics RA-100 or Knight-Kit KP-70 recording amplifiers. Wt. 1½ lbs. 80 RC 889.....20.70

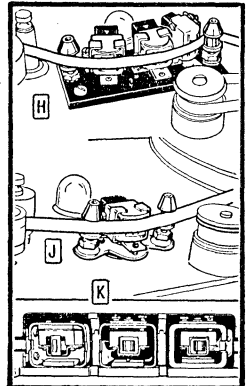
**J** "Quik-Kit" 73. Magnecord 4-Head Nest. (Less heads.) Same as above, but has mount for additional playback head. Shpg. wt., 1 lb. 80 RC 890.....25.50

**J** "Quik-Kit" 75. Magnecord Single-Head Nest. (Less head.) For mounting single playback-head on Magnecord PT6 and 800 Series tape transports—or other similar units. Kit is supplied complete with tape-guide posts. Wt., 8 oz. 80 RC 891.....6.60

**K** "Head-Kit" RPE-75. Ampex Full-Track Head Replacement Set. For Ampex 300 and 400 Series tape recorders. Kit consists of: 4402 erase head; 4103 record head; 4000 playback head; adapter mountings for direct replacement. Excellent performance at reasonable cost. Wt. 2½ lbs. 80 RC 892.....101.50

**K** "Quik-Kit" 76. Ampex Mounting Adapter. (Less head.) Consists of the adapter mounting only, for Ampex 300 and 400 Series recorders. Use with any of the following heads to match Ampex electronics: 1000, 1106, 1800, 1904, 2600, 4000, 4103, 2203, or 4402. Shpg. wt., 8 oz. 80 RC 893.....7.50

Replacement heads for Ampex Series 600, 960, 930, A100, 1260, etc. Use any of Nortronics replacement heads listed above, under "Quik-Kit" 76, plus "Quik-Kit" 66 or 19 base-mount adapters listed in the upper left section of this page.



## NORTRONICS TAPING ACCESSORIES

**L** AT-100 Alignment Tape. Full-track, 7½ ips tape for checking azimuth alignment and frequency response of any tape recorder. Instructions are recorded on the tape. Wt., 8 oz. 80 R 111.....4.95

**M** T60F Bias Oscillator Coil. For 12AU7 tube circuit. Supplies 40-115 volts at 60-100 kc to all erase and recording heads listed above. 6 oz. 80 RC 894.....4.50

**M** T60-T2 Bias Oscillator Coil. For single or push-pull transistor circuit. Supplies 30-120 volts at 60-100 kc to record and erase heads listed in table above. Shpg. wt., 6 oz. 80 RC 895.....4.50

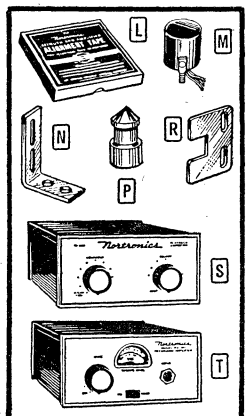
**N** L-5 Mounting Bracket. Universal type, for mounting side-mount style erase and recording heads on any tape recorder. Shpg. wt., 3 oz. 80 R 796.....50

**P** TG-7 Tape Guide Post. Adjustable height. Sapphire-hard surface for long life. Wt., 3 oz. 80 R 795.....1.00

**R** TG-8 Tape Guide Plate. For use with Nortronics side-mount style tape-heads to control position of the tape. Shpg. wt., 3 oz. 80 R 794.....50

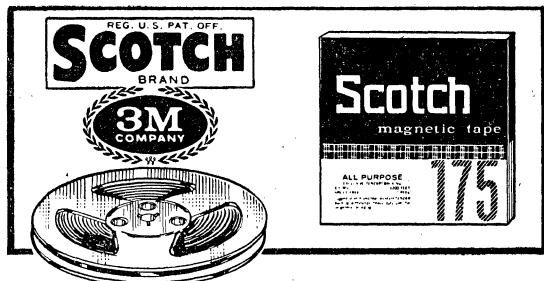
**S** PL-100 Playback Amplifier. Compact unit, delivering 3 watts of power to any 4, 8, or 16-ohm speaker. Inputs: high-impedance tape head; magnetic or ceramic phono cartridge; tuner. Equalization: variable, NAB/RIAA. Frequency response: 30-15,000 cps,  $\pm 2$  db. Output: P-P triode and 1-v. cathode-follower. Size, 2½x5x8¾". For 115 volts, 60 cycle AC. Shpg. wt., 6 lbs. 80 R 793.....46.50

**T** RA-100 Recording Amplifier. Use in pairs when recording stereo. Adjustable for using with most tape heads, the RA-100 supplies audio and 65-kc bias to any head listed above; plus 115 volts to high-impedance erase head. Has VU meter and monitor output. Inputs: mike; tape head; phono; tuner. Equalization: NAB/RIAA, 2½x5x8¾". For 115 v., 60 cycle AC. Shpg. wt., 6 lbs. 80 R 792.....57.50





# Recording Tape, Accessories—POLAROID Film



**TYPE 282 1½-MIL POLYESTER "SANDWICH" TAPE**  
Provides protective, micro-thin plastic shield over oxide coating. Wears up to 30 times longer than ordinary tape. 5" reels have 600' tape, 7" plastic reels have 1200'. Av. wt., 10 oz.

Reel Size	Reel Color					EACH	
	Clear	Red	Blue	Green	Yellow	1-11	12-Up
5"	80 R 578	80 R 579	80 R 580	80 R 581	80 R 582	2.03	1.82
7"	80 R 583	80 R 586	80 R 587	80 R 589	80 R 590	3.23	2.91

**TYPE 150 EXTRA-LENGTH 1-MIL POLYESTER**  
Extra-strong polyester base provides 50% more playing time than same reel size with standard tape. Plastic reels except \*aluminum NAB reel (3" center hole). Av. shpg. wt., 12 oz.

Stock No.	Type	Footage	Reel	1-11, EA.	12-Up, EA.
80 R 531	150-9	900'	5"	2.35	2.12
80 R 532	150-18	1800'	7"	4.04	3.65
80 R 533	150-36R*	3600'	10½"	9.41	8.47

**TYPE 190 EXTRA-LENGTH 1-MIL ACETATE**  
Thin acetate base—gives 50% more playing time than standard tape. Plastic reels except \*aluminum NAB reel. Av. wt., 12 oz.

Stock No.	Type	Footage	Reel	1-11, EA.	12-Up, EA.
80 R 550	190-9	900'	5"	2.29	2.06
80 R 552	190-18	1800'	7"	3.60	3.23
80 R 553	190-36R*	3600'	10½"	8.40	7.56

**TYPE 200 DOUBLE-PLAY ½-MIL TENSILIZED POLYESTER**  
Super-strong, long-play tape—gives twice the recording time as standard tapes on same size reel. Av. shpg. wt., 12 oz.

Stock No.	Type	Footage	Reel	1-11, EA.	12-Up, EA.
80 R 500	200-12	1200'	5"	3.56	3.21
80 R 541	200-24	2400'	7"	6.20	5.58

**NEW TYPE 290 EXTRA-LONG-PLAY ½-MIL POLYESTER**  
Tensitized tape gives 200% more playing time. 3¼" reel fits most transistorized, battery-operated portable recorders.

Stock No.	Type	Footage	Reel	Lbs.	1-11, EA.	12-Up, EA.
80 R 544	290-6	600'	3¼"	¼	1.93	1.73
80 R 545	290-36	3600'	7"	1½	7.81	7.03

**NEW TYPE 151-17 LUBRICATED 1-MIL POLYESTER**  
For continuous-loop cartridge application. External lubrication on back side only. 7" reel contains 1700' tape. 1½ lbs.

80 R 524, 1-11.....EACH 6.93      12-Up.....EACH 6.23

**TYPE 111 STANDARD 1½-MIL ACETATE**  
High-quality, general-purpose recording tape. With molded plastic reels, except \*aluminum NAB reel (3" center hole). Av. wt., 8 oz.

Stock No.	Type	Footage	Reel	1-11, EA.	12-Up, EA.
80 R 543	111-3	300'	3"	.88	.79
80 R 547	111-6	600'	5"	1.47	1.32
80 R 548	111-12	1200'	7"	2.29	2.06
80 R 549	111-25R*	2500'	10½"	7.06	6.35

**TYPE 120-12 HIGH-OUTPUT 1½-MIL ACETATE**  
7 db higher output. 1200' on 7" plastic reel. Wt., 12 oz.

80 R 554, 1-11.....EACH 2.29      12-Up.....EACH 2.06

**TYPE 131 LOW-PRINT 1½-MIL ACETATE**  
Minimizes print-through during storage. Plastic reel, except \*aluminum NAB reel. Av. shpg., wt., 12 oz.

Stock No.	Type	Footage	Reel	1-11 EA.	12-Up, EA.
80 R 534	131-12	1200'	7"	2.88	2.59
80 R 540	131-25R*	2500'	10½"	7.98	7.17

**NEW TYPE 175 HEAVY-DUTY "TENZAR," 1½-MIL**

Made with high-potency oxide coating—the same coating proved so durable in heavy-duty tapes for high-speed computer applications. Resists heat, minimizes oxide rub-off despite continuous play and re-play. Lasts up to 15 times longer than ordinary tapes. Highly resistant to tearing, stretching. 5" plastic reels contain 600' tape, 7" plastic reels contain 1200'. Av. shpg. wt., 10 oz.

Reel Size	Reel Color					EACH	
	Clear	Red	Blue	Green	Yellow	1-11	12-Up
5"	80 R 527	80 R 506	80 R 509	80 R 517	80 R 518	1.60	1.44
7"	80 R 528	80 R 520	80 R 522	80 R 523	80 R 525	2.50	2.25

**LIVING LETTERS**

- Choice of 3 Tape Bases
- 3" Mailable Tape Carton
- On 3" Plastic Reel

The most personal way to correspond. Each reel comes complete with handy mailable carton. Just write address, apply postage and drop in mail box. Available in choice of standard 1½-mil acetate, 1-mil polyester, or ½-mil tensilized polyester. Shpg. wt., 3 oz.

Stock No.	Mfr's Type	Base	Foot-age	EACH	
				1-11	12-Up
80 R 542	111-1.5	Acetate	150'	.46	.41
80 R 502	150-2.25	Polyester	225'	.66	.59
80 R 530	200-3	Tensilized	300'	1.05	.94

## POLAROID 10-SECOND FILM

Fine quality film for all Polaroid cameras. Priced low—save even more when you buy in lots of 3 or more. Excellent for industrial use. Helpful in time-motion study, photography for house organs, many other applications. Get a finished picture in just 10 seconds. 8 black-and-white exposures per roll. Wt., 3 oz.

Stock No.	Mfr's Type	Use With	ASA Speed	PER Roll	3-Up EACH
24 V 608	37	80 Series	400	1.38	1.30
24 V 609	37	80 Series, J-33	3000	1.48	1.40
24 V 610	42	All but 80 Series, J-33 and J-66	200	1.77	1.68
24 V 611	47	All but 80 Series, J-33	3000	1.89	1.80

## TAPE RECORDING ACCESSORIES

### EMPTY PLASTIC REELS

Each with convenient index box. Buy in larger quantities—Save!

Stock No.	Reel Size	Shpg. wt.	1-11, EACH	12-Up, EACH
80 R 559	3"	4 oz.	.17	.15
80 R 563	4"	4 oz.	.37	.33
80 R 558	5"	4 oz.	.44	.39
80 R 556	7"	4 oz.	.50	.45

### STANDARD-SIZE ONE-REEL MAILING BOXES

Stock No.	For Reel Size	Oz.	1-11, EACH	12-Up, EACH
80 R 602	3"	3	.10	.09
80 R 562	5"	3	.10	.09
80 R 561	7"	3	.13	.12
80 R 560	10½"	3	.20	.18

### TYPE 24 LEADER AND TIMING TAPE

Tape in choice of two colors. 100' length. Shpg. wt., 3 oz.  
80 R 569, White, 1-11.....EACH .59      12-Up.....EACH .53  
80 R 568, Yellow, 1-11.....EACH .59      12-Up.....EACH .53

### NEW TYPE 21-10 LEADER TAPE

Specially made with anti-static coating. White plastic tape. 1000' on 7" plastic reel. Sturdy storage box included. 10 oz.  
80 R 546, 1-11.....EACH 3.00      12-Up.....EACH 2.70

### TYPE 8000 QUICK-LOAD CARTRIDGE

For cartridge players. 560' tape. 9 oz.  
80 R 596.....2.94

### TYPE 41-½S SPLICING TAPE

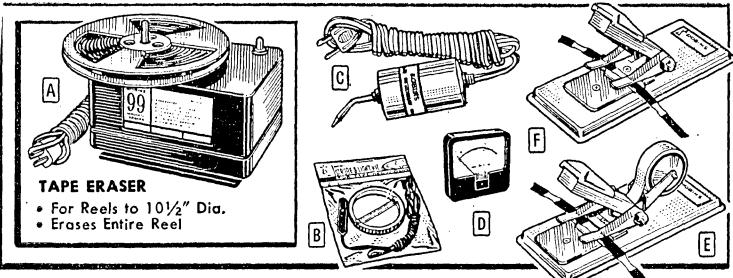
Coated on one side with non-run adhesive. ½x150". 3 oz.  
80 R 557.....34

### TYPE 51-7/32S ALUMINIZED SENSING TAPE

For recorders with automatic "stop" and "reverse". Adhesive on one side, foil on the other. ½x150". Shpg. wt., 3 oz.  
80 R 577.....1.89



# Robins Home Recording Accessories



## A BULK TAPE ERASERS

**MODEL ME-99.** Reduces residual noise levels 3 to 6 db below most erase-head levels. For reels to 10 1/2" dia., tapes to 1/2" wide. 5 1/2 x 6 3/4 x 3 3/4". For 110-120 v., 50-60 cycle AC. U.L. Listed. Wt., 8 1/2 lbs.  
**80 R 114.....26.00**

**MODEL ME-77.** (Not illus.) For reels to 7" diameter, tape 1/4" wide. Erasure 2-4 db below most head levels. 2 1/2 x 6 1/4 x 3 3/4". For 110 v., 60 cycle AC. Shpg. wt., 5 lbs.  
**80 R 130.....14.70**

## B TAPE STROBE KIT

**MODEL TK-5.** Checks the speed, flutter and wow of 15, 7 1/2, and 3 3/4-ips recorders. For 110 v., 60 cycle AC. Wt., 1/2 lb.  
**80 R 128.....1.20**

## C TAPE HEAD DEMAGNETIZERS

**MODEL HD-6.** Removes residual magnetism from head for best S/N ratio. 4 3/8 x 1 1/4" dia. For 110 v., 60 cycle AC. 1 lb.  
**80 R 154.....6.00**

**80 R 127. MODEL HD-3.** As above. Low cost, smaller unit. 3 1/2 x 1 1/4" dia. 8 oz.  
**.....3.60**

## D CUSTOM 4 1/2" VU METER

**MODEL VU-100.** Registers from 0 to 100% modulation; -20 to +3 db. Dual-impedance input. Sensitivity, 200  $\mu$ a; shunts for 1.2 or 12 v., "zero" VU. Mounts in 2 3/4" dia. hole; requires 1 1/2" depth. Wt., 1 lb.  
**80 R 125.....18.00**

## E "STEREO 4" STANDARD SPLICER

**MODEL TS-4S.** Utility version of the TS-8D at right. Has all of its precision, deluxe features except "see-thru" windows. Ruggedly made of metal and plastic—highly resistant to chipping and breaking. With replaceable cutter cartridge (extra cartridges listed at right); accurate blade-centering adjustment; integral tape dispenser. Supplied complete with a 100" roll of 3/8" splicing tape. Shpg. wt., 12 oz.  
**80 R 192.....5.70**

## F "STEREO 4" JUNIOR SPLICER

**MODEL TS-4J.** Same as TS-4S above, except without tape dispenser and splicing tape. Uses 3/8" splicing tape. 8 oz.  
**80 R 195.....4.35**

### ROBINS "STEREO 4" DELUXE SPLICER

## \$765

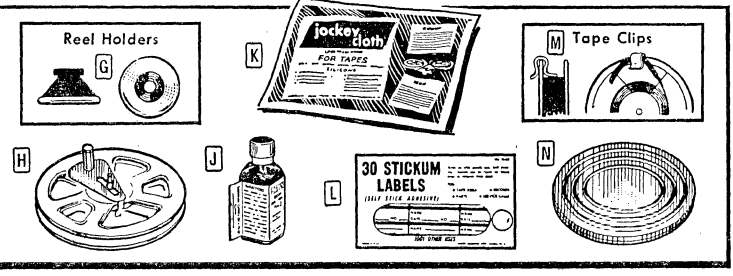
• "See-Thru" Windows Show Operating Positions for Precise Editing  
 • Adjustment for Blade-Centering

**MODEL TS-8D.** Developed to meet the critical requirements of splicing 4-track tapes without affecting program material on the outside tracks. Works equally well for single-track and 2-track tapes, too. Cuts tape diagonally and trims tiny indentations on sides of splice to prevent adhesive contact with recorder parts. Has integral tape dispenser and replaceable cutter cartridge. Made of almost indestructible "Implex" plastic. Supplied complete with 100" of 1/2" splicing tape. Shpg. wt., 1 lb.  
**80 R 142.....7.65**

**80 R 190. MODEL RK-8.** Replacement cutter cartridge and 2 cutting pads. For TS-8D only. Wt., 3 oz.  
**......85**

## REPLACEMENT CUTTER CARTRIDGE

**MODEL RK-3.** (Not illus.) For splicer models TS-4S and TS-4J only. Includes cartridge and 2 cutting pads. Shpg. wt., 3 oz.  
**80 R 200.....84**



## G TAPE REEL HOLDERS

**MODEL RH-2.** Holds reel securely on spindle. Prevents wobbling even on fast-forward and fast-reverse. Pkg. of 2. Wt., 3 oz.  
**80 R 122. Package of 2.....51**

## H TAPE THREADER

**MODEL TT-1.** No more false starts. Simply place tape against hub of take-up reel, slip on threader, turn crank a few times, and tape is securely threaded on reel. For use with all reels, 4" to 7". Wt., 2 oz.  
**80 R 166.....60**

## J TAPE HEAD CLEANER

**MODEL HC-2.** Removes distortion-producing dirt and oxides from heads. A valuable "must" for professional-quality taping. With instructions, and applicator. 2 fluid ounces. Shpg. wt., 4 oz.  
**80 R 113.....60**

**MODEL RC-2-22 TAPE HEAD LUBRICANT.** Protects heads. Provides longer life. 2 fluid ounces. Shpg. wt., 4 oz.  
**80 R 206.....60**

**HC-5 TAPE CLEAN.** Run through recorder to clean heads and guide-posts. 5" reel. 6 oz.  
**80 R 205.....1.65**

## K JOCKEY CLOTH FOR TAPES

**MODEL JCT-2.** Cleans and lubricates tape by depositing a thin film of silicone. Just apply cloth while running tape through player or recorder. Cloth is washable—may be reused many times. Shpg. wt., 3 oz.  
**80 R 152.....60**

**SPLICING TAPE.** Mylar with adhesive back. 100" length wound on 1" core.

Stock No.	Type	Width	Oz.	EACH
80 R 202	ST-234	1/4"	1	.24
80 R 203	ST-375	3/8"	1	.27
80 R 155	ST-500	1/2"	1	.30
80 R 204	ST-750	3/4"	2	.36

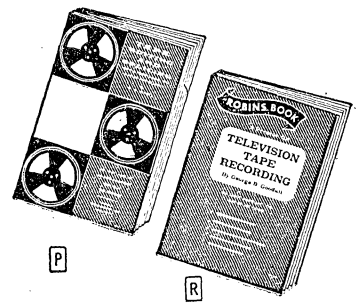
## L 30 REEL LABELS

**MODEL SL-30.** Contains 30 adhesive labels that can be written or typed upon, prior to removal from sheet. Affix to spoke of the reel. Each has space for Title, Date, and Number. Wt., 2 oz.  
**80 R 124. Pkg. of 30.....27**

## M 12 TAPE CLIPS

**MODEL TC-12.** Handy clips to keep tape from unwinding. Fit any reel. 12 reusable plastic clips in plastic box. Wt., 3 oz.  
**80 R 153. Box of 12.....24**

## TECHNICAL MANUALS



## P TAPE EDITING AND SPLICING

**BOOKLET TE-24.** By N. M. Haynes. Excellent for professional or amateur tape recording enthusiasts. Helps you get more use and enjoyment from your recorder. Contains tips on spliceless editing; dubbing; erasure of clips, ticks or "pop"; erase-fading; etc. Illustrated. 6x9". 24 p.  
**80 R 131. Postpaid in U.S.A.....24**

## R TV TAPE RECORDING

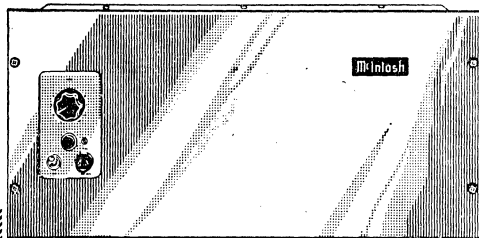
**BOOKLET TE-48.** By Goodall. Covers fundamentals of TV tape recording. Includes: basic components; video recording and reproduction; duplicating video tapes; editing and splicing. 6x9". Illustrated. 48 p.  
**80 R 126. Postpaid in U.S.A.....60**

## N TAPE STORAGE CANS

**MODEL TC-7.** Steel can for safe storage of reels to 7" dia. Shpg. wt., 8 oz.  
**80 R 207.....51**

**80 R 208. Model TC-5.** 5" dia. 6 oz.  
**.....36**

# Deluxe Hi-Fi Components for Industrial Lab



**McIntosh**  
BIG POWER . . .  
SUPERIOR  
FIDELITY

- **Power Output:** 75 watts continuous • **Hum and Noise:** 90 db below rated output power
- **Response:** +0, -0.2 db, 20-20,000 cps; +0, -1 db, 18-40,000 cps at full power
- **Harmonic Distortion:** less than 0.5% at 75 watts output, 20-20,000 cps
- **IM Distortion:** less than 0.5% for instantaneous peak output up to 150 watts
- **Outputs:** 4, 8, 16, 67, 150, and 600 ohms; 25, 70.7, 115, and 230 volts

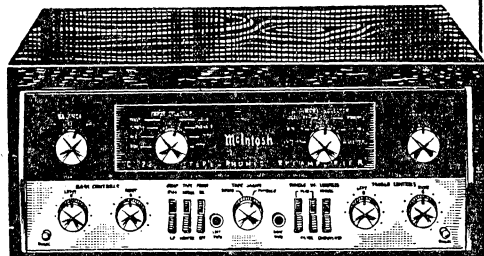
## MI75 75-WATT BASIC AMPLIFIER

Audio power amplifier providing 75 watts of distortion-free power output from below 20 cps to above 20 kc. Carefully designed with particular attention to exceptional performance characteristics, long life, and maintenance-free operation.

Special feature of the MI-75 is the large number of output impedances and voltage taps (including 115 and 230 volts)—makes the unit particularly flexible for general laboratory use as well as for all types of critical sound applications.

Gain control accommodates input levels from 0.5 v. to 30 v. Greater input sensitivity with plug-in input transformer, below. Chassis is designed for rack mounting (standard 19" wide panel). For 117-125 volts, 50-60 cycle AC. 49 lbs.

72 SU 315..... 275.00  
72 S 316. M-107A Input Transformer, 50, 250, or 600 ohms at approx. -14 dbm level. Triple magnetic shielding. 10 lbs..... 24.50

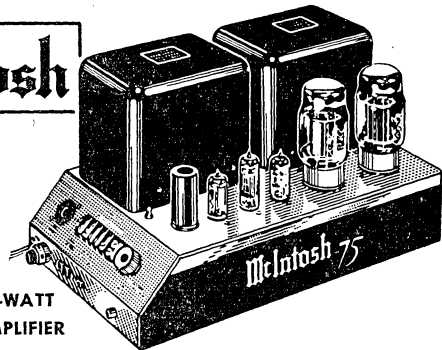


**C22 PROFESSIONAL-QUALITY STEREO PREAMPLIFIER**

An excellent choice for professional sound applications, the C22 preamp control center provides complete command of all audio reproduction. Ensures smooth, pleasing sound from any high-quality signal source and permits precise tonal adjustment to suit room acoustics as well as personal tastes. Controls include input and mode selectors; bass and treble for both channels; equalization; balance; phase; loudness; high-frequency filter; low-frequency trim; rumble filter; tape-jack switch; volume/on-off. Frequency Response: +0.5 db, 20 to 20,000 cps. Harmonic Distortion: less than 0.2% at rated output. Hum and Noise: 85 db below rated output. Size, 5 $\frac{1}{4}$ x16x13" Less wood cabinet, below. For operation from 110-120 volts, 50-60 cycle AC. Shpg. wt., 28 lbs.

72 SU 318..... 279.00  
72 SX 304. Wood Case. Oiled walnut veneer. Wt., 11 lbs..... 25.00

**McIntosh**



**MC75 75-WATT  
BASIC AMPLIFIER**

Ideal for many industrial applications as well as monophonic home music systems, and in pairs for stereophonic reproduction. Perfectly suited for recording studios, broadcast stations, high-quality public address systems, as a shake-table driver, many instrumentation uses, etc. Unity-coupled circuit and bifilar-wound output transformer help hold distortion to an imperceptible level. Excellent transient response, complete stability. Power Output: 75 watts continuous. Response: +0, -0.1 db, 16-40,000 cps. Harmonic Distortion: less than 0.5% at 75 watts, 20-20,000 cps. IM Distortion: less than 0.5% for any combination of frequencies from 20-20,000 cps. Hum and Noise: 90 db down. Output Impedances: 4, 8, 16, 67, 150, and 600 ohms. Output Voltages: 25, 70.7, 115, and 230 volts. 8 $\frac{1}{4}$ x16 $\frac{3}{4}$ x8 $\frac{1}{4}$ ". For 117-125 v., 50-60 cycle AC. Shpg. wt., 51 lbs.

72 SZ 285..... 229.50

## marantz... PRECISION CRAFTSMANSHIP, PROVEN RELIABILITY

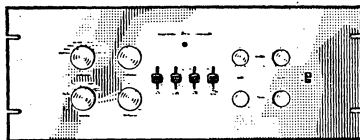
### MODEL 7R STEREO PREAMPLIFIER

Self-powered stereophonic preamplifier. Features unsurpassed control versatility, ease of operation, and precision professional workmanship. Suitable for use with the finest audio equipment. 19" rack mounting. Front panel includes: 8-position input selector; 5-position mode selector; volume control; balance control; treble and bass controls for each channel; phono equalization switch; tape playback-or-monitor control; high-frequency filter switch; rumble filter switch; on-off power switch.

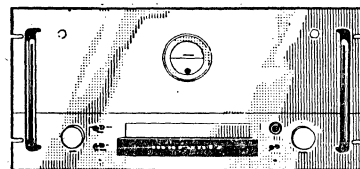
Rear Panel includes: output-level adjustments; tape-head equalizer adjustments; 3 pairs of outputs; 9 pairs of inputs, 6 AC convenience outlets (5 switched); system ground. Response:  $\pm 0.5$  db, 20-20,000 cps. IM Distortion: 0.15%, maximum. Hum and Noise: 80 db below rated output. Less case, and rack panel, below. 5 $\frac{3}{8}$ x15 $\frac{3}{8}$ x8 $\frac{1}{2}$ ". For 110-120 v., 50-60 cycle AC. 23 lbs.

72 SU 328..... 288.00  
72 SU 269. As above, but standard non-rack model for shelf or custom mounting, 19 lbs..... 264.00

72 SX 270. Wood Case. Beautiful oiled walnut veneer. For above. 7 lbs..... 24.00



**Model 7  
Preamplifier**



**Model 9  
Amplifier**

### MODEL 9R 70-WATT BASIC AMPLIFIER

Craftsmanship and performance, synonymous with the Marantz name, are embodied in this deluxe 70-watt monophonic amplifier. Professional applications include: sound systems for theaters and auditoriums; monitoring for recording and broadcast studios; noise simulation and analysis; underwater sound research; hearing-loss studies; etc. 19" rack mounting.

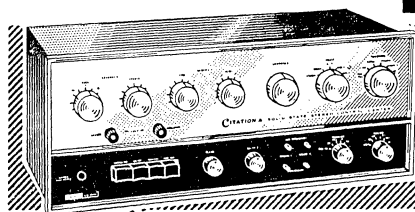
All controls are conveniently located on the front panel—removable panel covers connections and bias adjustments. Built-in d'Arsonval meter tests and balances output tubes. Triode switch changes from 70-watt "screen tap" to nearly 40 watts of triode operation. Cutoff switch filters subsonics. Phase switch; gain control; test switch; on-off switch. Four EL34 output tubes.

Power Output: 70 watts continuous. Response:  $\pm 0.1$  db, 20-20,000 at full power. Harmonic Distortion: less than 0.5% at full power. IM Distortion: less than 0.5%. Hum and Noise: more than 90 db below rated output. Outputs: 4, 8 and 16 ohms (plus 1-ohm impedance for center channel). 8x15 $\frac{3}{8}$ x9 $\frac{1}{2}$ ". For 105-125 v., 50-60 cycle AC. Wt., 66 lbs.

72 SU 329..... 414.00

# and Other Critical Professional Applications

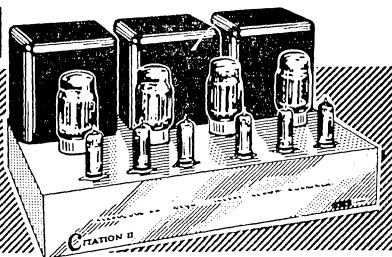
harman kardon



**CITATION "A" SOLID-STATE STEREO PREAMPLIFIER**

Incorporates 33 transistors, plus a host of controls and inputs . . . meets requirements of the most demanding audio applications. Boasts seven high-gain, wideband stages yielding over 200 db forward gain with feedback removed. Each circuit is stabilized against temperature variations. Stages mounted on specially-designed glass epoxy military-type boards for uniformity and strength. Pushbutton selector switches. Response: +0, -0.25 db, 1 cps to 1,000,000 cps! Harmonic Distortion: unmeasurable at 2-v. output, 20-20,000 cps. Hum and Noise: 70 db down. Less case, 5½x14¾x7". For 110-120 v., 50-60 cycle AC. Wt., 33 lbs.

72 SU 110..... **350.00**  
 72 SU 109. Above, in Easy-to-Assemble Kit Form..... **269.95**  
 72 SU 201. Wood Case. Walnut veneer. Wt., 6 lbs..... **20.00**

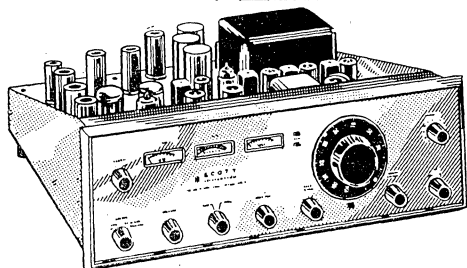


**CITATION II 120-WATT STEREO BASIC AMPLIFIER**

Delivers 60 watts per channel for 120 watts of transparently-clear sound. Multiple feedback loops assure low distortion, high stability. Four KT88 output tubes are simple to balance with built-in bias meter. Power supply uses 4 silicon diode rectifiers, filter choke, heavy-duty electrolytics and potted power transformers. Frequency Response: 0, -1 db, 20-20,000 cps. Harmonic Distortion: less than 0.5% at full power, 20-20,000 cps. IM Distortion: less than 0.5% at full power. Hum and Noise: more than 90 db below rated output. Output: 4, 8, 16 ohms. Less case, below, 9x16½x11½". For 110-120 v., 50-60 cycle AC. 74 lbs.

72 SU 103..... **249.95**  
 72 SU 102. Above, in Easy-to-Assemble Kit Form..... **179.95**  
 72 SX 116. Model ACII Metal Case. Shpg. wt., 2 lbs..... **7.95**

**PROFESSIONAL STEREO FM TUNER by SCOTT**

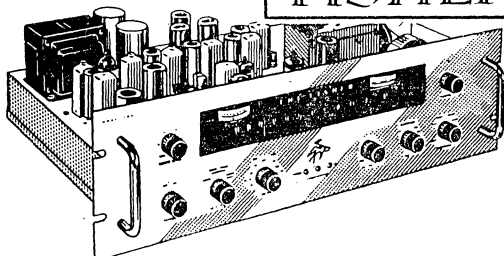


**MODEL 4310 STEREO MULTIPLEX FM TUNER**

Scott's finest—every conceivable feature included! A favorite with broadcast stations for monitoring and network-relay use. Interstation noise-suppression ensures completely quiet tuning. Two VU meters and level control; master volume control; stereo diversity control. Automatically switches to stereo mode. 20 tubes, 21 diodes, rectifier. Sensitivity: exceeds 1.9 µv. Response: ±1 db, 30-15,000 cps. Channel Separation: over 35 db. Distortion: practically unmeasurable. Less case, below, Size, 5½x16¾x15½". For operation from 110-120 v., 50-60 cycle AC. Shpg. wt., 28 lbs.

72 SU 031..... **475.00**  
 72 SX 006. Metal Case. Leatherette covered. Wt., 10 lbs..... **17.95**  
 72 SX 007C. Wood Case. Walnut or mahogany—specify, 11 lbs. **29.95**

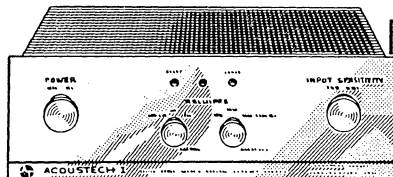
**BROADCAST-QUALITY STEREO FM TUNER by FISHER**



**NEW FMR-1 MULTIPLEX FM BROADCASTING MONITOR**

Magnificent audio design by Fisher—created specially for broadcast station applications. Super-sensitive, selective instrument features four-gang "golden cascade" front end with two nuvistors. Six IF stages; five limiters. Exclusive "stereo beacon" indicates stereo reception and automatically switches to stereo mode. Controls include: audio level; power on-off; mode selector; VU meter range; variable muting; "MicroTune" with AFC mode selector; front-end selector (crystal and tunable); tuning. Audio level (VU) and signal-strength meters. 18 tubes, 14 diodes. Sensitivity: 1.5 µv (IHF M). Response: 20-15,000 cps. Channel Separation: 35 db at 1 kc. Distortion: 0.3%. For rack mounting, 5¼x19x12½". For 105-120 v., 50-60 cycle AC. Shpg. wt., 23 lbs.

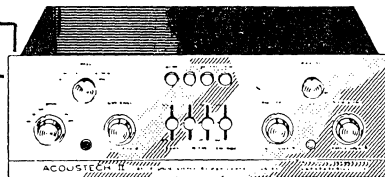
72 SU 573..... **439.50**



**ACOUSTECH**

I

II



**"ACOUSTECH I" SOLID-STATE 80-WATT STEREO BASIC**

26-transistor power amplifier for the lab or home music system. Ideal for use with "Acoustech II" preamp/control-center at right. Each channel uses four silicon output transistors in push-pull parallel. Military-type glass-epoxy circuit boards. Massive, shielded power transformer and computer-grade filter capacitors enable circuits to deliver full rated power with incredibly low distortion. High damping-factor and excellent transient response.

Controls include: power on-off; input sensitivity (2.5 or 1.5 v.); high and low rolloff (3 db/octave). Power Output: 40 watts per channel. Frequency Response: ±0.25 db, 5-50,000 cps at normal listening levels. Harmonic Distortion: 0.95% at full power, 20-20,000 cps. IM Distortion: less than 0.95% at full power, 20-20,000 cps. Hum and Noise: 85 db below rated output. For 4 to 16-ohm speakers. 5x15¾x12". For 110-125 v., 50-60 cycle AC. 32 lbs.

72 SU 499..... **395.00**

**"ACOUSTECH II" SOLID-STATE STEREO CONTROL CENTER**

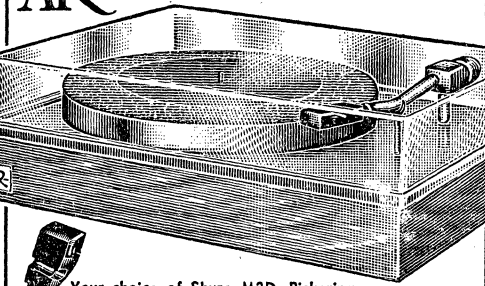
Deluxe all-transistor preamplifier for outstanding transient response, low distortion and noise. Step-type decade volume, balance, bass and treble controls provide uniform response, give you full command. Volume control consists of two stepped switches—one in 10 db (decade) steps, the other in 2 db micro steps—assuring virtually perfect tracking between channels. Three switched low-level stereo inputs, four high-level stereo inputs, taping facilities.

Front Panel Controls: input; mode; 2 treble; 2 bass; balance; 3-position equalization; 3-position high-cut; 3-position low-cut; 3-position speaker selector; power; loudness contour; monitor; muting. Response: flat, 1-100,000 cps. Phase Shift: below 1.5% 20-20,000 cps. Distortion: Harmonic, below 0.25%; IM, below 0.25%. Four AC convenience outlets (2 switched). 5x15¾x12". For 110-125 v., 50-60 cycle AC. Wt., 15 lbs.

72 SU 680..... **348.00**

# Stereo Turntable and Cartridge Combination


**AR** TURNTABLE ENSEMBLE AND CARTRIDGE COMBINATION



Your choice of Shure M3D, Pickering U38AT or Empire 880P Stereo Cartridge

488G TURNTABLE, ARM AND 880P CARTRIDGE PACKAGE

**empire**



base optional

Special combination offer that's big in value, and exceptional in performance. Consists of the precision-built AR 2-speed (33 1/2 and 45-rpm) turntable with lightweight 12" pickup arm; choice of Shure M3D, Pickering U38AT, or Empire 880P stereo cartridge; strikingly handsome oiled walnut turntable base; interconnecting cables; and transparent dust-cover. Deluxe turntable features a machined and individually balanced 3.5-lb. aluminum turntable platter, belt-driven by two synchronous motors for unerring accuracy. Arm and platter are shock-mounted from top plate. The entire mechanism meets NAB specs for wow, flutter, rumble and speed-accuracy. Shock-mounted 12" pickup arm has viscous damping mechanism that protects both record and needle if arm is accidentally dropped—disengages when needle touches the record. Also has needle-pressure gauge for precise adjustment; and a large-hole spindle adapter for exacting tracking from cartridge of your choice. Size of turntable including cover: 5 1/4 x 16 3/4 x 12 3/4. For 110-120 volts, 60 cycle AC. Shpg. wt., 21 lbs.

- 23 RU 572-2. Specify cartridge. . . . . 78.00
- 73 RU 119. AR turntable ensemble as described above, but less cartridge. Shpg. wt., 21 lbs. . . . . 68.00

- AR SINGLE-SPEED TURNTABLE COMBINATION. Same as above, but 33 1/2-rpm only, and choice of Shure M3D, Pickering U38AT or Empire 880P. Shpg. wt., 21 lbs.
- 23 RU 573-2. Specify cartridge. . . . . 76.00
  - 73 RU 115. AR single-speed turntable ensemble as described above, but less cartridge. Shpg. wt., 21 lbs. . . . . 66.00

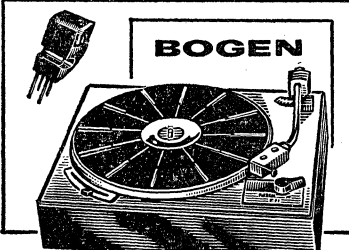
Professional ensemble by Empire. Includes 488G turntable with exclusive dynamic suspension design using viscous-damped air cylinders; deluxe 980G pickup arm finished in luxurious satin-gold, plus the renowned 880P stereo cartridge. 488G turntable plays records at 33 1/2, 45 and 78 rpm. Construction virtually eliminates rumble, and ensures exact turntable speeds. Has 5-lb., fully-balanced aluminum turntable platter, pushbutton power control, safety suspension mat and 45-rpm adapter. Seamless belt couples constant-speed hysteresis-synchronous motor to turntable. Rumble: better than—.65 db. Wow and Flutter: less than .07%. Empire's 980G pickup arm features perfect dynamic balance—even tracks upside down. Tracks from 1/4 to 8 grams. The 880P stereo cartridge has response of 6 to 30,000 cps. Separation: 30 db. Compact turntable, mounts in 7 1/2 x 16 x 13 3/4". Requires 2 3/4" above, 3 1/2" below, mounting board. Less base. For 115 VAC. 25 lbs.

- 23 RU 574-2. . . . . 150.01
- 73 RU 086. 488G Turntable-Arm Only. Same as above, but less 880P stereo cartridge. Shpg. wt., 25 lbs. . . . . 150.00

488C COMBINATION OFFER. Same as 488G turntable-arm-cartridge combination but satin-chrome finished. 25 lbs.

- 23 RU 575-2. . . . . 150.01
- 73 RU 088. 488C Turntable-Arm Only. Same as above, but less 880P stereo cartridge. Shpg. wt., 25 lbs. . . . . 150.00
- 73 RX 091. BW/408 Walnut Base. For above turntables. 6 lbs. 15.00
- 73 RX 090. 488DC Dust Cover. For above turntables. 3 lbs. . . 7.50

**BOGEN**




**B-61 TURNTABLE AND CARTRIDGE**

Custom-crafted Swiss turntable with arm—plus Pickering 371C stereo cartridge. Continually variable speed, 29 to 86 rpm (click-stops at 4 standard speeds) for perfect "pitch-tuning." Features: rubber-covered, 7 3/4-lb. 12" platter; 4-pole motor; stylus pressure gauge; accepts up to 16" records. Arm is raised by linkage to power switch. Cartridge's response: ±2 db from 18-22,000 cps. Has .0007" diamond stylus. 15 1/4 x 13 1/4"

- Takes 2 1/2" above; 2 1/4" below mounting board. Less base, below. For 110-120 volts. 60 cycle AC. Wt., 21 lbs.
- 23 RU 563-2. B-61 Plus Cartridge. . . . . 64.96
- 73 RU 037. B-61 Alone. 21 lbs. . . . . 64.95
- 73 RX 038. Walnut Base. 8 lbs. . . . . 5.25
- 73 RX 221. Dust Cover. 3 lbs. . . . . 5.50
- 73 R 039. Plug-in Head, 6 oz. . . . . 4.00

**THORENS**



**MODEL TD-124 TURNTABLE**

Professional 4-speed turntable with variable speed adjustment (±3%). Has 12" 11 1/2-lb. aluminum-covered platter and belt-plus-idler arrangement for isolation from motor. Also: idler disengagement; built-in lighted strobe; leveler. Less base (below) and arm. 15 1/2 x 12 7/8". Requires 2 3/4" below mtg. plate (supplied). For 110-120 or 200-250 VAC. 35 lbs.

- 73 RX 027 . . . . . 125.00

**TD135 TURNTABLE AND ARM**

Deluxe 4-speed manual player that automatically shuts off at end of record. Uses same drive as TD-124 (at left); has 8-lb. non-magnetic turntable. With adjustable speed control and professional pickup arm. Base plate, 15x12". Requires 2 1/2" below mounting board. Less base (below) and cartridge. For 110-120 volts, or 200-250 volts, 50-60 cycle AC. Shpg. wt., 38 lbs.

- 73 RX 029. . . . . 110.00

Stock No.	For	Description	Lbs.	EACH
73 RX 031C	TD-124	Wood base; Mahogany or Walnut	7	10.00
73 RX 033C	TD-135	Wood base; Mahogany or Walnut	7	7.00
73 RX 034	TD-124	Unfinished mounting board	5	4.50
73 RX 035	TD-135	Unfinished mounting board	5	4.50
73 RX 232	TD-124	Black 16" pickup arm board	1 1/2	3.75

**NOTE** For a full listing of turntables and other stereo equipment, see our Catalog 230—a complete guide to Everything in High-Fidelity.

# Phono Cartridges, Pickup Arms, Audio Switches



## DELUXE STANTON STEREO CARTRIDGES

**MODEL 400AA.** Professional Fluxvalve-type cartridge. Frequency Response: 20-20,000 cps. Channel Separation: 35 db. Output: 2.6 mv. Tracking Force: 1/4-2 1/2 grams. .0007" diamond stylus. Wt., 2 oz.  
**73 RC 939..... 40.50**

**MODEL 481AA.** Laboratory-standard cartridge. Frequency Response: 20-10,000 cps, ±1 db; 20-17,000 cps, ±2 db. Separation: 35 db. Output: 0.5 mv. Tracking Force: 1/4-2 1/2 grams. .0007" diamond stylus. 2 oz.  
**73 RC 935..... 49.50**

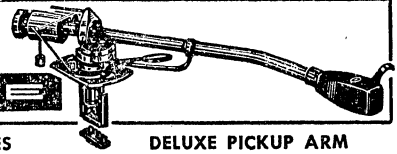


## PROFESSIONAL DYNETIC CARTRIDGES

**MODEL M33-5.** Stereo. User-replaceable .0005" diamond stylus. Response: 20-17,000 cps. Compliance: 3x10<sup>-6</sup> cm/dyne. Tracking Force: 1-3 grams. 2 oz.  
**73 RC 919..... 35.77**

**MODEL M33-7.** As above, but .0007" diamond stylus. 20-20,000 cps. 2 oz.  
**73 RC 918..... 35.77**

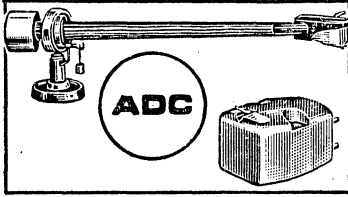
**MODEL M5D.** Mono cartridge. .001" diamond stylus. 20-20,000 cps. Compliance: 3x10<sup>-6</sup> cm/dyne. 2-6 grams. 3 oz.  
**73 RC 916..... 26.95**



## DELUXE PICKUP ARM

**MODEL SME-3009.** 12" professional-quality, lab-balanced arm. Designed to fulfill the most exacting applications with ultra-light-tracking cartridges. Adjustable for tracking force range of 1/4 to 6 grams. Has precision ball races and knife-edge bearings and lever-operated cuing device. Also has overhang adjustment. Less cartridge. Shpg. wt., 1 1/2 lbs.  
**73 RX 108..... 89.50**

**MODEL SME-3012.** Same as above, but 16" arm. Less cartridge. 1 3/4 lbs.  
**73 RX 109..... 99.50**

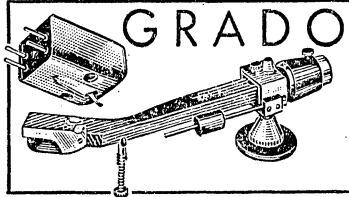


## PICKUP ARM AND CARTRIDGE

**MODEL 40 PRITCHARD ARM.** Dynamically balanced. Tracks at 3/4 gram. Single ball-bearing mount and built-in arm rest. Walnut wood. Less cartridge. 1 1/4 lbs.  
**73 RX 133..... 44.50**

**73 RC 954.** ADC-S40 Extra Plug-In Head. For above. Shpg. wt., 2 oz..... 6.95

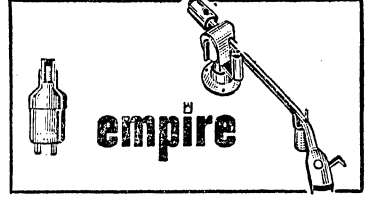
**ADC-130 PROFESSIONAL STEREO CARTRIDGE SYSTEM.** For arms that track at less than 1 gram. Consists of ADC-1 Mark II stereo cartridge with .0006" ADC-R10 stylus installed, plus separate ADC-R30 .00035" stylus for ultra-critical applications—compliance of 40x10<sup>-6</sup>. Response: 10 to 20,000 cps. Separation: 30 db. Output: 7 mv. Tracking Force: .75-1.5 grams. 8 oz.  
**73 RC 955..... 79.50**



## LAB SERIES ARM AND CARTRIDGE

**LAB SERIES 12" PICKUP ARM.** One-piece, balanced arm. Made of non-resonant, hand-rubbed gun-stock walnut with precision anodized-aluminum fittings. Has overhang micrometer adjustment. Tracking Error: ±.5 degree. Tracking Force: to 1/2 gram. Less cartridge. 4 leads. 1 3/4 lbs.  
**73 RX 118..... 39.50**

**LAB SERIES STEREO CARTRIDGE.** Moving-coil cartridge, assembled and calibrated one unit at a time. For broadcast and recording applications, when quality is of utmost importance. Frequency Response: ±1 db, 10-30,000 cps. Separation: 30 db. Output: 6 mv at 10 cmv. Factory replaceable .0007" diamond stylus. Wt., 3 oz.  
**73 RC 948..... 49.50**



## DELUXE ARM AND CARTRIDGE

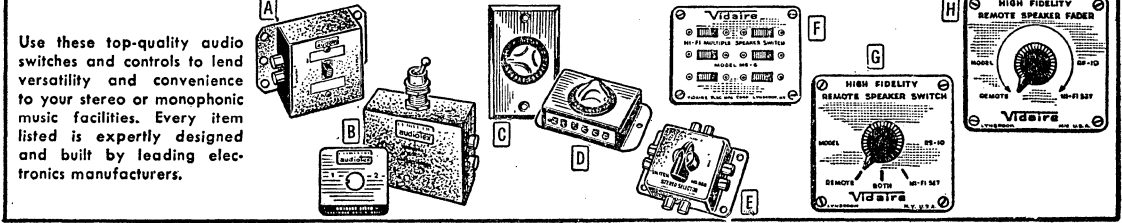
**MODEL 980G PICKUP ARM.** Balanced arm even tracks upside down. Dyna-Lift magnetically lifts arm at end of record. Tracking Error: ±.650. Resonance: 8 cps. Tracking Force: 0-8 grams. Overhang adjustment. Satin-gold. Less cartridge. 5 lbs.  
**73 RX 098..... 50.00**

**73 RX 099.** Model 980C. As above, but finished in satin-chrome. 5 lbs..... 50.00

**73 R 100.** Extra Cartridge Mount. 3 oz. 1.95

**MODEL 880P STEREO CARTRIDGE.** Response: 6 to 30,000 cps. Separation: 30 db. Compliance: 30x10<sup>-6</sup> cm/dyne. "Dyna-Life" stylus (.0006" diamond). 4 lbs.  
**73 RC 903..... 19.95**

## AUDIO SWITCHES AND CONTROLS



Use these top-quality audio switches and controls to lend versatility and convenience to your stereo or monophonic music facilities. Every item listed is expertly designed and built by leading electronics manufacturers.

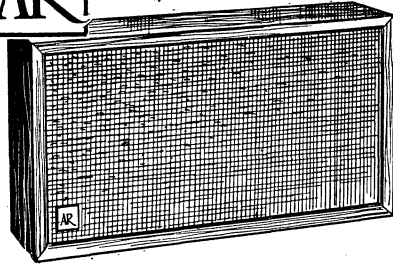
In the table below, all Vidair switches and controls have solder connections. \*indicates screw terminals. †indicates phono jacks.

All components are supplied with hardware. Fig. C is rated 10 watts. Fig. H rated 5 watts. Fig. A and B have 18" output cable.

Stock No.	Fig.	Manufacturer	Model No.	Mode	Wt. oz.	Function and Type of Mounting	EACH
82 R 156	A	Audiotex†	30-294	Mono	10	Two sources into one input. Surface mounting.	1.76
82 R 157	B	Audiotex†	30-296	Mono	10	Two sources into one input. Through-panel mounting.	2.20
82 R 158	C	Audiotex*	30-364	Mono	8	8-ohm L-pad speaker volume control. Wall-plate mounting.	2.91
82 R 159	C	Audiotex*	30-366	Mono	8	16-ohm L-pad control. Wall-plate mounting.	2.91
82 R 160	C	Audiotex*	30-372	Stereo	8	8-ohm dual speaker volume control. Wall-plate mounting.	5.00
82 R 161	C	Audiotex*	30-374	Stereo	8	16-ohm dual level speaker control. Wall-plate mounting.	5.00
82 R 169	C	Audiotex*	30-388	Stereo	8	Selects any combination of 3 stereo speaker systems. Wall plate.	2.91
82 R 170	D	Audiotex*	30-360	Mono	8	Selects 1-3 speakers (any combination). Surface mounting.	3.23
82 R 186	...	Switchcraft*	670	Stereo	8	Selects either or both of 2 stereo speaker systems.	3.70
82 R 192	...	Switchcraft*	665	...	10	Speaker phase switch. Surface mounting.	1.47
82 R 194	E	Switchcraft†	668	Stereo	10	Selects any 1 of 3 stereo sources into 1 stereo input. Surface mtg.	3.30
82 R 196	F	Vidaire	MS-6	...	8	Selects any of 6 speakers. Panel mounting.	2.10
82 R 197	F	Vidaire	MS-12	...	8	Selects 6 sets of stereo speakers. Panel mounting.	2.64
82 R 201	G	Vidaire	RS-10	Mono	8	Selects either or both of 2 speakers. Panel mounting.	.98
82 R 202	H	Vidaire	RF-10	Mono	8	Distributes volume between 2 speakers. Panel mounting.	1.15

# Speaker Systems, Recording Blanks, Accessories

- Acoustic Suspension
- Wide-Range 3-Way Design
- Compact—Shelf-Size



## AR-2A AND AR-3 DELUXE QUALITY SPEAKER SYSTEMS

**AR-2A.** 3-way system with acoustic suspension design features: 10" woofer for rich, natural bass; two 5" speakers for a full-bodied mid-range; dome-type super tweeter for clear high-frequency response. Sealed fiberglass-filled cabinet of braced 3/4" unfinished hardwood veneer. Needs amplifier rated 20 watts or more (each channel for stereo). 30-20,000 cps, 5% harmonic distortion at 30 cps. Crossovers at 2000 and 7500 cps. 13 1/2 x 24 x 11 1/2". 8 ohms. 41 lbs.

70 DU 028.....109.00  
70 DU 027. As above, but oiled walnut finish.....128.00

**AR-3.** Designed for use where the finest quality sound is desired. Deluxe 3-way acoustic suspension system has a 12" woofer with a 3 1/4-lb. magnet, 2" mid-range dome radiator with 3 1/4-lb. magnet, and dome tweeter. Crossovers at 1000 and 7500 cps. Has level controls. 30-20,000 cps, 4 1/2% harmonic distortion at 30 cps. ±2 1/2 db, 50-1000 cps. Needs amplifier rated 25 watts or more (per channel). Unfinished. 14x25x11 1/2". 4 ohms. Shpg. wt., 63 lbs.

70 DZ 002.....203.00  
70 DZ 624. As above, but oiled walnut finish.....225.00

## STEREO TEST RECORDS



**COLUMBIA STR 100 FREQUENCY TEST RECORD.** Accurately assesses performance of stereophonic equipment. 3-minute sweep frequency tests system for phasing of speakers, pickup tracking, balance, etc. Record also has: spot frequency test with voice announcements for overall frequency response and channel separation; low frequency sweep for tone arm and speaker system resonances; 1000 cps frequency reference tones for routine checks and level adjustment; wave-length loss and stylus wear test. Shpg. wt., 12 oz.

82 R 232.....8.50

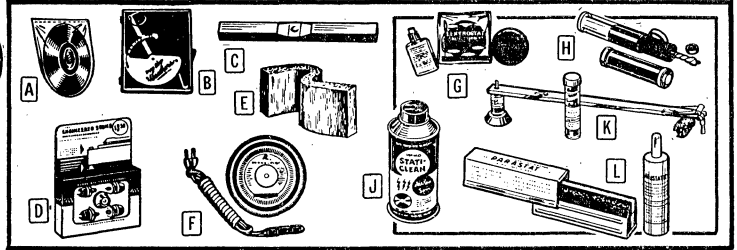
**AUDIO FIDELITY STEREO DISC FCS 50,000.** Accurately tests stereo components. Record contains the following test bands: metronome, checks balance and phasing; 1000 cps sine-wave test-tone for routine checks and level adjustment; high and low-frequency sine-wave test-tones for overall system response; sweep test-tone from 70-15 cps, used to disclose any resonances in the pickup assembly and the speaker system; bursts of modified "white noise" for speaker phasing. Record also has the following musical selections: Rakoczy March; March from Aida; Polevitzian Dances; March from le Coq d'Or; Russian Sailors' Dance. Wt., 12 oz.

82 R 231.....2.49

**COMMAND CSC 100 STEREO CHECK OUT.** Contains everything for complete analysis of stereo system. Left and right channel balance check, volume reference check, frequency run for overall response test, output balance test, flutter or wow check, phasing check, and rumble test. Musical selections: Hernandez's Hideaway, Cumana, Tenderly. Enjoy Yourself Cha Cha. 12 oz.

82 R 230.....5.98

## RECORD CARE ACCESSORIES



**A E15-S PLASTIC RECORD COVERS.** Protective sleeves for storing your 12" records. Made of durable heavy-gauge polyethylene plastic with thermostet seams to resist tearing. Keep records free from dust and moisture. Packed 15 sleeves to a package—in plastic envelopes. Shpg. wt., 7 oz.

82 R 001, 1-2 Pkgs.....PER PKG. .58  
3 or More.....PER PKG. .56

**B WEATHERS STYLUS PRESSURE GAUGE.** Protect your precious phonograph records and needle by always having the correct stylus pressure. Gauge accurately indicates pressure with calibrations from 0 to 10 grams. Shpg. wt., 5 oz.

82 R 041.....2.00

**C TURNTABLE LEVEL.** Prevent damaging records because of a tilting turntable—easy-to-use leveler employs an air bubble indicator to ensure accurate leveling in any circumstance. With it you'll be sure of correct tracking of lead-in and changer trip grooves; even wear of records and needle. Gold anodized aluminum case. 4 oz.

82 R 003.....5.9

**D TURNTABLE LEVELING KIT.** Comes complete with four adjustable rubber feet and mounts for placing under base, and a four-way spirit level for permanently mounting on turntable base. Shpg. wt., 1 lb.

82 R 016.....2.34

**E ACOUSTIC FOAM INSULATION.** Easy-to-apply, non-shedding foam plastic. Ideal for use as acoustic insulation in speaker enclosures to end annoying bass boom. Size, 12x7x2 1/2" thick. Shpg. wt., 1 1/2 lbs.

82 RX 262.....1.98

**F STROBE LIGHT KIT.** Indicates speed of turntable. Consists of stroboscope card and neon lamp. Just place strobe disc on turntable; set to desired speed. For 110-120 v., 60 cycle A.C. Shpg. wt., 6 oz.

82 R 014.....98

**G LEKTROSTAT RECORD CLEANING KIT.** Contains plastic bottle (1 1/4 fluid oz.) of anti-static detergent fluid, and tufted wiping pad. Apply fluid to record; then wipe with pad. Shpg. wt., 5 oz.

82 R 023.....1.96

**H RECORD PREENER.** Removes all dust, grit and static. Just lightly rub brush (with removable, wetted wick) over rotating record. Leaves no film. Wt., 8 oz.

82 R 261.....3.00

**J WALCO ANTI-STATIC RECORD SPRAY.** Deposits thin anti-static film on record surface. Aids in preventing records from accumulating dust and lint. Supplied in 6-oz. aerosol spray can. Shpg. wt., 7 oz.

82 R 030, 1-2.....EACH .88  
3 or More.....EACH .84

**K DUST BUG.** Lightweight plastic arm with fine nylon brush, pad-type dust collector and pad cleaning fluid. Arm suction-cup mounts to base. Brush loosens dust in grooves, pad picks it up. 8 oz.

82 R 022.....5.75

**L MANUAL PREENER.** Removes accumulated dust, grit and residue from deep within the record groove. Consists of a bottle of parastatic, a nylon bristle brush, and a cover/applicator. Shpg. wt., 10 oz.

82 R 263.....13.95

## AUDIODISC RECORDING BLANKS

Precision made recording blanks are smooth-coated on both sides of an aluminum base. Red Label discs exceed the most exacting needs for highest quality professional recordings. Yellow Label for general use.



Stock No.	Size	Label	Base	Wt., Ea.	Lbs., Pkg.	Std. Pkg.	EACH	
							Single	Lots Std. Pkg.
80 R 004	10"	Red	.040"	6 oz.	8 1/2	25	1.12	1.01
80 R 005	12"	Red	.050"	9 oz.	13 1/2	25	1.83	1.66
80 R 010	10"	Yellow	.040"	6 oz.	8 1/2	25	.89	.80
80 R 011	12"	Yellow	.050"	9 oz.	13 1/2	25	1.44	1.29

## AUDIOPPOINT DISC CUTTING NEEDLES

High-quality needles for use with disc recorders. Have 87° included angle. All are equipped with .003" tip radius except Type 20, .0005", Shpg. wt., 2 oz.

Stock No.	Type	Description	EACH
81 R 102	14	Sapphire, short dural shank	4.85
81 R 109	20	As above, for microgroove	
81 R 103	14	Sapphire, long dural shank	
81 R 108	20	As above, for microgroove	

**GUMMED RECORD LABELS.** Spaces for title, artist, date and other information. Shpg. wt. per pkg., 2 oz. 50 per pkg.

80 R 100, 1-3.....PER PKG. .45 4 or More Pkgs.....PER PKG. .41

# IT'S EASY TO ORDER FROM **ALLIED**

## OPEN ACCOUNT ORDERS

### Our Terms

We extend credit to Government Agencies and rated industrial and institutional accounts. Firms without a published rating may apply for Open Account by submitting trade or bank references. Terms of payment are net, 10 days, E.O.M.

### About Our Prices

Catalog prices are net, f.o.b. Chicago, and all applicable discounts have been deducted. Prices replace those in previous catalogs and are subject to change without notice. Orders are filled at prices in effect at time of shipment. If prices are reduced, we always pass the reductions on to you. We reserve the right to add any Federal, state or local taxes. Prices and terms in this catalog apply only to the United States, Puerto Rico, and Canada.

### Export Orders

The minimum export order we can accept is for \$50.00, in U. S. currency. Prices are net, f.o.b. Chicago. Please add 20% more than the value of the merchandise, to cover handling and shipping charges which cannot be exactly estimated in advance. Any amount of your remittance in excess of actual shipping costs, will be refunded.

### Bids and Quotations

If you need bids or quotations to place an order, or if you want larger quantities than are listed in our catalog, be sure to contact us. Prices and delivery information will be provided promptly. When you decide to order on the basis of our quote, please refer to our bid or quotation number.

## Every Time You Order From Allied, It's the Best Buying Decision You Can Make

*use the convenient services of the Allied facility nearest you . . .*

To give you faster and more personalized service, Allied has placed regional facilities in many areas of the country. The order you place with them will be shipped on the day it's received. And if you have any questions, ask your Allied facility representative—he'll give you the information you need.

### *order by mail . . .*

When you send your order to us by mail, you know it will be shipped on the day we receive it.

### *order by telephone . . .*

If a "rush" order must be shipped without any delay, just give us a call. Your order will be shipped that very day.

### *or order by TWX . . .*

We can handle any order via TWX. Our Chicago number is 312-431-1721. For Los Angeles, ring 213-449-1455. Same-day shipment, of course.

### CASH ORDERS

If the purchasing policies of your company include cash orders, or if you wish to make a cash purchase for personal use, you'll find convenient order blanks bound in this catalog.

### IF YOU WRITE TO US

If you write to us, please include your purchase order number and our invoice number; or the original order papers, if a cash order is concerned.

### MERCHANDISE RETURN

If you must return merchandise to us, please ship it prepaid. Merchandise ordered specially for you from the manufacturer cannot be cancelled (if work has begun), or returned, without our authorization. If merchandise is damaged in the mail, please return it to us. If shipment was by other means, please file claim with the carrier.

### CREDIT FUND PLAN

Companies or individual purchasers may use the services of Allied's Credit Fund Plan. The Plan requires no money down, and allows up to 24 months to pay. For complete details of the Credit Fund's services, see insert facing the bound-in order blanks in this catalog.



# COMPLETE PRODUCT INDEX

## A

Acoustic Insulation .....526

### Adapters

AC Socket .....330  
Clip .....229  
Jack & Plug.222, 330  
Lamp Socket .....332, 336  
Microphone Stand .....487, 488  
Novar .....238  
Nuvistor .....238  
Test Prod .....229  
Tube Socket .....238  
Adhesives ..462-465  
Air Compressor .448  
Aircraft Monitor.500  
Alarm Relays...303  
Alignment Tools.457  
Alkaline Batteries.497  
Alligator Clips ...219  
Alternator .....501

### Amateur Equipment

Grid Dip Meters .....392, 409  
Kit .....409  
TVI Filters .....188  
Ammeter Adapter.401  
Ammeters...386, 396,  
416-422, 425, 426  
Amplifier  
Foundations ...431

### Amplifiers

Citizens Band.506  
Encapsulated...80  
High Fidelity .....522, 523  
Laboratory .....522  
Printed Circuit...80  
Public Address .....474-480  
Recorder .517, 519  
Semiconductor .....28, 63

### Antenna Equipment

Coaxial Cable .....313, 317, 320  
Connectors .....225  
Insulators .....256  
Mounts .....507  
Relays.....290, 306  
Rotators .....501  
Towers .....501  
Wire .....321

### Antennas

Citizens Band .....506, 507  
FM .....500

Appliance Cords .....312, 316, 320, 329  
Argon Lamps .....336  
Attenuators  
Audio .....127, 138, 140-142  
TV .....127

### Audio Generators

.....389, 408, 412  
Kits .....408  
Auto Radio  
Fuses .....340  
Suppressors...188  
Vibrators .....384

## B

### Baffles, Ceiling & Wall

.....489, 491, 492  
Ballasts .....328  
Banana Jacks.224-226  
Banana Plugs...224,  
226-228, 231, 242  
Bandpass Filters .367  
Barrier Terminals .....215, 216  
Bases, Chassis .....432, 433

**Batteries** .....494-497  
Alkaline .....497  
Flashlight .....495  
Hearing Aid...495  
Lantern .....495  
Mercury .....496  
Nickel-Cadmium .....497

Photoflash .....496  
Radio .....494-497  
Strobe Light...496  
Sun .....79  
Tape Recorder .495

### Battery

Chargers .385, 497  
Clips .....219  
Eliminator .....404  
Holders .....497  
Manual .....496  
Plugs.....385, 497  
Testers.396, 408, 497  
Binding Posts...218,  
225-228, 248, 255  
Blow Torches...444  
Blowers .....309, 431, 436, 437

### Books

Battery .....496  
Computer .....493  
Engineering...493  
Laser .....493

## Books (cont'd)

Maser .....493  
Recording .....521  
Rectifier .48, 73, 76  
Semiconductor .33,  
40, 48, 73, 76, 493  
TV Tape  
Recording ...521  
Transistor .....33, 40, 48  
Brackets, Panel .248  
Bridges, Capacitance-  
Resistance.388, 393  
Kits .....409  
**Bulbs** .....336-339  
Bulkhead Jacks .257  
Bull Horns .....481  
Burglar Alarms .499  
Bushings .....254  
Buzzers .....289

## C

### Cabinets

Amplifier .....431  
Hardware .....450, 460, 461  
Metal  
430, 434, 435, 461  
Plastic...435, 461  
Rack .....427, 434  
Small Parts .....460, 461  
Speaker .....489, 491, 492

### Cable

(see Wire & Cable)  
Clamps .....195,  
209, 211, 326, 330  
Connectors .....192,  
196-204, 206-214,  
218, 222, 225, 239,  
240, 242, 257, 329  
Lacing Cord...325  
Lacing Tape...323  
Lacing Ties...325  
Markers .....322, 325, 326  
Calculators .....118  
Calibrators, Lab .386  
Cameras,  
Television .....498  
Tubes .....95, 96

### Capacitors

Assortments  
156, 158, 175, 178  
Bathub...153, 169  
Buffer .....156  
Butterfly .....184  
Ceramic .....158,  
159, 175, 178-180  
Decade Boxes .393  
Differential 183, 184  
Disc...158, 159, 178  
Electrolytic  
146-151, 154, 155,  
157, 159-167, 310  
Feed-Thru .....179  
Hardware .164, 167  
Mica...169, 175, 176  
Motor Starting .....161, 306, 310  
Mylar 155, 156, 165,  
168, 171-173, 177  
Neutralizing...185  
Oil Filled .....153, 169, 177  
Padder & Trimmer .....180-186

## Capacitors (cont'd)

Paper .....152, 153,  
155, 156, 169, 170  
Piston .....181-183  
Plastic .....177  
Polystyrene...180  
Porcelain...174-176  
Selection Chart .....144, 145  
Substitution  
Boxes .....409  
Suppressor ....188  
Tantalum...146-151  
Temperature  
Compensating .....159, 179  
Testers  
392, 393, 404, 409  
Kit .....404, 409  
Transmitting  
.....153, 169, 174,  
175, 177, 179-185  
Vacuum .....184  
Variable...180-185  
Varicap .....60

### Cartridges

Magnetic .....525  
Microphone .....483  
Tape .....518, 520  
Cart, Servicing .457  
Casters .....431  
Cathode Ray Tubes  
.....100  
Accessories  
238, 255, 315, 370  
Shields .....255  
Sockets .....235, 236  
Cement  
.....459, 462, 463, 465  
Center Punch...450  
Chambers .....387  
Chargers...385, 497  
Chart Recorder .....394, 395

### Chassis

Bases .....432, 433  
Clamps .....457  
Experimental .....246, 433  
Slides .....427  
Chassis Cradle...457  
Chassis Punches .451  
Chemicals .187, 459,  
462-465, 521, 526

### Chokes

Audio  
364, 365, 368, 369  
Filter  
346, 351, 352, 354,  
361, 366, 368, 372  
Printed Circuit.350  
RF .....344-347  
Circuit Breakers .....342, 343  
Circuit Cards...247  
Circuits, Logic...41, 67

### Citizens Band Equipment

Accessories  
502, 506, 507, 509  
Antennas...506, 507  
Crystals .....509  
Microphones  
.....483, 484, 487  
Test  
Equipment...504  
Transceivers .....502-506

## C.B. Equip. (cont'd)

Kits .....503-505  
Walkie-Talkies  
.....504, 505  
Kits .....504, 505  
Cables  
.....195,  
209, 211, 326, 330  
Chassis .....457  
Microphone...485  
Tube .....234, 240

### Clips

Adapter .....229  
Alligator .....219  
Crocodile .....219  
Fahnestock...218  
Insulated .....219  
Test...219, 228, 311  
Transistor  
Mounting .....31  
Clocks, Timer & Pro-  
gram .278, 281-283

### Closed-Circuit TV

Coaxial Cable .....313, 317, 320  
Connectors  
.....193-195, 200-202  
Coaxial Relays  
.....306, 307  
Coaxial Switches.307  
Coils  
Oscillator .....347  
Radio & TV.347, 348  
Coil Forms  
.....253, 255, 348  
Coil Sockets .234-237  
Coil Winder .....344  
Communications  
Cable .....321

### Communications

**Receivers** .....500  
Comparison  
Bridge .....388  
Component Tester.415  
Compressor, Air.448  
Condensers  
(see Capacitors)  
**Connector**  
Assemblies.207, 227  
Dust Caps.195, 213  
Insert Arrange-  
ments...190, 191  
Selection Chart.189  
Tools...199, 203, 205

### Connectors

AC.....207, 239  
Antenna .....225  
Audio .....208, 209  
Cable .....192,  
196-204, 206-214,  
218, 222, 225, 239,  
240, 242, 257, 329  
Coaxial  
.....193-195, 200-202  
Microphone  
.....208, 487, 488  
Printed Circuit  
.....205, 210, 211  
Rack & Panel  
204, 205, 209, 212-  
214, 257, Cov. 3  
Relay .....306  
Solderless  
.....222, 245, 254  
Strip .....205, 209  
Wire .....329  
Contact  
Cleaner .....459

**Lowest Prices**  
**Highest Quality**  
**Fastest Service**

Contact (cont'd)  
 Fingers .....98, 240  
 Protectors .....292

**Containers, Parts**

.....460, 461  
 Continuity Testers.311  
 Controls (see  
 Potentiometers)  
 Cooling Equipment  
 .....431, 436, 437  
 Cords, Appliance  
 ..312, 316, 320, 329  
 Cords, Extension  
 .....329, 487  
 Cords, Patch.231, 232  
 Cords, Power .....323  
 Counters, Digital  
 .....308, 336  
 Counters,  
 Impulse .....308

**CREDIT FUND PLAN**

.....527  
 Crimping Tools  
 .....244, 245  
 Crocodile Clips ..219  
 Crystal Sockets ..233  
 Crystals  
 Citizen Band ..509  
 Laser .....81  
 Current Testers ..395  
**Cutters, Metal & Wire**  
 ..447, 451, 454, 455

**D**

Dash Lamps .336-339  
 Decade Boxes  
 .....392, 393  
 Kit .....409  
 Inductors .....392  
 Resistor..393, 409  
 Decibel Meters ..422  
 Degausser Tape..521  
 Demagnetizer,  
 Tape .....521  
 Head .....521  
 Desk Lamps. .327, 328  
 Desk Stands, Micro-  
 phone 485, 487, 488  
 Desoldering  
 Equipment .....442

**Dials**

Calibrated .....254  
 Control .....124  
 Cord .....253  
 Compounds .....459  
 Drives .....254, 255  
 Locks .....254, 255  
 Plates 137, 252, 271  
 Pointers .....254  
 Potentiometer  
 .....136, 137  
 Dielectric Com-  
 pounds .....462

Digital Counters  
 .....308, 336  
 Dimmer Switches.330

**Diodes**

Bridge .....67  
 Checkers  
 .....390, 402, 403  
 Gallium  
 Arsenide .....33  
 Germanium  
 57, 63, 64, 67, 69  
 Handbooks  
 .....48, 73, 76  
 Matrices .....67  
 Optical .....81  
 Photo .....78  
 Power  
 Regulator ....30  
 Rectifier-  
 Clipper .....102  
 Selenium .....76  
 Silicon .....30, 32-  
 36, 44, 57, 59, 62-  
 65, 67, 69-72, 75  
 Tunnel  
 31, 44, 52, 57, 67  
 Voltage  
 Regulator ....30  
 Zener .....34-36,  
 45, 60, 65, 70-72

Disc Recording  
 Needles .....526  
 Distortion Meter..408  
 Dividers .....457  
 Drawer Slides ..427  
 Drawers .....427, 460  
 Drill Bits .....450  
**Drills** .....446, 447  
 Drivers .....490  
 Drives, Right  
 Angle .....254, 255  
 Drop Lights .....329  
 Dry Cells .....495  
 Dry Reed  
 Relays ....299, 302

**E**

**Earphones**.....510-512  
 Educational Demon-  
 stration Kits...411  
 Elapsed Time  
 Meters 280, 419, 425  
 Electrical Acces-  
 sories .....330  
 Electric Eye Equip-  
 ment...78, 293, 499  
**Electrolytic Capacitors**  
 ..146-151, 154, 155,  
 157, 159-167, 310  
 Sockets .....236  
 Electron Beam  
 Guns .....81  
 Electronic Switch.407  
 Kit .....407  
 Enamel Sprays ..459

Encapsulating Ma-  
 terials 462, 464, 465  
 Enclosures, Speaker  
 .....489, 491, 492  
 Engraving  
 Tools .....448, 449  
 Epoxy.....462, 463  
 Etched Circuit  
 Kit .....187, 246  
 Material .....187  
 Extension Cable .231

**Extension Cords**

.....329, 487  
 Extension Jacks  
 .....221, 223, 225

**F**

Fahnestock Clips 218  
 Fans, Equipment  
 ....77, 431, 436, 437  
 Tube Cooling  
 77, 309, 436, 437  
 Fanning Strips...217  
 Feed-Thru Insu-  
 lators ....241, 256  
 Fiberglass Tubing.325

**Fiber Optics**

Fiberscope ...466  
 Illuminators 80, 466  
 Image Conduit 466  
 Light Guides .466  
 Field Strength  
 Meters .....415  
 Film, Polaroid ...520  
 Filter Chokes  
 346, 351, 352, 354,  
 361, 366, 368, 372  
 Filter Reactors  
 .....352, 354, 372

**Filters**

Bandpass ....367  
 Interference ..188  
 Line .....188  
 Finger Stock .98, 240  
 Fittings, Shaft..252  
 Flashlights .....330  
 Batteries .....495  
 Lamps .....338  
 Flexible Shafts..253  
 Fluorescent Fixtures  
 .....328  
 Accessories ..328  
 Ballasts .....328  
 Lamps ....327, 328

**FM**

Communications  
 Receivers ...500  
 Signal Stimula-  
 tors .....412, 414  
 Tuners .....523  
 Formvar Wire ..321  
 Frequency Counter  
 .....391  
 Meters 387, 389, 425  
 Fuel Cells .....77  
 Fused Plug .....330

**Fuses**.....340-342

Assortments ...341  
 Clips .....341  
 Mountings.341, 342  
 Pullers .....340  
 Fuse Resistors  
 .....113, 116, 118

**G**

**Galvanometers**  
 .....399, 419

Garage Door  
 Opener .....508  
 Gauges, Stylus  
 Pressure .....526  
 Generators, Pulse 386  
 Generators, Signal  
 (see Signal  
 Generators)

**Germanium Diodes**

...57, 63, 64, 67, 69  
 Germanium Recti-  
 fiers .....46, 52  
 Germanium Transis-  
 tors .....26,  
 27, 38, 39, 43, 44, 49-  
 51, 54, 55, 62, 68, 69  
 Glow Tester ....311  
 Grid Caps .....239  
 Grid Dip  
 Meters .....392, 409  
 Kits .....409  
 Grid Wire .....315  
 Grinders .....446  
 Grommets .....450  
 Guns, Electron  
 Beam .....81

**H**

Hammers .....450

**Handles**

Cabinet .....430  
 Soldering Iron  
 .....442, 443

**Hardware**

Capacitors 164, 167  
 Containers  
 .....450, 460, 461  
 Instrument ...242  
 Potentiometer  
 .....127, 132  
 134, 136, 137, 142  
 Printed Circuit .249  
 Relay 295, 302, 303  
 Switch .....258  
 262, 266, 270, 275  
 Transistor Mount-  
 ing .....31,  
 38, 57, 236, 238  
 Headphone  
 Cords .....510, 512  
 Cushions ..510, 511

**Headphones**

Dictation .....512  
 Stereo .....510, 511  
 Switchboard ...512  
 TV .....512  
 Hearing Aid  
 Batteries .....495  
 Headphones ..510  
 Heat Gun.....322  
 Heat Sinks  
 ..109, 236, 240, 244  
 Insulators .....109  
 Heating Appliance  
 Wire .....321, 329

**High Fidelity**

Amplifiers.522, 523  
 Cartridges .....525  
 Connecting  
 Cables .....229  
 Pickup Arms ..525  
 Preamps .522, 523  
 Speakers &  
 Speaker  
 Systems .....526  
 Tape Recording  
 Equipment  
 (see Item  
 Wanted)

High Fidelity (cont'd)  
 Tubes .....108  
 Tuners .....523  
 Turntables .....524  
 High Voltage  
 Cable .....315  
 Hook-Up Wire...312,  
 318, 319, 321, 325  
 Humidity Sensors .79

**HOW TO ORDER** ..527

**I**

Ignitrons .....96, 101  
 Illuminators ..80, 466  
 Image Conduit ...466  
 Image Orthicons  
 .....95, 96  
 Impact Tool .....449  
 Impulse Relays  
 .....289, 291, 298  
 Incandescent  
 Lamps .....331  
 Indexers, Motor .310  
 Indicator Lamps  
 ..80, 333, 336, 337  
 Sockets .....337

**Inductors**

Fixed  
 181, 350, 362, 366  
 Variable  
 .....345, 346, 365  
 Inspection  
 Lamps .....327, 330  
 Insulating Washers  
 .....248  
 Insulation, Acoustic  
 .....526  
 High Voltage ..459

**Insulators**

Antenna .....256  
 Chemical  
 .....459, 462-465  
 Clip Sleeve .....219  
 Feed-Thru 241, 256  
 Stand-Off..241, 256  
 Transistor .....109  
 Integrator .....402

**Intercom**

Cable ....314, 325  
 Speakers ..470, 513  
 Switches ..470, 471

**Intercoms** .....467-473

Intercom-Radios  
 .....473  
 Wireless ..469, 472  
 Interference Filters  
 .....188  
 Interval Timers  
 .....278, 282  
 Inverters, Power. 385

**J**

Jack Panels .....232

**Jacks**

Adapters .....222  
 Antenna .....225  
 Banana ..225, 226  
 Bars .....254  
 Bulkhead .....257  
 Covers .....220  
 Extension  
 ....221, 223, 225  
 Microphone ...487  
 Phone .....220-223  
 Phono .....222, 225  
 Pin .....222, 225  
 Printed Circuit .228

**Depend on Allied  
 For Everything  
 in Electronics**

# INDEX

continued from  
previous page

Jacks (cont'd)  
Test .....228, 250  
Tip .....207, 225, 226  
Jewels, Pilot..334-337  
Jig Saws .....445

## K

Kinescopes ....95, 96

### Kits, Builders

Audio  
Generators ..408  
Battery  
Eliminator ....404  
Battery Tester..408  
Capacitor  
Checkers ....409  
Capacitor-Substitution Box .409  
Citizens Band  
Transceivers  
.....503-505  
Decade Boxes..409  
Electronic  
Switch .....407  
Experimenter  
77, 186, 187, 246  
Grid Dip  
Meters .....409  
Molecular  
Research .....77  
Oscilloscope  
404, 405, 407, 411  
Photo  
Reversing ...186  
Power Supplies.384  
Printed Circuit  
.....186, 246, 247  
R-C Bridges ...409  
R-C Substitution  
Boxes .....409  
Resistor-Capacitor  
Checkers ....404  
Resistor-Substitution Box ..409  
Signal Generators  
.....404, 407, 408  
Signal Tracers .407  
Temperature  
Indicator .....186  
Test Equipment  
(See Item  
Wanted)  
Thermistor ...143  
Transceiver,  
CB .....503-505  
Transistor  
Tester .....408

Tube Testers  
.....404, 408  
Voltage  
Calibrators ..407  
VOM's .....406  
VTVM's ....404, 406  
Walkie-Talkies  
.....504, 505  
Klystrons .....102

### Knights-Kits

.....404, 405, 504, 505  
Knives .....458  
Knobs  
.....136, 137, 250-253  
Locks .....251

## L

L-Pads  
.....127, 138, 141, 142  
Labeling Equip-  
ment .....452, 521  
Labeling Tape ..452  
Labels, Recording 521  
Laboratory  
Calibrator .....386  
Lacing Cord &  
Tape .....323, 325  
Lamp Cord .....320  
Lamp Sockets 335-337

### Lamps

Argon .....336  
Dash .....336-339  
Desk .....327, 328  
Flashlight .....338  
Fluorescent ...328  
Incandescent  
.....331, 338, 339  
Inspection 327, 330  
Neon  
331, 334, 336, 339  
Panel  
.....80, 331, 336-339  
Photoelectric ..499  
Pilot  
.....331-334, 336-339  
Switch .....273  
Tungar .....336  
Lavalier .....488  
Lasers .....81  
Lavalier .....487  
Lead Sulfide Cells.78  
Lens Caps .....335  
Lenses .....335, 337  
Levels .....526  
Turntable .....526  
Light Guides .....466  
Lighting Controls  
.....330, 499  
Light Meters ...399  
Light Sensors ...24  
Light Shields ...332  
Light Sources ...499  
Lights,  
Emergency ....330

Line Coras .....529  
Appliance  
312, 316, 320, 329  
TV .....320  
Line Filters .....188  
Logic Circuits ..41, 67  
Lubricants .....459,  
462, 464, 465, 521  
Lugs ...218, 225, 450

## M

Magnetrons .....102  
Magnet Wire 315, 321  
Manuals,  
Rectifier ..48, 73, 76  
Transistor .....33  
40, 48, 73, 76, 493  
Video Tape ...521  
Marker  
Generators .....402  
Marker Strips ...217  
Markers, Wire  
.....322, 325, 326  
Matrices, Diode ...67  
Megaphones .....481  
Memory Planes ...81  
Mercury Batteries 496  
Meter Cases.....435

### Meters

Decibel .....422  
Elapsed Time  
.....280, 419, 425  
Field Strength..415  
Frequency  
.....387, 389, 425  
Galvanometer  
.....399, 419  
Grid Dip ..392, 409  
Kits .....409  
Light .....399  
Panel .....416-426  
RF .....417, 418  
Sound .....387  
Temperature ..390,  
396, 397, 423, 425  
VU .....418,  
419, 422, 425, 521

### Microammeters

.....397, 398  
410, 417-420, 422, 425  
Micrometers .....457  
Micromho Meter .411

### Microphones

.....482-487, 511  
Accessories  
483, 485, 487, 488  
Cable 312, 316, 487  
Cartridges .....483  
Connectors  
.....208, 487, 488  
Mixers .....487  
Stands & Brooms  
483, 485, 487, 488  
Switches ..485, 488  
Transformers  
.....480, 485, 487  
Wireless .....482  
Microwave  
Hardware ..57, 80  
Milliammeters  
397, 398, 416-419,  
421, 422, 425, 426  
Millivoltmeters  
.....399, 419, 420  
Mixers ..480, 487, 515  
Modules  
.....80, 81, 381, 392  
Module Scope ..392  
Monitor, Aircraft .500

Monitors, TV .....496  
Monoscopes .....32  
Motor Indexers ..310  
Motor Translators 310  
Motors .....281,  
305, 306, 309, 310  
Indicating .....306  
Servo .....306  
Timer .....281  
Multimeter .....402  
Multiple Outlets .329  
Multiplex  
Generator .412, 414

## N

Nameplate Kits ..187  
Needles .....526  
Neon Lamps .....331,  
334, 336, 337, 339  
Sockets .....336  
Testers .....311  
Networks,  
Semiconductor.. 28  
Nibbler .....445  
Nibbling Tool ...458  
Nickel-Cadmium  
Batteries .....497  
Nippers .....455  
Noise Limiter....506  
Noise Suppres-  
sors .....188  
Novars .....103-108  
Socket  
Adapters .....238  
Sockets .....237  
Nut Cracker.....458  
Nut Drivers .455, 456  
Nuts .....450

### Novistors

.....93, 103-105, 107  
Socket  
Adapters .....238  
Sockets ...237, 238

## O

Ohmmeters ..388, 397  
Ohm's Law  
Calculators ...118  
Oil-Filled  
Capacitors  
.....153, 169, 177  
Optics, Fiber  
Fiberscope .....466  
Illuminators 80, 466  
Image Conduit.466  
Light Guides ..466  
Oscilloscope  
Electronic  
Switch .....407  
Kit .....407  
Oscilloscopes  
.....386, 392, 403-  
405, 407, 411, 415  
Kits  
404, 405, 407, 411  
Outlets, AC .....329

## P

Pad Controls  
.....127, 138, 141, 142  
P. A. (See Public  
Address)  
Paint .....459  
Sprayers .....448

Panel Bearings .....233  
Panels, Jack.....232  
Panels, Rack .427-430  
Hardware .....429  
Panel Lights  
.....331-334, 336-339  
Panel Meters.416-426  
Paper Capacitors  
.....152, 153,  
155, 156, 169, 170  
Patch Cords ..231, 232

### Phono Equipment

Cartridges .....525  
Levels .....526  
Pickup Arms...525  
Pin Plugs & Jacks  
.....218, 222, 225  
Stylus Pressure  
Gauge .....526  
Switches.....267  
Transcription  
Player .....481  
Turntables .....524  
Photographs....481  
Photocells  
.....33, 78, 79, 94, 99  
Photo Diodes.....78

### Photoelectric

Equipment  
.....33, 293, 499  
Burglar Alarms.499  
Light Sources .499  
Relays .....499  
Smoke Detector 499  
Photoflash Batteries  
.....496  
Phototubes 78, 94, 101  
Pickup Arms....525  
Picture Tube  
High Voltage  
Cable .....315  
Sockets  
.....235, 236, 238  
Pillow Speakers..512

### Pilot Bulbs... 336-339

Assemblies  
.....331-339, 342  
Holders .....331  
Removers .....331  
Sockets & Jewels  
.....335-337  
Plastic  
Sprays.....459  
Tubing  
.....323, 325, 326  
Plate Caps.....239  
Pliers.....454, 455

### Plugs

AC .....239, 330  
Adapters .....330  
Antenna .....225  
Audio.....221-223  
Banana .....224,  
226-228, 231, 242  
Battery .....385, 497  
Battery Charger  
.....385  
Cable  
211-214, 237, 257  
Coil .....255  
Fused .....330  
Grounded ....330  
Line Cord.....330  
Meter.....224, 225  
Microphone .....487  
Phone .....220-223  
Phone Tip.224, 226  
Pin  
218, 222, 225, 227  
Pointers .....254  
Polaroid Film ...520  
Polystyrene Insu-  
lation .....250

Everything You Need  
in Electronics  
From One Source

POSJ Wire .....320  
POT Wire .....320

## R

### Potentiometers

...122-136, 138-142  
Dials .....124, 136  
Hardware 127, 132,  
134, 136, 137, 142  
Switches .....142  
Power Cords.323, 329  
Power Inverters.385  
Power Supplies  
.....380-385  
Kit .....384  
Modules .....80, 381  
Power Tools.445-449  
Preamplifiers .....480  
Hi-Fi .....522, 523  
Laboratory .....522

### Printed Circuit

Amplifiers .....80  
Chokes .....350  
Connectors  
.....205, 210, 211  
Development Kits  
.....186, 187  
Materials .....187  
Modules .....80, 81  
Paint .....459  
Posts .....249  
Racks .....248  
Spacers .....249  
Transformers .....350  
Transistor Sockets  
.....233, 237  
Tube Sockets  
.....233, 237  
Turrets .....238  
Probes .....396, 400  
Prods, Test .....229  
Adapters .....229  
Program Timers  
.....281, 282  
Projectors, Speaker  
.....490

### Public Address

**Equipment**  
Amplifiers .474-480  
Baffles  
.....489, 491, 492  
Drivers .....490  
Megaphones .481  
Microphones  
.....482-487  
Stands .....483,  
485, 487, 488  
Mixer .....480, 487  
Mixer-Preamp .480  
Phonograph .....481  
Speakers .489-492  
Outdoor.490, 513  
Systems .....489  
Systems .....474-479  
Pulse Generator.386  
Punches .....450, 451  
Pyrometers.387, 423

### Racks, Steel

.....427-430, 460  
Accessories .....427  
Cabinets .....427  
Desk Top .....427  
Handles .....430  
Hardware .....429  
Panels .....427-430  
Shelves .....429

Radio Control  
Equipment.508, 509  
Radio-Intercom .473  
Readout Cells .....79  
Readouts .....336  
Readers .....458

### Receivers

Aircraft .....500  
Citizens Band  
.....502-505  
Kits .....503-505  
Communications  
.....500  
FM .....500  
Industrial .....500  
Receiving Tubes  
.....92, 93  
95, 97, 101, 103-108  
Record  
Blanks .....526  
Care Accessories  
.....526  
Cleaner .....526  
Covers .....526  
Records, Test .....526  
Record Players .481

### Recorders

Chart ....394, 395  
Tape .....514-518  
Recording Discs.526  
Recording Tape  
.....518, 519

### Rectifiers

Germanium.46, 52  
Instrument .....76  
Manual.48, 73, 76  
Selenium .....76  
Silicon .29, 31, 32,  
37, 40, 41, 45-48,  
51-53, 58, 59, 61,  
64, 65, 72-74, 77  
Tester .....390  
Thyristors .....52  
Transformers  
.....354, 359  
Tungar Bulbs .336  
Reel Holders .....521  
Relay Selection  
Chart .....284

### Relay

Cleaning Tool.304  
Connectors .....306

### Relay (cont'd)

Contact  
Protectors .....291  
Covers .....286, 287  
Hardware .....287,  
295, 302, 303, 305  
Maintenance Kits  
.....291, 304  
Racks .....428  
Casters .....431  
Sockets  
233-235, 286, 287

### Relays

**AC-DC**  
.....296, 297, 301  
Airborne .....303  
Alarm .....303  
Antenna .290, 306  
Appliance .....287  
Coaxial .306, 307  
Dry Reed.299, 302  
Impulse  
.....289, 291, 298  
Indicator .....286  
Latching  
290, 291, 300, 303  
Mercury Plunger  
.....295  
Mercury Wetted  
.....290  
Meter .....418  
Motor Starting.291  
Non-Latching .291  
Photoelectric  
.....293, 499  
Plate Circuit  
.....288, 289, 293  
Plug-in.299-301, 303  
Polar  
.....294  
Power  
285-288, 290, 293-  
295, 297, 300, 301,  
303, 305, 307, 308  
Test Lamp.286  
Pulse Repeating  
.....294  
Rotary Action.299  
Sequencing  
.....289, 303  
Stepping .296, 298  
Switching.290, 307  
Telephone.292, 301  
Thermal .291, 295  
Thermal Delay.294  
Time Delay  
.....294, 302, 303  
Resistance Meters  
.....388, 397

### Resistors

Adjustable  
114, 115, 117, 126  
Assortments  
.....113, 116  
Cabinets .113, 116  
Calculators .....118  
Fuse.113, 116, 118  
Motor .....310  
Power .....113-  
115, 117, 119, 121  
Precision  
.....115, 118-120  
Sensistors .....120  
Surge .....118  
Temperature  
Sensing .....120  
Thermistors  
.....118, 143  
Resistor-Capacitor  
Checkers  
.....388, 393, 404, 409  
Kits .....404, 409  
Resistor Decade  
Boxes .....392, 409  
Kits .....409

Resistor Substitu-  
tion Boxes ...409  
Kits .....409  
RF Ammeters  
.....417, 418  
RF Chokes .344-347  
RF Coils ...347, 348  
Rheostats  
.....136, 137, 140  
Coupling Kit .137  
Dials, Plates,  
Knobs .....137  
Rotators,  
Antenna .....501  
Rules .....457  
Running Time  
Indicator  
.....306, 419, 425

## S

Sanders .....449  
Saw Blades .....458

### Saws

Electric .....449  
Hand .....458  
Jig .....445  
Scissors & Shears  
.....446, 457  
Screwdrivers  
.....447, 455, 456, 458  
Electric .....447  
Screw Extractor.451  
Screws .....450  
Scribers .....457  
Sealing Devices.263  
Selenium  
Rectifiers .....76  
Semiconductor  
Directory ....6-23

### Semiconductors

.....6-76  
Hardware .....31,  
38, 57, 236, 238  
Heat Sinks ....109  
Manuals .....33,  
48, 73, 76, 493  
Networks .....28  
Sensing Devices  
.....24, 33,  
78, 79, 94, 99, 186  
Servo Motors .....306  
Shafts  
Bushings .....254  
Couplings  
.....252, 254, 255  
Fittings .....252  
Flexible .....253  
Locks .....251, 255  
Shielding  
Cable .....317  
Strips .....98, 240  
Shields, Tube  
.....233, 235,  
236, 239, 240, 255  
Shock Indicators.304  
Shrinkable  
Tubing .....322  
Markers .....322

### Signal Generators

.....388,  
389, 403, 404, 407  
Audio  
388, 389, 408, 412  
Kits.404, 407, 408  
Marker .....402  
Multiplex.412, 414  
Pulse .....386  
RF  
388, 389, 404, 407  
Kits .....404, 407

Signal Gen. (cont'd)  
Square Wave ..403  
Sweep .....403  
Signal Tracer  
.....407, 415  
Kits .....407

### Silicon

Cells .....79  
Diodes .....30, 32-  
36, 44, 57, 59, 62-  
65, 67, 69-72, 75  
Rectifiers.29, 31, 32,  
37, 40, 41, 45-48,  
51-53, 58, 59, 61,  
64, 65, 72-74, 77  
Transistors  
.....24, 25,  
27, 36, 39, 42, 43,  
50, 55, 56, 58, 61,  
62, 66, 68, 69, 81  
Silicones.462, 464, 465  
Sinks, Heat .....236  
Slide Rules .....453  
Smoke Detectors.499  
Snaps & Studs.218  
Snips .....454, 455  
Socket Adapters  
.....330, 336

### Sockets

AC  
207, 236, 239, 330  
Argon Lamp ...336  
Bulb .....335, 336  
Cable .....213  
Coil .....234-237  
Connector .....242  
Crystal .....233  
Drive .....453  
Electrolytic Capac-  
itor .....164, 236  
Fluorescent .....328  
Lamp .....335-337  
Neon Lamp ...336  
Novar .....237  
Nuistor.237, 238  
Photo Tube .....237  
Picture Tube  
.....235, 236  
Adapters .....238  
Pilot Light.335, 336  
Printed Circuit  
.....233, 237  
Relay .....233-235,  
237, 286, 287, 303  
Transistor  
.....233, 236-238  
Test Adapter.232  
Tube.233-238, 240  
Adapter.232, 238  
Socket Sockets .....235  
Socket Turrets .....238  
Socket Wrenches.453  
Solar Cells.78, 79  
Solder .....444  
Aids.438-442, 444  
Elements .442, 443  
Pots .....443  
Tips .....438-443  
Soldering Irons &  
Guns .....438-443  
Holders .442, 444  
Solderless Connectors  
.....245, 254  
Solenoids .....296, 304  
Solvents .....462  
Sound Columns .489  
Sound Meter .....387  
Sound Systems  
.....474-479  
Spacers .....249  
Spade Lugs.225  
Spaghetti ...324, 325  
Spatulas, Relay  
Cleaning .....304

**Call Your Man  
at Allied  
For Fast Service**

# INDEX

continued from  
previous page

## Speakers

- Ceiling & Wall .....489, 491, 492
- Drivers .....490
- Extension .....513
- Hi-Fi .....526
- Intercom .470, 513
- Outdoor .490, 513
- P.A. ....490-492
- Pillow .....512
- Replacement .513
- Systems .489, 526
- Trumpets .....490
- Wall .489, 491, 492

## Speaker Accessories

- Acoustic
  - Padding .....526
- Baffles
  - .....489, 491, 492
- Cable.315, 320, 321
- Controls .....127, 138, 140-142, 525
- Enclosures
  - .....489, 491, 492
- L-Pads
  - 127, 138, 141, 142
- Switches
  - .....138, 141, 142
- T-Pads 127, 141, 142
- Transformers .491
- Spin Wrenches
  - .....455, 456
- Spray,
  - Insulating .....459
  - Spray, Plastic .459
  - Sprayers .....448
  - Springs .....234
  - Square-Wave
    - Generators .....403
- Stabistors .....31
- Stand-Off Insulators
  - .....241, 256
- Stands, Microphone
  - .483, 485, 487, 488
- Staplers & Staples.452
- Starters,
  - Fluorescent .....328
- Steel Trucks .....457
- Stencils .....77
- Stereo FM Test
  - Equipment.412, 414
- Stereo Headphones
  - .....510, 511
- Step-Down
  - Transformers
    - .....358, 370, 441
- Stepping Relays .298
- Step-Up Trans-
  - formers .....358

- Storage Boxes
  - .....450, 460, 461
- Strain Gauge
  - Cable .....315
- Strippers, Wire .451
- Strips, Mounting .243
- Stroboscopic
  - Light .....526
  - Batteries .....496

## Styli

- Pressure
  - Gauges .....526
  - Recording .....526
- Surgistors .....118
- Swaging Tools .242
- Sweep
  - Generators .....403

## Switches

- Airflow .....437
- Appliance .261, 271
- Assemblies
  - .....265-267, 269
- Coaxial .....307
- Control
  - 125, 128, 141, 142
- Cord .....273
- Dimmer .....330
- Dry Reed .....264
- Foot .....283
- Hi-Fi System .525
- Intercom .470, 471
- Knife .....261
- Lever .266, 270-272
- Light-Operated .499
- Lock .....262
- Locking .....272
- Magnetic .....264
- Meter .....270
- Micro .....276
- Microphone
  - .....485, 488
- Open Blade....276
- Phono .....267
- Pushbutton .141,
  - 261, 263, 264, 270,
  - 272, 273, 275, 276
- Reed .....264
- Relay .....307
- Rotary .258, 260,
  - 263-271, 274, 275
- Slide .....262, 271
- Snap-Action
  - .....275-277
- Speaker .....525
- Step-on.....283
- Thermal .291, 294
- Time .....277
- Time Delay .....277
- Toggle 258-262, 275
- Switch Buttons .275
- Switch Hardware
  - .258, 262, 266, 270
- Switch Lamps .273
- Switch Mounting
  - Barriers .....275
- Switch Plates
  - .252, 258, 262, 266

- Switch Sealing
  - Devices .....263
- Switch Sections
  - .....265-267, 269
- Switch Wrenches 273

## T

- T-Pads .127, 141, 142
- Tachometers .....385
- Tape
  - Alignment .....519
  - Cartridges 518, 520
  - Electrical .....330
  - Embossing .....452
  - Heads .....519
  - Labeling .....452
  - Labels .....521
  - Lacing .....323
  - Mailers .....520
  - Recording .518, 519
  - Reels .....520
  - Sensing .....520
  - Splicing .518, 520
  - Strobe Kit .....521
  - Threaders .....521

## Tape Recording

- Equipment
  - Accessories .521
  - Amplifiers .....519
  - Batteries .....495
  - Decks & Trans-
    - ports .....514-517
  - Degausser .....521
  - Demagnetizer .521
  - Eraser .....521
  - Heads .....519
  - Microphones
    - 482, 483, 485, 486
  - Mixers .....515
  - Preamplifiers
    - .....480, 517, 519
  - Recorders .514-518
  - Splicers .518, 521
  - Tape .....518, 519
  - VU Meters .....418, 419, 422, 425, 521
- Taps & Dies .....451
- Telephone
  - Cable .....314, 316
  - Intercoms .468, 469
  - Pickups .....512
  - Relays.....292, 301
- Television
  - Alignment
    - Tools .....457
  - Attenuators .....127
  - Cable .....315, 317
  - Cameras .....498
  - Closed Circuit.498
  - Coils .....348
  - Controls .....141
  - Field Strength
    - Meter .....415
  - Headphone Sets
    - .....511, 512
  - Interference
    - Filters .....188
  - Line Cords 320, 329
  - Line Voltage
    - Regulators .373
  - Monitors .....498
  - Picture Tube
    - Cable .....315
    - Sockets
      - .235, 236, 238
      - Adapter .238
    - Power Trans-
      - formers .358, 359
    - Signal Attenu-
      - tors .....127

## Television (cont'd)

- Tape Recording
  - Book .....521
- Towers .....501
- Tube Caddies.453
- Tubes .....95, 96
- Video Tape
  - Manual .....521
- Temperature Indi-
  - cators 186, 387, 390
  - Kits .....186
- Temperature
  - Meters .....390, 396, 397, 423, 425
- Temperature
  - Recorders.394, 395

## Terminals

- Assortments
  - .....244, 245
- Barrier...215, 216
- Blocks
  - .....229, 232, 243
- Boards...218, 243
- Cards .....247
- Headers .....243
- High-Voltage .255
- Mountings .....243
- Solder
  - 216, 242, 245, 246
- Standoff .241, 243
- Strips .214-218, 243
- Tools .242, 244-246
- Turrets .....238
- Test Chambers
  - Salt-Spray .....387
  - Temperature .387
- Test Clips
  - .218, 219, 228, 311
- Insulators .....219
- Test Equipment
  - (see Item Wanted)
- Test Jacks...228, 250
- Test Leads .230, 311
- Test Lights .....311
- Test Probes .396, 400
- Test Prods .....229
- Test Prod Wire .315
- Thermal
  - Delay Relays .294
- Relays
  - .....291, 294, 295
  - Switch .....291, 294
- Thermistors.118, 143
- Kits .....143
- Thermometers
  - .....387, 390, 425
- Thyatronns .....99, 101
- Thyristors .....52
- Tie Points .....241, 242
- Time Delay
  - Relays .....295, 302
  - Time Meters .....278, 280, 306, 419, 425
- Time Switches
  - .277, 281-283, 304

## TIME PAYMENT PLAN

- .....527
- Time Totalizers .306
- Timers
  - Clock .....281-283
  - Programmer
    - .....281, 282
- Tip Jacks
  - .....207, 225, 226
- Tip Plugs...224, 226
- Tips, Soldering
  - .....438-443
- Toggle Switches
  - .....258-262, 275
- Tone Controls
  - (see Potentiometers)
- Tone Modulator .392
- Tools (see Item
  - Wanted)

- Tool Chests .....461
- Tool Dip .....459
- Tool Kits, Hobby
  - .....448, 458
- Torches .....444
- Toroids .....365, 372
- Towers .....501
- T-Pads..127, 141, 142

## Transceivers, Citizens

- Band .....502-506
- Kits .....503-505
- Transcription
  - Player .....481
- Transducer .....391
- Transformer Selec-
  - tion Chart .....349

## Transformers

- Air Conditioner 357
- Audio .....351, 353, 356, 357, 360-363, 366-369, 371
- Autotransformers
  - 357, 358, 370, 373
- Constant Voltage
  - .....379
- Control
  - .....357, 359, 372
- Driver .....353, 357, 360, 362, 369
- Filament
  - 351, 352, 356, 359,
  - 367, 368, 370, 371
- Input .....353, 360, 362, 363, 369
- Interstage .....353, 360, 362-364, 369
- Isolation .352, 355,
  - 357, 359, 362, 363,
  - 366, 369, 370, 373
- Line .....357, 360-364, 366, 367, 491
- Matching (see Line)
- Microphone
  - .....480, 485, 487
- Mixing .....367
- Oscilloscope .....356
- Output .....353, 356, 360-363, 367, 369
- Plate .367, 368, 370
- Power .....350-356, 358, 359, 367-371
- Power Supply .370
- Printed Circuit .350
- Pulse .....366
- Rectifier
  - .....354, 359, 371
- Step-Down 358, 370
- Soldering .....441
- Transistor
  - .....350, 353, 360,
  - 362-364, 366-369
  - Power Supply
    - .....369
  - Transverters .353
  - Tube Checker .356
  - TV.....359
  - Variable
    - 359, 373-375, 377
- Transient Voltage
  - Indicator.....390

## Transistors

- Books
  - .....33, 40, 48, 493
- Germanium
  - .....26, 27, 38,
  - 39, 43, 44, 49-51,
  - 54, 55, 62, 68, 69
- Hardware .....31, 38, 57, 236, 238
- Heat Sinks 109, 236
- Silicon...24, 25, 27,
  - 36, 39, 42, 43, 50,
  - 51, 55, 56, 58, 61,
  - 62, 66, 68, 69, 81

Depend on Allied  
For Everything  
In Electronics

Transistor (cont'd)  
Sockets 233, 236-238  
Testers...390, 396,  
401, 403, 408, 412  
Kit .....408  
Transistor Radio  
Batteries...494-496  
Circuit Analyst 414  
Trimmers  
.....122, 123, 186  
Capacitor .180-186  
Potentiometer  
.....122, 123  
Trouble Light...329  
Trucks, Steel ....457  
Trumpets .....490

**Tube**

Caddies .....453  
Caps .....239  
Clamps...234, 240  
Cooling Fans  
.....309, 436, 437  
Shields...233, 235,  
236, 239, 240, 255  
Sockets  
.....233-238, 240  
Adapters 232, 238  
Chimneys...240  
Testers...401, 403,  
404, 408, 413-415  
Kits....404, 408

**Tubes**

Audio .....108  
Cathode Ray...100  
High Fidelity...108  
Ignitron ...96, 101  
Industrial...92-101  
Ionization Gauge.81  
Klystrons .....102  
Magnetrans .....102  
Military .....91  
Novars .....103-108  
Nuvisitors  
.....93, 103-105, 107  
Photo...78, 94, 101

Receiving 92, 93, 95,  
97, 101, 103-108  
Special-Purpose  
...81, 92-101, 108  
Directory .84-91  
Thyratron .99, 101  
Transmitting  
.....92, 95, 97, 102  
TV Camera...95, 96  
Voltage Regulator  
.....92, 93, 101

**Tubing**

Plastic  
322, 323, 325, 326  
Polystyrene...250  
Shrinkable 322, 323  
Spaghetti .324, 325  
Teflon .....324  
Tool  
Insulation .322  
Tuner Cleaners and  
Lubricants ....459  
Tuners, FM .....523  
Tungar Bulbs ...336

**Tunnel Diodes**

.....31, 44, 52, 57, 67  
Turntables .....524  
Turntable Acces-  
sories .....525, 526  
Turrets  
Printed Circuit 238  
Steel .....427  
TVI Filters .....188  
Tweezers,  
Soldering .....441

**Two-Way Radios**

.....504, 505  
Kits .....504, 505

**V**

VTVM's .....397,

VTVM's (cont'd)  
400, 401, 403, 404,  
406, 410, 413, 414  
Kits .....404, 406  
Varactors .52, 57, 67  
Variable Capacitors  
.....60, 180-185  
Variable Inductors  
.....345, 346, 365  
Varicaps .....60  
Varnish .....465  
Vibrapacks .....384  
Vibrators .....384  
Vises .....452  
Visual Demonstrators  
Transistor Radio  
.....411  
VOM .....411  
Voltage Calibrators  
.....407  
Kits .....407  
Voltage-Current  
Recorder .....395  
Voltage Dividers  
.....114, 115, 117  
Voltage Regulators  
...373, 376-381, 384  
Voltage Testers...  
.....311, 395  
Volt-Ammeters...399  
Volt-Amp-Wattmeter  
.....397  
Voltmeters .....386,  
389, 391, 398, 399,  
416-422, 425, 426

**Volt-Ohm-  
Milliammeters**

Cov. 2, 386, 391, 396,  
397, 399-401, 403  
406, 410, 413, 414  
Kits .....406, 410  
Volume Controls  
.....140, 488, 525  
Cleaner .....459  
Tools .....457

Volume Unit  
Meters .....418  
419, 422, 425, 521

**W**

**Walkie-Talkies**  
.....504, 505  
Kits .....504, 505  
Wall Receptacles.208  
Washers .....450  
Wattmeters  
396, 398, 419, 422  
Watt Voltmeter .406  
Kit .....406  
Wave Guides.....80  
Hybrid Couplers 80  
Hybrid Tees .....80  
Windows .....81

**Wire & Cable**

Antenna .....321  
Appliance Cords  
312, 316, 320, 329  
Broadcast .....316  
Audio .....316  
Bus Bar.....317  
Coaxial  
.....313, 317, 320  
Coiled Cord  
.....315, 316, 323  
Extension Cords  
.....329, 487  
Formvar .....321  
Grid .....315  
High-Voltage .315  
Hook-Up .....312,  
318, 319, 321, 325  
Instrumentation 314  
Intercom .314, 325  
Juke Box .315, 321  
Lamp Cord ....320  
Lighting .....315  
Line Cord .....329  
Litz .....315

Wire (cont'd)  
Magnet ...315, 321  
Microphone  
.....312, 316, 487  
Military  
312, 313, 317-319  
Nickel-Chromium  
.....321  
Outdoor .....320  
Phono ....229, 320  
POSJ & POT ...320  
Speaker  
315, 316, 320, 321  
Telephone  
.....314, 316, 321  
Test Prods ....315  
TV Camera .....317  
Underground  
.....320, 321  
Video .....315, 317  
Wire Cutters  
.....451, 454, 455  
Wire Duct .....326  
Wire Gauge ....457

**Wireless Intercoms**

.....469, 472  
Wireless  
Microphones .482  
Wire Markers  
.....322, 325, 326  
Wire Strippers...451  
Work Bench ....460  
Wrenches  
Electric .....449  
Manual .....458  
Socket .....453

**Z**

**Zener Diodes** .....34-  
36, 45, 60, 65, 70-72  
Checkers  
.....390, 402, 403

**INDEX TO MANUFACTURERS**

**A**

**Ace Tools**  
(see Henry Hanson)  
Acme Electric.373, 382  
Acoustech .....523  
Acoustic Research  
.....524, 526  
Acro .....276, 277  
Accutronics, Inc. .402  
ADC (see Audio  
Development or  
Audio Dynamics)  
Adel .....458  
Advance Trans-  
former .....328

Akro-Mils .....461  
Allied Radio  
Books .....493  
Calculators .....113  
Speakers (see also  
Knight, Knight-  
Kits, Lincoln)  
Alpha Wire  
.....312, 322, 323  
Alpha-Tempil ....186  
Alphlex (see Alpha)  
American Beauty  
.....441, 444  
American Optical.466  
American Television  
& Radio (see ATR)  
AMF .....311

A-MP .....245  
Amperex  
Capacitors .....184  
Tubes...84-91, 101  
Amperite .....294  
Amplex .....515, 516  
Amphenol  
Connectors  
190-208, 247, 257  
Motors .....306  
Shields .....235  
Sockets  
203, 207, 234, 235  
Wire & Cable...313  
Amprobe .....395  
Amtron, Inc. ....80  
Antenna Specialists  
Citizens Band  
.....506, 507  
Antex .....441  
API (see Assembly  
Products)  
APM .....263  
Arco-ElMenco  
.....175, 176  
Argos  
Baffles....489, 491  
Tube Caddies .453  
Arrow Fastener .452  
Arrow-Hart &  
Hegeman  
Connectors ...239  
Switches...262, 263

Assembly Products  
.....387, 423  
Associated Testing  
Labs .....387  
Astatic  
Microphones...483  
Atlas Sound ....488  
ATR .....385  
Audio Development  
.....229, 232  
Audio Devices  
Disc Recording  
Accessories .526  
Audio Dynamics .525  
Audio Fidelity .526  
Audiotex (see G-C)

**B**

**B & K/Mark**  
.....414, 506, 507  
Babco .....450  
Barber-Colman  
Motors .....309  
Relays .....308  
Belden  
Cords .....329  
Wire & Cable  
.....314-319, 487  
Bell, F. W. ....77  
Betacom ....467, 472  
Birnbaum .....325

Biley .....509  
Blonder-Tongue .291  
Bogen  
Hi-Fi Equip. ....524  
Intercoms.468, 469  
P.A. Equip. 480, 481  
Telephones.468, 469  
Borg  
Motors .....306  
Potentiometers .128  
(Also see  
Amphenol)  
Bosco, Don .....415  
Bourns  
Potentiometers  
.....130-136  
Relays .....305  
Brady Co., W. H. .326  
Brink & Cotton...452  
"Brush" (see Clevite)  
Bud Radio  
Capacitors .....184  
Metal Products  
.....427-435  
Tube Caps .....239  
Burgess Battery  
Batteries ...494-497  
Lanterns & Flash-  
lights .....330  
Manual .....496  
Burgess Vibrocrafters  
.....448, 449  
Burke-Docken ....445  
Bussman .....342

**You Buy from the  
World's Largest Stocks  
at Factory Prices**

# INDEX

continued from  
previous page

BVI (see Burgess  
Vibrocrafters)

## C

**Cadre** ..... 503  
**Cambridge**  
 Thermionic ..... 218  
**Cannon, C. F.** ..... 511  
**Cannon Electric** ..... 208  
**Cardwell** ..... 184  
**CBC Electronics**  
 Co., Inc. .... 329  
**CDR (see Cornell-  
 Dubilier)**  
**Central Tool** ..... 457  
**Centralab**  
 Capacitors .178-180  
 Controls ..... 139  
 Packaged Circuits  
 ..... 179  
 Switches ..... 265-267  
**Century Drill** ..... 450  
**Cetron** ... 78, 84-91, 99  
**Chemtronics** ..... 459  
**Chicago**  
 Miniature ..... 339  
**Chicago Transformer**  
 (see Stancor)  
**Cinch-Jones**  
 Barrier Strips  
 ..... 215, 216  
 Battery Plugs .497  
 Cable Clamps .211  
 Connectors.211, 213  
 Fanning Strips.217  
 Heat Sinks.....236  
 Jacks ..... 225  
 Plugs  
 .211-214, 225, 237  
 Shields ..... 236  
 Sockets  
 .212-214, 236, 237  
 Terminal Strips  
 ..... 214-218  
**Citation (see  
 Harman-Kardon)**  
**Clairex** ..... 79  
**Clark Electronics** .188  
**ClaroStat**  
 Controls ..... 129  
 Decade Boxes .392  
**Clauss** ..... 457  
**Clevite** ..... 511  
**Cole-Hersee** ..... 336  
**Columbia** ..... 526  
**Command** ..... 526

## D

**Dale (Dalohm)**  
 ..... 118, 119  
**Danbury-Knudson** 307  
**Davies, Harry**  
 Cases ..... 435  
 Knobs ..... 252, 253  
**Delta (See Wake-  
 field Eng.)**  
**Devcon** ..... 463  
**DeVry** .247, 254, 402  
**Diacrom** ..... 304  
**Dialco** ... 83, 331-335  
**Diamond Tool**... 458  
**Dietzgen** ..... 453  
**Dixie** ..... 460  
**Dow-Corning**  
 ..... 464, 465  
**Dow-Key** ..... 306  
**Drake Mfg.** ..... 336  
**Dremel** ..... 448  
**Dumont** ... 85, 89, 90  
**Dunco (See Struthers-  
 Dunn)**  
**Dutch Brand (See  
 Johns-Manville)**  
**Dymo** ..... 452

## E

**Eagle** ..... 261  
**Ebert** ..... 295  
**Eby** ..... 238

**Conant** ..... 76  
**Conley**  
 Electronics ..... 518  
**Consolidated Wire  
 Wire & Cable**  
 ..... 320, 321  
**Continental**  
 (see Cetron)  
**Continental-Wirt**  
 Resistors ..... 118  
 Switches ..... 271  
**Controls Co. of  
 America**  
 Solenoids ..... 304  
 Time Controls.275  
**Cool-Fin** ..... 240  
**Cornell-Dubilier**  
 Antenna Rotators  
 ..... 501  
 Capacitors .166-170  
 Interference  
 Filters ..... 188  
 Test Eqpt ..... 393  
**Cousino** ..... 518  
**Croname**  
 (See Waldom)  
**CTC (See Cambridge  
 Thermionic)**  
**Cutler-Hammer**  
 ..... 258-261

## G

**G-C Electronics**  
 Binding Posts .227  
 Cable Ties ..... 325  
 Clips ..... 228, 234  
 Dial Accessories  
 ..... 252, 253  
 Hardware ..... 450  
 Hi-Fi Accessories  
 ..... 525  
 Paints &  
 Chemicals .459  
 Plugs & Jacks  
 222, 224, 225, 228  
 Resistors ..... 118  
 Servicing Tools 291,  
 444, 451, 457, 458  
 Terminal Strips 216  
 Test Eqpt. & Acces-  
 sories ... 229, 311  
 Thermistors ..... 118  
**G-Dot** ..... 304

**E. C. I.** ..... 506  
**Edsal** ..... 460  
**Eico**  
 Citizens Band  
 Eqpt. .... 503  
 Power Supplies 384  
 Test Eqpt. ... 406-409  
**Eitel-McCullough**  
 (Eimac)  
 Connectors ..... 240  
 Finger Stock.98,240  
 Sockets ... 98, 240  
 Tubes  
 .84-87, 90, 91, 98  
**Elco**  
 Accessories ..... 233  
 Connectors Cov. 3,  
 207, 209-211, 257  
 Sockets ..... 233, 234  
 Vari-Pak, ..... 248  
**ELCOA** ..... 77  
**Electrocraft (See G-C)**  
**Electron Molecule**  
 Research ..... 77  
**Electrons, Inc.**  
 ..... 84, 85, 99  
**Electro-Glass Labs.**  
 ..... 243  
**Electro-Nuclear** ... 78  
**Electro-Products** ... 383  
**Electrostrip** ..... 329  
**Electro-Voice**  
 Microphones  
 ..... 484, 485  
 P. A. Eqpt. 489, 490  
**Emerson and  
 Cummings** ..... 462  
**Emico** ..... 415, 426  
**Empire** ..... 524, 525  
**Equipto** ..... 457, 460  
**Ersin** ..... 444  
**Esico** ..... 443  
**ESL** ..... 526  
**E-Z Way** ..... 501

## F

**Fanon** ..... 481  
**Fasco**  
 Intercoms 467, 472  
 Light Controls.330  
**Fedtro** ..... 188  
**Fenwal Electronics,  
 Inc.**  
 Thermistors ... 143  
**Fisher** ..... 523  
**Fleet** ..... 458  
**Flexo** ..... 327  
**Forsberg** ..... 458  
**Fusemaster (See  
 Littelfuse)**

## H

**Hallcrafters**  
 Citizens Band  
 Eqpt. .... 502  
 Special-Purpose  
 Receivers ..... 500  
**Hamlin** ..... 264  
**Hammarlund**  
 Capacitors ..... 185  
 Couplings ..... 253  
**Hanson, Henry**  
 ..... 451, 457, 458  
**Hart & Hegeman (See  
 Arrow—H & H)**  
**Hathaway** .388, 389  
**Harvey-Hubbell** .239  
**Haydon** ..... 280  
**Heli-Tube** ..... 325  
**Hickok** ..... 412-414  
**Hold-E-Zee** ..... 458  
**Holmin** ..... 481  
**Hughes**  
 Capacitors ..... 64  
 Rectifiers &  
 Diodes ..... 64, 65  
 Semiconductors  
 ..... 6-23, 64-66  
 Military ..... 64  
**Hurst** ..... 305  
**Hy-Gain** 500, 506, 507  
**Hygropak** ..... 79

## I

**Industrial Timer Corp.**  
 ..... 277-279

**Insl-x** ..... 459  
**Intermatic**  
 Photoelectric  
 Devices ..... 499  
 Timers ..... 281  
**International Rectifier**  
 Diodes ..... 70-72  
 Photocells ..... 79  
 Protectors .82, 384  
 Rectifiers &  
 Stacks ... 72, 73  
 Handbook ..... 73  
**Semiconductors**  
 ..... 6-23, 70-73  
 Solar Cells ..... 79  
 Power  
 Supplies ... 83  
**IRC-CTS**  
 Cable ..... 325  
 Controls ..... 122-128  
 Resistors  
 ..Cov. 4, 111-115  
**IT & T-Federal**  
 Contact  
 Protectors ... 291  
 Rectifiers &  
 Stacks ..... 76

## J

**Jackson**  
 Power Supplies 384  
**JBT** ..... 425  
**Jensen Mfg.**  
 Speakers ..... 491  
 Controls ..... 138  
**Jerrold** ..... 415  
**Jet Pak** ..... 459  
**JFD**  
 Capacitors .180-183  
 Inductors ..... 181  
 Repair Aids ..... 457  
**JK** ..... 509  
**Johns-Manville** ... 330  
**Johnson, E. F.**  
 Binding Posts .226  
 Capacitors ..... 184  
**Citizens Band**  
 Eqpt. ... 502, 505  
 Insulators ..... 256  
 Plugs & Jacks.226  
 Shafts ..... 253  
 Sockets ..... 240  
**Johnson Service  
 Co.** ..... 448

## K

**Kemet** ..... 150, 151  
**Kepron** ..... 186, 187  
**Kester** ..... 444  
**Keystone** ..... 497  
**Knight**  
 Chokes ..... 361  
**Citizens Band**  
 Eqpt. ... 502, 506  
 Hand Tools ..... 455  
 Headphones ... 510  
 Microphones .482  
 P.A. Equipment  
 ..... 474-479  
 Recording  
 Equipment .517  
 Test Equipment  
 ..... 404, 405  
**Transformers**  
 ..... 358-361  
**Knight-Kits**  
**Citizens Band**  
 ..... 504, 505  
 Test Equipment  
 ..... 404, 405

**Rely on Allied for  
 Complete Stocks and  
 Fast, Friendly Service**



Knight, James  
(See JK)  
Kormat .....444  
Koss .....510  
Kraeuter .....454  
Krylon .....459  
Kwik-Heat .....441

**L**

**Lab-Tronics**...222, 229  
Lectrohm .....443  
Lecce-Neville Co. 501  
Leecraft .....82, 336  
Leekrostat .....526  
Leland .....306  
Letraset .....77  
Lincoln  
Citizens Band  
Equipment .505  
Headphones .510  
Special-Purpose  
Receivers .500  
Linemaster .....283  
Littelfuse .....340, 341  
Ludlow .....325  
Lufkin .....457  
Luxo .....327

**M**

**Machlett Labs**  
.....84, 86-90  
Magnecraft Elec-  
tric .....299-302  
Mallory  
Batteries .....496  
Capacitors  
.....151, 162-165  
Computer Cir-  
cuitry .....76  
Controls .140-142  
Plugs & Jacks.223  
Power Supplies.384  
Rheostats .....140  
Switches .270, 271  
Vibrapacks .....384  
Vibrators .....384  
Marantz .....522  
Mark Mobile (see  
B&K/Mark)  
Mark-Time .....283  
Marsan .....498  
Masco (See Fanon)  
McIntosh .....522  
Mel-Rain Corp. .342  
Micro Measure-  
ments .....391  
Microwave  
Associates  
Diodes .....75  
Semiconductors  
.....6-23  
Wave Guides .....80  
Millen, James  
Accessories .255  
Chokes .....344  
Coil Forms .....255  
Dials .....255  
Knobs .....250  
Sockets .....234  
Test Equipment.392  
Tube Caps. ....239  
Clamps .....240  
Miller, J. W.  
Chokes .....345-347  
Coils .....347, 348  
Inductors .....346  
Transformers .345  
Miller, K. ....451  
Millers Falls  
.....447, 452, 458

Milwaukee Elec-  
tronics .....372, 381  
Minnesota Mining  
(see "Scotch")  
Miratel, Inc. ....498  
Misco .....513  
Mitchell .....328  
Modular Elec-  
tronics .....243  
Monitoradio .....500  
Moody .....458  
Morris .....344  
Motorola  
Computer Cir-  
cuitry .....41  
Semiconductors  
.....6-23, 34-40  
Handbooks .40  
Test Equipment.391  
Mueller .....219  
Mullard Products  
Photocells .....79  
Tubes  
85-87, 90, 100, 108  
Multi-Elmac (see  
Multi-Products)  
Multi-Products ...503

**N**

**National Co.**  
Accessories 254, 255  
Chokes .....344  
Dials .....254  
Insulators .....256  
Knobs .....253  
Tube Caps. ....239  
National Electronics  
.....84-90, 101  
National Union  
.....84, 86, 89, 90, 100  
Nortronics .....519  
Nu-Tone .....473  
Nu-Way .....218

**O**

**Oak**.....268, 269  
Ohmite  
Chokes .....344  
Controls .....136-138  
Resistance  
Boxes .....393  
Resistors .116-118  
Rheostats .136, 137  
Switches .....275  
Oryx .....441

**P**

**Pacific Semiconductors**  
.....6-23, 58-60  
Military-Type.59, 60  
Rectifiers &  
Diodes .....58-60  
Packard Bell .....498  
Paco (see Precision  
Apparatus)  
Park .....461  
Parker .....426  
Panduit .....326  
Penta Lab  
.....84-86, 89, 91, 100  
Perkins Elec-  
tronics .....381  
Perma-Power  
Door Opener .508  
Radio Control Sys-  
tems .....508, 509

Philco  
Diodes .....57  
Semiconductors  
.....6-23, 54-57  
Phototac (see Micro  
Measurements)  
Pickering .....525  
Pioneer Electric  
Photocells .....79  
Tachometers .385  
Plastic Associates.463  
Plastic Capacitors,  
Inc.  
Capacitors .177  
Power Supplies.382  
Plug-In Instruments  
PC Blanks .....247  
Power Supplies.381  
Polaris Mfg. ....79  
Polaroid .....520  
Poly-Com .....503  
Pomona .....231, 232  
Potter & Brumfield  
.....285-292  
Precise Development  
Power Supplies.384  
Precision Apparatus  
.....384, 403, 414  
Presto (see Bogen)  
Pyramid Instrument  
(see Amprobe)

**Q**

**Quam**.....491, 513  
Quietrole .....459

**R**

**Radiart**  
(see Cornell-  
Dubilier)  
Radio Condenser  
Co. ....184  
Raypar .....234  
Raytheon  
Circuit Devices .77  
Hardware  
.....225, 248, 251  
Knobs .....251  
Rectifiers &  
Diodes .61-63, 102  
Semiconductors  
.....6-23, 61-63  
Test Jacks .....250  
Tubes .....84-90, 102  
Voltage  
Regulators .377  
RCA  
Books .....52  
Citizens Band  
Equip. ....502  
Computer Cir-  
cuitry .....52, 81  
Educational  
Devices .....411  
Lasers .....81  
Nuvisors  
.....93, 103-105, 107  
Photoconductive  
Cells .79, 81, 94  
Rectifiers &  
Diodes .....51-53  
Semiconductors  
.....6-23, 49-53, 81  
Military .....49  
Test Equip. 410-412  
Tubes  
81, 84-95, 103-108  
Recorda .....283  
Regency .....336

Rider, J. F.,  
Publisher .....493  
RMS .....472  
Robert Shaw (see  
Acro)  
Robins  
Record Care  
Accessories .526  
Tape Recording  
Accessories .521  
Rotron...77, 436, 437  
Rustrak .....394

**S**

**Sadelco**.....415  
Sams, H. W.,  
Publications .493  
Sarkes-Tarzan  
.....6-23, 74, 75  
Schauer Mfg. ....385  
"Scotch"  
Electrical Tape.330  
Recording Tape &  
Accessories .520  
Scott, H. H.  
Hi-Fi Equip. ...523  
Sound Meter .387  
Seco .....82, 390  
Self-Organizing  
Systems, Inc. .402  
Sencore .....415, 497  
Shallcross .....274  
Sharpe .....510  
Shopmate .....440  
Shure Bros.  
Hi-Fi Components  
.....525  
Microphones  
.....486, 487  
Sigma .....293, 294  
Simpson  
Panel Meters  
..Cov. 2, 416-419  
Test Equip. Cov. 2,  
386, 393, 396, 397  
Stittler .....311, 336  
Skil....445, 447, 449  
Smith, H. H.  
Bearing  
Assemblies .253  
Spacers & Posts.249  
Terminal Strips.218  
Test Leads.230, 311  
Sola .....378-380  
Solar Systems .....79  
Solitron Devices,  
Inc. ....390  
Sonar .....503  
Sonotone  
Batteries .....497  
Microphones .483  
Soundolier .....489  
Spaulding .....501  
Speedway (see Thor-  
Speedway)  
Sprague  
Capacitors  
.....146-148, 152-161  
Interference  
Filters .....188  
Resistors .....121  
Test Equip-  
ment .....392  
Stabiline (see  
Superior Electric)  
Stanco (Chicago  
Transformer)  
Chokes.350-352, 354  
Transformers  
.....350-357  
Standard Electric  
.....373, 380  
Stevens-Walden .453

Stranco Products .325  
Struthers-Dunn  
.....302, 303  
Superior Electric  
Autotransformers  
.....374, 375  
Binding Posts  
.....227, 248  
Connectors ....227  
Motors .....310  
Plugs .....227  
Voltage  
Regulators .376  
Swing-O-Lite ....327  
Switchcraft  
Connectors  
.....209, 222, 487  
Controls .511, 525  
Microphone  
Mixers .....487  
Patch Cords .232  
Plugs & Jacks  
.....220-222, 232  
Switches  
.....272, 273, 525  
Sylvania  
Circuit Breakers  
.....341  
Computer  
Circuitry .....67  
Diodes .....67, 69  
Lamps .....83, 337  
Semiconductors  
.....6-23, 68, 69  
Tubes .....84-91, 99

**T**

**Talk-A-Phone** .469-472  
Tandberg .....516  
Technical Products,  
Inc. ....324  
Techniques, Inc.  
.....186  
Telco (See G-C)  
Telechron (See G.E.)  
Telex .....510, 512  
Teradyne .....76  
Test Devices, Inc. 402  
Texas Instruments  
Capacitors .....149  
Computer  
Circuitry .....28  
Photo Devices .33  
Resistors .....120  
Semiconductors  
.....6-33  
Thermosen .....84, 87  
Thomas & Betts  
Connectors .....210  
Terminals .....245  
Thor-Speedway  
.....445-447, 449  
Thorens .....524  
Timely .....324  
Tork .....282  
Triad .....369-372  
Triplett  
Panel Meters  
.....420-422  
Test Eqpt.  
.....400, 401, 422  
Tru-Cut .....458  
Tungsol. .84, 85, 87-90  
Turner Brass ....444

**U**

**Ulster**.....458  
Ungar Electric  
Tools .....442-444

# INDEX

continued from  
previous page

Union Steel Chest 461  
United Transformer  
Corp. (See UTC)  
University  
Megaphones ..481

University (cont'd)  
P. A. Speakers  
.....489, 490  
Usecoc  
...241-243, 247, 250  
Utah .....492, 513  
UTC .....362-368  
Utica ...447, 451, 458

## V

Vaco .....244  
Vap-Air .....390

Vector .....238, 246  
Vectrol .....77  
Vega .....482  
Victoreen  
84, 85, 88, 89, 101  
Vidaire .....525  
Viking .....514  
Vitramon, Inc.  
.....174, 175  
Vlchek .....450

## W

Walco .....526

Waldom .....252  
Wakefield Eng. ....109  
Wall .....440  
Walsco (See G-C)  
Ward .....507  
Waterman Products  
.....84  
Weathers .....526  
Weller 438, 440, 449  
Wells Electronics 345  
Wen .....439, 445  
Weston  
Panel Meters  
.....424, 425  
Test Equipment

.....398, 399  
Wheeler .....469  
Willard .....497  
Wilton .....452  
Wood Electric  
Corp .....343  
Worner .....499  
Wuerth .....118

## X

X-Acto .....458  
Xcelite .....456, 457

# MILITARY PRODUCT INDEX

SPEC.	PAGE
<b>CAPACITORS</b>	
MIL—	
C-5B	169
CMO (5, 6)	169
C-25A	153
CP-53	153
CP-70	153
C-3965B	148
CL-25	148
C-11015C	175
CKO (5, 6)	175
C-11272B	174
CY (12C, 13C, 16C, 17C, 21C, 22C, 31C, 32C)	174
C-26655A	147, 149, 150
CS-13	147, 149, 150

## CONNECTORS

MIL—	
M Series	200
MX Series	200, 202
PL Series	200, 201
SO Series	201
UG Series	200-202
8384B	204
C-5015D	192-195, 198
MS3100 (1, 2, 6) A	192-194
MS3100 (1, 2, 6) R	198
MS3106B	192-194
MS3108 (A, B)	194, 195
C-5015E	196, 197
C-19572	199
C-26500 (USAF)	199
MS24264 thru 24266	199
M-14F	211
M-18794	211
SDG	211
M-19833	206
STD-242	207
MS16109	207

## CONTROLS

MIL—	
R-19A	126
RA-20	126
RA-30	126
R-94B	126, 136, 138, 139
RV-1	139
RV-2	126
RV-4	126, 138, 139
RV-5	126
RV-6	126, 136, 139
R-94B2	139
RV-6	139
R-27208A	131
RT10	131
RT11	131

SPEC.	PAGE
<b>FUSES AND CIRCUIT BREAKERS</b>	
MIL—	
F-15160D	340
FO1A250V	340
FO2A250V	340
FO2B250V	340
FO3A250V	340
F-19207A	340, 341
FHL-17G	340
FHL-18G (1 thru 6)	340
FHN19W	341
FHN20G	341
FHN26G	341
FHN26W	341
E-5272A	343
MS25244	343
MS25337	343
MS25361	343

## KNOBS

MIL—	
K-3926	251, 253
MS91528B	251
MS91531	253

## PILOT LIGHTS

MIL—	
L-3661/5	333
MS25236	333
MS25257	333
L-3661/14	334
LC14 (BD, CD, GD, RD, YD)	334
L-6723B	333
MS25446	333
L-7806	331
MS25010	331
L-7961B	332
MS25331	332

## RESISTORS

MIL—	
R-11D	111, 116
RC07	111, 116
RC20	111, 116
RC32	111, 116
RC42	111, 116
R-26C	115, 118, 119
RW56G	118
RW67G	115, 119
RW68G	115, 119
RW69G	115, 119
R-10509D	112, 113, 120
RN20X	113
RN55B/D	112
RN55B/D/G	120
RN60B/D	112
RN60B/D/G	120
RN65B/D	112, 120
RN65B/D/G	120
RN70B/D	112, 113
RN60C	112
RN65C	112

SPEC.	PAGE
<b>RESISTORS (Cont'd)</b>	
RN70C	112
RN60C/E	120
R-18546C	119
RE65	119
RE70	119
RE75	119

## SEMICONDUCTORS

Units that meet MIL-19500 or MIL-E-1 are on pp. 22 and 23. Also see manufacturers listings on pp. 24-76 for complete pertinent specifications.

## SWITCHES

MIL—	
S-3950A	260
MS25068	260
MS25125	260
MS25127	260
MS35058	260
MS35059	260
S-6807	260
MS25002	260
S-8834	260
MS25306	260
MS25307	260
MS25308	260
JAN-S-23	260
ST42 (A thru H)	260
ST52 (K, M, N, P, R, S, T)	260

## TRANSFORMERS

MIL—	
F-18327B	364, 365
T-27B	350-352, 362-367
TF1RX	367
TF4RX	351, 352, 362, 363, 365-367
TF4SX	352
TF5RX	350, 364
TF5SX	350
TP6RX	366
T-21038B	366

## TUBES

See Military Listing on Page 91

## WIRE AND CABLE

MIL—	
104-C	324
C-17C	313
I-3158	324
I-3190A	325
I-6310	323
I-22129C	324
W-76B	312, 318, 319
W-16878D	312, 319



# ALLIED ELECTRONICS

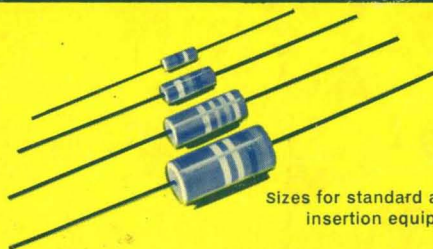
Components from  
Tomorrow's Products Available For Shipment Today



Power wirewound resistors—  
no derating with new coating

## IRC RESISTEG® COATED RESISTORS

- IRC's exclusive new coating is cured at a low temperature, maintain their full rating.
- Need no derating at high resistance values.
- Windings have uniform spacing—no hot-spots.



Sizes for standard automation  
insertion equipment

## IRC FIXED COMPOSITION RESISTORS

- Meet or exceed MIL-R-11 specifications.
- Superior high-frequency characteristics, cooler operation, greater moisture-protection.
- No wax coating  $\pm 5\%$  and  $\pm 10\%$  tolerance.

SEE PAGE 110 FOR  
A COMPLETE INDEX OF  
IRC QUALITY RESISTORS

Use the Services of  
the **ALLIED** Facility  
Nearest You:

### CHICAGO

**HEADQUARTERS**  
Phone: TAYlor 9-9100  
TWX: 312-431-1721

### CLEVELAND

Phone: 883-5252

### DALLAS

Phone: EMerson 3-6221

### DAYTON

Phone: 278-5866

### DENVER

Phone: 399-2250

### DETROIT

Phone: 836-0007

### LOS ANGELES AREA

Allied Radio of California  
2085 E. Foothill Blvd.  
Pasadena, California  
Phone: 795-5901

### MILWAUKEE

Phone: COncord 4-3970

### MINNEAPOLIS • ST. PAUL

Phone: TAYlor 7-5401

### ROCHESTER, N.Y.

Phone: CHapel 4-8750

### SAN FRANCISCO AREA

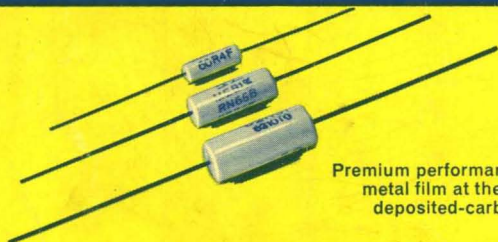
Palo Alto, California  
Phone: 312-0240

### SEATTLE

Phone: MUtual 2-8026

### WASHINGTON, D.C. and

**BALTIMORE AREAS**  
Phone: TUckerman 2-6560



Premium performance of evaporated  
metal film at the low prices of  
deposited-carbon resistors

## IRC METAL FILM PRECISION RESISTORS

- T-O evaporated metal film resistors available molded or with exclusive moisture-resistant M-Coat—now at 100°C PPM temperature coefficient.
- Meet or exceed MIL-R-10509 requirements except temperature coefficient for C and E characteristics.
- Design tolerance 5 times tighter than deposited carbon (MIL-R-10509 Characteristic B) resistors, and 20 times tighter than carbon composition (MIL-R-11) resistors.

# ALLIED ELECTRONICS

subsidiary of **ALLIED RADIO**