

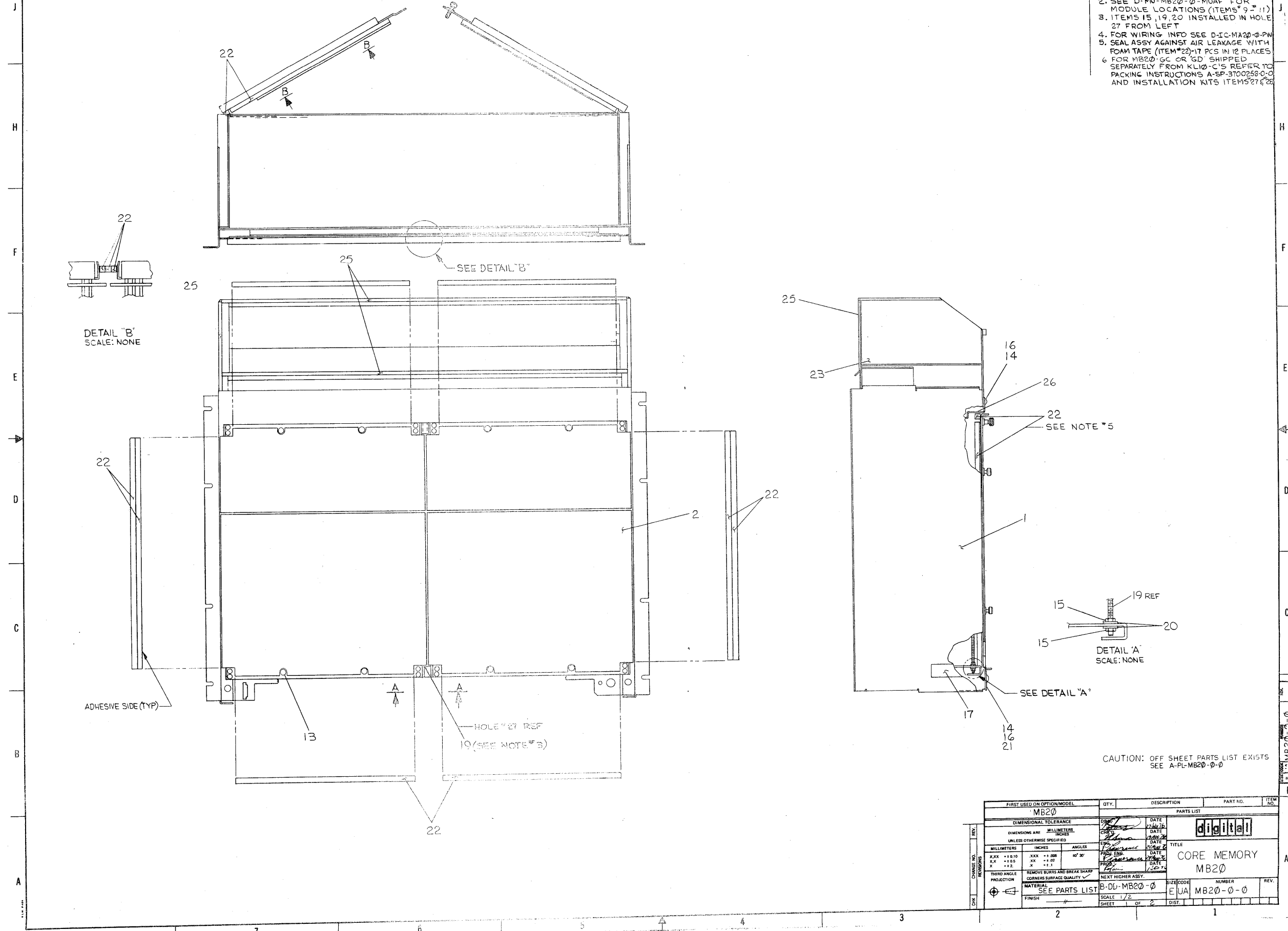
D-BS-MB20-0-SINU	32K SENSE/INHIBIT (G116)
D-BS-MB20-0-SINV	32K SENSE/INHIBIT (G116)
D-BS-MB20-0-SINW	32K SENSE/INHIBIT (G116)
D-BS-MB20-0-SINX	32K SENSE/INHIBIT (G116)
D-BS-MB20-0-SINY	32K SENSE/INHIBIT (G116)
D-BS-MB20-0-STKA	32K STACK MODULE (H224B)
D-BS-MB20-0-STKB	32K STACK MODULE (H224B)
D-BS-MB20-0-STKC	32K STACK MODULE (H224B)
D-BS-MB20-0-STKD	32K STACK MODULE (H224B)
D-BS-MB20-0-STKE	32K STACK MODULE (H224B)
D-BS-MB20-0-STKF	32K STACK MODULE (H224B)
D-BS-MB20-0-STKH	32K STACK MODULE (H224B)
D-CS-M9005-0-TRN1	CIRCUIT SCHEMATIC M9005
D-CS-G116-0-1	32K SENSE/INHIBIT (SHEET 1)
D-CS-G236-0-1	32K X-Y DRIVE (SHEET 1)
D-CS-H224-0-1	STACK BOARD (SHEET 1)
D-UA-G116-0-0	32K SENSE/INHIBIT
D-UA-G236-0-0	32K X-Y DRIVE
D-UA-H224-0-0	CORE MEMORY STACK ASSY
D-UA-M9005-0-0	TERMINATOR
D-UA-M9006-0-0	SBUS CABLE MODULE
D-UA-M8568-0-0	CONTROL BOARD (M8568)
D-UA-M8565-0-0	TIMING BOARD (M8565)
D-IC-MA20-0-PW	AC-DC POWER WIRING
E-AD-7012773-0-0	WIRED ASSY (MB20)
K-WL-MB20-0-WL	WIRE LIST (MB20)
A-WT-7012773-0	AWT REVISION STATUS

TITLE	SHEET	SIZE	CODE	NUMBER	REV
CORE MEMORY (MB20)	2 OF 2	B	TC	MB20-0-1	

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NOTES:

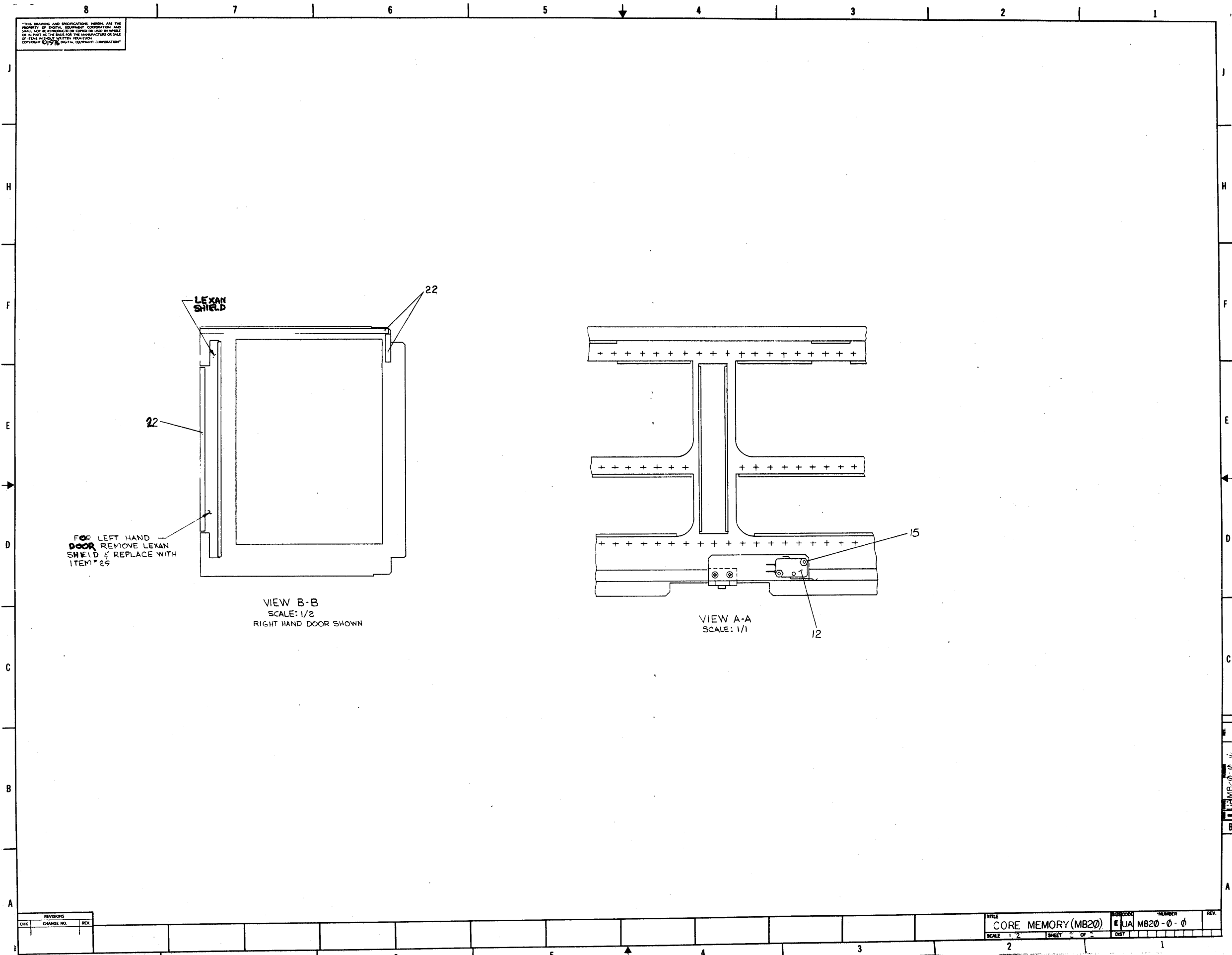
- ITEMS 4, 5, 7, 8, AND ITEM 24 NOT SHOWN ASSEMBLED AS PART OF D-UA-KL10-0-0 OR D-UA-KL10-C-0
- SEE D-MU-MB20-0-MUAF FOR MODULE LOCATIONS (ITEMS 9, 11)
- ITEMS 15, 19, 20 INSTALLED IN HOLE 27 FROM LEFT
- FOR WIRING INFO SEE D-IC-MA20-0-PW
- SEAL ASSY AGAINST AIR LEAKAGE WITH FOAM TAPE (ITEM 22)-17 PCS IN 12 PLACES
- FOR MB20-GC OR 'GD' SHIPPED SEPARATELY FROM KL10-C'S REFER TO PACKING INSTRUCTIONS A-SP-3700258-0-0 AND INSTALLATION KITS ITEMS 27 & 28



CAUTION: OFF SHEET PARTS LIST EXISTS SEE A-PL-MB20-0-0

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
MB20					
DIMENSIONAL TOLERANCE		DATE	DATE	PARTS LIST	
DIMENSIONS ARE MILLIMETERS		DATE	DATE	digital	
UNLESS OTHERWISE SPECIFIED		DATE	DATE	CORE MEMORY	
MILLIMETERS	INCHES	ANGLES	DATE	MB20	
XXX +0.10	XXX +1.00	90° 30'	DATE	REV.	
XX +0.05	XX +1.01		DATE	EUA MB20-0-0	
X +0.2	X +1.1		DATE	SCALE 1/2	
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	NEXT HIGHER ASSY.	DATE	SHEET 1 OF 2	
MATERIAL	SEE PARTS LIST		DATE	DIST.	
FINISH			DATE		

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FOR LEFT HAND DOOR REMOVE LEXAN SHIELD & REPLACE WITH ITEM #29

LEXAN SHIELD

VIEW B-B
SCALE: 1/2
RIGHT HAND DOOR SHOWN

VIEW A-A
SCALE: 1/1

REVISIONS	
CHK	CHANGE NO.

TITLE	CORE MEMORY (MB20)	SIZE CODE	EUA	NUMBER	MB20-0-0	REV.	
SCALE	1/2	SHEET	2	OF	2	DIST	

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST					QUANTITY / VARIATION																	
MADE BY V. SOUZA		CHECKED <i>[Signature]</i>		SECTION	MB20-GA	MB20-GB	MB20-GC	MB20-GD	MB20-E													
DATE 28 JULY 1976		DATE 10/1/76		ISSUED SECT.																		
ENG <i>[Signature]</i>		PROD																				
DATE 24 AUG 76		DATE																				
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION																				
1	E-IA-7009259-0-0	COOLING ASSY																				
2	E-AD-7012773-0-0	WIRED ASSY MEMORY (MB20)																				
3	A-PI-MB20-M-0	CORE MEMORY ASSY (32K, 19 BIT)																				
4	* MA20-PA-0	POWER SUPPLY & HARNESS KIT 60HZ																				
5	* MA20-PB-0	POWER SUPPLY & HARNESS KIT 50HZ																				
6	D-IA-BC20C-3C-0	CONN ASSY SBUS																				
7	* MA20-PC-0	POWER SUPPLY & HARNESS KIT 60HZ																				
8	* MA20-PD-0	POWER SUPPLY & HARNESS KIT 50HZ																				
9	M9005	MA20 TERMINATOR																				
10	D-UA-M8565-0-0	TIMING BOARD																				
11	D-UA-M8560-0-0	MB20 CONTROL BOARD																				
12	1210755	SWITCH MICRO SPDT																				
13	9006075-1	SCR., PHL PAN HD #10-32 X .75																				
14	9006072-1	SCR., PHL PAN HD #10-32 X .44																				
15	9006557	NUT, KEPS #4-40																				
16	9006635	WASHER, LKG INT. TOOTH #10																				
17	9009255	LABEL ADHESIVE BACKED																				
18	D-MU-MB20-0-MUAF	MODULE UTILIZATION																				
19	B-MD-7413992-0-0	ROD SUPPORT																				
20	9006655	WASHER, FLAT																				
21	D-FA-7013231-0-0	SWITCH, VANE ASSY																				
22	9008274	TAPE FOAM .38 X .38																				
TITLE		ASSY NO.		SIZE	CODE	NUMBER														REV	ECO NO	
CORE MEMORY (MB20)		E-UA-MB20-0-0		A	PL	MB20-0-0																
		SHEET 1 OF 2		DIST.																		

DEC FORM DEC 16 (325) 1031 N870
DRA 110

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST					QUANTITY / VARIATION																		
MADE BY V. SOUZA		CHECKED <i>[Signature]</i>		SECTION	MB20-GA	MB20-GB	MB20-GC	MB20-GD	MB20-E														
DATE 28 JULY 1976		DATE 10/1/76		ISSUED SECT.																			
ENG <i>[Signature]</i>		PROD																					
DATE 24 AUG 76		DATE																					
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION																					
23	C-PS-1213011-0-0	BLOWER ASSY																					
24	D-IA-7012390-0-0	DUCT ASSY																					
25	9008273	FOAM .12 X .25																					
26	D-IA-7012343-0-0	SCREEN DIFFUSER ASSY																					
27	A-PL-7013249-0-0	MA20/MB20 INSTALLATION KIT (60HZ)																					
28	A-PL-7013249-1-0	MA20/MB20 INSTALLATION KIT (50HZ)																					
29	C-IA-7417518-0-0	COVER CABLE																					
		* FOR CONTENTS OF MA20-PA, PB, PC & PD SEE: C-PL-MA20-0-0																					
TITLE		ASSY NO.		SIZE	CODE	NUMBER														REV	ECO NO		
CORE MEMORY (MB20)		E-UA-MB20-0-0		A	PL	MB20-0-0																	
		SHEET 2 OF 2		DIST.																			

DEC FORM DEC 16 (325) 1031 N870
DRA 110

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UNIT VARIATIONS

VAR	TITLE
MB20-GA	CORE MEMORY 64K 60HZ, 115V
MB20-GB	CORE MEMORY 64K 50HZ, 230V
MB20-GC	CORE MEMORY 64K 60HZ, 115V
MB20-GD	CORE MEMORY 64K 50HZ, 230V
MB20-E	CORE MEMORY 64K EXPANSION

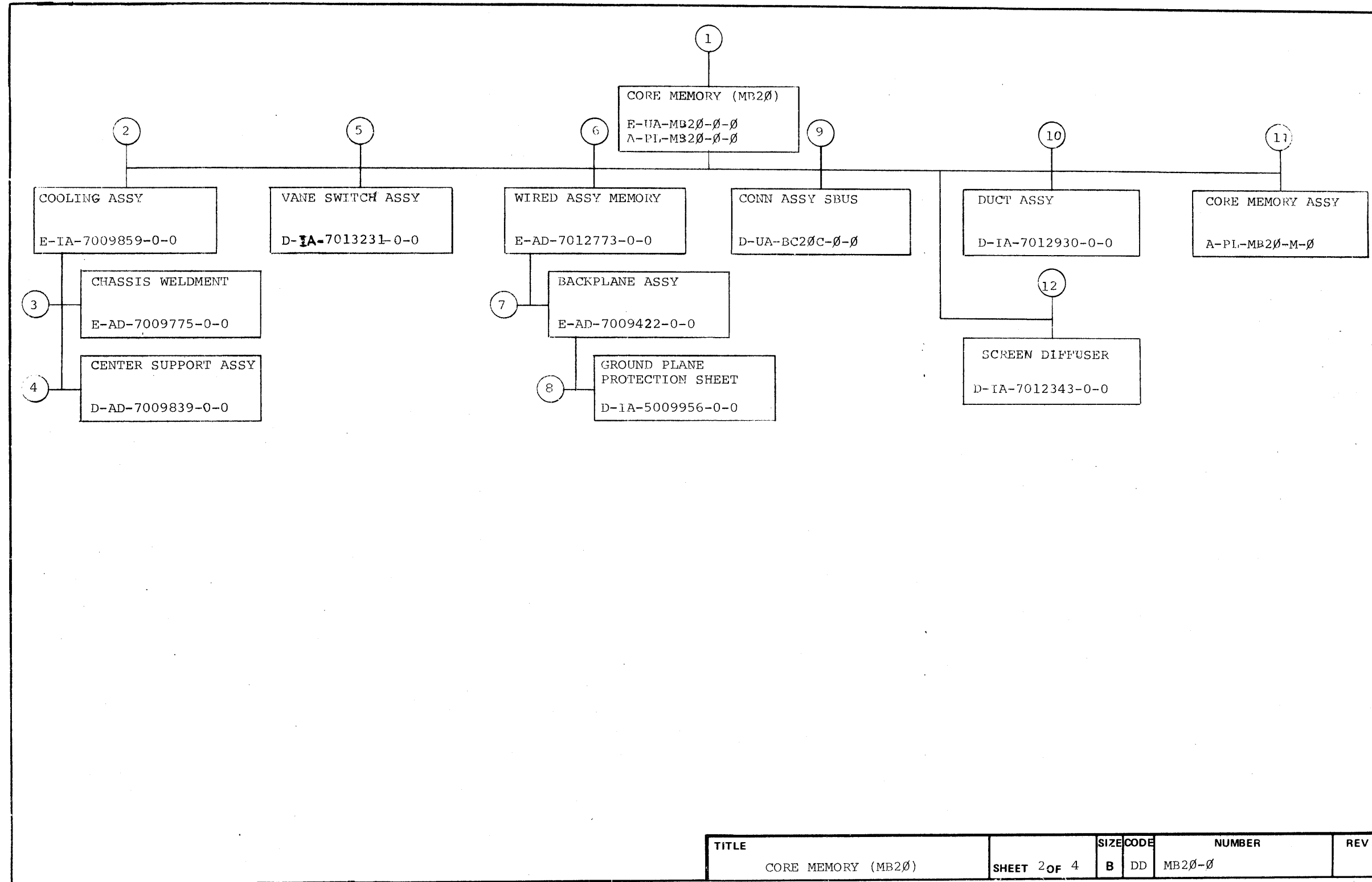
REVISIONS	CHK	CHANGE NO.	REV.

EN-01062-1A-16-14972-13251

USED ON OPTION/MODEL	DRN	DATE	TITLE
MB20	<i>[Signature]</i>	10 AUG 76	CORE MEMORY (MB20)
	CHK'D.	DATE	
	<i>[Signature]</i>	8/13/76	
	PROJ. ENG.	DATE	SIZE CODE NUMBER REV
	<i>[Signature]</i>	24 AUG 76	B DD MB20-0
	PROD.	DATE	DIST.
	<i>[Signature]</i>	10/1/76	
SHEET 1 OF 4			



DRB 106A



TITLE	SHEET	SIZE	CODE	NUMBER	REV
CORE MEMORY (MB2Ø)	2 OF 4	B	DD	MB2Ø-Ø	

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE				
1	MP00179	FIELD MAINT. PRINT SET (MP)	-		D-BS-MB20-0-STKH	32K STACK MODULE (H224B)	E				
	B-TC-MB20-0-1	FIELD MAINT. PRINT SET (TC)	-		D-CS-M9005-0-TRN1	CIRCUIT SCHEMATIC (M9005)	E				
	E-UA-MB20-0-0	CORE MEMORY MB20	E/M		D-UA-M9005-0-0	TERMINATOR	E/M				
	A-PL-MB20-0-0	CORE MEMORY (P.L.)	E/M		D-IC-MA20-0-PW	AC-DC POWER WIRING	E				
	D-MU-MB20-0-MUAF	MODULE UTILIZATION	E		A-SP-MB20-0-TP	CHECKOUT PROCEDURE (MB20)	E				
	D-UA-M9005-0-0	TERMINATOR	E/M		A-SP-MB20-0-TS	TEST SPECIFICATION (MB20)	E				
	B-DD-M9005-0	DRAWING DIRECTORY	-		A-PL-7013249-0-0	MA20/MB20 INSTALLATION KIT	M				
	B-MD-7413992-0-0	ROD SUPPORT	M		A-SP-3700258-0-0	PACKING INSTRUCTIONS	M				
	D-FD-MN20-0-FD	FLOW DIAGRAM	E		C-IA-7417518-0-0	COVER CABLE	M				
	D-BS-MB20-0-INS	INSTRUCTION/SET-UP SHEET	E								
	D-TD-MB20-0-TD	TIMING DIAGRAM	E								
	D-BS-MB20-0-IBD	INTERCONNECTION BLOCK DIAGRAM	E								
	D-BS-MB20-0-DRVA	32K X-Y DRIVE (G236)	E								
	D-BS-MB20-0-DRVB	32K X-Y DRIVE (G236)	E	2	E-IA-7009859-0-0	COOLING ASSY	M				
	D-BS-MB20-0-DRVC	32K X-Y DRIVE (G236)	E		D-IA-7411599-0-0	DOOR, RIGHT	M				
	D-BS-MB20-0-DRVD	32K X-Y DRIVE (G236)	E		D-IA-7411600-0-0	DOOR, LEFT	M				
	D-BS-MB20-0-MAC1	CONTROL BOARD (M8568)	E		B-IA-7411807-0-0	BRACKET, MICROSWITCH	M				
	D-BS-MB20-0-MAC2	CONTROL BOARD (M8568)	E		B-MD-7411498-0-0	PLATE COVER	M				
	D-BS-MB20-0-MAC3	CONTROL BOARD (M8568)	E		C-MD-7412366-0-0	COVER CABLE	M				
	D-BS-MB20-0-MAC4	CONTROL BOARD (M8568)	E								
	D-BS-MB20-0-MAC5	CONTROL BOARD (M8568)	E								
	D-BS-MB20-0-MAC6	CONTROL BOARD (M8568)	E								
	D-BS-MB20-0-MAC7	CONTROL BOARD (M8568)	E								
	D-BS-MB20-0-MAT1	TIMING BOARD (M8565)	E								
	D-BS-MB20-0-MAT2	TIMING BOARD (M8565)	E								
	D-BS-MB20-0-MAT3	TIMING BOARD (M8565)	E								
	D-BS-MB20-0-SINA	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINB	32K SENSE/INHIBIT (G116)	E	3	E-AD-7009775-0-0	CHASSIS WELDMENT	M				
	D-BS-MB20-0-SINC	32K SENSE/INHIBIT (G116)	E		E-IA-7411722-0-0	CARD GUIDE CHASSIS	M				
	D-BS-MB20-0-SIND	32K SENSE/INHIBIT (G116)	E		E-IA-7411721-0-0	CHASSIS SUPPORT	M				
	D-BS-MB20-0-SINE	32K SENSE/INHIBIT (G116)	E		B-MD-7411830-0-0	STIFFENER, CHASSIS	M				
	D-BS-MB20-0-SINF	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINH	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINJ	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINK	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINL	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINM	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINN	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINP	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINR	32K SENSE/INHIBIT (G116)	E	4	D-IA-7009839-0-0	CENTER SUPPORT ASSY	M				
	D-BS-MB20-0-SINS	32K SENSE/INHIBIT (G116)	E		D-IA-7411806-0-0	SUPPORT CENTER	M				
	D-BS-MB20-0-SINT	32K SENSE/INHIBIT (G116)	E		B-MD-7411805-0-0	HINGE CENTER SUPPORT	M				
	D-BS-MB20-0-SINU	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINV	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINW	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINX	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-SINY	32K SENSE/INHIBIT (G116)	E								
	D-BS-MB20-0-STKA	32K STACK MODULE (H224B)	E								
	D-BS-MB20-0-STKB	32K STACK MODULE (H224B)	E								
	D-BS-MB20-0-STKC	32K STACK MODULE (H224B)	E								
	D-BS-MB20-0-STKD	32K STACK MODULE (H224B)	E								
	D-BS-MB20-0-STKE	32K STACK MODULE (H224B)	E	5	D-IA-7013231-0-0	VANE SWITCH ASSY	E/M				
	D-BS-MB20-0-STKF	32K STACK MODULE (H224B)	E		D-MD-7411372-0-0	BRACKET, VANE SWITCH	M				
TYPE: E ELECTRICAL M MECHANICAL E/M ELECTRO/MECHANICAL				digital		TITLE CORE MEMORY (MB20)		SHEET 3 OF 4	SIZE CODE B DD	NUMBER MB20-0	REV

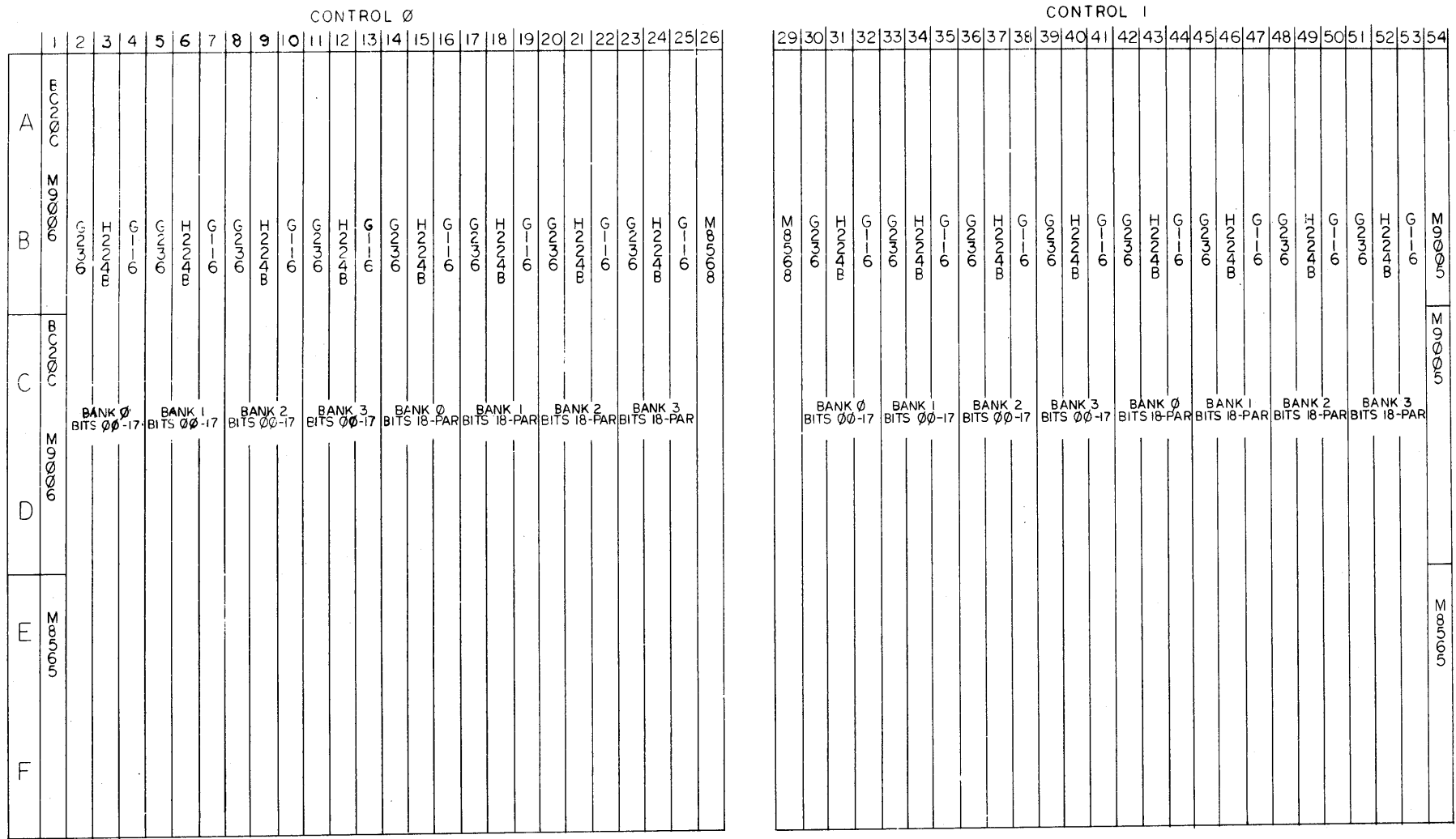
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DMU MB20-0-MUAF 2

- NOTES:
- 1 BC20C CABLES AND M9005 TERMINATORS SUPPLIED FOR BASIC SYSTEM USAGE. FOR EXPANSION USAGE SEE D-UA-KL10-C-0
 - 2 MB20-G HAS BANKS 1,2 & 3 REMOVED IN CONTROL 0 & 1
FOR OTHER MEMORY SIZES MB20-E CORE EXPANSION UNITS ARE INSTALLED AS SHOWN. (1-MB20-E EQUALS 1 BANK)
 - 3 DRAWING SHOWS THE CONFIGURATION FOR THE FIRST AND OR SECOND MB20 MOUNTED IN A KL10-C

D
C
B
A

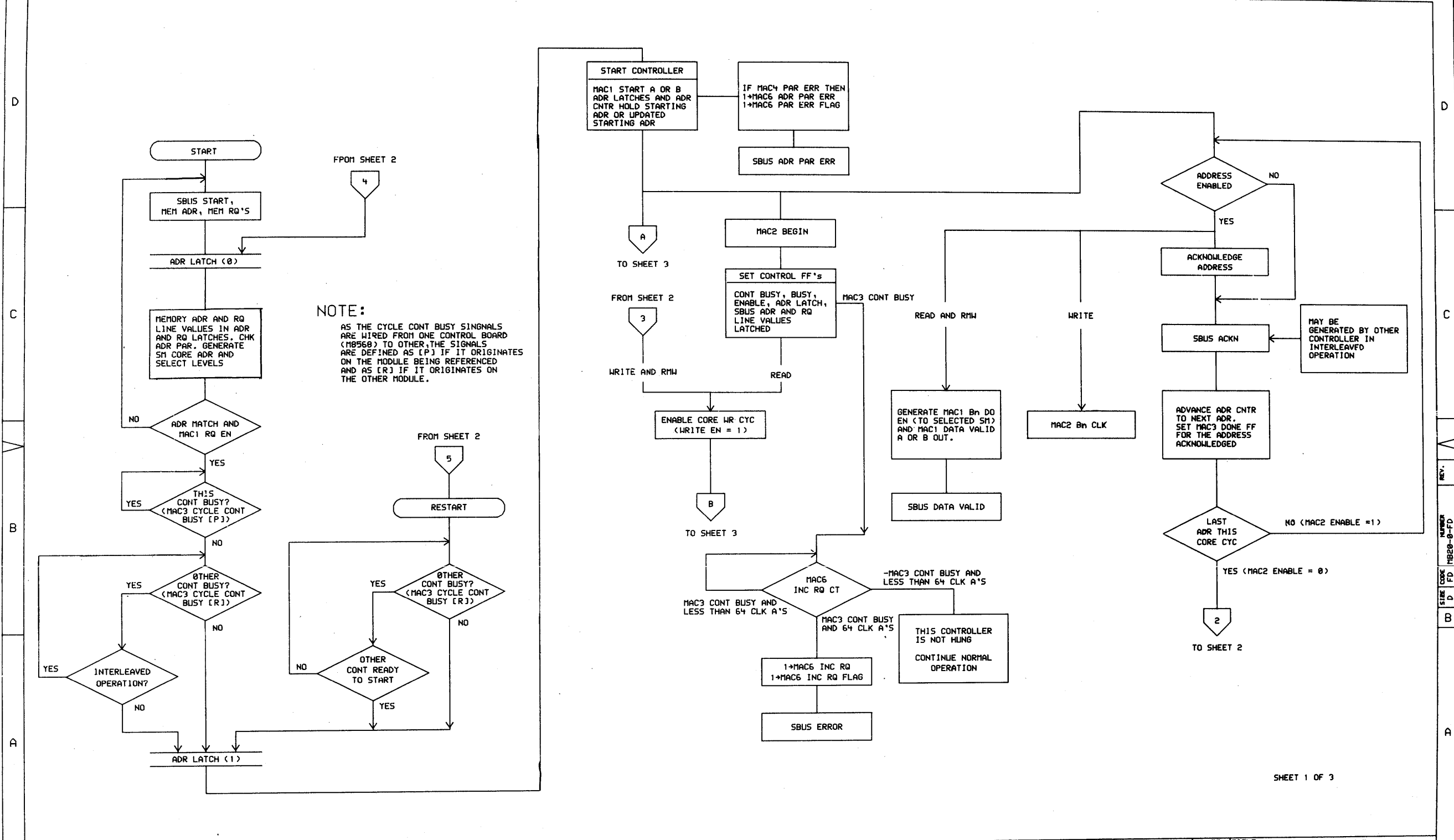


REF PIN SIDE

D
C
B
A

REV.	
CHANGE NO.	
CHK	

THIRD ANGLE PROJECTION		DESCRIPTION		DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES 90° 30'	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES			
SURFACE QUALITY IN	(CHECK ONE)	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0
QUANTITY & VARIATION	MEDIUM	±.004	±.008	±.012	±.016
	PREFERRED	±.012	±.016	±.025	±.04
REMOVE BURRS AND BREAK SHARP CORNERS	DO NOT SCALE DWG	NEXT HIGHER ASSY.			
MATERIAL	E-UA-MB20-0-0	SCALE	NONE	SIZE CODE NUMBER REV.	
FINISH		SHEET		DIST.	

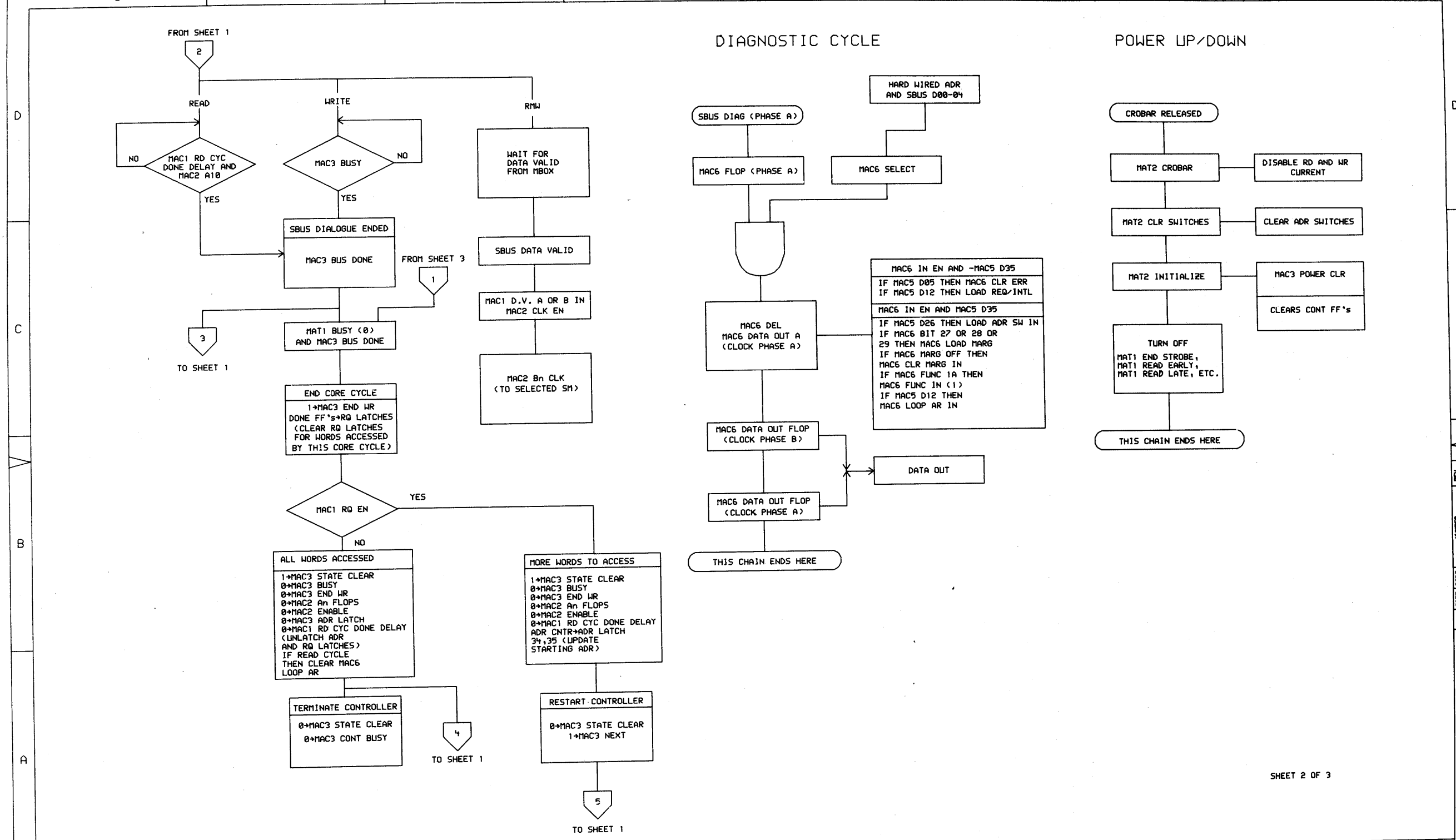


NOTE:
 AS THE CYCLE CONT BUSY SIGNALS ARE WIRED FROM ONE CONTROL BOARD (MB568) TO OTHER, THE SIGNALS ARE DEFINED AS [P] IF IT ORIGINATES ON THE MODULE BEING REFERENCED AND AS [R] IF IT ORIGINATES ON THE OTHER MODULE.

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REVISIONS		
CHG	CHANGE NO.	REV

digital	DATE	23-AUG-76	ENG	DATE	23-AUG-76	TITLE:	MB20 FLOW DIAGRAM
	CHK'D	2/2/76	DATE	23-AUG-76	BOARD LOCATION		
FDI.DRAW 4.331	129-JUL-76 09:51	NEXT HIGHER ASSEMBLY:	B-DD-MB20-0	SIZE	CODE	NUMBER	REV.
FIRST USED ON OPTION/MODEL:	MB20			D	FD	MB20-0-FD	

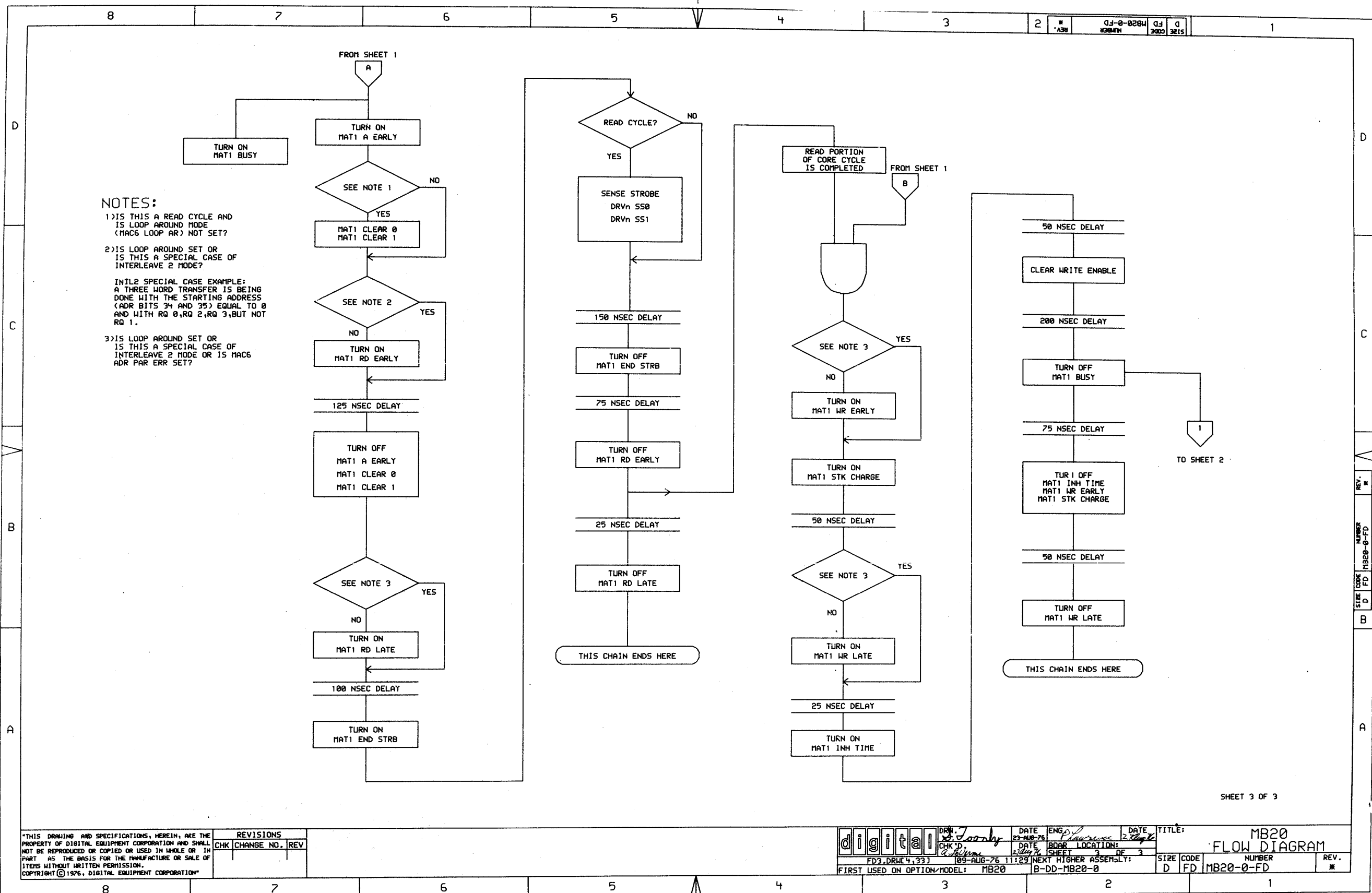


SHEET 2 OF 3

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REVISIONS	
CHK	CHANGE NO. REV.

digital	DATE	ENG	DATE	TITLE:
	27-AUG-76	P. J. ...	27-AUG-76	MB20 FLOW DIAGRAM
DATE	BOARD LOCATION:	DATE	SHEET	DE
27-AUG-76		27-AUG-76	2	3
FIRST USED ON OPTION/MODEL: M 20		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		REV.
SIZE CODE	NUMBER			
D FD	MB20-0-FD			



NOTES:

1) IS THIS A READ CYCLE AND IS LOOP AROUND MODE (MAC6 LOOP AR) NOT SET?

2) IS LOOP AROUND SET OR IS THIS A SPECIAL CASE OF INTERLEAVE 2 MODE?

INTL2 SPECIAL CASE EXAMPLE: A THREE WORD TRANSFER IS BEING DONE WITH THE STARTING ADDRESS (ADR BITS 34 AND 35) EQUAL TO 0 AND WITH RQ 0, RQ 2, RQ 3, BUT NOT RQ 1.

3) IS LOOP AROUND SET OR IS THIS A SPECIAL CASE OF INTERLEAVE 2 MODE OR IS MAC6 ADR PAR ERR SET?

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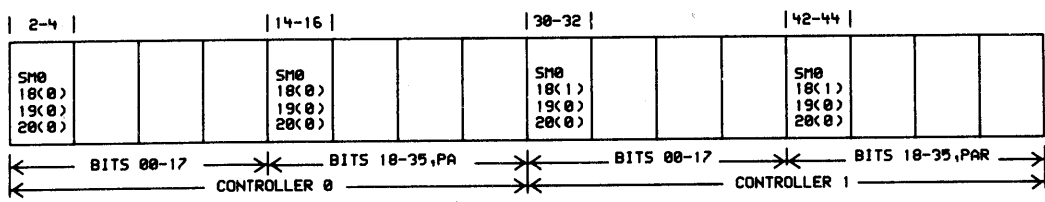
REVISIONS	
CHK	CHANGE NO. REV

	DATE	ENG	DATE	TITLE:
	22-AUG-76	J. J. J.	22-AUG-76	MB20 FLOW DIAGRAM
FD3, DRW 4, 33	DATE	DRGR	LOCATION	SIZE
09-AUG-76 11:29	22-AUG-76			D FD
FIRST USED ON OPTION/MODEL:	MB20	NEXT HIGHER ASSEMBLY:	B-DD-MB20-0	NUMBER
				MB20-0-FD
				REV.
				*

FIRST CONTROLLER

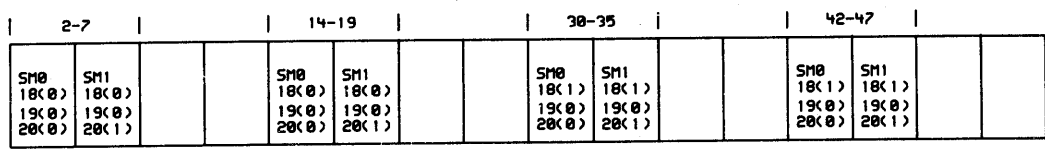
SECOND CONTROLLER

INTL 1
54K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 0 0 1



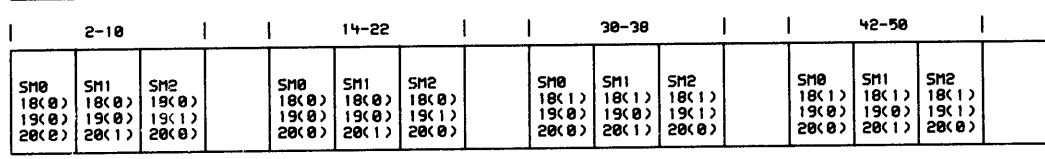
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 1 0 0 0
UPPER 1 0 0 1

INTL 1
128K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 0 1 1



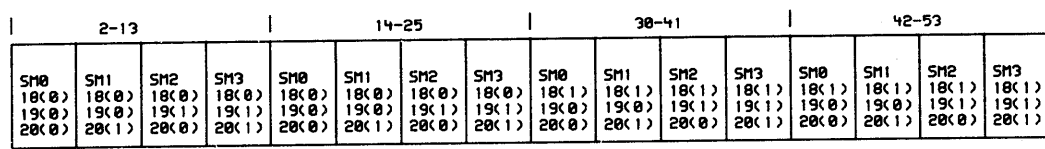
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 1 0 0 0
UPPER 1 0 1 1

INTL 1
192K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 1 0 1



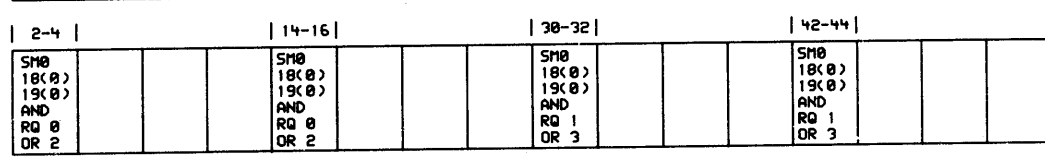
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 1 0 0 0
UPPER 1 1 0 1

INTL 1
256K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 1 1 1



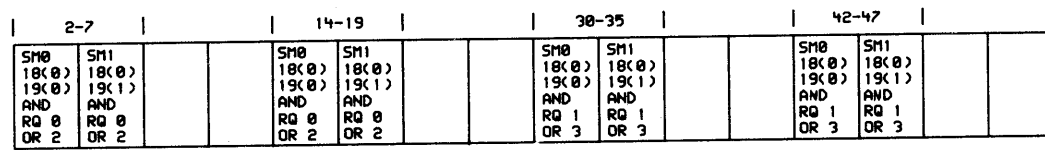
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 1 0 0 0
UPPER 1 1 1 1

INTL 2
64K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 0 1 1



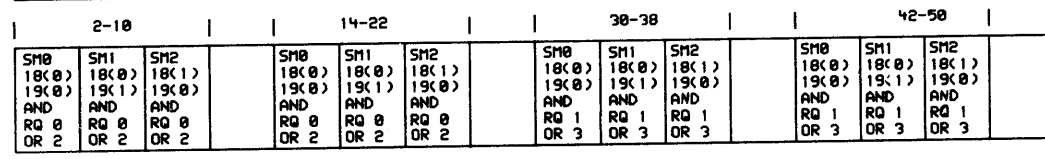
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 0 1 1

INTL 2
128K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 1 1 1



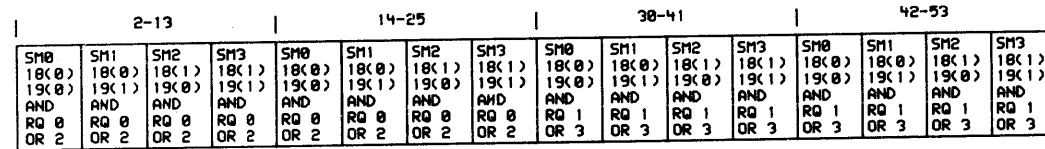
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 1 1 1

INTL 2
192K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 1 0 1 1



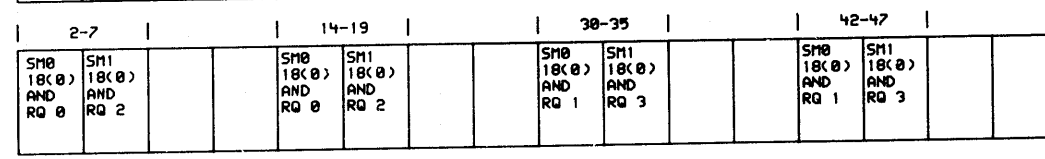
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 1 0 1 1

INTL 2
256K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 1 1 1 1



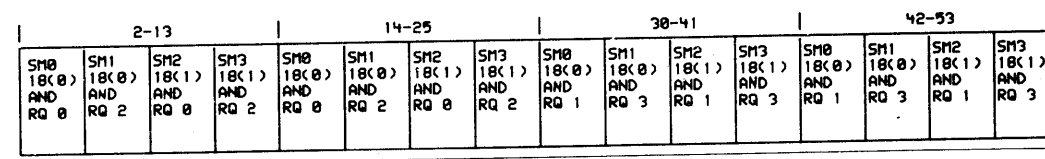
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 1 1 1 1

INTL 3
128K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 1 1 1



ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 0 1 1 1

INTL 3
256K
ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 1 1 1 1



ADR BOUNDARY DIAG BITS
18 19 20 21
LOWER 0 0 0 0
UPPER 1 1 1 1

HARDWIRED CONTROLLER SELECTION

	PIN EF2	PIN EE1
C0	GND	GND
C1	GND	—
C2	—	GND
C3	—	—

THE CHART AT LEFT SHOWS 'NORMAL' SM INSTALLATION AND ALSO THE SIGNALS NECESSARY TO SELECT A SM FOR ALL SIZE AND INTERLEAVE COMBINATIONS.

MB20 DESKEW PROCEDURE

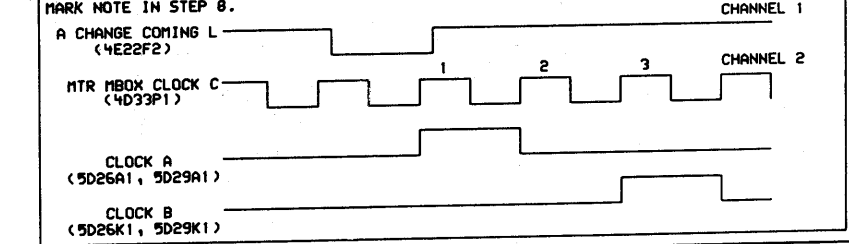
- NOTES:
- 1- USE EQUAL LENGTH PROBES WITH SHORT GROUND CLIPS.
 - 2- SELECT CLOCK RATE 0 ON KL10 (FOR ON LINE DESKEW PROCEDURE).
 - 3- THE M8565 DELAY LINES ARE ARRANGED SO THAT (A) CLOCK IS THE TOP POT AND (B) CLOCK IS THE BOTTOM POT.
 - 4- A 7000 SERIES OR EQUIVALENT SCOPE SHOULD BE USED WHEN DESKEWING THE MB20.
 - 5- THE SCOPE SWEEP RATE SHOULD BE 5ns OR LESS PER CM.

MB20 DESKEW PROCEDURE (USING A MA20-TA)

- 1- PUT ALL SWITCHES DOWN.
- 2- PUT CHANNEL A ON THE MB20-TA AT A23M1 (CON1 CLK A H), PUT CHANNEL B ON THE MEMORY AT D26A1.
- 3- ADJUST THE UPPER DELAY ON THE M8565 IN EF01 UNTIL THE RISING EDGES MATCH OR CROSS AT +1.5V.
- 4- REPEAT STEPS 1 THROUGH 3 FOR D29A1 AND THE M8565 IN EF54.
- 5- PUT CHANNEL A ON THE MA20-TA AT A23K1 (CON1 CLK B H), PUT CHANNEL B ON THE MEMORY AT D26K1.
- 6- ADJUST THE LOWER DELAY ON THE M8565 IN EF01 UNTIL THE RISING EDGES MATCH OR CROSS AT 1.5V.
- 7- REPEAT STEPS 5 THROUGH 6 FOR D29K1 AND THE M8565 IN EF54.

MB20 DESKEW PROCEDURE (ON LINE)

- 1- SET CLOCK RATE TO 'CR0', CLOCK SOURCE TO 'CS0', TYPE 'FX1' TO TURN THE CLOCK ON.
- 2- PLACE CHANNEL 1 PROBE ON PIN 4E22F2 'A CHANGE COMING L', SYNC ON CHANNEL 1.
- 3- PLACE CHANNEL 2 PROBE ON PIN 4D33P1 'MTR MBOX CLOCK C'.
- 4- ALIGN THE RISING EDGE OF THE PULSE DESIGNATED AS 1, SO THAT THE 50% POINT CROSSES THE SECOND VERTICAL DIVISION OF THE SCOPE SCREEN. NOTE THIS POSITION.
- 5- PLACE CHANNEL 2 PROBE ON PIN 5D26A1. ADJUST THE TOP DELAY ON THE M8565, SLOT 5EF01 SO THAT THE LEADING EDGE 50% POINT CROSSES THE SECOND VERTICAL DIVISION OF THE SCOPE SCREEN.
- 6- PLACE CHANNEL 2 PROBE ON PIN 5D29A1. ADJUST THE TOP DELAY ON THE M8565, SLOT 5EF54 SO THAT THE LEADING EDGE 50% POINT CROSSES THE SECOND VERTICAL DIVISION OF THE SCOPE SCREEN.
- 7- REPLACE CHANNEL 2 PROBE ON PIN 4D33P1 'MTR MBOX CLOCK C'.
- 8- ALIGN THE LEADING EDGE OF THE PULSE DESIGNATED AS 2, SO THAT THE 50% POINT CROSSES THE NEAREST VERTICAL DIVISION MARK OF THE SCOPE SCREEN. NOTE THIS POSITION.
- 9- PLACE CHANNEL 2 PROBE ON PIN 5D26K1. ADJUST THE BOTTOM DELAY ON THE M8565, SLOT 5EF01 SO THAT THE LEADING EDGE 50% POINT CROSSES THE VERTICAL DIVISION MARK NOTE IN STEP 8.
- 10- PLACE CHANNEL 2 PROBE ON PIN 5D29K1. ADJUST THE BOTTOM DELAY ON THE M8565, SLOT 5EF54 SO THAT THE LEADING EDGE 50% POINT CROSSES THE VERTICAL DIVISION MARK NOTE IN STEP 8.



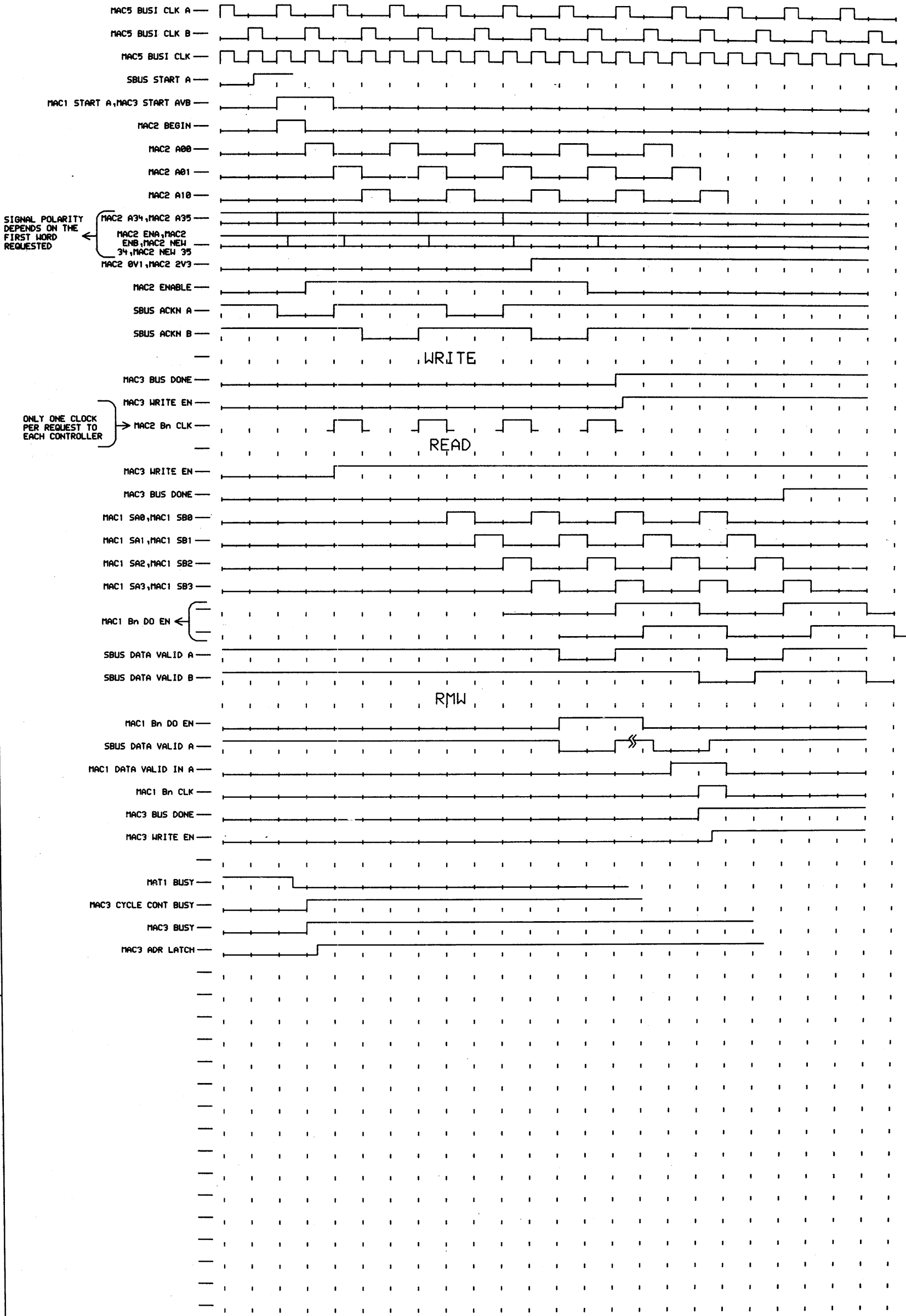
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REVISIONS		
CHK	CHANGE NO.	REV.

digital
DATE: 10-18-76
ENG: R. Lawrence
DATE: 10-18-76
CHK'D: A. Colman
SHEET: 1 OF 1
TITLE: MB20 INSTRUCTION / SETUP CHARTS
SIZE CODE: D BS
NUMBER: MB20-0-INS
REV. #

8 7 6 5 4 3 2 1

MB20 INTERLEAVE MODE 3 (4 WAY), 4 WORDS (EXCEPT 1 WORD FOR RMW)



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REVISIONS		
CHK	CHANGE NO.	REV



DATE: 02-08-76
 ENG: J. J. J. / R. J. J.
 DATE: 07-04-76
 BOARD LOCATION: DE 1
 SHEET: 1
 MB20TH.DRLX 4, 33 115-AUG-76 12133 NEXT HIGHER ASSEMBLY:
 FIRST USED ON OPTION/MODEL: MB20 B-DD-MB20-0

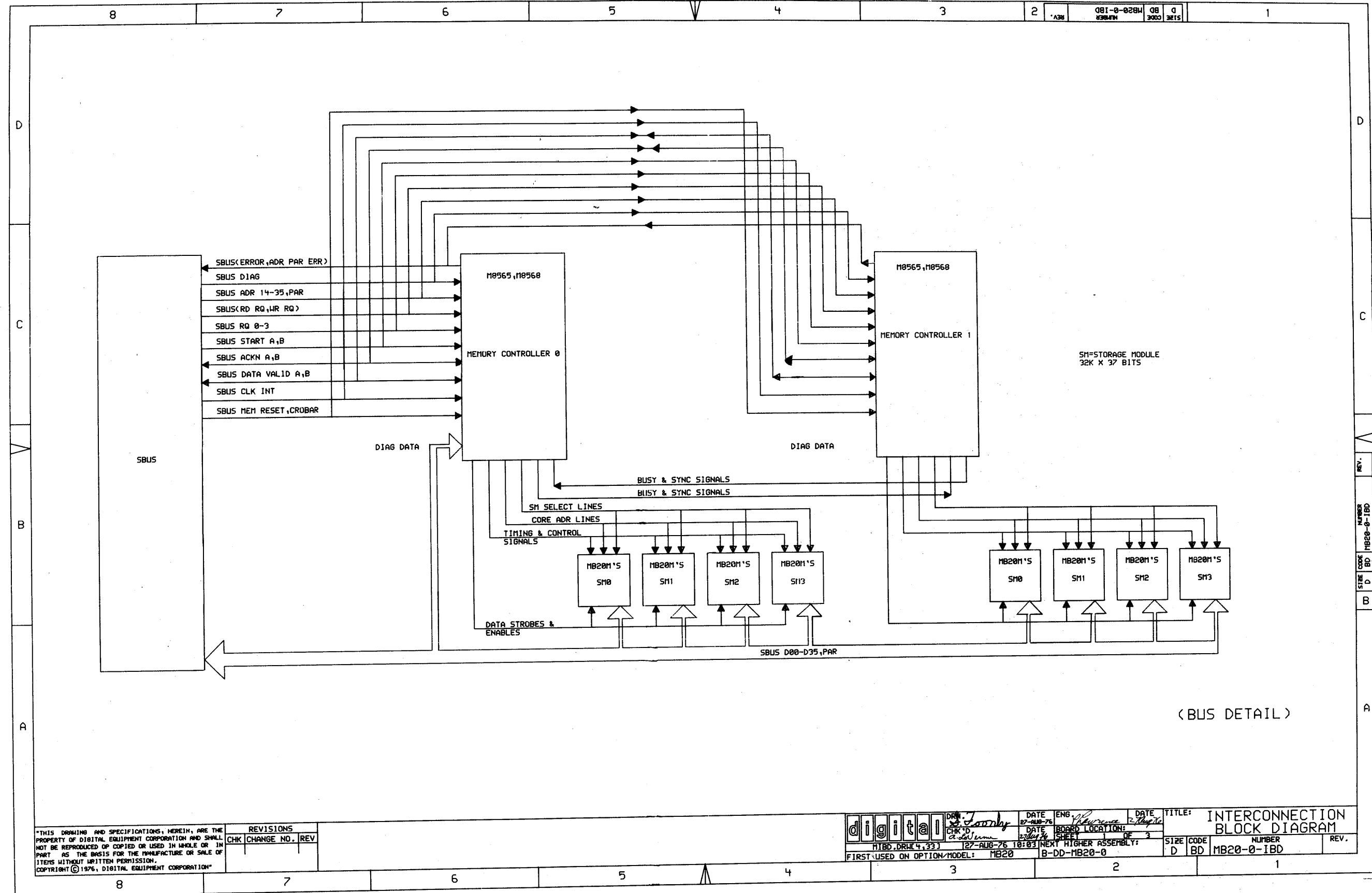
TITLE: MB20 TIMING (INTERLEAVE 3)
 SIZE CODE: D TD
 NUMBER: MB20-0-TD
 REV. #

8 7 6 5 4 3 2 1

REV. #
 SIZE CODE
 D TD
 NUMBER
 MB20-0-TD

B

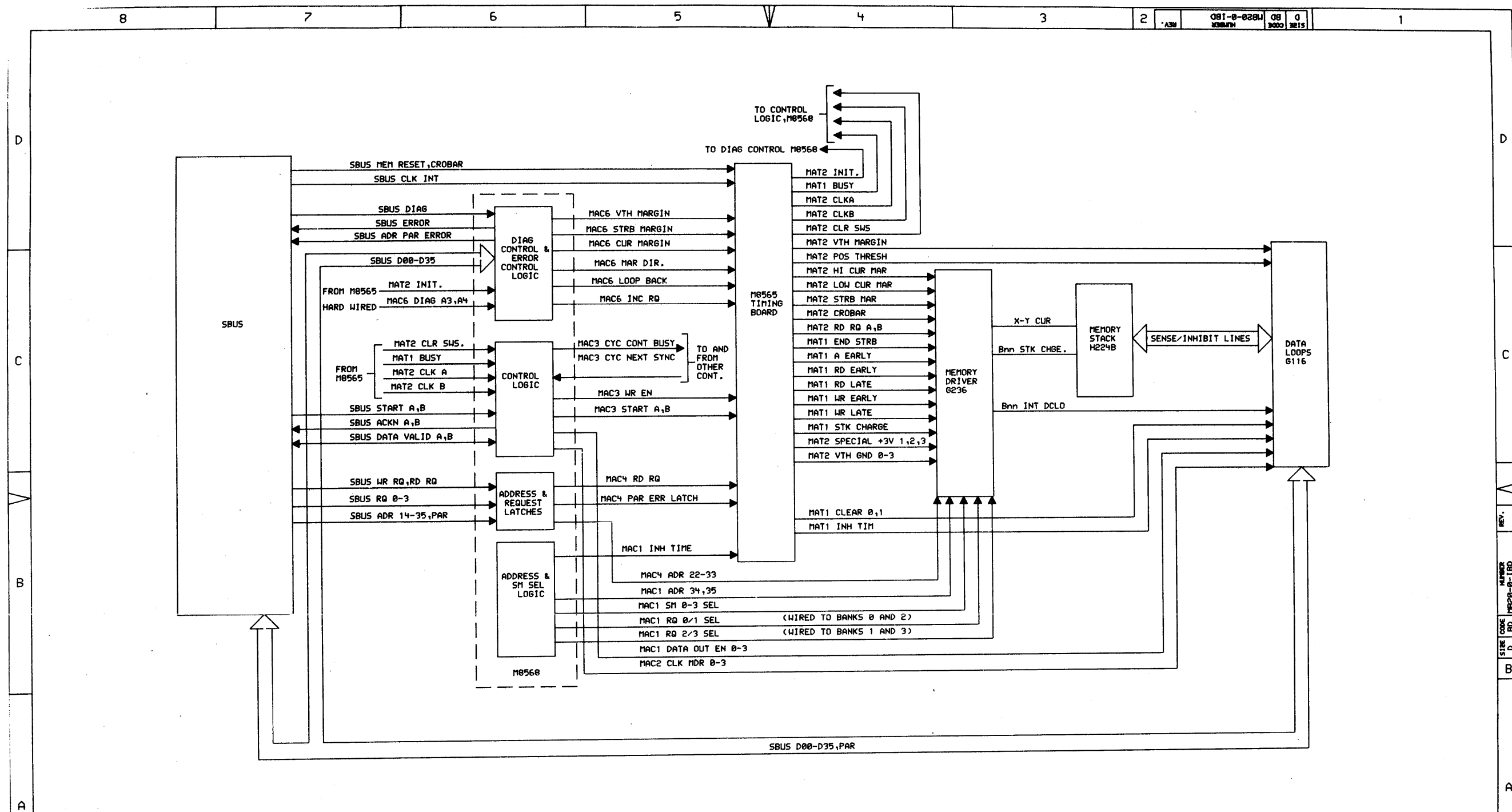
A



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REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG	DATE	TITLE
	27-AUG-76	J. Lawrence	27-AUG-76	INTERCONNECTION BLOCK DIAGRAM
CHK'D	DATE	BOARD LOCATION	SHEET	OF
a. d. v. m.	27-AUG-76	1	1	3
FIRST USED ON OPTION/MODEL: MB20		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		REV.
SIZE CODE		NUMBER		REV.
D BD		MB20-0-IBD		1

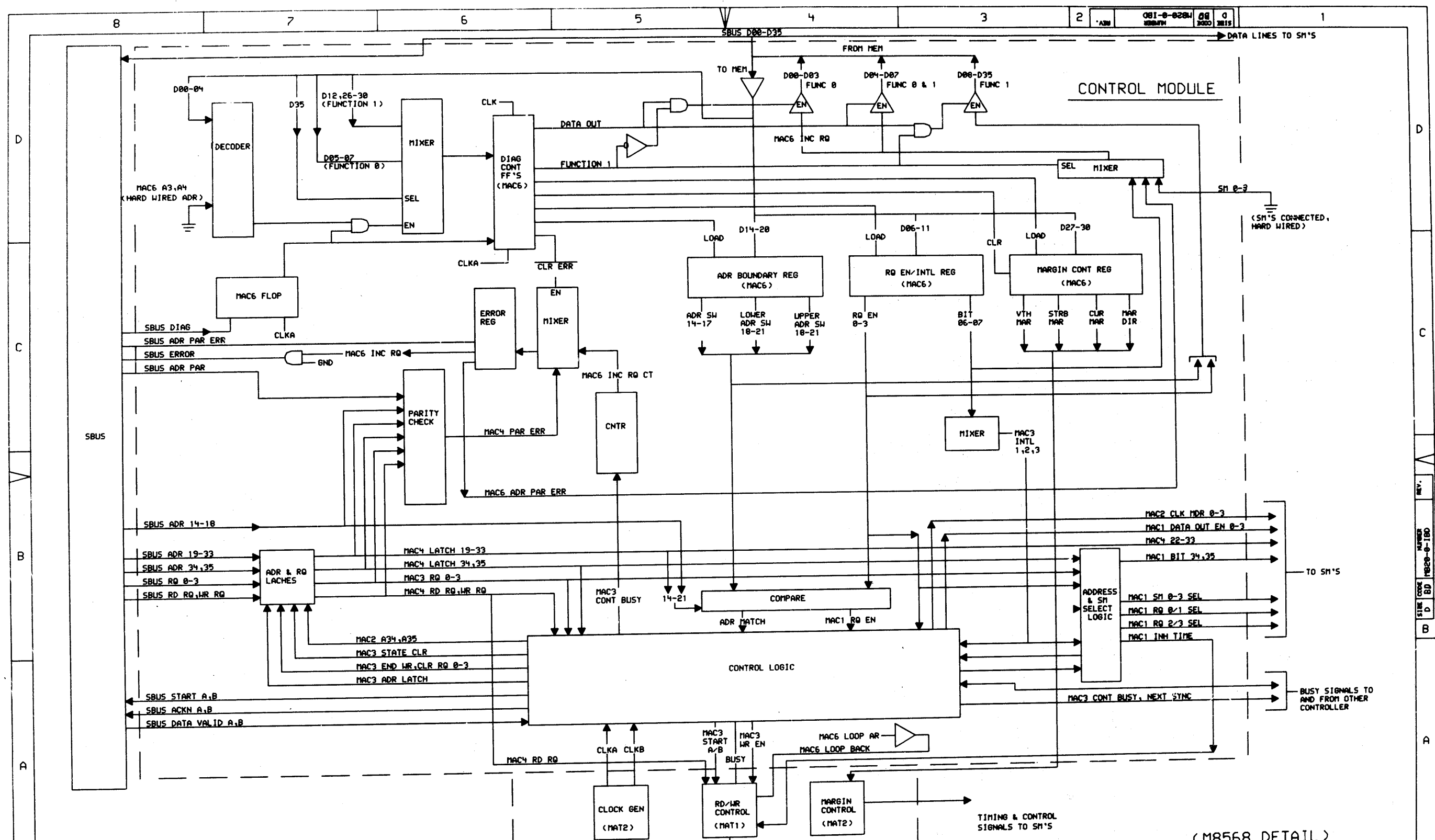


(STORAGE MODULE DETAIL)

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE	ENG	DATE	TITLE
	05-AUG-76	J. Lawrence	07-09	INTERCONNECTION BLOCK DIAGRAM
CHK'D	DATE	BOARD LOCATION	SHEET	OF
a. Lawrence	07-09	2	3	
FIRST USED ON OPTION/MODEL: MB20				B-DD-MB20-0
SIZE	CODE	NUMBER	REV.	
D	BD	MB20-0-IBD		



REV.
 NAME
 NUMBER
 DATE
 SIZE
 CODE
 D
 B
 D
 B
 A

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REVISIONS	
CHK	CHANGE NO. REV.

(M8568 DETAIL)

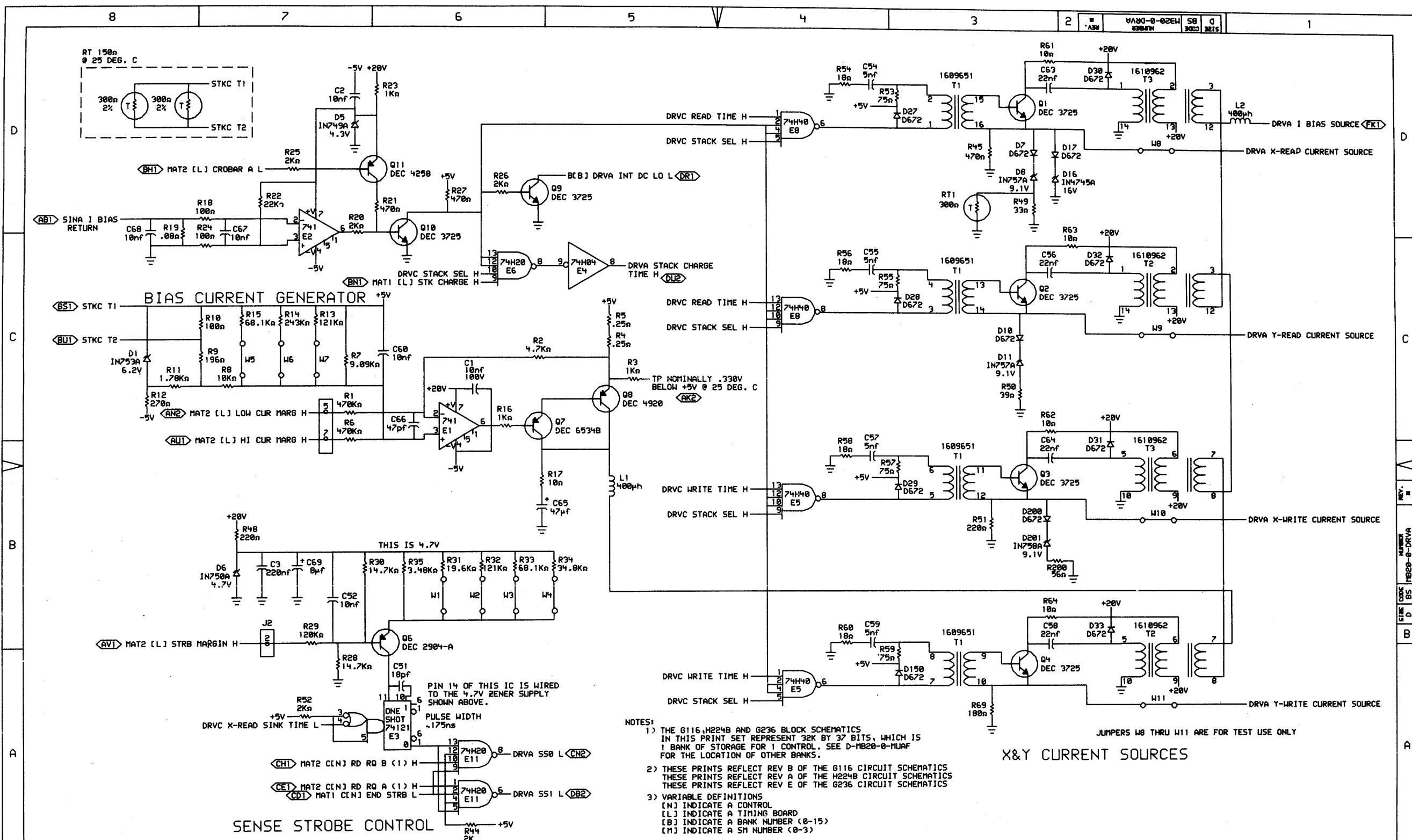
TITLE: INTERCONNECTION BLOCK DIAGRAM

DATE: 12-22-75
 DATE: 12-22-75
 DATE: 12-22-75

DESIGNER: J. J. J. J.
 CHECKED: J. J. J. J.
 ENGINEER: J. J. J. J.

SIZE CODE: D BD
 NUMBER: MB20-0-IBD
 REV.: 1

FIRST USED ON OPTION/MODEL: MB20 B-DD-MB20-0

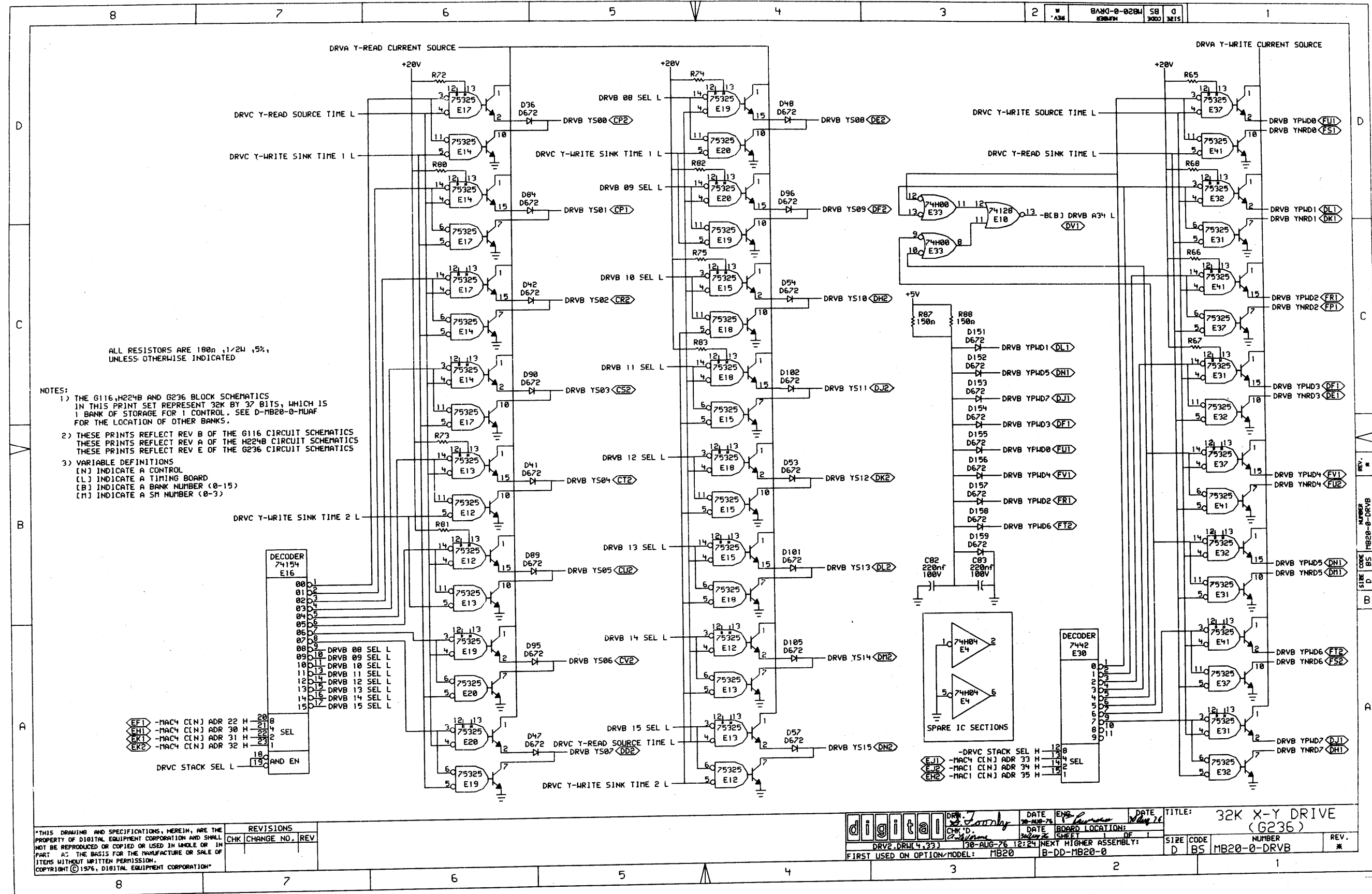


- NOTES:
- 1) THE G116, H224B AND G236 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 32K BY 37 BITS, WHICH IS 1 BANK OF STORAGE FOR 1 CONTROL. SEE D-MB20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
 - 2) THESE PRINTS REFLECT REV B OF THE G116 CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV A OF THE H224B CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV E OF THE G236 CIRCUIT SCHEMATICS
 - 3) VARIABLE DEFINITIONS
 [N] INDICATE A CONTROL
 [L] INDICATE A TIMING BOARD
 [B] INDICATE A BANK NUMBER (0-15)
 [M] INDICATE A SN NUMBER (0-3)

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REVISIONS	
CHG	CHANGE NO. / REV

digital	DATE: 17-AUG-76	ENG: J. J. J.	DATE: 17-AUG-76	TITLE: 32K X-Y DRIVE (G236)
	DRW: J. J. J.	DATE: 17-AUG-76	BOARD LOCATION: 1	SIZE CODE: D B5
DRV1, DRW 4, 331	17-AUG-76	13:06	NEXT HIGHER ASSEMBLY: 18-DD-MB20-0	NUMBER: MB20-0-DRVA
FIRST USED ON OPTION/MODEL: MB20				REV. *

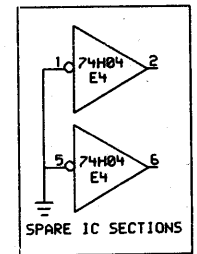


ALL RESISTORS ARE 180Ω, 1/2W, 5%, UNLESS OTHERWISE INDICATED

- NOTES:
- 1) THE G116, H224B AND G236 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 32K BY 37 BITS, WHICH IS 1 BANK OF STORAGE FOR 1 CONTROL. SEE D-MB20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
 - 2) THESE PRINTS REFLECT REV B OF THE G116 CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV A OF THE H224B CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV E OF THE G236 CIRCUIT SCHEMATICS
 - 3) VARIABLE DEFINITIONS
 [N] INDICATE A CONTROL
 [L] INDICATE A TIMING BOARD
 [B] INDICATE A BANK NUMBER (0-15)
 [M] INDICATE A SM NUMBER (0-3)

EF1	-MACH C1N J	ADR 22 H	20	8
EH1	-MACH C1N J	ADR 30 H	21	4
EK1	-MACH C1N J	ADR 31 H	22	2
EK2	-MACH C1N J	ADR 32 H	23	1
DRVC STACK SEL L AND EN				

DECODER 74154 E16	
00	01
01	02
02	03
03	04
04	05
05	06
06	07
07	08
08	09
09	10
10	11
11	12
12	13
13	14
14	15
15	17
16	17

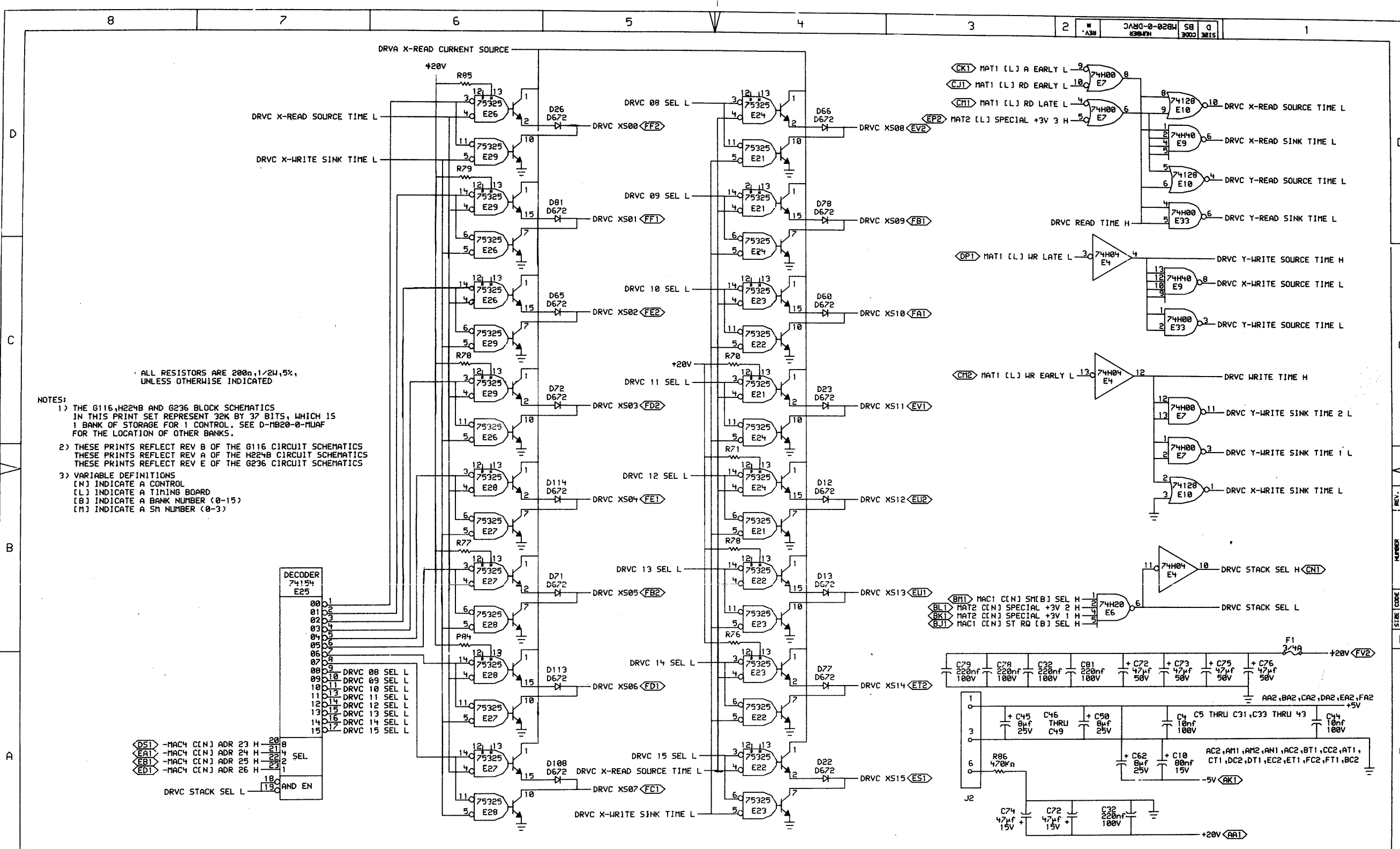


EJ1	-DRVC STACK SEL H	12	8
EJ2	-MACH C1N J	ADR 33 H	14
EJ3	-MACH C1N J	ADR 34 H	2
EJ4	-MACH C1N J	ADR 35 H	1

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REVISIONS		
CHK	CHANGE NO.	REV

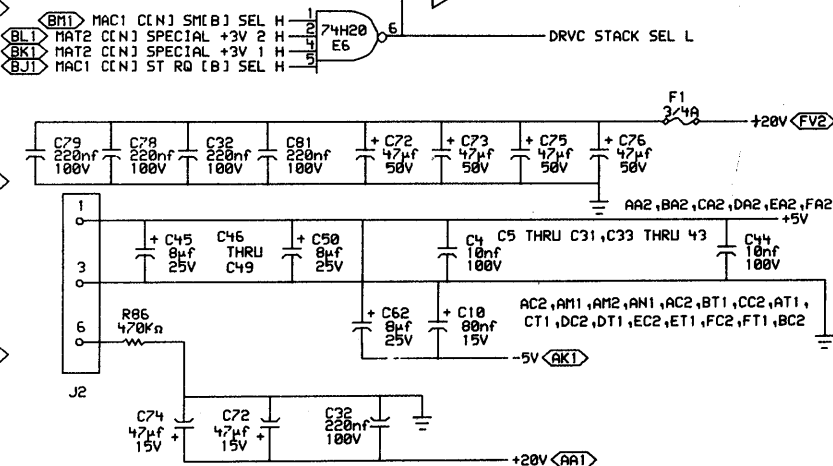
digital	DRV. <i>Jonny</i>	DATE <i>20-AUG-76</i>	ENG. <i>Baron</i>	DATE <i>Aug 76</i>	TITLE: 32K X-Y DRIVE (G236)
	CHK'D. <i>Baron</i>	DATE <i>30-AUG-76</i>	ISSUE 1	BOARD LOCATION: DE 1	SIZE CODE NUMBER REV. D B5 MB20-0-DRVB *
DRV2-DRVL4.331		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		FIRST USED ON OPTION/MODEL: MB20	



ALL RESISTORS ARE 200Ω, 1/24, 5%, UNLESS OTHERWISE INDICATED

NOTES:
 1) THE G116, H224B AND G236 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 32K BY 37 BITS, WHICH IS 1 BANK OF STORAGE FOR 1 CONTROL. SEE D-MB20-0-MJAF FOR THE LOCATION OF OTHER BANKS.
 2) THESE PRINTS REFLECT REV B OF THE G116 CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV A OF THE H224B CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV E OF THE G236 CIRCUIT SCHEMATICS
 3) VARIABLE DEFINITIONS
 (N) INDICATE A CONTROL
 (L) INDICATE A TIMING BOARD
 (B) INDICATE A BANK NUMBER (0-15)
 (M) INDICATE A SN NUMBER (0-3)

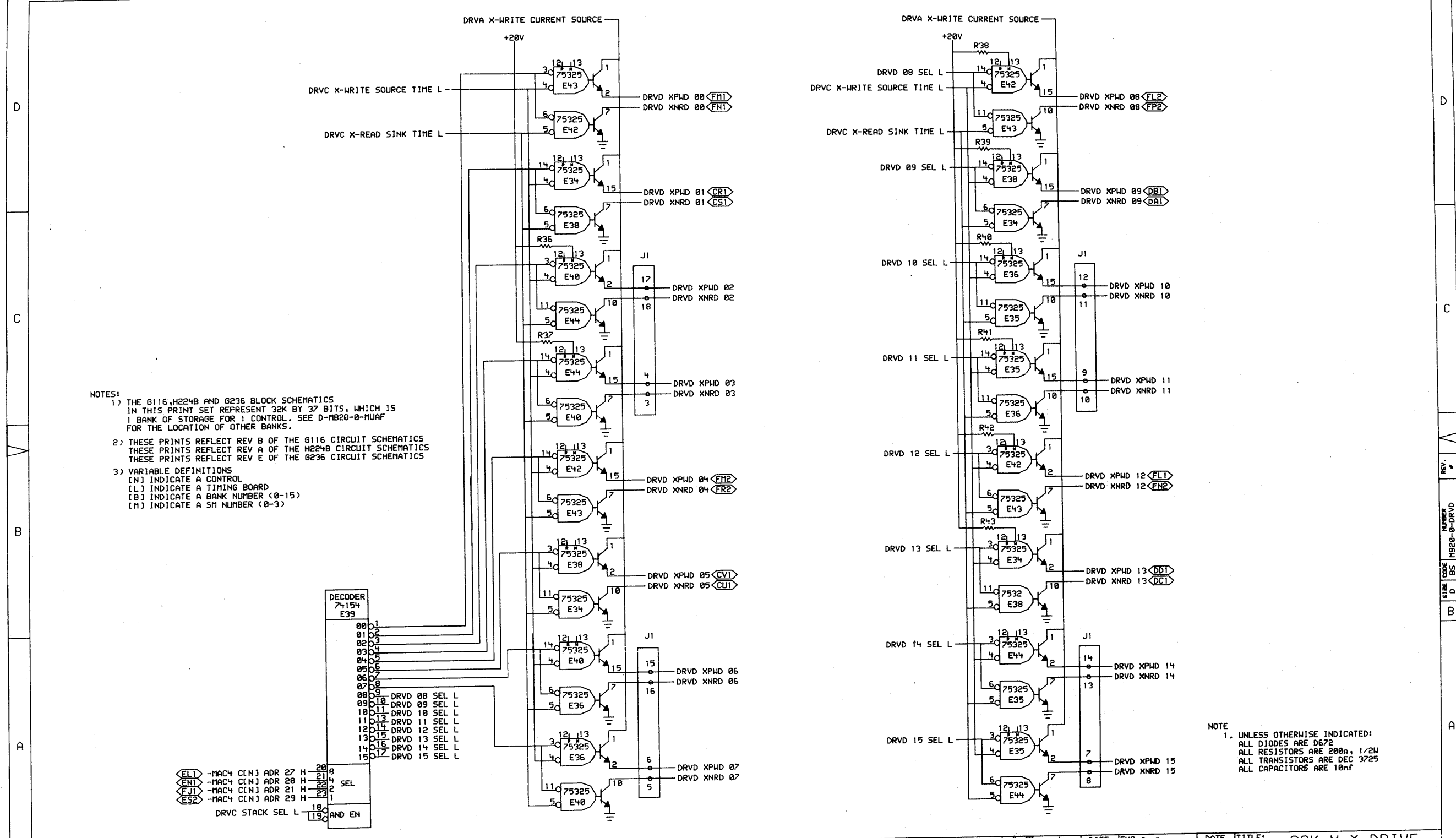
(DST) -MACH C[N] ADR 23 H 20
 (EAT) -MACH C[N] ADR 24 H 21
 (EBI) -MACH C[N] ADR 25 H 22
 (EDT) -MACH C[N] ADR 26 H 23
 DRVC STACK SEL L 18 AND EN 19



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REVISIONS	
CHK	CHANGE NO. REV

digit	DATE 22-AUG-76	ENG	DATE 27-AUG-76	TITLE: 32K X-Y DRIVE (G236)
DRV3.DRV4.331	117-AUG-76 13:23	BOARD LOCATION: SHEET 1 OF 1	SIZE CODE D BS	NUMBER MB20-0-DRVC
FIRST USED ON OPTION MODEL: MB20	B-DD-MB20-0	REV. *		



- NOTES:
- 1) THE G116, H224B AND G236 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 32K BY 37 BITS, WHICH IS 1 BANK OF STORAGE FOR 1 CONTROL. SEE D-MB20-0-NJAF FOR THE LOCATION OF OTHER BANKS.
 - 2) THESE PRINTS REFLECT REV B OF THE G116 CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV A OF THE H224B CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV E OF THE G236 CIRCUIT SCHEMATICS
 - 3) VARIABLE DEFINITIONS
 (N) INDICATE A CONTROL
 (L) INDICATE A TIMING BOARD
 (B) INDICATE A BANK NUMBER (0-15)
 (M) INDICATE A SM NUMBER (0-3)

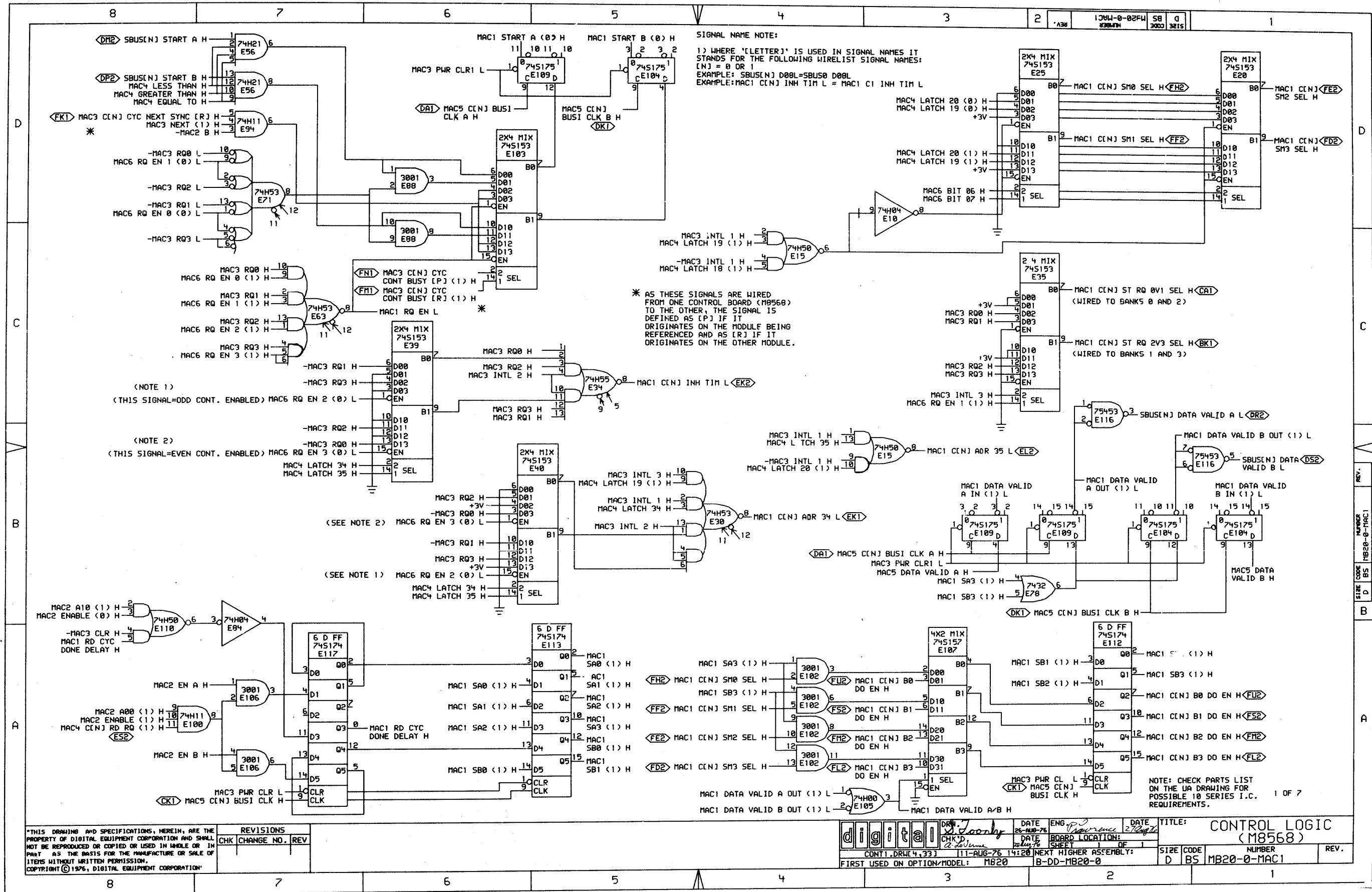
EL1 -MAC4 (CN) ADR 27 H 20
 EN1 -MAC4 (CN) ADR 28 H 21
 FJ1 -MAC4 (CN) ADR 21 H 22
 ES2 -MAC4 (CN) ADR 29 H 23
 DRVC STACK SEL L 18
 AND EN 19

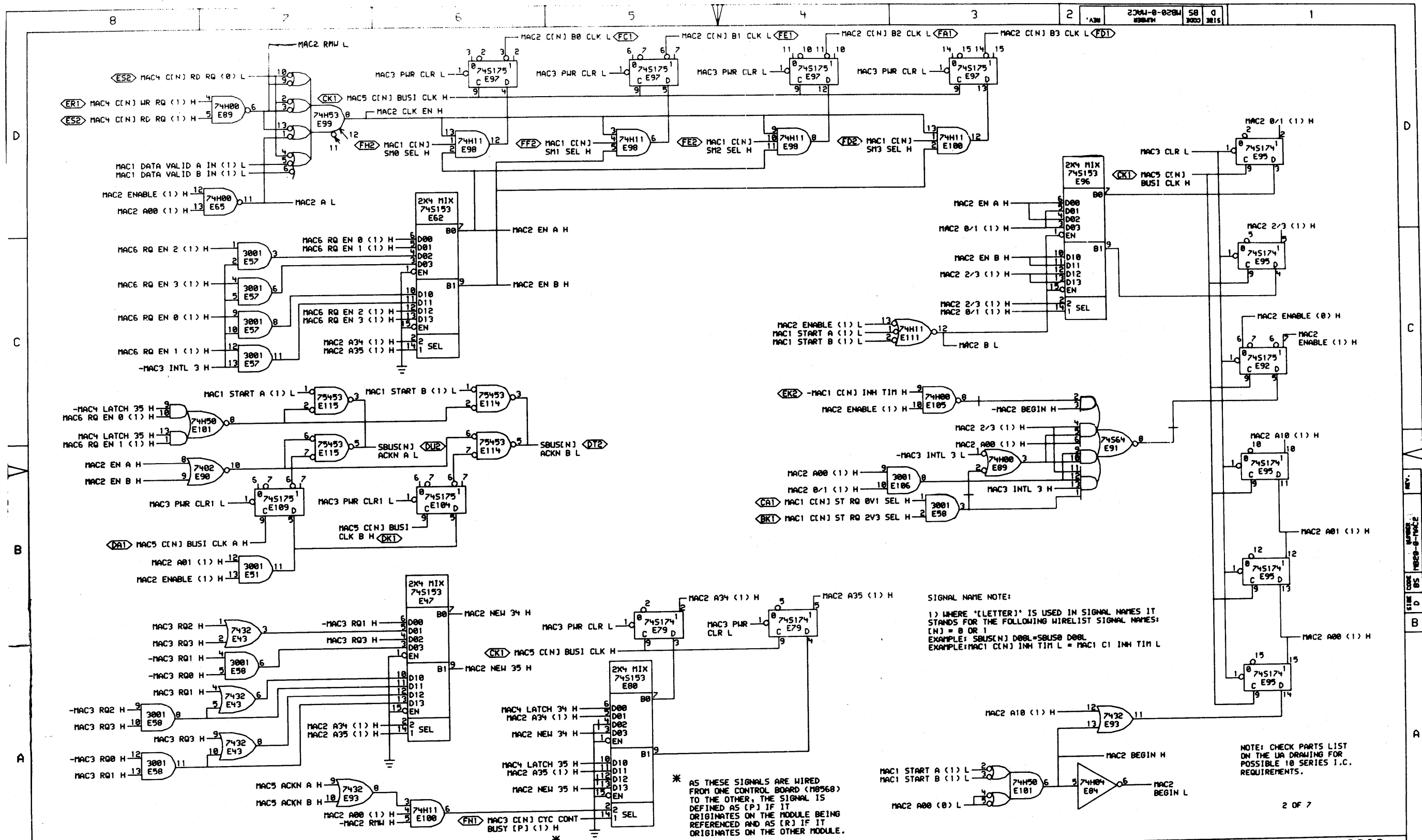
NOTE
 1. UNLESS OTHERWISE INDICATED:
 ALL DIODES ARE D672
 ALL RESISTORS ARE 200Ω, 1/2W
 ALL TRANSISTORS ARE DEC 3725
 ALL CAPACITORS ARE 10nf

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REVISIONS	
CHK	CHANGE NO. REV

digital	DRV4.DRV4.4.33	DATE 23-AUG-76	ENG J. J. ...	DATE 23-AUG-76	TITLE: 32K X-Y DRIVE (G236)
	117-AUG-76 13:25	DATE 23-AUG-76	BOARD LOCATION: 1 OF 1	SIZE CODE D B5	NUMBER MB20-0-DRVD
FIRST USED ON OPTION/MODEL: MB20		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		REV. *	





SIGNAL NAME NOTE:
 1) WHERE "[LETTER]" IS USED IN SIGNAL NAMES IT STANDS FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = B OR I
 EXAMPLE: SBUS[N] DOBL=SBUSB DOBL
 EXAMPLE: MAC1 [N] INH TIM L = MAC1 C1 INH TIM L

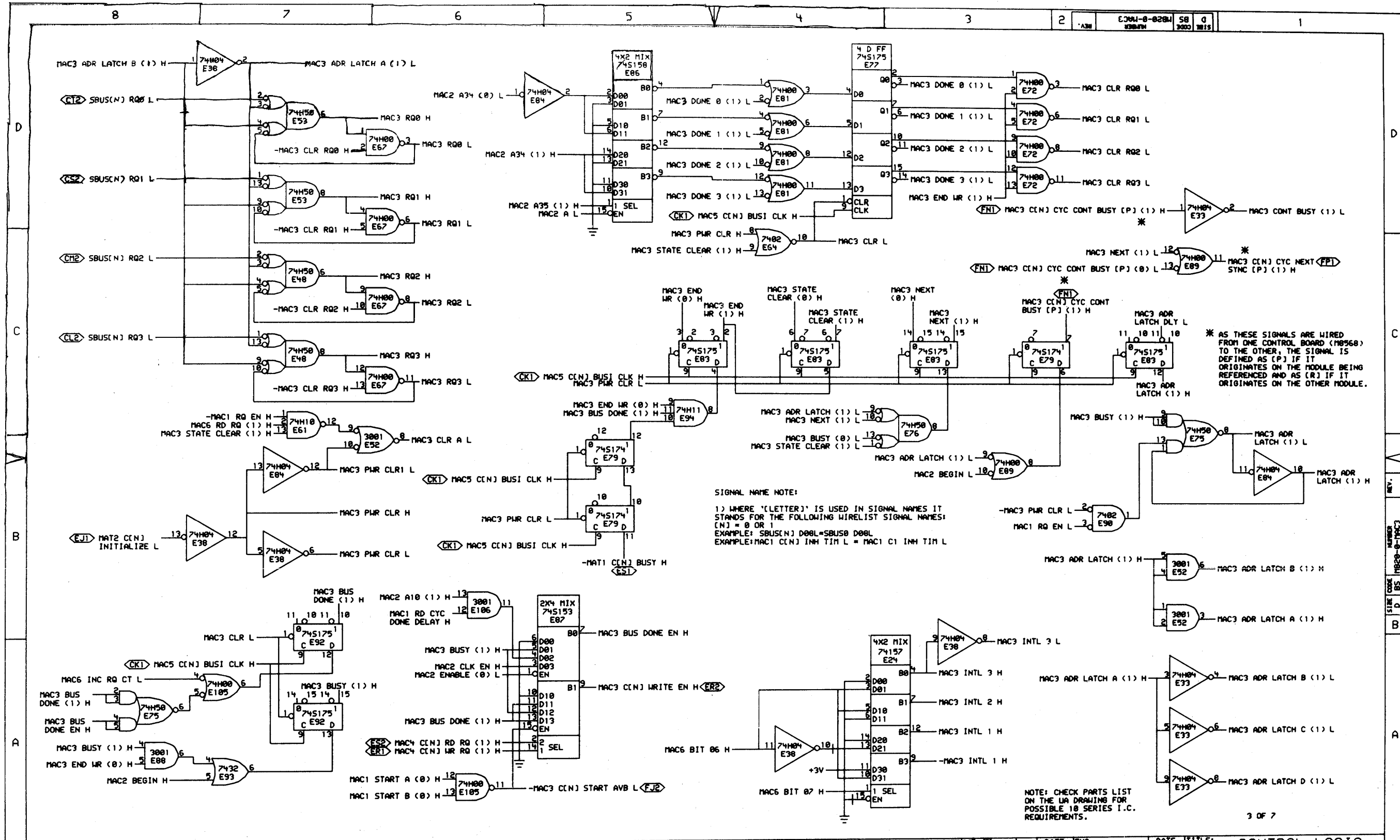
* AS THESE SIGNALS ARE WIRED FROM ONE CONTROL BOARD (M8568) TO THE OTHER, THE SIGNAL IS DEFINED AS [P] IF IT ORIGINATES ON THE MODULE BEING REFERENCED AND AS [R] IF IT ORIGINATES ON THE OTHER MODULE.

NOTE: CHECK PARTS LIST ON THE UA DRAWING FOR POSSIBLE 10 SERIES I.C. REQUIREMENTS.

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REVISIONS
CHK CHANGE NO. REV

digital	DATE	END	DATE	TITLE: CONTROL LOGIC (M8568)
	11-AUG-76	27 Aug 76		
CONT2.DRAW 4.23	11-AUG-76 14:18	NEXT HIGHER ASSEMBLY:	SIZE CODE	D BS
FIRST USED ON OPTION MODEL: M820	B-DD-MB20-0	NUMBER	REV.	1

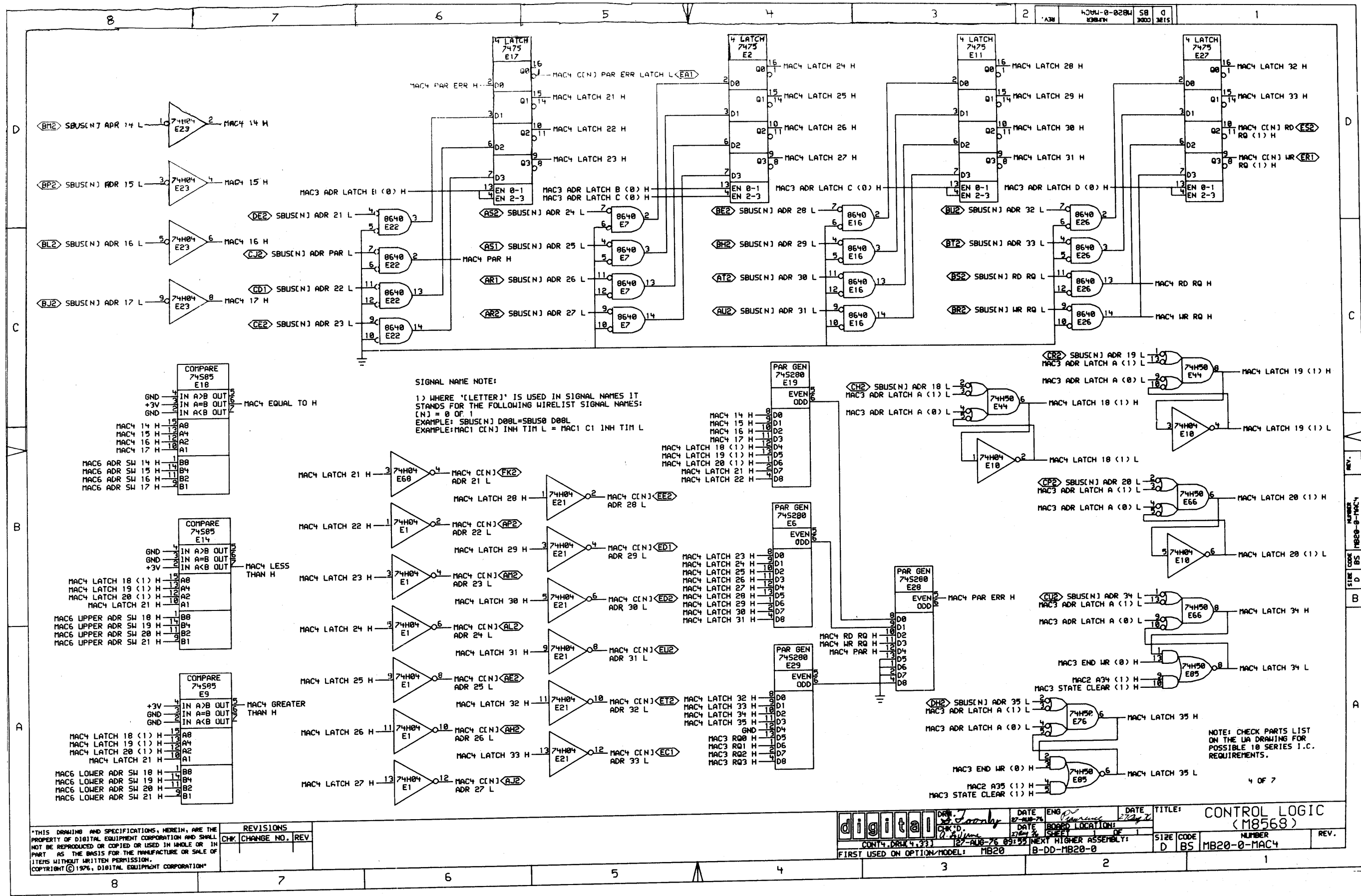


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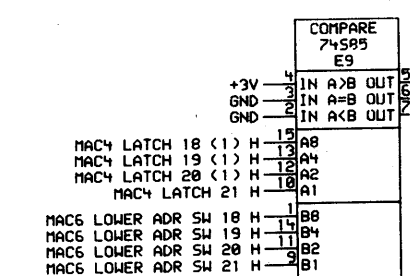
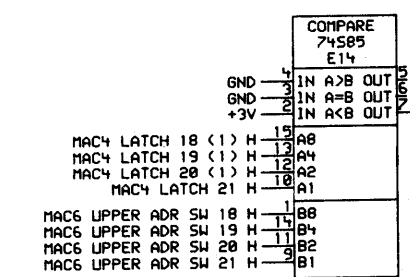
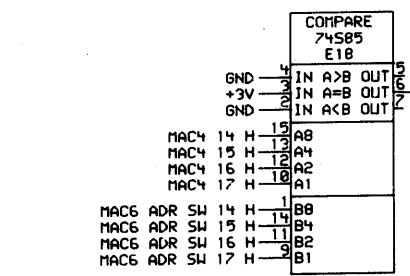
REVISIONS		
CHK	CHANGE NO.	REV

DATE	ENG	DATE	TITLE:
11-18-76	J. J. J.	11-18-76	CONTROL LOGIC (M8568)
DATE	BOARD LOCATION	DATE	NUMBER
11-18-76	B-D	11-18-76	M820-0-MAC3
CONT'D. DRAW 4, 5, 6, 7	11-18-76	NEXT HIGHER ASSEMBLY:	REV.
FIRST USED ON OPTION/MODEL:	M820	B-DD-MB20-0	

DATE	ENG	DATE	TITLE:
11-18-76	J. J. J.	11-18-76	CONTROL LOGIC (M8568)
DATE	BOARD LOCATION	DATE	NUMBER
11-18-76	B-D	11-18-76	M820-0-MAC3
CONT'D. DRAW 4, 5, 6, 7	11-18-76	NEXT HIGHER ASSEMBLY:	REV.
FIRST USED ON OPTION/MODEL:	M820	B-DD-MB20-0	



SIGNAL NAME NOTE:
 1) WHERE 'LETTER' IS USED IN SIGNAL NAMES IT STANDS FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OF 1
 EXAMPLE: SBUS[N] D0B1=SBUS0 D0B1
 EXAMPLE: MAC1 [C] INH TIM L = MAC1 C1 INH TIM L

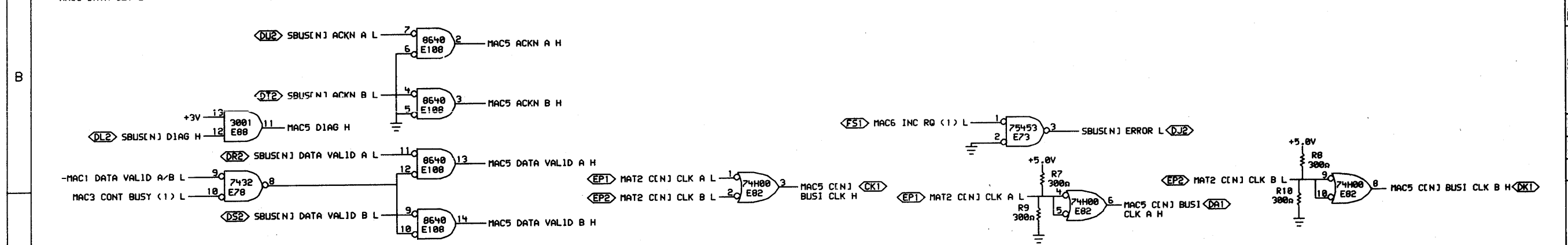
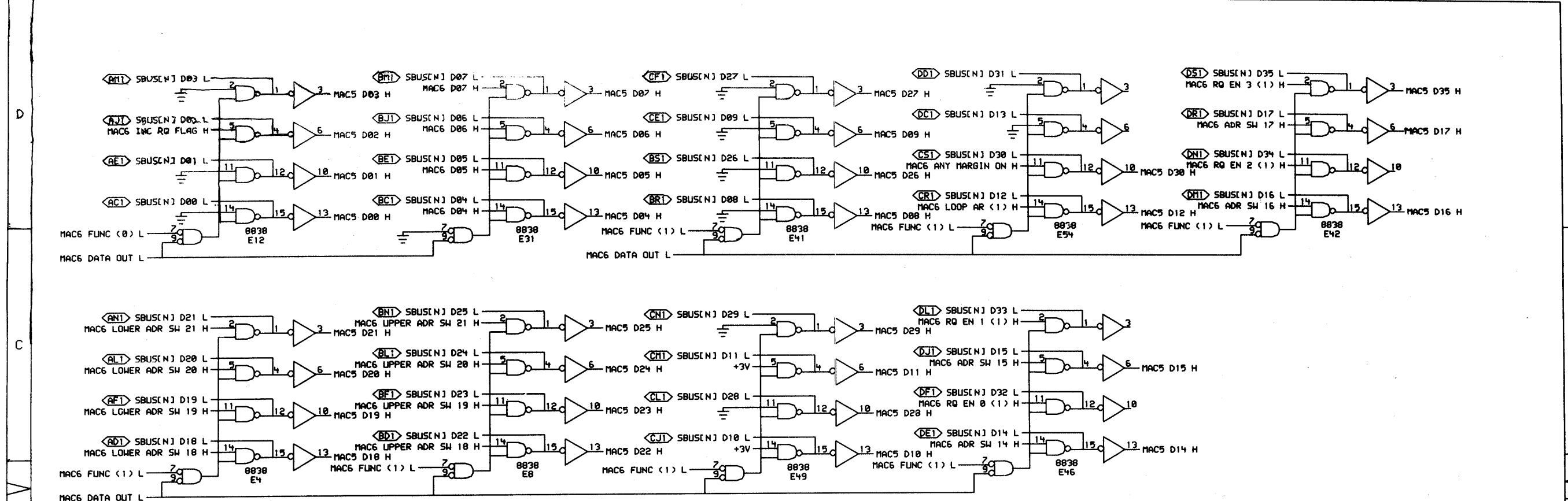


NOTE: CHECK PARTS LIST ON THE UA DRAWING FOR POSSIBLE 10 SERIES I.C. REQUIREMENTS.

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CHG.	CHANGE NO.	REV

digital	DATE	12-AUG-76	ENG	DATE	12-AUG-76	TITLE:	CONTROL LOGIC (M8568)
	DATE	12-AUG-76	DESIGNED BY	DATE	12-AUG-76	NUMBER	D B5 MB20-0-MAC4
FIRST USED ON OPTION MODEL:		MB20	NEXT HIGHER ASSEMBLY:		B-DD-MB20-0	REV.	



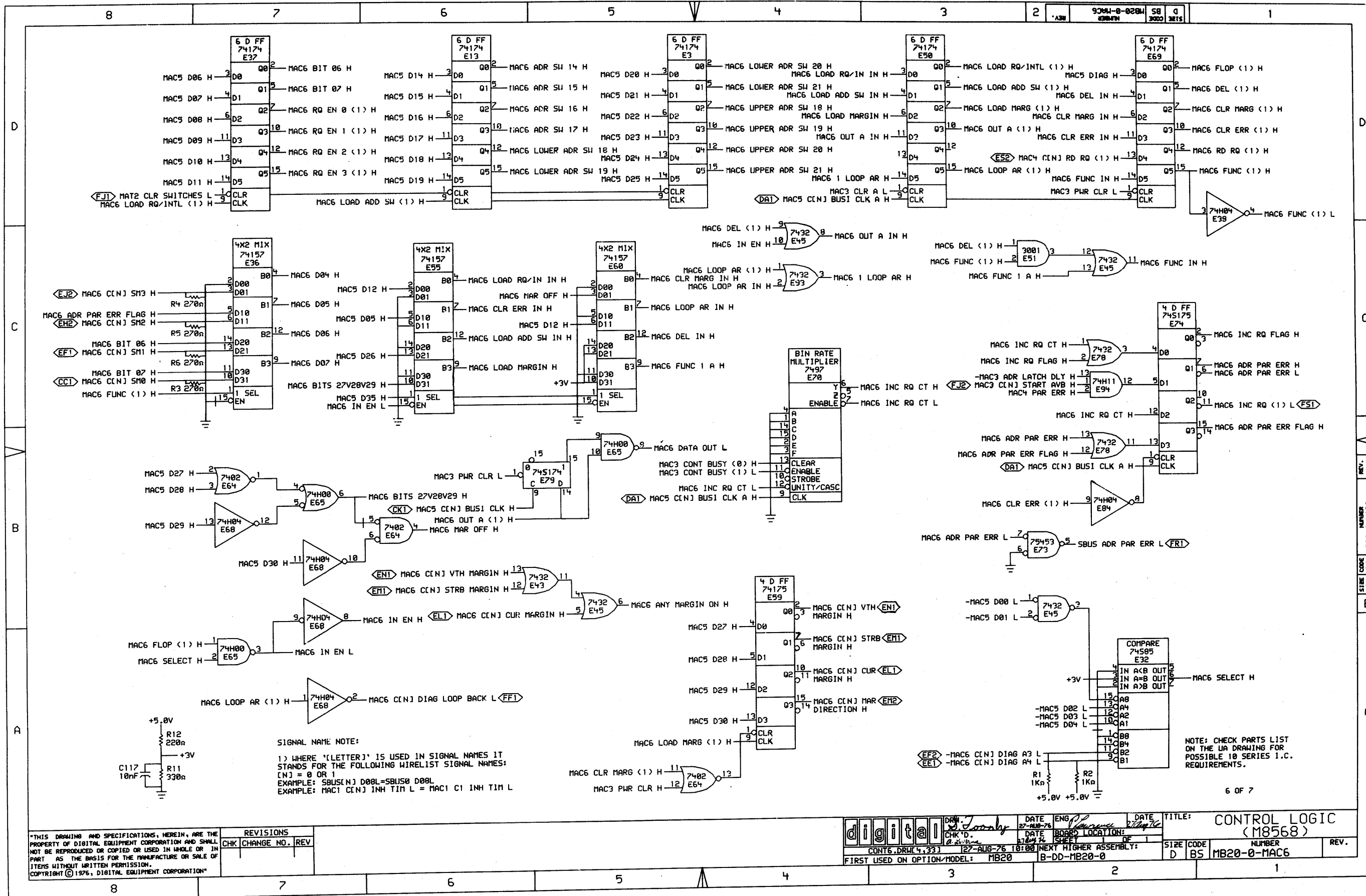
SIGNAL NAME NOTE:
 1) WHERE 'LETTER' IS USED IN SIGNAL NAMES IT STANDS FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1
 EXAMPLE: SBUS[N] D08L=SBUS0 D08L
 EXAMPLE: MAC1 C[N] INH TIM L = MAC1 C1 INH TIM L

NOTE: CHECK PARTS LIST ON THE U/A DRAWING FOR POSSIBLE 10 SERIES I.C. REQUIREMENTS.

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE: 05-08-76	ENG: [Signature]	DATE: 2/24/76	TITLE: CONTROL LOGIC (M8568)
	DATE: 2/24/76	BOARD LOCATION: 1	SHEET: 1	NUMBER: MB20-0-MAC5
CONTS. DRW. 4, 3, 1		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		REV.:
FIRST USED ON OPTION/MODEL: MB20				



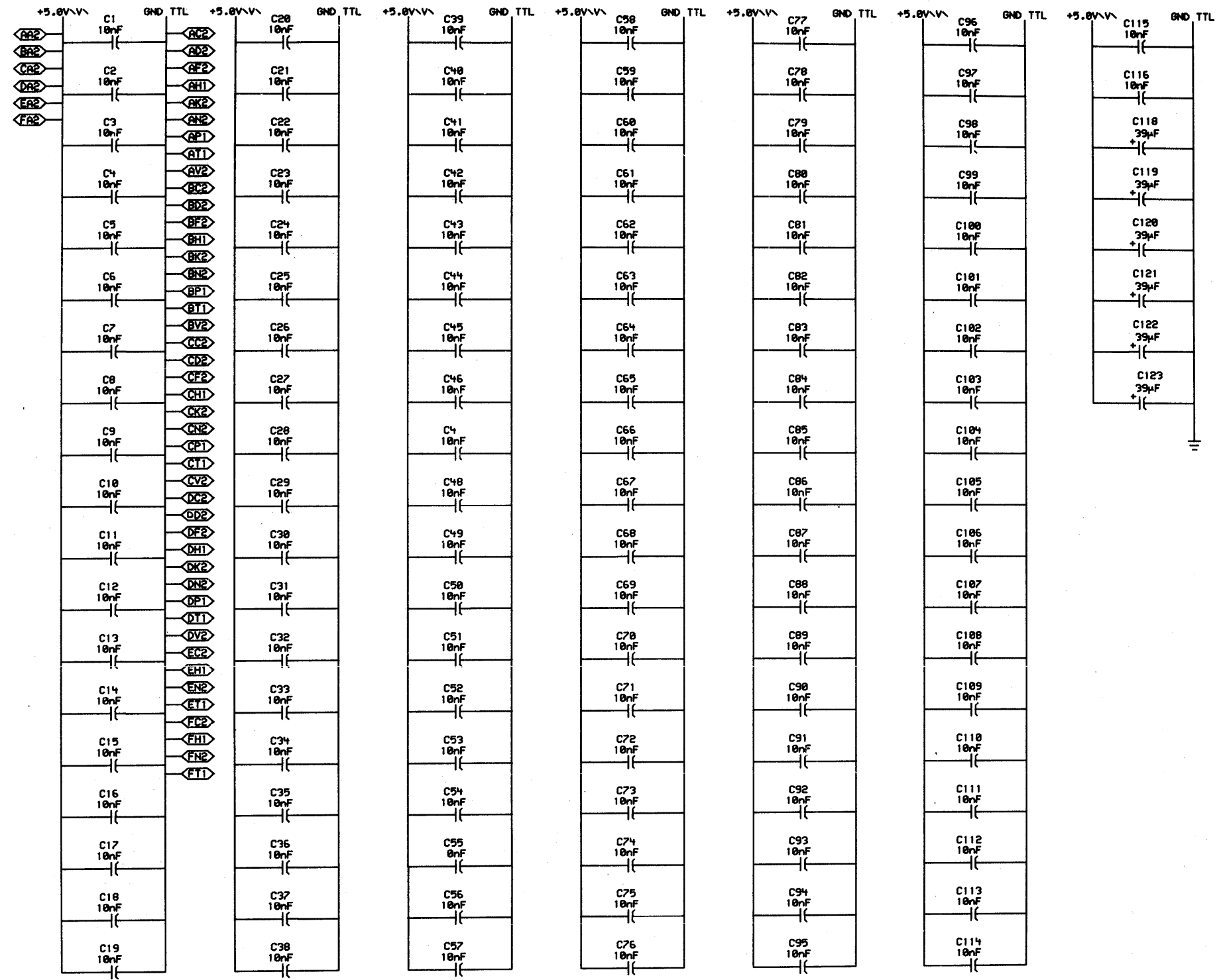
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REVISIONS		
CHK	CHANGE NO.	REV

SIGNAL NAME NOTE:
 1) WHERE 'LETTER' IS USED IN SIGNAL NAMES IT STANDS FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1
 EXAMPLE: SBUS[N] D08L=SBUS0 D08L
 EXAMPLE: MAC1 [N] INH TIM L = MAC1 C1 INH TIM L

	DATE	ENG	DATE	TITLE:
	27-AUG-76	J. J. J.	27-AUG-76	CONTROL LOGIC (M8568)
CHK'D	DATE	BOARD LOCATION	SHEET	OF
12-AUG-76	12-AUG-76 10:00	NEXT HIGHER ASSEMBLY:	1	1
FIRST USED ON OPTION/MODEL:	MB20	B-DD-MB20-0	SIZE	CODE
			D	BS
			NUMBER	REV.
			MB20-0-MAC6	

NOTE: CHECK PARTS LIST ON THE U/A DRAWING FOR POSSIBLE 18 SERIES I.C. REQUIREMENTS.



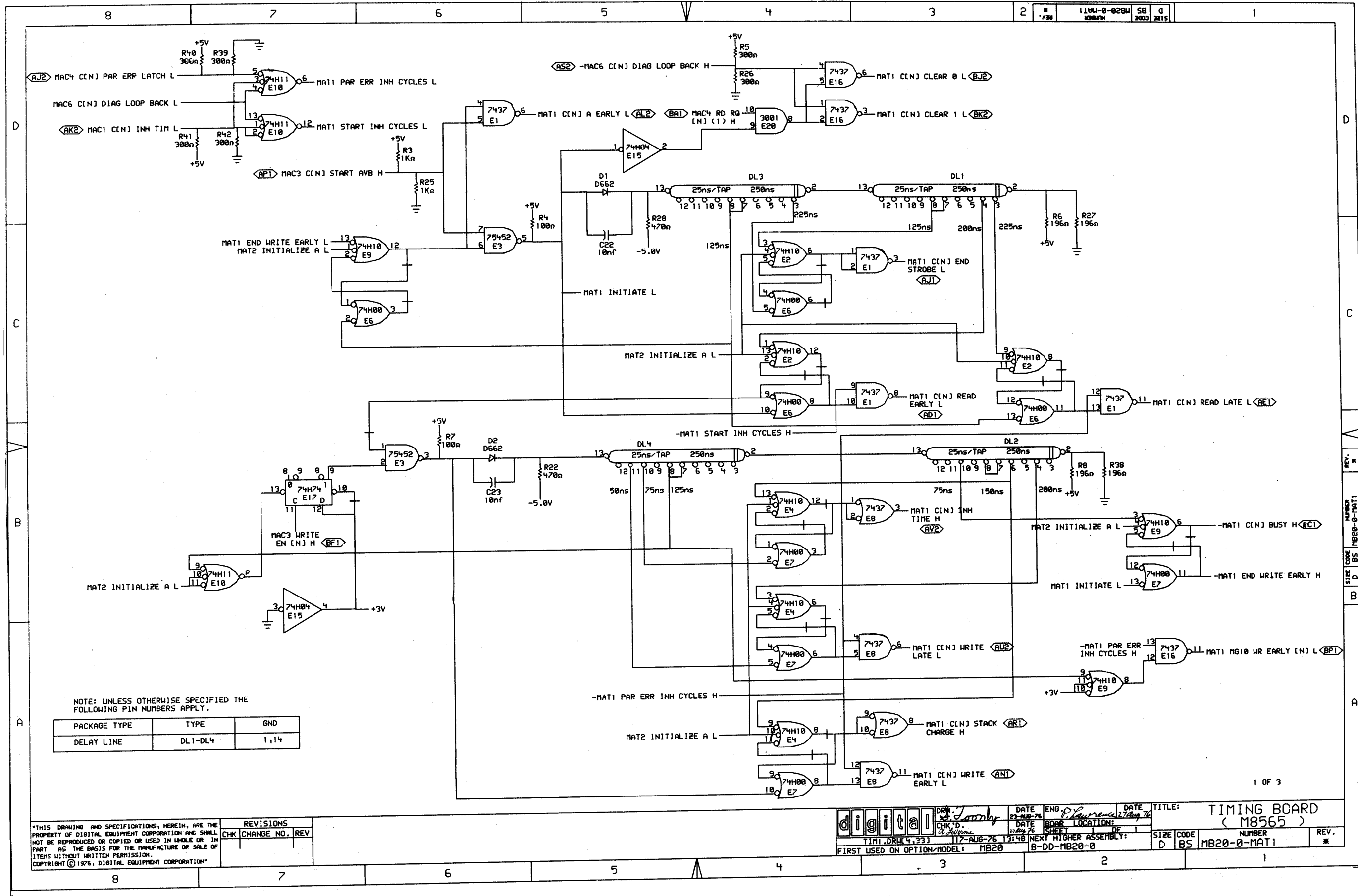
NOTE: CHECK PARTS LIST ON THE I/A DRAWING FOR POSSIBLE 18 SERIES I.C. REQUIREMENTS.

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REVISIONS	
CHK	CHANGE NO. REV.

	DATE: 05-11-76	ENG: [Signature]	DATE: 02-11-76	TITLE: CONTROL LOGIC (M8568)
	DATE: 07-20-76	DESIGN LOCATION: [Signature]	DATE: 07-20-76	REV.:
CONT'D. DRAW'G. 33	111-AUG-76 14:14	NEXT HIGHER ASSEMBLY: B-DD-MB20-0	SIZE CODE: D BS	NUMBER: MB20-0-MAC7
FIRST USED ON OPTION/MODEL: 11 20				

REV. NUMBER MB20-0-MAC7
SIZE CODE D BS



NOTE: UNLESS OTHERWISE SPECIFIED THE FOLLOWING PIN NUMBERS APPLY.

PACKAGE TYPE	TYPE	GND
DELAY LINE	DL1-DL4	1,14

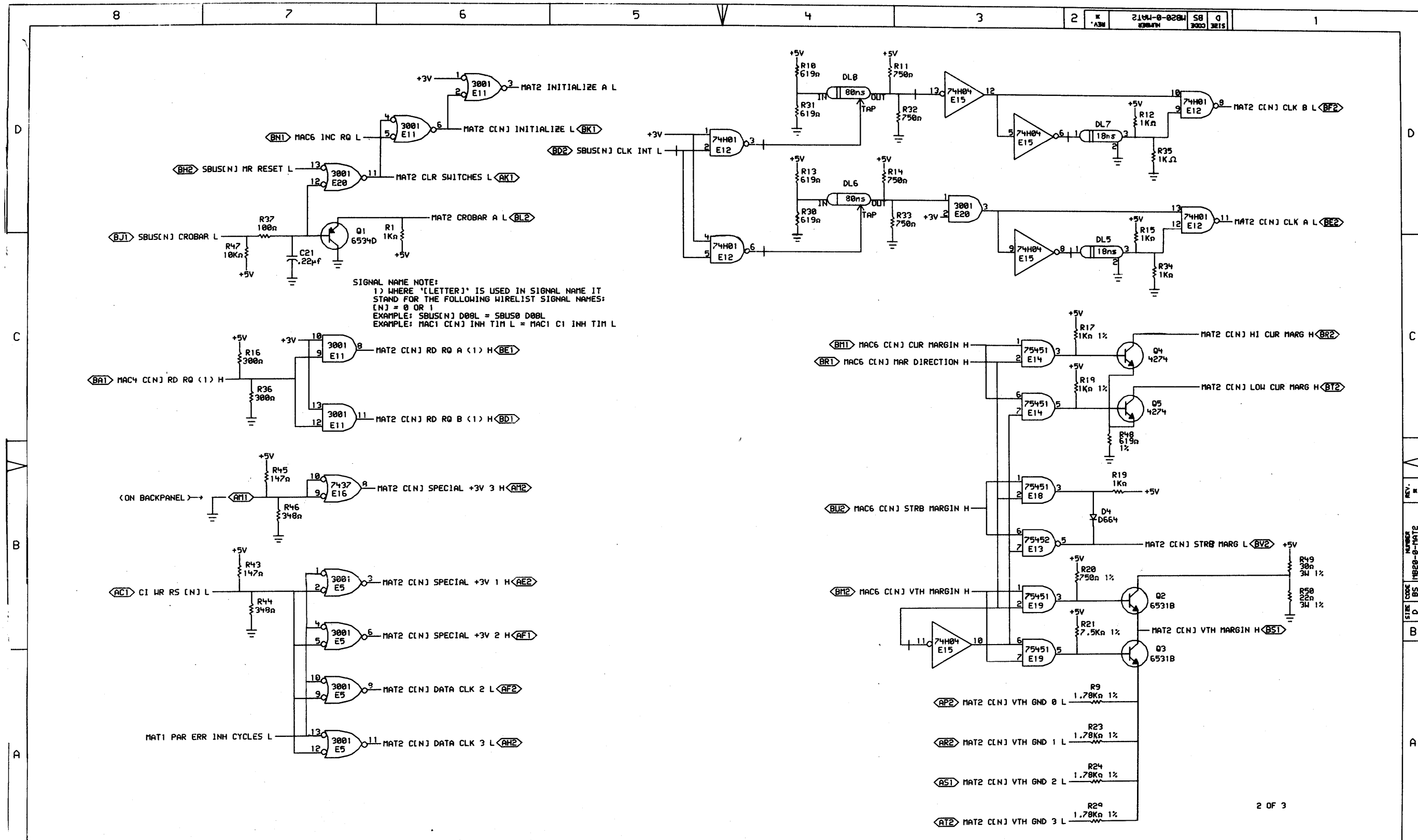
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REVISIONS		
CHK	CHANGE NO.	REV

digital *John* DATE *27-AUG-76* ENG. *D. Lawrence* DATE *27-Aug-76* TITLE: **TIMING BOARD (M8565)**

DATE *27-Aug-76* BOARD LOCATION: SIZE CODE *D BS* NUMBER *MB20-0-MAT1* REV.

TIM. DRW. 4.33 17-AUG-76 13:48 NEXT HIGHER ASSEMBLY: FIRST USED ON OPTION/MODEL: *MB20 B-DD-MB20-0*

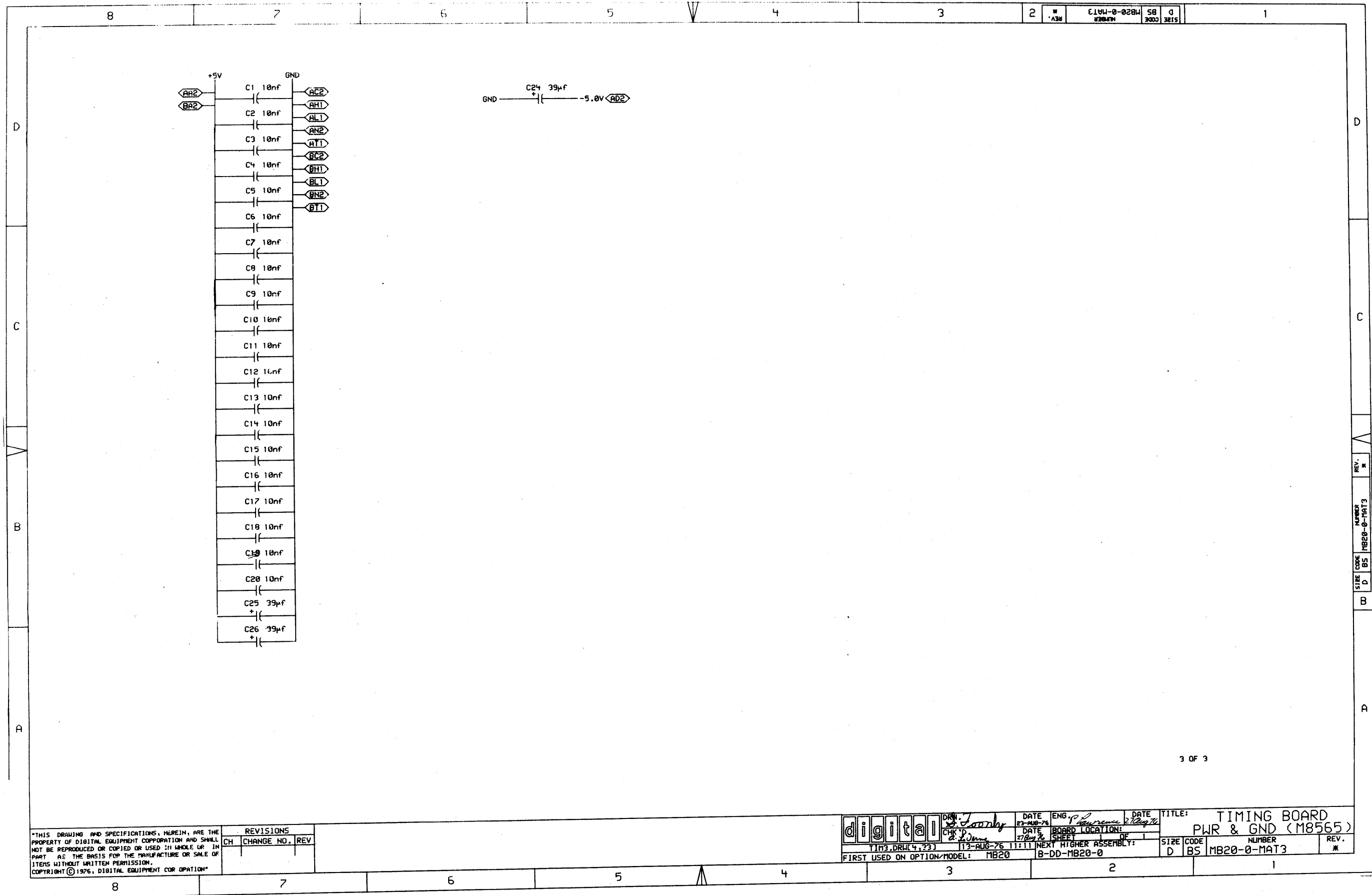


SIGNAL NAME NOTE:
 1) WHERE 'LETTER' IS USED IN SIGNAL NAME IT
 STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1
 EXAMPLE: SBUS(N) D00L = SBUS0 D00L
 EXAMPLE: MAC1 (N) INH TIM L = MAC1 C1 INH TIM L

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REVISIONS	
CHK	CHANGE NO. REV

digital	DRW. <i>J. J. J.</i>	DATE 03-AUG-76	ENG. <i>J. J. J.</i>	DATE 27-SEP-76	TITLE: TIMING BOARD (M8565)
	CHKD. <i>J. J. J.</i>	DATE 27-SEP-76	BOSS. <i>J. J. J.</i>	LOCATION: DE	SIZE CODE D BS
TIM2, DRW 4, 331		112-AUG-76	14:14	NEXT HIGHER ASSEMBLY: B-DD-MB20-0	NUMBER MB20-0-MAT2
FIRST USED ON OPTION/MODEL: MB20				REV. #	



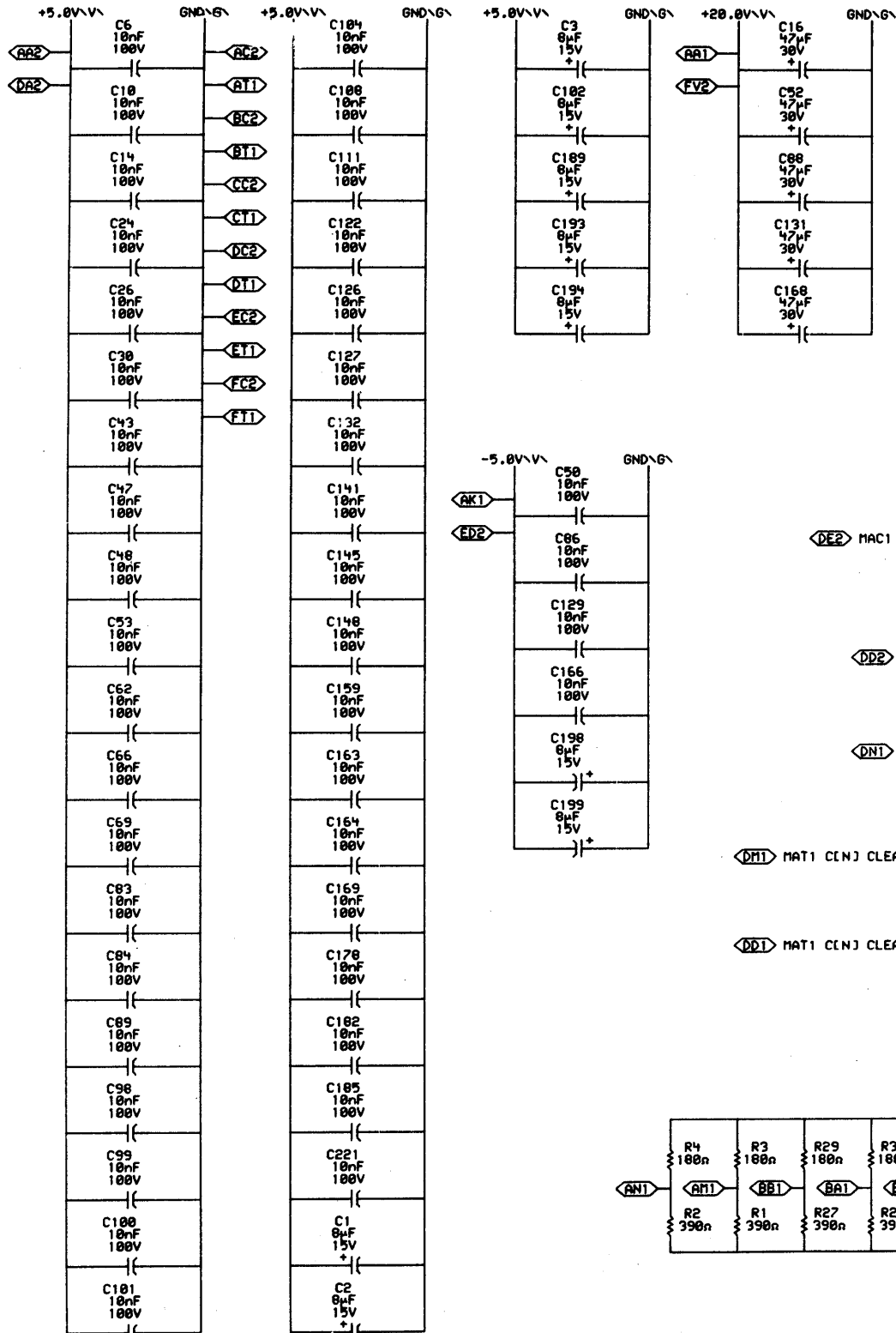
3 OF 3

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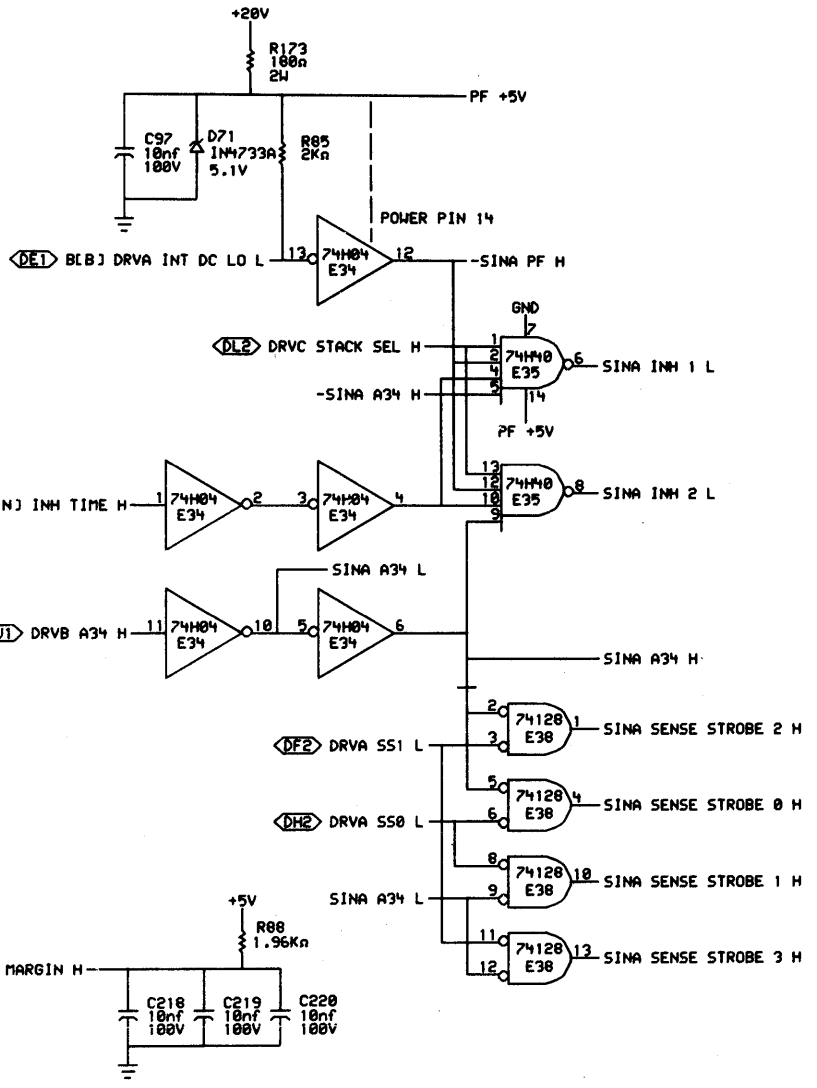
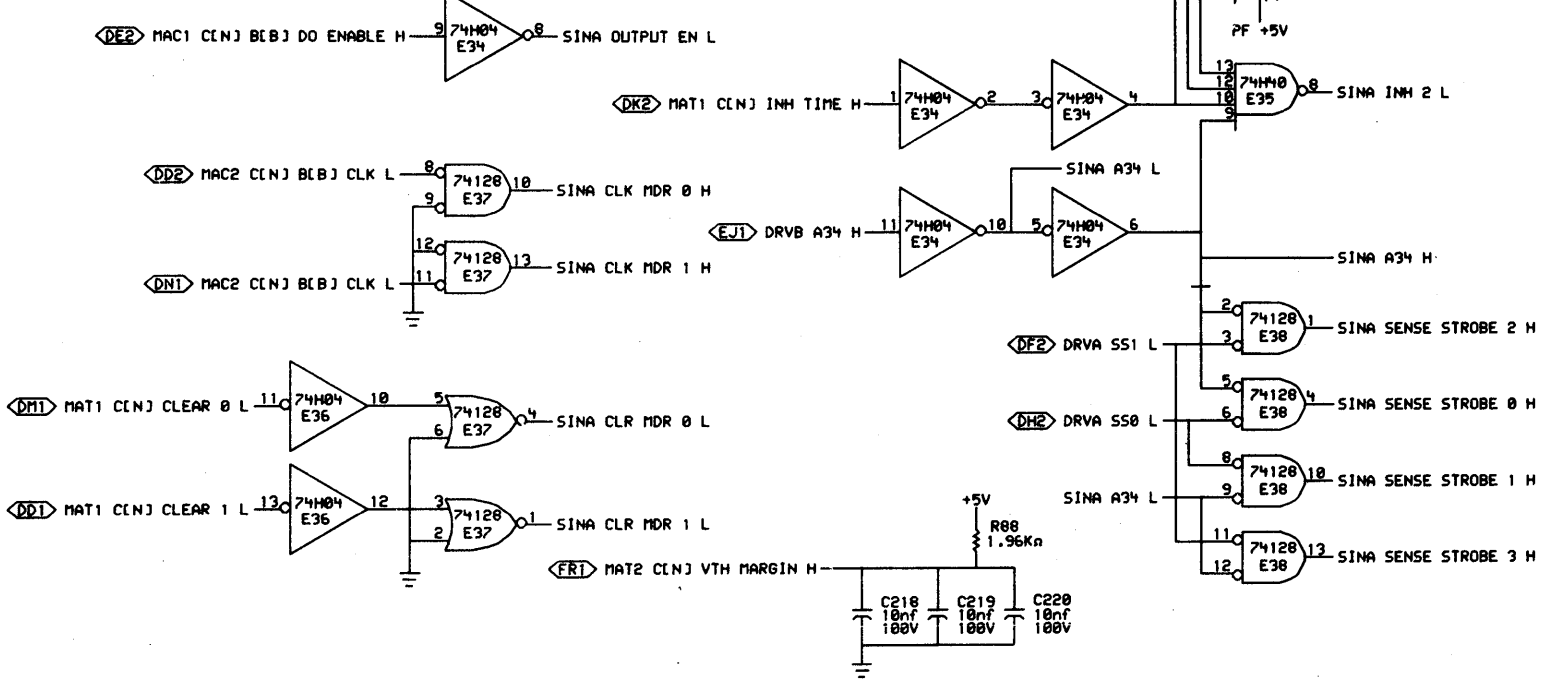
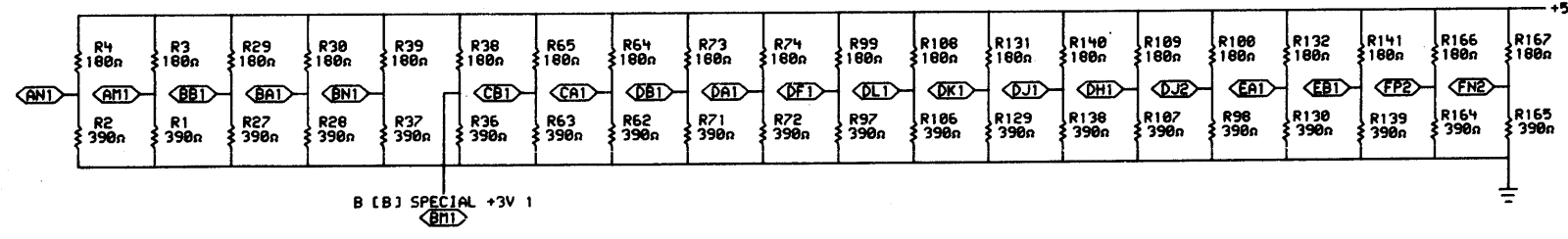
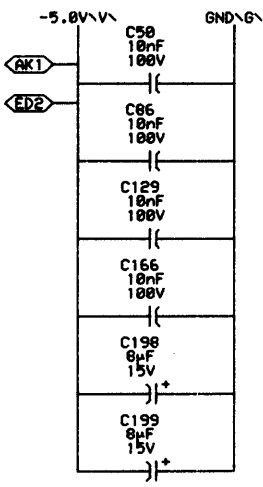
REVISIONS		
CH	CHANGE NO.	REV

digital	DRN. J. J. J.	DATE 03-08-76	ENG. P. J. J.	DATE 2/22/76	TITLE: TIMING BOARD
	CHK. P. J. J.	DATE 1/24/76	DATE 1/24/76	BOARD LOCATION: 1	PWR & GND (M8565)
FIRST USED ON OPTION/MODEL: MB20		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		SIZE CODE D BS	NUMBER MB20-0-MAT3

REV. # 2
 SIZE CODE D BS
 NUMBER MB20-0-MAT3
 REV. #



NOTES:
 1) THE G116, H224B AND G236 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 32K BY 37 BITS, WHICH IS 1 BANK OF STORAGE FOR 1 CONTROL. SEE D-MB20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
 2) THESE PRINTS REFLECT REV B OF THE G116 CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV A OF THE H224B CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV E OF THE G236 CIRCUIT SCHEMATICS
 3) VARIABLE DEFINITIONS
 [N] INDICATE A CONTROL
 [L] INDICATE A TIMING BOARD
 [B] INDICATE A BANK NUMBER (0-15)
 [M] INDICATE A SM NUMBER (0-3)

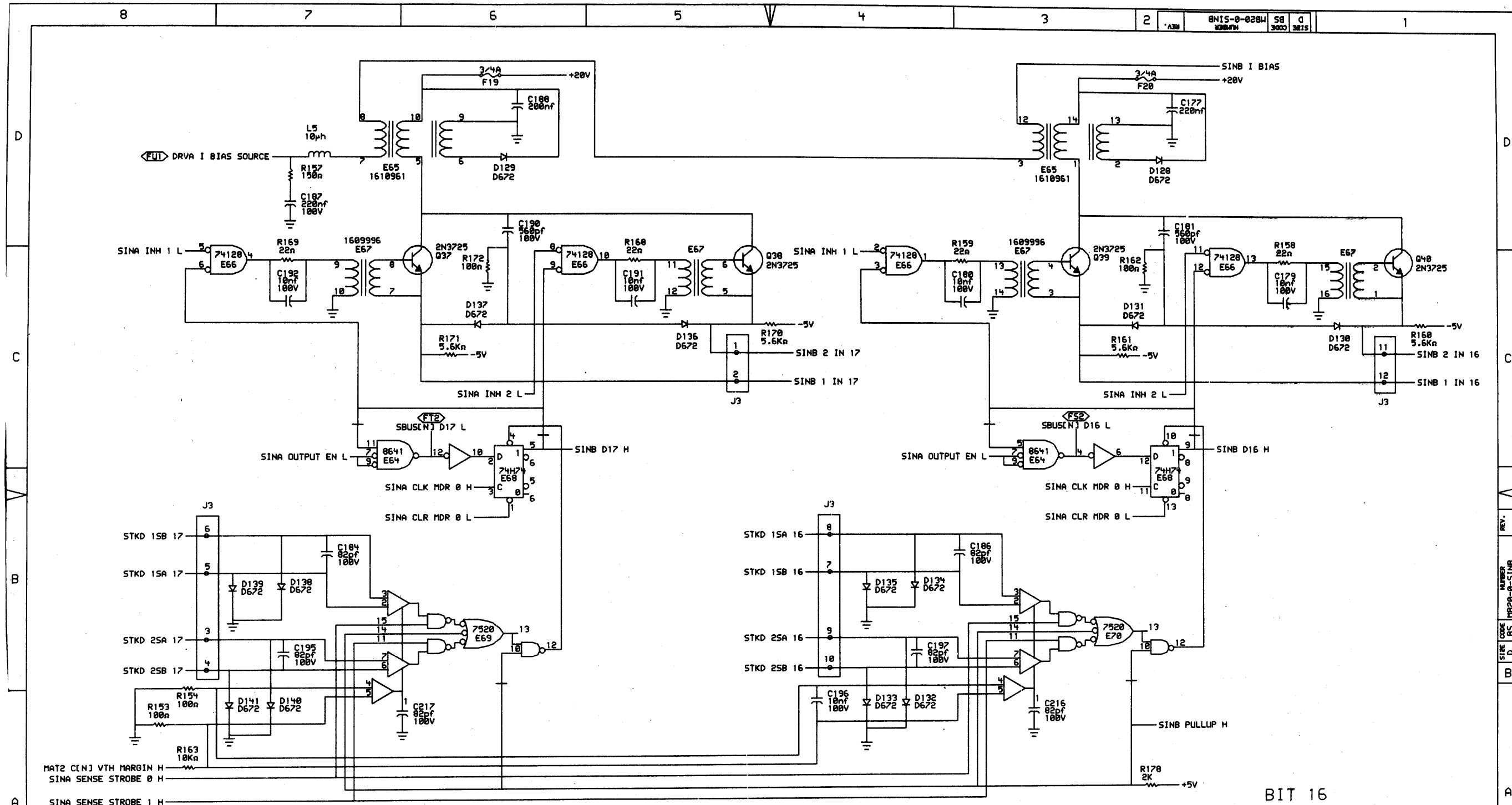


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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE	ENG.	DATE	TITLE:
	17-AUG-76	J. Family	12-29-76	32K SENSE/INHIBIT (G116)
SIN1 DRU(4,33)	DATE	BOARD LOCATION	SIZE	CODE
17-AUG-76	17-AUG-76	117-20	D	BS
FIRST USED ON OPTION/MODEL:	MB20	NEXT HIGHER ASSEMBLY:	B-DD-MB20-0	NUMBER
				REV.
				*

THIS PRINT IS FOR BITS 0-PAR



NOTE: WHERE 'LETTER' IS USED IN SIGNAL NAMES
 THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUS[N] D00 L = SBUS0 D00 L
 [B] = 00 THRU 15 EXAMPLE: BCB] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 C[M] SM[M] SEL H =
 MAC1 C0 S00 SEL H

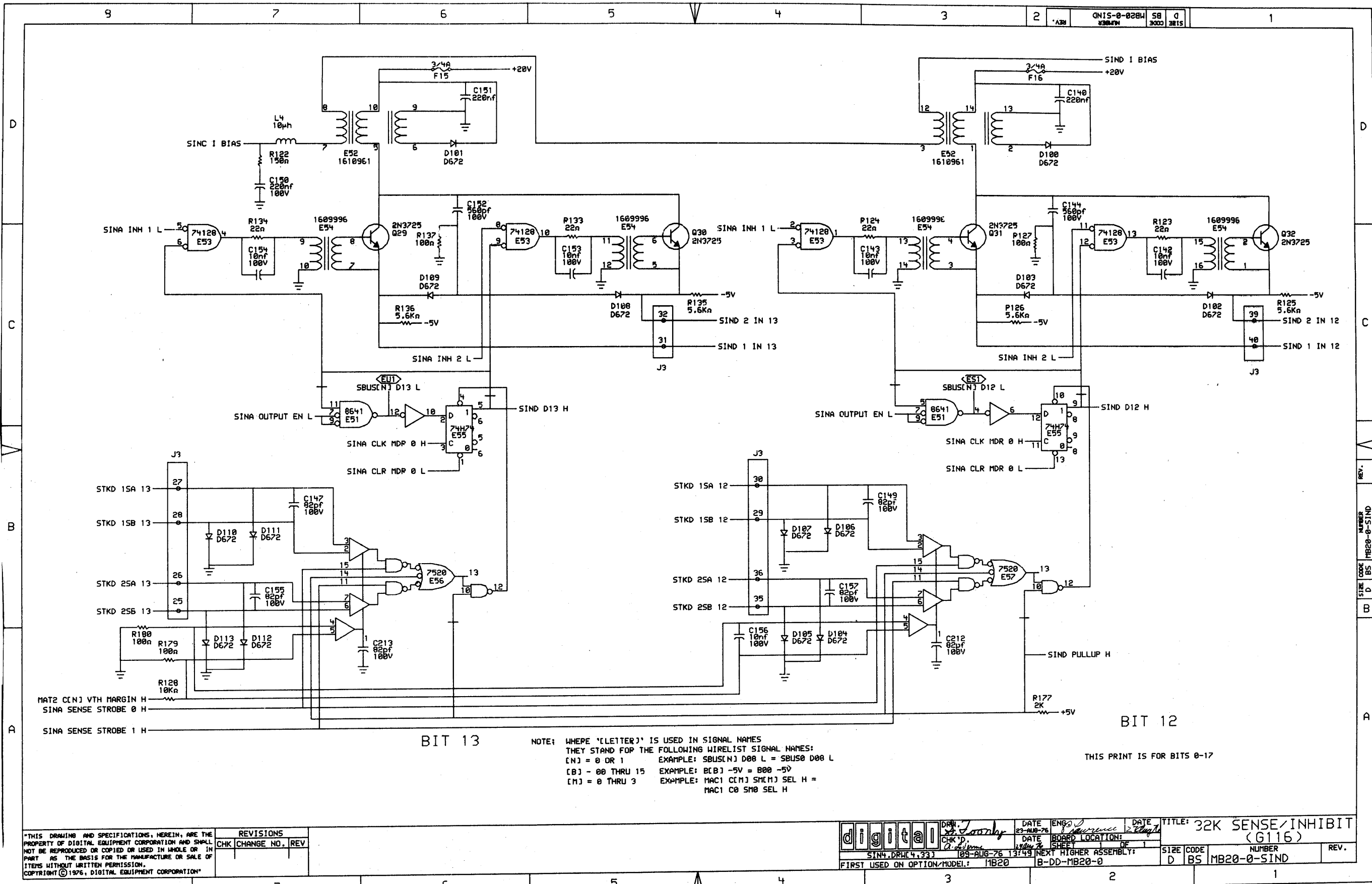
BIT 16
 THIS PRINT IS FOR BITS 0-17

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REVISIONS		
CHK	CHANGE NO.	REV

	DRW. <i>J. J. J.</i>	DATE <i>11-23-75</i>	ENG. <i>P. J.</i>	DATE <i>2/18/76</i>	TITLE: 32K SENSE/INHIBIT (G116)
	CHK'D <i>A. L.</i>	DATE <i>2/18/76</i>	BOARD LOCATION	SHEET <i>1</i> OF <i>1</i>	SIZE CODE NUMBER REV.
FIRST USED ON OPTION/MODEL: MB20		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		D BS MB20-0-SINB	

REV. NUMBER 1000 3000 3015
 SIZE CODE BS MB20-0-SINB
 REV. A



BIT 13

BIT 12

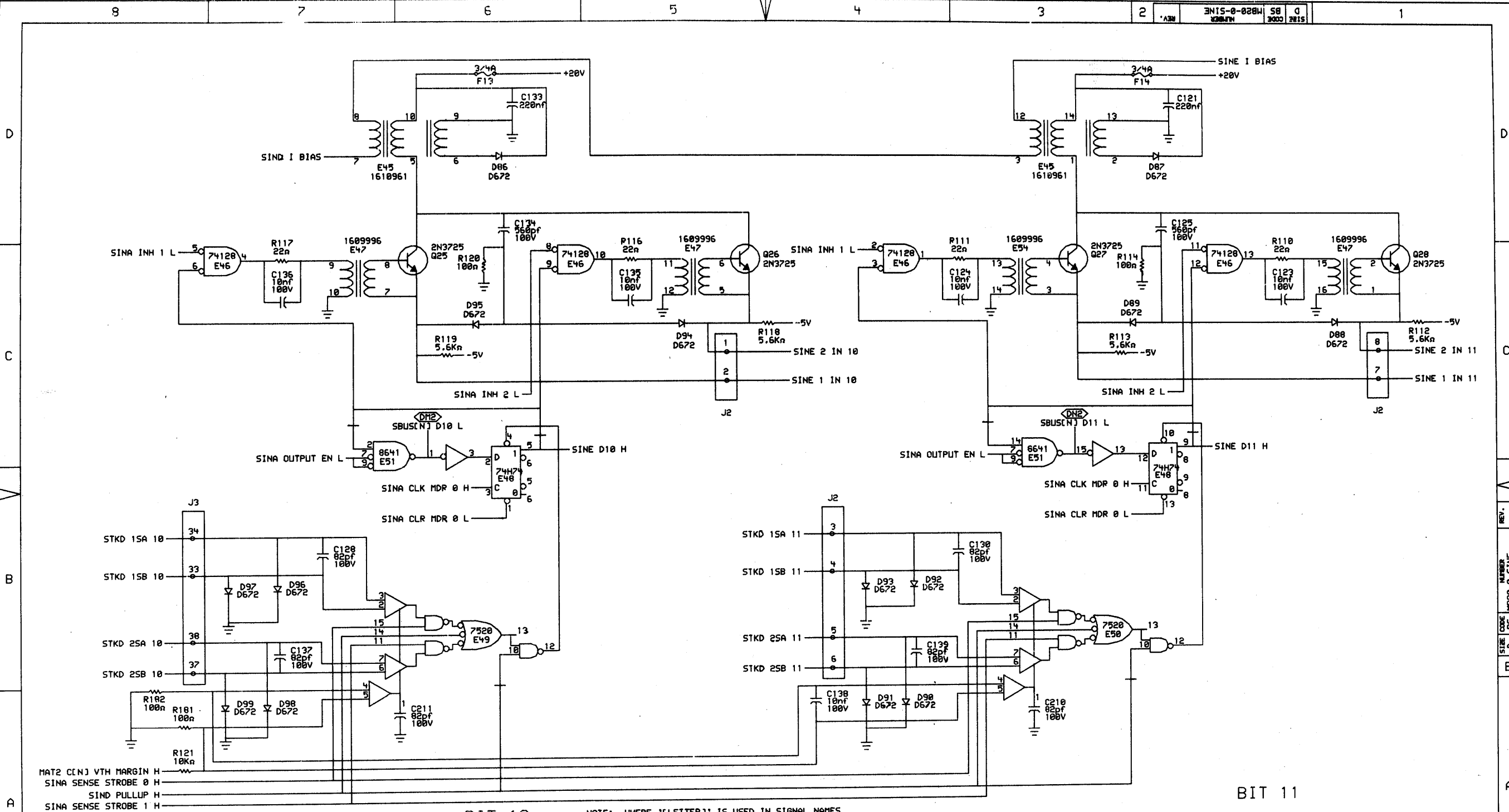
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES
 THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUSENJ D00 L = SBUS0 D00 L
 [B] = 00 THRU 15 EXAMPLE: B[B] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 [M] SM0 SEL H =
 MAC1 C0 SM0 SEL H

THIS PRINT IS FOR BITS 0-17

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REVISIONS	
CHK	CHANGE NO. REV

	DRAWN: J. Looney DATE: 8-2-76 CHECKED: J. Looney DATE: 8-2-76	ENGR: J. Lawrence DATE: 8-2-76 BOARD LOCATION: SHEET: 2 OF 1	TITLE: 32K SENSE/INHIBIT (G116)
SINA.DRM 4.331 FIRST USED ON OPTION/MODEL: MB20	08-AUG-76 13:49 NEXT HIGHER ASSEMBLY: B-DD-MB20-0	SIZE CODE: D BS MB20-0-SIND NUMBER: 2	REV.: 1



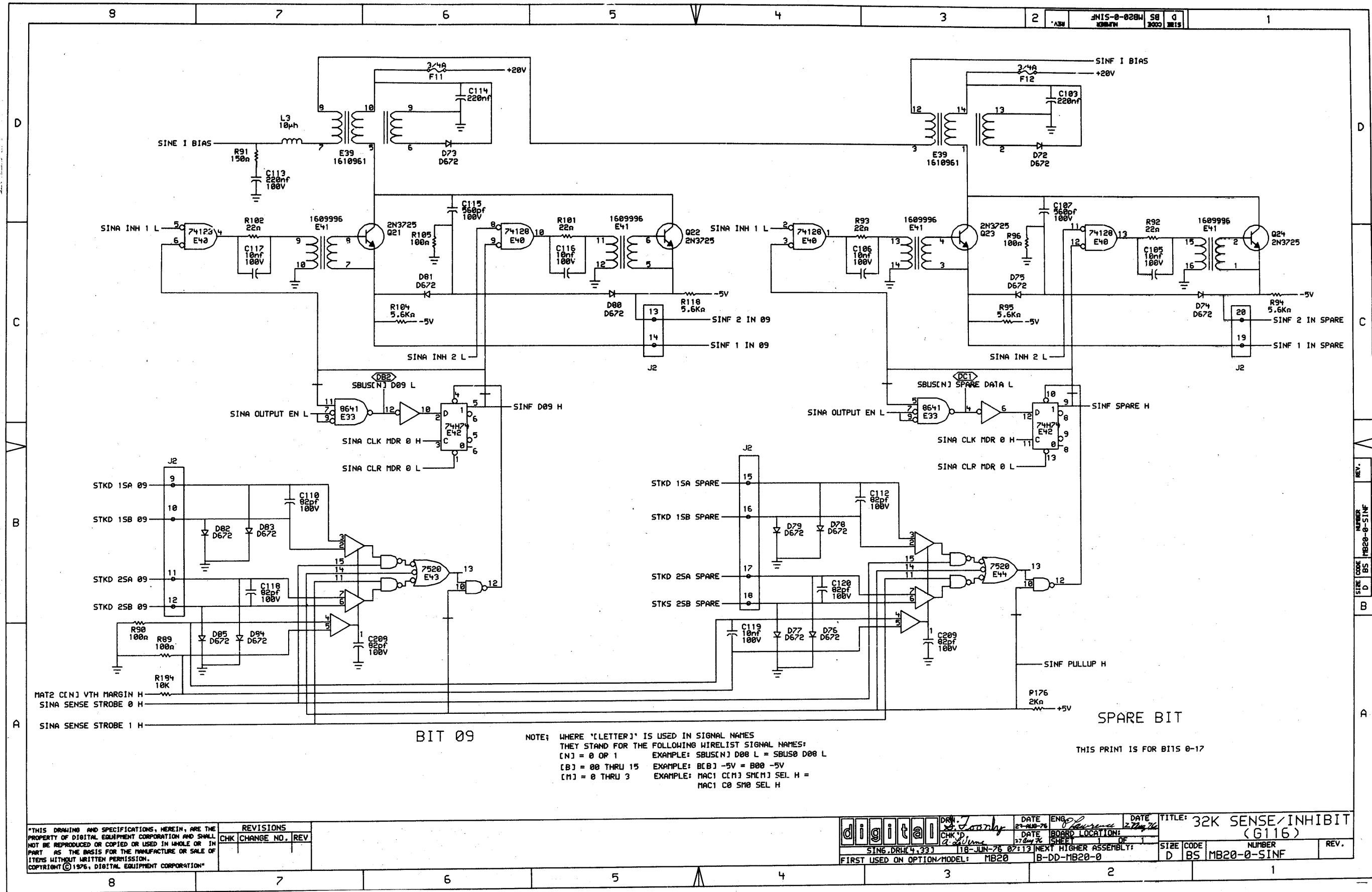
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES
THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUSCN] D08 L = SBUS0 D08 L
[B] = 00 THRU 15 EXAMPLE: BC] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC] CM] SM]M] SEL H =
 MAC] C0] S]M]0] SEL H

BIT 11
THIS PRINT IS FOR BITS 0-17

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REVISIONS	
CHK	CHANGE NO. REV

digital	DRN: J. J. J...	DATE: 03-AUG-76	ENG: P...	DATE: 03-AUG-76	TITLE: 32K SENSE/INHIBIT (G116)
	CHK'D: A. J...	DATE: 17-JUN-76	BOARD LOCATION: B-DD-MB20-0	REV. 1	
SIN5.DRW(4,33)		117-JUN-76 09:04	NEXT HIGHER ASSEMBLY: B-DD-MB20-0	SIZE CODE: D BS	NUMBER: MB20-0-SINE
FIRST USED ON OPTION/MODEL: MB20					REV.



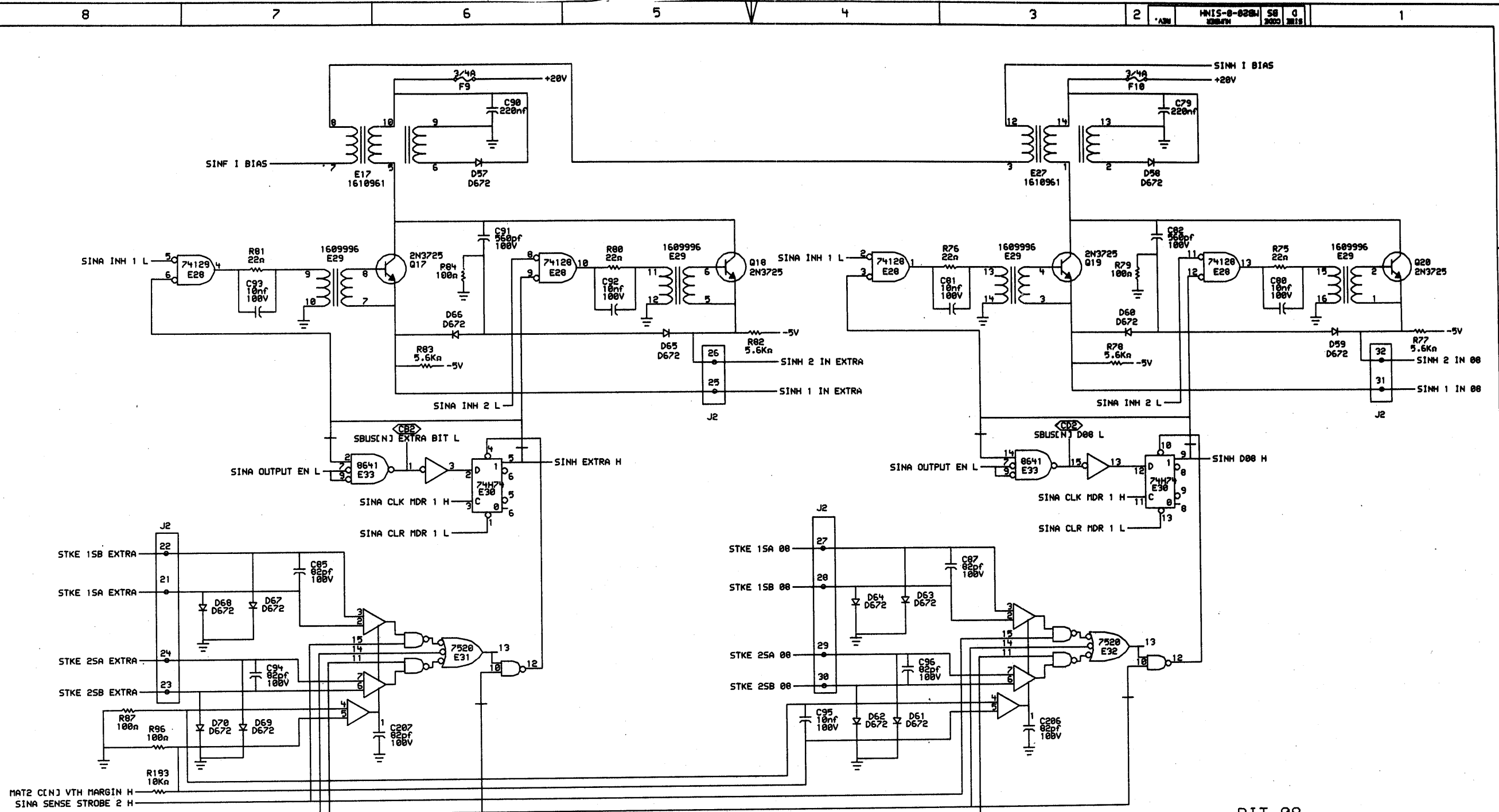
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REVISIONS		
CHK	CHANGE NO.	REV

NOTE: WHERE 'LETTER' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUS[N] D08 L = SBUS0 D08 L
 [B] = 00 THRU 15 EXAMPLE: B[B] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 [M] SM[M] SEL H = MAC1 C0 S10 SEL H

SPARE BIT
 THIS PRINT IS FOR BITS 0-17

digital SING. DRUG 4,33 FIRST USED ON OPTION/MODEL: MB20	DATE: 21-4-76 CHK'D: [Signature] DATE: 27-4-76	ENG: [Signature] DATE: 27-4-76 BOARD LOCATION: [Blank] SHEET: [Blank] OF [Blank]	TITLE: 32K SENSE/INHIBIT (G116)	
	NEXT HIGHER ASSEMBLY: [Blank]	SIZE CODE: D BS	NUMBER: MB20-0-SINF	
	REV. [Blank]	REV. [Blank]	REV. [Blank]	REV. [Blank]
	MB20	B-DD-MB20-0	D BS MB20-0-SINF	REV. [Blank]



EXTRA BIT

NOTE: WHERE 'LETTER' IS USED IN SIGNAL NAMES
THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUS(N) D00 L = SBUS0 D00 L
[B] = 00 THRU 15 EXAMPLE: B(8) -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 C(M) S(M) SEL H =
MAC1 C0 S0 SEL H

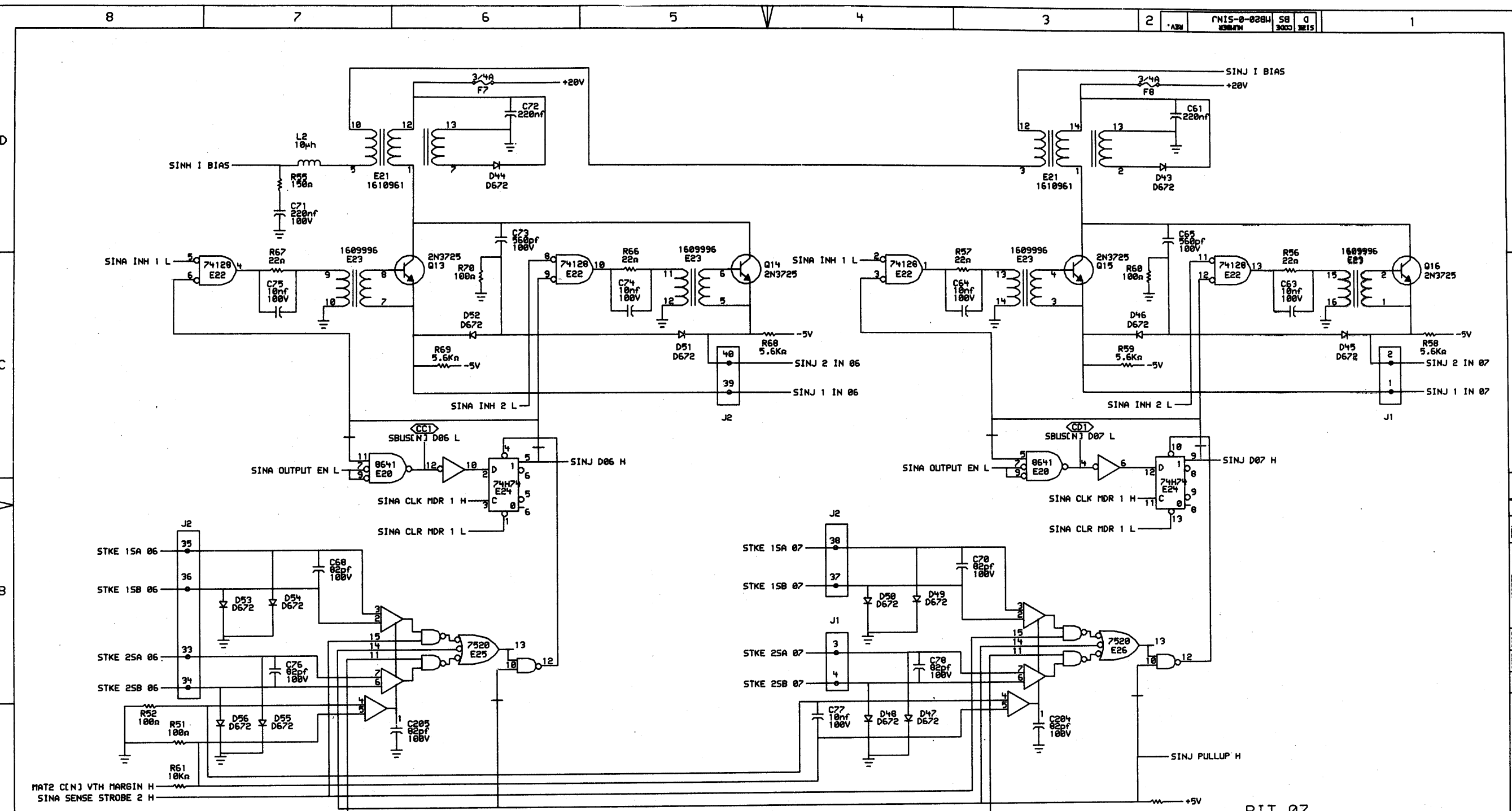
BIT 08

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REVISIONS	
CHK	CHANGE NO. REV.

digit@l	DATE	ENG	DATE	TITLE: 32K SENSE/INHIBIT (G116)
	11-2-76	P. J. J. J.	11-2-76	
SIN2, DRUM 4, 331		DATE	BOARD LOCATION:	REV.
FIRST USED ON OPTION/MODEL: MB20		11-2-76	11:17	1
NEXT HIGHER ASSEMBLY: B-DD-MB20-0			SIZE CODE	NUMBER
			D BS	MB20-0-SINH



NOTE: WHERE 'LETTER' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUS[N] D08 L = SBUS0 D08 L
 [B] = 00 THRU 15 EXAMPLE: BC[B] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 C[M] SH[M] SEL H = MAC1 C0 SH0 SEL H

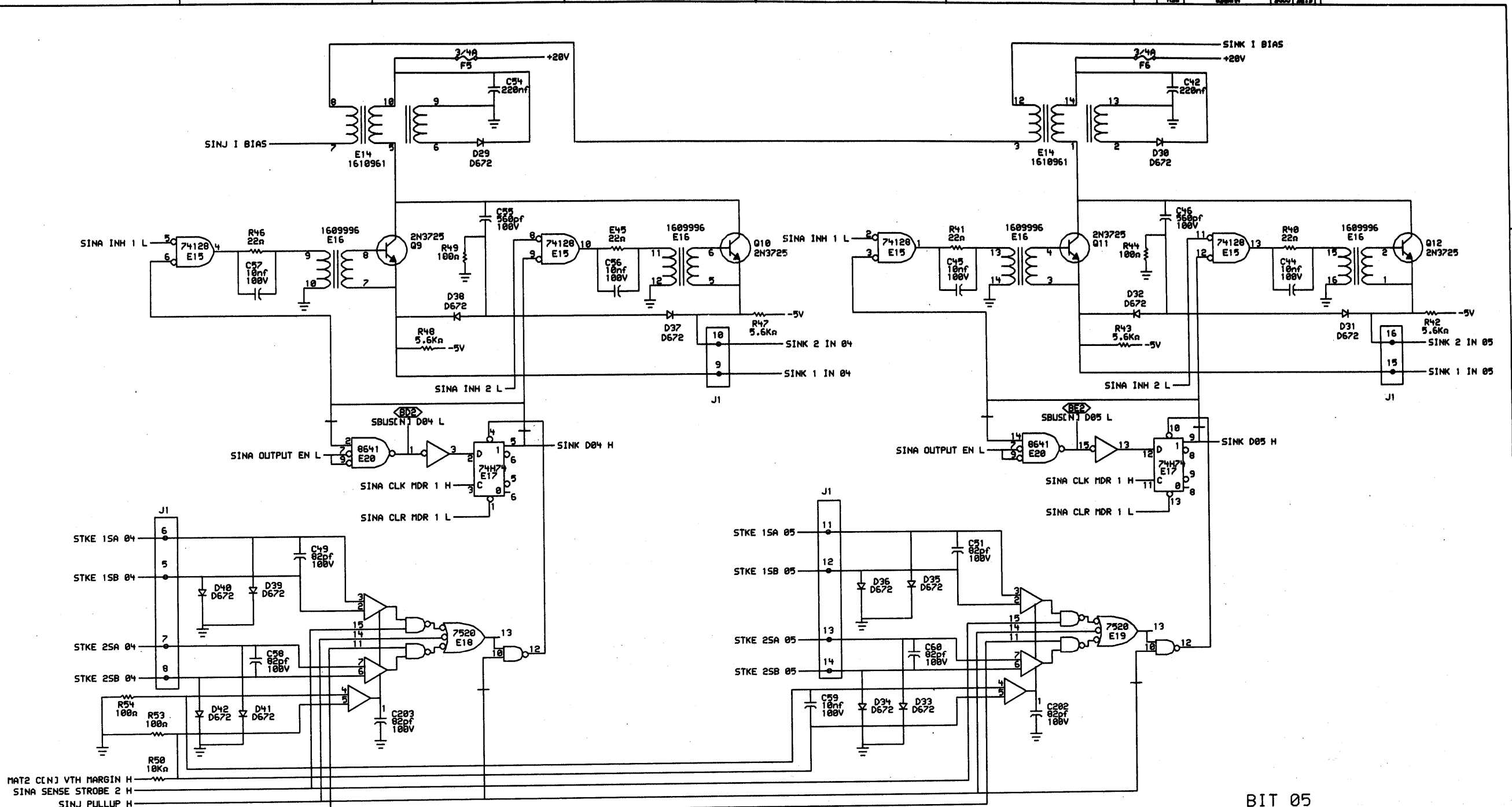
BIT 06
 BIT 07
 THIS PRINT IS FOR BITS 0-17

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REVISIONS	CHK	CHANGE NO.	REV

	DRN: <i>J. J. J.</i>	DATE: <i>8-2-76</i>	ENG: <i>P. J. J.</i>	DATE: <i>8-2-76</i>	TITLE: 32K SENSE/INHIBIT (G116)
	CHK: <i>J. J. J.</i>	DATE: <i>8-2-76</i>	BOARD LOCATION: <i> </i>		
	SIN6 DRW(4,33)	117-AUG-76 14:27	NEXT HIGHER ASSEMBLY: <i> </i>		
FIRST USED ON OPTION/MODEL: MB20		B-DD-MB20-0			

REV. NUMBER MB20-0-SINJ



BIT 04

BIT 05

NOTE: WHERE 'LETTER' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUSCN] D08 L = SBUS0 D08 L
 [B] = 00 THRU 15 EXAMPLE: BCB] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 C[M] S[M] SEL H = MAC1 C0 S10 SEL H

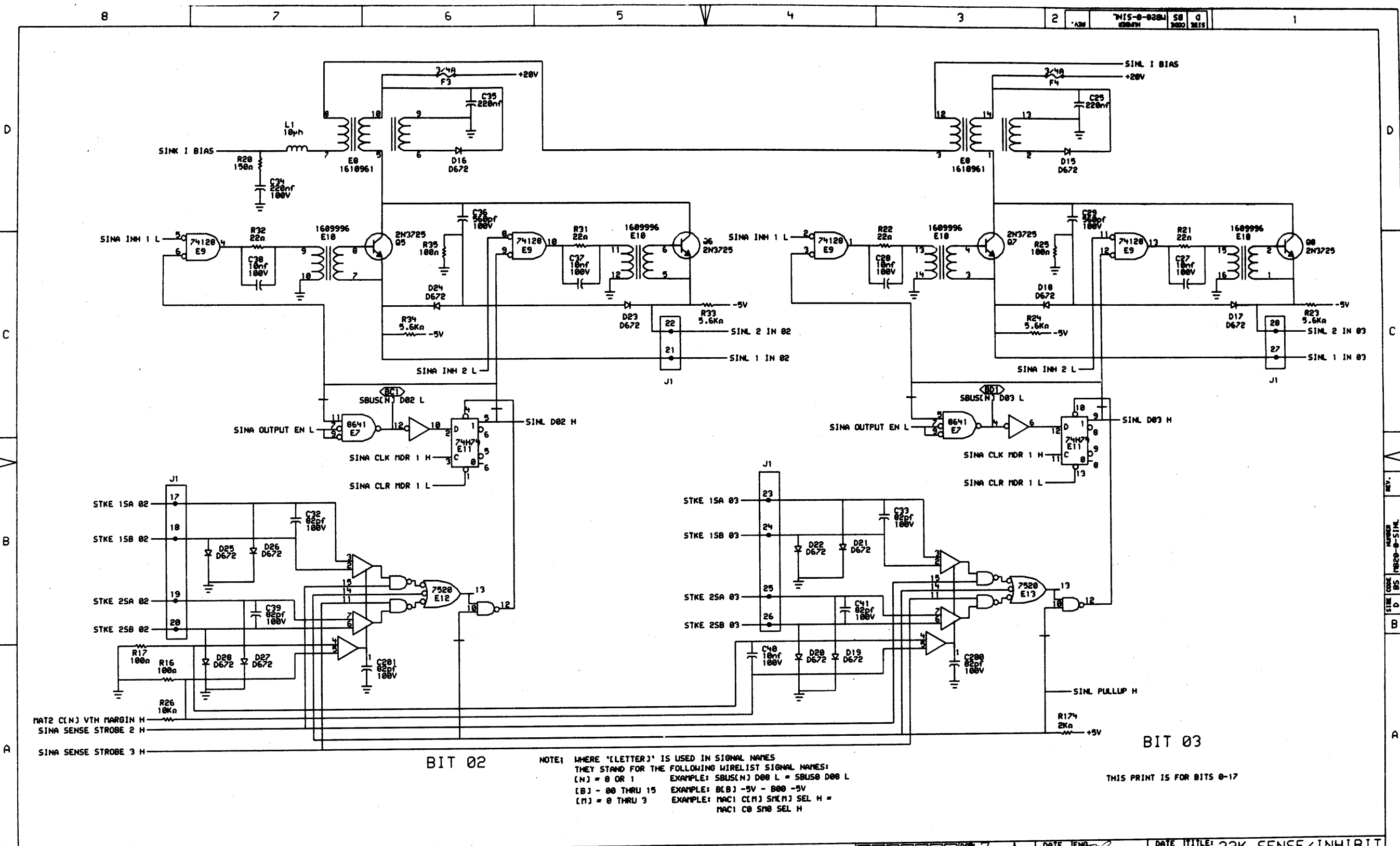
THIS PRINT IS FOR BITS 0-17

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REVISIONS		
CHK	CHANGE NO.	REV

	DRG. <i>J. L...</i>	DATE <i>07-10-76</i>	ENG. <i>Lawrence...</i>	DATE <i>07-10-76</i>	TITLE: 32K SENSE/INHIBIT (G116)
	CHK'D <i>L. Collins</i>	DATE <i>07-10-76</i>	DATE <i>07-10-76</i>	BOARD LOCATION: <i> </i>	
FIRST USED ON OPTION/MODEL: MB20			NEXT HIGHER ASSEMBLY: B-DD-MB20-0		
SIZE	CODE	NUMBER	REV.		
D	B5	MB20-0-SINK			

REV. NUMBER MB20-0-SINK



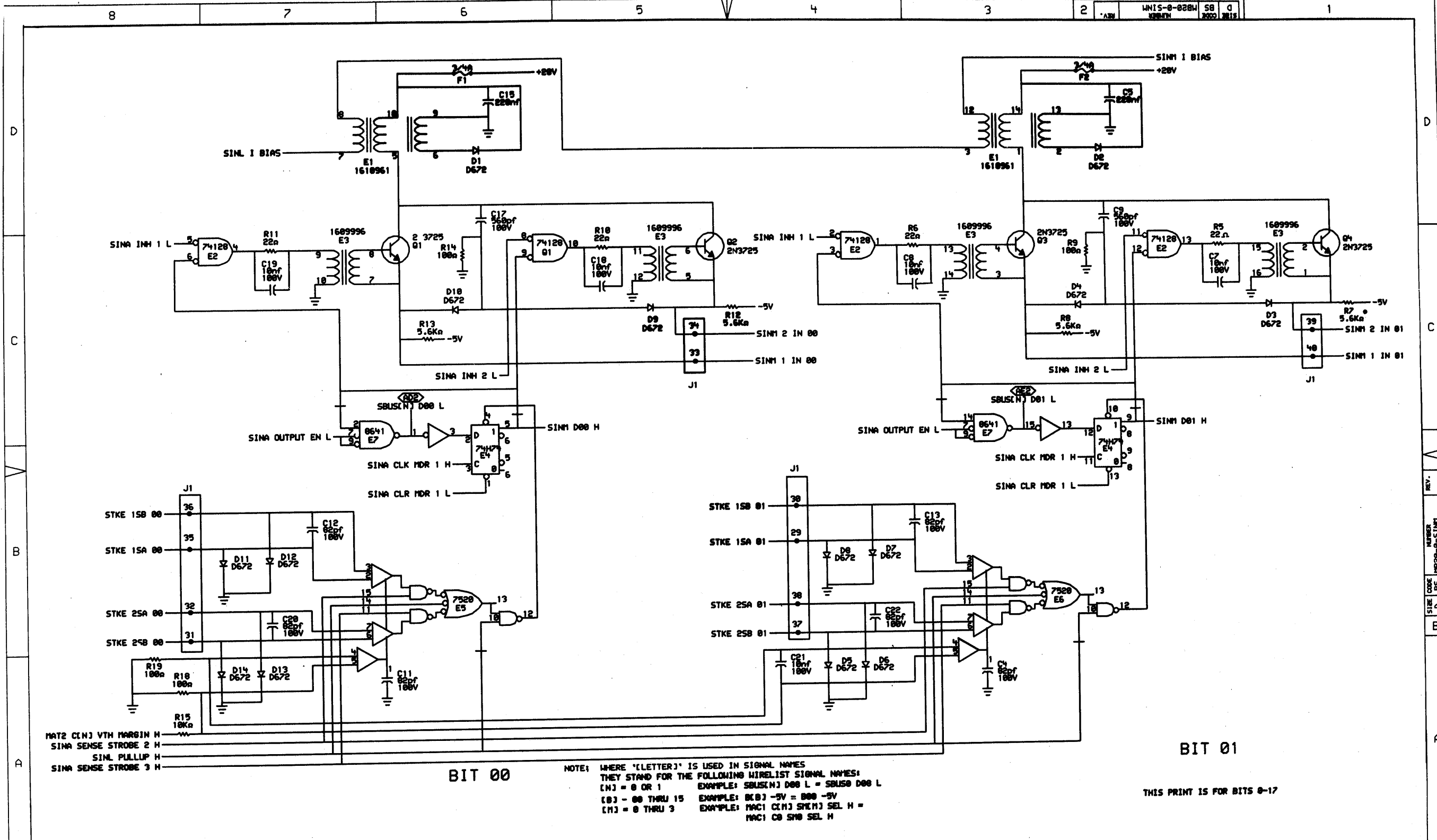
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUS(N) D00 L = SBUS0 D00 L
 [B] = 00 THRU 15 EXAMPLE: BE(B) -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 (M) SH(M) SEL H = MAC1 C0 SH0 SEL H

BIT 02 BIT 03
 THIS PRINT IS FOR BITS 0-17

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DES. <i>J. L. J...</i>	DATE <i>03-10-76</i>	ENG. <i>P. R...</i>	DATE <i>03-10-76</i>	TITLE: 32K SENSE/INHIBIT (G116)
	CHK'D. <i>C. J...</i>	DATE <i>07-29-76</i>	ISSUED LOCATION: <i>1105</i>	DATE <i>07-29-76</i>	REV. <i>1</i>
FIRST USED ON OPTION MODEL: MB20			NEXT HIGHER ASSEMBLY: B-DD-MB20-0		SIZE CODE: D BS
NUMBER: MB20-0-SINL				REV.:	



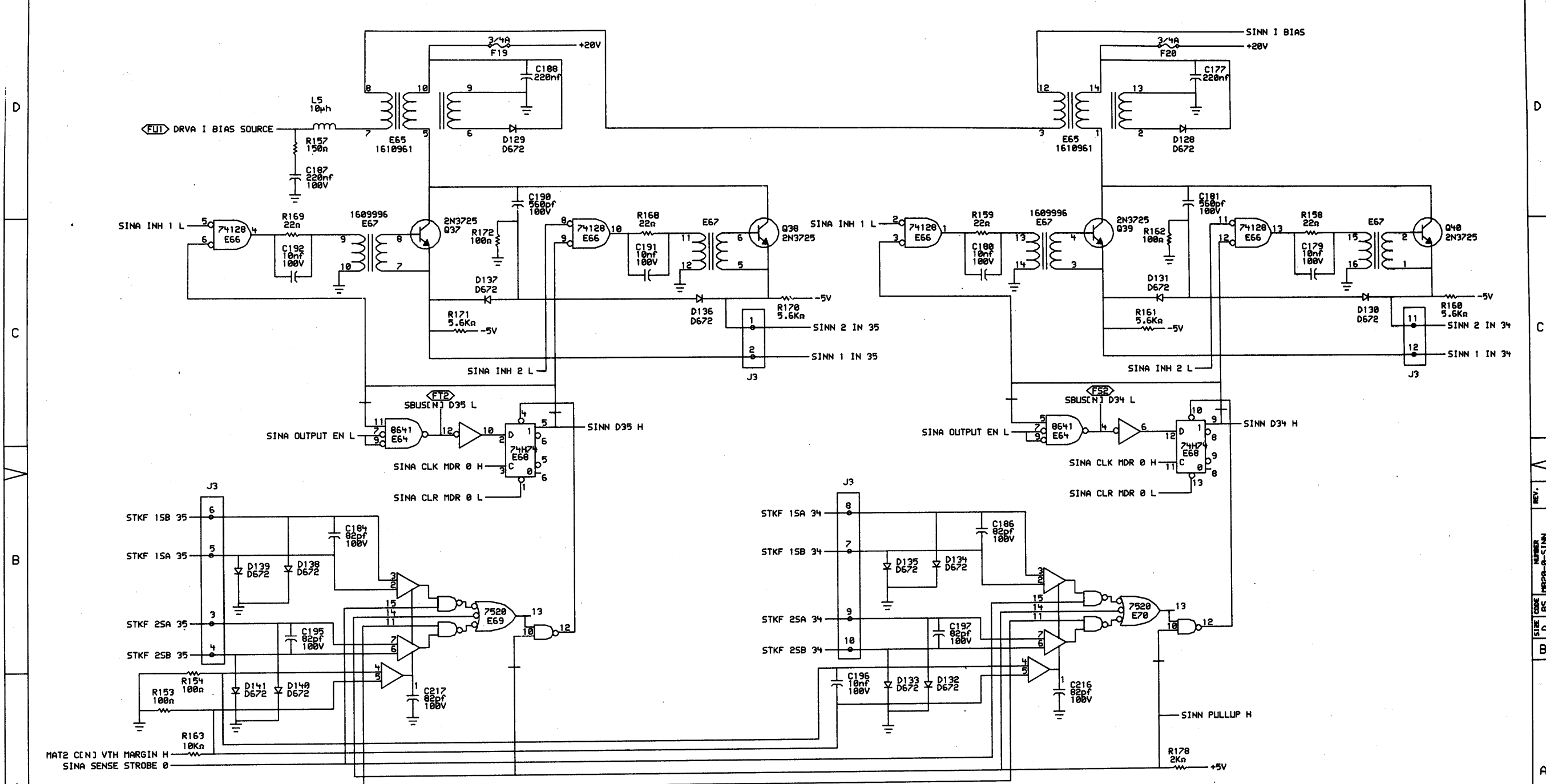
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUSIN D00 L = SBUS D00 L
 [B] = 00 THRU 15 EXAMPLE: BCB -5V = B00 -5V
 [I] = 0 THRU 3 EXAMPLE: MAC1 C01 SENS H = MAC1 C0 S0 SEL H

BIT 01
 THIS PRINT IS FOR BITS 0-17

REVISIONS		
CHK	CHANGE NO.	REV

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digital	DRN: J. J. J.	DATE: 21-10-76	ENG: P. J. J.	DATE: 21-10-76	TITLE: 32K SENSE/INHIBIT (G116)
	CHK: J. J. J.	DATE: 21-10-76	DATE: 21-10-76	BOARD LOCATION: 1	NUMBER: 1
FIRST USED ON OPTION MODEL: MB20				NEXT HIGHER ASSEMBLY: 1B-DD-MB20-0	
SIZE	CODE	NUMBER	REV.		
D	B5	MB20-0-SINM			



BIT 35

BIT 34

NOTE: WHERE "[LETTER]" IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUS[N] D00 L = SBUS0 D00 L
 [B] = 00 THRU 15 EXAMPLE: BCB] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 [CM] S[M] SEL H = MAC1 C0 S00 SEL H

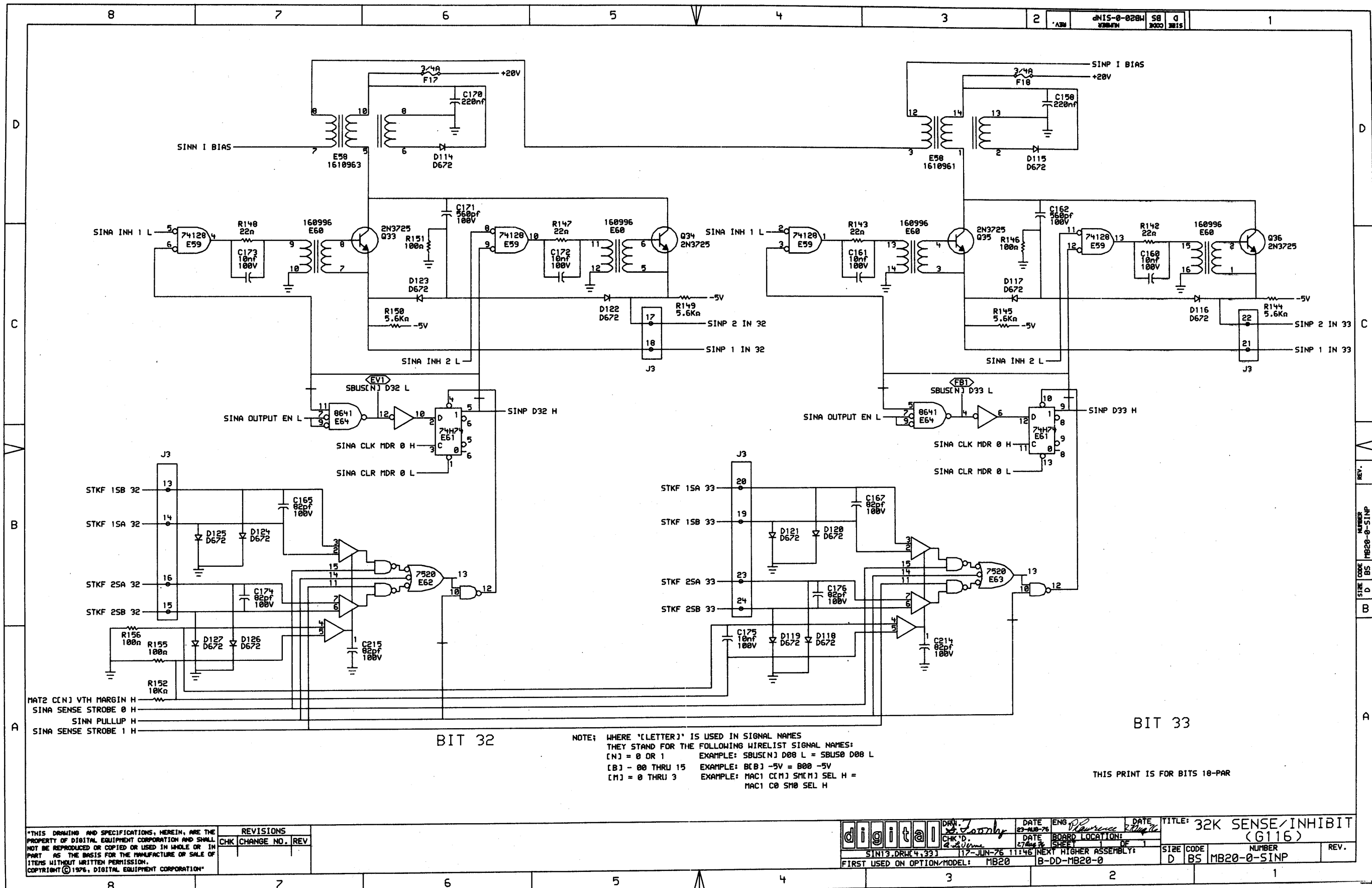
THIS PRINT IS FOR BITS 10-PAR

REV. 1
 NUMBER MB20-0-SINN
 SIZE D BS
 CODE MB20-0-SINN

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REVISIONS		
CHK	CHANGE NO.	REV.

	DATE 23-MAR-76	ENG. J. J. ...	DATE 27-MAR-76	TITLE: 32K SENSE/INHIBIT (G116)
	DATE 27-MAR-76	BOARD LOCATION: ...	SHEET 1	
SIN12.DRAW(4.33)	117-JUN-76 11:42	NEXT HIGHER ASSEMBLY: ...	SIZE CODE D BS	NUMBER MB20-0-SINN
FIRST USED ON OPTION/MODEL: MB20	B-DD-MB20-0			REV. 1



BIT 32

BIT 33

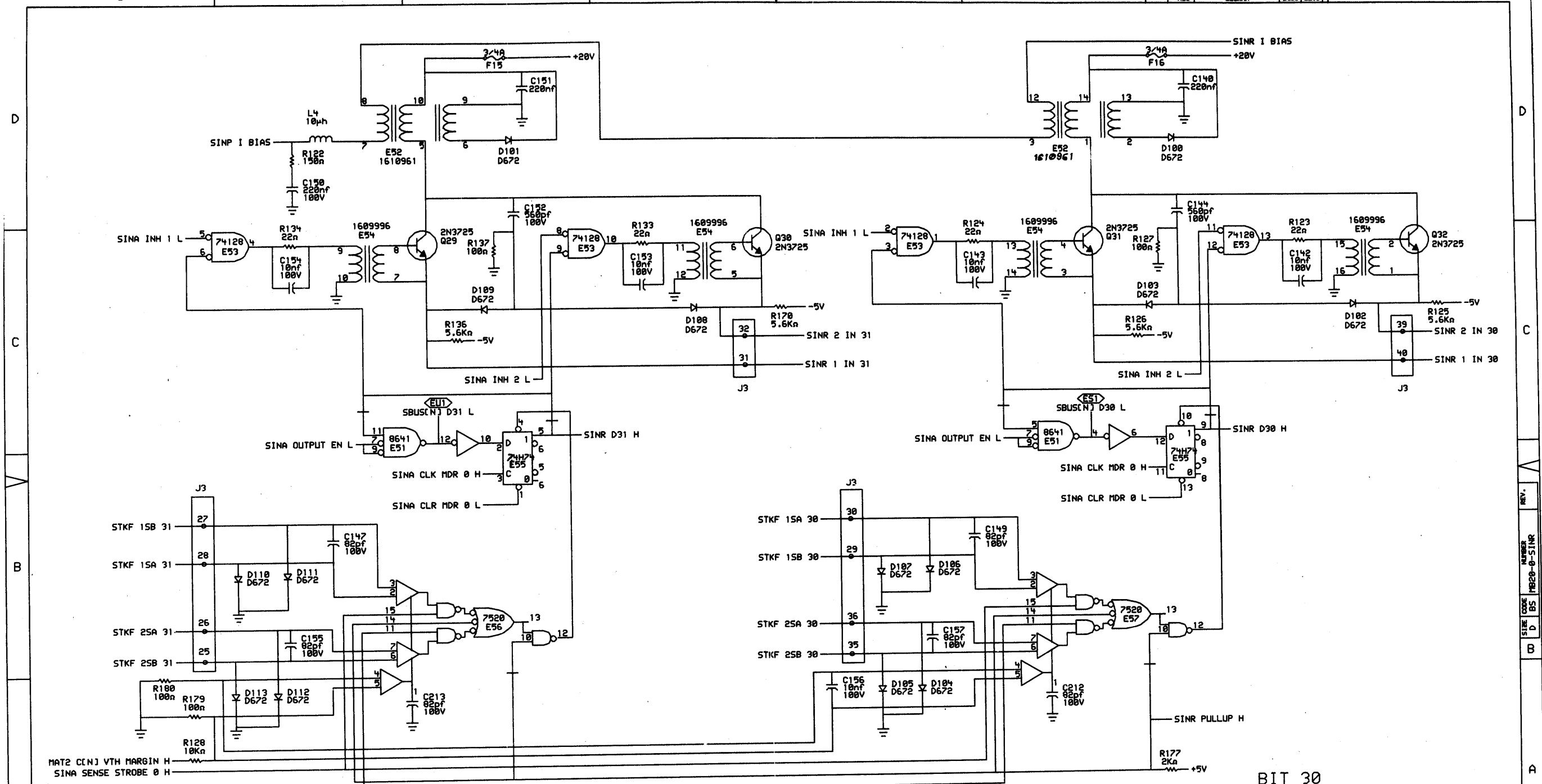
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUS[N] D08 L = SBUS0 D08 L
[B] - 00 THRU 15 EXAMPLE: B[B] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 [M] SMC[M] SEL H = MAC1 C0 S10 SEL H

THIS PRINT IS FOR BITS 18-PAR

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REVISIONS table with columns for CHK, CHANGE NO., and REV.

digital logo and title block containing drawing information: DRN: J. J. L. DATE: 8-2-76, ENG: Lawrence, DATE: 7/28/76, TITLE: 32K SENSE/INHIBIT (G116), SIZE CODE: D BS, NUMBER: MB20-0-SINP, REV.:



BIT 31

BIT 30

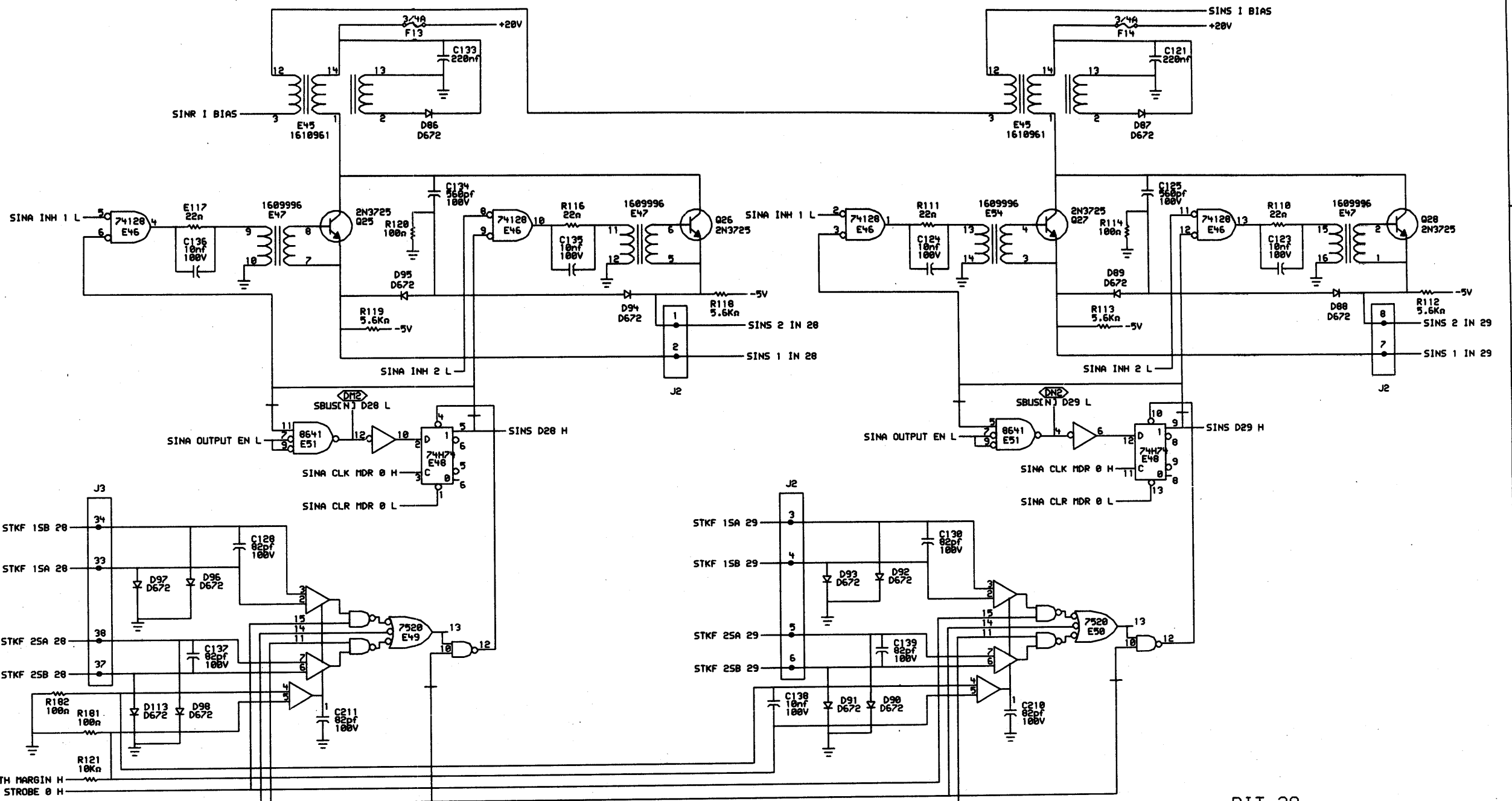
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES
 THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUSCNJ D08 L = SBU50 D08 L
 [B] = 00 THRU 15 EXAMPLE: BCBJ -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 C[M] S[M] SEL H =
 MAC1 C0 S0 SEL H

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE	ENG	DATE	TITLE: 32K SENSE/INHIBIT (G115)
	11-7-76	Lawrence	11-7-76	
CHK'D	DATE	BOARD LOCATION	SIZE CODE NUMBER REV.	
A. D. ...	11-7-76		D	BS MB20-0-SINR
SIN14, DRW 4, 331 11-7-76 NEXT HIGHER ASSEMBLY: B-DD-MB20-0				1

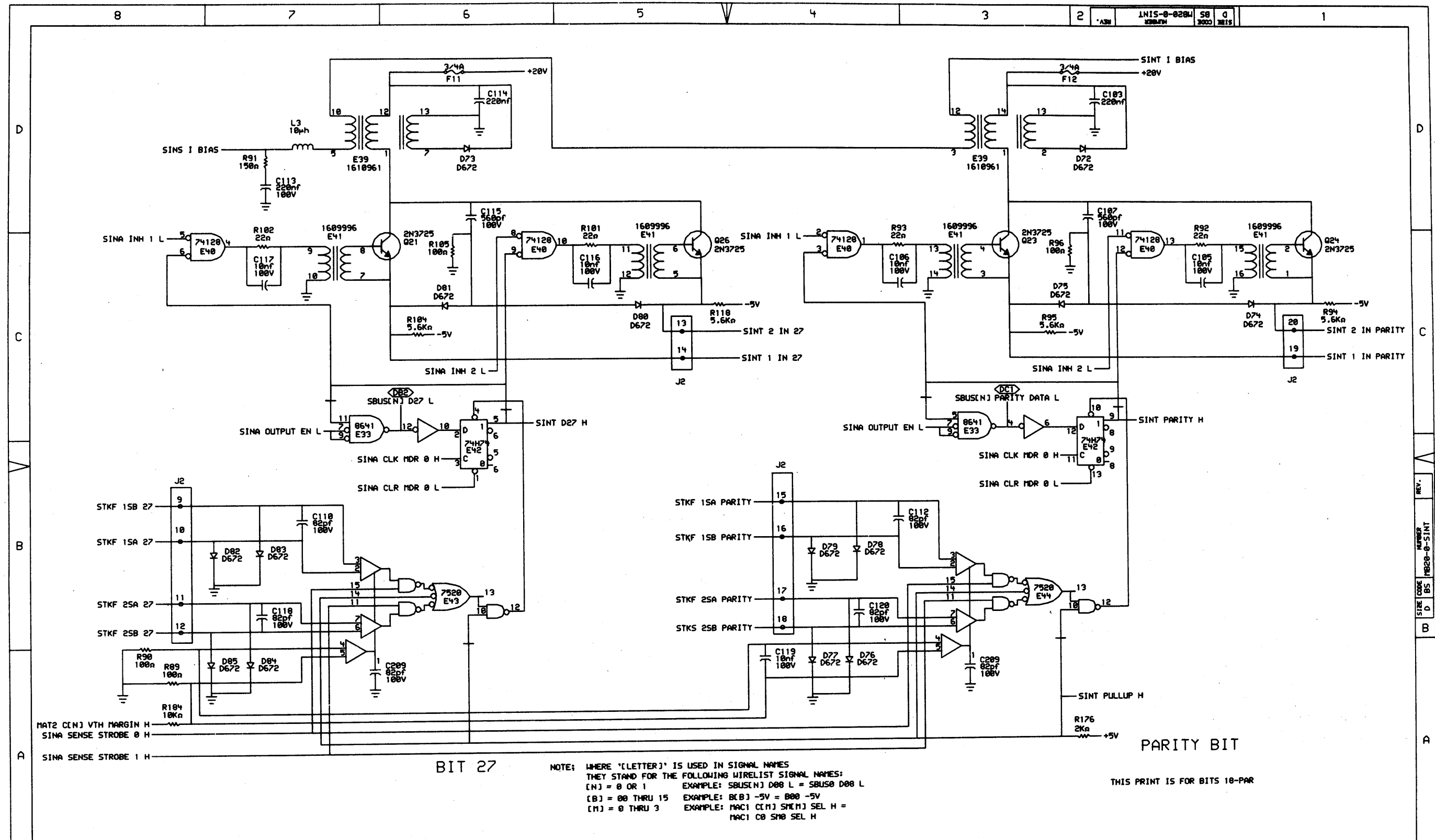


BIT 29

THIS PRINT IS FOR BITS 18-PAR

NOTE: WHERE 'LETTER' IS USED IN SIGNAL NAMES
THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUSCN] D08 L = SBUS0 D08 L
[B] = 00 THRU 15 EXAMPLE: B[B] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 C[M] S[M] SEL H =
 MAC1 C0 S10 SEL H

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	CHK	CHANGE NO.			D	B5	MB20-0-SINS	



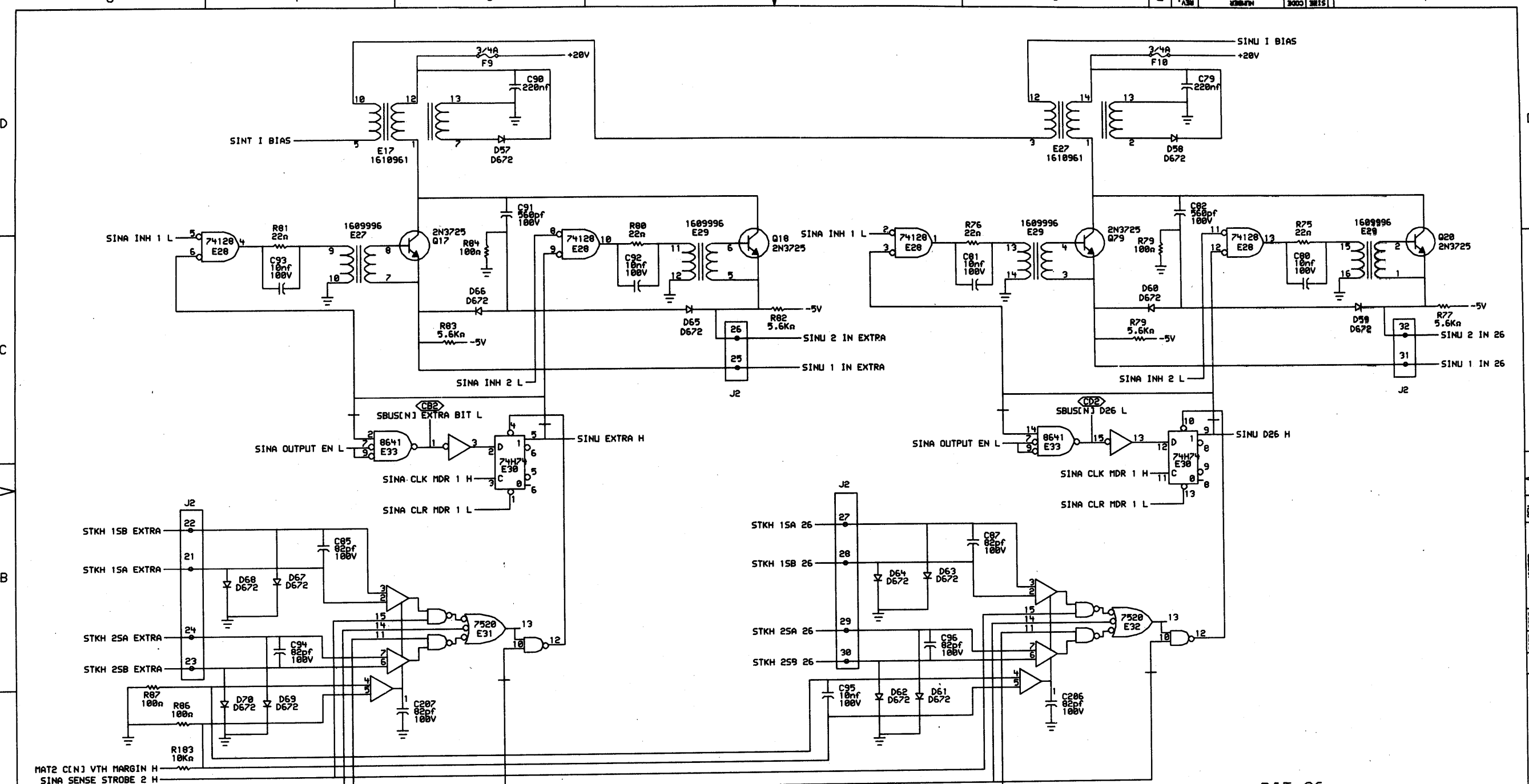
PARITY BIT

THIS PRINT IS FOR BITS 18-PAR

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE: 02-21-76	ENG: J. J. J.	DATE: 02-21-76	TITLE: 32K SENSE/INHIBIT (G116)
	DATE: 02-21-76	DATE: 02-21-76	DATE: 02-21-76	DATE: 02-21-76
SIN16.DRW(4,33)	123-JUN-76 19:19	NEXT HIGHER ASSEMBLY: B-DD-MB20-0	SIZE CODE: D BS	NUMBER: MB20-0-SINT
FIRST USED ON OPTION/MODEL: MB20				REV.:



BIT 26

EXTRA BIT

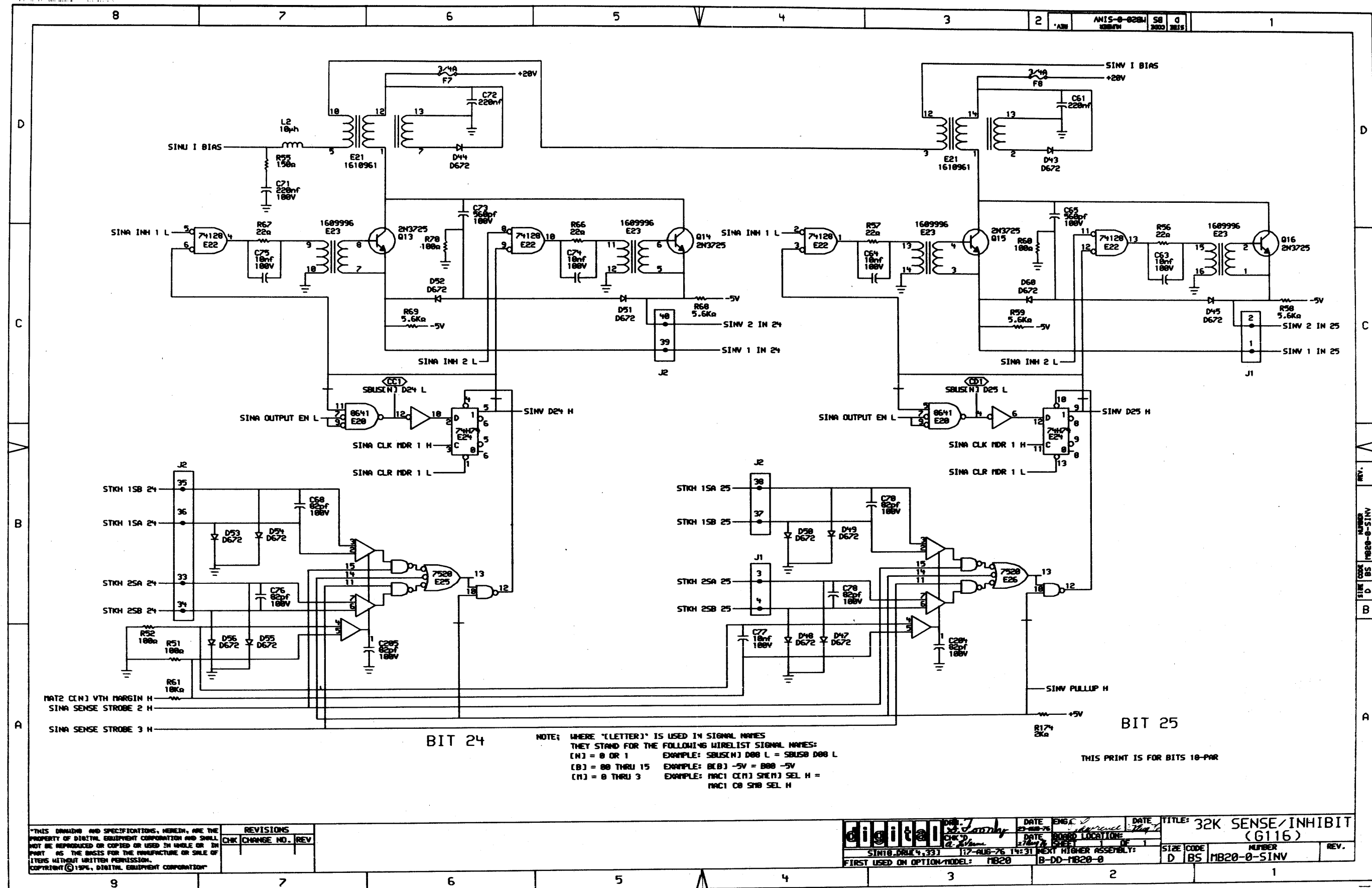
NOTE: WHERE "[LETTER]" IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBU(SN) D00 L = SBU00 D00 L
[B] = 00 THRU 15 EXAMPLE: B[B] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 C[M] S[M] H SEL H = MAC1 C0 S00 SEL H

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN. <i>J. J. J.</i>	DATE <i>82-AUG-76</i>	ENG. <i>Lawrence</i>	DATE <i>82-AUG-76</i>	TITLE: 32K SENSE/INHIBIT (G116)
	CHK'D. <i>J. J. J.</i>	DATE <i>82-AUG-76</i>	DESIGN LOCATION	SHEET 1 OF 1	
FIRST USED ON OPTION/MODEL: MB20					



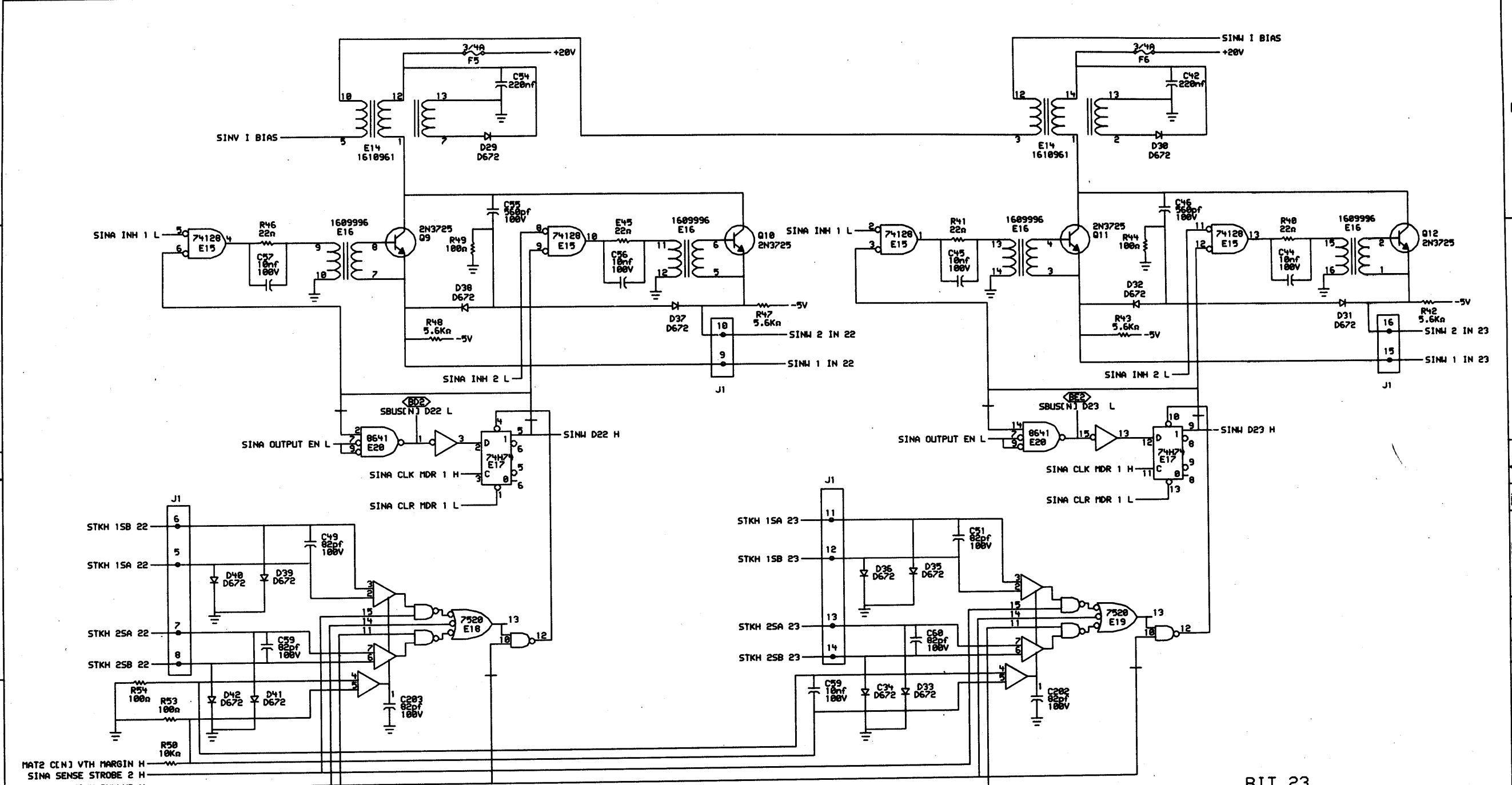
NOTE: WHERE "LETTER" IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 (N) = 0 OR 1 EXAMPLE: SBUSCN] D00 L = SBUSC D00 L
 (B) = 00 THRU 15 EXAMPLE: B(B) -5V = B00 -5V
 (I) = 0 THRU 3 EXAMPLE: NAC1 (CN] S(NCN] SEL H = NAC1 C0 S00 SEL H

BIT 25
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REVISIONS	
CHK	CHANGE NO. REV

	DATE: 11-2-76	ENG: [Signature]	DATE: [Signature]	TITLE: 32K SENSE/INHIBIT (G116)
	DATE: 11-2-76	DATE: [Signature]	DATE: [Signature]	DATE: [Signature]
SINA8.DRAW 4, 333 FIRST USED ON OPTION MODEL: MB20	117-AUG-76 14:31 NEXT HIGHER ASSEMBLY: B-DD-MB20-0	BOARD LOCATION: DE 1	SIZE CODE: D NUMBER: BS MB20-0-SINV	REV. 1



BIT 22

BIT 23

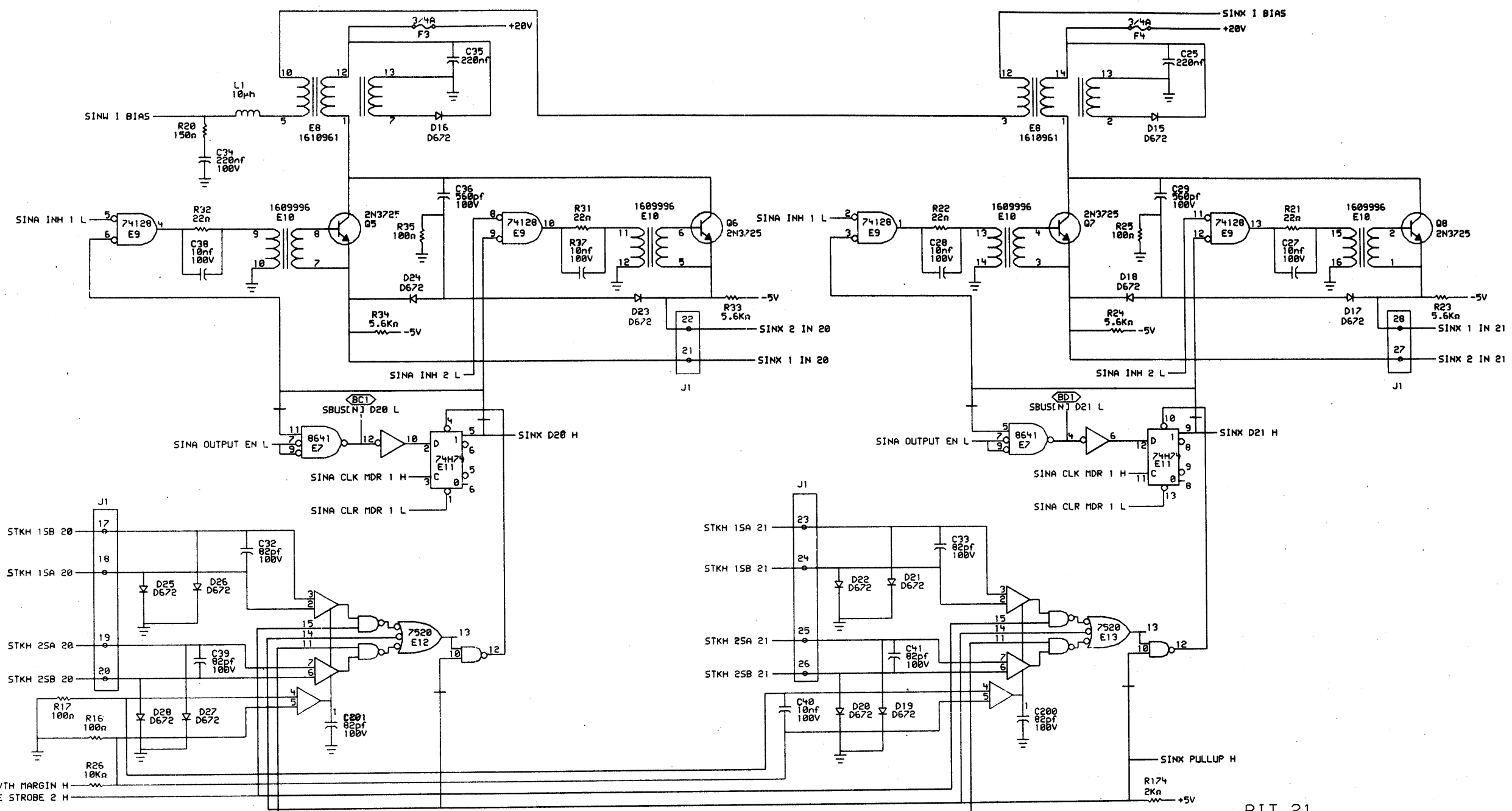
NOTE: WHERE 'LETTER' IS USED IN SIGNAL NAMES
 THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUSIN1 D00 L = SBUS0 D00 L
 [B] = 00 THRU 15 EXAMPLE: [B3] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 [M] SH[M] SEL H =
 MAC1 C0 SH0 SEL H

THIS PRINT IS FOR BITS 10-PAR

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE	ENG	DATE	TITLE: 32K SENSE/INHIBIT (G116)
	12-JUN-76	J. J. J.	12-JUN-76	
SIN9.DRW 4.33	DATE	BOARD LOCATION	DE	SIZE CODE
FIRST USED ON OPTION/MODEL: MB20	12-JUN-76 19:18	MB20	B-DD-MB20-0	D BS
				NUMBER
				REV.
				1



BIT 20

BIT 21

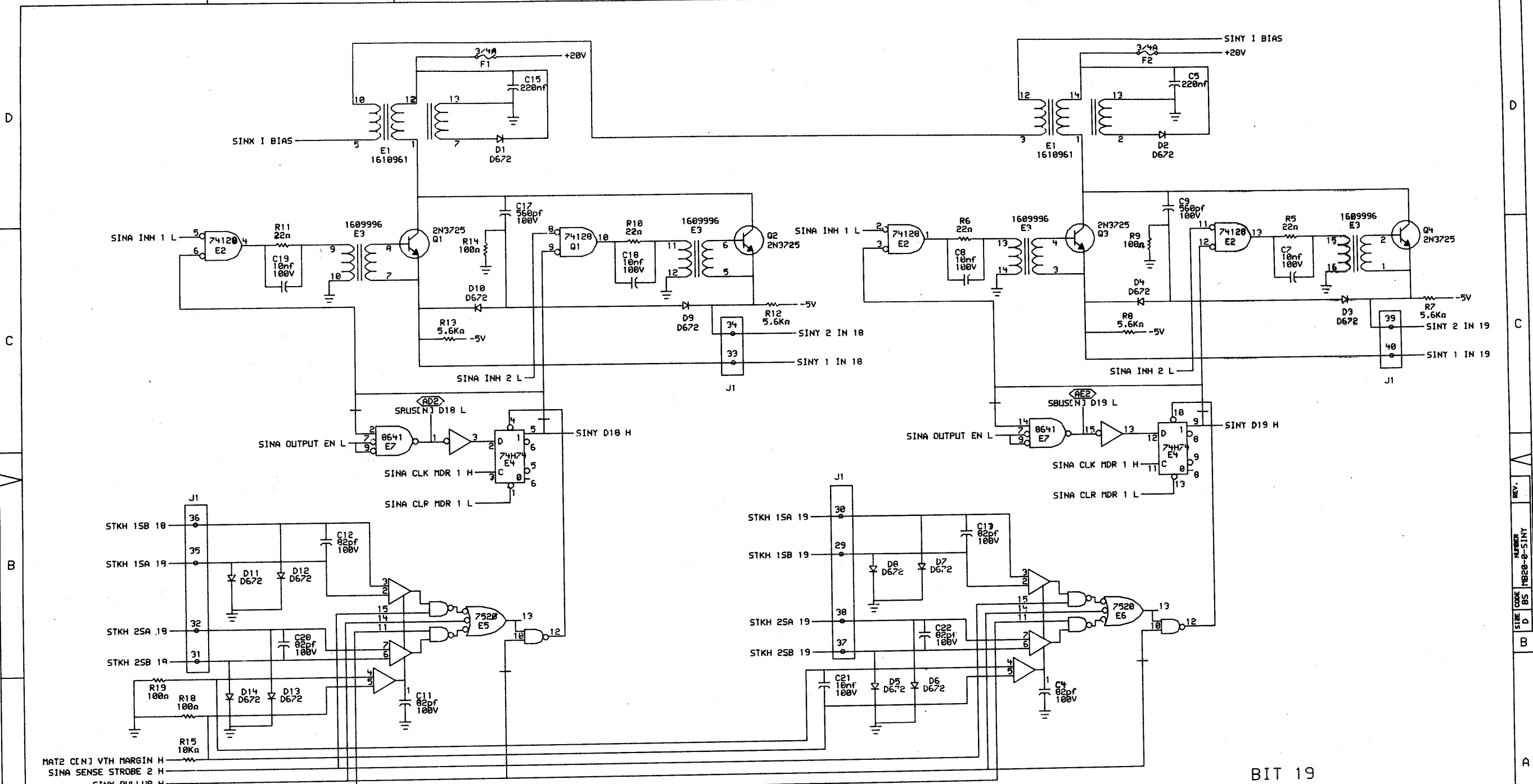
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUS(N) D08 L = SBUS0 D08 L
[B] = 00 THRU 15 EXAMPLE: B[B] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 C[M] S[M] SEL H = MAC1 C0 S10 SEL H

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG	DATE	TITLE: 32K SENSE/INHIBIT (G116)
	21-AUG-76	J. J. J.	21-AUG-76	
CHK'D.	DATE	BOARD LOCATION:		
2.20mm	21-AUG-76			
SIN20.DRW(4,33)	17-JUN-76 13:16	NEXT HIGHER ASSEMBLY:	SIZE CODE	NUMBER
FIRST USED ON OPTION/MODEL:	MB20	B-DD-MB20-0	D BS	MB20-0-SINX



BIT 18 BIT 19

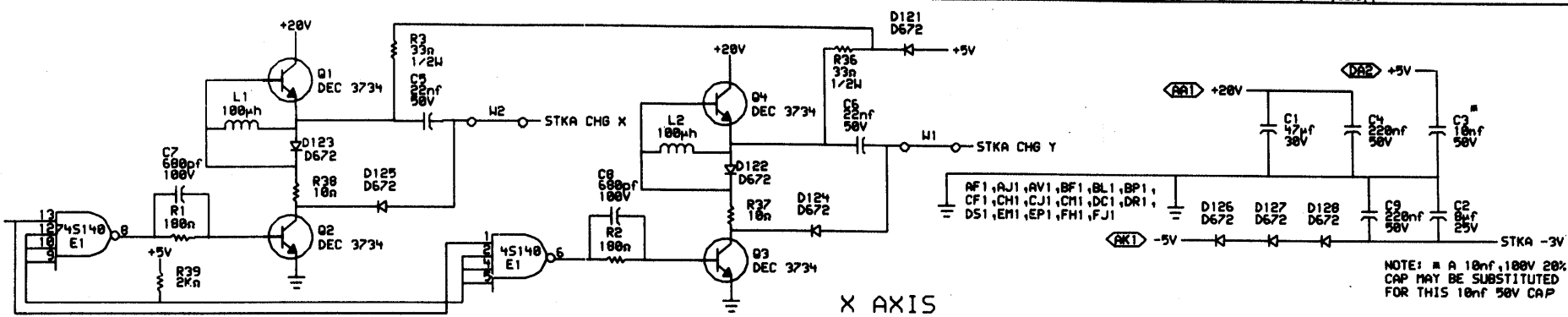
NOTE: WHERE '[LETTER]' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1 EXAMPLE: SBUSCN] D08 L = SBUS0 D08 L
 [B] = 00 THRU 15 EXAMPLE: B[B] -5V = B00 -5V
 [M] = 0 THRU 3 EXAMPLE: MAC1 [M] SMC] SEL H = MAC1 C0 SMC SEL H

THIS PRINT IS FOR BITS 18-PAR

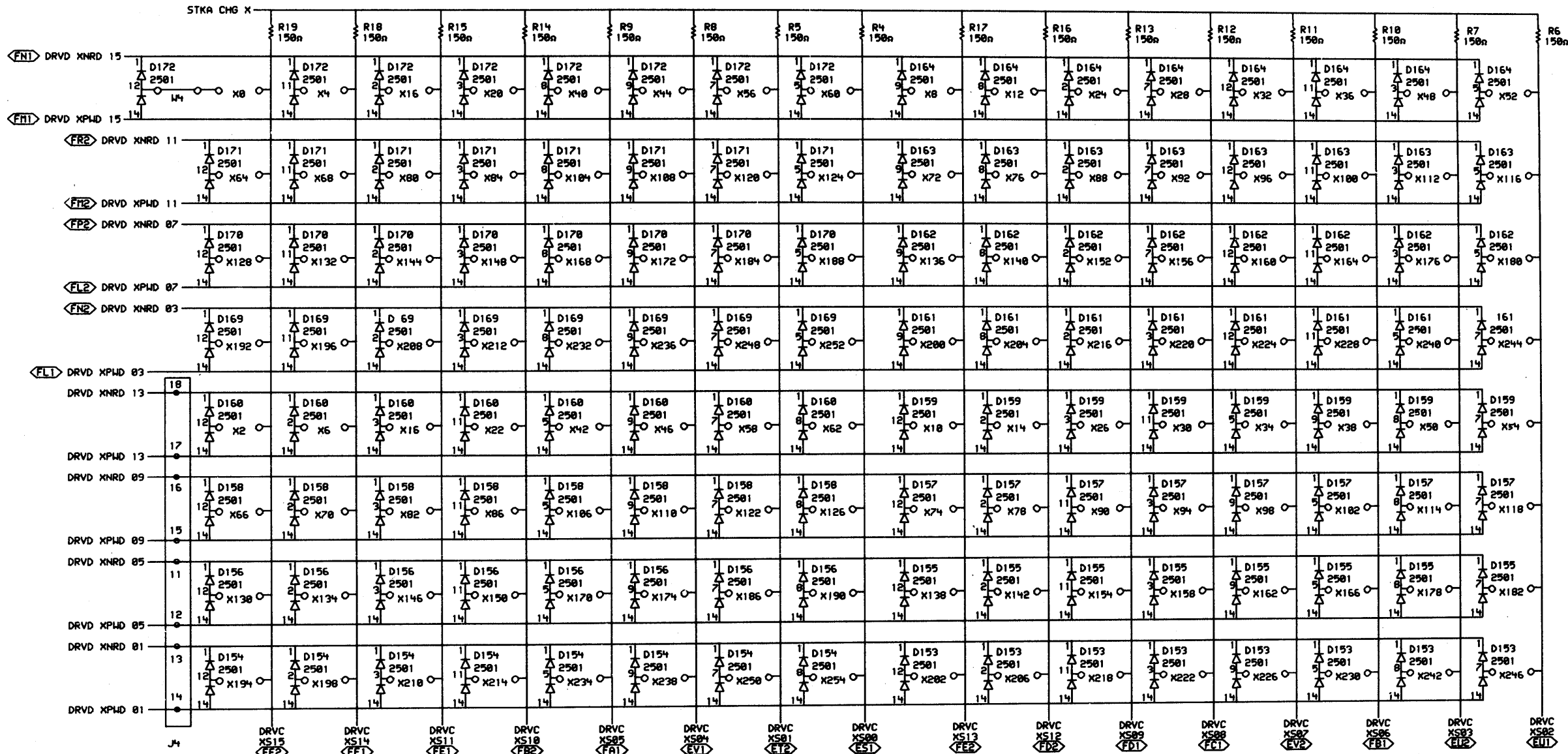
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	DATE: 17-JUN-76 13:18 SHEET: 2 OF 2		
	FIRST USED ON OPTION/MODEL: MB20		

- NOTES: 1) THE 0116, M224B AND G236 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 32K BY 37 BITS, WHICH IS 1 BANK OF STORAGE FOR 1 CONTROL. SEE D-MU-MB20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
- 2) THESE PRINTS REFLECT REV B OF 0116 CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV E OF G236 CIRCUIT SCHEMATICS THESE PRINTS REFLECT REV A OF M224B CIRCUIT SCHEMATICS
- 3) VARIABLE DEFINITIONS:
 [N] INDICATES A CONTROL
 [L] INDICATES A TIMING BOARD
 [B] INDICATES A BANK NUMBER (0-15)
 [M] INDICATES A SM NUMBER (0-3)

NOTE: JUMPERS W1, W2 AND W3 ARE FOR TEST USE ONLY.



NOTE: A 10nf, 100V 20% CAP MAY BE SUBSTITUTED FOR THIS 10nf 50V CAP



THIS PRINT IS FOR BITS 0-PAR

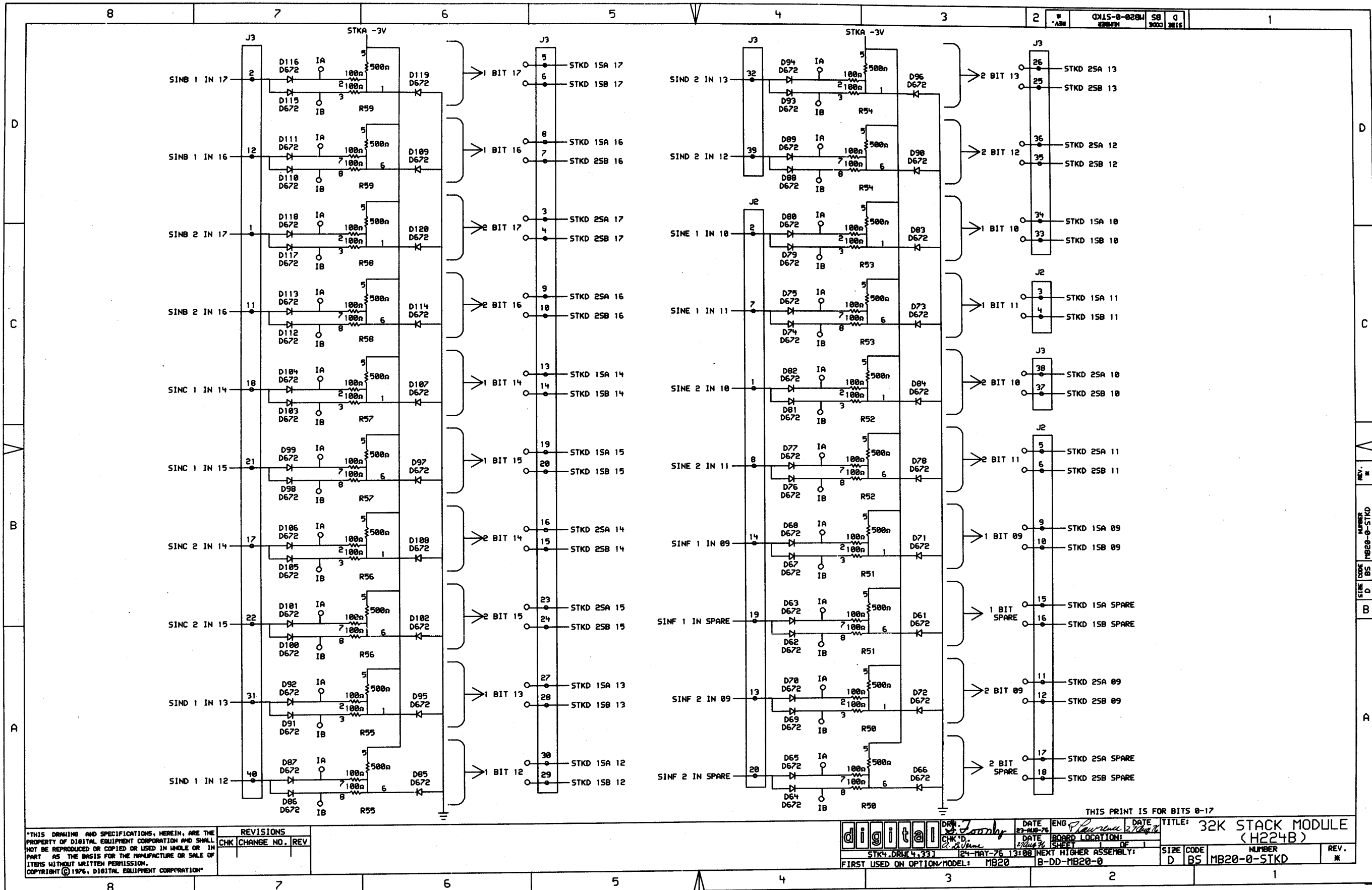
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REVISIONS	
CHK	CHANGE NO. REV.

digital	DATE	ENG	DATE	TITLE:
	117-AUG-76			32K STACK MODULE (M224B)
	DATE	BOARD LOCATION		

SIZE CODE NUMBER REV.
D BS MB20-0-STKA #

REV. #



THIS PRINT IS FOR BITS 0-17

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REVISIONS	
CHK	CHANGE NO. REV.

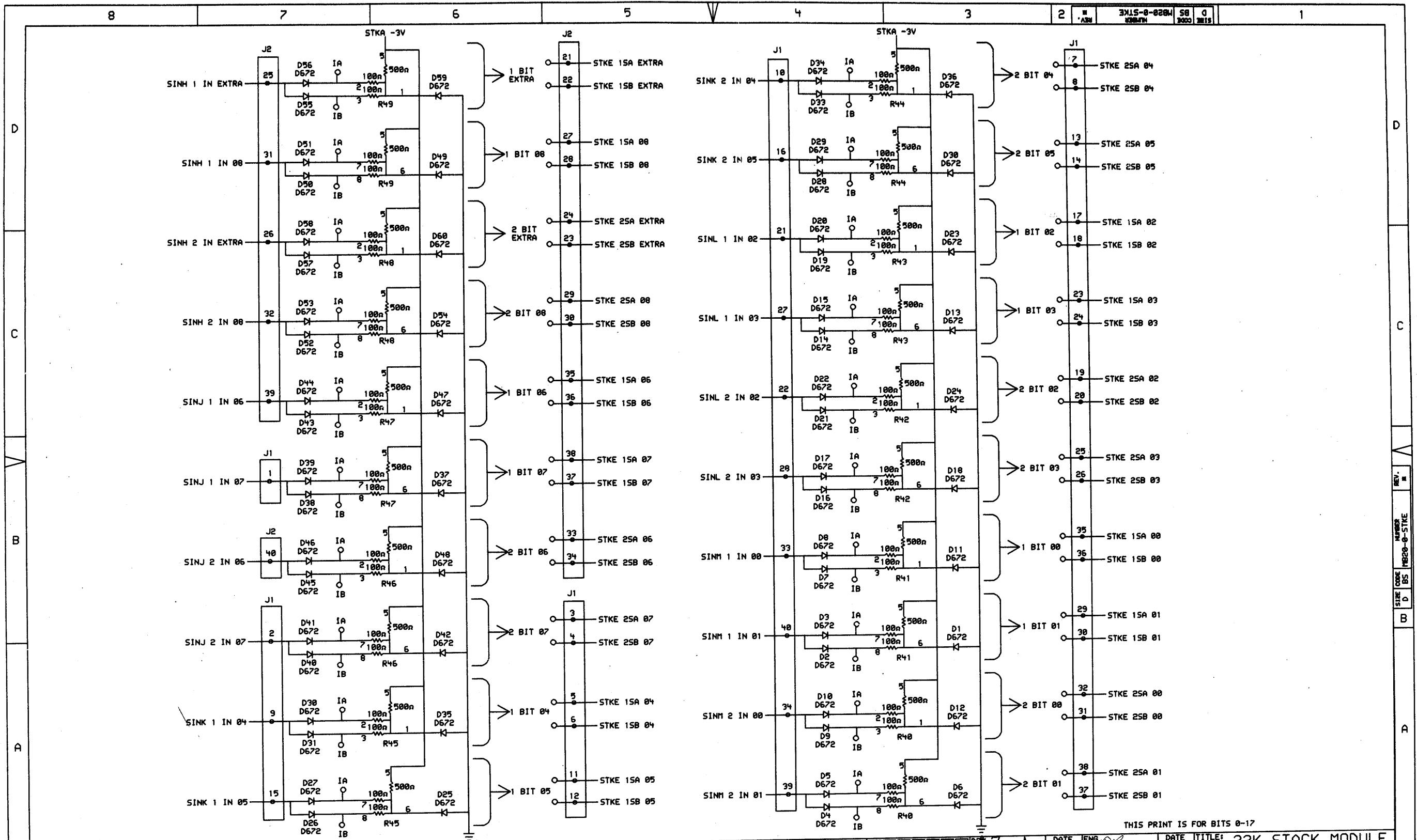
digital

DRN. *J. J. J.* DATE *23-AUG-76* ENG. *J. J. J.* DATE *27-SEP-76* TITLE: 32K STACK MODULE (H224B)

CHK'D. *J. J. J.* DATE *27-SEP-76* BOARD LOCATION: SHEET 1 OF 1

STKY. DRN# 433 12-MAY-76 13:08 NEXT HIGHER ASSEMBLY: SIZE CODE NUMBER REV. MB20 B-DD-MB20-0 D B5 MB20-0-STKD *

FIRST USED ON OPTION/MODEL: MB20



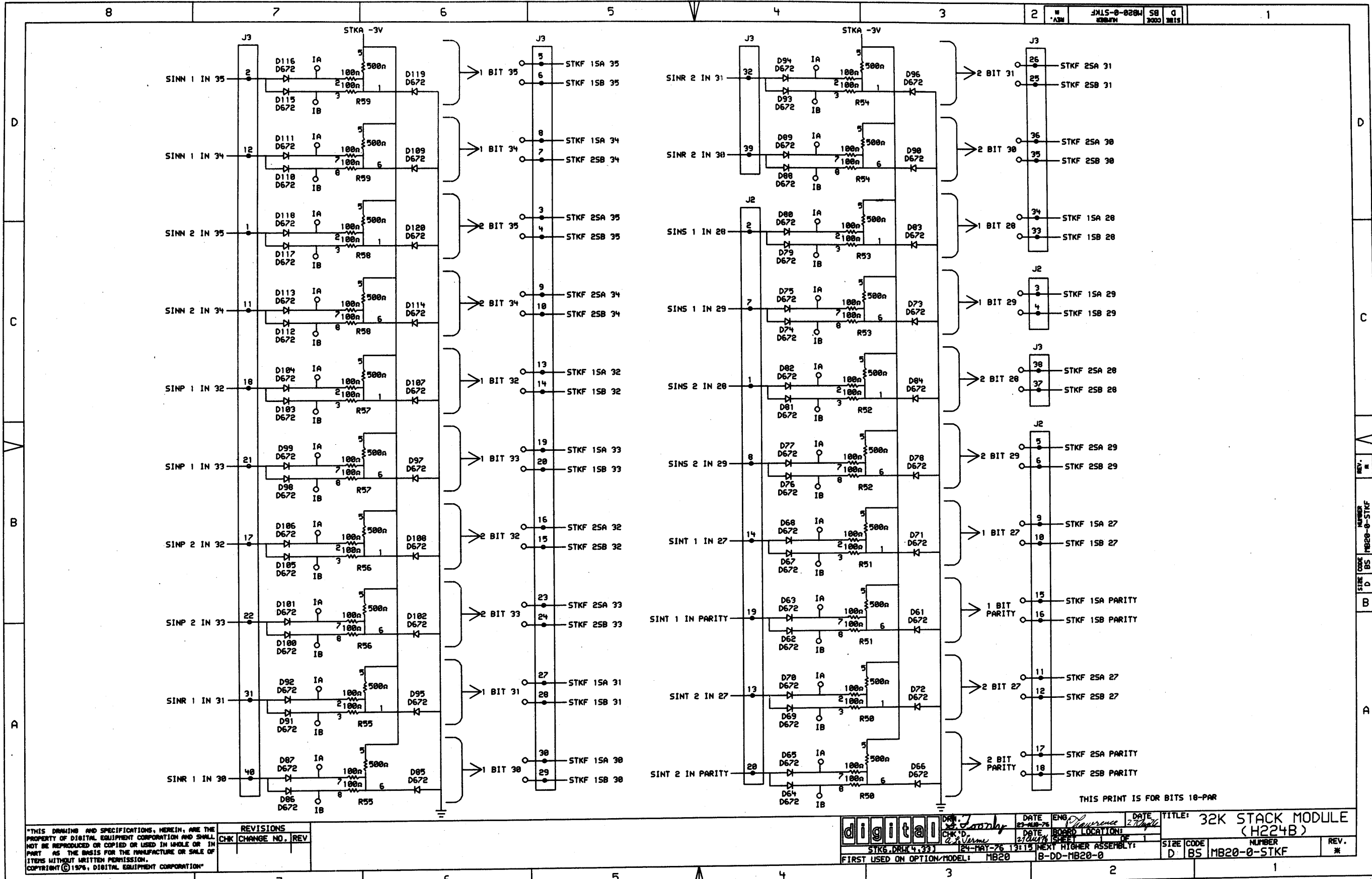
THIS PRINT IS FOR BITS 0-17

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REVISIONS	
CHK	CHANGE NO. REV

	DATE	ENG	DATE	TITLE
	27-MAY-76	P. Lawrence	27-MAY-76	32K STACK MODULE (H224B)
CHK'D	DATE	BOARD LOCATION	SIZE CODE NUMBER REV.	
A. G. Ume	27-MAY-76	1	D BS	MB20-0-STKE *
FIRST USED ON OPTION/MODEL: MB20		NEXT HIGHER ASSEMBLY: B-DD-MB20-0		

REV. #
 SIZE CODE NUMBER
 D BS MB20-0-STKE
 B
 A

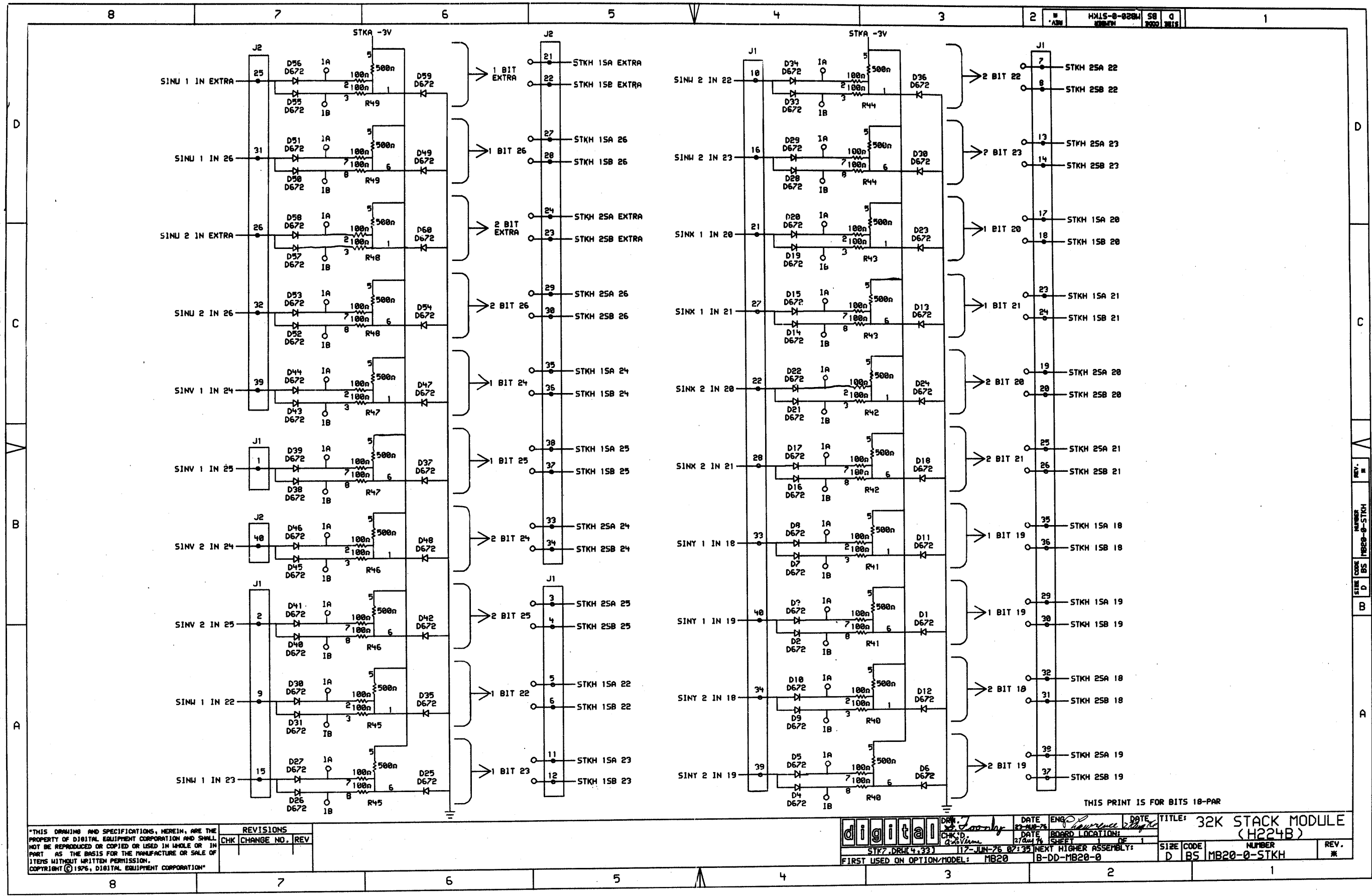


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REVISIONS		
CHK	CHANGE NO.	REV

	DATE	ENG	DATE	TITLE
	24-MAY-76	Chapman	27-May-76	32K STACK MODULE (H224B)
STKF.DRL 4.331	DATE	BOARD LOCATION	SIZE	CODE
FIRST USED ON OPTION/MODEL: MB20	24-MAY-76	13115 NEXT HIGHER ASSEMBLY: B-DD-MB20-0	D	BS
			NUMBER	REV.
			MB20-0-STKF	*



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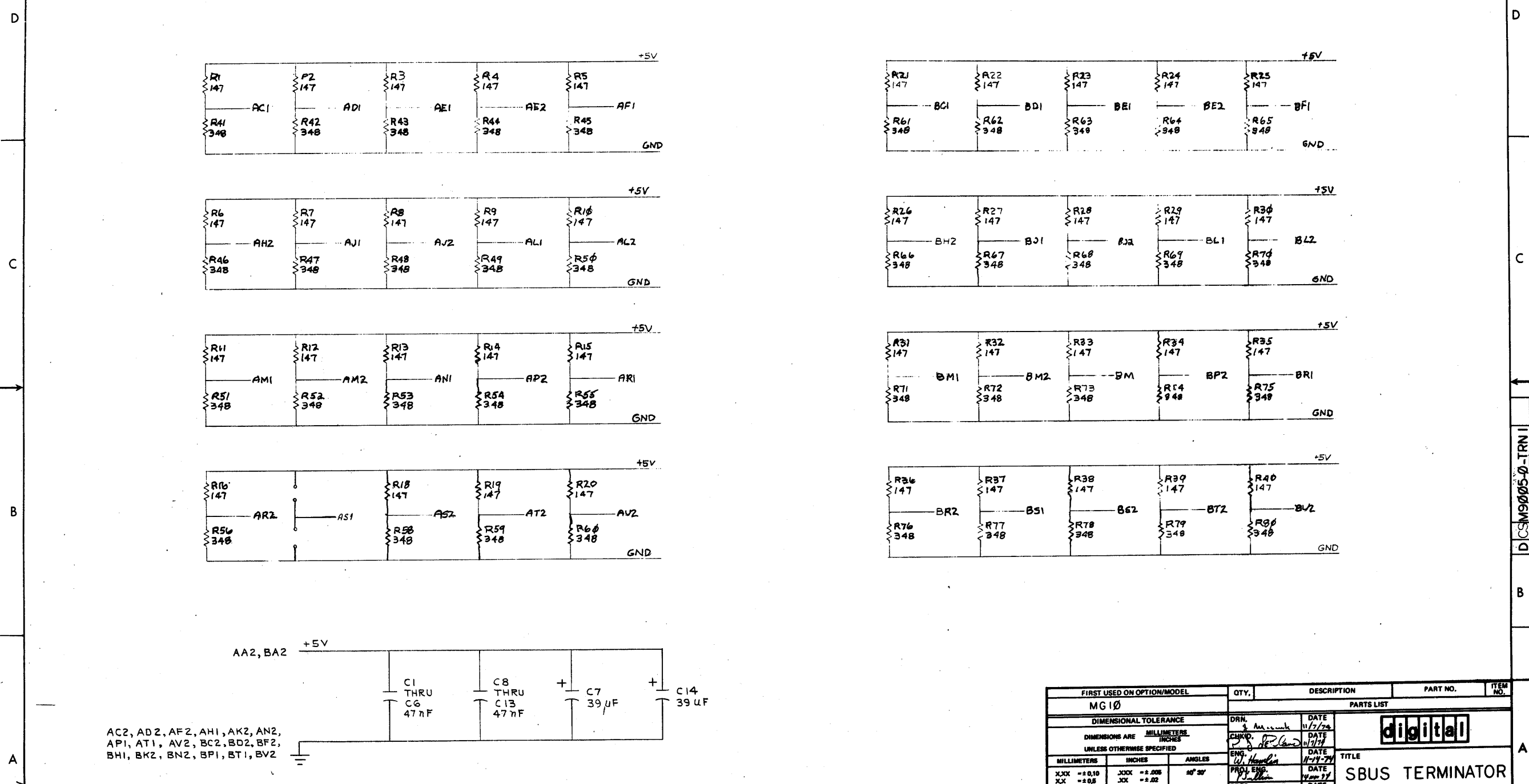
REVISIONS		
CHK	CHANGE NO.	REV

digital

DATE: 11-7-76	ENG: [Signature]	DATE: [Signature]	TITLE: 32K STACK MODULE (H224B)
CHK'D: [Signature]	DATE: [Signature]	BOARD LOCATION: [Signature]	SIZE CODE: D B5
FIRST USED ON OPTION/MODEL: MB20		NEXT HIGHER ASSEMBLY: B-DD-MB20-0	NUMBER: MB20-0-STKH

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NOTE: ALL RESISTOR VALUES ARE IN OHMS, UNLESS OTHERWISE SPECIFIED.



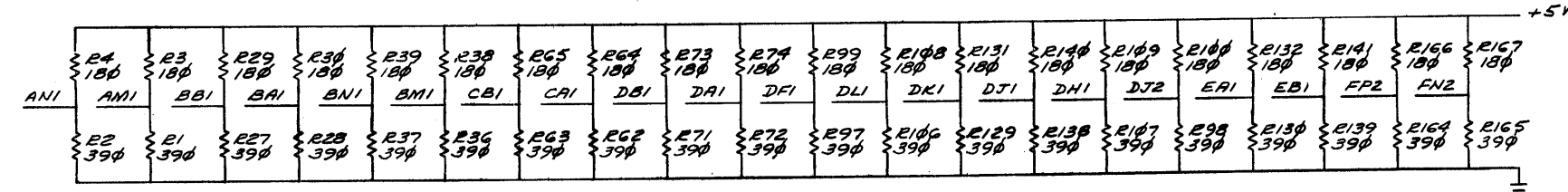
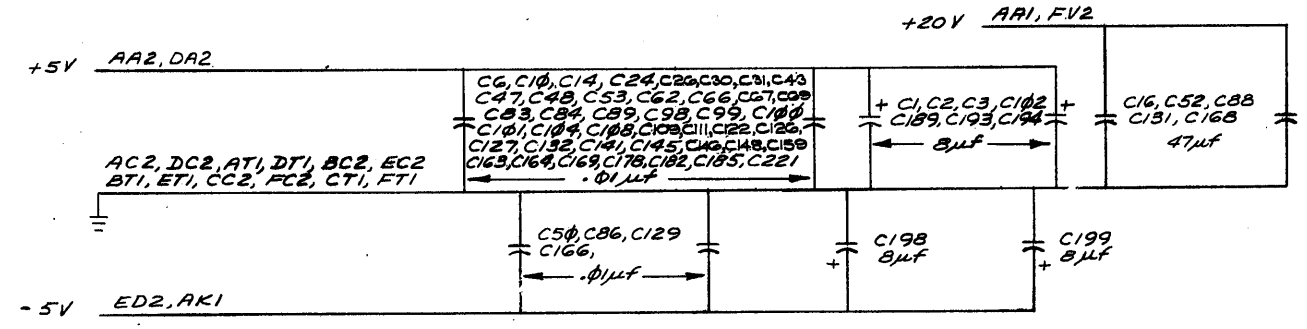
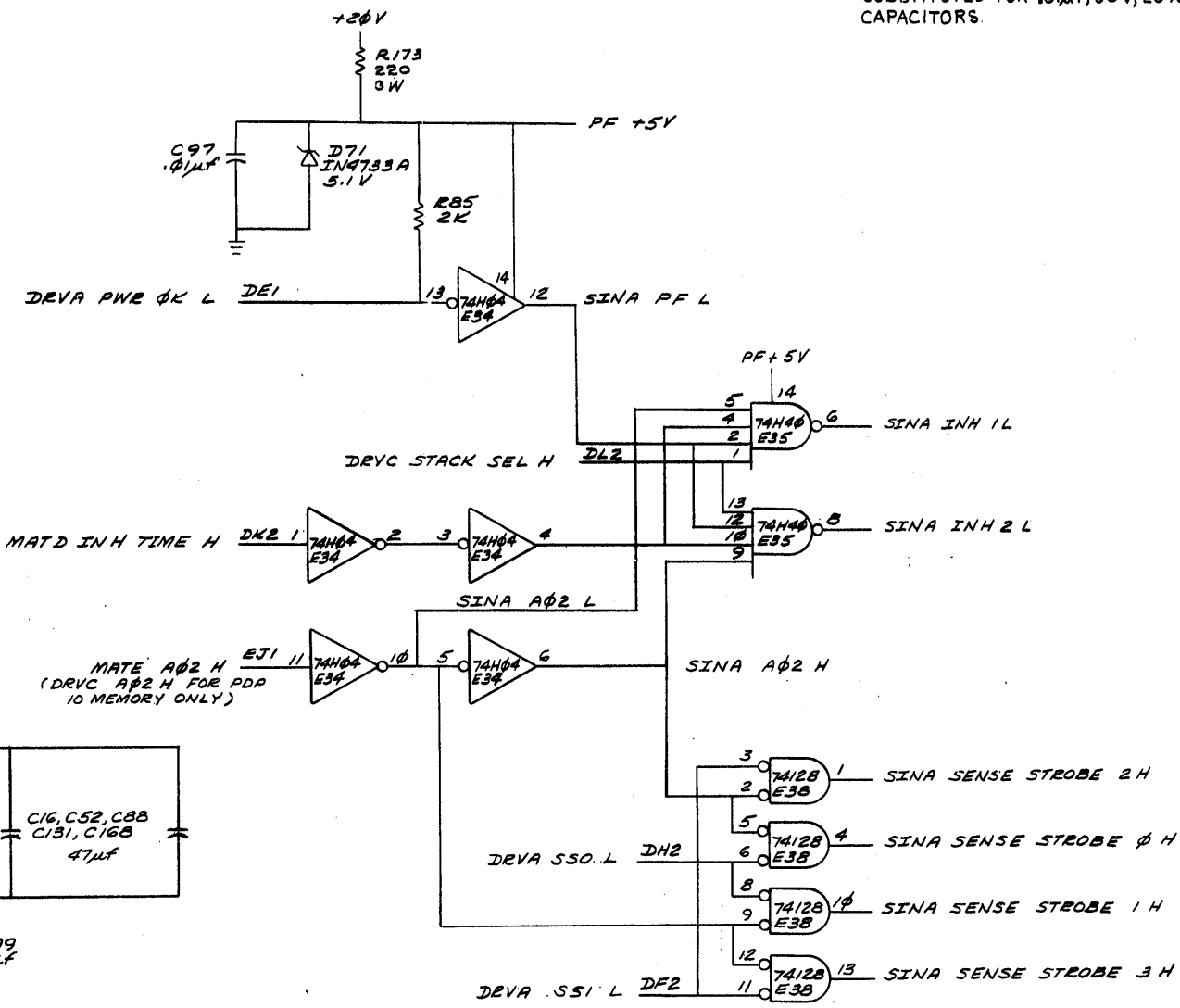
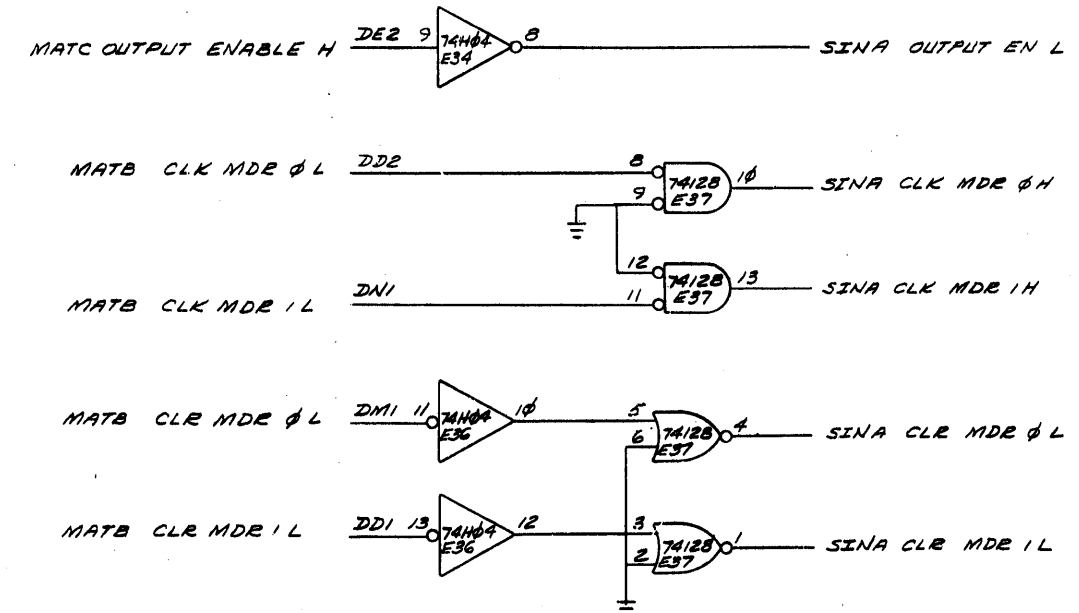
REVISIONS		
CHK	CHANGE NO	REV

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
MG10				
DIMENSIONAL TOLERANCE				
DIMENSIONS ARE MILLIMETERS UNLESS OTHERWISE SPECIFIED		PARTS LIST		
MILLIMETERS	INCHES	ANGLES	TITLE	
XX = ±0.10	JXX = ±0.05	30° 30'	SBUS TERMINATOR	
XX = ±0.5	JXX = ±0.02		digital	
X = ±2	X = ±2.5		DATE 11/7/79	
THIRD ANGLE PROJECTION		REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	DATE 11/19/79	
MATERIAL #		SCALE NONE	DATE 11/19/79	
FINISH #		SHEET 1 OF 1	DATE 11/19/79	
NEXT HIGHER ASSY.		B-DD-M9005-0	DATE 11/19/79	
SIZE CODE		DCSM9005-0-TRN1	DATE 11/19/79	
NUMBER			DATE 11/19/79	
REV.			DATE 11/19/79	

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IC PIN LOCATION			
GND AND +5V ARE USUALLY PINS 1 & 14 RESPECTIVELY. EXCEPTIONS NOTED BELOW			
IC TYPE	GND	+5V	-5V
IC DEC 7520	9	16	8
IC DEC 8641	8	16	-

NOTE:
* .01μf, 100V, 20% CAPACITORS MAY BE SUBSTITUTED FOR .01μf, 50V, 20% CAPACITORS.

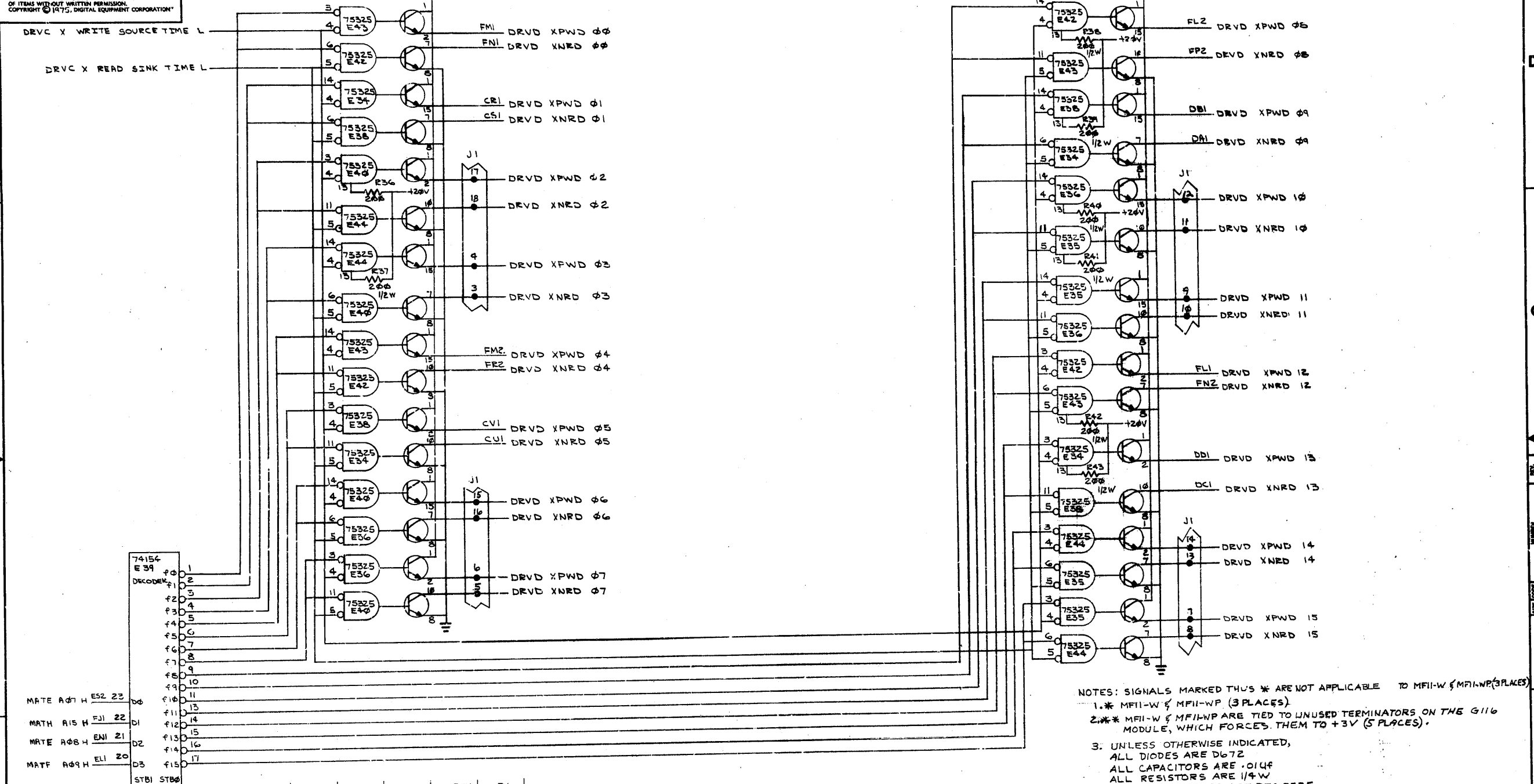


REV.	CHG.	NO.	DATE	BY	CHK.
1		00001		D. SMELSER	

DRN: [Signature]	FIRST USED ON	digital
CHK: [Signature]	TITLE	32K SENSE/INHIBIT (SINA)
ENG: [Signature]	PROJ. ENG: [Signature]	PROD. [Signature]
NEXT HIGHER ASSY.		
D-UA-G116-0-0	SIZE CODE	NUMBER
SCALE	D CS	G116-0-1
SHEET 1 OF 11	DIST.	REV. C

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DRVA X WRITE CURRENT SOURCE



NOTES: SIGNALS MARKED THUS * ARE NOT APPLICABLE TO MFII-W & MFII-WP (3 PLACES)
 1. * MFII-W & MFII-WP (3 PLACES)
 2. * * MFII-W & MFII-WP ARE TIED TO UNUSED TERMINATORS ON THE G116 MODULE, WHICH FORCES THEM TO +3V (5 PLACES).
 3. UNLESS OTHERWISE INDICATED, ALL DIODES ARE D672
 ALL CAPACITORS ARE .01UF
 ALL RESISTORS ARE 1/4W
 ALL TRANSISTORS ARE DEC 3725

REV.	CHG	NO.	BY	DATE
1	0001	E	D. SMELSER	24-JUN-76
2	0002	F	D. SMELSER	24-JUN-76
3	0003	H	D. SMELSER	3-OCT-77
4	0004	J	D. SMELSER	3-OCT-77

IC TYPE	PN	QTY	5V	20V	-5V
74121	1	1	1	1	1
741	1	1	1	1	1
75325	8	8	16	16	16
7442	8	8	16	16	16
74154	12	24	1	1	1

DRN. X. 6.30	10/1/75	FIRST USED ON	digital
CHK'D 2/1/76	15 OCT 75	TITLE	32K X-Y DRIVE
ENG. 1/1/76	1/1/76	FIG. REV. #	(DRVD)
PROJ. ENG. 1/1/76	1/1/76	SIZE CODE	D CS G236-0-1
PROD. 1/1/76	1/1/76	NUMBER	J
NEXT HIGHER ASSY.		DIST.	
D-UA-G236-0-0			
SCALE			
SHEET 1	OF 4		

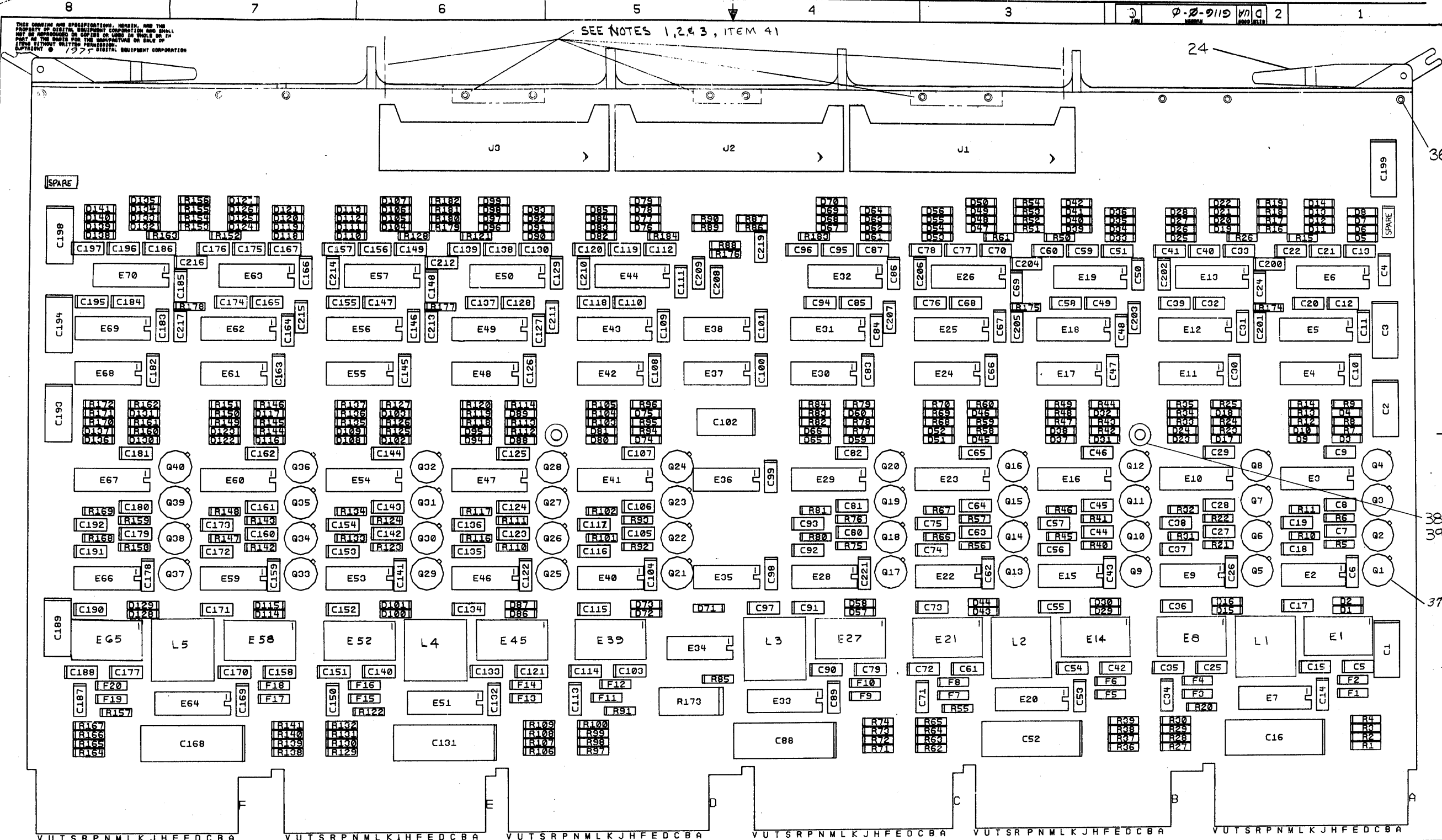
D CS G236-0-1

A

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SEE NOTES 1, 2 & 3, ITEM 41

φ-0-9115 W/D 2



NOTES:
 1. REVERSE INSERTION OF CENTER SIX EYELETS. (INSERT THESE EYELETS FROM SIDE #1).
 2. BUFF THE EYELET HEADS & HANDLE EDGE TO ELIMINATE BURRS ON SIDE #1.
 3. COVER THE CENTER (6) EYELET HEADS WITH NYLON TAPE (ITEM #1) AFTER BUFFING (SIDE #1). (AREA INDICATED BY DOTTED LINES).
 ECO#1 COMPONENT DELETES: C216 AND C220

CHK	CHANGE NO	REV	DATE
C			
	016	000001	

SIGNATURES	DATE	TITLE
DRN. <i>[Signature]</i>	1/16/76	32K SENSE INHIBIT
CHK'D. <i>[Signature]</i>	1/16/76	
ENG. <i>[Signature]</i>	1/16/76	
PROJ. ENG. <i>[Signature]</i>	1/16/76	
PROD. <i>[Signature]</i>	1/16/76	
SCALE 2:1	SIZE CODE	NUMBER
SHT. 1 OF 1	D UA	G116-0-0
ETCH REV C	FIRST USED ON	

digital

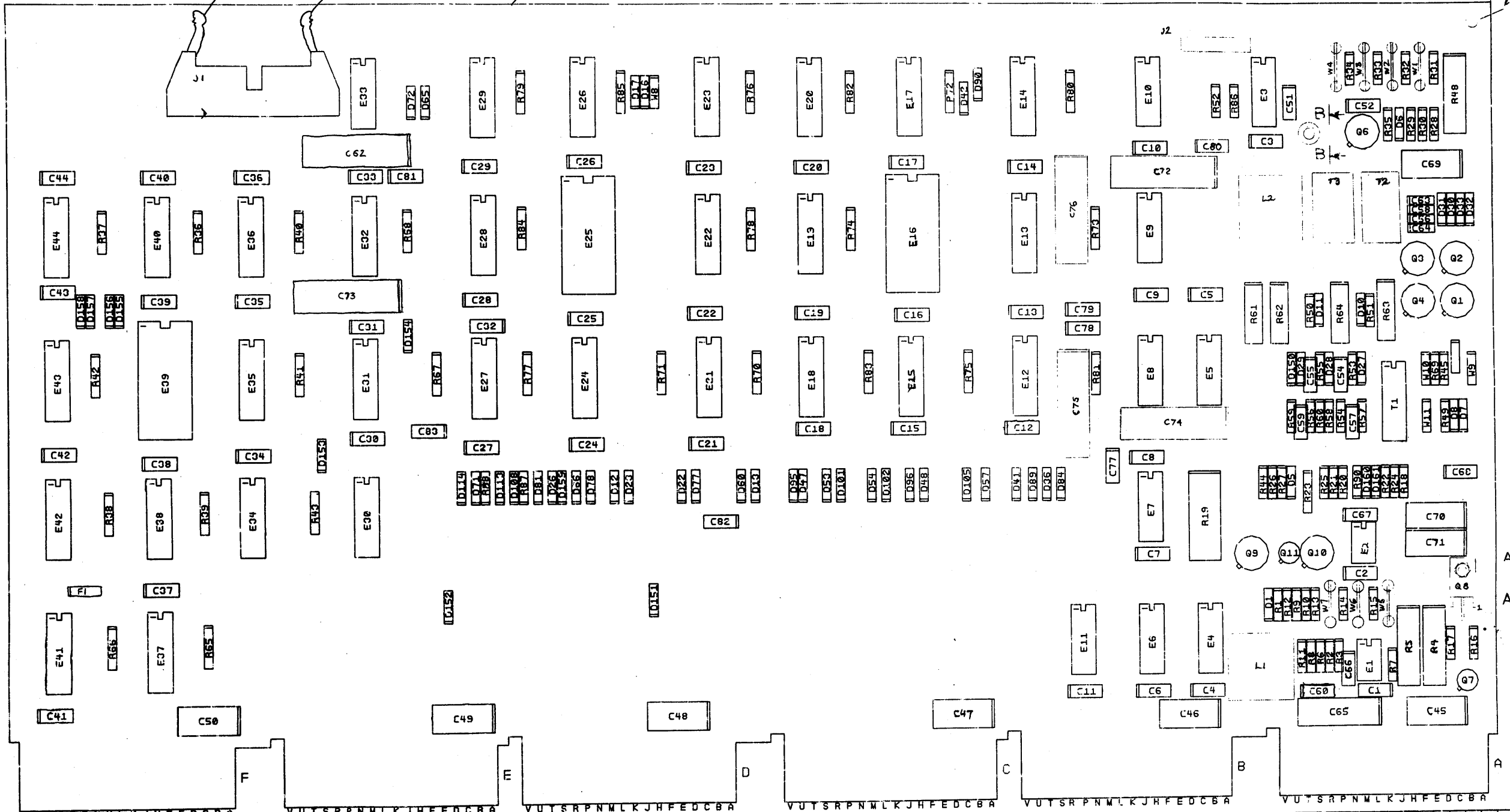
1 MS#80632

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0-0-0629 UN C 2 1

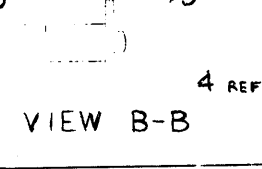
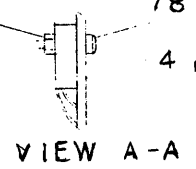
76

75



NOTES:

CHG	NO	REV	DATE
1/2	1	1	12/27/77
2	2	1	3/12/77
3	3	1	4/2/77
4	4	1	4/27/77



SIGNATURES	DATE
DRN. J. RICHARD	12/27/77
CHK'D. <i>[Signature]</i>	3/12/77
ENG. <i>[Signature]</i>	4/2/77
PROJ. ENG. <i>[Signature]</i>	4/27/77

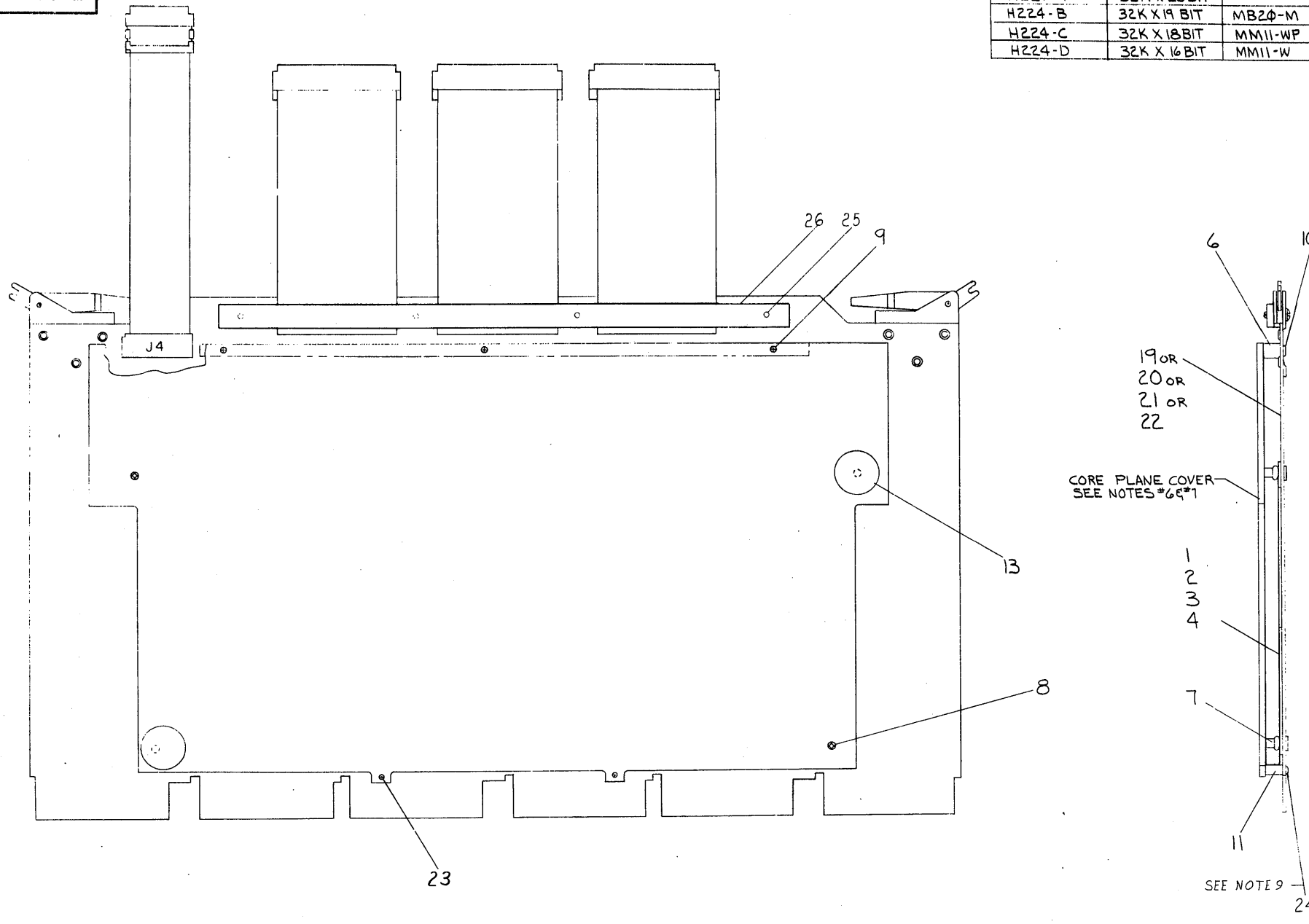
digital	
TITLE	32K X-Y DRIVE
SIZE	CODE NUMBER REV
D UA	G236-0-0 J

1 MS# 20254

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LEGEND		
NUMBER	VARIATION	USED ON
H224-A	32K X 20BIT	
H224-B	32K X 19 BIT	MBZΦ-M
H224-C	32K X 18BIT	MM11-WP
H224-D	32K X 16 BIT	MM11-W

NOTES: SEE SHEET 2



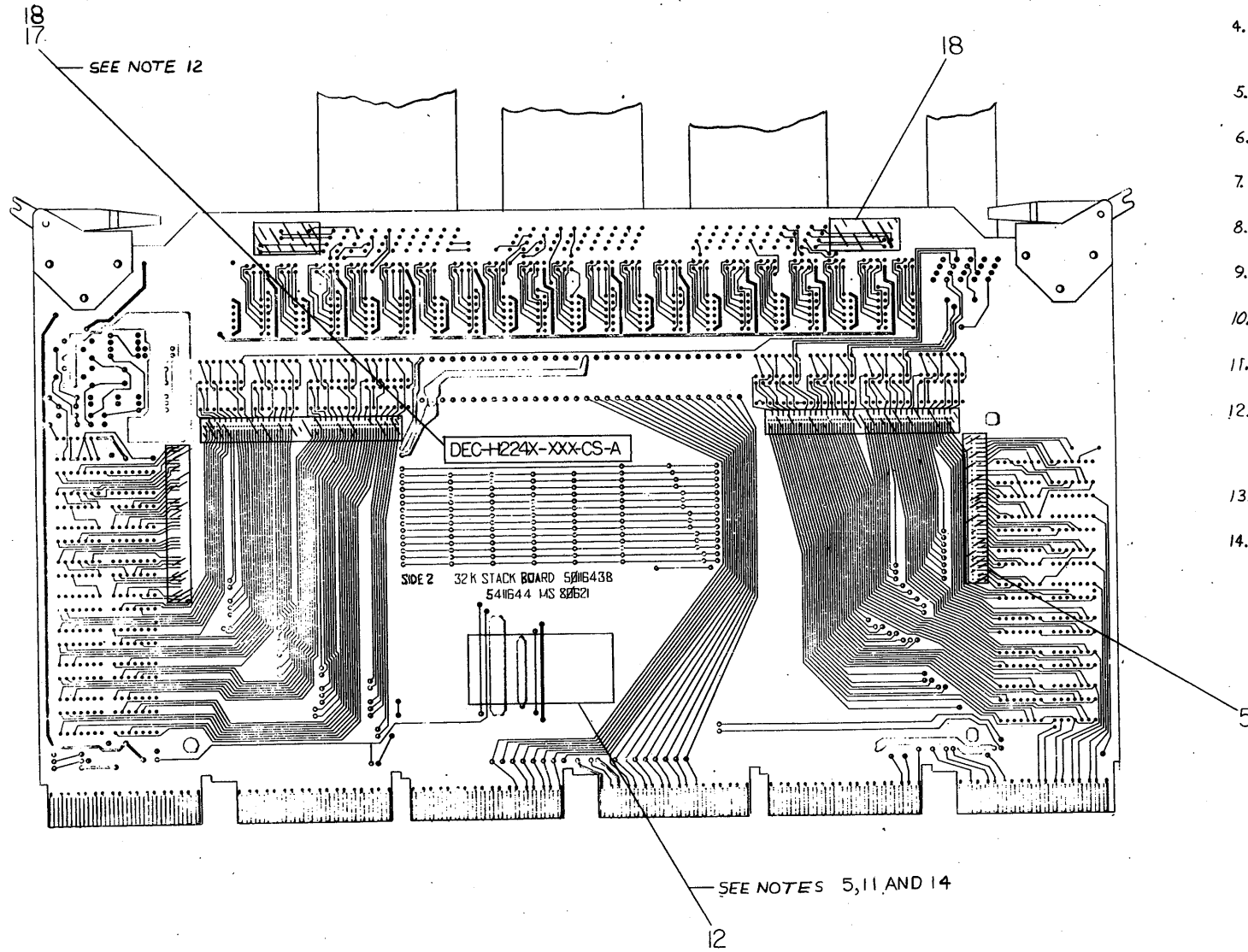
QTY	DESCRIPTION	DWG/PART NO.	ITEM NO.
1	CLAMP, CONNECTOR	7417272	26
4	SCREW, SLOTTED BH #4-40 X.375 LG. NYLON	9006401-04	25
2	NUT HEX, NYLON #2-56 X.18 LG A/F NYLON	9007263-0-0	24
2	SCREW, SLOTTED FLAT HD #2-56 X.50 LG. NYLON	9000004-03	23
1	32 K STACK	D-UA-5411644-D-0	22
-	32 K STACK	D-UA-5411644-C-0	21
-	32 K STACK	D-UA-5411644-B-0	20
-	32 K STACK	D-UA-5411644-A-0	19
A/R	EPOXY	4901082-00	18
A/R	INK, BLACK	4901084-00	17
A/R	PROTECTIVE COATING (FI45)	4901083-00	16
A/R	ADHESIVE (RTV 3140)	4901085-00	15
A/R	ADHESIVE (RTV 3145)	4901086-00	14
2	WARRANTY SEAL		13
1	NAME PLATE	9009238-00	12
2	STAND-OFF, NYLON .18DIA X.25 HIGH #2-56 THRU	9009190-00	11
3	SCREW, SLOTTED PAN HD #2-56 X.19 LG. NYLON	9000008-01	10
3	SCREW, SLOTTED FLAT HD #2-56 X.19 LG NYLON	9000004-01	9
4	SCREW, SLOTTED FLAT HD #4-40 X.19 LG NYLON	9009234	8
4	THREADED RIVET #4-40 CLINCHED HEIGHT-.25	9009531	7
1	BAR, SPACER	D-MD-7415407-0-0	6
A/R	MYLAR TAPE		5
-	CORE PLANE WIRING ASSY	E-IA-7012189-3-0	4
-	CORE PLANE WIRING ASSY	E-IA-7012189-2-0	3
-	CORE PLANE WIRING ASSY	E-IA-7012189-1-0	2
1	CORE PLANE WIRING ASSY	E-IA-7012189-0-0	1

REV.	CHANGE NO.	REV.
A	H224-00001	A
B	H224-00012	B
C	H224-00013	C

THIRD ANGLE PROJECTION		DRN. W/ LUFFKIN	FIRST USED ON
REMOVE BURRS AND BREAK SHARP CORNERS		CHK'D	MM11-W
DO NOT SCALE DWG		ENG. S.	TITLE
MATERIAL SEE PARTS LIST		PROD. S.	H224 CORE MEMORY STACK ASSEMBLY
FINISH		SCALE	SIZE CODE
		1/1	D UA
		SHEET 1 OF 2	NUMBER
			H224-0-0
			REV. B

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00000000
DUA H224-0-0



NOTES:

1. BOND CORE PLANE ASSEMBLY (ITEM #1, #2, #3, OR #4) TO THE STACK BOARD (ITEM #5) WITH ADHESIVE (ITEM #14)
2. INSTALL THREADED RIVETS (ITEM #7) THRU STACK BOARD AND CLINCH IN PLACE.
3. USE PROTECTIVE COATING (ITEM #16) TO COAT ALL MAGNETIC WIRE TERMINATIONS AFTER ELECTRICAL TEST. REF DWG NO E-IA-7012189-0-0 NOTE #12.
4. BOND S/I CABLE IN PLACE USING ADHESIVE (ITEM #15) AFTER ELECTRICAL TEST. REF DWG NO E-IA-7012189-0-0 NOTE #12.
5. BOND X & Y DRIVE LOOPS IN PLACE WITH ADHESIVE (ITEM #15), REF DWG NO E-IA-7012189-0-0 NOTE #11.
6. SCREW SPACER BAR TO CORE PLANE COVER WITH #2-56 SCREWS (ITEM #9).
7. CLOSE THE CORE PLANE COVER AND SECURE WITH #4-40 SCREWS (ITEM #8).
8. INSTALL THREADED STAND-OFF (ITEM #1) AND SECURE THRU COVER WITH #2-56 SCREWS (ITEM #23)
9. INSTALL #2-56 NUT (ITEM #24) 2 PLACES ON SIDE #2. CUT OFF #2-56 SCREWS (ITEM #23) FLUSH WITH #2-56 NUT.
10. INSTALL #2-56 SCREWS (ITEM #10) 3 PLACES ON SIDE #2 (BACK SIDE) OF STACK BOARD.
11. APPLY NAME PLATE (ITEM #12) TO SIDE #2 OF THE STACK BOARD APPROXIMATELY WHERE SHOWN.
12. LABEL STACK BOARD (ITEM #5) ON SIDE #2 WITH THE DEC PART NUMBER, SEQUENTIAL SERIAL NUMBER USING INK (ITEM #17) AND EPOXY (ITEM #18), EXAMPLE: H224-D-001.
13. PLACE WARRANTY SEALS (ITEM #13) OVER SCREW HEADS AS SHOWN.
14. CS REVISION IS THE MIDDLE LETTER OF THE SERIAL # ON THE NAME PLATE.

REVISIONS		
CHK	CHANGE NO	REV

TITLE	H224 CORE MEMORY STACK ASSEMBLY	SIZE CODE	D UA	NUMBER	H224-0-0	REV.	B
SCALE	NONE	SHEET	2	OF 2.	DIST.		


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NOTES:

1. FOR DRAWING DIRECTORY, REFER TO: B-DD-M9005-0

0-0-5006W 2

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1		ETCHED CIRCUIT BOARD	5010883	1
2	C7, C14	CAP. 39uf 10% 10V	1000078	2
12	C1 THRU C6, C8 THRU C13	CAP. 47pf 10V	1009878	3
39	R1 THRU R16, R18 THRU R40	RES. 147 1% 1/4W	1302874	4
39	R41 THRU R56, R58 THRU R80	RES. 348 1% 1/4W	1304858	5
4		EYELET (HANDLE)	9006732	6
2		HANDLE, FLIP CHIP (MAGENTA)	9008337-6	7

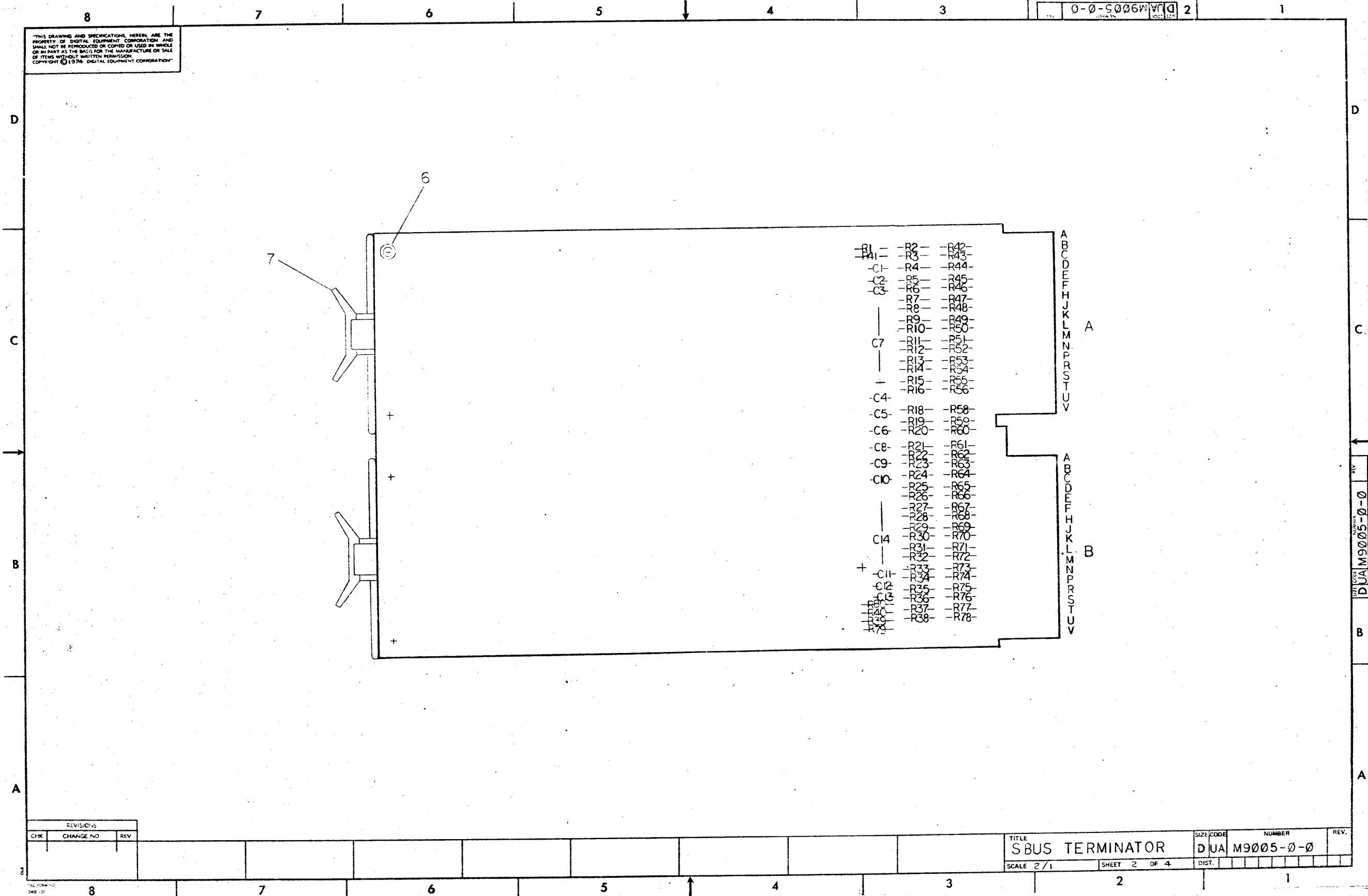
FIRST USED ON MG10		PARTS LIST	
ETCH BOARD REV		TITLE	
DRN J Masnik	DATE 10/31/70	 digital EQUIPMENT CORPORATION WATYARD, MASSACHUSETTS	
CHKD. S. E. Lane	DATE 1/17/74		
ENG. C. H. Hines	DATE 11/17/74		
PROJ. ENG. J. Sullivan	DATE 11/18/74		
PROD. M. G. G. G.	DATE 11/18/74		
NEXT HIGHER ASSY B-DD-M9005-0		SIZE CODE	NUMBER
DEC NO.	EIA NO.	DEC NO.	EIA NO.
SCALE NONE		DUA M9005-0-0	
SEMICONDUCTOR CONVERSION CHART		SHEET 1 OF 4	DIST.

BRUNING 40107 15868

DEC FORM NO DRD-115

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0-0-5006WV1D 2



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|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 | R16 | R18 | R19 | R20 | R21 | R22 | R23 | R24 | R25 | R26 | R27 | R28 | R29 | R30 | R31 | R32 | R33 | R34 | R35 | R36 | R37 | R38 |
| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 | | | | | | | | | | | | | | | | | | | | | |

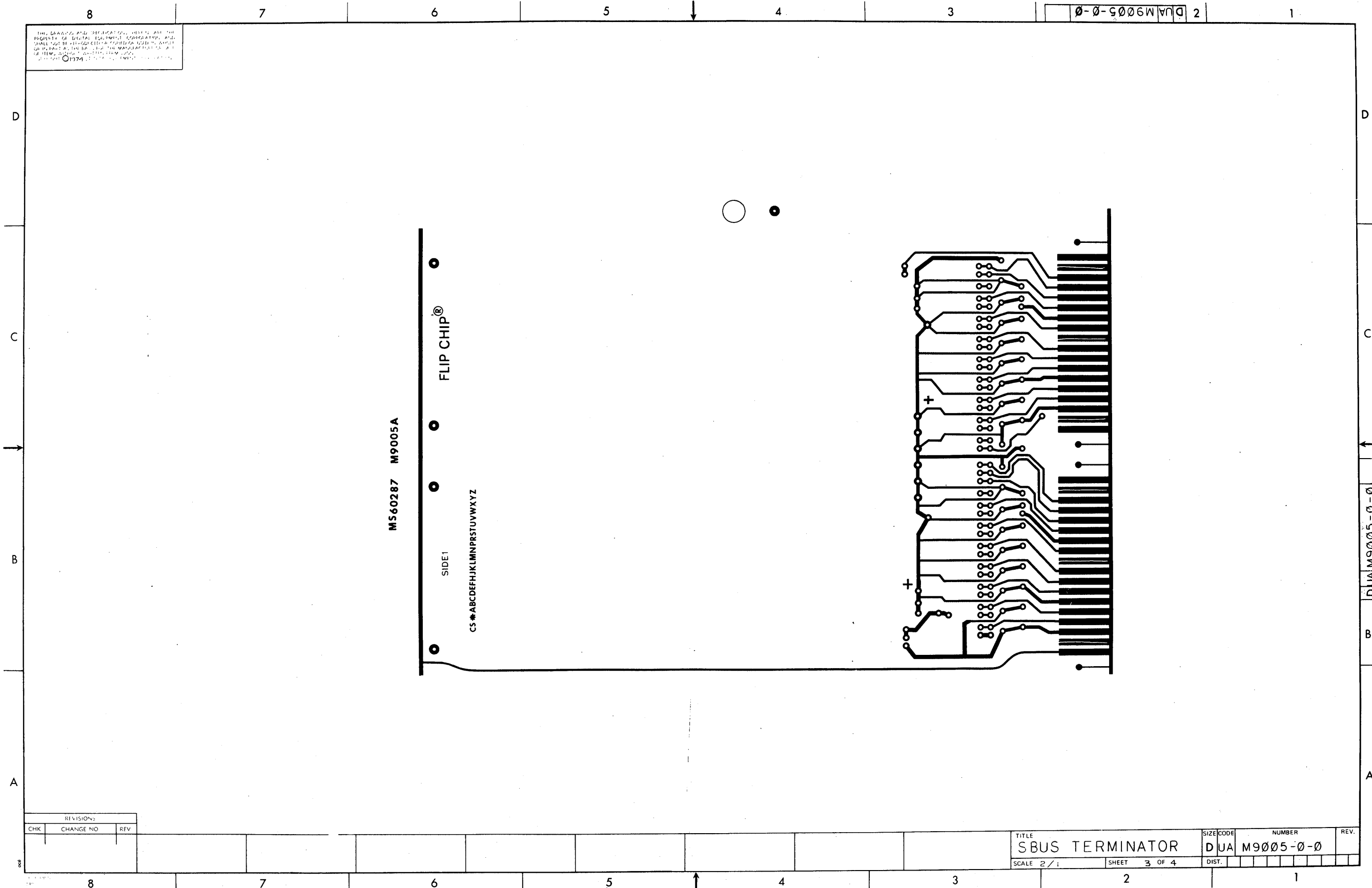
REVISIONS		
CHK	CHANGE NO	REV

TITLE: SBUS TERMINATOR
 SIZE CODE: DUA
 NUMBER: M9005-0-0
 SCALE: 2/1
 SHEET: 2 OF 4
 DIST.:

REV. 1
 DUA M9005-0-0

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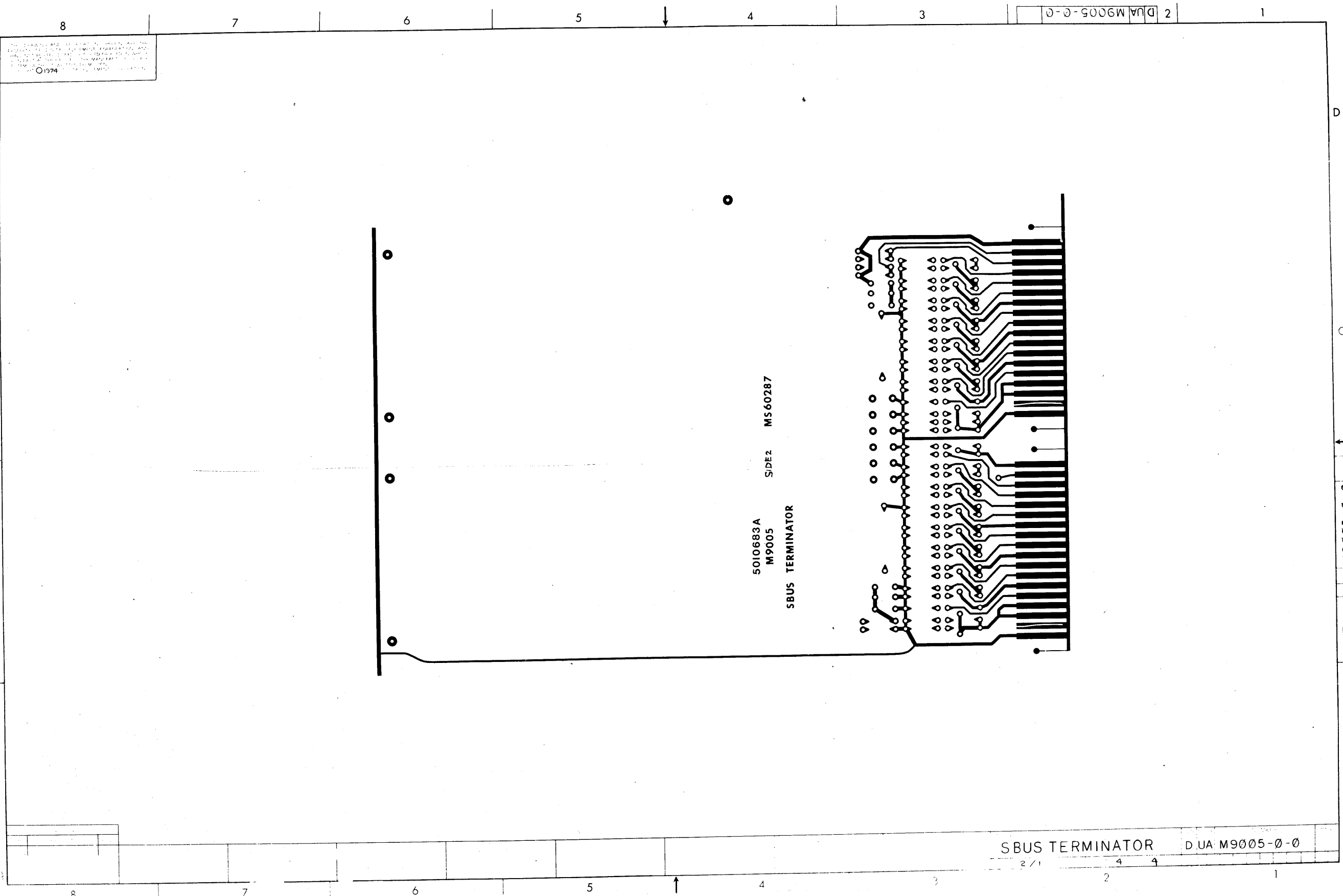
DJA M9005-0-0 2



DJA M9005-0-0

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
SBUS TERMINATOR	DJA	M9005-0-0	
SCALE 2/1	SHEET 3 OF 4	DIST.	



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DUA M9005-0-0 2

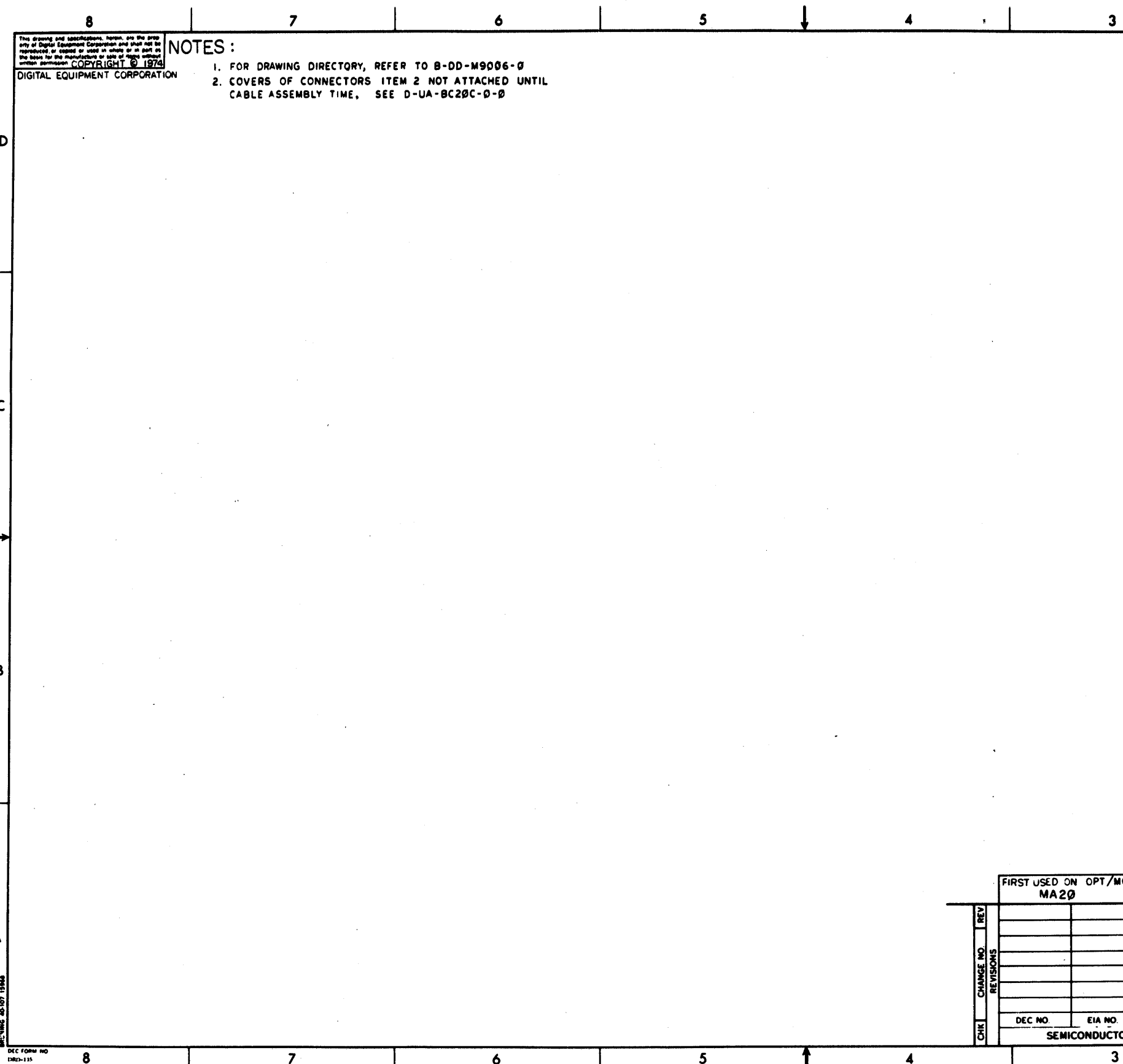
5010683A
M9005
SBUS TERMINATOR

SIDE2 MS60287

SBUS TERMINATOR DUA M9005-0-0

2/1 4 4

DUA M9005-0-0



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NOTES:

1. FOR DRAWING DIRECTORY, REFER TO B-DD-M9006-0
2. COVERS OF CONNECTORS ITEM 2 NOT ATTACHED UNTIL CABLE ASSEMBLY TIME, SEE D-UA-8C20C-D-0

0-0-9006W V1a 2

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
1		ETCH CIRCUIT BOARD	5010723	1
2	J1, J2	CONN 40 PIN (3M) (SEE NOTE 2)	1210073	2
4		EYELET	9006732	3
2		HANDLE FLIP CHIP MAGENTA	9008337-06	4

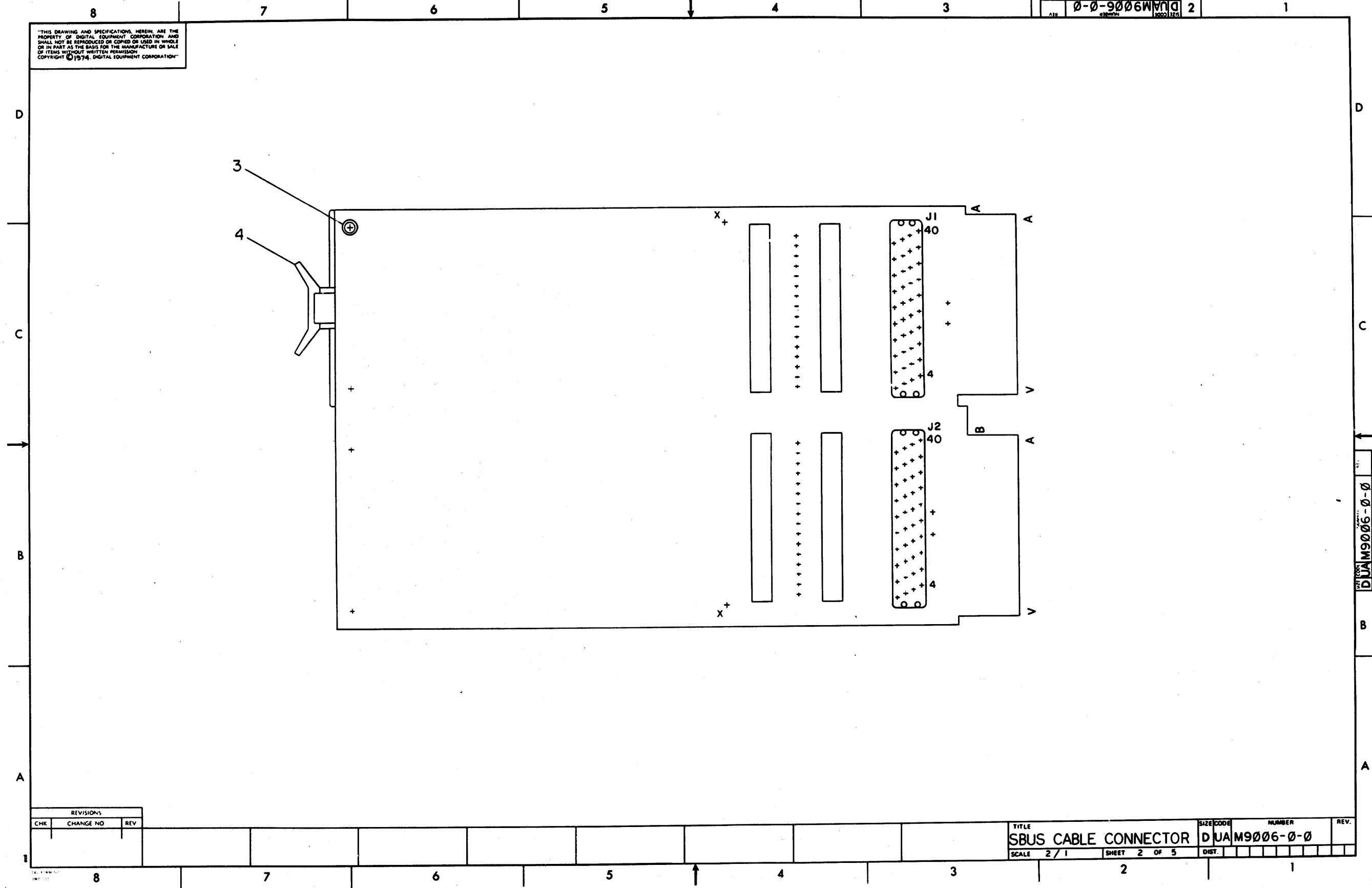
CHK	CHANGE NO.	REV.	FIRST USED ON OPT/MOD				PARTS LIST		DATE	BY	TITLE
			DEC NO.	EIA NO.	DEC NO.	EIA NO.	ETCH BOARD-REV	ETCH BOARD-REV			
										digital EQUIPMENT CORPORATION MAYFIELD MASSACHUSETTS	
										SBUS CABLE CONNECTOR	
										B-DD-M9006-0	
										DUA M9006-0-0	
SEMICONDUCTOR CONVERSION CHART						SCALE NONE		SHEET 1 OF 5		DIST.	

DUA M9006-0-0

A

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DUALM9006-0-0 2



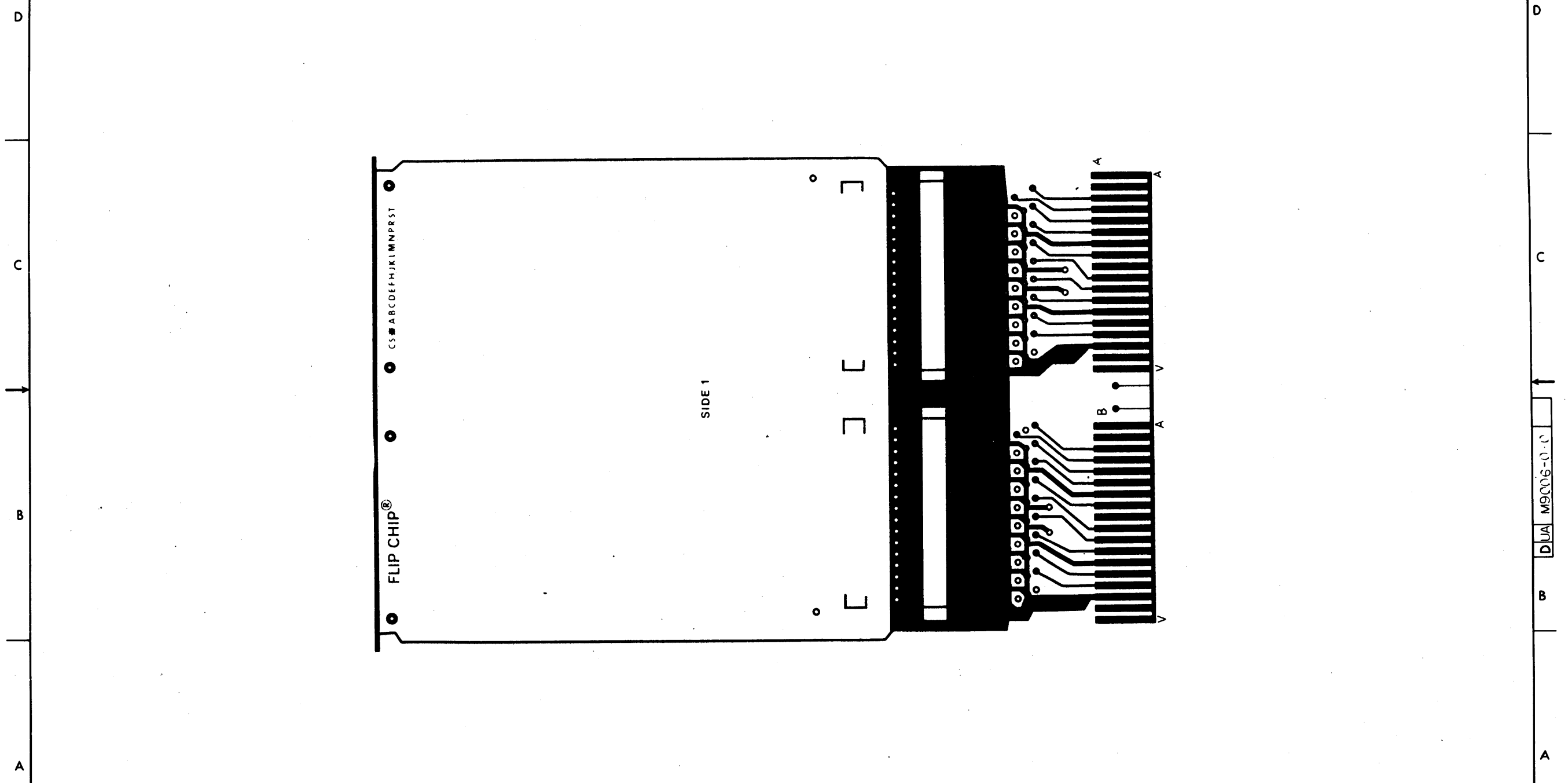
REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
SBUS CABLE CONNECTOR	DUALM9006-0-0		
SCALE 2/1	SHEET 2 OF 5	DIST.	

DUALM9006-0-0

8 7 6 5 4 3 2 1

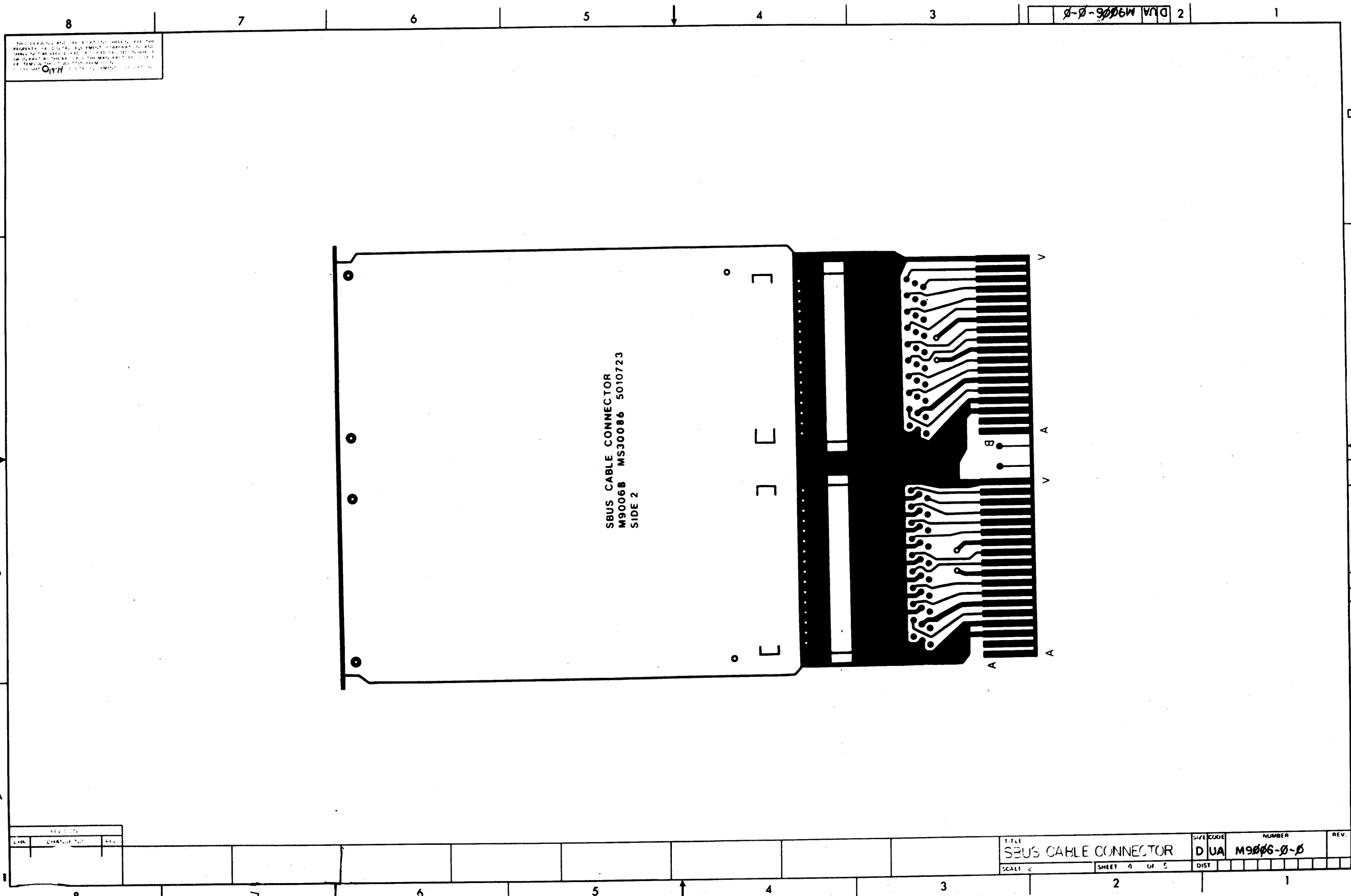
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REV. DATA		
CHK	CHANGE NO.	REV.

TITLE						SIZE	CODE	NUMBER			REV.
SBUS CABLE CONNECTOR						D	UA	M9006-0-0			
SCALE					SHEET 3 OF 5		DIST.				

8 7 6 5 4 3 2 1



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SBUS CABLE CONNECTOR
M9006B MS30086 5010723
SIDE 2

REV. DATE		TITLE		DRAWING CODE		NUMBER		REV.	
		SBUS CABLE CONNECTOR		DUA		M9006-0-0			
SCALE: C		SHEET 4 OF 5		DIST					

--	--	--	--	--	--	--	--	--	--

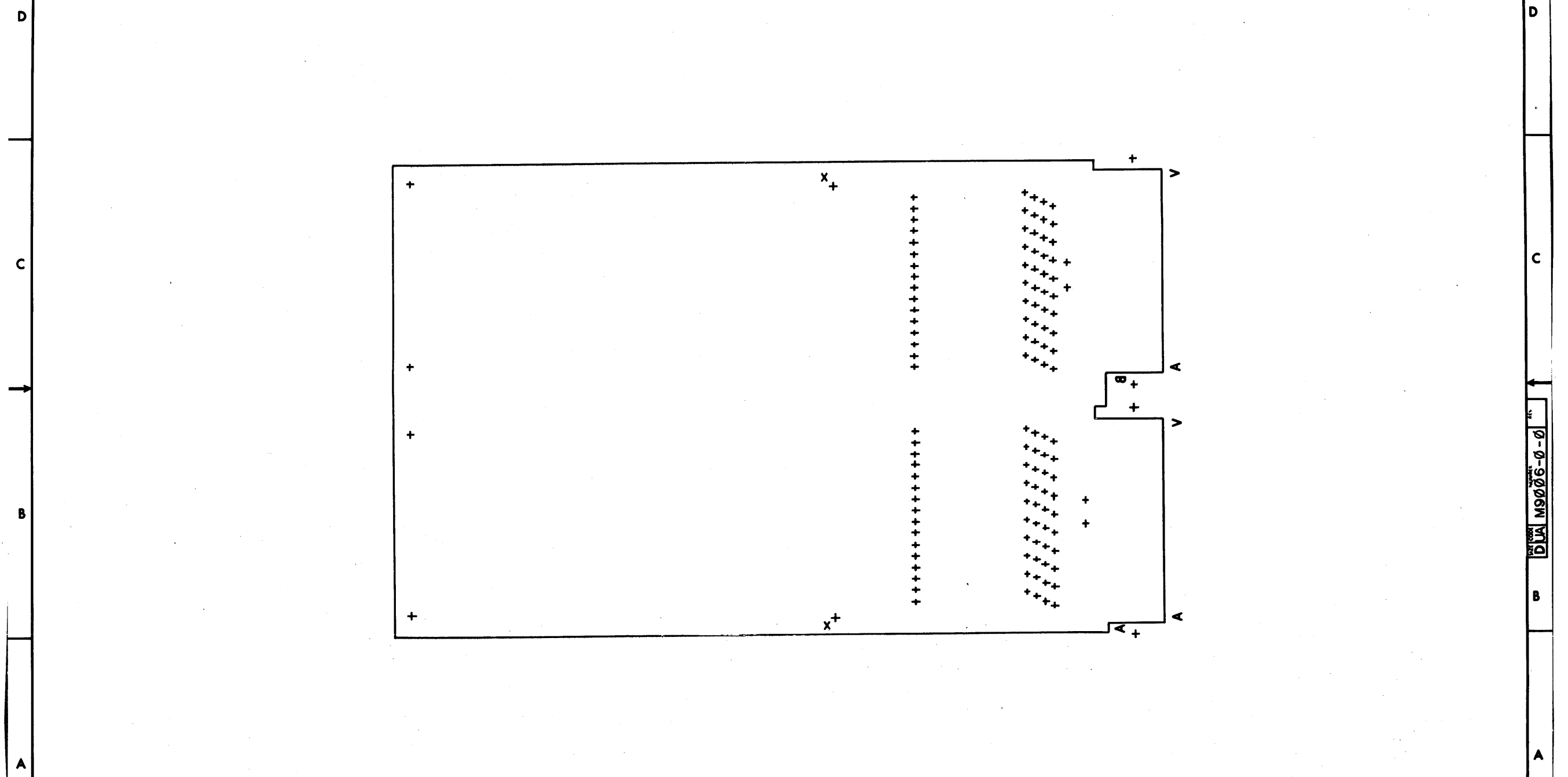
DUA M9006-0-0 2

DUA M9006-0-0

8 7 6 5 4 3 2 1

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DUAL M9006-0-0 2



DUAL M9006-0-0

REVISIONS		
CHK	CHANGE NO	REV

TITLE: SBUS CABLE CONNECTOR
 SIZE CODE: DUA
 NUMBER: M9006-0-0
 SCALE: 2/1
 SHEET: 5 OF 5
 DIST.:

8 7 6 5 4 3 2 1

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NOTES:

1. FOR DRAWING DIRECTORY, REFER TO: B-DD-M8568-0
2. UNLESS OTHERWISE SPECIFIED, THE FOLLOWING PIN NUMBERS APPLY:

PACKAGE TYPE	VCC	GND
16 PIN DIP	16	8
14 PIN DIP	14	7
I.C. DEC 7475	5	12
I.C. DEC 8640	8	1
I.C. DEC 75453	8	4
3. SPARE LOCATIONS ARE: E5.

REWORK INSTRUCTIONS

ETCH CUTS SIDE #2 (AS SHOWN)

- 0-1. CUT ETCH AT PTH TO THE RIGHT OF E97(3 & 4)

WIRE ADDS SIDE #1 AS SHOWN (ITEM #38)

- 0-2. ADD WIRE FROM THE PTH ABOVE & TO THE RIGHT OF C115 TO E110(7).
- 0-3. ADD WIRE FROM E110(6) TO E84(3).
- 0-4. ADD WIRE FROM E84(4) TO E117(11).
- 0-5. ADD WIRE FROM E110(5) TO E117(10).
- 0-6. ADD WIRE FROM E110(2) TO E95(10).
- 0-7. ADD WIRE FROM E111(13) TO E110(3).
- 0-8. ADD WIRE FROM E110(4) TO THE PTH ABOVE & TO THE RIGHT OF E116(1).
- 0-9. ADD WIRE FROM E106(11) TO THE PTH TO THE LEFT OF E87(4).
- 0-10. ADD WIRE FROM E110(5) TO E106(12).
- 0-11. ADD WIRE FROM E110(2) TO E106(13).

0-0-8998WV 2

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1		ETCHED CIRCUIT BOARD	5012237	1
117	C1 THRU C117	CAP. 10nF 50V 20%	1001810-00	2
6	C118 THRU C123	CAP. 39uF 10V 10%	1000078	3
2	R1,R2	RES. 1K 5% 1/4W	1300385	4
4	R3 THRU R6	RES. 270 5% 1/4W	1301972	5
4	R7 THRU R10	RES. 300 5% 1/4W	1301425	6
1	R11	RES. 330 5% 1/4W	1300295	7
1	R12	RES. 220 5% 1/4W	1300271	8
8	E1,E10,E21,E23,E33,E38,E68,E84	I.C. DEC 1074H04	1910483	9
4	E2,E11,E17,E27	I.C. 7475	1909050	10
5	E3,E13,E37,E50,E69	I.C. 74174	1910852	11
9	E4,E8,E12,E31,E41,E42,E46,E49,E54	I.C. DEC 8838	1911117	12
4	E6,E19,E28,E29	I.C. 74S280	1911573	13
5	E7,E16,E22,E26,E108	I.C. DEC 8640	1911489	14
4	E9,E14,E18,E32	I.C. DEC 74S35	1912039	15
10	E15,E44,E48,E53,E66,E75,E76,E85,E101,E110	I.C. DEC 1074H50	1910512	16
11	E20,E25,E35,E39,E40,E47,E82,E80,E87,E96,E103	I.C. DEC 74S153	1910547-00	17
4	E24,E36,E55,E60	I.C. 74157	1910655	18
4	E30,E83,E71,E99	I.C. DEC 1074H53	1910514	19
1	E34	I.C. DEC 1074H55	1910515	20
4	E43,E45,E78,E93	I.C. 7432	1911521	21
7	E51,E57,E58,E68,E102,E106,E52	I.C. 3001	1909514	22
1	E56	I.C. DEC 1074H21	1910487	23
1	E59	I.C. DEC 74175	1910851	24
1	E61	I.C. DEC 1074H10	1910484	25
2	E64,E90	I.C. DEC 7402	1909004	26
6	E65,E72,E81,E82,E88,E105	I.C. DEC 1074H00	1910482	27
1	E70	I.C. 7497	1911195	28
4	E73,E114 THRU E116	I.C. 75453	1911036	29
7	E74,E77,E83,E82,E97,E104,E109	I.C. 74S175	1910957	30
5	E79,E95,E112,E113,E117	I.C. 74S174	1910550	31
1	E86	I.C. 74S158	1910549	32
1	E91	I.C. 74S64	1910542-00	33
4	E94,E98,E100,E111	I.C. DEC 1074H11	1910485	34
1	E107	I.C. 74S157	1910548	35
1		HANDLE ASSY	1210711-02	36
12		EYELET	9008732	37
A/R		WIRE #30AWG WHT	9105740-99	38
1	E67	I.C. DEC 74S00	1910532	39

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
FIRST USED ON OPT/MOD MB20				
ETCH BOARD REV				
CHK	CHANGE NO.	REV		
DRN	DATE	PARTS LIST		
CHK'D	DATE	TITLE		
ENG	DATE	BUS INTERFACE & DIAG LOGIC		
PRGM. ENG.	DATE	NEXT HIGHER/ASSY		
PROD.	DATE	B-DD-M8568-0		
DEC NO.		EIA NO.	DEC NO.	EIA NO.
SCALE		SIZE CODE		NUMBER
SHEET		DUA		M8568-0-0
SEMICONDUCTOR CONVERSION CHART		DIST.		REV.

BRUNING 40-107 15948

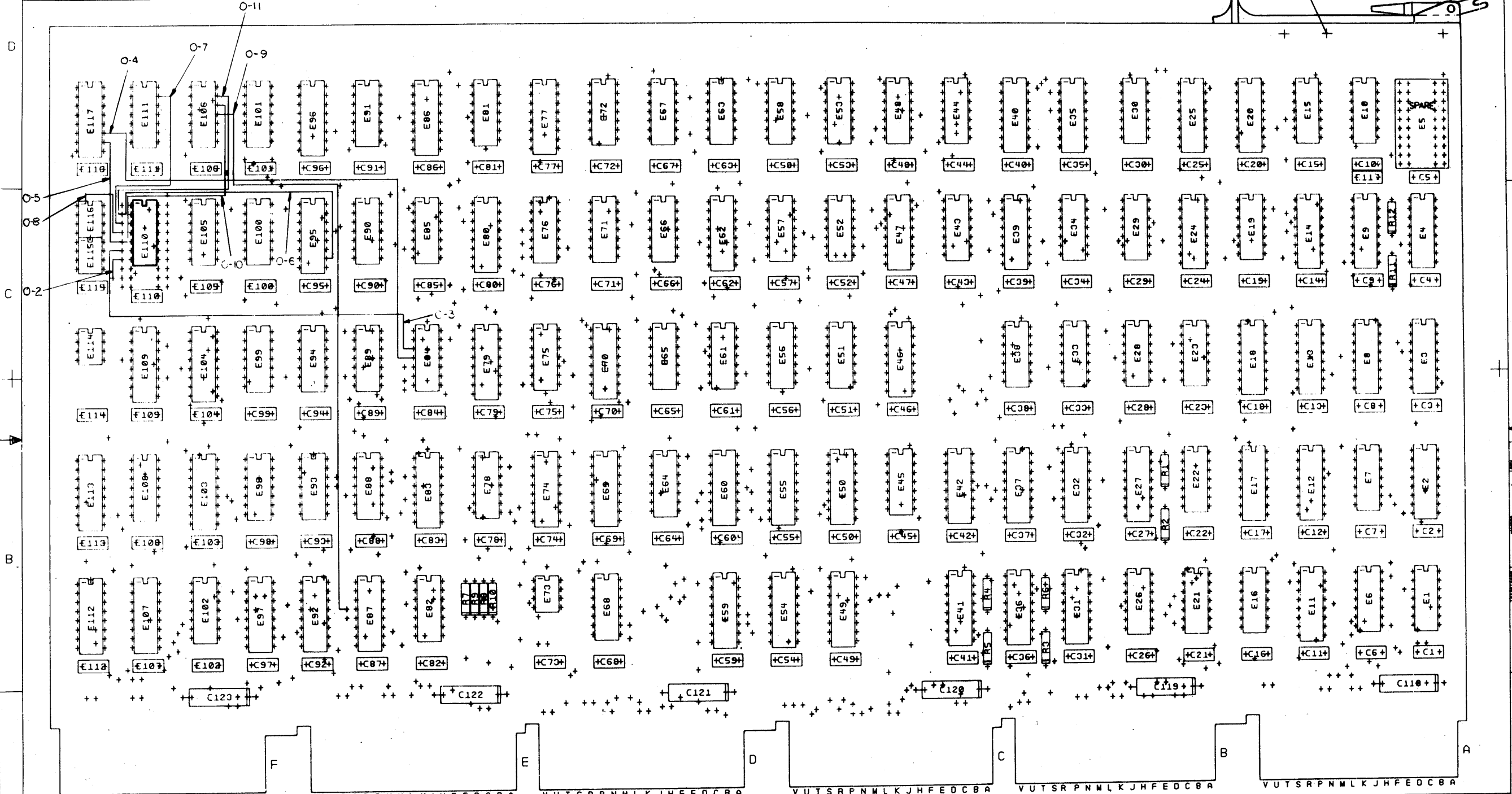
DEC FORM NO DRD-135

DUA M8568-0-0

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37 (QTY 12)

36



NOTES:

CHANGE NO	REV

SIGNATURES		DATE	digital
DRN. <i>W. J. ...</i>		4/7/76	
CHK'D. <i>R. W. ...</i>		5/1/76	TITLE BUS INTERFACE & DIAG. LOGIC
ENC. <i>...</i>			
PROJ. ENC. <i>...</i>			
PROD. <i>Bill ...</i>		1/16/76	SIZE CODE NUMBER REV 0 UA M8568-0-0
SCALE 2/1			
SHT. 2 OF 5			
NEXT HIGHER ASSY. B-DD-M8568-0			

DUA M8568-0-0

1 MS#

8

7

6

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4

3

2

1

DJAM8568-0-0 2

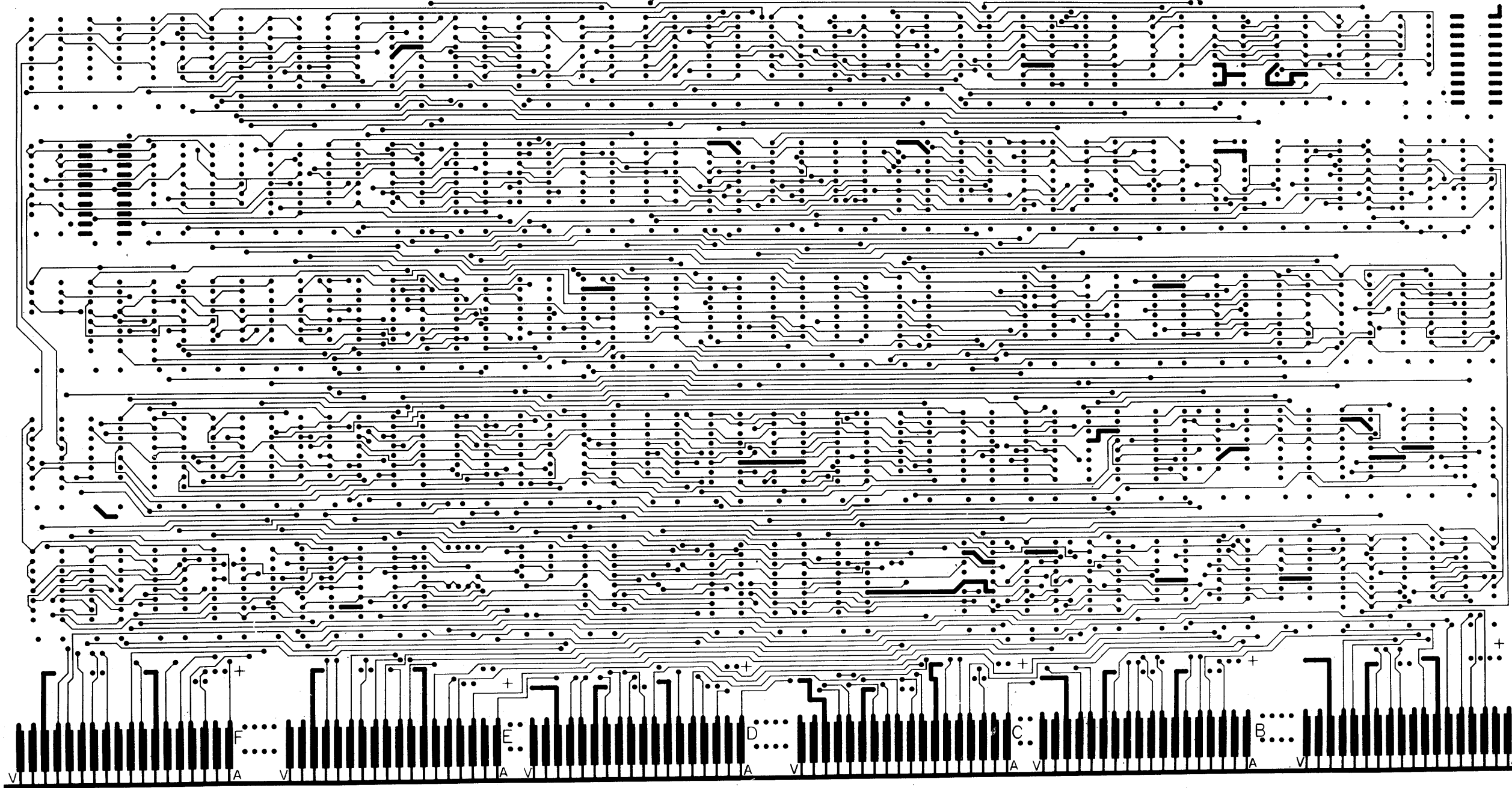
01976

LAYER 1

MS30354 M8568 5012237A

GS*ABCDEFGHIJKLMPQRS SIDE 1 digital

E117 E111 E106 E101 E96 E91 E86 E81 E77 E72 E67 E63 E58 E53 E48 E44 E40 E35 E30 E25 E20 E15 E10 E5



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
BUS INTERFACE & DIAG LOGIC	DJAM8568-0-0	1	
SCALE 2/1	SHEET 3 OF 5	DIST.	

8

7

6

5

4

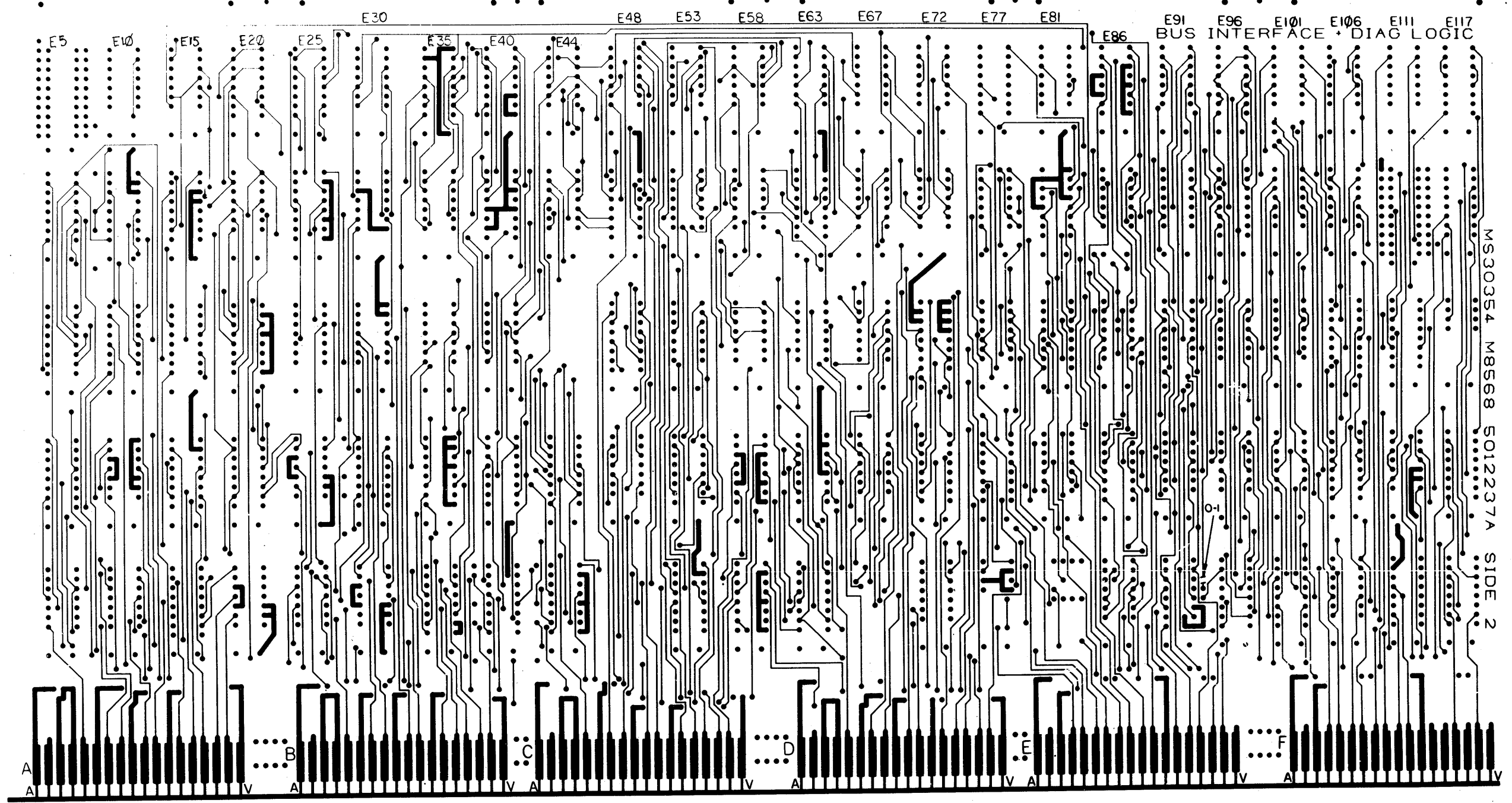
3

2

1

DJAM8568-0-0

834AJ



MS30354 M8568 5012237A SIDE 2

TITLE BUS INTERFACE & DIAG LOGIC		SIZE CODE D UA	NUMBER M8568-0-0	REV
SCALE 2/1	SHEET 4 OF 5	DIST		

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

8

7

6

5

4

3

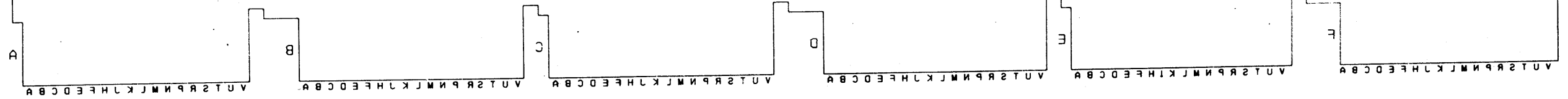
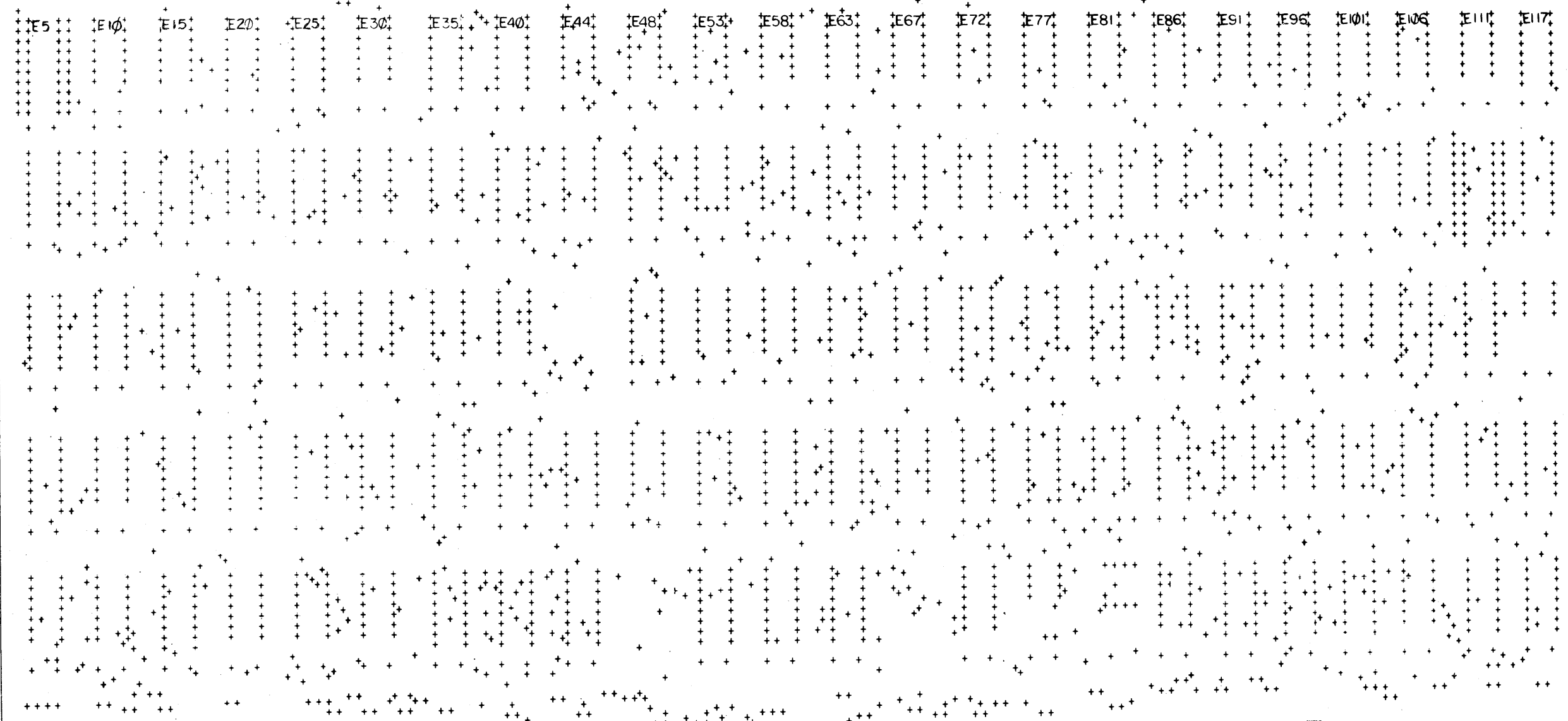
DJAM8568-0-0 2

1

©1976

D
C
B
A

D
C
B
A



DJAM8568-0-0

©1976

8

7

6

5

4

3

2

1

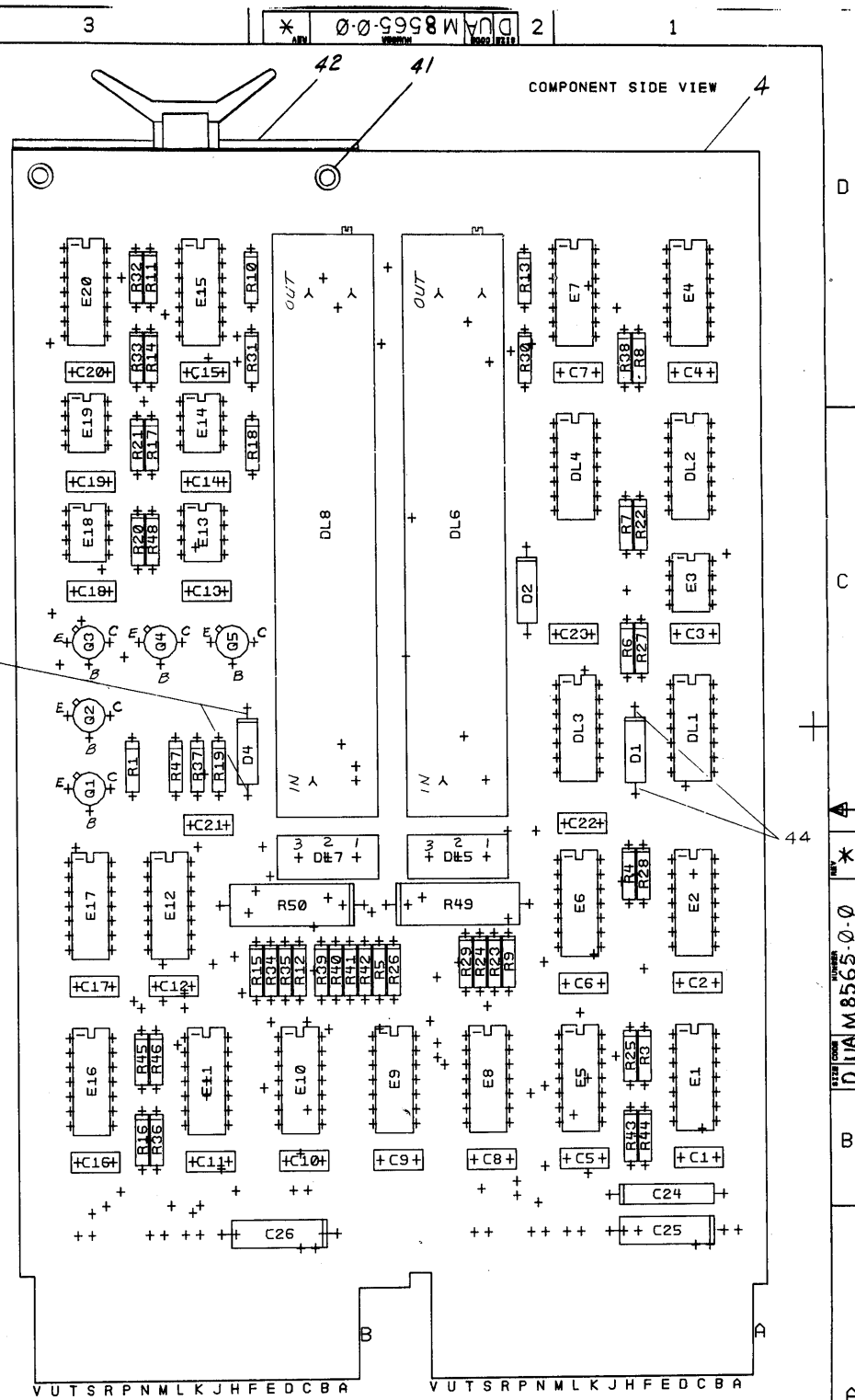
TITLE		CODE	NUMBER	REV.
BUS INTERFACE & DIAG LOGIC		DUA	M8568-0-0	
SCALE	SHEET	OF	DIST	
2/1	5	5		

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NOTE:

- FOR DRAWING DIRECTORY, REFER TO: B-DD-M8565-0
- UNLESS OTHERWISE SPECIFIED, THE FOLLOWING PIN NUMBERS APPLY:

PACKAGE TYPE	GND	+5V
16 PIN DIP	8	16
14 PIN DIP	7	14
8 PIN DIP	4	8

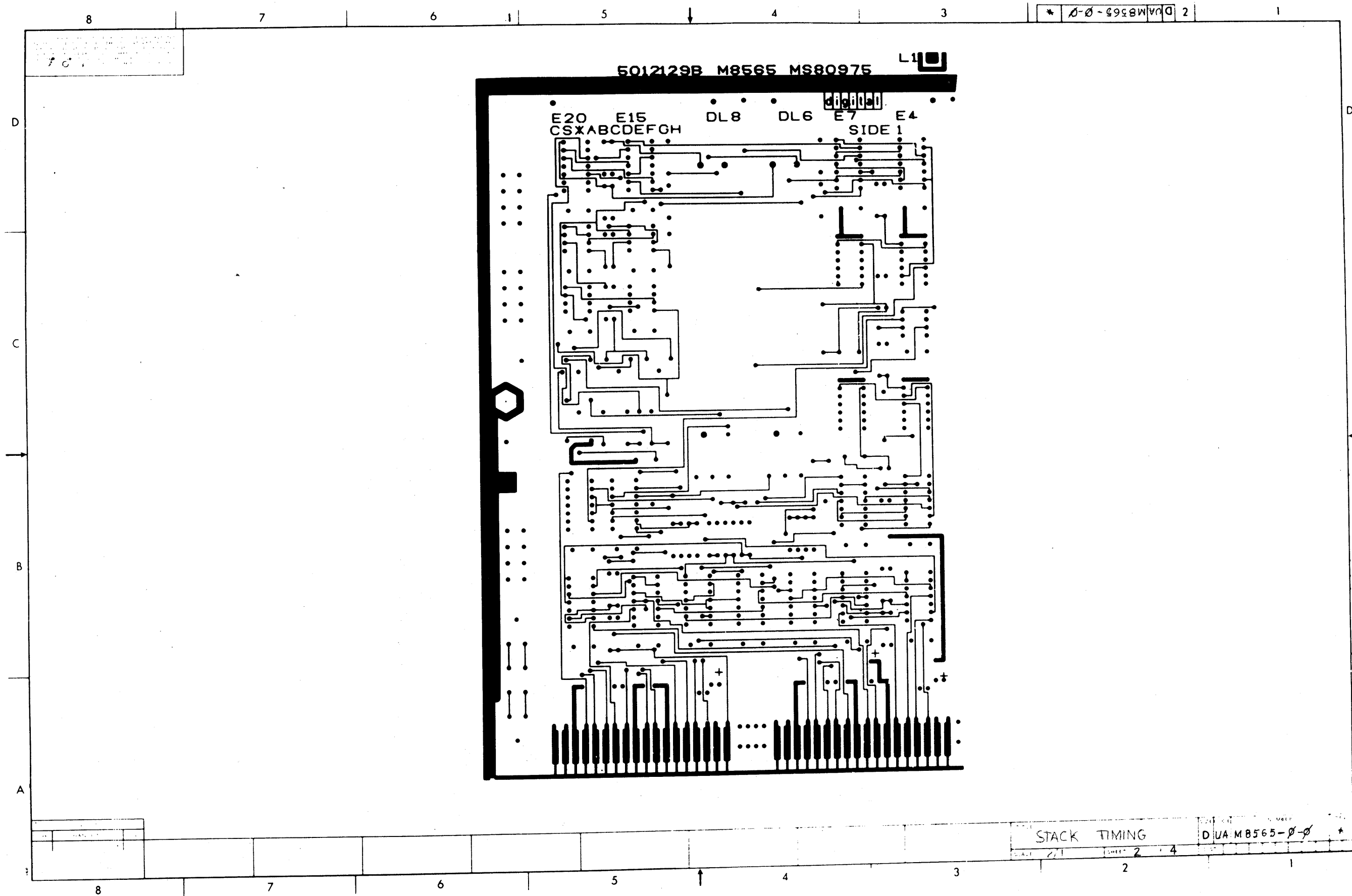


NOTES: 1. ADD ITEM 44 SLEEVING TO D1 & D4 LEADS BOTH ENDS
2. R49 & R50 DO NOT HAVE TO BE OFF BOARD

CHANGE NO	REV

ETCH REV.	B
P.C. DESIGN DATA BASE REV.	B

SIGNATURES	DATE	digital
DRN. <i>D. Rogers</i>	2 MAR 76	
CHK'D. <i>D. Zimmerman</i>	17 MAY 76	TITLE STACK TIMING
ENG. <i>P. ...</i>	24 JUN 76	
PROJ. ENG. <i>P. ...</i>	27 JUN 76	SIZE CODE D UA M8565-0-0
PROD. <i>B. ...</i>	28 JUN 76	
SCALE 2:1	SHT. 1 OF 4	NUMBER M8565-0-0
NEXT HIGHER ASSY. B-DD-M8565-0		REV *



7 C

5012129B M8565 MS80975

L1

E20 CSX E15 ABCDEFGH DL8 DL6 E7 E4 SIDE 1

digital

STACK TIMING

DUA M8565-0-0

SCALE 2:1 SHEET 2 4 1

DVA M8565-0-0

8

7

6

5

4

3

* 0-0-998WAND 2

1

0.76

L 4

STACK TIMING

5012129B M8565 MS80975

SIDE 2

D

D

C

C

B

B

A

A

* 0-0-998WAND 2

REV	DATE	BY

TITLE	SIZE/CODE	NUMBER	REV.
STACK TIMING	D UA	M8565-0-0	*
SCALE	SHEET	OF	
2/1	3	4	
DIST.			

8

7

6

5

4

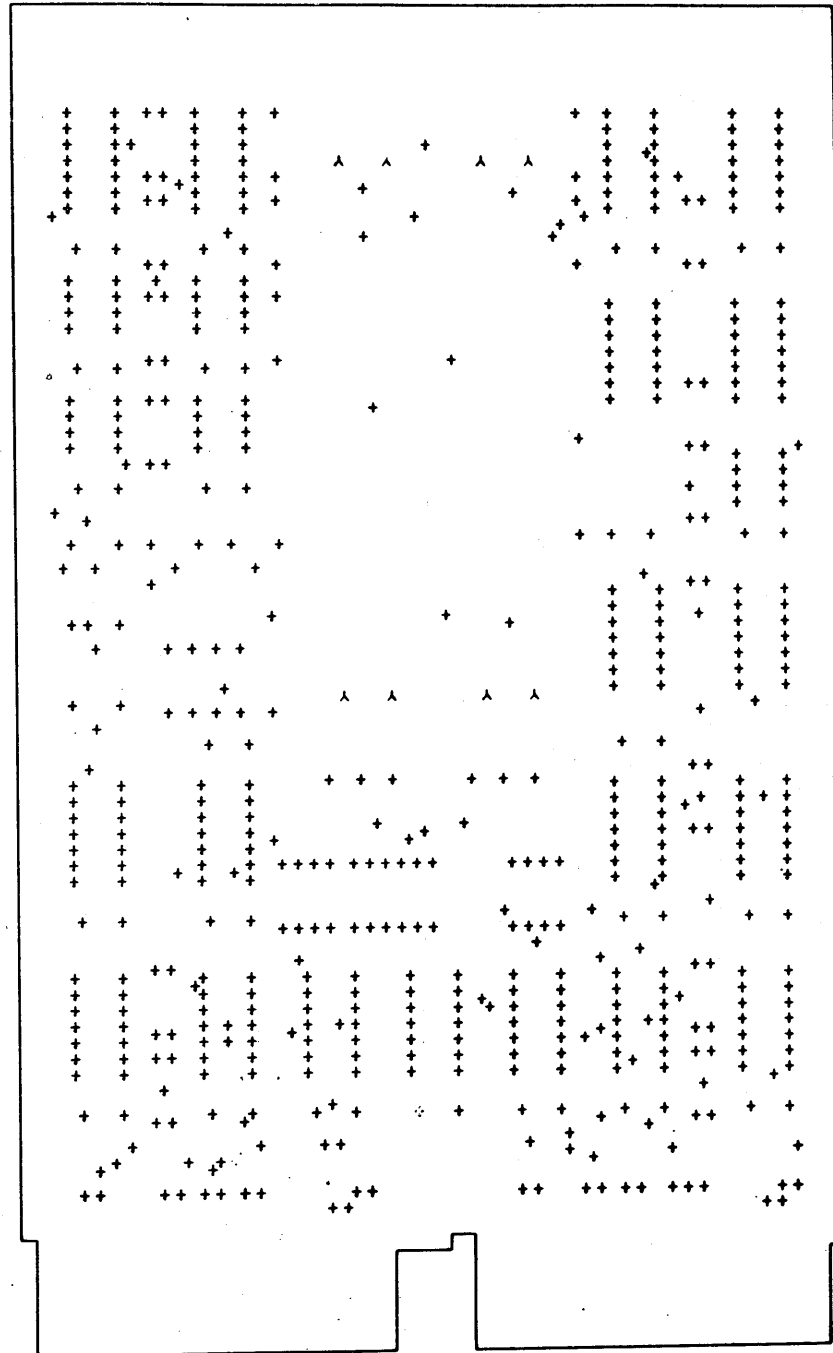
3

2

1

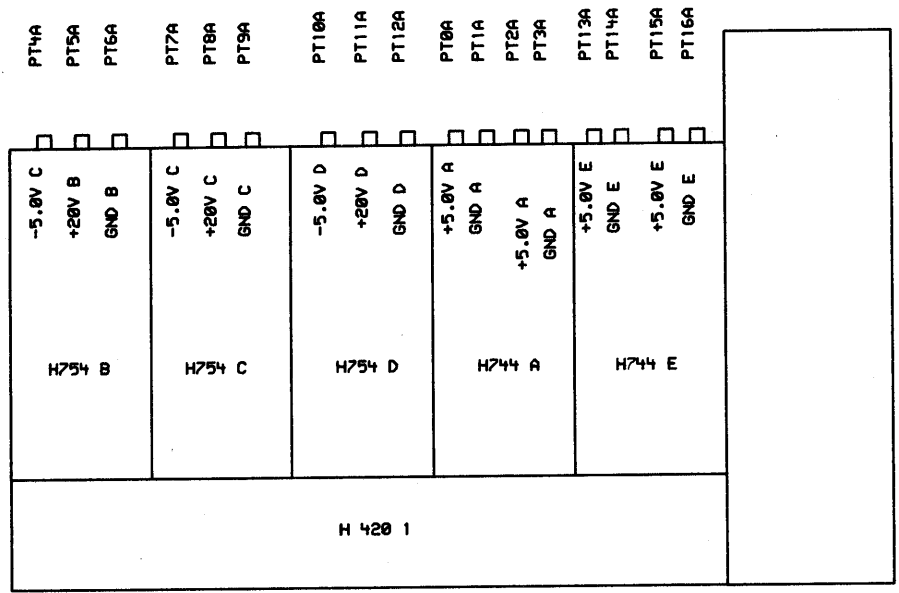
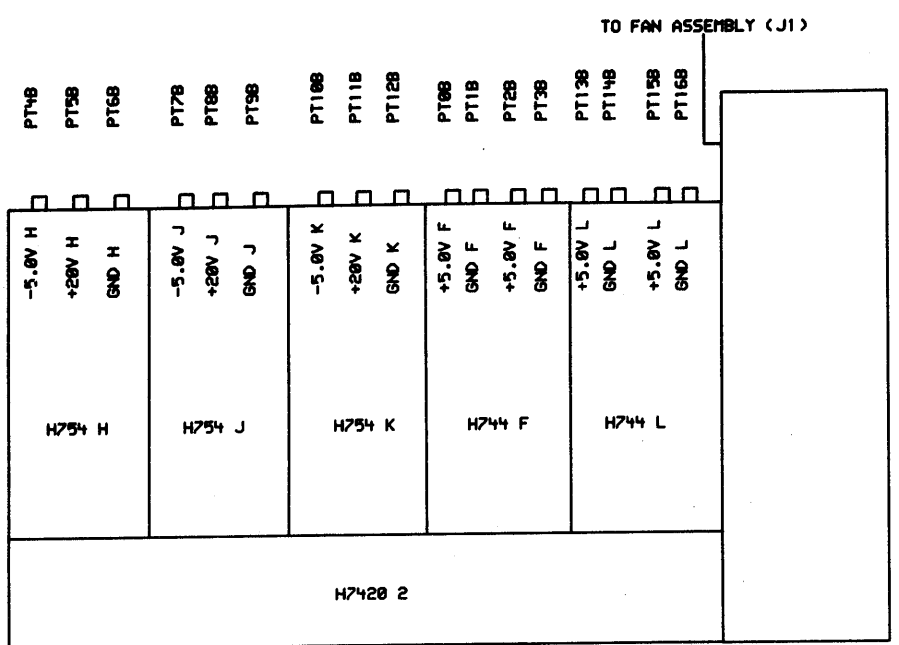
8 7 6 5 4 3 2 1

REVISIONS
 1. 0

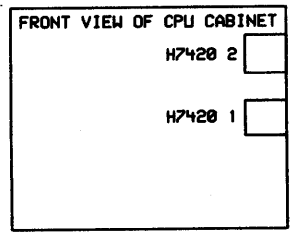


REVISIONS			TITLE (MHIO)				SCALE		SHEET		DRAWING NUMBER		DATE	
CHK	CHANGE NO.	REV.	CYCLE TIMING				2/1		4 OF 4		DUA M8565-0-0			

8 7 6 5 4 3 2 1

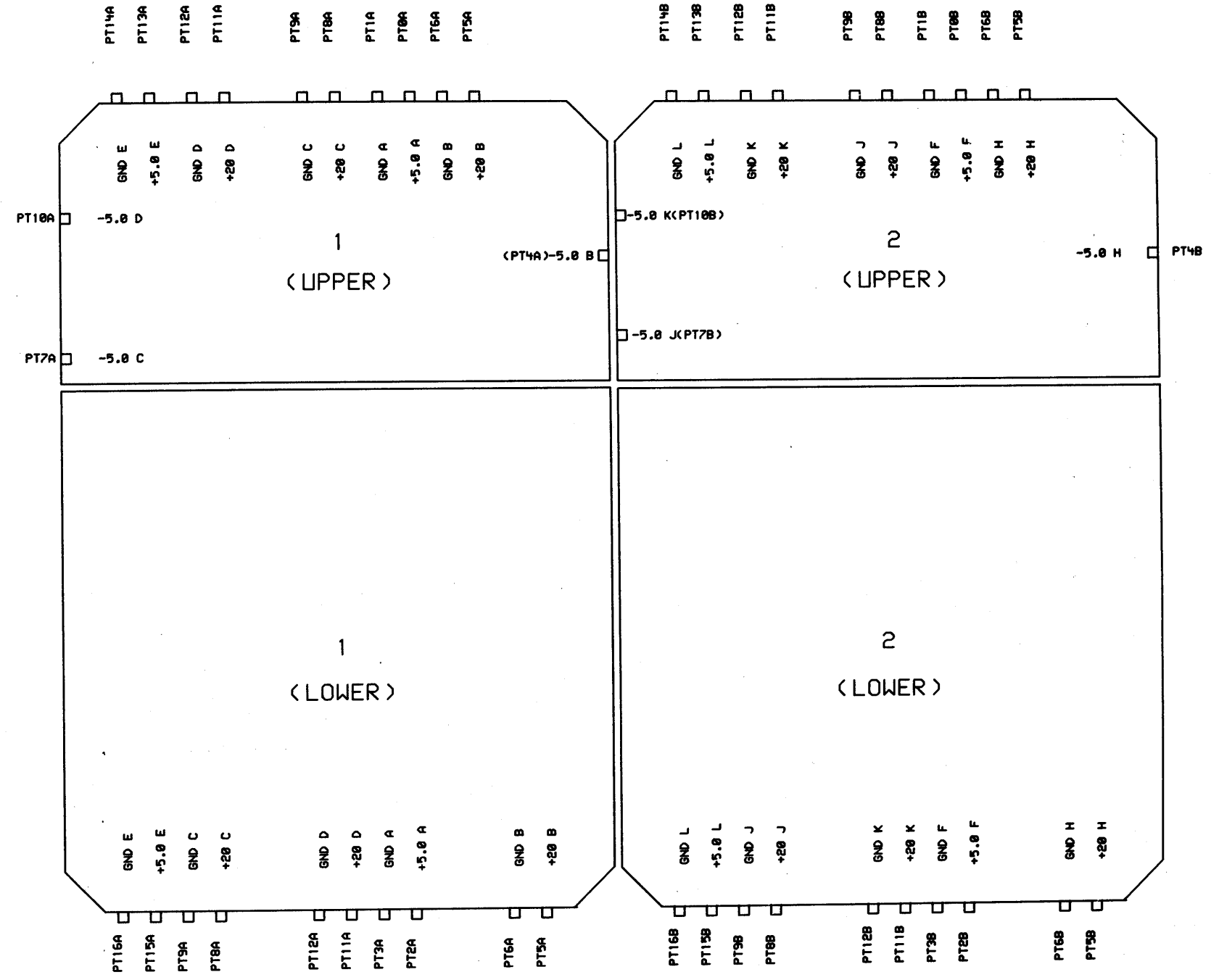


POWER SUPPLY LOCATIONS



NOTES:

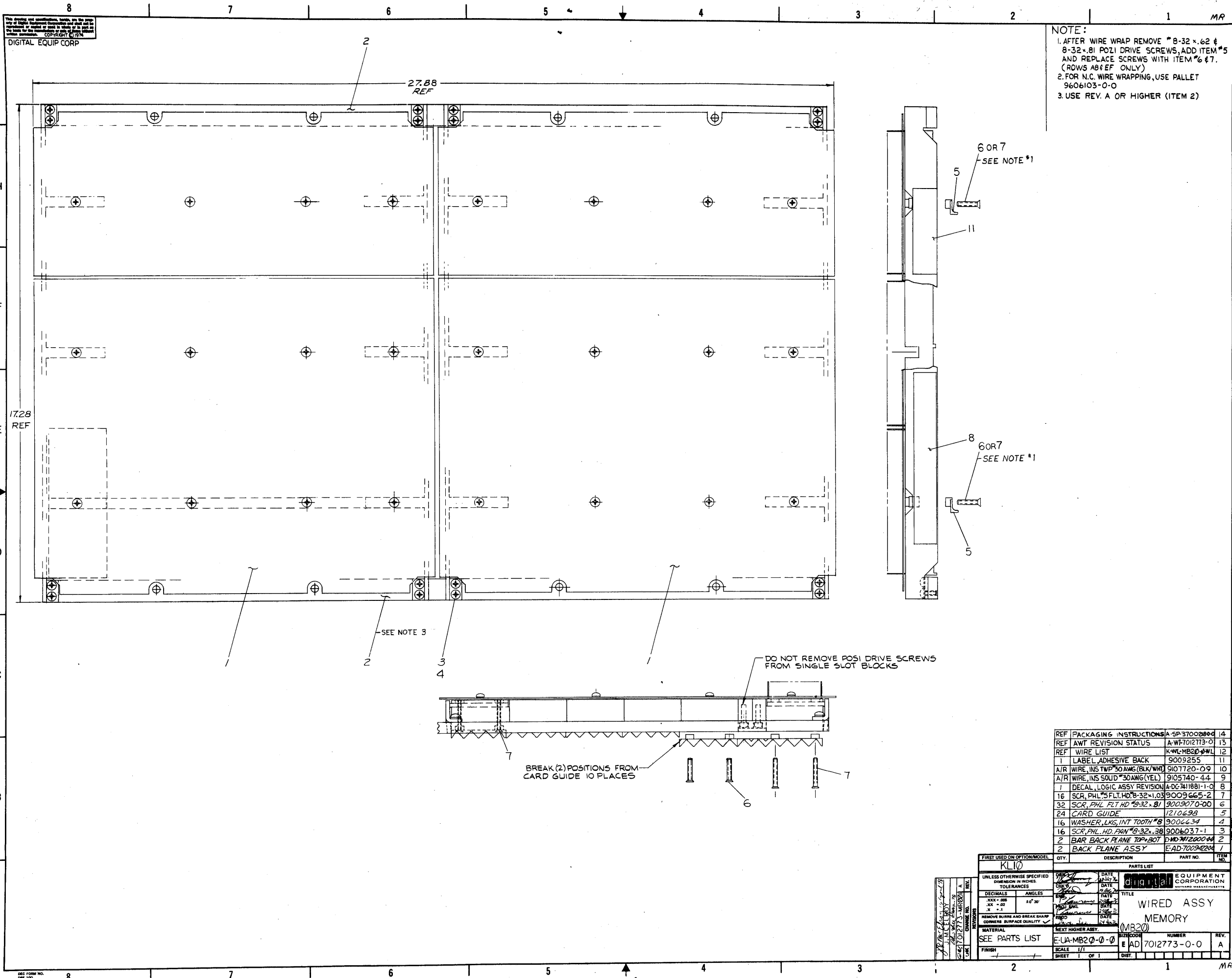
- 1- JUMPER +20V B(PT5A) UPPER TO +20V B(PT5A) LOWER.
JUMPER GND B(PT6A) UPPER TO GND B(PT6A) LOWER.
JUMPER +20V C(PT8A) UPPER TO +20V C(PT8A) LOWER.
JUMPER GND C(PT9A) UPPER TO GND C(PT9A) LOWER.
JUMPER +20V D(PT11A) UPPER TO +20V D(PT11A) LOWER.
JUMPER GND D(PT12A) UPPER TO GND D(PT12A) LOWER.
- JUMPER +20V H(PT5B) UPPER TO +20V H(PT5B) LOWER.
JUMPER GND H(PT6B) UPPER TO GND H(PT6B) LOWER.
JUMPER +20V J(PT8B) UPPER TO +20V J(PT8B) LOWER.
JUMPER GND J(PT9B) UPPER TO GND J(PT9B) LOWER.
JUMPER +20V K(PT11B) UPPER TO +20V K(PT11B) LOWER.
JUMPER GND K(PT12B) UPPER TO GND K(PT12B) LOWER.



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REVISIONS	
CHK	CHANGE NO. REV

	DRN: <i>J. J. J.</i> CHK'D: <i>W. H.</i>	DATE: 15-DEC-75 DATE: 14-DEC-75	ENG: <i>P. S. P.</i> DATE: 14-DEC-75	TITLE: MA20 AC-DC POWER WIRING
	FIRST USED ON OPTION/MODEL: MA20	NEXT HIGHER ASSEMBLY: B-DD-MA20-0	BOARD LOCATION: DE 2	SIZE CODE: D IC NUMBER: MA20-0-PW REV. #:



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DIGITAL EQUIP CORP

NOTE:
 1. AFTER WIRE WRAP REMOVE # 8-32 x .62 & 8-32 x .81 POZI DRIVE SCREWS, ADD ITEM #5 AND REPLACE SCREWS WITH ITEM #6 #7. (ROWS AB&EF ONLY)
 2. FOR N.C. WIRE WRAPPING, USE PALLET 9606103-0-0
 3. USE REV. A OR HIGHER (ITEM 2)

SEE NOTE 3

DO NOT REMOVE POZI DRIVE SCREWS FROM SINGLE SLOT BLOCKS

BREAK (2) POSITIONS FROM CARD GUIDE 10 PLACES

REF	PACKAGING INSTRUCTIONS	A-SP3700288-0	14
REF	AWT REVISION STATUS	A-WF7012773-0	13
REF	WIRE LIST	K-WL-MB20-0-WL	12
1	LABEL ADHESIVE BACK	9009255	11
A/R	WIRE, INS TWP 30AWG (BLK/WH)	9107720-09	10
A/R	WIRE, INS SOLID 30AWG (YEL)	9105740-44	9
1	DECAL LOGIC ASSY REVISION	A-DG7411881-1-0	8
16	SCR, PHL 5 FLT, HD 8-32 x 1.03	9009665-2	7
32	SCR, PHL FLT, HD 8-32 x .81	9009070-00	6
24	CARD GUIDE	1210698	5
16	WASHER, LKS, INT TOOTH #8	9006634	4
16	SCR, PHL, HD, PAN 8-32 x .38	9006037-1	3
2	BAR BACK PLANE TOP/BOT	DMD-712000-0A	2
2	BACK PLANE ASSY	E-AD-700942204	1

FIRST USED ON OPTION/MODEL		PARTS LIST	
KL10		DATE	DATE
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DATE	DATE
DECIMALS	ANGLES	DATE	DATE
XXX + .005	± 0° 30'	DATE	DATE
.XX + .02		DATE	DATE
.X + .1		DATE	DATE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	DATE
MATERIAL		DATE	DATE
SEE PARTS LIST		DATE	DATE
FINISH		DATE	DATE
SCALE 1/1		DATE	DATE
SHEET 1 OF 1		DATE	DATE

DIGITAL EQUIPMENT CORPORATION
Wired Ass'y
MEMORY
(MB20)
 E-AD-7012773-0-0
 REV. A

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DIGITAL EQUIPMENT CORPORATION

MB20.NCA
 MB20.TPA
 MB20A.ALL
 709442.RCC (MA20,MB20,MH10 AND MG10 ETCH ONLY TEST TAPE)

NOTES:

1. LIST OF PAPER TAPE FILES USED.
2. LIST OF AWT FILES USED

REV. A	NUMBER MB20-0-WL	SIZE K	CODE WL
--------	------------------	--------	---------

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
KL10		PARTS LIST		
DRN.		DATE	 digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
CHK'D.		DATE		
ENG.		DATE		
PROJ. ENG.		DATE		
PROD.		DATE		
NEXT HIGHER ASSEMBLY				
E-AD-7012773-0-0			WIRED ASSY (MEMORY)	
SCALE		SIZE	CODE	NUMBER
SHEET 1 OF 1		K	WL	MB20-0-WL
		DIST.		REV. A

REVISIONS	REV.	A
	CHANGE NO.	
	CHK	

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DRAWING NUMBER	INIT REL	AUTOMATIC WIRE TESTER (AWT) REVISION STATUS															
	TØ	A															
K-WL-MB2Ø-Ø-WL	A	A															
E-AD-7012773-0-0	*	A															
E-AD-7009422-0-0	B	B															

REV B
NUMBER 7012773-0
SIZE CODE A WT

REVISIONS	CHANGE NO.	REV.
	G.O. 7012773-MR001	B

DRN <i>[Signature]</i>	DATE 2 JUN 76	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
CHK'D <i>[Signature]</i>	DATE 2 JUN 76	
ENG. <i>[Signature]</i>	DATE <i>[Signature]</i>	TITLE
PROJ. ENG.	DATE	MB2Ø
PROD. <i>[Signature]</i>	DATE 5 JUL 76	AWT REVISION STATUS
FIRST USED ON KL1Ø	SIZE CODE A WT	NUMBER 7012773-0
SCALE #	SHEET 1 OF 1	REV. B
DIST.		

DRA 123