

IBM® 1620

Program Library

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**COMPUTER
TECHNOLOGY**

1620 Monitor I (Listings and Flowcharts)

1620-PR-025
1620-PR-026

1620 MONITOR SYSTEM SPS II-D LISTINGS

00030	DORG	2218		02218	
00040	*	SYMBOL TABLE PARAMETERS			
00050	SPBL	DS	, 40,,	SECTORS PER BLOCK	00040
00060	SMPBL	DS	, 235,,	SYMBOLS PER BLOCK	00235
00070	SYMTBL	DS	, 16003,	HI-ORDER POSITION OF SYMBOL TABLE	16003
00080	LOSymb	DS	, SYMTBL+SMPBL*17-1,	LO-ORDER POSITION OF SYMBOLIC BLOCK	19997
00090	SFBADD	DS	, LOSymb-SPBL*100+1,	SYMBOLIC BLOCK DISK ADDRESS	15998
00100	LBLIM	DS	, LOSymb*12,	LO-ORDER BLOCK LIMIT	20009
00110	MAXLIM	DS	, SYMTBL-6,	MAXIMUM LIMIT	15997
00120	*	EMPIRICAL SECTOR ASSIGNMENT PARAMETERS			
00130	1PTSPB	DS	,1500,	1-PASS TOTAL SECTORS PER SYM. BLOCK	01500
00140	2PTSPB	DS	,600,	2-PASS TOTAL SECTORS PER SYM. BLOCK	00600
00150	BP20K	DS	,5,	SYMBOLIC BLOCKS PER 20K CORE	00005
00160	ZPRATIO	DS	,20000,	2-PASS RATIO--INTERM./FINAL SECTORS	20000
00170	*	SPS DISC ASSIGNMENT PARAMETERS			
00180	A1DAD	DS	,18600,	CONTROL STATEMENTS, PH.A SUBROUTINES	18600
00190	A1SCT	DS	,137		00137
00200	A2DAD	DS	,18800,	NORMAL PROCESSING--FREQUENT STMTS.	18800
00210	A2SCT	DS	,54		00054
00220	A3DAD	DS	,18854,	TRA, CALL, GET-PUT AND ASSOC DECL	18854
00230	A3SCT	DS	,22		00022
00240	A4DAD	DS	,18876,	DMES, DVLC PROCESS	18876
00250	A4SCT	DS	,23		00023
00260	A5DAD	DS	,18737,	DEND, TCD, AND SYMBOL TABLE LIST	18737
00270	A5SCT	DS	,29		00029
00280	SSTDAD	DS	,18899,	SYSTEM SYMBOL TABLE	18899
00290	SSTSCT	DS	,35		00035
00300	MSTDAD	DS	,SSTDAD+SSTSCT,	MASTER SYMBOL TABLE	18934
00310	MOSDAD	DS	,19663,	MONITOR COMM SECTOR DISK ADDRESS	19663
00320	B1DAD	DS	,18969,	PHASE B INITIALIZATION	18969
00330	B1SCT	DS	,20		00020
00340	B2DAD	DS	,19200,	INPUT, BRANCH TABLE, SCAN	19200
00350	B2SCT	DS	,52		00052
00360	B3DAD	DS	,19000,	LINPRT, INSTRN, DC, DSDNB, DAS, DORG	19000
00370	B3SCT	DS	,69		00069
00380	B3MAD	DS	,09100, PHASE B3 MEMORY ADDRESS		09100
00390	B4DAD	DS	,19069,	RSTR, DAC, ALOW, DMES, DSB, DVLC, DGM	19069
00400	B4SCT	DS	,53		00053
00410	B5DAD	DS	,19122,	DSA, MACRO, ODA, TRA, DEND	19122
00420	B5SCT	DS	,29		00029
00430	B6DAD	DS	,19151,	CALL LINK, LOAD, EXIT	19151
00440	B6SCT	DS	,29		00029
00450	D1MAD	DS	,04800,	DIM ENTRY FOR EQUIV. TABLE	04800
00460	D1MSCT	DS	,1		00001
00470	EQDAD	DS	,0,	EQUIVALENCE TABLE	00000
00480	EQSCT	DS	,4		00004
00490	PHCAD	DS	,19252		19252
00500	PHCSCT	DS	,40		00040
00510	SUBDAD	DS	,04808,	SPS SUBROUTINE DIM ENTRIES	04808
00520	*	MONITOR COMMUNICATION PARAMETERS			
00530	MOSCT	DS	,16000,	MONITOR COMM SECTOR MEMORY ADDRESS	16000
00540	MODOC	DS	,MOSCT+22,	DISC OUTPUT CODE	16022
00550	MOC TOC	DS	,MOSCT+23,	CD-TP OUTPT CODE	16023
00560	MONAME	DS	,MOSCT+35,	NAME	16035
00570	MOIDNO	DS	,MOSCT+39,	ID NUMBER	16039
00580	MOML	DS	,MOSCT+41,	MANT. LENGTH	16041

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00590	MOSBND	DS	,MOSCT+43,	SUB. SET	16043
00600	MONDIS	DS	,MOSCT+44,	NOISE DIGIT	16044
00610	MOEXEC	DS	,426,	EXECUTE CONTROL AND SPS INPUT	00426
00620	MOHAD	DS	,415,	MEMORY ADDR	00415
00630	SYSCAL	DS	,475,	SYSTEM COMMON ACTION LOCATION	00475
00640	NONEX	DS	,457,	NON-EXECUTE FOR JOB ERROR	00457
00650	PCK	DS	,2365		02365
00660	*	PORT ENTRIES			
00670	IORT	DS	,565		00565
00680	IOPT	DS	,532		00532
00690	IOGT	DS	,566		00566
00700	IURBC	DS	,520		00520
00710	IOSK	DS	,554		00554
00720	ILOCAL	DS	,00716		00716
00730	MONCAL	DS	,00796		00796
00740	IOCSAD	DS	,19783, ADDRESS OF THE LOADER*CALLER		19783
00750	*				
00760	*	SPS COMMUNICATION AREA			
00770	*				
00780	OUT	DS	1		02218
00790		DS	80		02298
00800	ZEPO	DS	2		02300
00810		DS	81		02381
00820	DC	1, *			02382
00830	LNTH	DS	5		02387
00840	DC	1, *			02388
00850	AJUST	DC	11, 2121212121,, -2121212121	INSTRUCTION PARITY TABLE	02399
00860	THINGS	DC	21, 0010203040506070000' -0010203040506070000'		02420
00870	COLL	DS	19		02439
00880		DS	2		02441
00890	NUMB	DC	7, * -00000'		02448
00900	JSTBL	DC	11, 3232323232,, -3232323232	ALPHA PARITY TABLE	02459
00910	EVODD	DC	10, 0101010101,, -101010101	DMES PARITY TABLE	02469
00920	*	PROCESSOR CONTROL SWITCHES--FLAGGED 1=ON, UNFLAGGED 0=OFF			
00930	STPCSW	DS	1,,	PUNCH SYMBOL TABLE	02470
00940	STYPSW	DS	1,,	TYPE SYMBOL TABLE	02471
00950	STPRSW	DS	1,,	PRINT SYMBOL TABLE	02472
00960	TYINSW	DS	1,,	BEGIN TYPEWRITER INPUT	02473
00970	CDINSW	DC	1, 1,, J	BEGIN CARD INPUT	02474
00980	PTINSW	DS	1,,	BEGIN PAPER TAPE INPUT	02475
00990	ERSTSW	DS	1,,	ERROR STOP	02476
01000	2PSSW	DS	1,,	TWO PASS MODE	02477
01010	RELSW	DS	1,,	ASSEMBLE RELOCATABLE	02478
01020	LSCDSW	DS	1,,	LIST CARD	02479
01030	LSTYSW	DS	1,,	LIST TYPEWRITER	02480
01040	LSPRSW	DS	1,,	LIST PRINTER	02481
01050	PCNUSW	DS	1,,	PUNCH RESEQUENCED SOURCE DECK	02482
01060	INTRSW	DS	1,,	INTERRUPT	02483

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01070	KILSUB	DS	1,,	NO SUBROUTINES	02484	1		
01080	CTVT	DC	5,0		02489	5		
			-0000					
01090	INCODE	DC	2,5		02491	2		
			-5					
01100	OBJCRE	DS	5,,	OBJECT MACHINE SIZE	02496	5		
01110	PROCRE	DS	1,,	PROCESSOR MACHINE SIZE	02497	1		
01120	PRTLIM	DSA	0--0		02502	5 X	1	
01130	MCLIM	DSA	LBLIM		02502	-0000		
					02507	5 X	1	
					02507	K0009		
01140		DC	1,'		02508	1		
01150	STCNT	DC	5,1,,	STATEMENT COUNT	02513	5		
			-0001					
01160	HIADD	DC	5,0,,	HIGH ADDRESS	02518	5		
			-0000					
01170	L	DS	2,,	LENGTH OF MANTISSA	02520	2		
01180	NOISE	DS	1		02521	1		
01190	SUBNO	DS	2		02523	2		
01200	PICKUP	DS	5		02528	5		
01210		DC	1,1		02529	1		
			J					
01220	ISTAT	DC	30,0'		02559	30		
			-00000000000000000000000000000000'					
01230	SPSGM	DGM			02560	1		
01240	INCRM	DS	5		02565	5		
01250		DC	1,'		02566	1		
01260	TEMPR	DS	5		02571	5		
01270		DC	1,'		02572	1		
01280	RMRK	DS	3		02575	3		
01290		DC	1,'		02576	1		
01300	ONEZ	DC	10,1		02586	10		
			-000000001					
01310	*							
01320	*			IOCS CALL-LOAD PROCESSOR SECTION-NO WLRC				
01330	*							
01340		DS	5		02591	5		
01350	CFP	TFM	IDRT,++23		02592	16	00565	-2615
01360		B	IDGT,CFPDEF,7		02604	49	00566	-2623
01370		B7	CFP-1,,6		02616	49	0259J	
01380	CFPDEF	DSC	2,22,,	ABSOLUTE DISK NOT WRONG LENGTH	02623	2		
			22					
01390	CFFA	DSA	0--0		02629	5 X	1	
01400		DC	1,'		02629	-0000		
					02630	1		
01410	MURI	DS	1		02631	1		
01420	IOADDR	DC	5,0,,	FILE ADDRESS OF INTERMEDIATE OUTPUT	02636	5		
			-0000					

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01430	SYMTAD	DC	5,02600,,	FILE ADDRESS OF SYMBOL TABLE	02641	5		
			-2600					
01440	SBOU	DC	2,0		02643	2		
			-0					
01450	*							
01460	*			END SPS COMMUNICATION AREA				
01470	*							
01480	TYPIN	DSA	INPUT-10		02648	5 X	1	
01490		DC	3,06'		02648	-2873		
			-6'		02651	3		
01500	TAPIN	DSA	INPUT-10		02656	5 X	1	
01510		DC	3,08'		02656	-2873		
			-8'		02659	3		
01520	CARDIN	DSA	INPUT-10		02664	5 X	1	
01530		DC	3,10'		02664	-2873		
			JO'		02667	3		
01540	SBMAX	DC	2,00		02669	2		
			-0					
01550	SBCNT	DC	2,0		02671	2		
			-0					
01560	ADDCOW	DS	5,PICKUP		02528	5		
01570		DS	1		02672	1		
01580	ALPHA	DS	10		02682	10		
01590	BETA	DS	10		02692	10		
01600	DIGITS	DS	3		02695	3		
01610	CLERER	DC	1,0		02696	1		
			-					
01620		DSC	26,0		02697	26		
			00000000000000000000000000000000					
01630		DSC	27,'		02723	27		
			00000000000000000000000000000000'					
01640	INSAV	DAS	61		02751	61 X	2	
01650		DAC	5, ,,,		02873	5 X	2	
01660	INPUT	DAS	6		02883	6 X	2	
01670		DAS	4		02895	4 X	2	
01680		DAS	66		02903	66 X	2	
01690		DC	1,',*		03033	1		
01700		DAS	1		03035	1 X	2	
01710	INPUT2	DSS	217		03036	217		
01720	SUBENT	DS	5		03257	5		
01730	DMSV	DS	5		03262	5		
01740	DMSVM	DS	5		03267	5		
01750	PLNCE	DS	5		03272	5		
01760	ERRDIG	DS	1		03873	1		
01770		DC	5,0		03278	5		
			-0000					
01780	LIMITS	DC	5,0		03283	5		
			-0000					

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01790	DC	1,'	03204	1	
01800	ADDRS	DS 11	03295	11	
01810	DC	1,'	03296	1	
01820	ERLAB	DAS 6	03299	6 X	2
01830	DAC	2,+'	03311	2 X	2
01840	LOPDT	DC 10,0	03323	10	
		-00000000			
01850	DAC	2, '	03325	2 X	2
01860	LAB	DS 12	03339	12	
01870	DC	1,'	03340	1	
01880	FLGRM	DC 1,',,,	03341	1	FLAGGED RECORD MARK
01890	SMODE	DS 1	03342	1	
01900	DGSV	DS 1	03343	1	
01910	DS	1	03344	1	
01920	TEMP	DS 5	03349	5	
01930	CORM	DAC 22, RE-ENTER STATEMENT.'	03351	22 X	2
		RE-ENTER STATEMENT.'			
01940	5ALPHO	DAC 5,00000	03395	5 X	2
		00000			
01950	*				
01960	*	READ INPUT			
01970	*				
01980	PHASEA	TDM ERRDIG,0	03404	15	03273 00000
01990	BD	READ2, CDINSW	03416	43	03636 02474
02000	BD	READ1, PTINSW	03428	43	03604 02475
02010	*				
02020	*	READ TYPEWRITER			
02030	*				
02040	READ3	RCTY	03440	34	00000 00102
02050	TFM	++30, INPUT+18,,	03452	16	03482 -2901
02060	AM	++18,2,10,	03464	11	03482 000-2
02070	TFM	++4,,	03476	16	00000 -0000
02080	DAC	1,+',*	03487	1	X 2
02090	CM	++6, INPUT+140	03488	14	03482 -3023
02100	BL	++36	03500	47	03464 01300
02110	TF	INPUT-2, CLERER+9	03512	26	02881 02705
02120	TF	INPUT+10, CLERER+11	03524	26	02893 02707
02130	TF	INPUT+18, CLERER+7	03536	26	02901 02703
02140	TFM	IORT,++23	03548	16	00565 -3571
02150	B	IOGT,TYPIN-4,7	03560	49	00566 -2644
02160	BNC4	PROSTM	03572	47	03912 00400
02170	WATY	CORM	03584	39	03351 00100
02180	B7	READ3	03596	49	03440
02190	*				
02200	*	READ PAPER TAPE			
02210	*				
02220	READ1	TFM IORT,++23	03604	16	00565 -3627
02230	B	IOGT,TAPIN-4,7	03616	49	00566 -2652
02240	B7	PROSTM	03628	49	03912

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02250	*				
02260	*	READ STATEMENT FROM CARD			
02270	*				
02280	READ2	TFM IORT,++23	03636	16	00565 -3659
02290	B	IOGT,CARDIN-4,7	03648	49	00566 -2660
02300	BNF	RSCAN,PCNUSW	03660	44	03804 02482
02310	BNR	++24, INPUT-10	03672	45	03696 02873
02320	TFM	INPUT-10,00,10	03684	16	02873 000-0
02330	CM	INPUT-10,14,10	03696	14	02873 000J4
02340	R2BE	BE RSCAN	03708	46	03804 01200
02350	TF	INPUT-02,5ALPHO+8	03720	26	02881 03403
02360	TD	INPUT-04,STCNT	03732	25	02879 02513
02370	TD	INPUT-06,STCNT-1	03744	25	02877 02512
02380	TD	INPUT-08,STCNT-2	03756	25	02875 02511
02390	TD	INPUT-10,STCNT-3	03768	25	02873 02510
02400	TFM	IORT,++23	03780	16	00565 -3803
02410	B	IOPT,CARDIN-4,7	03792	49	00532 -2660
02420	*				
02430	*	FIND RIGHTMOST CHARACTER OF STATEMENT AND PLACE A			
02440	*	RECORD MARK AFTER IT			
02450	*				
02460	RSCAN	TFM RSBD-1, INPUT+139	03804	16	03875 -3022
02470	TFM	RSBD+11, INPUT+140	03816	16	03887 -3023
02480	TFM	RSBD+11,,6	03828	16	03887 00000
02490	DAC	1,+',*	03839	1	X 2
02500	SM	RSBD-1,2,10	03840	12	03875 000-2
02510	SM	RSBD+11,2,10	03852	12	03887 000-2
02520	BD	PROSTM,+-	03864	43	03912 00000
02530	RSBD	BD PROSTM,+-	03876	43	03912 00000
02540	CM	RSBD+11, INPUT+18	03888	14	03887 -2901
02550	BH	RSCAN+24	03900	46	03828 01100
02560	*				
02570	*	CLEAR FOR INTERMEDIATE OUTPUT			
02580	*				
02590	PROSTM	B PROCON	03912	49	11014 00000
02600	BNR	++24, INPUT+20	03924	45	03948 02903
02610	TFM	INPUT+22, 00000	03936	16	02905 -0000
02620	DAC	1,+',*	03947	1	X 2
02630	TR	INPUT2, CLERER+46	03948	31	03036 02742
02640	TR	INSAV-1, INPUT+19	03960	31	02750 02902
02650	AM	STCNT,1,10	03972	11	02513 000-1
02660	TDM	LDABSW, 1,11	03984	15	08308 0000J
02670	BD	R3E, 2PSSW	03996	43	04032 02477
02680	TDM	INPUT2+99	04008	15	03135 00000
02690	DC	1,+',*	04019	1	
02700	TR	INPUT2+8, INPUT-11	04020	31	03044 02872
02710	R3E	AM INKRM, 1,10	04032	11	02565 000-1
02720	BNR	++24, INPUT-10	04044	45	04068 02873
02730	TFM	INPUT-10,00,10	04056	16	02873 000-0
02740	TF	PLACE, ADDCOM	04068	26	03272 02888
02750	CM	ADDCOM,99999	04080	14	02528 89988
02760	BE	++48	04092	46	04160 01200
02770	C	ADDCOM,HIADD,,	04104	24	02528 02518

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02780	BNM	++24	04116	47	04140	01100
02790	TF	MIADD,ADDCOM	04128	26	02518	02528
02800	BNR	++20,INPUT	04140	45	04160	02883
02810	B7	ER2	04152	49	04280	
02820	CM	INPUT,14,10	04160	14	02883	000J4
02830	BNE	RLOP1	04172	47	04220	01200
02840	BD	++24,ERRDIG	04184	43	04208	03273
02850	BD	PHASEA, 2PSSW	04196	43	03404	02477
02860	BTM	OUTPUT, PHASEA	04208	17	09958	-3404
02870	*					
02880	*	CHECK FOR RECORD MARK IN LABEL FIELD.				
02890	*					
02900	RLOP1	TFM RLOP+11,INPUT-2	04220	16	04279	-2881
02910	AM	RLOP+11,2,10	04232	11	04279	000-2
02920	CM	RLOP+11,INPUT+12	04244	14	04279	-2895
02930	BE	OP	04256	46	04352	01200
02940	RLOP	BNR --36	04268	45	04232	00000
02950	*	RECORD MARK IN LABEL FIELD.				
02960	ER2	TFM EVALER-1, 20000	04280	16	07343	K0000
02970	DC	1,,'*	04291		1	
02980	BT	EPRINT,EPRINT-1	04292	27	07604	07603
02990	TF	INPUT+10, CLERER+11	04304	26	02893	02707
03000	BD	++24, 2PSSW	04316	43	04340	02477
03010	TR	INPUT2+8, INPUT-11	04328	31	03044	02872
03020	BD	ERCOR, ERSTSW	04340	43	07468	02476
03030	OP	C CLERER+11,INPUT+10	04352	24	02707	02893
03040	BE	++36	04364	46	04400	01200
03050	TF	ERLAB+10,INPUT+10	04376	26	03309	02893
03060	TFM	INKRM,0	04388	16	02565	-0000
03070	*					
03080	*	PROCESS OP CODE				
03090	*					
03100	*	CHECK FOR RECORD MARK IN OP CODE.				
03110	TFM	RMOP+11,INPUT+10	04400	16	04459	-2893
03120	AM	RMOP+11,2,10	04412	11	04459	000-2
03130	CM	RMOP+11,INPUT+20	04424	14	04459	-2903
03140	BE	OP1	04436	46	04504	01200
03150	RMOP	BNR --36,++0,7	04448	45	04412	-0000
03160	TF	INPUT+18, CLERER+7	04460	26	02901	02703
03170	BD	++24, 2PSSW	04472	43	04496	02477
03180	TR	INPUT2+8, INPUT-11	04484	31	03044	02872
03190	B7	ER3	04496	49	04844	
03200	*	TEST FOR ABSOLUTE OP CODE				
03210	OPI	TD ++46,INPUT+11	04504	25	04550	02894
03220	TD	++35,INPUT+13	04516	25	04551	02896
03230	CM	++23,77,10	04528	14	04551	000P7
03240	BNE	ALFOP	04540	47	04612	01200
03250	C	CLERER+3,INPUT+18	04552	24	02699	02901
03260	BNE	ALFOP	04564	47	04612	01200
03270	TD	INPUT2, INPUT+12	04576	25	03036	02895
03280	TD	INPUT2+1, INPUT+14	04588	25	03037	02897
03290	BTM	INSTRN, DDINST+24	04600	17	10528	J0656
03300	*	SCAN OPCODE TABLE				
03310	ALFOP	TFM SHF+11,INPUT+18	04612	16	04755	-2901
03320	TFM	ALFLPI+11, OPLCTB+15	04624	16	04667	-4923

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03330	BD	SHF,INPUT+11	04636	43	04744	02894
03340	B7	ER3	04648	49	04844	
03350	ALFLPI	TF ZP+11, --*	04656	26	04811	00000
03360	TF	ALFLP+11, SHF+11	04668	26	04723	04755
03370	TF	ZP+18, SHF+11	04680	26	04818	04755
03380	SM	ALFLP+11, INPUT+7	04692	12	04723	-2890
03390	B7	++20	04704	49	04724	
03400	ALFLP	AM ZP+11, --*	04712	11	04811	-0000
03410	BNR	ZP, ZP+11,11	04724	45	04800	0481J
03420	B7	ER3	04736	49	04844	
03430	SHF	C CLERER+1, --*	04744	24	02697	00000
03440	BNE	ALFLPI	04756	47	04656	01200
03450	SM	ALFLPI+11, 5,10	04768	12	04667	000-5
03460	SM	SHF+11,2,10	04780	12	04755	000-2
03470	B7	SHF	04792	49	04744	
03480	ZP	TF ZEPD+30, --*	04800	26	02330	00000
03490	C	--*, ZEPD+27	04812	24	00000	02327
03500	BE	OK	04824	46	04924	01200
03510	B7	ALFLP	04836	49	04712	
03520	*	INVALID OP CODE				
03530	ER3	TFM EVALER-1,30000	04844	16	07343	L0000
03540	DC	1,,'*	04855		1	
03550	BT	EPRINT,EPRINT-1	04856	27	07604	07603
03560	BD	ERCOR, ERSTSW	04868	43	07468	02476
03570	TFM	INPUT2+1, 041, 9	04880	16	03037	00-41
03580	BTM	INSTRN,L0LBL	04892	17	10528	-8686
03590	*	LOCATIONS OF SECTIONS OF OP-CODE TABLE				
03600	OPLCTB	DSA A, B, C, D	04908		5 X	4
			04908		J3871	
			04913		J3928	
			04918		J4252	
			04923		J4884	
03610	*					
03620	*	USING THE LAST DIGIT OF THE OPCODE ENTRY GOODB IS				
03630	*	MODIFIED TO BRANCH TO THE CORRECT ENTRY IN BTBL				
03640	*					
03650	OK	TFM GOODB+6,BTBL	04924	16	04978	-5054
03660	T	GOODB+11,ZEPD+30	04936	25	04983	02330
03670	A	GOODB+5,GOODB+11	04948	21	04977	04983
03680	SF	ZEPD+27	04960	32	02327	00000
03690	GOODB	B --,10	04972	49	00000	000-0
03700	B	SAVRST,,-7	04984	49	05376	00000
03710	DORG	--1	04994			
03720	B	DVLCC,,-6	04994	49	11452	00000
03730	DORG	--1	05004			
03740	B	DECL,,-5	05004	49	05144	00000
03750	DORG	--1	05014			
03760	B	BOMK,,-4	05014	49	05304	00000
03770	DORG	--1	05024			
03780	B	MCCALL,,-3	05024	49	11476	00000
03790	DORG	--1	05034			
03800	B	ADC,,-2	05034	49	05292	00000
03810	DORG	--1	05044			
03820	B	MACRO,,-1	05044	49	11584	00000

03830		DORG	+1		05054			
03840	BTBL	B	INST,,, 0		05054	49	05280	00000
03850		DORG	+1		05064			
03860		B	SIOC,,, +1		05064	49	05364	00000
03870		DORG	+1		05074			
03880		B	DISK,,, +2		05074	49	05340	00000
03890		DORG	+1		05084			
03900		B	RDW,,, +3		05084	49	05328	00000
03910		DORG	+1		05094			
03920		B	K,,, +4		05094	49	05352	00000
03930		DORG	+1		05104			
03940		B	DSDNB,,, +5		05104	49	12612	00000
03950		DORG	+1		05114			
03960		B	BI,,, +6		05114	49	05316	00000
03970		DORG	+1		05124			
03980		B	BNI,,, +7		05124	49	05316	00000
03990		DORG	+1		05134			
04000		B	DENDC,,, +8		05134	49	13056	00000
04010		DORG	+1		05144			
04020	DECL	TFM	GOODB2*6,BTBL2		05144	16	05186	-5192
04030		TD	GOODB2*11,ZEPD*29		05156	25	05191	02329
04040		A	GOODB2*5,GOODB2*11		05168	21	05185	05191
04050	GOODB2	B	,,,10		05180	49	00000	000-0
04060	BTBL2	B	DC,,, 0		05192	49	13096	00000
04070		DORG	+1		05202			
04080		B	DORG,,, +1		05202	49	12880	00000
04090		DORG	+1		05212			
04100		B	DAC,,, +2		05212	49	11768	00000
04110		DORG	+1		05222			
04120		B	DSA,,, +3		05222	49	13604	00000
04130		DORG	+1		05232			
04140		B	DAS,,, +4		05232	49	11688	00000
04150		DORG	+1		05242			
04160		B	HEADER,,,+5		05242	49	05388	00000
04170		DORG	+1		05252			
04180		B	DSB,,, +6		05252	49	12376	00000
04190		DORG	+1		05262			
04200		B	DGM,,, +7		05262	49	11516	00000
04210		DORG	+1		05272			
04220		B	DMESCL,,,+8		05272	49	11412	00000
04230		DORG	+3		05280			
04240	INST	BTM	INSTRN,DOINST		05280	17	10528	J0632
04250	ADC	BTM	INSTRN,DOADC		05292	17	10528	J0724
04260	BOMK	BTM	INSTRN,DOBOMK		05304	17	10528	J0804
04270	BI	BTM	INSTRN,DOBI		05316	17	10528	J0872
04280	BNI	DS	,BI		05316		0	
04290	RDW	BTM	INSTRN,DORDW		05328	17	10528	J0940
04300	DISK	BTM	INSTRN,DDISK		05340	17	10528	J1332
04310	K	BTM	INSTRN,DDK		05352	17	10528	J1008
04320	SIOC	BTM	INSTRN,DOSIOC		05364	17	10528	J1088
04330	SAVRST	BTM	INSTRN,DOSVRS		05376	17	10528	J1252
04340	*							
04350	*		HEADER ROUTINE					
04360	*							
04370	HEADER	TFM	HED,,,10		05388	16	10509	000-0
04380		TDM	HEADER+7		05400	15	05395	00000

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04390	BNR	COMA	INPUT+20		05412	45	05460	02903
04400	TFM	INPUT2*1, 030,9 11			05424	16	03037	00-3-
04410	TF	INPUT2*6, HED			05436	26	03042	10509
04420	BTM	OUTPUT, PHASEA			05448	17	09958	-3404
04430	COMA	CM	INPUT+20,23,10		05460	14	02903	000K3
04440	BE	HEADER+36			05472	46	05424	01200
04450	*		HEADER OPERAND GREATER THAN ONE CHARACTER					
04460	BD	ER12,HEADER+7			05484	43	05620	05395
04470	CM	INPUT+20,,,10			05496	14	02903	000-0
04480	BE	++60			05508	46	05568	01200
04490	CM	INPUT+20,40,10			05520	14	02903	000M0
04500	*		SPECIAL CHARACTER USED AS HEADER					
04510	BL	ER11			05532	47	05588	01300
04520	TF	HED,INPUT+20			05544	26	10509	02903
04530	TDM	HEADER+7,1			05556	15	05395	00001
04540	TR	INPUT+19,INPUT+21			05568	31	02902	02904
04550	B7	HEADER+24			05580	49	05412	
04560	ER11	TFM	EVALER-1,17100		05588	16	07343	J7100
04570	DC	1,,,*			05599		1	
04580	TFM	HED,,,10			05600	16	10509	000-0
04590	B7	++20			05612	49	05632	
04600	ER12	TFM	EVALER-1,17200		05620	16	07343	J7200
04610	DC	1,,,*			05631		1	
04620	B7	EPRINT,EPRINT-1			05632	27	07604	07603
04630	BD	ERCOR, ERSTSW			05644	43	07468	02476
04640	B7	HEADER+36			05656	49	05424	
04650	*							
04660	*		THE FOLLOWING CLOSED SUBROUTINE EVALUATES					
04670	*		THE STATEMENT OPERAND					
04680	*							
04690	NOP				05664	41	00000	00000
04700	EVALAD	TF	ADDRS,CLERER+9		05676	26	03295	02705
04710	TFM	RLOCSW,0,8			05688	16	08307	0-000
04720	TFM	EVALAD-9,100,9			05700	16	05667	0J000
04730	TF	BETA,ONEZ			05712	26	02692	02586
04740	TFM	ALPHA			05724	16	02682	-0000
04750	SF	HED-2			05736	32	10507	00000
04760	SF	EVALAD-5			05748	32	05671	00000
04770	TDM	BSW,1,11			05760	15	08309	0000J
04780	TDM	ADRS+1,1			05772	15	06169	00001
04790	TDM	RETURN+1,9			05784	15	06265	00009
04800	TR	COLL-18,THINGS-20			05796	31	02421	02400
04810	TFM	LABL,1,10			05808	16	05959	000-1
04820	TFM	DOL,,,10			05820	16	05957	000-0
04830	BNF	BCMSPC,EVALAD-7			05832	44	06044	05669
04840	TR	COLL-18,THINGS-20			05844	31	02421	02400
04850	SF	HED-2			05856	32	10507	00000
04860	TFM	LABL,1,10			05868	16	05959	000-1
04870	TFM	DOL,,,10			05880	16	05957	000-0
04880	B7	BCMSPC-12			05892	49	06032	
04890	*		CHECK FOR SPECIAL CHARACTER					
04900	COMSPC	CM	INPUT+20,70,10		05900	14	02903	000P0
04910	BL	SPEC			05912	47	06076	01300
04920	TDM	BSW,0			05924	15	08309	00000

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04930	TF	COLL,INPUT+20	05936	26	02439	02903
04940	CF	COLL-1	05948	33	02438	00000
04950	LABL	DS	05959		0	
04960	DOL	DS	05957		0	
04970	AM	DOL,1,10	05960	11	05957	000-1
04980	TDM	EVALAD-11	05972	15	05665	00000
04990	TR	COLL-17,COLL-15	05984	31	02422	02424
05000	CM	COLL-17,7,10	05996	14	02422	000-7
05010	BNE	**24	06008	47	06032	01200
05020	*	SYMBOL IN OPERAND CONTAINS MORE THAN SIX CHARACTERS				
05030	*	OR NUMBER IN OPERAND HAS MORE THAN FIVE DIGITS				
05040	ERLNTM	BTM EVALER,50000	06020	17	07344	N0000
05050	DC	1,*,*	06031		1	
05060	TR	INPUT+19,INPUT+21				
05070	*	CHECK TO SEE IF OPERAND IS PRESENT	06032	31	02902	02904
05080	BCMSPC	BNR COMSPC,INPUT+20	06044	45	05900	02903
05090	COMMER	TDM RETURN+1,1	06056	15	06265	00001
05100	B7	GET1	06068	49	06132	
05110	*	CHECK FOR + OR -				
05120	SPEC	BD S1,INPUT+20	06076	43	06480	02903
05130	*	CHECK FOR BLANK				
05140	BD	**20,INPUT+19	06088	43	06108	02902
05150	B7	BCMSPC-12	06100	49	06032	
05160	TDM	BSW,0	06108	15	08309	00000
05170	TD	ASET+11,INPUT+19	06120	25	06239	02902
05180	GET1	BD AORS,EVALAD-11	06132	43	06168	05665
05190	BTM	GET, **12	06144	17	06726	-6156
05200	BT	MULT,MULT-1	06156	27	07068	07067
05210	AORS	A ADDR,ALPHA,0	06168	K1	03295	02682
05220	TD	RETURN-11,AORS+1	06180	25	06253	06169
05230	TFM	EVALAD-9,100,9	06192	16	05667	00100
05240	TF	BETA,ONEZ	06204	26	02692	02586
05250	TDM	MPYSW,0	06216	15	08310	00000
05260	ASET	TDM AORS+1,1	06228	15	06169	00001
05270	BNF	**24,RSYMSW	06240	44	06264	08306
05280	AM	RCTR,1,10	06252	11	08305	000-1
05290	RETURN	B COMSPC-56	06264	49	05844	00000
05300	SF	ADDRS-4	06276	32	03291	00000
05310	BNF	TOBB,RELSW	06288	44	06460	02478
05320	BNF	**20,EVALAD-1	06300	44	06320	05675
05330	B7	TOBB	06312	49	06460	
05340	CM	RCTR,0,10	06320	14	08305	000-0
05350	BE	SREL+12	06332	46	06460	01200
05360	CM	RCTR,1,10	06344	14	08305	000-1
05370	BNE	**24	06356	47	06380	01200
05380	BNF	SREL,ADDRS	06368	44	06448	03295
05390	CM	RCTR,-1,10	06380	14	08305	000-J
05400	BNF	**24,ADDRS	06392	44	06416	03295
05410	BE	SREL	06404	46	06448	01200
05420	RELER	TFM EVALER-2,71770,,	06416	16	07342	P1770
05430	BT	EPRINT,EPRINT-1	06428	27	07604	07603
05440	B7	EVI	06440	49	07380	
05450	SREL	TDM RLOCSW,1,11	06448	15	08307	0000J
05460	TOBB	CF EVALAD-1	06460	33	05675	00000
05470	BBACK	B7 EVALAD-1,,6	06472	49	0567N	

RELOCATION ERROR

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05480	*	CHECK FOR COMMA				
05490	S1	CM INPUT+20,23,10	06480	14	02903	000K3
05500	BE	COMMER	06492	46	06056	01200
05510	TDM	BSW,0	06504	15	08309	00000
05520	*	CHECK FOR ASTERISK				
05530	CM	INPUT+20,14,10	06516	14	02903	000J4
05540	BE	ASTER	06528	46	07118	01200
05550	*	CHECK FOR DOLLAR SIGN				
05560	CM	INPUT+20,13,10	06540	14	02903	000J3
05570	BE	DOLLAR	06552	46	06584	01200
05580	TDM	LABL	06564	15	05959	00000
05590	B7	COMSPC+24	06576	49	05924	
05600	DOLLAR	BD **32,DOL	06584	43	06616	05957
05610	TFM	COLL,,10	06596	16	02439	000-0
05620	B7	**44	06608	49	06652	
05630	CM	DOL,1,10	06616	14	05957	000-1
05640	BNE	ERCHAR	06628	47	06708	01200
05650	SF	COLL-3	06640	32	02436	00000
05660	CF	HED-2	06652	33	10507	00000
05670	TDM	EVALAD-11,1	06664	15	05665	00001
05680	TDM	LABL	06676	15	05959	00000
05690	BD	BCMSPC-12,DOL	06688	43	06032	05957
05700	B7	BCMSPC-60	06700	49	05984	
05710	*	DOLLAR SIGN IMPROPERLY PLACED				
05720	ERCHAR	BTM EVALER,50000	06708	17	07344	N0000
05730	DC	1,*,*	06719		1	
05740	*					
05750	*	CLOSED ROUTINE TO EVALUATE COLLECTED SYMBOL OR INTEGER				
05760	*					
05770	DS	5	06724		5	
05780	GET	TDM RSYMSW,0	06726	15	08306	00000
05790	BD	TRNUMB, LABL	06738	43	06910	05959
05800	CM	COLL-17, 05,10	06750	14	02422	000-5
05810	BH	6CHAR	06762	46	06866	01100
05820	BE	5CHAR	06774	46	06834	01200
05830	TDM	COLL,0	06786	15	02439	00000
05840	TR	COLL-17, COLL-15	06798	31	02422	02424
05850	CM	COLL-17, 05,10	06810	14	02422	000-5
05860	BNE	**36	06822	47	06786	01200
05870	5CHAR	BNF LBADD-24, HED-2	06834	44	07838	10507
05880	TF	COLL-12, HED	06846	26	02427	10509
05890	B7	LBADD	06858	49	07862	
05900	6CHAR	BNF LBADD, HED-2	06866	44	07862	10507
05910	SF	COLL-13	06878	32	02426	00000
05920	SF	COLL-2	06890	32	02437	00000
05930	B7	LBADD	06902	49	07862	
05940	TRNUMB	CM COLL-14,6060	06910	14	02425	-6060
05950	BH	ERLNTM	06922	46	06020	01100
05960	TDM	NUMB-1,,11	06934	15	02447	0000-
05970	TFM	TRNUM1+11,COLL-2	06946	16	07005	-2437
05980	S	TRNUM1+11,COLL-17	06958	22	07005	02422
05990	S	TRNUM1+11,COLL-17	06970	22	07005	02422
06000	TR	NUMB-5,NUMB-4	06982	31	02443	02444
06010	TRNUM1	TD NUMB-1	06994	25	02447	00000
06020	TR	COLL-17,COLL-15	07006	31	02422	02424

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06030	TF	++23,0-13	07018	26	07041	07005
06040	BMR	TRNUM1-12	07030	45	06982	00000
06050	TFM	ALPHA	07042	16	02682	-0000
06060	A	ALPHA,NUMB-1	07054	21	02682	02447
06070	BB2	,,0	07066	M2		
06080	MULT	M ALPHA,BETA	07068	23	02682	02692
06090	SF	90	07088	32	00090	00000
06100	TF	ALPHA,99	07092	26	02682	00099
06110	TF	BETA,99	07104	26	02692	00099
06120	BB2	,,0	07116	M2		
06130	ASTER	BD TEST3,EVALAD-11	07118	43	07210	05665
06140	BTM	GET, ++12	07130	17	06726	-7142
06150	BT	MULT,MULT-1	07142	27	07068	07067
06160	TFM	EVALAD-10,11,10	07154	16	05666	000J1
06170	ASR	BNF ++36,RELSM	07166	44	07202	02478
06180	TDM	MPYSM, 1,11	07178	15	08310	0000J
06190	BD	SREL-32,RSYMSW	07190	43	06416	08306
06200	B7	CONSPC-56	07202	49	05844	
06210	TEST3	BD TFADD,EVALAD-10	07210	43	07234	05666
06220	BD	SW2,EVALAD-9	07222	43	07302	05667
06230	TFADD	TF ALPHA,ADDCOW	07234	26	02682	02528
06240	BT	MULT,MULT-1	07246	27	07068	07067
06250	TFM	EVALAD-9,1,10	07258	16	05667	000-1
06260	TDM	RSYMSW,1,11	07270	15	08306	0000J
06270	BD	SREL-32,MPYSM	07282	43	06416	08310
06280	B7	CONSPC-56	07294	49	05844	
06290	SW2	TDM EVALAD-9	07302	15	05667	00000
06300	B7	ASR	07314	49	07166	
06310	DAS	5	07323		5 X	2
06320	BNR	59007	07332	45	59007	00000
06330	DAC	1,*,*	07343		1 X	2
06340	*					
06350	*	EVALER IS THE ERROR ROUTINE				
06360	*					
06370	EVALER	BT EPRINT,EPRINT-1	07344	27	07604	07603
06380	SPTY		07356	34	00000	00101
06390	WATY	COLL-12,*,*	07368	39	02427	00100
06400	EV1	BD ERCOR, ERSTSM	07380	43	07468	02476
06410	CHKND	TFM ADDR	07392	16	03295	-0000
06420	BNR	CHK2, INPUT+20	07404	45	07424	02903
06430	B7	TOBB	07416	49	06460	
06440	CHK2	CM INPUT+20,23,10	07424	14	02903	000K3
06450	BE	TOBB	07436	46	06460	01200
06460	TR	INPUT+19,INPUT+21	07448	31	02902	02904
06470	B7	CHKND+12,*,2	07460	49	-7404	
06480	ERCOR	WATY CORM,*,*	07468	39	03351	00100
06490	RCTY		07480	34	00000	00102
06500	TR	INPUT+19,INSAV-1	07492	31	02902	02750
06510	WATY	INPUT-10	07504	39	02873	00100
06520	TF	ADDCOW, PLACE	07516	26	02528	03272
06530	TDM	ERRDIG, 1,11	07528	15	03273	0000J
06540	SM	INKRM,1,10	07540	12	02565	000-1
06550	SM	STCNT,1,10	07552	12	02513	000-1
06560	TFM	CFFA,NCDCF1	07564	16	02629	-7588
06570	BTM	CFF,READ3	07576	17	02592	-3440

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06580	NCDCF1	DDA ,0,A2DAD,A2SCT,INSTRM	07588		14	
06590		OJ8800-54J0528				
		DC 1,*,*	07602		1	
06600	*					
06610	*	EPRINT PRINTS THE ERROR MESSAGE AND REFERENCE TO				
06620	*	INDICATE THE STATEMENT IN ERROR				
06630	*					
06640	EPRINT	RCTY	07604	34	00000	00102
06650	TF	LOPOUT, INPUT-2	07616	26	03323	02881
06660	WATY	LOPOUT-8	07628	39	03315	00100
06670	WATY	ERLAD	07640	39	03299	00100
06680	WNTY	INKRM-3	07652	38	02562	00100
06690	WATY	EVALER-21	07664	39	07323	00100
06700	BD	++24,ERSTSM	07676	43	07700	02476
06710	SF	NONEX,*,*	07688	32	00457	00000
06720	BB2		07700	42		
06730	*					
06740	*	TEST IF SIZE OF OBJECT CORE HAS BEEN EXCEEDED.				
06750	*	LINKAGE - BTM CTEST,++12 (RETURN ADDRESS IF ERROR).				
06760	*					
06770	DS	6	07707		6	
06780	CTEST	CM ADDCOW,99999	07708	14	02528	R9999
06790	BE	ER1-2	07720	46	07768	01200
06800	C	ADDCOW,OBJCRE	07732	24	02528	02496
06810	BI	ER1,1300	07744	46	07770	01300
06820	CT1	TDM CT1+10,00	07756	15	07766	00000
06830	BB2		07768	42		
06840	ER1	BD +-2,CT1+10	07770	43	07768	07766
06850	TFM	EVALER-1,10000	07782	16	07343	J0000
06860	DC	1,*,*	07793		1	
06870	BT	EPRINT,EPRINT-1	07794	27	07604	07603
06880	TDM	CT1+10,01	07806	15	07766	00001
06890	SF	NONEX	07818	32	00457	00000
06900	B7	CTEST-1,*,6	07830	49	0770P	
06910	*					
06920	*	THE SYMBOL TABLE IS SEARCHED FOR EQUIVALENCE				
06930	*					
06940	TDM	COLL, 0	07838	15	02439	00000
06950	TR	COLL-17, COLL-15	07850	31	02422	02424
06960	LBADD	BNF LB2, EVALAD-1	07862	44	07876	05675
06970	BB2		07874	42		
06980	LB2	TF BSENT, COLL-2	07876	26	08685	02437
06990	BT	BS, BS-1	07888	27	08392	08391
07000	BNF	NIC, EQSM	07900	44	08004	08631
07010	AM	BSBF-1,5,10	07912	11	08655	000-5
07020	TF	ALPHA, BSBF-1, 11	07924	26	02682	0865M
07030	LADDR	BNF ++40, RELSM	07936	44	07996	02478
07040	BNF	++48, ALPHA	07948	44	07996	02682
07050	BD	SREL-32,MPYSM	07960	43	06416	08310
07060	TDM	RSYMSW,1,11	07972	15	08306	0000J
07070	CP	ALPHA	07984	33	02682	00000
07080	B7	GET-1,*,6	07996	49	0672M	
07090	NIC	CM SBOUT, 00,10	08004	14	02643	000-0
07100	BNE	++24	08016	47	08040	01200

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07110	BTM	EVALER, 50000	08028	17	07344	N0000
07120	DC	1,*,*	08039		1	
07130	CM	BSBF-1, LBLIM	08040	14	08655	K0009
07140	BNL	*-24	08052	46	08028	01300
07150	TD	DGSV, LOSYMB+1	08064	25	03343	19998
07160	TD	LOSYMB+1, SPSGM	08076	25	19998	02540
07170	*	WRITE DISK-WLRC--SAVE CORE SYMBOLS				
07180	TFM	IORT,*,*23	08088	16	00565	-8111
07190	B	IOGTC,SDEF1,7	08100	49	00520	J0411
07200	TF	B2DCF+5, B1DCF+5	08112	26	10465	10449
07210	TF	SBCMT, SBOUT	08124	26	02671	02643
07220	TFM	LIMITS-5, MAXLIM	08136	16	03278	J5997
07230	TFM	LIMITS, LBLIM	08148	16	03283	K0009
07240	RDBLK	AM B2DCF+5, SPBL	08160	11	10465	-0040
07250	*	READ DISK-WLRC--READ SYMBOL BLOCK				
07260	TFM	IORT,*,*23	08172	16	00565	-8195
07270	B	IOGTC,SDEF2,7	08184	49	00566	J0419
07280	BT	BS, BS-1	08196	27	08392	08391
07290	BD	LBFND, EQSW	08208	43	08312	08631
07300	SM	SBCMT, 1,10	08220	12	02671	000-1
07310	BP	RDBLK	08232	46	08160	01100
07320	*	READ DISK-WLRC--RESTORE CORE-ERS				
07330	TFM	IORT,*,*23	08244	16	00565	-8267
07340	B	IOGTC,SDEF1,7	08256	49	00566	J0411
07350	TD	LOSYMB+1, DGSV	08268	25	19998	03343
07360	TR	LIMITS-9, PRTLIM-4	08280	31	03274	02498
07370	BTM	EVALER, 50000	08292	17	07344	N0000
07380	DC	1,*,*	08303		1	
07390	RCTR	DS 2,,	08305		2	
07400	RSYMSW	DS 1,,	08306		1	
07410	RLOCSW	DS 1,,	08307		1	
07420	LDABSW	DS 1,,	08308		1	
07430	BSW	DS 1,,	08309		1	
07440	MPYSW	DS 1	08310		1	
07450	LBFND	AM BSBF-1,5,10	08312	11	08655	000-5
07460	TF	ALPHA,BSBF-1,11	08324	26	02682	0865N
07470	*	READ DISK-WLRC--RESTORE CORE				
07480	TFM	IORT,*,*23	08336	16	00565	-8399
07490	B	IOGTC,SDEF1,7	08348	49	00566	J0411
07500	TD	LOSYMB+1, DGSV	08360	25	19998	03343
07510	TR	LIMITS-9, PRTLIM-4	08372	31	03274	02498
07520	B7	LADDR,,2	08384	49	-7936	
07530	*	BINARY SYMBOL TABLE SEARCH SUBROUTINE				
07540	BS	TR LIM-9, LIMITS-9	08392	31	08663	03274
07550	BSCYC	TF BSBF, CLERER+5	08404	26	08656	02701
07560	A	BSBF, LIM	08416	21	08656	08672
07570	A	BSBF, LIM-5	08428	21	08656	08667
07580	TF	BSAV, BSBF	08440	26	08662	08656
07590	A	BSBF, BSBF	08452	21	08656	08656
07600	A	BSBF, BSBF	08464	21	08656	08656
07610	A	BSBF, BSAV	08476	21	08656	08662
07620	BD	*+24, BSBF	08488	43	08512	08656
07630	AM	BSBF-1, 8,10	08500	11	08655	000-8
07640	SM	BSBF-1, 8,10	08512	12	08655	000-8

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07650	C	BSBF-1, LIM-5	08524	24	08655	08667
07660	BNE	*+26	08536	47	08562	01200
07670	TDM	EQSW, 0	08548	15	08631	00000
07680	BB2		08560	42		
07690	C	BSENT, BSBF-1,11	08562	24	08685	0865N
07700	BNE	BSNEQ	08574	47	08600	01200
07710	TDM	EQSW, 1,11	08586	15	08631	0000J
07720	BB2		08598	42		
07730	BSNEQ	BH BSHI	08600	46	08632	01100
07740	TF	LIM, BSBF-1	08612	26	08672	08655
07750	B7	BSCYC	08624	49	08404	
07760	BSHI	TF LIM-5, BSBF-1	08632	26	08667	08655
07770	B7	BSCYC	08644	49	08404	
07780	EQSW	DS , BSHI-1	08631		0	
07790	BSBF	DC 6,0	08656		6	
		-00000				
07800	BSAV	DC 6,0	08662		6	
		-00000				
07810	LIM	DC 10,0	08672		10	
		-000000000				
07820	DC	1,*	08673		1	
		*				
07830	BSENT	DS 12	08685		12	
07840	*					
07850	*	ROUTINE TO LOAD LABELS INTO SYMBOL TABLE				
07860	*					
07870	LDLBL	C CLERER+11, INPUT+10	08686	24	02707	02893
07880	BNE	*+24	08698	47	08722	01200
07890	SNDTCD	BTM OUTPUT, PHASEA	08710	17	09958	-3404
07900	TDM	TSPEC, 1	08722	15	10520	00001
07910	TF	LAB, INPUT+10	08734	26	03339	02893
07920	BD	LBCK2, LAB	08746	43	08802	03339
07930	BD	LBCK2, LAB-1	08758	43	08802	03338
07940	TF	LAB, LAB-2	08770	26	03339	03337
07950	B7	*-36	08782	49	08746	
07960	TF	LAB, LAB-2	08790	26	03339	03337
07970	LBCK2	C X03,LAB,,	08802	24	10517	03339
07980	BE	*+84	08814	46	08898	01200
07990	C	X21,LAB,,	08826	24	10519	03339
08000	BE	*+60,,,	08838	46	08898	01200
08010	C	X33, LAB	08850	24	10515	03339
08020	BH	ER28	08862	46	09770	01100
08030	C	X69, LAB	08874	24	10513	03339
08040	BL	*+24	08886	47	08910	01300
08050	TDM	TSPEC,0	08898	15	10520	00000
08060	BMF	LBCK2-12, LAB-1	08910	44	08790	03338
08070	BD	ER28, TSPEC	08922	43	09770	10520
08080	TF	BSENT, INPUT+10	08934	26	08685	02893
08090	SF	BSENT	08946	32	08685	00000
08100	BD	*+60, INPUT+10	08958	43	09018	02893
08110	BD	*+48, INPUT+9	08970	43	09018	02892
08120	TF	BSENT, INPUT+8	08982	26	08685	02891
08130	CF	BSENT-9	08994	33	08676	00000
08140	TF	BSENT-10, HED	09006	26	08675	10509
08150	BT	BS, BS-1	09018	27	08392	08391
08160	BD	ER4A, EQSW	09030	43	09866	08631

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08170	CM	BSBF-1, LBLIM	09042	14	08655	K0009
08180	BNL	LDSOK	09054	46	09330	01300
08190	CM	SBOU, 00,10	09066	14	02643	000-0
08200	BE	LDSOK	09078	46	09330	01200
08210	TD	DGSV, LOSYMB+1	09090	25	03343	19998
08220	TD	LOSYMB+1, SPSGM	09102	25	19998	02560
08230	•	IOCS CALL-WRITE DISK WLRC				
08240	TFM	IORT,+23	09114	16	00565	-9137
08250	B	IORBC,SDEF1,7	09126	49	00520	J0411
08260	TFM	LIMITS, LBLIM	09138	16	03283	K0009
08270	TFM	LIMITS-5, MAXLIM,,	09150	16	03278	J5997
08280	TF	SBCNT, SBOU	09162	26	02671	02643
08290	TF	B2DCF+5, B1DCF+5	09174	26	10465	10449
08300	TF	LDSR+11, BSBF-1	09186	26	09329	08655
08310	LDDSCY	AM B2DCF+5, SPBL,10	09198	11	10465	000M0
08320	•	READ DISK-WLRC				
08330	TFM	IORT,+23	09210	16	00565	-9233
08340	B	IOGT,SDEF2,7	09222	49	00566	J0419
08350	BT	BS, BS-1	09234	27	08392	08391
08360	BD	ER4, EQSW	09246	43	09818	08631
08370	SM	SBCNT, 1,10	09258	12	02671	000-1
08380	BNZ	LDDSCY	09270	47	09198	01200
08390	•	IOCS CALL-READ DISK WLRC				
08400	TFM	IORT,+23	09282	16	00565	-9305
08410	B	IOGT,SDEF1,7	09294	49	00566	J0411
08420	TD	LOSYMB+1, DGSV	09306	25	19998	03343
08430	LDSR	TFM BSBF-1, *-*	09318	16	08655	-0000
08440	LDSOK	SM PRTLIM, 17,10	09330	12	02502	000J7
08450	CM	PRTLIM, MAXLIM	09342	14	02502	J5997
08460	BL	TABFUL	09354	47	09594	01300
08470	TR	LIMITS-9, PRTLIM-4	09366	31	03274	02498
08480	TF	SVDG+11, BSBF-1	09378	26	09413	08655
08490	AM	SVDG+11, 6,10	09390	11	09413	000-6
08500	SVDG	TD DGSV, *-*	09402	25	03343	00000
08510	TF	+18, SVDG+11	09414	26	09432	09413
08520	TDM	SVDG+11,,6	09426	15	0941L	00000
08530	DC	1,*,*	09437			1
08540	SM	LDTR+6, 17,10	09438	12	09468	000J7
08550	SM	LDTR+11, 17,10	09450	12	09473	000J7
08560	LDTR	TR *-*, *-*,*	09462	31	00000	00000
08570	TF	BSBF-1, BSENT, 6	09474	26	0865M	08685
08580	BNF	+48,RELSW	09486	44	09534	02478
08590	SF	ADDRS	09498	32	03295	00000
08600	BD	+24,LDABSW	09510	43	09534	08308
08610	CF	ADDRS	09522	33	03295	00000
08620	TF	+30, BSBF-1	09534	26	09564	08655
08630	AM	+18, 5,10	09546	11	09564	000-5
08640	TF	*-*, ADDRS	09558	26	00000	03295
08650	TD	SVDG+11, DGSV,6	09570	25	0941L	03343
08660	BTM	OUTPUT, PHASEA	09582	17	09958	-3404
08670	TABFUL	AM B2DCF+5, SPBL,10	09594	11	10465	000M0
08680	C	SBOU, SBMAX	09606	24	02643	02669
08690	BNL	ER19	09618	46	09886	01300
08700	AM	SBOU, 1,10	09630	11	02643	000-1
08710	TD	DGSV, LOSYMB+1	09642	25	03343	19998

LEFT FULL BLOCK LIMIT

SHIFT SYMBOLS

08720	TD	LOSYMB+1, SPSGM	09654	25	19998	02560
08730	•	IOCS CALL-WRITE DISK WLRC				
08740	TFM	IORT,+23	09666	16	00565	-9689
08750	B	IORBC,SDEF2,7	09678	49	00520	J0419
08760	TD	LOSYMB+1, DGSV	09690	25	19998	03343
08770	TFM	PRTLIM, LBLIM-17	09702	16	02502	J9992
08780	TFM	LDTR+11, LBLIM-11	09714	16	09473	J9998
08790	TFM	LDTR+ 6, LBLIM-28	09726	16	09468	J9981
08800	TF	LOSYMB, CLERER+52	09738	26	19997	02748
08810	TFM	BSBF-1,LBLIM-17	09750	16	08655	J9992
08820	B7	LDSOK	09762	49	09330	
08830	ER2B	TFM EVALER-1, 20000	09770	16	07343	K0000
08840	DC	1,*,*	09781			1
08850	BT	EPRINT, EPRINT-1	09782	27	07604	07603
08860	BD	ERCOR, ERSTSW	09794	43	07468	02476
08870	BTM	OUTPUT, PHASEA	09806	17	09958	-3404
08880	•	READ DISK-WLRC				
08890	ER4	TFM IORT,+23	09818	16	00565	-9841
08900	B	IOGT,SDEF1,7	09830	49	00566	J0411
08910	TR	LIMITS-9, PRTLIM-4	09842	31	03274	02498
08920	TD	LOSYMB+1, DGSV	09854	25	19998	03343
08930	ER4A	TFM EVALER-1, 40000	09866	16	07343	M0000
08940	DC	1,*,*	09877			1
08950	B7	ER2B+12	09878	49	09782	
08960	ER19	TFM EVALER-1, 17900	09886	16	07343	J7900
08970	DC	1,*,*	09897			1
08980	TDM	ASTSW,1,11	09898	15	10521	0000J
08990	NOP	OUTPUT,PHASEA	09910	41	09958	03404
09000	BT	EPRINT,EPRINT-1	09922	27	07604	07603
09010	YFM	*-23,17,10,	09934	16	09911	000J7
09020	B7	*-36	09946	49	09910	
09030	•					
09040	•	OUTPUT ROUTINE				
09050	•					
09060	DS	5	09957		5	
09070	OUTPUT	TF OT2DCF+5,OUTDCF+5	09958	26	10497	10481
09080	S	OT2DCF+5, SYMTAD	09970	22	10497	02641
09090	CM	OT2DCF+5,-2,10	09982	14	10497	000-K
09100	BM	ER20,,	09994	46	10344	01100
09110	BD	2PASS, 2PSSW	10006	43	10154	02477
09120	BNR	2SECT, INPUT2+99	10018	45	10098	03135
09130	YD	INPUT2+99, SPSGM	10030	25	03135	02560
09140	TDM	OUTDCF+8, 1	10042	15	10484	00001
09150	•	WRITE DISK-NO WLRC				
09160	TFM	IORT,+23	10054	16	00565	J0077
09170	B	IORBC,OUTDF1,7	10066	49	00520	J0427
09180	AM	OUTDCF+5, 1	10078	11	10481	-0001
09190	BT	OUTPUT-1,,6,,	10090	49	0995P	
09200	2SECT	TDM OUTDCF+8, 2	10098	15	10484	00002
09210	•	IOCS CALL-WRITE DISK-NO WLRC				
09220	TFM	IORT,+23	10110	16	00565	J0133
09230	B	IORBC,OUTDF1,7	10122	49	00520	J0427
09240	2S	AM OUTDCF+5, 2	10134	11	10481	-0002

CHANGE NOP TO BTM

INTER SECTOR OVERFLOW

RETURN

09250	B7	OUTPUT-1,,6		10146	49	0995P	
09260	2PASS	CM	2PTR+6,INPUT2+208	10154	14	10220	-3244
09270	BL		++24	10166	47	10190	01300
09280	BTM		2PSOUT,++12	10178	17	10250	J0190
09290	TR		2PBUF,INPUT2	10190	31	10334	03036
09300	TD		2PBUF+7,ERRDIG	10202	25	10341	03273
09310	2PTR	TR	INPUT2+6,2PBUF,2	10214	31	-3044	10334
09320	AM		2PTR+6,8,10	10226	11	10220	000-8
09330	B7		OUTPUT-1,,6	10238	49	0995P	
09340	DS		5	10249		5	
09350	2PSOUT	TF	DT2DCF+5, OUTDCF+5	10250	26	10497	10481
09360	AM		OUTDCF+5,2,10	10262	11	10481	000-2
09370	TD		INPUT2+208, SPSGM	10274	25	03244	02560
09380	*	IOCS	CALL-WRITE DISK WITH MLRC				
09390	TFM		IORT,++23	10286	16	00565	J0309
09400	B		IORBC,OUTDF2,7	10298	49	00520	J0435
09410	TFM		2PTR+6,INPUT2+8	10310	16	10220	-3044
09420	2PRE	B	2PSOUT-1,,6	10322	49	1024R	00000
09430	2PBUF	DSC	9,0'	10334		9	
			00000000'				
09440	ER20	NOP	OUTPUT-1,,6	10344	41	0995P	00000
09450	TDM		ASTSW,1,11	10356	15	10521	0000J
09460	TFM		EVALER-1,27000	10368	16	07343	K7000
09470	DC		1,,'*	10379		1	
			'				
09480	BT		EPRINT,EPRINT-1	10380	27	07604	07603
09490	TFM		ER20+1,49,10	10392	16	10345	000M9
09500	B7		OUTPUT-1,,6	10404	49	0995P	
09510	SDEF1	DSC	2,00,,	10411		2	
			00				
09520	DSA		BIDCF	10417		5 X	1
			'				
09530	DC		1,,'	10417		J0444	
			'	10418		1	
09540	SDEF2	DSC	2,00,,	10419		2	
			00				
09550	DSA		B2DCF	10425		5 X	1
			'				
09560	DC		1,,'	10425		J0460	
			'	10426		1	
09570	OUTDF1	DSC	2,02,,	10427		2	
			02				
09580	DSA		OUTDCF	10433		5 X	1
			'				
09590	DC		1,,'	10433		J0476	
			'	10434		1	
09600	OUTDF2	DSC	2,00,,	10435		2	
			00				
09610	DSA		DT2DCF	10441		5 X	1
			'				
09620	DC		1,,'	10441		J0492	
			'	10442		1	

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09630	BIDCF	DDA	,0,,-*,SPBL,SBFADD	10444		14	
			0-0000-40J5998				
09640	DC		1,,'	10458		1	
			'				
09650	B2DCF	DDA	,0,,-*,SPBL,SBFADD	10460		14	
			0-0000-40J5998				
09660	DC		1,,'	10474		1	
			'				
09670	OUTDCF	DDA	,0,,-*,1,INPUT2	10476		14	
			0-0000-01-3036				
09680	DC		1,,'	10490		1	
			'				
09690	DT2DCF	DDA	,0,,-*,2,INPUT2+8	10492		14	
			0-0000-02-3044				
09700	DC		1,,'	10506		1	
			'				
09710	DS		1	10507		1	
09720	HED	DC	2,0	10509		2	
			-0				
09730	CNTR	DS	2	10511		2	
09740	X69	DC	2, 69	10513		2	
			09				
09750	X33	DC	2, 33	10515		2	
			L3				
09760	X03	DC	2,03	10517		2	
			-3				
09770	X21	DC	2,21	10519		2	
			K1				
09780	TSPEC	DS	1	10520		1	
09790	ASTSW	DS	1	10521		1	
09800	*						
09810	*	PHASE	A1--INITIALIZATION				
09820	*						
09830	START	TFM	IORT,++23	10522	16	00565	J0545
09840	B		IDGT,MCADF,7	10534	49	00566	J5622
09850	TDM		MOC TOC,0	10546	15	16023	00000
09860	TDM		MODOC,0	10558	15	16022	00000
09870	TF		MONAME,CLERER+11	10570	26	16035	02707
09880	TF		MOIDNO,CLERER+3	10582	26	16039	02699
09890	TFM		MOMAD,99999	10594	16	00415	R9999
09900	TFM		INKRM,99999	10606	16	02565	R9999
09910	TFM		ADDCOM,2401	10618	16	02528	-2401
09920	TF		L,MOML	10630	26	02520	16041
09930	TD		NOISE,MONOIS	10642	25	02521	16044
09940	TF		SUBNO,MOSBNO	10654	26	02523	16043
09950	START2	TDM	0,0	10666	15	00000	00000
		TR	19999,CLERER+52	10678	31	19999	02748
09970	BNR		++44,0	10690	45	10734	00000
09980	TDM		PROCRE,2,11	10702	15	02497	0000K
09990	TFM		HCLIM,LBLIM	10714	16	02507	K0009
10000	B7		AIC1	10726	49	10814	
10010	TR		39999,CLERER+52	10734	31	39999	02748
10020	BNR		++44	10746	45	10790	00000
10030	TDM		PROCRE,4,11	10758	15	02497	0000M
10035	TFM		HCLIM,LBLIM*1176*17	10770	16	02507	M0001
10040	B7		AIC1	10782	49	10814	

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10060	TDM	PROCRE,6,11	10790	15	02497	00000
10070	TFM	HCLIM,LBLIM+2*1176*17	10802	16	02507	M9993
10080	AIC1	TD OBJCRE-4,PROCRE	10814	25	02492	02497
10090	TF	PRTLIM, HCLIM	10826	26	02502	02507
10100	SM	PRTLIM, 17,10	10838	12	02502	000J7
10110	TR	LIMITS-9, PRTLIM-4	10850	31	03274	02498
10120	TF	LDR+11, LIMITS	10862	26	09473	03283
10130	TF	LDR+ 6, LIMITS	10874	26	09468	03283
10140	SM	LDR+11, 11,10	10886	12	09473	000J1
10150	SM	LDR+ 6, 28,10	10898	12	09468	000K8
10160	TF	**30,OBJCRE	10910	26	10940	02496
10170	SM	**18,1,10	10922	12	10940	000-1
10180	TF	**0,CLERER+52	10934	26	00000	02748
10190	TD	INCODE,MDEXEC	10946	25	02491	00426
10200	CF	INCODE	10958	33	02491	00000
10210	CM	INCODE,03,10	10970	14	02491	000-3
10220	STZL	BL C15P	10982	47	13424	01300
10230	BE	C14P	10994	46	13368	01200
10240	B7	C13P	11006	49	13312	
10250	PROCON	BNR **24,INPUT-10	11014	45	11038	02873
10260	TFM	INPUT-10,00,10	11026	16	02873	000-0
10270	TFM	**30,INPUT-11	11038	16	11068	-2872
10280	AM	**18,2,10	11050	11	11068	000-2
10290	CF	**1	11062	33	00000	00000
10300	CM	**6,INPUT+151	11074	14	11068	-3034
10310	BL	**36	11086	47	11050	01300
10320	CM	INPUT-10,14,10	11098	14	02873	000J4
10330	BNE	CALLA2	11110	47	13972	01200
10340	BD	**36,TYINSW	11122	43	11158	02473
10350	RCTY		11134	34	00000	00102
10360	WATY	INPUT-10,,, TYPE CONTROL STATEMENT	11146	39	02873	00100
10370	TFM	SBNR+11,INPUT-10,,, COMPRESS BLANKS	11158	16	11193	-2873
10380	SLP	AM SBNR+11,2,10	11170	11	11193	000-2
10390	SBNR	BNR **20,**0	11182	45	11202	00000
10400	B7	SLPX	11194	49	11294	
10410	C	CLERER+1,SBNR+11,11	11202	24	02697	1119L
10420	BNE	SLP	11214	47	11170	01200
10430	TF	STR+11,SBNR+11	11226	26	11285	11193
10440	TF	STR+6,SBNR+11	11238	26	11280	11193
10450	SM	STR+6,1,10	11250	12	11280	000-1
10460	AM	STR+11,1,10	11262	11	11285	000-1
10470	STR	TR **0,**0	11274	31	00000	00000
10480	B7	SBNR	11286	49	11182	
10490	SLPX	CM SBNR+11,INPUT-10+2*11,, RECOGNIZE CONTROL STATEMENT	11294	14	11193	-2895
10500	BL	**36	11306	47	11342	01300
10510	C	INPUT-10+2*10,C1+2*10	11318	24	02893	14869
10520	BE	C1P	11330	46	12672	01200
10530	CM	SBNR+11,INPUT-10+2*14	11342	14	11193	-2901
10540	BL	**36	11354	47	11390	01300
10550	C	INPUT-10+2*13,C2+2*13	11366	24	02899	14897
10560	BE	C2P	11378	46	12752	01200
10570	CM	SBNR+11,INPUT-10+2*15	11390	14	11193	-2903
10580	BL	**36	11402	47	11438	01300
10590	C	INPUT-10+2*14,C3+2*14	11414	24	02901	14927
10600	BE	C3P	11426	46	12872	01200
10610	CM	SBNR+11,INPUT-10+2*11	11438	14	11193	-2895

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10620	BL	**36	11450	47	11486	01300
10630	C	INPUT-10+2*10,C4+2*10	11462	24	02893	14949
10640	BE	C4P	11474	46	13052	01200
10650	CM	SBNR+11,INPUT-10+2*10	11486	14	11193	-2893
10660	BL	**36	11498	47	11534	01300
10670	C	INPUT-10+2*9,C5+2*9	11510	24	02891	14969
10680	BE	C5P	11522	46	13072	01200
10690	CM	SBNR+11,INPUT-10+2*20	11534	14	11193	-2913
10700	BL	**36	11546	47	11582	01300
10710	C	INPUT-10+2*19,C6+2*19	11558	24	02911	15009
10720	BE	C6P	11570	46	13092	01200
10730	CM	SBNR+11,INPUT-10+2*16	11582	14	11193	-2905
10740	BL	**36	11594	47	11630	01300
10750	C	INPUT-10+2*15,C7+2*15	11606	24	02903	15041
10760	BE	C7P	11618	46	13112	01200
10770	CM	SBNR+11,INPUT-10+2*11	11630	14	11193	-2895
10780	BL	**36	11642	47	11678	01300
10790	C	INPUT-10+2*10,C8+2*10	11654	24	02893	15063
10800	BE	C8P	11666	46	13132	01200
10810	CM	SBNR+11,INPUT-10+2*5	11678	14	11193	-2883
10820	BL	**36	11690	47	11726	01300
10830	C	INPUT-10+2*4,C9+2*4	11702	24	02881	15073
10840	BE	C9P	11714	46	13152	01200
10850	CM	SBNR+11,INPUT-10+2*16	11726	14	11193	-2905
10860	BL	**36	11738	47	11774	01300
10870	C	INPUT-10+2*15,C10+2*15	11750	24	02903	15105
10880	BE	C10P	11762	46	13232	01200
10890	CM	SBNR+11,INPUT-10+2*17	11774	14	11193	-2907
10900	BL	**36	11786	47	11822	01300
10910	C	INPUT-10+2*16,C11+2*16	11798	24	02905	15139
10920	BE	C11P	11810	46	13252	01200
10930	CM	SBNR+11,INPUT-10+2*17	11822	14	11193	-2907
10940	BL	**36	11834	47	11870	01300
10950	C	INPUT-10+2*16,C11A+2*16	11846	24	02905	15173
10960	BE	C11AP	11858	46	13272	01200
10970	CM	SBNR+11,INPUT-10+2*10	11870	14	11193	-2893
10980	BL	**36	11882	47	11918	01300
10990	C	INPUT-10+2*9,C12+2*9	11894	24	02891	15193
11000	BE	C12P	11906	46	13292	01200
11010	CM	SBNR+11,INPUT-10+2*15	11918	14	11193	-2903
11020	BL	**36	11930	47	11966	01300
11030	C	INPUT-10+2*14,C13+2*14	11942	24	02901	15223
11040	BE	C13P	11954	46	13312	01200
11050	CM	SBNR+11,INPUT-10+2*20	11966	14	11193	-2913
11060	BL	**36	11978	47	12014	01300
11070	C	INPUT-10+2*19,C14+2*19	11990	24	02911	15263
11080	BE	C14P	12002	46	13368	01200
11090	CM	SBNR+11,INPUT-10+2*21	12014	14	11193	-2915
11100	BL	**36	12026	47	12062	01300
11110	C	INPUT-10+2*20,C15+2*20	12038	24	02913	15305
11120	BE	C15P	12050	46	13424	01200
11130	CM	SBNR+11,INPUT-10+2*9	12062	14	11193	-2891
11140	BL	**36	12074	47	12110	01300
11150	C	INPUT-10+2*8,C16+2*8	12086	24	02889	15323
11160	BE	C16P	12098	46	13468	01200
11170	CM	SBNR+11,INPUT-10+2*15	12110	14	11193	-2903

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11180	BL	**36		12122	47	12158	01300
11190	C	INPUT-10+2*14,C17+2*14		12134	24	02901	15353
11200	BE	C17P		12146	46	13488	01200
11210	CM	SNRR+11,INPUT-10+2*12		12158	14	11193	-2897
11220	BL	**36		12170	47	12206	01300
11230	C	INPUT-10+2*11,C17A+2*11		12182	24	02895	15377
11240	BE	C17AP		12194	46	13508	01200
11250	CM	SNRR+11,INPUT-10+2*15		12206	14	11193	-2903
11260	BL	**36		12218	47	12254	01300
11270	C	INPUT-10+2*14,C18+2*14		12230	24	02901	15407
11280	BE	C18P		12242	46	13528	01200
11290	CM	SNRR+11,INPUT-10+2*16		12254	14	11193	-2905
11300	BL	**36		12266	47	12302	01300
11310	C	INPUT-10+2*15,C19+2*15		12278	24	02903	15439
11320	BE	C19P		12290	46	13572	01200
11330	CM	SNRR+11,INPUT-10+2*18		12302	14	11193	-2909
11340	BL	**36		12314	47	12350	01300
11350	C	INPUT-10+2*17,C20+2*17		12326	24	02907	15475
11360	BE	C20P		12338	46	13592	01200
11370	CM	SNRR+11,INPUT-10+2*12		12350	14	11193	-2897
11380	BL	**36		12362	47	12398	01300
11390	C	INPUT-10+2*11,C21+2*11		12374	24	02895	15499
11400	BE	C21P		12386	46	13768	01200
11410	CM	SNRR+11,INPUT-10+2*14		12398	14	11193	-2901
11420	BL	**36		12410	47	12446	01300
11430	C	INPUT-10+2*13,C22+2*13		12422	24	02899	15527
11440	BE	C22P		12434	46	13788	01200
11450	CM	SNRR+11,INPUT-10+2*5		12446	14	11193	-2883
11460	BL	**36		12458	47	12494	01300
11470	C	INPUT-10+2*4,C23+2*4		12470	24	02881	15537
11480	BE	C23P		12482	46	13808	01200
11490	CM	SNRR+11,INPUT-10+2*9		12494	14	11193	-2891
11500	BL	**36		12506	47	12542	01300
11510	C	INPUT-10+2*8,C24+2*8		12518	24	02889	15555
11520	BE	C24P		12530	46	13864	01200
11530	CM	SNRR+11,INPUT-10+2*5		12542	14	11193	-2883
11540	BL	**36		12554	47	12590	01300
11550	C	INPUT-10+2*4,C25+2*4		12566	24	02881	15565
11560	BE	C25P		12578	46	13932	01200
11570	CM	SNRR+11,INPUT-10+2*27		12590	14	11193	-2927
11580	BL	**36		12602	47	12638	01300
11590	C	INPUT-10+2*26,C26+2*26		12614	24	02925	15619
11600	BE	C26P		12626	46	13952	01200
11601	WATY	IDMES		12638	39	12659	00100
11610	B7	PHASEA		12650	49	03404	
11615	IDMES	DAC	07, (ID)* (ID)*	12659		7 X	2
11620	C1P	TFM	OBJCRE,0,,	12672	16	02496	-0000
11630	TD	OBJCRE-4,INPUT-10+2*11	OBJECT CORE N	12684	25	02492	02895
11640	SF	OBJCRE-4		12696	32	02492	00000
11650	CM	OBJCRE,20000		12708	14	02496	K0000
11660	BNL	**24		12720	46	12744	01300
11670	TFM	OBJCRE,20000		12732	16	02496	K0000
11680	B7	PHASEA		12744	49	03404	
11690	C2P	BNR	**20,INPUT-10+2*15,,	12752	45	12772	02903
11700	B7	C2P1		12764	49	12796	

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11710	C	C70,INPUT-10+2*15		12772	24	15621	02903
11720	BNH	C2P2		12784	47	12828	01100
11730	C2P1	TFM	SUBND,00,10	12796	16	02523	000-0
11740	TD	SUBND,INPUT-10+2*14		12808	25	02523	02901
11750	B7	PHASEA		12820	49	03404	
11760	C2P2	TD	SUBND,INPUT-10+2*15	12828	25	02523	02903
11770	TD	SUBND-1,INPUT-10+2*14		12840	25	02522	02901
11780	SF	SUBND-1		12852	32	02522	00000
11790	B7	PHASEA		12864	49	03404	
11800	C3P	BNR	**20,INPUT-10+2*16,,	12872	45	12892	02905
11810	B7	C3P1		12884	49	12916	
11820	C	C70,INPUT-10+2*16		12892	24	15621	02905
11830	BNH	C3P2		12904	47	12948	01100
11840	C3P1	TFM	L,00,10	12916	16	02520	000-0
11850	TD	L,INPUT-10+2*15		12928	25	02520	02903
11860	B7	C3P3		12940	49	12984	
11870	C3P2	TD	L,INPUT-10+2*16	12948	25	02520	02905
11880	TD	L-1,INPUT-10+2*15		12960	25	02519	02903
11890	SF	L-1		12972	32	02519	00000
11900	C3P3	CM	L,2,10	12984	14	02520	000-2
11910	BL	**36		12996	47	13032	01300
11920	CM	L,45,10		13008	14	02520	000M5
11930	BNH	**24		13020	47	13044	01100
11940	TF	L,MDHL		13032	26	02520	16041
11950	B7	PHASEA		13044	49	03404	
11960	C4P	TD	NOISE,INPUT-10+2*11,,	13052	25	02521	02895
11970	B7	PHASEA		13064	49	03404	
11980	C5P	TDM	ERSTSW,1,11,	13072	15	02476	0000J
11990	B7	PHASEA		13084	49	03404	
12000	C6P	TDM	RELSW,1,11,	13092	15	02478	0000J
12010	B7	PHASEA		13104	49	03404	
12020	C7P	TDM	MOCTOC,1,11,	13112	15	16023	0000J
12030	B7	PHASEA		13124	49	03404	
12040	C8P	TDM	MOCTOC,0,11,	13132	15	16023	0000-
12050	B7	PHASEA		13144	49	03404	
12060	C9P	TD	CTVT,INPUT+8,,	13152	25	02489	02891
12070	TD	CTVT-1,INPUT+4	CTVT NNNNN	13164	25	02488	02889
12080	TD	CTVT-2,INPUT+4		13176	25	02487	02887
12090	TD	CTVT-3,INPUT+2		13188	25	02486	02885
12100	TD	CTVT-4,INPUT		13200	25	02485	02883
12110	SF	CTVT-4,		13212	32	02485	00000
12120	B7	PHASEA		13224	49	03404	
12130	C10P	TDM	STTYSW,1,11,,	13232	15	02471	0000J
12140	B7	PHASEA		13244	49	03404	
12150	C11P	TDM	STPCSW,1,11,	13252	15	02470	0000J
12160	B7	PHASEA		13264	49	03404	
12170	C11AP	TDM	STPRSW,1,11,	13272	15	02472	0000J
12180	B7	PHASEA		13284	49	03404	
12190	C12P	TDM	INTRSW,1,11,	13292	15	02483	0000J
12200	B7	PHASEA		13304	49	03404	
12210	C13P	TDM	CDTNSW,1,11,	13312	15	02474	0000J
12220	TDM	PTINSW,0		13324	15	02475	00000
12230	TDM	TYINSW,0		13336	15	02473	00000
12240	TDM	INCODE,5		13348	15	02491	00005
12250	B7	PHASEA		13360	49	03404	
12260	C14P	TDM	PTINSW,1,11,	13368	15	02475	0000J

12270	TDM	TYINSM,0		13380	15	02473	00000
12280	TDM	COINSM,0		13392	15	02474	00000
12290	TDM	INCODE,3		13404	15	02491	00003
12300	B7	PHASEA		13416	49	03404	
12310	C15P	TDM TYINSM,1,11,	BEGIN TYPEWRITER INPUT	13424	15	02473	0000J
12320	TDM	COINSM,0		13436	15	02474	00000
12330	TDM	PTINSM,0		13448	15	02475	00000
12340	B7	PHASEA		13460	49	03404	
12350	C16P	TDM LSCDSM,1,11,	LIST CARD	13468	15	02479	0000J
12360	B7	PHASEA		13480	49	03404	
12370	C17P	TDM LSTYSM,1,11,	LIST TYPEWRITER	13488	15	02480	0000J
12380	B7	PHASEA		13500	49	03404	
12390	C17AP	TDM LSPRSW,1,11,	LIST PRINTER	13508	15	02481	0000J
12400	B7	PHASEA		13520	49	03404	
12410	C18P	BNF PHASEA,ISTAT-30,,	STORE CORE IMAGE	13528	44	03404	02529
12420	TD	ISTAT-30, FLGRM		13540	25	02529	03341
12430	TDM	MODDC,0,11,		13552	15	16022	0000-
12440	B7	PHASEA		13564	49	03404	
12450	C19P	TDM MODDC,1,11,	STORE RELOADABLE	13572	15	16022	0000J
12460	B7	PHASEA		13584	49	03404	
12470	C20P	BD PHASEA,SSTSW,,,	SYSTEM SYMBOL TABLE	13592	43	03404	13767
12480	TF	SSTDCF+13,HCLIM		13604	26	13765	02507
12490	C20P2	SM SSTDCF+13,SSTSC+100+11		13616	12	13765	-3511
12500	TFM	IDRT,++23		13628	16	00565	J3651
12510	B	IDGT,SSTDF,7		13640	49	00566	J3743
12520	TF	C20P1+11,SSTDCF+13		13652	26	13687	13765
12530	AM	C20P1+11,*,10		13664	11	13687	000-4
12540	C20P1	S PRTLIM,*,* TR LIMITS-9,PRTLIM-4		13676	22	02502	00000
12550	TR			13688	31	03274	02496
12560	S	LDTR+11,C20P1+11,11		13700	22	09473	1368P
12570	S	LDTR+ 6,C20P1+11,11		13712	22	09468	1368P
12580	TDM	SSTSW,1,11		13724	15	13767	0000J
12590	C20P4	B7 PHASEA		13736	49	03404	
12600	SSTDF	DSC 2,22,,	ABSOLUTE DISK NOT WRONG LENGTH	13743			2
12610	C20P3	DSA SSTDCF		13749		5 X	1
12620	DC	1,*,		13749		J3752	
12630	SSTDCF	DDA ,0,SSTDAD,SSTSC+,-,- OJ8899-35-0000		13750		1	
12640	DC	1,*,		13752		14	
12650	SSTSW	DS 1		13766		1	
12660	C21P	TDM 2PSSW,1,11,	TWO PASS MODE	13767		1	
12670	B7	PHASEA		13768	15	02477	0000J
12680	C22P	TDM KILSUB,1,11,	NO SUBROUTINES	13780	49	03404	
12690	B7	PHASEA		13788	15	02484	0000J
12700	C23P	TR SBNR+11,CLERER+1,6,	NAME AAAAAA	13800	49	03404	
12710	SF	INPUT-10+2*5-1		13808	31	1119L	02697
12720	TF	MONAME,INPUT-10+2*5+2*5		13820	32	02882	00000
12730	CF	INPUT-10+2*5-1		13832	26	16035	02893
12740	B7	PHASEA		13844	33	02882	00000
12750	C24P	TD MOIDNO,INPUT-10+2*9+2*3,,I D NUMBER NNNN		13856	49	03404	
12760	TD	MOIDNO-1,INPUT-10+2*9+2*2		13864	25	16039	02897
				13876	25	16038	02895

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12770	TD	MOIDNO-2,INPUT-10+2*9+2		13888	25	16037	02893
12780	TD	MOIDNO-3,INPUT-10+2*9		13900	25	16036	02891
12790	SF	MOIDNO-3		13912	32	16036	00000
12800	B7	PHASEA		13924	49	03404	
12810	C25P	CF ISTAT-30,,	LIBR	13932	33	02529	00000
12820	B7	PHASEA		13944	49	03404	
12830	C26P	TDM PCNUSW,1,11,	PUNCH RESEQUENCED SOURCE DECK	13952	15	02482	0000J
12840	B7	PHASEA		13964	49	03404	
12850	CALLA2	SF INPUT-1		13972	32	02882	00000
12860	TFM	**30,INPUT+17		13984	32	02894	00000
12870	AM	**18,2,10		13996	16	14026	-2900
12880	SF	*-e		14008	11	14026	000-2
12890	CM	*-6 ,INPUT+151		14020	32	00000	00000
12900	BL	*-36		14032	14	14026	-3034
12910	TFM	IDRT,++23		14044	47	14008	01300
12920	B	IDRBC,MCADF,7		14056	16	00565	J4079
12930	BNF	**24,TYINSM		14068	49	00520	J5622
12940	TDM	2PSSW,0		14080	44	14104	02473
12950				14092	15	02477	00000
12960	*						
12970	*						
12980	*						
		DISK STORAGE SCRATCH SECTOR ASSIGNMENT					
12990	TFM	IDRT,++23		14104	16	00565	J4127
13000	B	IDGT,DIM,7		14116	49	00566	J4824
13010	TF	CYLAV,MDSCT+8+20		14128	26	15647	16028
13020	RCTY			14140	34	00000	00102
13030	TF	SCTAV-2,CYLAV,,	OBTAIN AVAIL CYL. FROM MONITOR	14152	26	15650	15647
13040	A	SCTAV,SCTAV		14164	21	15652	15652
13050	BD	SAS2P,2PSSW		14176	43	14396	02477
13060	TFM	SASC+11,IPTSPB+SPBL		14188	16	14271	-1540
13070	CM	HCLIM,LBLIM+1176+17		14200	14	02507	M0001
13080	BL	**48		14212	47	14260	01300
13090	BE	**24		14224	46	14248	01200
13100	AM	SASC+11,BP20K+IPTSPB-BP20K+SPBL		14236	11	14271	-7300
13110	A	SASC+11,-1		14248	21	14271	14247
13120	SASC	CM SCTAV,-*-		14260	14	15652	-0000
13130	BL	SASX1		14272	47	14364	01300
13140	AM	STSAV,2*SPBL		14284	11	15657	-0080
13150	SAS1	AM SBMAX,1,10		14296	11	02669	000-1
13160	AM	SASC+11,IPTSPB		14308	11	14271	-1500
13170	C	SCTAV,SASC+11		14320	24	15652	14271
13180	BL	SASX1		14332	47	14364	01300
13190	AM	STSAV,SPBL		14344	11	15657	-0040
13200	B7	SAS1		14356	49	14296	
13210	SASX1	TF INTSAV,SCTAV		14368	26	15662	15652
13220	S	INTSAV,STSAV		14376	22	15662	15657
13230	B7	TYPASS		14388	49	14668	
13240	SAS2P	TFM SAS2+11,2PTSPB+SPBL		14396	16	14479	-0640
13250	CM	HCLIM,LBLIM+1176+17		14408	14	02507	M0001
13260	BL	*+48		14420	47	14468	01300
13270	BE	**24		14432	46	14456	01200
13280	AM	SASC+11,BP20K+2PTSPB-BP20K+SPBL		14444	11	14479	-2800
13290	A	SASC+11,-1		14456	21	14479	14455
13300	SASC2	CM SCTAV,-*-		14468	14	15652	-0000
13310	BL	SASX2		14480	47	14572	01300
13320	AM	STSAV,2*SPBL		14492	11	15657	-0080

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13330	SAS2	AM	SBMAX,1,10	14904	11	02669	000-1
13340		AM	SASC+11,2PTSPE	14916	11	14271	-0600
13350		C	SCTAV,SASC+11	14928	24	15652	14271
13360		BL	SASX2	14940	47	14972	01300
13370		AM	STSAV,SPBL	14952	11	15657	-0040
13380		B7	SAS2	14964	49	14904	
13390	SASX2	TF	INTSAV,SCTAV	14972	26	15662	15652
13400		S	INTSAV,STSAV	14984	22	15662	15657
13410		MM	INTSAV,2PARTIO	14996	13	15662	K0000
13420		SF	90	14608	32	00090	00000
13430		TF	INTSAV,94	14620	26	15662	00094
13440		YD	++23,INTSAV	14632	25	14655	15662
13450		TD	++23,AJUST	14644	25	14667	02399
13460		AM	INTSAV,,10	14656	11	15662	000-0
13470	TYPASS	TF	SYMTAD,SCTAV	14668	26	02641	15652
13480		S	SYMTAD,STSAV	14680	22	02641	15657
13490		TF	IDADDR,SYMTAD	14692	26	02636	02641
13500		S	IDADDR,INTSAV	14704	22	02636	15662
13510		TF	B10CF+5, SYMTAD	14716	26	10449	02641
13520		TF	B20CF+5, SYMTAD	14728	26	10465	02641
13530		TF	OUTDCF+5, IDADDR	14740	26	10481	02636
13540		BNF	++24,RELSW	14752	44	14776	02478
13550		TFM	ADDCDW,99999	14764	16	02528	R9999
13560		TFM	R2BE+1,41,10,	14776	16	03709	000M1
13570		TFM	PROSTM+1,41,10,,	14788	16	03913	000M1
13580		TFM	CFFA,NCDCF1	14800	16	02629	-7588
13590		BTM	CFF,PROSTM	14812	17	02592	-3912
13600	DIM	DSC	2,22	14824			2
13610		DSA	DIMDCF	14830		5 X	1
13620		DC	1,1	14830		J4832	
13630	DIMDCF	DDA	,0,DIMDAD,1,MOSCT	14832		14	
13640		DC	1,1	14846		1	
13650	C1	DAC	11,*OBJECTCORE	14849		11 X	2
13660	C2	DAC	14,*SUBROUTINESET	14871		14 X	2
13670	C3	DAC	15,*MANTISSALENGTH	14899		15 X	2
13680	C4	DAC	11,*NOISEDIGIT	14929		11 X	2
13690	C5	DAC	10,*ERRORSTOP	14951		10 X	2
13700	C6	DAC	20,*ASSEMBLERELOCATABLE	14971		20 X	2
13710	C7	DAC	16,*OUTPUTPAPERTAPE	15011		16 X	2
13720	C8	DAC	11,*OUTPUTCARD	15043		11 X	2
13730	C9	DAC	05,*CTVT	15065		5 X	2

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CHANGE B TO NOP

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13740	C10	DAC	16,*TYPESYMBOLTABLE	15075		16 X	2
13750	C11	DAC	17,*PUNCHSYMBOLTABLE	15107		17 X	2
13760	C11A	DAC	17,*PRINTSYMBOLTABLE	15141		17 X	2
13770	C12	DAC	10,*INTERRUPT	15175		10 X	2
13780	C13	DAC	15,*BEGINCARDINPUT	15195		15 X	2
13790	C14	DAC	20,*BEGINPAPERTAPEINPUT	15225		20 X	2
13800	C15	DAC	21,*BEGINTYPEWRITERINPUT	15265		21 X	2
13810	C16	DAC	09,*LISTCARD	15307		9 X	2
13820	C17	DAC	15,*LISTTYPEWRITER	15325		15 X	2
13830	C17A	DAC	12,*LISTPRINTER	15355		12 X	2
13840	C18	DAC	15,*STORECOREIMAGE	15379		15 X	2
13850	C19	DAC	16,*STORERELOADABLE	15409		16 X	2
13860	C20	DAC	18,*SYSTEMSYMBOLTABLE	15441		18 X	2
13870	C21	DAC	12,*THOPASSMODE	15477		12 X	2
13880	C22	DAC	14,*NOSUBROUTINES	15501		14 X	2
13890	C23	DAC	05,*NAME	15529		5 X	2
13900	C24	DAC	09,*IDNUMBER	15539		9 X	2
13910	C25	DAC	05,*LIBR	15557		5 X	2
13920	C26	DAC	27,*PUNCHRESEQUENCEDSOURCEDECK	15567		27 X	2
13930	C70	DC	2,70	15621			2
13940	MCADF	DSC	2,22	15622			2
13950		DSA	MCADCF	15628		5 X	1
13960		DC	1,1	15628		J5630	
13970	MCADCF	DDA	,0,MOSDAD,1,MOSCT	15630		14	
13980		DC	1,1	15644		1	
13990	CYLAV	DC	3,20	15647		3	
14000	SCTAV	DC	5,0	15652		5	
14010	STSAV	DC	5,0	15657		5	

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14020	INTSAV	DC	5,0	15662	5		
			-0000				
14030		DC	1,'	15663	1		
			'				
14040	FLA1	SF	FLGRM	15664	32	03341	00000
14050		34	AIDCF,00701	15676	34	15724	00701
14060		38	AIDCF,00702	15688	38	15724	00702
14070		TRA		15700	36	00000	00500
				15712	49	00000	00000
				15724	14		
14080	AIDCF	DDA	,0,A1DAD,A1SCT,ZEPO				
			OJ8600J37-2300				
14090		DC	1,'	15738	1		
			'				
14100		TCD	FLA1	15664			
14110		DORG	START	10522			
14120		DS	5	10526	5		
14130	INSTRN	TD	++23,ADDCOM	10528	25	10551	02528
14140		TD	++23,AJUST	10540	25	10563	02399
14150		AM	ADDCOM,10	10552	11	02528	000-0
14160		BTM	EVALAD, ++12, 4 11	10564	17	05076	10570
14170		BTM	EVALAD, ++12, 5 11	10576	17	056P6	10580
14180		TF	ADDRS,ADDCOM	10588	26	03295	02528
14190		AM	ADDCOM,11,10	10600	11	02528	000J1
14200		BTM	CTEST,++12	10612	17	07708	J0624
14210		B7	INSTRN-1,,6	10624	49	1052P	
14220	DOINST	TF	INPUT2+1, ZEPO+29	10632	26	03037	02329
14230		C	INPUT+14, XB7-3	10644	24	02897	13946
14240		BNE	++24	10656	47	10680	01200
14250		SM	ADDCOM, 5,10	10668	12	02528	000-5
14260		C	INPUT+16, XB82-3	10680	24	02899	14429
14270		BNE	++24	10692	47	10716	01200
14280		SM	ADDCOM,10,10	10704	12	02528	000J0
14290		B7	LDLBL	10716	49	08686	
14300	DOADC	TF	INPUT2+2, ZEPO+29	10724	26	03038	02329
14310		SF	INPUT2+2	10736	32	03038	00000
14320		TDM	INPUT2,8	10748	15	03036	00008
14330		CM	INPUT+12, 59,10,	10760	14	02895	000M9
14340		BNE	++24	10772	47	10796	01200
14350		SF	INPUT2+1	10784	32	03037	00000
14360		B7	LDLBL	10796	49	08686	
14370	DOBOMK	TDM	INPUT2,4	10804	15	03036	00004
14380		TD	INPUT2+1, ZEPO+28	10816	25	03037	02328
14390		TD	INPUT2+6, ZEPO+29	10828	25	03042	02329
14400		SF	INPUT2+6	10840	32	03042	00000
14410		TFM	INPUT2+4,00,10 11	10852	16	03040	000--
14420		B7	LDLBL	10864	49	08686	
14430	DOBI	TDM	INPUT2, 4	10872	15	03036	00004
14440		TD	INPUT2+1, ZEPO+30	10884	25	03037	02330
14450		SF	ZEPO+28	10896	32	02328	00000
14460		TF	INPUT2+4, ZEPO+29	10908	26	03040	02329
14470		SF	INPUT2+4	10920	32	03040	00000
14480		B7	LDLBL	10932	49	08686	
14490	DORDW	TD	INPUT2+1, ZEPO+28	10940	25	03037	02328
14500		TDM	INPUT2, 3	10952	15	03036	00003
14510		TD	INPUT2+4, ZEPO+29	10964	25	03040	02329

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14520		SF	INPUT2+4	10976	32	03040	00000
14530		TDM	INPUT2+3,0,11	10988	15	03039	0000-
14540		B7	LDLBL	11000	49	08686	
14550	DDK	TFM	INPUT2+1, 034,9	11008	16	03037	00-34
14560		TD	INPUT2+6, ZEPO+29	11020	25	03042	02329
14570		SF	INPUT2+6	11032	32	03042	00000
14580		TD	INPUT2+4, ZEPO+28	11044	25	03040	02328
14590		SF	INPUT2+4	11056	32	03040	00000
14600		TDM	INPUT2+3, 0,11	11068	15	03039	0000-
14610		B7	LDLBL	11080	49	08686	
14620	DOSIOC	SF	ZEPO+22	11088	32	02322	00000
14630		TFM	INPUT2+1, 046,9	11100	16	03037	00-46
14640		CM	ZEPO+23,43,10	11112	14	02323	000M3
14650		BE	++72	11124	46	11196	01200
14660		CM	ZEPO+25,4243,8	11136	14	02325	0M243
14670		BE	++36	11148	46	11184	01200
14680		CM	ZEPO+23,42,10	11160	14	02323	000M2
14690		BE	++24	11172	46	11196	01200
14700		TDM	INPUT2+1, 7	11184	15	03037	00007
14710		TFM	INPUT2+4,60,1011	11196	16	03040	0000-
14720		SF	ZEPO+28	11208	32	02328	00000
14730		TF	INPUT2+6, ZEPO+29	11220	26	03042	02329
14740		SF	INPUT2+6	11232	32	03042	00000
14750		B7	LDLBL	11244	49	08686	
14760	DOSVRS	AM	ADDCOM,12	11252	11	02528	-0012
14770		TFM	INPUT2+1, 02,10	11264	16	03037	000-2
14780		BD	++36, ZEPO+29	11276	43	11312	02329
14790		AM	ADDCOM,12	11288	11	02528	-0012
14800		TDM	INPUT2+1,1	11300	15	03037	00001
14810		BTM	CTEST, ++12	11312	17	07708	J1324
14820		B7	LDLBL	11324	49	08686	
14830	ODDISK	TDM	INPUT2,3	11332	15	03036	00003
14840		TD	INPUT2+1, ZEPO+28	11344	25	03037	02328
14850		TDM	INPUT2+4, 7,11	11356	15	03040	0000P
14860		TDM	INPUT2+3, 0,11	11368	15	03039	0000-
14870		TD	INPUT2+6, ZEPO+29	11380	25	03042	02329
14880		SF	INPUT2+6	11392	32	03042	00000
14890		B7	LDLBL	11404	49	08686	
14900	DMESCL	TFM	CFFA,FF1DCF	11412	16	02629	J1436
14910		BTM	CFF,DMES	11424	17	02592	J0868
14920	FF1DCF	DDA	,0,A4DAD,A4SCT,INSTRN	11436	14		
			OJ8876-23J0528				
14930		DC	1,'	11450	1		
			'				
14940	DVLC	TFM	CFFA,FF1DCF	11452	16	02629	J1436
14950		BTM	CFF,DVLC	11464	17	02592	J2214
14960	MCCALL	TFM	CFFA,A3DCF	11476	16	02629	J1500
14970		BTM	CFF,MACRO2	11488	17	02592	J0528
14980	A3DCF	DDA	,0,A3DAD,A3SCT,INSTRN	11500	14		
			OJ8854-22J0528				
14990		DC	1,'	11514	1		
			'				
15000	DGM	TDM	INPUT2, 5	11516	15	03036	00005
15010		BTM	EVALAD, ++12, 4	11528	17	05076	11940
15020		BNF	DAC3-32,BSM	11540	44	12300	08309
15030		AM	ADDCOM, 1	11552	11	02528	-0001

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15040	TF	ADDRS, ADDCOW	11564	26	03295	02528
15050	B7	DAC3-32	11576	49	12300	
15060	MACRO	TD **23, ADDCOW	11584	25	11607	02528
15070	TD	**23, AJUST	11596	25	11619	02399
15080	AM	ADDCOW,,10	11608	11	02528	000-0
15090	SF	ZEPD*28	11620	32	02328	00000
15100	TF	INPUT2*6, ZEPD*29	11632	26	03042	02329
15110	*					
15120	*	SET ONE TO INDICATE SUBROUTINE IS REQUIRED				
15130	*					
15140	TFM	**30, ISTAT-30	11644	16	11674	-2529
15150	A	**18, ZEPD*29	11656	21	11674	02329
15160	TDM	-=, 1	11668	15	00000	00001
15170	B7	DSA,,,TO DSA ROUTINE TO COUNT NUMBER OF OPERANDS	11680	49	13604	
15180	*	EVALUATE LENGTH OF DAS				
15190	*					
15200	DAS	BTM EVALAD,**12,4	11688	17	05076	11700
15210	TF	LNTH,ADDRS	11700	26	02387	03295
15220	TF	TEMPR, LNTH	11712	26	02571	02387
15230	A	TEMPR, TEMPR	11724	21	02571	02571
15240	TDM	INPUT2, 2	11736	15	03036	00002
15250	TD	INPUT2*6, ZEPD*29	11748	25	03042	02329
15260	B7	DAC3	11760	49	12332	
15270	*					
15280	*	EVALUATE LENGTH OF DAC				
15290	*					
15300	DAC	TDM INPUT2, 0	11768	15	03036	00000
15310	TFM	STCHAR+11, 00,10	11780	16	12095	000-0
15320	DAC	1,',*	11791		1 X	2
15330	BTM	EVALAD,**12,4	11792	17	05076	11804
15340	TF	LNTH,ADDRS	11804	26	02387	03295
15350	CM	LNTH,51	11816	14	02387	-0051
15360	BN	**80	11828	47	11908	01300
15370	TFM	EVALER-1, 80000,,	11840	16	07343	00000
15380	DC	1,',*	11851		1	
15390	TFM	LNTH, 00050	11852	16	02387	-0050
15400	TFM	TEMPR, 100	11864	16	02571	-0100
15410	DACER	BT EPRINT, EPRINT-1	11876	27	07604	07603
15420	BD	ERCOR, ERSTSW	11888	43	07468	02476
15430	B7	DACR	11900	49	12156	
15440	A	ADDRS,ADDRS	11908	21	03295	03295
15450	TF	TEMPR,ADDRS	11920	26	02571	03295
15460	BNR	**20, INPUT*20	11932	45	11952	02903
15470	B7	ER9DAC	11944	49	11964	
15480	BNR	**32, INPUT*22	11952	45	11984	02905
15490	ER9DAC	TFM EVALER-1, 90000,,	11964	16	07343	R0000
15500	DC	1,',*	11975		1	
15510	B7	DACR	11976	49	11876	
15520	TFM	**35, INPUT+19	11984	16	12019	-2902
15530	A	**23, TEMPR	11996	21	12019	02571
15540	CHVALD	TR OUT*2	12008	31	02220	00000
15550	BNR	**32, OUT*3	12020	45	12052	02221
15560	E10DAC	TFM EVALER-1, 17000,,	12032	16	07343	J7000

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15570	DC	1,',*	12043		1	
15580	B7	DACR	12044	49	11876	
15590	BNR	**20, OUT*5	12052	45	12072	02223
15600	B7	**32	12064	49	12096	
15610	CM	OUT*5,23,10	12072	14	02223	000K3
15620	STCHAR	BNE E10DAC	12084	47	12032	01200
15630	TD	STCHAR+11, OUT*5	12096	25	12095	02223
15640	AM	CHVALD+11,3	12108	11	12019	-0003
15650	TFM	CHVALD+11,,6 10	12120	16	1201R	000-0
15660	DC	1,',*	12131		1	
15670	AM	CHVALD+11,1,10	12132	11	12019	000-1
15680	TR	INPUT+21, CHVALD+11,11	12144	31	02904	1201R
15690	DACR	TF INPUT2*6, ZEPD*29	12156	26	03042	02329
15700	TD	INPUT2*4, LNTH	12168	25	03040	02387
15710	TD	INPUT2*3, LNTH-1	12180	25	03039	02386
15720	BNR	DAC3, STCHAR+11	12192	45	12332	12095
15730	*	ADDRESS ASSIGNED BY PROCESSOR				
15740	*					
15750	NOSINE	TD **23, ADDCOW	12204	25	12227	02528
15760	TD	**23, JSTBL	12216	25	12239	02459
15770	AM	ADDCOW,,10	12228	11	02528	000-0
15780	TF	ADDRS, ADDCOW	12240	26	03295	02528
15790	A	ADDCOW, TEMPR	12252	21	02528	02571
15800	SM	ADDCOW,2,10	12264	12	02528	000-2
15810	BD	**24, ZEPD*28	12276	43	12300	02328
15820	TF	ADDRS, ADDCOW	12288	26	03295	02528
15830	BTM	CTEST, **12	12300	17	07708	J2312
15840	TDM	INPUT2*1, 0,11	12312	15	03037	0000-
15850	B7	LDLBL	12324	49	08686	
15860	DAC3	BTM EVALAD,**12,5	12332	17	056P6	12344
15870	BD	NOSINE,BSW	12344	43	12204	08309
15880	TD	LDABSW,RLOCSW	12356	25	08308	08307
15890	B7	DAC3-32	12368	49	12300	
15900	*					
15910	*	EVALUATE LENGTH OF DSB				
15920	*					
15930	DSB	TDM INPUT2,4	12376	15	03036	00004
15940	TDM	INPUT2*6, 1	12388	15	03042	00001
15950	TFM	EVALER-1, 70000	12400	16	07343	P0000
15960	DC	1,',*	12411		1	
15970	BTM	EVALAD, **12, 4	12412	17	05076	12424
15980	TF	LNTH, ADDR	12424	26	02387	03295
15990	BTM	EVALAD, **12, 5	12436	17	056P6	12448
16000	TF	TEMPR, ADDR	12448	26	02571	03295
16010	BNF	**48, BSW	12460	44	12508	08309
16020	BT	EPRINT, EPRINT-1	12472	27	07604	07603
16030	BD	ERCOR, ERSTSW	12484	43	07468	02476
16040	TFM	TEMPR, 00001	12496	16	02571	-0001
16050	BTM	EVALAD, **12,5	12508	17	056P6	12520
16060	TD	LDABSW,RLOCSW	12520	25	08308	08307
16070	BNF	DAC3-32, BSW	12532	44	12300	08309
16080	TDM	LDABSW,1,11	12544	15	08308	0000J
16090	TF	ADDRS, ADDCOW	12556	26	03295	02528

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16100	A	ADDRS, LNTH	12568	21	03295	02387
16110	M	LNTH, TEMPR	12580	23	02387	02571
16120	A	ADDCOW, 99	12592	21	02528	00099
16130	B7	DAC3-32	12604	49	12300	
16140	*					
16150	*	EVALUATE LENGTH OF DS OR DNB				
16160	*					
16170	DSDNB	BTM EVALAD,++12,4	12612	17	05076	12624
16180	TD	INPUT2+6, ZEPD+29	12624	25	03042	02329
16190	TD	INPUT2+5, ZEPD+28	12636	25	03041	02328
16200	TF	LNTH,ADDRS	12648	26	02387	03295
16210	TDM	INPUT2, 4,,11	12660	15	03036	0000M
16220	BD	++84, ZEPD+29	12672	43	12756	02329
16230	CM	LNTH,99	12684	14	02387	-0099
16240	BNP	++60	12696	47	12756	01100
16250	TFM	EVALER-1, 80000	12708	16	07343	00000
16260	DC	1,*,*	12719		1	
16270	BT	EPRINT, EPRINT-1	12720	27	07604	07603
16280	BD	ERCOR, ERSTSW	12732	43	07468	02476
16290	TFM	LNTH, 00050	12744	16	02387	-0050
16300	NASS	BTM EVALAD, ++12, 5	12756	17	056P6	12768
16310	TD	LDABSW, RLQCSW	12768	25	08308	08307
16320	BNF	DAC3-32, BSW	12780	44	12300	08309
16330	*					
16340	*	ADDRESS ASSIGNED BY PROCESSOR				
16350	*					
16360	DNB2	TF ADDRS, ADDCOW	12792	26	03295	02528
16370	TDM	LDABSW,1,11	12804	15	08308	0000J
16380	A	ADDCOW, LNTH	12816	21	02528	02387
16390	BD	DSS, ZEPD+28	12828	43	12860	02328
16400	A	ADDRS, LNTH	12840	21	03295	02387
16410	B7	DAC3-32	12852	49	12300	
16420	DSS	AM ADDRS,1,10	12860	11	03295	000-1
16430	B7	DAC3-32	12872	49	12300	
16440	DORG	BTM EVALAD,++12,4	12880	17	05076	12892
16450	BNF	++84, RELSW	12892	44	12976	02478
16460	BD	++72, RLQCSW	12904	43	12976	08307
16470	TFM	EVALER-2, 71770,,	12916	16	07342	P1770
16480	BT	EPRINT, EPRINT-1,,	12928	27	07604	07603
16490	BD	ERCOR, ERSTSW	12940	43	07468	02476
16500	TFM	INPUT2+1, 06, 10,	12952	16	03037	000-6
16510	BTM	OUTPUT, PHASEA	12964	17	09958	-3404
16520	TF	ADDCOW, ADDR5	12976	26	02528	03295
16530	BTM	CTEST, ++12	12988	17	07708	J3000
16540	*					
16550	*	SET ADDRESS COUNTER TO NEW VALUE				
16560	*					
16570	SH	ADDCOW,1,10	13000	12	02528	000-1
16580	TDM	INPUT2,1,11	13012	15	03036	0000J
16590	BNF	++24, ADDCOW	13024	44	13048	02528
16600	TFM	ADDCOW, 99999	13036	16	02528	R9999
16610	B7	DAC3-32	13048	49	12312	
16620	DENDC	TFM CFFA, CASDCF	13056	16	02629	J3080
16630	BTM	CFF, DEND	13068	17	02592	J1192
16640	CASDCF	DDA ,0, ASDAD, ASSCT, INSTRN	13080		14	
		OJ8737-29J0528				

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16650	DC	1,*,*	13094		1	
16660	*					
16670	*	DEFINE CONSTANT AND DEFINE SPECIAL CONSTANT				
16680	DC	TDM INPUT2, 2,11	13096	15	03036	0000K
16690	TD	DC-1, ZEPD+28	13108	25	13095	02328
16700	TF	INPUT2+6, ZEPD+29	13120	26	03042	02329
16710	BTM	EVALAD, ++12, 4	13132	17	05076	13144
16720	TF	LNTH, ADDR5	13144	26	02387	03295
16730	CCON	TFM TEMPR, -00001	13156	16	02571	-000J
16740	AM	TEMPR, 1	13168	11	02571	-0001
16750	TR	INPUT+19, INPUT+21	13180	31	02902	02904
16760	BNR	CCN2-36, INPUT+20	13192	45	13272	02903
16770	CM	TEMPR, 0	13204	14	02571	-0000
16780	BNE	CCN2	13216	47	13308	01200
16790	TFM	EVALER-1, 90000	13228	16	07343	R0000
16800	DC	1,*,*	13239		1	
16810	BT	EPRINT, EPRINT-1	13240	27	07604	07603
16820	BD	ERCOR, ERSTSW	13252	43	07468	02476
16830	B7	CCN2	13264	49	13308	
16840	CM	INPUT+20, 23, 10	13272	14	02903	000K3
16850	BH	CCON+12	13284	46	13168	01100
16860	BL	CCON+24	13296	47	13180	01300
16870	CCN2	C TEMPR, LNTH	13308	24	02571	02387
16880	BNP	++60	13320	47	13380	01100
16890	TFM	EVALER-1, 17000	13332	16	07343	J7000
16891	DC	1,*,*	13343		1	
16892	BT	EPRINT, EPRINT-1	13344	27	07604	07603
16900	BD	ERCOR, ERSTSW	13356	43	07468	02476
16910	DCRN	TF LNTH, TEMPR	13368	26	02387	02571
16920	CM	LNTH, 51	13380	14	02387	-0051
16930	BN	++72	13392	47	13464	01300
16940	TFM	EVALER-1, 80000	13404	16	07343	00000
16950	DC	1,*,*	13415		1	
16960	BT	EPRINT, EPRINT-1,,	13416	27	07604	07603
16970	BD	ERCOR, ERSTSW	13428	43	07468	02476
16980	TFM	LNTH, 00050	13440	16	02387	-0050
16990	TFM	TEMPR, 50	13452	16	02571	-0050
17000	BTM	EVALAD, ++12, 5	13464	17	056P6	13476
17010	TD	LDABSW, RLQCSW	13476	25	08308	08307
17020	BNF	CCN3, BSW	13488	44	13572	08309
17030	TDM	LDABSW, 1, 11	13500	15	08308	0000J
17040	TF	ADDRS, ADDCOW,,	13512	26	03295	02528
17050	AM	ADDRS, 1	13524	11	03295	-0001
17060	A	ADDCOW, LNTH	13536	21	02528	02387
17070	BD	++24, DC-1	13548	43	13572	13095
17080	TF	ADDRS, ADDCOW	13560	26	03295	02528
17090	CCN3	SF TEMPR-1	13572	32	02570	00000
17100	TF	INPUT2+4, TEMPR	13584	26	03040	02571
17110	B7	DAC3-32	13596	49	12300	
17120	DSA	TFM LNTH, 00000	13604	16	02387	-0000
17130	B7	DSA1	13616	49	13636	
17140	TR	INPUT+19, INPUT+21	13624	31	02902	02904

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17150 DSA1	BTM	EVALAD, **12, 4 11	13636	17	05076	13640
17160	AM	LNTH, 5,10	13648	11	02387	000-5
17170	BMR	0-36, INPUT+20	13660	45	13624	02903
17180 DSA2	CM	LNTH, 0050	13672	14	02387	-0050
17190	BH	ERDSA	13684	46	13612	01100
17200	TF	ADDRS, ADDCOM	13696	26	03295	02528
17210	AM	ADDRS, 5, 10	13708	11	03295	000-5
17220	A	ADDCOM, LNTH	13720	21	02528	02387
17230	TDM	INPUT2, 1	13732	15	03036	00001
17240	BMF	DAC3-32, ZEPO+28	13744	44	12300	02328
17250	AM	ADDCOM, 19,10	13756	11	02528	000J9
17260	SM	ADDRS, 5	13768	12	03295	-0005
17270	TDM	INPUT2, 0,11	13780	15	03036	0000-
17280	BTM	CTEST, **12	13792	17	07708	J3804
17290	B	L0LBL	13804	49	08686	00000
17300	DORG	0-3	13812			
17310 ERDSA	TFM	EVALER-1,60000	13812	16	07343	00000
17320	DC	1,'*	13823		1	
17330	BT	EPRINT,EPRINT-1	13824	27	07604	07603
17340	BD	ERCOR, ERSTSW	13836	43	07468	02476
17350	TFM	LNTH, 00050	13848	16	02387	-0050
17360	B7	DSA2+24	13860	49	13696	

OPERATION CODE TABLE

17400 A	DC	5,41210,,	ADD	A	13871	5
	M1210					
17410	DC	5,62220,,	SUBTRACT	S	13876	5
	Q2220					
17420	DC	5,54230,,	MULTIPLY	M	13881	5
	N4230					
17430	DC	5,44290,,	DIVIDE	D	13886	5
	M4290					
17440	DC	5,43240,,	COMPARE	C	13891	5
	M3240					
17450	DC	5,42490,,	BRANCH	B	13896	5
	M2490					
17460	DC	5,52340,,	CONTROL	K	13901	5
	N2340					
17470	DC	5,48480,,	HALT	H	13906	5
	M8480					
17480	DC	5,60000,,	DUMMY OP CODE		13911	5
	Q0000					
17490	DC	5,60000,,	DUMMY OP CODE		13916	5
	Q0000					
17500	DC	5,'			13921	5
	-000'					
17510 B	DC	7,4154110,,	ADD IMMEDIATE	AM	13928	7
	M154110					
17520	DC	7,6254120,,	SUBTRACT IMMEDIATE	SM	13935	7
	Q254120					
17530	DC	7,5454130,,	MULTIPLY IMMEDIATE	MM	13942	7
	N454130					
17540 X87	DC	7,4277490,,	7-CHAR. BRANCH	B7	13949	7
	M277490					

17550	DC	7,4354140,,	COMPARE IMMEDIATE	CM	13956	7
	M354140					
17560	DC	7,6344250,,	TRANSMIT DIGIT	TD	13963	7
	Q344250					
17570	DC	7,6346260,,	TRANSMIT FIELD	TF	13970	7
	Q346260					
17580	DC	7,6359310,,	TRANSMIT RECORD	TR	13977	7
	Q359310					
17590	DC	7,4263270,,	BRANCH AND TRANSMIT	BT	13984	7
	M263270					
17600	DC	7,4242420,,	BRANCH BACK	BB	13991	7
	M242420					
17610	DC	7,6246320,,	SET FLAG	SF	13998	7
	Q246320					
17620	DC	7,4346330,,	CLEAR FLAG	CF	14005	7
	M346330					
17630	DC	7,5446710,,	MOVE FLAG	MF	14012	7
	N446710					
17640	DC	7,4244430,,	BRANCH DIGIT	BD	14019	7
	M244430					
17650	DC	7,4249460,,	BRANCH INDICATOR	BI	14026	7
	M249460					
17660	DC	7,4253137,,	BRANCH LOW	BL	14033	7
	M253137					
17670	DC	7,4255137,,	BRANCH NEGATIVE	BN	14040	7
	M255137					
17680	DC	7,4248116,,	BRANCH HIGH	BH	14047	7
	M248116					
17690	DC	7,4257116,,	BRANCH POSITIVE	BP	14054	7
	M257116					
17700	DC	7,4245126,,	BRANCH EQUAL	BE	14061	7
	M245126					
17710	DC	7,4269126,,	BRANCH ZERO	BZ	14068	7
	M269126					
17720	DC	7,4265146,,	BRANCH OVERFLOW	BV	14075	7
	M265146					
17730	DC	7,4241196,,	BRANCH ANY DATA CHECK	BA	14082	7
	M241196					
17740	DC	7,-4256704,,	BRANCH OUT, LOAD IR3	BO	14089	7
	M256704					
17750 XDS	DC	7,4462015,,	DEFINE SYMBOL	DS	14096	7
	M462015					
17760	DC	7,-4443005,,	DEFINE CONSTANT	DC	14103	7
	M443005					
17770	DC	7,-4641031,,	FLOATING ADD SUB.	FA	14110	7
	M641031					
17780	DC	7,-4662021,,	FLOATING SUBTRACT SUB.	FS	14117	7
	M662021					
17790	DC	7,-4654041,,	FLOATING MULTIPLY SUB.	FM	14124	7
	M654041					
17800	DC	7,-4644051,,	FLOATING DIVIDE SUB.	FD	14131	7
	M644051					
17810	DC	7,5344280,,	LOAD DIVIDEND	LD	14138	7
	N344280					
17820	DC	7,4454190,,	DIVIDE IMMEDIATE	DM	14145	7
	M454190					

17830	DC 7,-6241412,, O24141K	SELECT ADDRESS	SA	14152	7
17840	DC 7,-5452614,, M45261M	MASK INTERRUPTS	MK	14159	7
17850	DC 7,6252412,, O252412	SEEK	SK	14166	7
17860	DC 7,5953360,, M953360	READ NUMERICALLY	RN	14173	7
17870	DC 7,5941370,, M941370	READ ALPHAMERICALLY	RA	14180	7
17880	DC 7,4453350,, M453350	DUMP NUMERICALLY	DN	14187	7
17890	DC 7,6653380,, O653380	WRITE NUMERICALLY	WN	14194	7
17900	DC 7,6641390,, O641390	WRITE ALPHAMERICALLY	WA	14201	7
17910	DC 7,-4444263,, M44426L	DEFINE DISK	DD	14208	7
17920	DC 7,6060000,, O060000	DUMMY OP CODE		14215	7
17930	DC 7,6060000,, O060000	DUMMY OP CODE		14222	7
17940	DC 7,6060000,, O060000	DUMMY OP CODE		14229	7
17950	DC 7,6060000,, O060000	DUMMY OP CODE		14236	7
17960	DC 7,' -00000'			14243	7
17970 C	DC 9,634654160,, O34654160	TRANSMIT FIELD IMMEDIATE	TFM	14252	9
17980	DC 9,634454150,, O34454150	TRANSMIT DIGIT IMMEDIATE	TDM	14261	9
17990	DC 9,425546440,, M25546440	BRANCH NO FLAG	BNF	14270	9
18000	DC 9,425559450,, M25559450	BRANCH NO RECORD MARK	BNR	14279	9
18010	DC 9,425549470,, M25549470	BRANCH NO INDICATOR	BNI	14288	9
18020	DC 9,425548117,, M25548117	BRANCH NOT HIGH	BNH	14297	9
18030	DC 9,425557117,, M25557117	BRANCH NOT POSITIVE	BNP	14306	9
18040	DC 9,425545127,, M25545127	BRANCH NOT EQUAL	BNE	14315	9
18050	DC 9,425569127,, M25569127	BRANCH NOT ZERO	BNZ	14324	9
18060	DC 9,425553136,, M25553136	BRANCH NOT LOW	BNL	14333	9
18070	DC 9,425555136,, M25555136	BRANCH NOT NEGATIVE	BNN	14342	9
18080	DC 9,426765156,, M26765156	BRANCH EXPONENT CHECK	BXV	14351	9
18090	DC 9,425565147,, M25565147	BRANCH NO OVERFLOW	BNV	14360	9
18100	DC 9,425541197,, M25541197	BRANCH NOT ANY DATA CHECK	BNA	14369	9

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18110	DC 9,425343096,, M25343096	BRANCH LAST CARD	BLC	14378	9
18120	DC 9,424371016,, M24371016	BRANCH CONSOLE SWITCH 1 ON	BC1	14387	9
18130	DC 9,424372026,, M24372026	BRANCH CONSOLE SWITCH 2 ON	BC2	14396	9
18140	DC 9,424373036,, M24373036	BRANCH CONSOLE SWITCH 3 ON	BC3	14405	9
18150	DC 9,424374046,, M24374046	BRANCH CONSOLE SWITCH 4 ON	BC4	14414	9
18160	DC 9,426354170,, M26354170	BRANCH AND TRANSMIT IMM.	BTM	14423	9
18170 XBB2	DC 9,424272420,, M24272420	2-CHAR. BRANCH BACK	BB2	14432	9
18180	DC 9,-645452604,, O4545260M	UNMASK INTERRUPTS	UMK	14441	9
18190	DC 9,555657410,, M55657410	NO OPERATION	NOP	14450	9
18200	DC 9,-444965011,, M4496501J	DIVIDE SUB.	DIV	14459	9
18210	DC 9,-464567111,, M6456711J	FLOATING NATURAL EXP. SUB.	FEX	14468	9
18220	DC 9,-465355131,, M6535513J	FLOATING NATURAL LOG. SUB.	FLN	14477	9
18230	DC 9,-635941003,, O3594100L	TRANSFER TO LOAD	TRA	14486	9
18240 XDSS	DC 9,446262115,, M46262115	DEFINE SPECIAL SYMBOL	DSS	14495	9
18250	DC 9,-446243105,, M4624310M	DEFINE SPECIAL CONSTANT	DSC	14504	9
18260 XDAS	DC 9,-444162145,, M4416214M	DEFINE ALPHA SYMBOL	DAS	14513	9
18270	DC 9,-444143125,, M4414312M	DEFINE ALPHA CONSTANT	DAC	14522	9
18280	DC 9,-446241035,, M4624103M	DEFINE SYMBOLIC ADDRESS	DSA	14531	9
18290	DC 9,-446242065,, M4624206M	DEFINE SYMBOLIC BLOCK	DSB	14540	9
18300	DC 9,445542005,, M45542005	DEFINE NUMERIC BLANK	DNB	14549	9
18310	DC 9,-444754075,, M4475407M	DEFINE GROUP MARK	DGM	14558	9
18320	DC 9,425547550,, M25547550	BRANCH NO GROUP MARK	BNG	14567	9
18330	DC 9,634344018,, O34344018	TRANSFER TO PROCESS	TCD	14576	9
18340	DC 9,425659401,, M25659401	BRANCH OUTPUT RECORD MARK	BOR	14585	9
18350	DC 9,425945411,, M25945411	BRANCH END OF RECORD	BRE	14594	9
18360	DC 9,425443421,, M25443421	BRANCH MODE SHIFT	BMC	14603	9
18370	DC 9,424959441,, M24959441	BRANCH READ INPUT READY	BIR	14612	9
18380	DC 9,424342461,, M24342461	BRANCH SIOC CHANNEL BUSY	BCB	14621	9

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18390	DC 9,624156840,,	SELECT ADDRESS AND OPERATE	SAO	14630	9
	024156840				
18400	DC 9,596355662,,	READ DISK TRACK NUM. W/O GP. MK.	RTN	14639	9
	M96355662				
18410	DC 9,594455622,,	READ DISK WITHOUT GROUP MARK	ADN	14648	9
	M94455622				
18420	DC 9,666355862,,	WRITE DISK TRACK NUM. W/O GP. MK.	WTN	14657	9
	066355862				
18430	DC 9,664455822,,	WRITE DISK WITHOUT GROUP MARK	WDN	14666	9
	064455822				
18440	DC 9,436355672,,	CHECK DISK TRACK NUM. W/O GP. MK.	CTN	14675	9
	M36355672				
18450	DC 9,434455632,,	CHECK DISK WITHOUT GROUP MARK	CDN	14684	9
	M34455632				
18460	DC 9,634653060,,	TRANSMIT FLOATING	TFL	14693	9
	034653060				
18470	DC 9,466253050,,	FLOATING SHIFT LEFT	FSL	14702	9
	M66253050				
18480	DC 9,466259080,,	FLOATING SHIFT RIGHT	FSR	14711	9
	M66259080				
18490	DC 9,635562720,,	TRANSMIT NUMERIC STRIP	TNS	14720	9
	035562720				
18500	DC 9,635546730,,	TRANSMIT NUMERIC FILL	TNF	14729	9
	035546730				
18510	DC 9,-444441073,,	DEFINE DISK ADDRESS	DDA	14738	9
	M4444107L				
18520	DC 9,534454180,,	LOAD DIVIDEND IMMEDIATE	LDM	14747	9
	N34454180				
18530	DC 9,-474563013,,	IOCS READ	GET	14756	9
	M7456301L				
18540	DC 9,-576463023,,	IOCS WRITE	PUT	14765	9
	N7646302L				
18550	DC 9,-446355053,,	DEFINE TYPEWRITER NUMERIC	DTN	14774	9
	M4635505L				
18560	DC 9,-444355253,,	DEFINE CARD NUMERIC	DCN	14783	9
	M4435525L				
18570	DC 9,-446341353,,	DEFINE TYPEWRITER ALPHA	DTA	14792	9
	M4634135L				
18580	DC 9,-444341553,,	DEFINE CARD ALPHA	DCA	14801	9
	M4434155L				
18590	DC 9,-444466063,,	DEFINE DISK WITH WLRC	DDW	14810	9
	M4446606L				
18600	DC 9,606060000,,	DUMMY OP CODE		14819	9
	006060000				
18610	DC 9,606060000,,	DUMMY OP CODE		14828	9
	006060000				
18620	DC 9,606060000,,	DUMMY OP CODE		14837	9
	006060000				
18630	DC 9,606060000,,	DUMMY OP CODE		14846	9
	006060000				
18640	DC 9,606060000,,	DUMMY OP CODE		14855	9
	006060000				
18650	DC 9,606060000,,	DUMMY OP CODE		14864	9
	006060000				
18660	DC 9,'			14873	9
	-0000000'				

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18670 D	DC 11,42554371017,,	BRANCH CONSOLE SWITCH 1 OFF	BNC1	14884	11
	M2554371017				
18680	DC 11,42554372027,,	BRANCH CONSOLE SWITCH 2 OFF	BNC2	14895	11
	M2554372027				
18690	DC 11,42554373037,,	BRANCH CONSOLE SWITCH 3 OFF	BNC3	14906	11
	M2554373037				
18700	DC 11,42554374047,,	BRANCH CONSOLE SWITCH 4 OFF	BNC4	14917	11
	M2554374047				
18710	DC 11,42555343097,,	BRANCH NOT LAST CARD	BNLC	14928	11
	M2555343097				
18720	DC 11,42556765157,,	BRANCH NOT EXPONENT CHECK	BNXV	14939	11
	M2556765157				
18730	DC 11,59556368613,,	READ NUMERIC TYPEWRITER	RNTY	14950	11
	N9556368613				
18740	DC 11,59555763633,,	READ NUMERIC PAPER TAPE	RNPT	14961	11
	N9555763633				
18750	DC 11,66556368813,,	WRITE NUMERIC TYPEWRITER	WNTY	14972	11
	06556368813				
18760	DC 11,66555763823,,	WRITE NUMERIC PAPER TAPE	WNPT	14983	11
	06555763823				
18770	DC 11,44556368513,,	DUMP NUMERIC TYPEWRITER	DNTY	14994	11
	M4556368513				
18780	DC 11,44555763523,,	DUMP NUMERIC PAPER TAPE	DNPT	15005	11
	M4555763523				
18790	DC 11,59416368713,,	READ ALPHA TYPEWRITER	RATY	15016	11
	N9416368713				
18800	DC 11,59415763733,,	READ ALPHA PAPER TAPE	RAPT	15027	11
	N9415763733				
18810	DC 11,66416368913,,	WRITE ALPHA TYPEWRITER	WATY	15038	11
	06416368913				
18820	DC 11,66415763923,,	WRITE ALPHA PAPER TAPE	WAPT	15049	11
	06415763923				
18830	DC 11,66414344943,,	WRITE ALPHA CARD	WACD	15060	11
	06414344943				
18840	DC 11,59414344753,,	READ ALPHA CARD	RACD	15071	11
	N9414344753				
18850	DC 11,44554344543,,	DUMP NUMERIC CARD	DNCD	15082	11
	M4554344543				
18860	DC 11,66554344843,,	WRITE NUMERIC CARD	WNCD	15093	11
	06554344843				
18870	DC 11,59554344653,,	READ NUMERIC CARD	RNCD	15104	11
	N9554344653				
18880	DC 11,63426368184,,	TABULATE TYPEWRITER	TBTY	15115	11
	03426368184				
18890	DC 11,59436368124,,	RETURN CARRIAGE TYPEWRITER	RCTY	15126	11
	N9436368124				
18900	DC 11,62576368114,,	SPACE TYPEWRITER	SPTY	15137	11
	02576368114				
18910	DC 11,59634755642,,	READ DISK TRACK NUM. W/GP. MK.	RTGN	15148	11
	M9634755642				
18920	DC 11,59444755602,,	READ DISK WITH GROUP MARK	RDGN	15159	11
	N9444755602				
18930	DC 11,66634755842,,	WRITE DISK TRACK NUM. W/GP. MK.	WTGN	15170	11
	06634755842				
18940	DC 11,66444755802,,	WRITE DISK WITH GROUP MARK	WDGN	15181	11
	06444755802				

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18950	DC 11,43634755652,,	CHECK DISK TRACK NUM. W/GP. MK.	CTGN	15192	11
	M3634755652				
18960	DC 11,43444755612,,	CHECK DISK WITH GROUP MARK	COGN	15203	11
	M3444755612				
18970	DC 11,-42965344714,,	BRANCH OUT, LOAD IRI	BOLD	15214	11
	M296534471M				
18980	DC 11,-46625859061,,	FLOATING SQUARE ROOT SUB.	FSQR	15225	11
	M662585906J				
18990	DC 11,-46435662071,,	FLOATING COSINE SUB.	FCOS	15236	11
	M643566207J				
19000	DC 11,-46624955081,,	FLOATING SINE SUB.	FSIN	15247	11
	M662495508J				
19010	DC 11,-46416355091,,	FLOATING ARCTANGENT SUB.	FATN	15258	11
	M641635509J				
19020	DC 11,-46456763101,,	FLOATING EXP. BASE 10 SUB.	FEXT	15269	11
	M645676310J				
19030	DC 11,-46535647121,,	FLOATING LOG. BASE 10 SUB.	FLOG	15280	11
	M653564712J				
19040	DC 11,-46625962141,,	FLOATING SHIFT RIGHT SUB.	FSRS	15291	11
	M662596214J				
19050	DC 11,-46625362151,,	FLOATING SHIFT LEFT SUB.	FSLS	15302	11
	M662536215J				
19060	DC 11,-63465362161,,	TRANSMIT FLOATING SUB.	TFLS	15313	11
	O346536216J				
19070	DC 11,46414444010,,	FLOATING ADD	FADD	15324	11
	M6414444010				
19080	DC 11,46626442020,,	FLOATING SUBTRACT	FSUB	15335	11
	M6626442020				
19090	DC 11,46546453030,,	FLOATING MULTIPLY	FMUL	15346	11
	M6546453030				
19100	DC 11,46444965090,,	FLOATING DIVIDE	FOIV	15357	11
	M6444965090				
19110	DC 11,42634653070,,	BRANCH AND TRANSMIT FLOATING	BTFM	15368	11
	M2634653070				
19120	DC 11,62535955860,,	SELECT READ NUMERICALLY	SLRN	15379	11
	O2535955860				
19130	DC 11,-42634662171,,	BR. AND TRANS. FLOAT. SUB.	BTFM	15390	11
	M263466217J				
19140	DC 11,-44624143025,,	DEFINE SPECIAL ALPHA CONSTANT	DSAC	15401	11
	M462414302N				
19150	DC 11,-44565947015,,	DEFINE ORIGIN	DORG	15412	11
	M456594701N				
19160	XHEAD DC 11,-48454144055,,	HEAD	HEAD	15423	11
	M845414405N				
19170	DC 11,-62416545007,,	SAVE PRODUCT AREA	SAVE	15434	11
	O241654500P				
19180	DC 11,-59626359017,,	RESTORE PRODUCT AREA	RSTR	15445	11
	N962635901P				
19190	DC 11,42555659401,,	BRANCH NO OUTPUT RECORD MARK	BNOR	15456	11
	M2555659401				
19200	DC 11,42555945411,,	BRANCH NO END OF RECORD	BNRE	15467	11
	M2555945411				
19210	DC 11,42555443421,,	BRANCH NO MODE SHIFT	BNMC	15478	11
	M2555443421				
19220	DC 11,42554959441,,	BRANCH NO READ INPUT READY	BNIR	15489	11
	M2554959441				

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19230	DC 11,42435542461,,	BRANCH SIOC CHANNEL NOT BUSY	BCNB	15500	11
	M2435542461				
19240	DC 11,-62534144662,,	SELECT ADC AND INCREMENT	SLAD	15511	11
	O253414466K				
19250	DC 11,-59554943652,,	READ NUMERIC INPUT CHANNEL	RNIC	15522	11
	N955494365K				
19260	DC 11,-62414356422,,	SELECT ADDRESS AND CONTACT OPER.	SACO	15533	11
	O241435642K				
19270	DC 11,-62415662432,,	SEL. ADDRS. AND PROVIDE OUTPUT SIG.	SAOS	15544	11
	O241566243K				
19280	DC 11,-62536341612,,	SELECT TAS	SLTA	15555	11
	O253634161K				
19290	DC 11,-62534159622,,	SELECT ADC REGISTER	SLAR	15566	11
	O253415962K				
19300	DC 11,-62536343642,,	SELECT REAL-TIME CLOCK	SLTC	15577	11
	O253634364K				
19310	DC 11,-62534342672,,	SELECT CONTACT BLOCK	SLCB	15588	11
	O253434267K				
19320	DC 11,-62535445682,,	SELECT MANUAL ENTRY SWITCHES	SLME	15599	11
	O253544568K				
19330	DC 11,-62534943652,,	SELECT INPUT CHANNEL	SLIC	15610	11
	O253494365K				
19340	DC 11,-59414943752,,	READ ALPHA INPUT CHANNEL	RAIC	15621	11
	N941494375K				
19350	DC 11,-66555643852,,	WRITE NUMERIC OUTPUT CHANNEL	WNOC	15632	11
	O655564385K				
19360	DC 11,-66415643952,,	WRITE ALPHA OUTPUT CHANNEL	WAOC	15643	11
	O641564395K				
19370	DC 11,-43415353033,,	CALL IOCS OR EXEC PKG. ROUTINE	CALL	15654	11
	M341535303L				
19380	DC 11,-62454552043,,	IOCS SEEK DISK	SEEK	15665	11
	O245455204L				
19390	DC 11,-44576341453,,	DEFINE PAPER TAPE ALPHA	DPTA	15676	11
	M457634145L				
19400	DC 11,-44576355153,,	DEFINE PAPER TAPE NUMERIC	DPTN	15687	11
	M457635515L				
19410	DC 11,-44655343006,,	DEFINE VARIABLE LENGTH CONSTANT	DVLC	15698	11
	M4655343000				
19420	DC 11,-44544562085,,	DEFINE MESSAGE	DMES	15709	11
	M454456208N				
19430	DC 11,44455544008,,	DEFINE END	DEND	15720	11
	M4455544008				
19440	DC 11,60606060606,,	DUMMY OP CODE		15731	11
	O0606060606				
19450	DC 11,60606060606,,	DUMMY OP CODE		15742	11
	O0606060606				
19460	DC 11,60606060606,,	DUMMY OP CODE		15753	11
	O0606060606				
19470	DC 11,60606060606,,	DUMMY OP CODE		15764	11
	O0606060606				
19480	DC 11,60606060606,,	DUMMY OP CODE		15775	11
	O0606060606				
19490	DC 11,60606060606,,	DUMMY OP CODE		15786	11
	O0606060606				
19500	DC 11,60606060606,,	DUMMY OP CODE		15797	11
	O0606060606				

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19510	DC	11,60606060606,,	DUMMY OP CODE	15808		11	
		00606060606					
19520	DC	11,60606060606,,	DUMMY OP CODE	15819		11	
		00606060606					
19530	DC	11,60606060606,,	DUMMY OP CODE	15830		11	
		00606060606					
19540	DC	11,60606060606,,	DUMMY OP CODE	15841		11	
		00606060606					
19550	DC	11,60606060606,,	DUMMY OP CODE	15852		11	
		00606060606					
19560	DC	11,'		15863		11	
		-000000000'					
19570	FILE	34	FDCF, 00701	15864	34	15912	00701
19580		38	FDCF, 00702	15876	38	15912	00702
19590		TRA		15888	36	00000	00500
				15900	49	00000	00000
19600	FDCF	DDA	,0,A2DAD,A2SCT,INSTRN	15912		14	
			0J8800-54J0528				
19610		TCD	FILE	15864			
19620		DORG	INSTRN	10528			
19630	MACRO2	TFM	GOODB3+6,BTBL3	10528	16	10570	J0576
19640		TD	GOODB3+11,ZEPO+29	10540	25	10575	02329
19650		A	GOODB3+5,GOODB3+11	10552	21	10569	10575
19660	GOODB3	B	**+,10	10564	49	00000	000-0
19670	BTBL3	B	TRA,,, 0	10576	49	10654	00000
19680		DORG	*-1	10586			
19690		B	IOGET,,, +1	10586	49	10734	00000
19700		DORG	*-1	10596			
19710		B	PUT,,, +2	10596	49	10782	00000
19720		DORG	*-1	10606			
19730		B	PCALL,,, +3	10606	49	11470	00000
19740		DORG	*-1	10616			
19750		B	SEFK,,, +4	10616	49	10758	00000
19760		DORG	*-1	10626			
19770		B	DCARD,,, +5	10626	49	11070	00000
19780		DORG	*-1	10636			
19790		B	DDWDD,,, +6	10636	49	11258	00000
19800		DORG	*-1	10646			
19810		B	DDA,,, +7	10646	49	12222	00000
19820		DORG	*-3	10654			
19830	*		TRANSFER INSTRUCTION ROUTINE				
19840	TRA	TD	**+23,ADDCOW	10654	25	10677	02528
19850		TD	**+23,AJUST	10666	25	10689	02399
19860		AM	ADDCOW,,10	10678	11	02528	000-0
19870		TF	ADDRS,ADDCOW	10690	26	03295	02528
19880		AM	ADDCOW,41	10702	11	02528	-0041
19890		TFM	INPUT2+1,50, 10 11	10714	16	03037	000N-
19900		B7	MEXIT	10726	49	11018	
19910	IOGET	TFM	INPUT2+6,IOGT	10734	16	03042	-0566
19920		BTM	EVALAD,PUTSRJ, 4 11	10746	17	05076	10940
19930	SEEK	TFM	INPUT2+6,IOSK	10758	16	03042	-0554
19940		BTM	EVALAD,PUTSRJ, 4 11	10770	17	05076	10940
19950	PUT	TFM	INPUT2+6,IOPT	10782	16	03042	-0532
19960		BTM	EVALAD,**12,4 11	10794	17	05076	10800
19970		BTM	MACSHF,PUTSRJ	10806	17	11932	J0946

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19980	CM	INPUT+20,59,10		10818	14	02903	00009
19990	BNE	PUTSRJ		10830	47	10946	01200
20000	BTM	MACSHF,PUTSRJ		10842	17	11932	J0946
20010	CM	INPUT+20,42,10		10854	14	02903	000M2
20020	BNE	PUTSRJ		10866	47	10946	01200
20030	BTM	MACSHF,PUTSRJ		10878	17	11932	J0946
20040	CM	INPUT+20,43,10		10890	14	02903	000M3
20050	BNE	PUTSRJ		10902	47	10946	01200
20060	BTM	MACSHF,**20		10914	17	11932	J0934
20070	B7	PUTSRJ		10926	49	10946	
20080	TFM	INPUT2+6,IORBC		10934	16	03042	-0520
20090	PUTSRJ	TD	**+23,ADDCOW	10946	25	10969	02528
20100		TD	**+23,AJUST	10958	25	10981	02399
20110		AM	ADDCOW,,10	10970	11	02528	000-0
20120		TF	ADDRS,ADDCOW	10982	26	03295	02528
20130		AM	ADDCOW,23,10	10994	11	02528	000K3
20140		TFM	INPUT2+1,07,10	11006	16	03037	000-7
20150	MEXIT	BTM	CTEST,**12	11018	17	07708	J1030
20160		TFM	FFA,NCDCF2	11030	16	02629	J1054
20170		BTM	CF,LDLBL	11042	17	02592	-8686
20180	NCDCF2	DDA	,0,A2DAD,A3SCT,INSTRN	11054		14	
			0J8800-22J0528				
20190		DC	1,'	11068		1	
20200	DCARD	TD	INPUT2+6,ZEPO+28	11070	25	03042	02328
20210		TDM	INPUT2+5, 0,11	11082	15	03041	0000-
20220		A	INPUT2+6, INPUT2+6	11094	21	03042	03042
20230		TFM	INPUT2+1,05,10	11106	16	03037	000-5
20240		BTM	EVALAD, **12,4	11118	17	05076	11130
20250		TD	DCARD+19,BSW	11130	25	11089	08309
20260		TD	LDABSW,RLOC5W	11142	25	08308	08307
20270		TF	TEMPR,ADDRS	11154	26	02571	03295
20280		BTM	EVALAD,**12,5 11	11166	17	056P6	11170
20290		TF	ADDRS, TEMPR	11178	26	03295	02571
20300		BNF	MEXIT, DCARD+19	11190	44	11018	11089
20310		TDM	LDABSW,1,11	11202	15	08308	000J1
20320		AM	ADDCOW,1,10	11214	11	02528	000-1
20330		TF	ADDRS,ADDCOW	11226	26	03295	02528
20340		AM	ADDCOW,7,10	11238	11	02528	000-7
20350		B7	MEXIT	11250	49	11018	
20360	DDWDD	TDM	INPUT2+5,0,11	11258	15	03041	0000-
20370		TD	INPUT2+6,ZEPO+28	11270	25	03042	02328
20380		TFM	INPUT2+1,05,10	11282	16	03037	000-5
20390		BTM	EVALAD,**12,4	11294	17	05076	11306
20400		TD	DCARD+19,BSW	11306	25	11089	08309
20410		TD	LDABSW,RLOC5W	11318	25	08308	08307
20420		TF	TEMPR,ADDRS	11330	26	02571	03295
20430		BTM	EVALAD,**12,5 11	11342	17	056P6	1135M
20440		BTM	EVALAD,**12,5 11	11354	17	056P6	11360
20450		TF	ADDRS,TEMPR	11366	26	03295	02571
20460		BNF	MEXIT,DCARD+19	11378	44	11018	11089
20470		TDM	LDABSW,1,11	11390	15	08308	000J1
20480		AM	ADDCOW,1,10	11402	11	02528	000-1
20490		TF	ADDRS,ADDCOW	11414	26	03295	02528
20500		AM	ADDCOW,12,10	11426	11	02528	000J2
20510		BNF	**24,BSW	11438	44	11462	08309

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20520	SM	ADDCOW,5,10	11450	12	02528	000-5
20530	B7	MEXIT	11462	49	11018	
20540	PCALL	TR COLL-18,THINGS-20	11470	31	02421	02400
20550	BNR	++20,INPUT+20	11482	45	11502	02903
20560	B7	PCALL1	11494	49	11630	
20570	CM	INPUT+20,23,10	11502	14	02903	000K3
20580	BE	PCALL1	11514	46	11630	01200
20590	CM	INPUT+20,00,10	11526	14	02903	000-0
20600	BE	PCTR	11538	46	11610	01200
20610	TF	COLL,INPUT+20	11550	26	02439	02903
20620	CF	COLL-1	11562	33	02438	00000
20630	TR	COLL-17,COLL-15	11574	31	02422	02424
20640	CM	COLL-17,7,10	11586	14	02422	000-7
20650	BE	ER22	11598	46	11802	01200
20660	PCTR	TR INPUT+19,INPUT+21	11610	31	02902	02904
20670	B7	PCALL+12	11622	49	11482	
20680	PCALL1	CM COLL-17,06,10	11630	14	02422	000-6
20690	BE	++44	11642	46	11686	01200
20700	TDM	COLL,0	11654	15	02439	00000
20710	TR	COLL-17,COLL-15	11666	31	02422	02424
20720	B7	PCALL1	11678	49	11630	
20730	SF	COLL-13	11686	32	02426	00000
20740	TFM	PCC+11,CLTBL+10-18	11698	16	11757	J1867
20750	PCLP1	AM PCC+11,18,10	11710	11	11757	000J8
20760	CM	PCC+11,CLTBL+10+3*18	11722	14	11757	J1939
20770	BNL	ER22	11734	46	11802	01300
20780	PCC	C COLL-2,+-*	11746	24	02437	00000
20790	BNE	PCLP1	11758	47	11710	01200
20800	AM	PCC+11,5,10	11770	11	11757	000-5
20810	SF	PCC+11	11782	32	11757	00000
20820	B7	PCC+11,,6	11794	49	11757	
20830	ER22	TFM EVALER-1,27200	11802	16	07343	K7200
20840	DC	1,,*	11813		1	
20850	BT	EPRINT,EPRINT-1	11814	27	07604	07603
20860	BD	ERCOR, ERSTSW	11826	43	07468	02476
20870	TFM	INPUT2+4,06000	11838	16	03040	-6000
20880	TFM	CFFA,NCDCF2	11850	16	02629	J1054
20890	BTM	CFF,SNDTCD	11862	17	02592	-8710
20900	CLTBL	DAC 6,LINK ,,,	11875		6 x	2
20910	LINK	DSA CLLINK	11890		5 x	1
20920	DAC	6,LOAD ,,,	11890		J2014	
20930	LOAD	LOAD	11893		6 x	2
20940	DSA	CLLOAD	11908		5 x	1
20950	DAC	6,EXIT ,,,	11908		J2014	
20960	EXIT	EXIT	11911		6 x	2
20970	DSA	CALLEX	11926		5 x	1
20980	DS	5	11926		J2142	
20990	MACSHF	TR INPUT+19,INPUT+21	11931		5	
21000			11932	31	02902	02904

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SELECT OPERANDS

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20980	BNR	++20,INPUT+20	11944	45	11964	02903
20990	B7	MACSHF-1,,6	11956	49	1193J	
21000	CM	INPUT+20,23,10	11964	14	02903	000K3
21010	BE	MACSHF-1,,6	11976	46	1193J	01200
21020	C	CLERER+1,INPUT+20	11988	24	02697	02903
21030	BE	MACSHF	12000	46	11932	01200
21040	BB2		12012	42		
21050	CLLINK	DS ,++1	12014		0	
21060	CLLOAD	TD ++23,ADDCOW	12014	25	12037	02528
21070	TD	++23,AJUST	12026	25	12049	02399
21080	AM	ADDCOW,,10	12038	11	02528	000-0
21090	BTM	EVALAD,++12,5 11	12050	17	056P6	1206K
21100	BTM	EVALAD,++12,5 11	12062	17	056P6	1207M
21110	TF	ADDRS,ADDCOW	12074	26	03295	02528
21120	AM	ADDCOW,31,10	12086	11	02528	000L1
21130	BNF	++24,BSW	12098	44	12122	08309
21140	SM	ADDCOW,5,10	12110	12	02528	000-5
21150	TFM	INPUT2+1,05,10	12122	16	03037	000-5
21160	B7	MEXIT	12134	49	11018	
21170	CALLEX	TD ++23,ADDCOW	12142	25	12165	02528
21180	TD	++23,AJUST	12154	25	12177	02399
21190	AM	ADDCOW,00,10	12166	11	02528	000-0
21200	TF	ADDRS,ADDCOW	12178	26	03295	02528
21210	YFM	INPUT2+1,04,10	12190	16	03037	000-4
21220	AM	ADDCOW,6,10	12202	11	02528	000-6
21230	B7	MEXIT	12214	49	11018	
21240	DDA	BTM EVALAD,++12,4	12222	17	05076	12234
21250	SF	DDA	12234	32	12222	00000
21260	BD	++36,BSW	12246	43	12282	08309
21270	TD	LDABSW,RLOCSW	12258	25	08308	08307
21280	CF	DDA	12270	33	12222	00000
21290	TF	DDA+23,ADDRS	12282	26	12245	03295
21300	BTM	EVALAD, ++12, 5 11	12294	17	056P6	12300
21310	BTM	EVALAD, ++12, 5 11	12306	17	056P6	1231Q
21320	BTM	EVALAD, ++12, 5 11	12318	17	056P6	1233-
21330	BTM	EVALAD, ++12, 5 11	12330	17	056P6	1234K
21340	TFM	INPUT2+1,060,9 11	12342	16	03037	00-6-
21350	TF	ADDRS,DDA+23	12354	26	03295	12245
21360	BNF	DDAX,DDA	12366	44	12438	12222
21370	TD	++23,ADDCOW	12378	25	12401	02528
21380	TD	++23,AJUST	12390	25	12413	02399
21390	AM	ADDCOW,00,10	12402	11	02528	000-0
21400	TF	ADDRS,ADDCOW	12414	26	03295	02528
21410	AM	ADDCOW,13,10	12426	11	02528	000J3
21420	DDAX	TFM CFFA,NCDCF2	12438	16	02629	J1054
21430	B7	MEXIT	12450	49	11018	
21440	C62S	DC 2,62	12458		2	
21450	C66W	DC 2,66	12460		2	
21460	C41A	DC 2,41	12462		2	
21470	FM	34 FMDCF,00701	12464	34	12512	00701
21480	38	FMDCF,00702	12476	38	12512	00702
21490	TRA		12488	36	00000	00500
			12500	49	00000	00000

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21900	FMOCF	DOA ,0,A3DAD,A3SCT,INSTRN	12912	14	
21910		OJ8854-22J0528 TCD PH	12464		
21920	*				
21930	*	DEFINE MESSAGE			
21940	*				
21950		DORG INSTRN	10528		
21960	*	ANALYZE CONTROL CHARACTER, SUBROUTINE ANAL			
21970	ANAL	CM INPUT+24,4,10, 1ST CHECK IF RIGHT PAREN IS PRESENT	10528	14	02907 000-4
21980	BNE	ANAL1+12,,, NO LEFT PAREN, ERROR	10540	47	10600 01200
21990	TF	ANAL1+11,INPUT+22,,MOVE CHARACTER TO ANOTHER LOCATION	10552	26	10599 02905
21600	TR	INPUT+19,INPUT+23,, POSITION INPUT RECORD	10564	31	02902 02906
21610	CM	ANAL1+11,44,10, IS IT A D	10576	14	10599 000M4
21620	ANAL1	BNE ANAL2,,10, NOT A D, MAY BE GOOD	10588	47	10680 012-0
21630	TFM	EVALER-1,17400,, IT IS A D, ERROR	10600	16	07343 J7400
21640	DC	1,,*	10611		1
21650	CF	ANAL,,, RESET STRAY PAREN SWITCH	10612	33	10528 00000
21660	BT	EPRINT,EPRINT-1,, PRINT ERROR MESSAGE	10624	27	07604 07603
21670	BD	ERCOR, ERSTW	10636	43	07468 02476
21680	ANL14	CM DTR-1,DMESC,, BRANCH TO READ NEXT CHAR	10648	14	12029 J1188
21690	BE	DMSB1,,, SCANNING FOR ALPHA MODE	10660	46	11144 01200
21700	B	DMSNUM	10672	49	11248 00000
21710		DORG *-3	10680		
21720	ANAL2	CM ANAL1+11,41,10, CHECK TO SEE IF CHARACTER LFE BETWEEN A+P	10680	14	10599 000M1
21730	BL	ANAL1+12,,, NO IF BRANCH FROM HERE	10692	47	10600 01300
21740	CM	ANAL1+11,47,10, MAY BE CHECK FURTHER	10704	14	10599 000M7
21750	BL	ANL14,,, OKAY	10716	47	10648 01300
21760	CM	ANAL1+11,54,10, CHECK REST OF CHARACTERS SERIALLY	10728	14	10599 000M4
21770	BNE	ANAL3,,, NOT A MODE CHANGE	10740	47	10784 01200
21780	CM	DTR-1,DMESC,, MODE CHANGE SET UP BRANCH	10752	14	12029 J1188
21790	BE	DMSNUM,,, CHANGING FROM ALPHA TO NUMERIC	10764	46	11248 01200
21800	B	DMES2,,, CHANGING FROM NUMERIC TO ALFA	10776	49	11424 00000
21810		DORG *-3	10784		
21820	ANAL3	CM ANAL1+11,57,10, CHK FOR P	10784	14	10599 000M7
21830	BE	ANL14,,, LEAVE SUBROUTINE	10796	46	10648 01200
21840	CM	ANAL1+11,52,10, CHECK FOR R,S,,T	10808	14	10599 000M2
21850	BL	ANAL1+12,,, ERROR IF BRANCH	10820	47	10600 01300
21860	CM	ANAL1+11,63,10,	10832	14	10599 000M3
21870	BH	ANAL1+12,,, ERROR IF BRANCH	10844	46	10600 01100
21880	B	ANL14,,, OKAY, R,S, OR T	10856	49	10648 00000
21890	ANAL4	DS ,ANAL1+12	10600		0
21900	*	PHASE A DMES PROCESSOR			
21910	BTM	EVALAD,,+12,4, SCAN ADDRESS OPERAND	10868	17	05076 10880
21920	TF	DIGITS,CLERER+2,, CLEAR DIGIT COUNT	10880	26	02695 02698
21930	TFM	DTR-1,DMESC,, SET SWITCH TO HANDLE POSSIBLE ERROR	10892	16	12029 J1188
21940	BNR	**24,INPUT+20,,CHECK IF BREAKER A RM	10904	45	09028 02903
21950	B	DMSRM,,, BREAKER A RM, ERROR, INSERT NUM END MESSAGE	10916	49	11640 00000
21960	B	DMODE,,, INITIALIZE STARTING MODE SWITCH	10928	15	03342 00000
21970	TDM	SMODE,BSW,, PROGRAMMER SPECIFIES ADDRESS	10940	44	10964 08309
21980	TF	ADDRS,ADDCOW,, NO, MOVE LOCATION COUNTER INTO ADDRESS LOC	10952	26	03295 02528
21990	DMES1	TFM MODE1+6,DMSM1,,, INITIALIZE BRANCH IN SUBROUTINE MODE	10964	16	11970 J1212
22000	BTM	MODE,,+12,, FIND MODE	10976	17	11916 J0988
22010	CM	INPUT+20,41,10, SEE IF ALPHA MODE	10988	14	02903 000M1
22020	BE	DMSALF,,, STARTING MODE ALPHA IF BRANCH.	11000	46	11048 01200

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22030	TFM	EVALER-1,17300,,ILLEGAL STARTING MODE CHARACTER,	11012	16	07343 J7300
22040	DC	1,,*	11023		1
22050	BT	EPRINT,EPRINT-1,,PRINT ERROR MESSAGE	11024	27	07604 07603
22060	BD	ERCOR, ERSTW	11036	43	07468 02476
22070	DMSALF	BNF DMESA,BSW,, SEE OF PROGRAMMER SPEC ADDRESS	11048	44	11120 08309
22080	TD	**23,ADDCOW,, NO, ADJUST ADDRESS + LOC COUNTER	11060	25	11083 02528
22090	TD	**23,JST8L	11072	25	11095 02459
22100	AM	ADDCOW,,10	11084	11	02528 000-0
22110	TF	ADDRS,ADDCOW,, SET ADDRESS OF MESSAGE TO 2ND DIGIT	11096	26	03295 02528
22120	SM	ADDCOW,2,10, SET LOC. COUNTER TO LOC BEFORE MESSAGE	11108	12	02528 000-2
22130	DMESA	TFM MODE1+6,DMSB1,,, SET-UP BRANCH INST IN SUBROUTINE MODE	11120	16	11970 J1144
22140	BTM	MODE,MODE,,SEARCH FOR COMMA	11132	17	11916 J1916
22150	DMSB1	BTM DTR,DMESC,, SCAN MESSAGE OPERAND	11144	17	12030 J1188
22160	AM	DIGITS,4,10, LEFT PAREN FOUND, UPDATE DIGIT COUNT BY 4	11156	11	02695 000-4
22170	BNF	ANAL,ANAL,, STRAY PAREN NOT FOUND IF BRANCH	11168	44	10528 10528
22180	B	ANAL4	11180	49	10600 00000
22190		DORG *-3	11188		
22200	DMESC	AM DIGITS,2,10, UPDATE DIGIT COUNT BY 2	11200	11	02695 000-2
22210	B	DMSB1	11200	49	11144 00000
22220	DMSM1	TDM SMODE,1,10, SET SWITCH FOR ALPHA STARTING MODE	11212	15	03342 000-1
22230	BNF	DMSNUM,BSW,, CHECK IF PROG SPECIFIED ADDRESS	11224	44	11248 08309
22240	AM	ADDRS,1,10, PROCESSOR ASSIGNED, INCREASE ADDRESS	11236	11	03295 000-1
22250	DMSNUM	BTM DTR,DMES11,,SCAN MESSAGE OPERAND	11248	17	12030 J1304
22260	AM	DIGITS,2,10, LEFT PAREN FOUND	11260	11	02695 000-2
22270	BNF	ANAL,ANAL,, STRAY PAREN NOT FOUND IF BRANCH	11272	44	10528 10528
22280	B	ANAL4	11284	49	10600 00000
22290		DORG *-3	11292		
22300	DC	1,,*	11291		1
22310	BT	EPRINT, EPRINT-1	11292	27	07604 07603
22320	DMES11	CM INPUT+20,79,,CHECK TO SEE IF CHAR NUMERIC	11304	14	02903 -0079
22330	BH	DMSER2,,, NOT NUMERIC, ERROR	11316	46	11850 01100
22340	CM	INPUT+20,69,10	11328	14	02903 00009
22350	BH	DMS12,,,NUMERIC IF BRANCH	11340	46	11400 01100
22360	CM	INPUT+20,50,10, CHECK IF -OTHRU-9	11352	14	02903 000M0
22370	BL	DMSER2,,, NON-NUMERIC IF BRANCH	11364	47	11850 01300
22380	CM	INPUT+20,59,10	11376	14	02903 000M9
22390	BH	DMSER2,,, NOT NUMERIC IF BRANCH	11388	46	11850 01100
22400	DMS12	AM DIGITS,1,10, UPDATE DIGIT COUNT BY ONE	11400	11	02695 000-1
22410	B	DMSNUM	11412	49	11248 00000
22420	*	CHECK TO SEE IF ALPHA WILL START IN EVEN LOCATION			
22430	*	LOCATION DMSV CONTAINS LOC OF LAST DIGIT STORED.			
22440	DMES2	TF DMSV,DIGITS,, INITIALIZE IT WITH DIGIT COUNT.	11424	26	03262 02695
22450	BNF	DMES21,BSW,, SEE OF PROGRAMMER SPEC ADDRESS	11436	44	11472 08309
22460	A	DMSV,ADDCOW,, NO, ADD LOC COUNTER	11448	21	03262 02528
22470	B	DMES22	11460	49	11520 00000
22480	DMES21	A DMSV,ADDRS,, ADD PROG SPEC ADDRESS	11472	21	03262 03295
22490	SM	DMSV,1,10, ADJUST FOR NUMERIC STARTING MODE	11484	12	03262 000-1
22500	BD	**24,SMODE,, CHECK STARTING MODE	11496	43	11520 03342
22510	SM	DMSV,1,10, ADJUST FOR ALPHA STARTING MODE	11508	12	03262 000-1
22520	DMES22	TD **23,DMSV	11520	25	11543 03262
22530	TD	DMSEND-1,EVODD,,,	11532	25	11615 02449
22540	BD	DMSB1,DMSEND-1,,WILL START IN EVEN	11544	43	11144 11615
22550	TFM	EVALER-1,17600,, ODD ERROR, PRINT ERROR MESSAGE	11556	16	07343 J7600
22560	DC	1,,*	11567		1

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22570	BT	EPRINT,EPRINT-1	11568	27	07604	07603
22580	BD	ERCOR, ERSTSW	11580	43	07468	02476
22590	AM	DIGITS,1,10,ALLOW FOR -	11592	11	02695	000-1
22600	B	DMSB1	11604	49	11144	00000
22610	DMSEND	CM DIGITS,,9, SEE IF NO DIGITS ACCUMULATED	11616	14	02695	00-00
22620	BH	**36,, NO ZERO, OKAY	11628	46	11664	01100
22630	DMSRM	AM DIGITS,100,9	11640	11	02695	00J00
22640	B	DMSER1,, ERROR IF BRANCH, NO DIGITS	11652	49	11800	00000
22650	TFM	INPUT2+1, 070,9 11	11664	16	03037	00-7-
22660	TF	INPUT2+0, DIGITS	11676	26	03042	02695
22670	BNF	**24, BSW	11688	44	11712	08309
22680	A	ADDCOW,DIGITS,, UPDATE LOCATION COUNTER BY MESSAGE SIZE	11700	21	02528	02695
22690	BTM	CTEST,**12	11712	17	07708	J1724
22700	TFM	CPFA,NCDCF	11724	16	02629	J1748
22710	BTM	CPFLDLBL	11736	17	02592	-8686
22720	NCDCF	DDA ,0,A2DAD,A4SCT,INSTRN	11748			
		OJ8800-23J0528				
22730	DC	1,,'	11762			1
22740	TFM	DIGITS,100,9, SET DIGIT COUNT TO 100	11764	16	02695	00J00
22750	TFM	EVALER-1,80000,, ER 8 MESSAGE, DMES TOO LONG	11776	16	07343	00000
22760	DC	1,,'	11787			1
22770	B	**24	11788	49	11812	00000
22780	DMSER1	TFM EVALER-1,90000,, ER9 MESSAGE, NO DMES OPERAND	11800	16	07343	R0000
22790	DC	1,,'	11811			1
22800	BT	EPRINT,EPRINT-1	11812	27	07604	07603
22810	BD	ERCOR, ERSTSW	11824	43	07468	02476
22820	B	DMSRM+24,, CONTINUE	11836	49	11664	00000
22830	NMDAL	DC 2,0	11849			2
22840	DMSER2	TFM EVALER-1,17500,, ALPHA IN NUMERIC FIELD	11850	16	07343	J7500
22850	DC	1,,'	11861			1
22860	BT	EPRINT,EPRINT-1,, PRINT ERROR MESSAGE	11862	27	07604	07603
22870	BD	ERCOR, ERSTSW	11874	43	07468	02476
22880	AM	DIGITS,2,10, UPDATE DIGIT COUNT BY 2 FOR END OF MESS	11886	11	02695	000-2
22890	B	DMSNUM	11898	49	11248	00000
22900	DC	5,0	11914			5
22910	MODE	TR INPUT+19,INPUT+21,, MOVE INPUT RECORD LEFT 1 CHAR	11916	31	02902	02904
22920	BNR	**24,INPUT+20,,NOT BLANK, CHECK FOR RM	11928	45	11952	02903
22930	B	DMSRM,,	11940	49	11640	00000
22940	CM	INPUT+20,23,10, SEARCH FIELD, CHECK FOR COMMA	11952	14	02903	000K3
22950	MODE1	BE ,, COMMA FOUND, BRANCH	11964	46	00000	01200
22960	CM	INPUT+20,,10, COMMA NOT FOUND, CHECK FOR BLANK	11976	14	02903	000-0
22970	BE	MODE,, , BLANK, CHECK NEXT CHARACTER	11988	46	11916	01200
22980	TF	**18,MODE-1,, ALPHA CHAR IN FIELD, RETURN, OR CHECK	12000	26	12018	11915
22990	B	,, , NEXT CHAR. ACCORDING TO BRANCH	12012	49	00000	00000
23000	*	SUBROUTINE TO SHIFT ONE CHARACTER TO THE LEFT IN INPUT BUFFER				
23010	DS	5	12028			5
23020	DTR	TR INPUT+19,INPUT+21,, MOVE OPERAND LEFT 1 CHAR + SEARCH	12030	31	02902	02904
23030	CM	DIGITS,100,9, CHECK DIGIT COUNT	12042	14	02695	00J00
23040	BH	DMSER1-36,, BRANCH TO ERROR ROUTINE	12054	46	11764	01100
23050	BNR	**20,INPUT+20,, FOR RM	12066	45	12086	02903

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23060	B	DMSEND,, RECORD MARK FOUND, SCAN FINISHED	12078	49	11616	00000
23070	DORG	-3	12086			
23080	CM	INPUT+20,4,10, CHECK FOR STRAY RT PAREN	12086	14	02903	000-4
23090	BNE	**56,, NOT A STRAY PAREN IF BRANCH	12098	47	12154	01200
23100	SF	ANAL,, SET SWITCH FOR STRAY PAREN FOUND	12110	32	10528	00000
23110	CM	DTR-1,DMESC	12122	14	12029	J1188
23120	BE	DMSB1+12	12134	46	11156	01200
23130	B	DMSNUM+12,, NUM	12146	49	11260	00000
23140	DORG	-3	12154			
23150	CM	INPUT+20,24,10, CHK FOR LEFT PAREN	12154	14	02903	000K4
23160	BNE	**24,,NOT A LEFT PAREN	12166	47	12190	01200
23170	BB	,, , LEFT PAREN FOUND	12178	42	00000	00000
23180	TF	**18,DTR-1,, NOT A I,	12190	26	12208	12029
23190	B	,, , RETURN	12202	49	00000	00000
23200	*					
23210	*					
23220	*	DEFINE VARIABLE LENGTH ADDRESS CONSTANT				
23230	*					
23240	DVLC	BTM EVALAD, **12,4	12214	17	05076	12226
23250	TD	LOADBSW,RLOCSW	12226	25	08308	08307
23260	TF	DVADB+11, ADDR5	12238	26	12589	03295
23270	CF	DVSW1	12250	33	12286	00000
23280	BNF	DVLC2, BSW	12262	44	12298	08309
23290	TOM	LOADBSW,1,11	12274	15	08308	0000J
23300	DVASGN	SF DVSW1	12286	32	12286	00000
23310	DVLC2	BTM EVALAD, **12,5	12298	17	056P6	12310
23320	TF	DVCKL, ADDR5	12310	26	12297	03295
23330	BNF	DVLP, DVSW1	12322	44	12394	12286
23340	TF	DVADB+11, ADDCOW,, ADDR IS RT.-MOST POS OF 1ST CON.	12334	26	12589	02528
23350	AM	DVADB+11, 50	12346	11	12589	-0050
23360	SM	ADDR5, 50	12358	12	03295	-0050
23370	BNN	**24	12370	46	12394	01300
23380	A	DVADB+11, ADDR5	12382	21	12589	03295
23390	DVLP	BNR **48, INPUT+20	12394	45	12442	02903
23400	TFM	EVALER-1, 90000,, ER 9, CONSTANT NOT SPECIFIED	12406	16	07343	R0000
23410	DC	1,,'	12417			1
23420	BT	EPRINT, EPRINT-1	12418	27	07604	07603
23430	BD	ERCOR, ERSTSW	12430	43	07468	02476
23440	BTM	EVALAD, **12, 5 11	12442	17	056P6	1245M
23450	BNR	**20, INPUT+20	12454	45	12474	02903
23460	BT	DVEND	12466	49	12506	
23470	BTM	EVALAD, **12,5	12474	17	056P6	12486
23480	A	DVCKL, ADDR5	12486	21	12297	03295
23490	BT	DVLP	12498	49	12394	
23500	DVEND	CM DVCKL, 00050	12506	14	12297	-0050
23510	BNF	**60	12518	47	12578	01100
23520	TFM	EVALER-1, 80000,, ER8, TOTAL LENGTH TOO BIG	12530	16	07343	00000
23530	DC	1,,'	12541			1
23540	BT	EPRINT, EPRINT-1	12542	27	07604	07603
23550	BD	ERCOR, ERSTSW	12554	43	07468	02476
23560	TFM	DVCKL, 50	12566	16	12297	-0050
23570	DVADB	TFM ADDR5, 00000	12578	16	03295	-0000
23580	BNF	**24, DVSW1	12590	44	12614	12286
23590	A	ADDCOW, DVCKL	12602	21	02528	12297

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23600	TDM	INPUT2, 8	12614	15	03036	00008
23610	TFM	CFFA,NCDCF	12626	16	02629	J1748
23620	BTM	CFF,ACD3-32	12638	17	02592	J2300
23630	DVCKL	DS , DVASGN+11	12297		0	
23640	DVSM1	DS , DVASGN	12286		0	
23650	F2	34 F2DCF,00701	12650	34	12758	00701
23660		38 F2DCF,00702	12662	38	12758	00702
23670	TR	OUTAR-1, CLERER+3,2	12674	31	J0528	02699
23680	AM	+12+6,30,10	12686	11	12680	00000
23690	SM	+23,1,10	12698	12	12721	000-1
23700	CM	CLERER+1, 34,10	12710	14	02697	000L4
23710	BL	+48	12722	47	12674	01300
23720	TRA		12734	36	00000	00500
			12746	49	00000	00000
			12758		14	
23730	F2DCF	DDA ,0,A40AD,A4SCT,INSTRN				
		OJ8876-23J0528				
23740	TCD	F2	12650			
23750	*					
23760	*	SYMBOL TABLE OUTPUT PHASE				
23770	*					
23780		DDRG INSTRN	10528			
23790	OUTAR	DAS 80	10529		80 X	2
23800		DAC 1, *	10689		1 X	2
23810	STIT1	DAS 32	10691		32 X	2
23820		DAC 12,SYMBOL TABLE	10755		12 X	2
		SYMBOL TABLE				
23830		DAS 36	10779		36 X	2
23840	STIT2	DAS 32	10851		32 X	2
23850		DAC 09, BLOCK 01	10915		9 X	2
		BLOCK 01				
23860		DAS 39	10933		39 X	2
23870	OUTCL	DAS 80	11011		80 X	2
23880		DAC 1, *	11171		1 X	2
23890	ALZR	DAC 5,00000	11173		5 X	2
		00000 *				
23900		DAS 1	11183		1 X	2
23910	NADD	DS 5	11188		5	
23920	LNCT	DS 2	11190		2	
23930	*					
23940	*	EVALUATE ADDRESS OF DEND				
23950	*					
23960	DEND	TFM INPUT2+1,30,10 11	11192	16	03037	000L-
23970	BTM	EVALLAD,+12,4	11204	17	05076	11216
23980	TD	INPUT2+6, ZEP0+29	11216	25	03042	02329
23990	TD	INPUT2+5, ZEP0+28	11228	25	03041	02328
24000	BD	+24,ZEP0+29,,	11240	43	11264	02329
24010	BTM	OUTPUT, CSTAT	11252	17	09958	J1288
24020	TFM	CFFA,NCDCF1	11264	16	026 9	-7588
24030	BTM	CFF,SNDCD	11276	17	02 92	-8710
24040	CSTAT	BNF +24,2PSSW	11288	44	11312	02477
24050	BTM	2PSOUT, +12	11300	17	10250	J1312
24060	CM	SBDUT, 00,10	11312	14	02643	000-0
24070	BE	CALLA3	11324	46	11396	01200

CHECK FOR TCD

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24080	TD	DGSV, LOSYMB+1	11336	25	03343	19998
24090	TD	LOSYMB+1, SPSGM	11348	25	19998	02560
24100	*	WRITE DISK-WLRC-OUTPUT PARTIAL BLOCK				
24110	TFM	IORT,+23	11360	16	00565	J1383
24120	B	IORBC,SDEF1,7	11372	49	00520	J0411
24130	TD	LOSYMB+1, DGSV	11384	25	19998	03343
24140	CALLA3	RCTY	11396	34	00000	00102
24150	A3STR	TFM A3BD+11,1STAT-1	11408	16	11431	-2558
24160	A3BD	BD +44,-	11420	43	11464	00000
24170	TDM	A3BD+11,,6	11432	15	1143J	00000
24180	DC	1,*,*	11443		1	
24190	SM	A3BD+11,1,10	11444	12	11431	000-1
24200	B7	A3BD	11456	49	11420	
24210	TD	+23,HIADD	11464	25	11487	02518
24220	TD	+23,AJUST	11476	25	11499	02399
24230	AM	HIADD,00,10	11488	11	02518	000-0
24240	TD	+23,PICKUP	11500	25	11523	02528
24250	TD	+23,AJUST	11512	25	11535	02399
24260	AM	PICKUP,,10	11524	11	02528	000-0
24270	BNF	+20,1STAT-30	11536	44	11556	02529
24280	B7	+20	11548	49	11568	
24290	TF	MDMAD,HIADD	11556	26	00415	02518
24300	MACRIN	BNF +68,KILSUB	11568	44	11636	02484
24310	CM	A3BD+11,1STAT-30	11580	14	11431	-2529
24320	BNL	+44	11592	46	11636	01300
24330	TD	A3BD+11,A3BD+23,6	11604	25	1143J	11443
24340	SM	A3BD+11,1,10	11616	12	11431	000-1
24350	B7	+48	11628	49	11580	
24360	BD	ASTOP,ASTSW	11636	43	12984	10521
24370	BNF	+84,2PSSW	11648	44	11732	02477
24380	BNF	+36,PTINSW	11660	44	11696	02475
24390	RCTY		11672	34	00000	00102
24400	WATY	PT2MES	11684	39	13029	00100
24410	BNF	+36,CDINSW	11696	44	11732	02474
24420	RCTY		11708	34	00000	00102
24430	WATY	CD2MES	11720	39	13107	00100
24440	BD	STBEGN,STPCSW	11732	43	11756	02470
24450	BNF	CALL81,STTYSW	11744	44	12804	02471
24460	STBEGN	ST1,STPCSW	11756	44	11792	02470
24470	WACD	STIT1,,,	11768	39	10691	00400
24480	WACD	OUTCL	11780	39	11011	00400
24490	ST1	BNF ST2,STTYSW	11792	44	11876	02471
24500	TFM	STIT1+2+44,,,	11804	16	10779	-0000
24510	DAC	1,*,*	11815		1 X	2
24520	RCTY		11816	34	00000	00102
24530	RCTY		11828	34	00000	00102
24540	WATY	STIT1	11840	39	10691	00100
24550	RCTY		11852	34	00000	00102
24560	RCTY		11864	34	00000	00102
24570	ST2	CM SBDUT,00,10	11876	14	02643	000-0
24580	BE	OSYMB-20,,,	11888	46	12316	01200
24590	TFM	SBCNT,00,10,	11900	16	02671	000-0
24600	TF	B2DCF+9,B1DCF+5	11912	26	10465	10449
24610	STLOOP	AM SBCNT,1,10	11924	11	02671	000-1

PUNCH TITLE

OUTPUT BLOCK NO. IF MORE THAN ONE EXISTS

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24620	TD	STIT2+40*2,SBCNT	11936	25	10931	02671	
24630	TD	STIT2+39*2,SBCNT-1	11948	25	10929	02670	
24640	BNF	ST3,STPCSW	11960	44	12020	02470	
24650	WACD	OUTCL	11972	39	11011	00400	
24660	WACD	OUTCL	11984	39	11011	00400	
24670	WACD	STIT2	11996	39	10851	00400	
24680	WACD	OUTCL	12008	39	11011	00400	
24690	ST3	BNF	CRLO,STTYSW	12020	44	12116	02471
24700	RCTY		12032	34	00000	00102	
24710	RCTY		12044	34	00000	00102	
24720	TFM	STIT2+41*2	12056	16	10933	-0000	
24730	DAC	1,'',*	12067		I X	2	
24740	WATY	STIT2	12068	39	10851	00100	
24750	RCTY		12080	34	00000	00102	
24760	RCTY		12092	34	00000	00102	
24770	TFM	STIT2+41*2,00,10	12104	16	10933	000-0	
24780	CRLD	AM	B2DCF+5,SPBL	12116	11	10465	-0040
24790	C	SBCNT,SBOU	12128	24	02671	02643	
24800	BH	FLOAD	12140	46	12244	01100	
24810	TD	DGSV,LOSYMB+1	12152	25	03343	19998	
24820	TD	LOSYMB+1,SPSGM	12164	25	19998	02560	
24830	READ	DISK-WLRC-READ SYMBOL BLOCK					
24840	TFM	IOGT,++23	12176	16	00565	J2199	
24850	B	IOGT,SDEF2,7	12188	49	00566	J0419	
24860	TFM	LIMITS,LBLIM	12200	16	03283	K0009	
24870	TFM	LIMITS-5,MAXLIM	12212	16	03278	J5997	
24880	TD	LOSYMB+1,DGSV	12224	25	19998	03343	
24890	B7	OSYMB-20	12236	49	12316		
24900	FLOAD	TD	DGSV,LOSYMB+1	12244	25	03343	19998
24910	TD	LOSYMB+1,SPSGM	12256	25	19998	02560	
24920	READ	DISK-WLRC-PARTIAL BLOCK					
24930	TFM	IOGT,++23	12268	16	00565	J2291	
24940	B	IOGT,SDEF1,7	12280	49	00566	J0411	
24950	TR	LIMITS-9,PRTLIM-4	12292	31	03274	02498	
24960	TD	LOSYMB+1,DGSV	12304	25	19998	03343	
24970	AM	LIMITS-5,17,10	12316	11	03278	000J7	
24980	B7	ST5	12328	49	12732		
24990	OSYMB	TR	OUTAR-1,OUTCL-1	12336	31	10528	11010
25000	TFM	LNCT,05,10	12348	16	11190	000-5	
25010	TFM	STLP+6,OUTAR+5*2	12360	16	12378	J0539	
25020	STLP	TF	+-*,LIMITS-5,11	12372	26	00000	03270
25030	AM	STLP+6,14,10	12384	11	12378	000J4	
25040	AM	LIMITS-5,5,10	12396	11	03278	000-5	
25050	TF	NADD,LIMITS-5,11	12408	26	11188	03270	
25060	TD	ALZR+8,NADD	12420	25	11181	11188	
25070	TD	ALZR+6,NADD-1	12432	25	11177	11186	
25080	TD	ALZR+4,NADD-2	12444	25	11175	11186	
25090	TD	ALZR+2,NADD-3	12456	25	11175	11186	
25100	TD	ALZR+0,NADD-4	12468	25	11173	11184	
25110	TFM	ALZR+10,00,10	12480	16	11183	000-0	
25120	BNF	++*8,NADD	12492	44	12540	11188	
25130	TFM	ALZR+10,59,10	12504	16	11183	000N9	
25140	BD	++*24,RELSW	12516	43	12540	02478	
25150	TFM	ALZR+10,20,10	12528	16	11183	000K0	
25160	CF	ALZR+9	12540	33	11182	00000	

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25170	CF	ALZR+8	12552	33	11181	00000	
25180	CF	ALZR	12564	33	11173	00000	
25190	TF	STLP+6,ALZR+10,6	12576	26	12370	11183	
25200	AM	STLP+6,18,10	12588	11	12378	000J8	
25210	AM	LIMITS-5,12,10	12600	11	03278	000J2	
25220	C	LIMITS-5,LIMITS	12612	24	03278	03283	
25230	BNL	++*36	12624	46	12660	01300	
25240	SM	LNCT,1,10	12636	12	11190	000-1	
25250	BP	STLP	12648	46	12372	01100	
25260	BNF	ST4,STPCSW	12660	44	12696	02470	
25270	TFM	IOGT,++23	12672	16	00565	J2695	
25280	B	IOGT,OUTAD-4,7	12684	49	00532	J3020	
25290	ST4	BNF	ST5,STTYSW	12696	44	12732	02471
25300	WATY	OUTAR	12708	39	10529	00100	
25310	RCTY		12720	34	00000	00102	
25320	ST5	C	LIMITS-5,LIMITS	12732	24	03278	03283
25330	BL	OSYMB	12744	47	12336	01300	
25340	CM	SBOU,00,10	12756	14	02643	000-0	
25350	BE	CALLB1	12768	46	12804	01200	
25360	C	SBCNT,SBOU	12780	24	02671	02643	
25370	BNH	STLOP	12792	47	11924	01100	
25380	CALLB1	BNF	++*60,2PSSW	12804	44	12864	02477
25390	BNF	++*8,PTINSW	12816	44	12864	02475	
25400	WATY	2STMES	12828	39	13171	00100	
25410	RCTY		12840	34	00000	00102	
25420	H		12852	48	00000	00000	
25430	BNF	++*96,STPCSW	12864	44	12960	02470	
25440	BNF	++*84,LSCDSW	12876	44	12960	02479	
25450	WACD	OUTCL	12888	39	11011	00400	
25460	WACD	OUTCL	12900	39	11011	00400	
25470	WACD	OUTCL	12912	39	11011	00400	
25480	NOP	OUTCL,,,CHNGE TO WACD TO PUNCH 1 MORE BLNK LN AFTR SYM TABLE	12924	41	11011	00000	
25490	NOP	OUTCL,,,CHNGE TO WACD TO PUNCH 1 MORE BLNK LN AFTR SYM TABLE	12936	41	11011	00000	
25500	NOP	OUTCL,,,CHNGE TO WACD TO PUNCH 1 MORE BLNK LN AFTR SYM TABLE	12948	41	11011	00000	
25510	TFM	CFFA,CBIDCF	12960	16	02629	J3294	
25520	BTM	CFF,4170	12972	17	02592	-4170	
25530	ASTOP	RCTY	12984	34	00000	00102	
25540	WATY	ASMS	12996	39	13219	00100	
25550	B	MONCAL,,, CALL EXIT	13008	49	00796	00000	
25560	OUTAD	DSA	OUTAR	13024		5 X 1	
25570	DC	3,10'	13024		J0529		
	JO'		13027		3		
25580	PT2MES	DAC	39,RETHREAD SOURCE PAPER TAPE FOR PASS 2.'	13029		39 X 2	
			RETHREAD SOURCE PAPER TAPE FOR PASS 2.'				
25590	CD2MES	DAC	32,RELOAD SOURCE CARDS FOR PASS 2.'	13107		32 X 2	
			RELOAD SOURCE CARDS FOR PASS 2.'				
25600	2STMES	DAC	24,PRESS START WHEN READY.'	13171		24 X 2	
			PRESS START WHEN READY.'				
25610	ASMS	DAC	38,DISC AREA TOO SMALL. ASSEMBLY DELETED'	13219		38 X 2	
			DISC AREA TOO SMALL. ASSEMBLY DELETED'				
25620	CBIDCF	DDA	0,0,BIDAD,BISCT,SBOU+1	13294		14	
			OJ0969-20-2644				
25630	DC	1,1'	13308		1		

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25640 F3 34 A50CF,00701
 25650 38 A50CF,00702
 25660 TRA
 25670 A50CF DDA ,O,ASDAD,ASSCT,INSTRN
 OJ8737-29J0528
 25680 TCD F3
 25690 DEND START

13310 34 13358 00701
 13322 38 13358 00702
 13334 36 00000 00900
 13346 49 00000 00000
 13358 14
 13310
 10522

1PTSPB	01500	FF1DCF	11436	PT2MES	13029	B2SCT	00052	C20P3	13749
2PRTID	20000	GOODB2	05180	PTINSW	02475	B3DAD	19000	C20P4	13736
2PSOUT	10250	GOODB3	10564	PUTSRJ	10946	B3MAD	09100	C20P	13592
2PTSPB	00600	HEADER	05388	RETURN	06264	B3SCT	00069	C20	15441
25TMES	13171	INCODE	02491	RLOCMS	08307	B4DAD	19069	C21P	13768
3ALPHO	03395	INPUTZ	03036	RSYMSW	08306	B4SCT	00053	C21	15477
A3STRT	11408	INSTRN	10528	2PASS	10154	B5DAD	19122	C22P	13788
ADDCOW	02528	INTRSW	02483	2PBUF	10334	B5SCT	00029	C22	15501
ALFLPI	04656	INTSAV	15662	2PRE	10322	B6DAD	19151	C23P	13808
BCMSPC	06044	IOADDR	02636	2PSSW	02477	B6SCT	00029	C23	15529
CA50CF	13080	IOCSAD	19783	2PTR	10214	BBACK	06472	C24P	13864
CALLA2	13972	KILSUB	02484	2SECT	10098	BETA	02492	C24	15539
CALLA3	11396	LDABSW	08308	2S	10134	BI	05316	C25P	13932
CALLB1	12804	LDOSCY	09198	5CHAR	06834	BNI	05316	C25	15557
CALLEX	12142	LIMITS	03283	6CHAR	06866	BOMK	05304	C26P	13952
CARDIN	02664	LOPOUT	03323	A1C1	10814	BP20K	00005	C26	15567
CB1DCF	13294	LOSymb	19997	A1DAD	18600	B	13928	C2P1	12796
CD2MES	13107	LSCDSW	02479	A1DCF	15724	BSAV	08662	C2P2	12828
CDINSW	02474	LSPRSW	02481	A1SCT	00137	BSBF	08656	C2P	12752
CFDFEF	02623	LSTYSW	02480	A2DAD	18800	BSCYC	08404	C2	14871
CHVALD	12008	MACRIN	11568	A2SCT	00054	BSENT	08685	C3P1	12916
CLERER	02696	MACRO2	10528	A3D	11420	BSHI	08632	C3P2	12948
CLLINK	12014	MACSHF	11932	A3DAD	18854	BSNEQ	08600	C3P3	12984
CLLOAD	12014	MAXLIM	15997	A3DCF	11500	BS	08392	C3P	12872
COMMER	06056	MCADCF	15630	A3SCT	00022	BSW	08309	C3	14899
COMSPC	05900	MCCALL	11476	A4DAD	18876	BTBL2	05192	C41A	12462
DIGITS	02695	MCCALL	11476	A4SCT	00023	BTBL3	10576	C4P	13052
DIMDAD	04800	MOCTOC	16023	A5DAD	18737	BTBL	05054	C4	14929
DIMDCF	14832	MOEXEC	00426	A5DCF	13358	C10P	13232	C5P	13072
DIMSCT	00001	MOIDNO	16039	AS5CT	00029	C10	15075	C5	14951
OMES11	11304	MONAME	16035	ADC	05292	C11AP	13272	C62S	12458
OMES21	11472	MONCAL	00796	ADDRS	03295	C11A	15141	C66W	12460
OMES22	11520	MONDIS	16044	AJUST	02399	C11P	13252	C6P	13092
OMESCL	11412	MOSBNO	16043	ALFOP	04712	C11	15107	C6	14971
OMSAF	11048	MOSDAD	19663	ALFOP	04612	C12P	13292	C70	15621
OMSEND	11616	MSTADAD	18934	ALPHA	02682	C12	15175	C7P	13112
OMSER1	11800	NCDCF1	07588	ALZR	11173	C13P	13312	C7	15011
OMSER2	11850	NCDCF2	11054	ANAL1	10588	C13	15195	C8P	13132
OMSMN1	11212	NOSINE	12204	ANAL2	10680	C14P	13368	C8	15043
OMSNUM	11248	OBJCRE	02496	ANAL3	10784	C14	15225	C9P	13152
DOBOMK	10804	OPLCTB	04908	ANAL4	10600	C15P	13424	C9	15065
DOOISK	11332	OT2DCF	10492	ANAL	10528	C15	15265	CCN2	13308
DOINST	10632	OUTDCF	10476	ANL14	10648	C16P	13468	CCN3	13572
DOLLAR	06584	OUTDF1	10427	AORS	06148	C16	15307	CCON	13156
DOSIOC	11088	OUTDF2	10435	A	13771	C17AP	13508	CFFA	02629
DOSVRS	11252	OUTPUT	09958	ASET	06278	C17A	15355	CFF	02592
DVASGN	12286	PCALL1	11630	ASMS	13249	C17P	13488	CHK2	07424
E1ODAC	12032	PCNUSW	02482	ASR	07166	C17	15325	CHKND	07392
EPRINT	07604	PHASEA	03404	ASTER	07118	C18P	13528	CLTBL	11875
ER9DAC	11964	PHCADT	19252	ASTOP	12984	C18	15379	CNTR	10511
ERCHAR	06708	PHCSAD	00040	ASTSW	10521	C19P	13572	COLL	02439
ERLNTH	06020	PICKUP	02528	B1DAD	18969	C19	15409	COMA	05460
ERRDIG	03273	PROCDN	11014	B1DCF	10444	C1P	12672	CORM	03351
ERSTSW	02476	PROCRE	02497	B1SCT	00020	C1	14849	CRLD	12116
EVALAD	05676	PROSTM	03912	B2DAD	19200	C20P1	13676	C	14252
EVALER	07344	PRTLIM	02502	B2DCF	10460	C20P2	13616	CSTAT	11288

CTI	07756	DVLP	12394	LAB	03329	RDBLK	08160	STSAV	15657
CTEST	07708	DVSW1	12286	LADDR	07936	RDW	05328	SUBNO	02523
CTVT	02489	EQDAD	00000	L82	07876	READ1	03604	SVDC	09402
CYLAV	15647	EQSCT	00004	LBAD0	07862	READ2	03636	SW2	07302
DAC3	12332	EQSW	08631	LBACK2	08802	READ3	03440	TAPIN	02656
DACER	11876	ER11	05508	LBFND	08312	RELER	06416	TEMPR	02571
DACR	12156	ER12	05620	LBLIM	20009	RELSW	02478	TEMP	03349
DAC	11768	ER19	09886	LDBL	08686	RLOP1	04220	TEST3	07210
DAS	11688	ER1	07770	LDSOK	09330	RLOP	04268	TFADD	07234
DCARD	11070	ER20	10344	LDSR	09318	RMOP	04448	TOBB	06460
DCRN	13368	ER22	11802	LDTR	09462	RMRK	02575	TRA	10654
DC	13096	ER2B	09770	LIM	08672	RSBD	03876	TSPEC	10000
DDA	12222	ER2	04280	LNCT	11190	RSCAN	03804	TYPIN	10648
DDAX	12438	ER3	04844	LNTH	02387	S1	06480	X03	10517
DDDD	12158	ER4A	09866	L	02520	SAS1	14296	X21	10519
DECL	05144	ER4	09818	MACRO	11584	SAS2P	14396	X33	10515
DENDC	13056	ERCOR	07468	MEXIT	11018	SAS2	14504	X69	10513
DEND	11192	ERDSA	13812	MODE1	11964	SASC2	14468	XB7	13949
DGM	11516	ERLAB	03299	MODE	11916	SASC	14260	XBB2	14432
DGSV	03343	EV1	07380	MODOC	16022	SASX1	14364	XDS	14513
DIM	14824	EVODD	02469	MOMAD	00415	SASX2	14572	XDS	14096
DISK	05340	F2DZF	12758	MOML	16041	SBCNT	02671	XDSS	14495
DMES1	10964	F2	12650	MOSCT	16000	SBMAX	02669	XHEAD	15423
DMES2	11424	F3	13310	MPYSW	08310	SBNR	11182	ZEPO	02300
DMESA	11120	FDCF	15912	MULT	07068	SBOUT	02643	ZP	04800
DMESC	11188	FILE	15864	MURI	02631	SCTAV	15652	SAVRST	05376
DMES	10868	FLA1	15664	NADD	11188	SDEF1	10411	SBFADD	15998
DMS12	11400	FLGRM	03341	NASS	12756	SDEF2	10419	SNDTCD	08710
DMSB1	11144	FLOAD	12244	NCDCF	11748	SEEK	10758	SSTAD	18899
DMSRM	11640	FMDCF	12512	NIC	08004	SHF	04744	SSTDCF	13752
DMSV	03262	FM	12464	NMOAL	11849	SI0C	05364	SSTSCT	00035
DMSVW	03267	GET1	06132	NOISE	02521	SLP	11170	START2	10666
DNB2	12792	GET	06726	NONEX	00457	SLPX	11294	STBEGN	11756
DDADC	10724	GOODB	04972	NUMB	02448	SMODE	03342	STCHAR	12084
DOB1	10872	HCLIM	02507	OK	04924	SMPBL	00235	STLOOP	11924
DOK	11008	HED	10509	ONEZ	02586	SPBL	00040	STPCSW	02472
DOL	05957	HIADD	02518	OP1	04504	SPEC	06076	STPRSW	02472
DORDW	10940	IDMES	12659	OP	04352	SPSGM	02560	STTYSW	02471
DORG	12880	INCRM	02565	OSYMB	12336	SREL	06448	SUBDAD	04808
D	14884	INPUT	02883	OUTAD	13024	SSTDF	13743	SUBENT	03257
DSA1	13636	INSAV	02751	OUTAR	10529	SSTSW	13767	SYMTAD	02641
DSA2	13672	INST	05280	OUTCL	11011	ST1	11792	SYMTBL	16003
DSA	13604	ILOCAL	00716	OUT	02218	ST2L	10982	SYSCAL	00475
DSB	12376	IOGET	10734	PCALL	11470	ST2	11876	TABFUL	09594
DSDNB	12612	IOGT	00566	PCC	11746	ST3	12020	THINGS	02420
DSS	12860	IOPT	00532	PCK	02365	ST4	12696	TRNUM1	06994
DTR	12030	IORBC	00520	PCLP1	11710	ST5	12732	TRNUMB	06910
DVADB	12578	IORT	00565	PCTR	11610	START	10522	TYINSW	02473
DVCKL	12297	IOSK	00554	PLACE	03272	STCNT	02513	TYPASS	14648
DVEND	12506	ISTAT	02559	PUT	10782	STIT1	10691		
DVLCC	12298	JSTBL	02459	R2BE	03708	STIT2	10851		
DVLC	11452	K	05352	R3E	04032	STLP	12372		
DVLC	12214	LABL	05959	RCTR	08305	STR	11274		

END OF ONE ASSEMBLY.

Address	Label	Description	Value	Page
00010	DORG	2218	02218	
00020	*	SYMBOL TABLE PARAMETERS		
00030	SPBL DS	, 40,,	SECTORS PER BLOCK	00040
00040	SMPBL DS	, 235,,	SYMBOLS PER BLOCK	00235
00050	SYMTBL DS	, 16003,	HI-ORDER POSITION OF SYMBOL TABLE	16003
00060	LOSymb DS	, SYMTBL+SMPBL*17-1,	LO-ORDER POSITION OF SYMBOLIC BLOCK	19997
00070	SFPADD DS	, LOSymb-SPBL*100+1,	SYMBOLIC BLOCK DISK ADDRESS	19998
00080	LBLIM DS	, LOSymb*12,	LO-ORDER BLOCK LIMIT	20009
00090	MAXLIM DS	, SYMTBL-6,	MAXIMUM LIMIT	15997
00100	*	EMPIRICAL SECTOR ASSIGNMENT PARAMETERS		
00110	1PTSPB DS	, 1500,	1-PASS TOTAL SECTORS PER SYM. BLOCK	01500
00120	2PTSPB DS	, 600,	2-PASS TOTAL SECTORS PER SYM. BLOCK	00600
00130	BP20K DS	, 5,	SYMBOLIC BLOCKS PER 20K CORE	00005
00140	2PRTIO DS	, 20000,	2-PASS RATIO--INTERN./FINAL SECTORS	20000
00150	*	SPS DISC ASSIGNMENT PARAMETERS		
00160	AIDAD DS	, 18600,	CONTROL STATEMENTS, PH.A SUBROUTINS	18600
00170	AISCT DS	, 137,		00137
00180	A2DAD DS	, 18800,	NORMAL PROCESSING--FREQUENT STMTS.	18800
00190	A2SCT DS	, 54,		00054
00200	A3DAD DS	, 18854,	TRA, CALL, GET-PUT AND ASSOC DECL	18854
00210	A3SCT DS	, 22,		00022
00220	A4DAD DS	, 18876,	DMES, DVLC PROCESS	18876
00230	A4SCT DS	, 23,		00023
00240	A5DAD DS	, 18737,	DEND, TCD, AND SYMBOL TABLE LIST	18737
00250	A5SCT DS	, 29,		00029
00260	SSTDAD DS	, 18899,	SYSTEM SYMBOL TABLE	18899
00270	SSTSCT DS	, 35,		00035
00280	MSTDAD DS	, SSTDAD+SSTSCT,	MASTER SYMBOL TABLE	18934
00290	MOSDAD DS	, 19663,	MONITOR COMM SECTOR DISK ADDRESS	19663
00300	B1DAD DS	, 18969,	PHASE B INITIALIZATION	18969
00310	B1SCT DS	, 20,		00020
00320	B2DAD DS	, 19200,	INPUT, BRANCH TABLE, SCAN	19200
00330	B2SCT DS	, 52,		00052
00340	B3DAD DS	, 19000,	LINPRT, INSTRN, DC, DSDNB, DAS, DORG	19000
00350	B3SCT DS	, 69,		00069
00360	B3MAD DS	, 09100, PHASE B3 MEMORY ADDRESS		09100
00370	B4DAD DS	, 19069,	RSTR, DAC, ALOW, DMES, DSB, DVLC, DGM	19069
00380	B4SCT DS	, 53,		00053
00390	B5DAD DS	, 19122,	DSA, MACRO, DDA, TRA, DEND	19122
00400	B5SCT DS	, 29,		00029
00410	B6DAD DS	, 19151,	CALL LINK, LOAD, EXIT	19151
00420	B6SCT DS	, 29,		00029
00430	DIMDAD DS	, 04800,	DIM ENTRY FOR EQUIV. TABLE	04800
00440	DIMSCT DS	, 1,		00001
00450	EQDAD DS	, 0,	EQUIVALENCE TABLE	00000
00460	EQSCT DS	, 4,		00004
00470	PHCDAD DS	, 19252		19252
00480	PHCSCT DS	, 40,		00040
00490	SUBDAD DS	, 04808,	SPS SUBROUTINE DIM ENTRIES	04808
00500	*	MONITOR COMMUNICATION PARAMETERS		
00510	MOSCT DS	, 16000,	MONITOR COMM SECTOR MEMORY ADDRESS	16000
00520	MDDOC DS	, MOSCT+22,	DISC OUTPUT CODE	16022
00530	MDOCTOC DS	, MOSCT+23,	CD-TP OUTPY CODE	16023
00540	MNAME DS	, MOSCT+35,	NAME	16035
00550	MIDND DS	, MOSCT+39,	ID NUMBER	16039
00560	MOML DS	, MOSCT+41,	MANT. LENGTH	16041

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00570	MOSBND DS	, MOSCT+43,	SUB. SET	16043	0
00580	MOMOIS DS	, MOSCT+44,	NOISE DIGIT	16044	0
00590	MOEXEC DS	, 426,	EXECUTE CONTROL AND SPS INPUT	00426	0
00600	MOMAD DS	, 415,	MEMORY ADDR	00415	0
00610	SYSCAL DS	, 475,	SYSTEM COMMON ACTION LOCATION	00475	0
00620	NONEX DS	, 457,	NON-EXECUTE FOR JOB ERROR	00457	0
00630	PCK DS	, 2365		02365	0
00640	*	IORT ENTRIES			
00650	IORT DS	, 565		00565	0
00660	IORT DS	, 532		00532	0
00670	IORT DS	, 566		00566	0
00680	IORT DS	, 520		00520	0
00690	IORT DS	, 554		00554	0
00700	IORT DS	, 00716		00716	0
00710	IORT DS	, 00796		00796	0
00720	IORT DS	, 19783, ADDRESS OF THE LOADER*CALLER		19783	0
00730	*				
00740	*	SPS COMMUNICATION AREA			
00750	*				
00760	OUT DS	1		02218	1
00770	OUT DS	80		02298	80
00780	ZEPO DS	2		02300	2
00790	OUT DS	81		02381	81
00800	OUT DS	1,		02382	1
00810	LNTH DS	5		02387	5
00820	OUT DS	1,		02388	1
00830	AJUST DC	11,2121212121,,	INSTRUCTION PARITY TABLE	02399	11
00840	THINGS DC	21,0010203040506070000'		02420	21
00850	COLL DS	19		02439	19
00860	NUMB DS	2		02441	2
00870	NUMB DC	7,		02448	7
00880	JSTBL DC	11,3232323232,,	ALPHA PARITY TABLE	02459	11
00890	EVODD DC	10,0101010101,,	DMES PARITY TABLE	02469	10
00900	*	PROCESSOR CONTROL SWITCHES--FLAGGED 1=ON, UNFLAGGED 0=OFF			
00910	STPCSW DS	1,,	PUNCH SYMBOL TABLE	02470	1
00920	STTYSW DS	1,,	TYPE SYMBOL TABLE	02471	1
00930	STPRSW DS	1,,	PRINT SYMBOL TABLE	02472	1
00940	TYINSW DS	1,,	BEGIN TYPEWRITER INPUT	02473	1
00950	CDINSW DS	1,1,,	BEGIN CARD INPUT	02474	1
00960	PTINSW DS	1,,	BEGIN PAPER TAPE INPUT	02475	1
00970	ERSTSW DS	1,,	ERROR STOP	02476	1
00980	2PSSW DS	1,,	TWO PASS MODE	02477	1
00990	RELSW DS	1,,	ASSEMBLE RELOCATABLE	02478	1
01000	LSCDSW DS	1,,	LIST CARD	02479	1
01010	LSTYSW DS	1,,	LIST TYPEWRITER	02480	1
01020	LSPRSW DS	1,,	LIST PRINTER	02481	1
01030	PCNUSW DS	1,,	PUNCH RESEQUENCED SOURCE DECK	02482	1
01040	INTRSW DS	1,,	INTERRUPT	02483	1

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01090	KILSUB	DS	1,,	NO SUBROUTINES	02484	1		
01060	CTVT	DC	5,0		02489	5		
			-0000					
01070	INCODE	DC	2,5		02491	2		
			-5					
01080	OBJCRE	DS	5,,	OBJECT MACHINE SIZE	02496	5		
01090	PROCRE	DS	1,,	PROCESSOR MACHINE SIZE	02497	1		
01100	PRLIM	DSA	*--		02502	5 X	1	
01110	HCLIM	DSA	LBLIM		02502	-0000		
					02507	5 X	1	
01120		DC	1,1		02507	K0009		
					02508	1		
01130	STCNT	DC	5,1,,	STATEMENT COUNT	02513	5		
			-0001					
01140	HIADD	DC	5,0,,	HIGH ADDRESS	02518	5		
			-0000					
01150	L	DS	2,,	LENGTH OF MANTISSA	02520	2		
01160	NOISE	DS	1		02521	1		
01170	SUBNO	DS	2		02523	2		
01180	PICKUP	DS	5		02528	5		
01190		DC	1,1		02529	1		
			J					
01200	ISTAT	DC	30,0*		02559	30		
			-00000000000000000000000000000000*					
01210	SPSGM	DCM			02560	1		
01220	INKRM	DS	5		02565	5		
01230		DC	1,1		02566	1		
01240	TEMPR	DS	5		02571	5		
01250		DC	1,1		02572	1		
01260	RMRK	DS	3		02575	3		
01270		DC	1,1		02576	1		
01280	ONEZ	DC	10,1		02586	10		
			-000000001					
01290	*							
01300	*		IOCS CALL-LOAD PROCESSOR SECTION-NO WLRC					
01310	*							
01320		DS	5		02591	5		
01330	CFF	TFM	IOGT,++23		02592	16	00565	-2615
01340	B		IOGT,CFFDEF,7		02604	49	00566	-2623
01350	B7		CFF-1,,6		02616	49	0259J	
01360	CFFDEF	DSC	2,22,,	ABSOLUTE DISK NOT WRONG LENGTH	02623	2		
			22					
01370	CFFA	DSA	*--		02629	5 X	1	
01380		DC	1,1		02629	-0000		
					02630	1		
01390	MURI	DS	1		02631	1		
01400	IOADDR	DC	5,0,,	FILE ADDRESS OF INTERMEDIATE OUTPUT	02636	5		
			-0000					

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01410	SYMTAD	DC	5,02600,,	FILE ADDRESS OF SYMBOL TABLE	02641	5		
			-2600					
01420	SBOUT	DC	2,0		02643	2		
			-0					
01430	*							
01440	*		END SPS COMMUNICATION AREA					
01450	*							
01460	TYPIN	DSA	INPUT-10		02648	5 X	1	
01470		DC	3,06*		02648	-2779		
			-6*		02651	3		
01480	TAPIN	DSA	INPUT-10		02656	5 X	1	
01490		DC	3,08*		02656	-2779		
			-8*		02659	3		
01500	CARDIN	DSA	INPUT-10		02664	5 X	1	
01510		DC	3,10*		02664	-2779		
			JO*		02667	3		
01520	SBMAX	DC	2,10		02669	2		
			JO					
01530	ADDCOW	DS	5		02674	5		
01540	ALPHA	DS	10		02684	10		
01550	BETA	DS	10		02694	10		
01560	NOPREC	DC	15,410000000000*		02709	15		
			-0+100000000000*					
01570	TEMP	DS	5		02714	5		
01580	CLERER	DC	1,0		02715	1		
			-					
01590		DSC	26,0		02716	26		
			00000000000000000000000000000000					
01600		DSC	27,1		02742	27		
			00000000000000000000000000000000					
01610		DS	8		02776	8		
01620		DAC	5,		02779	5 X	2	
			,					
01630	INPUT	DAC	6,		02789	6 X	2	
			,					
01640		DC	8,0		02807	8		
			-0000000					
01650		00	,,0246810		02808	-0	-0-0-	0-0-0
01660		00	,,0246810		02820	-0	-0-0-	0-0-0
01670		00	,,0246810		02832	-0	-0-0-	0-0-0
01680		00	,,0246810		02844	-0	-0-0-	0-0-0
01690		00	,,0246810		02856	-0	-0-0-	0-0-0
01700		00	,,0246810		02868	-0	-0-0-	0-0-0
01710		00	,,0246810		02880	-0	-0-0-	0-0-0
01720		00	,,0246810		02892	-0	-0-0-	0-0-0
01730		00	,,0246810		02904	-0	-0-0-	0-0-0
01740		00	,,0246810		02916	-0	-0-0-	0-0-0
01750		00	,,0246810		02928	-0	-0-0-	0-0-0
01760		00	,,0246810		02940	-0	-0-0-	0-0-0
01770		00	,,0246810		02952	-0	-0-0-	0-0-0

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02410 SFA	DS	8	03951	8	
02420	DC	1,0	03952	1	
02430 BLKADS	DSS	30	03953	30	
02440	DSA	SYMTBL-6	03987	5 X	1
02450 LIMTSF	DSA	SYMTBL+17+SMPBL+11	03987	J5997	
			03992	5 X	1
02460	DC	1,1	03992	K0009	
			03993	1	
02470 BLKCTR	DS	2	03995	2	
02480 DMPDIG	DC	5,0	04000	5	
		-0000			
02490 ABBA	DC	5,0	04005	5	
		-0000			
02500 FRSTMT	DSC	1,0	04006	1	
		0			
02510 KLRLSW	DS	1	04007	1	
02520 X	DS	5	04012	5	
02530 CAROLN	DS	1	04013	1	
02540 VACANT	DSS	140	04014	140	
02550 TYPIN2	DSA	INPUT+20	04158	5 X	1
02560	DC	3,06'	04158	-2809	
		-6'	04161	3	
02570 COPDEF	DSA	INPUT2	04166	5 X	1
02580	DC	3,10'	04166	-3283	
		JO'	04169	3	
02590 INITI	TF	ERLAB+10,CLERER+11	04170	26	03815 02726
02600	TFM	HED,,10	04182	16	03860 000-0
02610	TFM	SUBOUT+5,0	04194	16	03567 -0000
02620	TFM	INRRM,99999	04206	16	02565 R9999
02630	TFM	SUBIN+13,INTBUF	04218	16	03551 -3602
02640	TF	SUBIN+5,IOADDR	04230	26	03543 02636
02650	SM	SUBIN+5,2,10	04242	12	03543 000-2
02660	TFM	ADDCDN,2401	04254	16	02674 -2401
02670	BNF	++24,RELSW	04266	44	04290 02478
02680	TFM	ADDCDN,99999	04278	16	02674 R9999
02690	TD	DMPDIG-4,PROCRE	04290	25	03996 02497
02700	SM	DMPDIG,1,10	04302	12	04000 000-1
02710	SF	FLGRM	04314	32	03884 00000
02720	BNR	++48,ISTAT-29	04326	45	04374 02530
02730	TR	PKMOD,PACKAD-4	04338	31	03906 03885
02740	TFM	TTY5,75	04350	16	03866 -0075
02750	B	++48	04362	49	04410 00000
02760	TR	PKMOD,PACKAD+1	04374	31	03906 03890
02770	AM	PKMOD+4,25	04386	11	03910 -0025
02780	TFM	TTY5,50	04398	16	03866 -0050
02790	TR	LIM-9,LIMTSP-9	04410	31	03836 02498
02800	TF	SUBSM+5,SYHTAD	04422	26	03591 02641
02810	TF	SFA,SYHTAD	04434	26	03951 02641

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02820	TF	ABBA ,PKMOD+4	04446	26	04005 03910
02830	TD	INTBUF+200,SPSGM	04458	25	03802 02560
02840 *		CALL PHASE B2			
02850	TFM	CFFA,DCFB2	04470	16	02629 -4494
02860	BTM	CFF,PHASEB-12	04482	17	02592 -4170
02870 DCFB2	DDA	,0,B2DAD,B2SCT,PHASEB-12	04494		14
		OJ9200-52-4170			
02880	DC	1,1	04508		1
		'			
02890 *		LOAD PHASE B1 TO THE FILE			
02900 F1	34	SUBO,701	04510	34	04558 00701
02910	38	SUBO,702	04522	38	04558 00702
02920	TRA		04534	36	00000 00500
			04546	49	00000 00000
02930 SUBO	DDA	,0,B1DAD,B1SCT,SBOUT+1	04558		14
		OJ8969-20-2644			
02940	TCD	F1	04510		
02950	DDRG	INITI	04170		
02960	BTM	GEET,++12,,CALL PHASE B3	04170	17	09252 -4182
02970 PHASEB	BD	2PASS,2PASS	04182	43	04286 02477
02980	TFM	SUBIN+13,INPUT-19	04194	16	03551 -2770
02990	AM	SUBIN+5,2,10	04206	11	03543 000-2
03000 *		READ SOURCE STATEMENT FROM THE FILE			
03010	TFM	IORT,++23	04218	16	00565 -4241
03020	B	IOGT,DEFIN,7	04230	49	00566 -3530
03030	TR	INTBUF,INPUT-19	04242	31	03602 02770
03040	BNG	G01 ,INPUT+80,,CHK.FOR FILE GRP.MRK	04254	55	04426 02869
03050	SM	SUBIN+5,1,10	04266	12	03543 000-1
03060	B7	G01	04278	49	04426
03070 2PASS	BNF	SECRD,PTINSW,, CHK FOR CARD OR TAPE INPUT	04286	44	04330 02475
03080 *		ACCEPT TAPE INPUT			
03090	TFM	IORT,++23	04298	16	00565 -4321
03100	B	IOGT,TAPIN-4,7	04310	49	00566 -2652
03110	B7	FORWD	04322	49	04354
03120 *		ACCEPT CARD INPUT			
03130 SECRD	TFM	IORT,++23	04330	16	00565 -4353
03140	B	IOGT,CARDIN-4,7	04342	49	00566 -2660
03150 FORWD	BNR	++24,INPUT-10	04354	45	04378 02779
03160	TFM	INPUT-10,0,10	04366	16	02779 000-0
03170	CM	INPUT-10,14,10	04378	14	02779 000J4
03180	BE	2PASS	04390	46	04286 01200
03190	TDM	--11,1	04402	15	04391 00001
03200	BT	RSCAN,RSCAN-1	04414	27	05774 05773
03210 G01	AM	INRRM,1,10	04426	11	02565 000-1
03220	BT	CLOUT,CLOUT-1	04438	27	08168 08167
03230	TDM	KLRLSW,1,11	04450	15	04007 0000J
03240	TR	INPUT2-1,INPUT-11	04462	31	03282 02778
03250	BNF	++24,LSTYSW	04474	44	04498 02480
03260	RCTY		04486	34	00000 00102
03270 *					
03280 *		CHECK FOR COMMENT STATEMENT			
03290 *					
03300 CASTER	BNR	++20,INPUT	04498	45	04518 02789
03310	B7	CHKIO	04510	49	04634
03320	CM	INPUT,14,10	04518	14	02789 000J4

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03330	BNE	CHKIO	04530	47	04634	01200
03340	BNF	++24,LSTYSW	04542	44	04566	02480
03350	WATY	INPUT-10,,,TYPE COMMENTS STATEMENT	04554	39	02779	00100
03360	BNF	PHASEB,LSCDSW	04566	44	04182	02479
03370	BT	REVSCN,REVSCN-1	04578	27	05884	05883
03380	*	PUNCH COMMENTS CARD				
03390	PCHCOM	BNF PHASEB,LSCDSW	04590	44	04182	02479
03400	TFM	IORT,++23	04602	16	00565	-4625
03410	B	IOPT,COPDEF-4,7	04614	49	00532	-4162
03420	B7	PHASEB	04626	49	04182	
03430	CHKIO	TFM RLOP+11,INPUT-2	04634	16	04693	-2787
03440	AM	RLOP+11,2,10	04646	11	04693	000-2
03450	CM	RLOP+11,INPUT+12	04658	14	04693	-2801
03460	BE	RLOP+24	04670	46	04706	01200
03470	RLOP	BNR --36,0--0	04682	43	04646	00000
03480	TF	INPUT+10,CLERER+11	04694	26	02799	02726
03490	C	CLERER+11,INPUT+10	04706	24	02726	02799
03500	BE	++36	04718	46	04754	01200
03510	TF	ERLAB+10,INPUT+10	04730	26	03815	02799
03520	TFM	INKRM,0	04742	16	02565	-0000
03530	TFM	RNOP+11,INPUT+10	04754	16	04813	-2799
03540	AM	RNOP+11,2,10	04766	11	04813	000-2
03550	CM	RNOP+11,INPUT+20	04778	14	04813	-2809
03560	BE	RNOP+24	04790	46	04826	01200
03570	RNOP	BNR --36,0--0	04802	43	04766	00000
03580	TF	INPUT+18,CLERER+7	04814	26	02807	02722
03590	BNF	NAST,2PSSW	04826	44	05094	02477
03600	BNF	++32,INTBUF+7	04838	44	04870	03609
03610	TDM	INTBUF+7,0	04850	15	03609	00000
03620	B7	++20	04862	49	04882	
03630	TR	INTBUF,INTBUF+8	04870	31	03602	03610
03640	BNR	PULLIO,INTBUF	04882	45	04942	03602
03650	TFM	SUBIN+13,INTBUF	04894	16	03551	-3002
03660	AM	SUBIN+05,2,10	04906	11	03543	000-2
03670	*	READ INTERMEDIATE OUTPUT FROM FILE				
03680	TFM	IORT,++23	04918	16	00565	-4941
03690	B	IOGT,DEFIN2,7	04930	49	00566	-3522
03700	PULLIO	BNF NAST,INTBUF+7	04942	44	05094	03609
03710	TFM	EVALER-2,67670	04954	16	07664	07670
03720	BT	EPRINT,EPRINT-1	04966	27	08064	08063
03730	ERRXX	WATY MESS2	04978	39	08033	00100
03740	RCTY		04990	34	00000	00102
03750	BT	FWDSCN,FWDSCN-1	05002	27	05934	05933
03760	TFM	IORT,++23	05014	16	00565	-5037
03770	B	IOGT,TYPIN-4,7	05026	49	00566	-2644
03780	BC4	ERRXX	05038	46	04978	00400
03790	CM	INPUT,14,10	05050	14	02789	000J4
03800	BNE	++24	05062	47	05086	01200
03810	TDM	INTBUF+7,0	05074	15	03609	00000
03820	B7	CASTER-48	05086	49	04450	
03830	*					
03840	*	TYPE OUT SOURCE STATEMENT				
03850	*					
03860	NAST	TF LPOUT, INPUT-2	05094	26	03831	02787
03870	TR	INPUT2-1, LPOUT-9	05106	31	03282	03822
03880	TF	LPOUT, INPUT+10	05118	26	03831	02799

03890	TR	INPUT2+11, LPOUT-11	05130	31	03294	03820
03900	TF	LPOUT, INPUT+18	05142	26	03831	02807
03910	TR	INPUT2+25, LPOUT-7	05154	31	03308	03824
03920	TR	INPUT2+35, INPUT+19	05166	31	03318	02808
03930	TR	VACANT,INPUT+19	05178	31	04014	02808
03940	TDM	DMESW	05190	15	03861	00000
03950	BNF	++24, LSTYSW	05202	44	05226	02480
03960	WATY	INPUT2,,,	05214	39	03283	00100
03970	MARK1	TF PLACE,ADDCDW	05226	26	09075	02674
03980	BNR	++24,INPUT+20	05238	45	05262	02809
03990	TFM	INPUT+22,,,10	05250	16	02811	000-0
04000	DC	1,*,0	05261		1	
04010	BT	REVSCN,REVSCN-1	05262	27	05884	05883
04020	BNF	++60,LSTYSW	05274	44	05334	02480
04030	CM	REVSCN+35,INPUT2+108	05286	14	05919	-3391
04040	BL	++24	05298	47	05322	01300
04050	RCTY		05310	34	00000	00102
04060	TBTY		05322	34	00000	00108
04070	CM	REVSCN+35, INPUT2+2*59	05334	14	05919	-3401
04080	BNH	TLU	05346	47	05406	01100
04090	BNF	TLU, LSCDSW	05358	44	05406	02479
04100	TFM	IORT,++23	05370	16	00565	-5393
04110	B	IOPT,COPDEF-4,7	05382	49	00532	-4162
04120	BT	CLOUT, CLOUT-1	05394	27	08168	08167
04130	TLU	BNF ++32,INTBUF+1	05406	44	05438	03603
04140	BD	INSTRN,INTBUF+1	05418	43	12734	03603
04150	B7	TBL1	05430	49	05588	
04160	BNF	INSTRN,INTBUF	05438	44	12734	03602
04170	BD	INSTRN,INTBUF	05450	43	12734	03602
04180	TBL2	TFM GOODB2+6,BTBL2	05462	16	05504	-5510
04190	TD	GOODB2+11,INTBUF+1	05474	25	05509	03603
04200	A	GOODB2+5,GOODB2+11	05486	21	05503	05509
04210	GOODB2	B ,,10	05498	49	00000	000-0
04220	BTBL2	B MACRO,,, 0	05510	49	15158	00000
04230	DORG	0-1	05520			
04240	B	SAVE,,, +1	05520	49	15242	00000
04250	DORG	0-1	05530			
04260	B	RSTR,,, +2	05530	49	15230	00000
04270	DORG	0-1	05540			
04280	B	PCHCOM-12,,,+3	05540	49	04578	00000
04290	DORG	0-1	05550			
04300	B	CALLEX,,,+4	05550	49	15134	00000
04310	DORG	0-1	05560			
04320	B	MAC2,,,+5	05560	49	15278	00000
04330	DORG	0-1	05570			
04340	B	PCHCOM-12,,,+6	05570	49	04578	00000
04350	DORG	0-1	05580			
04360	B	LINKSF,,,+7	05580	49	15122	00000
04370	DORG	0-3	05588			
04380	TBL1	TFM GOODB+6,BTBL	05588	16	05630	-5686
04390	TD	GOODB+11,INTBUF	05600	25	05635	03602
04400	A	GOODB+9,GOODB+11	05612	21	05629	05635
04410	GOODB	B ,,10	05624	49	00000	000-0
04420	B	TRA,,,+5	05636	49	15146	00000
04430	DORG	0-1	05646			

04440	B	DSDNB,,, -4	05646	49	13622	00000
04450	DORG	=-1	05656			
04460	B	DEND,,, -3	05656	49	15182	00000
04470	DORG	=-1	05666			
04480	B	DC,,, -2	05666	49	14166	00000
04490	DORG	=-1	05676			
04500	B	DORG,,, -1	05676	49	14026	00000
04510	DORG	=-1	05686			
04520	BTBL	B DAC,,, 0	05686	49	15266	00000
04530	DORG	=-1	05696			
04540	B	DSA,,, +1	05696	49	15170	00000
04550	DORG	=-1	05706			
04560	B	DAS,,, +2	05706	49	13830	00000
04570	DORG	=-1	05716			
04580	B	HEAD,,, +3	05716	49	06032	00000
04590	DORG	=-1	05726			
04600	B	DSB,,, +4	05726	49	15110	00000
04610	DORG	=-1	05736			
04620	B	DGM,,, +5	05736	49	15206	00000
04630	DORG	=-1	05746			
04640	B	DDA,,, +6	05746	49	15194	00000
04650	DORG	=-1	05756			
04660	B	DMES,,, +7	05756	49	15254	00000
04670	DORG	=-1	05766			
04680	B	DVLC,,, +8	05766	49	15218	00000
04690	DORG	=-3	05774			
04700	RSCAN	TFM INPUT+140	05774	16	02929	-0000
04710	DAC	1,'*,*	05785		1 X	2
04720	TFM	++35,INPUT+140	05786	16	05821	-2929
04730	SM	++23,2	05798	12	05821	-0002
04740	TF	RSCAN1-1	05810	26	05881	00000
04750	BD	RSCAN1,RSCAN1-1	05822	43	05882	05881
04760	BD	RSCAN1,RSCAN1-2	05834	43	05882	05880
04770	TFM	--25,,610	05846	16	0582J	000-0
04780	DC	1,'*,*	05857		1	
04790	CM	RSCAN+47,INPUT+20	05858	14	05821	-2809
04800	BNE	RSCAN+24	05870	47	05798	01200
04810	RSCAN1	BB2	05882	42		
04820	REVSCN	TFM ++35,INPUT2+160	05884	16	05919	-3443
04830	SM	++23,2,10	05896	12	05919	000-2
04840	BNR	=-12,0-*	05908	45	05896	00000
04850	TFM	--1,0,610	05920	16	0591R	000-0
04860	BB2		05932	42		
04870	FWDSCN	TF INPUT-2,CLERER+9	05934	26	02787	02724
04880	TF	INPUT+10,CLERER+11	05946	26	02799	02726
04890	TF	INPUT+18,CLERER+7	05958	26	02807	02722
04900	TFM	++30,INPUT+18	05970	16	06000	-2807
04910	AM	++18,2,10	05982	11	06000	000-2
04920	TFM	=-*	05994	16	00000	-0000
04930	DAC	1,'*,*	06005		1 X	2
04940	CM	--6,INPUT+140	06006	14	06000	-2929
04950	BL	--36	06018	47	05982	01300
04960	BB2		06030	42		

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04970	*					
04980	*	HEADER ROUTINE				
04990	*					
05000	HEAD	TF HED,INTBUF+6	06032	26	03860	03608
05010	TFM	ADDRS	06044	16	03494	-0000
05020	B7	ECLAT1	06056	49	14086	
05030	NOP		06064	41	00000	00000
05040	SCAN	TFM OPER,10,10	06076	16	09089	000J0
05050	TFM	RLOCSW, 0000,8,,	06088	16	07992	0-000
05060	TDM	BSW,1,11	06100	15	09090	0000J
05070	SF	SCAN-5	06112	32	06071	00000
05080	TF	ADDRS,CLERER+9	06124	26	03494	02724
05090	TD	ALPHA, LNTH+1,,	06136	25	02684	02388
05100	BD	++44,INPUT+19	06148	43	06192	02808
05110	BD	++32,INPUT+20	06160	43	06192	02809
05120	TR	INPUT+19,INPUT+21	06172	31	02808	02810
05130	B7	--36	06184	49	06148	
05140	BNR	SCAN1-24,INPUT+20	06192	45	06364	02809
05150	SCANA	SF ADDR-4	06204	32	03490	00000
05160	CM	RCTR, 00,10	06216	14	07990	000-0
05170	BE	SREL+12	06228	46	06356	01200
05180	CM	RCTR, 01,10	06240	14	07990	000-1
05190	BNE	++24	06252	47	06276	01200
05200	BNF	SREL, ADDR	06264	44	06344	03494
05210	CM	RCTR, -01,10	06276	14	07990	000-J
05220	BNF	++24, ADDR	06288	44	06312	03494
05230	BE	SREL	06300	46	06344	01200
05240	TFM	EVALER-2,71770,,	06312	16	07664	P1770
05250	BT	EPRINT,EPRINT-1	06324	27	08064	08063
05260	B7	EVI	06336	49	07702	
05270	SREL	TDM RLOCSW,1,11	06344	15	07992	
05280	B7	SCAN-1,,6	06356	49	0607N	0000J
05290	CM	INPUT+20,23,10	06364	14	02809	000K3
05300	BE	SCANA	06376	46	06204	01200
05310	SCAN1	CM INPUT+20,10,10	06388	14	02809	000J0
05320	BNE	++44	06400	47	06444	01200
05330	TFM	OPER,10,10	06412	16	09089	000J0
05340	TR	INPUT+19,INPUT+21	06424	31	02808	02810
05350	EVALDP	B7 EVALAD	06436	49	06756	
05360	CM	INPUT+20,20,10	06444	14	02809	000K0
05370	BNE	EVALAD	06456	47	06756	01200
05380	TFM	OPER,20,10	06468	16	09089	000K0
05390	B7	SCAN1+36	06480	49	06424	
05400	DIGALF	BNR ++20, ALPHA	06488	45	06308	02684
05410	B7	MOVE	06500	49	06564	
05420	M	ALPHA,BETA	06508	23	02684	02694
05430	SF	90	06520	32	00090	00000
05440	TF	ALPHA,99	06532	26	02684	00099
05450	BD	SREL-32,RSYMSW	06544	43	06312	07991
05460	B7	MOVE+12	06556	49	06576	
05470	MOVE	TF ALPHA,BETA	06564	26	02684	02694
05480	BNR	++20,INPUT+20	06576	48	06596	02809
05490	B7	BLOP	06588	49	06440	
05500	CM	INPUT+20,14,10	06596	14	02809	000J4
05510	BNE	++32	06608	47	06440	01200
05520	BD	SREL-32, RSYMSW	06620	43	06312	07991

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05530	B7	SCAN1+36	06632	49	06424		
05540	BLOP	CM	OPER,,10	06640	14	09089	000-0
05550		BE	SCAN+60	06652	46	06136	01200
05560		TD	++13,OPER-1	06664	25	06677	09088
05570	ADDSUB	20	ADDS,ALPHA	06676	20	03494	02684
05580		TF	ALPHA,CLERER+9	06688	26	02684	02724
05590		TFM	OPER,,10	06700	16	09089	000-0
05600		BNF	++36,RSYMSW	06712	44	06748	07991
05610		TD	++13,ADDSUB+1	06724	25	06737	06677
05620		AM	RCTR,1,10	06736	11	07990	000-1
05630		B7	SCAN+60	06748	49	06136	
05640	EVALAD	SF	HED-2	06756	32	03858	00000
05650		SF	DOLLAR	06768	32	07096	00000
05660		TDM	BSW,0	06780	15	09090	00000
05670		TFM	LABL,1,10	06792	16	06883	000-1
05680		TFM	DOL,,10	06804	16	06881	000-0
05690		TR	COLL-18,THINGS-20	06816	31	02421	02400
05700		B7	BCMSPC	06828	49	06952	
05710	*		CHECK FOR SPECIAL CHARACTER				
05720	COMSPC	CM	INPUT+20,70,10	06836	14	02809	000P0
05730		BL	SPEC	06848	47	06972	01300
05740		TF	COLL,INPUT+20	06860	26	02439	02809
05750		CF	COLL-1	06872	33	02438	00000
05760	LABL	DS	,*	06883		0	
05770	DOL	DS	,*-2	06881		0	
05780		AM	DOL,1,10	06884	11	06881	000-1
05790		TR	COLL-17,COLL-15	06896	31	02422	02424
05800		CM	COLL-17,7,10	06908	14	02422	000-7
05810	*		SYMBOL IN OPERAND CONTAINS MORE THAN SIX CHARACTERS				
05820	*		OR NUMBER IN OPERAND HAS MORE THAN FIVE DIGITS				
05830		BNE	++20	06920	47	06940	01200
05840	ERLNTH	B7	CHKND	06932	49	07750	
05850		TR	INPUT+19,INPUT+21	06940	31	02808	02810
05860	*		CHECK TO SEE IF OPERAND IS PRESENT				
05870	BCMSPC	BNR	COMSPC,INPUT+20	06952	45	06836	02809
05880		B7	GET	06964	49	07220	
05890	*		CHECK FOR + OR -				
05900	SPEC	BD	S1,INPUT+20	06972	43	07004	02809
05910	*		CHECK FOR BLANK				
05920		BD	GET,INPUT+19	06984	43	07220	02808
05930		B7	BCMSPC-12	06996	49	06940	
05940	*		CHECK FOR COMMA				
05950	S1	CM	INPUT+20,23,10	07004	14	02809	000K3
05960		BE	GET	07016	46	07220	01200
05970	*		CHECK FOR ASTERISK				
05980		CM	INPUT+20,14,10	07028	14	02809	000J4
05990		BE	ASTER	07040	46	07564	01200
06000	*		CHECK FOR DOLLAR SIGN				
06010		CM	INPUT+20,13,10	07052	14	02809	000J3
06020		BE	DOLLAR	07064	46	07096	01200
06030		TDM	LABL	07076	15	06883	00000
06040		B7	COMSPC+24	07088	49	06860	
06050	DOLLAR	CF	DOLLAR	07096	33	07096	00000
06060		BD	++32,DOL	07108	43	07140	06881
06070		TFM	COLL,,10	07120	16	02439	000-0
06080		B7	++44	07132	49	07176	

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06090		CM	DOL,1,10	07140	14	06881	000-1
06100		BNE	CHKND	07152	47	07750	01200
06110		SF	COLL-3	07164	32	02436	00000
06120		CF	HED-2	07176	33	03858	00000
06130		TDM	LABL	07188	15	06883	00000
06140		BD	BCMSPC-12,DOL	07200	43	06940	06881
06150		B7	BCMSPC-56	07212	49	06896	
06160	GET	TDM	RSYMSW,0	07220	15	07991	00000
06170		BD	TRNUMB,LABL	07232	43	07412	06883
06180		A	COLL-17,COLL-17	07244	21	02422	02422
06190		BNF	TRMMH+24,HED-2	07256	44	07392	03858
06200		CM	COLL-14,12070	07268	14	02425	J2070
06210		BNE	++44	07280	47	07324	01200
06220		SF	COLL-2	07292	32	02437	00000
06230		SF	COLL-13	07304	32	02426	00000
06240		B7	LBADD	07316	49	08218	
06250		TFM	++30,COLL-2	07324	16	07354	-2437
06260		S	++18,COLL-17	07336	22	07354	02422
06270		TF	,HED	07348	26	00000	03860
06280		B7	TRMMH+24	07360	49	07392	
06290	TRMMH	TR	COLL-17,COLL-15	07368	31	02422	02424
06300		TDM	COLL-2,0	07380	15	02437	00000
06310		BNF	+-24,COLL-13	07392	44	07368	02426
06320		B7	LBADD	07404	49	08218	
06330	TRNUMB	CM	COLL-14,6060	07412	14	02425	-6060
06340		BH	CHKND	07424	46	07750	01100
06350		TDM	NUMB-1,,11	07436	15	02447	0000-
06360		TFM	TRNUM1+11,COLL-2	07448	16	07507	-2437
06370		S	TRNUM1+11,COLL-17	07460	22	07507	02422
06380		S	TRNUM1+11,COLL-17	07472	22	07507	02422
06390		TR	NUMB-5,NUMB-4	07484	31	02443	02444
06400	TRNUM1	TD	NUMB-5,NUMB-4	07496	25	02447	00000
06410		TR	COLL-17,COLL-15	07508	31	02422	02424
06420		TF	++23,-13	07520	26	07543	07507
06430		BNR	TRNUM1-12	07532	45	07484	00000
06440		TF	BETA,NUMB-1	07544	26	02447	02447
06450		B7	DIGALF	07556	49	06488	
06460	ASTER	CM	DOL,0,10	07564	14	06881	000-0
06470		BNE	GET	07576	47	07220	01200
06480		TF	BETA,ADDCOW	07588	26	02494	02674
06490		BNF	++24, RELSW	07600	44	07624	02478
06500		TDM	RSYMSW,1,11	07612	15	07991	0000J
06510		TR	INPUT+19,INPUT+21	07624	31	02808	02810
06520		B7	DIGALF	07636	49	06488	
06530	*						
06540	*		EVALER IS THE ERROR ROUTINE				
06550	*						
06560		DAS	5	07648		5 X	2
06570		BNR	59007	07654	45	59007	00000
06580		DC	1,,*	07665		1	
06590	EVALER	BT	EPRINT,EPRINT-1	07666	27	08064	08063
06600		SPTY		07678	34	00000	00101
06610		WATY	COLL-12	07690	39	02427	00100
06620	EVI	BD	CORERS ,ERSTSW	07702	43	07826	02476
06630		BNF	CHKND,LISTYSW	07714	44	07750	02480

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06640	RCTY		07726	34	00000	00102
06650	TSTY		07738	34	00000	00108
06660	CHKND	TFM ADDR	07750	16	03494	-0000
06670	BMR	++20,INPUT+20	07762	45	07762	02809
06680	B7	SCAN-1,,6	07774	49	0607N	
06690	CM	INPUT+20,23,10	07782	14	02809	000K3
06700	BE	SCAN-1,,6	07794	46	0607N	01200
06710	TR	INPUT+19,INPUT+21	07806	31	02808	02810
06720	B7	CHKND+12,,2	07818	49	-7762	
06730	CORERS	WATY RNMESS	07826	39	07995	00100
06740	TF	ADDCON,PLACE	07838	24	02674	09075
06750	RCTY		07850	34	00000	00102
06760	TR	INPUT+19,VACANT	07862	31	02808	04014
06770	WATY	INPUT-10	07874	39	02779	00100
06780	OOPS	RCTY	07886	34	00000	00102
06790	BT	FWDSCN+36,FWDSCN+35	07898	27	05970	05969
06800	WATY	INPUT-10	07910	39	02779	00100
06810	ACCEPT	CORRECTION FROM TYPWRITER				
06820	TFM	IORT,++23	07922	16	00565	-7945
06830	B	IOGT,TYPIN2-4,7	07934	49	00564	-4184
06840	BC4	OOPS	07946	46	07886	00400
06850	BTM	GEET,++12	07958	17	09252	-7970
06860	TDM	INTBUF+7,1,11	07970	15	03609	0000J
06870	B7	G01+12	07982	49	04438	
06880	RCTR	DS 2	07990		2	
06890	RSYMS	DS 1	07991		1	
06900	RLOCSW	DS 1	07992		1	
06910	RNMESS	DAC 19, RE-ENTER OPERANDS'	07995		19 X	2
		RE-ENTER OPERANDS'				
06920	MESS2	DAC 16, RE-ENTER STMT'	08033		16 X	2
		RE-ENTER STMT'				
06930	*					
06940	*	EPRINT PRINTS THE ERROR MESSAGE AND REFERENCE TO				
06950	*	INDICATE THE STATEMENT IN ERROR				
06960	*					
06970	EPRINT	RCTY	08064	34	00000	00102
06980	TF	LOPQUT,INPUT-2	08076	26	03831	02787
06990	WATY	LOPQUT-8	08088	39	03823	00100
07000	WATY	ERLAB	08100	39	03805	00100
07010	WNTY	INRRN-3	08112	38	02562	00100
07020	WATY	EVALER-21	08124	39	07645	00100
07030	BD	++24,ERSTSW	08136	43	08160	02476
07040	SF	NDNEX,,,KILL OBJECT PROG. EXECUTION IF ERROR IS DETECTED	08148	32	00457	00000
07050	BB		08160	42	00000	00000
07060	DDRG	+-3	08168			
07070	CLOUT	TR INPUT2-1,CLERER	08168	31	03282	02715
07080	TR	INPUT2+52,CLERER+1	08180	31	03335	02716
07090	TR	INPUT2+104,CLERER+1	08192	31	03367	02716
07100	TR	INPUT2+199,CLERER+27	08204	31	03438	02742
07110	BB2		08216	42		
07120	*					
07130	*	THE SYMBOL TABLE IS SEARCHED FOR EQUIVALENCE				
07140	*					
07150	LBADD	TFM BLKCTR,0,10,INITIALIZE BLOCK COUNTER	08218	16	03995	000-0
07160	C	SFA,SYMTAD,,,CHK.TO SEE IF THIS IS PARTIAL BLOCK	08230	24	03951	02641
07170	BE	PARTL	08242	46	08298	01200

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07180	AM	BLKCTR,1,10	08254	11	03995	000-1
07190	TR	LIM-9,LIMITSF-9	08266	31	03836	03983
07200	TF	LIM,LIMITSP	08278	26	03845	02507
07210	B7	++20	08290	49	08310	
07220	PARTL	TR LIM-9,LIMITSF-9	08298	31	03836	02498
07230	BT	BSERCH,BSERCH-1,,TO BINARY SEARCH ROUTINE TO FIND SYMBOL	08310	27	08794	08793
07240	BD	GOTIT ,EQSW,,WAS SYMBOL IN TABLE	08322	43	08418	09021
07250	C	BSBF-1,LIMITSF	08334	24	09045	03992
07260	BNL	GOTIT-24	08346	46	08394	01300
07270	CM	BLX,0,10	08358	14	02643	000-0
07280	BNE	CFIL	08370	47	08510	01200
07290	TF	SFA,SUBSM+5	08382	26	03951	03591
07300	TFM	EVALER-2,75000,,CANNOT FIND SYMBOL IN SYMBOL TABLE	08394	16	07664	P5000
07310	BT	EVALER,EVALER-1	08406	27	07666	07665
07320	TF	SFA,SUBSM+5,,SAVE FILE ADR.OF BLOCK WHERE SYMBOL WAS FOUND.	08418	26	03951	03591
07330	AM	BSBF-1 ,5,10, MOVE SYMBOL ADDRESS	08430	11	09045	000-5
07340	TF	BETA,BSBF-1,11, INTO BETA	08442	26	02694	0904N
07350	BNF	++48, RELSW	08454	44	08502	02478
07360	BNF	++36, BETA	08466	44	08502	02694
07370	TDM	RSYMSW, 1,11	08478	15	07991	0000J
07380	CF	BETA	08490	33	02694	00000
07390	B7	DIGALF	08502	49	06488	
07400	CFIL	TF ++35,SYMTAD,,,INITIALIZE SUB-INSTR. TO READ FIRST FILE BLK	08510	26	08545	02641
07410	AM	++23,SPBL	08522	11	08545	-0040
07420	TFM	SUBSM+5	08534	16	03591	-0000
07430	TR	LIM-9,LIMITSF-9,,INITIALIZE FOR FULL BLOCK	08546	31	03836	03983
07440	C	SUBSM+5,SFA,,CHK.IF THIS BLOCK HAS ALREADY BEEN SEARCHED	08558	24	03591	03951
07450	BE	CHPCNT	08570	46	08678	01200
07460	*	SAVE DIGIT AT LOSYMB+1				
07470	TD	MURI ,LOSYMB+1	08582	25	02631	19998
07480	TD	LOSYMB+1,SPSGM	08594	25	19998	02560
07490	*	READ BLOCK OF SYMBOLS FROM FILE				
07500	TFM	IORT,++23	08606	16	00565	-8629
07510	B	IOGT,DEFSM,7	08618	49	00566	-1577
07520	TD	LOSYMB+1,MURI	08630	25	19998	02631
07530	BT	BSERCH,BSERCH-1	08642	27	08794	08793
07540	AM	BLKCTR,1,10	08654	11	03995	000-1
07550	BD	GOTIT,EQSW	08666	43	08418	09021
07560	CMPCNT	C BLKCTR,BLX	08678	24	03995	02643
07570	BM	GOTIT-36	08690	46	08382	01100
07580	BL	CFIL+12	08702	47	08522	01300
07590	C	SFA,SYMTAD	08714	24	03951	02641
07600	BE	GOTIT-36	08726	46	08382	01200
07610	TF	SUBSM+9,SYMTAD,,,MOVE FILE ADR.OF PARTIAL BLOCK TO SUBIN	08738	24	03591	02441
07620	TR	LIM-9,LIMITSF-9	08750	31	03836	02498
07630	TF	LIM,LIMITSF	08762	26	03845	03992
07640	B7	CFIL+48	08774	49	08558	
07650	*	BINARY SYMBOL TABLE SEARCH SUBROUTINE				
07660	NDP		08782	41	00000	00000
07670	BSERCH	TF BSBF, CLERER+5	08794	26	09044	02720
07680	A	BSBF, LIM	08806	21	09044	03845
07690	A	BSBF, LIM-5	08818	21	09044	03840
07700	TF	BSAV, BSBF	08830	26	09052	09044
07710	A	BSBF, BSBF	08842	21	09044	09044
07720	A	BSBF, BSBF	08854	21	09044	09044
07730	A	BSBF, BSAV	08866	21	09044	09052

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07740	BD	++24, BSBF	08878	43	08902	09046
07750	AM	BSBF-1, 8,10	08890	11	09045	000-8
07760	SM	BSBF-1, 8,10	08902	12	09045	000-8
07770	C	BSBF-1, LIM-5	08914	24	09045	03840
07780	BME	++26	08926	47	08952	01200
07790	TDM	EQSW, 0	08938	15	09021	00000
07800	BB2		08950	42		
07810	C	COLL-2,BSBF-1,11	08952	24	02437	0904M
07820	BME	BSNEQ	08964	47	08990	01200
07830	TDM	EQSW, 1,11	08976	15	09021	0000J
07840	BB2		08988	42		
07850	BSNEQ	BH BSMI	08990	46	09022	01100
07860	TF	LIM, BSBF-1	09002	26	03845	09045
07870	B7	BSEARCH	09014	49	08794	
07880	BSMI	TF LIM-5, BSBF-1	09022	26	03840	09045
07890	B7	BSEARCH	09034	49	08794	
07900	EQSW	DS , BSMI-1	09021			0
07910	BSBF	DC 6,0	09046			6
		-00000				
07920	BSAV	DC 6,0	09052			6
		-00000				
07930	TEST	DS 5	09057			5
07940	BB2	DC 6,424272	09063			6
		M24272				
07950	TYPE	DS 2	09065			2
07960	TESTAD	DS 5	09070			5
07970	PLACE	DS 5	09075			5
07980	SUBENT	DS 5	09080			5
07990	CNTR	DS 2	09082			2
08000	TBLEND	DS 5	09087			5
08010	OPER	DS 2	09089			2
08020	BSM	DS 1	09090			1
08030	DSABOX	DSC 11,0'	09091			11
		0000000000'				
08040	DS	1	09102			1
08050	NMOAL	DS 1	09103			1
08060	SMODE	DS 1	09104			1
08070	DMSV	DS 5	09109			5
08080	DIGITS	DS 5	09114			5
08090	**	INSTRUCTIONS TO BRING IN PHASE B6				
08100	DC	5,12345	09119			5
		J2345				
08110	GAT	TFM CFFA,DFADD3	09120	16	02629	-9144
08120	BT	CFF,GAT-1	09132	27	02592	09119
08130	DFADD3	DDA ,0,86DAD,86SCT,INSTRN	09144			14
		0J9151-29J2734				
08140	DC	1,'	09158			1
		'				
08150	**	INSTRUCTIONS TO BRING IN PHASE B5				
08160	DC	5,12345	09163			5
		J2345				
08170	GIT	TFM CFFA,DFADD2	09164	16	02629	-9188
08180	BT	CFF,GIT-1	09176	27	02592	09163
08190	DFADD2	DDA ,0,85DAD,85SCT,INSTRN	09188			14
		0J9122-29J2734				
08200	DC	1,'	09202			1
		'				

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08210	**	INSTRUCTIONS TO BRING IN PHASE B4				
08220	DC	5,12345	09207			5
		J2345				
08230	GETT	TFM CFFA,DFADD	09208	16	02629	-9232
08240	BT	CFF,GETT-1	09220	27	02592	09207
08250	DFADD	DDA ,0,84DAD,84SCT,LINPRT	09232			14
		0J9069-33-9310				
08260	DC	1,'	09246			1
		'				
08270	**	INSTRUCTIONS TO RESTORE PHASE B3				
08280	DC	5,12345	09251			5
		J2345				
08290	GEET	TFM CFFA,DFADD1	09252	16	02629	-9288
08300	TFM	X,PHASEB	09264	16	04012	-4182
08310	BT	CFF,GEET-1	09276	27	02592	09251
08320	DFADD1	DDA ,0,83DAD,83SCT,83MAD	09288			14
		0J9000-69-9100				
08330	DC	1,'	09302			1
		'				
08340	*	TO LOAD PHASE B2 TO THE FILE				
08350	F3	34 SUB3,701	09304	34	09352	00701
08360		38 SUB3,702	09316	38	09352	00702
08370	TRA		09328	36	00000	00500
			09340	49	00000	00000
08380	SUB3	DDA ,0,82DAD,82SCT,PHASEB-12	09352			14
		0J9200-52-4170				
08390	TCO	F3	09304			
08400	DORG	F3	09304			
08410	*	THE ROUTINE WHICH FOLLOWS TAKES CARE OF THE				
08420	*	OUTPUT FOR THE PROCESSOR				
08430	*					
08440	DC	5,00000	09308			5
		-0000				
08450	LINPRT	CF ADDRS-4	09310	33	03490	00000
08460	CF	LNTH-4	09322	33	02383	00000
08470	*					
08480	*	IF A TYPED LISTING IS TO BE MADE, TYPE ADDRESS				
08490	*					
08500	BNF	++36,LSTYSW	09334	44	09370	02480
08510	WNTY	ADDRS-4	09346	38	03490	00100
08520	SPTY		09358	34	00000	00101
08530	CM	LINPRT-1,DDINST	09370	14	09309	00366
08540	BE	DDINST	09382	46	10366	01200
08550	BNF	BRNCH-24,LSTYSW	09394	44	09418	02480
08560	*					
08570	*	IF A DECLARATIVE, ALSO TYPE LENGTH				
08580	*					
08590	WNTY	LNTH-4	09406	38	02383	00100
08600	SF	LNTH-4	09418	32	02383	00000
08610	SF	ADDRS-4	09430	32	03490	00000
08620	BRNCH	B LINPRT-1,,6	09442	49	0930R	00000
08630	DODS	BTM LSTOUT,++12 ,,PUNCH DS OR DNB LIST DECK CARD	09454	17	12466	-9466
08640	BD	X,INTBUF+6,6	09466	43	0401K	03608
08650	*					
08660	*	GENERATE OUTPUT FOR NUMERIC BLANKS				

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09810	RELOOG	TD	IC,RELOOG-1	10676	25	03868	10675
09820		BNF	++36,RLRLSW	10688	44	10724	04007
09830		BNF	++24,RELSW	10700	44	10724	02478
09840		CF	IC	10712	33	03868	00000
09850		BD	++48,RELSW	10724	43	10772	02478
09860		CM	IC,1,1011	10736	14	03868	000-J
09870		BNE	++24	10748	47	10772	01200
09880		TDM	IC,2,11	10760	15	03868	0000K
09890		BB2		10772	42		
09900	SECINS	BT	CLOUT,CLOUT-1	10774	27	08168	08167
09910		TR	ZEPO,ZEPO+12	10786	31	02300	02312
09920		AM	ADDRS,12	10798	11	03494	-0012
09930		BTM	LSTOUT,++12	10810	17	12466	J0822
09940		TF	FRSTAD,LSTAD	10822	26	03873	03883
09950		AM	LSTAD,12	10834	11	03883	-0012
09960		BNF	DDINST+60,LSTYSW	10846	44	10426	02480
09970		RCTY		10858	34	00000	00102
09980		DC	1,1,0-4	10865		1	
09990		TBTY		10870	34	00000	00108
10000		CF	ADDRS-4	10882	33	03490	00000
10010		WNTY	ADDRS-4	10894	38	03490	00100
10020		SF	ADDRS-4	10906	32	03490	00000
10030		SPTY		10918	34	00000	00101
10040		B	DDINST+60	10930	49	10426	00000
10050		DORG	0-1	10940			
10060	*						
10070	*						
10080	*		THE FOLLOWING ROUTINE ARRANGES THE OBJECT OUTPUT TO THE FILE				
10090	STACKR	TD	STNUCD+13,STACKR-1	10940	25	11995	10939
10100		BNF	NEWCAR,FRSTMT,, GO TO NEWCAR IF THIS IS FIRST ENTRY	10952	44	11606	04006
10110		CM	7TY5,75,,CHK,IF CARD IS EMPTY	10964	14	03866	-0075
10120		BE	MODIFI	10976	46	11814	01200
10130		BD	BRSEQ,IC,,CHK,FOR TCD	10988	43	11008	03868
10140		B7	INDADR	11000	49	11438	
10150	BRSEQ	C	TESTAD,FRSTAD,,TEST FOR BREAK IN ADDRESS SEQUENCE	11008	24	09070	03873
10160		BNE	REMAIL	11020	47	11482	01200
10170		C	TYPE,IC,,TEST FOR KIND OF STATEMENT	11032	24	09065	03868
10180		BNE	NEWIL	11044	47	11550	01200
10190		TFM	TEST,0	11056	16	09057	-0000
10200		TFM	TRDATA+11,OUT+2	11068	16	11271	-2220
10210		TDM	OUT-7,0	11080	15	02211	00000
10220	FIT	S	7TY5,TEST,,	11092	22	03866	09057
10230		BNP	SETFRM,,NO,GO TO SET FLAG REC.MARK	11104	47	11802	01100
10240		S	7TY5,LNTH,,NOW SEE IF DATA FITS	11116	22	03866	02387
10250		BNZ	++24	11128	47	11152	01200
10260		TFM	7TY5,75	11140	16	03866	-0075
10270		BNL	CHKRM	11152	46	11200	01300
10280		TD	++22,IC,, NO,TEST	11164	25	11186	03868
10290		CM	++8,20000,79,FOR	11176	14	11184	K0-00
10300		BNE	SETFRM,, CONSTANT	11188	47	11802	01200
10310	CHKRM	BNR	TRDATA,OUT-7	11200	45	11260	02211
10320		TD	TRDATA+6,OUT-7,6	11212	25	11260	02211
10330		AM	ABBA,1,10	11224	11	04005	000-1
10340		TDM	OUT-7,0	11236	15	02211	00000
10350		SM	TEST,1,10	11248	12	09057	000-1

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10360	TRDATA	TR	ABBA,,6,MOVE DATA (PLUS ADDR,,IND.LEN,ETC) TO OUTPUT BUFFER	11260	31	0400N	00000
10370		BNF	++20,7TY5	11272	44	11292	03866
10380		B7	SPLIT	11284	49	12070	
10390		A	STKLEN,LNTH,6,UPDATE LENGTH	11292	21	03870	02387
10400		A	ABBA,TEST	11304	21	04005	09057
10410		A	ABBA,LNTH	11316	21	04005	02387
10420		TF	TESTAD,LSTAD,, STORE ADDR.OF LAST POSN.+1	11328	26	09070	03883
10430		TF	TYPE,IC,,STORE INDIC.CODE.	11340	26	09065	03868
10440		SD	++36,IC	11352	43	11388	03868
10450		TD	TRDATA+6,FLGRM,6	11364	25	11260	03884
10460		TFM	7TY5,75	11376	16	03866	-0075
10470		TDM	FRSTMT,1,11	11388	15	04006	0000J
10480		BNF	++24,DUMP1+11,,CK,FOR CONST.WHOSE LAST POSN.IS A REC.MRK.	11400	44	11424	03521
10490		TDM	TYPE-1,1,11,SET INDICATOR THAT CONST.HAS RECORD MARK	11412	15	09064	0000J
10500		TDM	DUMP1+11	11424	15	03521	00000
10510	REETRN	BB2		11436	42		
10520	*		SET UP FOR INDICATOR AND ADDRESS--TCD				
10530	INDADR	TDM	HUB1+11,6	11438	15	11673	00006
10540		TDM	HUB1+35,5	11450	15	11697	00005
10550		TFM	HUB2+11,OUT-7	11462	16	11709	-2211
10560		B7	HUB1	11474	49	11662	
10570	*		SET UP FOR REC.MRK.,ADDRESS,INDICATOR AND LENGTH				
10580	REMAIL	TD	OUT-7,LNTH+1	11482	25	02211	02388
10590		TDM	HUB1+11,9	11494	15	11673	00009
10600		TDM	HUB1+35,8	11506	15	11697	00008
10610		TFM	HUB2+11,OUT-6	11518	16	11709	-2212
10620		TF	OUT-2,FRSTAD	11530	26	02216	03873
10630		B	HUB	11542	49	11638	00000
10640		DORG	0-3	11550			
10650	*		SET UP FOR NEW INDICATOR AND LENGTH				
10660	NEWIL	TDM	TYPE-1,11,TURN OFF ' INDICATOR	11550	15	09064	0000-
10670		TDM	HUB1+11,3	11562	15	11673	00003
10680		TDM	HUB1+35,2	11574	15	11697	00002
10690		TFM	HUB2+11,OUT-1	11586	16	11709	-2217
10700		B	HUB	11598	49	11638	00000
10710		DORG	0-3	11606			
10720	*		SET UP FOR NEW 75-DIGIT RECORD- NEW ADDRESS,IND.AND LENGTH.				
10730	NEWCAR	TDM	HUB1+11,8	11606	15	11673	00008
10740		TDM	HUB1+35,7	11618	15	11697	00007
10750		B	REMAIL+36	11630	49	11518	00000
10760		DORG	0-3	11638			
10770	HUB	TD	OUT-1,IC	11638	25	02217	03868
10780		TFM	OUT+1,0,10	11650	16	02219	000-0
10790	HUB1	TFM	TEST	11662	16	09057	-0000
10800		TF	STKLEN,ABBA	11674	26	03878	04005
10810		AN	STKLEN,	11686	11	03878	-0000
10820	HUB2	TFM	TRDATA+11,	11698	16	11271	-0000
10830		TD	++22,IC	11710	25	11732	03868
10840		CM	++8,40000,79	11722	14	11730	M0-00
10850		BNE	FIT	11734	47	11092	01200
10860		A	OUT+1,LNTH	11746	21	02219	02387
10865		A	OUT+1,LNTH2	11758	21	02219	09600
10866		TF	LNTH2,LNTH	11770	26	09600	02387
10870		TFM	LNTH,0	11782	16	02387	-0000
10880		B7	FIT	11794	49	11092	
10890	*		SET A FLAGGED RECORD MARK TERMINATING ONE CARD				

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10900	SETFRM	TD	TRDATA+6,FLGRM,6	11802	25	11260	03884
10910	MODIFI	TFM	7TY5,75,,INITIALIZE FULL CARD COUNTER	11814	16	03866	-0075
10920		TR	PKMOD,PKMOD+5	11826	31	03906	03911
10930		BNR	STNUCD,PKMOD	11838	45	11982	03906
10940		C	SUBIN+5,SUBOUT+5	11850	24	03543	03567
10950		BNH	OVRLAP	11862	47	12174	01100
10960	*		WRITE 3 SECTORS -- 4 CARDS -- TO THE FILE				
10970		TFM	IORT,+23	11874	16	00565	J1897
10980		B	IORBC,DEFOUT,7	11886	49	00520	-3553
10990		TFM	+30,INPUT2+99	11898	16	11928	-3382
11000		SM	+18,1,10	11910	12	11928	000-1
11010		TDM	+-,0	11922	15	00000	00000
11020		CM	+6,PACK	11934	14	11928	-2980
11030		BNE	+36	11946	47	11910	01200
11040		AM	SUBOUT+5,3,10	11958	11	03567	000-3
11050		TR	PKMOD,PACKAD-4,,INITIALIZE BUFFER ADDRESSES	11970	31	03906	03885
11060	STNUCD	TF	ABBA,PKMOD+4,,ADDRESS OF NEW CARD MOVED TO ABBA	11982	26	04005	03910
11070		B	+8,,BRANCH BACK OR CONTINUE	11994	49	12002	00000
11080		DORG	+3	12002			
11090		TDM	OUT-7,0	12002	15	02211	00000
11100		BD	NEWCAR,IC	12014	43	11606	03868
11110		TF	1STYCD,ADDRS	12026	26	03942	03494
11120		TD	1STYCD-5,IC	12038	25	03937	03868
11130		TR	TRDATA+6,1STYCD-10,6	12050	31	11260	03932
11140		B7	RETRN-60	12062	49	11376	
11150	*		ROUTINE TO HANDLE THE CASE WHERE DATA OVERFLOWS FROM ONE				
11160	*		CARD TO ANOTHER				
11170	SPLIT	A	LNTH,7TY5,, MOVE PARTIAL	12070	21	02387	03866
11180		TFM	+35,OUT+2,, DATA	12082	16	12117	-2220
11190		A	+23,LNTH,, INTO	12094	21	12117	02387
11200		TR	OUT+2,, OUT+2	12106	31	02220	00000
11210		A	FRSTAD,LNTH,,OBTAIN ADDRESS OF NEW FIRST DIGIT	12118	21	03873	02387
11220		CF	7TY5	12130	33	03866	00000
11230		A	STKLEN,LNTH,6	12142	21	03870	02387
11240		TF	LNTH,7TY5	12154	26	02387	03866
11250		B7	MODIFI	12166	49	11814	
11260	*		ERROR ROUTINE -- FINAL OUTPUT HAS OVERLAPPED INT. OUTPUT				
11270	OVRLAP	TFM	EVALER-2,72710	12174	16	07664	P2710
11280		BT	EPRINT,EPRINT-1	12186	27	08064	08063
11290		B7	MONCAL	12198	49	00796	
11300	*						
11310	*		NUMERIC TO ALPHA CONVERTER				
11320	*						
11330		DS	5	12209		5	
11340	FILL	TR	FILBUF,FILL-1,11	12210	31	12442	1220R
11350		TFM	FCHBUF, 70,10	12222	16	12459	000P0
11360		TD	FCHBUF, FILBUF+4, 11	12234	25	12459	12440
11370		BNF	+60, FCHBUF	12246	44	12306	12459
11380		TDM	FCHBUF-1, 5,11	12258	15	12458	0000N
11390		CF	FCHBUF	12270	33	12459	00000
11400		BD	+24, FCHBUF	12282	43	12306	12459
11410		TDM	FCHBUF-1, 2,11	12294	15	12458	0000K
11420		BNR	+24,FCHBUF	12306	45	12330	12459
11430		TFM	FCHBUF,34,10	12318	16	12459	000L4
11440		TF	FILBUF+14, FCHBUF,6	12330	26	12450	12459
11450		AM	FILBUF+4, 1,10	12342	11	12446	000-1

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11460		AM	FILBUF+14, 2,10	12354	11	12456	000-2
11470		C	FILBUF+4, FILBUF+9	12366	24	12446	12451
11480		BNH	FILL+12	12378	47	12222	01100
11490		BB2		12390	42		
11500		DS	5	12396		5	
11510	CVACT	TFM	ACTFIL+5,ZEPO	12398	16	12710	-2300
11520		A	ACTFIL+5,LNTH	12410	21	12710	02387
11530		BTM	FILL,ACTFIL-4	12422	17	12210	J2701
11540		B	CVACT-1,,6	12434	49	1239P	00000
11550		DORG	+3	12442			
11560	FILBUF	DSS	16	12442		16	
11570	FCHBUF	DS	2	12459		2	
11580		DS	5	12464		5	
11590	*		THE FOLLOWING ROUTINE ARRANGES THE OUTPUT OF THE LISTING				
11600	*		DECK				
11610	LSTOUT	BTM	FILL,ADRFIL-4,,ADDRESS	12466	17	12210	J2637
11620		TDM	INPUT2+2+61-3,7	12478	15	03402	00007
11630		CM	LINPRT-1,DOINST	12490	14	09309	J0366
11640		BNE	LSTCON	12502	47	12558	01200
11650		BTM	FILL,OPFIL-4,,OP.CODE	12514	17	12210	J2653
11660		BTM	FILL,PFIL-4,,P-FIELD	12526	17	12210	J2669
11670		BTM	FILL,QFIL-4,,Q-FIELD	12538	17	12210	J2685
11680		B7	PUNCH	12550	49	12582	
11690	LSTCON	BTM	FILL,LNTHFL-4	12558	17	12210	J2717
11700		TDM	INPUT2+2+67-3,7	12570	15	03414	00007
11710	PUNCH	BNF	GOCL,LSCDSW	12582	44	12618	02479
11720		TFM	IORT,+23	12594	16	00565	J2617
11730		B	IOPT,COPDEF-4,7	12606	49	00532	-4162
11740	GOCL	BT	CLOUT,CLOUT-1	12618	27	08168	08167
11750		B7	LSTOUT-1,,6	12630	49	1246N	
11760	ADRFIL	DSA	ADDRS-4,ADDRS,INPUT2+2+61-2	12641		5 X	3
				12641		-3490	
				12646		-3494	
				12651		-3403	
				12652		1	
11770	DC	1,'					
11780	OPFIL	DSA	ZEPO ,ZEPO+1,INPUT2+2+67-2	12657		5 X	3
				12657		-2300	
				12662		-2301	
				12667		-3415	
				12668		1	
11790	DC	1,'					
11800	PFIL	DSA	ZEPO+2,ZEPO+6,INPUT2+2+70-2	12673		5 X	3
				12673		-2302	
				12678		-2306	
				12683		-3421	
				12684		1	
11810	DC	1,'					
11820	QFIL	DSA	ZEPO+7,ZEPO+11, INPUT2+2+76-2	12689		5 X	3
				12689		-2307	
				12694		-2311	
				12699		-3433	

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11830	DC	1,'		12700	1		
11840	ACTFIL	DSA	ZEPD+1,0-0 ,INPUT2+2*73-2	12705	5 X	3	
				12705			-2301
				12710			-0000
				12715			-3427
				12716			1
11850	DC	1,'					
11860	LNTMPL	DSA	LNTM-4,LNTH,INPUT2+2*67-2	12721	5 X	3	
				12721			-2383
				12726			-2387
				12731			-3415
				12732			1
11870	DC	1,'					
11880	*						
11890	*						
11900	*		ASSEMBLE INSTRUCTION				
11910	INSTRN	TD	++23,ADDCOM	12734	25	12757	02674
11920	TD		++23,AJUST	12746	25	12769	02399
11930	AM		ADDCOM,,10	12758	11	02674	000-0
11940	TFM		LINPRY-1,DOINST	12770	16	09309	J0366
11950	TD		ZEPD,INTBUF	12782	25	02300	03602
11960	TD		ZEPD+1,INTBUF+1	12794	25	02301	03603
11970	BTM		SCAN,++12	12806	17	06076	J2818
11980	TR		ZEPD+2,CLERER+43	12818	31	02302	02758
11990	TR		ZEPD+2,ADDRS-4	12830	31	02302	03490
12000	CF		ZEPD+2	12842	33	02302	00000
12010	BNF		++24,RLOCSW	12854	44	12878	07992
12020	SF		ZEPD	12866	32	02300	00000
12030	TR		INPUT+19,INPUT+21	12878	31	02808	02810
12040	BTM		SCAN,++12	12890	17	06076	J2902
12050	TR		ZEPD+7,ADDRS-4	12902	31	02307	03490
12060	CF		ZEPD+7	12914	33	02307	00000
12070	BNF		++24,RLOCSW	12926	44	12950	07992
12080	SF		ZEPD+1	12938	32	02301	00000
12090	*		SET THE Q-MODIFIERS				
12100	OPCODE	TFM	HVEMOD+6,ZEPD+6	12950	16	13040	-2306
12110	TFM		CHKMOD+11,INTBUF+1	12962	16	13033	-3603
12120	ADDI	AM	CHKMOD+11,1	12974	11	13033	-0001
12130	CM		CHKMOD+11,INTBUF+7	12986	14	13033	-3609
12140	BE		TYPINS	12998	46	13066	01200
12150	AM		HVEMOD+6,1	13010	11	13040	-0001
12160	CHKMOD	BNF	ADDI	13022	44	12974	00000
12170	HVEMOD	TD	,CHKMOD+11,11	13034	25	00000	13031
12180	CF		HVEMOD+6,,6	13046	33	1304-	00000
12190	B7		ADDI	13058	49	12974	
12200	TYPINS	TF	ADDRS,ADDCOM	13066	26	03494	02674
12210	AM		ADDCOM,11	13078	11	02674	-0011
12220	C		INPUT+16,082	13090	24	02805	09063
12230	BNE		CHKBT	13102	47	13134	01200
12240	SM		ADDCOM,10,10	13114	12	02674	000J0
12250	B7		FLAGGR	13126	49	13170	
12260	CHKBT	CM	INPUT+14,4277,8	13134	14	02803	0M277
12270	BNE		FLAGGR	13146	47	13170	01200

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12280	SM		ADDCOM,5	13158	12	02674	-0005
12290	*						
12300	*		CHECK TO SEE IF THERE IS A FLAG OPERAND				
12310	*						
12320	FLAGGR	TR	INPUT+19,INPUT+21	13170	31	02808	02810
12330	BNR		++20,INPUT+20	13182	45	13202	02809
12340	B7		SEEIM	13194	49	13246	
12350	CM		INPUT+20,23,10	13202	14	02809	000K3
12360	BE		SEEIM	13214	46	13246	01200
12370	BD		MGRUDR,INPUT+19	13226	43	13402	02808
12380	B7		FLAGGR	13238	49	13170	
12390	*						
12400	*		SET FLAG IF IMMEDIATE INSTRUCTION				
12410	*						
12420	SEEIM	TD	++21,INTBUF	13246	25	13267	03602
12430	CM		++9,1,810	13258	14	13267	0-0-1
12440	BNE		LINPRY	13270	47	09310	01200
12450	C		++23,INTBUF+1	13282	24	13305	03603
12460	B1		LINPRY,1219,10	13294	46	09310	012J5
12470	SF		ZEPD+7	13306	32	02307	00000
12480	B7		LINPRY	13318	49	09310	
12490	*						
12500	*		SCAN FLAG OPERAND				
12510	*						
12520	TRANS	TR	INPUT+19,INPUT+21	13326	31	02808	02810
12530	BNR		++20,INPUT+20	13338	45	13358	02809
12540	B7		LINPRY	13350	49	09310	
12550	BD		++20,INPUT+19	13358	43	13378	02808
12560	B7		TRANS	13370	49	13326	
12570	CM		INPUT+20,23,10	13378	14	02809	000K3
12580	BE		LINPRY	13390	46	09310	01200
12590	MGRUDR	CM	INPUT+20,71,10	13402	14	02809	000P1
12600	BNE		ABLE	13414	47	13570	01200
12610	BNR		++20,INPUT+22	13426	45	13446	02811
12620	B7		ABLE	13438	49	13570	
12630	C		ZERONE+9,INPUT+22	13446	24	13611	02811
12640	BNE		BAKR	13458	47	13502	01200
12650	SF		ZEPD+10	13470	32	02310	00000
12660	CHAR	TR	INPUT+19,INPUT+23	13482	31	02808	02812
12670	B7		TRANS+12	13494	49	13338	
12680	BAKR	C	ZERONE+11,INPUT+22	13502	24	13613	02811
12690	BNE		ABLE	13514	47	13570	01200
12700	BNR		++20,INPUT+24	13526	45	13546	02813
12710	B7		ZERONE	13538	49	13602	
12720	C		ZERONE+9,INPUT+24	13546	24	13611	02813
12730	BNE		ZERONE	13558	47	13602	01200
12740	ABLE	TD	++18,INPUT+20	13570	25	13588	02809
12750	SF		ZEPD	13582	32	02300	00000
12760	B7		TRANS	13594	49	13326	
12770	ZERONE	SF	ZEPD+11,7071,810	13602	32	02311	0POP1
12780	B7		CHAR	13614	49	13482	
12790	CNT	DS	2,CHAR-1	13626			2
12800	*						
12810	*		EVALUATE LENGTH OF DS OR DNB				
12820	*						
12830	DSDNB	BTM	SCAN,++12	13622	17	06076	J3634

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12840	TF	LNTH,ADDRS	13634	26	02387	03494
12850	BD	++48,INTBUF+6	13646	43	13694	03608
12860	CM	LNTH,100	13658	14	02387	-0100
12870	BN	++24	13670	47	13694	01300
12880	TFM	LNTH,99	13682	16	02387	-0099
12890	TR	INPUT+19,INPUT+21	13694	31	02808	02810
12900	BTM	SCAN,++12	13706	17	06076	J3718
12910	BD	++32,BSW	13718	43	13750	09090
12920	TD	KLRLSW,RLOCSW	13730	25	04007	07992
12930	B7	PRDS	13742	49	13818	
12940	*					
12950	*	ADDRESS ASSIGNED BY PROCESSOR				
12960	*					
12970	TF	ADDRS,ADDCOM	13750	26	03494	02674
12980	A	ADDCOM,LNTH	13762	21	02674	02387
12990	BD	DSS,INTBUF+5	13774	43	13806	03607
13000	A	ADDRS,LNTH	13786	21	03494	02387
13010	B7	DSS+12	13798	49	13818	
13020	OSS	AM ADDR5,1,10	13806	11	03494	000-1
13030	PRDS	BTM LINPRT,ODDS	13818	17	09310	-9454
13040	*					
13050	*	EVALUATE LENGTH OF DAS				
13060	*					
13070	DAS	BTM SCAN,++12	13830	17	06076	J3842
13080	TF	LNTH,ADDRS	13842	26	02387	03494
13090	A	LNTH,LNTH	13854	21	02387	02387
13100	TF	TEMPR,LNTH	13866	26	02571	02387
13110	BNR	NOADD,INPUT+20	13878	45	13970	02809
13120	*					
13130	*	ADDRESS ASSIGNED BY PROCESSOR				
13140	*					
13150	TD	++23,ADDCOM	13890	25	13913	02674
13160	TD	++23,JSTBL	13902	25	13925	02459
13170	AM	ADDCOM,,10	13914	11	02674	000-0
13180	TF	ADDRS,ADDCOM	13926	26	03494	02674
13190	A	ADDCOM,TEMPR	13938	21	02674	02571
13200	SM	ADDCOM,2,10	13950	12	02674	000-2
13210	B7	PRDS	13962	49	13818	
13220	NOADD	TR INPUT+19,INPUT+21	13970	31	02808	02810
13230	BTM	SCAN,++12	13982	17	06076	J3994
13240	BD	DAS+60,BSW	13994	43	13890	09090
13250	TD	KLRLSW,RLOCSW	14006	25	04007	07992
13260	B7	PRDS	14018	49	13818	
13270	*					
13280	*	DEFINE ORIGIN				
13290	*					
13300	DORG	BTM SCAN,++12	14026	17	06076	J4036
13310	TF	ADDCOM,ADDRS	14038	26	02674	03494
13320	*					
13330	*	SET ADDRESS COUNTER TO NEW VALUE				
13340	*					
13350	SM	ADDCOM,1,10	14050	12	02674	000-1
13360	BNF	++24,ADDCOM	14062	44	14086	02674
13370	TFM	ADDCOM,99999	14074	16	02674	R9999
13380	ECLATI	CF ADDRS-4	14086	33	03490	00000
13390	BNF	++24,LSTYSW	14098	44	14122	02480

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13400	WNTY	ADDRS-4	14110	38	03490	00100
13410	BNF	++36,LSCDSW	14122	44	14158	02479
13420	BTM	FILL,ADRFIL-4	14134	17	12210	J2637
13430	WACD	INPUT2	14146	39	03283	00400
13440	B7	PHASEB	14158	49	04182	
13450	*					
13460	*	DEFINE CONSTANT AND DEFINE SPECIAL CONSTANT				
13470	*					
13480	DC	TD DC +23,INTBUF+5	14166	25	14189	03607
13490	CF	CCOMER	14178	33	14318	00000
13500	TFM	SFLAG+11, 00000	14190	16	14517	-0000
13510	BTM	SCAN,++12	14202	17	06076	J4214
13520	TF	LNTH,ADDRS	14214	26	02387	03494
13530	CM	LNTH,51	14226	14	02387	-0051
13540	BL	++24	14238	47	14262	01300
13550	TFM	LNTH,50	14250	16	02387	-0050
13560	TR	ZEPO-1,CLERER	14262	31	02299	02715
13570	TD	ZEPO+51,LNTH+1	14274	25	02351	02388
13580	SF	ZEPO	14286	32	02300	00000
13590	TFM	SFLAG+1, 41,10,	14298	16	14507	000M1
13600	B7	TRREC+12	14310	49	14494	
13610	CCOMER	CM INPUT+22,23,10	14318	14	02811	000K3
13620	BE	TRREC+24	14330	46	14506	01200
13630	BH	TRREC-72	14342	46	14410	01100
13640	CM	INPUT+22, 20,10,	14354	14	02811	000K0
13650	BNE	TRREC,,,	14366	47	14482	01200
13660	SF	CCOMER	14378	32	14318	00000
13670	TFM	SFLAG+1, 32,10,	14390	16	14507	000L2
13680	B7	TRREC	14402	49	14482	
13690	*					
13700	*	COLLECT CONSTANT				
13710	*					
13720	TF	SFLAG+11,INPUT+22	14410	26	14517	02811
13730	TD	ZEPO+51,INPUT+22	14422	25	02351	02811
13740	CM	INPUT+22,60,10	14434	14	02811	00000
13750	BP	++24	14446	46	14470	01100
13760	SF	ZEPO+51	14458	32	02351	00000
13770	TR	ZEPO,ZEPO+1	14470	31	02300	02301
13780	TRREC	TR INPUT+19,INPUT+21	14482	31	02808	02810
13790	BNR	CCOMER,INPUT+22	14494	45	14318	02811
13800	SFLAG	SF ZEPO+50	14506	32	02350	00000
13810	CM	--1,34,10	14518	14	14517	000L4
13820	BNE	++72	14530	47	14602	01200
13830	BNF	++36,ZEPO+50	14542	44	14578	02350
13840	BNF	++24,CCOMER	14554	44	14578	14318
13850	SF	ZEPO+49	14566	32	02349	00000
13860	TD	ZEPO+50,LNTH+1	14578	25	02350	02388
13870	YDM	DUMPI+11,,11	14590	15	03521	0000-
13880	SF	ZEPO	14602	32	02300	00000
13890	C	LNTH,INTBUF+4	14614	24	02387	03606
13900	BNN	++36	14626	46	14662	01300
13910	TF	LNTH,INTBUF+4	14638	26	02387	03606
13915	CF	LNTH-1	14650	33	02386	00000
13920	TFM	++35,ZEPO+50	14662	16	14697	-2350
13930	S	++23,LNTH	14674	22	14697	02387
13940	TR	ZEPO	14686	31	02300	00000

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13950	BD	++24,DC +23	14608	43	14722	14189
13960	SP	ZEPD+1	14710	32	02301	00000
13970	BMR	++24,ZEPD+1	14722	45	14746	02301
13980	CF	ZEPD+1	14734	33	02301	00000
13990	BMR	CHECK,INPUT+23	14746	45	14938	02811
14000	*					
14010	*	ADDRESS ASSIGNED BY PROCESSOR				
14020	*					
14030	GOAMD	TF ADDR,ADDCOW	14758	26	03494	02674
14040	A	ADDCOW,LNTH	14770	21	02674	02387
14050	TF	LSTAD,ADDCOW	14782	26	03883	02674
14060	AM	LSTAD ,1,10	14794	11	03883	000-1
14070	BD	DSC,DC +23	14806	43	14842	14189
14080	A	ADDCOW,LNTH	14818	21	03494	02387
14090	B	DSC+12	14830	49	14854	00000
14100	BSC	AM ADDR,1,10	14842	11	03494	000-1
14110	TR	OUT+2,ZEPD+1	14854	31	02220	02301
14120	TF	FRSTAD,LSTAD	14866	26	03873	03883
14130	S	FRSTAD ,LNTH	14878	22	03873	02387
14140	BMF	++36,DUMP1+11	14890	44	14926	03521
14150	BMR	++24,ZEPD+1	14902	45	14926	02301
14160	TDM	DUMP1+11,1,11	14914	15	03521	0000J
14170	PRDCSA	BTM LINPRT,DOCON	14926	17	09310	-9582
14180	CHECK	TR INPUT+19,INPUT+23	14938	31	02808	02812
14190	BTM	SCAN,++12	14950	17	06076	J4962
14200	BD	GOAMD,BSW	14962	43	14758	09090
14210	TD	KLRLSW,RLOCSW	14974	25	04007	07992
14220	*					
14230	*	ADDRESS ASSIGNED BY PROGRAMMER				
14240	*					
14250	TF	LSTAD ,ADDR	14986	26	03883	03494
14260	BD	++32,DC +23	14998	43	15030	14189
14270	AM	LSTAD ,1,10	15010	11	03883	000-1
14280	B7	DSC+12	15022	49	14854	
14290	A	LSTAD ,LNTH	15030	21	03883	02387
14300	B7	DSC+12	15042	49	14854	
14310	++FLIP	BRANCH TABLE				
14320	DODSF	BTM LINPRT,DOCS	15050	17	09310	-9454
14330	DOCONF	BTM LINPRT,DOCON	15062	17	09310	-9582
14340	PDSAF	BTM LINPRT,PDSA	15074	17	09310	-9778
14350	PCOMP	BTM LINPRT,PCON	15086	17	09310	-9686
14360	LINP	BTM LINPRT,DOINST	15098	17	09310	J0366
14370	DSB	BTM GETT,DSBF	15110	17	09208	-9310
14380	LINKSF	BTM GETT,LINKS	15122	17	09208	J4030
14390	CALEX	BTM GETT,CALEXT	15134	17	09208	J4258
14400	TRA	BTM GIT,MTRA	15146	17	09164	J4128
14410	MACRO	BTM GIT,MACROF	15158	17	09164	J3374
14420	BSA	BTM GIT,DSAF	15170	17	09164	J3046
14430	DEND	BTM GIT,DEMDF	15182	17	09164	J4788
14440	DDA	BTM GIT,DDAF	15194	17	09164	J3682
14450	DGM	BTM GETT,DGMF	15206	17	09208	-9502
14460	DVLC	BTM GETT,DVLCF	15218	17	09208	-9658
14470	RSTR	BTM GETT,RSTRF	15230	17	09208	J0334
14480	SAVE	BTM GETT,SAVEF	15242	17	09208	J0588
14490	DWES	BTM GETT,DWESF	15254	17	09208	J1250
14500	DAC	BTM GETT,DACF	15266	17	09208	J3004

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14510	MAC2	BTM GAT,MACR2	15278	17	09120	J3046
14520	*	LOAD PHASE B3 TO THE FILE				
14530	F2	34 SUB2,701	15290	34	15338	00701
14540	MN	SUB2,702	15302	38	15338	00702
14550	TRA		15314	36	00000	00500
			15326	49	00000	00000
14560	SUB2	DDA ,0,83DAD,83SCT,83MAD	15338		14	
		OJ9000-69-9100				
14570		TCD F2	15290			
14580		DORG LINPRT	09310			
14590	*					
14600	*	EVALUATE LENGTH OF DSB				
14610	*					
14620	DSBF	BTM SCAN,++12	09310	17	06076	-9322
14630	TF	LNTH,ADDRS	09322	26	02387	03494
14640	TR	INPUT+19,INPUT+21	09334	31	02808	02810
14650	BTM	SCAN,++12	09346	17	06076	-9358
14660	BMF	++24,BSW	09358	44	09382	09090
14670	R	ADDRS,1	09370	16	03494	-0801
14680	TF	LNTH,ADDRS	09382	23	02387	03494
14690	SF	99	09394	32	00099	00000
14700	TR	INPUT+19,INPUT+21	09406	31	02808	02810
14710	BTM	SCAN,++12	09418	17	06076	-9430
14720	BMF	ASINE,BSW	09430	44	09478	09090
14730	*					
14740	*	ADDRESS ASSIGNED BY PROCESSOR				
14750	*					
14760	A	LNTH,ADDCOW	09442	21	02387	02674
14770	TF	ADDRS,LNTH	09454	26	03494	02387
14780	A	ADDCOW,99	09466	21	02674	00099
14790	*					
14800	*	ADDRESS ASSIGNED BY PROGRAMMER				
14810	*					
14820	ASINE	TF LNTH,99	09478	26	02387	00099
14830	BTM	GETT,DODSF	09490	17	09252	J5850
14840	*					
14850	*	DEFINE FILE GROUP MARK				
14860	*					
14870	DGMF	TFM LNTH,1	09502	16	02387	-0001
14880	BTM	SCAN,++12	09514	17	06076	-9826
14890	TD	KLRLSW,RLOCSW	09526	25	04007	07992
14900	BMF	++48,BSW	09538	44	09586	09090
14910	AM	ADDCOW,1	09550	11	02674	-0801
14920	TF	ADDRS,ADDCOW	09562	26	03494	02674
14930	TDM	KLRLSW,1,11	09574	15	04007	0000J
14940	TF	FRSTAD ,ADDRS	09586	26	03873	03494
14950	TF	LSTAD ,ADDRS	09598	26	03883	03494
14960	AM	LSTAD ,1,710	09610	11	03883	-00-1
14970	TD	OUT+2,SPS4M	09622	25	02220	03560
14980	TDM	DUMP1+11,1,11	09634	15	03521	0000J
14990	BTM	GETT,PCOMP	09646	17	09252	J5886
15000	*					
15010	*	DEFINE VARIABLE LENGTH ADDRESS CONSTANT				
15020	*					
15030	DVLCF	BTM SCAN, ++12	09658	17	06076	-9670

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15040	TD	KLRLSW,RLOCSW	09670	25	04007	07992
15050	TF	DVADBF+11, ADDR5	09682	26	10249	03494
15060	SF	DVSW2	09694	32	10139	00000
15070	CF	DVSW1	09706	33	10138	00000
15080	BNF	+*36,BSW	09718	44	09754	09090
15090	DVASGM	SF DVSW1,, MACHINE ASSIGNS ADDRESS	09730	32	10138	00000
15100	TDM	KLRLSW,1,11	09742	15	04007	0000J
15110	TR	INPUT+19, INPUT+21	09754	31	02808	02810
15120	BTM	SCAN, +*12	09766	17	06076	-9778
15130	TF	LNTH, ADDR5	09778	26	02387	03494
15140	TR	OUT, CLERER+1	09790	31	02218	02716
15150	TFM	DVTR+6, OUT+2	09802	16	10156	-2220
15160	DVLP	CM LNTH, 00050	09814	14	02387	-0050
15170	BNF	+*48	09826	47	09874	01100
15180	SM	LNTH,50,10	09838	12	02387	00000
15190	S	ADDR5, LNTH	09850	22	03494	02387
15200	TFM	LNTH,50	09862	16	02387	-0050
15210	BNF	+*8+12, DVSW2	09874	44	09970	10139
15220	BNF	+*36, DVSW1	09886	44	09922	10138
15230	TF	DVADBF+11,ADDCOW	09898	26	10249	02674
15240	A	DVADBF+11, LNTH	09910	21	10249	02387
15250	TF	LSTAD , DVADBF+11	09922	26	03883	10249
15260	S	LSTAD , LNTH	09934	22	03883	02387
15270	AM	LSTAD , 1	09946	11	03883	-0001
15280	CF	DVSW2	09958	33	10139	00000
15290	TR	ZEPD, CLERER+2	09970	31	02300	02717
15300	TFM	DVSF+6, ZEPD+51	09982	16	10144	-2351
15310	S	DVSF+6, ADDR5	09994	22	10144	03494
15320	TF	DVAD+11, ADDR5	10006	26	10173	03494
15330	TR	INPUT+19, INPUT+21	10018	31	02808	02810
15340	BTM	SCAN, +*12	10030	17	06076	J0042
15350	BNF	+*60,RLOCSW	10042	44	10102	07992
15360	TFM	EVALER-2,79780	10054	16	07664	P9780
15370	BT	EPRINT,EPRINT-1	10066	27	08064	08063
15380	BD	CORERS,ERSTW	10078	43	07826	02476
15390	TF	ADDR5,CLERER+9	10090	26	03494	02724
15400	CF	ADDR5-4	10102	33	03490	00000
15410	TF	ZEPD+50, ADDR5	10114	26	02350	03494
15420	CF	ZEPD+50-9	10126	33	02341	00000
15430	DVSF	SF 00000,2	10138	32	-0000	00000
15440	DVTR	TR *-*,DVSF+6,211	10150	31	-0000	1014M
15450	DVAD	AM DVTR+6, 00000	10162	11	10156	-0000
15460	BNR	+*20, INPUT+20	10174	45	10194	02809
15470	B7	DVADBF	10186	49	10238	
15480	TR	INPUT+19, INPUT+21	10194	31	02808	02810
15490	BTM	SCAN, +*12	10206	17	06076	J0218
15500	A	LNTH, ADDR5	10218	21	02387	03494
15510	B7	DVLP	10230	49	09814	
15520	DVADBF	TFM ADDR5, 00000	10238	16	03494	-0000
15530	A	LSTAD , LNTH	10250	21	03883	02387
15540	BNF	+*24, DVSW1	10262	44	10286	10138
15550	A	ADDCOW, LNTH	10274	21	02674	02387
15560	TR	ZEPD+1, OUT+2	10286	31	02301	02220
15570	TF	FRSTAD,LSTAD	10298	26	03873	03883
15580	S	FRSTAD, LNTH	10310	22	03873	02387
15590	BTM	GEET,DOCONF	10322	17	09252	J5062

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15600	DVSW1	DS , DVSF	10138		0	
15610	DVSW2	DS , DVSF+1	10139		0	
15620	RSTRF	TD +*23,ADDCOW,, ADJUST	10334	25	10357	02674
15630	TD	+*23,AJUST,, LOCATION	10346	25	10369	02399
15640	AM	ADDCOW,,10, COUNTER	10358	11	02674	000-0
15650	TF	TEMP,ADDCOW	10370	26	02714	02674
15660	TF	FRSTAD ,ADDCOW	10382	26	03873	02674
15670	AM	ADDCOW,23,, UPDATE LOC COUNTER BY MACRO EXPANSION	10394	11	02674	-0023
15680	TF	LSTAD ,ADDCOW	10406	26	03883	02674
15690	TR	ZEPD,RSIN,, MOVE EXPANSION INTO WORK BUFFER	10418	31	02300	10562
15700	BTM	SCAN,+*12,, FIND NUMERIC EQUIV OF 1ST OPERAND	10430	17	06076	J0442
15710	BNF	+*24,BSW	10442	44	10466	09090
15720	TFM	ADDR5,80	10454	16	03494	-0080
15730	CF	ADDR5-4,,MOVE 1ST	10466	33	03490	00000
15740	TR	ZEPD+2,ADDR5-4,, OPERAND INTO MACRO EXPANSION.	10478	31	02302	03490
15750	TR	INPUT+19,INPUT+21,, GO AND GET	10490	31	02808	02810
15760	BTM	SCAN,+*12,, NUMERIC EQUIVALENT OF NEXT OPERAND	10502	17	06076	J0514
15770	TF	ZEPD+11,ADDR5,, INTO MACRO EXPANSION	10514	26	02311	03494
15780	CF	ZEPD+7	10526	33	02307	00000
15790	TF	ADDR5,TEMP	10538	26	03494	02714
15800	BTM	GEET,LINP	10550	17	09252	J5098
15810		* MACRO EXPANSION FOLLOWS				
15820	RSIN	TR 0,0	10562	31	00000	00000
15830	TDM	100,0	10574	15	00100	00000
15840	DC	1,1	10586		1	
15850	SAVEF	TD +*23,ADDCOW,, ADJUST	10588	25	10611	02674
15860	TD	+*23,AJUST,, LOCATION	10600	25	10623	02399
15870	AM	ADDCOW,,10, COUNTER	10612	11	02674	000-0
15880	TF	TEMP,ADDCOW	10624	26	02714	02674
15890	TF	FRSTAD ,ADDCOW	10636	26	03873	02674
15900	AM	ADDCOW,35,, UPDATE COUNTER BY MACRO EXPANSION	10648	11	02674	-0035
15910	TF	LSTAD ,ADDCOW	10660	26	03883	02674
15920	TR	ZEPD,SAVIN,, MOVE MACRO EXPANSION INTO WORK BUFFER	10672	31	02300	10828
15930	BTM	SCAN,+*12,, FIND NUMERIC EQUIV OF 1ST OPERAND	10684	17	06076	J0696
15940	CF	ADDR5-4,, MOVE 1ST	10696	33	03490	00000
15950	TR	ZEPD+14,ADDR5-4,, OPERAND INTO MACRO EXPANSION	10708	31	02314	03490
15960	TR	INPUT+19,INPUT+21,, GO + GET	10720	31	02808	02810
15970	BTM	SCAN,+*12,, NUMERIC EQUIVALENT OF NEXT OPERAND	10732	17	06076	J0744
15980	BNF	+*24,BSW	10744	44	10768	09090
15990	TFM	ADDR5,80	10756	16	03494	-0080
16000	TF	ZEPD+23,ADDR5,, OPERAND INTO MACRO EXPANSION	10768	26	02323	03494
16010	CF	ZEPD+19	10780	33	02319	00000
16020	TDM	ZEPD+11,0,, MOVE RECORD MARK IN EXPANSION	10792	15	02311	00000
16030	DC	1,1,0	10803		1	
16040	TDM	DUMPI+11,1,11	10804	15	03521	0000J
16050	B	RSIN-24	10816	49	10538	00000
16060		* MACRO EXPANSION FOLLOWS				
16070	SAVIN	TDM 100,0	10828	15	00100	00000
16080	TR		10840	31	00000	00000
16090	TDM	100	10852	15	00100	00000
16100	DC	1,1	10864		1	
16110		* SUBROUTINE TO PROCESS CONTROL CHARACTER PHA				
16120	ANAL	CM INPUT+24,4,10, 1ST CHECK IF RT. PAREN. IS PRESENT	10866	14	02813	000-4

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16130	BNE	ANAL4,,, NO LEFT PAREN., ERROR	10878	47	11126	01200
16140	TF	ANAL1+11,INPUT+22,, MOVE CHAR TO ANOTHER LOCATION	10890	26	10949	02811
16150	TR	INPUT+19,INPUT+23,, POSITION INPUT RECORD	10902	31	02808	02812
16160	TFM	**23,CCHAR,, BEGIN CHECKING CONTROL CHAR. 1ST INITIALIZE	10914	16	10937	J1248
16170	CM	ANAL1+11,,, ADDRESSES. CHECK CHARACTERS	10926	24	10949	00000
16180	ANAL1	BE ANAL2,,10, CHARACTER FOUND	10938	46	10998	012-0
16190	CM	ANAL1-1,CCHAR-24,, SEE IF SEARCH IS FINISHED	10950	14	10937	J1224
16200	BE	ANAL4,,, YES, NO CONTROL CHARACTER FOUND	10962	46	11126	01200
16210	SM	ANAL1-1,3,10, NOT FINISHED, MODIFY ADDRESS	10974	12	10937	000-3
16220	B	ANAL1-12,,, BRANCH BACK TO CONTINUE SEARCH	10986	49	10926	00000
16230	ANAL2	TF ANLIC+11,ANAL1-1,, PREPARE TO MOVE CONTROL CHARACTER	10998	26	11057	10937
16240	AM	DIGITS,1,10, SET ADDRESS TO MOVE	11010	11	09114	000-1
16250	TF	**30,DIGITS,, DIGIT INTO OUTPUT BUFFER	11022	26	11052	09114
16260	SM	**23,2,10, PREPARE TO SET CONTROL CHARACTER IN OUTPUT BUFFER	11034	12	11057	000-2
16270	ANLIC	TD,,, INSERT CONTROL DIGIT	11046	25	00000	00000
16280	ANLIB	CM ANAL1+11,54,10,SEE IF ITS A MODE CHANGE	11058	14	10949	000M4
16290	BE	ANAL3	11070	46	11102	01200
16300	ANLIA	BD DMSNUM,NMOAL,, SCANNING FOR NUM MODE	11082	43	11734	09103
16310	B7	DMSB1,,, SCANNING FOR ALPHA MODE	11094	49	11490	
16320	ANAL3	BD DMES2,NMOAL,, CHANGE FROM ALPHA TO NUMERIC	11102	43	11966	09103
16330	B	DMSM1,,, CHANGE FROM NUMERIC TO ALPHA	11114	49	11722	00000
16340	ANAL4	BD ANAL41,NMOAL,, CHECK TO SEE IF ALPHA OR NUMERIC	11126	43	11162	09103
16350	TF	**18,DIGITS,,PREPARE TO CLEAR LOCATION PREVIOUSLY SET WITH 7	11138	26	11156	09114
16360	TDM	,,, CLEAR LOCATION	11150	15	00000	00000
16370	ANAL41	AM DIGITS,1,10, SET IN NEXT LOCATION	11162	11	09114	000-1
16380	TF	**18,DIGITS	11174	26	11192	09114
16390	TDM	,,,	11186	15	00000	00000
16400	DSC	1,,'*	11197			1
16410	CF	ANAL,,, RESET STRAY PAREN SWITCH	11198	33	10866	00000
16420	B	ANLIA	11210	49	11082	00000
16430	DSC	1,1	11222			1
16440	DC	2,57	11224			2
16450	DSC	1,3	11225			1
16460	DC	2,43	11227			2
16470	DSC	1,4	11228			1
16480	DC	2,42	11230			2
16490	DSC	1,5	11231			1
16500	DC	2,41	11233			2
16510	DSC	1,8	11234			1
16520	DC	2,59	11236			2
16530	DSC	1,7	11237			1
16540	DC	2,62	11239			2
16550	DSC	1,6	11240			1

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16560	DC	2,63	11242			2
16570	DSC	1,2	11243			1
16580	DC	2,54	11245			2
16590	DSC	1,9	11246			1
16600	CCHAR	DC 2,46	11248			2
16610	* PROGRAM TO PROCESS DMES, PHASEB					
16620	DMESF	BTM SCAN,**12,,EVALUATE ADDRESS OPERAND TO FIND NUM. VALUE	11250	17	06076	J1262
16630	TDM	DMESW,1,11,SET SWIYCH TO REPLACE - WITH	11262	15	03861	0000J
16640	TDM	SMODE,,, RESET STARTING MODE SWITCH	11274	15	09104	00000
16650	TR	OUT,CLERER,, CLEAR	11286	31	02218	02715
16660	TR	OUT+50,CLERER+1,, OUTPUT BUFFER	11298	31	02268	02716
16670	TFM	DIGITS,OUT+1,, INITIALIZE	11310	16	09114	-2219
16680	BNR	**24,INPUT+20,, CHECK TO SEE OF BREAKER A RM	11322	45	11346	02809
16690	B	DMSER1	11334	49	12550	00000
16700	TFM	MODE1+6,DMESD,,FIND STARTING MODE	11346	16	12724	J1674
16710	BTM	MODE,**12	11358	17	12670	J1370
16720	BNF	DMESA,BSW,,ALPHA CHAR. IN FIELD, ASSUME ALPHA MODE. CHECK	11370	44	11454	09090
16730	TDM	KLRLSW,1,11	11382	15	04007	0000J
16740	TD	**23,ADDCOW,,TO SEE IF ADDRESS OP PROGRAMMER OR PROCESSOR	11394	25	11417	02674
16750	TD	**23,JSTBL,,ASSIGNED PROCESSOR IF NO BRANCH FROM PREV INST.	11406	25	11429	02459
16760	AM	ADDCOW,,10,ADJUST LOCATION COUNTER	11418	11	02674	000-0
16770	TF	ADDRS,ADDCOW,, SET ADDRESS OF MESSAGE TO 2ND DIGIT	11430	26	03494	02674
16780	SM	ADDCOW,2,10, SET LOC COUNTER TO LOC BEFORE MESSAGE	11442	12	02674	000-2
16790	DMESA	TFM MODE1+6,DMESB,, SEARCH FOR CONMA	11454	16	12724	J1478
16800	BTM	MODE,MODE,, ENDING FIELD	11466	17	12670	J2670
16810	DMESB	TDM NMOAL,,, SET SWITCH FOR ALPHA FIELD	11478	15	09103	00000
16820	DMSB1	BTM DTR,DMESC,, SCAN MESSAGE OPERAND	11490	17	12784	J1594
16830	AM	DIGITS,1,10,	11502	11	09114	000-1
16840	TF	**18,DIGITS,, PREPARE TO MOVE IN O	11514	26	11532	09114
16850	TR	DMESB2-2	11526	31	00000	11571
16860	AM	DIGITS,2,10, LEFT PAREN UPDATE DIGIT COUNT BY TWO	11538	11	09114	000-2
16870	TF	**18,DIGITS,, ALLOW FOR CONTROL CHAR IN OUT PUT BUFFER	11550	26	11568	09114
16880	TDM	,,, INSERT EVERYTHING EXCEPT FINAL CONTROL DIGIT	11562	15	00000	00000
16890	DSC	2,,'*-2	11571			2
16900	DMSB2	DSC 1,7,*	11573			1
16910	BNF	ANAL,ANAL,, STRAY PAREN NOT FOUND IF BRANCH	11574	44	10866	10866
16920	B	ANAL4,,, STRAY PAREN	11586	49	11126	00000
16930	DORC	**3	11594			
16940	DMESC	AM DIGITS,2,10, UPDATE DIGIT COUNT BY 2	11594	11	09114	000-2
16950	TF	**18,DIGITS,, ALLOW FOR CHARACTER IN OUTPUT BUFFER	11606	26	11624	09114
16960	TF	INPUT+20,, MOVE CHARACTER FROM INPUT TO OUTPUT BUFF	11618	26	00000	02809
16970	SM	**6,1,10, SET UP ADDRESSES TO CLEAR FLAG	11630	12	11624	000-1
16980	TF	**18,*,-18,, + CLEAR	11642	26	11660	11624
16990	CF	,,,	11654	33	00000	00000
17000	B	DMSB1,,, CONTINUE SCAN	11666	49	11490	00000
17010	DORC	**3	11674			
17020	DMESD	BNF DMES1,BSW,, IS IT A PROGRAMMER SPECIFIED ADDRESS	11674	44	11710	09090
17030	TF	ADDRS,ADDCOW,, NO, MOVE LOC. COUNTER INTO ADDRESS LOC.	11686	26	03494	02674
17040	AM	ADDRS,1,10	11698	11	03494	000-1

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17090	DMES1	TDM	SMODE,1,10, SET SWITCH FOR NUM STARTING MODE	11710	15	09104	000-1
17060	DMSNM1	TDM	NMOAL,1,10, SET SWITCH FOR NUMERIC MODE	11722	15	09103	000-1
17070	DMSNUM	BTM	DTR,DMES11,,SCAN MESSAGE OPERAND	11734	17	12784	J1802
17080	AM	DIGITS,1,10, LEFT PAREN FOUND, UPDATE DIGIT COUNT BY 2	11746	11	09114	000-1	
17090	TF	++18,DIGITS,,ALLOW FOR CONTROL CHAR. IN OUTPUT BUFFER	11758	26	11776	09114	
17100	TDM	,,, MOVE TO BUFFER	11770	15	00000	00000	
17110	DSC	1,,'*	11781		1		
17120	BNF	ANAL,ANAL,, STRAY PAREN NOT FOUND IF BRANCH	11782	44	10866	10866	
17130	B	ANAL4,, STRAY PAREN	11794	49	11126	00000	
17140	DORG	-3	11802				
17150	DMES11	CM	INPUT+20,79,10, CHECK TO SEE IF CHAR IS NUMERIC	11802	14	02809	000P9
17160	BH	DMSER2,, NOT NUMERIC, ERROR	11814	46	11954	01100	
17170	CM	INPUT+20,69,10	11826	14	02809	00009	
17180	BH	DMS12,,NUMERIC IF BRANCH	11838	46	11910	01100	
17190	CM	INPUT+20,50,10, CHECK IF -OTHRU-9	11850	14	02809	00000	
17200	BL	DMSER2,, NON-NUMERIC IF BRANCH	11862	47	11954	01300	
17210	CM	INPUT+20,59,10	11874	14	02809	00009	
17220	BH	DMSER2,, NOT NUMERIC IF BRANCH	11886	46	11954	01100	
17230	SF	INPUT+20	11898	32	02809	00000	
17240	DMES12	AM	DIGITS,1,10, UPDATE DIGIT COUNT BY ONE	11910	11	09114	000-1
17250	TF	++18,DIGITS,, ALLOW FOR DIGIT	11922	26	11940	09114	
17260	TD	,INPUT+20,, MOVE DIGIT TO OUT PUT BUFFER	11934	25	00000	02809	
17270	B	DMSNUM,, BRANCH BACK TO CONTINUE SCAN	11946	49	11734	00000	
17280	DORG	-3	11954				
17290	DMSER2	BTM	DMSR2,DMSNUM,, PUT END OF MESSAGE IN OUTPUT BUFFER	11954	17	12568	J1734
17300	DMES2	TF	++35,DIGITS,, NUMERIC TO ALFA MODE CHANGE,	11966	26	12001	09114
17310	SM	++23,OUT+1,, SEE IF ALPHA STARTS IN EVEN LOCATION	11978	12	12001	-2219	
17320	TFM	DMSV,, INIT. SAVE LOC WITH DIGIT COUNT	11990	16	09109	-0000	
17330	BNF	DMES21,BSW,, SEE IF THERE IS A PROGRAMMER SPEC ADDRESS	12002	44	12034	09090	
17340	A	DMSV,ADDCOW,, NO, ADD LOC COUNTER FOR LOC OF LAST DIGIT	12014	21	09109	02674	
17350	B7	DMES22	12026	49	12082		
17360	DMES21	A	DMSV,ADDRS,,ADD PROG ADDRESS FOR LOC OF LAST DIGIT	12034	21	09109	03494
17370	SM	DMSV,1,10, ADJUST FOR NUMERIC STARTING MODE	12046	12	09109	000-1	
17380	BD	++24,SMODE,, CHECK STARTING MODE	12058	43	12082	09104	
17390	SM	DMSV,1,10, ADJUST FOR ALPHA STARTING MODE	12070	12	09109	000-1	
17400	DMES22	TD	++23,DMSV,, SEE IF CHAR WILL START IN EVEN LOC	12082	25	12105	09109
17410	TD	EVODD+1,EVODD	12094	25	02470	02469	
17420	BD	DMESB,EVODD+1,, WILL START IN EVEN LOCATION	12106	43	11478	02470	
17430	AM	DIGITS,1,10, INSERT	12118	11	09114	000-1	
17440	TF	++18,DIGITS,-	12130	26	12148	09114	
17450	TDM	,,11	12142	15	00000	0000-	
17460	B	DMESB	12154	49	11478	00000	
17470	DORG	++1	12166				
17480	DC	2,-0,-3	12162		2		
17490	DC	3,2',*	12165		3		
17500	DMER1N	TDM	OUT+100,, PUT IN NUMERIC	12166	15	02318	00000
17510	DC	1,,'*	12177		1		
17520	TDM	OUT+101,, END OF MESSAGE	12178	15	02319	00000	
17530	DC	1,,'*	12189		1		
17540	B	DMERIC	12190	49	12250	00000	
17550	DMER1A	TFM	OUT+101,,8, CLEAR LAST FOUR DIGITS FOR END OF MESSAGE	12202	16	02319	0-000

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17560	CF	OUT+98	12214	33	02316	00000	
17570	TDM	OUT+99,,MOVE RM FOR	12226	15	02317	00000	
17580	DC	1,,'*	12237		1		
17590	TDM	OUT+101	12238	15	02319	00000	
17600	DC	1,,'*	12249		1		
17610	DMERIC	TFM	DIGITS,100,, SET DIGIT COUNTER TO 100	12250	16	09114	-0100
17620	B	++96	12262	49	12358	00000	
17630	DMSEND	CM	DIGITS,OUT+1,, CHECK IF OPERAND PRESENT	12274	14	09114	-2219
17640	BNE	++60,, ERROR IF NO MESSAGE OPERAND PRESENT	12286	47	12346	01200	
17650	BD	DMSER1,SMODE,, CHECK MODE	12298	43	12550	09104	
17660	TFM	OUT+5,, MOVE IN ALPHA END OF MESSAGE	12310	16	02223	-0000	
17670	DC	2,,'*-2	12319		2		
17680	DSC	2,,'*-1	12320		2		
17690	CF	OUT+2	12322	33	02220	00000	
17700	TFM	DIGITS,OUT+101	12334	16	09114	-2319	
17710	SM	DIGITS,OUT+1,, SUBTRACT STARTING LOCATION OF O/P BUFFER	12346	12	09114	-2219	
17720	TF	LSTAD ,DIGITS,,MOVE DIGIT COUNT FOR OUTPUT	12358	26	03883	09114	
17730	AM	LSTAD ,1,10, ADD 1 FOR RT LOC +1	12370	11	03883	000-1	
17740	BNF	DMEND1,BSW,, CHECK FOR PROGRAMMER SPECIFIED ADDRESS	12382	44	12430	09090	
17750	A	LSTAD ,ADDCOW,,FORM RT LOC+1	12394	21	03883	02674	
17760	A	ADDCOW,DIGITS,, UPDATE LOC COUNTER TO LAST DIGIT OF CONSTANT	12406	21	02674	09114	
17770	B	DMEND2	12418	49	12478	00000	
17780	DMEND1	A	LSTAD ,ADDRS,, INITIALIZE LEFT MOST WITH PROG SPEC ADDRESS	12430	21	03883	03494
17790	SM	LSTAD ,1,10, ADJUST FOR NUMERIC STARTING MODE	12442	12	03883	000-1	
17800	BD	++24,SMODE,, CHECK IF STARTING MODE ALPHA	12454	43	12478	09104	
17810	SM	LSTAD ,1,10, UES, ADJUST FOR ALPHA STARTING MODE	12466	12	03883	000-1	
17820	DMEND2	TF	FRSTAD ,LSTAD ,, FORM LEFT MOST	12478	26	03873	03883
17830	S	FRSTAD ,DIGITS,, ADDRESS	12490	22	03873	09114	
17840	TF	LNTH,DIGITS,, INITIALIZE LENGTH LOC	12502	26	02387	09114	
17850	NOP	HESOUT+6,INPUT2+5	12514	41	10064	03288	
17860	NOP	HESOUT+11,OUT+2	12526	41	10069	02220	
17870	BTM	GEET,PCONF	12538	17	09252	J5086	
17880	DMSER1	BTM	DMSR2,DMSEND+60,, PUT END OF MESSAGE IN OUTPUT BUFFER	12550	17	12568	J2334
17890	DS	5	12566		5		
17900	DMSR2	AM	DIGITS,1,10	12568	11	09114	000-1
17910	TF	++18,DIGITS	12580	26	12598	09114	
17920	TDM	,,, INSERT	12592	15	00000	00000	
17930	DC	1,,'*	12603		1		
17940	AM	DIGITS,1,10	12604	11	09114	000-1	
17950	TF	++18,DIGITS	12616	26	12634	09114	
17960	TDM	,,, INSERT	12628	15	00000	00000	
17970	DC	1,,'*	12639		1		
17980	TF	++18,DMSR2-1	12640	26	12658	12567	
17990	B		12652	49	00000	00000	
18000	DC	3,-0',*	12663		3		
18010	DC	5,0	12668		5		
18020	MODE	TR	INPUT+19,INPUT+21,, MOVE INPUT RECORD LEFT 1 CHAR	12670	31	02808	02810
18030	BNR	++24,INPUT+20,,NOT BLANK, CHECK FOR RM	12682	45	12706	02809	

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18040	B	DMSND+36	12694	49	12310	00000
18050	CM	INPUT+20,23,10, SEARCH FIELD, CHECK FOR COMNA	12708	14	02809	000K3
18060	MODE1	BE ... COMNA FOUND, BRANCH	12718	46	00000	01200
18070	CM	INPUT+20,,10, COMNA NOT FOUND, CHECK FOR BLANK	12730	14	02809	000-0
18080	BE	MODE,,, BLANK, CHECK NEXT CHARACTER	12742	46	12670	01200
18090	TF	++18,MODE-1,,, ALPHA CHAR IN FIELD, RETURN, OR CHECK	12754	26	12772	12669
18100	B	... NEXT CHAR. ACCORDING TO BRANCH	12766	49	00000	00000
18110	*	* SUBROUTINE TO SHIFT ONE CHARACTER TO THE LEFT IN INPUT BUFFER				
18120	DS	5	12782		5	
18130	DTR	TR INPUT+19,INPUT+21,, MOVE OPERAND LEFT 1 CHAR + SEARCH	12784	31	02808	02810
18140	TF	DMSV,DIGITS,, CHECK NUMBER OF DIGITS	12796	26	09109	09114
18150	SM	DMSV,OUT+1	12808	12	09109	-2219
18160	CM	DMSV,100,9, CHECK DIGIT COUNT	12820	14	09109	00J00
18170	BNH	++36,,, LESS THAN 100, OKAY/ ERROR IF NO BRANCH	12832	47	12868	01100
18180	BD	DMERIN,NMOAL,, TEST SWITCH FOR NUM OR ALPHA, NUM IF BR	12844	43	12166	09103
18190	B	DMERIA,,, ALPHA IF BRANCH FRM HERE	12856	49	12202	00000
18200	BNR	++20,INPUT+20,, FOR RM	12868	45	12888	02809
18210	B7	DMSND	12880	49	12274	
18220	CM	INPUT+20,4,10, CHECK FOR STRAY RT PAREN	12888	14	02809	000-4
18230	BNE	++44,,, NOT A STRAY PAREN IF BRANCH	12900	47	12944	01200
18240	SF	ANAL,,, SET SWITCH FOR STRAY PAREN FOUND	12912	32	10866	00000
18250	BD	DMSNUM+12,NMOAL,, SCANNING IN NUMERIC MODE IF BRANCH	12924	43	11746	09103
18260	B7	DMSB1+12,,, SCANNING IN ALPHA MODE	12936	49	11502	
18270	CM	INPUT+20,24,10, CHK FOR LEFT PAREN	12944	14	02809	000K4
18280	BNE	++24,,,NOT A LEFT PAREN	12956	47	12980	01200
18290	BB	... LEFT PAREN FOUND	12968	42	00000	00000
18300	TF	++18,DTR-1,, NOT A I, ,OR ERROR	12980	26	12998	12783
18310	B	... RETURN	12992	49	00000	00000
18320	*					
18330	*	EVALUATE LENGTH OF DAC				
18340	*					
18350	DACF	BTM SCAN,++12	13004	17	06076	J30
18360	CM	ADDRS,51	13016	14	03494	-00
18370	BNN	ERDAC	13028	46	13792	01300
18380	A	ADDRS,ADDRS	13040	21	03494	03494
18390	TF	TEMPR,ADDRS	13052	26	02571	03494
18400	BNR	++20,INPUT+20	13064	45	13084	02809
18410	B7	++20	13076	49	13096	
18420	BNR	DAC2,INPUT+22	13088	45	13144	02811
18430	CM	ADDRS,0	13096	14	03494	-0000
18440	BH	ERDAC1	13108	46	13884	01100
18450	TFM	INPUT+22	13120	16	02811	-0000
18460	DAC	1,,'*	13131		1 X	2
18470	TFM	INPUT+20,23,10	13132	16	02809	000K3
18480	DAC2	TFM ++35,INPUT+19	13144	16	13179	-2808
18490	A	++23,TEMPR	13156	21	13179	02571
18500	CHVALD	TR OUT+2	13168	31	02220	00000
18510	BNR	++20,OUT+3	13180	45	13200	02221
18520	B7	ERDAC+12	13192	49	13804	
18530	BNR	++20,OUT+5	13200	45	13220	02223
18540	B7	++32	13212	49	13244	
18550	CM	OUT+5,23,10	13220	14	02223	000K3
18560	STCHAR	BNE ERDAC+12	13232	47	13804	01200
18570	TD	STCHAR+11,OUT+5	13244	25	13243	02223
18580	AM	CHVALD+11,3	13256	11	13179	-0003

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18590	TFM	CHVALD+11,,610	13268	16	13179	000-0
18600	DC	1,,'*	13279		1	
18610	CM	OUT+3,34,10	13280	14	02221	000L4
18620	BNE	++60	13292	47	13352	01200
18630	YDM	DUMPI+11,0,11	13304	15	03521	0000-
18640	TF	++30,CHVALD+11	13316	26	13346	13179
18650	SM	++18,2,10	13328	12	13346	000-2
18660	TFM	,,10	13340	16	00000	000-0
18670	DC	1,,'*	13351		1	
18680	STCHAR	TR OUT+2,INPUT+21	13352	31	02220	02810
18690	TF	++35,CHVALD+11	13364	26	13399	13179
18700	AM	++23,1	13376	11	13399	-0001
18710	TR	INPUT+19	13388	31	02808	00000
18720	TFM	++42,OUT+4	13400	16	13442	-2222
18730	A	++30,TEMPR	13412	21	13442	02571
18740	SM	++18,2,10	13424	12	13442	000-2
18750	CF	++6,OUT+4	13436	33	00000	00000
18760	CM	--6,OUT+4	13448	14	13442	-2222
18770	BH	--36	13460	46	13424	01100
18780	BNR	DAC3,STCHAR+11	13472	45	13600	13243
18790	*	ADDRESS ASSIGNED BY PROCESSOR				
18800	*					
18810	MOSINE	TD ++23,ADDCOM	13484	25	13507	02674
18820	TD	++23,JST0L	13496	25	13519	02459
18830	AM	ADDCOM,,10	13508	11	02674	000-0
18840	TF	ADDRS,ADDCOM	13520	26	03494	02674
18850	A	ADDCOM,TEMPR	13532	21	02674	02571
18860	SM	ADDCOM,2,10	13544	12	02674	000-2
18870	TF	LNTM,ADDCOM	13556	26	02387	02674
18880	BD	++24,INTBUF+5	13568	43	13592	03607
18890	TF	ADDRS,ADDCOM	13580	26	03494	02674
18900	B7	DAC4	13592	49	13648	
18910	DAC3	BTM SCAN,++12	13600	17	06076	J3612
18920	BD	MOSINE,BSW	13612	43	13484	09090
18930	TD	KLRLSW,RLDCSW	13624	25	04007	07992
18940	TF	LNTM,ADDRS	13636	26	02387	03494
18950	DAC4	TF FRSTAD ,ADDRS	13648	26	03873	03494
18960	SM	FRSTAD ,1	13660	12	03873	-0001
18970	TF	LSTAD,FRSTAD	13672	26	03883	03873
18980	A	LSTAD ,TEMPR	13684	21	03883	02571
18990	BD	++72,INTBUF+5	13696	43	13768	03607
19000	TF	LSTAD ,ADDRS	13708	26	03883	03494
19010	AM	LSTAD ,1	13720	11	03883	-0001
19020	TF	FRSTAD,LSTAD	13732	26	03873	03883
19030	S	FRSTAD ,TEMPR	13744	22	03873	02571
19040	TF	ADDRS,LNTM	13756	26	03494	02387
19050	TF	LNTM,TEMPR	13768	26	02387	02571
19060	BTM	GBT,PCONF	13780	17	09252	J5086
19070	ERDAC	TFM TEMPR,100	13792	16	02571	-0100
19080	TFM	++30,INPUT+22	13804	16	13834	-2811
19090	A	++18,TEMPR	13816	21	13834	02571
19100	DACS	TFM	13828	16	00000	-0000
19110	DAC	1,,'*	13839		1 X	2

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19120	SM	DACS+6,2,10		13840	12	13834	000-2
19130	BNR	CHVALD-24,DACS+6,11		13852	45	13144	1383M
19140	YDM	DACS+6,0,6		13864	15	1383M	00000
19150	B7	DACS+12		13876	49	13840	
19160	ERDACL	TFM	++42,INPUT+22	13884	16	13926	-2811
19170	TF	NOSINE-37,ADDRS		13896	26	13447	03494
19180	SM	NOSINE-37,2,10		13908	12	13447	000-2
19190	TFM	,70,10		13920	16	00000	000P0
19200	AM	=-6,2,10		13932	11	13926	000-2
19210	CM	NOSINE-37		13944	14	13447	-0000
19220	BNE	ERDACL+24		13956	47	13908	01200
19230	TF	++18,ERDACL+42		13968	26	13986	13926
19240	TFM			13980	16	00000	-0000
19250	DAC	1,,'*		13991		1 X	2
19260	B	CHVALD-24		13992	49	13144	00000
19270	MID	DSC	2,-16	14004		2	
19280	DSA	IORT	,00023	14010		5 X	2
				14010		-0565	
				14015		-0023	
19290	DSC	2,49		14016		2	
19300	DSA	+-* ,00000		14022		5 X	2
				14022		-0000	
				14027		-0000	
19310	DSC	1,,'		14028		1	
19320	**	GET PUT LINKAGE GENERATION					
19330	LINKS	TD	++23,ADDCOW,,	ADJUST ADDCOW	14030	25	14053 02674
19340	TD	++23,AJUST		14042	25	14065	02399
19350	AM	ADDCOW,,10,		14054	11	02674	000-0
19360	A	MID +11,ADDCOW,,	RETURN ADDRESS	14066	21	14015	02674
19370	TF	MID +18,INTBUF+6,,	SET UP BR TO IOR	14078	26	14022	03608
19380	BTM	SCAN,++12		14090	17	06076	J4102
19390	TF	MID +23,ADDRS		14102	26	14027	03494
19400	BNF	++24,RLOCSW		14114	44	14138	07992
19410	SF	MID +13		14126	32	14017	00000
19420	TF	FRSTAD,ADDCOW		14138	26	03873	02674
19430	TF	LSTAD,ADDCOW		14150	26	03883	02674
19440	AM	LSTAD,24,10,	SET TO TOTAL LENGTH	14162	11	03883	000K4
19450	AM	ADDCOW,23,10,	UP ADDCOW TOTAL LENGTH	14174	11	02674	000K3
19460	CF	MID +2		14186	33	14006	00000
19470	CF	MID +14		14198	33	14018	00000
19480	TR	ZEPO,MID		14210	31	02300	14004
19490	TF	ADDRS,FRSTAD		14222	26	03494	03873
19500	TFM	X,PHASEB		14234	16	04012	-4182
19510	BTM	GEET,LINP		14246	17	09252	J5098
19520	**	GET PUT LINKAGE GENERATION END					
19530	CALEXT	TD	++23,ADDCOW	14258	25	14281	02674
19540	TD	++23,AJUST		14270	25	14293	02399
19550	AM	ADDCOW,,10		14282	11	02674	000-0
19560	TFM	MID +18,MONCAL,,	BRANCH TO MONCALL IN IORT	14294	16	14022	-0796
19570	CF	MID +14		14306	33	14018	00000

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19580	CF	MID+19		14318	33	14023	00000
19590	TR	ZEPO,MID +12,,	BRANCH INSTRUCTION	14330	31	02300	14016
19600	TF	ADDRS,ADDCOW		14342	26	03494	02674
19610	AM	ADDCOW,06,10,	B7	14354	11	02674	000-6
19620	BTM	GEET,LINP		14366	17	09252	J5098
19630	*	LOAD PHASE B4 TO THE FILE					
19640	F4	34	SUB4,701	14378	34	14426	00701
19650		38	SUB4,702	14390	38	14426	00702
19660	TRA			14402	36	00000	00500
				14414	49	00000	00000
19670	SUB4	DDA	,0,B4DAD,B4SCT,LINPRT	14426		14	
			OJ9069-53-9310				
19680	TCD	F4		14378			
19690	DORG	INSTRN		12734			
19700	RCTAB	BNF	++36,LSTYSW	12734	44	12770	02480
19710	RCTY			12746	34	00000	00102
19720	TBTY			12758	34	00000	00108
19730	BB			12770	42	00000	00000
19740	DORG	+-9		12772			
19750	DC	5,12345		12776		5	
		J2345					
19760	LINKC	TFM	LINPRT-1,DOCON	12778	16	09309	-9582
19770	BT	LINKER,LINKC-1		12790	27	12922	12777
19780	DS	5		12806		5	
19790	LINKCR	BT	RCTAB,RCTAB-1	12808	27	12734	12733
19800	BT	LINKC,LINKCR-1		12820	27	12778	12807
19810	DS	5		12836		5	
19820	LINKD	TFM	LINPRT-1,PDSA	12838	16	09309	-9778
19825	TFM	CHSYM+11,DSABOX-1		12850	16	09897	-9090
19830	TFM	LNTH,5		12862	16	02387	-0005
19840	BT	LINKER,LINKD-1		12874	27	12922	12837
19850	DS	5		12890		5	
19860	LINKDR	BT	RCTAB,RCTAB-1	12892	27	12734	12733
19870	BT	LINKD,LINKDR-1		12904	27	12838	12891
19880	DS	5		12920		5	
19890	LINKER	TR	ZEPO+1,OUT+2	12922	31	02301	02220
19900	TF	FRSTAD,LSTAD		12934	26	03873	03883
19910	A	LSTAD,LNTH		12946	21	03883	02387
19920	TF	ADDRS,FRSTAD		12958	26	03494	03873
19930	TF	X,LINKER-1		12970	26	04012	12921
19940	BTM	CVACT,LINPRT		12982	17	12398	-9310
19950	MIDCS	DSC	2,-16	12994		2	
19960	DSA	IORT	,00023	13000		5 X	2
				13000		-0565	
				13005		-0023	
19970	DSC	2,49		13006		2	
19980	DSA	IOGT	,00000	13012		5 X	2
				13012		-0566	
				13017		-0000	
19990	DSC	1,,'		13018		1	

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20000	MBUK1	DSA	01234		13023	5	X	1
20010		DSC	1,		13023		-1234	
					13024		1	
20020	MBUK2	DSA	01234		13029	5	X	1
20030		DSC	1,		13029		-1234	
					13030		1	
20040	MBUK3	DSC	2,12		13031		2	
20050	MM	DSC	1,		13033		1	
20060	MDIGIT	DSC	1,1		13034		1	
20070	OP3SW	DC	1,0		13035		1	
20080	ADDBKT	DC	5,12345		13040		5	
			J2345					
20090	SVADD	DC	2,12		13042		2	
			J2					
20100	M2DIG	DC	2,12		13044		2	
			J2					
20110	MACR2	CF	OP3SW		13046	33	13035	00000
20120		C	++23,INPUT+14		13058	24	13081	02803
20130		BI	REG,01244,10,	D DISK DEFINERS	13070	46	13450	012M4
20140		C	++23,INPUT+16		13082	24	13105	02805
20150		BI	CAL,01253,10,	L CALL LINK LOAD	13094	46	14192	012N3
20160		C	++23,INPUT+12		13106	24	13129	02801
20170		BNI	LINKS,01244,10,	D OTHER DEFINERS	13118	47	14030	012M4
20180	** CARD TAPE	TYPE	DEFINERS					
20190		BTM	SCAN,++12		13130	17	06076	J3142
20200		BD	NOOPP,BSW		13142	43	13198	09090
20210		TD	KLRLSW,RLOCSW		13154	25	04007	07992
20220		TFM	SVADD,00,10		13166	16	13042	000-0
20230		TF	ADDBKT,ADDRS,,	PROGRAMMER ASSIGNS ADDRESS	13178	26	13040	03494
20240		BT	GO		13190	49	13234	
20250	NOOPP	TF	ADDBKT,ADDCOW		13198	26	13040	02674
20260		TFM	SVADD,08,10		13210	16	13042	000-8
20270		AM	ADDBKT,01,10		13222	11	13040	000-1
20280	GO	TR	INPUT+19,INPUT+21		13234	31	02808	02810
20290		BTM	SCAN,++12,,	LOOK UP MEMORY ADDRESS	13246	17	06076	J3258
20300		TF	MBUK1,ADDRS		13258	26	13023	03494
20310		TR	OUT+2,MBUK1-4		13270	31	02220	13019
20320		TF	LSTAD,ADDBKT		13282	26	03883	13040
20330		TFM	LNTM,00005		13294	16	02387	-0005
20340		TD	OSABOX,RLOCSW		13306	25	09091	07992
20350		TDM	INTBUF,1		13318	15	03602	00001
20360		TR	ZEPD+1,OUT+2		13330	31	02301	02220
20370		BTM	LINKR,++12		13342	17	12838	J3354
20380		SF	INTBUF+5,,	START MD GENERATION	13354	32	03607	00000
20390		TF	MBUK3+1,INTBUF+6		13366	26	13032	03608
20400		TR	OUT+2,MBUK3		13378	31	02220	13031
20410		TFM	LNTM,00003,		13390	16	02387	-0003
20420		TDM	DUMPI+11,0,11,	PRINT RM	13402	15	03521	0000-

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20430	A	ADDCOW,SVADD			13414	21	02674	13042
20440	BTM	LINKCR,++12			13426	17	12808	J3438
20450	BTM	GEET,PHASEB			13438	17	09252	-4182
20460	** END OF	CARD TAPE	TYPE DEFINERS					
20470	** DISK	FILE DECLARATIVES	NOT CALLS					
20480	REG	BTM	SCAN,++12		13450	17	06076	J3462
20490		TD	OP3SW,BSW		13462	25	13035	09090
20500		BD	NOTOP,BSW		13474	43	13530	09090
20510		TD	KLRLSW,RLOCSW		13486	25	04007	07992
20520		TFM	SVADD,00,10		13498	16	13042	000-0
20530		TF	ADDBKT,ADDRS,,	PROGRAMMER ASSIGNS ADDRESS	13510	26	13040	03494
20540		B	GOMOW		13522	49	13566	00000
20550		DORG	0-4		13529			
20560	NOTOP	TF	ADDBKT,ADDCOW		13530	26	13040	02674
20570		TFM	SVADD,08,10		13542	16	13042	000-8
20580		AM	ADDBKT,01,10		13554	11	13040	000-1
20590	GOMOW	TR	INPUT+19,INPUT+21		13566	31	02808	02810
20600		SF	INTBUF+5		13578	32	03607	00000
20610		TF	MBUK3+1,INTBUF+6,,	CODE MM FLAG M	13590	26	13032	03608
20620		BTM	SCAN,++12		13602	17	06076	J3614
20630		TF	MBUK1,ADDRS,,	LOAD ADD OF DDA	13614	26	13023	03494
20640		TD	MDIGIT,RLOCSW		13626	25	13034	07992
20650		TR	INPUT+19,INPUT+21		13638	31	02808	02810
20660		BTM	SCAN,++12,,	SCAN FOR 2ND OPERAND	13650	17	06076	J3662
20670		BD	++36,OP3SW		13662	43	13698	13035
20680		BD	++24,BSW		13674	43	13698	09090
20690		AM	SVADD,09,10,	UP ADCOW FOR 3 OPERANDS	13686	11	13042	000-5
20700		TD	OP3SW,BSW,,	SET LONG LINK SWITCH	13698	25	13035	09090
20710		TF	MBUK2,ADDRS,,	LOAD RELOCATION ADDRESS	13710	26	13029	03494
20720	** TEST FOR	ARM	REPOSITION					
20730		TR	INPUT+19,INPUT+21		13722	31	02808	02810
20740		BTM	LSTCAR,++12,,	PICK UP 3RD OPERAND	13734	17	15044	J3746
20750		TF	M2DIG,LCHAR		13746	26	13044	15177
20760		TR	INPUT+19,INPUT+21		13758	31	02808	02810
20770	** TEST FOR	ABSOLUTE	SECTOR ADDRESS					
20780		BTM	LSTCAR,++12,,	PICK UP 4TH OPERAND	13770	17	15044	J3782
20790		C	++23,LCHAR		13782	24	13805	15177
20800		BNI	++24,01241,10,	TEST FOR A ABSOLUTE	13794	47	13818	012M1
20810		TDM	MBUK3,2,11		13806	15	13031	0000K
20820		C	++23,M2DIG		13818	24	13841	13044
20830		BI	EN,01259,10		13830	46	13854	012M9
20840		CF	MBUK3		13842	33	13031	00000
20850	EM	TR	OUT+2,MBUK3,,	FIRST OPERAND TO LIST	13854	31	02220	13031
20860		TF	LSTAD,ADDBKT		13866	26	03883	13040
20870		AM	ADDBKT,02,10		13878	11	13040	000-2
20880		TFM	LNTM,08		13890	16	02387	-0002
20890		BTM	LINKC,++12		13902	17	12778	J3914
20900		TR	OUT+2,MBUK1-4,,	SECOND OPERAND TO LIST	13914	31	02220	13019
20910		TFM	LNTM,05		13926	16	02387	-0005
20920		TD	OSABOX,MDIGIT		13938	25	09091	13034
20930		TDM	INTBUF,1		13950	15	03602	00001
20940		BTM	LINKCR,++12		13962	17	12892	J3974
20950		BD	NOT3,OP3SW		13974	43	14034	13035
20960		TR	OUT+2,MBUK2-4,,	THIRD OPERAND TO LIST	13986	31	02220	13025
20970		TDM	INTBUF,1		13998	15	03602	00001
20980		TD	OSABOX,RLOCSW		14010	25	09091	07992

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20990	BTM	LINKDR,++12		14022	17	12892	J4034
21000	NOT3	TR	OUT+2,MRM,,	14034	31	02220	13033
21010	TFM	LNTH,01	RECORD MARK	14046	16	02387	-0001
21020	TDM	DUMPI+11,1,11		14058	15	03521	0000J
21030	A	ADDCOW,SVADD		14070	21	02674	13042
21040	BTM	LINKCR,++12		14082	17	12808	J4094
21050	BTM	GEET,PHASEB		14094	17	09252	-4182
21060	**	END OF DISK DEFINERS					
21070	**	GENERATE CALL LINK AND LOAD					
21080	RM	DC	1,'	14106		1	
21090	FLDATA	DSS	400,RM-400	13706		400	
21100	****	ERROR 2ND OPERAND CALL NG					
21110	DC	5,12345		14111		5	
21120	ER	J2345					
21130	TFM	EVALER-2,71780		14112	16	07664	P1780
21140	BT	EPRINT,EPRINT-1		14124	27	08064	08063
21150	BD	CORERS,ERSTSW		14136	43	07826	02476
21160	BNF	++36,LSTYSW		14148	44	14184	02480
21170	RCTY			14160	34	00000	00102
21180	TBTY			14172	34	00000	00108
21190	B	ER-1,,6		14184	49	1411J	00000
21200	DORG	--4		14191			
21210	CAL	TD	++23,ADDCOW,,	14192	25	14215	02674
21220	TD	++23,AJUST	ADJUST ADDCOW	14204	25	14227	02399
21230	AM	ADDCOW,,10		14216	11	02674	000-0
21240	TF	MIOCS+11,ADDCOW,,	RETURN ADDRESS	14228	26	13005	02674
21250	AM	MIOCS+11,19,10,,	ADJUST ADDRESS	14240	11	13005	000J9
21260	TFM	MIOCS+18,IOCAL,,	SET UP BR TO IOR	14252	16	13012	-0716
21270	BTM	LSTCAR,++12		14264	17	15044	J4276
21280	TFM	MBUK3+1,32,10,,	CODE FOR READ NO WLR	14276	16	13032	000L2
21290	C	++23,LCHAR		14288	24	14311	15177
21300	BT	++24,01244,10,,	TEST FOR D IN LOAD	14300	46	14324	012M4
21310	SF	MBUK3+1,,,	EXECUTE	14312	32	13032	00000
21320	TR	INPUT+19,INPUT+21,,	SLIDE COMMA	14324	31	02808	02810
21330	BTM	PCALL,++12		14336	17	15184	J4348
21340	BNF	FOUND+12,ALPHSW,,	NO ALPHA INPUT	14348	44	14618	15523
21350	**	READ THE DIM ENTRY FOR EQUIV TABLE					
21360	TFM	IORT,++23		14360	16	00565	J4383
21370	B	IOGT,DEFDIM,7		14372	49	00566	J4391
21380	B7	CONTU		14384	49	14414	
21390	DEFDIM	DSC	2,22	14391		2	
	22						
	DSA	DFADD6		14397		5 X	1
21400	DFADD6	DDA	,0,DIMDAD,DIMSCT,FLDATA	14397		J4398	
			0-4800-01J3706	14398		14	
21410	DC	1,'		14412		1	
21420	CONTU	TF	DFADD4+5,FLDATA+45,,	14414	26	14483	13751
21430	TD	DFADD4,FLDATA+40,,	EXTRACT EQUIV FILE ADDR	14426	25	14478	13746
21440	**	READ THE EQUIV TABLE FOR LOOK UP	EXTRACT EQUIV FILEMODULE				
21450	RDEQIV	TFM	IORT,++23	14438	16	00565	J4461
21460	B	IOGT,DEFEQ,7		14450	49	00566	J4469
21470	B7	GOON		14462	49	14494	

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21480	DEFEQ	DSC	2,22	14469		2	
21490	DSA	DFADD4		14475		5 X	1
21500	DC	1,'		14475		J4478	
				14476		1	
21510	DFADD4	DDA	,0,EQDAD,EQSCT,FLDATA	14478		14	
			0-0000-04J3706				
21520	DC	1,'		14492		1	
21530	GOON	BNR	++44,FLDATA+11,,	14494	45	14538	13717
21540	TFM	IDENT-2,00000,,	TEST END OF TABLE	14506	16	15528	-0000
21550	BTM	ER,++12,,	ZERO OUT EQUIV BUCKET	14518	17	14112	J4530
21560	B	FOUND+12	OPERAND NOT FOUND	14530	49	14618	00000
21570	DORG	--4		14537			
21580	C	FLDATA+11,COLL-2		14538	24	13717	02437
21590	BE	FOUND		14550	46	14606	01200
21600	TR	FLDATA,FLDATA+16		14562	31	13706	13722
21610	BNR	GOON,FLDATA,,	TEST END OF BLOCK	14574	45	14494	13706
21620	AM	DFADD4+5,04,10,,	NEXT BLOCK	14586	11	14483	000-4
21630	B7	RDEQIV		14598	49	14438	
21640	FOUND	TF	IDENT-2,FLDATA+15,,	14606	26	15528	13721
21650	SF	IDENT-5		14618	32	15525	00000
21660	TF	MBUK1,IDENT-2		14630	26	13023	15528
21670	CF	MBUK1-4		14642	33	13019	00000
21680	TR	INPUT+19,INPUT+21,,	SLIDE COMMA	14654	31	02808	02810
21690	BTM	SCAN,++12		14666	17	06076	J4678
21700	TF	MBUK2,ADDRS,,	SAVE 3RD OPERAND	14678	26	13029	03494
21710	**	START TO OUTPUT					
21720	TF	FRSTAD,ADDCOW		14690	26	03873	02674
21730	TF	ADDRS,ADDCOW		14702	26	03494	02674
21740	TF	LSTAD,ADDCOW		14714	26	03883	02674
21750	AM	LSTAD,24,10,,	SET TO TOTAL LENGTH	14726	11	03883	000K4
21760	AM	ADDCOW,19,10		14738	11	02674	000J9
21770	CF	MIOCS+2		14750	33	12996	00000
21780	CF	MIOCS+14		14762	33	13608	00000
21790	CF	MIOCS+19		14774	33	13013	00000
21800	TR	ZEPD,MIOCS		14786	31	02300	12994
21810	TFM	X,++24		14798	16	04012	J4822
21820	BTM	LINPRT,DOINST		14810	17	09310	J0366
21830	**	OUT PUT CONSTANTS					
21840	TF	LSTAD,ADDCOW		14822	26	03883	02674
21850	AM	ADDCOW,07,10		14834	11	02674	000-7
21860	TFM	LNTH,07		14846	16	02387	-0007
21870	TR	OUT+2,MBUK3		14858	31	02220	13031
21880	TR	OUT+4,MBUK1-4		14870	31	02222	13019
21890	BTM	LINKCR,++12		14882	17	12808	J4894
21900	BD	NO3,BSW,,	TEST 3RD OPERAND	14894	43	14978	09090
21910	TR	OUT+2,MBUK2-4,,	OUTPUT 3RD OPERAND	14906	31	02220	13029
21920	TD	OSABOX,RLOCSW		14918	25	09091	07992
21930	TDM	INTBUF,1		14930	15	03602	00001
21940	AM	ADDCOW,05,10		14942	11	02674	000-9
21950	TFM	LNTH,05		14954	16	02387	-0005
21960	BTM	LINKCR,++12		14966	17	12892	J4978
21970	NO3	TR	OUT+2,MRM	14978	31	02220	13033

21980	TDM	DUMP1+11,1,11	14990	15	03521	0000J	
21990	TFM	LNTH,01	15002	16	02387	-0001	
22000	BTM	LINKCR,++12	15014	17	12808	J5026	
22010	BTM	GEET,PHASEB	15026	17	09252	-4182	
22020	DC	5,12345	15042		5		
		J2345					
22030	LSTCAR	LCHAR,0,10,	15044	16	15177	000-0	
22040	BNR	++20,INPUT+20	15056	45	15076	02809	
22050	B7	NOCAR	15068	49	15156		
22060	C	++23,INPUT+20,,	15076	24	15099	02809	
22070	BI	++48,01200,10,	15088	46	15136	012-0	
22080	C	++23,INPUT+20,,	15100	24	15123	02809	
22090	BI	NOCAR,01223,10,	15112	46	15156	012K3	
22100	TF	LCHAR,INPUT+20,,	15124	26	15177	02809	
22110	TR	INPUT+19,INPUT+21	15136	31	02808	02810	
22120	B7	LSTCAR+12	15148	49	15056		
22130	NOCAR	TF	++18,LSTCAR-1	15156	26	15174	15043
22140	B	00000	15168	49	00000	00000	
22150	DORG	++3	15176				
22160	LCHAR	DC	2,12,,	15177		2	
		J2					
22170	DC	5,12345	15182		5		
		J2345					
22180	PCALL	TR	COLL-18,THINGS-20	15184	31	02421	02400
22190	TR	ALPHSW,ZEROS,,	15196	31	15523	15531	
22200	BNR	++20,INPUT+20,,	15208	45	15228	02809	
22210	B7	PCALL1	15220	49	15448		
22220	CM	INPUT+20,23,10,	15228	14	02809	000K3	
22230	BE	PCALL1	15240	46	15448	01200	
22240	CM	INPUT+20,00,10	15252	14	02809	000-0	
22250	BE	PCTR	15264	46	15428	01200	
22260	TF	COLL,INPUT+20	15276	26	02439	02809	
22270	CF	COLL-1	15288	31	02439	00000	
22280	TR	COLL-17,COLL-15	15300	31	02422	02422	
22290	TD	IDENT-1,INPUT+20	15312	25	15529	02809	
22300	TR	IDENT-6,IDENT-5	15324	31	15524	15525	
22310	CM	INPUT+20,69,10,	15336	14	02809	00009	
22320	BH	++24	15348	46	15372	01100	
22330	TDM	ALPHSW,1,11,	15360	15	15523	0000J	
22340	CM	COLL-17,7,10	15372	14	02422	000-7	
22350	BNE	PCTR	15384	47	15428	01200	
22360	TR	ALPHSW,ZEROS	15396	31	15523	15531	
22370	BTM	ER,++12	15408	17	14112	J5420	
22380	B7	7ILCH	15420	49	15516		
22390	PCTR	TR	INPUT+19,INPUT+21	15428	31	02808	02810
22400	B	PCALL+24	15440	49	15208	00000	
22410	DORG	++3	15448				
22420	PCALL1	CM	COLL-17,06,10	15448	14	02422	000-6
22430	BE	++44	15460	46	15504	01200	
22440	IDM	COLL,0	15472	15	02439	00000	
22450	TR	COLL-17,COLL-15	15484	31	02422	02424	
22460	B7	PCALL1	15496	49	15448		
22470	SF	COLL-13	15504	32	02426	00000	
22480	ZILCH	B	PCALL-1,,6	15516	49	15181	00000
22490	DORG	++4	15523				
22500	ALPHSW	DC	1,0	15523		1	

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22510	IDENT	DC	7,000000*	15530		7	
			-00000*				
22520	ZEROS	DSC	8,0000000*	15531		8	
			0000000*				
22530	* TO	LOAD	PHASE B6 TO THE DISK FILE				
22540	F6	34	SUB6,701	15540	34	15588	00701
22550		38	SUB6,702	15552	38	15588	00702
22560		TRA		15564	36	00000	00500
				15576	49	00000	00000
22570	SUB6	DDA	,0,B6DAD,B6SCT,INSTRN	15588		14	
			OJ9151-29J2734				
22580		TCD	F6	15540			
22590	DORG	MACR2		13046			
22600	DSAF	TFM	TRDSA+6,96,10	13046	16	13224	000R6
22610	TR	DSABOX,CLERER+43		13058	31	09091	02758
22620	TFM	RLDSA+6,DSABOX-1		13070	16	13156	-9090
22625	TFM	CHSYH+11,DSABOX-1		13082	16	09897	-9090
22630	B7	++20		13094	49	13114	
22640	TR	INPUT+19,INPUT+21		13102	31	02808	02810
22650	*						
22660	*	COLLECT OPERANDS					
22670	*						
22680	GOEVAL	BTM	SCAN,++12	13114	17	06076	J3126
22690	AM	TRDSA+6,5,10		13126	11	13224	000-5
22700	AM	RLDSA+6,1,10		13138	11	13156	000-1
22710	RLDSA	TD	,RLOCSW	13150	25	00000	07992
22720	CM	TRDSA+6,51,10		13162	14	13224	000N1
22730	BL	TRDSA		13174	47	13218	01300
22740	TFM	TRDSA+6,46,10		13186	16	13224	000N6
22750	TFM	RLDSA+6,DSABOX+9		13198	16	13156	-9100
22760	B7	TRDSA+12		13210	49	13230	
22770	TRDSA	TR	ZEPO,ADDRS-4	13218	31	02300	03490
22780	BNR	GOEVAL-12,INPUT+20		13230	45	13102	02809
22790	BNF	MAC1,INTBUF+1		13242	44	13430	03603
22800	TFM	LNTH,5		13254	16	02387	-0005
22810	AM	ADDCOM,5,10		13266	11	02674	000-5
22820	TF	ADDRS,ADDCOM		13278	26	03494	02674
22830	A	ADDCOM,TRDSA+6		13290	21	02674	13224
22840	SM	ADDCOM,1,10		13302	12	02674	000-1
22850	TF	FRSTAD,ADDRS		13314	26	03873	03494
22860	SM	FRSTAD,4		13326	12	03873	-0004
22870	TF	LSTAD,FRSTAD		13338	26	03883	03873
22880	AM	LSTAD,5		13350	11	03883	-0005
22890	KATHY	BTM	GEET,PDSAF	13362	17	09252	J5074
22900	*						
22910	*	SUBROUTINE LINKAGE FOR FUNCTIONAL MACROS AND ARITHMETIC MACR					
22920	*						
22930	MACROF	TD	++23,ADDCOM	13374	25	13397	02674
22940	TD	++23,AJUST		13386	25	13409	02399
22950	AM	ADDCOM,,10		13398	11	02674	000-0
22960	TF	SPOFLO+11,INTBUF+6		13410	26	13549	03608
22970	B7	DSAF,,,TO DSA ROUTINE TO PICK UP OPERANDS		13422	49	13046	
22980	*						
22990	*	ASSEMBLE LINKAGE					
23000	*						

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23010	MAC1	TR	OUT+2,ZEPO+1	13430	31	02220	02301
23020		TF	ADDRS,ADDCOW	13442	26	03494	02674
23030		A	ADDCOW,TRDSA+6	13454	21	02674	13224
23040		AM	ADDCOW,23,10	13466	11	02674	000K3
23050		TR	ZEPO,LINK	13478	31	02300	03494
23060		A	ZEPO+11,ADDRS	13490	21	02311	03494
23070		MM	SPQFLD+11,5,1011	13502	13	13549	000-N
23080		TR	ZEPO+25,OUT+2	13514	31	02325	02220
23090		S	ZEPO+18,99	13526	22	02318	00099
23100	SPQFLD	CF	ZEPO+14	13538	33	02314	00000
23110		TFM	X,+24	13550	16	04012	J3574
23120		BTM	LINPRT,DOINST	13562	17	09310	J0366
23130		TR	OUT+2,ZEPO+25	13574	31	02220	02325
23140		AM	ADDRS,7,10	13586	11	03494	000-7
23150		TF	LSTAD,ADDRS	13598	26	03883	03494
23160		BTM	LINKDR,+12	13610	17	12892	J3622
23170		TFM	LNTH,1	13622	16	02387	-0001
23180		TD	OUT+2,LNTH+1,,MOVE REC.MRK. TO OUT+2	13634	25	02220	02388
23190		TDM	DUMP1+11,1,11	13646	15	03521	0000J
23200		BTM	LINKCR,+12	13658	17	12808	J3670
23210		BTM	GEET,PHASEB	13670	17	09252	-4182
23220	*						
23230	*	DEFINE DISK ADDRESS					
23240	*						
23250	DDAF	BTM	SCAN,+12	13682	17	06076	J3694
23260		TD	MURIEL,BSW	13694	25	03601	09090
23270		BD	DDASGN,BSW	13706	43	13750	09090
23280		TD	KLRLSW,RLOCSW	13718	25	04007	07992
23290		TF	LSTAD,ADDRS	13730	26	03883	03494
23300		B7	DDA2	13742	49	13798	
23310	DDASGN	TF	LSTAD,ADDCOW	13750	26	03883	02674
23320		TD	+23,LSTAD	13762	25	13785	03883
23330		TD	+23,AJUST	13774	25	13797	02399
23340		AM	LSTAD,00,10	13786	11	03883	000-0
23350	DDA2	TR	INPUT+19,INPUT+21	13798	31	02808	02810
23360		BTM	SCAN,+12	13810	17	06076	J3822
23370		TD	DAX-5,ADDRS	13822	25	14110	03494
23380		TR	INPUT+19,INPUT+21	13834	31	02808	02810
23390		BTM	SCAN,+12	13846	17	06076	J3858
23400		TF	DAX,ADDRS	13858	26	14115	03494
23410		TR	INPUT+19,INPUT+21	13870	31	02808	02810
23420		BTM	SCAN,+12	13882	17	06076	J3894
23430		SF	ADDRS-2	13894	32	03492	00000
23440		TF	SCTX,ADDRS	13906	26	14119	03494
23450		TR	INPUT+19,INPUT+21	13918	31	02808	02810
23460		BTM	SCAN,+12	13930	17	06076	J3942
23470		TF	MAX,ADDRS	13942	26	14125	03494
23480		TR	OUT+2, DAX-5	13954	31	02220	14110
23490		TFM	LNTH,6	13966	16	02387	-0006
23500		BTM	LINKCR,+12	13978	17	12778	J3990
23510		TR	OUT+2,SCTX-2	13990	31	02220	14117
23520		TFM	LNTH,3	14002	16	02387	-0003
23530		BTM	LINKCR,+12	14014	17	12808	J4026
23540		TR	OUT+2,MAX-4	14026	31	02220	14121
23550		TD	DSABOX,RLOCSW	14038	25	09091	07992
23560		BTM	LINKDR,+12	14050	17	12892	J4062

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23570	BNF	+36,MURIEL	14062	44	14098	03601		
23580	TF	ADDCOW,LSTAD	14074	26	02674	03883		
23590	SM	ADDCOW,1	14086	12	02674	-0001		
23600	BTM	GEET,PHASEB	14098	17	09252	-4182		
23610	DAX	DS	6			6		
23620	DC	1,1	14116			1		
23630	SCTX	DS	3	14119		3		
23640	DC	1,1	14120			1		
23650	MAX	DS	5	14125		5		
23660	DC	1,1	14126			1		
23670	** TRANSFER	TO RETURN ADDRESS ROUTINE						
23680	MTRA	TD	+23,ADDCOW,,	ADJUST ADDCOW	14128	25	14151	02674
23690		TD	+23,AJUST		14140	25	14163	02399
23700		AM	ADDCOW,,10		14152	11	02674	000-0
23710		TFM	MIOCS+11,00019		14164	16	13005	-0019
23720		A	MIOCS+11,ADDCOW,,	RETURN ADDRESS	14176	21	13005	02674
23730		TFM	MIOCS+18,IOCAL,,	IOR GETS ENTRY	14188	16	13012	-0716
23740		TF	FRSTAD,ADDCOW		14200	26	03873	02674
23750		TF	LSTAD,ADDCOW		14212	26	03883	02674
23760		AM	LSTAD,24,10,	SET TO TOTAL LENGTH	14224	11	03883	000K4
23770		CF	MIOCS+2		14236	33	12996	00000
23780		CF	MIOCS+14		14248	33	13008	00000
23790		CF	MIOCS+19		14260	33	13013	00000
23800		TR	ZEPO,MIOCS		14272	31	02300	12994
23810		TF	ADDRS,FRSTAD		14284	26	03494	03873
23820		TFM	X,+24		14296	16	04012	J4320
23830		BTM	LINPRT,DOINST		14308	17	09310	J0366
23840	** GENERATE	DISK DEFINERS						
23850		TFM	MBUK3+1,22,1011,	MODE CODE	14320	16	13032	000K4
23860		CF	MBUK3		14332	33	13031	00000
23870		TR	OUT+2,MBUK3		14344	31	02220	13031
23880		AM	ADDCOW,19,10,	MOVE ADDCOW TO END OF LINK	14356	11	02674	000J9
23890		TF	LSTAD,ADDCOW		14368	26	03883	02674
23900		AM	ADDCOW,02,10		14380	11	02674	000-2
23910		TFM	LNTH,02		14392	16	02387	-0002
23920		BTM	LINKCR,+12		14404	17	12808	J4416
23930		TF	MBUK1,ADDCOW,,	ADDRESS OF DDA	14416	26	13023	02674
23940		AM	MBUK1,06,10		14428	11	13023	000-6
23950		TR	OUT+2,MBUK1-4		14440	31	02220	13019
23960		AM	ADDCOW,05,10		14452	11	02674	000-5
23970		TFM	LNTH,05		14464	16	02387	-0005
23980		TD	DSABOX,RELSW		14476	25	09091	02478
23990		TDM	INTBUF,1		14488	15	03602	00001
24000		BTM	LINKDR,+12		14500	17	12892	J4512
24010		TR	OUT+2,MRM,,	RECORD MARK	14512	31	02220	13033
24020		AM	ADDCOW,01,10		14524	11	02674	000-1
24030		TFM	LNTH,01		14536	16	02387	-0001
24040		TDM	DUMP1+11,1,11,	PRINT RM	14548	15	03521	0000J
24050		BTM	LINKCR,+12		14560	17	12808	J4572
24060	** GENERATE	DDA						
24070		TDM	OUT+2,1,,	DISK ADDRESS	14572	15	02220	00001
24080		TFM	MBUK1,IOCSAD		14584	16	13023	J9783
24090		TR	OUT+3,MBUK1-4		14596	31	02221	13019

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24100	AM	ADDCOM,06,10	14608	11	02674	000-6	
24110	TFM	LNTM,06	14620	16	02387	-0006	
24120	BTM	LINKCR,0012	14632	17	12808	J4644	
24130	TFM	MBUK1,009,9,	14644	16	13023	00-03	
24140	TR	OUT+2,MBUK1-2	14656	31	02220	13021	
24150	AM	ADDCOM,03,10	14668	11	02674	000-3	
24160	TFM	LNTM,03	14680	16	02387	-0003	
24170	BTM	LINKCR,0012	14692	17	12808	J4704	
24180	TFM	MBUK1,0,	14704	16	13023	-0000	
24190	TR	OUT+2,MBUK1-4	14716	31	02220	13019	
24200	AM	ADDCOM,05,10	14728	11	02674	000-5	
24210	TFM	LNTM,06	14740	16	02387	-0006	
24220	TFM	DUMPI+11,0,11	14752	15	03521	0000-	
24230	BTM	LINKCR,0012	14764	17	12808	J4776	
24240	BTM	GEET,PHASEB	14776	17	09252	-4182	
24250	*						
24260	*	EVALUATE ADDRESS OF DEND					
24270	*						
24280	DENDF	BTM	SCAN,0012	14788	17	06076	J4800
24290	CF	ADDRS-4	14800	33	03490	00000	
24300	BNF	0024,LTYSW	14812	44	14836	02480	
24310	MNTY	ADDRS-4	14824	38	03490	00100	
24320	BNF	0036,LSCDSW	14836	44	14872	02479	
24330	BTM	FILL,ADRFIL-4	14848	17	12210	J2637	
24340	WAGD	INPUT2	14860	39	03283	00400	
24350	SF	ADDRS-4	14872	32	03490	00000	
24360	BD	DOTCD,INTBUF+6,,CHECK FOR TCD	14884	43	15124	03608	
24370	TFM	TESTAD	14896	16	09070	-0000	
24380	TF	FRSTAD,HIADD	14908	26	03873	02518	
24390	TFM	LNTM	14920	16	02387	-0000	
24400	TD	OUT+2,LNTH+1,,RK.MRK.	14932	25	02220	02388	
24410	BTM	RELODG,6,11	14944	17	10676	00000	
24420	BTM	STACKR,9,10	14956	17	10940	000-9	
24430	TFM	STNUCD+13,2	14968	15	11995	00002	
24440	BT	MODIFI,MODIFI-1	14980	27	11814	11813	
24450	TR	TRDATA+6,NINES-5,6	14992	31	11260	15111	
24460	TFM	410,999,9	15004	16	00410	00899	
24470	TR	416,ADDRS-4	15016	31	00416	03490	
24480	*	WRITE FINAL 3 SECTORS TO FILE					
24490	FINIS	TFM	IORT,0023	15028	16	00565	J5051
24500	B	IORBC,DEFOUT,7	15040	49	00520	-3553	
24510	*	END OF PHASE B ,CALL IN PHASE C					
24520	TFM	CFFA,PHAZEC	15052	16	02629	J5076	
24530	BTM	CFF,PHASEC	15064	17	02592	J0000	
24540	PHAZEC	DDA ,0,PHCDAD,PHCSCT,PHASEC	15076		14		
24550	DC	1,1	15090		1		
24560	SIMPLE	TFM	TRDATA+6,6,611	15092	15	11260	00000
24570	B7	FINIS-48	15104	49	14980		
24580	NINES	DC	6,99999	15116		6	
24590	OHSIX	DC	6,6	15122		6	
24600	DC	1,1	15123		1		

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24610	DOTCD	BTM	RELODG,0,1011	15124	17	10676	000--
24620	TFM	LNTM		15136	16	02387	-0000
24630	TD	OUT-7,IC		15148	25	02211	03868
24640	TR	OUT-6,ADDRS-4		15160	31	02212	03490
24650	BTM	GEET,LUCK		15172	17	09252	-9758
24660	*	TO LOAD PHASE B5 TO THE FILE					
24670	F5	34	SUB5,701	15184	34	15232	00701
24680	38	SUB5,702		15196	38	15232	00702
24690	TRA			15208	36	00000	00500
24700	SUB5	DDA ,0,85DAD,85SCT,INSTRN		15220	49	00000	00000
24710	TCO	F5		15232		14	
24720	PHASEC	DORG	10000	10000			
24730	TFM	IORT	0023	10000	16	00565	J0023
24740	B	IOGT	JMB	10012	49	00566	J1738
24750	BNR	DD-12	ISTAT-29	10024	45	10085	02530
24760	TFM	DD+13	00449	10036	14	10085	-0449
24770	TFM	DD+18	SIZE	10048	16	10090	J0392
24780	BNR	DD+12	CD IN	10060	45	10084	02529
24790	DD	NOP	415	10072	41	00415	12430
24800	SF	415	BUF+105	10084	32	00415	00000
24810	TF	BUF+5	BUF+105	10096	26	12330	12430
24820	TF	BUF+80	BUF+5	10108	26	12405	12330
24830	SM	BUF+5	100	10120	12	12330	00J00
24840	TFM	BUF+6	2	10132	15	12331	00002
24850	BNF	0024	BUF+106	10144	44	10168	12431
24860	TFM	BUF+6	-2	10156	15	12331	0000K
24870	TF	BUF+14	FRSTCD	10168	24	12339	11737
24880	*****	TO CARD 1 COLS 6-14					
24890	TD	BUF+81	BUF+6	10180	25	12406	12331
24900	TR	BUF+82	SECCD-3	10192	31	12407	11711
24910	TD	BUF+85	R MARK	10204	25	12410	00421
24920	*****	WRITE SECTOR 1 AND 2 AFTER SECTOR 1 IS UPDATED					
24930	TD	BUF+24	RELSW	10216	25	12349	02478
24940	TR	BUF+25	COMDAT+09	10228	31	12350	02509
24950	TF	BUF +75	I STAT	10240	26	12400	02559
24960	TFM	IORT	0023	10252	16	00565	J0275
24970	B	IORBC	JMB	10264	49	00520	J1738
24980	*****	RD DIM ENTRIES FOR SUBR INCL PICK					
24990	RDDIM	TFM	IORT	10276	16	00565	J0299
25000	B	IOGT	JMB2	10288	49	00566	J1746
25010	BNR	CKSET	ISTAT-28	10300	45	11396	02531
25020	BD	CKSET+24	ISTAT-34	10312	43	11420	02523
25030	A	PICKUP	MA+1814	10324	21	02528	14139
25040	TFM	CKMAP+84	SIZE	10336	14	11590	J0392
25050	TFM	CKMAP+47,01		10348	14	11583	-0001
25060	TFM	NAP	MA+1814	10360	14	11351	J4139
25070	B	CK DIM		10372	49	11500	00000
25080	DORG	004		10379			
25090	BNR	CALC	ISTAT-29	10380	45	11208	02N30
25100	IND	DS		10391		0	
25110	SIZE	TFM	IORT	10392	16	00565	J0415
25120	B	IOGT	CI000A	10404	49	00566	J1754
25130	*****	PUNCH BLANK RECORDS AFTER LIST DECK					

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25140	BMF	HIPICK	,LSCDSM			10416	44	10512	02479
25150	TR	CLERER+54	,CLERER			10420	31	02769	02715
25160	TDM	CLERER+53	,0			10440	15	02768	00000
25170	TR	CLERER+108	,CLERER			10452	31	02823	02715
25180	TDM	CLERER+107				10464	15	02822	00000
25190	WACD	CLERER+2				10476	39	02717	00400
25200	WACD	CLERER+2				10488	39	02717	00400
25210	WACD	CLERER+2				10500	39	02717	00400
25220	*****	PLACE HIGHEST ADDRESS USED IN PICKUP							
25230	HIPICK	C	HIADD	,PICKUP		10512	24	02518	02528
25240	BMH	**24				10524	47	10548	01100
25250	TF	PICKUP	,HIADD			10536	26	02528	02518
25260	*****	5 CYLINDER CHECK							
25270	CM	SUBOUT+5	,1000			10548	14	03567	-1000
25280	BMH	ADK				10560	47	10748	01100
25290	BD	**20	,22			10572	43	10592	00022
25300	BT	ADK				10584	49	10748	
25310	CF	22				10592	33	00022	00000
25320	TDM	23	,0	,11		10604	15	00023	0000-
25330	TD	**20	,73			10616	25	10636	00073
25340	CM	**8	,05	,710		10628	14	10636	-00-5
25350	BE	**24				10640	46	10664	01200
25360	TDM	23	,-1			10652	15	00023	0000J
25370	RCTY					10664	34	00000	00102
25380	WATY	BARF				10676	39	12139	00100
25390	RCTY					10688	34	00000	00102
25400	WATY	BARF2				10700	39	12225	00100
25410	H					10712	48	00000	00000
25420	BNC4	ADK				10724	47	10748	00400
25430	TDM	DUP-1	,2	,,	INHIBIT DUP CALL	10736	15	11163	00002
25440	SM	STCNT	,1	,10		10748	12	02513	000-1
25450	TR	0	,403			10760	31	00000	00403
25460	BD	ALL-12	,SKIP			10772	43	10892	11654
25470	S	OBJCRE	,PICKUP			10784	22	02496	02528
25480	RCTY					10796	34	00000	00102
25490	TD	PICKUP+1	,R MARK	,,	BR IF OBJCRE IS NOT EXCEEDED	10808	25	02529	00421
25500	BNL	**72		,,		10820	46	10892	01300
25510	WATY	OVER				10832	39	11903	00100
25520	TD	OBJCRE+1	,PICKUP+1			10844	25	02497	02529
25530	CF	OBJCRE				10856	33	02496	00000
25540	CF	OBJCRE-4				10868	33	02492	00000
25550	WNTY	OBJCRE-4				10880	38	02492	00100
25560	RCTY					10892	34	00000	00102
25570	ALL	WATY	END			10904	39	11765	00100
25580	BD	**60	,SKIP			10916	43	10976	11654
25590	CF	PICKUP-4				10928	33	02524	00000
25600	RCTY					10940	34	00000	00102
25610	WNTY	PICKUP-4				10952	38	02524	00100
25620	WATY	CORE				10964	39	11799	00100
25624	BNF	**24	,RELSW			10976	44	11000	02478
25626	WATY	RELCRE				10988	39	11849	00100
25630	RCTY					11000	34	00000	00102
25640	TF	ADDS	,STCNT			11012	26	03494	02513
25650	CF	ADDS-4				11024	33	03490	00000
25660	WNTY	ADDS-4				11036	38	03490	00100
25670	WATY	STPM				11048	39	12095	00100

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25680	RCTY					11060	34	00000	00102	
25685	BV	**12				11072	46	11084	01400	
25690	TFM	IDRT	,**23			11084	16	00565	J1107	
25700	B	IORBC	,CSDDA			11096	49	00520	J1754	
25710	RCTY			,,	FOLLOWING MACRO TERMINATES PHASE C	11108	34	00000	00102	
25720	BNF	**20	,22	,,	BR IF DISK OUTPUT NOT REQD	11120	44	11140	00022	
25730	BT	DUP-12				11132	49	11152		
25740	BNF	CALC-20	,23	,,	BR IF OTHER OUTPUT NOT REQD	11140	44	11188	00023	
25750	TDM	SYSCAL	,1			11152	15	00475	00001	
25760	DUP	NOP		,,	RESERVED FOR READING CARD TO ZERO	11164	41	00000	00000	
25770	B	MONCAL				11176	49	00796	00000	
25780	TDM	SYSCAL	,2	,,	INHIBIT DUP CALL	11188	15	00475	00002	
25790	BT	DUP				11200	49	11164		
25800	CALC	TFM	CKMAP+54	,USED		11208	16	11590	J1328	
25810	BD	USED	,IND	,11,	BR IF THIS SUBR USED	11220	43	11328	1039J	
25820	AM	IND	,01	,10,	ADJ ISTAT POINTER FOR NEXT ENTRY	11232	11	10391	000-1	
25830	AM	CKMAP+42	,01	,10		11244	11	11578	000-1	
25840	SM	NE	,01	,10,	ADJ NO OF ENTRIES FOR SUBR	11256	12	11288	000-1	
25850	BH	IND-11		,,	BR IF MORE ENTRIES OF SUBR AVAIL	11268	46	10380	01100	
25860	AM	MAP	,20	,710,	OBTAIN NO OF ENTRIES OF NEXT SUBR	11280	11	11351	-0000	
25870	NE	DS	2	,*-3	NO OF ENTRIES LEFT FOR DIM ENTRY	11288		2		
25880	TD	NE	,MAP	,11		11292	25	11288	1135J	
25890	BD	IND-11	,NE	,,	RETURN TO CHECK ISTAT	11304	43	10380	11288	
25900	B	NE-8				11316	49	11280	00000	
25910	USED	SM	MAP	,5	OBTAIN SUBR LENGTH ADD TO TOTAL L	11328	12	11351	000-5	
25920	A	PICKUP	,WA+1214	,7		11340	21	02528	J3539	
25930	MAP	DS		,,	POINTER FOR SUBROUTINE DIM ENTRY	11351		0		
25940	AM	MAP	,25	,10,	ADV SUBR PNTR FOR NEXT SUBR	11352	11	11351	000K5	
25950	A	IND	,NE	,,	ADV ISTAT PNTR FOR BAL OF SUBR ENTS	11364	21	10391	11288	
25960	A	CKMAP+42	,NE	,,		11376	21	11578	11288	
25970	B	NE-4		,,	BR TO SET NE FOR NEXT SUBROUTINE	11388	49	11292	00000	
25980	DORG	**4				11395				
25990	CKSET	CM	ISTAT-36	,00	,10,	CK FOR SOFT DIVIDE PKGE	11396	14	02523	000-0
26000	BE	DELETE		,,	YES, BR TO ERROR MESSAGE TYPE OUT	11408	46	11608	01200	
26010	CM	ISTAT-36	,02			11420	14	02523	-0002	
26020	BL	CK DIM		,,	BR IF FIXED & SPECIFIED	11432	47	11500	01300	
26030	TFM	MAP	,*614+WA			11444	16	11351	J2939	
26040	BE	CK DIM		,,	BR IF VARIABLE L SPECIFIED	11456	46	11500	01200	
26050	TFM	MAP	,14+WA			11468	16	11351	J2339	
26060	BT	CK DIM				11480	49	11500		
26070	*****	SKIP BLANK DIM ENTRIES								
26080	AM	MAP	,20			11488	11	11351	-0020	
26090	CKDIM	TF	**35	,MAP		11500	26	11535	11351	
26100	AM	**23	,6			11512	11	11535	-0006	
26110	BNR	CK DIM-12				11524	45	11488	00000	
26120	CKMAP	TF	**42	,MAP	,,	INSURE PROPER DIM ENTRIES	11536	26	11578	11351
26130	AM	**30	,4			11548	11	11578	-0004	
26140	TF	**21	,ISTAT-36			11560	26	11581	02523	
26150	CM	**00		,,	INIT AT 01 FOR SOFT DIV	11572	14	00000	-0000	
26160	BE	USED+12		,,	BR IF ENTRY OK	11584	46	11340	01200	
26170	TFM	DELETE+30	,FAULT	,,	CHANGE DELETE MESSAGE	11596	16	11638	J2039	
26180	DELETE	RCTY				11608	34	00000	00102	
26190	SF	NONEX		,,	PREVENTS EXECUTION	11620	32	00497	00000	
26200	WATY	OTHER				11632	39	11967	00100	
26210	TDM	SKIP	,-01			11644	15	11654	0000J	
26220	SKIP	DS	1	,*-1	,,	SKIP OUTPUT REFERRG TO CORE IF-1	11654		1	

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26230	B7	SIZE			11656	49	10392
26240	*	FOR SUBROUTINE DIM ENTRIES					
26250	DDAJB	DDA ,0,SUBDAD,19,WA+1			11664		14
		0-4808-19J2326					
26260	DC	1	,		11678		1
	*						
26270	*	FOR READING 2 SECTORS AND WRT SECTOR 1					
26280	DDAJB	DDA ,0,-0,2,BUF+1			11680		14
		0-0000-02J2326					
26290	DC	1	,		11694		1
	*						
26300	CSDDA	DDA ,0,MOSDAD,1,0			11696		14
		0J9663-01-0000					
26310	DC	1	,		11710		1
	*						
26320	SECCD	DC 4	,100	,,	CONSTANT FOR SECOND CARD		4
		-100					
26330	DC	6	,	-3002			6
		-0300K					
26340	DC	9	,	,6012345'			9
		-6012345'					
26350	FRSTCD	DC 8	,	,67514842	,,	CONSTANT FOR FIRST CARD	8
		07514842					
26360	RMARK	DS	,	,421			00421
							0
26370	COMDAT	DS	,	,1STAT-59		HI ORDER POSITION OF COMMON DATA	02300
							0
26380	CDIM	DS	,	,1STAT-30			02529
							0
26390	JHB	DSC 2	,	,02			11738
		02					2
26400	DSA	DDAJB			11744		5 X 1
					11744	J1680	
26410	DC	1	,		11745		1
	*						
26420	JHB2	DSC 2	,	,22	11746		2
		22					
26430	DSA	DDAJB			11752		5 X 1
					11752	J1664	
26440	DC	1	,		11753		1
	*						
26450	CSDDDA	DSC 2	,	,22	11754		2
		22					
26460	DSA	CSDDA			11760		5 X 1
					11760	J1696	
26470	DC	1	,		11761		1
	*						
26480	DS	1			11762		1
26490	END	DAC 17,END OF ASSEMBLY.'			11765		17 X 2
		END OF ASSEMBLY.'					
26500	CORE	DAC 25,CORE POSITIONS REQUIRED'			11799		25 X 2
		CORE POSITIONS REQUIRED'					
26505	RELCRE	DAC 27,PLUS RELOCATION INCREMENT'			11849		27 X 2
		PLUS RELOCATION INCREMENT'					
26510	OVER	DAC 32,EXCEEDED SPECIFIED CAPACITY BY '			11903		32 X 2
		EXCEEDED SPECIFIED CAPACITY BY '					

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26520	OTHER	DAC 36,SUBROUTINES OTHER THAN PGM DIV USED'			11967		36 X 2
		SUBROUTINES OTHER THAN PGM DIV USED'					
26530	FAULT	DAC 28,NO DIM ENTRY FOR SUBROUTINE'			12039		28 X 2
		NO DIM ENTRY FOR SUBROUTINE'					
26540	STPM	DAC 22,STATEMENTS PROCESSED'			12095		22 X 2
		STATEMENTS PROCESSED'					
26550	BARF	DAC 43,MORE THAN 5 CYLINDERS OF RELOADABLE OUTPUT'			12139		43 X 2
		MORE THAN 5 CYLINDERS OF RELOADABLE OUTPUT'					
26560	BARF2	DAC 50,SW4 ON TO DUMP OUTPUT, OFF TO CONTINUE, NO OUTPUT'			12225		50 X 2
		SW4 ON TO DUMP OUTPUT, OFF TO CONTINUE, NO OUTPUT'					
26570	DS	1			12324		1
26580	BUF	DSS 1900			12325		1900
26590	WA	DS	,	,BUF			0
26600	DORG	WA	,		12325		
26610	CLOAD	34 SUBC	,	,701	12326	34	12374 00701
26620		38 SUB C	,	,702	12338	38	12374 00702
26630	TRA				12350	36	00000 00500
					12362	49	00000 00000
26640	SUBC	DDA ,0,PHCDAD,PHCSCT,PHASEC			12374		14
		0J9252-40J0000					
26650	TCD	CLOAD			12326		
26660	OEND	INITI			04170		

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1PTSP8	01500	DMSEND	12274	LSTOUT	12466	A2DAD	18800	BTBL	05686
1STTCD	03942	DMSER1	12550	LSTYSW	02480	A2SCT	00054	BUF	12325
2PRTIO	20000	DMSER2	11954	MACROF	13374	A3DAD	18854	CALC	11208
2PTSP8	00600	DMSHMI	11722	MAXLIM	15997	A3SCT	00022	CAL	14192
ACTFIL	12705	DMSNUM	11734	MDIGIT	13034	A4DAD	18876	CCHAR	11248
ADDBKT	13040	DQCONF	15062	MESOUT	10058	A4SCT	00023	CDIM	02529
ADDCDW	02674	DOINST	10366	MGRUDR	13402	A5DAD	18737	CFFA	02629
ADDSUB	06676	DOLLAR	07096	MOCTOC	16023	A5SCT	00029	CFE	02592
ADRFIL	12641	DOMESS	10118	MODIFI	11814	ABBA	04005	CFIL	08510
ALPHSW	15923	DSABOX	09091	MOEXEC	00426	ABLE	13570	CHAR	13482
ANAL41	11162	DUDLEY	10014	MOIDNO	16039	ADD1	12974	CHECK	14938
BCMSPC	06952	DVADBF	10238	MONAME	16035	ADDR5	03494	CHKB7	13134
BLKADS	03953	DVASGN	09730	MONGAL	00796	AJUST	02399	CHKIO	04634
BLKCTR	03995	ECLAT1	14086	MONDIS	16044	ALL	10904	CHKND	07750
BSECHR	08794	EPRINT	08064	MOSBNO	16043	ALPHA	02684	CHKRM	11200
CALEXT	14258	ERDAC1	13884	MOSDAD	19663	ANAL1	10938	CHSYM	09886
CALLEX	15134	ERLNTH	06932	MSTOAD	18934	ANAL2	10998	CKDIM	11500
CARDIN	02664	ERSTSW	02476	MURIEL	03601	ANAL3	11102	CKMAP	11536
CARDOL	04013	EVALAD	06756	MVEMOD	13034	ANAL4	11126	CKSET	11396
CASTER	04498	EVALER	07666	NEWCAR	11606	ANAL	10866	CLOAD	12326
CCOMER	14318	EVALOP	06436	NOPREC	02709	ANL1A	11082	CLOUD	08168
CDINSW	02474	FCHBUF	12459	NDSINE	13484	ANL1B	11058	CNTR	09082
CFDEF	02623	FILBUF	12442	NOTYPE	10570	ANL1C	11046	CNT	13481
CHKMOD	13022	FLAGGR	13170	OBJCRE	02496	ADK	10748	COLL	02439
CHVALD	13168	FLDATA	13706	OPCODE	12950	ASINE	09478	CONTU	14414
CLERER	02715	FRSTAD	03873	DVRLAP	12174	ASTER	07564	CORE	11799
CMPCNT	08678	FRSTCD	11737	PACKAD	03889	BIDAD	18969	CSDDA	11696
COMDAT	02500	FRSTHT	04006	PCALL1	15448	BISCT	00020	CTVT	02489
COMSPC	06836	FWDSGN	05934	PCHCOM	04590	B2DAD	19200	CVACT	12398
COPDEF	04166	GOEVAL	13114	PCNUSW	02482	B2SCT	00052	DAC2	13144
CORERS	07826	GOODB2	05498	PHASEB	04182	B3DAD	19000	DAC3	13600
CSDDDA	11754	HIPICK	10512	PHASEC	10000	B3MAD	09100	DAC4	13648
DDAJJB	11680	INCODE	02491	PHAZEC	15076	B3SCT	00069	DAC5	13828
DDASGN	13750	INDADR	11438	PHCDAD	19252	B4DAD	19069	DACF	13004
DEFDIM	14391	INPUT2	03283	PHCSCT	00040	B4SCT	00053	DAC	15266
DEFIN2	03522	INSTAN	12734	PICKUP	02528	B5DAD	19122	DAS	13830
DEFOUT	03553	INTBUF	03602	PRDCSA	14926	B5SCT	00029	DAX	14115
DELETE	11608	INTRSW	02483	PROCRE	02497	B6DAD	19151	DFB2	04494
DFADD1	09288	IOADDR	02636	PTLIM	02502	B6SCT	00029	DDA2	14166
DFADD2	09188	IOCSAD	19783	PTINSM	02475	BAR	13502	DDA2	13798
DFADD3	09144	KILSUB	02484	PULLIO	04942	BANAN	10238	DDA3	13682
DFADD4	14478	KLRLSW	04007	RDEQIV	14438	BARF2	12225	DDAJB	11664
DFADD6	14398	LIMTSF	03992	REFETN	11436	BARF	12139	DDA	15194
DIGALF	06488	LIMTSP	02507	RELCRE	11849	BB2	09063	DEFEQ	14469
DIGITS	09114	LINKCR	12808	RELOG	10676	BETA	02694	DEFIN	03530
DIMDAD	04800	LINKCR	12892	REMAIL	11482	BLOP	06640	DEFSM	03577
DIMSGT	00001	LINKER	12922	REYSCN	05884	BLX	02643	DENDF	14788
DMEND1	12430	LINKFS	15122	RLOCSW	07992	BP2OK	00005	DFADD	15182
DMEND2	12478	LINPRT	09310	RMESS	07995	BRNCH	09442	DFADD	09232
DMERIC1	12202	LINTFL	12721	RSCANI	05882	BRSEQ	11008	DGMF	09502
DMERIC2	12250	LPOUT	03831	RSYMSW	07991	BSAV	09052	DGM	15206
DMERIC3	12166	LOSymb	19997	2PASS	04286	BSBF	09046	DMES1	11710
DMERIC4	12166	LSCDSW	02479	2PSSW	02477	BSHI	09022	DMES2	11966
DMES11	11802	LSPRSW	02481	2TYS	03866	BSNEQ	08990	DMES4	11454
DMES21	12034	LSTCAR	15044	A1DAD	18600	BSW	09090	DMESB	11478
DMES22	12082	LSTCON	12558	AISCT	00137	BTBL2	05510	DMESC	11594
DMPDIG	04000								

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DMESD	11674	FLGRM	03884	M2DIG	13044	PDSA	09778	SUBIN	03538
DMESF	11250	FORWD	04354	MAC1	13430	PFIL	12673	SUBNO	02523
DMES	15254	FOUND	14606	MAC2	15278	PKMOD	03906	SUBSM	03586
DMESW	03861	GAT	09120	MACR2	13046	PLACE	09075	SVADD	13042
DMS12	11910	GEET	09252	MACRO	15158	PRDS	13818	TAPIN	02656
DMSB1	11490	GET	07220	MAP	11351	PUNCH	12582	TBL1	05588
DMSB2	11573	GETT	09208	MARK1	09226	QFIL	12689	TBL2	05462
DMSR2	12568	GIT	09164	MAX	14125	RCTAB	12734	TEMPR	02571
DMSV	09109	GOL	04426	MBUK1	13023	RCTR	07990	TEMP	02714
DQCON	09582	GOAMD	14758	MBUK2	13029	RDDIM	10276	TEST	09057
DQDSF	15050	GOCL	12618	MBUK3	13031	REG	13450	TLU	05406
DQDS	09454	GONON	13566	MESS2	08033	RELSW	02478	TRANS	13326
DOL	06881	GOODB	05624	MIOCS	12994	RILDS	13150	TRAF	15146
DORIG	14026	GOON	14494	MIO	14004	RLOP	04682	TRDSA	13218
DO	10072	GO	13234	MODE1	12718	RMARK	00421	TRHM	07368
DOTCD	15124	GOTIT	08418	MODE	12670	RMDQ	04622	TRECE	14482
DSAF	13046	HCLIM	02507	MDDG	16022	RMRK	02575	TYPE	09065
DSA	15170	HEAD	06032	MOMAD	00415	RM	14106	TYPTIN	02648
DSBF	09310	HED	03860	MOML	16041	RSCAN	05774	USED	11328
DSB	15110	HIADD	02518	MOSCT	16000	RSTIN	10562	WA	12325
DSC	14842	HUB1	11662	MOVE	06564	RSTRF	10334	X	04012
DSDNB	13622	HUB2	11698	MRM	13033	RSTR	15230	ZEP0	02300
DSS	13806	HUB	11638	MTRA	14128	S1	07004	ZEROS	15531
DTR	12784	IC	03868	MURI	02631	SAVEF	10588	ZILCH	15516
DUMP1	03510	IDENT	15530	NAST	05094	SAVE	15242	ZBFADD	15998
DUMP2	09674	IND	10391	NE	11288	SAVIN	10828	SECINS	10774
DUP	11164	INITI	04170	NEWIL	11550	SBMAX	02669	SETFRM	11802
DVAD	10162	INKRM	02565	NINES	15116	SBOU	02643	SIMPLE	15092
DVLCF	09658	INPUT	02789	NMOAL	09103	SCAN1	06388	SPOFLD	13538
DVLC	15218	LOCAL	00716	NO3	14978	SCANL	06204	SSTDAD	18899
DVLP	09814	LOGT	00566	NOADD	13970	SCAN	06076	SSTSCT	00035
DVSF	10138	LOPT	00532	NOCAR	15156	SCTX	14119	STACKR	10940
DVSW1	10138	TORBC	00520	NOISE	02521	SECCD	11714	STCHA1	13352
DVSW2	10139	TORT	00545	NONEX	00457	SECR0	04330	STCHAR	13232
DVTR	10150	TOSK	00554	NOOPP	13198	SEETM	13246	STKLEN	03878
END	11745	ISTAT	02559	NOT3	14034	SFA	03951	STNUCD	11982
EN	13854	JMB2	11744	NOTOP	13530	SFLAG	14506	STPCS	02470
EQDAD	00000	JMB	11738	NUMB	02448	SIZE	10392	STPRS	02472
EQSCT	00004	JSTBL	02459	OHSIX	15122	SKIP	11654	STTYSW	02471
EQSW	09021	KATHY	13342	ONEZ	02584	SNODE	09104	SUBDAD	04808
ERDAD	13792	LABL	04883	ODPS	07886	SNPBL	00235	SUBENT	09080
ERLAB	03805	LBADD	08218	OP3SW	13035	SPBL	00040	SUBOUT	03562
ERRRX	04978	LB1IM	20009	OPER	09089	SPEC	06872	SYMTAD	02641
ER	14112	LCHAR	15177	OPFIL	12657	SPIY	10522	SYMTBL	16003
EV1	07702	LIM	03845	OTHER	11967	SPLIT	12070	SYSCAL	00475
EVODD	02449	LINSV	03856	OUT	02218	SPSGM	02560	TBLND	09087
F1	04510	LINCK	12778	OVER	11903	SREL	06344	TESTAD	09070
F2	15290	LINND	12838	PACK	02980	STCNT	02513	THINGS	02420
F3	09304	LINX	03496	PARTL	08298	STPM	12095	TRDATA	11260
F4	14378	LINMS	14030	PCALL	13184	SUB0	04558	TRNUM1	07496
F5	15184	LIMP	15098	PCK	02365	SUB2	15338	TRNUMB	07412
F6	15840	LINTH2	09400	PCOM1	09722	SUB3	09382	TYINSW	02473
FAULT	12039	LINTH	02387	PCOMP	18084	SUB4	14424	TYPIN2	04158
FILL	12210	L	02520	PCON	09484	SUB5	15232	TYPINS	13066
FINIS	15028	LSTAD	03883	PCTR	15428	SUB6	15588	VACANT	04014
FIT	11092	LUCK	09758	PDSAP	15074	SUBC	12374	ZEROME	13602

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END OF ONE ASSEMBLY.

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SPS IID SUBROUTINE SUPERVISOR---11 JUL 1963---JHB

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00020	COMMON	DS	1	,401		00401	1		
00030	RMARK	DS		,421	, ADR OF RECORD MARK	00421	0		
00040	RELINC	DS		,434	,, ADR OF RELOCATION INCREMENT	00434	0		
00050	SYSCAL	DS		,475		00475	0		
00060	IORBC	DS		,520		00520	0		
00070	IORT	DS		,565		00565	0		
00080	IOGT	DS		,566		00566	0		
00090	IDCAL	DS		,716		00716	0		
00100	MONCAL	DS		,796		00796	0		
00110	BASE	DS		,1600	, SCRATCH SEC ADR FOR SUBRS	01600	0		
00120	PCK	DSB	5	,7	,2365	02365	5 X	7	
00130	PLUSL	DS	2	,PCK+33		02398	2		
00140	FOREQ	DS		,7280	, START OF AREA COMM WITH FORTRAN LDR	07280	0		
00150	SUBVEC	DSB	5	,30	,PCK -150	02215	5 X	30	
00160	MDD	DSS	12000	,8000	, AREA FOR SUBR READ IN	08000	12000		
00170	BUF	DS		,MOD-1		07999	0		
00180	SSLLOC	DS		,17024	, LOC OF SUBR SUPER ON DISK	17024	0		
00190						02402			
00200	XEQ	TFM	2402	,+23	,, RD SUBR FM SCTC	02402	16	00565	-2425
00210	B	IOGT		,DDAP	,7	02414	49	00566	-2608
00220	A	DDAP+5		,SECLST	,7,	02426	21	02598	-2674
00230	AM	*-1		,3	, ADJ FILE ADR	02438	11	02437	-0003
00240	TD	DDAP+7		,3	,, PNT TO SEC CNT OF NEXT SUBR	02450	25	02615	02620
00250	CHECK	AM	CHECK+35	,1	,, PERMIT HIGH CORE TO FURN ADR	02462	11	02497	-0001
00260	TFM	1210		,480	,, ADJ ISTAT REFERENCE	02474	16	01210	-0480
00270	BD	XEQ		,1	,, ELIMINATE A SEEK IN IORT	02486	43	02402	-2641
00280	TFM	439		,75	,, BR IF ANOTHER SUBR TO BE PROCESSED	02498	16	00439	-0075
00290	SF	468		,	,, PREPARE TO LOAD OBJECT PROGRAM	02510	32	00468	00000
00300	TF	434		,RESTOR+12,,	,, RESTORE RELOCATION INCREMENT	02522	26	00434	02633
00310	CF	427				02534	33	00427	00000
00320	TFM	XEQ+23		,DDAR		02546	16	02425	-2585
00330	EXIT	B7	XEQ			02558	49	02402	
00350	DDAR	DSS	20	,,	HOLDS DDA FOR OBJECT PROG	02565	20		
0360	DDAR	DSC	2	,-22		02585	2		
00370	DSA	DDAR				02591	5 X	1	
00380	DC	1	,,			02591		-2565	
00390	DDAP	DSC	1	,0	,, RD SUBRS REQD FROM SCRATCH	02592	1		
00400	DSA	BASE				02593	1		
00410	DC	3	,999			02598	5 X	1	
00420	R99	DSA	99999			02598		-1600	
00430	DC	1	,,			02601	3		
00440	DDAP	DSC	2	,02		02606	5 X	1	
00450	DSA	DDAP	,0			02606		R9999	
						02607	1		
						02608	2		
						02614	5 X	2	

						02614		-2593	
						02619		-0000	
						02620	1		
00460	DC	1	,,			02621	20		
00470	RESTOR	DSS	20	,,	FOR INFO LOST DURING LOADG OF SUBRS	02641	30		
00480	ISTATH	DSC	30	,0	,, INDICATORS FOR REQD SUBRS	02673	1 X	2	
						02672			
						02674	3 X	30	
00490	SECLST	DSB	3	,30	,, ALIGN SEC LST AT EVEN ADR	02711	1		
00500	DDASC	DC	1	,0	,, LIST OF SEC LGTH FOR REQD PROGRAMS	02711	1		
00510	DDASC	DC	1	,0		02716	5		
00520	DC	5	,19663			02719	3		
00530	DC	3	,1			02724	5 X	1	
00540	DSA	WA3				02724		-7300	
00550	DC	1	,,			02725	1		
00560	DDASC	DSC	2	,22	,, FOR SYS COMM SEC	02726	2		
00570	DSA	DDASC				02732	5 X	1	
00580	DC	1	,,			02732		-2711	
00590	*****DC	15	,0,,	SIMULATE DDA	,0,0,001,WA	02733	1		
00600	DDA	DSC	1	,0	,, RD OBJECT SECT 1	02734	1		
00610	DC	5	,0			02739	5		
00620	DC	3	,1			02742	3		
00630	DSA	WA				02747	5 X	1	
						02747		-7400	
00640	DC	1	,,			02748	1		
00650	DDA2	DSC	1	,0	,, RD DIM	02749	1		
00660	DC	5	,4808			02754	5		
00670	DC	3	,6			02757	3		
00680	DSA	WA2				02762	5 X	1	
						02762		-2934	
00690	DC	1	,,			02763	1		
00700	DDAM	DC	1	,0	,, WRT SUBR ON DISK	02764	1		
00710	DSA	BASE				02769	5 X	1	

00720	DC	3	,0		02769	-1600		
	-00				02772	3		
00730	DSA	MOD			02777	5 X	1	
					02777	-8000		
00740	DC	1	,'		02778	1		
00750	DDARS	DS	20	,ODA	02734	20		
00760	DDDA	DSC	2	,22	02779	2		
		22						
00770	DSA	DDA			02785	5 X	1	
					02785	-2734		
00780	DC	1	,'		02786	1		
00790	DDA2	DSC	2	,22	02787	2		
		22						
00800	DSA	DDA2			02793	5 X	1	
					02793	-2749		
00810	DC	1	,'		02794	1		
00820	DDARS	DSC	2	,22	02795	2		
		22						
00830	DSA	DDARS			02801	5 X	1	
					02801	-2734		
00840	DC	1	,'		02802	1		
00850	DDAW	DSC	2	,22	02803	2		
		22						
00860	DSA	DDAW			02809	5 X	1	
					02809	-2764		
00870	DC	1	,'		02810	1		
00880	NDDDA	DSA	WA		02815	5 X	1	
					02815	-7400		
00890	DC	3	,04'		02818	3		
	-4'							
00900	*****	USED IN XEQ PORTION OF PGM WHEN NON DISK INPUT						
00910	NODISK	SF	469		02820	32	00469	00000
00920	TR	416	,RESTOR		02832	31	00416	02621
00930	TR	428	,RESTOR+6		02844	31	00428	02627
00940	TFM	XEQ+23	,DDAR		02856	16	02425	-2585
00950	B7	XEQ			02868	49	02402	
00970	DC	1	,'		02875	1		
00980	NODDA	DSC	1	,1	02876	1		
		1						
00990	DC	5	,19783		02881	5		
	J9783							
01000	DC	3	,3		02884	3		
	-03							

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01010	DC	6	,0'		02890	6		
	-0000'							
01020	WA2	DDRG	2934	,600 CHAR WA FOR DIM ENTRIES OVERLAYG PGM	02934			
01030	SUPER	TR	DDAR	,402	02934	31	02565	00402
		TR	FOREG	,402	02946	31	02720	00402
01040	TF	DDA+5	,407	.. STORE OBJ PROG DISK ADR	02958	26	02739	00407
01050	TR	RESTOR	,416	.. SAVE ENTRY ADR	02970	31	02621	00416
01060	TFM	IORT	,+23	.. RD SYS COMM SEC TO WA3	02982	16	00565	-3005
01070	B	IOGT	,DDASC	,7	02994	49	00566	-2726
01080	TD	IOD	,428		03006	25	03026	00428
01090	CM	IOD	,03	,71011	03018	14	03026	-00-L
01100	DS		,+3	.. I/O DIGIT INDICATOR	03026		0	
01110	BH	RDRFRST		.. BR IF PROG ON DISK	03030	46	03114	01100
01120	BD	FOR EX	,WA3+75		03042	43	03306	07375
01130	BD	FOR EX	,WA3+74		03054	43	03306	07374
01140	TDM	DSKSW	,-1	.. SET FOR NON DISK INPUT	03066	15	06052	0000J
01150	TFM	RDRFRST+23,NDDDA-4			03078	16	03137	-2811
01160	BL	RD FRST		.. BR IF PROG ON CARDS	03090	47	03114	01300
01170	TDM	NDDDA+2	,2		03102	15	02817	00002
01180	RDRFRST	TFM	IORT	,+23	03114	16	00565	-3137
01190	B	IOGT	,DDDA	,7	03126	49	00566	-2779
01200	*****	SAVE CARD SEQ NO IF NON DISK INPUT (NDI)						
01210	BNF	CAP	,DSKSW		03138	44	03198	06052
01220	SF	WA+75			03150	32	07475	00000
01230	TF	WA3+98	,WA+79		03162	26	07398	07479
01240	TFM	IORT	,+23		03174	16	00565	-3197
01250	B	IORBC	,DDASC	,7	03186	49	00520	-2726
01260	*****	CALC SIZE OF OBJECT CORE. HIGHEST ADR AVAIL IN CAP+18						
01270	AM	CAP+15	,20	,10, STEP HI ADDRESS BY 20000	03198	11	03213	000K0
01280	DC	2	,'	,+3	03206		2	
	-1'							
01290	TR	01999	,+5	,23, MOVE RECORD TO HI ADDRESS	03210	31	-J999	03205
01300	BNR	CAP	,0	.. BR IF NO WRAP AROUND	03222	45	03198	00000
01310	TF	REDUCE+11,CAP+18		.. SAVE COUNT OF OBJECT CORE CAPACITY	03234	26	06077	03216
01320	C	SPSTST	,WAF+13		03246	24	06464	07413
01330	BE	RD CTL		.. BR IF CARD IMAGE SPS PROGRAM	03258	46	03346	01200
01340	SF	SPSTST-5			03270	32	06459	00000
01350	C	SPSTST	,WAF+5		03282	24	06464	07405
01360	BE	RD CTL		.. BR IF CORE IMAGE SPS PROGRAM	03294	46	03346	01200
01370	FOREX	CF	429	.. IORT HOUSKEEP	03306	33	00429	00000
01380	TFM	IORT	,+19	.. CALL LINK FOR FORTRAN LOADER	03318	16	00565	-3337
01390	B	LOCAL	,22001	,810	03330	49	00716	2K0-1
01400	DSC	3	,38'		03342		3	
	38'							
01410	RDCTL	BNF	,+24	,WAF+23	03346	44	03370	07423
01420	A	PICKUP		,REL INC	03358	21	07443	00434
01430	*****	SAVE AREA 428-440, CLR FLAG ON 429 FOR NON DISK INPUT						
01440	TD	441	,421		03370	25	00441	00421
01450	TR	RESTOR+6	,428		03382	31	02627	00428
01460	CF	RESTOR+7			03394	33	02628	00000
01470	BNF	NOISY	,77+WA3		03406	44	03450	07377
01480	PARAM	BNF	MANTL	,79+WA3	03418	44	03470	07379
01490	BNF	SUBSET	,81+WA3	.. BR IF SUBSET IS ADJ AT EXECUTE TIME	03430	44	03514	07381
01500	B7	CKSET			03442	49	03526	
01510	NOISY	TD	WA+36	.. INSERT NOISE DIGIT	03450	25	07436	07377
01520	B7	PARAM			03462	49	03418	

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01590	MANTL	TD	WA+35	,79+WA3	..	INSERTS UNITS DIGIT OF LENGTH	03470	25	07435	07379
01600		TD	WA+34	,78+WA3	..	INSERT TENS DIG INCL FLAG	03482	25	07434	07378
01610		SF	WA+34				03494	32	07434	00000
01620		B7	PARAM+12				03506	49	03430	
01640	SUBSET	TD	WA+38	,81+WA3	..	INSERT SUB SET ID	03514	25	07438	07381
01650	*****					SET SECTOR ADR FOR REQD SUBR SET				
01660	*****					03 AFP = 4808 ,02 VL = 4814 ,01 FXL = 4820 ,00 DIV = 4826				
01670	*****					AND CONTROL TYPEOUT				
01680	CKSET	BD	**56	,WA+38	..	BR IF NOT SOFT DIV SET, 00	03526	43	03582	07438
01690		AM	DDA2+5	,18			03538	11	02754	-0018
01700		TDM	DDA2+8	,1			03550	15	02757	00001
01710		TR	ADRF-4	,ADRF+16	..	PROHIBIT TYPING OF NO AND LENGTH	03562	31	06465	06485
01720		B7	RD DIM				03574	49	03698	
01740		CM	WA+38	,02	,10		03582	14	07438	000-2
01750		BH	RD DIM		..	BR IF APP SET (03)	03594	46	03698	01100
01760		TFM	DDA2+5	,4814			03606	16	02754	-4814
01770		BE	RD DIM		..	BR IF VL SET (02)	03618	46	03698	01200
01772		CM	WA+35	,08	,10		03630	14	07435	000-8
01774		BE	**32				03642	46	03674	01200
01776		TFM	WA+38	,02	,10		03654	16	07438	000-2
01780		B7	RD DIM		..	FORCE SET 02	03666	49	03698	
01790		TR	ADRF+6	,ADRF+16	..	PROHIBIT TYPING LENGTH	03674	31	06475	06485
01800		AM	DDA2+5	,6			03686	11	02754	-0006
01810	RDDIM	TFM	IORT	,**23	..	READ REQD DIM ENTRIES	03698	16	00565	-3721
01820		B	IOGT	,DDDA2	,7		03710	49	00566	-2787
01830	*****					INSIST THAT MANTISSA LENGTH MEET SPECIFICATIONS				
01840		CM	WA+35	,02	,10		03722	14	07435	000-2
01850		BH	**24				03734	46	03758	01100
01860		TFM	WA+35	,02	,10		03746	16	07435	000-2
01870		CM	WA+35	,45	,10		03758	14	07435	000M5
01880		BL	**24				03770	47	03794	01300
01890		TFM	WA+35	,45	,10		03782	16	07435	000M5
01900		TD	PCK+36	,WA+36	..	NOISE DIGIT FOR OBJ PGM	03794	25	02401	07436
01910		TF	PCK+33	,L	..	+L FOR OBJ PGM	03806	26	02398	07435
01920	TYPINF	RCTY					03818	34	00000	00102
01930		WATY	ADR OF+5	,6			03830	39	0647M	00100
01940		TF	OUT-1	,ADR OF	,11,	WRITE INFO MESSAGE	03842	26	06499	0646R
01950		CF	OUT-2				03854	33	06498	00000
01960		WNTY	OUT-1				03866	38	06499	00100
01970		TDM	**6	,OUT-2			03878	15	03872	06498
01980		TR	ADR OF-4	,ADR OF+6			03890	31	06465	06475
01990		BNR	TYP INF	,ADR OF-3			03902	45	03818	06466
02000		BNR	DELETE	,WA2+19			03914	45	04034	02953
02010	SETCOD	CM	WA2 +15	,01	,10,	DECODE SET	03926	14	02949	000-1
02020		TFM	SUBVEC-15,-33		..	IND LOC OF RM AT END OF ALPHA	03938	16	02200	-003L
02030		BE	FVLAFF				03950	46	04282	01200
02040		BH	VL AFP				03962	46	04114	01100
02050		BNR	DELETE	,ISTAT-28			03974	45	04034	07446
02060		TDM	SUBNO	,1	..	SET TO 01 FOR SOFT DIV SET	03986	15	04593	00001
02070		SM	SV	,5			03998	12	05776	-0005
02080		TFM	CAPCK-2	,CAPCK+36			04010	16	05932	-5970
02090		B	FVLAFF	,BD SET M			04022	49	04282	06779
02100	DELETE	RCTY					04034	34	00000	00102
02110		WATY	DELETE-1	,6,	..	TYPE REASON FOR TERMINATION	04046	39	0403L	00100
02120		RCTY					04058	34	00000	00102
02130		WATY	DELTED	,	..	TYPE TERMINATION	04070	39	06733	00100

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02140		RCTY					04082	34	00000	00102
02150		TDM	SYSCAL	,4			04094	15	06475	00004
02160		B7	MONCAL				04106	49	00796	
02180	*****					CREATE ADD VECTOR FOR ADJUSTMENT OF P AND Q OPERANDS				
02190	VLAFF	TFM	SUBVEC-15,-147		..	IND LOC OF RM AT END OF ALPHA	04114	16	02200	-014P
02200		SM	FVLAFF+35,98				04126	12	04317	-0098
02210		A	LOC 115	,L	..	INSERT +L	04138	21	06315	07435
02220		A	LOC115+50,L				04150	21	06365	07435
02230		S	LOC115+10,L		..	INSERT -L	04162	22	06325	07435
02240		AM	LOC115+10,99999				04174	11	06325	R9999
02250		AM	LOC115+10,1				04186	11	06325	-0001
02260		TF	LOC115+60,LOC115+10				04198	26	06375	06325
02270		A	L	,L	..	INSERT +2L	04210	21	07435	07435
02280		A	LOC115+20,L				04222	21	06335	07435
02290		A	LOC115+70,L				04234	21	06385	07435
02300		TF	LOC115+30,LOC115+10,.		..	INSERT -2L	04246	26	06345	06325
02310		A	LOC115+30,LOC115+30				04258	21	06345	06345
02320		TF	LOC115+80,LOC115+30				04270	26	06395	06345
02330	FVLAFF	S	**35	,PICKUP			04282	22	04317	07443
02340		BNH	**24				04294	47	04318	01100
02350		AM	PICKUP	,SECLST-12,.	..	MOVES PICK IF OBJ PGM SHORT	04306	11	07443	-2662
02370		TF	DDAP+11	,PICKUP			04318	26	02619	07443
02380		TF	SUB NO-2	,WA+38	..	STORE SET NO	04330	24	04591	07438
02390		B7	RD SUB				04342	49	04510	
02410	FINAL	BNR	CK SUB	,ISTAT-30	,7,	BR IF ANOTHER SUBR REQD	04350	45	04370	-7444
02420	IND	DS		,*		ISTAT PNTR	04361		0	
02430		B7	CAP CK				04362	49	05934	
02450	CKSUB	BD	RD SUB	,IND	,11,	BR IF SUBR IS USED	04370	43	04510	0436J
02460		AM	IND	,1	,10		04382	11	04361	000-1
02470		AM	SUB NO	,1	,10		04394	11	04593	000-1
02480		AM	SV+5	,5			04406	11	05781	-0005
02490	STPSV	SM	SV	,5	,10,	ADJ SUBVEC POINTER	04418	12	05776	000-5
02500		SM	NE	,1	,10		04430	12	04438	000-1
02510	NE	DC	2	,01	,*-3,	NO OF ISTAT ENT TO CK FOR SUBR	04438		2	
02520		BH	CK SUB				04442	46	04370	01100
02530	ADJDIM	AM	DIM	,20	,10,	ADJ FOR NE OF NEXT DIM ENTRY	04454	11	04477	000K0
02540		TD	NE	,WA2+18	,7,	STORE NE	04466	25	04438	-2952
02550	DIM	DS		,*	..	POINTER FOR NE IN DIM ENTRIES	04477		0	
02560		TFM	SV+5	,MOD+7			04478	16	05781	-8007
02570		BD	FINAL	,NE			04490	43	04350	04438
02580		B7	ADJ DIM		..	SKIP BLANK DIM ENTRY	04502	49	04454	
02600	RDSUB	TF	RD SUB+35,DIM				04510	26	04545	04477
02610		SM	RD SUB+35,18				04522	12	04545	-0018
02620		TR	DDARS		..	MOVE DIM ENTRY TO DDA FOR RDG SUBR	04534	31	02734	00000
02630		C	SUB NO-2	,DDARS+15	..	CK SET NO	04546	24	04591	02749
02640		BNE	DELETE				04558	47	04034	01200
02650		SF	DDARS+16				04570	32	02750	00000
02660		CM	DDARS+17		..	CK SUBR NO	04582	14	02751	-0000
02670	SUBNO	DS	4	,*		SET NO AND SUBR NO	04593		4	
02680		BH	DELETE				04594	46	04034	01100
02690		AM	LOC115+40,		..	ADD CORES USED BY PREVIOUS SUBR	04606	11	06355	-0000
02700	PICKAD	DS		,*	..	NON HAS CORE REQD BY LAST SUBR	04617		0	
02710		A	LOC115+90,PICKAD		..	INSERT PICK +L	04618	21	06365	04617
02720		A	LOC115+60,PICKAD		..	INSERT PICK -L	04630	21	06375	04617
02730		A	LOC115+70,PICKAD		..	INSERT PICK +2L	04642	21	06385	04617

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02740	A	LOC115+80,PICKAD	..	INSERT PICK -2L	04654	21	06395	04617		
02750	TF	PKUP	DDARS+13	..	STORE CORES USED BY SUBR	04666	26	05889	02747	
02760	*****	SET PICKAD	TO TENS COMPLEMENT OF CORES USED BY THIS SUBR							
02770	TF	PICKAD	DDARS+13	..		04678	26	04617	02747	
02780	SF	PICKAD		..		04690	32	04617	00000	
02790	AM	PICKAD	,99999	..		04702	11	04617	R9999	
02800	AM	PICKAD	,1	..		04714	11	04617	-0001	
02810	SUBRD	TFM	DDARS+13	MOD	..	04726	16	02747	-8000	
02820	TFM	IOAT	,+23	..	PUT WORK AREA CORE ADR INTO DDARS	04738	16	00565	-4761	
02830	B	IOGT	DDARS	,7	..	04750	49	00566	-2795	
	TFM	IOAT	,+23	..	READ IN SUBROUTINES	04762	16	00565	-4785	
	B	554	DDDAW	,7	..	04774	49	00554	-2803	
02840	TDM	SET P+25	,1	..	PRE SEEK	04786	15	04979	00001	
02850	TDM	MOD+5	,2	..	DISABLE MODIFCTN	04798	15	08005	0000K	
02860	MODIFY	TFM	CARD	,BUF+6	..	04810	16	04833	-8005	
02870	NEWCD	TFM	PNTR	,CARD	..	04822	16	04857	-4833	
02880	CARD	DS		..	ADR OF FIRST IND FOR NEXT CARD	04833		0		
02890	AM	CARD	,75	,10	..	04834	11	04833	000P5	
02900	NXTIND	BMR	NOT RM	,BUF+6	,7	..	04846	45	04898	-8005
02910	PNTR	DS		..	CK IND CODE FOR RM	04857		0		
02920	BMF	RM	,PNTR	,11	..	04858	44	04878	0485P	
02930	B7	NEW CD		..	POINTS TO SUBR POSITION OF INTEREST	04870	49	04822		
02950	RM	AM	PNTR	,6	,10	..	04878	11	04857	000-6
02960	B7	PNTR-11		..	BR IF NEW CARD REQUIRED	04890	49	04866		
02980	*****	BR TO ROUTINE TO PROCESS DATA PER INDICATOR DIGIT								
02990	NOTRM	TD	,+17	,PNTR	,11	..	04898	25	04915	0485P
03000	B7	LOC115+5	,6	..	INSERT IND CODE	04910	49	0632-		
03020	INST	AM	PNTR	,2	,10	..	04918	11	04857	000-2
03030	TF	LNG	,PNTR	,11	..	04930	26	05263	0485P	
03040	AM	PNTR	,1	,10	..	04942	11	04857	000-1	
03050	SETP	AM	PNTR	,2	..	04954	11	04857	-0002	
03060	TDM	SWPQ	,1	..	ADJ FOR P OPER HI ORDER DIGIT	04966	15	04976	0000J	
03070	SWPQ	DS	,1	,+1	..	04976		1		
03080	NOP	ADJ	CTL PNT	,11	..	04978	41	05010	0502J	
03090	AM	PNTR	,10	..	BR IF ELIGIBLE FOR MODIFICATION	04990	11	04857	-0010	
03100	B7	LNG CK		..		05002	49	05254		
03120	ADJ	BD	,+20	..	BR IF MOD OF P FIELD REQD	05010	43	05030	00000	
03130	CTLPNT	DS	,5	..	POINTER FOR SUBR MODIFICATION CONST	05021		5		
03140	B	Q CK		..		05022	49	05138	00000	
03150	INDA	DORG	,+4	..	IND FOR INDIRECT-ADR CONDTN	05029				
03160	SF	PNTR	,6	..	SET FLAG TO DEFINE FIELD	05030	32	0485P	00000	
03170	AM	PNTR	,4	,10	..	05042	11	04857	000-4	
03180	TD	IND A	,PNTR	,11	..	05054	25	05029	0485P	
03190	CF	PNTR	,6	..	SAVE IND ADR COND OF FIELD	05066	33	0485P	00000	
03200	TD	,+22	CTLPNT	,11	..	05078	25	05100	0502J	
03210	A	PNTR	LOC115+40,6	..	REMOVE ANY IA FLAG	05090	21	0485P	06355	
03220	BMF	,+24	IND A	..	INSERT CODE FOR MOD ADJUST	05102	44	05126	05029	
03230	SF	PNTR	,6	..	ADD PROPER VALUE(S +PICK)	05114	32	0485P	00000	
03240	SM	PNTR	,4	,10	..	05126	12	04857	000-4	
03250	QCK	AM	PNTR	,5	,10	..	05138	11	04857	000-5
03260	AM	CTL PNT	,1	,10	..	05150	11	05021	000-1	
03270	BMF	ND INST	,SWPQ	..	PT AT HI END OF FIELD	05162	44	05218	04976	
03280	TDM	SWPQ	,0	..	ADJ FOR Q FIELD	05174	15	04976	00000	
03290	BMR	ADJ	CTLPNT	,11	..	05186	45	05010	0502J	
03300	AM	PNTR	,5	..	ADJ FOR NEXT CONTROL DIGIT	05198	11	04857	-0005	
03310	B7	LNG CK		..	BR IF Q FIELD	05210	49	05254		
				..	SET TO Q FIELD					
				..	BR IF ELIGIBLE FOR MODIFICATION					
				..	ADJUST FOR Q OPERAND					

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03330	NDINST	CM	CTL PNT	,CTLAR+49	..	05218	14	05021	-6507	
03340	BL	LNG CK		..		05230	47	05254	01300	
03350	TDM	SET P+25	,1	..	DISABLE MODIFICATION	05242	15	04979	00001	
03360	LNGCK	SM	LNG	,12	,10	..	05254	12	05263	000J2
03370	LNG	DS	,+2	..	NO OF UNPROCESSED DIGITS OF INSTRM	05263		2		
03380	BMR	NXTIND		..	BR IF ANOTHER INST IS NOT AVAIL	05266	47	04846	01100	
03390	B7	SET P		..		05278	49	04954		
03410	PCONST	BMF	CONST	,PNTR	,11	..	05286	44	05346	0485P
03420	SM	PNTR	,3	,10	..	05298	12	04857	000-3	
03430	CM	PNTR	,3	,69	..	05310	14	0485P	00-03	
03440	BE	PSUEDO		..	BR IF PSUEDO CONSTANT	05322	46	05390	01200	
03450	AM	PNTR	,3	,10	..	05334	11	04857	000-3	
03460	CONST	AM	PNTR	,2	,10	..	05346	11	04857	000-2
03470	A	PNTR	,PNTR	,11	..	05358	21	04857	0485P	
03480	AM	PNTR	,1	,10	..	05370	11	04857	000-1	
03490	B7	PNTR-11		..	ADJ FOR NEXT IND DIGIT	05382	49	04846		
03510	*****	PUT PSUEDO CONSTANT INTO CTLAR AND FILL BAL WITH REC MKS								
03520	*****	REPLACE ADR WITH ZERO ,PREVENT PSCON FROM BEING LOADED								
03530	*****	ALSO WORKS IF PSCON IS SPLIT ON 2 CARD RECORDS								
03540	PSUEDO	TF	CTLAR+59	,RMS	..	05390	26	06517	06456	
03550	AM	PNTR	,2	..	SET CONTROL AREA TO RECORD MARKS	05402	11	04857	-0002	
03560	TR	TCP	,PNTR	,11	..	05414	31	06518	0485P	
03570	PBOTH	TFM	PNTR	,67	..	05426	16	0485P	-0000	
03580	AM	PNTR	,3	..	MOVE PSCON	05438	11	04857	-0003	
03590	A	PNTR	,PNTR	,11	..	05450	21	04857	0485P	
03600	AM	PNTR	,1	..	PT AT NEXT IND	05462	11	04857	-0001	
03610	BMR	2ND PC	,PNTR	,11	..	05474	45	05330	0485P	
03620	PLOAD	TR	CTLAR	,TCP+4	..	05486	31	06458	06522	
03630	TDM	SET P+25	,5	..	LOAD PSUEDO CONST TO CONTROL AREA	05498	15	04979	00005	
03640	TFM	CTL PNT	,CTLAR	..		05510	16	05021	-6458	
03650	B7	PNTR-11		..		05522	49	04846		
03670	2NDPC	AM	PNTR	,5	..	05530	11	04857	-0005	
03680	BMF	P NOT C	,PNTR	,11	..	05542	44	05646	0485P	
03690	SM	PNTR	,1	..	PT AT IND	05554	12	04857	-0001	
03700	TFM	MOV2ND+11	,TCP+12	..		05566	16	05625	-6530	
03710	TFM	MOV2ND+6	,TCP+4	..		05578	16	05620	-6522	
03720	A	MOV2ND+11	,TCP+3	..		05590	21	05625	06521	
03730	A	MOV2ND+6	,TCP+3	..		05602	21	05620	06521	
03740	MOV2ND	TR		..	CLOSE PSCON	05614	31	00000	00000	
03750	AM	CARD	,75	..	ADJ FOR NEXT CD	05626	11	04833	-0075	
03760	B7	PBOTH		..		05638	49	05426		
*****	PSUEDO CONST TERMINATES CARD AND IS NOT CONT ON NEXT CARD									
PNOTC	AM	CARD	,75	..		05646	11	04833	-0075	
	TFM	,+30	,TCP+4	..		05658	16	05688	-6522	
	A	,+18	,TCP+3	..		05670	21	05688	06521	
	TD		,RMS-60	..		05682	25	00000	06396	
	B7	P LOAD		..		05694	49	05486		
03780	DNB	AM	PNTR	,3	,10	..	05702	11	04857	000-3
03790	B7	PNTR-11		..		05714	49	04846		
03810	*****	FORM INFO REQD TO COMPLETE LOADING OF SUBROUTINE								
03820	*****	ADJ ENTRY POINTS IN SUBVEC AS IND BY DSA AT START OF SUBR.								
03830	FORM	A	IND	,NE	..	05722	21	04361	04438	
03840	A	SUB NO	,NE	..	ADJ SUBR NO.FOR ALL ENTRIES	05734	21	04593	04438	
03850	FILSV	AM	FIL SV+35,5	,10	..	05746	11	05781	000-5	
03860	TF	SV	,PICKUP	,6	..	05758	26	05770	07443	
03870	A	PCK	,MOD+7	,2	..	05770	21	-2365	08007	

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03880	SV	DS	5	,0-5	,,	CONTAINS ADR OF SUBR IN SUBVEC	05776	5	
03890		SM	SV	,5	,10,	ADJ SUB VECTOR ADR	05782	12	05776 000-5
03900		SM	NE	,1	,10,	REDUCE NO OF ENTRIES	05794	12	04438 000-1
03910		BH	FIL SV				05806	46	05746 01100
03920		TF	SCT	,DDARS+0	,6,	RECORD SEC REQD FOR SUBR	05818	26	0584J 02742
03930		TF	DDAM+8	,SECLST	,7,	ENTER SEC-CNT FOR WRT SUBR TO SCRTC	05830	26	02772 -2674
03940	SCT	DS	5	,0	,,	SECTOR COUNT FOR WHOLE SUBROUTINE	05841	5	
03950		TFM	IORT	,++23	,,	WRITE MOD SUBR ON SCRATCH	05842	16	00565 -5865
03960		B	IORBC	,DDAM	,7		05846	49	00520 -2803
03970		A	DDAM+5	,DDAM+8	,,	INCREASE DISK ADR BY NO SEC	05866	21	02769 02772
03980		AM	PICKUP		,,	INCREASE CORE ADR BY SUBR LENGTH	05878	11	07443 -0000
03990	PKUP	DS	5	,0	,,	TEMP STORE PROG TOTAL CORES	05889	5	
04000		AM	SCT	,3	,10,	ADJ FOR NEXT SUBR	05890	11	05841 000-3
04010		TDM	ISTATW	,1	,,	INDICATE REQD SUBR	05902	15	02641 00001
04020		AM	=-6	,1	,,		05914	11	05908 -0001
04030		B7	ADJ DIM		,,		05926	49	04454
04050	CAPCK	A	SUBVEC-15,PCK		,,	RM FOR ALPHA	05934	21	02200 02365
04060		TF	SUBVEC-10,PCK		,,	RM FOR BETA	05946	26	02205 02365
04070		SM	SUBVEC-10,1		,,		05958	12	02205 -0001
04080	*****		MAKE REQD ADJ TO READ OBJECT PROGRAM						
04090		BNR	++36	,ISTAT-30	,,	BR IF CARD IMAGE	05970	45	06006 07444
04100		AM	DDAR+5	,1	,10,	ADJ OBJ PROG DDA	05982	11	02570 000-1
04110		SM	DDAR+8	,1	,10,		05994	12	02573 000-1
04120		CF	DDAR+13		,,		06006	33	02578 00000
04130	DISKCK	BNF	++48	,DSKSW	,,	BR IF DISK PGH	06018	44	06066 06052
04140		TR	EXIT-48	,NO DISK	,,		06030	31	02510 02820
04150		SF	DDAR+1		,,		06042	32	02586 00000
04160	DSKSW	DS	1	,=-1	,,	SW HAS -1 WHEN NON DISK INPUT(NDI)	06052	1	
04160		TR	DDAR	,NODDA	,,		06054	31	02565 02876
04170	REDUCE	SM	PICKUP	,CAP+18	,,	RDC KR UZ FN KR AVL8	06066	12	07443 -3216
04175		BV	++12		,,		06078	46	06090 01400
04180		BNH	XEQ		,,		06090	47	02402 01100
04190		TD	SIZE+60	,PICKUP	,,	MOVE NO OF CORE TO SIZE MESSAGE	06102	25	06707 07443
04200		TD	SIZE+58	,PICKUP-1	,,		06114	25	06705 07442
04210		TD	SIZE+56	,PICKUP-2	,,		06126	25	06703 07441
04220		TD	SIZE+54	,PICKUP-3	,,		06138	25	06701 07440
04230		TD	SIZE+52	,PICKUP-4	,,		06150	25	06699 07439
04240		TFM	DELETE+18,SIZE		,,		06162	16	04052 -6647
04250		B7	DELETE		,,		06174	49	04034
04270	*****		BELOW IS DUAL PURPOSE VECTOR. EVEN ADR FIELDS ARE ADR OF						
04280	*****		ROUTINES THAT ARE USED FO DECODING INDICATOR CODE						
04290	*****		ODD ADR FIELDS ARE SUBR ADJ FOR THE P AND Q OPERANDS OF INST						
04300		DORG	6296		,,		06296		
04310		DSA	NEW CD,	,INST	,,		06300	5 X	3
							06300		-4822
							06305		-0000
							06310		-4918
04320	LOC115	DSA	0,PCONST ,0 ,CONST ,0 ,DNB ,0 ,NYET , 0 ,FORM				06315	5 X	10
							06315		-0000
							06320		-5286
							06325		-0000
							06330		-5346
							06335		-0000
							06340		-5702

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							06345		-0000
							06350		-6910
							06355		-0000
							06360		-5722
04330		DSA	0 ,NYET,0 ,NYET,0 ,NYET,0				06365	5 X	7
							06365		-0000
							06370		-6910
							06375		-0000
							06380		-6910
							06385		-0000
							06390		-6910
							06395		-0000
04340		DC	1	,'	,,		06396		1
04350	RMS	DS	60	,,	,,	60 RECORD MARKS	06456		60
04360	SPSTST	DC	8	,67514842	,,		06464		8
			07514842						
04370	CTLAR	DSS	60	,SPSTST-6	,,	USED FOR SUBR CONTROL CONSTANT	06458		60
04380	ADROF	DSA	WA+36 ,MESND ,WA+35 ,MESL ,WA+38 ,MESGS				06469	5 X	6
							06469		-7436
							06474		-6503
							06479		-7435
							06484		-6529
							06489		-7438
							06494		-6563
04390		DC	2	,'	,,	,ADR OF+27	06496		2
04400		DORG	++4		,,		06498		
04410	OUT	DC	3	,'	,,	TYPE OUT AREA	06500		3
04420	MESND	DAC	13,NOISE DIGIT	'	,,		06503	13 X	2
			NOISE DIGIT	'	,,				
04430	TCP	DSS	66	,CTLAR+60	,,	TEMP STOR FOR PSUEDO CONSTANT	06518		66
04440	MESL	DAC	17,MANTISSA LENGTH	'	,,		06529	17 X	2
			MANTISSA LENGTH	'	,,				
04450	MESGS	DAC	10,SUBR SET	'	,,		06563	10 X	2
			SUBR SET	'	,,				
04455		DORG	TCP+128		,,	ELIMINATE OVERLAP OF MESSAGE	06644		
04460	SIZE	DAC	43,CORE CAPACITY EXCEEDED BY 00000 LOCATIONS.'		,,		06647	43 X	2
			CORE CAPACITY EXCEEDED BY 00000 LOCATIONS.'		,,				
04470	DELTED	DAC	23,PROGRAM IS TERMINATED.'		,,		06733	23 X	2
			PROGRAM IS TERMINATED.'		,,				
04480	BOSETM	DAC	35,SUBR NOT LOCATED IN SUBROUTINE MAP'		,,		06779	35 X	2
			SUBR NOT LOCATED IN SUBROUTINE MAP'		,,				
04490	NYMES	DAC	31,INPROPER IND CODE IN SUBR 0000'		,,		06849	31 X	2
			INPROPER IND CODE IN SUBR 0000'		,,				
04500	NYET	TD	NYMES+98 ,SUB NO		,,		06910	25	06907 04593
04510		TD	NYMES+86 ,SUB NO-1		,,		06922	25	06905 04592
04520		TD	NYMES+84 ,SUB NO-2		,,		06934	25	06903 04591
04530		BTM	DELETE ,NYMES		,,		06946	17	04034 -6849
04540		DORG	FOREQ		,,		07280		
04550	LDRMKS	AM	=-18	,1	,,		07280	11	07298 -0001
04560		TD	RMS-59 ,RMS-60 ,2		,,		07292	25	-6397 06396
04570		CM	=-6	,RMS	,,		07304	14	07298 -6456

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04580	BL	LDRMKS			07316	47	07280	01300
04590	SF	RMS-60			07328	32	06396	00000
04600	34	DDAL	,701	,,	07340	34	07388	00701
04610	38	DDAL	,702		07352	38	07388	00702
04620	TRA				07364	36	00000	00500
					07376	49	00000	00000
04630	DDAL	DSC	1	,0	07388			1
		0						
04640	DSA	SSLOC			07393		5 X	1
04650	DC	3	,051		07393		J7024	
	-51				07396		3	
04660	DSA	XEQ-2			07401		5 X	1
04670	TCD	LDRMKS+12			07401		-2400	
					07292			
04680	DDRG	FOREQ			07280			
04690	DS	20			07299		20	
04700	WAS	DSS	100	,,	07300		100	
04710	WAF	DSS	100	,,	07400		100	
04720	WA	DS		,,	07400		0	
04730	L	DS		,MA+35	07435		0	
04740	PICKUP	DS		,MA+43	07443		0	
04750	ISTAT	DS		,MA+74	07474		0	
04760	DEND	SUPER			02934			

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ADJDIM	04454	RESTOR	02621	DDDAW	02803	MOD	08000	SETP	04954
BDSETM	06779	2NDPC	05530	DIM	04477	NDDDA	02815	SIZE	06647
COMMON	00401	ADJ	05010	DNB	05702	NE	04438	SSLOC	17024
CTLPNT	05021	ADROF	06469	DSKSW	06052	NEWCD	04822	STPSV	04418
DDARS	02795	BASE	01600	EXIT	02558	NODDA	02876	SUBNO	04593
DDASC	02726	BUF	07999	FILSV	05746	NOISY	03450	SUBRD	04726
DELETE	04034	CAPCK	05934	FINAL	04350	NOTRM	04898	SUPER	02934
DELTED	06733	CAP	03198	FOREQ	07280	NYET	06910	SV	05776
DISKCK	06018	CARD	04833	FOREX	03306	NYMES	06849	SWPQ	04976
FVLAFP	04282	CHECK	02462	FORM	05722	OUT	06500	TCP	06518
ISTATW	02641	CKSET	03526	INDA	05029	PARAM	03418	VLAFP	04114
LDRMKS	07280	CKSUB	04370	IND	04361	PBOTH	05426	WA2	02934
LOC115	06315	CONST	05346	INST	04918	PCK	02365	WA3	07300
MODIFY	04810	CTLAR	06458	IOCAL	00716	PKUP	05889	WAF	07400
MONCAL	00796	DDA2	02749	IDD	03026	PLOAD	05486	WA	07400
MOV2ND	05614	DDAL	07388	IDGT	00566	PLUSL	02398	XEQ	02402
NODINST	05218	DDAP	02593	IORBC	00520	PMOTC	05646	SECLST	02674
NODISK	02820	DDAR	02565	IORT	00565	PMTR	04857	SETCOD	03926
NXTIND	04846	DDARS	02734	ISTAT	07474	QCK	05138	SPSTST	06464
PCONST	05286	DDA	02734	LNGCK	05254	RDCTL	03346	SUBSET	03514
PICKAD	04617	DDASC	02711	LNG	05263	RDDIM	03698	SUBVEC	02215
PICKUP	07443	DDAW	02764	L	07435	RDSUB	04510	SYSICAL	00475
PSUEDD	05390	DDA2	02787	MANTL	03470	RMARK	00421	TYPINF	03818
RDFRST	03114	DDAP	02608	MESGS	06563	RM	04878		
REDUCE	06066	DDAR	02585	MESL	06529	RMS	06456		
RELINC	00434	DDDA	02779	MESND	06503	SCT	05841		

END OF ONE ASSEMBLY.

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00010° SPSLIB---THE SPS II-D MODIFICATION PROGRAM

00020	SSTDAD	DS	,18899		18899	00000
00030	MSTNAD	DS	,18934		18934	00000
00040	SST3CT	DS	,35		00035	00000
00050	AZDAD	DS	,18800		18800	00000
00060	AZ3CT	DS	,94		00094	00000
00070	AZD15	DS	,33		00033	00000
00080	ZEPO	DS	,02300		02300	00000
00090	COLL	DS	,02439		02439	00000
00100	TYINSW	DS	,02473		02473	00000
00110	CDINSW	DS	,02474		02474	00000
00120	PTINSW	DS	,02475		02475	00000
00130	PRTLIM	DS	,02502		02502	00000
00140	HCLIM	DS	,02507		02507	00000
00150	CLERER	DS	,02696		02696	00000
00160	INPUT	DS	,02883		02883	00000
00170	LIMITS	DS	,03283		03283	00000
00180	ADDRS	DS	,03295		03295	00000
00190	LPOUT	DS	,03323		03323	00000
00200	PHASEA	DS	,03404		03404	00000
00210	PROSTM	DS	,03912		03912	00000
00220	ALFOP	DS	,04612		04612	00000
00230	ALFLP	DS	,04712		04712	00000
00240	ER3	DS	,04844		04844	00000
00250	ZP	DS	,04800		04800	00000
00260	EVALAD	DS	,05676		05676	00000
0 270	OK	DS	,04924		04924	00000
00280	EVALER	DS	,07344		07344	00000
00290	LDLBL	DS	,08686		08686	00000
00300	LDTR	DS	,09462		09462	00000
00310	ER4A	DS	,09866		09866	00000
00320	OUTPUT	DS	,09958		09958	00000
00330	INSTRN	DS	,10528		10528	00000
00340	START2	DS	,10666		10666	00000
00350	ST2L	DS	,10982		10982	00000
00360	DURG		11000		11000	
00370	L1RST	GET	PHAI		11000	10 00565 J1023
						11012 49 00566 J3337
00380	BTM	MODSPS,PROCON			11024 17 12676 J1036	
00390	PROCON	BTM	RDCK,++20		11036 17 12888 J1056	
00400		B7	PHASEA		11048 49 03404 00000	
00410	TFM	++30,INPUT-11			11056 16 11086 -2872	
00420	AM	++18,2,10			11068 11 11086 000-2	
00430	CF	+-			11080 33 00000 00000	
00440	CM	+-6,INPUT+151			11092 14 11086 -3034	
00450	BL	+-36			11104 47 11068 01300	
00460	TFM	SBNR+11,INPUT-10,,	COMPRESS BLANKS		11116 16 11151 -2873	
00470	SLP	AM	SBNR+11,2,10		11128 11 11151 000-2	
00480	SBNR	BNR	++20,+-		11140 45 11160 00000	
00490	B7	SLPX			11152 49 11260 00000	
00500	C	CLERER+1,SBNR+11,11			11160 24 02697 1115J	
00510	BNE	SLP			11172 47 11128 01200	
00520	TF	STR+11,SBNR+11			11184 26 11243 11151	
00530	TF	STR+6,SBNR+11			11196 26 11238 11151	
00540	SM	STR+6,1,10			11208 12 11238 000-1	
00550	AM	STR+11,1,10			11220 11 11243 000-1	
00560	STR	TR	+-,+-		11232 31 00000 00000	
00570	B7	SBNR			11244 49 11140 00000	
00580	B7	SBNR			11252 49 11140 00000	

00590	SLPX	CM	SBNR+11,INPUT-10+2*13		11260 14 11151 -2899
00600	BL	++36			11272 47 11308 01300
00610	C	INPUT-10+2*12,C1+2*12			11284 24 02897 11533
00620	BE	C1P			11296 46 11644 01200
00630	CM	SBNR+11,INPUT-10+2*13			11308 14 11151 -2899
00640	BL	++36			11320 47 11356 01300
00650	C	INPUT-10+2*12,C2+2*12			11332 24 02897 11559
00660	BE	C2P			11344 46 11816 01200
00670	CM	SBNR+11,INPUT-10+2*24			11356 14 11151 -2921
00680	BL	++36			11368 47 11404 01300
00690	C	INPUT-10+2*23,C3+2*23			11380 24 02919 11607
00700	BE	C4P			11392 46 11920 01200
00710	CM	SBNR+11,INPUT-10+2*07			11404 14 11151 -2897
00720	BL	++36			11416 47 11452 01300
00730	C	INPUT-10+2*06,C4+2*06			11428 24 02485 11621
00740	BE	C3P			11440 46 12348 01200
00750	CM	SBNR+11,INPUT-10+2*11			11452 14 11151 -2895
00760	BL	++36			11464 47 11500 01300
00770	C	INPUT-10+2*10,C5+2*10			11476 24 02893 11643
00780	BE	C5P			11488 46 12356 01200
00790	B7	PHASEA			11500 49 03404 00000
00800	C1	DAC	13,*DEFINEDPCODE		11509 00026
00810	C2	DAC	13,*DELETEDPCODE		11535 00026
00820	C3	DAC	24,*DEFINESYSTEMSYMBOLTABLE		11561 00048
00830	C4	DAC	07,*ENOLIB		11609 00014
00840	C5	DAC	11,*LISTOPCODE		11623 00022
00850	C1P	GET	OPTAB,,,	DEFINE OP CODE	11644 10 00565 J1667
					11656 49 00566 J3313
00860	BTM	MODSPS,++12			11668 17 12676 J1680
00870	C1P2	BTM	RDCK,ENDC1P		11680 17 12888 J3078
00880	BTM	ALFOP,++20			11692 17 04612 J1712
00890	B7	ALRIN			11704 49 13110 00000
00900	TF	OPSAV,ZP+18,11			11712 26 13376 0481Q
00910	TF	ZP+18,60S,6			11724 26 0481Q 13368
00920	SF	INPUT+11			11736 32 02894 00000
00930	BTM	ALFOP,NOSPACE			11748 17 04612 J3130
00940	BTM	EVALAD,++12,4 11			11760 17 05076 1177K
00950	TF	ZEPO+30,ADDRS			11772 26 02330 03295
00960	TF	ZEPO+27,OPSAV			11784 26 02327 13376
00970	TF	ZP+11,ZEPO+30,6			11796 26 0481J 02330
00980	B7	PHASEA			11808 49 03404 00000
00990	C2P	GET	OPTAB,,,	DELETE OP CODE	11816 10 00565 J1839
					11828 49 00566 J3313
01000	BTM	MODSPS,++12			11840 17 12676 J1852
01010	C2P2	BTM	RDCK,ENDC1P		11852 17 12888 J3078
01020	BTM	ALFOP,MOTIN			11864 17 04612 J3058
01030	TF	INPUT+18,60S			11876 26 02901 13368
01040	TF	ZEPO+27,ZP+18,11			11888 26 02327 0481Q
01050	TF	ZP+11,ZEPO+30,6			11900 26 0481J 02330
01060	B7	PHASEA			11912 49 03404 00000
01070	C4P	TFM	SSTDCP+S,MSTDAD,,,	DEFINE SYSTEM SYMBOL TABLE	11920 16 12337 J8934
					11932 17 12676 J1944
01080	BTM	MODSPS,++12			11944 26 12345 02507
01090	C4P1	TF	SSTDCP+13,HCLIM		11956 12 12345 -3511
01100	SM	SSTDCP+13,SST3CT+100+11			11968 10 00565 J1991
01110	GET	SST			11980 49 00566 J2324
					11992 26 12027 12345
01120	TF	C4P02+11,SSTDCP+13			12004 11 12027 800-4
01130	AM	C4P02+11,4,10			

01140	C4P02	S	PRTLIM,0-0	12016	22	02502	00000
01150	TR		LIMITS-9,PRTLIM-4	12028	31	03274	02498
01160	S		LDTR+11,C4P02+11,11	12040	22	09473	1202P
01170	S		LDTR+ 6,C4P02+11,11	12052	22	09468	1202P
01180	TFM		PHASEA-1,0+12	12064	16	03403	J2076
01190	BTM		RDCCK,C4END	12076	17	12888	J2176
01200	AM		ENTCNT,1,10	12088	11	12318	000-1
01210	CM		ENTCNT,150,9	12100	14	12318	00J50
01220	BH		C2OECT	12112	46	12144	01100
01230	BTM		EVALAD,0+12,4	12124	17	05076	12136
01240	B7		LDLBL	12136	49	08686	00000
01250	C2OECT	RCTY		12144	34	00000	00102
01260	WATY	C2OEM		12156	39	12257	00100
01270	CALL	EXIT		12168	49	00796	00000
01280	C4END	TF	C4P02+11,HCLIM,6	12176	26	1202P	02507
01290	S		C4P02+11,PRTLIM,6	12188	22	1202P	02502
01300	SM		C4P02+11,17,6 10	12200	12	1202P	000J7
01310	TFM		SSTDCF+5,SSTDAD	12212	16	12337	J8899
01320	PUT		SST,RBC	12224	10	00565	J2247
				12236	49	00520	J2324
01330	B7		PROCON+20	12248	49	11056	00000
01340	C2OEM	DAC	30,LIMIT OF 150 SYMBOLS EXCEEDED'	12257		00060	
01350	ENTCNT	DC	3,0	12318		00003	
01360	DS		5	12323		00005	
01370	SST	DD	,SSTDCF,,,A	12324		00002	22
				12326		00005	J2332
				12331		00001	'
01380	SSTDCF	DDA	,0,SSTDAD,SSTSC,0-0	12332		00006	OJ8899
				12338		00003	-35
				12341		00005	-0000
				12346		00001	
01390	DC		1,0	12348	49	00796	00000
01400	C3P	CALL	EXIT	12356	10	00565	J2379
01410	C5P	GET	OPTAB,,,	12368	49	00566	J3313
			LIST OP CODE	12380	16	04842	J2556
01420	TFM		ZP+36+6,C5P2	12392	26	02901	02703
01430	TF		INPUT+18,CLERER+7	12404	26	03323	02705
01440	TF		LOPOUT,CLERER+9	12416	26	12625	02697
01450	TF		XC+9,CLERER+1	12428	16	02895	000R9
01460	TFM		INPUT+12,99,10	12440	17	04612	J2452
01470	BTM		ALFOP,0+12	12452	16	02897	000R7
01480	TFM		INPUT+14,99,10	12464	17	04612	J2476
01490	BTM		ALFOP,0+12	12476	16	02899	000R9
01500	TFM		INPUT+16,99,10	12488	17	04612	J2500
01510	BTM		ALFOP,0+12	12500	16	02901	000R9
01520	TFM		INPUT+18,99,10	12512	17	04612	J2524
01530	BTM		ALFOP,0+12	12524	16	04842	-4712
01540	TFM		ZP+36+6,ALFLP	12536	16	03403	J1036
01545	TFM		PHASEA-1,PROCON	12548	49	03404	00000
01550	B7		PHASEA	12556	26	03321	02327
01560	C5P2	TF	LOPOUT-2,ZEPO+27	12568	24	13362	03321
01570	C		60S-6,LOPNU-2	12580	46	04712	01200
01580	BE		ALFLP	12592	43	12616	12625
01590	BD		0+24,0+24+9	12604	34	00000	00102
01600	RCTY			12616	11	12625	0-0-2
01610	XC	AM	0+9,2,8 10	12628	39	03315	00100
01620	WATY		LOPOUT-8	12640	38	02328	00100
01630	WNTY		ZEPO+28	12652	34	00000	00101
01640	SPTY			12664	49	04712	00000
01650	B7		ALFLP				

01660	DS		5	12675		00005	
01670	MODSPS	TF	PROSTM+6,BPHA+6,,	CONVERT INPUT ROUTINE	12676	26	03918 12810
				CONVERT OP CODE	12688	16	04925 000M2
01680	TFM		OK+1,42,10,,	LOOK-UP ROUTINE	12700	26	04850 12818
01690	TF		ER3+6,BOP+6,,	CONVERT LDLBL ROUTINE			
01700	TF		OUTPUT+6,BLDLBL+6,,	12712	26	09964 12826	
				12724	26	09872 12842	
01710	TF		ER4A+6,BER4+6	12736	26	07350 12834	
01720	TF		EVALER+6,BER5+6,,	12748	26	03403 12675	
01730	TF		PHASEA-1,MODSPS-1	12760	26	10988 12850	
01740	TF		ST2L+6,BST2+6	12772	15	02331 00000	
01750	TDM		ZEPO+31	12783		00001	
01760	DC		1,0,0	12784	16	04654	J3058
01770	TFM		ALFOP+36+6,NOTIN	12796	49	10666	00000
01780	B7		START2	12804	M9	0340L	00000
01790	BPHA	B7	PHASEA-1,0 6	12812	M9	0461J	00000
01800	BOP	B7	ALFOP-1,0 6	12820	M9	03404	00000
01810	BLDLBL	B7	PHASEA,,0	12828	M9	13150	00000
01820	BER5	B7	ER5DET,,0	12836	M9	13110	00000
01830	BER4	B7	ALRIN,,0	12844	M9	12852	00000
01840	BST2	B7	ST2C,,0	12852	47	13270	01300
01850	ST2C	BL	C15P	12864	46	13226	01200
01860	BE		C14P	12876	49	13182	00000
01870	B7		C13P	12887		00005	
01880	DS		5	12888	45	12912	02873
01890	RDCCK	BNR	0+24,INPUT-10	12900	16	02873	000-0
01900	TFM		INPUT-10,00,10	12912	43	12948	02473
01910	BD		0+36,TYINSM	12924	34	00000	00102
01920	RCTY			12936	39	02873	00100
01930	WATY		INPUT-10	12948	14	02873	000J4
01940	CM		INPUT-10,14,10	12960	46	1288P	01200
01950	BE		RDCCK-01,,6	12972	32	02882	00000
01960	SF		INPUT-1	12984	32	02894	00000
01970	SF		INPUT+11	12996	16	13026	-2900
01980	TFM		0+30,INPUT+17	13008	11	13026	000-2
01990	AM		0+18,2,10	13020	32	00000	00000
02000	SF		0-0	13032	14	13026	-3034
02010	CM		0-6,INPUT+151	13044	47	13008	01300
02020	BL		0-36	13056	42	00000	00000
02030	B82			13058	39	13453	00100
02040	NOTIN	WATY	NOTINM	13070	49	03404	00000
02050	B7		PHASEA	13078	10	00565	J3101
02060	ENDCIP	PUT	OPTAB,RBC	13090	49	00520	J3313
				13102	49	11056	00000
02070	B7		PROCON+20	13110	39	13379	01100
02080	ALRIN	WATY	ALRINM	13122	49	03404	01000
02090	B7		PHASEA	13130	39	13075	01100
02100	NOSPAC	WATY	NOSPAC	13142	49	03404	00000
02110	B7		PHASEA	13150	39	13483	00100
02120	ER5DET	WATY	UNDSYM	13162	39	02427	00100
02130	WATY		COLL-12	13174	49	03404	00000
02140	B7		PHASEA	13182	15	02474	0000J
02150	C13P	TDM	CDINSM,1,11	13194	15	02475	00000
02160	TDM		PTINSM,0	13206	15	02473	00000
02170	TDM		TYINSM,0	13218	49	03404	00000
02180	B7		PHASEA	13226	15	02475	0000J
02190	C14P	TDM	PTINSM,1,11	13238	15	02474	00000
02200	TDM		CDINSM,0	13250	15	02473	00000
02210	TDM		TYINSM,0				

02220	B7	PHASEA	13262	49	03404	00000
02230	C15P	TDM TYINSM,1,11	13270	15	02473	0000J
02240	TDM	CDINSM,0	13282	15	02474	00000
02250	TDM	PTINSM,0	13294	15	02475	00000
02260	B7	PHASEA	13306	49	03404	00000
02270	OPTAB	DD ,OPTB,,,A	13313	00002	22	
			13315	00005	J3322	
			13320	00001	'	
02280	OPTB	DDA ,0,A2DAD+A2DIS,A2SCT-A2DIS,INSTRM+100+A2DIS	13322	00006	0J8833	
			13328	00003	-21	
			13331	00005	J3828	
			13336	00001		
02290	DC	1,'	13337	00002	22	
02300	PHA1	DD ,A1DCF,,,A	13339	00005	J3346	
			13344	00001	'	
02310	A1DCF	DDA ,1,18600,87,2300	13346	00006	1J8600	
			13352	00003	-87	
			13355	00005	-2300	
02320	DC	1,'	13360	00001		
02330	605	DC 8,60606060	13368	00008		
02340	OPSAV	DC 8,0	13376	00008		
02350	ALRINM	DAC 18, ALREADY DEFINED'	13379	00036		
02360	NOSPM	DAC 19, NO ROOM IN TABLE'	13415	00038		
02370	NOTINM	DAC 15, NOT IN TABLE'	13453	00030		
02380	UNDSYM	DAC 20, UNDEFINED SYMBOL '	13483	00040		
02390	DENO	LIBST	11000			

SPS IID MONITOR I SUBROUTINE SET 00

SYMBOL TABLE

BFLG	00520R	DIV1	00124R	EMD	00892R	INDAD	01008R	NZQ	00744R
PCK	02365	POST	00292R	PQ	00800R	SET	00988R	SUB	00688R
ZEROS	01120R								

PCK	DS	,2365				02365	00000
*****	SUBROUTINE	SET 00	SOFT DIVIDE	...19	APL 63...	JHB	
	DSA	DIV1-24				00004	00005 -0100
	DORG	*-4				00000	
	DS	100				00099	00100
						00100	K6 00135 02375
	TF	DIV1+11	,PCK+10			00112	J1 00135 00004
05080	DIV1	AM	DIV1+11	,04		00124	K6 00303 00000
		TF	POST+11		,0,	LOAD A	ADR
		TFM	INDAD+42	,**20		00136	JD 01050 00156
		B7	INDAD			00148	M9 01008 00000
05110		TF	SUB+11	,INDAD+59	,01		
							LOAD B
							ADDR
		TFM	INDAD+42	,**20		00156	K0 00699 01067
		B7	INDAD			00168	JD 01050 00188
05140		TF	POST+6	,INDAD+59	,01	00180	M9 01008 00000
							LOAD SHIFT
		TFM	INDAD+42	,**20		00188	K0 00298 01067
		B7	INDAD			00200	JD 01050 00220
05170		TF	SUB+6	,INDAD+59	,01	00212	M9 01008 00000
05180		AM	DIV1+11,02,010			LOAD LQ	00220
		TF	99	,ZEROS		00232	J1 00135 000-2
		TF	66	,ZEROS		00244	20 00099 01120
		TF	37	,ZEROS		00256	20 00066 01120
		TF	37	,ZEROS		00268	20 00037 01120
06020		TDM	4,0			00280	15 00004 00000
06030	POST	TF				00292	26 00000 00000
06040		TDM	POST+22	,1	,09	00304	J5 00314 00-01
06050		TF	POST+47	,POST+11	,01	00316	K0 00339 00303
06060		BNF	**48,,0			00328	M4 00376 00000
06070		TDM	POST+22	,	,011	00340	J5 00314 0000-
06080		TF	**18	,POST+6	,01	00352	K0 00370 00298
06090		CF				00364	33 00000 00000
06100		TDM	SUB+1,2,0			00376	J5 00689 00002
06110		TDM	P0-11,1,0			00388	J5 00789 00001
06120		TF	**23,SUB+11,01			00400	K0 00423 00699
06130		BNF	**48,,0			00412	M4 00460 00000
06140		SM	POST+22	,1	,010	00424	J2 00314 000-1
06150		TDM	SUB+1,1,0			00436	J5 00689 00001
06160		TDM	P0-11,2,0			00448	J5 00789 00002
06170		TF	**35	,POST+6	,01	00460	K0 00499 00298
06180		SM	**23,1,010			00472	J2 00499 000-1
06190		BNF	**12,,0			00484	M4 00472 00000
06200		TF	**35,SUB+11,01			00496	K0 00531 00699
07010		SM	**23,1,010			00508	J2 00531 000-1
07020	BPLG	BNF	**12,,0			00520	M4 00508 00000
07030		A	-1,SUB+4,01			00532	KJ 00531 00699
07040		I	BPLG+11,SUB+11,01			00544	KK 00531 00699
07050		C	BPLG+11,BPLG-25,01			00556	MM 00531 00499

07120	BNL	++36			00568	M6	00604	01300
07130	CF	BFLG-37	,	,6	00580	L3	0048L	00000
07140	SF	BFLG+11	,	,6	00592	L2	0053J	00000
07150	TFM	SUB+42,NZQ,017			00604	JO	00730	-0744
07160	TF	PQ+6,BFLG+11,01			00616	K0	00806	00531
07170	SM	PQ+6,1,010			00628	J2	00806	000-1
07180	TF	END+6,PQ+6,01			00640	K0	00898	00804
07190	TFM	PQ-1,SUB+11,01			00652	K0	00799	00699
07200	TDM	SET+11,,0			00664	J5	00999	00000
08010	BN	PQ-24,,0			00676	J6	00685	000-0
08020	AM	SUB-3,11,010			00688	Z2	00000	00000
08030	BD	,SUB-3,1			00700	M7	00776	01300
08040	B7	SET ,,,0			00712	J1	00685	000J1
08050	TDM	SET+11,1,0			00724	4L	00000	00685
08060	TFM	SUB+42,SUB,017			00736	M9	00988	00000
08070	B7	SUB,,0			00744	J5	00999	00001
08080	TF	++18,SUB+6,01			00756	JO	00730	-0688
08090	A				00768	M9	00688	00000
08100	TD	,SUB-3,1			00776	K0	00794	00694
08110	BNZ	++24			00788	Z1	00000	00000
08160	CF	SUB+6	,	,6	00800	ZN	00000	00685
08170	AM	SUB+6,1,010			00812	M7	00836	01200
08180	BD	EMD,SUB+4,01			00824	L3	0069M	00000
09010	AM	PQ+6,1,010			00836	J1	00694	000-1
09030	SF	PQ+6	,	,6	00848	ML	00892	00692
09070	B7	SUB-12,,0			00860	J1	00806	000-1
09080	SF	SET+11,,0			00872	L2	00800	00000
09110	AM	PQ+6,1,010			00884	M9	00676	00000
09120	BNF	++24,POST+22	,	,01	00892	Z2	00000	00000
09130	SF	PQ+6	,	,6	00904	ML	00940	00314
09170	AM	INDAD+59	,	,0	00916	L2	00800	00000
09180	BNF	0,INDAD+59	,	,1	00928	L2	00999	00000
09190	CF	INDAD+59	,	,0	00940	J1	00806	000-1
09200	TF	INDAD+59	,	,0111	00952	L2	00800	00000
10010	B7	INDAD+36	,	,0	00964	MM	00988	00314
10020	DC	34	,	,0	00976	Z2	00099	00000
10030	DEND	00011			00988	J1	00999	000-0
					01000	M9	0013N	00000
					01008	J1	00135	000-5
					01020	K0	01043	00135
					01032	K6	01067	00000
					01044	4M	00000	01067
					01056	L3	01067	00000
					01068	K0	01067	0106P
					01080	M9	01044	00000
					01120		00034	
					00011			

SPS IID MONITOR I SUBROUTINE SET 01

SYMBOL TABLE

NOSDIG	02401	ALPHA	00066R	AZERO	00488R	BETA	00098R	CZERO	00594R
EDGAR	00000R	FAC	00066R	FLONE	00604R	LCN1	00533R	LCN2	00543R
LCN3	00553R	LCN4	00563R	LCN5	00573R	LCN6	00583R	LOGE	00523R
NINES	00499R	ONEZ	00513R	OVFL	00380R	P	00000	PCK	02365
PICK	00100R	SAVE	00077R	SIGN	00308R	STORE	00344R	UNFL	00424R
ZRES	00448R								

01010*	PICK ROUTINES	FIXED 8 DIGIT	MANTISSA LENGTH
02040*****	FOR OPERANDS A AND B ONLY		
01080*****	PCK AREA MAY BE USED AS A WORK AREA IF SUBR NOT USED. IF		
01090*****	SUBROUTINES REQUIRED, THEN THE AREA IS USED AS FOLLOWS		
01100*****	02401 NOISE DIGIT. SOURCE, SUBROUTINE SUPERVISOR		
01110*****	PCK ADR OF PICK. SOURCE, SUBROUTINE SUPERVISOR		
01120*****	PCK+5 ADR OF RETURN TO SUBR. SOURCE, SUBROUTINE		
01130*****	PCK+10 ADR OF RETURN TO MAINLINE. SOURCE, PRIMARY LINKAGE		
01140*****	PCK+15 ADR OF A OPERAND CHARACTERISTIC. SOURCE, PICK		
01150*****	PCK+20 ADR OF B OPERAND CHARACTERISTIC. SOURCE, PICK		
01160*****	PCK+25 ADR OF A OPERAND MANTISSA. SOURCE, PICK		
01170*****	PCK+30 ADR OF B OPERAND MANTISSA. SOURCE, PICK		
01180*****	PCK+31 RESERVED FOR POSSIBLE RECORD MARK		
01190*	PCK+35 4 RESERVED CORE		
01200*****	PCK-6 THRU PCK-90 SUBVEC FOR THE 17 FURNISHED SUBROUTINES		
02010*	ADRS ARE SUPPLIED BY THE SUBROUTINE SUPERVISOR		
02020*****	PCK-91 DOWN TO END OF IORY MAY BE USED IF NO ADDED SUBROUTS		
P	DS	,0	00000 00000
02080 PCK	DSB	5 ,8 ,2365	02365 00040
	DSA	PICK	00004 00005 -0100
02081 EDGAR	DS	,,-4	00000 00000
02082	DURG	EDGAR	00000
02141	DS	46,,WASTE	00045 00046
02142 ALPHA	DS	21	00066 00021
02144 SAVE	DS	11	00077 00011
02145 BETA	DS	21	00098 00021
02146	DS	1	00099 00001
02160 PICK	TD	401 ,BETA+1-P ,1, RESET ERROR INDICATOR	00100 ZN 00401 00099
02170	TR	PCK+11 ,PCK+10 ,11, MOVE OPERANDS FROM MAINLINE	00112 31 02376 0237N
02180	AM	PCK+10 ,11 , CALC RETURN ADR	00124 11 02375 -0011
02190	BNF	++44 ,PCK+15 , PROCESS A OPERAND	00136 M4 00135 02380
02200	CF	PCK+15	00148 33 02380 00000
03010	TF	PCK+15 ,PCK+15 ,11	00160 26 02380 0238-
03020	B7	e-36 , ,0	00172 M9 00136 00000
03040	TF	PCK+25 ,PCK+15 , A MINUS 2	00180 26 02390 02380
03050	SM	PCK+25 ,2	00192 12 02390 -0002
03060	BNF	++44 ,PCK+20 , PROCESS B OPERAND	00204 M4 00248 02385
03070	CF	PCK+20	00216 33 02385 00000
03080	TF	PCK+20 ,PCK+20 ,11	00228 26 02385 0238N
03090	B7	e-36	00240 M9 00204 00000
03110	TF	PCK+30 ,PCK+20 , B MINUS 2	00248 26 02395 02385


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03120 SM PCK+30 ,2 ,5, DELIBERATE OVERFLOW
                                00260 12 023R5 00002
03130 TF BETA ,PCK+20 ,11, MOVE B CHAR TO BETA
                                00272 K6 00098 0238N
03140 TF BETA-2 ,PCK+30 ,11, MOVE B MANT TO BETA-2
                                00284 K6 00096 0239N
03150 BV PCK+5 , ,6, RETURN TO SUBROUTINE
                                00296 46 0237- 01400
02010 SIGN BNF ++24 ,99 ,0
                                00308 M4 00332 00099
02020 SF ALPHA-2 , ,0
                                00320 L2 00064 00000
02030 AM ALPHA-2 ,00 ,010, SET HP EZ INDICATORS
                                00332 J1 00064 000-0
02040 STORE TF PCK+25 ,ALPHA-2 ,16
                                00344 20 0239- 00064
02050 TF PCK+15 ,ALPHA ,16
                                00356 20 0238- 00066
02060 B PCK+10,,6
                                00368 49 0237N 00000
02070 OVFL TDM 401 ,1 ,11
                                00380 15 00401 0000J
02080 TF ALPHA-2 ,NINES-2 ,01
                                00392 K0 00064 00497
02090 TF ALPHA ,NINES ,01
                                00404 K0 00066 00499
02100 BT ZRES+30 , ,06
                                00416 M9 00470 00000
02110 UNFL TDM 401 ,1
                                00424 15 00401 00001
02115 CF 99
                                00436 33 00099 00000
02120 ZRES TF ALPHA-2 ,AZERO-2 ,01
                                00448 KU 00064 00486
02130 TF ALPHA ,AZERO ,01
                                00460 K0 00066 00488
02140 BT STORE , ,0
                                00472 M9 00344 00000
04140* PICK ROUTINE-SHARED CONSTANTS AND WORKING STORAGE
NOSDIG DS 1 ,2401
                                02401 00001
02103 DC 8 ,0000 0000
                                00486 00008
02104 AZERO DC 2 ,99
                                00488 00002
02105 DC 1 ,
                                00489 00001
02063 DC 8 ,9999 9999
                                00497 00008
02064 NINES DC 2 ,99
                                00499 00002
02065 DC 1 ,
                                00500 00001
05090 ONEZ DC 13,10000000000000
                                00513 00013
05100 LOGE DC 10 ,43 4294 4819
                                00523 00010
05110 LCN1 DC 10 , 7 6723 0769
                                00533 00010
05120 LCN2 DC 10 , 9 0909 0909
                                00543 00010
05130 LCN3 DC 10 ,11 1111 1111
                                00553 00010
05140 LCN4 DC 10 ,14 2857 1428
                                00563 00010
05150 LCN5 DC 10 ,20 0000 0000
                                00573 00010
05160 LCN6 DC 10 ,33 3333 3333
                                00583 00010
05170 CZERO DC 11 ,0
                                00594 00011
05180 FAC DS ,ALPHA
                                00066 00000
05175 DC 8,10000000
                                00602 00008
05176 FLONE DC 2,01
                                00604 00002
05177 DC 1,
                                00605 00001
DEND 01001
                                01001

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SYMBOL TABLE

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NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R CZERO 00594R
DIVWI 00000R EDGAR 00000R FAC 00066R FLONE 00604R LCN1 00533R
LCN2 00543R LCN3 00553R LCN4 00563R LCN5 00573R LCN6 00583R
LOGE 00523R NINES 00499R ONEZ 00513R OVFL 00380R P 00000
PCK 02365 PICK 00100R SAVE 00077R SIGN 00308R STORE 00344R
UNFL 00424R ZRES 00448R

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DSI DIVWI 00004 00005 -0000
DORG EDGAR 00000
DIVWI TR PCK+11 ,PCK+10 ,11, MOVES DIV OPERANDS INTO PCK AREA
AM PCK+10 ,21 ,, CALC RETURN ADR 00012 11 02375 -0021
LD PCK+25 ,PCK+15 ,611 00024 28 0239- 0238-
D PCK+30 ,PCK+20 ,611 00036 29 0239N 0238N
BT PCK+10 , ,6 00048 49 0237N 00000
DEND 01011 01011

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SYMBOL TABLE

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NOSDIG 02401 ADD 00312R ALPHA 00066R ASCOM 00084R AZERO 00488R
FLONE 00604R CZERO 00594R EDGAR 00000R FAC 00066R FA1 00020R
LCN4 00563R FSI 00000R LCN1 00533R LCN2 00543R LCN3 00553R
NORM 00428R LCN5 00573R LCN6 00583R LOGE 00523R NINES 00499R
PICK 00100R ONEZ 00513R OVFL 00380R P 00000 PCK 02365
ZRES 00448R SAVE 00077R SIGN 00308R STORE 00344R UNFL 00424R

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07010* PICK FLOATING ADD AND SUBTRACT ROUTINES
DSA FSI ,FA1 00004 00005 -0000
DORG EDGAR 00009 00005 -0020
07020 FSI TFM PCK+5 ,FA1+20 ,17 00000 10 02370 -0040
07030 B7 PCK,,6 00012 49 0236N 00000
07070 FA1 TFM PCK+5 ,ASCOM ,17 00020 10 02370 -0084
07080 B7 PCK , ,6 00032 49 0236N 00000
07082 DC 50,05500050505000055500 005550505550050050 5050505005,350
                                00350 00050
07090 BNF ASCOM-12 ,BETA-2 ,0, CHANGE SIGN AND ADD 00040 M9 00072 00096
07100 CF BETA-2 00052 L3 00096 00000
                                B7 ASCOM 00064 M9 00084 00000
07120 SF BETA-2 00072 L2 00096 00000
07130 ASCOM TF ALPHA ,PCK+15 ,11, MOVE A OPERAND 00084 K6 00064 0238-
07140 TF ALPHA-2 ,PCK+25 ,11 00096 K6 00064 0239-
07150 TDM ADD+1 ,1 ,0 00108 JS 00313 00001
07160 TFM ADD+11 ,BETA-2 ,07 00120 JO 00323 -0096
07170 C ALPHA ,BETA 00132 KM 00066 00098
07180 BE ADD , ,0, CHARACTERISTICS EQUAL 00144 M6 00312 01200
07190 BH ++48 , , ALPHA LARGER THAN BETA 00156 M6 00204 01100
07200 TR ALPHA-9,BETA-9,,SWITCH OPERANDS 00168 LJ 00057 00089
07210 TF BETA,PCK+15,11 00180 K6 00098 0238-
07220 TF BETA-2,PCK+25,11 00192 K6 00096 0239-
07230 S BETA ,ALPHA ,, SCALE 00204 KK 00098 00066
07240 BV STORE-12 00216 M6 00332 01400
08010 A ADD+11 ,BETA ,0 00228 KJ 00323 00098
08020 BNF ++24 ,BETA-2 ,0 00240 M9 00264 00096
08030 TDM ADD+1 ,2 ,0 00252 JS 00313 00002
08040 CM BETA ,7 ,1011,CHECK DIFF IN CHARACTERISTICS
                                00264 J4 00098 000-P

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08060 BL STORE-12 00276 M7 00332 01300
08070 TDM BETA-10 ,0 ,11 00288 J5 00088 0000-
08080 CF BETA-9 00300 L3 00089 00000
08090 ADD A ALPHA-2 00312 K1 00064 00000
08100 TD 99 ,ALPHA-2 ,, STORE SIGN 00324 2M 00099 00064
08102 DC 40 ,5500505055 5050505050 5505555050 0050505550 ,340
00340 00040
08110 TFM ZRES+30 ,SIGN 00336 J0 00478 00308
08120 BNV NORM 00348 M7 00428 01400
08130 AM ALPHA ,1 ,10 00360 J1 00066 000-1
08140 BV OVFL , , BR IF CHAR OVERFLOW
00372 M6 00380 01400
08150 TF ALPHA-2 ,ALPHA-3 ,, ADJUST MANTISSA 00384 K7 00064 00063
08160 TDM ALPHA-9 ,1 ,11 00396 J5 00057 0000J
08170 CF ALPHA-8 00408 L3 00058 00000
08180 B7 SIGN 00420 M9 00308 00000
08190 NORM BZ ZRES-12 , , BR IF ZERO 00428 M6 00436 01200
08200 CF ALPHA-2 , , NORMALIZE 00440 L3 00064 00000
09020 TF BETA ,ALPHA 00452 K0 00098 00066
09030 BD *+68 ,ALPHA-9 ,0 00464 ML 00532 00057
09040 TR ALPHA-9 ,ALPHA-8 00476 LJ 00057 00058
09050 TD ALPHA-2 ,NOS DIG 00488 K5 00064 02401
09060 SM BETA ,1 ,10 00500 J2 00098 000-1
09070 BNV *-48 , ,0 00512 M7 00464 01400
09080 B7 UNFL 00524 M9 00424 00000
09090 SF ALPHA-9 00532 L2 00057 00000
09100 TF ALPHA ,BETA 00544 K0 00066 00098
09110 B7 SIGN 00556 M9 00308 00000
DEND 01022 01022
    
```

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R CZERO 00594R
EDGAR 00000R FAC 00066R FLONE 00604R FMI 00000R LCN1 00533R
LCN2 00543R LCN3 00553R LCN4 00563R LCN5 00573R LCN6 00583R
LOGE 00523R NINES 00499R ONEZ 00513R OVFL 00380R P 00000
PCK 02365 PICK 00100R SAVE 00077R SIGN 00308R STORE 00344R
UNFL 00424R ZRES 00448R
    
```

```

10030 FMI DSA FMI 00004 00005 -0000
DDRG EDGAR 00000
TFM PCK+5 ,+20 ,17 00000 10 02370 -0020
10040 B7 PCK , ,6, BR TO PICK AND RETURN
00012 49 0236N 00000
00350 00030
10010 DC 30,5505500050 000005000 0500050000,350 00020 J0 00478 00308
10020 TFM ZRES+30 ,SIGN 00032 2L 0239- 00096
10050 M PCK+25 ,BETA-2 ,6, MUL MANTISSAS 00044 M6 00436 01200
10060 BZ ZRES-12 , ,0 00056 M3 00112 00084
10070 BD *+56 ,84 ,0
10080 TFM SAVE ,01 ,1011,CORRECTION FOR 15 DIGIT PRODUCT
00068 J6 00077 000-J
00080 32 00085 00000
10090 SF 85 00092 26 0239- 00092
10100 TF PCK+25 ,92 ,6 00104 M9 00136 00000
10110 B7 *+32 , ,0
10120 TFM SAVE ,00 ,10, INDICATE 16 DIGIT PRODUCT
    
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10130 TF PCK+25 ,91 ,6 00112 J6 00077 000-0
10140 A PCK+15 ,BETA ,6, ADD CHARACTERISTICS
00124 26 0239- 00091
00136 2J 0238- 00098
10150 BV *+72 00148 M6 00220 01400
10160 A PCK+15 ,SAVE ,6, ADJUST CHARACTERISTIC
00160 2J 0238- 00077
00172 M4 00196 00099
10161 BNF *+24,99 00184 32 0239- 00000
10162 SF PCK+25,,6 00196 11 0239- 000-0
10165 AM PCK+25,00,610 00208 47 0237N 01400
10170 BNV PCK+10,,6
10180 BNF *+20 ,PCK+15 ,011, BR IF POSITIVE CHARACTERISTIC
00220 M6 00240 0238-
00350 00006
10185 DC 6,500550,350 00232 M9 00424 00000
10190 B7 UNFL
10200 A PCK+15 ,SAVE ,6, ADJUST CHARACTERISTIC
00240 2J 0238- 00077
00252 M6 00380 01300
10210 BNN OVFL 00264 16 0238- 000R9
10220 TFM PCK+15,99,610 00276 49 0237N 00000
10230 B7 PCK+10,,6
DEND 01041 01041
    
```

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R CHAR 00252R
CZERO 00594R EDGAR 00000R FAC 00066R FDI 00000R FLONE 00604R
LCN1 00533R LCN2 00543R LCN3 00553R LCN4 00563R LCN5 00573R
LCN6 00583R LOGE 00523R MANT 00112R NINES 00499R ONEZ 00513R
OVFL 00380R P 00000 PCK 02365 PICK 00100R SAVE 00077R
SIGN 00308R STORE 00344R UNFL 00424R ZRES 00448R
    
```

```

11020 FDI DSA FDI 00004 00005 -0000
DDRG EDGAR 00000
TFM PCK+5 ,+20 ,17 00000 10 02370 -0020
11030 B7 PCK , ,6, BR TO PICK AND RETURN
00012 49 0236N 00000
00350 00034
11035 DC 34 ,5050050005 5050505505 0500005000 5050,350
00020 K6 00066 0238-
11036 TF ALPHA,PCK+15,11 00032 K6 00064 0239-
11040 TF ALPHA-2 ,PCK+25 ,11 00044 ML 00112 00089
11050 BD MANT ,BETA-9 ,0, CK FOR ZERO DIVISOR
00056 15 00-00 0000-
00068 ML 00428 00057
11060 TDM 401 ,0 ,11, SET ERROR CODE 00080 M9 00344 00000
11070 BD MANT-24 ,ALPHA-9 ,0, CK FOR ZERO DIVIDEND
00088 J1 00066 00099
11080 B7 STORE 00100 M6 00344 01400
11090 AM ALPHA ,99 , , SIMULATE HARDWARE ZERO DIVIDE
00112 J0 00478 00308
00124 2Q 00091 00064
11100 BV STORE 00136 2R 00091 00096
11110 MANT TFM ZRES+30 ,SIGN 00148 25 00099 00091
11120 LD 91 ,ALPHA-2 , , DIVIDE MANTISSAS 00160 M3 00228 00083
11130 D 91 ,BETA-2 , ,0
11135 TD 99,91,,SAVE SIGN 00172 M6 00436 01200
11140 BD CHAR-24 ,83 ,0
11150 BZ ZRES-12
    
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11160 SF 84 , , MANT OF A SMALLER THAN MANT OF B
11170 TF ALPHA-2 ,91 00184 32 00084 00000
11180 TFM SAVE ,00 ,10 00196 K6 00064 00091
      B7 CHAR 00208 J6 00077 000-0
      DC 22 ,5050990055 5050995550 50,350 00220 M9 00292 00000
12005 DC 22 ,5050990055 5050995550 50,350 00350 00022
12010 TF ALPHA-2 ,90 00228 K6 00064 00090
12020 TFM SAVE ,01 ,10 00240 J6 00077 000-1
12030 CHAR S ALPHA,BETA 00252 KK 00066 00098
12040 BV **44 , ,0, BR IF DIFF GREATER THAN 99
      A ALPHA,SAVE 00264 M6 00308 01400
12050 BNV SIGN , , BR IF STILL LESS THAN 100
      B7 DVFL 00276 KJ 00066 00077
12070 BNF DVFL,ALPHA,,DVFL IF EXP POSITIVE OR UNFLAGGED ZERO 00288 M7 00308 01400
12080 00300 M9 00380 00000
      A ALPHA,SAVE 00308 MM 00380 00066
12090 BH ZRES+12 , , BR IF MANT OF RESULT IS -99 00320 KJ 00066 00077
12100 00332 M6 00460 01100
12110 B7 UNFL 00344 M9 00424 00000
      DEND 01051 01051
    
```

SYMBOL TABLE

NOSDIG 02401	ALPHA 00066R	AZERO 00488R	BETA 00098R	CZERO 00594R
EDGAR 00000R	FAC 00066R	FLONE 00604R	FSQR1 00000R	LCN1 00533R
LCN2 00543R	LCN3 00553R	LCN4 00563R	LCN5 00573R	LCN6 00583R
LOGE 00523R	LSQ 00240R	LSQM 00348R	NINES 00499R	ONEZ 00513R
OVFL 00380R	P 00000	PCK 02365	PICK 00100R	SAVE 00077R
SIGN 00308R	SQEX 00392R	SQ2 00136R	SQ3 00436R	STORE 00344R
UNFL 00424R	ZRES 00448R			

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12170+ PICK FLOATING SQUARE ROOT ROUTINE
      DSA FSQR1 00004 00005 -0000
      DORG EDGAR 00000
13010 FSQR1 TFM PCK+5 ,+20 ,17 00000 10 02370 -0020
13020 B7 PCK , ,6, BR TO PICK AND RETURN
      DC 46 ,0555505005 5000000000 0000000500 0500550000 000005, 346
      BD **32 ,BETA-9 ,0, BR MON ZERO ARG 00012 49 0236N 00000
13030 TFM ZRES+30 ,STORE 00020 ML 00052 00089
13040 B7 ZRES , , BR ZERO ARG 00032 J0 00478 00344
13050 MM BETA ,50 ,10 00044 M9 00448 00000
13060 BNF **36 ,BETA-2 ,0, BR IF POSITIVE ARG 00052 J3 00096 00000
      CF BETA-2 00064 MM 00100 00096
13090 TDM 401 ,0 00076 L3 00096 00000
13100 BD SQ3 ,78 ,0, BR IF CHAR ODD 00088 15 00401 00000
13110 TFM SQ2+42 ,89 ,010 00100 M3 00436 00098
13120 BNF **24 ,99 ,0, BR IF CHAR POSITIVE 00112 J6 00178 00099
13130 00124 M4 00148 00099
13140 SQ2 SF 97 , , SET SIGN OF CHAR 00136 32 00097 00000
13150 TF PCK+15 ,97 ,6, STORE RESULTANT CHARACTERISTIC
    
```

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13160 LDH 79 ,00 ,10, CLEAR WORKING AREA 00148 26 0238- 00097
13170 TF ,BETA-2 , , MOVE MANTISSA INTO 89 OR 90 00160 18 00079 000-0
13180 TFM LSQ+18 ,81 ,010, MANTISSA ADR 00172 20 00000 00096
13190 TFM LSQ+23 ,BETA-10 ,07, RESULT ADR 00184 J6 00258 000Q1
13200 TFM LSQM-6 ,81 ,010 00196 J0 00263 -0088
13210 TF BETA-2 ,ONEZ-4 , , SET RESULT EQUAL 1000 00000 00208 J6 00342 000Q1
      B7 LSQM 00220 KD 00096 00509
14010 LSQ AM LSQ+23 ,2 ,0610,RESULT + 2 00232 M9 00348 00000
14020 S , , MANTISSA MINUS RESULT 00240 J1 0026L 000-2
      BNN LSQ , ,0, 00252 22 00000 00000
14030 CM LSQ+23 ,BETA-02 ,07 00264 M6 00240 01300
14040 BNL SQEX , ,0, EXIT IF TERMINAL RESULT ADR REACHED 00276 JM 00263 -0096
14050 A LSQ+18 ,LSQ+23 ,01611, RESTORE LAST SUBTRACTION 00288 M4 00392 01300
14070 CF LSQ+18 , ,06, 00300 KJ 0025Q 0026L
14080 AM LSQM-6 ,01 ,010, MOVE FLAG RIGHT ONE. 00312 L3 0025Q 00000
14090 SF 00324 J1 00342 000-1
14100 LSQM AM LSQ+18 ,02 ,010, MANTISSA ADR + 2 00336 32 00000 00000
14110 AM LSQ+23 ,01 ,010, RESULT ADR + 1 00348 J1 00258 000-2
14120 SM LSQ+23 ,09 ,0610,RESULT + 9 00360 J1 00263 000-1
      B7 LSQ+12 00372 J2 0026L 000-9
14136 DC 14 ,5000000000 5050 ,314 00384 M9 00252 00000
14140 SQEX MM BETA-2 ,50 ,10, EXIT 00314 00014
14150 SF 90 00392 J3 00096 00000
14160 TF PCK+25 ,97 ,6, STORE MANTISSA RESULT 00404 32 00090 00000
14170 B7 PCK+10 , ,6, RETURN TO MAINLINE PROGRAM 00416 26 0239- 00097
14190 SQ3 AM 99 ,50 ,10, CALC RESULT WHEN GIVEN CHAR ODD 00428 49 0237N 00000
14200 TDM BETA-10 ,0 ,11, LENGTHEN MANTISSA 00436 11 00099 00000
14210 CF BETA-9 00448 J5 00088 0000-
14220 TFM SQ2+42 ,90 ,010 00460 L3 00089 00000
14230 B7 SQ2-12 , ,0, 00472 J6 00178 00000
      DEND 01061 01061
    
```

SYMBOL TABLE

RTWOPI 00771R	NOSDIG 02401	ALPHA 00066R	AZERO 00488R	BETA 00098R
BMP 00320R	CONA 00780R	CONB 00789R	CONC 00799R	CZERO 00594R
EDGAR 00000R	FAC 00066R	FCOS1 00000R	FLONE 00604R	FSIN1 00032R
LCN1 00533R	LCN2 00543R	LCN3 00553R	LCN4 00563R	LCN5 00573R
LCN6 00583R	LOGE 00523R	NINES 00499R	ONEZ 00513R	OVFL 00380R
P 00000	PCK 02365	PICK 00100R	SAVE 00077R	SIGN 00308R
STORE 00344R	UNFL 00424R	ZRES 00448R		

20090	TD	TEST+9	,Z	,0,	STORE SIGN OF MANTISSA	00088 J6 00123 -0000
20100	TEST	CF	Z			00100 KM 00121 00096
20110	CM	BETA	,0	,10,	IS CHAR POSITIVE	00112 L3 00096 00000
20120	BH	C PLUS	,	,0,	YES	00124 J4 00098 000-0
20130	BE	ZERO C	,	,0,	EQUAL ZERO YES	00136 M6 00752 01100
20140	TFM	TEST 3+11,Z		,07,	NO CHAR IS NEGATIVE	00148 M6 00244 01200
20150	A	TEST 3+11,BETA		,0,		00160 JO 00219 -0096
20160	TFM	BETA-10	,0	,10		00172 KJ 00219 00098
20170	CF	Z-7				00184 J6 00088 000-0
20180	TEST3	TF	Z			00196 L3 00099 00000
20190	TDM	Z-7	,,-10			00208 K6 00096 00000
20200	CF	Z-6				00220 J5 00089 0001-
21010	ZEROC	CM	Z-6	,29	,10,	00232 L3 00090 00000
21020	BL	ARET+36	,	,0		00244 J4 00090 000K9
21030	MM	Z	,6	,10,	LARGER THAN POINT	00256 M7 00376 01300
21040	TDM	90	,,-1			00268 J3 00096 000-6
21050	S	Z	,SIX	,1,		00280 15 00090 0000J
21060	TF	SAVE	,98			00292 KK 00096 01008
21070	DC	50,0505005000555005505505500000555055000000000,350				00304 K6 00077 00098
21080	LD	91	,Z	,,	HARDWARE DIVIDE	00350 00050
21090	D	92	,SAVE			00316 ZQ 00091 00096
21100	ARET	TD	TEST 2-13,99	,0,		00328 ZR 00092 00077
21110	TF	Z	,90	,,	EIGHT DIGITS	00340 K5 00579 00099
21120	SF	TEST+11	,	,0,		00352 K6 00096 00090
21130	M	Z	,Z			00364 L2 00123 00000
21140	TF	SAVE	,91	,,	EIGHT DIGITS	00376 KL 00096 00096
21150	TFM	LOOPA+11	,LCN3-1	,0 7,	NINE DIGITS	00388 K6 00077 00091
21160	TFM	+9	,4	,010,		00400 JO 00447 -0552
21170	M	LCN2-1	,SAVE			00412 J6 00421 000-4
21180	LOOPA	TF	FAC			00424 KL 00542 00077
21190	S	FAC	,91			00436 K6 00066 00000
21200	M	FAC	,SAVE	,,	SEVENTEEN DIGIT PRODUCT	00448 K2 00066 00071
22010	AM	LOOPA+11	,10	,010		00460 KL 00066 00077
22020	SM	LOOPA-15	,1	,010,		00472 J1 00447 000JO
22030	BNZ	LOOP A	,	,0,		00484 J2 00421 000-1
22040	TF	FAC	,ONE 7-3			00496 M7 00436 01200
22050	S	FAC	,91			00508 KO 00066 00510
						00520 K2 00066 00091

22060	M	FAC	,Z			00532 KL 00066 00096
22070	BNF	TEST 2	,TEST+11	,01,	BR IF X WAS LESS THAN ,29	00544 MM 00592 00123
22080	BNF	+24	,TEST2-13	,01,	BR IF QUOTIENT WAS POSITIVE	00556 MM 00580 00579
22090	SF	91				00568 32 00091 00000
22100	A	91	,A CON 1	,1,		00580 2J 00091 00979
22110	TEST2	BNF	+36	,TEST+10	,01,	BR IF CHAR NOT 1, 2, 3, 4
22120	SF	91				00592 MM 00628 00122
22130	DC	50,005005005000000005050500550005505050050000,350				00604 32 00091 00000
22140	A	91	,A CON 2	,1,		00350 00050
22150	TFM	FAC	,01	,10,		00616 2J 00091 00989
22160	TD	92	,BETA+1			00628 J6 00066 000-1
22170	LOOP2	BD	TEST 1-24,82	,0,	NORMALIZATION	00640 2N 00092 00099
22180	SM	FAC	,1	,10,		00652 M3 00708 00082
22190	TR	82	,83			00664 J2 00066 000-1
22200	TD	91	,NOS DIG			00676 31 00082 00083
23010	B7	LOOP 2	,	,0,		00688 25 00091 02401
23030	SF	82				00700 M9 00652 00000
23040	TF	FAC-2	,89			00708 32 00082 00000
23050	TEST1	BNF	STORE	,TEST+9	,1,	TERMINATE SUBROUTINE CALCULATION
23060	B7	SIGN+12				00732 MM 00344 00121
23080	CPLUS	TF	91	,C ZERO-1	,,	CHAR POSITIVE
23090	CM	BETA	,8	,10,		00744 M9 00320 00000
23100	BH	TEST 2+24,		,0,	BR IF CHAR GREATER THAN EIGHT	00752 20 00091 00593
23110	TF	FAC-2	,C ZERO-3	,,	ADJUST POSITION OF 1 IN NUMERATOR	00776 M6 00616 01100
23120	TFM	+30	,FAC-10	,07,		00788 KO 00064 00591
23130	A	+18	,BETA	,0		00800 JO 00830 -0056
23140	TDM		,1			00812 KJ 00830 00098
23150	SF	FAC-9				00824 15 00000 00001
23160	LD	90	,FAC-2	,,	HARDWARE DIVIDE	00836 L2 00057 00000
23170	D	90	,Z			00848 2Q 00090 00064
23180	BD	SET VAL	,82	,0,	BR IF X EQUALS ONE	00860 2R 00090 00096
23190	CM	BETA	,4	,10		00872 M3 00952 00082
23200	BH	TEST2+12	,	,0,	BR IF CHAR EQUAL 5, 6, 7, 8	00884 J4 00098 000-4
24010	DC	10,5000500050,350				00896 M6 00604 01100
24020	TF	Z	,90	,,	ELIMINATE LEADING ZERO	00350 00010
						00908 K6 00096 00090

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24030 SF TEST+10 , ,0, 00920 L2 00122 00000
24040 SF Z-7 00932 L2 00089 00000
24050 B7 ZERO C , ,0, 00944 M9 00244 00000
24070 SETVAL TR FAC-9 ,ACON 3-10,1, SET TO VALUE FOR X EQUAL ONE
00952 LJ 00057 00990
24100 ACON1 B7 TEST 1 00964 M9 00732 00000
DC 9 , 540 419 500 00979 00009
24110 ACON2 DC 10 ,1 570 796 327,,ARC TAN OF PI OVER TWO 00989 00010
24120 DC 8 , 78 539 816,,ARC TAN OF PI OVER FOUR 00997 00008
24130 ACON3 DC 3 ,00',, 01000 00003
24140 SIX DC 8 ,60000000 01008 00008
24150 Z DS ,BETA-2 00096 00000
DEND 01091 01091
    
```

SYMBOL TABLE

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NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R CZERO 00534R
D 00098R EDGAR 00000R EROUT 00604R EXCNI 00645R FAC 00066R
FEXT1 00000R FEX1 00020R FLONE 00604R LCN1 00533R LCN2 00543R
LCN3 00553R LCN4 00563R LCN5 00573R LCN6 00583R LOGE 00523R
LOOPE 00336R NINES 00499R NDTZ 00084R ONEZ 00513R OVFL 00380R
P 00000 PCK 02365 PICK 00100R SAVE 00077R SIGN 00308R
STORE 00344R UNFL 00424R ZRES 00448R
    
```

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24160***** SPS FLOATING POINT EXPONENTIAL
24180* HASTINGS APPROXIMATION
DSA FEXT1 ,FEX1 00004 00005 -0000
DC 3R ,0500050000 0555505000 5550000000 00050005 ,338
00000
25010 DDRG EDGAR 00338 00038
DC 3R ,0500050000 0555505000 5550000000 00050005 ,338
25020 FEXT1 TFM NDT Z+30 ,ONE Z-2 ,07 00000 J0 00114 -0511
Z B7 FEX1+12 00012 M9 00032 00000
25050 FEX1 TFM NDTZ+30 ,LDG E ,07 00020 J0 00114 -0523
25052 TFM PCK+5 ,+20 ,17 00032 I0 02370 -0052
25054 B7 PCK , ,6, BR TO PCK AND RETURN 00044 49 0236N 00000
25060 BD NDT Z ,D-9 ,0, ZERO CHECK 00052 ML 00084 00089
25070 TR FAC-9 ,FLONE-9 00064 LJ 00057 00595
B7 STORE 00076 M9 00344 00000
25100 NDTZ CM D , -8 ,10, 00084 J4 00098 000-Q
25110 BNH FEX1+44 00096 M7 00064 01100
25120 M LOGE ,D-2 00108 KL 00523 00096
25130 CM D ,3 ,10, 00120 J4 00098 000-3
    
```

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25140 BL **36 , ,0, MUST CALC 00132 M7 00168 01300
25150 BNE E ROUT , ,0, OVER OR UNDER 00144 M7 00604 01200
25160 BD E ROUT ,82 ,0, HI ORDER NOT ZERO 00156 M3 00604 00082
25170 CF 82 00168 33 00082 00000
25180 TF 81 ,C ZERO-2 00180 20 00081 00592
25190 TFM **30 ,80 ,010, POSITION FLAG 00192 J6 00222 00000
25200 A **18 ,D ,0 00204 KJ 00222 00098
26010 SF 00216 32 00000 00000
26020 AM +-6 ,01 ,010, SET CHAR EQUAL 00228 J1 00222 000-1
26040 AM +-18 ,01 ,0610,CHAR PLUS ONE 00240 J1 0022K 000-1
26050 BV E ROUT , ,0, OVER OR UNDERFLOW 00252 M6 00604 01400
26060 AM +-42 ,09 ,010, MOVE MANT AND CHAR 00264 J1 00222 000-9
26075 DC 40 ,5050005500 5055500000 0050550050 5555050050 ,340
00340 00040
26080 TF FAC+9 ,+-54 ,11 00276 K0 00075 0022K
26100 SF FAC+1 00288 L2 00067 00000
26110 TFM LOOPE+11 ,EXCNI ,017, INIT CALC LOOP 00300 J0 00347 -0645
26120 TF FAC-2 ,C ZERO 00312 K0 00064 00594
26130 TFM LOOPE-3 ,7 ,010, COUNT 00324 J6 00333 000-7
26140 LOOPE A FAC-2 00336 K1 00064 00000
26150 M FAC-2 ,FAC+9 00348 KL 00064 00075
26160 TF FAC-2 ,90 00360 K6 00064 00090
26170 AM LOOPE+11 ,11 ,010, ADJUST LOOP VALVES 00372 J1 00347 000J1
26180 SM LOOPE-3 ,1 ,010, 00384 J2 00333 000-1
26190 BNZ LOOP E ,1 ,0 00396 M7 00336 01201
26200 AM FAC-11 ,10 ,10, ADD ONE 00408 J1 00055 000J0
27010 M FAC-3 ,FAC-3 00420 KL 00063 00063
27020 SF 81 00432 32 00081 00000
27030 TF FAC-2 ,88 00444 K6 00064 00088
27040 TD FAC+1 ,BETA+1 00456 KN 00067 00099
27060* CHECK FOR NEGATIVE X
27070 BNH STORE ,D-2 00468 MM 00344 00096
27080 C 88 ,ONEZ-5 00480 2M 00088 00508
27090 BNE **32 , ,0 00492 M7 00524 01200
27100 SM FAC ,1 ,10 00504 J2 00504 000-1
27110 B7 EROUT-32 , ,0 00516 M9 0-572 00000
27130 DC 20 ,5005055050 5050555550 ,320 00320 00007
27140 TF SAVE ,89 00524 K6 00077 00089
27150 LD 92 ,ONE Z-3 , , HARDWARE DIVIDE 00536 2Q 00092 00510
27160 D ,92 ,SAVE 00548 2R 00092 00077
27170 TF FAC-2,90 00560 K6 00064 00090
27180 SF FAC , ,0 00572 L2 00064 00000
27190 AM FAC ,01 ,10 00584 J1 00066 000-1
27200 B7 STORE 00596 M9 00344 00000
28020 EROUT TFM ZRES+30,STORE 00604 J0 00478 00344
    
```

28030	BNF	OVFL,D-2		00616	MM	00380	00096
28040	RT	UNFL		00628	M9	00424	00000
28060	FYCN1	DC 11	, 9326 427,,				
28070	DC	11	, 2 5549 180,,	00645	00011		
28080	DC	11	, 17 4211 199,,	00656	00011		
28090	DC	11	, 72 9517 367,,	00667	00011		
28100	DC	11	, 254 3935 748,,	00678	00011		
28110	DC	11	, 662 7308 843,,	00689	00011		
28120	DC	11	,1151 7927 760,,	00700	00011		
28130	D	NS	,BETA	00711	00011		
		FFND	01102	00098	00000		
				01102			

SYMBOL TABLE

MOSDIG	02401	NNINES	00865R	MULLOG	00736R	EVALPN	00156R	ALPHA	00066R
AZERO	00488R	B	00096R	BETA	00098R	CONST	00813R	CZERO	00594R
FLGAR	00000R	FAC	00066R	FLN1	00020R	FLOG1	00000R	FLONF	00604R
LCN1	00533R	LCN2	00543R	LCN3	00553R	LCN4	00563R	LCN5	00573R
LCN6	00583R	LNTEN	00857R	LOGE	00523R	LOOP1	00392R	MULM	00524R
NNINES	00499R	ONEZ	00513R	OVFL	00380R	P	00000	PCK	02365
PICK	00100R	SAVE	00077R	SIGN	00308R	STORE	00344R	UNFL	00424P
REFS	00448R								

28150	RELOCATABLE SPS FLOATING LOG								
	DSA	FLOG1	,FLN1			00004	00005	-0000	
						00009	00005	0070	
						00000			
28190	FLOG1	DORG	EDGAR			00000	J5	00513	00009
28200	B7	MULM-11	,9	,0		00012	M9	00032	00000
29020	RELOCATABLE SPS FLOATING LN								
29050	FLN1	IDM	MULM-11	,1	,0	00020	J5	00513	00001
29054	TFM	PCK+5	,+20	,17		00032	10	02370	-0052
29056	B7	PCK	,	,6		00044	49	0236N	00000
	DC	42,500500000000	0550000050	5000550000	5555050550	00350	00042		
29060	CF	B-7				00052	L3	00089	00000
29070	BD	+56	,B-7	,0,	BR IF MANT NOT ZERO	00064	ML	00120	00089
29080	TDM	401,0,11				00076	15	00401	0000-
29090	TF	PCK+25	,NNINES	,6		00088	20	0239-	00865
29100	TFM	PCK+15	,+99	,610		00100	16	0238-	000R9
29110	B7	PCK+10	,	,6		00112	49	0237N	00000
29130	BNF	EVAL PN	,8	,0,	BR IF MANT IS POSITIVE	00120	MM	00156	00096
29140	CF	B				00132	L3	00096	00000
29150	TDM	401,0				00144	15	00401	00000
29170	EVALUATE	X EQUAL PN SO THAT X IS GREATER THAN							
29180	ONE HALF AND P EQUALS 1, 2, 4, 8								

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29190	EVALPN	TFM	LOOP1+107,CONST	,017,		00156	J0	00499	-0813
29200	TDM	B-8	,1	,11,	SET X EQUAL X PLUS ONE	00168	J5	00088	0000J
30010	CM	B-7	,15	,10		00180	J4	00089	000J5
30020	RNL	+44	,	,0,	BR MODIFIED X MORE THAN 3 HALVES	00192	M6	00236	01300
30030	A	B	,8	,,	SET X EQUAL X PLUS X	00204	KJ	00096	00096
30040	AM	LOOP1+107,11		,07,	STEP LN P FOR P EQUAL P+P	00216	J1	00499	-0011
30050	B7	+60	,	,0		00228	M9	00168	00000
30080	TF	FAC-2	,B			00236	K0	00064	00096
30090	S	FAC-2	,LCN5-1	,,	SET NUMERATOR EQUAL X-1	00248	KK	00064	00572
30100	LD	89	,FAC-2	,,	HARDWARE DIVIDE	00260	2Q	00089	00064
30110	D	89	,B			00272	2R	00089	00096
30120	TF	B	,90			00284	K6	00096	00090
30125	DC	46,5050555055	5505005055	5000000055	0550500005	050555,350			
30130	SF	B				00350	00046		
30140	SF	B-9				00296	L2	00096	00000
30150	M	B	,B	,,	Z TIMES Z	00308	L2	00087	00000
30160	TF	SAVE	,89	,,		00320	KL	00096	00096
30170	A	B	,B	,,	Z PLUS Z	00332	K6	00077	00089
30180	TF	FAC	,CZERO-1	,,		00344	KJ	00096	00096
30190	TFM	LOOP L+11,LCN1		,07		00356	K0	00066	00593
30200	TFM	+9	,6	,010		00368	J0	00403	-0533
31010	LOOP1	A	FAC	,,	CALC SERIES USING Z SQUARED	00380	J6	00389	000-6
31020	M	FAC	,SAVE			00392	K1	00066	00000
31030	TF	FAC	,89			00404	KL	00066	00077
31040	AM	LOOP1+11	,10	,07		00416	K6	00066	00089
31050	SM	LOOP1-3	,1	,010		00428	J1	00403	-0010
31060	BNZ	LOOP L	,	,0		00440	J2	00389	000-1
31070	M	FAC	,B	,,	CONVERT TO ODD POWERS OF Z	00452	M7	00392	01200
31080	S	89	,B			00464	KL	00066	00096
31090	TF	B				00476	2K	00089	00096
31100	S	B	,89			00488	K6	00096	00000
31110	NOP	MULLOG	,	,0,	BR IF LOG CALC RATHER THAN LN CALC	00500	K2	00096	00089
31120	MULM	M	LNTEN	,B+2	,0	00512	M1	00736	00000
31140	A	99	,B			00524	KL	00857	00098
31150	C	97	,C ZERO			00536	2J	00099	00096
31160	TR	FAC-9	,AZERO-9			00548	2M	00097	00594
31165	DC	38	,5000000500	0000000000	0000000000	55505055	,338		00479
31170	BE	STORE	,	,,	BR IF X WAS ONE	00338	00038		
31180	TFM	PCK+15	,03	,610		00572	M6	00344	01200
31190	TD	FLN1+7	,99	,0		00584	16	0238-	000-3
31200	TD	99	,BETA+1			00596	K5	00027	00099
32010	BD	+56	,87	,0		00608	2N	00099	00099
32020	TR	87	,88			00620	M3	00676	00087
32030	SM	PCK+15	,01	,610		00632	31	00087	00088
32040	TD	98	,NDS DIG			00644	12	0238-	000-1
32070	B7	+48				00656	25	00098	02401
32080	SF	87				00668	M9	00620	00000
	BNF	+24	,FLN1+7	,01,	SET FLAG	00676	32	00087	00000
						00688	MM	00712	00027

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32090 SF 94
32100 TF PCK+25 ,94 ,6
32110 B PCK+10 , ,6
32130 MULLOG TOM 79
32140 M LOGE ,8
32150 TF B ,89
32160 SF 8
32170 M ONEZ-2 ,B+2
32180 B7 MULM+12 , ,0
32200 CONST DC 11 ,0
33010 DC 11,-6931471805
33020 DC 11,-13862943611
33030 DC 11,-20794415416
33040 LNTEN DC 11,23025850929
33045 NNINES DC 8,-99999999
33050 B DS ,BETA-2
DEND 01122
    
```

```

00700 32 00094 00000
00712 26 0239- 00094
00724 49 0237N 00000
00736 13 00079 00000
00748 KL 00523 00096
00760 K6 00096 00089
00772 L2 00096 00000
00784 KL 00511 00098
00796 M9 00536 00000
00813 00011
00824 00011
00835 00011
00846 00011
00857 00011
00865 00008
00096 00000
01122
    
```

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R CZERO 00594R
EDGAR 00000R FAC 00066R FLONE 00604R FRS1 00000R LCN1 00533R
LCN2 00543R LCN3 00553R LCN4 00563R LCN5 00573R LCN6 00583R
LOGE 00523R NINES 00499R ONEZ 00513R OVFL 00380R P 00000
PCK 02365 PICK 00100R SAVE 00077R SIGN 00308R STORE 00344R
UNFL 00424R ZRES 00448R
    
```

```

33060* PICK FLOATING SHIFT RIGHT ROUTINE
DSA FRS1 00004 00005 -0000
DORG EDGAR 00000
34020 FRS1 TFM PCK+5 ,++20 ,17 00000 10 02370 -0020
34030 B7 PCK , ,6, BR TO PICK AND RETURN
00012 49 0236N 00000
34050 BNF ,++24 ,PCK+15 ,011, SAVE FLAG ALPHA FIELD
00020 M4 00044 0238-
00312 00012
34055 DC 12 ,5000000000 05 ,312 00032 L2 00098 00000
34060 SF BETA 00044 22 0238- 0238-
34070 S PCK+15 ,PCK+15 ,611, ZERO ALPHA FIELD 00056 12 02385 000-1
34080 SM PCK+20 ,1 ,10, LOCATE HI ORDER FLAG FROM B OPERAND
00068 M4 00056 0238N
34090 BNF +-12 ,PCK+20 ,011 00080 33 0238N 00000
34100 CF PCK+20 , ,6, REMOVE FLAG FROM B OPERAND
00092 20 0238- 00098
34110 TF PCK+15 ,BETA ,6, MOVE FIELD TO A OPERAND
00104 49 0237N 00000
34150 B7 PCK+10 , ,6, RETURN TO MAINLINE PROGRAM
01104 49 0237N 00000
DEND 01141
    
```

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R CZERO 00594R
EDGAR 00000R FAC 00066R FLONE 00604R FRS1 00000R LCN1 00533R
    
```

```

LCN7 00543R LCN3 00553R LCN4 00563R LCN5 00573R LCN6 00583R
LOGE 00523R NINES 00499R ONEZ 00513R OVFL 00380R P 00000
PCK 02365 PICK 00100R SAVE 00077R SIGN 00308R STORE 00344R
UNFL 00424R ZRES 00448R
    
```

```

34150* PICK FLOATING SHIFT LEFT ROUTINE
DSA FRS1 00004 00005 -0000
DORG EDGAR 00000
35020 FRS1 TFM PCK+5 ,++20 ,17 00000 10 02370 -0020
35030 B7 PCK , ,6, BR TO PICK AND RETURN
00012 49 0236N 00000
35045 DC 14 ,0550000000 0005 ,314 00314 00014
35050 TD +-1 ,BETA ,0, SAVE SIGN OF B FIELD
00020 KN 00019 00098
00032 L3 00098 00000
35060 CF BETA 00044 26 02395 02385
35070 TF PCK+30 ,PCK+20 , , PROVIDE WORKING ADR OF B FIELD
00056 12 02395 -0001
35080 SM PCK+30 ,1 , , SUB TO ESTABLISH LENGTH.
00068 11 02380 -0001
35090 AM PCK+15 ,1 , , ADJUST A FIELD ADR FOR EACH DIGIT
00080 M4 00056 0239N
35100 BNF +-24 ,PCK+30 ,011, IN B FIELD 00080 M4 00056 0239N
35110 TF PCK+15 ,BETA ,6, MOVE B FIELD TO ADJUSTED A FIELD
00092 20 0238- 00098
35120 C PCK+15 ,PCK+20 00104 24 02380 02385
35130 BNN +444 , ,0, BR WHEN NO MORE ZEROS REQUIRED
00116 M6 00160 01300
35140 AM PCK+15 ,1 , , ADJ ADR OF A FIELD
00128 11 02380 -0001
35150 TOM PCK+15 ,0 ,6, MOVE IN ZERO RT OF DATA IN A FIELD
00140 15 0238- 00000
35160 B7 +-48 , ,0, 00152 M9 00104 00000
35180 BNF PCK+10 ,FRS1+19 ,16, RESTORE PROPER SIGN AND
00160 4M 0237N 00019
35190 SF PCK+20 , ,6, RETURN TO MAINLINE
00172 32 0238N 00000
35200 B7 PCK+10 , ,6, PROGRAM
00184 49 0237N 00000
DEND 01151
    
```

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R CZERO 00594R
EDGAR 00000R FAC 00066R FLONE 00604R LCN1 00533R LCN2 00543R
LCN3 00553R LCN4 00563R LCN5 00573R LCN6 00583R LOGE 00523R
NINES 00499R ONEZ 00513R OVFL 00380R P 00000 PCK 02365
PICK 00100R SAVE 00077R SIGN 00308R STORE 00344R TFLS1 00000R
UNFL 00424R ZRES 00448R
    
```

```

36150* PICK TRANSMIT FIELD FLOATING ROUTINE
DSA TFLS1 00004 00005 -0000
DORG EDGAR 00000
36020 TFLS1 TFM PCK+5 ,++20 ,17 00000 10 02370 -0020
36030 B7 PCK , ,6, BR TO PICK AND RETURN
    
```



```

00012 49 0236N 00000
36035 DC 4 ,0505,304 00304 00004
36040 TF PCK+15 ,BETA ,6, MOVE CHARACTERISTIC
00020 20 0238- 00098
36050 TF PCK+25 ,BETA-2 ,6, MOVE MANTISSA 00032 20 0239- 00096
36060 B7 PCK+10 , ,6, RETURN TO MAINLINE PROGRAM
00044 49 0237N 00000
DEND 01161 01161
    
```

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00066R AZERO 00488R BETA 00098R BTFS1 00000R
CZERU 00594R EDGAR 00000R FAC 00066R FLONE 00604R LCN1 00533R
LCN2 00543R LCN3 00553R LCN4 00563R LCN5 00573R LCN6 00583R
LOGE 00523R NINES 00499R UMEZ 00513R OVFL 00380R P 00000
PCK 02365 PICK 00100R SAVE 00077R SIGN 00380R STORE 00344R
UNFL 00424R ZRES 00448R
    
```

```

37020* PICK FLOATING BRANCH AND TRANSMIT ROUTINE
DSA BTFS1 00004 00005 -0000
DORG EDGAR 00000
36110 BTFS1 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
16120 B7 PCK , ,6, BR TO PICK AND RETURN
00012 49 0236N 00000
36130 SM PCK+25 +1 , , ADJ ADR TO A FIELD-3
00020 12 02390 -0001
36135 DC 6 ,050005,350 00350 00006
36140 TF PCK+25 ,BETA-2 ,6, MOVE MANTISSA 00032 20 0239- 00096
36150 TF **30 ,PCK+10 ,0, STORE RETURN ADR OF MAINLINE
00044 K6 00074 02375
36160 BT PCK+15 ,BETA ,6, BR AND MOVE CHARACTERISTIC
00056 2P 0238- 00098
36170 B7 , , , BR TO MAINLINE WHEN BB OCCURS
00068 49 00000 00000
DEND 01171 01171
    
```

SPS IID MONITOR I SUBROUTINE SET 02

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00050R BETA 00196R CLR 00904R EDGAR 00000R
LN10 00763R LOGE 00715R NINE 00808R ONEZ 00621R OVFL 00474R
P 00000 PCK 02365 PICK 00198R PIOV2 00668R SAVE 00100R
SIGN 00406R STORE 00442R UNFL 00518R ZRES 00530R
    
```

```

***** SPS IID SUBROUTINE SET 02-VARIABLE LENGTH 24 APR 63...JHB
01080***** PCK AREA MAY BE USED AS A WORK AREA IF SUBR NOT USED. IF
01090***** SUBROUTINES REQUIRED, THEN THE AREA IS USED AS FOLLOWS
01100***** 02401 NOISE DIGIT. SOURCE, SUBROUTINE SUPERVISOR
01110***** PCK ADR OF PICK. SOURCE, SUBROUTINE SUPERVISOR
01120***** PCK+5 ADR OF RETURN TO SUBR. SOURCE, SUBROUTINE
01130***** PCK+10 ADR OF RETURN TO MAINLINE. SOURCE, PRIMARY LINKAGE
01140***** PCK+15 ADR OF A OPERAND CHARACTERISTIC. SOURCE, PICK
01150***** PCK+20 ADR OF B OPERAND CHARACTERISTIC. SOURCE, PICK
01160***** PCK+25 ADR OF A OPERAND MANTISSA. SOURCE, PICK
01170***** PCK+30 ADR OF B OPERAND MANTISSA. SOURCE, PICK
01180***** PCK+31 RESERVED FOR POSSIBLE RECORD MARK
01190* PCK+35 4 RESERVED CORE
01200***** PCK-6 THRU PCK-90 SUBVEC FOR THE 17 FURNISHED SUBROUTINES
02010* ADRS ARE SUPPLIED BY THE SUBROUTINE SUPERVISOR
02020***** PCK-91 DOWN TO END OF IORT MAY BE USED IF NO ADDED SUBROUTS
02030***** PICK FOR VARIABLE LENGTH SUBROUTINES
02040***** FOR OPERANDS A AND B ONLY
02080 PCK DSB 5 ,8 ,2365 02365 00040
NOSDIG DS 1 ,2401 , NOISE DIGIT FOR SUBRS
02401 00001
EDGAR DORG **1 00000
DSA PICK 00004 00005 -0198
DORG **4 00000
02100 ALPHA DS 51 00050 00051
02110 P DS 0 ,ALPHA-ALPHA 00000 00000
02130 SAVE DS 50 00100 00050
02140 BETA DS 96 00196 00096
DS 1 00197 00001
02160 PICK TD 401 ,BETA+1-P ,1, RESET ERROR INDICATOR
00198 2N 00401 00197
02170 TR PCK+11 ,PCK+10 ,11, MOVE OPERANDS FROM MAINLINE
00210 31 02376 0237N
02180 AM PCK+10 ,11 , , CALC RETURN ADR 00222 11 02375 -0011
02190 BNF **44 ,PCK+15 , , PROCESS A OPERAND
00234 M4 00278 02380
00246 33 02380 00000
03010 TF PCK+15 ,PCK+15 ,11 00258 26 02380 0238-
03020 B7 -36 , ,0 00270 M9 00234 00000
03040 TF PCK+25 ,PCK+15 , , A MINUS 2 00278 26 02390 02380
03050 SM PCK+25 ,2 , , 00290 12 02390 -0002
03060 BNF **44 ,PCK+20 , , PROCESS B OPERAND
00302 M4 00346 02385
03070 CF PCK+20 00314 33 02385 00000
03080 TF PCK+20 ,PCK+20 ,11 00326 26 02385 0238N
03090 B7 -36 , , , 00338 M9 00302 00000
03110 TF PCK+30 ,PCK+20 , , B MINUS 2 00346 26 02395 02385
    
```



```

07020 BV STORE-12-P, ,, BR IF CHAR DIFF TOO LARGE
                                00260 M6 00430 01400
07030 CM BETA-P ,-99 ,10, ,+L 00272 J4 00196 000RR
07040 ML STORE-12-P, ,, BR IF CHAR DIFF GREATER THAN L
                                00284 M7 00430 01300
07050 A ADD+11 ,BETA-P ,0, , SHIFT BY CHAR DIFF
                                00296 KJ 00355 00196
07060 DC 44 ,0500705005 0050300770 7755505000 5570705050 5550 ,346
                                00346 00044
07070 BNF ++24 ,BETA-2-P ,0, 00308 MM 00332 00194
07080 TDM ADD+1 ,2 ,0, , CHANGE TO SUB IF NEG
                                00320 J5 00345 00002
07090 CF BETA-1-P , ,, -L, CLEAR HI ORDER FLAG
                                00332 L3 00195 00000
07100 ADD A ALPHA-2-P, ,, 00344 K1 00048 00000
07110 TD 99 ,ALPHA-2-P,, STORE SIGN 00356 ZN 00099 00048
07120 BV ADJ , ,0, 00368 M6 00484 01400
07130 CF ALPHA-2-P, ,, PROCEED WITH NORMALIZATION
                                00380 L3 00048 00000
07140 BZ ZRES -P, ,, BR IF ZERO SUM
                                00392 M6 00530 01200
07150 NORM RD EXIT ,ALPHA-1-P,0, ,-L BR IF NORMALIZATN COMPLTE
                                00404 ML 00532 00049
07160 SF ALPHA -P, ,, -L 00416 L2 00050 00000
07170 TR ALPHA-1-P,ALPHA -P,, -L,-L 00428 LJ 00047 00050
07180 TF ALPHA -P,ALPHA-1-P , , 00440 KO 00050 00049
07190 TD ALPHA-2-P,MDS DIG ,, ENTER NOISE DIGIT
                                00452 K5 00048 02401
07200 SM ALPHA -P,1 ,10 00464 J2 00050 000-1
08010 B7 NORM , ,0, 00476 M9 00404 00000
08030 ADJ TF ALPHA-2-P,ALPHA-3-P,, SHIFT RIGHT ONE POSITION
                                00484 KO 00048 00047
08040 CF ALPHA -P, ,, -L, CLEAR EXTRA FLAG
                                00496 L3 00050 00000
08050 TDM ALPHA-1-P,-1 ,, -L, INSERT HI ORDER ONE WITH FLAG
                                00508 J5 00049 0000J
08060 AM ALPHA -P,01 ,10, ADJUST CHAR 00520 J1 00050 000-1
08070 EXIT BNV SIGN , ,0, STORE ALPHA AND AFFIX SIGN
                                00532 M7 00406 01400
08080 BNF OVFL -P,ALPHA -P 00544 MM 00474 00050
08090 B7 UNFL -P 00556 M9 00518 00000
08110 FM3 TFM BRANCH+6 ,++32 ,017 00564 JO 00106 -0596
08130 TFM FIX+25 ,012 ,09 00576 J6 00669 00-12
08140 B7 FD3+24 00588 M9 00772 00000
08160 DC 48 ,5550040250 0050500040 5552000000 0208 00252500020450,348
                                00348 00048
08170 M ALPHA-2-P,BETA-2 -P,, MUL MANTISSAS
                                00596 KL 00048 00194
08180 BZ ZRES -P, ,, BR IF ZERO PRODUCT
                                00608 M6 00530 01200
08190 BD MOVE-12 ,100 ,0, ,-2L BR IF NORM NOT REQ
                                00620 M3 00716 00100
08200 TFM MOVE+11 ,100 ,09, -L ADJUST CHAR BY ONE
                                00632 J6 00739 00J00
09010 FIX SM BETA -P,01 ,10, 00644 J2 00196 000-1
09020 BNV ++36 , ,0, 00656 M7 00692 01400
09030 SM ALPHA -P,01 ,10 00668 J2 00050 000-1
09040 TFM BETA -P,-99 ,10 00680 J6 00196 000RR
09050 BD CHGE ,FIX+23 ,01 00692 ML 00908 00667

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09060 SF 101 , ,0, -2L 00704 32 00101 00000
09070 A ALPHA -P,BETA -P , , 00716 KJ 00050 00196
09080 MOVE TF ALPHA-2-P,99 ,, -L 00728 K6 00048 00099
09090 B7 EXIT , ,0, 00740 M9 00532 00000
09110 FD3 TFM BRANCH+6 ,++56 ,017 00748 JO 00106 -0804
09120 TFM FIX+25 ,111 ,09 00760 J6 00669 00J11
09130 TFM MOVE+11 ,099 ,09, -L 00772 J6 00739 00-99
09140 TF 85 ,CLR-106-P,, ,2L 00784 ZQ 00385 00798
09150 B7 F43+12 , ,0, 00796 M9 00032 00000
09170 LD 99 ,ALPHA-2-P,, -L 00804 ZQ 00099 00048
09180 D 39 ,BETA-2 -P,, -L 00816 ZR 00099 00194
09190 BV ZCK , ,0, -L 00828 M6 00928 01400
09200 TD 99 ,99 ,0, -L 00840 25 00099 00099
10010 BD FIX ,99 ,0, ,-2L 00852 M3 00644 00099
10020 BZ ZRES -P 00864 M6 00530 01200
10030 DC 8 ,40550002 ,314 00314 00008
10040 SF 100 , ,0, -2L 00876 32 00100 00000
10050 MOVED S ALPHA -P,BETA -P , , 00888 KK 00050 00196
10060 B7 MOVE , ,0, 00900 M9 00728 00000
10080 CHGE TFM MOVE+11 ,98 ,0, -L 00908 J6 00739 00098
10090 B7 MOVED , ,0, 00920 M9 00888 00000
10110 ZCK TDM 401 ,0, ,11, SET ERROR INDICATOR
                                00928 15 00401 0000-
AM PCK+15 ,99 ,6, SIMULATE HARDWARE DIV AND FORCE OVE
                                00940 11 0238- 00099
BV PCK+10 , ,6 00952 46 0237N 01400
DEND 02024 02024

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SYMBOL TABLE

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NOSDIG 02401 ALPHA 00050R BETA 00196R CLR 00904R EDGAR 00000R
FSQR3 00000R LN10 00763R LDGE 00715R LSQ 00228R LSQM 00336R
NINE 00808R ONEZ 00621R OVFL 00474R P 00000 PCK 02365
PICK 00198R PIOV2 00668R SAVE 00100R SIGN 00406R SQEX 00436R
SQ2 00124R SQ3 00380R STORE 00442R UNFL 00518R ZRES 00530R

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10130***** FLOATING POINT SQUARE ROOT. VARIABLE LENGTH
DSA FSQR3 00004 00005 -0000
DORG EDGAR 00000
10160 FSQR3 TFM PCK+5 ,++20 ,17 00000 10 02370 -0020
10170 B7 PCK , ,6, BR TO PICK AND RETURN
                                00012 49 0236N 00000
10150 DC 44 ,075050 0550000002 0000000805 04000056000000005,350
                                00350 00044
10190 BD ++20 ,BETA-1 -P,0, ,-L 00020 ML 00040 00195
10200 B7 ZRES -P, ,, BR IF RESULT ZERO
                                00032 M9 00530 00000
11020 MM BETA -P,50 ,10, DIV CHAR BY 2
                                00040 J3 00196 000ND
11030 BNF ++36 ,BETA-2 -P,0, BR FOR POSITIVE ARG
                                00052 MM 00088 00194
11040 CF BETA-2 -P 00064 L3 00194 00000
11050 TDM 401 ,0, , SET NEG ARG INDICATOR
                                00076 15 00401 00000
11060 BD SQ3 ,98 ,0, BR IF CHAR ODD

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00088 M3 00380 00098
11070 TFM SQ2+42 ,97 ,010, -L MOVE MANTISSA ADR 00100 J6 00166 000R7
11080 BNF ++24 ,99 ,0, BR IF CHAR POSITIVE 00112 M4 00136 00099
11090 SQ2 SF 97 00124 32 00097 00000
11100 TF PCK+15 ,97 ,6, STORE RESULT CHAR,PROPER SIGND 00136 26 0238- 00097
11110 TF 99 ,CLR-92-P ,, +2L 00148 20 00099 00812
11120 TF ,BETA-2 -P,, MOVE MANT INTO 97/98 MINUS L 00160 20 00000 00194
11130 TFM LSQ+18 ,97 ,010, -2L INITIAL MANT ADR HI ORDER 00172 J6 00246 000R7
11140 TF LSQ+23 ,SQ3+18 ,01, INITIAL RESULT ADR 00184 KD 00251 00398
11150 TF LSQM-6 ,LSQ+18 ,, INITIAL MANT ADR 00196 KD 00330 00246
11160 TF BETA-2 -P,ONEZ-48-P,, +L SET RESULT TO ONE L+1 DIGITS 00208 KD 00194 00573
11170 B7 LSQM , ,0, 00220 M9 00336 00000
11200 LSQ AM LSQ+23 ,2 ,0610, ADD 2 TO RESULT 00228 J1 0025J 000-2
12010 S , , SUB RESULT FROM MANTISSA 00240 22 00000 00000
12020 BNN LSQ , ,0, CONTINUE UNTIL MANT IS NEG 00252 M6 00228 01300
12030 CM LSQ+23 ,BETA-2 -P,07 00264 JM 00251 -0194
12040 BNL SQEX , ,0, BR IF TERMINAL RESULT ADR 00276 M6 00436 01300
12050 A LSQ+18 ,LSQ+23 ,01611, RESTORE LAST SUB 00288 KJ 00240 0025J
12060 CF LSQ+18 , ,06 00300 L3 00240 00000
12070 AM LSQM-6 ,01 ,010, REDUCE MANT FIELD LENGTH ONE 00312 J1 00330 000-1
12080 SF 00324 32 00000 00000
12090 LSQM AM LSQ+18 ,02 ,010, STEP MANTISSA ADR,HI ORDER,+2 00336 J1 00246 000-2
12100 AM LSQ+23 ,01 ,010, STEP RESULT ADR +1 00348 J1 00251 000-1
12110 SM LSQ+23 ,09 ,0610, STEP RESULT -9 00360 J2 0025J 000-9
12120 B7 LSQ+12 , ,0, CONT LOOP WITH NEXT 2 DIGITS 00372 M9 00240 00000
11190 DC 16 ,70700200065020,316 00316 00016
12140 SQ3 AM 99 ,50 ,10, ADD .5 TO CHAR/2 00380 11 00099 000ND
12150 TDM BETA-2 -P,0 ,211, -L, LENGTHEN MANT FOR ONE CHAR 00392 J5 -0194 0000-
12160 CF BETA-1 -P, , -L, 00404 L3 00195 00000
12170 TFM SQ2+42 ,98 ,010, -L MOVE MANT ADR 00416 J6 00166 000R8
12180 B7 SQ2-12 , ,0, BR TO STORE CHAR + INIT LOOP 00428 M9 00112 00000
12200 SQEX TF 80 ,CLR-100-P,, +L 00436 20 00080 00804
13010 MM BETA-2 -P,50 ,10, RESULT/2 00448 J3 00194 000ND
13020 SF 98 , , -L, DEFINE FIELD 00460 32 00098 00000
13030 TF PCK+25 ,97 ,6, STORE MANT RESULT 00472 26 0239- 00097
    
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13040 B7 PCK+10 , ,6, RETURN TO MAINLINE 00484 49 0237N 00000
DEND 02061 02061
    
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SYMBOL TABLE

NOSDIG 02401	AAB 00910R	AB 00914R	ALPHA 00050R	BETA 00196R
BRD 00208R	CLF 00088R	CLR 00904R	DONE 00588R	EDGAR 00000R
FCOS3 00000R	FSIN3 00032R	H34 01011R	LN10 00763R	LOGE 00715R
NINE 00808R	ONEZ 00621R	OVER 00400R	OVFL 00474R	P 00000
PCK 02365	PI 00962R	PICK 00198R	PIOV2 00668R	PLACE 00716R
PDZCH 00760R	SAVE 00100R	SIGN 00406R	STORE 00442R	SUM 00472R
TWOPI 01009R	UNFL 00518R	ZRES 00530R		

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13060***** FLOATING SIN-COS
13070***** VARIABLE LENGTH
DSA FCOS3 ,FSIN3 00004 00005 -0000
00009 00005 -0032
00000
13100 FCOS3 DORG EDGAR 00000 J6 00099 00-10
TFM CLF+11 ,010 ,09, INIT FOR COS 00012 10 02370 -0088
13110 TFM PCK+5 ,CLF ,17 00024 49 0236N 00000
13120 B7 PCK , ,6, GO TO PICK AND RETURN 00032 J6 00099 00-1J
13140 FSIN3 TFM CLF+11 ,-011 ,09, INIT FOR POSITIVE SIN 00044 10 02370 -0064
13150 TFM PCK+5 ,++20 ,17 00056 49 0236N 00000
13160 B7 PCK , ,6, GO TO PICK AND RETURN 00056 49 0236N 00000
13180 DC 46 ,0500507056 5000510007 0507005651 0070510000 505608,348
00348 00046
00044 MM 00100 00194
13190 BNF ++36 ,BETA-2 -P 00074 J5 00098 00000
13200 TDM CLF+10 ,0 ,0, ADJUST FOR NEG SIN 00088 L3 00194 00000
14010 CLF CF BETA-2 -P 00100 L3 00195 00000
14020 CF BETA-1 -P, , -L, 00112 KD 00100 00810
14030 TF SAVE -P,CLR-94-P ,, +L MOVE L+2 ZERDS TO SAVE 00124 J4 00194 000-0
14040 CM BETA -P,00 ,10 00136 M6 00760 01300
14050 BNL PDZCH , ,0, BR IF POSITIVE OR ZERO CHAR 00148 J4 00194 000--
14060 CM BETA -P,00 ,1011, +L 00160 M7 00278 01300
14070 BL BRD , ,0, BR IF CHAR LESS THAN -L 00172 J6 00202 -0100
14080 TFM ++30 ,SAVE -P,07, -L CHAR BETWEEN 0 AND L 00184 M6 00202 00194
14090 S ++18 ,BETA -P,0 00196 J3 00000 00195
14100 TR ,BETA-1 -P,, -L 00208 ML 00232 00099
14110 BRD BD ++24 ,CLF+11 ,01, BR IF SIN ROUTINE 00220 KJ 00100 00623
14120 A SAVE-P ,PIOV2-45-P,, +LCONVERT TO SIN 00232 KK 00100 00964
14130 S SAVE -P,TWOPI-45 ,1, +L 00244 M6 00232 01100
14140 BH 0-12 , ,0, SUB 2 PI FROM MANT UNTIL NEG
    
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14150 SF SAVE-1 -P, , -L 00256 L2 00099 00000
14160 A SAVE -P,PI-45 , , +L 00268 KJ 00100 00917
14170 BN *+36 , , 0 00280 M7 00316 01300
14180 SM CLF+10 ,01 ,010 00292 J2 00098 000-1
14190 SF SAVE -P 00304 L2 00100 00000
14200 A SAVE -P,PIOV2-45-P, , , +L 00316 KJ 00100 00623
15010 TF 80 ,CLR-106-P, , , +L 00328 20 00080 00798
15020 DC 48,5552705600 0002202000 5055000000 0008500000 00560050 ,348
00348 00048
15030 M SAVE -P,SAVE -P 00340 KL 00100 00100
15040 TF SAVE -P,98 ,10, , -L 00352 K6 00100 000R8
15050 SF SAVE-1 -P, , -L 00364 L2 00099 00000
15060 TF BETA -P,ONEZ-47-P, , , +LSET BETA EQUAL 1 PLUS L+1 ZERO
00376 KO 00196 00574
00388 LJ 00907 01010
15070 TR AAB-3 ,H34-1 ,01
15080 OVER TDM SUM+1 ,2 ,011, SET FOR SUBTRACTION
00400 J5 00473 0000K
00412 26 00099 000R8
15090 TF 99 ,98 ,10, , -L 00424 16 000R7 0-000
15100 TFM 97 ,0000 ,58, -L 00436 2R 000R8 00914
15110 D 98 ,AB ,15 , -L
15120 BZ DONE , ,0, BR IF QUOTIENT ZFRO
00448 M6 00588 01200
00460 K6 00050 000R5
00472 KK 00196 00050
15130 TF ALPHA -P,95 ,10
15140 SUM S BETA -P,ALPHA -P 00484 J1 00910 000-2
15150 AM AAB ,2 ,010 00496 J1 00908 000-2
15160 AM AAB-2 ,2 ,010
15170 M AAB ,AAB-2 ,01, 4DIGIT PRODUCT
00508 KL 00910 00908
00520 K6 00914 00099
00532 20 00080 00798
15180 TF AB ,99 ,0
15190 TF 80 ,CLR-106-P, , , +L 00544 KL 00100 00050
15200 M SAVE -P,ALPHA -P 00556 MM 00400 00473
16010 BNF OVER ,SUM+1 ,01
16020 TDM SUM+1 ,1 ,0, SET TO ADD
00568 J5 00473 00001
00580 M9 00412 00000
16030 R7 OVER+12 , ,0
16050 DONE C HETA-1 -P,CLR-95-P , , +L 00588 KM 00195 00809
16060 BE POZCH+60 , ,0, BR IF L+1 ZEROS
00600 M6 00820 01200
00612 J6 00100 000-1
00624 ML 00692 00195
00636 J2 00100 000-1
00648 LJ 00195 00196
16070 TFM SAVE -P,01 ,10
16080 DC 48,0750775070 0000500505 5000500051 0000505000 05057005,350
00350 00048
16090 BD PLACE-24 ,BETA-1 -P,0, , -LRR IF NORMALIZATION NOT REQ
00624 ML 00692 00195
00636 J2 00100 000-1
00648 LJ 00195 00196
16100 SM SAVE -P,01 ,10
16110 TR BETA-1 -P,BETA -P, , -L,-L 00660 K5 00195 02401
16120 TD BETA-1 -P,NDS DIG , , ENTER NOISE DIGIT
00672 L2 00195 00000
00684 M9 00624 00000
00692 ML 00716 00098
00704 L2 00194 00000
16130 SF BETA-1 -P, , , -L 00716 20 0238- 00100
16140 B7 *-60 00728 20 0239- 00194
16160 BD PLACE ,CLF+10 ,01 00740 KN 00051 01018
16170 SF BETA-2 -P 00752 49 0237N 00000
16180 PLACE TF PCK+15 ,SAVE -P,6, STORE CHAR 00760 J4 00196 000-3
16190 TF PCK+25 ,BETA-2 -P,6, STORE MANT 00772 M7 00852 01300
16200 TD ALPHA+1-P,H34+7 ,1, RESTORE RM 00784 J4 00196 000-0
17010 B7 PCK+10 , ,6, RETURN TO MAINLINE PROGRAM
00752 49 0237N 00000
00760 J4 00196 000-3
00772 M7 00852 01300
00784 J4 00196 000-0
17030 POZCH CM BETA -P,03 ,10
17040 BI ,*+80 , ,0, BR IF CHAR SMALLER THAN 03
00772 M7 00852 01300
00784 J4 00196 000-0
17050 CM BETA -P,00 ,10, , +L

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17060 BNH **44 , ,0, BR IF CHAR LESS OR EQUAL L
00796 M7 00840 01100
17070 TDM 401 ,0 ,11, CHAR TOO LARGE
00808 15 00401 0000-
00820 KN 00051 01018
00832 M9 00530 00000
00840 15 00401 00000
17080 TD ALPHA+1-P,H34+7 , , RESTORE RM
17100 B7 ZRES , ,0,
17120 TDM 401 ,0
17130 TFM **42 ,SAVE-1 -P,07, ADJ TO SUB TWO PI FROM MANT
00852 J0 00894 -J099
17140 S **30 ,BETA -P,0, UNTIL REDUCED TO NEG NUMBER
00864 KK 00894 00196
00876 J5 00194 0000-
17150 TDM BETA-2 -P,0 ,11, -L 00888 20 00000 00194
17160 TF ,BETA-2 -P , ,0
00900 M9 00208 00000
00907
17170 B BRD , ,0
17180 DORG *-4
17190 AAB DS 4 00910 00004
17200 AB DS 4 00914 00004
18010 DS 1 00915 00001
18020 PI DC 47 ,31415926535897932384626433832795028841971693993
00962 00047
18030 TWOPI DC 47 ,62831853071795864769252867665590057683943387987
01009 00047
01011 00002
18040 H34 DC 2 ,01 01013 00002
18050 DC 2 ,02 01018 00005
18060 DC 5 ,0002' 02072
DEND 02072

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SYMBOL TABLE

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NDSDIG 02401 ALPH 00196R ALPHA 00050R ATN1 00424R BETA 00196R
CLR 00904R EDGAR 00000R EOD 01040R FATN3 00000R LN10 00763R
LOGE 00715R NINE 00808R ONEZ 00621R OVFL 00474R P 00000
PCHAR 00836R PCK 02365 PICK 00198R PIOV2 00668R PIOV4 01346R
SAVE 00100R SIGN 00406R SIX 01255R STORE 00442R TAN6 01301R
TEST 00064R TEST1 00804R TEST2 00652R UNFL 00518R ZRES 00530R

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18070***** FLOATING ARC TANGENT VARIABLE LENGTH
DSA FATN3 00004 00005 -0000
DORG EDGAR 00000
18090 FATN3 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
18100 B7 PCK , ,6, BR TO PICK AND RETURN
00012 49 0236N 00000
18130 DC 50 ,0700055050 0000510005 0576705070 7000065020 51500825,350
00350 00050
18120 TFM TEST+11 , ,08, SET INDICATORS
00020 J6 00075 0-000
00032 ML 00052 00195
18140 BD **20 ,BETA-1 -P,0, , -L 00044 M9 01052 00000
18150 B7 EOD+12 , , BR IF ZERO MANT
00052 KN 00073 00194
00064 L3 00194 00000
18170 TD TEST+9 ,BETA-2 -P,0, SAVE MANT SIGN
00076 J4 00196 000-0
18180 TEST CF BETA-2 -P
18190 CM BETA -P, ,10
18200 BH PCHAR , ,0, BR IF CHAR POSITIVE
00088 M6 00836 01100

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19010 BE ALPH , ,0, BR IF CHAR ZERO
 19020 CM BETA -P,-9999 ,10, +L 00100 M6 00196 01200
 19030 BL EDD , ,0, BR IF CHAR LESS THAN -(L-1)
 00124 M7 01040 01300
 19040 TFM ALPH-1 ,BETA-2 -P,07 00136 J0 00195 -0194
 19050 A ALPH-1 ,BETA -P,0 00148 KJ 00195 00196
 19060 TF BETA-2 -P,CLR-96-P ,, -L,+L CLEAR AREA LEFT OF BETA
 00160 KD 00194 00808
 19070 CF BETA-1 -P, ,, -L EXPAND BETA BY REMOVING FLAG
 00172 L3 00195 00000
 19080 TF BETA-2 -P, ,, ADJUST BETA FIELD FOR CHAR
 00184 K6 00194 00000
 19090 ALPH SF BETA-1 -P, ,, -L CONTRACT BETA BY RESETTING FLAG
 00196 L2 00195 00000
 19100 CM BETA -P,29 ,10, -L 00208 J4 00196 000K9
 19110 BL ATN1-72 , ,0, BR IF MANT LESS THAN .29
 00220 M7 00352 01300
 19120 TF 79 ,CLR-100-P,, ,+L 00232 Z0 00079 00804
 19130 MM BETA-2 -P,6 ,10, 6*MANT IN 99
 00244 J3 00194 000-6
 19140 TDM 98 , -1 ,, -L 1+6*MANT IN 99
 00256 15 00098 0000J
 19150 S BETA-2 -P,SIX-45 ,1, +L MANT-.6 L DIGITS
 00268 KK 00194 01210
 19160 TF ALPHA -P,99 ,, 10+6*MANT MOVED TO ALPHA.L+2NG
 00280 K6 00050 00099
 19170 TF 99 ,CLR-94-P ,, +2L 2L+2 ZEROS
 00292 Z0 00099 00810
 19180 LD 98 ,BETA-2 -P,, -L, L DIGITS 1
 00304 Z0 00098 00194
 19190 DC 48 ,2552000855 5256030106 2020055008 5552000000 56550855,348
 00348 00048
 19200 D 100 ,ALPHA -P,, -L, L+2 DIGITS 00316 ZR 00100 00050
 20010 TF BETA-2 -P,97 ,, -L MANT IS (MANT-.6)/(10+6*MANT)
 00328 K6 00194 00097
 20020 SF TEST+11 , ,0, IND THIS CALC MADE
 00340 L2 00075 00000
 20030 TF 80 ,CLR-106-P,, +2L ZEROS
 00352 Z0 00080 00798
 20040 M BETA-2 -P,BETA-2 -P,, SQUARE MANT 00364 KL 00194 00194
 20050 TF SAVE -P,99 ,, -L SAVE IS MANT*MANT.L DIGITS
 00376 K6 00100 00099
 20060 TFM ALPHA -P,CLR-95 -P,, +L INIT ALPHA TO 00 L+1 ZEROS
 00388 K0 00050 00809
 20070 TFM ATN1+35 ,99999 ,10, +2L 00400 J6 00459 999R9
 20080 TFM ATN1-3 ,99999 ,10, +L 00412 J6 00421 999R9
 20090 ATN1 TF 99 ,CLR-92-P ,, +L L+4 ZEROS
 00424 Z0 00099 00812
 20100 TFM 98 ,10 ,10, -L 00436 16 00098 000J0
 20110 DM 98 , , -L 00448 19 00098 -0000
 20120 S 96 ,ALPHA -P -L 00460 ZK 00096 00050
 20130 TF ALPHA -P,96 ,, L+1 DIGITS
 00472 K6 00050 00096
 20140 TF 80 ,CLR-106-P,, +2L 00484 Z0 00080 00798
 20150 M ALPHA -P,SAVE -P,, 2L+1 DIGITS
 00496 KL 00050 00100
 20160 TF ALPHA -P,99 ,, -L L+1 DIGITS
 00506 K6 00050 00099

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20170 SM ATN1+35 ,2 ,010 00520 J2 00459 000-2
 20180 SM ATN1-3 ,1 ,010 00532 J2 00421 000-1
 20190 BNZ ATN1 , ,0, BR IF LESS THAN L-1 PASSES
 00544 M7 00424 01200
 20200 TF SAVE -P,ONEZ-47-P,, +L L+2 DIGITS
 00556 K0 00100 00574
 21010 S SAVE -P,ALPHA -P,, ONE MINUS SUM OF(COEF*MANT*+2)
 00568 KK 00100 00050
 21020 TF 80 ,CLR-106-P,, +2L 00580 Z0 00080 00798
 21030 M SAVE -P,BETA-2 -P,, 2L+2 DIGIT PRODUCT
 00592 KL 00100 00194
 21040 DC 48 ,0000202100 2026502504 5044200040 0205000000 00084025,348
 00348 00048
 21050 BNF TEST2 ,TEST+11 ,01 00604 MM 00652 00075
 21060 BNN TEST2-12 , ,0 00616 M6 00640 01300
 21070 SF 99 , , , -L 00628 Z0 00099 00000
 21080 A 99 ,TAN6-45 ,1, -L,+L L+1 DIGITS
 00640 ZJ 00099 01256
 21090 TEST2 BNF ++36 ,TEST+10 ,01 00652 MM 00688 00074
 21100 SF 99 , , , -L 00664 Z0 00099 00000
 21110 A 99 ,PIV2-45-P,, -L,+L L+2 DIGITS
 00676 ZJ 00099 00623
 21120 TFM BETA -P,1 ,10 00688 J6 00196 000-1
 21130 TD 100 ,BETA+1 -P,, -L INSERT RM AT 100-L
 00700 ZM 00100 00197
 21140 BD TEST1-36 ,98 ,0, -2L BR IF NORMALIZATION NOT REQD
 00712 M3 00768 00098
 21150 SM BETA -P,1 ,10 00724 J2 00196 000-1
 21160 TR 98 ,99 ,, -2L,-2L 00736 Z1 00098 00099
 21170 TD 99 ,NOS DIG ,, -L INSEAT NOISE DIGIT
 00748 Z5 00099 02401
 21180 BT 9-48 , ,0, -2L 00760 M9 00712 00000
 21200 SF 98 , , , -L 00768 Z0 00098 00000
 22010 TF PCK+25 ,97 ,6, -L 00780 Z6 0239- 00097
 22020 TF PCK+15 ,BETA -P,6 00792 Z0 0238- 00196
 22030 TEST1 BNF ++24 ,TEST+9 ,01 00804 MM 00828 00073
 22040 SF PCK+25 , ,6 00816 Z0 0239- 00000
 22050 BT PCK+10 , ,6 00828 Z9 0237M 00000
 22070 PCHAR TOM TEST+10 , -1 ,0, INDICATE POSITIVE CHAR
 00836 J5 00074 0000J
 22080 TF 99 ,CLR-95-P ,, +2L 00848 Z0 00099 00809
 22090 TOM 100 , -1 ,, -2L DIVIDEND EQUALS .1
 00860 15 00100 0000J
 22100 D 99 ,BETA-2 -P,, -L, DIVISOR IS MANT
 00872 ZR 00099 00194
 22110 DC 48 ,0440525000 5250000050 0000010000 0500555670 70510000,348
 00348 00048
 22120 BD ++56 ,99 ,0, -2L BR IF MANT IS 100000
 00884 M3 00940 00099
 22130 SF 100 , , , -2L REDUCE TO L DIGITS
 00896 Z0 00100 00000
 22140 TF BETA-2 -P,99 ,, -L 00908 K6 00194 00099
 22150 SM BETA -P,1 ,10, REDUCE CHAR BY 1
 00920 J2 00196 000-1
 22160 BT ++32 , ,0, THESE 3 00932 M9 00964 00000
 22180 TF BETA-2 -P,98 ,, -L INSTRUCTIONS GO
 00940 K6 00194 00098
 22190 SM BETA -P,2 ,10, WITH BD ABOVE
 00952 J2 00196 000-2

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26170 E12 BNF OVPL -P,RECIP-1 ,1, BR IF MANT POSITIVE
 00436 NM 00474 00887
 26180 B7 UNFL -P 00448 M9 00518 00000
 26200 SF BETA-5 -P, , -2L 00456 L2 00191 00000
 27010 CALC TFM **9 , ,0810, INIT SIZE IND
 00468 J6 00477 0-0-0
 00480 J4 00192 000L4
 27020 CM BETA-4 -P,34 ,10, -L BR IF BETA LESS THAN .34 +CHAR
 27030 BL GORD , ,0, 00492 M7 00608 01300
 27040 SM BETA-4 -P,34 ,10, -L ADJ BETA BY -.34
 00504 J2 00192 000L4
 27050 AM CALC+9 ,1 ,010, STEP SIZE IND
 00516 J1 00477 000-1
 27060 B7 CALC+12 , ,0, CONTINUE REDUCTION OF BETA
 00528 M9 00480 00000
 27080 TFM **59 ,BETA-4 -P,07, PROCESS IF CHAR NEG
 00536 J0 00595 -0192
 00548 KJ 00595 00196
 27090 A **47 ,BETA -P,0
 27100 TF BETA-6 -P,CLR-96-P , , -L,+L L+4 DIGIT FIELD
 00560 K0 00190 00808
 00572 L3 00191 00000
 27110 CF BETA-5 -P, , , -L SHIFT RIGHT W R T CHAR SIZE
 00584 K6 00192 00000
 27120 TF BETA-4 -P, , , 00596 L2 00191 00000
 27130 SF BETA-5 -P, , , -L 2020005000 000000851 4052 ,348
 27140 DC 44,0856405252 0055085502 00348 00044
 27150 GORD TF 80 ,CLR-106-P, , ,2L 00608 20 00080 00798
 27160 M BETA-4 -P,LN10-46-P, , ,+L 2L+4 DIGIT PRODUCT
 00620 KL 00192 00717
 27170 SF 97 , , , -2L 00632 32 00097 00000
 27180 TF SAVE -P,99 , , , -L L+4 DIGIT FIELDS
 00644 K6 00100 00099
 00656 K6 00194 00099
 27190 TF BETA-2 -P,99 , , , -L 00668 J6 00751 000-2
 27200 TFM FACT+11 ,2 ,010 00680 KJ 00048 00100
 28010 A ALPHA-2-P,SAVE -P
 28020 TF 80 ,CLR-106-P, , ,2L 00692 20 00080 00798
 28030 M SAVE -P,BETA-2 -P, , , 2L+8 DIGIT PRODUCT
 00704 KL 00100 00194
 28040 TF 99 ,96 , , , -L L+6 DIGIT DIVIDEND
 00716 26 00099 00096
 28050 TFM 96 , , ,10, -L 00728 16 00096 000-0
 28060 FACT DM 97 , , , -L 2 DIGIT DIVISOR- L+4 QUOTIENT
 00740 19 00097 -000J
 28070 BZ FACT+56 , , ,0, BR WHEN TERM REDUCES TO ZERO
 00752 M6 00796 01200
 28080 TF SAVE -P,97 , , , L+4 DIGIT FIELD
 00764 K6 00100 00097
 00776 J1 00751 000-1
 28090 AM FACT+11 ,1 ,010
 28100 B7 FACT-60 , , ,0, CALC NEXT TERM
 00788 M9 00680 00000
 00796 J4 00477 000-0
 28120 CM CALC+9 , , ,010 BR IF FURTHER ADJ NOT REQUIRED
 28130 BE RECIP , , ,0, 00808 M6 00888 01200
 28140 TF 80 ,CLR-106-P, , ,2LADJUST FOR REDUCTNS BY .34
 00820 20 00080 00798
 28150 M ALPHA-4-P,TEN34-45 ,1 ,L 2L+4 DIGIT PRODUCT
 00832 KL 00046 01024
 28160 SF 97 , , , -2L 2L+3 DIGITS 00844 32 00097 00000
 28170 TF ALPHA-4-P,98 , , , -L L+2 DIGITS

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28180 SM CALC+9 ,1 ,010, REDUCE INDICATOR
 00856 K6 00046 00098
 28190 B7 **84 , , ,0 00868 J2 00477 000-1
 29010 DC 22, 0000084025 000200000005 ,350 00880 M9 00796 00000
 29020 RECIP BNF GOBACK-12,RECIP-1 ,01, BR IF MANT WAS POSITIVE
 00888 MM 01004 00887
 29030 SF PCK+15 , , ,6, MAKE CHAR NEGATIVE
 00900 32 0238- 00000
 29040 TF 99 ,CLR-94-P , , ,2LCALC RECIPROCAL IF NEG MANT
 00912 20 00099 00810
 29050 TFM 99 ,10 ,10, -2L, 2L+2 DIGIT DIVIDEND
 00924 16 00099 000J0
 29060 D 100 ,ALPHA-4-P, , , -L, L+2 DIGIT DIVISOR
 00936 2R 00100 00046
 29070 BV GOBACK-24, , , BR IF ORIG OPER 1 OR 1/LOGE
 00948 M6 00992 01400
 29080 TF PCK+25 ,97 , , ,6, -L STORE RESULT MANTISSA
 00960 26 0239- 00097
 29090 AM PCK+15 ,1 ,610, REDUCE CHAR BY ONE
 00972 11 0238- 000-1
 29100 B7 PCK+10 , , ,6, RETURN TO MAINLINE
 00984 49 0237N 00000
 00992 11 0238- 000-2
 29120 AM PCK+15 ,2 ,610
 29120 TF PCK+25 ,ALPHA-6-P,6, STORE RESULT MANTISSA
 01004 20 0239- 00044
 29130 GOBACK B PCK+10 , , ,6, RETURN TO MAINLINE
 01016 49 0237N 00000
 29140 DORG **4
 29150 TEN34 DC 47 ,21877616239495525622261149163841873167118056246
 01049 00047
 DEND 02102 02102

SYMBOL TABLE

NOSDIG 02401	ALPHA 00050R	BETA 00196R	CLR 00904R	CORN 00608R
COUN 00380R	CZERO 00959R	EDGAR 00000R	FLN3 00020R	FLOG3 00000R
GOAL 00844R	LN10 00763R	LOGE 00715R	NINE 00808R	NLG 00876R
ONEZ 00621R	OVFL 00474R	P 00000	PCK 02365	PICK 00198R
PIOV2 00668R	PLUS 00692R	SAVE 00100R	SIGN 00406R	STORE 00442R
UNFL 00518R	ZRES 00530R			

29160***** FLOATING POINT LOG AND LN. VARIABLE LENGTH
 DSA FLOG3 ,FLN3 00004 00005 -0010
 00009 00001 -0020
 00000
 DORG EDGAR
 29190 FLOG3 TDM CORN+1 ,1 ,0, SET FOR COMMON LOG
 00000 J5 00609 00001
 00012 M9 00032 00000
 29200 B7 **20 , , ,0
 30020 FLN3 TDM CORN+1 ,9 ,0, SET FOR NATURAL LOG
 00020 J5 00609 00009
 00032 10 02370 -0052
 30030 TFM PCK+5 ,**20 ,17
 30040 B7 PCK , , ,6, BR TO PICK AND RETURN
 00044 49 0236N 00000
 29180 DC 30 ,0700060050 0500900105 7070700095

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00350 00030
30050 BD **56 ,BETA-1 -P,0, ,-L BR IF NON ZERO ARG
00052 ML 00108 00195
30060 TDM 401 ,0 ,11, SET IND FOR LOG OR LN OF ZERO.
00064 15 00401 0000-
30070 TF PCK+25 ,NINE-45-P,6, ,+L STORE MANTISSA
00076 20 0239- 00763
30080 SF PCK+25 , , ,6, WITH NEG SIGN
00088 32 0239- 00000
30090 B7 OVFL+24-P, , , BR TO STORE CHAR AND RTN TO MAINLINE
00100 M9 00498 00000
30110 BNF **36 ,BETA-2 -P,0, BR IF MANT POSITIVE
00108 MM 00144 00194
30120 TDM 401 ,0 , SET IND FOR NEGATIVE
00120 15 00401 00000
30130 CF BETA-2 -P, , , MAKE POSITIVE
00132 L3 00194 00000
30140 TFM CORN-25 ,CZERO-45 ,017, ,+L INITIALIZE
00144 J0 00583 -0914
30150 TF GOAL-13 ,BETA -P,0, ,+L SAVE CHAR
00156 K0 00831 00196
30160 CF BETA-1 -P, , , -L, EXPAND FIELD TO L+1 DIGITS
00168 L3 00195 00000
30170 TDM BETA-2 -P,1 , ,11, -L, ADD L.0
00180 J5 00194 0000J
30180 CM BETA-1 -P,15 , ,10, -L,
00192 J4 00195 000J5
30190 BNL **44 , , ,0, BR IF MOD MANT NOT LESS 1.5
00204 M6 00248 01300
30200 A BETA-2 -P,BETA-2 -P,, , DOUBBLE MANT. L+1 DIGITS
00216 KJ 00194 00194
301010 AM CORN-25 ,+8 ,010, , ADJ FOR NEXT CONSTANT
00228 J1 00583 000M8
31020 J7 *-60 , , ,0,
00240 M9 00180 00000
31070 DC 42,56705508252552085552550103 5106202050 085552, 350
00350 00042
31040 TF ALPHA -P,ONEZ-48-P,, ,+L L+1 DIGITS
00248 K0 00050 00573
31050 TDM ALPHA -P,2 , ,11, -L, CONVERT TO TWOZ
00260 J5 00050 0000K
31060 S ALPHA -P,BETA-2 -P,, , 2.0 MINUS MOD MANT (2.0-Z)
00272 KK 00050 00194
31080 TF 99 ,CLR-93-P , , ,2L
00284 20 00099 00811
31090 LD 97 ,ALPHA -P,, , -L,
00296 2Q 00097 00050
31100 D 98 ,BETA-2 -P,, , -L, (2.0-Z)/Z EQUALS Y
00308 2R 00098 00194
31110 TF BETA -P,98 , , , -L L+2 DIGITS
00320 K6 00196 00098
31120 TF 80 ,CLR-106-P,, , ,2L
00332 20 00080 00798
31130 M BETA -P,BETA -P,, , , 2L+4 DIGITS
00344 KL 00196 00196
31140 TF SAVE -P,97 , , , -L Y**2 L+2 DIGITS
00356 K6 00100 00097
31150 A BETA -P,BETA -P,, , DOUBBLE Y
00368 KJ 00196 00196
31160 COUN TFM **9 ,99999 ,010, ,+L INITIALIZE COUNT TO L-1 TERMS
00380 J6 00389 999R9
31170 TFM COUN+71 ,99999 ,010, ,2L
00392 J6 00451 999R9
31180 TF ALPHA -P,CZERO-46 , , ,+L L+2 DIGITS. ZERO ALPHA
00404 K0 00050 00913
31190 FF 99 ,CLR-92-P , , ,+L
00416 20 00099 00812
31200 TFM 98 ,10 ,10, -L, OBTAIN RECIPROCAL TERM
00428 16 00098 000J0
32010 DM 98 , , , -L,
00440 19 00098 -0000

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32020 A ALPHA -P,97 , , L+2 DIGITS TO PREV TOTAL
00452 K1 00050 00097
32030 TF 80 ,CLR-106-P,, , ,2L PRODUCT OF Y**2 AND TOTAL OF
00464 20 00080 00798
32040 M ALPHA -P,SAVE -P,, , PREVIOUSLY CALC TERMS
00476 KL 00050 00100
32050 TF ALPHA -P,97 , , , -L L+2 DIGITS STORED TOTAL
00488 K6 00050 00097
32060 SM COUN+71 ,2 ,010, , REDUCE DIVISOR
00500 J2 00451 000-2
32070 SM COUN+9 ,1 ,010, , REDUCE NO OF UNCALC TERMS
00512 J2 00389 000-1
32090 BNZ COUN+36 , , ,0, BR IF L-1 TERMS NOT CALC
00524 M7 00416 01200
320 DC 46, 08552550 5052000865 5250066005 5050605000 07770050 ,350
00350 00046
32100 TF 80 ,CLR-106-P,, , ,2L
00536 20 00080 00798
32110 M ALPHA -P,BETA -P,, , 2Y * SUM OF L-1 TERMS
00548 KL 00050 00196
32120 A 97 ,BETA -P,, , -L ADD 2Y TO ABOVE PRODUCT. L+2
00560 2J 00097 00196
32130 TF BETA -P, , , SET WITH PROPER CONSTANT L+3
00572 K6 00196 00000
32140 SF BETA -P , , ,
00584 L2 00196 00000
32150 S BETA -P,97 , , , -L SUB ACCUM TOTAL FROM CONSTANT
00596 K2 00196 00097
32160 CORN B NLG , , ,0, BR IF FINDING NATURAL LOG
00608 M9 00876 00000
32170 TF 80 ,CLR-106-P,, , ,2L
00620 20 00080 00798
32180 M LOCE-45-P,BETA -P,, ,+L,
00632 KL 00670 00196
32190 TF BETA -P,97 , , , -L L+3 DIGITS
00644 K6 00196 00097
32200 SF BETA -P , , ,
00656 L2 00196 00000
33010 TF 80 ,CLR-100-P,, , ,+L
00668 20 00080 00804
33020 M ONEZ-46-P,GOAL-13 ,1, ,+L, ORIG CHAR * ONE. L+5 DIGITS
00680 KL 00575 00831
33030 PLUS A 99 ,BETA -P , ,
00692 2J 00099 00196
33040 TF BETA -P,99 , , , PREPARE FOR NORMALIZATION
00704 K6 00196 00099
33050 CF BETA -P , , ,
00716 L3 00196 00000
33060 C CLR-92 -P,98 , , ,+L
00728 K4 00812 00098
33060 BE ZRES -P, , , BR IF L+4 ZEROS
00740 M6 00530 01200
33070 TFM PCK+15 ,3 ,010, , SET CHAR OF 3
00752 16 0238- 000-3
33080 BD GOAL-24 ,BETA-4 -P,0, , -L BR IF HI ORDER DIGIT NON-ZERO
00764 ML 00820 00192
33090 TR BETA-4 -P,BETA-3 -P,, , -L,-L
00776 LJ 00192 00193
33100 SM PCK+15 ,1 ,010, ,
00788 12 0238- 000-1
33110 TD BETA -P,NOS DIG , , , INSERT NOISE DIGIT
00800 K5 00196 02401
33120 B7 *-48 , , ,0, CONTINUE NORMALIZATION
00812 M9 00764 00000
33140 DC 14 ,7009000000 0660 ,350
00350 00014
33150 SF BETA-4 -P, , , -L, SET FIELD DEFINITION
00820 L2 00192 00000
33160 GOAL TFM PCK+25 ,BETA-5 -P,6, , STORE MANT
00832 20 0239- 00191
BNF PCK+10 ,99 ,6, , AFFIX SIGN AND RETURN TO MAINLINE
00844 44 0237N 00099
SF PCK+25 , , ,6,
00856 32 0239- 00000
B7 PCK+10 , , ,6,
00868 49 0237N 00000

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33190 NLG TF 80 ,CLR-100-P,, ,+L CONVERSION FOR LN
                                00876 20 00080 00804
33200 M LN10-45-P,GOAL-13 ,, +L, L+5 DIGITS 00888 KL 00718 00831
34010 B PLUS , ,0, RETURN TO COMMON SECTION
                                00900 M9 00692 00000
34030 CZERO DC 48 ,0 00959 00048
37090 DC 48,-69314718099994530941723212145817656807550013436
                                01007 00048
37100 DC 48,-138629436111989061883446424291635313615100026872
                                01055 00048
37110 DC 48,-207944154167983592825169636437452970422650040308
                                01103 00048
DEND 02122 02122

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SYMBOL TABLE

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NOSDIG 02401 ALPHA 00050R BETA 00196R CLR 00904R EDGAR 00000R
FSRS3 00000R LN10 00763R LOGE 00715R NINE 00808R ONEZ 00621R
OVFL 00474R P 00000 PCK 02365 PICK 00198R PIOV2 00668R
SAVE 00100R SIGN 00406R STORE 00442R UNFL 00518R ZRES 00530R

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DSA FSRS3 00004 00005 -0000
DORG EDGAR 00000
34080 FSRS3 TFM PCK+5 ,++20 ,, SET FOR RIGHT SHIFT
                                00000 10 02370 -0020
34090 B7 PCK , ,6, BR TO PICK AND RETURN
                                00012 49 0236N 00000
34070 DC 14 ,5000 00000005 ,320 00320 00014
34110 BNF ++24 ,PCK+15 ,011, RETAIN PROPER SIGN
                                00020 M4 00044 0238-
34120 SF BETA -P 00032 L2 00196 00000
34130 S PCK+15 ,PCK+15 ,611, CLEAR A FIELD TO ZEROS
                                00044 22 0238- 0238-
34140 SM PCK+20 ,1 ,10, FIND AND CLEAR HI ORDER FLAG
                                00056 12 02385 000-1
34150 BNF +-12 ,PCK+20 ,011, IN B FIELD 00068 M4 00056 0238N
34160 CF PCK+20 , ,6 00080 33 0238N 00000
34170 TF PCK+15 ,BETA -P,6, STORE 00092 20 0238- 00196
34180 B7 PCK+10 , ,6, RETURN TO MAINLINE
                                00104 49 0237N 00000
DEND 02141 02141

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SYMBOL TABLE

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NOSDIG 02401 ALPHA 00050R BETA 00196R CL 00140R CLR 00904R
EDGAR 00000R FSLS 00000R LN10 00763R LOGE 00715R NINE 00808R
ONEZ 00621R OVFL 00474R P 00000 PCK 02365 PICK 00198R
PIOV2 00668R SAVE 00100R SIGN 00406R STORE 00442R UNFL 00518R
ZRES 00530R

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DSA 0 00004 00005 -0000

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DORG EDGAR 00000
34200 FSLS TFM PCK+5 ,++20 ,17 00000 10 02370 -0020
35010 B7 PCK , ,6 00012 49 0236N 00000
34190 DC 14 ,055000000000005 ,314 00314 00014
35030 TD CL +19 ,BETA -P,0, SAVE SIGN OF B 00020 KN 00159 00196
35040 CF BETA -P 00032 L3 00196 00000
35050 TF ++47 ,PCK+20 ,, ADJ A ADR TO LD ORDER ADR IN
                                00044 K6 00091 02385
35060 SM ++35 ,1 ,010, ACCORDANCE WITH B FIELD LENGTH
                                00056 J2 00091 000-1
35070 AM PCK+15 ,1 00068 11 02380 -0001
35080 BNF +-24 ,0 00080 M4 00056 00000
35090 TF PCK+15 ,BETA -P,6, STORE 00092 20 0238- 00196
35100 C PCK+15 ,PCK+20 ,, CLEAR LO ORDER B FIELD AND A FIELD
                                00104 24 02380 02385
35110 BNL CL +20 , ,0 00116 M6 00160 01300
35120 AM PCK+15 ,1 ,10 00128 11 02380 000-1
35130 CL TDM PCK+15 ,0 ,6 00140 15 0238- 00000
35140 B7 CL -36 , ,0 00152 M9 00104 00000
35160 BNF PCK+10 ,CL +19 ,16, SET SIGN AND EXIT
                                00160 4M 0237N 00159
35170 SF PCK+20 , ,6 00172 32 0238N 00000
35180 B7 PCK+10 , ,6 00184 49 0237N 00000
DEND 02151 02151

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SYMBOL TABLE

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NOSDIG 02401 ALPHA 00050R BETA 00196R CLR 00904R EDGAR 00000R
LN10 00763R LOGE 00715R NINE 00808R ONEZ 00621R OVFL 00474R
P 00000 PCK 02365 PICK 00198R PIOV2 00668R SAVE 00100R
SIGN 00406R STORE 00442R TFLS3 00000R UNFL 00518R ZRES 00530R

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DSA TFLS3 00004 00005 -0000
DORG EDGAR 00000
36010 TFLS3 TFM PCK+5 ,++20 ,17, BR TO PICK AND RETURN
                                00000 10 02370 -0020
36020 B7 PCK , ,6 00012 49 0236N 00000
35200 DC 4 ,0905 ,324 00324 00004
36040 TF PCK+25 ,BETA-2 -P,6, MOVE B-2 TO A-2 00020 20 0239- 00194
36050 TF PCK+15 ,BETA -P,6, MOVE B TO A 00032 20 0238- 00196
36060 B7 PCK+10 , ,6, RETURN TO MAINLINE
                                00044 49 0237N 00000
DEND 02161 02161

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SYMBOL TABLE

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NOSDIG 02401 ALPHA 00050R BETA 00196R BTFS3 00000R CLR 00904R
EDGAR 00000R LN10 00763R LOGE 00715R NINE 00808R ONEZ 00621R
OVFL 00474R P 00000 PCK 02365 PICK 00198R PIOV2 00668R
SAVE 00100R SIGN 00406R STORE 00442R UNFL 00518R ZRES 00530R

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	DSA	BTF53				00004	00005	-0000
	DORG	EDGAR				00000		
36070	BTF53	TFM	PCK+5	,++20	,17	00000	10	02370 -0020
36080	B7	PCK		,	,6	00012	49	0236N 00000
	DC	8		,00090005	,350	00350		00008
36100	SM	PCK+25		,1	,,	00020	12	02390 -0001
36110	TF	PCK+25		,BETA-2	-P,6,	00032	20	0239- 00194
36120	TF	+30		,PCK+10	,0,			SAVE MAINLINE RETURN ADR
						00044	K6	00074 02375
36130	BT	PCK+15		,BETA	-P,6,			BT TO DESIRED LOC
						00056	2P	0238- 00196
36140	B7			,	,,			RETURN TO MAIN LINE
						00068	49	00000 00000
	DEND	02171						02171

SPS IID MONITOR I SUBROUTINE SET 03

SYMBOL TABLE

NOSDIG	02401	ALPHA	00050R	BETA	00196R	CLR	00702R	EDGAR	00000R
LN10	00559R	LOGE	00511R	NINE	00604R	ONEZ	00417R	OVFL	00258R
P	00000	PCK	02365	PICK	00198R	PIOV2	00464R	SAVE	00100R
UNFL	00314R	ZRES	00326R						

01080***** PCK AREA MAY BE USED AS A WORK AREA IF SUBR NOT USED. IF
 01090***** SUBROUTINES REQUIRED, THEN THE AREA IS USED AS FOLLOWS
 01100***** 02401 NOISE DIGIT. SOURCE, SUBROUTINE SUPERVISOR
 01110***** PCK ADR OF PICK. SOURCE, SUBROUTINE SUPERVISOR
 01120***** PCK+5 ADR OF RETURN TO SUBR. SOURCE, SUBROUTINE
 01130***** PCK+10 ADR OF RETURN TO MAINLINE. SOURCE, PRIMARY LINKAGE
 01140***** PCK+15 ADR OF A OPERAND CHARACTERISTIC. SOURCE, PICK
 01150***** PCK+20 ADR OF B OPERAND CHARACTERISTIC. SOURCE, PICK
 01160***** PCK+25 ADR OF A OPERAND MANTISSA. SOURCE, PICK
 01170***** PCK+30 ADR OF B OPERAND MANTISSA. SOURCE, PICK
 01180***** PCK+31 RESERVED FOR POSSIBLE RECORD MARK
 01190***** PCK+35 4 RESERVED CORE
 01200***** PCK-6 THRU PCK-90 SUBVEC FOR THE 17 FURNISHED SUBROUTINES
 02010***** ADRS ARE SUPPLIED BY THE SUBROUTINE SUPERVISOR
 02020***** PCK-91 DOWN TO END OF IORT MAY BE USED IF NO ADDED SUBROUTS
 * SPSII D SUBROUTINES - AUTO FLOATING POINT 4 MAY 1963 ..JHB
 02040***** FOR OPERANDS A AND B ONLY

02080	EDGAR	DS	,+4			00004	00005	-0198
	PCK	DSB	5	,8	,2365	00000		00000
	NOSDIG	DS	,02401			02365		00040
	DORG	EDGAR				02401		00000
02100	ALPHA	DS	51			00050		00051
02110	P	DS	0		,ALPHA-ALPHA	00000		00000
02130	SAVE	DS	50			00100		00050
02140	BETA	DS	96			00196		00096
		DS	1			00197		00001
02160	PICK	TD	401		,BETA+1-P ,1,			RESET ERROR INDICATOR
						00198	2N	00401 00197
02170	TR	PCK+11		,PCK+10	,11,			MOVE OPERANDS FROM MAINLINE
						00210	31	02376 0237N
	AM	PCK+10		,11	,5,			CALC RETURN ADR AND OVERFLOW
						00222	11	023P5 00011
03130	TFL	BETA		,PCK+20	,11,			MOVE B TO BETA
						00234	-6	00196 0238N
03150	BV	PCK+5		,	,6,			RETURN TO SUBROUTINE
						00246	46	0237- 01400
	DC	14		,00100110000020	,350	00350		00014
04030	OVFL	TDM	401		,-1	00258	15	00401 0000J
	SP	NINE-44		,	,,	00270	L2	00560 00000
	TFL	PCK+15		,NINE-43	,6,	00282	00	0238- 00561
	CF	NINE-45		,	,,	00294	L3	00559 00000
	B7	PCK+10		,	,6	00306	49	0237N 00000
04090	UNFL	TDM	401		,1	00314	15	00401 00001
	ZRES	SF	CLR+1		,,	00326	L2	00703 00000
		TFL	PCK+15		,CLR +2	00338	00	0238- 00704
		CF	0-10		,6	00350	L3	0033K 00000

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11080      BNF  ++24 ,99 ,0,      BR IF CHAR POSITIVE
                                                00100 J6 00166 000R7
11090 SQ2  SF  97      00112 M4 00136 00099
TF  SQEX+47 ,97      00124 32 00097 00000
                                                STORE RESULT CHAR
11110      TF  99      ,CLR-92-P ,, +2L 00136 K6 00483 00097
11120      TF  ,BETA-2 -P,,      00148 20 00099 00610
                                                MOVE MANT INTO 97/98 MINUS L
11130      TFM LSQ+18 ,97 ,010, , -2L INITIAL MANT ADR HI ORDER
                                                00160 20 00000 00194
11140      TF  LSQ+23 ,SQ3+18 ,01, INITIAL RESULT ADR
                                                00172 J6 00246 000R7
11150      TF  LSQM-6 ,LSQ+18 ,, INITIAL MANT ADR
                                                00184 KO 00251 00398
11160      TF  BETA-2 -P,ONEZ-48-P,, +L SET RESULT TO ONE L+1 DIGITS
                                                00196 KO 00330 00246
                                                00208 KO 00194 00369
11170      B7  LSQM , ,0,      00220 M9 00336 00000
11200 LSQ  AM  LSQ+23 ,2 ,0610, ADD 2 TO RESULT
                                                00228 J1 0025J 000-2
12010      S , ,,, SUB RESULT FROM MANTISSA
                                                00240 22 00000 00000
12020      BNN LSQ , ,0, CONTINUE UNTIL MANT IS NEG
                                                00252 M6 00228 01300
12030      CM  LSQ+23 ,BETA-2 -P,07 00264 JM 00251 -0194
12040      BNL SQEX , ,0, BR IF TERMINAL RESULT ADR
                                                00276 M6 00436 01300
12050      A LSQ+18 ,LSQ+23 ,01611, RESTORE LAST SUB
                                                00288 KJ 00240 0025J
12060      CF  LSQ+18 , ,06 00300 L3 00240 00000
12070      AM  LSQM-6 ,01 ,010, REDUCE MANT FIELD LENGTH ONE
                                                00312 J1 00330 000-1
12080      SF  , ,,, 00324 32 00000 00000
12090 LSQM AM  LSQ+18 ,02 ,010, STEP MANTISSA ADR,HI ORDER,+2
                                                00336 J1 00246 000-2
12100      AM  LSQ+23 ,01 ,010, STEP RESULT ADR +1
                                                00348 J1 00251 000-1
12110      SM  LSQ+23 ,09 ,0610, STEP RESULT -9
                                                00360 J2 0025J 000-9
12120      B7  LSQ+12 , ,0, CONT LOOP WITH NEXT 2 DIGITS
                                                00372 M9 00240 00000
11190      DC  16 ,70700200065020,316 00316 00016
12140 SQ3  AM  99 ,50 ,10, ADD .5 TO CHAR/2
                                                00380 11 00099 000N0
12150      TOM BETA-2 -P,0 ,211, -L, LENGTHEN MANT FOR ODD CHAR
                                                00392 J5 -0194 0000-
12160      CF  BETA-1 -P, ,,, -L, 00404 L3 00195 00000
12170      TFM SQ2+42 ,98 ,010, , -L MOVE MANT ADR
                                                00416 J6 00166 000R8
12180      B7  SQ2-12 , ,0, BR TO STORE CHAR + INIT LOOP
                                                00428 M9 00112 00000
12200 SQEX TF  80 ,CLR-100-P,, +L 00436 20 00080 00602
13010      MM  BETA-2 -P,50 ,10, RESULT/2 00448 J3 00194 000N0
13020      SF  98 , ,,, -L, DEFINE FIELD
                                                00460 32 00098 00000
                                                00472 16 00099 -0000
                                                STORE RESULT
                                                00484 06 0238- 00099
    
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13040      B7  PCK+10 , ,6, RETURN TO MAINLINE
                                                00496 49 0237N 00000
DEND 03061      03061
    
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SYMBOL TABLE

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NOSDIG 02401  AAB 00910R  AB 00914R  ALPHA 00050R  BETA 00196R
BRD 00208R    CLF 00088R  CLR 00702R  DONE 00588R  EDGAR 00000R
FCOS3 00000R  FSIN3 00032R  H34 01011R  LN10 00559R  LOGE 00511R
NINE 00604R   ONEZ 00417R  OVER 00400R  OVFL 00258R  P 00000
PCK 02365    PI 00962R  PICK 00198R  PIOV2 00464R  PLACE 00716R
POZCH 00760R  SAVE 00100R  SUM 00472R  TWOPI 01009R  UNFL 00314R
ZRES 00326R
    
```

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13060*****  FLOATING SIN-COS
13070*****  VARIABLE LENGTH
DSA FCOS3 ,FSIN3      00004 00005 -0000
                        00009 00005 -0032
                        00000
13100 FCOS3  DORG EDGAR
TFM CLF+11 ,010 ,09, INIT FOR COS
                        00000 J6 00099 00-10
13110      TFM PCK+5 ,CLF ,17 00012 10 02370 -0088
13120      B7  PCK , ,6, GO TO PICK AND RETURN
                        00024 49 0236N 00000
13140 FSIN3 TFM CLF+11 ,-011 ,09, INIT FOR POSITIVE SIN
                        00032 J6 00099 00-1J
13150      TFM PCK+5 ,+20 ,17 00044 10 02370 -0064
13160      B7  PCK , ,6, GO TO PICK AND RETURN
                        00056 49 0236N 00000
13180      DC  46 ,0500507056 5000510007 0507005651 0070510000 505608,348
                        00348 00046
13190      BNF  +36 ,BETA-2 -P 00064 MM 00100 00194
13200      TOM CLF+10 ,0 ,0, ADJUST FOR NEG SIN
                        00076 J5 00098 00000
14010 CLF  CF  BETA-2 -P 00088 L3 00194 00000
14020      CF  BETA-1 -P, ,,, -L 00100 L3 00195 00000
14030      TF  SAVE -P,CLR-94-P ,, +L MOVE L+2 ZEROS TO SAVE
                        00112 KO 00100 00608
14040      CM  BETA -P,00 ,10 00124 J4 00196 000-0
14050      BNL POZCH , ,0, BR IF POSITIVE OR ZERO CHAR
                        00136 M6 00760 01300
14060      CM  BETA -P,00 ,1011, +L 00148 J4 00196 000--
14070      BL  BRD , ,0, BR IF CHAR LESS THAN -L
14080      TFM +30 ,SAVE -P,07, -L CHAR BETWEEN 0 AND -L
                        00160 M7 00208 01300
14090      S  +18 ,BETA -P,0 00172 JO 00202 -0100
14100      TR  ,BETA-1 -P,, -L 00184 KK 00202 00196
14110 BRD  BD  +24 ,CLF+11 ,01, BR IF SIN ROUTINE
                        00196 3J 00000 00195
14120      A  SAVE-P ,PIOV2-45-P,, +LCONVERT TO SIN
                        00208 ML 00232 00099
14130      S  SAVE -P,TWOPI-45 ,1, +L 00220 KJ 00100 00419
14140      BH  -12 , ,0, SUB 2 PI FROM MANT UNTIL NEG
                        00232 KK 00100 00964
                        00244 M6 00232 01100
    
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14130 SF SAVE-1 -P, , -L 00256 L2 00099 00000
14140 A SAVE -P,PI-45 , , +L 00268 KJ 00100 00917
14170 BN ++36 , , 0 00280 M7 00316 01300
14180 SM CLF+10 , , 010 00292 J2 00098 000-1
14190 SF SAVE -P, , , 00304 L2 00100 00000
14200 A SAVE -P,PIOV2-45-P, , +L 00316 KJ 00100 00419
15010 TF 80 , , CLR-106-P, , +L 00328 20 00080 00596
15020 DC 48,5552705600 0002202000 5055000000 0008550000 00560050 ,346
00348 00048
15030 M SAVE -P,SAVE -P 00340 KL 00100 00100
15040 TF SAVE -P,98 , , 10, -L 00352 K6 00100 000R8
15050 SF SAVE-1 -P, , , -L 00364 L2 00099 00000
15060 TF BETA -P,ONEZ-47-P, , +LSET BETA EQUAL 1 PLUS L+1 ZERO
00376 KD 00196 00370
15070 TR AAB-3 ,H34-1 ,01 00388 LJ 00907 01010
15080 OVER TDM SUM+1 ,2 ,011, SET FOR SUBTRACTION
00400 J5 00473 0000K
15090 TF 99 ,98 ,10, -L 00412 26 00099 000R8
15100 TFM 97 ,0000 ,58, -L 00424 16 000R7 0-000
15110 D 98 ,AB ,15 , -L 00436 2R 000R8 00914
15120 BZ DONE , , 0, BR IF QUOTIENT ZERO
00448 M6 00588 01200
15130 TF ALPHA -P,95 ,10 00460 K6 00050 000R5
15140 SUM S BETA -P,ALPHA -P 00472 KK 00196 00050
15150 AM AAB ,2 ,010 00484 J1 00910 000-2
15160 AM AAB-2 ,2 ,010 00496 J1 00908 000-2
15170 M AAB ,AAB-2 ,01, 4DIGIT PRODUCT
00508 KL 00910 00908
15180 TF AB ,99 ,0 00520 K6 00914 00099
15190 TF 80 ,CLR-106-P, , +L 00532 20 00080 00596
15200 M SAVE -P,ALPHA -P 00544 KL 00100 00050
16010 BNF OVER ,SUM+1 ,01 00556 MM 00400 00473
16020 TDM SUM+1 ,1 ,0, SET TO ADD 00568 J5 00473 00001
16030 D7 OVER+12 , , 0 00580 M9 00412 00000
16050 DONE C BETA-1 -P,CLR-95-P , , +L 00588 KM 00195 00607
16060 RE POZCH+60 , , 0, BR IF L+1 ZEROS
00600 M6 00820 01200
16070 TFM SAVE -P,01 ,10 00612 J6 00100 000-1
16080 DC 48,0750775070 0000505505 5000500051 0000505000 05057005 ,350
00350 00048
16090 BD PLACE-24 ,BETA-1 -P,0, -LBR IF NORMALIZATION NOT REQ
00624 ML 00692 00195
16100 SM SAVE -P,01 ,10 00636 J2 00100 000-1
16110 TR BETA-1 -P,BETA -P, , -L,-L 00648 LJ 00195 00196
16120 TD BETA-1 -P,NOS DIG , , ENTER NOISE DIGIT
00660 K5 00195 02401
16130 SF BETA-1 -P, , , -L 00672 L2 00195 00000
16140 B7 +-60 , , 0 00684 M9 00624 00000
16160 BD PLACE -2 ,CLF+10 ,01 00692 ML 00716 00098
16170 SF BETA-2 -P , , 0 00704 L2 00194 00000
PLACE TF BETA -P,SAVE -P, , STORE CHAR 00716 KD 00196 00100
TFL PCK+15 ,BETA -P,6, STORE RESULT
00728 00 0238- 00196
16200 TD ALPHA+1-P,H34+7 ,1, RESTORE RM 00740 KN 00051 01018
17010 B7 PCK+10 , , 6, RETURN TO MAINLINE PROGRAM
00752 49 0237N 00000
17010 P. LCH CM BETA -P,03 ,10 00760 J4 00196 000-3
17040 M ++50 , , 0, BR IF CHAR SMALLER THAN 03
00772 M7 00852 01300

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17050 CM BETA -P,00 ,10, +L 00784 J4 00196 000-0
17060 RNH +++4 , , 0, BR IF CHAR LESS OR EQUAL L
00796 M7 00840 01100
17070 TDM 401 ,0 ,11, CHAR TOO LARGE
00808 15 00401 0000-
17080 TD ALPHA+1-P,H34+7 , , RESTORE RM 00820 KN 00051 01018
17100 B7 ZRES , , 0 00832 M9 00326 00000
17120 TDM 401 ,0 00840 15 00401 00000
17130 TFM +++2 ,SAVE-1 -P,07, ADJ TO SUB TWO PI FROM MANT
00852 J0 00894 -0099
17140 S ++30 ,BETA -P,0, UNTIL REDUCED TO NEG NUMBER
00864 KK 00894 00196
17150 TDM BETA-2 -P,0 ,11, -L 00876 J5 00194 0000-
17160 TF ,BETA-2 -P , , 0 00888 20 00000 00194
17170 B BRD , , 0 00900 M9 00208 00000
17180 DORG +-4 , , 0 00907
17190 AAB DS 4 00910 00004
17200 AB DS 4 00914 00004
18010 DS 1 00915 00001
18020 PI DC 47 ,31415926535897932384626433832795028841971693993
00962 00047
18030 THOPI DC 47 ,62831853071795864769252867665590057683943387987
01009 00047
18040 H34 DC 2 ,01 01011 00002
18050 DC 2 ,02 01013 00002
18060 DC 5 ,0002' 01018 00005
DEND 03072 03072

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SYMBOL TABLE

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NOSDIG 02401 ALPH 00196K ALPHA 00050R ATN1 00424K BETA 00196R
CLR 00702R EDGAR 00000R EDD 01040R FATN3 00000R LN10 00559R
LOGE 00511R NINE 00604R ONEZ 00417R UVFL 00258R P 00000
PCHAR 00836R PCK 02365 PICK 00198R PIOV2 00464R PIOV4 01326R
SAVE 00100R SIX 01235R TAN6 01281R TEST 00044R TEST1 00792R
TFST2 00652R UNFL 00314R ZRES 00326R

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18070***** FLOATING ARC TANGENT VARIABLE LENGTH
DSA FATN3 00004 00005 -0000
DORG EDGAR 00000
18090 FATN3 TFM PCK+5 , , +20 ,17 00000 10 02370 -0020
18100 B7 PCK , , 0, BR TO PICK AND RETURN
00012 49 0236N 00000
18130 DC 50 ,0700059050 0000510005 0576703070 7000065020 5150082' 51
00350 00050
18120 TFM TEST+11 , , 08, SET INDICATORS
00020 J6 0007 0-000
18140 BD +-20 ,BETA-1 -P,0, -L 00032 HL 00052 00195
B7 TEST1+24 , , 0 00044 M9 00816 00000
18170 TD TFST+9 ,BETA-2 -P,0, SAVE MANT SIGN
00052 KN 00073 00194
18180 TEST CF BETA-2 -P 00064 L3 00194 00000
18190 CM BETA -P, ,10 00076 J4 00196 000-0
18200 BM PCHAR , , 0, BR IF CHAR POSITIVE
00088 M6 00836 01100

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19010	BE	ALPH	,	,0,		BR IF CHAR ZERO			
19020	CM	BETA	-P,-99999	,10,	+L		00100 M6 00196 01200		
19030	BL	EOD	,	,0,		BR IF CHAR LESS THAN -(L-1)	00112 J4 00196 999R9		
19040	TFM	ALPH-1	,BETA-2 -P,07				00124 M7 01040 01300		
19050	A	ALPH-1	,BETA -P,0				00136 J0 00195 -0194		
19060	TF	BETA-2	-P,CLR-96-P	,,	-L,+L	CLEAR AREA LEFT OF BETA	00148 KJ 00195 00196		
19070	CF	BETA-1	-P,	,,	-L	EXPAND BETA BY REMOVING FLAG	00160 K0 00194 00606		
19080	TF	BETA-2	-P,	,,		ADJUST BETA FIELD FOR CHAR	00172 L3 00195 00000		
19090	ALPH	SF	BETA-1	-P,	,,	-L	CONTRACT BETA BY RESETTNG FLAG	00184 K6 00194 00000	
19100	CM	BETA	-P,29	,10,	-L		00196 L2 00195 00000		
19110	BL	ATN1-72	,	,0,		BR IF MANT LESS THAN .29	00208 J4 00196 000K9		
19120	TF	79	,CLR-100-P,	,,	+L		00220 M7 00352 01300		
19130	MM	BETA-2	-P,6	,10,		6*MANT IN 99	00232 20 00079 00602		
19140	TDM	98	,-1	,,	-L	1+6*MANT IN 99	00244 J3 00194 000-6		
19150	S	BETA-2	-P,SIX-45	,1,	+L	MANT-.6 L DIGITS	00256 15 00098 0000J		
19160	TF	ALPHA	-P,99	,,		10+6*MANT MOVED TO ALPHA.L+2DG	00268 KK 00194 01190		
19170	TF	99	,CLR-94-P	,,	+L	2L+2 ZEROS	00280 K6 00050 00099		
19180	LD	98	,BETA-2 -P,	,,	-L	L DIGITS	00292 20 00099 00608		
19190	DC	48	,2552000855 5256030106	2020055008 5552000000			00304 20 00098 00194		
19200	D	100	,ALPHA -P,	,,	-L	L+2 DIGITS	00348 00048		
20010	TF	BETA-2	-P,97	,,	-L	MANT IS (MANT-.6)/(10+6*MANT)	00316 2R 00100 00050		
20020	SF	TEST+11	,	,0,		IND THIS CALC MADE	00328 K6 00194 00097		
20030	TF	80	,CLR-106-P,	,,	+L	ZEROS	00340 L2 00075 00000		
20040	M	BETA-2	-P,BETA-2 -P,	,,		SQUARE MANT	00352 20 00080 00596		
20050	TF	SAVE	-P,99	,,	-L	SAVE IS MANT*MANT.L DIGITS	00364 KL 00194 00194		
20060	TF	ALPHA	-P,CLR-95 -P,	,,	+L	INIT ALPHA TO 00 L+1 ZEROS	00376 K6 00100 00099		
20070	TFM	ATN1+35	,99999	,10,	+L		00388 K0 00050 00607		
20080	TFM	ATN1-3	,99999	,10,	+L		00400 J6 00459 999R9		
20090	ATN1	TF	99	,CLR-92-P	,,	+L	00412 J6 00421 999R9		
20100	TFM	98	,10	,10,	-L		00424 20 00099 00610		
20110	DM	98	,	,,	-L		00436 16 00098 000J0		
20120	S	96	,ALPHA -P	,,			00448 19 00098 -0000		
20130	TF	ALPHA	-P,96	,,		L+1 DIGITS	00460 2K 00096 00050		
20140	TF	80	,CLR-106-P,	,,	+L		00472 K6 00050 00096		
20150	M	ALPHA	-P,SAVE -P,	,,		2L+1 DIGITS	00484 20 00080 00596		
20160	TF	ALPHA	-P,99	,,	-L	L+1 DIGITS	00496 KL 00050 00100		
							00508 K6 00050 00099		

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20170	SM	ATN1+35	,2	,010			00520 J2 00459 000-2		
20180	SM	ATN1-3	,1	,010			00532 J2 00421 000-1		
20190	BNZ	ATN1	,	,0,		BR IF LESS THAN L-1; PASSES	00544 M7 00424 01200		
20200	TF	SAVE	-P,ONEZ-47-P,	,,	+L	L+2 DIGITS	00556 K0 00100 00370		
21010	S	SAVE	-P,ALPHA -P,	,,		ONE MINUS SUM OF(COEF*MANT**2)	00568 KK 00100 00050		
21020	TF	80	,CLR-106-P,	,,	+L		00580 20 00080 00596		
21030	M	SAVE	-P,BETA-2 -P,	,,		2L+2 DIGIT PRODUCT	00592 KL 00100 00194		
21040	DC	48	,0000202100 2026502504	5044200040 5200500500			00084025,348		
21050	BNF	TEST2	,TEST+11	,01			00348 00048		
21060	BNN	TEST2-12	,	,0			00604 MM 00652 00075		
21070	SF	99	,	,,	-L		00616 M6 00640 01300		
21080	A	99	,TAN6-45	,1,	-L,+L	L+1 DIGITS	00628 32 00099 00000		
21090	TEST2	BNF	**36	,TEST+10	,01		00640 2J 00099 01236		
21100	SF	99	,	,,	-L		00652 MM 00688 00074		
21110	A	99	,PIDV2-45-P,	,,	-L,+L	L+2 DIGITS	00664 32 00099 00000		
21120	TFM	BETA	-P,1	,10			00676 2J 00099 00419		
21130	TDM	100	,BETA+1 -P,	,,	-L	INSERT RM AT 100-L	00688 J6 00196 000-1		
		BD	TEST1-24	,98	,,	-2L	00700 2N 00100 00197		
						BR IF NORMALIZATION NOT REQD	00712 M3 00768 00098		
21150	SM	BETA	-P,1	,10			00724 J2 00196 000-1		
21160	TR	98	,99	,,	-2L,-2L		00736 31 00098 00099		
21170	TD	99	,NOS DIG	,,	-L	INSEAT NOISE DIGIT	00748 25 00099 02401		
21180	B7	-48	,	,0			00760 M9 00712 00000		
21200	SF	98	,	,,	-2L		00768 32 00098 00000		
	TF	BETA-2	-P,97	,,	-L		00780 K6 00194 00097		
22030	TEST1	BNF	**24	,TEST+9	,01		00792 MM 00816 00073		
	SF	BETA-2	-P	,,			00804 L2 00194 00000		
	TFL	PCK+15	,BETA	-P,6			00816 00 0238- 00196		
22050	B7	PCK+10	,	,6			00828 49 0237N 00000		
22070	PCHAR	TDM	TEST+10	,-1	,0,	INDICATE POSITIVE CHAR	00836 J5 00074 0000J		
22080	TF	99	,CLR-95-P	,,	+L		00848 20 00099 00607		
22090	TDM	100	,-1	,,	-2L	DIVIDEND EQUALS .1	00860 15 00100 0000J		
22100	D	99	,BETA-2 -P,	,,	-L	DIVISOR IS MANT	00872 2R 00099 00194		
22110	DC	44	,0440525000 5250000050	0050510000 555670			70510005,348		
22120	RD	**56	,99	,0,	-2L	BR IF MANT IS 100000...	00348 00044		
22130	SF	100	,	,,	-2L	REDUCE TO L DIGITS	00884 M3 00940 00099		
22140	TF	BETA-2	-P,99	,,	-L		00896 32 00100 00000		
22150	SM	BETA	-P,1	,10,		REDUCE CHAR BY 1	00908 K6 00194 00099		
22160	B7	**32	,	,0,		THESE 3	00920 J2 00196 000-1		
22180	TF	BETA-2	-P,98	,,	-L	INSTRUCTIONS GO	00932 M9 00964 00000		
22190	SM	BETA	-P,2	,10,		00940 K6 00194 00098	00952 J2 00196 000-2		
						WITH BD ABOVE			

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26100	B7	UNFL	-P			00448 M9	00314	00000
26200	SF	BETA-5	-P,		,-2L	00456 L2	00191	00000
27010	TFM	**9	,		,0810,	INIT SIZE IND		
27020	CM	BETA-4	-P,34		,10,-L	00468 J6	00477	0-0-0
27030	BL	GORD	,		,0,	00480 J4	00192	000L4
						BR IF BETA LESS THAN .34 +CHAR		
27040	SM	BETA-4	-P,34		,10,-L	00492 M7	00608	01300
						ADJ BETA BY -.34		
27050	AM	CALC+9	,1		,010,	00504 J2	00192	000L4
						STEP SIZE IND		
27060	B7	CALC+12	,		,0,	00516 J1	00477	000-1
						CONTINUE REDUCTION OF BETA		
27080	TFM	**59	,BETA-4 -P,07,			00528 M9	00480	00000
						PROCESS IF CHAR NEG		
27090	A	**47	,BETA -P,0			00536 J0	00595	-0192
27100	TF	BETA-6	-P,CLR-96-P		,-L,+L	00548 KJ	00595	00196
						L+4 DIGIT FIELD		
27110	CF	BETA-5	-P,		,-L	00560 KD	00190	00606
27120	TF	BETA-4	-P,		,-L	00572 L3	00191	00000
						SHIFT RIGHT W R T CHAR SIZE		
27130	SF	BETA-5	-P,		,-L	00584 K6	00192	00000
27140	DC	44,0856405252	0055085502		2020005000	00596 L2	00191	00000
						0000000851 4052 ,348		
27150	GORD	TF	80		,CLR-106-P,,	00608 20	00080	00596
27160	M	BETA-4	-P,LN10-46-P,,		,+L	00620 KL	00192	00513
						2L+4 DIGIT PRODUCT		
27170	SF	97	,		,-2L	00632 32	00097	00000
27180	TF	SAVE	-P,99		,-L	00644 K6	00100	00099
						L+4 DIGIT FIELDS		
27190	TF	BETA-2	-P,99		,-L	00656 K6	00194	00099
27200	TFM	FACT+11	,2		,010	00668 J6	00751	000-2
28010	A	ALPHA-2	-P,SAVE -P			00680 KJ	00048	00100
28020	TF	80	,CLR-106-P,,		,2L	00692 20	00080	00596
28030	M	SAVE	-P,BETA-2 -P,,			2L+8 DIGIT PRODUCT		
						00704 KL	00100	00194
28040	TF	99	,96		,-L	00716 26	00099	00096
						L+6 DIGIT DIVIDEND		
28050	TFM	96	,		,10,-L	00728 16	00096	000-0
28060	FACT	DM	97		,-L	2 DIGIT DIVISOR. L+4 QUOTIENT		
						00740 19	00097	-0000
28070	BZ	FACT+56	,		,0,	BR WHEN TERM REDUCES TO ZERO		
						00752 M6	00796	01200
28080	TF	SAVE	-P,97			L+4 DIGIT FIELD		
						00764 K6	00100	00097
28090	AM	FACT+11	,1		,010	00776 J1	00751	000-1
28100	B7	FACT-60	,		,0,	CALC NEXT TERM		
						00788 M9	00680	00000
28120	CM	CALC+9	,		,010	00796 J4	00477	000-0
28130	BE	RECIP	,		,0,	BR IF FURTHER ADJ NOT REQUIRED		
						00808 M6	00888	01200
28140	TF	80	,CLR-106-P,,		,2L	ADJUST FOR REDUCTNS BY .34		
						00820 20	00080	00596
28150	M	ALPHA-4	-P,TEN34-45		,1	L 2L+4 DIGIT PRODUCT		
						00832 KL	00046	01048
28160	SF	97	,		,-2L	00844 32	00097	00000
28170	TF	ALPHA-4	-P,98		,-L	L+2 DIGITS		
						00856 K6	00046	00098
28180	SM	CALC+9	,1		,010,	REDUCE INDICATOR		

28190	B7	**84	,		,0	00868 J2	00477	000-1
29010	DC	26,	0000084025		0000000200	005005	,350	00350 00026
29020	RECIP	BNF	GOBACK-12,RECIP-1		,01,	BR IF MANT WAS POSITIVE		
						00888 MM	01016	00887
						MAKE CHAR NEGATIVE		
29040	TF	99	,CLR-94-P		,-L	00900 L2	01027	00000
						2L+2 DIGIT DIVIDEND		
29050	TFM	99	,10		,10,-L	00912 20	00099	00608
29060	D	100	,ALPHA-4-P,,		,-L	00924 16	00099	000J0
						L+2 DIGIT DIVISOR		
29070	BV	GOBACK-24,	,0,		,0,	00936 2R	00100	00046
						BR IF ORIG OPER 1 OR 1/LOGE		
						00948 M6	01004	01400
						00960 J1	01027	000-1
						00972 KD	0099N	01027
						-L STORE RESULT		
29100	B7	PCK+10	,		,6,	00984 06	0238-	00099
						RETURN TO MAINLINE		
29101	AM	GOBACK-1,2,10	,10		,10	00996 49	0237N	00000
						01004 J1	01027	000-2
						01016 J6	00046	00000
						STORE RESULT		
						01028 00	0238-	00046
						RETURN TO MAINLINE		
29150	TEN34	DC	47		,21877616239495525622261149163841873167118056246	01040 49	0237M	00000
						01093	00047	
						DEND 03102		
						03102		

SYMBOL TABLE

NOSDIG	02401	ALPHA	00050R	BETA	00196R	CLR	00702R	CORN	00596R
COUM	00368R	CZERO	00959R	EDGAR	00000R	FLN3	00020R	FLOG3	00000R
GOAL	00832R	LN10	00559R	LOGE	00511R	NINE	00604R	NLG	00876R
ONEZ	00417R	OVFL	00258R	P	00000	PCK	02365	PICK	00198R
PIOV2	00464R	PLUS	00680R	SAVE	00100R	UNFL	00314R	ZRES	00326R

29160	*****	FLOATING POINT LOG AND LN.	VARIABLE LENGTH			00004	00005	-0000
		DSA	FLOG3	,FLN3		00009	00005	-0020
						00000		
29190	FLOG3	DORG	EDGAR			00000	J5	00597 00001
		TDM	CORN+1	,1	,0,	SET FOR COMMON LOG		
29200	B7	**20	,		,0	00012	M9	00032 00000
30020	FLN3	TDM	CORN+1	,9	,0,	SET FOR NATURAL LOG		
30030	TFM	PCK+5	,**20		,17	00020	J5	00597 00009
30040	B7	PCK	,		,6,	00032	10	02370 -0092
						BR TO PICK AND RETURN		
						00044	49	0236M 00000
29180	DC	28	,0700		6090	0900500105	7070700055	
								,350
						00350	00028	
						ZERO ARG		
						00052	ML	00096 00195

30060 TDM 401 ,0 ,11, SET IND FOR LOG OR LN OF ZERO.
 SF NINE-45-P, ,, PL SET UP TO STROE NEG NINES
 B7 OVFL+12-P, ,, BR TO STORE AND RTN TO MAINLIN
 30110 BNF ++36 ,BETA-2 -P,0, BR IF MANT POSITIVE
 30120 TDM 401 ,0 ,, SET IND FOR NEGATIVE
 30130 CF BETA-2 -P, ,, MAKE POSITIVE
 30140 TF CORN-25 ,CZERO-45 ,017, +L INITIALIZE
 30150 TFM GOAL-13 ,BETA -P,0, ,, SAVE CHAR
 30160 CF BETA-1 -P, ,, -L, EXPAND FIELD TO L+1 DIGITS
 30170 TDM BETA-2 -P,1 ,11, -L, ADD 1.0
 30180 CM BETA-1 -P,15 ,10, -L, ADD 1.0
 30190 BNL ++44 , ,0, BR IF MOD MANT NOT LESS 1.5
 30200 A BETA-2 -P,BETA-2 -P,, DOUBLE MANT. L+1 DIGITS
 31010 AM CORN-25 ,48 ,010, ADJ FOR NEXT CONSTANT
 31020 B7 *-60 ,0 ,0, 00216 J1 00571 000M8
 31070 DC 42,56705508252552085552550103 5106202050 00228 M9 00168 00000
 31040 TF ALPHA -P,ONEZ-48-P,, ,+L L+1 DIGITS
 31050 TDM ALPHA -P,2 ,11, -L, CONVERT TO TWOZ
 31060 S ALPHA -P,BETA-2 -P,, 2.0 MINUS MOD MANT (2.0-2)
 31080 TF 99 ,CLR-93-P,, ,2L 00260 KK 00050 00194
 31090 LD 97 ,ALPHA -P,, -L, 00272 Z0 00099 00609
 31100 D 98 ,BETA-2 -P,, -L, (2.0-2)/Z EQUALS Y
 31110 TF BETA -P,98 ,, ,L 00296 ZR 00098 00194
 31120 TF 80 ,CLR-106-P,, ,2L 00308 K6 00196 00098
 31130 M BETA -P,BETA -P,, 2L+4 DIGITS 00320 ZD 00080 00596
 31140 TF SAVE -P,97 ,, ,L Y**2 L+2 DIGITS 00332 KL 00196 00196
 31150 A BETA -P,BETA -P,, DOUBLE Y 00344 K6 00100 00097
 31160 COUN TFM ++9 ,99999 ,010, ,+LINITIALIZE COUNT TO L-1 TERMS 00356 KJ 00196 00196
 31170 TFM COUN+71 ,99999 ,010, ,2L 00368 J6 00377 999R9
 31180 TF ALPHA -P,CZERO-46 ,, ,+L L+2 DIGITS ZERO ALPHA 00380 J6 00439 999R9
 31190 TF 99 ,CLR-92-P,, ,+L 00392 KD 00050 00913
 31200 TFM 98 ,10 ,10, -L, OBTAIN RECIPROCAL TERM 00404 ZD 00099 00610
 32010 DM 98 , , , -L, 00416 L6 00098 000J0
 32020 A ALPHA -P,97 ,, L+2 DIGITS TO PREV TOTAL 00428 R9 00098 -0000
 32030 TF 80 ,CLR-106-P,, ,2L PRODUCT OF Y**2 AND TOTAL OF 00440 K1 00050 00097
 32040 M ALPHA -P,SAVE -P,, PREVIOUSLY CALC TERMS 00452 ZD 00080 00596

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32050 TF ALPHA -P,97 ,, ,L L+2 DIGITS STORED TOTAL 00464 KL 00050 00100
 32060 SM COUN+71 ,2 ,010, REDUCE DIVISOR 00476 K6 00050 00097
 32070 SM COUN+9 ,1 ,010, REDUCE NO OF UNCALC TERMS 00488 J2 00439 000-2
 32090 BNZ COUN+36 , ,0, BR IF L-1 TERMS NOT CALC 00500 J2 00377 000-1
 320 DC 46, 08552550 5052000865 5250066005 5050605000 07770050,350
 32100 TF 80 ,CLR-106-P,, ,2L 00512 M7 00404 01200
 32110 M ALPHA -P,BETA -P,, 2Y * SUM OF L-1 TERMS 00524 ZD 00080 00596
 32120 A 97 ,BETA -P,, -L ADD 2Y TO ABOVE PRODUCT. L+2 00536 KL 00050 00196
 32130 TF BETA -P, ,, SET WITH PROPER CONSTANT L+3 00548 ZJ 00097 00196
 32140 SF BETA -P, ,, 00560 K6 00196 00000
 32150 S BETA -P,97 ,, ,L SUB ACCUM TOTAL FROM CONSTANT 00572 L2 00196 00000
 32160 CORN B NLG , ,0, BR IF FINDING NATURAL LOG 00584 K2 00196 00097
 32170 TF 80 ,CLR-106-P,, ,2L 00596 M9 00876 00000
 32180 M LOGE-45-P,BETA -P,, ,+L 00608 ZD 00080 00596
 32190 TF BETA -P,97 ,, ,L L+3 DIGITS 00620 KL 00466 00196
 32200 SF BETA -P, ,, -L 00632 K6 00196 00097
 33010 TF 80 ,CLR-100-P,, ,+L 00644 L2 00196 00000
 33020 M ONEZ-46-P,GOAL-13 ,1, ,+L, ORIG CHAR * ONE. L+5 DIGITS 00656 ZD 00080 00602
 33030 PLUS A 99 ,BETA -P, ,, 00668 KL 00371 00819
 33040 TF BETA -P,99 ,, PREPARE FOR NORMALIZATION 00680 ZJ 00099 00196
 33050 CF BETA -P, ,, 00692 K6 00196 00099
 33060 C CLR-92 -P,98 ,, ,+L 00704 L3 00196 00000
 BE ZRES -P, ,, BR IF L+5 ZEROS 00716 K4 00610 00098
 TFM GOAL-1 ,03 ,10, SET CHAR EQUAL 3 00728 M6 00326 01200
 33080 BD GOAL-24 ,BETA-4 -P,0, ,L BR IF HI ORDER DIGIT NON-ZERO 00740 J6 00831 000-3
 33090 TR BETA-4 -P,BETA-3 -P,, -L,-L 00752 M6 00808 00192
 SM GOAL-1 ,01 ,10, REDUCE CHAR 00764 LJ 00192 00193
 TD BETA -P,NOS DIG ,, INSERT NOISE DIGIT 00776 J2 00831 000-1
 33120 B7 *-48 , ,0, CONTINUE NORMALIZATION 00788 K5 00196 02401
 DC 16 ,7050005005000660 ,350 00800 M9 0075 00000
 33150 SF BETA-4 -P, ,, -L, SET FIELD DEFINITION 00350 00016
 TFM BETA-3 , ,00808 L2 0019 00000
 GOAL BNF ++24 ,99 ,, AFFIX SIGN AND RTN TO MAINLINE 00820 J6 00193 00000
 SF BETA-5 -P, ,, 00832 M4 00856 00099
 TFL PCK+15 ,BETA-3 -P,6 , ,00844 L2 00191 00000
 B7 PCK+10 , ,00856 00 0238- 00193
 33190 NLG TF 80 ,CLR-100-P,, ,+L CONVERSION FOR LN 00868 J9 0237N 00000
 33200 M LN10-45-P,GOAL-13 , ,0, ,L, L+5 DIGITS 00876 ZD 00080 00602
 34010 B PLUS , ,0, RETURN TO COMMON SECTION 00888 KL 00514 00819

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                                00900 M9 00680 00000
                                00959 00048
34030 CZERO DC 48 ,0
37090 DC 48,-69314718055994530941723212145817656807530013436
                                01007 00048
37100 DC 48,-138629436111989061883446424291635313615100026872
                                01055 00048
37110 DC 48,-207944154167983592825169636437452970422650040308
                                01103 00048
DEND 03122 03122
    
```

SYMBOL TABLE

```

NOSDIG 02401 ALPHA 00050R BETA 00196R BTFS 00096R CLR 00702R
EDGAR 00000R FLOAT 00052R FSLS 00020R FSRS 00000R LN10 00559R
LOGE 00511R NINE 00604R ONEZ 00417R OVFL 00258R P 00000
PCK 02365 PICK 00198R PIOV2 00464R SAVE 00100R TFLS 00040R
UNFL 00314R ZRES 00326R
    
```

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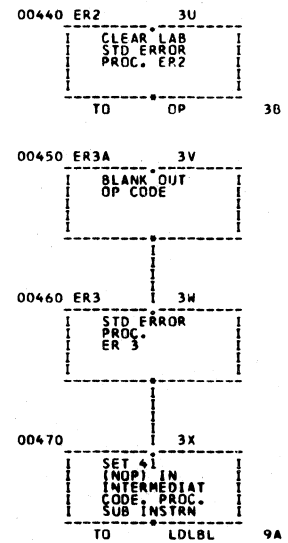
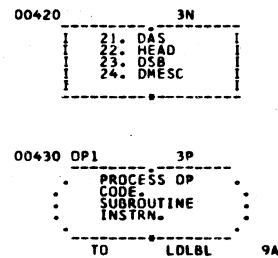
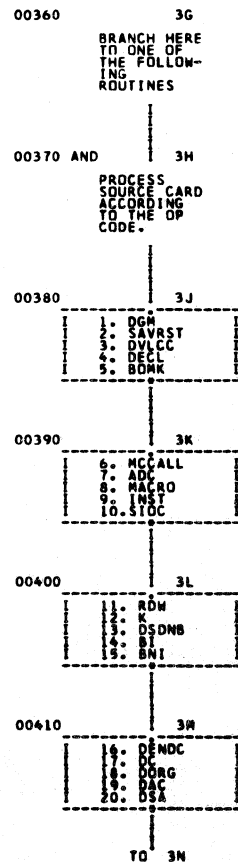
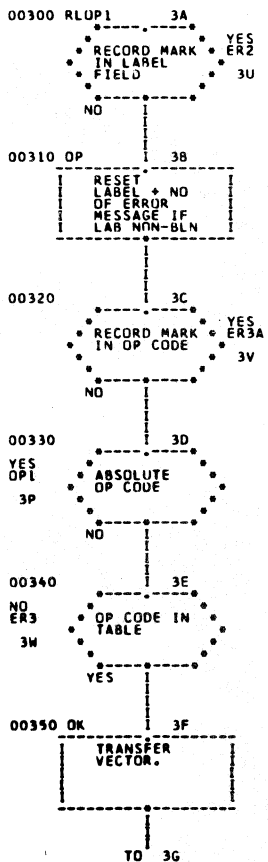
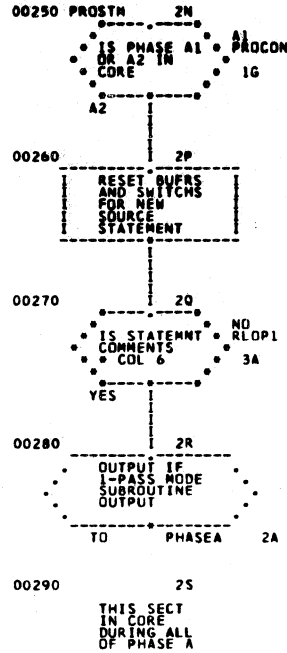
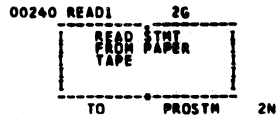
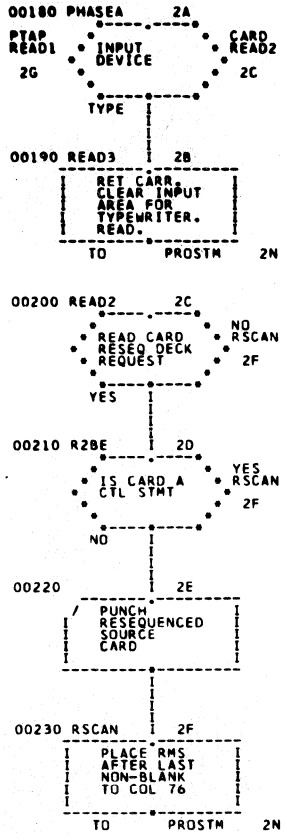
DSA FSRS ,FSLS ,TFLS ,BTFS 00004 00005 -0000
                                00009 00005 -0020
                                00014 00005 -0040
                                00019 00005 -0096
                                00000
FSRS DURG EDGAR 00000 J5 00077 00008
TDM FLOAT+25 ,8 00012 M9 00052 00000
B7 FLOAT 00020 J5 00077 00005
FSLS TDM FLOAT+25 ,5 00032 M9 00052 00000
B7 FLOAT 00040 J5 00077 00006
TFLS TDM FLOAT+25 ,6 00052 31 02376 0237N
FLOAT TR PCK+11 ,PCK+10 ,11 00064 11 02375 -0011
AM PCK+10 ,11 00076 08 0238- 0238N
FSR PCK+15 ,PCK+20 ,611
B7 PCK+10 , RETURN TO MAINLINE
                                00088 49 0237N 00000
BTFS TR PCK+11,PCK+10,11 00096 31 02376 0237N
AM PCK+10,11 00108 11 02375 -0011
TF *+30,PCK+10 00120 K6 00150 02375
BTFL PCK+15,PCK+20,611 00132 07 0238- 0238N
B7 00144 49 00000 00000
DEND 03144 03144
    
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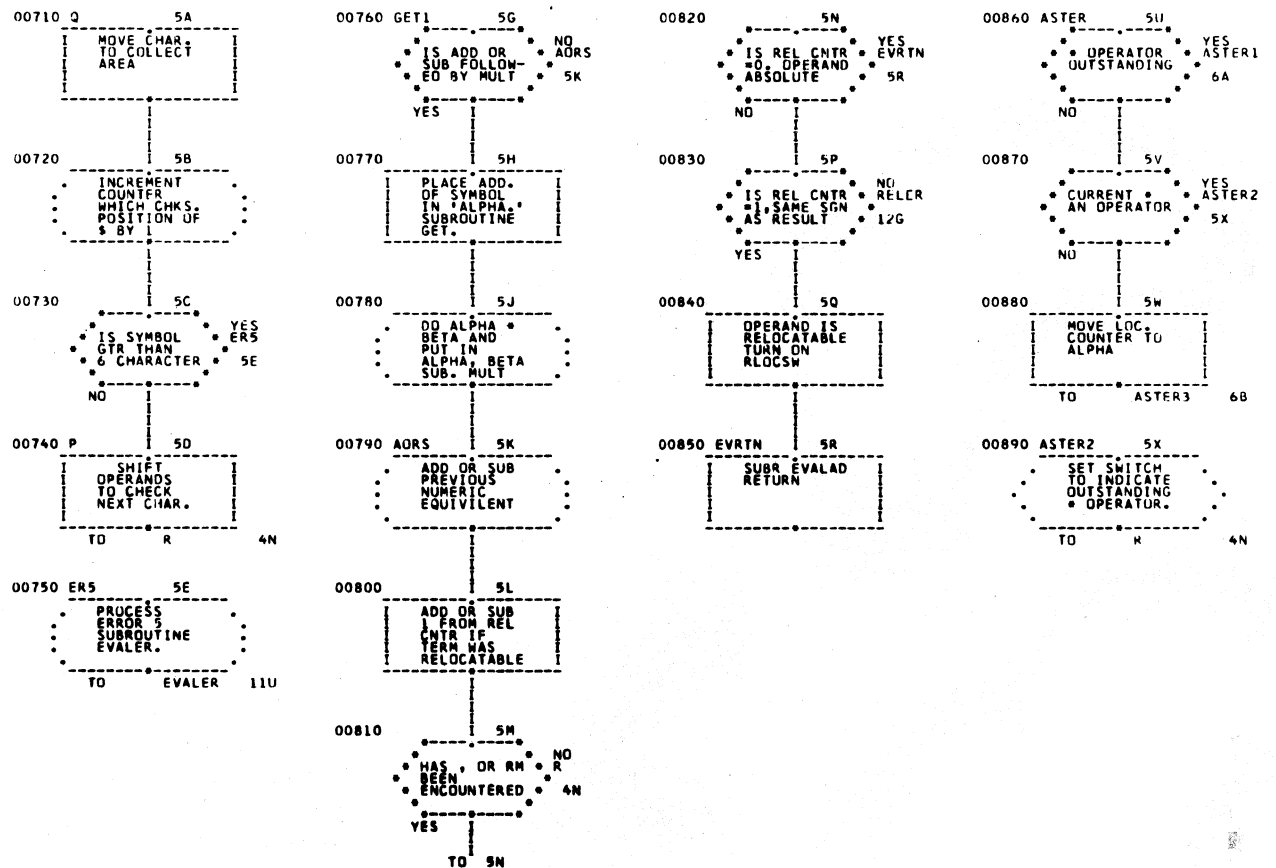
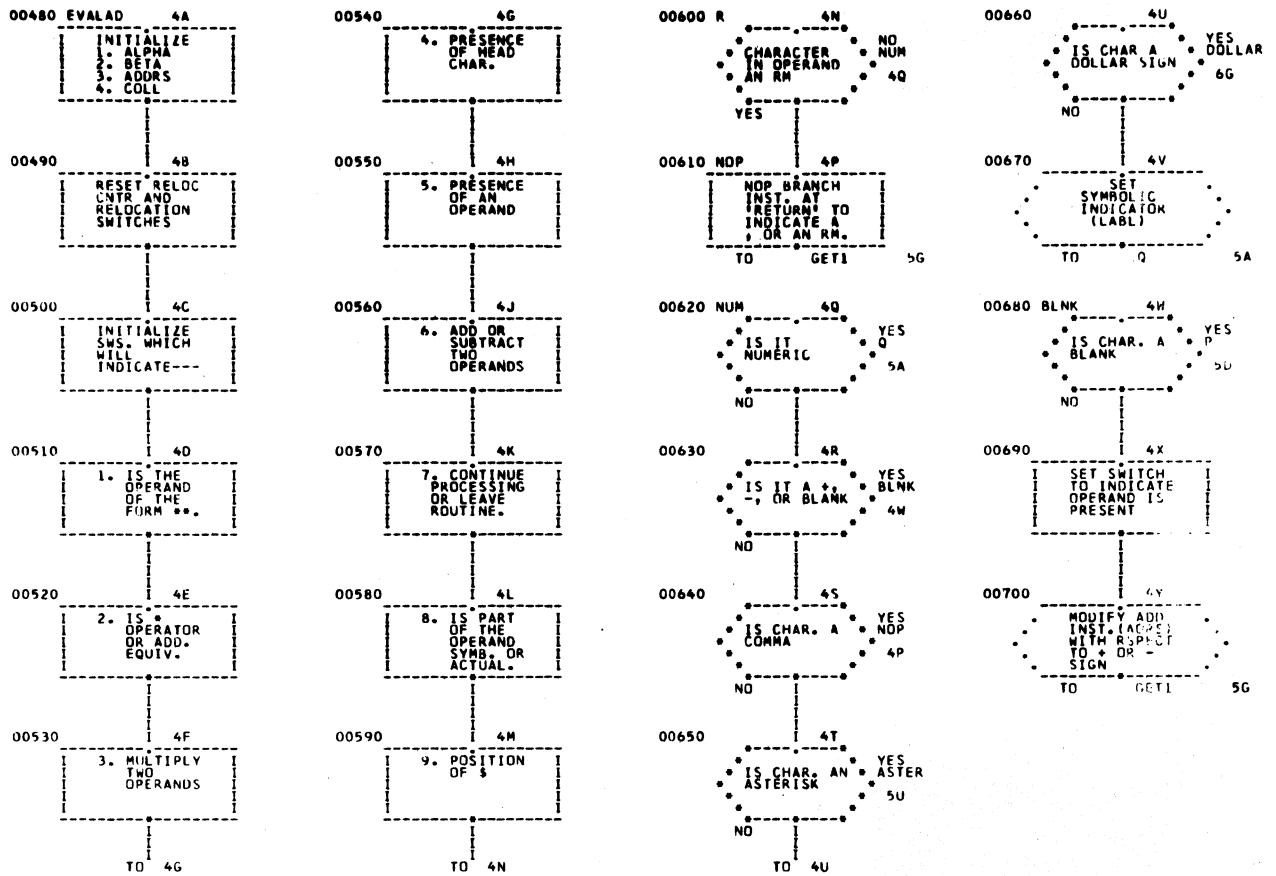
LABEL TABLE • INDICATES UNREFERENCED LABEL

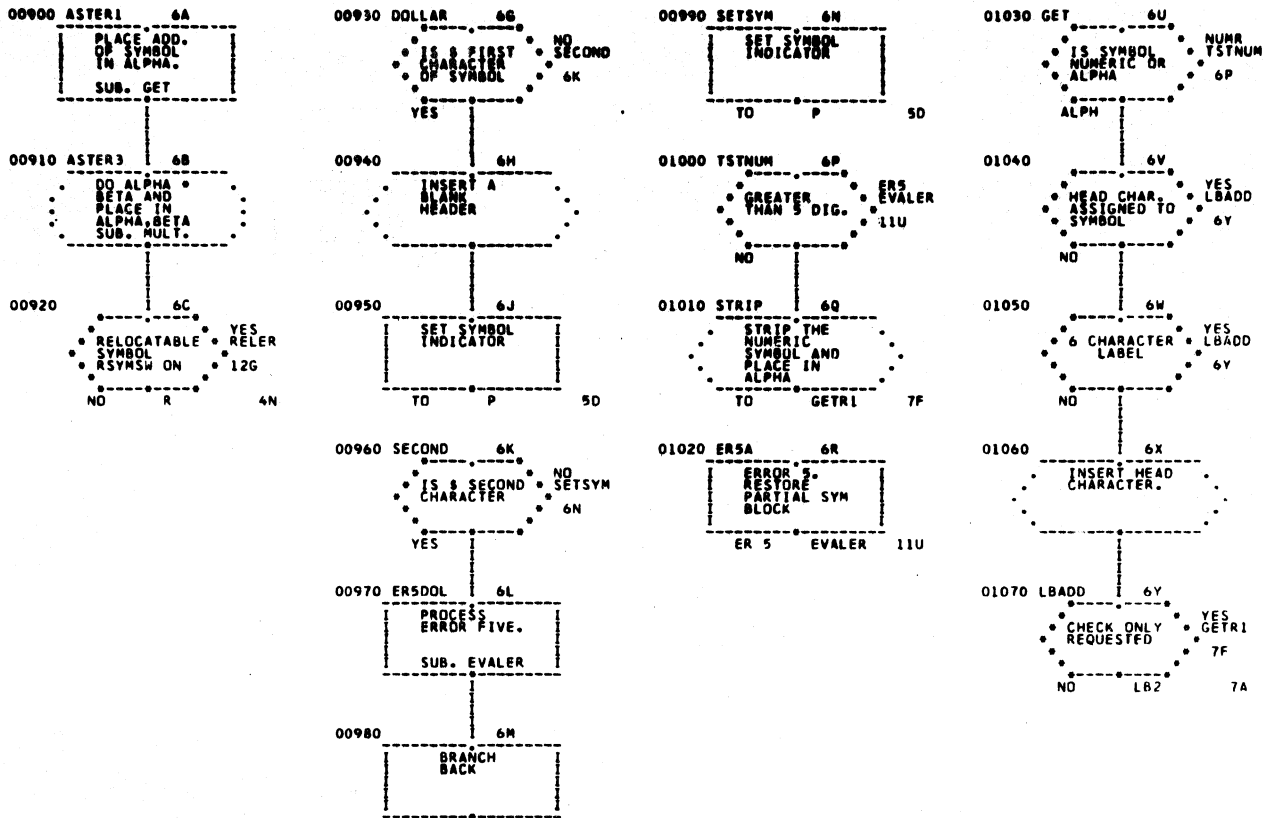
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•ASTOP	27U	•ATFI	4P	•BLNK	4W	•CALL2	17E	•BLLEX	7U	•BCCVC	17Y
•BSEQ	8A	•BMT	12B	•BLG	8W	•CLOAD	17M	•DACS	21A	•CCON	17Z
•CCON2	17X	•CHARGO	18R	••MRND	11W	•DEND	27A	•DEND	19K	••DAC	17F
•DACR	18K	••DAS2	18Q	••ODAS	13A	•DMSA	27A	•DMSA	19J	••DCRN	20R
•DCTEST	19A	••DIG+2	23R	••DMSER1	23P	•DMSNUM	24D	•DMSCL	23M	•DEVAL	20S
•DMSALF	24B	••DMSER1	23R	••DMSER1	23P	••DSAC	24D	•DMSR1	17B	•DM2	23L
•DOLLAR	66	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•DS2	17F
•DSB	14A	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•DVRTN	24U
•E	15R	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•ERROR1	25U
•ER1A	12D	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•ER13	24T
•ER15	25S	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•ER20	10N
•ER22	21W	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•ER5	5E
•ER5A	6R	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•ER8A	18C
•ER8B	26V	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•EVALAD	18A
•EVALEN	26F	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•G	18G
•GET	6U	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	••INSTRN	13A
•IDCET	20K	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•LOADD	6Y
•LB2	7A	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	••MACRO	13N
•MACR2	20A	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•N	15S
•NIC	7C	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•P	26E
••NK	3E	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•PUTSRJ	20R
•PCALL	21G	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•RELER	12C
•Q	5A	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•SET	23N
•RLOP1	3A	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•START2	18
•RIND	12M	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B	•TRA	20G
•STBEGN	27F	••DMSER1	23R	••DMSER1	23P	••DVLCP	19H	•DMSR1	17B		
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CROSS-REFERENCE TABLE • INDICATES LABEL NOT FOUND

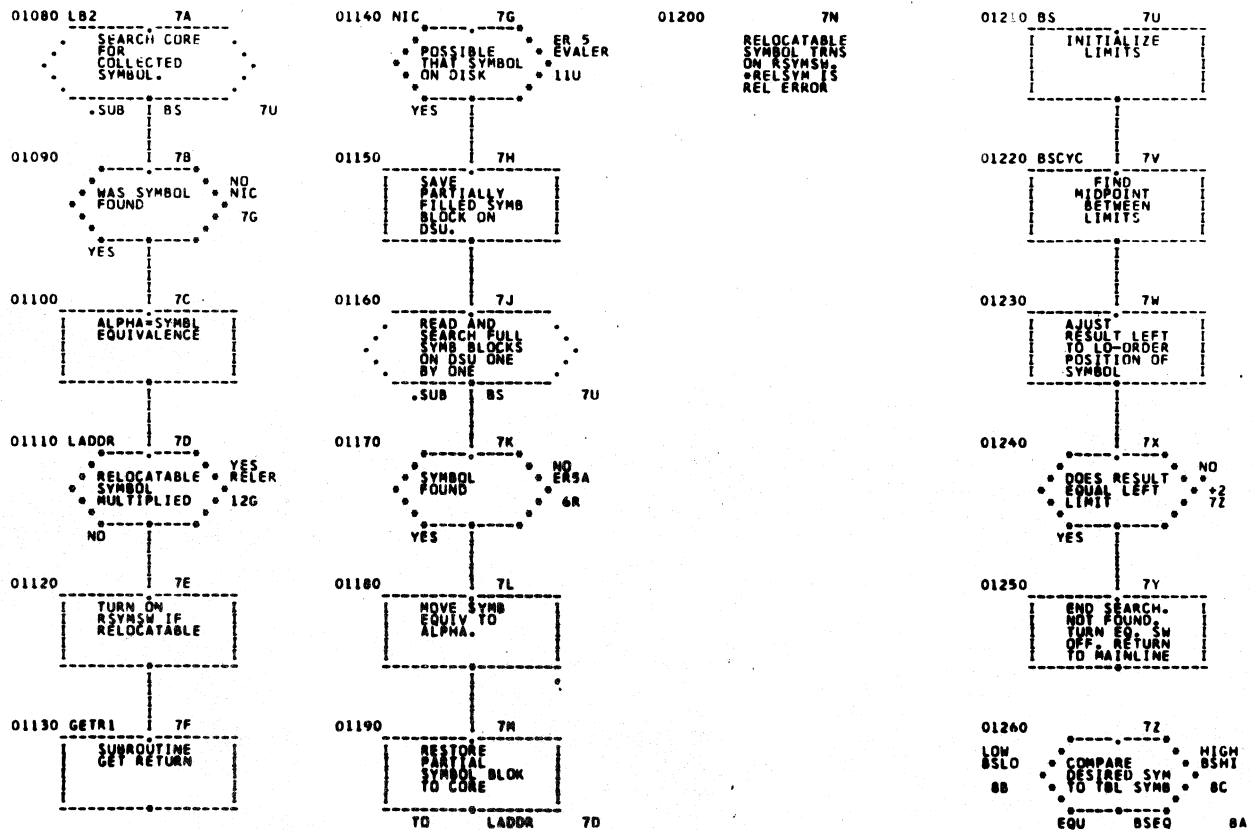
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••IIT	57V										
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•ADRS	5G										
•ASTER	4T										
•ASTER1	5U										
•ASTER2	5V										
•ASTER3	5W										
•ASTOR	27D										
•BLNK	4R										
•BMT	12B	12A									
•BS	9D	7J	7A								
•BCCYC	8C	8B									
•BSEQ	7Z										
•BSHI	7Z										
•BSLO	7Z										
•CALLA2	1H										
•CALLEX	21J										
•CCON	17W										
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•CHARGO	18K										
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•DCTEST	20U										
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•DCTEST	18G										
•DDAZ	22B										
•DEND	19K										
•DEVAL	20K										
•DIG+2	24L										
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•DM2	23P										
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•DSA	13D										
•DSA1	17E										
•DSA2	17D										
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•DVLP	26P	26H									
•DVRTN	26S										
•E	26T	19D	19B	18M	17K	15E	15W	15V	14K	14H	
•ENTER	26X										
•EPRINT	11B										
•ERROR	11C	11V									
•ERROR	11C										
•ERROR1	25J										
•ER10	15L										
•ER13	12D										
•ER15	25O										
•ER19	3H										
•ER20	3A										
•ER20	9B										
•ER20	10A										
•ER22	21H										
•ER3	3E										
•ER3A	3C										
•ER4	9E										
•ER5	5K										
•ER5A	5K										
•ER6	17F										
•ER7	16F										
•ER8A	18W										
•ER8B	26O										







200



201

01270 BSEQ 8A
 END SEARCH.
 FOUND. TURN
 EQUAL SW.
 ON. RETURN
 TO MAINLINE

01280 BSLO 8B
 REPLACE
 RIGHT LIMIT
 BY ADDRESS
 OF TABLE
 SYMBOL
 TO RSCYC 7V

01290 BSHI 8C
 REPLACE
 LEFT LIMIT
 BY ADDRESS
 OF TABLE
 SYMBOL
 TO BSCYC 7V

01300 8D
 SEARCHES
 SYM TBL IN
 CORE BETWN
 SET LIMITS

202

01310 LDLBL 9A
 LABEL FIELD YES SNTDCD
 BLANK NO 9N

01370 SVDG 9G
 INSERT
 LABEL INTO
 CORE. INSR
 LAB EQUIV
 NEXT TO IT.
 TO SNTDCD 9N

01420 SNTDCD 9N
 OUTPUT
 INTERMED.
 DATA
 SUBR OUTPUT
 TO PHASEA 2A

01430 ER2B 9U
 STD ERROR
 PROCEDURE.
 ER 2.
 TO SNTDCD 9N

01320 9B
 IS LABEL NO ER2B
 VALID YES 9U

01380 TABFUL 9H
 IS EMPTY NO ER19
 DISK AVAIL FOR SYMBOLS YES 9X

01440 ER4 9V
 RESTORE
 PARTIALLY
 FILLED BLOK
 TO CORE IF
 NECESSARY.

01330 9C
 ASSEMBLE
 LABEL WITH
 HEAD FOR
 TABLE

01390 9J
 WRITE CORE
 TO DISK
 RESET TO
 CORE EMPTY
 CONDITION
 TO LDSOK 9F

01450 ER4A 9W
 STD ERROR
 PROCEDURE
 ER 4.
 TO SNTDCD 9N

01340 9D
 SEARCH
 CORE AND
 DISK FOR
 LABEL
 .SUB BS 7U

01400 9K
 THIS SECT.
 LOADS LABEL
 TO SYMBOL
 TABLE IN
 CORE + DISC

01460 ER19 9X
 IS THIS NO SNTDCD
 FIRST TIME ERROR OCCUR YES 9N

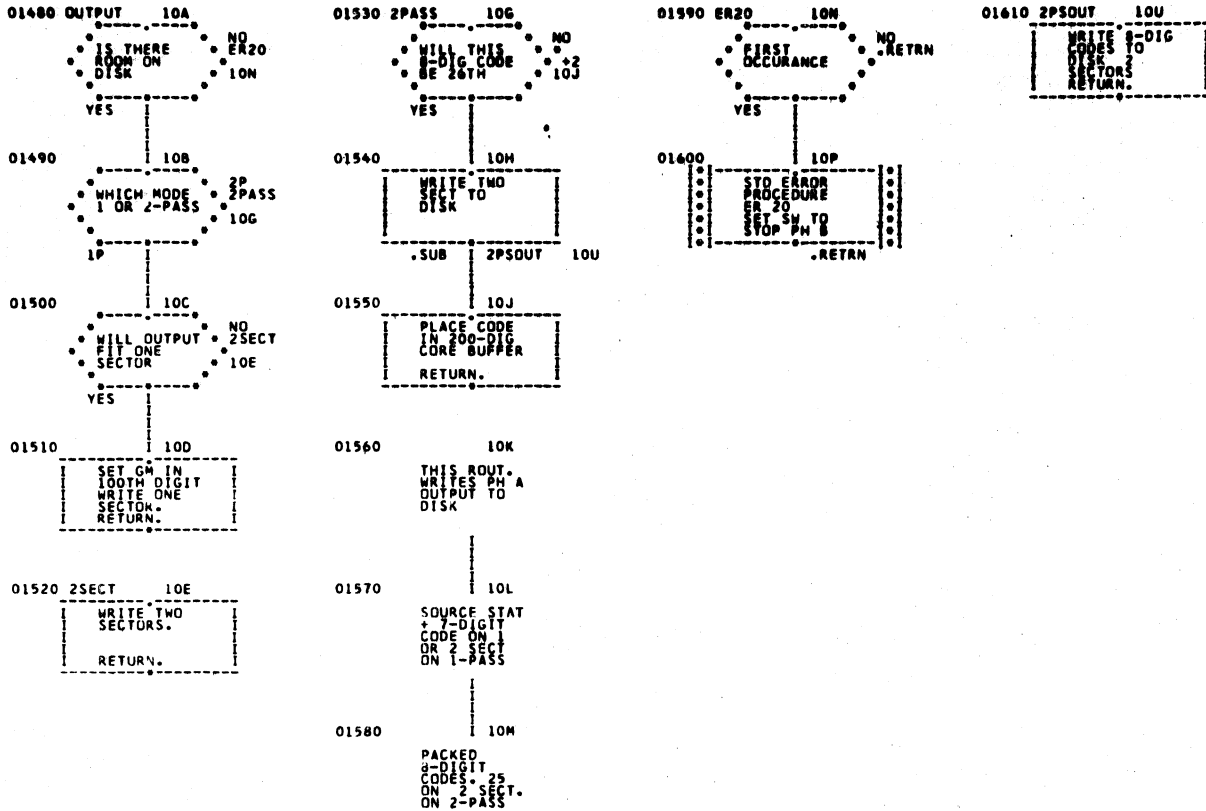
01350 9E
 HAS LABEL YES ER4
 FOUND NO 9V
 LDSOK 9F

01410 9L
 THIS SECT
 IN CORE
 DURING
 ENTIRE
 PHASE A

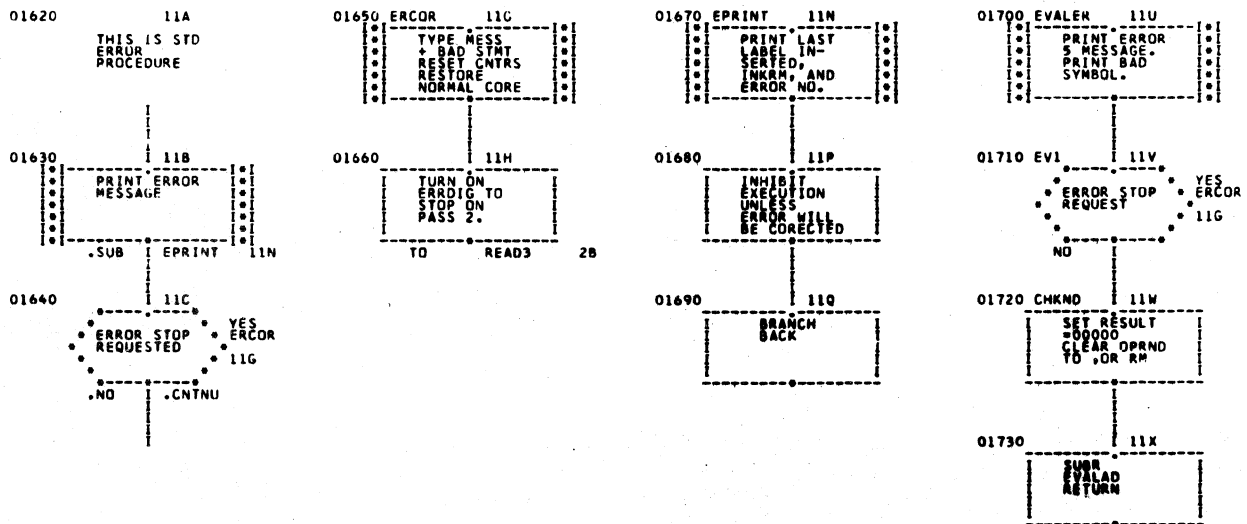
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 STD ERROR
 PROCEDURE
 ER 19.
 SET SW TO
 STOP PH B
 TO SNTDCD 9N

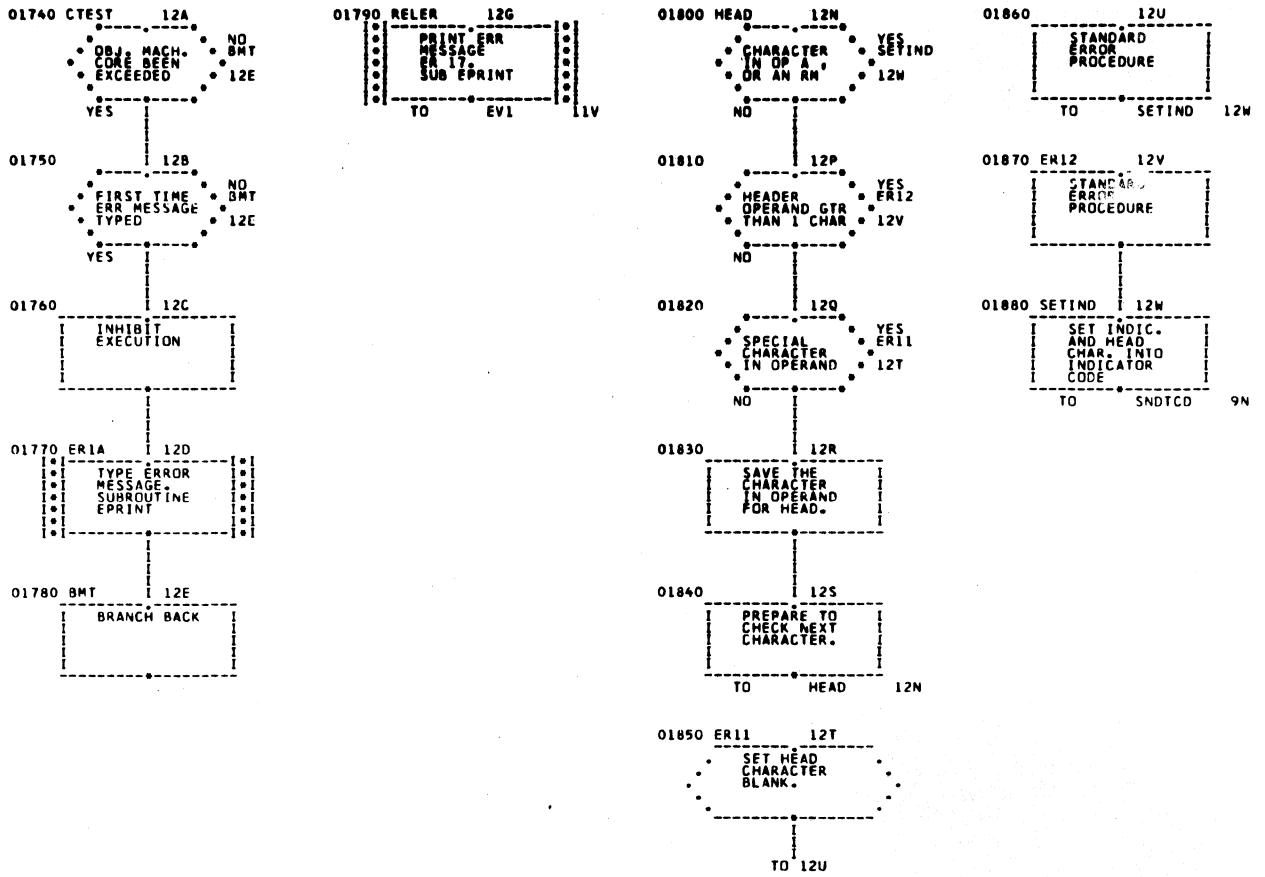
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 ROOM FOR NO TABFUL
 SYMBOL IN CORE YES 9H
 TO 9G

203

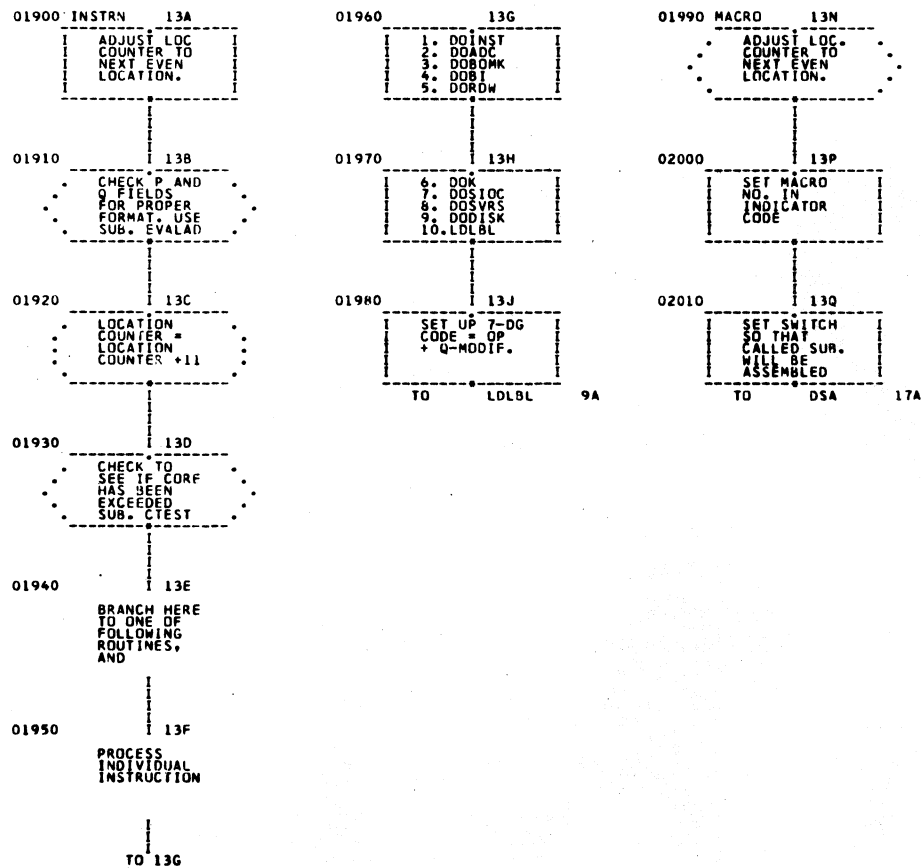


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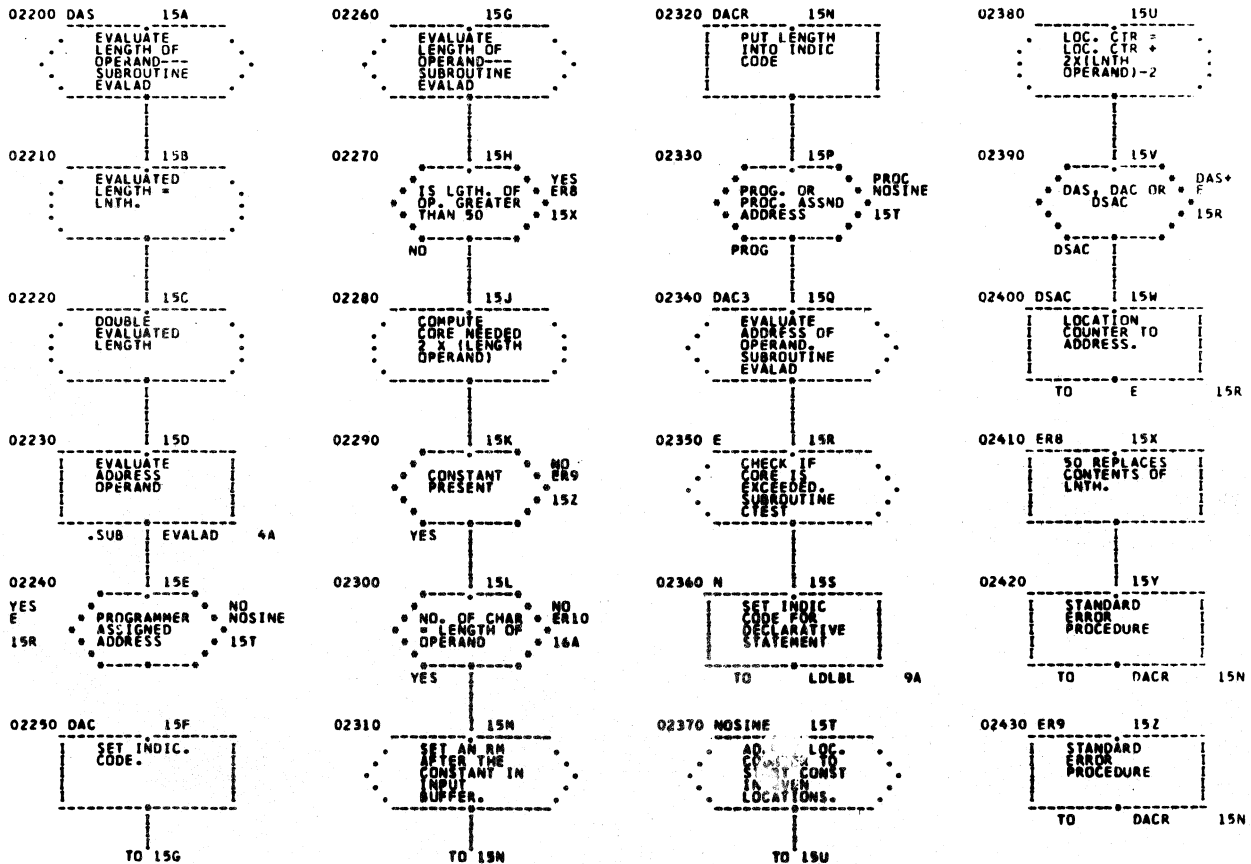
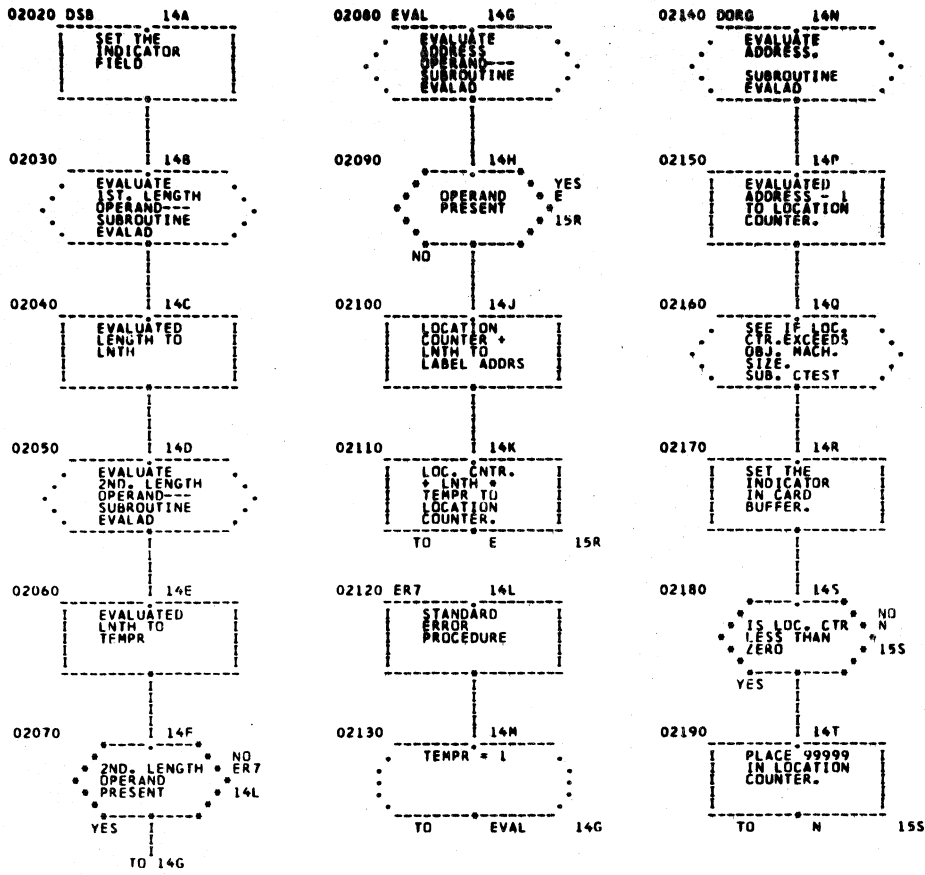


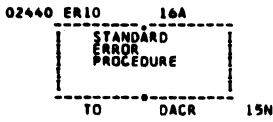


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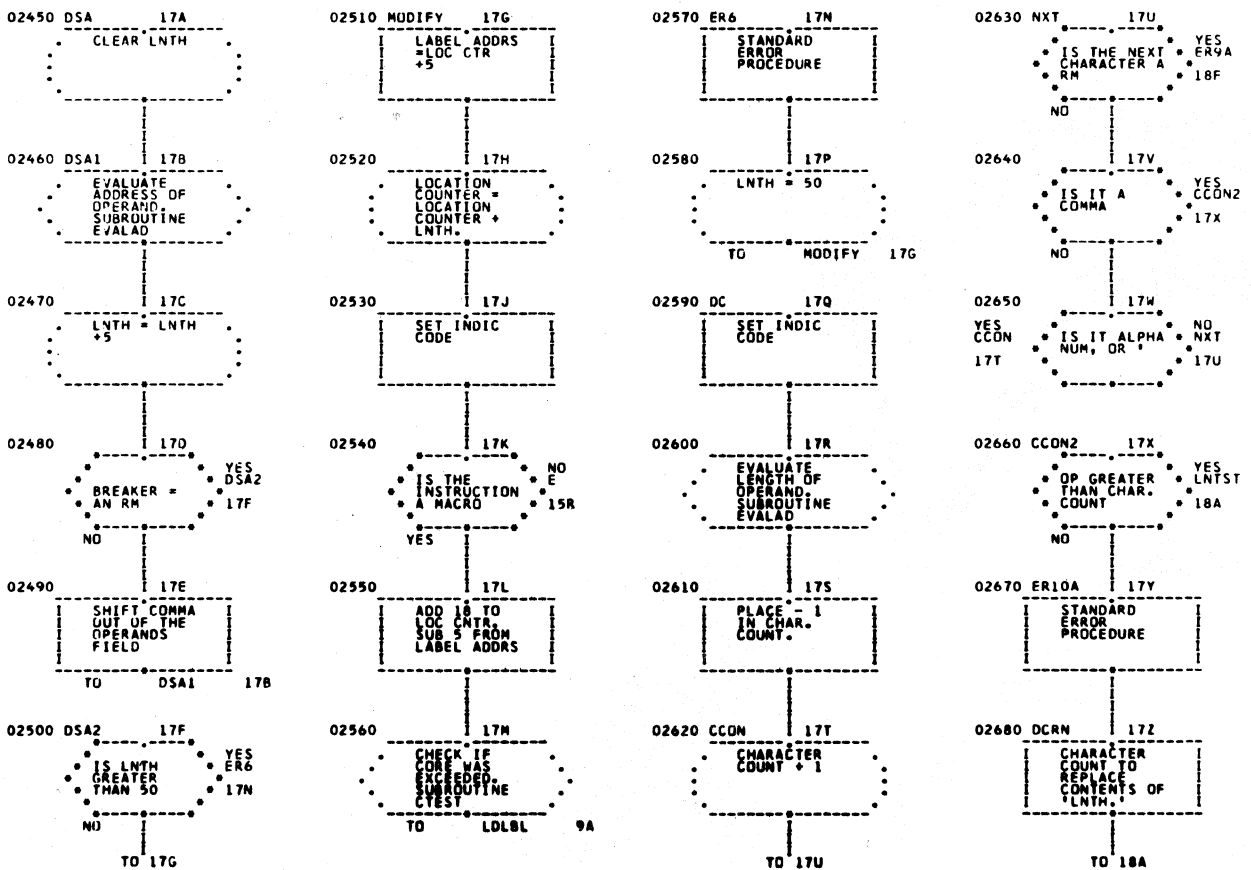


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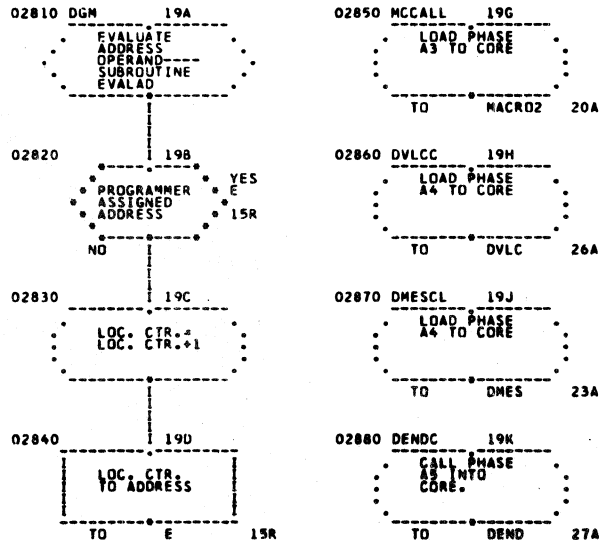
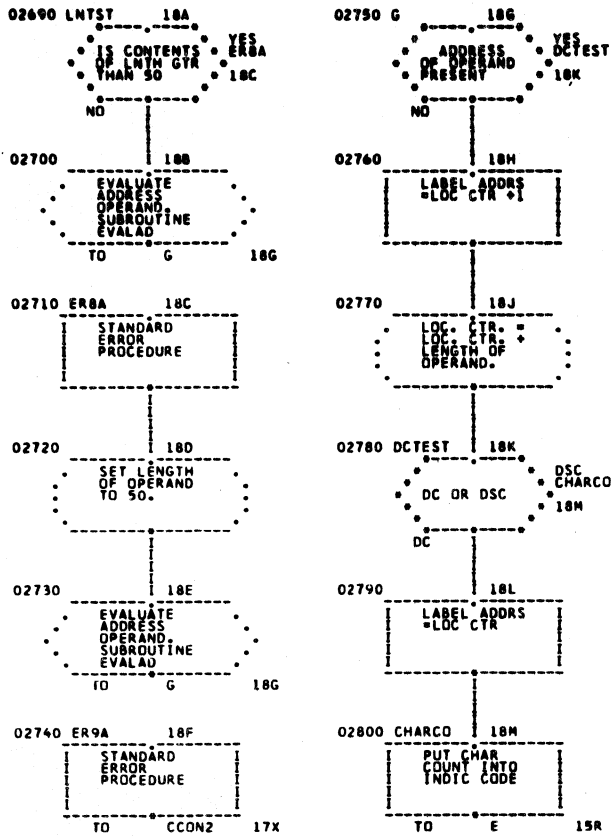


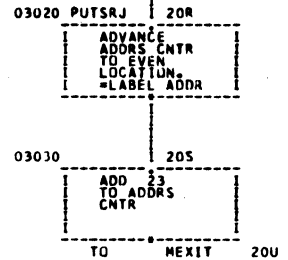
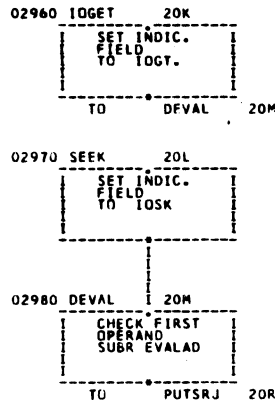
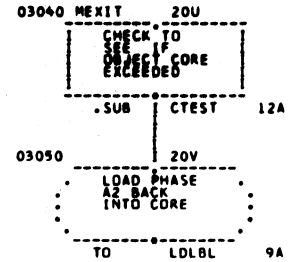
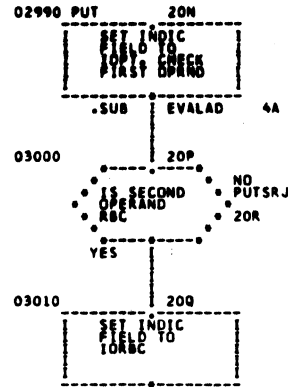
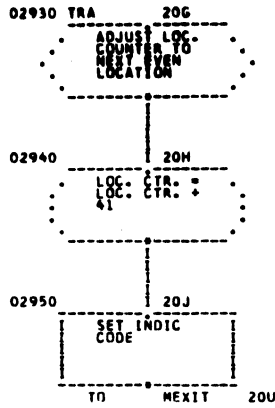
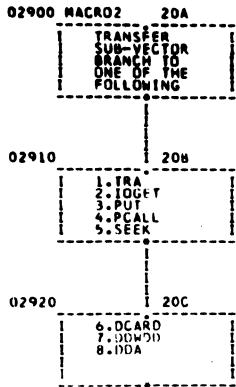
210



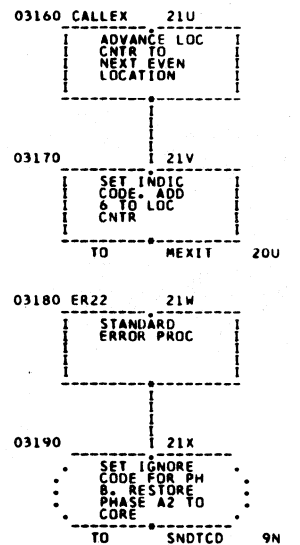
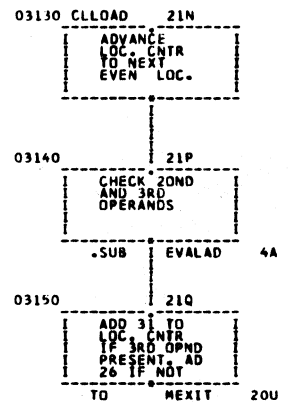
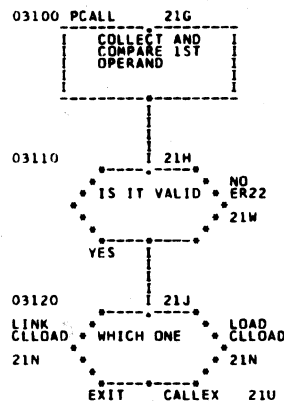
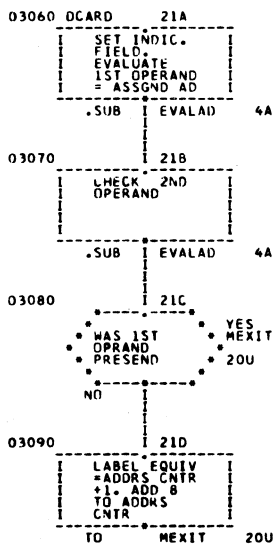
211

106

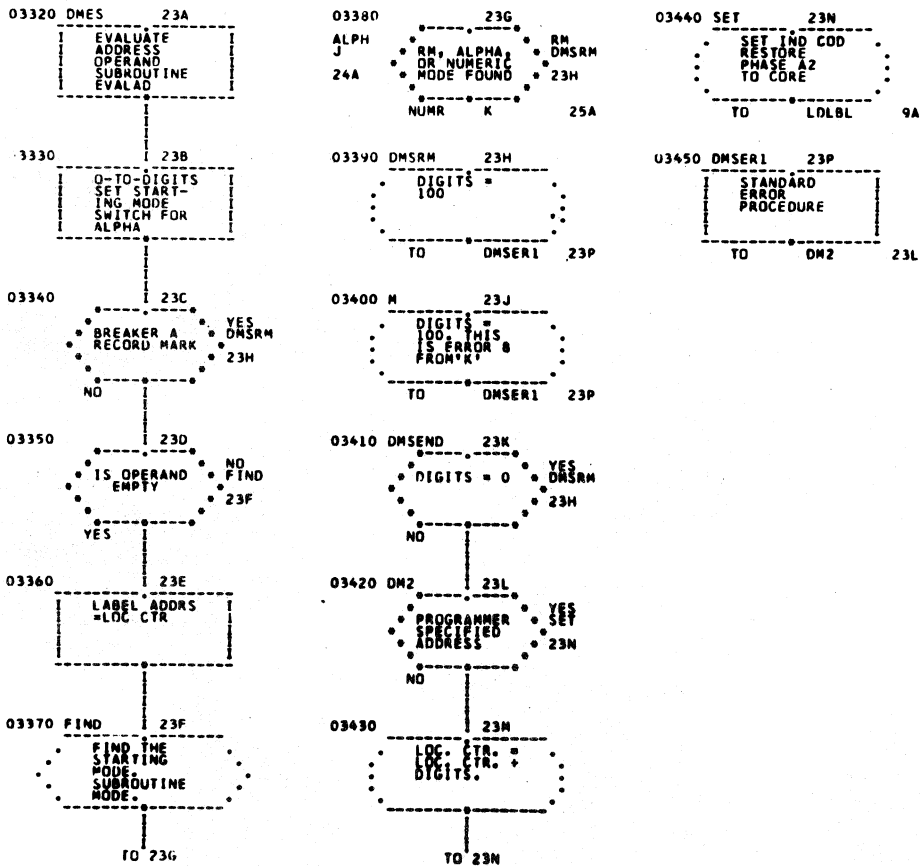
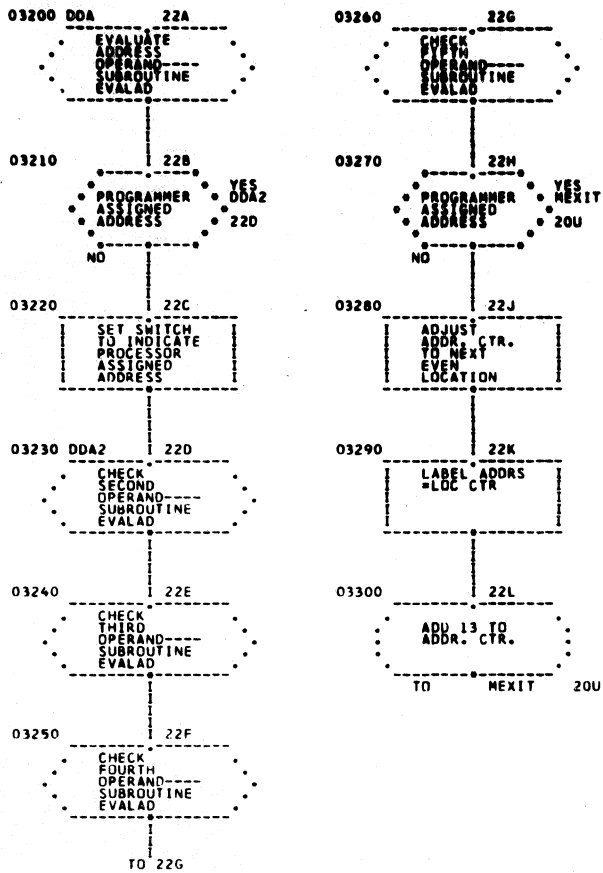


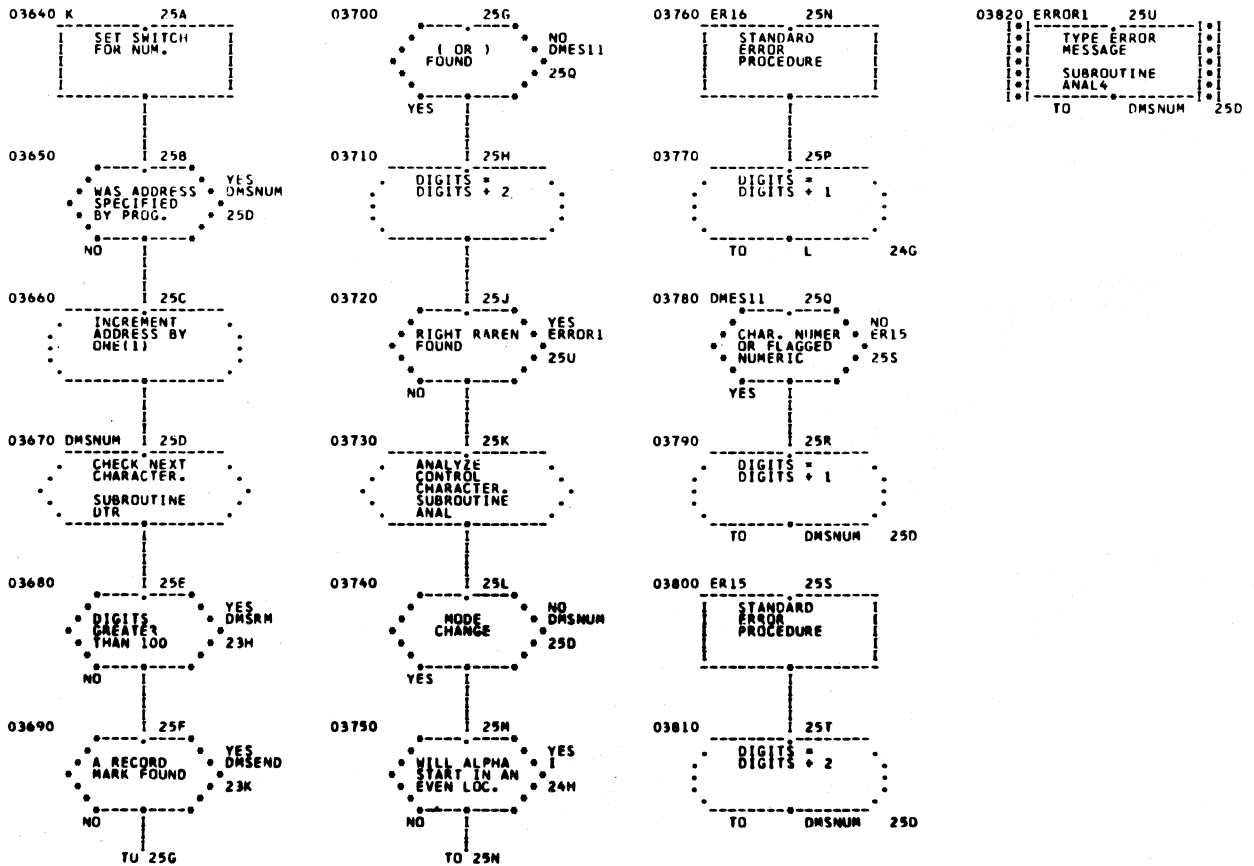
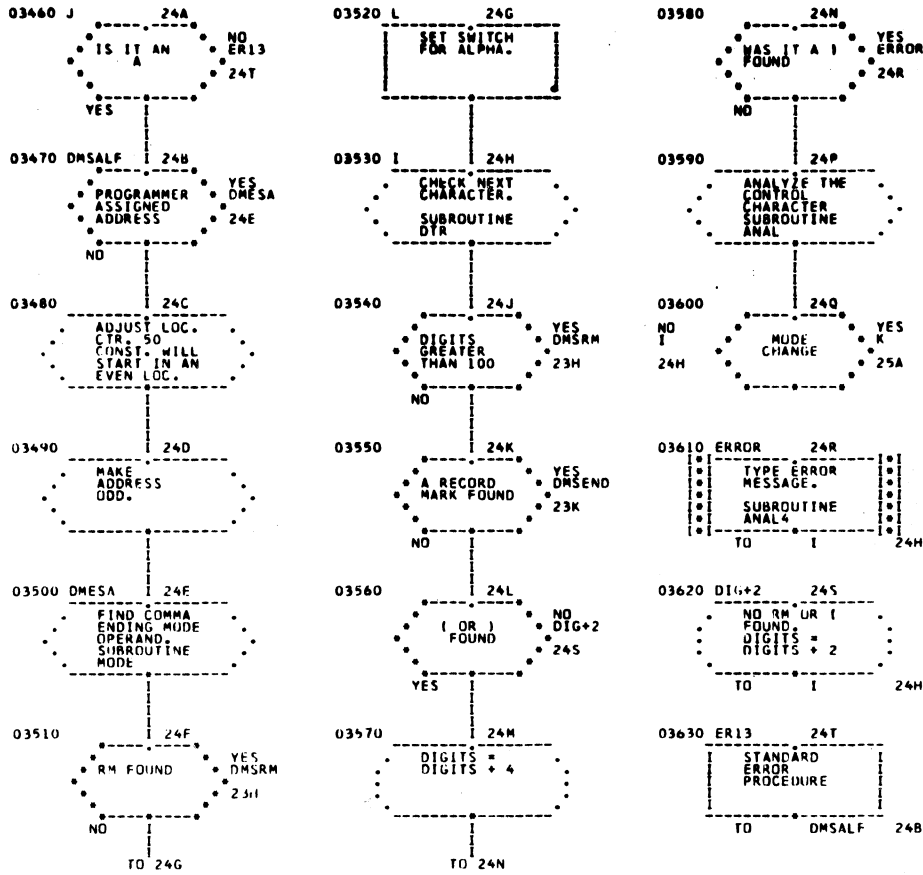


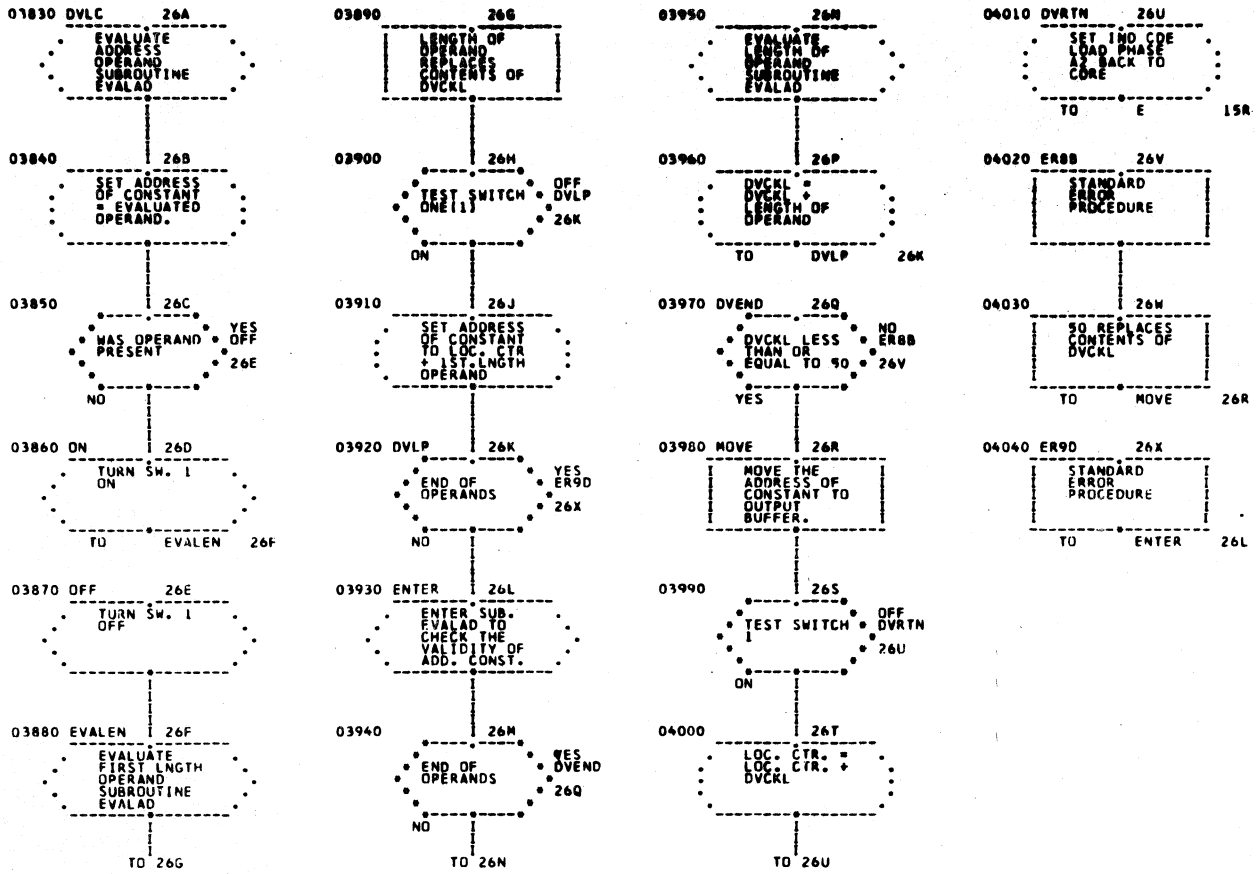
214



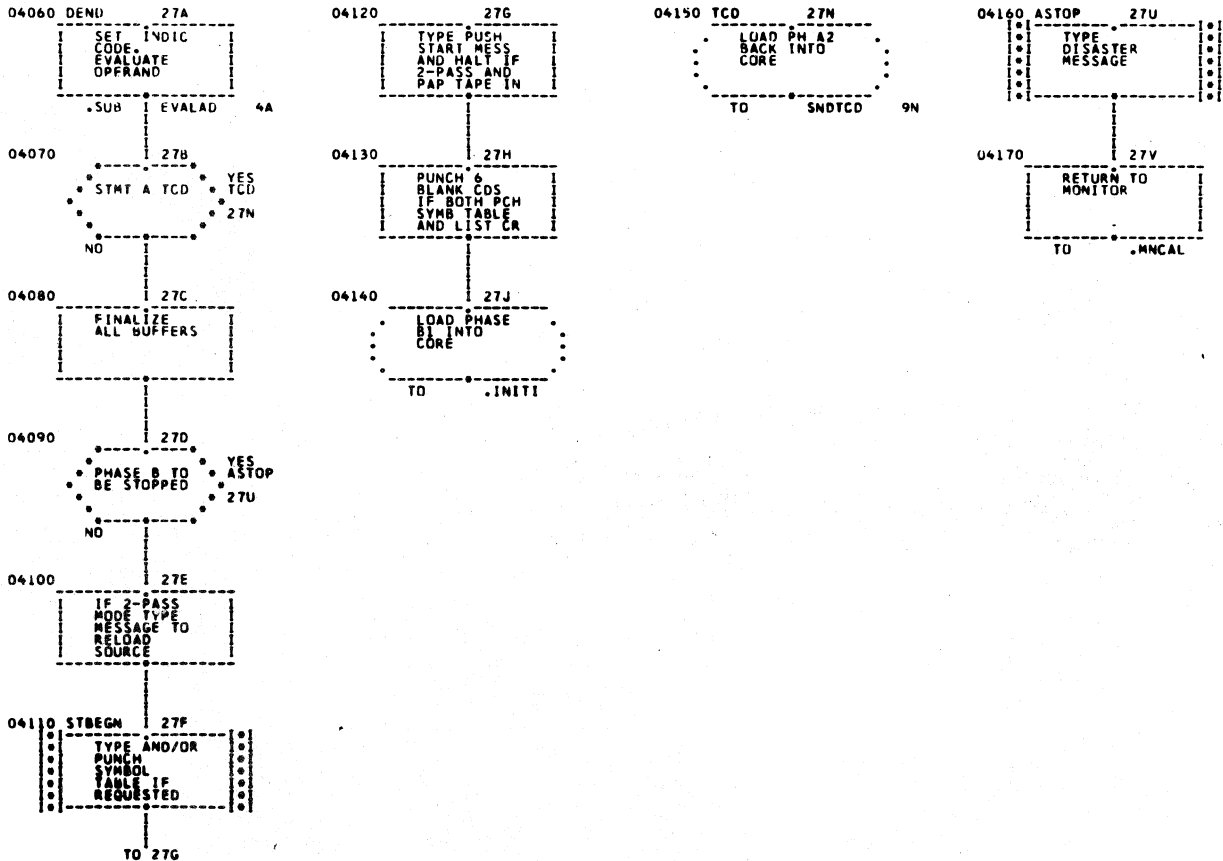
215



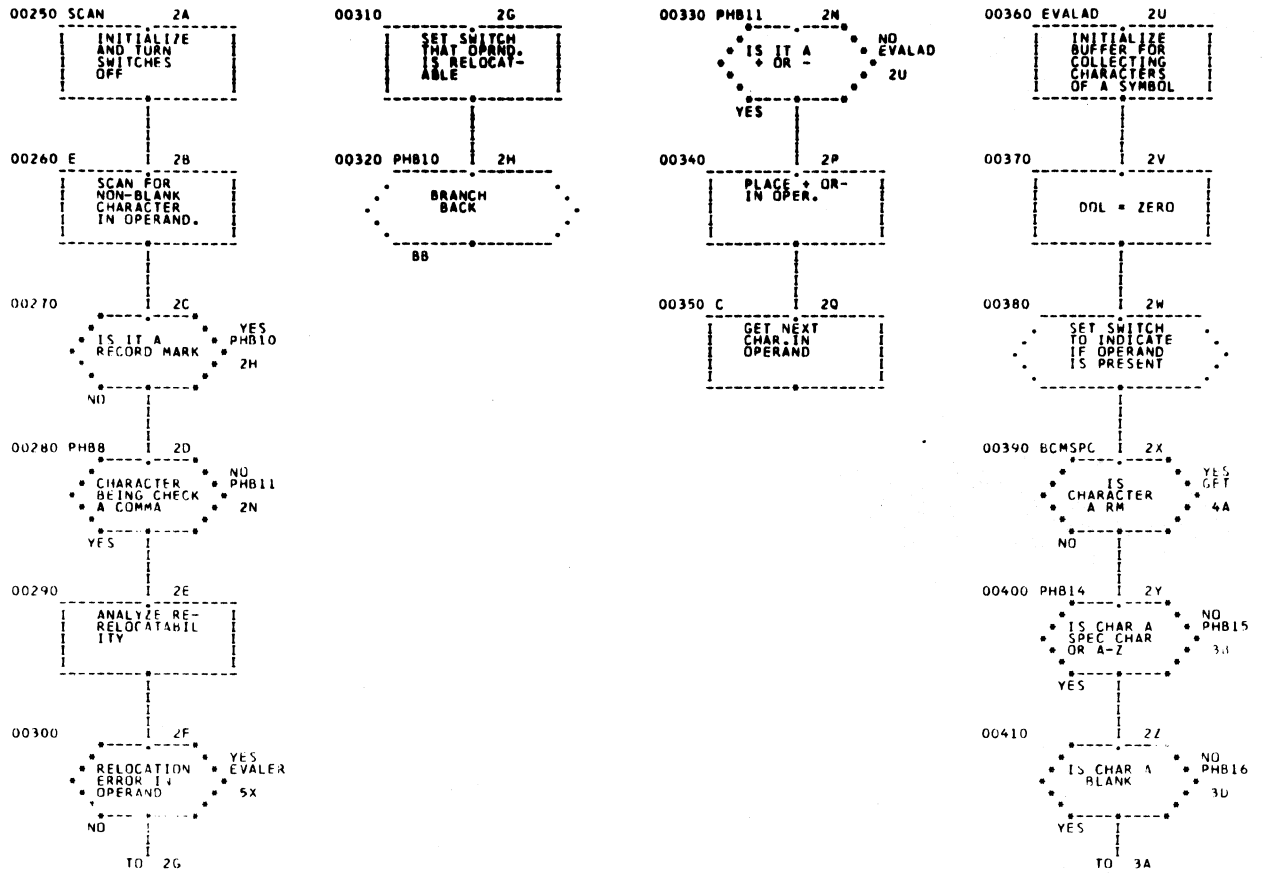




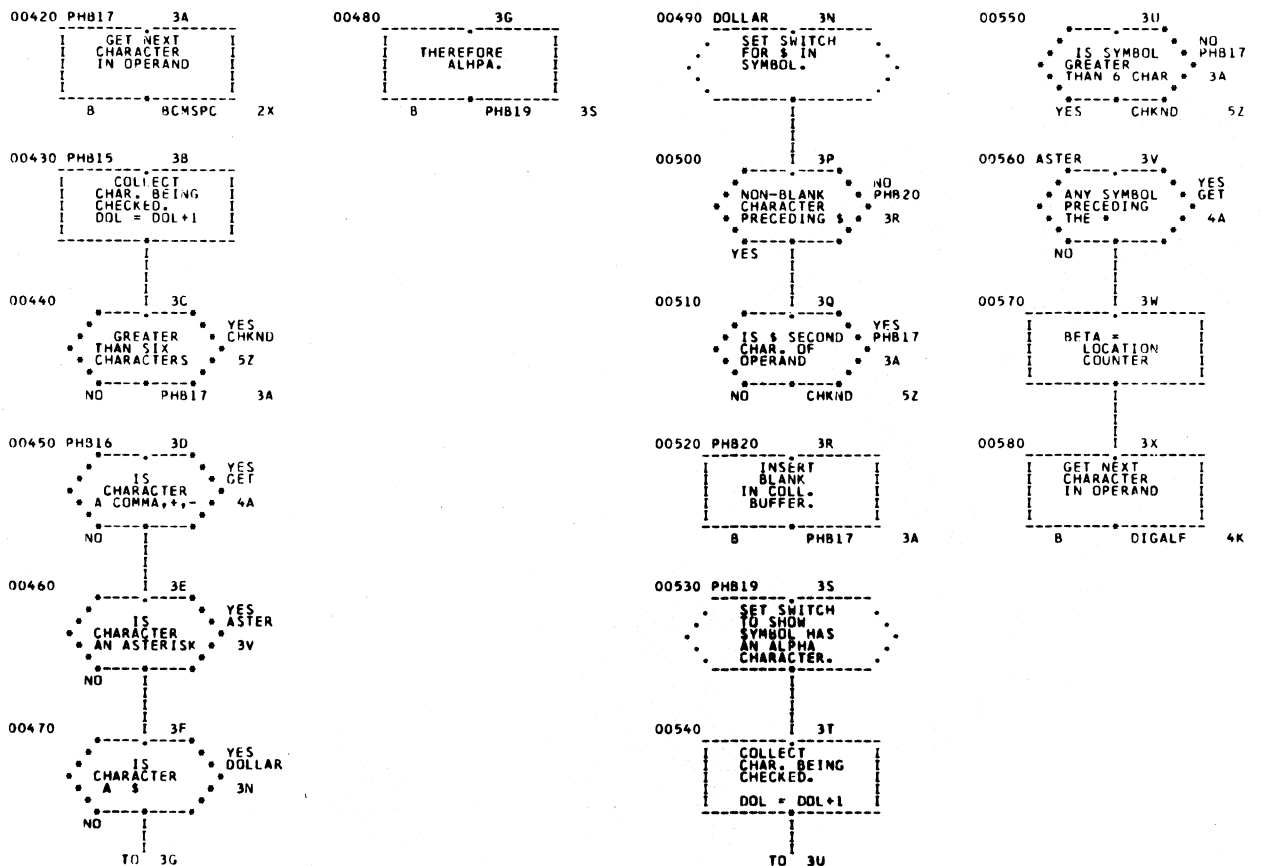
220



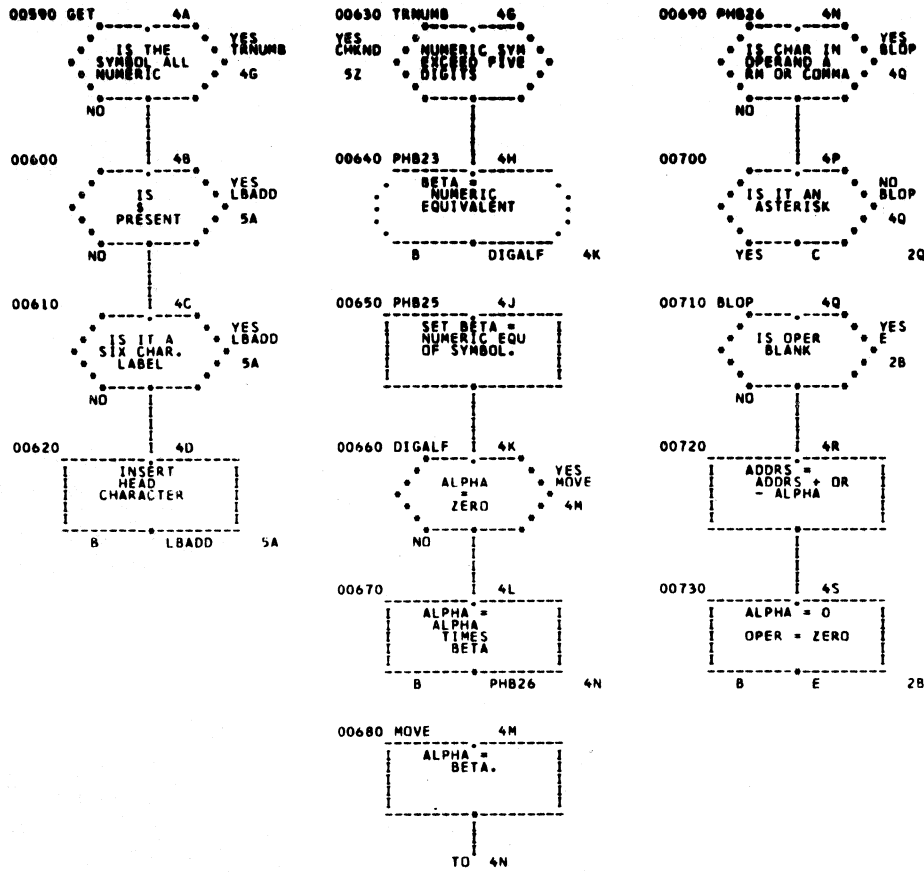
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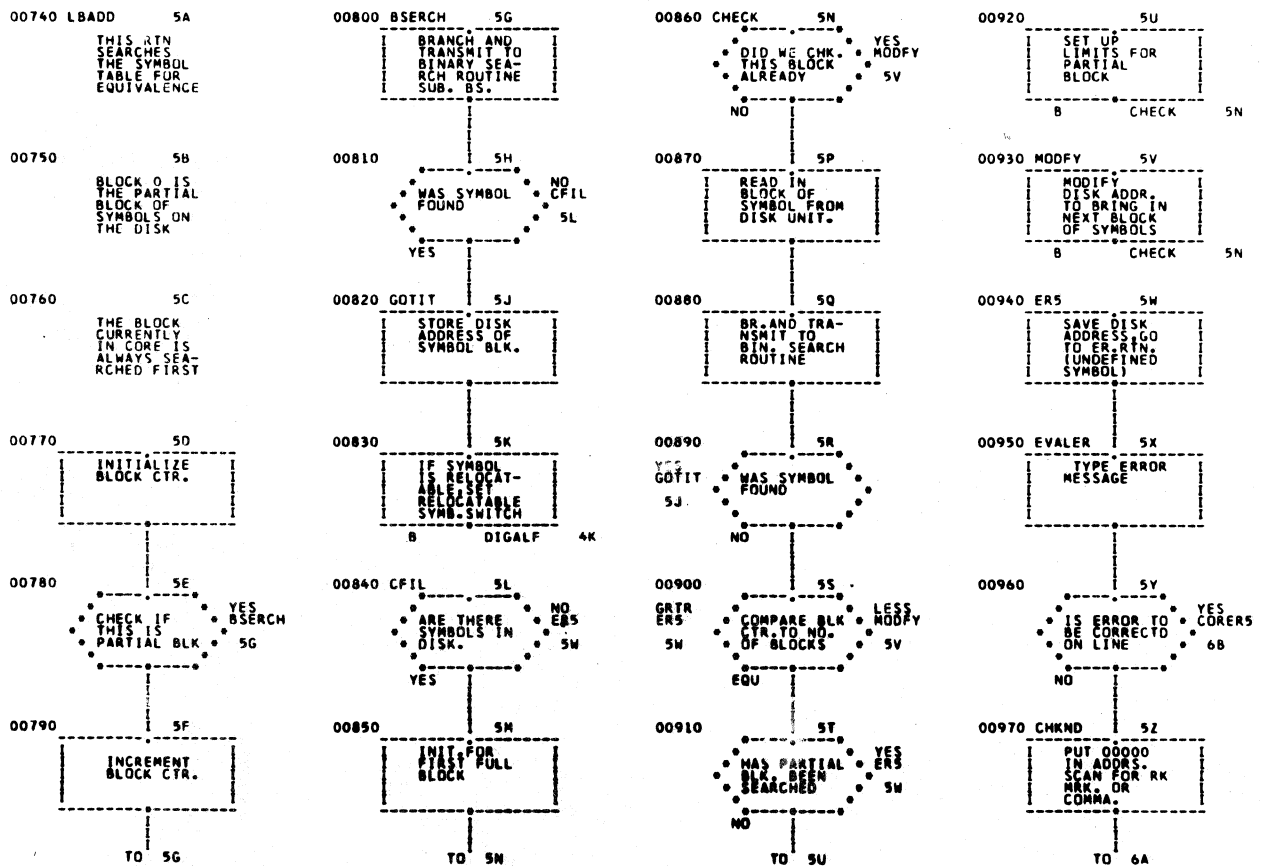
226



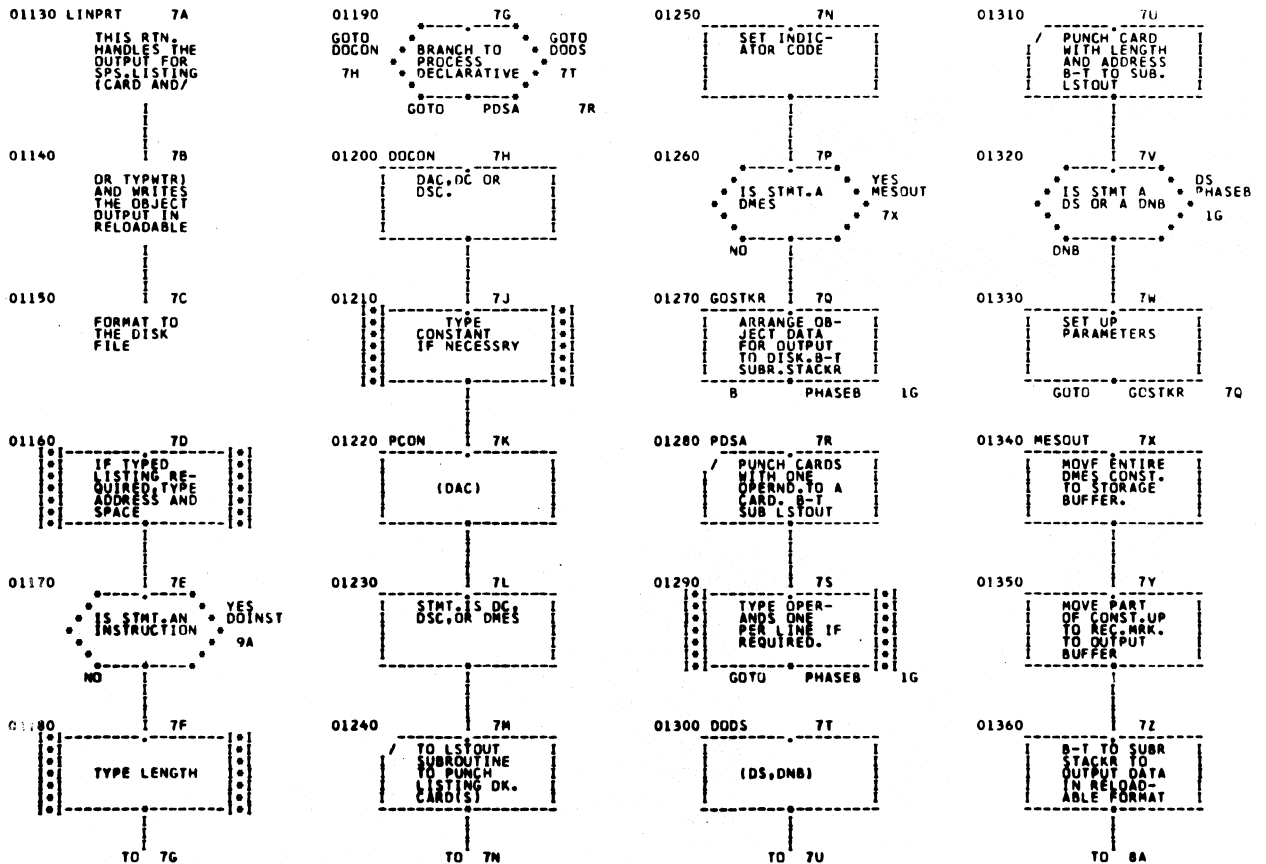
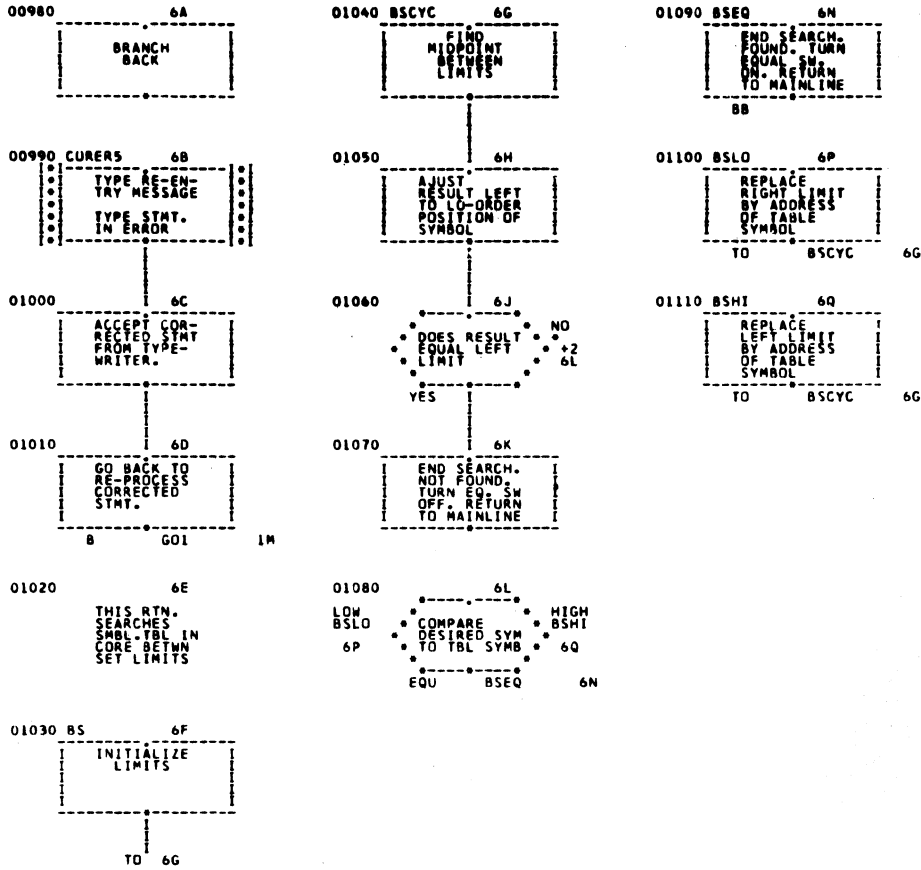
227



228



229



01370

8A

```

  +-----+
  | ENTIRE |
  | CON-   |
  | STANT  |
  | PROC-  |
  | ESSED  |
  | NO * K |
  +-----+

```

YES PHASEB 1G

01380 DOINST 9A

```

  +-----+
  | PUNCH CARD |
  | FOR LISTING |
  | DECK IF    |
  | NEEDED. SUBR |
  | LSTOUT.    |
  +-----+

```

01390 9B

```

  +-----+
  | TYPE INSTR. |
  | IF NEEDED.  |
  +-----+

```

01400 9C

```

  +-----+
  | SET INDICATOR |
  | CODE. SUBROUTINE |
  | RELOD.        |
  +-----+

```

01410 9D

```

  +-----+
  | ARRANGE OBJ |
  | DATA FOR   |
  | OUTPUT TO   |
  | DISK. SUBR |
  | STACK.     |
  +-----+

```

```

  +-----+
  | YES DOINST |
  | 9A * MORE  |
  | INSTR. TO  |
  | BE PROC-  |
  | ESSED.    |
  | NO PHASEB |
  | 1G        |
  +-----+

```

01430 STACKR 9G

```

  +-----+
  | THE STACKR |
  | ROUTINE    |
  | ARRANGES   |
  | THE OBJECT |
  | OUTPUT IN  |
  +-----+

```

01440 9H

```

  +-----+
  | RELOADABLE |
  | FORM AND   |
  | WRITES IT |
  | TO THE DISK |
  | 3 SECTORS  |
  +-----+

```

01450 9J

AT A TIME

01460 9K

```

  +-----+
  | IS 75-DIGIT |
  | BUFFER       |
  | EMPTY.      |
  | YES MODIFI  |
  | 9V          |
  | NO          |
  +-----+

```

```

  +-----+
  | IS THIS A   |
  | TCD.        |
  | YES INDAOR  |
  | 9Y          |
  | NO          |
  +-----+

```

```

  +-----+
  | IS THERE A  |
  | BREAK IN    |
  | ADDR. SEQ.  |
  | YES RERAIL  |
  | 9Z          |
  +-----+

```

TO 9N

01490 9N

```

  +-----+
  | SAME TYPE   |
  | OF STMT. AS |
  | PREV. STMT. |
  | YES         |
  | NO NEWIL   |
  | 10A        |
  +-----+

```

01500 FIT 9P

```

  +-----+
  | DOES NON-   |
  | DATA PART  |
  | OF REC. FIT |
  | YES         |
  | NO SETFRM  |
  | 10B        |
  +-----+

```

01510 9Q

```

  +-----+
  | DOES DATA  |
  | PORTION OF |
  | RECORD FIT  |
  | YES         |
  | NO SETFRM  |
  | 10B        |
  +-----+

```

01520 9R

```

  +-----+
  | MOVE RECORD |
  | INTO OUTPUT |
  | BUFFER      |
  +-----+

```

```

  +-----+
  | IS STMT A  |
  | CONSTANT.  |
  | YES        |
  | NO RETURN  |
  | 9U         |
  +-----+

```

```

  +-----+
  | DOES DATA |
  | FIT.       |
  | YES        |
  | NO SPLIT   |
  | 10C        |
  +-----+

```

TO 9U

01550 RETURN 9U

```

  +-----+
  | STORE LAST  |
  | ADDRESS AND |
  | INDICATORS |
  | AND BRANCH |
  | BACK       |
  +-----+

```

01560 MODIFI 9V

```

  +-----+
  | INITIALIZE  |
  | FOR FULL 75 |
  | DIGIT CARD  |
  +-----+

```

01570 9W

```

  +-----+
  | WRITE 3    |
  | SECTORS TO |
  | DISK IF 300 |
  | DIGIT BUFF- |
  | ER IS FULL  |
  +-----+

```

01580 9X

```

  +-----+
  | CLEAR      |
  | BUFFER TO  |
  | ZEROS     |
  +-----+

```

GOTO RETURN 9U

01590 INDAOR 9Y

```

  +-----+
  | SET UP FOR |
  | A TCD STMT. |
  | (INDICATOR |
  | AND ADDR.)  |
  +-----+

```

GOTO FIT 9P

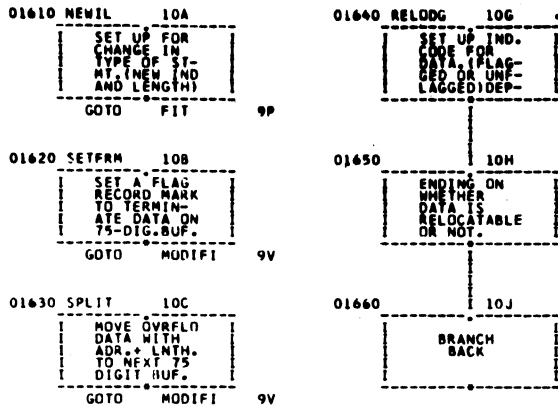
01600 RERAIL 9Z

```

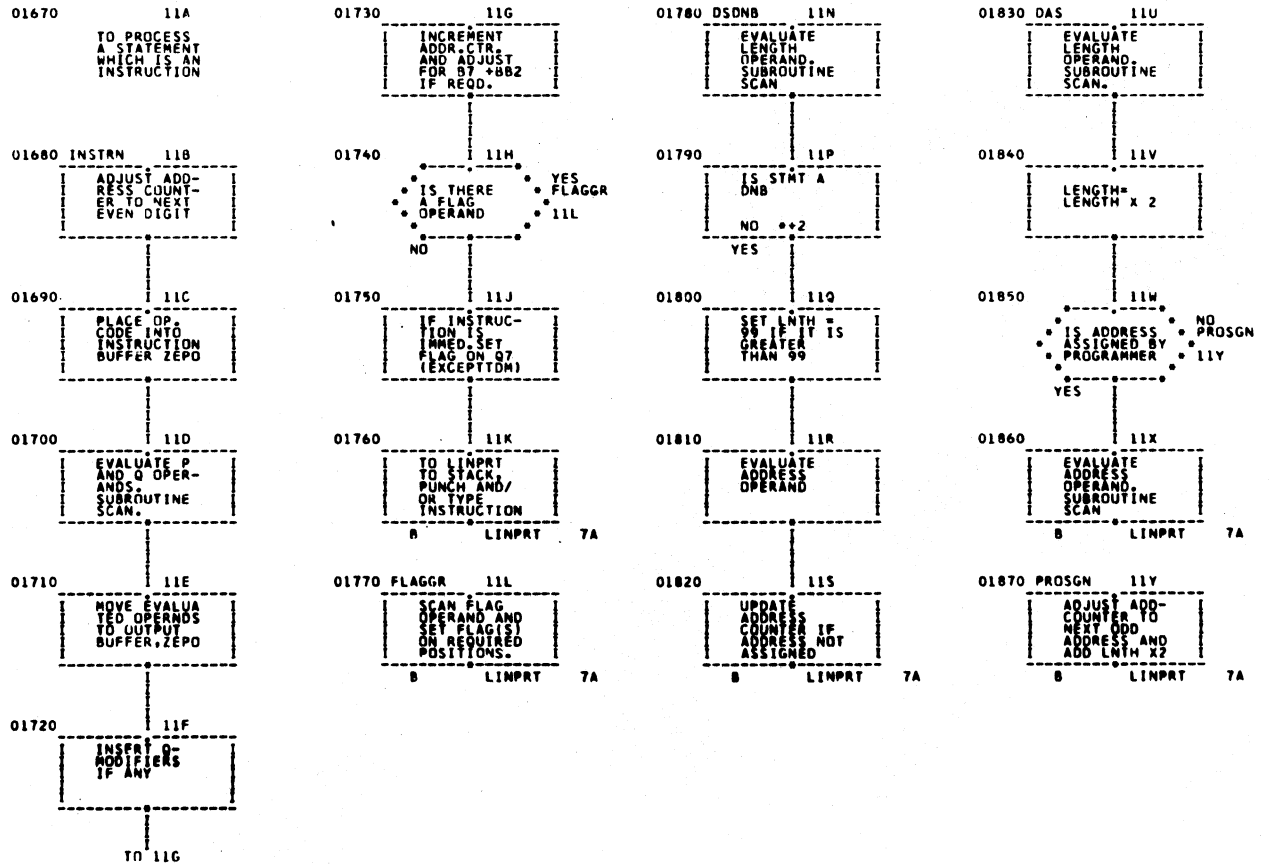
  +-----+
  | SET UP FOR |
  | A BREAK IN |
  | ADDR. SEQ. |
  | (RERAIL, ADR |
  | INDIC. LNTH) |
  +-----+

```

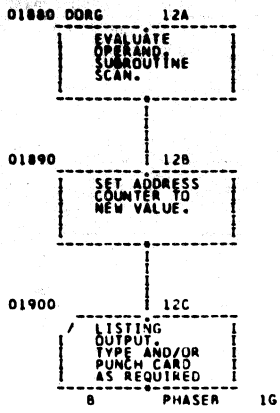
GOTO FIT 9P



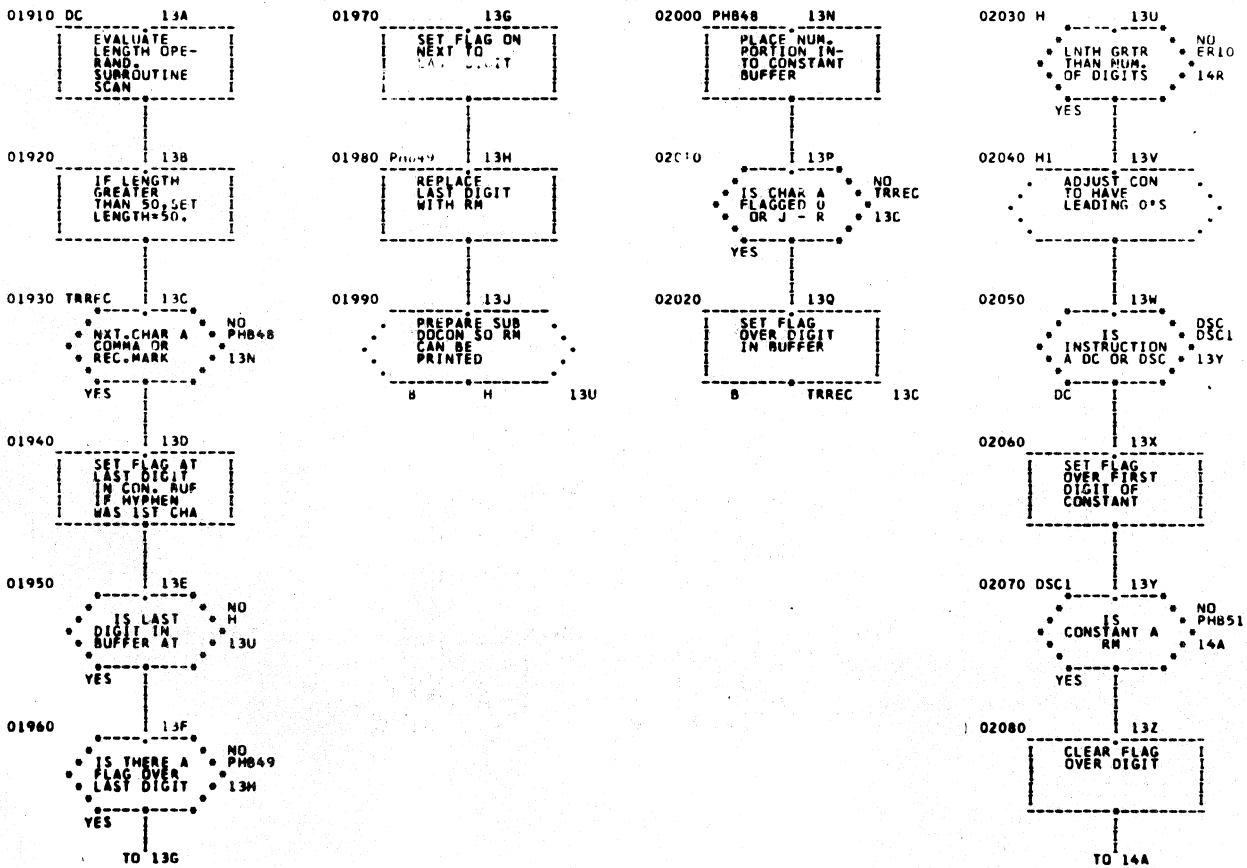
234



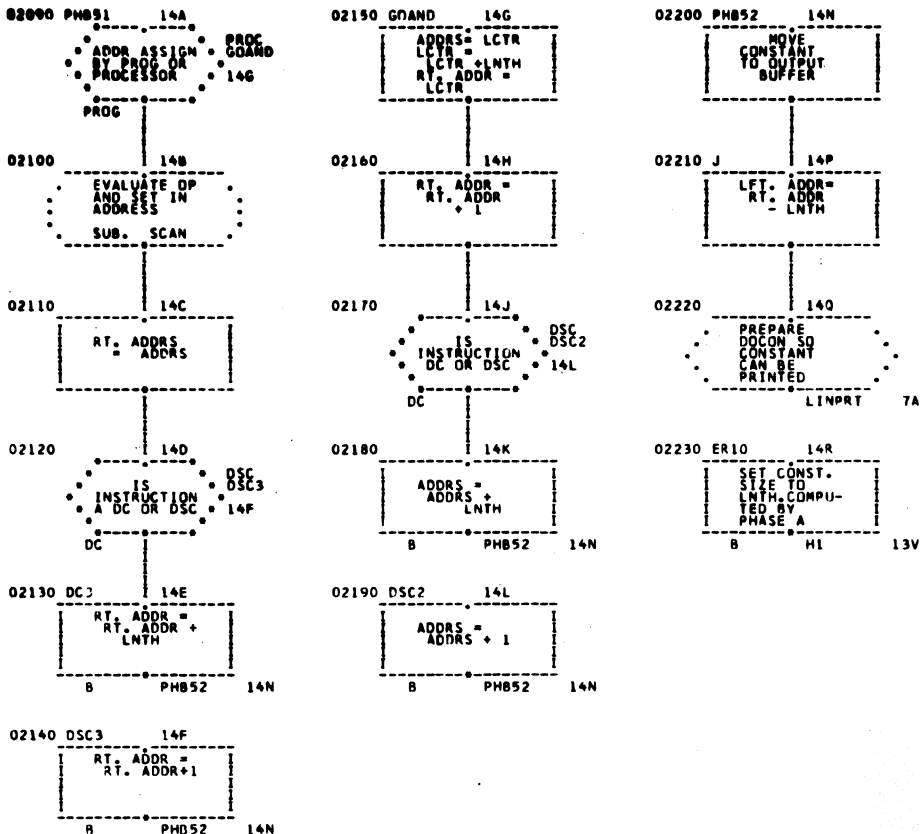
235



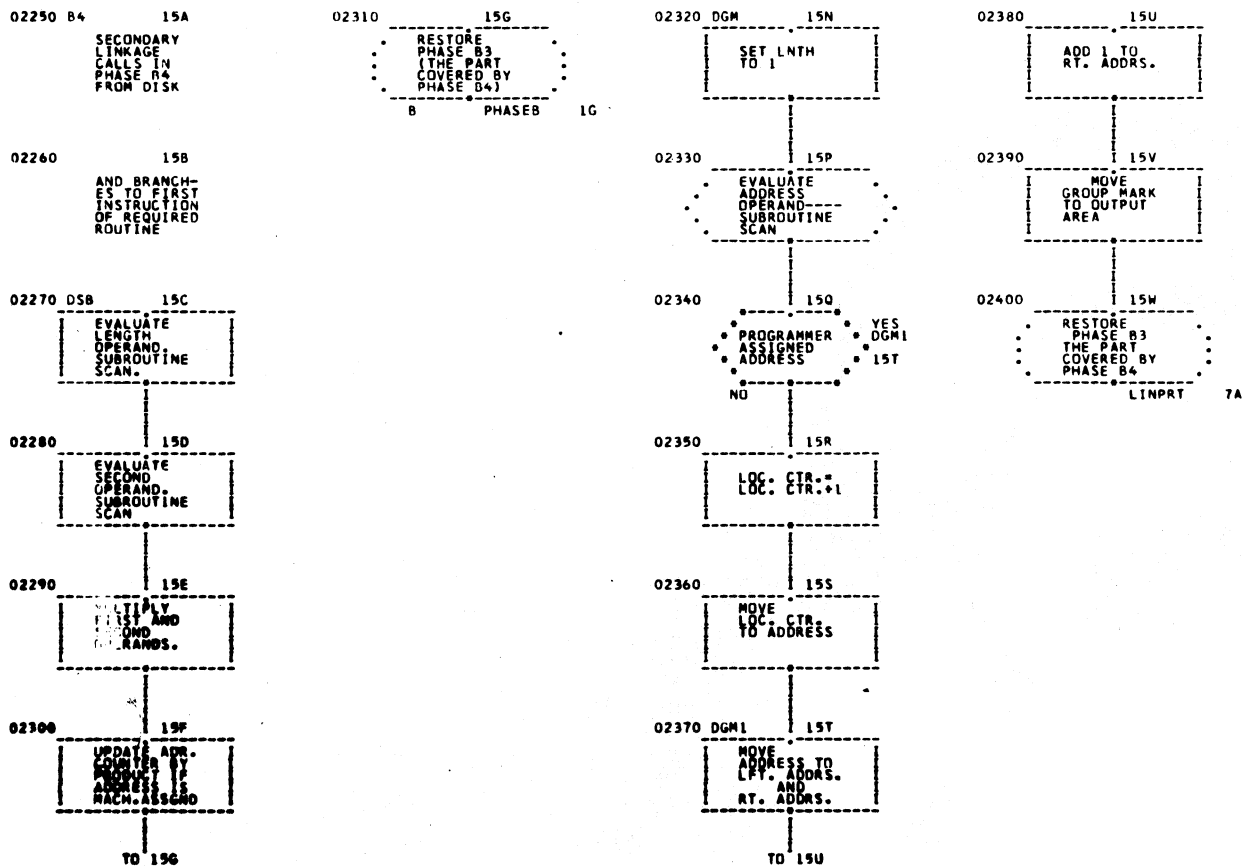
236



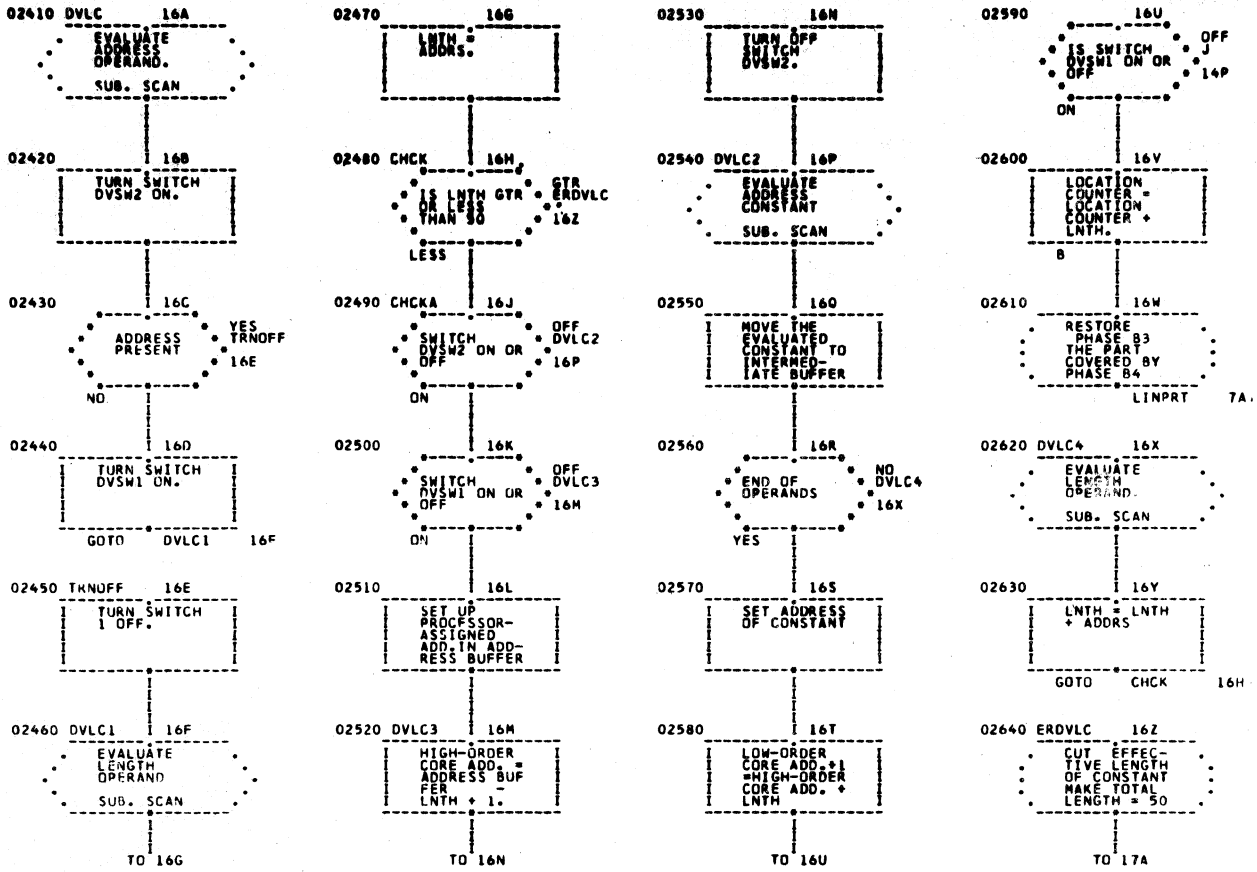
237



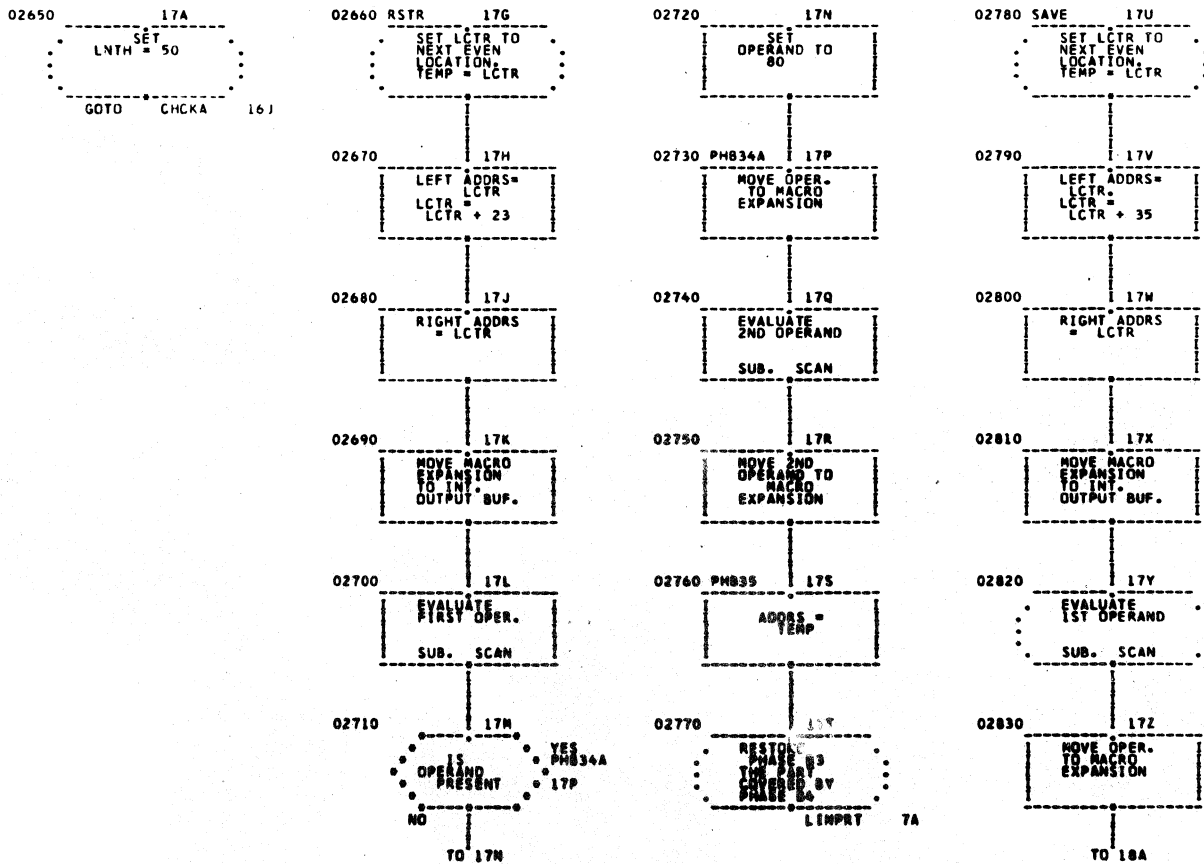
238



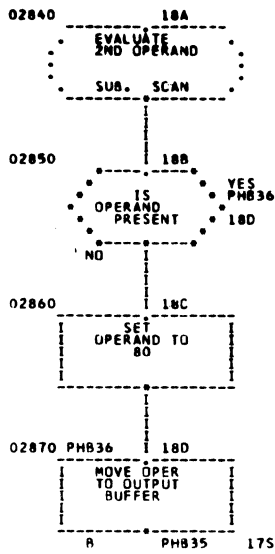
239



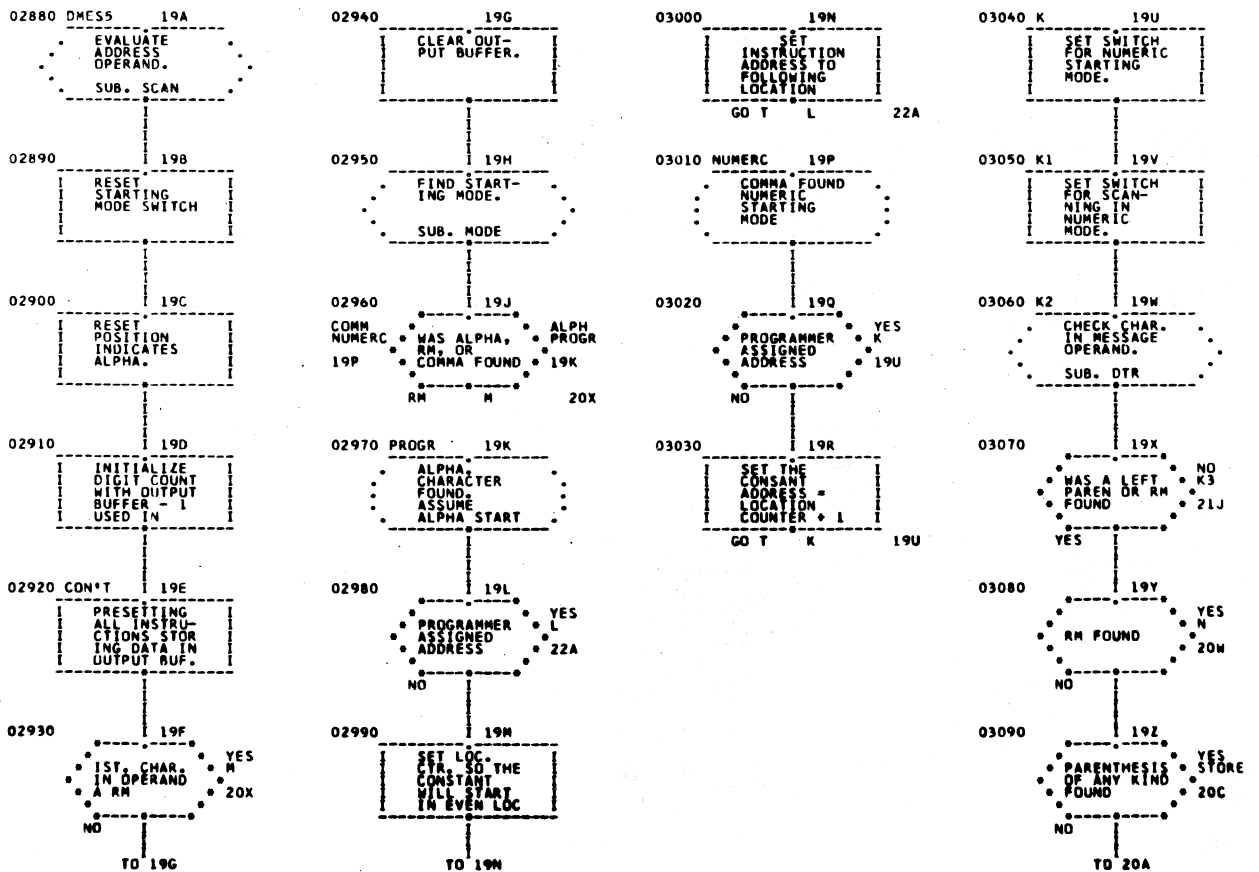
240

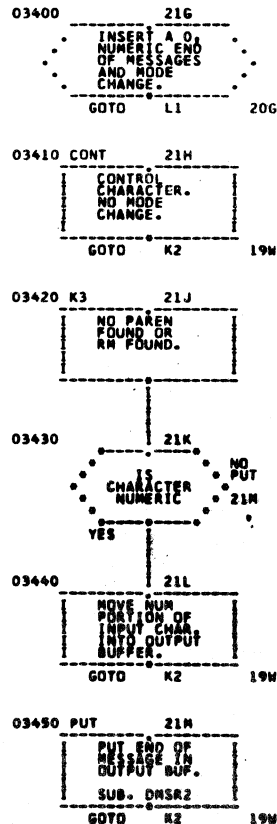
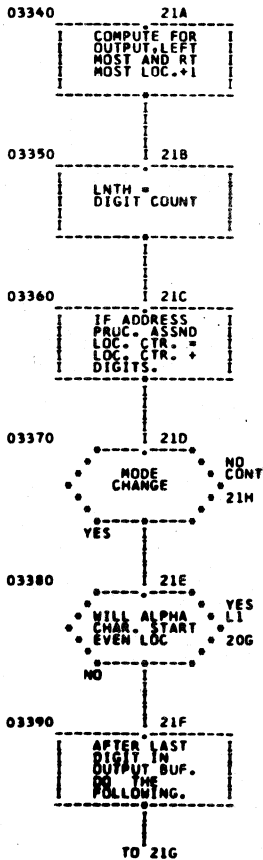
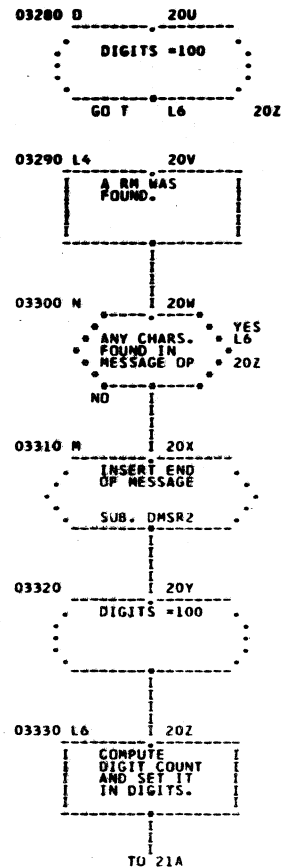
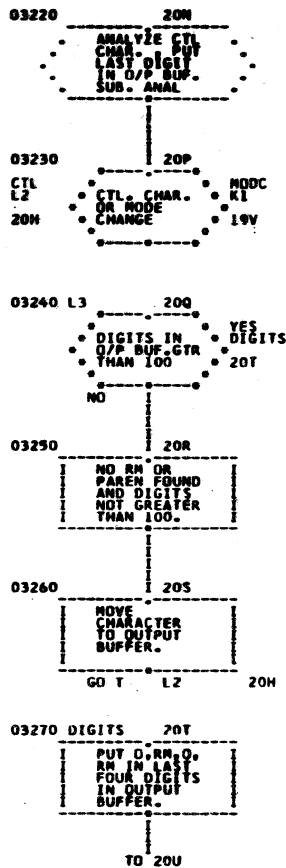
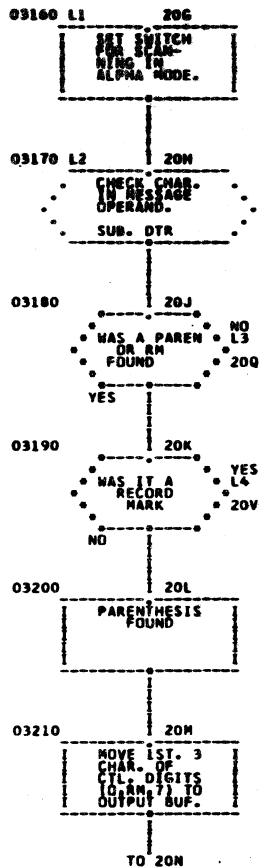
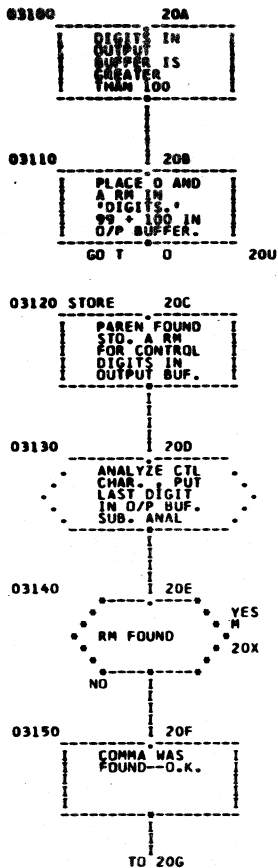


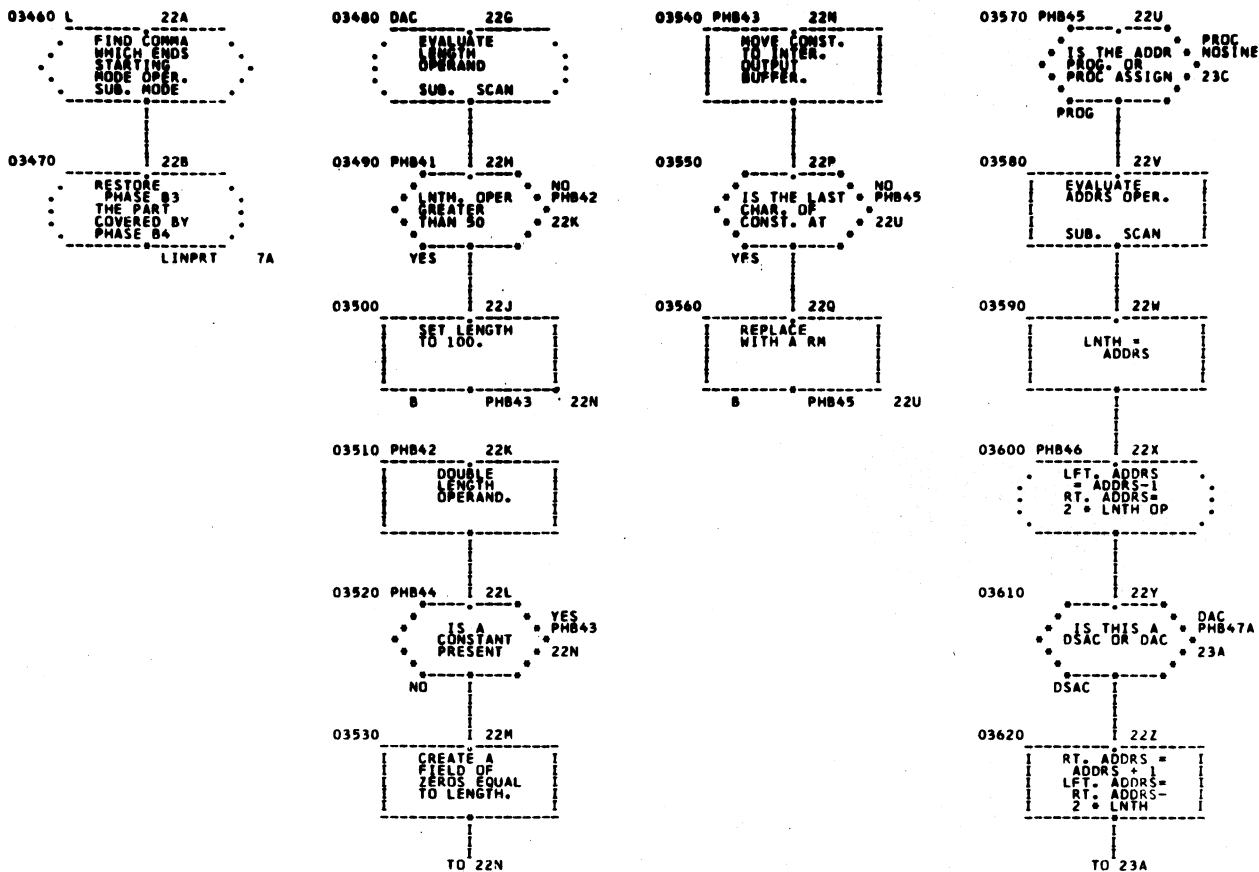
241



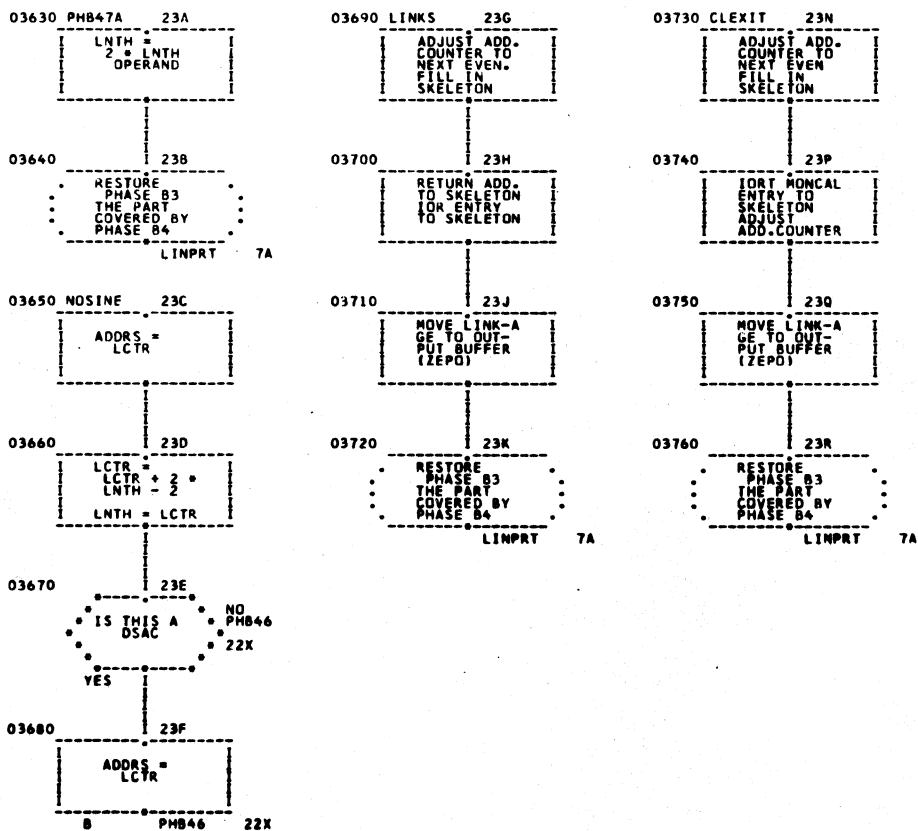
242



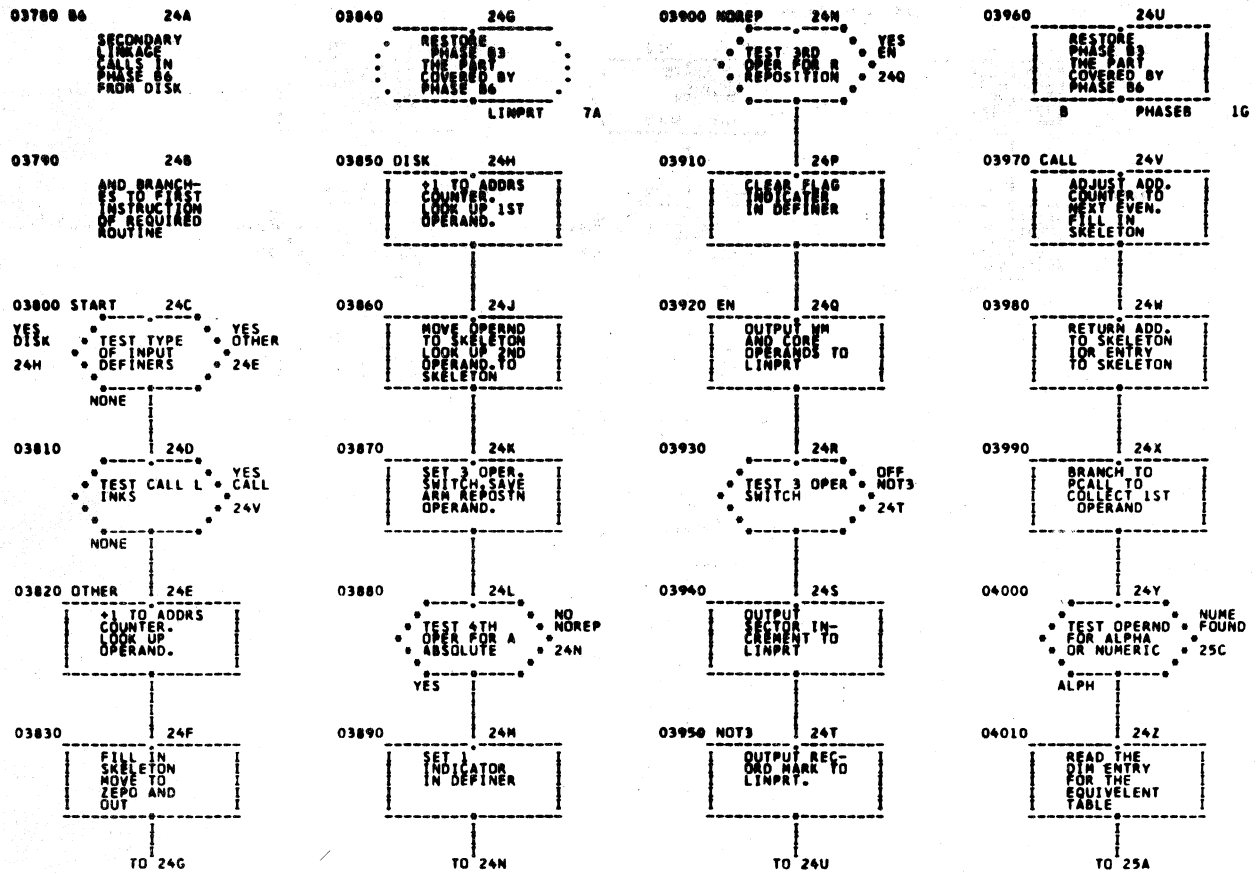




246

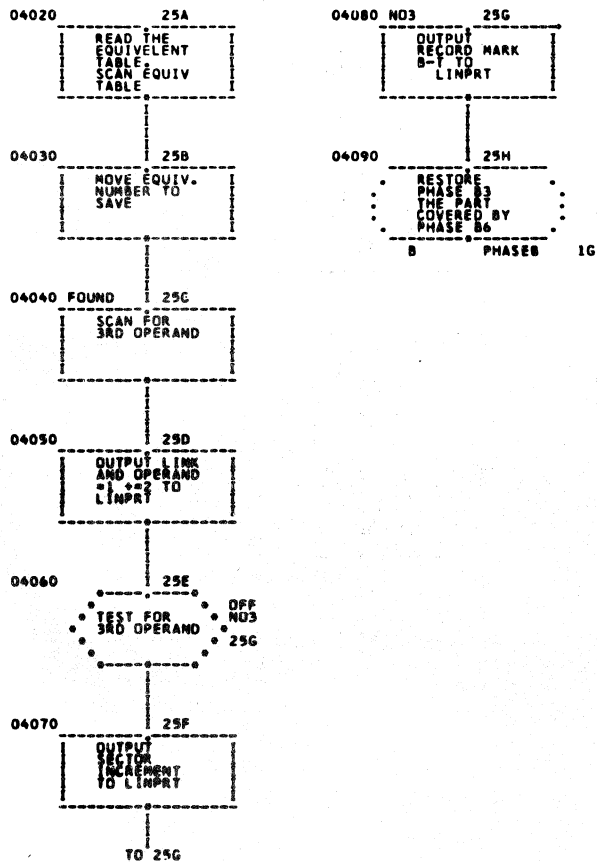


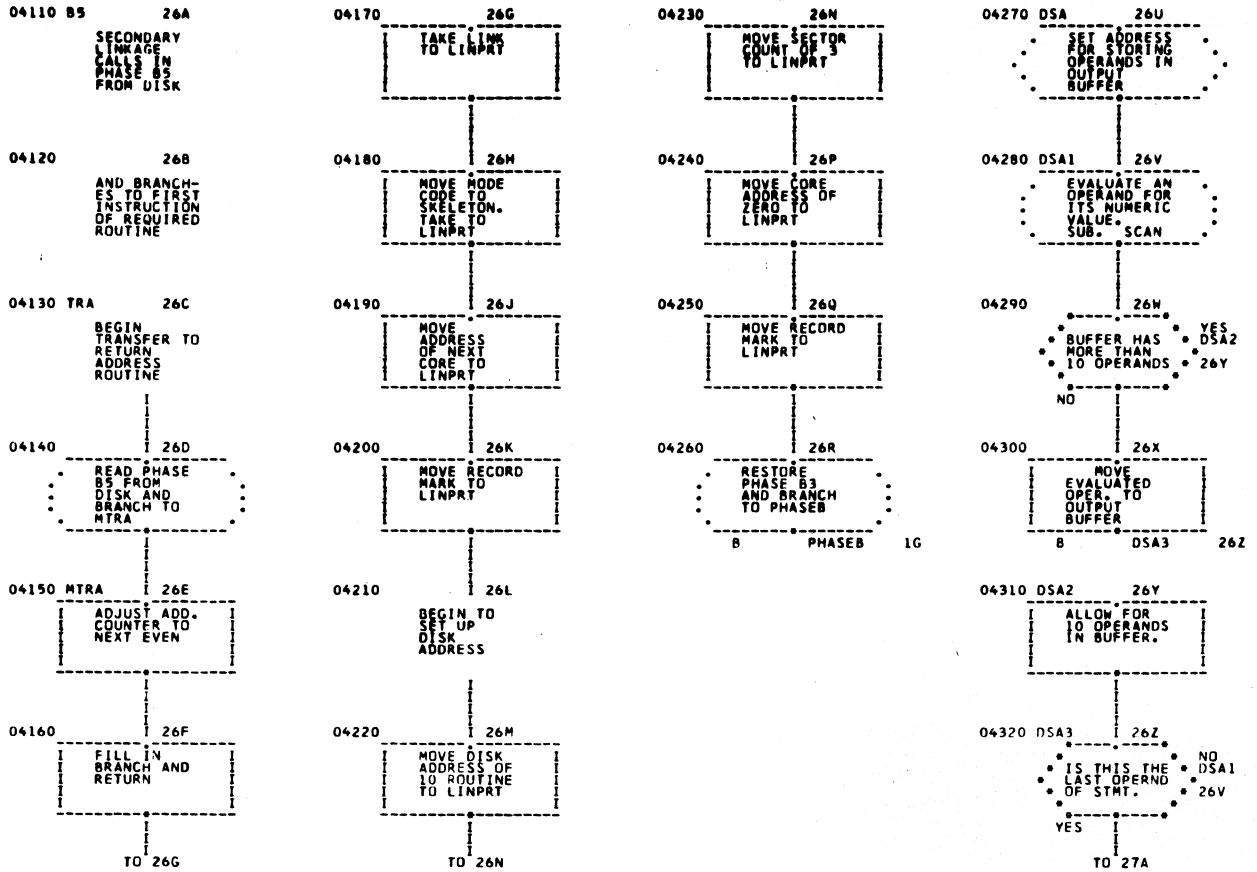
247



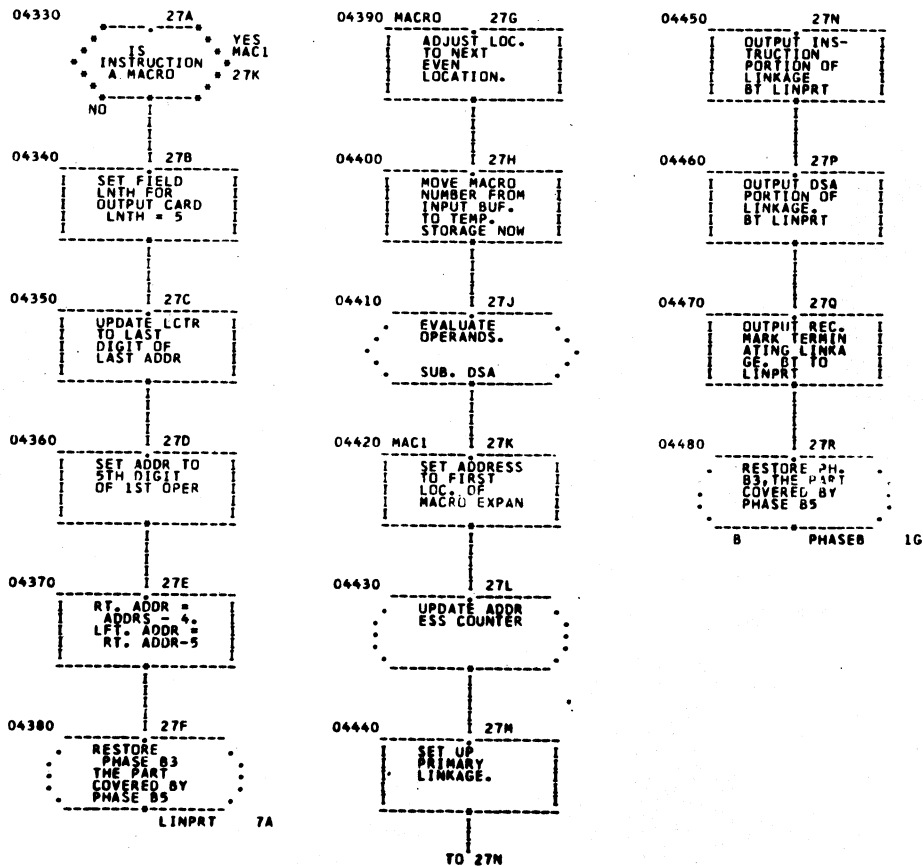
248

246





250



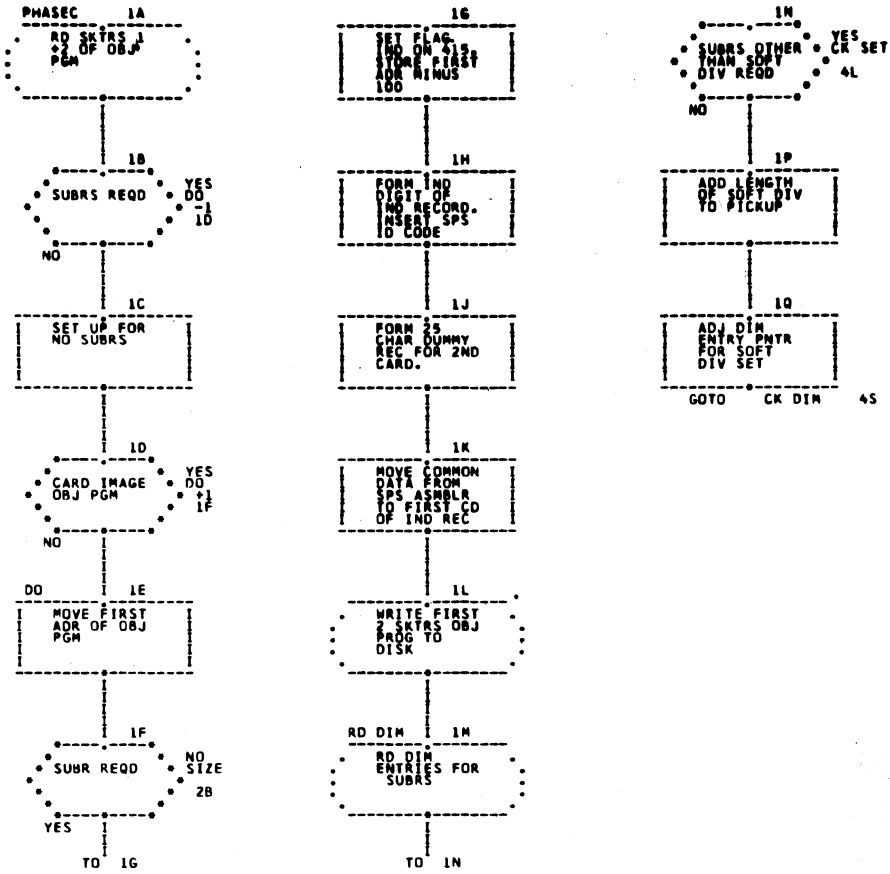
251

LABEL TABLE • INDICATES UNREFERENCED LABEL

DELETE 2V 2W 2X 2Y 2Z 3A 3B 3C 3D 3E 3F 3G 3H 3I 3J 3K 3L

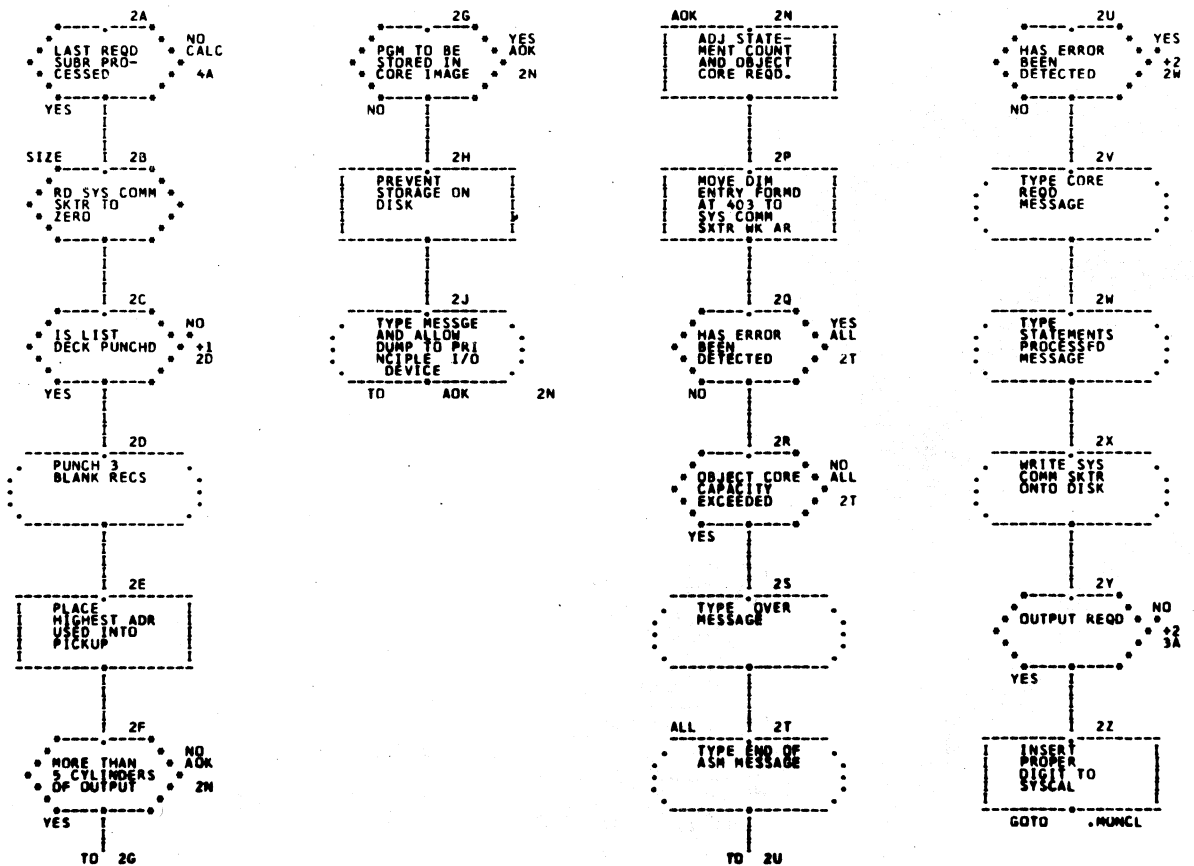
CROSS-REFERENCE TABLE • INDICATES LABEL NOT FOUND

.MONCL	3A	2Z			
ALL	2R	2G			
ADR	2F	2J	2G		
CALC	2A				
CK DIN	4M	4Q	4P	1Q	
CK SET	1N				
DELETE	4T	4L			
DO	1D	1B			
SIZE	4X	4D	4U	4G	1F
USED	4K	4U	4A		

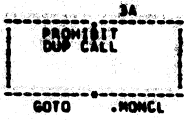


254

PHASE C SPS IID. CALCULATE PERTINENT DIMENSIONS + EXIT TO MONITOR

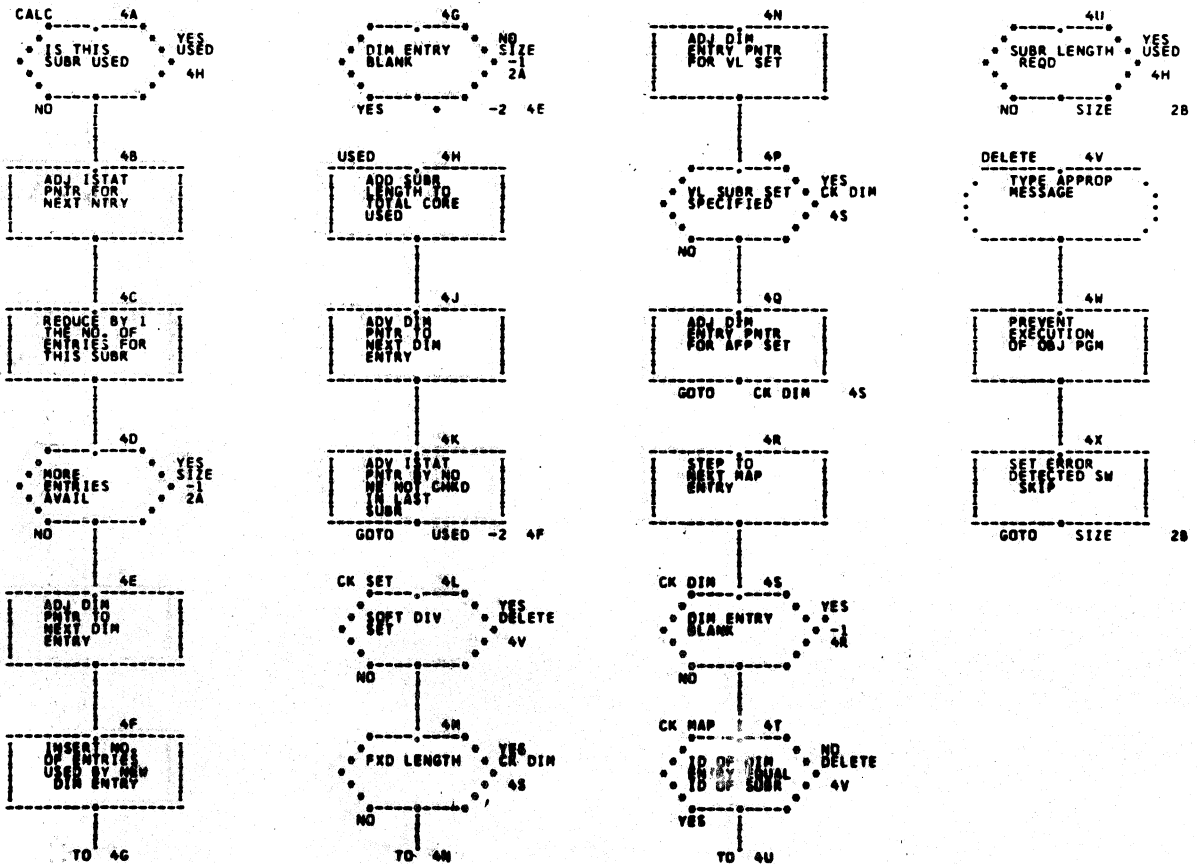


255



256

PHASE C SPS IIO. CALCULATE SIZE OF PGM INCL ALL SUBRS SPECIFIED.



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LABEL TABLE • INDICATES UNREFERENCED LABEL

ADJ	5Y	ADJDIM	4E	CAP	2P	CAP CK	8A	*CHECK	1H	CK SET	3A
CK SUB	4B	CDNST	6Q	DELETE	3M	DNB	7A	FIL SV	7J	FINAL	4A
FOR EX	2S	FORM	7G	FVLAFP	3U	INST	5U	LNG CK	6J	MANT L	4A
MONCAL	3N	NDINST	6H	NEW CD	5A	NOISY	2X	NOT RM	5F	NXTIND	5C
NYET	8K	P BOTH	6S	P NOTC	6Z	PCONST	6N	PSUEDD	6R	Q CK	6C
RD CTL	2T	RD SUB	4N	RDRST	2J	RM	5E	SET P	5V	*SP SV	4F
*SUB RD	4S	SUBSET	2Z	*SUPER	2A	VLAFP	3P	XEQ	1D	2ND PC	6W

CROSS-REFERENCE TABLE • INDICATES LABEL NOT FOUND

*FSL	2S				
ADJ	6F	5W			
ADJDIM	7W	4G			
CAP	2M				
CAP CK	7W	4A			
CK SET	2W				
CK SUB	4D	4A			
CONST	6N	5K			
DELETE	8L	8J	4P	3J	
DWB	5L				
FIL SV	7N				
FINAL	4G				
FOR EX	2D				
FORM	5N				
FVLAFP	3L	3Q	3G		
INST	5M	5H			
LNG CK	6H	6G	5X		
MANT L	2V				
MONCAL	3M				
NDINST	6D				
NEW CD	5D	5G	4V		
NOISY	2U				
NOT RM	5C				
NXTIND	7A	6K	6Q	6V	5E
NYET	5N				
P BOTH	6Y				
P NOTC	6X				
PCONST	5J				
PSUEDD	6P				
Q CK	6Y				
RD CTL	2Y	2X	2R	2Q	
RD SUB	4B	3W			
RDRST	2C	2C			
RM	5D				
SET P	6K				
SUBSET	2M				
VLAFP	3H				
XEQ	8G	1M	1J		
2ND PC	6Z	6U			

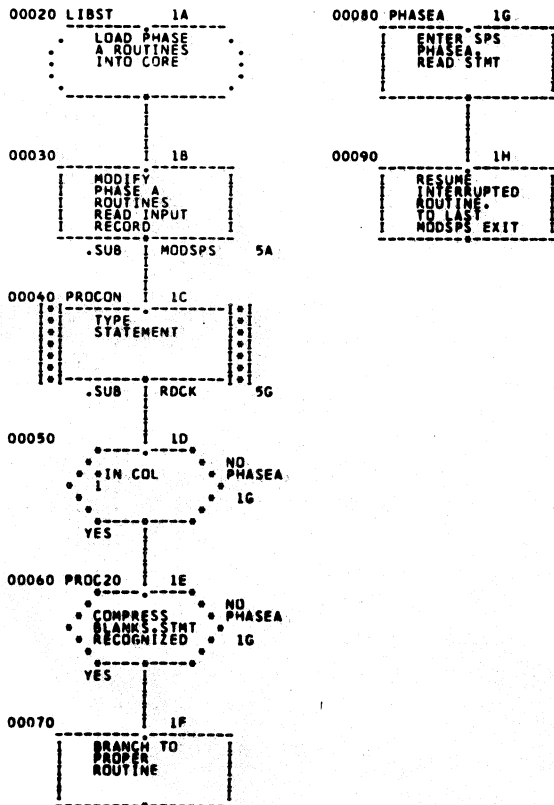
CROSS-REFERENCE TABLE • INDICATES LABEL NOT FOUND

.MNCAL	4J	4N							
START2	2B								
ALAIN	2D								
C2JECT	4E								
C4END	4F								
EMC ID	2E								
MODSPS	4A	2C	2A	1B					
NO SPAL	3A								
NOITM	3E								
PHASEA	3D								
PROC20	4U	4G	3E	3G	2F	2J	2H	1E	1D
RDCK	4H	2G							
	4D	3B	2B	1C					

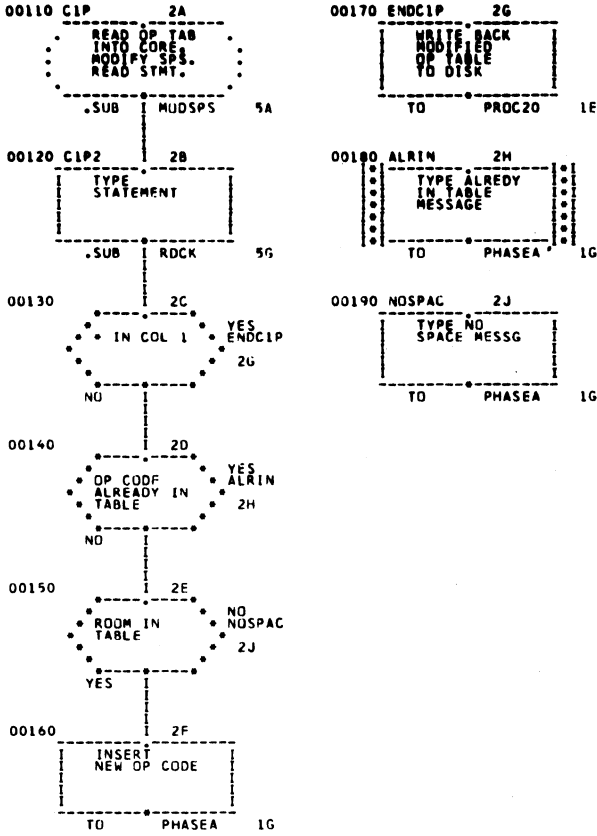
260

SPSLIB--SPS II-D MODIFICATION PROGRAM--ENTRY AND CTL STM PROCESS

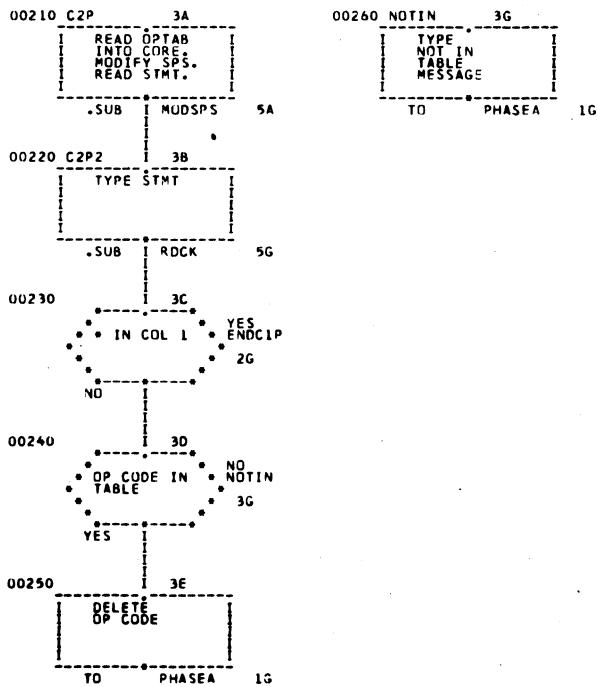
PAGE 1 OF 5



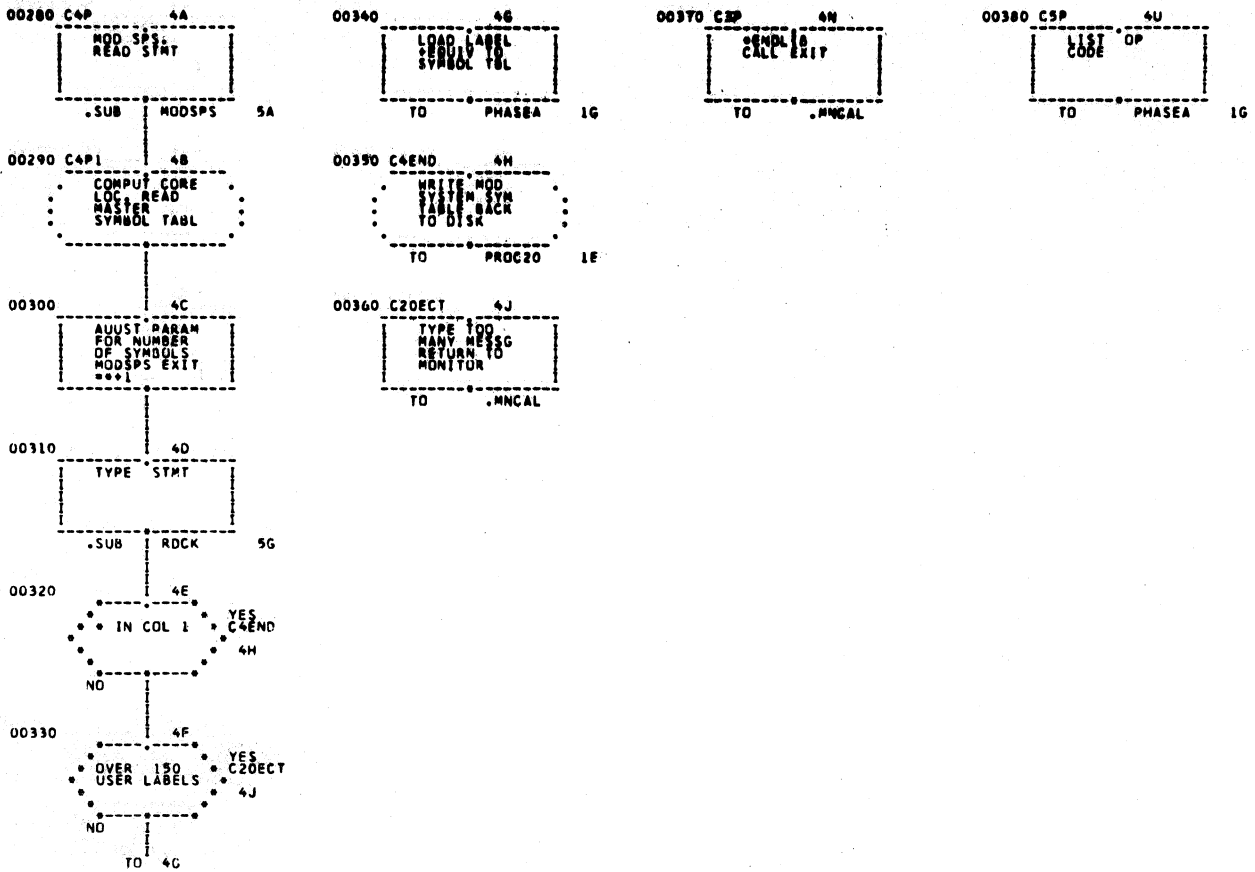
261



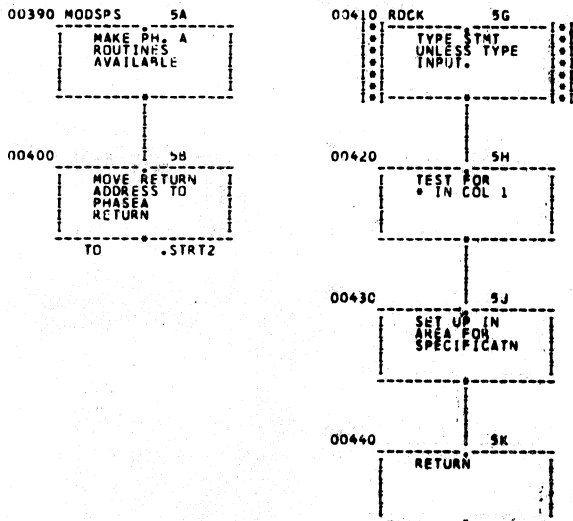
262

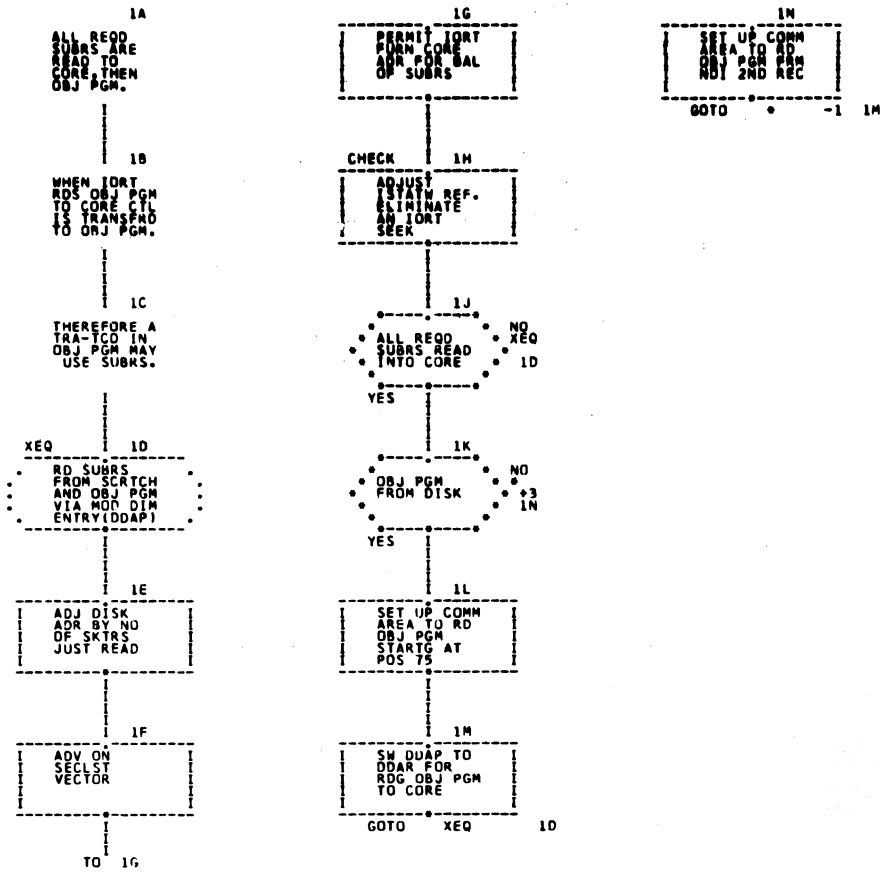


263

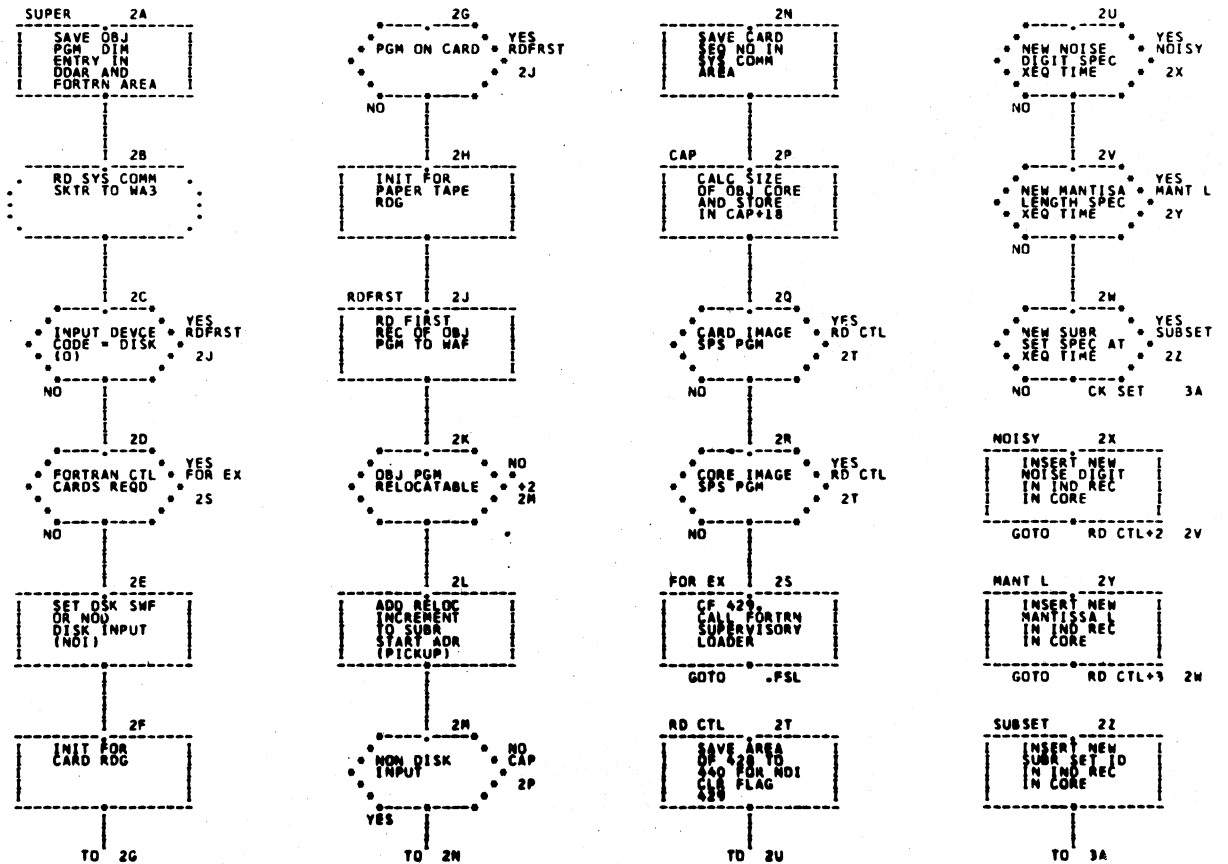


264

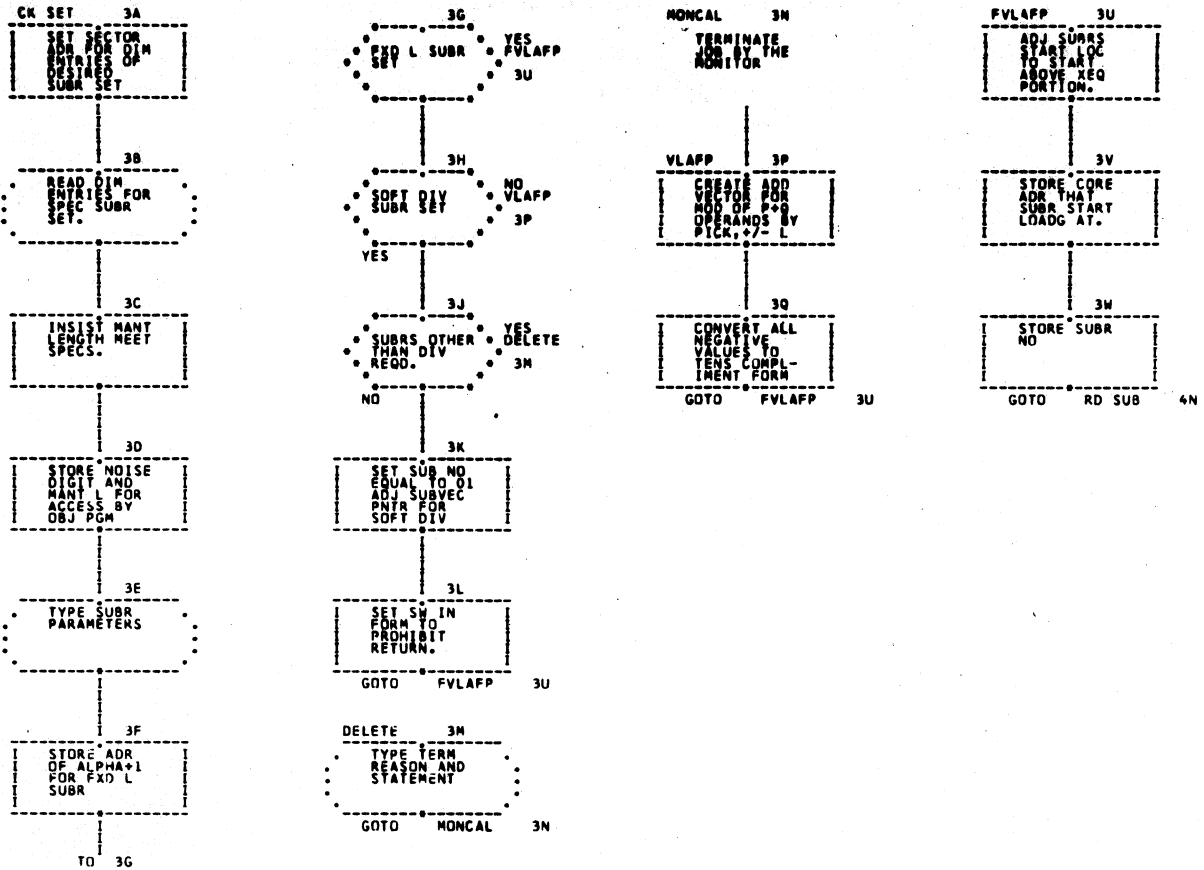




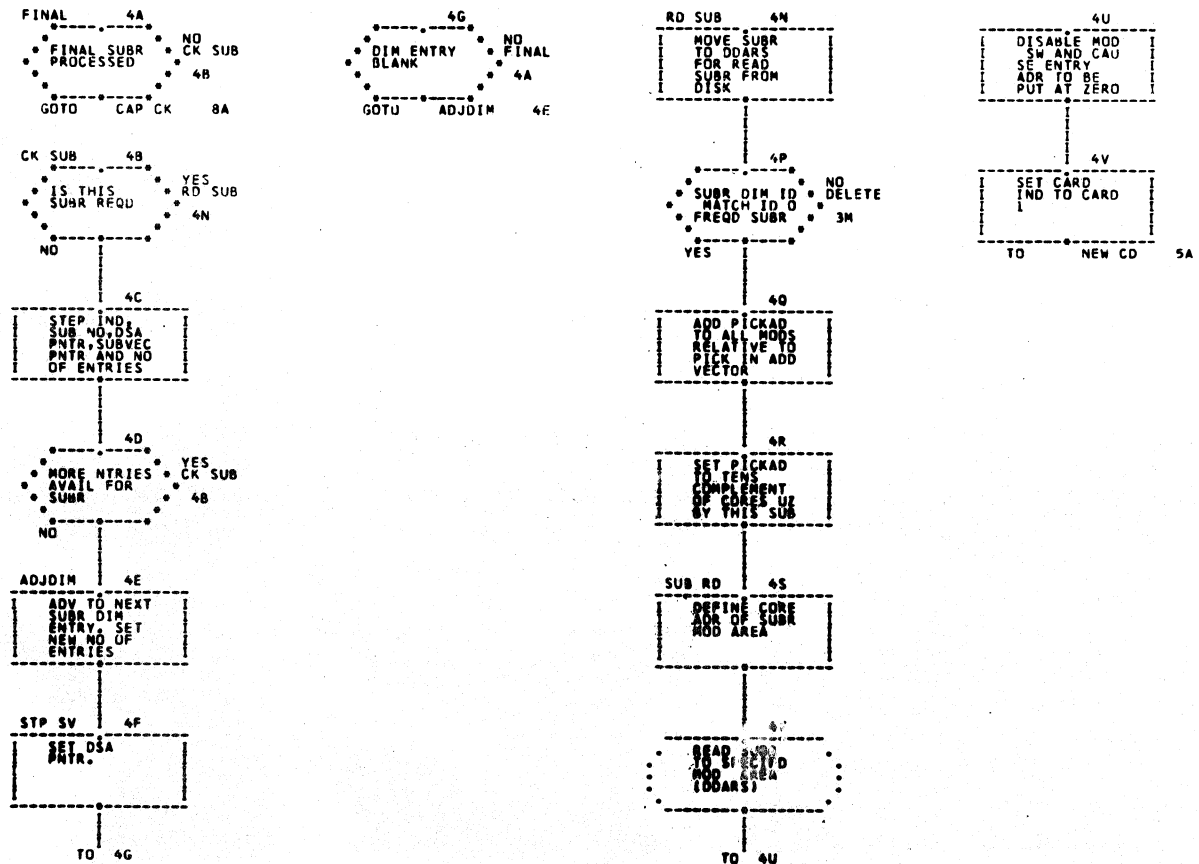
266



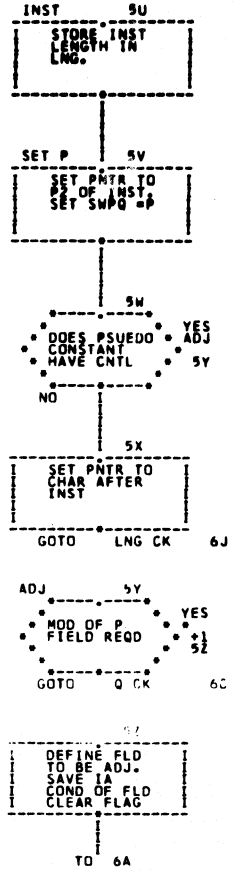
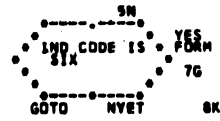
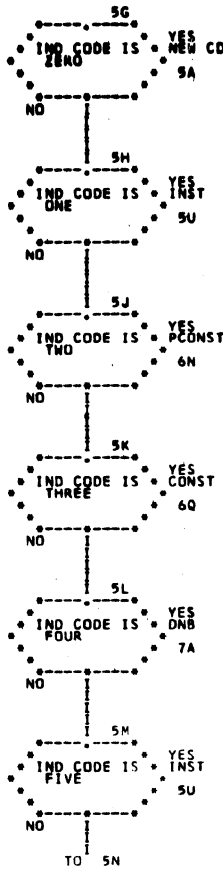
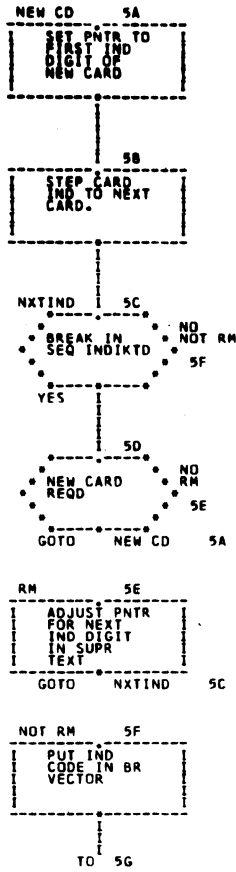
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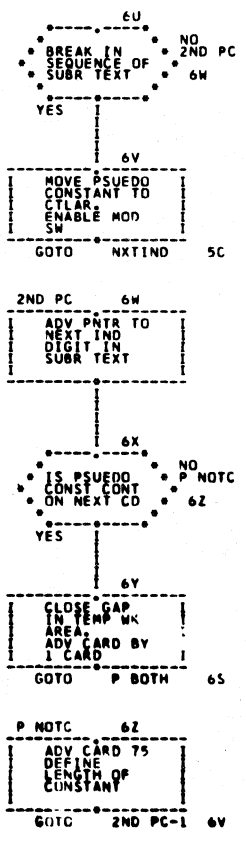
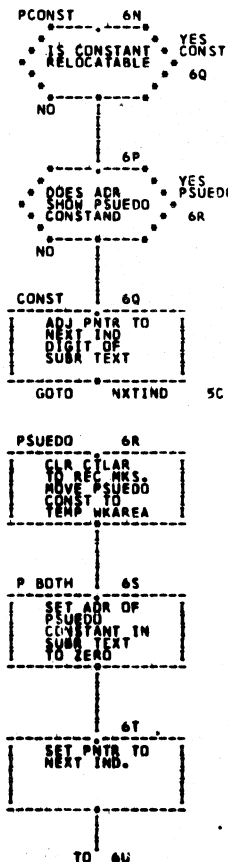
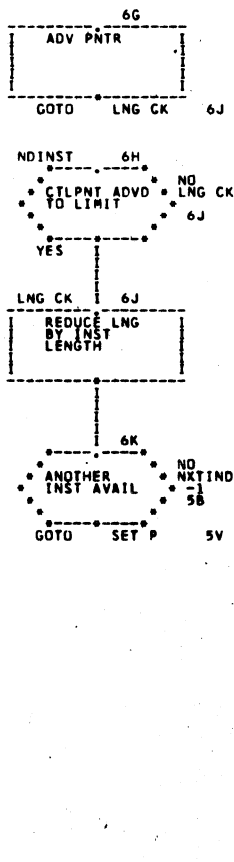
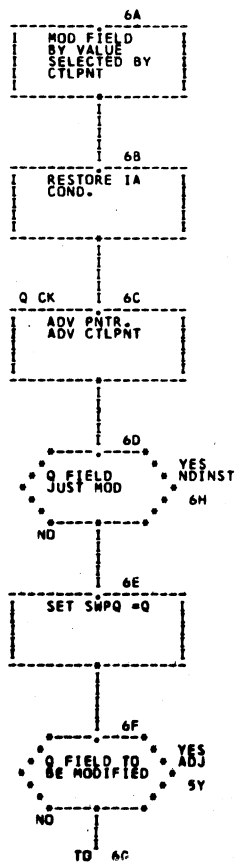


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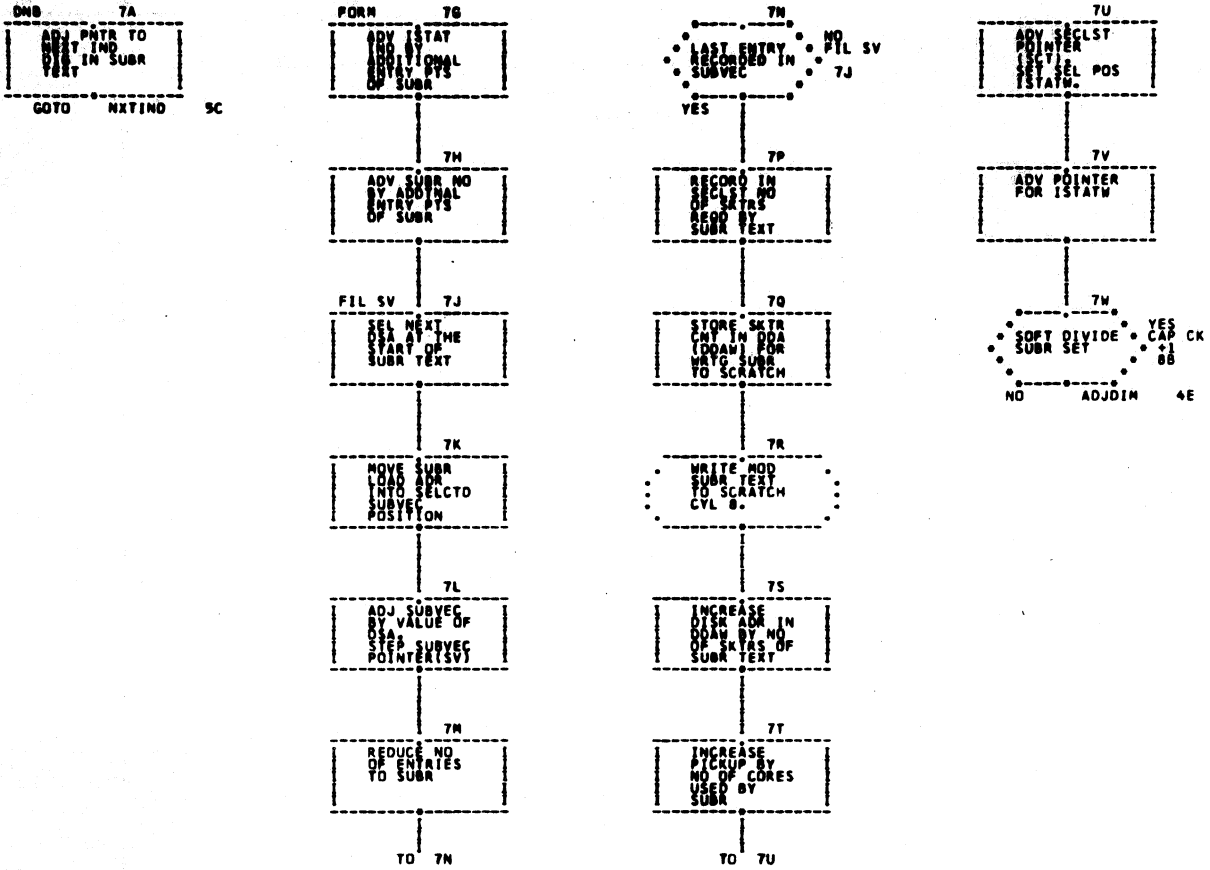


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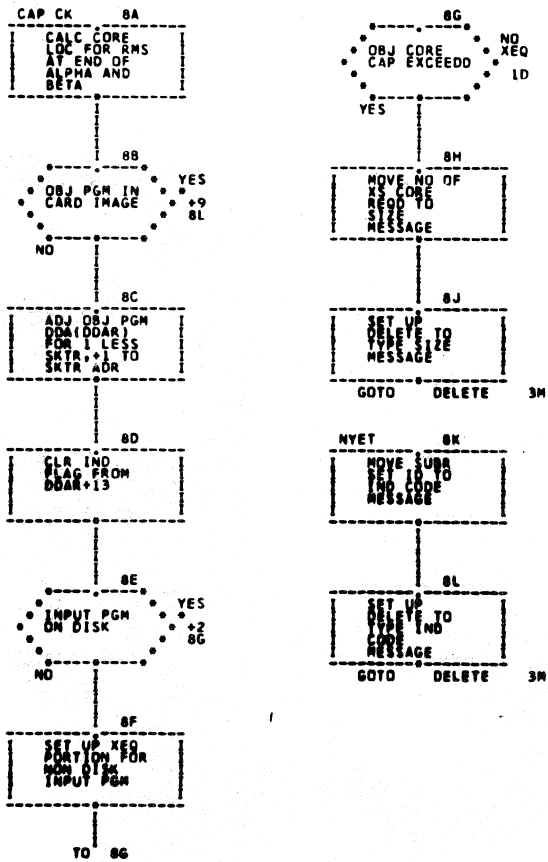
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LABEL TABLE • INDICATES UNREFERENCED LABEL

ALRIN	2M	*CIP	2A	*CIP2	2B	*C2P	3A	*C2P2	3B	C2OECT	4J
*C3P	4W	CAEND	4M	*E4P	4A	*C4P1	4B	*C4P	4U	ENDCIP	2G
*LIST	1A	MODSPS	3A	NOSPAC	2J	NOTIN	3C	PHASEA	1C	*PROCON	1C
PROC20	1E	ROCK	3C								

1620 MONITOR I SYSTEM SUPERVISOR & IORT MONITOR LOADER LISTINGS

00020	*****	SYSTEM COMMON							
00030		DORG 400				00402			
00040	DIMENT	DSC 1,0,,		FUR LOADER CALLS.		00402		1	
		0							
00050		DSA 0				00407		5 X 1	
00060		DC 3,0				00407		-0000	
		-00				00410		3	
00070		DSA 0				00415		5 X 1	
00080		DC 6,0',				00415		-0000	
		-0000'				00421		6	
00090		DSC 1,1,,		DISK SCRATCH AREA DEFINER.		00422		1	
		1							
00100	SRELQC	DC 3,0				00425		3	
		-00							
00110	SFDINT	DSC 1,0,,		SPS, FORTRAN, AND DUP CNTL CARD SOURCE.		00426		1	
		0							
00120	CINIT	DC 1,0,,		LADDR INITIALIZATION INDICATOR.		00427		1	
		-							
00130	LDINPT	DSC 1,0,,		LOADER ENTRY CODE AND INPUT DEVICE.		00428		1	
		0							
00140	FSPS	DSC 1,0,,		LOAD SUP IND. AND MONITOR CNTL CARD SOUR.		00429		1	
		0							
00150	HIGH	DC 5,0,,		HIGHEST ADDRESS LOADED PLUS ONE.		00434		5	
		-0000							
00160	LADDR	DC 5,0,,		LOADER INPUT BUFFER VECTOR.		00439		5	
		-0000							
00170	IBMMOD	DSC 1,1,,		DRIVE CODE FOR SYSTEM MODULE.		00440		1	
		1							
00180	OLDDA	DSC 15,0',,		TRANSMIT HEADLESS DDA-S HERE FOR OVRLAY.		00441		15	
		00000000000000'							
00190	*****	OVERLAY READ ROUTINE							
00200	HALT	H XX,XX,02,		RESET AND START UPON OVERLAY ERROR.		00456	MB	-0000 00000	
00210	OVRLAY	34 IBMMOD,701,,		SEEK AND READ OVERLAYING PROGRAM.		00468	34	00440 00701	
00220		36 IBMMOD,702,0				00480	L6	00440 00702	
00230	BNI	B1 HALT,1900,,		HALT IF IND. 1900.		00492	46	00456 01900	
00240		B IBMMOD+13,,6,		BRANCH TO ITS FIRST LOCATION.		00504	49	0045L 00000	
00250		DORG *-9				00506			
00260		DSA 20				00510		5 X 1	
00270	*****					00510		-0020	
00280	*****	MAIN IORT ROUTINE.							
00290	*	ENTRIES ARE IORBC, IOPT, IOSK, AND IOGT.							
00300	*	FILE DESCRIPTOR AND RETURN ADDRESS VECTOR IS IOXX.							
00310	*****								
00320	*****	DRIVE REPOSITION TABLE							
00330	REPOS	DORG BNI+20				00512			
00340		DC 2,0				00513		2	
		-0							
00350		DC 2,0				00515		2	
		-0							
00360	*	DC 2,0				00517		2	
		-0							

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00370		DC 2,0				00519		2	
		-0							
00380	*****	ENTRY SECTION							
00390	IORBC	TFM DIOP+47,1,11,		PUT ENTRY WITH READ BACK CHECK.		00520	15	02033 0000J	
00400	IOPT	TFM DFILE+11,TT1+12,8,		PUT ENTRY.		00532	16	01917 0J764	
00410		B IDGT+12				00544	49	00578 00000	
00420		DORG *-1				00554			
00430	IOSK	SF *,XX,,		SEEK ONLY ENTRY.		00554	32	00554 00000	
00440	IOGT	TFM DFILE+11,TT1,,		GET ENTRY.		00566	16	01917 -1752	
00450		TFM BKPT,X01,,		TURN OFF ANY I/O INDICATORS.		00578	16	00467 -1846	
00460		B1 ERROR,1900,11				00590	46	00624 0190-	
00470	ERRET	B BKPT,,16,		WHITHER WANDEREST THOU, WAYFARER.		00602	4R	00468 00000	
00480		DORG *-4				00609			
00490	INDS	DC 2,06,,		ERROR INDICATOR TABLE.		00610		2	
		-6							
00500		DC 2,07				00612		2	
		-7							
00510		DC 2,16				00614		2	
		J6							
00520		DC 2,17				00616		2	
		J7							
00530		DC 2,36				00618		2	
		L6							
00540		DC 2,37				00620		2	
		L7							
00550		DC 2,38				00622		2	
		L8							
00560		DSC 1,'				00623		1	
		*							
00570	*****	ERROR INDICATOR SCANNER ROUTINE.							
00580	ERROR	TF **21,INDS,7,		INITIALIZE FOR CURRENT INDICATOR.		00624	26	00645 -0610	
00590		BNI **24,XX,,		TEST IF INDICATOR ON.		00636	47	00660 00000	
00600		SF ERROR+11,,6,		YES -SET FLAG INDICATOR.		00648	32	0063M 00000	
00610		AM ERROR+11,2,10,		ADVANCE ADDRESSING.		00660	11	00635 000-2	
00620		CM ERROR+11,INDS+14,,		TEST IF FINISHED.		00672	14	00635 -0624	
00630		BNI ERROR,1300				00684	47	00624 01300	
00640		TR OLDDA,ECALL,,		YES -SET UP CALL TO THE ERROR ROUTINE.		00696	31	00441 01789	
00650		B OVRLAY,,				00708	49	00468 00000	
00660		DORG *-3				00716			
00670	*****	CALL LINK AND CALL LOAD ENTRY							
00680	*	SIMULATES AN IOGT ENTRY FOR SPS -CALL- PSUEDO-OP.							
00690	IOCAL	TFM DFILE+11,TT1,,		SET READ INDICATOR.		00716	16	01917 -1752	
00700		TR CNTWD,IOXX,11,		MOVE FILE DESCRIPTOR.		00728	31	02155 0056M	
00710		TFM BKPT,X01+36,,		PUNCH THE TIME CLOCK.		00740	16	00467 -1882	
00720		AM IOXX,9,,		COMPUTE RETURN ADDRESS.		00752	11	00565 -0009	
00730		BNI ERRET-12,CNTWD*7				00764	44	00590 02162	
00740		AM IOXX,4				00776	11	00565 -0004	
00750		B ERRET-12,,,		EXECUTE ANY INDICATOR CHECK.		00788	49	00590 00000	
00760		DORG *-3				00796			
00770	*****	MONITOR CALLER (THROUGH MONITOR RETURN ROUTINE.)							
00780	MONCAL	TR OLDDA,MDDA				00796	31	00441 01775	
00790		B OVRLAY				00808	49	00468 00000	
00800		DORG *-3				00816			
00810	*****	DISK FILE I/O PREPARATION SECTION							
00820	DIO	TD DIOP+1,DFILE+11,11,SET LOW ORDER DIGIT OF OP CODE.				00816	25	01987 0191P	
00830		TD **35,CNTWD,,		DECODE SCRATCH AND HIGH UPDATE		00828	25	00863 02155	

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00840	CF	++23,DIOP+102,,	INDICATOR.	00840	33	00863	02088	
00850	TD	DIOP+7,ERRRET-2		00852	25	01993	00600	
00860	BNF	CHK1,CNTWD+3,,	TEST IF DIM NUMBER SUPPLIED.	00864	44	01020	02158	
00870	TR	MAPENT,MAPSCT,,	YES -COMPUTE SECTOR TO READ.	00876	31	02118	01831	
00880	A	MAPENT+6,CNTWD+6		00888	21	02124	02161	
00890	A	MAPENT+6,CNTWD+6		00890	21	02124	02161	
00900	TFM	SK04,DIOR,,	SEEK THE MAP ENTRY.	00912	16	02142	-0932	
00910	B	SEEK		00924	49	01496	00000	
00920	DORG	=-3		00932				
00930	DIOX	TD	DIOP+94,MAPENT+6,,	READ SLOT FOR DIM ENTRY (0,20,40,60,80).	00932	25	02080	02124
00940	TDM	MAPENT+6,0,11,	RESTORE SECTOR COUNT (=001)	00944	15	02124	0000-	
00950	TFM	BKPT,X03,,	PUNCH THE TIME CLOCK.	00956	16	00467	-0988	
00960	36	MAPENT,702,,	READ THE DESIRED MAP ENTRY.	00968	36	02118	00702	
00970	B	ERRRET-12,,,	EXECUTE ERROR TEST.	00980	49	00590	00000	
00980	DORG	=-4		00987				
00990	X03	TR	MAPENT,DIOP+95,11,	MOVE DIM ENTRY TO WORKING SLOT.	00988	31	02118	0208J
01000	BNR	DIOP,MAPENT,,	TEST IF VALID DIM ENTRY.	01000	45	01068	02118	
01010	B	ERROR+72,,,	NO -GO TO THE ERROR ROUTINE.	01012	49	00696	00000	
01020	DORG	=-3		01020				
01030	CHK1	TR	MAPENT,CNTWD+6,11,	MOVE DDA TO WORKING SLOT.	01020	31	02118	0216J
01040	BD	DIOP,DIOP+7,,	TEST FOR SECTOR SCRATCH RELOCATION.	01032	43	01068	01993	
01050	A	MAPENT+3,SRELOC,,	YES -COMPUTE ABSOLUTE SECTOR ADDRESS.	01044	21	02121	00425	
01060	TD	MAPENT,SRELOC-3,,	GET ITS LOGICAL DRIVE CODE.	01056	25	02118	00422	
01070	DIOY	BNF	++44,IOSK,,	TEST IF SEEK ONLY DESIRED.	01068	44	01112	00554
01080	CF	IOSK,,	YES -CLEAR THE INDICATOR.	01080	33	00554	00000	
01090	TFM	SK04,IOXX,711,	PERFORM THE SEEK AND EXIT.	01092	16	02142	-056M	
01100	B	SEEK		01104	49	01496	00000	
01110	DORG	=-3		01112				
01120	BNF	GTEST,DFILE+8,,	BRANCH IF GET ENTRY.	01112	44	01156	01914	
01130	DIOZ	TD	DIOP+11,CNTWD+1,,	SET MODE DIGIT.	01124	25	01997	02156
01140	TFM	SK04,DIOP,,	PERFORM THE SEEK.	01136	16	02142	-1986	
01150	B	SEEK		01148	49	01496	00000	
01160	DORG	=-3		01156				
01170	GTEST	CM	MAPENT+13,99999,,	TEST IF RELOCATABLE LOADER REQUIRED.	01156	14	02131	R9999
01180	HI	++24,1200		01168	46	01192	01200	
01190	BNF	DIOZ,MAPENT+13,,	NO -TEST IF SPS SUPERVISOR REQUIRED.	01180	44	01124	02131	
01200	TR	OLDDA,RCALL,,	YES -READ AND EXECUTE CALLER.	01192	31	00441	01803	
01210	B	OVRLAY		01204	49	00468	00000	
01220	DORG	=-3		01212				
01230	*****		PUST DISK I/O HOUSEKEEPING SECTION					
01240	X04	CF	DIOP+98,1,,	CLEAR POSSIBLE USERS ERROR TRAP IND.	01212	33	02084	00000
01250	BNF	CHK2,DFILE+8,,	BRANCH IF GET ENTRY.	01224	44	01340	01914	
01260	TDM	DIOP+47,0,,	KILL POSSIBLE RBC INDICATOR.	01236	15	02033	00000	
01270	BNF	IOXX,CNTWD,6,,	EXIT IF NO REPOSITIONING REQUIRED.	01248	44	00560	02155	
01280	AM	DRIVE,REPOS-OLDCY,,	COMPUTE A SECTOR ADDRESS FROM THE	01260	11	02154	-1590	
01290	TDM	MAPENT+1,0,11,	REPOSITION CONSTANT.	01272	15	02119	0000-	
01300	TF	MAPENT+3,DRIVE,11		01284	26	02121	0215M	
01310	CF	MAPENT+2		01296	33	02120	00000	
01320	A	MAPENT+3,DRIVE,11		01308	21	02121	0215M	
01330	TD	MAPENT,TEMP-5,,	RESTORE THE LOGICAL DRIVE CODE DIGIT	01320	25	02118	0214+	
01340	B	DIOY+24		01332	49	01092	00000	
01350	DORG	=-3		01340				
01360	CHK2	BNF	CHK3,DIOP+7,,	TEST IF HIGH INDICATOR TO BE UPDATED.	01340	44	01376	01993
01370	TF	HIGH,MAPENT+13,,	YES.	01352	26	00434	02131	
01380	A	HIGH-2,MAPENT+8		01364	21	00432	02126	
01390	CHK3	BNF	CHK4,SPSNLP,,	TEST IF SPS MAIN LINE PROGRAM.	01376	44	01408	00468

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01400	TR	OLDDA,SUPNET,,	YES -GET ROUTINE TO HANDLE.	01388	31	00441	01817	
01410	B	OVRLAY		01400	49	00468	00000	
01420	DORG	=-3		01408				
01430	CHK4	BNF	X04+24,CNTWD+1,,	TEST IF EXECUTION DESIRED.	01408	44	01236	02156
01440	TF	HALT+6,IOXX,,	YES -SET UP THE EXIT.	01420	26	00462	00565	
01450	TFM	IOXX,MAPENT+10,711		01432	16	00565	-2130	
01460	BNR	X04+24,MAPENT+14		01444	45	01236	02132	
01470	TFM	IOXX,MAPENT+13,711		01456	16	00565	-213J	
01480	B	X04+24		01468	49	01236	00000	
01490	DORG	=-3		01476				
01500	*****		SEEK ROUTINE -SEEKS WHEN NECESSARY, COMPUTES PHYSICAL					
01510	*		DRIVE CODE CORRESPONDING TO USER SUPPLIED DRIVE CODE, AND					
01520	*		UPDATES CURRENT I/O CYLINDER POSITION INDICATOR.					
01530	SK01	TD	TEMP-5,MAPENT,,	INSERT SUPPLIED DRIVE CODE.	01476	25	02144	02118
01540	B	SK02		01488	49	01604	00000	
01550	DORG	=-3		01496				
01560	SEEK	TFM	TEMP-5,0,10,	COMPUTE CYLINDER FOR THIS CALL.	01496	16	02144	000-0
01570	TF	TEMP,MAPENT+5		01508	26	02149	02123	
01580	CF	TEMP-4		01520	33	02145	00000	
01590	A	TEMP,TEMP		01532	21	02149	02149	
01600	A	TEMP,TEMP		01544	21	02149	02149	
01610	A	TEMP,MAPENT+5		01556	21	02149	02123	
01620	BD	SK01,MAPENT,,	TEST FOR SPECIFIED DRIVE CODE.	01568	43	01476	02118	
01630	A	TEMP-5,TEMP-5,,	NO -MUST BE COMPUTED.	01580	21	02144	02144	
01640	AM	TEMP-5,1,10		01592	11	02144	000-1	
01650	SK02	TFM	DRIVE,EQUIV,,	COMPUTE LOCATION OF PHYSICAL DRIVE CODE.	01604	16	02154	-2102
01660	A	DRIVE,TEMP-5		01616	21	02154	02144	
01670	TD	MAPENT,DRIVE,11,	REPLACE LOGICAL DRIVE CODE BY PHYSICAL.	01628	25	02118	0215M	
01680	BD	++32,MAPENT,,	ERROR IF NO PHYSICAL DRIVE CODE.	01640	43	01672	02118	
01690	TFM	BKPT,SK02		01652	16	00467	-1604	
01700	B	ERROR+72,,,	TELL THE OPERATOR A THING OR TWO.	01664	49	00696	00000	
01710	DORG	=-3		01672				
01720	AM	DRIVE,OLDCY-EQUIV,,	GET OLD CYLINDER POSITION.	01672	11	02154	-0008	
01730	SF	TEMP-4,,,	COMPARE WITH DESIRED CYLINDER.	01684	32	02145	00900	
01740	C	TEMP-3,DRIVE,11		01696	24	02146	0215M	
01750	SK03	B1	SK04,1200,6,,	TEST IF THE SEEK IS NECESSARY.	01708	46	0214K	01200
01760	34	MAPENT,701,,	YES -PERFORM THE SEEK.	01720	34	02118	00701	
01770	TF	DRIVE,TEMP-3,6,	UPDATE OLD CYLINDER POSITION.	01732	26	0215M	02146	
01780	B	SK04,,6,	RETURN TO CALLER.	01744	49	0214K	00000	
01790	DORG	=-4		01751				
01800	*****		CONSTANTS AND DDA-5					
01810	TTI	DC	2,16,,	TABLE OF NON-DISK I/O MODE AND SERVICE	01752		2	
01820	J6	DC	2,36,,	SPECIFIERS.	01754		2	
01830	L6	DC	2,56		01756		2	
01840	M6	DC	2,17		01758		2	
01850	J7	DC	2,37		01760		2	
01860	L7	DC	2,57		01762		2	
01870	N7	DC	2,18		01764		2	
01880	J8	DC	2,28		01766		2	
01890	KB				01768		2	

01890	DC	2,48	01768	2		
01900	DC	2,19	01770	2		
01910	DC	2,29	01772	2		
01920	DC	2,49	01774	2		
01930	MDDA	DS 0,++1	01775	0		
01940	DSA	DSA19	01779	5 X	1	
01950	DC	3,3	01779	J9794		
01960	DC	6,0'	01782	3		
01970	ECALL	DS 0,++1	01788	6		
01980	DSA	DSA10	01789	0		
			01793	5 X	1	
01990	DC	3,12	01793	J9749		
02000	DSA	ERROR	01796	3		
02010	DSC	1,1'	01801	5 X	1	
02020	RCALL	DS 0,++1	01801	-0624		
02030	DSA	DSA15	01802	1		
02040	DSC	1,0	01803	0		
02050	DC	2,3	01807	5 X	1	
02060	DC	6,0'	01807	J9783		
02070	SUPRET	DS 0,++1	01808	1		
02080	DSA	DSA17	01810	2		
02090	DC	3,2	01816	6		
02100	DC	6,0'	01817	0		
02110	MAPSCT	DSC 1,1	01821	5 X	1	
02120	DSA	4800	01821	J9789		
02130	DSC	3,1	01824	3		
02140	DC	6,0'	01830	6		
02150	*****	CONTINUATION OF ENTRY SECTION	01831	1		
02160	XOI	TF ++23,IOXX,11, MOVE FILE DESCRIPTOR TO CNTWD.	01836	5 X	1	
			01836	-4800		
			01837	3		
			01845	6		
			01846	26	01869	0056N

02170	TR	CNTWD,XX	01858	31	02155	00000
02180	AM	IOXX,1,,	01870	11	00565	-0001
02190	BNF	DIO,CNTWD+5,,	01882	44	00816	02160
02200	A	DFILE+11,CNTWD+6,,	01894	21	01917	02161
02210	DFILE	TF IOP+10,XX	01906	26	01940	00000
02220	TD	IOP+1,IOP+10	01918	25	01931	01940
02230	*****	I/O SECTION				
02240	IOP	30 CNTWD+4,XX,06,	01930	L0	0215R	00000
02250	B1	DIO+60,1900,,	01942	46	02046	01900
02260	TFM	BKPT,X03,,	01954	16	00467	-0988
02270	BNR	IOXX,CNTWD+4,0611,	01966	M5	0056N	0215R
02280	B	ERROR+72,,	01978	49	00696	00000
02290	DDRG	8-3	01986			
02300	DIOF	30 MAPENT,700,010,	01986	L0	02118	007-0
02310	BNF	++36,++35,,	01998	44	02034	02033
02320	S	++23,DIOF+11	02010	22	02033	01997
02330	36	MAPENT,700,10	02022	36	02118	007-0
02340	BNI	X04,1900,,	02034	47	01212	01900
02350	TFM	BKPT,X04,,	02046	16	00467	-1212
02360	BNF	ERROR,++26,,	02058	44	00624	02084
02370	CF	++14,XX,,	02070	33	02084	00000
02380	B	XX	02082	49	00000	00000
02390	DDRG	2102	02102			
02400	*****	DRIVE EQUIVALENCE AND POSITION TABLES				
02410	EQUIV	DS 0,++1	02102	0		
02420	DC	2,1	02103	2		
02430	DC	2,0	02105	2		
02440	DC	2,0	02107	2		
02450	DC	2,0	02109	2		
02460	OLDCY	DS 0,++1	02110	0		
02470	DC	2,0	02111	2		
02480	DC	2,0	02113	2		
02490	DC	2,0	02115	2		
02500	DC	2,0	02117	2		
02510	*****	SYMBOL DEFINITIONS AND WORKING STORAGE				
02520	MAPENT	DSC 20,0,,	02118	20		
02530	SK04	DC 5,0,,	02142	5		
02540	TEMP	DC 7,0,,	02149	7		
02550	DRIVE	DC 5,0,,	02154	5		
02560	CNTWD	DSC 13,0,,	02155	13		
02570	XX	DS 0,0,,	00000	0		
02580	IOXX	DS 0,IOXK+11,,	00965	0		
02590	BKPT	DS 0,HALT+11,,	00467	0		

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02600	SYSORG	DS	0,2402,,	OBJECT PROGRAM STANDARD ORIGIN.	02402	0
02610	SYSICAL	DS	0,OVRLAY+7,,	SYSTEM PROGRAM COMMUNICATION DIGIT.	00475	0
02620	NONER	DS	0,HALT+1,,	NON-EXECUTE IND. SET BY SPS, ETC.	00487	0
02630	SPSMPL	DS	0,OVRLAY,,	SPS SUPERVISOR FLAG WHEN MLP LOAD REQUEST	00460	0
02640	RM1	DS	0,2200,,	INDIRECT VECTORS TO SET RECORD MARKS	02200	0
02650	RM2	DS	0,2205,,	FOR THE SPS SUP. AFTER MLP LOAD.	02205	0
02660	SUPENT	DS	0,2934,,	ENTRY TO THE SPS SUPERVISOR.	02934	0
02670	COMM	DS	0,SYSORG+400,,	LOCATION OF COMM SECTOR IN MONITOR.	02802	0
02680	MCOMM	DS	0,COMM+50,,	MONITOR INDS. IN THIS SECTOR	02852	0
02690	MCCBUF	DS	0,13000,,	MONITOR CNTL CARD READ BUFFER.	13000	0
02700	MCYL	DS	0,98,,	MONITOR CYLINDER	00098	0
02710	DSA00	DS	0,200+MCYL,,	FIRST SECTOR IN MONITOR CYLINDER	19600	0
02720	DSA01	DS	0,DSA00+35,,	LOADER RETURN ANALYZER STAGE 2	19635	0
02730	DSA02	DS	0,DSA01+1,,	ARITHMETIC TABLES.	19636	0
02740	DSA04	DS	0,DSA02+3,,	COMMON AND OVERLAY READ ROUTINE	19639	0
02750	DSA06	DS	0,DSA04+1,,	MAIN IORT	19640	0
02760	DSA07	DS	0,DSA06+16,,	RELOCATABLE LOADER CORE SAVE AREA	19656	0
02770	DSA08	DS	0,DSA07+3,,	MONITOR	19659	0
02780	DSA09	DS	0,DSA08+85,,	NAMED LOAD ROUTINE STAGE 2	19744	0
02790	DSA10	DS	0,DSA09+5,,	ERROR ROUTINE STAGE 0	19749	0
02800	DSA11	DS	0,DSA10+12,,	ERROR ROUTINE STAGE 1	19761	0
02810	DSA12	DS	0,DSA11+6,,	ERROR ROUTINE STAGE 2	19767	0
02820	DSA13	DS	0,DSA12+5,,	ERROR ROUTINE STAGE 3	19772	0
02830	DSA14	DS	0,DSA13+5,,	ERROR ROUTINE STAGE 4	19777	0
02840	DSA15	DS	0,DSA14+6,,	SPS SUP AND LOADER CALLER STAGE 1	19783	0
02850	DSA16	DS	0,DSA15+3,,	LOADER CALLER STAGE 2	19786	0
02860	DSA17	DS	0,DSA16+3,,	SPS SUPERVISOR RETURN ANALYZER	19789	0
02870	DSA18	DS	0,DSA17+2,,	LOADER RETURN ANALYZER STAGE 1	19791	0
02880	DSA19	DS	0,DSA18+3,,	MONITOR AND DUP SUP. LOADER SUBR.	19794	0
02890	DSA20	DS	0,DSA19+3,,	NAMED LOAD ROUTINE STAGE 1	19797	0
02900	DSA21	DS	0,DSA01-5,,	ERROR ROUTINE STAGE 0 PLUS	19630	0
02910	DSA39	DS	0,DSA08+4,,	SYSTEM COMMUNICATION SECTOR.	19663	0
02920	DSA40	DS	0,DSA08+8,,	SYSTEM DDA SECTOR.	19743	0
02930	DSA50	DS	0,17024,,	SPS SUPERVISOR	17024	0
02940	DSA51	DS	0,DSA00,,	RELOCATABLE LOADER	19600	0
02950	DORG		19982,	CONTROL TO WRITE ON DISK.	19982	
02960	DSC		1,1		19982	1
02970	DSA		DSA04		19987	5 X 1
02980	DC		3,20		19987	J9639
	-20				19990	3
02990	DC		6,402'		19996	6
	-0402'					

03000 *****
03010 ***** IORT SUBROUTINES WHICH NORMALLY RESIDE ON DISK FOLLOW
03020 *****
03030 ***** OVERLAY ERROR ROUTINE STAGE 0
03040 *** SAVE ERROR COUNT ROUTINE
03050 DORG ERROR
03060 TEST BNF NOERR,INDS,7, TEST IND TABLE
03070 AM COUNT,01,10,, UP THE ERROR COUNT
03080 NOERR AM TEST+11,02,10,, MODIFY ERROR TEST
03090 AM TEST+18,02,10,, MODIFY ERROR COUNT LOCATION
03100 CM TEST+11,INDS+12,, TEST LAST INDICATOR

03110	BNH	TEST			00684	47	00624	01100
03120	**		WRITE ERROR COUNT TO DISK					
03130	TD		IBHWRT,IBHMOD,, SET CORRECT MODULE		00696	25	01028	00440
03140	* NO	ERROR	COUNT TO DISK IF FULL TRACK					
03160	BNF		WRCT+12,DLDDA+14,, WRITE ERROR COUNT NO FLAG		00708	44	00740	00455
03170	B		GDGO		00720	49	00870	00000
03180	DORG		*-3		00728			
03240	WRCT	34	IBHWRT,701,, SEEK THE ERROR COUNT		00728	34	01028	00701
03250	38		IBHWRT,702,, WRITE THE ERROR COUNT		00740	38	01028	00702
03260	BI		BIGTRB,1900		00752	46	00772	01900
03270	B		GDGO		00764	49	00870	00000
03280	DORG		*-3		00772			
03290	BIGTRB	RCTY			00772	34	00000	00102
03300	WATY		MES1,, DISK WRITE ERROR MESSAGE		00784	39	00817	00100
03310	M				00796	48	00000	00000
03320	B		WRCT		00808	49	00728	00000
03330	DORG		*-4		00815			
03340	MES1	DAC	27,BAD DISK WRITE-RESET START' BAD DISK WRITE-RESET START' MESSAGE IF ENTERING IORT ERROR		00817		27 X	2
03350	***							
03360	GDGO	CM	BKPT,X01,, TEST IF CALLED AT ENTRY		00870	14	00467	-1846
03370	BE		MESSG		00882	46	00960	01200
03380	CM		BKPT,X01+36		00894	14	00467	-1882
03390	BE		MESSG		00906	46	00960	01200
03400	TR		OLDDA,JOFF,, NO-CALL IORT ERROR		00918	31	00441	01042
03410	B		OV RLAY+12,, ELIMINATE SEEK		00930	49	00480	00000
03420	DORG		*-4		00937			
03430	MES2	DAC	11,ENT ERROR ' ENT ERROR '		00939		11 X	2
03440	MESSG	RCTY			00960	34	00000	00102
03450	WATY		MES2,, IO IN MESSAGE		00972	39	00939	00100
03460	WNTY		INDS-1,, IO INDICATORS		00984	38	00609	00100
03470	RCTY				00996	34	00000	00102
03480	BI		*+12,700		01008	46	01020	00700
03490	B		EEXIT+12		01020	49	01642	00000
03500	DORG		*-3		01028			
03510	IBHWRT	DC	1,1		01028		1	
03520	DSA		DSA10+5		01033		5 X	1
03530	DC		3,1		01033		J9754	
	-01				01036		3	
03540	DSA		ERROR+500		01041		5 X	1
03550	JOFF	DS	0,*+1		01041		-1124	
03560	DSA		DSA21		01042		0	
					01046		5 X	1
03570	DC		3,5		01046		J9630	
	-05				01049		3	
03580	DSA		ERROR		01054		5 X	1
03590	DSC		1,1		01054		-0624	
					01059		1	

03610 *	ROUTINE TO TYPE OUT AND RESTORE THE ERROR COUNTERS TO ZERO				
03620	DORG ERROR+500		01124		
03630 COUNT	DC 2,00,,, 06		01129	2	
	-0				
03640	DC 2,00,,, 07		01127	2	
	-0				
03650	DC 2,00,,, 16		01129	2	
	-0				
03660	DC 2,00,,, 17		01131	2	
	-0				
03670	DC 2,00,,, 36		01133	2	
	-0				
03680	DC 2,00,,, 37		01135	2	
	-0				
03690	DC 3,00,,, 38		01138	3	
	-0*				
03700	DORG ERROR+524		01148		
03710	RCTY ,,,	CALL IN BY ENTERING	01148	34	00000 00102
03720	WNTY 46,,,	340003200701	01160	38	00046 00100
03730	TR 46,120,,	340003200702	01172	31	00046 00120
03740	38 32,702,,	4900070011975400100046	01184	38	00032 00702
03750	H		01196	48	00000 00000
03760	DORG *-9,	NOW WASN-T THAT NICE	01198		
03770	DC 2,0		01199	2	
	-0				
03780	DC 2,0		01201	2	
	-0				
03790	DC 2,0		01203	2	
	-0				
03800	DC 2,0		01205	2	
	-0				
03810	DC 2,0		01207	2	
	-0				
03820	DC 2,0		01209	2	
	-0				
03830	DC 3,0'		01212	3	
	-0*				
03840 *****	THIS ROUTINE REMAINS IN CORE WITH ALL ERROR ROUTINES				
03850	DORG ERROR+600		01224		
03860 BBUFF	00		01224	00	00000 00000
03870	DSC 8,0'		01236	8	
	0000000'				
03880 SIOXX	DSC 6,0'		01244	6	
	00000'				
03890	TFM **23,INDS,,	ROUTINE TO DETERMINE ERROR INDS.	01250	16	01273 -0610
03900 CHECK	TF **33,XX,7		01262	26	01295 -0000
03910	CF *-1,,6		01274	33	0127L 00000
03920	BNI **36,XX		01286	47	01322 00000
03930	SF CHECK+11,,6		01298	32	0127L 00000
03940	SF CHECK+8		01310	32	01270 00000
03950	AM CHECK+11,2,10		01322	11	01273 000-2
03960 CHEK1	CM CHECK+11,INDS+12,8		01334	14	01273 0-622
03970	BNI CHECK,1300		01346	47	01262 01300
03980	BNF QTEST,CHECK+8,,	ON DISK ERROR, DISTINGUISH IF OVERFLOW.	01358	44	00760 01270
03990 CHEK2	BD RETRY,STEPS,,	IF NOT, GO INTO RETRY LOOP.	01370	43	01036 01200
04000 HOLLER	RCTY ,,,	TYPE ERROR MESSAGE.	01382	34	00000 00102

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04010	WATY EMSG1		01394	39	01779 00100
04020	SPTY		01406	34	00000 00101
04030 HO1	WNTY SIOXX		01418	38	01244 00100
04040	SPTY		01430	34	00000 00101
04050	NOP HO4		01442	41	01478 00000
04060 HO3	WNTY INDS-1		01454	38	00609 00100
04070	SPTY		01466	34	00000 00101
04080 HO4	H ERROR+8		01478	48	00632 00000
04090	TFM B1-5,B1,711,	INITIALIZE INDIRECT BRANCH.	01490	16	01568 -157L
04100	RNTY BBUFF,,,	READ THE OPERATORS ENTRY.	01502	36	01224 00100
04110	SPTY		01514	34	00000 00101
04120	BI *-24,400,,	IF SSW4, ALLOW REENTRY.	01526	46	01502 00400
04130	SF BBUFF,,,	COMPUTE BRANCH ADDRESS.	01538	32	01224 00000
04140	S B1-5,8BUFF+1		01550	22	01568 01225
04150	B B1,,6,,	PERFORM INDIRECT BRANCH.	01562	49	0157L 00000
04160	DORG *-4		01569		
04170 B1	DSA EEXIT		01573		5 X 1
04180	DSA RETRY		01573		-1630
			01578		5 X 1
04190	DSA APHASE		01578		-1036
			01583		5 X 1
04200	DSA AJUB		01583		-1606
			01588		5 X 1
04210	DSA RETN		01588		-1594
			01593		5 X 1
04220 AJOB	TDM **23,0,,	SET MONITOR RETURN INDICATOR.	01593		-1674
04230 APHASE	TDM SYSCAL,4		01594	15	01617 00000
04240	TFM BKPT,MONCAL		01606	15	00475 00004
04250 EEXIT	NOP MAPENT,SAVDDA,,	RESTORE WORKING DDA IF DISK I/O ERROR.	01618	16	00467 -0796
04260	TR OLDDA,ERRB,,	RESTORE MAIN ROUTINE AND RETURN.	01630	41	02118 01169
04270	TFM OLDCY+1,MCYL,10,	RESTORE MONITOR MODULE CYLINDER IND.	01642	31	00441 01809
04280	B OVLAY+12		01654	16	02111 000R8
04290	DORG *-3		01666	49	00480 00000
04300 RETN	RNTY BBUFF,,,	READ OPERATORS ENTRY.	01674		
04310	SPTY		01674	36	01224 00100
04320	BI *-24,400,,	ALLOW REENTRY IF SSW4.	01686	34	00000 00101
04330	SF BBUFF,,,	INITIALIZE FOR RETURN.	01698	46	01674 00400
04340	TF BKPT,8BUFF+4		01710	32	01224 00000
04350	TDM DIOP+47,0		01722	26	00467 01228
04360	CF IOSK		01734	15	02033 00000
04370	CF DIOP+98		01746	33	00554 00000
04380	B EEXIT		01758	33	02084 00000
04390	DORG *-3		01770	49	01630 00000
04400 EMSG1	DAC 9,DSK ERR ',		01778		
	DSK ERR '		01779		9 X 2
04410 SIOP	36 MAPENT,702,0		01796	L6	02118 00702
04420	DSC 1,',		01808		1
	,				
04430 ERAB	DS 0,,+1		01809		0
04440	DSA DSA06+1		01813		5 X 1

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04450	DC 3,13		01813	J9641		
	-13		01814	3		
04460	DSA ERRET		01821	5 X 1		
04470	DSC 1,1		01821	-0602		
			01822	1		
04480	DORG 19982,	CONTROL TO WRITE ON DISK.	19982			
04490	DSC 1,1		19982	1		
	1					
04500	DSA DSA10		19987	5 X 1		
04510	DC 3,12		19987	J9749		
	-12		19990	3		
04520	USA ERROR		19995	5 X 1		
04530	DSC 1,1		19995	-0624		
			19996	1		
04540	*****	OVERLAY ERROR ROUTINE STAGE 0 PLUS				
04550	DORG ERROR		00624			
04560	E0030 TF	SIOXX+4,IOXX,, MOVE RETURN ADDRESS FOR TYPE-OUT.	00624	26	01248	00565
04570	CM	BKPT,X03,, THREE POSSIBILITIES FOR THIS.	00636	14	00467	-0988
04580	BNF	E0070,CNTWD+5,, BRANCH IF DISK I/O.	00648	44	00832	02160
04590	BNI	E0040,1200	00660	47	00730	01200
04600	BNR	E0050,CNTWD+4,11, TEST IF CNTL CARD TRAP.	00672	45	00800	0215R
04610	TFM	BKPT,IOXX,711, YES -SET PROPER RETURN POINT.	00684	16	00467	-056N
04620	TR	OLDDA,+19,, LOAD AND EXECUTE ERROR ROUTINE	00696	31	00441	00715
04630	B	OVRLAY+12,DSA14,, STAGE 4.	00708	49	00480	19777
04640	DC 3,6		00722			
	-06					
04650	DSA ERROR		00727	5 X 1		
04660	DSC 1,1		00727	-0624		
			00728	1		
04670	E0040 CM	BKPT,X04,, TEST IF ERROR AT NON-DISK I/O TIME.	00730	14	00467	-1212
04680	BNI	E0050,1200	00742	47	00800	01200
04690	TFM	BKPT,IDP+24	00754	16	00467	-1954
04700	TR	OLDDA,+19,, LOAD AND EXECUTE ERROR ROUTINE	00766	31	00441	00785
04710	B	OVRLAY+12,DSA12,, STAGE 2.	00778	49	00480	19767
04720	DC 3,5		00792			
	-05					
04730	DSA ERROR		00797	5 X 1		
04740	DSC 1,1		00797	-0624		
			00798	1		
04750	E0050 RCTY	,,, IMPOSSIBLE ERROR -MACHINE FAILURE OR	00800	34	00000	00102
04760	WATY	MSG21,,, INCORRECT IORT CALLING SEQUENCE.	00812	39	01077	00100
04770	B	APHASE,,, TERMINATE THE CURRENT PHASE.	00824	49	01606	00000
04780	DORG -3		00832			
04790	E0070 BI	E0100,1200,, TEST IF AT MAP SECTOR READ TIME.	00832	46	01044	01200
04800	CM	BKPT,X04,, NO -TEST IF AT DISK I/O TIME.	00844	14	00467	-1212

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04810	BNI	E0090,1200	00856	47	00950	01200
04820	TFM	H04+6,ERROR+20,, YES -INITIALIZE FOR DISK ERROR.	00868	16	01484	-0644
04830	TD	DIOP+12,SIOP+12	00880	25	01998	01808
04840	TR	SIOP,DIOP	00892	31	01796	01986
04850	TDM	UIOP+12,4	00904	15	01998	00004
04860	E0080 TR	OLDDA,+19,, LOAD AND EXECUTE ERROR ROUTINE	00916	31	00441	00935
04870	B	OVRLAY+12,DSA11,, STAGE 1.	00928	49	00480	19761
04880	DC 3,6		00942			
	-06					
04890	DSA ERROR		00947	5 X 1		
04900	DSC 1,1		00947	-0624		
			00948	1		
04910	E0090 CM	BKPT,AB01,, TEST IF ILLEGAL NAME LOAD REQUEST.	00950	14	00467	J0926
04920	BI	E0095,1200	00962	46	01010	01200
04930	CM	BKPT,SK02,, NO -TEST IF ILLEGAL DRIVE CODE.	00974	14	00467	-1604
04940	BNI	E0050,1200	00986	47	00800	01200
04950	TFM	H04+6,ROVCD,, YES -SET UP FOR ERROR PROCEDURE.	00998	16	01484	-0996
04960	E0095 TR	OLDDA,+19,, LOAD AND EXECUTE ERROR ROUTINE	01010	31	00441	01029
04970	B	OVRLAY+12,DSA13,, STAGE 3.	01022	49	00480	19772
04980	DC 3,5		01036			
	-05					
04990	DSA ERROR		01041	5 X 1		
05000	DSC 1,1		01041	-0624		
			01042	1		
05010	E0100 BNR	E0080,MAPENT,, TEST IF EMPTY MAP ENTRY CALL.	01044	45	00916	02118
05020	TFM	H04+6,MERR,, YES -SET UP CALL TO THE ERROR ROUTINE.	01056	16	01484	-0872
05030	B	E0095	01068	49	01010	00000
05040	DORG -3		01076			
05050	EMSG21 DAC	8,IMP ERR', IMP ERR'	01077			
05060	DORG 19982,	CONTROL TO WRITE ON DISK.	19982			
05070	DSC 1,1		19982	1		
	1					
05080	DSA DSA21		19987	5 X 1		
05090	DC 3,5		19987	J9630		
	-05		19990	3		
05100	DSA ERROR		19995	5 X 1		
05110	DSC 1,1		19995	-0624		
			19996	1		
05120	*****	OVERLAY ERROR ROUTINE STAGE 1				
05130	DORG ERROR		00624			
05140	B	H04+6,,6 BRANCH AS PRESET.	00624	49	01484	00000
05150	DORG -3		00632			
05160	TDM	NIOP+13,9,, DISABLE ANY READ CHECK.	00632	15	01073	00009
05170	TDM	EEXIT,3,, INITIALIZE ERROR RETURN.	00644	15	01630	00003
05180	TFM	EEXIT+2,OVRLAY	00656	16	01672	-0468
05190	TR	NIOP,SIOP,, MOVE THE I/O INSTRUCTION.	00668	31	01060	01796
05200	TDM	NIOP+12,4,, CLEAR THE RECORD MARK.	00680	15	01072	00004

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05210	TR	SAVDDA,MAPENT,,	SAVE THE WORKING ODA.	00692	31	01169	02118
05220	WTEST	BNF ++20,INDS,7,	DETERMINE IF NON-CYLINDER OVERFLOW ERROR.	00704	44	00724	-0610
05230	B	RETRY,,,	NO.	00716	49	01036	00000
05240	DORG	=-3		00724			
05290	AM	WTEST+11,2		00724	11	00715	-0002
05260	CM	WTEST+11,INDS+12		00736	14	00715	-0622
05270	BN1	WTEST,1300		00748	47	00704	01300
05280	OTEST	BN1 ++24,3000		00760	47	00784	03800
05290	SF	INDS+12		00772	32	00622	00000
05300	BNF	EEXIT,INDS+12		00784	44	01630	00622
05310	CYLOVF	TFM NEXT,200,,	YES -COMPUTE ADDRESS OF TOP OF NEXT CYL.	00796	16	00963	-0200
05320	TD	++23,MAPENT+3		00808	25	00831	02121
05330	BD	++24,TEETH		00820	43	00844	01211
05340	TFM	NEXT,100		00832	16	00963	-0100
05341	TFM	NEWDDA+13,0		00844	16	01167	-0000
05350	A	NEXT-2,MAPENT+3		00856	21	00961	02121
05360	TF	NEWDDA+9,NEXT,,		00868	26	01159	00963
05370	S	NEXT,MAPENT+5,,	COMPUTE NUMBER OF SECTORS PROCESSED.	00880	22	00963	02123
05380	TF	NEWDDA+11,NEXT		00892	26	01165	00963
05390	S	NEXT,MAPENT+8,,	COMPUTE NUMBER OF SECTORS YET TO PROCESS.	00904	22	00963	02126
05400	BNF	RETRY,NEXT,,	MUST RETRY IF 0 OR LESS.	00916	44	01036	00963
05410	CM	DRIVE,99,610,,	TEST IF DRIVE OVERFLOW.	00928	14	0215M	000R4
05420	BI	DOVFL,1200		00940	46	01128	01200
05430	CF	NEXT,,,	NO -SET NEW SECTOR COUNT.	00952	33	00963	00000
05440	NEXT	DS	0,,	00963			0
05450	SF	NEXT-2		00964	32	00961	00000
05460	TF	NEWDDA+8,NEXT		00976	26	01162	00963
05470	SF	NEWDDA+9,,,		00988	32	01163	00000
05480	A	NEWDDA+13,MAPENT+13	COMPUTE NEW CORE ADDRESS.	01000	21	01167	02131
05490	AM	DRIVE,1,610,,	UPDATE CYLINDER POSITION INDICATOR.	01012	11	0215M	000-1
05500	TR	MAPENT+1,NEWDDA+1,,	MOVE NEW ODA TO WORKING SLOT.	01024	31	02119	01159
05510	RETRY	TD CHEK2+11,CHEK2+11,11,	REDUCE RETRY COUNT.	01036	25	01381	0138J
05520	34	MAPENT,701,,	RESEK.	01048	34	02118	00701
05530	NIOP	30	I/O INSTRUCTION GETS MOVED HERE.	01060	30	00000	00000
05540	BNF	++36,DIOP+47,,	TEST IF ALSO READ BACK CHECK.	01072	44	01108	02033
05550	TD	++23,DIOP+47,,	YES -GET MODE DIGIT.	01084	25	01107	02033
05560	36	MAPENT,700		01096	36	02118	00700
05570	BN1	EEXIT,1900,,	SEE IF ANY TROUBLE THIS TIME.	01108	47	01630	01900
05580	B	CHEK-12		01120	49	01250	00000
05590	DORG	=-3		01128			
05600	DOVFL	TF EMSG1+12,EMSG2+4,,	INITIALIZE FOR DRIVE OVERFLOW TYPE-OUT.	01128	26	01791	01153
05610	B	HOLLER		01140	49	01382	00000
05620	DORG	=-3		01148			
05630	EMSG2	DAC 3,OFL,		01149		3 X	2
05640	NEWDDA	DSC 15,0'		01154		15	
		0000000000000000'					
05650	SAVDDA	DSC 20,0		01169		20	
		00000000000000000000					
05660	STEPS	DSC 10,1234567890,1200,UP, UP, UP AND --WOOOPS.		01200		10	
		1234567890					
05670	TEETH	DAC 5,+++++,1211		01211		5 X	2
		+++++					
05680	DORG	19982,,	CONTROL TO WRITE ON DISK	19982			
05690	DSC	1,1		19982		1	
		1					

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05700	DSA	DSA11		19987		5 X	1
				19987		J9761	
05710	DC	3,6		19990		3	
	-06						
05720	DSA	ERROR		19995		5 X	1
				19995		-0624	
05730	DSC	1,1		19996		1	
05740	*****	OVERLAY ERROR ROUTINE STAGE 2					
05750	DORG	ERROR		00624			
05760	TFM	CHEK2-6,EEXIT+12,,	INITIALIZE ERROR CHECK EXIT.	00624	16	01364	-1642
05770	TDM	CHEK2+1,1		00636	15	01371	00001
05780	TFM	B1+5,IOPA,,	SET RETRY ADDRESS.	00648	16	01578	-1004
05790	TD	IOP+12,S1OP+12,,	MOVE THE I/O INSTRUCTION.	00660	25	01942	01808
05800	TR	S1OP,IOP		00672	31	01796	01930
05810	TR	IOPA,IOP		00684	31	01004	01930
05820	TDM	IOP+12,4,,	CLEAR THE RECORD MARKS.	00696	15	01942	00004
05830	TDM	IOPA+12,4		00708	15	01016	00004
05840	SF	IOP+9,,,	INITIALIZE FOR DEVICE COMPARISON	00720	32	01939	00000
05850	TDM	IOP+10,0		00732	15	01940	00000
05860	CM	IOP+11,100,9,	DETERMINE IF A TYPE ERROR	00744	14	01941	00400
05870	BN1	Z01,1200		00756	47	00836	01200
05880	CM	IOP+1,36,10,	YES -DETERMINE IF A READ.	00768	14	01931	000L6
05890	BI	++36,1200		00780	46	00816	01200
05900	CM	IOP+1,37,10		00792	14	01931	000L7
05910	BN1	EEXIT+12,1200,,	EXIT IF A WRITE.	00804	47	01642	01200
05920	TF	EMSG1+4,EMSG7+4,,	SET UP ERROR MESSAGE.	00816	26	01783	01077
05930	B	HOLLER		00828	49	01382	00000
05940	DORG	=-3		00834			
05950	Z01	CM IOP+11,200,9,	TEST IF P/T PUNCH ERROR	00836	14	01941	00K00
05960	BN1	Z02,1200		00848	47	00880	01200
05970	TF	EMSG1+4,EMSG6+4,,	YES -SET UP ERROR MESSAGE.	00860	26	01783	01071
05980	B	HOLLER		00872	49	01382	00000
05990	DORG	=-3		00880			
06000	Z02	CM IOP+11,300,9,	TEST IF P/T READER ERROR	00880	14	01941	00L00
06010	BN1	Z03,1200		00892	47	00924	01200
06020	TF	EMSG1+4,EMSG5+4,,	YES -SET UP ERROR MESSAGE.	00904	26	01783	01065
06030	B	HOLLER		00916	49	01382	00000
06040	DORG	=-3		00924			
06050	Z03	CM IOP+11,400,9,	TEST IF CARD PUNCH ERROR	00924	14	01941	00M00
06060	BN1	Z04,1200		00936	47	00980	01200
06070	TF	EMSG1+4,EMSG4+4,,	YES -SET UP ERROR MESSAGE.	00948	26	01783	01059
06080	BNF	HOLLER,INDS+2,,	TEST IF WRITE CHECK.	00960	44	01382	00612
06090	B	IOPA,,,	YES -GIVE FREE RETRY.	00972	49	01004	00000
06100	DORG	=-3		00980			
06110	Z04	TF EMSG1+4,EMSG3+4,,	SET UP ERROR MESSAGE.	00980	26	01783	01053
06120	BNF	HOLLER,INDS,,	TEST IF READ CHECK.	00992	44	01382	00610
06130	IOPA	30	NON-DISK I/O INSTRUCTION.	01004	30	00000	00000
06140	BN1	EEXIT+12,1900,,	EXIT IF NO ERROR.	01016	47	01642	01900
06150	TFM	CHEK1+11,INDS+8,,	NO -GIVE THE LOOP A WHIRL.	01028	16	01345	-0618
06160	B	CHEK-12		01040	49	01250	00000
06170	DORG	=-3		01048			
06180	EMSG3	DAC 3,CDR,		01049		3 X	2
		CDR					

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06190	ENSG4	DAC 3,CDP,		01055	3 X 2
		CDP			
06200	ENSG5	DAC 3,PTR,		01061	3 X 2
		PTR			
06210	ENSG6	DAC 3,PTP,		01067	3 X 2
		PTP			
06220	ENSG7	DAC 3,TYP,		01073	3 X 2
		TYP			
06230		DDRG 19902,	CONTROL TO WRITE ON DISK.	19902	
06240		DSC 1,1		19902	1
		1			
06250		DSA DSA12		19907	5 X 1
06260		DC 3,5		19907	J9767
		-05		19990	3
06270		DSA ERROR		19995	5 X 1
06280		DSC 1,1		19995	-0624
				19996	1
06290	*****	ERROR ROUTINE STAGE 3			
06300	*	PROCESSES INVALID DIMS, PROGRAM NAMED LOADS AND DRIVE CODES			
06310		DDRG ERROR		00624	
06320		B HD4+6,,6,	EXECUTE INDIRECT BRANCH.	00624	49 0148M 00000
06330		DDRG *-3		00632	
06340		TFM B1,RNAM,,	INITIALIZE FOR ILLEGAL NAME CALL.	00632	16 01573 -0712
06350		TF EMSG1+4,ENSG11+4		00644	26 01703 01083
06360		TDM HD3+1,9		00656	15 01455 00009
06370		TFM HD3+6,AAO2A+6		00668	16 01460 -0235
06380		TD AAO2A+10,STOP+12		00680	23 00247 01808
06390		TFM B1+5,ROIM		00692	16 01578 -0780
06400		B HOLLER		00704	49 01382 00000
06410		DDRG *-3		00712	
06420	RNAM	RATY BBUFF+1,,	READ THE TYPED NAME.	00712	37 01225 00100
06430		SPTY		00724	34 00000 00101
06440		RI *-24,400,,	ALLOW RE-ENTRY IF SSW4.	00736	46 00712 00400
06450		SF BBUFF		00748	32 01224 00000
06460		TF AAO2A+16,BBUFF+11		00760	26 00245 01235
06470		B EEXIT+12		00772	49 01642 00000
06480		DDRG *-3		00780	
06490	RDIM	RNTY BBUFF,,	READ THE TYPED DIM NUMBER.	00780	36 01224 00100
06500		SPTY		00792	34 00000 00101
06510		BI *-24,400		00804	46 00780 00400
06520		SF BBUFF		00816	32 01224 00000
06530	RDIM	NUP RMAP+20,,	NOP/BRANCH SWITCH.	00828	41 00976 00000
06540		TF AAO4+7,BBUFF+3		00840	26 00291 01227
06550		TFM BKPT,ABO6+24,,	SET RETURN POINT.	00852	16 00467 11178
06560		B EEXIT+12		00864	49 01642 00000
06570		DDRG *-3		00872	
06580	MERR	TF RMAP-2,CNTWD+6		00872	26 00954 02161
06590		TFM B1,RMAP		00884	16 01573 -0956
06600		TFM B1+5,RMAP		00896	16 01578 -0956
06610		TF EMSG1+4,ENSG10+4		00908	26 01703 01077
06620		TFM RKPT,DIO+60		00920	16 00467 -0876
06630		TFM HD3+6,RMAP-5		00932	16 01460 -0951

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06640		B HOLLER		00944	49 01382 00000
06650		DDRG *-4		00951	
06660		DC 5,0*		00955	5
		-000*			
06670	RMAP	TDM RDIM1+1,9		00956	15 00829 00009
06680		R RDIM		00968	49 00780 00000
06690		DDRG *-3		00976	
06700		TF CNTWD+6,8BUFF+3		00976	26 02161 01227
06710		B EEXIT+12,,	GO TRY AGAIN WITH NEW MAP NUMBER.	00988	49 01642 00000
06720		DDRG *-3		00996	
06730	RDVCD	TFM B1,ROIM,,	INITIALIZE FOR ILLEGAL DRIVE CODE ERROR.	00996	16 01573 -0780
06740		TF EMSG1+4,ENSG20+4		01008	26 01703 01049
06750		TDM HD3-11,9		01020	15 01443 00009
06760		TF RDIM1+6,DCDE+18		01032	26 00834 01070
06770		B RMAP-20		01044	49 00692 00000
06780		DDRG *-3		01052	
06790	DCDE	TD TEMP-5,8BUFF,0		01052	K5 02144 01224
06800		B EEXIT+12		01064	49 01642 00000
06810		DDRG *-3		01072	
06820	ENSG10	DAC 3,MAP,		01073	3 X 2
		MAP			
06830	ENSG11	DAC 3,NAM,		01079	3 X 2
		NAM			
06840	ENSG20	DAC 3,MOD,		01085	3 X 2
		MOD			
06850		DDRG 19902,	CONTROL TO WRITE ON DISK.	19902	
06860		DSC 1,1		19902	1
		1			
06870		DSA DSA13		19907	5 X 1
06880		DC 3,5		19907	J9772
		-05		19990	3
06890		DSA ERROR		19995	5 X 1
06900		DSC 1,1		19995	-0624
				19996	1
06910	*****	ERROR ROUTINE STAGE 4			
06920	*	MONITOR CONTROL CARD TRAP PROCESSOR			
06930		DDRG ERROR		00624	
06940		TD Y00+8,FSPS,,	TEST IF FROM CONTROL CARD SOURCE.	00624	25 00680 00429
06950		TD Y00+11,IOP+9		00636	25 00683 01939
06960		CF Y00+8		00648	33 00680 00000
06970		CF Y00+11		00660	33 00683 00000
06980	Y00	CM *-8,XX,710		00672	14 00680 -00-0
06990		BNI EEXIT+12,1200		00684	47 01642 01200
07000		CM IOP+1,37,10,,	YES -TEST IF ALPHAMERIC READ.	00696	14 01931 00017
07010		BI Y02,1200		00708	46 00884 01200
07020		CM IOP+1,36,10,,	NO -TEST IF NUMERIC READ.	00720	14 01931 00016
07030		BNI EEXIT+12,1200		00732	47 01642 01200
07040		A *-23,CNTWD+4,,	YES -TEST FOR SECOND RECORD MARK.	00744	21 00767 02159
07050		BNI EEXIT+12,1,7		00756	45 01642 -0001
07060		TDM OVRLAY+10,1,11,	YES -SET INDICATOR.	00768	15 00478 0000J
07070	Y01	AM *-13,1,,	TEST IF END OF JOB CARD.	00780	11 00767 -0001
07080		BNI Y01B,-25,11		00792	45 00852 0076P

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07090	AM	+-37,1		00804	11	00767	-0001
07100	BMR	YO1B,+-49,11		00816	45	00852	0076P
07110	Y01A	TDM SYSCAL,0,,	YES -SE END OF JOB INDICATOR.	00820	15	00475	00000
07120	TDM	OVRLAY+10,0,,	CLEAR CONTROL RECORD TRAP IND.	00840	15	00478	00000
07130	Y01B	RCTY ,,,	TYPE TR P MESSAGE.	00852	34	00000	00102
07140	WATY	EMSG13		00864	39	01201	00100
07150	B	APHASE+12,,,	EXIT TO THE MONITOR.	00876	49	01618	00000
07160	DORG	+-3		00884			
07170	Y02	TD Y07+9,CNTWD+4,,11,	MOVE INITIAL R.M.	00884	25	01117	0215R
07180	A	++23,CNTWD+4,,	TEST FOR SECOND RECORD MARK.	00896	21	00919	02159
07190	BMR	EEXIT+12,2,7		00908	45	01642	-0002
07200	TD	Y07+11,+-1,11,	YES -NO E SECOND R.M.	00920	25	01119	0091R
07210	TDM	OVRLAY+10,1,,	SET INDICATOR.	00932	15	00478	00001
07220	A	++23,Y02+35,,	TEST IF END OF JOB CARD.	00944	21	00967	00919
07230	BMR	Y06,2,7		00956	45	01000	-0002
07240	A	++23,+-1		00968	21	00991	00967
07250	BMR	Y06,2,7		00980	45	01000	-0002
07260	B	Y01A,,,	YES.	00992	49	00828	00000
07270	DORG	+-3		01000			
07280	Y06	A ++47,Y02+35,,	MOVE THE CONTROL CARD TO THE MONITOR	01000	21	01047	00919
07290	A	++18,++35,,	BUFFER.	01012	21	01030	01047
07300	TD	155,S10P+12,2		01024	25	-0155	01808
07310	TR	ERROR,1,7		01036	31	00624	-0001
07320	TFM	MCCBUF+1,0,10		01048	16	13001	000-0
07330	AM	+-6,2		01060	11	01054	-0002
07340	CM	+-18,MCCBUF+161		01072	14	01054	J3161
07350	BNI	+-36,1300		01084	47	01048	01300
07360	TR	MCCBUF+4,ERROR		01096	31	13004	00624
07370	Y07	TFM MCCBUF+3,XX,8		01108	16	13003	0-000
07380	Y07A	SF MCCBUF,,2,	INITIALIZE FLAGS IN BUFFER.	01120	32	J3000	00000
07390	AM	Y07A+6,1		01132	11	01126	-0001
07400	CF	Y07A+6,,6		01144	33	01120	00000
07410	AM	Y07A+6,1		01156	11	01126	-0001
07420	CM	Y07A+6,MCCBUF+160		01168	14	01126	J3160
07430	BNI	Y07A,1300		01180	47	01120	01300
07440	B	Y01B,,,	GO TO TYPE-OUT.	01192	49	00852	00000
07450	DORG	+-3		01200			
07460	EMSG13	DAC 8,TRP ERR',		01201		8 X	2
		TRP ERR'					
07470	DORG	19982,,	CONTROL TO WRITE ON DISK.	19982			
07480	DSC	1,1		19982		1	
		1					
07490	DSA	DSA14		19987		5 X	1
				19987		J9777	
07500	DC	3,6		19990		3	
	-06						
07510	DSA	ERROR		19995		5 X	1
				19995		-0624	
07520	DSC	1,'		19996		1	
07530	*****	SPS SUPERVISOR AND RELOCATABLE LOADER CALLER STAGE 1					
07540	DORG	0		00000			
07550	TFM	OLD CY+1,MCYL,10,	RESTORE MONITOR MODULE CYLINDER IND.	00000	16	02111	000R8
07560	BNF	LCA01,OLDDA+6,,	DETERMINE IF NON-TRA DISK LOAD.	00012	44	00072	00447

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07570	TDM	LDINPT,0,11,	YES -SET INDICATOR.	00024	15	00428	0000-
07580	TR	DIMENT,HAPENT,,	MOVE WORKING ODA TO COMMON SLOT.	00036	31	00402	02118
07590	BNF	++24,CNTWD+7,,	NO -TEST IF SPECIFIED LOAD ADDRESS.	00048	44	00072	02162
07600	TF	HIGH,CNTWD+11,,	YES -MOVE IT INTO THE HIGH INDICATOR.	00060	26	00434	02166
07610	LCA01	BNF LCA06A,LDINPT,,	BRANCH IF TRA CALL.	00072	44	00204	00428
07620	BD	LCA04,LDINPT,,	TEST IF CALL FOR DISK LOAD.	00084	43	00120	00428
07630	BNF	LCA06,HAPENT+13,,	TEST IF CALL FOR SPS SUPERVISOR.	00096	44	00180	02131
07640	SF	FSPS,,,	YES -SET FLAG.	00108	32	00429	00000
07650	LCA04	BNF LCA06,FSPS,,	TEST IF CALL FOR SPS SUPERVISOR.	00120	44	00180	00429
07660	LCA02	TFM IOXX,++23,,	READ SPS SUPERVISOR INTO CORE.	00132	16	00565	-0155
07670	B	IOGT,LCA08,7		00144	49	00566	-0237
07680	TFM	IOXX,++23,,	RESTORE MPY TABLE AND EXECUTE SUP.	00156	16	00565	-0179
07690	R	IOGT,LCA09,7		00168	49	00566	-0245
07700	LCA06	BNF ++24,DIMENT+14,,	TEST FOR SPECIFIED ENTRY ADDRESS.	00180	44	00204	00416
07710	TF	DIMENT+13,DIMENT+18,,	YES -LETS PLAY BALL.	00192	26	00415	00420
07720	LCA06A	TR OLDDA,LCA07,,	LOAD AND EXECUTE STAGE 2 OF CALLER.	00204	31	00441	00223
07730	B	OVRLAY+12		00216	49	00480	00000
07740	DORG	+-4		00223			
07750	LCA07	DS 0,++1		00223		0	
07760	DSA	DSA16		00227		5 X	1
				00227		J9786	
07770	DC	3,3		00230		3	
	-03						
07780	DSA	0		00235		5 X	1
				00235		-0000	
07790	DSC	1,'		00236		1	
07800	LCA08	DSC 2,22		00237		2	
	22						
07810	DSA	LCA03		00243		5 X	1
				00243		-0273	
07820	DSC	1,'		00244		1	
07830	LCA09	DSC 2,-22		00245		2	
	2K						
07840	DSA	LCA02A		00251		5 X	1
				00251		-0253	
07850	DSC	1,'		00252		1	
07860	LCA02A	DSC 1,1		00253		1	
	1						
07870	DSA	DSA02		00258		5 X	1
				00258		J9636	
07880	DC	3,2		00261		3	
	-02						
07890	DSA	100		00266		5 X	1
				00266		-0100	
07900	DSA	SUPENT		00271		5 X	1
				00271		-2934	

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07910	DSC 1,0		00272	1	
07920 LCA03	DSC 1,1		00273	1	
07930	1				
	DSA DSA50		00278	5 X 1	
07940	DC 3,50		00278	J7024	
	-50		00281	3	
07950	DSA SYSORG-2		00286	5 X 1	
07960	DSC 1,0		00286	-2400	
			00287	1	
07970	DORG 19982,	CONTROL TO WRITE ON DISK.	19982		
07980	DSC 1,1		19982	1	
	1				
07990	DSA DSA15		19987	5 X 1	
08000	DC 3,3		19987	J9783	
	-03		19990	3	
08010	DC 6,00		19996	6	
	-0000				
08020 *****	RELOCATABLE LOADER CALLER STAGE 2				
08030	DORG 0		00000		
08040	BNF LCB02,LDINPT,,	BRANCH IF TRA CALL.	00000	44	00200 00428
08050	TF CNTWD+6,HALT+6,,	SAVE POSSIBLE RETURN ADDRESS.	00012	26	02161 00462
08060	BD LCB01,LDINPT,,	BRANCH IF NON-DISK LOAD.	00024	43	00092 00428
08070	TDM SK03+1,9,,	DISK -COMPUTE PHYSICAL DRIVE CODE.	00036	15	01709 00009
08080	TFM SK04,+20		00048	16	02142 -0068
08090	B SEEK		00060	49	01496 00000
08100	DORG 0-3		00068		
08110	TD DIMENT,MAPENT,,	GIVE DRIVE CODE TO LOADER	00068	25	00402 02118
08120	TF CNTWD+6,IOXX,,	SAVE POSSIBLE RETURN ADDRESS.	00080	26	02161 00565
08130 LCB01	TD DRIVE-5,TEMP-5,,	MOVE THE DERIVED DRIVE CODE.	00092	25	02149 02144
08140	TR CNTWD+13,DRIVE-5,,	SAVE CALLING PARAMETERS.	00104	31	02168 02149
08150	BNF +24,SPSMLP+1,,	WATCH OUT FOR THOSE NON-DISK MAIN-LINE	00116	44	00140 00469
08160	SF FSPS,,	LOADS FOR THE SPS SUPERVISOR.	00128	32	00429 00000
08170	BNF +36,SPSMLP,,	TEST IF SPS MAIN LINE PROGRAM.	00140	44	00176 00468
08180	CF SPSMLP+1,,	YES -INDICATE RELOCATABLE.	00152	33	00468 00000
08190	SF SPSMLP+1		00164	32	00469 00000
08200	BNF +24,CINIT,,	TEST IF TO INITIALIZE LOADER FIELD.	00176	44	00200 00427
08210	TFM LADDR,0,,	YES.	00188	16	00439 -0000
08220 LCB02	TFM IOXX,+23,,	WRITE UPPER SAVE AREA ON DISK.	00200	16	00565 -0223
08230	B IORBC,LCB08,7		00212	49	00520 -0255
08240	TF HALT+8,CNTWD+18,11,,	INITIALIZE CYLINDER POSITION FOR LOADER.	00224	26	00464 0217L
08250	TR OLDDA,LCB1G,,	READ AND EXECUTE THE LOADER.	00236	31	00441 00278
08260	B OVRLAY+12		00248	49	00480 00000
08270	DORG 0-4		00255		
08280 LCB08	DSC 2,22		00255	2	
	22				
08290	DSA LCB09		00261	5 X 1	
08300	DSC 1,0		00261	-0263	
			00262	1	

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08310 LCB09	DSC 1,1		00263	1	
	1				
08320	DSA DSA07		00268	5 X 1	
08330	DC 3,2		00268	J9656	
	-02		00271	3	
08340	DSA ERNET+1500		00276	5 X 1	
08350	DSC 1,0		00276	-2102	
			00277	1	
08360 LCB10	DS 0,+1		00278	0	
08370	DSA DSA51		00282	5 X 1	
08380	DC 3,9		00282	J9600	
	-09		00285	3	
08390	DC 6,502		00291	6	
	-0502				
08400	DORG 19982,	CONTROL TO WRITE ON DISK.	19982		
08410	DSC 1,1		19982	1	
	1				
08420	DSA DSA16		19987	5 X 1	
08430	DC 3,3		19987	J9786	
	-03		19990	3	
08440	DC 6,00		19996	6	
	-0000				
08450 *****	RELOCATABLE LOADER RETURN ANALYZER STAGE 1				
08460	DORG 0		00000		
08470	TR OLDDA,LRA05,,	RESTORE IORT AND THE UPPER SAVE AREA	00000	31	00441 00269
08480	B OVRLAY+12,,	VIA THE OVERLAY READ ROUTINE.	00012	49	00480 00000
08490	DORG 0-3		00020		
08490	TFM BNI+18,IBMMOD+13,711,,	RESTORE OVRLAY ROUTINE EXIT.	00020	16	00510 -045L
08500	TR OLDDA,LRA06,,	INITIALIZE FOR STAGE 2.	00032	31	00441 00283
08510	TF CNTWD+18,HALT+8,6,,	RESTORE LOAD MODULE CYLINDER IND.	00044	26	0217L 00464
08520	TFM HALT+11,DIMENT+18,711,,	SET STAGE 2 RETURN ADDRESS.	00056	16	00467 -042-
08530	BNF LRA02,LDINPT,,	BRANCH IF TCD EXIT FROM LOADER.	00068	44	00176 00428
08540	TR DRIVE-5,CNTWD+13,,	RESTORE CALLING PARAMETERS.	00080	31	02149 02168
08550	TD IOXX,CNTWD+6		00092	26	00565 02161
08560	TF TEMP-5,DRIVE-5		00104	25	02144 02149
08570	TR MAPENT,DIMENT		00116	31	02118 00402
08580	TFM HALT+11,CHK4,,	SET STAGE 2 INDIRECT RETURN ADDRESS.	00128	16	00467 -1408
08590	BNF +24,OVRLAY+21,,	CHECK FOR NON-EXECUTE OF NON-DISK LOAD.	00140	44	00164 00489
08600	CF CNTWD+1,,	YES -CLEAR THE EXECUTION INDICATOR.	00152	33	02154 00000
08610	CF OVRLAY+21		00164	33	00489 00000
08620 LRA02	TFM QLCDV+1,MCYL,10,,	RESTORE MONITOR MODULE CYLINDER IND.	00176	16	02111 00088
08630	TFM HALT+6,8		00188	16	00462 -0008
08640	BNF OVRLAY+12,FSPS,,	TEST IF CALLED BY SPS SUPERVISOR.	00200	44	00480 00429
08650	BNF OVRLAY+12,SPSMLP+1,,	YES -TEST IF MAIN LINE PROGRAM LOAD.	00212	44	00480 00469
08660	TFM HALT+11,DIMENT+18,711,,	SET STAGE 2 RETURN ADDRESS.	00224	16	00467 -042-
08670	TR OLDDA,+19,,	READ IN SPS SUPERVISOR RETURN	00236	31	00441 00255
08680	B OVRLAY+12,DSA17,,	ANALYZER.	00248	49	00480 19789
08690	DC 3,2		00262	3	
	-02				

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08700	DC	6,0'		00268	6			
		-0000'						
08710	LRA05	DS	0,+1	00269	0			
08720		DSA	DSA06	00273	5 X	1		
08730	DC	3,18		00273	J9640			
		-18		00276	3			
08740	DSA	502		00281	5 X	1		
08750	DSC	1,1		00281	-0502			
				00282	1			
08760	LRA06	DS	0,+1	00283	0			
08770		DSA	DSA01	00287	5 X	1		
08780	DC	3,4		00287	J9635			
		-04		00290	3			
08790	DSA	0		00295	5 X	1		
08800	DSC	1,1		00295	-0000			
				00296	1			
08810	DORG	19982,	CONTROL TO WRITE ON DISK.	19982				
08820	DSC	1,1		19982	1			
		1						
08830	DSA	DSA18		19987	5 X	1		
08840	DC	3,3		19987	J9791			
		-03		19990	3			
08850	DC	6,0'		19996	6			
		-0000'						
08860	*****	SPS SUPERVISOR RETURN ANALYZER STAGE 1						
08870	DORG	0		00000				
08880	CF	FSPS,,	CLEAR THE SPS SUPERVISOR FLAG.	00000	33	00429	00000	
08890	BD	SRA02,LDINPT,,	BRANCH IF NON-DISK LOAD.	00012	43	00060	00428	
08900	BNF	SRA02,SPSMLP,,	TEST IF RELOCATABLE.	00024	44	00060	00468	
08910	CF	SPSMLP,,	NO -TURN OFF THE INDICATOR.	00036	33	00468	00000	
08920	TFM	HALT+11,CHK4+12,,	SET STAGE 2 INDIRECT ADDRESSES.	00048	16	00467	-1420	
08930	SRA02	CF	SPSMLP+1,,	TURN OF MAIN-LINE PROGRAM INDICATOR.	00060	33	00469	00000
08940	SRA01	TFM	HALT+6,8		00072	16	00462	-0008
08950	TFM	OLDCY+1,MCYL,10,	RESTORE MONITOR MODULE CYLINDER IND.	00084	16	02111	00088	
08960	TFM	GTEST+54,OVRLAY,,	RESTORE BRANCH ADDRESS IN IORT.	00096	16	01210	-0468	
08970	TD	RM1,INDS+13,6,	SET TWO RECORD MARKS IN THE SPS	00108	25	0220-	00623	
08980	TD	RM2,INDS+13,6,	SUBROUTINE WORK AREA.	00120	25	02200	00623	
08990	TR	OLDDA,SRA03,,	READ AND EXECUTE STAGE 2.	00132	31	00441	00152	
09000	B	OVRLAY+12		00144	49	00480	00000	
09010	DORG	*-3		00152				
09020	SRA03	DS	0,+1	00152	0			
09030		DSA	DSA01	00156	5 X	1		
09040	DC	3,4		00156	J9635			
		-04		00159	3			

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09050	DC	6,0'		00165	6		
		-0000'					
09060	DORG	19982,	CONTROL TO WRITE ON DISK.	19982			
09070	DSC	1,1		19982	1		
		1					
09080	DSA	DSA17		19987	5 X	1	
09090	DC	3,2		19987	J9789		
		-02		19990	3		
09100	DC	6,0'		19996	6		
		-0000'					
09110	*****	SPS SUPERVISOR AND LOADER RETURN ANALYZER STAGE 2					
09120	DORG	0		00000			
09130	B	HALT+6,,6,	INDIRECT EXECUTE BRANCH.	00000	49	0046K	00000
09140	DORG	8		00008			
09150	SF	CINIT,,	RESTORE LOADER INITIALIZATION IND.	00008	32	00427	00000
09160	BNF	*+20,FSPS,,	TEST IF CALLED BY SPS SUPERVISOR.	00020	44	00040	00429
09170	B	IOXX,,6,	YES -RETURN TO IT.	00032	49	0056N	00000
09180	DORG	*-3		00040			
09190	BD	*+20,SYSCAL,,	TEST IF CALLED BY A SYSTEM PROGRAM.	00040	43	00060	00475
09200	B	HALT+11,,6,	NO -RETURN THROUGH PRESET BRANCH.	00052	49	0046P	00000
09210	DORG	*-3		00060			
09220	TR	OLDDA,*+19,,	EXECUTE SYSTEM RETURN ANALYZER.	00060	31	00441	00079
09230	B	OVRLAY+12,DSA19		00072	49	00480	19794
09240	DC	3,3		00086	3		
		-03					
09250	DC	6,0'		00092	6		
		-0000'					
09260	DORG	19982,	CONTROL TO WRITE ON DISK.	19982			
09270	DSC	1,1		19982	1		
		1					
09280	DSA	DSA01		19987	5 X	1	
09290	DC	3,1		19987	J9635		
		-01		19990	3		
09300	DC	6,0'		19996	6		
		-0000'					
09310	*****	IORT LOAD PROCESSOR FOR NAMED PROGRAMS SECTION 1					
09320	DORG	0		00000			
09330	A	*+23,HALT+6,,	MOVE NAME AND POSSIBLE LOAD ADDRESS.	00000	21	00023	00462
09340	A	*+35,1,711		00012	21	00047	-000J
09350	A	*+47,*+23		00024	21	00071	00047
09360	TD	*+47,26,7		00036	25	00083	-0026
09370	TD	*-1,AA04-1,6		00048	25	0004P	00283
09380	TR	AA02A,18,711		00060	31	00229	-0010
09390	YDM	*-25,KK,6		00072	15	0004P	00000
09400	TF	AA02A+23,HALT+6,,	SAVE IORT CALLING PARAMETERS.	00084	26	00252	00462
09410	TR	AA02A+24,CNTWD		00096	31	00253	02155
09420	TFM	IOXX,*+23,,	SAVE CORE TO BE OVERLAID.	00108	16	00565	-0131
09430	AA02	B	IORBC,AA03,7	00120	49	00520	-0261
09440	TFM	IOXX,*+23,,	READ AND EXECUTE SECTION 2.	00132	16	00565	-0155
09450	B	IOGT,*+12,7		00144	49	00566	-0156
09460	DSC	2,-22		00156	2		
		2K					

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09470	DSA ++7		00162	5 X	1
09480	DSC 1,1		00162	-0164	
09490	DSC 1,1		00163	1	
09500	DSA DSA09		00164	1	
09510	DC 3,5		00169	5 X	1
09520	DSA AB00		00169	J9744	
09530	DSC 1,1		00172	3	
09540	DORG 229		00177	5 X	1
09550	AA02A DSC 32,0		00177	J0902	
09560	AA03 DSC 2,02		00178	1	
09570	DSA ++7		00229		
09580	DSC 1,1		00229	32	
09590	DSC 1,1		00261	2	
09600	DSA 1400		00267	5 X	1
09610	DC 3,10		00267	-0269	
09620	DSA SYSORG+8500		00268	1	
09630	DSC 1,1		00269	1	
09640	AA04 DSC 8,3200000*		00274	5 X	1
09650	DSC 5,0*		00274	-1400	
09660	DORG 19982,	CONTROL TO WRITE ON DISK.	00277	3	
09670	DSC 1,1		00282	5 X	1
09680	DSA DSA20		00282	J0902	
09690	DC 3,3		00283	1	
09700	DC 6,0*		00284	8	
09710	***** MONITOR CALLER SUBROUTINE -ALSO PROCESS ES RETURNS TO THE		00292	5	
09720	DUP SUPERVISOR FROM ITS CALLS TO THE RELOCATABLE LOADER.		19982	1	
09730	DORG 0		19982	1	
			19987	5 X	1
			19987	J9797	
			19990	3	
			19996	6	
			00000		

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09740	TFM OLD CY+1,MCYL,10,	SET CYLINDER POSITION.	00000	16	02111	000R8
09750	B MCA03		00012	49	00100	00000
09760	DORG 20		00020			
09770	TFM HALT+6,MB000,,	SET ENTRY TO THE MONITOR.	00020	16	00462	-2902
09780	TFM BNF+18,1BMMDD+13,711,RESTORE OVLAY ROUTINE EXIT.		00032	16	00510	-045L
09790	B MCA01		00044	49	00208	00000
09800	DORG ++3		00052			
09810	MCA00 BNF MCA06,HALT,,	TEST IF MONITOR ALREADY IN CORE.	00052	44	00250	00456
09820	B MB000,,,	YES -BRANCH DIRECTLY TO IT.	00064	49	02902	00000
09830	DORG +-4		00071			
09840	MCA04 DSC 2,2		00071	2		
09850	DSA MCA00A		00077	5 X	1	
09860	DSC 1,1		00077	-0079		
09870	MCA00A DSC 1,0,,	DDA TO SAVE CORE ON 8-TH CYLINDER	00078	1		
09880	DC 5,1400,,	OF DISK SCRATCH AREA	00079	1		
09890	DC 3,177		00084	5		
09900	J77		00087	3		
09910	DSA SYSORG-100		00092	5 X	1	
09920	DSC 1,1		00092	-2302		
09930	DORG 100		00093	1		
09940	MCA03 BNR ++24,SYSCAL,,	REPLACE ANY SYSCAL R.M. BY 0.	00100			
09950	TDM SYSCAL,0		00100	45	00124	00475
09960	BNF MCA00,SYSCAL,,	TEST IF DUP CALL.	00112	15	00475	00000
09970	TDM SYSCAL,5,,	YES -SET SYSCAL RETURN CODE.	00124	44	00052	00475
09980	TFM IOXX,++23,,	SAVE CORE FOR THE DUP SUPERVISOR.	00136	15	00475	00005
09990	B IOXBC,MCA04,7		00148	16	00565	-0171
10000	TFM IOGT,MCA05,7	LOAD THE DUP SUPERVISOR.	00160	49	00520	-0071
10010	MCA01 TR HALT+6,CHK4+12,,	SET UP EXIT AFTER RESTORATION OF TABLES.	00172	16	00565	-0195
10020	B OLDDA,++19,,	RESTORE ARITH TABLES AND EXECUTE	00184	49	00566	-0241
10030	B OVLAY,DSA01,,	MONITOR OR DUP SUPERVISOR.	00196	16	00462	-1420
10040	DC 3,4		00208	31	00441	00227
10050	MCA05 DSC 3,220		00220	49	00468	19635
10060	DC 5,139,,		00234	3		
10070	MCA06 TR OLDDA,++19,,	READ IN THE MONITOR PLUS THE IORT VIA	00240	6		
10080	B OVLAY+12,DSA06,,	THE OVLAY READ ROUTINE.	00241	3		
10090	DC 3,109		00248	5		
10100	J09		00250	31	00441	00269
10110	DC 6,502*		00262	49	00480	19640
10120	DORG 19982,,	CONTROL TO WRITE ON DISK.	00276	3		
	DSC 1,1		00282	6		
	1		19982	1		

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10130	DSA DSA19		19987	5 X 1
			19987	J9794
10140	DC 3,3		19990	3
	-03			
10150	DC 6,0'		19996	6
	-0000'			
10160	*****			
10170	*****	MONITOR -MAIN ROUTINE		
10180	*****			
10190	*****	COMMUNICATION SECTOR ASSEMBLED PARAMETERS		
10200	DC 19,0',COMM+18,	HEADLESS ODA-5 FROM SPS AND FORTRAN.	02820	19
	-00000000000000000000'			
10210	DC 2,8,COMM+41,	STANDARD SPS MANTISSA LENGTH.	02843	2
	-8			
10220	DC 2,2,COMM+43,	STANDARD SPS SUBROUTINE SET.	02845	2
	-2			
10230	DSC 1,0,COMM+44,	STANDARD SPS NOISE DIGIT.	02846	1
	0			
10240	DC 2,8,COMM+46,	STANDARD FORTRAN MANTISSA LENGTH.	02848	2
	-8			
10250	DC 2,4,COMM+48,	STANDARD FORTRAN FXD. PT. WORD LENGTH.	02850	2
	-4			
10260	DSC 1,1,COMM+49,	NUMBER OF MODULES IN 1620 SYSTEM.	02851	1
	1			
10270	DSC 4,0,MCOMM,	MONITOR STATUS INDICATORS.	02852	4
	0000			
10280	DC 2,1,MCOMM+5		02857	2
	-1			
10290	DC 2,0,MCOMM+7		02859	2
	-0			
10300	DC 2,0,MCOMM+9		02861	2
	-0			
10310	DC 2,0,MCOMM+11		02863	2
	-0			
10312	DSC 1,0,MCOMM+12,		02864	1
	0			
10318	** THE PRINCIPAL INPUT DEVICE NUMBER WILL BE 5 FOR CARD SYSTEM			
10319	** AND 3 FOR PAPER TAPE ON SYSTEM DELIVERY.			
10320	DSC 1,5,COMM+73,,	PRINCIPAL INPUT DEVICE CARD	02875	1
	5			
10321	DC 1,1,COMM+76,	OBJECT SYSTEM SIZE	02878	1
	J			
10330	DC 5,0,COMM+88,	LOWEST ADDRESS LOADED BY LOADER.	02890	5
	-0000			
10340	DC 5,0,COMM+93,	CURRENT LOADER RELOCATION INCREMENT.	02895	5
	-0000			
10350	DC 5,0,COMM+98,	CARD SEQUENCE NUMBER FOR LOADING.	02900	5
	-0000			
10360	DSC 1,,COMM+99		02901	1
	1			
10370	*****	COLD START ENTRY TO THE MONITOR -CLEAR STORAGE, THEN		
10380	*	THE FOLLOWING INSTRUCTIONS MUST BE LOADED INTO 0.		
10390	*	340003200701		
10400	*	360003200702		
10410	*	4902402X		

10420	*	Y1963611300102		
10430	*			
10440	*	WHERE X IS THE MONITOR CONTROL CARD SOURCE -		
10450	*	=1 TYPEWRITER IF ANY OTHER DIGIT IS SUPPLIED,		
10460	*	=3 P/T READER THE MONITOR WILL ASSUME THE		
10470	*	=5 CARD READER VALUE 1 (TYPEWRITER)		
10480	*			
10490	*	AND WHERE Y IS THE DRIVE CODE FOR THE PHYSICAL MODULE		
10500	*	ON WHICH THE MONITOR NOW RESIDES -		
10510	*	=1 MODULE 0 IF ANY OTHER DIGIT IS SUPPLIED,		
10520	*	=3 MODULE 1 THE MONITOR WILL ASSUME THE		
10530	*	=5 MODULE 2 VALUE 1 (MODULE 0)		
10540	*	=7 MODULE 3		
10550	*			
10560		DORG SYSORG	02402	
10570	MA000	TD 402,MCR01A,, MOVE ARITHMETIC TABLES TO PROPER ADDRESS.	02402 25	00402 04455
10580		TR 100,102	02414 31	00100 00102
10590		TOM 402,0	02426 15	00402 00000
10600		TD ++23,31	02438 25	02461 00031
10610		BD ++24,MCD01	02450 43	02474 10690
10620		TOM 31,1	02462 15	00031 00001
10630		TD MCOMM+3,31	02474 25	02855 00031
10640		CF 32,,	02486 33	00032 00000
10650		TD ++23,32,, SET UP LOGICAL MODULE 0 DRIVE CODE	02498 25	02521 00032
10660		BD ++24,MCD04	02510 43	02534 10720
10670		TOM 32,1	02522 15	00032 00001
10680		TD MCOMM+5,32	02534 25	02857 00032
10690	MA010	TOM MCOMM,0,, INITIALIZE COMM SECTOR INDS.	02546 15	02852 00000
10700		TOM MCOMM+1,0	02558 15	02853 00000
10710		TOM MCOMM+2,0	02570 15	02854 00000
10720		TOM MCOMM+12,4	02582 15	02864 00004
10730		TFM BNI+18,IBMDD+13,711	02594 16	00510 -045L
10740		TFM OLDQY+1,MCYL,10	02606 16	02111 00008
10750		TFM EQUIV+1,MCOMM+5,, READ ODA-5 FOR SPS, FORTRAN, DUP, AND	02618 26	02103 02857
10760		TD IBMDD,MCOMM+9,, THE EQUIVALENCE TABLE AND DUMP THEM	02630 25	00440 02857
10770		BTM UTOS,8,, ONTO DISK ON SPECIAL SECTOR.	02642 17	08390 -0008
10780		TR SPSDDA,UTOS-1,11	02654 31	10802 0834R
10790		BTM UTOS,136	02666 17	08390 -0136
10800		TR FORDDA,UTOS-1,11	02678 31	10822 0834R
10810		BTM UTOS,139	02690 17	08390 -0139
10820		TR DUPDDA,UTOS-1,11	02702 31	10842 0834R
10830		BTM UTOS,2	02714 17	08390 -0002
10840		TR EQUDDA,UTOS-1,11	02726 31	10862 0834R
10850		TFM IOXX,++23	02738 16	00565 -2761
10860		B IORBC,MA020,7	02750 49	00520 -2769
10870		B MB000,,	02762 49	02902 00000
10880		DORG +-4	02769	
10890	MA020	DSC 2,22	02769	2
		22		
10900	DSA	MA025	02775	5 X 1
			02775	-2777
10910	DSC	1,1	02776	1
10920	MA025	DSC 1,1	02777	1
		1		

10930	DSA DSA40		02782	5 X 1	
			02782	J9743	
10940	DC 3,1		02785	3	
10950	DSA SPSDDA		02790	5 X 1	
			02790	J0802	
10960	DSC 1,1		02791	1	
10970	*****	INTER-PHASE ENTRY TO MONITOR.			
10980	DORG	SYSORG+500	02902		
10990	MB000	RCTY ,,,	02902	34 0000 00102	
10991	TD	KREC+2,COMM+76,,	02914	25 09794 02878	
10992	TR	OLDY,MB226-1,,	02926	31 02110 04046	
11000	TF	EQUIV+1,MCOMM+5,,	02938	26 02103 02857	
11010	TD	IBMMOD,MCOMM+5	02950	25 00440 02857	
11020	SF	HALT,,,	02962	32 00456 00000	
11030	TDM	IOP+37,9,,	02974	15 01967 00009	
11040	BD	MBO35,OVRLAY+10,,	02986	43 03162 00478	
11050	TDM	MIO1,0,,	02998	15 09828 00000	
11060	MB010	TD	03010	25 03044 02864	
11070	TD	**23,SYSCAL	03022	25 03045 00475	
11080	TD	SYSCAL,MCO06	03034	25 00475 10740	
11090	BD	MBO20,SYSCAL,,	03046	43 03070 00475	
11100	BTM	UT07,1,,	03058	17 08782 -0001	
11110	MB020	TD	03070	25 03093 00475	
11120	TD	**23,MCD09	03082	25 03105 10770	
11130	TF	**18,MCD10	03094	26 03112 10761	
11140	B	MBO25,,6	03106	49 0312- 00000	
11150	DORG	MBO00+214,,	03116		
11160	MB025	DSA MCR01,MB080,MB100,MB100,MB140	03120	5 X 5	
			03120	-4068	
			03125	-3274	
			03130	-3422	
			03135	-3422	
			03140	-3658	
11170	MB030	TDM SYSCAL,0,,	03142	15 00475 00000	
11180	B	MBO10+48	03154	49 03058 00000	
11190	DORG	*-3	03162		
11200	MB035	SF NONEX,,,	03162	32 00457 00000	
11210	TD	*-1,OVRLAY+10,,	03174	25 03173 00478	
11220	TDM	OVRLAY+10,0,,	03186	15 00478 00000	
11230	BNF	MBO45,MBO35+11,,	03198	44 03254 03173	
11240	MR040	WATY MH30,,,	03210	39 10339 00100	
11250	RCTY		03222	34 00000 00102	
11260	H	,,,	03234	48 00000 00000	
11270	B	MBO10-12	03246	49 02998 00000	
11280	DORG	*-3	03254		
11290	MB045	TDM MIO1,1,,	03254	15 09828 00001	
11300	B	MBO10	03266	49 03010 00000	
11310	DORG	*-3	03274		
11320	MB080	BTM UT11,,,	03274	17 09606 -0000	
11330	TDM	MDO2,6,,	03286	15 09731 00006	
11340	TDM	MCOMM+12,6,,	03298	15 02864 00006	

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11350	TR	MR02,DUPDDA,,	03310	31 09732 10842	
11360	BNR	MBO81,MR02,,	03322	45 03390 09732	
11370	TFM	POINT,139,,	03334	16 09756 -0139	
11380	MB080A	WATY MH36,,,	03346	39 10439 00100	
11390	WNTY	POINT-3,,,	03358	38 09753 00100	
11400	RCTY		03370	34 00000 00102	
11410	B	UT10F	03382	49 09550 00000	
11420	DORG	*-3	03390		
11430	MB081	NDP	03390	41 00000 00000	
11440	TD	M8225+7,MCR01A,,	03402	25 04040 04455	
11450	B	M8200,,	03414	49 03734 00000	
11460	DORG	*-3	03422		
11470	MB100	BTM UT11,,,	03422	17 09606 -0000	
11480	BNF	M8145,MCOMM+1,,	03434	44 03690 02853	
11490	BNF	M8110,MCOMM+2,,	03446	44 03466 02854	
11500	B	UT10F,,,	03458	49 09550 00000	
11510	DORG	*-3	03466		
11520	MB110	TDM MCOMM+12,4,,	03466	15 02864 00004	
11530	BNF	M8110B,COMM+22,,	03478	44 03564 02824	
11540	BD	M8110B,COMM+22,,	03490	43 03564 02824	
11550	BNF	**20,COMM+39,,	03502	44 03522 02841	
11560	B	M8110B,,,	03514	49 03566 00000	
11570	DORG	*-3	03522		
11580	MB110A	BT UT05,COMM+39,,	03522	27 08350 02841	
11590	TR	MR02,UT05-1,11,,	03534	31 09732 0834R	
11600	BNR	M8190,MR02,,	03546	45 03710 09732	
11610	B	M8004+12,,,	03558	49 07206 00000	
11620	DORG	*-3	03566		
11630	MB110B	TR MR02+1,COMM,,	03566	31 09733 02802	
11640	A	MR02+3,SRELOC,,	03578	21 09735 00425	
11650	TD	MR02,SRELOC-3,,	03590	25 09732 00422	
11660	TFM	MR02+13,99999,,	03602	16 09745 89999	
11670	BNF	**24,COMM+12,,	03614	44 03638 02814	
11680	SF	MR02+13,,,	03626	32 09745 00000	
11690	TFM	HIGH,SYSORG,,	03638	16 00434 -2402	
11700	B	M8195,,,	03650	49 03722 00000	
11710	DORG	*-3	03658		
11720	MB140	BNF **20,MCOMM+1,,	03658	44 03678 02853	
11730	B	MBO30,,,	03670	49 03162 00000	
11740	DORG	*-3	03678		
11750	BTM	UT11,1,,	03678	17 09606 -0001	
11760	MB145	TDM MCOMM+1,0,,	03690	15 02853 00000	
11770	B	MCR01-12,,,	03702	49 04056 00000	
11780	DORG	*-3	03710		
11790	MB190	TDM M8225,3,,	03710	15 04033 00003	
11800	MB195	TDM MDO2,0,,	03722	15 09731 00000	
11810	*****	FINAL LOAD AND EXECUTE OF SYSTEM OR USERS PROGRAM.			
11820	MB200	TF EQUIV+3,MCOMM+7,,	03734	26 02105 02859	
11830	TF	EQUIV+5,MCOMM+9	03746	26 02107 02861	
11840	TF	EQUIV+7,MCOMM+11	03758	26 02109 02863	
11850	TR	REPOS,LREC,,	03770	31 00312 09801	
11860	TDM	REPOS+7,0	03782	15 00319 00000	
11870	TD	**47,FSPS,,	03794	25 03841 00429	
11880	TD	FSPS,MCOMM+3	03806	25 00429 02855	
11890	BNF	**24,**23	03818	44 03842 03841	
11900	SF	FSPS	03830	32 00429 00000	

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11910	SF	LDINPT,,	FOR GOOD MEASURE.	03842	32	00428	00000	
11920	SF	CINIT		03854	32	00427	00000	
11930	TR	COMM+84,JREC		03866	31	02865	09774	
11940	TFM	IOXX,+23,,	WRITE COMM SECTOR ON DISK.	03878	16	00565	-3901	
11950	B	IDRBC,MB220,7		03890	49	00520	-4010	
11960	TDM	IOF+37,5,,	RESTORE CNTL CARD TRAP IN IORT.	03902	15	01967	00005	
11970	TD	SYSCAL,MDO2,,	SET SYSCAL CODE.	03914	25	00475	09731	
11980	CF	HALT,,,	REMOVE MONITOR INDICATOR.	03926	33	00456	00000	
11990	CF	HALT+1,,,	REMOVE ANY REMAINING LITTLE GOODIES.	03938	33	00457	00000	
12000	BD	MB210,SYSCAL,,	TEST FOR EXECUTION.	03950	43	03986	00475	
12010	WATY	MM25,,,	YES -TYPE MESSAGE.	03962	39	10277	00100	
12020	RCTY			03974	34	00000	00102	
12030	MB210	TFM	IOXX,+23,,	LOAD AND EXECUTE DESIRED PROGRAM.	03986	16	00565	-4009
12040	B	IOGT,MB225,7		03998	49	00566	-4033	
12050	MB220	OSC	2,22	04010		2		
12060	OSA	MB222		04016		5 X	1	
				04016		-4018		
12070	OSC	1,1		04017		1		
12080	MB222	OSC	1,1	04018		1		
12090	OSA	OSA39		04023		5 X	1	
12100	OSC	3,1		04023		J9663		
12110	OSA	COMM		04024		3		
12120	OSC	1,1		04031		5 X	1	
12130	MB225	OSC	2,-22	04031		-2802		
12140	OSA	MRO2		04032		1		
12150	OSC	1,1		04033		2		
12160	OSC	5,0*		04039		5 X	1	
12161	MB226	DC	2,-01	04039		-9732		
12162	DC	-J	2,-01	04040		1		
12163	DC	-J	2,-01	04041		5		
12164	DC	-J	3,-01'	04042		2		
12164	DC	-J	3,-01'	04043		2		
12164	DC	-J	3,-01'	04044		2		
12164	DC	-J	3,-01'	04051		2		
12164	DC	-J	3,-01'	04054		3		
12170	*****		MONITOR CONTROL CARD READ SUPERVISOR ROUTINE.					
12180	TDM	MIO1,0,,	TURN OFF ALREADY READ IND.	04056	15	09828	00000	
12190	MCR01	TD	MCR02+11,MCOMM+3,,	04068	25	04127	02855	
12200	TD	+23,MCOMM+3	DECODE CONTROL CARD INPUT SOURCE.	04080	25	04103	02855	
12210	TF	MCR06+6,MCD02		04092	26	04941	10700	
12220	BD	MCR04,MIO1,,	TEST IF CNTL CARD ALREADY READ.	04104	43	04304	09828	

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12230	MCR02A	BNF	MCR03,MCD01,,	TEST IF TYPEWRITER INPUT.	04116	44	04188	10690
12240	RCTY	*,,		YES -TYPE ENTER MESSAGE.	04128	34	00000	00102
12250	WATY	MM01			04140	39	09831	00100
12260	BNF	+24,MIO3,,	TEST IF IN JOB CARD SEARCH.	04152	44	04176	09829	
12270	WATY	MM26			04164	39	10297	00100
12280	RCTY				04176	34	00000	00102
12290	MCR03	TFM	+18,MCCBUF,,	CLEAR THE CONTROL CARD BUFFER.	04188	16	04206	J3000
12300	TR	XX,MCR04A+7			04200	31	00000	04451
12310	AM	MCR03+18,4			04212	11	04206	-0004
12320	CM	MCR03+18,MCCBUF+160			04224	14	04206	J3160
12330	BNI	MCR03+12,1300			04236	47	04200	01300
12340	TFM	IOXX,+23,,	READ A RECORD FROM CONTROL RECORD SOURCE.	04248	16	00565	-4271	
12350	B	IOGT,MCR06,7			04260	49	00566	-4935
12360	BNI	+32,400,,	IF SSM4, ALLOW RE-ENTRY ON TYPEWRITER	04272	47	04304	00400	
12370	BNF	+20,MCR02A+11,11,	INPUT.	04284	44	04304	0412P	
12380	B	MCR01-12		04296	49	04056	00000	
12390	DORG	+3		04304				
12400	MCR04	BNF	+24,MCR02A+11,11,	RESTORE CARRIAGE IF TYPEWRITER INPUT.	04304	44	04328	0412P
12410	RCTY			04316	34	00000	00102	
12420	TDM	MIO1,1,,	TURN ON CNTL CARD READ INHIBITOR.	04328	15	09828	00001	
12430	BNR	MCR01-12,MCCBUF+1,	READ AGAIN IF NO DOUBLE R.M.	04340	45	04056	13001	
12440	BNR	MCR01-12,MCCBUF+3		04352	45	04056	13003	
12450	TFM	MF01,4,,	TREAT AS COMMENTS CARD IF ANY R.M.	04364	16	09704	-0004	
12460	BTM	UT03,MCCBUF+5,,	IN COLS. 3-6.	04376	17	08038	J3005	
12470	BNR	MCR04A,MDO1		04388	45	04444	09730	
12480	BNR	MCR05A,MCCBUF+5,,	TEST FOR END OF JOB.	04400	45	04628	13005	
12490	BNR	MCR05A,MCCBUF+7		04412	45	04628	13007	
12500	TDM	MIO1,0,,	DISABLE CONTROL CARD READ INHIBITOR.	04424	15	09828	00000	
12510	B	MBO30		04436	49	03142	00000	
12520	DORG	+3		04444				
12530	MCR04A	CF	MCCBUF+6,,,	CLEAR FLAGS FOR COLS. 4,5 AND 6.	04444	33	13006	00000
12540	DORG	+4		04451		2		
12550	DC	2,0		04452		2		
12560	DC	3,0',		04455		3		
12570	CF	MCCBUF+8		04456	33	13008	00000	
12580	CF	MCCBUF+10		04468	33	13010	00000	
12590	TDM	MDO1,0		04480	15	09730	00000	
12600			DECODE CONTROL CARD TYPE					
12610	C	MCCBUF+11,MMO2+6,,	TEST FOR -JOB- CARD.	04492	24	13011	09885	
12620	BI	MJBO1,1200		04504	46	04944	01200	
12630	C	MCCBUF+11,MMO3+6,,	TEST FOR -TYPE- CARD.	04516	24	13011	09893	
12640	BNI	MCR05,1200		04528	47	04572	01200	
12650	TDM	MCOMM+3,1,,	YES -SET INDICATOR.	04540	15	02855	00001	
12660	BTM	UT04,,,	GO TO TYPE-OUT ROUTINE.	04552	17	08494	-0000	
12670	B	MCR01-12,,,	GO TO READ ANOTHER CARD.	04564	49	04056	00000	
12680	DORG	+3		04572				
12690	MCR05	C	MCCBUF+11,MMO4+6,,	TEST FOR -PAUS- CARD.	04572	24	13011	09901
12700	BNR	MCR05A,1200		04584	47	04628	01200	
12710	BTM	UT06,,,	YES -GO TO TYPE-OUT ROUTINE.	04596	17	08494	-0000	
12720	H		AFTER START, READ ANOTHER CARD.	04608	48	00000	00000	
12730	B	MCR01-12		04620	49	04056	00000	
12740	DORG	+3		04628				
12750	MCR05A	BD	MCR01-12,MIO3,,	RE-READ IF IN JOB CARD SEARCH.	04628	43	04056	09829
12760	BTM	UT06,,,	GO TO TYPE OUT THE CARD.	04640	17	08494	-0000	

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12770	BD	MCR01-12,MDD1,,	READ NEXT CARD IF FORCED COMMENTS CARD.	04652	43	04056	09730
12780	TR	COMM+22,IREC,,	INITIALIZE SPS AND FORTRAN PROCESSOR	04664	31	02824	09758
12790	TDM	COMM+39,0,11,	OUTPUT FIELDS.	04676	15	02841	0000-
12800	TR	COMM,MREC		04688	31	02802	09809
12810	TD	SPDINT,MCOMM+3		04700	25	00426	02855
12820	TR	COMM+74,KREC,,	DISABLE COMM SECTOR INDICATORS FOR	04712	31	02876	09792
12830	TDM	COMM+82,0,11,	SPS AND FORTRAN SUBROUTINE LOADERS.	04724	15	02884	0000-
12840	TFM	HIGH,SYSDRG		04736	16	00434	-2402
12850	TD	M8225+7,MCR01A		04748	25	04040	04455
12860	C	MCCBUF+11,MMO5+6,,	TEST FOR -SPS- CARD.	04760	24	13011	09909
12870	BI	MSP01,1200		04772	46	06198	01200
12880	C	MCCBUF+11,MMO6+6,,	TEST FOR -SPSX- CARD.	04784	24	13011	09917
12890	BI	MSP02,1200		04796	46	06218	01200
12900	C	MCCBUF+11,MMO7+6,,	TEST FOR -FOR- CARD.	04808	24	13011	09925
12910	BI	MFT01,1200		04820	46	06550	01200
12920	C	MCCBUF+11,MMO8+6,,	TEST FOR -FORX- CARD.	04832	24	13011	09933
12930	BI	MFT02,1200		04844	46	06570	01200
12940	C	MCCBUF+11,MMO9+6,,	TEST FOR -DUP- CARD.	04856	24	13011	09941
12950	BI	MDF01,1200		04868	46	06806	01200
12960	C	MCCBUF+11,MMO10+6,,	TEST FOR -XEQ- CARD.	04880	24	13011	09949
12970	BI	MXQ01,1200		04892	46	06910	01200
12980	C	MCCBUF+11,MMO11+6,,	TEST FOR -XEQS- CARD.	04904	24	13011	09957
12990	BI	MXQ02,1200		04916	46	06942	01200
13000	B	MCR01-12,MCCBUF+1,7,COMMENTS CARD	-GO TO READ NEXT ONE.	04928	49	04056	J3001
13010	MCR06 DS	0,0-4		04935			0
13020	DC	2,XX		04941			2
	XX						
	DSC	1,'		04942			1
13030							
13040	MCR01A DS	0,MCR04A+11		04455			0
13050	*****	JOB CARD PROCESSOR					
13060	MJB01	BTM UT07,,	GO TO JOB CLOSE OUT ROUTINE.	04944	17	08782	-0000
13070	MJB02	BTM UT06,,	GO TO CONTROL RECORD TYPE-OUT ROUTINE.	04956	17	08494	-0000
13080	TFM	FO,++23,,	DECODE COL. 7.	04968	16	09586	-4991
13090	B	UT10,MJB02A,7		04980	49	09138	-5060
13100	BNF	MJB03,F4,,	MUST RE-READ IF ANY ERROR.	04992	44	05074	09590
13110	BNF	MJB30,F1,,	EXIT IF R.M.	05004	44	06150	09587
13120	BNF	MJB04,MDO1		05016	44	05142	09730
13130	MJB02X	BD MJB03B,MCD01,,	PROCEED IF PROPER DIGIT.	05028	43	05130	10690
13140	TFM	FO,MJB03,,	NO -TYPE ERROR MESSAGE.	05040	16	09586	-5074
13150	B	UT10E		05052	49	09482	00000
13160	DORG	+3		05060			
13170	MJB02A DSC	4,0100		05060			4
	O100						
13180	DC	2,7		05065			2
	-7						
13190	DC	2,1		05067			2
	-1						
13200	DSA	MJB02X+11		05072		5 X	1
13210	DSC	1,'		05072		-5039	
				05073			1
13220	MJB03	RCTY		05074	34	00000	00102
13230	MJB03A	TDM MCOMM+3,1,,	CHANGE SOURCE INDICATOR.	05086	15	02855	00001
13240	TDM	MIO3,1,11,	INDICATE JOB CARD SEARCH.	05098	15	09829	0000J

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13250	TDM	MCOMM,0,,	INDICATE JOB NOT BEGUN.	05110	15	02852	00000
13260	B	MCR01-12,,	GO TO CNTL CARD READ SUPERVISOR.	05122	49	04056	00000
13270	DORG	+3		05130			
13280	MJB03B	TD MCOMM+3,MFO2,11		05130	25	02855	0970R
13290	MJB04	SF MJB10,,	INITIALIZE TO SCAN REMAINDER OF CARD.	05142	32	05250	00000
13300	SF	MJB15		05154	32	05574	00000
13310	TD	MJB11+11,COMM+49		05166	25	05377	02851
13320	TD	MJB20+8,COMM+49		05178	25	06034	02851
13330	TDM	MJB15A+11,1		05190	15	05689	00001
13340	TFM	MJB13A+6,MCOMM+5		05202	16	05544	-2857
13350	TFM	MJB17+11,4		05214	16	05941	-0004
13360	TFM	MJB50A+5,8,10		05226	16	06175	000-8
13370	TFM	MJB55A+5,12,10		05238	16	06189	000J2
13380	MJB10	BNF MJB12A+12,0,,	IGNORE CONTROL CARD FIELD IF SCAN OVER.	05250	44	05494	05250
13390	TFM	FO,++23,,	DECODE CURRENT DRIVE EQUIV. FIELD.	05262	16	09586	-5285
13400	B	UT10,MJB50A,7		05274	49	09138	-6170
13410	TDM	MJB12A+1,1,,	SET ERROR RETURN SWITCH.	05286	15	05483	00001
13420	BNF	MJB12+20,F4,,	CHECK FOR ANY ERROR.	05298	44	05410	09590
13430	BNR	+44,MDO1,,	TEST IF CARD FINISHED.	05310	45	05354	09730
13440	CF	MJB10,,	YES -NO FURTHER SCAN OF FIELDS.	05322	33	05250	00000
13450	CF	MJB15		05334	33	05574	00000
13460	B	MJB12A+12		05346	49	05494	00000
13470	DORG	+3		05354			
13480	BNF	MJB12A+12,MDO1,,	IGNORE A BLANK.	05354	44	05494	09730
13490	MJB11	CM MFO2,XX,610,	NO -CHECK IF WITHIN CORRECT RANGE.	05366	14	0970R	000-0
13500	BNR	MJB13,1300		05378	47	05514	01300
13510	MJB12	TFM FO,++20,,	NO -TYPE ERROR MESSAGE.	05390	16	09586	-5410
13520	B	UT10E		05402	49	09482	00000
13530	DORG	+3		05410			
13540	WATY	MM17		05410	39	10023	00100
13550	RCTY			05422	34	00000	00102
13560	H	...	WAIT FOR OPERATOR.	05434	48	00000	00000
13570	BNR	MJB03,400,,	IF NO SSW4, SOURCE CHANGES TO TYPEWRITER.	05446	47	05074	00400
13580	WATY	MM31,,	INDICATE THAT CONDITION IGNORED.	05458	39	10363	00100
13590	RCTY			05470	34	00000	00102
13600	MJB12A	NOP MJB15A-20,,	NOP/BRANCH SWITCH.	05482	41	05658	00000
13610	TF	MFO2,MJB13A+6,611,,	ALLOW THE OLD EQUIVALENCE TO STAND.	05494	26	0970R	0554M
13620	B	MJB13A+12		05506	49	05550	00000
13630	DORG	+3		05514			
13640	MJB13	A MFO2,MFO2,611,	COMPUTE PHYSICAL DRIVE CODE.	05514	21	0970R	0970R
13650	AM	MFO2,1,610		05526	11	0970R	000-1
13660	MJB13A	TF XX,MFO2,211,	MOVE TO MCOMM EQUIV TABLE.	05538	26	-0000	0970R
13670	AM	MJB13A+6,EQUIV-MCOMM-4,,	MOVE TO IORT EQUIV TABLE.	05550	11	05544	-075M
13680	TF	MJB13A+6,MFO2,611		05562	26	0554M	0970R
13690	MJB15	BNF MJB15A-20,0,,	TEST IF R.M. ALREADY ENCOUNTERED.	05574	44	05658	05574
13700	TFM	FO,++23,,	NO -EXTRACT CURRENT PACK NO. FIELD.	05586	16	09586	-5409
13710	B	UT10,MJB55A,7		05598	49	09138	-6184
13720	TDM	MJB12A+1,9,,	SET SWITCH.	05610	15	05483	00009
13730	BNF	MJB12+20,F4,,	CHECK FOR ANY ERROR.	05622	44	05410	09590
13740	BNR	+24,MDO1,,	NO -TEST IF CARD FINISHED.	05634	45	05658	09730
13750	CF	MJB15,,	YES -NO FURTHER SCAN OF PACK NO. FIELDS.	05646	33	05574	00000
13760	BD	+20,MJB13A+6,11,	SKIP TO END IF MODULE NOT ATTACHED.	05658	43	05678	0554M
13770	B	MJB20		05670	49	06026	00000
13780	DORG	+3		05678			
13790	MJB15A	TDM MJB23,XX,10,	READ TRACK CONTAINING PACK NUMBER.	05678	15	06134	000-0
13800	TFM	IDXX,++23		05690	16	00565	-5713

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13810	B	IOGT,MJB22,7		05702	49	00566	-6126
13820	BNF	MJB17,MJB15,,	IGNORE CHECK IF END OF CARD, OR	05714	44	05930	05574
13830	BNF	MJB17,MDO1,,	BLANK FIELD, OR	05726	44	05930	09730
13840	BNF	MJB17,F4,,	IGNORED ERROR IN FIELD.	05738	44	05930	09590
13850	SF	14005,,	COMPARE THE PACK NUMBERS.	05750	32	14005	00000
13860	C	14009,MFO2,11		05762	24	14009	0970R
13870	BI	MJB17,1200		05774	46	05930	01200
13880	TD	*23,MJB23,,	PACK NO. ERROR. -GET MODULE NUMBER.	05786	25	05809	06134
13890	BTM	UT01,XX		05798	17	07958	-0000
13900	TD	MM16*56,UT01-2		05810	25	10015	07956
13910	WATY	MM16		05822	39	09959	00100
13920	TF	MM17*72,MM32*14		05834	26	10095	10413
13930	WATY	MM17		05846	39	10023	00100
13940	TF	MM17*78,MM33*20		05858	26	10101	10435
13950	RCTY			05870	34	00000	00102
13960	H	...	WAIT FOR OPERATOR.	05882	48	00000	00000
13970	BNI	MJB15A,400,,	RE-READ PACK NO. IF SSW4 OFF.	05894	47	05678	00400
13980	WATY	MM31,,,	TYPE CONDITION IGNORED MESSAGE.	05906	39	10363	00100
13990	RCTY			05918	34	00000	00102
14000	MJB17	BTM	READ IN DIM SECTOR FOR THIS LOGICAL	05930	17	08350	-0000
14010	SF	14000,,	MODULE AND MOVE SECTOR ADDRESS FOR	05942	32	14000	00000
14020	AM	UT05-1,5,,	THIS PACK TO PROPER DIM ENTRY.	05954	11	08349	-0005
14030	TF	UT05-1,14004,6		05966	26	0834R	14004
14031	AM	UT05-1,1,610,	ADD 1 TO SECTOR ADDRESS.	05978	11	0834R	000-1
14040	TD	MAPENT,TEMP-5,,	WRITE IT BACK OUT ON DISK.	05990	25	02118	02144
14050	TFM	IOXX,*23		06002	16	00565	-6025
14060	B	IORBC,MJB21,7		06014	49	00520	-6118
14070	MJB20	SM	EXIT IF ALL MODULES FOR THIS	06026	12	06034	-00-1
14080	BNI	MJB30,1100,,	CONFIGURATION PROCESSED.	06038	47	06150	01100
14090	AM	MJB13A*6,MCOMM-EQUIV*6		06050	11	05544	-0756
14100	AM	MJB15A*11,2,10		06062	11	05689	000-2
14110	AM	MJB17*11,1		06074	11	05941	-0001
14120	AM	MJB50A*5,1,10		06086	11	06175	000-1
14130	AM	MJB55A*5,5,10		06098	11	06189	000-5
14140	B	MJB10,,,	REPEAT FOR NEXT LOGICAL MODULE.	06110	49	05250	00000
14150	DDRG	*-3		06118			
14160	MJB21	DSC		06118		2	
14170	DSA	UT05B		06124		5 X	1
14180	DSC	1,*		06124		-8468	
14190	MJB22	DSC		06125		1	
14200	DSA	MJB23		06126		2	
14210	DSC	1,*		06132		5 X	1
14220	MJB23	DSC		06132		-6134	
14230	DSA	19800		06133		1	
14240	DC	3,20		06134		1	
	-20			06139		5 X	1
				06139		J9800	
				06142		3	

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14250	DSA	14000		06147		5 X	1
14260	DSC	1,*		06147		J4000	
14270	MJB30	TDM		06148		1	
14280	B	MCR01-12,,,	DISABLE JOB CARD SEARCH.	06150	15	09829	00000
14290	DDRG	*-3	GD READ ANOTHER CNTL CARD.	06162	49	04056	00000
14300	MJB50A	DSC		06170		4	
14310	DC	2,0		06170		4	
14320	DC	2,1		06175		2	
14330	DSC	6,0'		06177		2	
14340	MJB55A	DSC		06178		6	
14350	DC	2,0		06184		4	
14360	DC	2,5		06189		2	
14370	DSC	6,0'		06191		2	
14380	*****	SPS AND SPSX CNTL CARD PROCESSOR		06192		6	
14390	MSP01	TDM		06198	15	02853	00003
14400	B	*20	SET SPS ENTRY IND.	06210	49	06230	00000
14410	DDRG	*-3		06218			
14420	MSP02	TDM		06218	15	02853	0000L
14430	TDM	MCOMM,1,,	INDICATE PHASE BEGUN.	06230	15	02852	00001
14440	TDM	MCOMM*12,5		06242	15	02864	00005
14450	TFM	FO,*23,,	DECODE COL. 7.	06254	16	09586	-6277
14460	B	UT10,MSP05A,7		06266	49	09138	-6493
14470	TD	*23,SFDINT,,	TEST IF LEGITIMATE.	06278	25	06301	00426
14480	BD	*20,MCD01		06290	43	06310	10690
14490	B	UTIOE,,,	NO -KILL THIS PHASE.	06302	49	09482	00000
14500	DDRG	*-3		06310			
14510	BNF	MSP03,F1		06310	44	06430	09587
14520	BNF	MSP03,MCOMM*1,,	TEST IF SPSX CARD.	06322	44	06430	02853
14530	TFM	FO,*23,,	YES -DECODE COLS. 8-9.	06334	16	09586	-6357
14540	B	UT10,MSP05B,7		06346	49	09138	-6507
14550	BNF	MSP03,F1		06358	44	06430	09587
14560	TFM	FO,*23,,	DECODE COL. 10.	06370	16	09586	-6393
14570	B	UT10,MSP05C,7		06382	49	09138	-6521
14580	BNF	MSP03,F1		06394	44	06430	09587
14590	TFM	FO,*23,,	DECODE COLS. 11-12.	06406	16	09586	-6429
14600	B	UT10,MSP05D,7		06418	49	09138	-6535
14610	MSP03	TR	MOVE DDA FOR SPS ASSEMBLER.	06430	31	09732	10802
14620	BNR	MSP04,MRO2,,	TEST IF VALID.	06442	45	06474	09732
14630	TFM	POINT,8,,	NO -TERMINATE CURRENT PHASE.	06454	16	09756	-0008
14640	B	MBOBOA		06466	49	03346	00000
14650	DDRG	*-3		06474			
14660	MSP04	TDM	SET SYSCAL CODE.	06474	15	09731	00004
14670	B	MBOB1*12		06486	49	03402	00000
14680	DDRG	*-4		06493			
14690	MSP05A	DSC		06493		4	
		0101					

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14700	DC	2,7	06498	2
14710	DC	2,1	06500	2
14720	DSA	SFDINT	06505	5 X 1
14730	DSC	1,0	06505	-0428
14740	MSP05B	DSC 4,0101	06506	1
14750	DC	2,8	06507	4
14760	DC	2,2	06512	2
14770	DSA	COMM+81	06514	2
14780	DSC	1,0	06519	5 X 1
14790	MSP05C	DSC 4,0101	06519	-2883
14800	DC	2,10	06520	1
14810	DC	2,1	06521	4
14820	DSA	COMM+77	06526	2
14830	DSC	1,0	06528	2
14840	MSP05D	DSC 4,0101	06533	5 X 1
14850	DC	2,11	06533	-2879
14860	DC	2,2	06534	1
14870	DSA	COMM+79	06535	4
14880	DSC	1,0	06540	2
14890	*****	FOR AND FORK CNTL CARD PROCESSOR.	06542	2
14900	MFT01	TDM MCOMM+1,4,, SET FOR ENTRY IND.	06547	5 X 1
14910	B	**20	06547	-2881
14920	DORG	*-3	06548	1
14930	MFT02	TDM MCOMM+1,4,11, SET FORK ENTRY IND.	06550	15 02853 00004
14940	TDM	MCOMM,1,, INDICATE PHASE BEGUN.	06562	49 06582 00000
14950	TDM	MCOMM+12,5	06570	
14960	TFM	FO,**23,, DECODE COL. 7.	06570	15 02853 0000M
14970	B	UT10,MSP05A,7	06582	15 02852 00001
14980	TD	**23,SFDINT,, TEST IF LEGITIMATE.	06594	15 02864 00005
14990	BD	**20,MCD01	06606	16 09586 -6629
15000	B	UT10E,,, NO -KILL THIS PHASE.	06618	49 09138 -6493
15010	DORG	*-3	06630	25 06653 00426
15020	BNF	MFT03,F1	06642	43 06662 10690
			06654	49 09482 00000
			06662	44 06734 09587

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15030	TFM	FO,**23,, DECODE COL. 8.	06674	16 09586 -6697
15040	B	UT10,MFT05B,7	06686	49 09138 -6778
15050	BNF	MFT03,F1	06698	44 06734 09587
15060	TFM	FO,**23,, DECODE COLS. 9-10.	06710	16 09586 -6733
15070	B	UT10,MFT05C,7	06722	49 09138 -6792
15080	MFT03	TR MRO2,FORDDA,, MOVE DDA FOR FORTRAN COMPILER.	06734	31 09732 10822
15090	BNR	MSP04,MRO2,, TEST IF VALID.	06746	45 06474 09732
15100	TFM	POINT,136	06758	16 09756 -0136
15110	B	MBO80A	06770	49 03346 00000
15120	DORG	*-3	06778	
15130	MFT05B	DSC 4,0101	06778	4
15140	DC	2,8	06783	2
15150	DC	2,1	06785	2
15160	DSA	COMM+82	06790	5 X 1
15170	DSC	1,0	06790	-2884
15180	MFT05C	DSC 4,0101	06791	1
15190	DC	2,9	06792	4
15200	DC	2,2	06797	2
15210	DSA	COMM+75	06799	2
15220	DSC	1,0	06804	5 X 1
15230	*****	DUP CNTL CARD PROCESSOR	06804	-2877
15240	MDP01	TDM MCOMM+1,2,, SET PHASE INDICATOR.	06805	1
15250	TDM	MCOMM,1,, INDICATE PHASE BEGUN.	06806	15 02853 00002
15260	TDM	MCOMM+12,6,, SET DUP INDICATOR.	06818	15 02852 00001
15270	TDM	MDO2,4,, SET SYSVAL CODE.	06830	15 02864 00006
15280	TFM	FO,**23,, DECODE COL. 7.	06842	15 09731 00004
15290	B	UT10,MSP05A,7	06854	16 09586 -6877
15300	TD	**23,SFDINT,, TEST IF LEGITIMATE.	06866	49 09138 -6493
15310	BD	MBO80+24,MCD01	06878	25 06901 00426
15320	B	UT10E,,, NO -KILL THIS PHASE.	06890	43 03298 10690
15330	DORG	*-3	06902	49 09482 00000
15340	*****	REQ AND REQX CNTL CARD PROCESSOR	06910	33 00429 00000
15350	MXQ01	CF FSPS,,, SET REQ ENTRY INDICATORS.	06922	16 07157 000K7
15360	TFM	MXQ03B+11,27,10	06934	49 06966 00000
15370	B	MXQ02+24	06942	
15380	DORG	*-3	06942	32 00429 00000
15390	MXQ02	SF FSPS,,, SET REQX ENTRY INDICATORS.	06954	16 07157 000L4
15400	TFM	MXQ03B+11,34,10	06966	15 02852 00001
15410	TDM	MCOMM,1,, INDICATE PHASE BEGUN.	06978	15 02853 0000J
15420	TDM	MCOMM+1,1,11	06990	15 02864 00004
15430	TDM	MCOMM+12,4,, SET OBJECT PROGRAM INDICATOR.	07002	44 07022 02854
15440	BNF	**20,MCOMM+2,, TEST IF EXECUTION IS INHIBITED	07014	49 09550 00000
15450	B	UT10F,,, YES -TYPE MESSAGE AND FINISH UP JOB.	07022	
15460	DORG	*-3		

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15470	TFM	FO,+23,,	DETERMINE IF COLS. 7-12 LEGITIMATE.	07022	16	09586	-7045	
15480	B	UT10,MXQ50,7		07034	49	09138	-7813	
15490	BD	MXQ07,MDO1		07046	43	07418	09730	
15500	BNF	MXQ03,MDO1		07058	44	07078	09730	
15510	B	UT10E,,,	NO -NAMES MUST BE NON-NUMERIC.	07070	49	09482	00000	
15520	DORG	=-3		07078				
15530	MXQ03	TFM	MXQ03A+23,MXQ55,,	INITIALIZE TO DECODE REST OF CARD.	07078	16	07113	-7827
15540	MXQ03A	TFM	FO,+23,,	PERFORM THE SCAN.	07090	16	09586	-7113
15550	B	UT10,XX		07102	49	09138	00000	
15560	AM	=-1,14		07114	11	07113	-0014	
15570	BNR	+20,MDO1,,	TEST FOR R.M.	07126	45	07146	09730	
15580	B	MXQ04-24,,,	YES -END OF CARD.	07138	49	07170	00000	
15590	DORG	=-3		07146				
15600	MXQ03B	CM	F5,XX		07146	14	09592	-0000
15610	BN1	MXQ03A,1300		07158	47	07090	01300	
15620	BD	MXQ12,LDINPT,,	BRANCH IF NON-DISK LOAD INPUT.	07170	43	07674	00428	
15630	BNF	MXQ11,COMM+35,,	BRANCH IF PROGRAM NAME SUPPLIED.	07182	44	07642	02837	
15640	MXQ04	BNF	MXQ05,COMM+39,,	TEST IF DIM ENTRY PICKED UP.	07194	44	07226	02841
15650	WATY	MX37,,,	NO -TYPE ERROR MESSAGE AND CLOSE JOB.	07206	39	10475	00100	
15660	B	UT10F		07218	49	09550	00000	
15670	DORG	=-3		07226				
15680	MXQ05	BT	UT05,COMM+39,,	GO TO PICK UP THE DIM ENTRY.	07226	27	08350	02841
15690	TR	MR02,UT05-1,11,	MOVE FOR LOAD ROUTINE.	07238	31	09732	0834R	
15700	BNR	+20,MR02,,	TEST IF EMPTY.	07250	45	07270	09732	
15710	B	MXQ04+12,,,	YES -ERROR.	07262	49	07206	00000	
15720	DORG	=-3		07270				
15730	TF	MF01,MR02+13,,	DETERMINE IF RELOCATABLE.	07270	26	09704	09745	
15740	CF	MF01		07282	33	09704	00000	
15750	CM	MF01,99999		07294	14	09704	R9999	
15760	BI	MXQ06A,1200		07306	46	07338	01200	
15770	MXQ06	TFM	MXQ06C+6,MB190,,	NO -FORCE UPDATING OF HIGH INDICATOR.	07318	16	07416	-3710
15780	B	MXQ06B		07330	49	07386	00000	
15790	DORG	=-3		07338				
15800	MXQ06A	BNF	+24,COMM+8,,	YES -MOVE IN LOAD ADDRESS IF ANY.	07338	44	07362	02810
15810	TF	MB225+11,COMM+12		07350	26	04044	02814	
15820	CF	MB225+11		07362	33	04044	00000	
15830	TFM	MXQ06C+6,MB195		07374	16	07416	-3722	
15840	MXQ06B	BNF	+24,COMM+13,,	MOVE IN ENTRY ADDRESS IF SUPPLIED.	07386	44	07410	02815
15850	TF	MR02+18,COMM+17		07398	26	09750	02819	
15860	MXQ06C	B	MB195,,,	MB190 OR MB195.	07410	49	03722	00000
15870	DORG	=-3		07418				
15880	MXQ07	CF	MCCBUF+14,,,	CLEAR EXCESS FLAGS IN NAME FIELD.	07418	33	13014	00000
15890	CF	MCCBUF+16		07430	33	13016	00000	
15900	CF	MCCBUF+18		07442	33	13018	00000	
15910	CF	MCCBUF+20		07454	33	13020	00000	
15920	CF	MCCBUF+22		07466	33	13022	00000	
15930	MXQ08	TFM	AB03+30,MXQ09,,	INITIALIZE FOR EQUIVALENCE TABLE SEARCH.	07478	16	11064	-7590
15940	TFM	AB03+50,MXQ10		07490	16	11084	-7610	
15950	TFM	AB03+43,MCCBUF+23		07502	16	11077	J3023	
15960	TF	COMM+35,MCCBUF+23		07514	26	02837	13023	
15970	TD	AB09A,EQUDDA		07526	25	11379	10862	
15980	BNR	+20,EQUDDA		07538	45	07558	10862	
15990	B	+20		07550	49	07570	00000	
16000	DORG	=-3		07558				
16010	TF	AB09A+5,EQUDDA+5		07558	26	11384	10867	
16020	TFM	MXQ03A+23,MXQ55+14		07570	16	07113	-7841	

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16030	B	MXQ03A,,,	RETURN TO DECODE REST OF CARD.	07582	49	07090	00000	
16040	DORG	=-3		07590				
16050	MXQ09	WATY	MX38,,,	COULD NOT FIND -TYPE ERROR MESSAGE.	07590	39	10511	00100
16060	B	UT10F,,,	FINISH UP.	07602	49	09550	00000	
16070	DORG	=-3		07610				
16080	MXQ10	AM	AB03+11,4,,	MOVE CORRESPONDING DIM NUMBER TO	07610	11	11045	-0004
16090	TF	COMM+39,AB03+11,11,	TO THE COMM SECTOR.	07622	26	02841	1104N	
16100	B	MXQ05,,,	GO PICK UP THE DIM ENTRY.	07634	49	07226	00000	
16110	DORG	=-3		07642				
16120	MXQ11	BNR	AB02-12,EQUDDA,,	GO TO EQU TABLE SEARCH IF DDA VALID.	07642	45	10986	10862
16130	TFM	POINT,2,,	NO -TYPE ERROR MESSAGE.	07654	16	09756	-0002	
16140	B	MB080A		07666	49	03346	00000	
16150	DORG	=-3		07674				
16160	MXQ12	TD	+23,LDINPT,,	TEST FOR LEGITIMACY OF INPUT DEVICE.	07674	25	07697	00428
16170	BD	MXQ13,MCD05		07686	43	07718	10730	
16180	TFM	POINT,27,9,	NO -TYPE MESSAGE AND EXIT.	07698	16	09756	00-27	
16190	B	UT10E		07710	49	09482	00000	
16200	DORG	=-3		07718				
16210	MXQ13	TR	MR02,MXQ20,,	SET UP TO EXECUTE LOADER CALLER.	07718	31	09732	07798
16220	TD	DIMENT+14,MCR01A		07730	25	00416	04455	
16230	BNF	+24,COMM+13		07742	44	07766	02815	
16240	TF	DIMENT+18,COMM+17		07754	26	00420	02819	
16250	BNF	+24,COMM+8		07766	44	07790	02810	
16260	TF	HIGH,COMM+12		07778	26	00434	02814	
16270	B	MB195		07790	49	03722	00000	
16280	DORG	=-3		07798				
16290	MXQ20	DSC	1,1	07798			1	
16300	DSA	DSA15		07803		5 X	1	
16310	DC	3,3		07803		J9783		
16320	DC	6,0'		07806		3		
16330	MXQ50	DSC	4,1001,,	PROGRAM NAME.	07812		6	
16340	DC	2,7		07813		4		
16350	DC	2,6		07818		2		
16360	DSC	6,0'		07820		2		
16370	MXQ55	DSC	4,0101,,	DIM NUMBER.	07821		6	
16380	DC	2,13		07827		4		
16390	DC	2,4		07832		2		
16400	DSA	COMM+39		07834		2		
16410	DSC	1,1'		07839		5 X	1	
16420	DSC	4,0101,,	LOAD ADDRESS.	07839		-2841		
		0101		07840		1		
				07841		4		

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16430	DC 2,17		07046	2
	J7			
16440	DC 2,5		07048	2
	-5			
16450	DSA COMM+12		07053	5 X 1
16460	DSC 1,1		07053	-2019
	'		07054	1
16470	DSC 4,0101,,	ENTRY ADDRESS.	07055	4
	0101			
16480	DC 2,22		07060	2
	K2			
16490	DC 2,5		07062	2
	-5			
16500	DSA COMM+17		07067	5 X 1
16510	DSC 1,1		07067	-2019
	'		07068	1
16520	DSC 4,0101,,	INPUT SOURCE.	07069	4
	0101			
16530	DC 2,27		07074	2
	K7			
16540	DC 2,1		07076	2
	-1			
16550	DSA LDINPT		07081	5 X 1
16560	DSC 1,1		07081	-0420
	'		07082	1
16570	DSC 4,0101,,	SUBROUTINE SET IDENTIFICATION FOR FORTRA	07083	4
	0101			
16580	DC 2,28		07088	2
	K8			
16590	DC 2,1		07090	2
	-1			
16600	DSA COMM+82		07095	5 X 1
16610	DSC 1,1		07095	-2084
	'		07096	1
16620	DSC 4,0101,,	CONTROL CARD COUNT FOR FORTRAN.	07097	4
	0101			
16630	DC 2,29		07902	2
	K9			
16640	DC 2,2		07904	2
	-2			
16650	DSA COMM+75		07909	5 X 1
16660	DSC 1,1		07909	-2077
	'		07910	1
16670	DSC 4,0101,,	SPS SUBROUTINE SET.	07911	4
	0101			
16680	DC 2,31		07916	2
	L1			

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16690	DC 2,2		07918	2
	-2			
16700	DSA COMM+81		07923	5 X 1
16710	DSC 1,1		07923	-2083
	'		07924	1
16720	DSC 4,0101,,	SPS NOISE DIGIT.	07925	4
	0101			
16730	DC 2,33		07930	2
	L3			
16740	DC 2,1		07932	2
	-1			
16750	DSA COMM+77		07937	5 X 1
16760	DSC 1,1		07937	-2079
	'		07938	1
16770	DSC 4,0101,,	SPS MANTISSA LENGTH.	07939	4
	0101			
16780	DC 2,34		07944	2
	L4			
16790	DC 2,2		07946	2
	-2			
16800	DSA COMM+79		07951	5 X 1
16810	DSC 1,1		07951	-2081
	'		07952	1
16820	*****	ROUTINE TO MULTIPLY A DIGIT BY FIVE -RESULT IS A FIVE		
16830	*	DIGIT FIELD ADDRESSED AT UT01-1		
16840	DC 5,0,,	CALLING SEQUENCE	07957	5
	-0000			
16850	UT01	TFM *-2,0,8, TD **23,DIGIT	07958	16 07956 0-000
16860	CF	UT01-1,,7, BTM UT01,0	07970	33 07957 -0000
16870	TD	*-1,UT01-1	07982	28 07981 07957
16880	A	UT01-1,UT01-1	07994	21 07957 07957
16890	A	UT01-1,UT01-1	08006	21 07957 07957
16900	A	UT01-1,UT01+23	08018	21 07957 07981
16910	BB		08030	42 00000 00000
16920	DORG	*-9	08032	
16930	*****	ROUTINE TO EXTRACT NUMERICAL STRIP FROM MONITOR CONTROL		
16940	*	CARD READ IN AREA (MONITOR READ IN AREA HAS FLAGS IN EVERY		
16950	*	EVEN DIGIT POSITION)		
16960	DC 5,0,,	CALLING SEQUENCE	08036	5
	-0000			
16970	UT03	TDM MD01,0,,	08038	15 09730 00000
16980	TFM	MF02,MF03-20,, TFM MF01,MCHAR	08050	16 09709 -9709
16990	A	MF01,MF01,, BTM UT03,ADDR	08062	21 09704 09704
17000	A	MF01,UT03-1,,	08074	21 09704 08037
17010	UT03A	TF UT03B+8,UT03-1,11, WHERE MCHAR IS THE NUMBER OF CHAR.	08086	26 08156 08037
17020	BMR	**26,UT03B+8,, IN THE FIELD,ADDR IS THE ADDRESS OF	08098	49 08124 08156
17030	TDM	MD01,0,, THE FIELD -AS IT WOULD BE ADDRESSED	08110	19 09730 00000
17040	DORG	*-9	08121	
17050	DSC 1,1,,	PDR AN ALPHANERIC IOP (SECOND DIGIT).	08121	1

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17060	BB	:::	UPON RETURN, M001 CONTAINS MINUS ZERO	08122	42	00000	00000
17070	DORG	*-9,,	IF THE FIELD WAS PURE NUMERIC, PLUS	08124			
17080	AM	MFO2,1,,	ZERO IF BLANK, A RECORD MARK IF IT	08124	11	09709	-0001
17090	TD	MFO2,UT03B*8,6,,	CONTAINED A RECORD MARK, AND PLUS ONE	08136	25	09708	08156
17100	UT03B	CM	IF THE FIELD WAS NON-NUMERIC.	08148	14	08156	-00-0
17110	BNI	*+38,1200,,		08160	47	08198	01200
17120	BNF	UT03C,M001,,	A ONE DIGIT SOURCE FIELD IS ALWAYS TRANS-	08172	44	08234	09730
17130	TDM	M001,1,,	FERRED INTO A TWO DIGIT OBJECT FIELD.	08184	15	09730	00001
17140	BB	:::	SOURCE FIELDS OF MORE THAN ONE DIGIT	08196	42	00000	00000
17150	DORG	*-9,,	RETAIN THEIR ORIGINAL DIGIT COUNT, THE	08198			
17160	CM	UT03B*8,70,10,,	LOCATION OF THE OBJECT FIELD IS GIVEN	08198	14	08156	000P0
17170	BNI	UT03B*36,1300,,	BY MFO2 (IT WILL BE IN MFO3)	08210	47	08184	01300
17180	TDM	M001,0,11		08222	15	09730	0000-
17190	UT03C	AM		08234	11	08037	-0002
17200	C	UT03-1,MFO1		08234	24	08037	09704
17210	BNI	UT03A,1300		08246	47	08086	01300
17220	CM	MFO2,MFO3-19		08258	14	09709	-9710
17230	BNI	*+48,1200		08262	47	08330	01200
17240	TD	MFO3-18,MFO3-19		08294	25	09711	09710
17250	TDM	MFO3-19,0		08306	15	09710	00000
17260	TFM	MFO2,MFO3-18		08318	16	09709	-9711
17270	SF	MFO3-19		08330	32	09710	00000
17280	BB	:::		08342	42	00000	00000
17290	DORG	*-9		08344			
17300	*****	MONITOR SUBROUTINE TO READ A MAP SECTOR INTO 0-99					
17310	DC	5,0		08348		5	
	-0000						
17320	UT05	TR	UT05B,MAPSCT,, CALLING SEQUENCE	08350	31	08468	01831
17330	A	UT05B*6,UT05-1,,	BIM UT05,DIMNUM	08362	21	08474	08349
17340	A	UT05B*6,UT05-1,,	WHERE DIMNUM IS THE DIM ENTRY	08374	21	08474	08349
17350	TD	UT05A*11,UT05B*6,,	WHICH IS DESIRED IN THIS SECTOR.	08386	25	08457	08474
17360	TDM	UT05B*8,0,11,	UPON RETURN UT05-1 CONTAINS CORE	08398	15	08474	0000-
17370	TFM	IQXX,*+23,,	ADDRESS OF THE REQUESTED ENTRY	08410	16	00565	-8433
17380	B	IQGT,UT05A1,7,	(=0,20,40,60,80)	08422	49	00566	-8460
17390	TFM	UT05-1,0		08434	16	08349	-0000
17400	UT05A	TDM	UT05-2,XX	08446	15	08348	00000
17410	BB	:::		08458	42	00000	00000
17420	DORG	*-9		08460			
17430	UT05A1	DSC	2,22	08460		2	
		22					
17440	DSA	UT05B		08466		5 X	1
				08466		-8468	
17450	DSC	1,1		08467		1	
17460	UT05B	DSC	20,0	08468		20	
		00000000000000000000					
17470	*****	SUBROUTINE TO TYPE A MONITOR CONTROL CARD.					
17480	DC	5,0		08492		5	
	-0000						
17490	UT06	BNF	*+14,MCR02A*11,11, RETURN IF INPUT FROM THE TYPEWRITER.	08494	44	08508	0412P
17500	BB	:::		08506	42	00000	00000
17510	DORG	*-9		08508			
17520	RCTY	:::	RESTORE TYPEWRITER CARRIAGE.	08508	34	00000	00102
17530	TFM	UT06A*11,MCCBUF*11,,	DETERMINE LAST NON-BLANK COLUMN OF	08520	16	08551	J3011
17540	B	UT06B*12,,	CARD.	08532	49	08632	00000

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17550	DORG	*-3		08540			
17560	UT06A	BD	UT06B,XX	08540	43	08620	00000
17570	AM	UT06A*11,1		08552	11	08551	-0001
17580	BD	UT06B*12,UT06A*11,11		08564	43	08632	0855J
17590	AM	UT06A*11,1		08576	11	08551	-0001
17600	CM	UT06A*11,MCCBUF*160		08588	14	08551	J3160
17610	BNI	UT06A,1300		08600	47	08540	01300
17620	B	UT06C		08612	49	08652	00000
17630	DORG	*-3		08620			
17640	UT06B	AM	UT06A*11,1	08620	11	08551	-0001
17650	TF	UT06D*11,UT06A*11		08632	26	08725	08551
17660	B	UT06B-44		08644	49	08576	00000
17670	DORG	*-3		08652			
17680	UT06C	TD	19998,MCCBUF*1,, DUMP INITIAL RECORD MARKS.	08652	25	19998	13001
17690	TD	19999,MCCBUF*3		08664	25	19999	13003
17700	DNTY	19998		08676	35	19998	00100
17710	BNR	*+14,MCCBUF*5,,	RETURN IF R.M. IN COL. 3.	08688	45	08702	13005
17720	BB	:::		08700	42	00000	00000
17730	DORG	*-9		08702			
17740	AM	*+23,2,,	SET R.M. AFTER LAST SIGNIFICANT CHAR.	08702	11	08725	-0002
17750	UT06D	TD	UT06E*11,XX	08714	25	08773	00000
17760	TD	*-1,MCR01A,6		08726	25	0872N	04455
17770	WATY	MCCBUF*5,,	TYPE REMAINDER OF CARD.	08738	39	13005	00100
17780	RCTY	:::		08750	34	00000	00102
17790	UT06E	TDM	UT06D*11,XX,6,, RESTORE DIGIT.	08762	15	0872N	00000
17800	BB	:::		08774	42	00000	00000
17810	DORG	*-9		08776			
17820	*****	JOB CLOSE-OUT SUBROUTINE.					
17830	DC	5,0		08780		5	
	-0000						
17840	UT07	BD	*+14,MCOMM,, FORGET IT IF WE HAVEN-T DONE ANYTHING.	08782	43	08796	02852
17850	BB	:::		08794	42	00000	00000
17860	DORG	*-9		08796			
17870	BD	*+44,UT07-1,,	TYPE END OF JOB MESSAGE IF FORCED.	08796	43	08840	08781
17880	TD	*+23,MCOMM*3,,	NO -TYPE ONLY IF THE CONTROL CARD	08808	25	08831	02855
17890	BD	*+20,MCDOS,,	SOURCE IS NOT THE TYPEWRITER	08820	43	08840	10730
17900	B	*+20		08832	49	08852	00000
17910	DORG	*-3		08840			
17920	WATY	MN21		08840	39	10157	00100
17930	RCTY	:::		08852	34	00000	00102
17940	TD	UT07C,MCOMM*5		08864	25	09122	02857
17950	TDM	UT07A*11,0		08876	15	09003	00000
17960	B	*+20		08888	49	08908	00000
17970	DORG	*-3		08896			
17980	UT07A	34	UT07C,701,, REFRESH THE COMMON REGION AND THE	08896	34	09122	00701
17990	BI	*+12,600,,	OVERLAY READ ROUTINE.	08908	46	08920	00600
18000	BI	*+12,700		08920	46	08932	00700
18010	BI	*+12,1600		08932	46	08944	01600
18020	BI	*+12,1700		08944	46	08956	01700
18030	36	UT07C,702		08956	36	09122	00782
18040	BNI	UT07B,1900		08968	47	09060	01900
18050	TD	*+23,*+23,11,		08980	25	09003	0900L
18060	UT07A1	BD	UT07A,MCD11	08992	43	08896	10790
18070	WATY	MN22,,		09004	39	10179	00100
18080	WATY	MN23	COMPLAIN LOUDLY IF ANY ERROR.	09016	39	10265	00100
18090	RCTY	:::		09028	34	00000	00102

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18100	M	...	OPERATOR MUST RESET AND START TO RETRY.	09040	48	00000	08000
18110	B	UT07A		09052	49	08006	08000
18120	DORG	+3		09060			
18130	UT07B	TDM MCOMM+0,,	INITIALIZE NECESSARY INDICATORS AND	09060	15	02852	00000
18140	TDM	MCOMM+1,0,,	FIELDS.	09072	15	02853	08000
18150	TDM	MCOMM+2,0		09084	15	02854	08000
18160	TDM	MIO3,1,11		09096	15	09829	0000J
18170	TD	IBRM0D,MCOMM+S		09108	25	00448	02857
18180	BB	...	BOUNCE BACK.	09120	42	00000	08000
18190	DORG	+9		09122			
18200	UT07C	DSC 1,1		09122			1
		1					
18210	DSA	DSA04		09127		5 X	1
				09127		J9639	
18220	DC	3,1		09130			3
		-01					
18230	DC	6,402*		09136			6
		-0402*					
18240	*****	SUBROUTINE TO DETERMINE VALIDITY OF A CONTROL CARD FIELD.					
18250	UT10	TF +23,F0,11,	MOVE CALLING SEQUENCE RECORD.	09138	26	09161	09580
18260	TR	F1,XX		09150	31	09587	00000
18270	AM	F0,1,,	COMPUTE NORMAL RETURN ADDRESS.	09162	11	09586	-0001
18280	TF	POINT,F5,,	INITIALIZE COLUMN TYPE-OUT POINTER.	09174	26	09756	09592
18290	CF	POINT-1		09186	33	09755	00000
18300	SF	F1,,,	INITIALIZE RETURN IND. FLAGS.	09198	32	09587	00000
18310	SF	F4		09210	32	09590	00000
18320	TDM	UT10A+23,MCCBUF-1,,	INITIALIZE CALL TO UT03.	09222	16	09293	J2999
18330	A	UT10A+23,F5		09234	21	09293	09592
18340	A	UT10A+23,F5		09246	21	09293	09592
18350	TD	UT10A+11,F6		09258	25	09281	09594
18360	UT10A	TDM MF01,XX,,	EXTRACT NUMERIC STRIP IF ANY.	09270	16	09704	-0000
18370	BTM	UT03,XX		09282	17	08038	-0000
18380	BMR	UT10B,MDO1,,	NO -CHECK FOR R.M.	09294	45	09338	09730
18390	CF	F1,,,	YES -SET INDICATOR.	09306	33	09587	00000
18400	BD	UT10E,F1,	GO TO ERROR ROUTINE IF NOT ALLOWED.	09318	43	09482	09587
18410	B	F0,,6		09330	49	09580	00000
18420	DORG	+3		09338			
18430	UT10B	BD UT10C,MDO1,,	GO TO ALPHA-S TEST IF ALPHAMERIC.	09338	43	09442	09730
18440	BNF	UT10D,MDO1,,	GO TO BLANK-S TEST IF BLANK.	09350	44	09462	09730
18450	BNF	F0,F7-4,6,	NUMERIC -EXIT IF NO MOVE DESIRED.	09362	44	09580	09595
18460	CM	F6,1,10,	NUMERIC -MOVE DIGIT OR A FIELD.	09374	14	09594	000-1
18470	BNI	+24,1200		09386	47	09410	01200
18480	TDM	+13,5		09398	15	09411	00005
18490	TF	F7,MF02,611		09410	26	0959A	0970R
18500	TDM	+11,6		09422	15	09411	00006
18510	B	F0,,6		09434	49	09580	00000
18520	DORG	+3		09442			
18530	UT10C	BD UT10E,F2,,	GO TO ERROR IF ALPHA-S NOT ALLOWED.	09442	43	09482	09588
18540	B	F0,,6		09454	49	09580	00000
18550	DORG	+3		09462			
18560	UT10D	BD UT10E,F3,,	GO TO ERROR IF BLANK-S NOT ALLOWED.	09462	43	09482	09589
18570	B	F0,,6		09474	49	09580	00000
18580	DORG	+3		09482			
18590	UT10E	WATY MM39,,	TYPE ERROR MESSAGE.	09482	39	10549	00100
18600	WNTY	POINT-1		09494	38	09755	00100

18610	WATY	MM45		09506	39	10635	00100
18620	BD	UT10F,F4,,	BRANCH IF PHASE TO BE DELETED.	09518	43	09580	09590
18630	CF	F4,,,	SET RETURN IND.	09530	33	09590	00000
18640	B	F0,,6		09542	49	09580	00000
18650	DORG	+3		09550			
18660	UT10F	WATY MM40,,	TYPE PHASE DELETED MESSAGE	09550	39	10597	00100
18670	RCTY			09562	34	00000	00102
18680	B	MB140,,	WIND-UP.	09574	49	03658	00000
18690	DORG	+3		09582			
18700	FD	DC 5,0,,	CALL AND RETURN VECTOR.	09586			5
		-0000					
18710	F1	DSC 1,0,,	R.M. ERROR.	09587			1
		0					
18720	F2	DSC 1,0,,	ALPHA ERROR.	09588			1
		0					
18730	F3	DSC 1,0,,	BLANK ERROR.	09589			1
		0					
18740	F4	DSC 1,0,,	END PHASE ON ANY ERROR.	09590			1
		0					
18750	F5	DC 2,0,,	STARTING CARD COL.	09592			2
		-0					
18760	F6	DC 2,0,,	FIELD LENGTH.	09594			2
		-0					
18770	F7	DC 5,0,,	MOVE TO ADDRESS FOR NUMERIC DATA.	09599			5
		-0000					
18780	DSC	1,,		09600			1
		'					
18790	*****	NON EXECUTE TESTER.					
18800	DC	5,0		09605			5
		-0000					
18810	UT11	BD +24,+1,,	PICK THE ENTRY.	09606	43	09630	09605
18820	BNF	UT11A+12,NONEX,,	TEST IF EXECUTE INHIBITOR IS ON.	09618	44	09698	00457
18830	BNF	+20,MCOMM+2,,	YES -TYPE ONLY IF NOT ALREADY TYPED.	09630	44	09650	02854
18840	B	UT11A		09642	49	09686	00000
18850	DORG	+3		09650			
18860	WATY	MM19		09650	39	10107	00100
18870	RCTY			09662	34	00000	00102
18880	SF	MCOMM+2,,	TURN ON EXECUTION INHIBITOR.	09674	32	02854	00000
18890	UT11A	CF NONEX		09686	33	00457	00000
18900	BB			09698	42	00000	00000
18910	DORG	+9		09700			
18920	*****	MONITOR SCRATCH FIELDS					
18930	MFO1	DC 5,0		09704			5
		-0000					
18940	MFO2	DC 5,0		09709			5
		-0000					
18950	MFO3	DC 20,0		09729			20
		-00000000000000000000					
18960	MDO1	DSC 1,0		09730			1
		0					
18970	MDO2	DSC 1,0		09731			1
		0					
18980	MDO2	DSC 20,0,,	HOLDS DDA FOR PROGRAM MONITOR IS CALLING.	09732			20
		00000000000000000000					
18990	POINT	DC 3,0,,	LOOKY HERE, MA.	09756			5
		-0000					

19000	DSC 1, ' ,	09757	1
19010 *****	INITIALIZATION RECORDS.		
19020 IREC	DSC 2,0	09758	2
	00		
19030	DC 12,-0	09771	12
	-0000000000-		
19040	DC 4,0',	09775	4
	-00'		
19050 JREC	DC 1,0	09776	1
	-		
19060	DSC 5,-0	09777	5
	0000-		
19070	DSC 5,-0	09782	5
	0000-		
19080	DSC 5,0',	09787	5
	0000'		
19090 KREC	DC 1,0	09792	1
	-		
19100	DC 2,-0	09794	2
	--		
19110	DSC 1,-0	09795	1
	-		
19120	DC 2,-0	09797	2
	--		
19130	DC 2,-0	09799	2
	--		
19140	DSC 1, ' ,	09800	1
	'		
19150 LREC	DC 1,0	09801	1
	-		
19160	DSC 2,-0	09802	2
	0-		
19170	DSC 2,-0	09804	2
	0-		
19180	DSC 2,-0	09806	2
	0-		
19190	DSC 1, ' ,	09808	1
	'		
19200 MREC	DSC 19,0'	09809	19
	0000000000000000'		
19210 *	THE FOLLOWING INDICATORS ARE NON-ZERO OR FLAGGED IF TRUE.		
19220 MI01	DSC 1,0,, CNTL CARD READ IND.	09828	1
	0		
19230 MI03	DSC 1,0,, -JOB- CARD SEARCH IND.	09829	1
	0		
19240 *****	MONITOR DAC-S		
19250 MM01	DAC 24,ENTER MONITOR CNTL REC.',	09831	24 X 2
	ENTER MONITOR CNTL REC.'		
19260 MM02	DAC 4,JOB ,	09879	4 X 2
	JOB		
19270 MM03	DAC 4,TYPE,	09887	4 X 2
	TYPE		
19280 MM04	DAC 4,PAUS,	09895	4 X 2
	PAUS		
19290 MM05	DAC 4,SPS ,	09903	4 X 2
	SPS		

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19300 MM06	DAC 4,SPSX,	09911	4 X 2
	SPSX		
19310 MM07	DAC 4,FOR ,	09919	4 X 2
	FOR		
19320 MM08	DAC 4,FORX,	09927	4 X 2
	FORX		
19330 MM09	DAC 4,DUP ,	09935	4 X 2
	DUP		
19340 MM10	DAC 4,XEQ ,	09943	4 X 2
	XEQ		
19350 MM11	DAC 4,XEQS,	09951	4 X 2
	XEQS		
19360 MM16	DAC 32,PACK NUMBER ERROR ON MODULE 0. ' ,	09959	32 X 2
	PACK NUMBER ERROR ON MODULE 0. '		
19370 MM17	DAC 42,SET SSW4 TO IGNORE, OFF TO RE-ENTER CARD.',	10023	42 X 2
	SET SSW4 TO IGNORE, OFF TO RE-ENTER CARD.'		
19380 MM19	DAC 25,EXECUTION IS INHIBITED. ' ,	10107	25 X 2
	EXECUTION IS INHIBITED. '		
19390 MM21	DAC 11,END OF JOB',	10157	11 X 2
	END OF JOB'		
19400 MM22	DAC 43,CANNOT RESTORE COMMON -RESET AND START TO ' ,	10179	43 X 2
	CANNOT RESTORE COMMON -RESET AND START TO '		
19410 MM23	DAC 6,RETRY',	10265	6 X 2
	RETRY'		
19420 MM25	DAC 10,EXECUTION',	10277	10 X 2
	EXECUTION'		
19430 MM26	DAC 21, JOB CARD GROUP ONLY',	10297	21 X 2
	JOB CARD GROUP ONLY'		
19440 MM30	DAC 12,MUST RELOAD',	10339	12 X 2
	MUST RELOAD'		
19450 MM31	DAC 18,CONDITION IGNORED',	10363	18 X 2
	CONDITION IGNORED'		
19460 MM32	DAC 8,COMPARE',	10399	8 X 2
	COMPARE'		
19470 MM33	DAC 12,-ENTER CARD',	10415	12 X 2
	-ENTER CARD'		
19480 MM36	DAC 18,SYSTEM DIM ERROR ' ,	10439	18 X 2
	SYSTEM DIM ERROR '		
19490 MM37	DAC 18,OBJECT DIM ERROR ' ,	10475	18 X 2
	OBJECT DIM ERROR '		
19500 MM38	DAC 19,OBJECT NAME ERROR ' ,	10511	19 X 2
	OBJECT NAME ERROR '		
19510 MM39	DAC 24,ERROR IN FIELD AT COL. ' ,	10549	24 X 2
	ERROR IN FIELD AT COL. '		
19520 MM40	DAC 19,PHASE TERMINATED. ' ,	10597	19 X 2
	PHASE TERMINATED. '		
19530 MM45	DAC 3, ' ,	10635	3 X 2
	'		
19540 *****	FOLLOWING ARE MONITOR-S QUICK AND DIRTY DIGIT DECODERS.		
19550	DORG SYSORG+8288	10690	
19560 MCD01	DSC 2,-01	10690	2
	0J		
19570	DSC 8,01010000	10692	8
	01010000		
19580 MCD02	DS 0,0+1	10700	0
19590	DC 2,6	10701	2
	-6		

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19600	DC 2,8		10703	2
	-8			
19610	DC 6,100000		10709	6
	J00000			
19620 MCD03	DSC 10,0010000000		10710	10
	0010000000			
19630 MCD04	DSC 10,0101010100		10720	10
	0101010100			
19640 MCD05	DSC 10,0001010000		10730	10
	0001010000			
19650 MCD06	DSC 10,0000000000		10740	10
	0000000000			
19660 MCD07	DSC 10,0124444444		10750	10
	0124444444			
19670 MCD08	DSC 10,0443444444		10760	10
	0443444444			
19680 MCD09	DSC 10,1357911111		10770	10
	1357911111			
19690 MCD10	DC 2,-20		10781	2
	K-			
19700	DC 2,-25		10783	2
	KN			
19710	DC 2,-30		10785	2
	L-			
19720	DC 2,-35		10787	2
	LN			
19730	DC 2,-40		10789	2
	M-			
19740 MCD11	DSC 10,1234567890		10790	10
	1234567890			
19750 *****	SYSTEM DIM ENTRY SECTOR -THESE DDA-S ARE PICKED UP			
19760	DORG SYSORG+8400,	BY THE COLD START ROUTINE.	10802	
19770 SPSDDA	DSC 1,0,,	DDA FOR SPS ASSEMBLER.	10802	1
	0			
19780	DSA 0		10807	5 X 1
			10807	-0000
19790	DC 3,0		10810	3
	-00			
19800	USA 0,0		10815	5 X 2
			10815	-0000
19810	DSC 1,,		10820	-0000
	,		10821	1
19820 FORDDA	DSC 1,0,,	DDA FOR FORTRAN COMPILER.	10822	1
	0			
19830	DSA 0		10827	5 X 1
			10827	-0000
19840	DC 3,0		10830	3
	-00			
19850	DSA 0,0		10835	5 X 2
			10835	-0000
			10840	-0000

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19860	DSC 1,,		10841	1
	,			
19870 DUPDDA	DSC 1,0,,	DDA FOR DUP SUPERVISOR.	10842	1
	0			
19880	DSA 0		10847	5 X 1
			10847	-0000
19890	DC 3,0		10850	3
	-00			
19900	DSA 0,0		10855	5 X 2
			10855	-0000
			10860	-0000
19910	DSC 1,,		10861	1
	,			
19920 EQUDDA	DSC 1,0,,	DDA FOR EQUIVALENCE TABLE.	10862	1
	0			
19930	DSA 0		10867	5 X 1
			10867	-0000
19940	DC 3,0		10870	3
	-00			
19950	DC 6,0'		10876	6
	-0000'			
19960 *****	IORT LOAD PROCESSOR FOR NAMED PROGRAMS SECTION 2			
19970	DORG SYSORG+8500		10902	
19980 AB00	BNF AB05,AA02A+5,,	TEST FOR A SPECIFIED LOAD ADDRESS.	10902	44 11134 00234
19990	TF AA04+11,AA02A+4,,	YES -MOVE TO CALLING PARAMETER RECORD.	10914	26 00295 00233
20000 AB01	SF AA02A+5,,	INITIALIZE SCAN.	10926	32 00234 00000
20010	TFM IOXX,+23		10938	16 00565 J0961
20020	B IO5K,AB08,7		10950	49 00554 J1363
20030	TF AB09A+5,MAPENT*5		10962	26 11384 02123
20040	TD AB09A,TEMP-5		10974	25 11379 02144
20050	TD AB10+411,AB09,,	SET A GROUP MARK FOR LOOP TEST.	10986	25 11805 11378
20060 AB02	TFM IOXX,+23,,	READ 4 EQUIVALENCE TABLE SECTORS.	10998	16 00565 J1021
20070	B IOGT,AB08+8,7		11010	49 00566 J1371
20080	TFM AB03+11,AB10+11,,	INITIALIZE 4 SECTOR SCAN.	11022	16 11045 J1405
20090 AB03	BNR +32,XX,,	TEST IF TABLE IS EXHAUSTED.	11034	45 11066 00000
20100	TFM BKPT,AB01		11046	16 00467 J0926
20110	B ERROR+72		11058	49 00696 00000
20120	DORG +-3		11066	
20130	C AB03+11,AA02A+16,6,COMPARE CURRENT ENTRY.		11066	24 1104N 00245
20140	BI AB06,1200,,	BRANCH IF FOUND.	11078	46 11154 01200
20150	AM AB03+11,16,,	NO -ADVANCE ADDRESSING.	11090	11 11045 -0016
20160	S5 AB03,AB03+11,11,	TEST IF 6 SECTORS EXHAUSTED.	11102	55 11034 1104N
20170	AM AB09A+5,4,,	YES -INCREMENT SECTOR ADDRESS.	11114	11 11384 -0004
20180	B AB02		11126	49 10998 00000
20190	DORG +-3		11134	
20200 AB05	TF AA02A+16,AA02A+12,,MOVE NAME FOR NO LOAD ADDRESS CASE.		11134	26 00245 00241
20210	B AB01		11146	49 10926 00000
20220	DORG +-3		11154	
20230 AB06	AM AB03+11,4,,	MOVE FOUND DIM ENTRY.	11154	11 11045 -0004
20240	TF AA04+6,AB03+11,11		11166	26 00290 1104N
20250	BNF +24,AA02A+26,,	TEST IF REPOSITIONING DESIRED.	11178	44 11202 00255
20260	SF AA04,,	YES -SET INDICATOR.	11190	32 00284 00000
20270	BD +24,AA02A+26,,	TEST IF EXECUTION DESIRED.	11202	43 11226 00255

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20280	SF	AA04+1,,	YES -SET INDICATOR.	11214	32	00285	00000
20290	TR	0,AB07,,	OVERLAY SECTION 1 WITH TERMINATION	11226	31	00000	11246
20300	B	0,,,	ROUTINE.	11230	49	00000	00000
20310	DORG	0-3		11246			
20320	AB07	TFM IORX,23,,	RESTORE CORE.	11246	16	00565	-0023
20330	B	IOGT,AA03,7		11250	49	00566	-0261
20340	TFM	DFILE+11,TT1,,	DUMMY UP A GET ENTRY TO IORT.	11270	16	01917	-1752
20350	TF	IOXX,AA02A+23		11282	26	00565	00252
20360	TR	CNTMO,AA04		11294	31	02155	00284
20370	TFM	OLDCV+1,MCYL,,	SET UP TO RESTORE MPY TABLE AND	11306	16	02111	-0098
20380	TFM	MALTY+6,X01+36,,	EXECUTE LOAD.	11318	16	00462	-1882
20390	TR	OLDDA,103		11330	31	00441	00103
20400	B	OVRLAY,DSA01,,	YOU'RE ON YOUR OWN NOW, BOY.	11342	49	00468	19635
20410	DC	3,3		11356			3
	-03						
20420	DC	6,0'		11362			6
	-0000'						
20430	AB08	DSC 3,220		11363			3
	220						
20440	DC	4,2		11369			4
	-002						
20450	DSC	1,'		11370			1
	'						
20460	DSC	2,22		11371			2
	22						
20470	DSA	AB09A		11377		5 X	1
20480	AB09	DSC 1,0,,	GROUP MARK FOR TEST.	11377		J1379	
	0			11378		1	
20490	AB09A	DSC 1,1		11379		1	
	1						
20500	DSA	0		11384		5 X	1
20510	DC	3,4		11384		-0000	
	-04			11387		3	
20520	DSA	AB10		11392		5 X	1
20530	DSC	1,'		11392		J1394	
	'			11393		1	
20540	AB10	00 ,,,	READ BUFFER FOR FOUR SECTORS.	11394	00	00000	00000
20550	DORG	19982,	CONTROL TO WRITE ON DISK.	19982			
20560	DSC	1,1		19982		1	
	1						
20570	DSA	DSA08		19987		5 X	1
20580	DC	3,90		19987		J9659	
	-90			19990		3	
20590	DSA	SYSORG		19995		5 X	1
20600	DSC	1,'		19995		-2402	
	'			19996		1	

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20610 DEND

00000

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APHASE 01606	A800 10902	DSA39 19663	LCA02 00132	MCD09 10770
SIGTRB 00772	A801 10926	DS440 19743	LCA03 00273	MCD10 10781
CYLOWF 00796	A802 10998	DS450 17024	LCA04 00120	MCD11 10790
DIMENT 00402	A803 11034	DS451 19600	LCA06 00180	MCDMM 02852
DUPDDA 10842	A805 11134	E0030 00624	LCA07 00223	MCR01 04068
EMSG10 01073	A806 11154	E0040 00730	LCA08 00237	MCR03 04188
EMSG11 01079	A807 11246	E0050 00800	LCA09 00245	MCR04 04304
EMSG13 01201	A808 11363	E0070 00832	LC801 00092	MCR05 04572
EMSG20 01085	A809A 11379	E0080 00916	LC802 00200	MCR06 04935
EMSG21 01077	A809 11378	E0090 00950	LC808 00255	MCVL 00098
EQUDDA 10862	AB10 11394	E0095 01010	LC809 00263	MD01 09730
FORDDA 10822	AJOB 01594	E0100 01044	LC810 00278	MD02 09731
HOLLER 01382	B1 01573	ECALL 01789	LRA02 00176	MD0A 01775
IBMMDD 00440	B8UFF 01224	EERIT 01630	LRA05 00269	MDP01 06806
IBMMRT 01028	BKPT 00467	EMSG1 01779	LRA06 00283	MERR 00872
LCA02A 00253	BNI 00492	EMSG2 01149	LRFC 09801	MES1 00817
LCA06A 00204	CHECK 01262	EMSG3 01049	MA000 02402	MES2 00939
LDINPT 00428	CHEK1 01334	EMSG4 01055	MA010 02546	MES5G 00960
MAFENT 02118	CHEK2 01370	EMSG5 01061	MA020 02769	MF01 09704
MARSET 01831	CHK1 01020	EMSG6 01067	MA025 02777	MF02 09709
MB080A 03346	CHK2 01340	EMSG7 01073	MB000 02902	MF03 09729
MB110A 03522	CHK3 01376	EQUIV 02102	MB010 03010	MFT01 06550
MB110B 03566	CHK4 01408	ERRR 01809	MB020 03070	MFT02 06570
MCA00A 00079	CINIT 00427	ERRRT 00402	MB025 03120	MFT03 06734
MCCBUF 13000	CNTWD 02155	ERROR 00624	MB030 03142	M101 09828
MCR01A 04455	COMM 02802	F0 09586	MB035 03162	M103 09829
MCR02A 04116	COUNT 01125	F1 09587	MB040 03210	MJB01 04944
MCR04A 04444	DCDE 01052	F2 09588	MB045 03254	MJB02 04956
MCR05A 04628	DFILE 01904	F3 09589	MB080 03274	MJB03 05074
MFT05B 06778	DIDP 01986	F4 09590	MB081 03390	MJB04 05142
MFT05C 06792	DIO 00816	F5 09592	MB100 03422	MJB10 05250
MJB02A 05060	DIOX 00932	F6 09594	MB110 03466	MJB11 05366
MJB02X 05028	DIOY 01068	F7 09599	MB140 03658	MJB12 05390
MJB03A 05086	DIOZ 01124	FSPS 00429	MB145 03690	MJB13 05514
MJB03B 05130	DOVFL 01128	G0G0 00870	MB190 03710	MJB15 05574
MJB12A 05482	DRIVE 02154	GTEST 01156	MB195 03722	MJB17 05930
MJB13A 05538	DSA00 19600	H01 01418	MB200 03734	MJB20 06026
MJB15A 05678	DSA01 19635	H03 01454	MB210 03986	MJB21 06118
MJB50A 06170	DSA02 19636	H04 01478	MB220 04010	MJB22 06126
MJB55A 06184	DSA04 19639	HALT 00456	MB222 04018	MJB23 06134
MNOCAL 00796	DSA06 19640	HIGH 00434	MB225 04033	MJB30 06150
MSP05A 06493	DSA07 19656	IMOS 00610	MB226 04047	MM01 09831
MSP05B 06507	DSA08 19659	IOCAL 00716	MCA00 00052	MM02 09879
MSP05C 06521	DSA09 19744	IOGT 00566	MCA01 00208	MM03 09887
MSP05D 06535	DSA10 19749	IOPA 01004	MCA03 00100	MM04 09895
MXQ03A 07090	DSAL1 19761	IOP 01930	MCA04 00071	MM05 09903
MXQ03B 07146	DSAL2 19767	IORT 00532	MCA05 00241	MM06 09911
MXQ06A 07338	DSAL3 19772	IOBRC 00520	MCA06 00250	MM07 09919
MXQ06B 07386	DSAL4 19777	IOSK 00554	MCD01 10690	MM08 09927
MXQ06C 07410	DSAL5 19783	IOXX 00565	MCD02 10700	MM09 09935
NEWDDA 01154	DSAL6 19786	IREC 09758	MCD03 10710	MM10 09943
OVRLAY 00468	DSAL7 19789	JOFF 01042	MCD04 10720	MM11 09951
AA02A 00229	DSAL8 19791	JREC 09776	MCD05 10730	MM16 09959
AA02 00120	DSAL9 19794	KREC 09792	MCD06 10740	MM17 10023
AA03 00261	DSA20 19797	LADDR 00439	MCD07 10750	MM19 10107
AA04 00284	DSA21 19630	LCA01 00072	MCD08 10760	MM21 10157

MM22 10179	MXQ07 07418	RM2 02205	UT06A 08540	Y01A 00828
MM23 10265	MXQ08 07478	RMAP 00956	UT06B 08620	Y01B 00852
MM25 10277	MXQ09 07590	RNAM 00712	UT06C 08652	Y01 00780
MM26 10297	MXQ10 07610	SEEK 01496	UT06D 08714	Y02 00884
MM30 10339	MXQ11 07642	S1OP 01796	UT06E 08762	Y06 01000
MM31 10363	MXQ12 07674	S1DX 01244	UT06 08844	Y07A 01120
MM32 10399	MXQ13 07718	SK01 01476	UT07A 08896	Y07 01108
MM33 10415	MXQ20 07798	SK02 01604	UT07B 09060	Z01 00836
MM36 10439	MXQ50 07813	SK03 01708	UT07C 09122	Z02 00880
MM37 10475	MXQ55 07827	SK04 02142	UT07 08782	Z03 00924
MM38 10511	NEXT 00963	SRA01 00072	UT10A 09270	Z04 00980
MM39 10549	N1OP 01060	SRA02 00060	UT10B 09338	SAVDDA 01149
MM40 10597	NOERR 00448	SRA03 00152	UT10C 09442	SFDINT 00426
MM45 10635	NOMEX 00457	STEPS 01200	UT10D 09462	SPSDDA 10802
MR02 09732	OLDCY 02110	TEETH 01211	UT10E 09482	SPSMLP 00468
MREC 09809	OLDDA 00441	TEMP 02149	UT10F 09550	SRELOC 00425
MSP01 06198	OTEST 00760	TEST 00624	UT10 09138	SUPNET 02934
MSP02 06218	POINT 09756	TT1 01752	UT11A 09486	SUPRET 01817
MSP03 06430	RCALL 01803	UT01 07958	UT11 09406	SYSALC 00475
MSP04 06474	RDIM1 00828	UT03A 00886	WRTCT 00728	SYSORG 26082
MXQ01 06910	RDIM 00780	UT03B 08148	WTEST 00704	UT05A1 08460
MXQ02 06942	RDVCO 00996	UT03C 08234	X01 01846	UT07A1 08992
MXQ03 07078	REPOS 00512	UT03 08038	X03 00988	
MXQ04 07194	RETM 01674	UT05A 08446	X04 01212	
MXQ05 07226	RETRY 01036	UT05B 08468	XX 00000	
MXQ06 07318	RMI 02200	UT05 08350	Y00 00672	

END OF ONE ASSEMBLY.

MONITOR 1 -- RELOCATING LOADER--		PAGE	1
00120	DORG 2500	02500	
00130	* WRITE SEGMENT 1 OF LOADER ON DISK.		
00140	TRY1 34 DCNTL1,701	02500 34 02584 00701	
00150	38 DCNTL1,702	02512 38 02584 00702	
00160	BNI RIGHT1,1900	02524 47 02560 01900	
00170	H	02536 48 00000 00000	
00180	B TRY1	02548 49 02500 00000	
00190	RIGHT1 TRA	02560 36 00000 00500	
		02572 49 00000 00000	
00200	DCNTL1 DSC 9,119600009	02584 9	
	119600009		
	DSA CARDIN-10	02597 5 X 1	
00220	DORG 502	02597 -0502	
00225	FAKE DC 2,0	00502	
	-0	00503 2	
00230	* DISK INPUT PROGRAM. IF CARD INPUT, BRING IN SEGMENT 2.		
00240	B LOADER	00504 49 01266 00000	
00250	DORG *-4	00511	
00260	* INPUT CONTROL FOR DISK INPUT. DDA IS AT CNTL, CYLOV IS LOCATION		
00270	* OF CYLINDER OVERFLOW ROUTINE, LD 3 IS ERROR MESSAGE, OK IS		
00280	* NORMAL EXIT.		
00290	NORM DC 1,7	00511 1	
	P		
00300	DSA CNTL,CYLOV	00516 5 X 2	
		00516 -0920	
		00521 -0554	
		00523 2	
00310	DC 2,73		
	P3		
00320	DSA OK	00528 5 X 1	
00330	DC 1,1	00528 -0630	
	,	00529 1	
00340	* SECTOR ADDRESSES AND COUNTS FOR DISK INPUT.		
00350	CNTL1 DC 8,00100200	00537 8	
	-0100200		
00360	CNTL2 DC 8,00200100	00545 8	
	-0200100		
00370	CNT DC 8,00300000	00553 8	
	-0300000		
00380	* CYLINDER OVERFLOW ROUTINE.		
00390	* IF OVERFLOW OCCURRED, UPDATE ARM POSITION CODE FOR IOCS.		
00400	CYLOV AM ARM,1,10	00554 11 00464 000-1	
00410	* READ ONE OR TWO SECTORS FROM NEXT CYLINDER, AND CONTINUE.		
00420	TF DIS-1 ,CNTL2	00566 26 00933 00545	
00430	AM CNTL+9,1	00578 11 00925 -0001	
00440	BD MORE,CNTL+5	00590 43 00610 00925	
00450	B DIS	00602 49 00934 00000	
00460	DORG *-3	00610	
00470	MORE TF DIS-1 ,CNTL1	00610 26 00933 00537	
00480	B CYLOV+24	00622 49 00578 00000	
00490	DORG *-3	00630	
00500	* NORMAL EXIT. INCREMENT SECTOR ADDR. BY 3, DECREMENT COUNT BY 3,		

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00510 *	GO TO BEGIN PROCESSING INPUT.				
00520 OK	TD	OK+23,DIS-6	00630 25	00693	00928
00530	AM	CNTL+9,XX	00642 11	00925	-0000
00540	SM	MAPENT+8,3,9	00654 12	00410	00-03
00550	B	FIN	00666 49	01092	00000
00560	DORG	=-2	00675		
00590 *	CONTROL TO BRING IN SEGMENT 2.				
	DC	1,7	00675	1	
	P				
	DSA	CONT2,CYLOV	00680	5 X	2
			00680	-0694	
			00685	-0554	
			00687	2	
00610	DC	2,74			
	P4				
00620	DSA	CARDIN	00692	5 X	1
			00692	-0512	
00630 *	DDA TO BRING IN SEGMENT 2. TRANSMITTED TO OUT BEFORE USAGE.				
00640	DC	1,1	00693	1	
00650	DC	1,0	00694	1	
00660	DSA	CARDAD	00699	5 X	1
			00699	J9609	
00670	DSC	3,3	00700	3	
	003				
	DSA	CARDIN-10	00707	5 X	1
			00707	-0502	
			00708	1	
00690	DSC	1,1			
00700 *	ADDRESS TO BRANCH TO AFTER DISK READ ERROR.				
00710	DSA	DIS	00713	5 X	1
			00713	-0934	
00720 *	LOAD ADDRESS FOR INPUT.				
00730	DC	5,0	00718	5	
		-0000			
00740 *	FOR DISK INPUT, HAS CHARACTER COUNT REACHED 300...				
00750	CM	CHAR1,300	00720 14	00863	-0300
00760	BNE	+32	00732 47	00764	01200
00770 *	IF SO, GET MORE INPUT.				
00780	TFM	C,0	00744 16	00439	-0000
00790	B	DISK	00756 49	00864	00000
00800	DORG	=-3	00764		
00810 *	IF NOT, ARE WE READY FOR A NEW 75-CHARACTER GROUP...				
00820	C	CHAR1,C	00764 24	00863	00439
00830	BNE	BEGIN	00776 47	01164	01200
00840	B	HERE,,7	00788 49	01116	-0000
00850	DORG	=-3	00796		
00860 *	INPUT CONTROL FOR CARD INPUT. 0 IS INPUT LOCATION, ERR IS ERROR				
00870 *	ROUTINE, LD 2 IS ERROR MESSAGE, CEND IS NORMAL EXIT.				
00880 READ	DSC	1,0	00796	1	
		0			

00890	DSA	0,ERR	00801	5 X	2
			00801	-0000	
			00806	-1030	
			00808	2	
00900	DC	2,72			
	P2				
00910	DSA	CEND	00813	5 X	1
			00813	-0556	
00920	DC	1,1	00814	1	
00930 *	TO BRING IN SEGMENT 2, TRANSMIT INPUT CONTROL AND DDA.				
	OUT	TD	CONT2,ARM+1		
00950	TR	A,GET	00816 25	00694	00465
	TFM	C,0	00828 31	01073	00675
00970	B	DIS+12	00840 16	00439	-0000
00980	DORG	=-4	00852 49	00946	00000
00990 *	CHARACTER COUNTER.		00859		
01000	CHAR1	DC	5,0		
			-0000		
01010 *	DISK INPUT..EXIT WHEN SECTOR COUNT IS ZERO.				
01020	DISK	CM	MAPENT+8,0,9	00864 14	00410
01030	BNH	SIX	00876 47	02208	01100
01040 *	NOT ZERO - TRANSMIT INPUT CONTROL AND 3-SECTOR DDA.				
01050	TR	A,NORM	00888 31	01073	00511
01060	TF	DIS-1,CNT	00900 26	00933	00553
01070	B	DIS,,2	00912 49	-0934	00000
01080	DORG	=-3	00920		
01090 *	DDA FOR DISK INPUT. VARIABLE COUNT AND CORE ADDRESS TO HANDLE				
01100 *	CYLINDER OVERFLOW.				
01110	CNTL	DSC	6,0	00920	6
			000000		
01120	DC	8,0	00933	8	
			-0000000		
01130 *	INPUT ROUTINE. SEEK, GET INPUT DEVICE, READ, CHECK FOR ERROR.				
01140	DIS	34	B,701,6	00934 34	01070
01150	TD	+21,A	00946 25	00967	01073
01160	RD	36	B,702,6	00958 36	01070
01170	BMI	E-1,1900,6	00970 47	0109-	01900
01180	ANYERR	BI	+12,0600	00982 46	00994
01190	BI	+12,1600	00994 46	01006	01600
01200	BI	+12,1700	01006 46	01018	01700
01210	BI	CIN,3800,6	01018 46	0108L	03800
01220 *	ERROR ROUTINE. WRITE LD X, HALT, REREAD.				
01230	ERR	TF	STOP+9,0	01030 26	01063
01240	WATY	STOP+3	01042 39	01057	00100
01250	STOP	H	53440	01054 48	53440
01260	DORG	=-4	01061		
01270	DSC	5,0	01061	5	
			0000		
01280	BACK	B	DISK,,6	01066 49	0071L
01290	DORG	=-4	01073		
01300 *	INPUT CONTROL. DEVICE CODE, CORE ADDR. FOR INPUT, ERR ROUTINE,				
01310 *	ERROR MESSG, NORMAL EXIT.				
01320	A	DC	1,0	01073	1

01330 B	DC 5,0	01070	5
	-0000		
01340 CIM	DC 5,0	01083	5
	-0000		
01350 D	DC 2,0	01085	2
	-0		
01360 E	DC 6,0'	01091	6
	-0000'		
01370	* BEGIN PROCESSING A 75-CHARACTER GROUP.		
01380 FIN	TF CHAR1,C	01092	26 00863 00439
01390	* IF THIS IS FIRST GROUP, COMPUTE RELCON, UNLESS RETURNING FROM TCD.		
01400 RCON	BNF TD ,TCD	01104	44 01176 00428
01410	TF RELCON, HIGH	01116	26 00449 00434
01420	SF FIN	01128	32 01092 00000
01460	* SET LOW TO FIRST ADDRESS ON FIRST CARDPLUS RELCON.		
01470 ZERO	TF LOW,4	01140	26 00444 00004
	BNR ++24 ,MAPENT+14	01152	45 01176 00416
	TF MAPENT+13,LOW	01164	26 00415 00444
01480	* RESET TCD INDICATOR.		
01490 TD	SF TCD	01176	32 00428 00000
01520	* TO BRING IN SEGMENT 3, TRANSMIT INPUT CONTROL AND DDA.		
	TD CONT3 ,ARM+1	01188	25 01250 00465
01540	TR A,RPROG	01200	31 01073 01231
01550	TR OUT,CONT3	01212	31 00816 01250
01560	B DIS	01224	49 00934 00000
01570	DORG #-4	01231	
01580	* INPUT CONTROL FOR SEGMENT 3. OUT IS DDA, LD 4 IS ERROR MESSG,		
01590	* RCON IS NORMAL RETURN.		
01600 RPROG	DC 1,7	01231	1
	P		
01610	DSA OUT ,CYLOV	01236	5 X 2
		01236	-0816
		01241	-0554
		01243	2
01620	DC 2,74		
	P4		
01630	DSA START	01248	5 X 1
		01248	-0720
		01249	1
01640	DC 1,'		
	*		
01650	* DDA FOR SEGMENT 3.		
01660 CONT3	DSC 9,019612012	01250	9
	019612012		
01670	DSA RCON-2	01263	5 X 1
		01263	-1102
		01264	1
01680	DSC 1,'		
	*		
01690	* LOGICAL START OF LOADER. IF INPUT IS FROM CARDS, GET SEGMENT 2.		
LOADER	TD CNTLI ,ITAB	01266	25 00537 00440
	TD ARM+1,ITAB	01278	25 00465 00440
01	TR A,INIT	01290	31 01073 01309
01	B DIS+12	01302	49 00946 00000
01	DORG #-4	01309	
01	INIT DC 1,7	01309	1
	P		

01	DSA CNTLI,CYLOV	01314	5 X 2
		01314	-1328
		01319	-0554
		01321	2
01	DC 2,74		
	P4		
01	DSA TRANS	01326	5 X 1
		01326	-1342
		01327	1
01	DSC 1,'		
	*		
01	CNTLI DSC 1,0	01328	1
	0		
01	DSA SYSSCY	01333	5 X 1
		01333	J9663
		01341	8
01	DC 8,100000		
	-0100000		
01	TRANS TR COMM,84	01342	31 00440 00084
01700	BD OUT ,IONED	01354	43 00816 00428
01710	* IF INPUT FROM DISK, GET FIRST SECTOR ADDR. AND GO TO READ DISK.		
01720	TF CNTL+5,MAPENT+3,, DISK INPUT	01366	26 00925 00407
01725	TD CNTL,MAPENT	01378	25 00920 00402
01730	B DISK	01390	49 00864 00000
01740	DORG #-3	01398	
01750	TCD TRY1	02500	
		02500	
01760	DORG 2500		
01770	* WRITE SEGMENT 2 OF LOADER ON DISK.		
01780 TRY2	34 DCONT2,701	02500	34 02584 00701
01790	38 DCONT2,702	02512	38 02584 00702
01800	BN1 RIGHT2,1900	02524	47 02560 01900
01810	H	02536	48 00000 00000
01820	B TRY2	02548	49 02500 00000
01830	RIGHT2 TRA	02560	36 00000 00500
		02572	49 00000 00000
		02584	9
01840	DCONT2 DSC 9,119609003		
	119609003		
	DSA CARDIN-10	02597	5 X 1
		02597	-0502
01860	DORG 902	00502	
	DC 2,0	00503	2
	-0		
01870	B LOADER	00504	49 01266 00000
01880	DORG #-3	00512	
01890	* CARD INPUT PROGRAM.		
01900	* GET INPUT DEVICE CODE FROM COMM. AREA.		
01910	CARDIN TD READ,IONED,, CARD OR TAPE INPUT	00512	25 00796 00428
01920	CF READ	00524	33 00796 00000
01930	* TRANSMIT CARD INPUT CONTROL, AND GO TO READ A CARD.		
01940	CARD TR A,READ	00536	31 01073 00796
01950	B DIS+12	00548	49 00946 00000
01960	DORG #-3	00556	
01970	* IF CARD INPUT, CHECK SEQUENCE. IF TAPE, BYPASS THIS.		
01980	CEND CM READ,5,10	00556	14 00796 000-5

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01990	BNE	FIN	00568	47	01092	01200
02000	BNF	FIN,75,,	00580	44	01092	00075
02010	AM	SEQ,1	00592	11	00454	-0001
02020	C	79,SEQ	00604	24	00079	00454
02030	BE	FIN	00616	46	01092	01200
02040	SM	SEQ,1	00628	12	00454	-0001
02050	* IF CARD IS OUT OF SEQUENCE, WRITE LAST SEQ. NO. WHICH WAS CORRECT,					
02060	* AND LD 1. THEN HALT, AND READ ANOTHER CARD.					
02070	WNTV	SEQ-4	00640	38	00450	00100
02080	TFM	STOP+9,71,10	00652	16	01063	000P1
02090	B	ERR+12	00664	49	01042	00000
02100	DORG	*	00675			
02110	GET	DC 1,7	00675			1
02120	DSA	OUT ,CYLOV	00680		5 X	2
			00680		-0816	
			00685		-0554	
			00687		2	
02130	DC	2,74	00692		5 X	1
02140	DSA	DISK	00692		-0864	
			00693		1	
02150	DC	1,1	00694		1	
02160	CONT2	DC 1,0	00699		5 X	1
02170	DSA	DISKAD	00699		J9600	
			00700		3	
02180	DSC	3,3	00707		5 X	1
	003		00707		-0502	
	DSA	CARDIN-10	00708		1	
02200	DSC	1,1	00713		5 X	1
02210	* ADDRESS TO BRANCH TO AFTER CARD OR TAPE READ ERROR.					
02220	DISKX	DSA DIS+12	00713		-0946	
			00718		5	
02230	REL	DC 5,0	00720	14	00863	-0075
		-0000	00732	47	00764	01200
02240	* FOR UNIT RECORD INPUT, HAS CHARACTER COUNT REACHED 75...					
02250	START	CM CHAR1,75	00744	16	00439	-0000
02260	FORK	BNE **32	00756	49	00536	00000
02270	* IF SO, READ ANOTHER RECORD.					
02280	TFM	C,0	00764			
02290	B	CARD	00764	24	00863	00439
02300	DORG	*-3	02500			
02310	C	CHAR1,C	02500			
02320	TCO	TRY2				
02330	DORG	2500	02500			
02340	* WRITE SEGMENT 3 OF LOADER ON DISK.					
02350	TRY3	34 DCONT3,701	02500	34	02584	00701

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02360	38	DCONT3,702	02512	38	02584	00702
02370	BNI	RIGHT3,1900	02524	47	02560	01900
02380	H		02536	48	00000	00000
02390	B	TRY3	02548	49	02500	00000
02400	RIGHT3	TRA	02560	36	00000	00500
			02572	49	00000	00000
02410	DCONT3	DSC 9,119612012	02584		9	
		119612012	02597		5 X	1
02420	DSA	RCO-2	02597		-1102	
			01104			
02430	DORG	RCO-2	01104	16	00918	-0946
02440	* SEGMENT 3 HANDLES ANALYZING AND LOADING OF INPUT.					
02450	TFM	CNTL-2,DIS+12	01116	11	00439	-0075
02460	* INITIALIZE COUNTERS FOR NEW 75-CHARACTER GROUP.					
02470	HERE	AM C,75	01128	11	00863	-0004
02480	AM	CHAR1,4	01140	26	01283	0086L
02490	TF	LOC,CHAR1,11	01152	11	00863	-0001
02500	AM	CHAR1,1	01164	45	01228	0086L
02510	BEGIN	BNR NOTRM,CHAR1,11	01176	44	01208	0086L
02520	BNF	NOFLAG ,CHAR1,11,				
		RECORD MARK INDICATOR				
02530	* FLAGGED RECORD MARK - START NEW GROUP.					
02540	TF	CHAR1,C	01188	26	00863	00439
02550	B	START	01200	49	00720	00000
02560	DORG	*-3	01208			
02570	* UNFLAGGED RECORD MARK - GET NEW 5-DIGIT ADDR.					
02580	NOFLAG	AM CHAR1,5	01208	11	00863	-0005
02590	B	HERE+24	01220	49	01140	00000
02600	DORG	*-3	01228			
02610	* ZERO INDICATOR - READ IN SEGMENT 4.					
02620	NOTRM	BD NOZERO,CHAR1,11	01228	43	01272	0086L
	SEEK	TD CONT1 ,ARM+1	01240	25	02230	00465
	TR	A,PROG	01252	31	01073	02244
02640	B	DIS	01264	49	00934	00000
02650	DORG	*-3	01272			
02660	NOZERO	TFM REL,LOC,,	01272	16	00718	-1283
		NON-ZERO INDICATOR	01284	44	01316	0086L
02670	BNF	FLAG,CHAR1,11	01296	16	02024	-1880
02680	* FLAGGED DIGIT - DO NOT RELOCATE.					
02690	TFM	2024,TWO	01308	49	01388	00000
02700	B	DO	01316			
02710	DORG	*-3	01316	21	00718	00449
02720	* UNFLAGGED DIGIT - ADD RELCON.					
02730	FLAG	A REL,RELCON	01328	44	01376	01092
02740	* IF RELOCATABLE PROGRAM, ADD RELCON TO LOW AND ENTRY ADDRESS.					
02750	BNF	**48,FIN	01340	33	01092	00000
02760	CF	FIN	01352	21	00444	00449
02770	A	LOW,RELCON	01364	21	00413	00449
02780	A	NAPENT+13,RELCON	01376	16	02024	-1884
02790	TFM	2024,FIVE				
02800	* GET LENGTH OF DATA, SAVE ADDR. OF FIRST POSITION OF DATA FIELD.					
02810	DO	TD TEMP,CHAR1,11	01388	25	01477	0086L
02820	AM	CHAR1,2	01400	11	00863	-0002
02830	TF	N,CHAR1,11	01412	26	02057	0086L
02840	TF	M,N	01424	26	02067	02057
02850	AM	CHAR1,1	01436	11	00863	-0001
02860	TF	TEMP2,CHAR1	01448	26	02139	00863

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02870	TF	TEMP1,REL	01440	26	01789	00718
02880	* BRANCH TO PROPER INDICATOR ROUTINE.					
02890	BR	B	2008,,4	01472	49	02-08 00000
02900	DORG	=-3	01480			
02910	* THREE INDICATOR - SYMBOLIC ADDRESSES, FLAGGED AND RELOCATED BY SET.					
02920	THREE	TFM	SET-1,,+21,,	01480	16	02079 -1501
02930	B	SET,0,8	01492	49	02080	0-000
02940	DORG	=-1	01502			
02950	AM	CHAR1,5	01502	11	00863	-0005
02960	SM	M,5,10	01514	12	02067	000-5
02970	BP	THREE	01526	46	01480	01100
02980	B	STORE	01538	49	01892	00000
02990	DORG	=-3	01546			
03000	* FOUR INDICATOR - NUMERIC BLANKS.					
03010	FOUR	TD	TEMP1,BLANK,6,	01546	25	01788 02229
03020	AM	TEMP1,1	01558	11	01789	-0001
03030	SM	M,1,10	01570	12	02067	000-1
03040	BP	FOUR	01582	46	01546	01100
	A	LOC,N	01594	21	01283	02057
	B	START	01606	49	00720	00000
	DORG	=-3	01614			
03110	* EXAMINE SECOND POSITION OF OP CODE.					
03120	Q	AM	CHAR1,1	01614	11	00863 -0001
03130	BNF	DONT,CHAR1,11	01626	44	01660	0086L
03140	* FLAGGED - RELOCATE Q FIELD.					
03150	TFM	SET-1,,+21	01638	16	02079	-1659
03160	B	SET,600,8	01650	49	02080	0-600
03170	DORG	=-1	01660			
03180	* MOVE TO NEXT INSTRUCTION.					
03190	DONT	AM	CHAR1,11	01660	11	00863 -0011
03200	SM	M,12,10	01672	12	02067	000J2
03210	* FLAGGED FIVE AND UNFLAGGED ONE INDICATORS - INSTRUCTIONS.					
03220	* ARE THERE LESS THAN 7 DIGITS LEFT...					
03230	FIVE	CM	M,7,10,	01684	14	02067 000-7
03240	BL	NO	01696	47	01868	01300
03250	* NO - ARE THERE LESS THAN 12...					
03260	CM	M,12,10	01708	14	02067	000J2
03270	BL	LESS12	01720	47	01834	01300
03280	* NO - EXAMINE FIRST POSITION OF OP CODE.					
03290	BNF	IF8,CHAR1,11	01732	44	01766	0086L
03300	* FLAGGED - RELOCATE P FIELD.					
03310	TFM	SET-1,,+21	01744	16	02079	-1765
03320	B	SET,200,8	01756	49	02080	0-200
03330	DORG	=-1	01766			
03340	* IF FIRST DIGIT OF OP CODE WAS 8, DO NOT EXAMINE SECOND DIGIT.					
03350	IF8	TD	TEMP,CHAR1,11	01766	25	01477 0086L
03360	CF	TEMP	01778	33	01477	00000
03370	CM	TEMP,8,10	01790	14	01477	000-8
03380	BNE	Q	01802	47	01614	01200
03390	AM	CHAR1,1	01814	11	00863	-0001
03400	B	DONT	01826	49	01660	00000
03410	DORG	=-3	01834			
03420	* LESS THAN 12 DIGITS LEFT - EXAMINE FIRST POSITION OF OP CODE ONLY.					
03430	LESS12	BNF	NO,CHAR1,11	01834	44	01868 0086L
03440	* FLAGGED - RELOCATE P FIELD.					
03450	TFM	SET-1,,+21	01846	16	02079	-1867
03460						

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03470	B	SET,200,8	01858	49	02080	0-200
03480	DORG	=-1	01868			
03490	* RESET CHARACTER COUNTER TO BEGINNING OF DATA FIELD.					
03500	NO	TF	CHAR1,TEMP2	01868	26	00863 02139
03510	* TWO AND FLAGGED ONE INDICATOR - CONSTANTS.					
03520	TWO	A	CHAR1,N,,	01880	21	00863 02057
03530	* SAVE DIGIT AT END OF FIELD.					
03531	STORE	SM	CHAR1,1,10	01892	12	00863 000-1
03540	TD	SAVE1,CHAR1,11,	01904	25	00968	0086L
03550	* SET A RECORD MARK THERE.					
03560	A	TEMP1,N	01916	21	01789	02057
03561	SM	TEMP1,1,10	01928	12	01789	000-1
03570	TD	CHAR1,RM,6	01940	25	0086L	02262
03578	* TRANSMIT DATA TO LOAD ADDRESS.					
03581	TR	REL,TEMP2,611	01952	31	00710	0213R
03584	* REPLACED SAVED DIGITS.					
03587	TD	TEMP1,SAVE1,6	01964	25	01788	00968
03588	AM	TEMP1,1,10	01976	11	01789	000-1
03589	AM	CHAR1,1,10	01988	11	00863	000-1
03593	* GO TO UPDATE LOCATION POINTER.					
	PLACE	B	FOUR+48 ,XX	02000	49	01594 00000
	P2	DS	0 ,*	02011	0	
03600	DORG	2018	02018			
03610	B	XX	02018	49	00000	00800
03620	DORG	=-1	02028			
03630	B	TWO	02028	49	01880	00000
03640	DORG	=-1	02038			
03650	B	THREE	02038	49	01480	00000
03660	DORG	=-1	02048			
03670	NSTOR	B	FOUR	02048	49	01546 00000
03680	DORG	=-1	02058			
03690	NSTOR	B	FIVE	02058	49	01684 00000
03700	DORG	=-1	02068			
03710	B	SIX	02068	49	02208	00000
03720	DORG	=-4	02075			
03730	* ROUTINE TO SET FLAGS AND RELOCATE 5-DIGIT ADDRESSES.					
03740	DC	5,0,,	02079	5		
03750	* COMPUTE BEGINNING AND END OF ADDRESS.					
03760	SET	TF	P1,CHAR1	02080	26	02207 00863
03770	A	P1,SET-1,11	02092	21	02207	0207R
03780	TF	P2,P1	02104	26	02011	02207
03790	AM	P2,4	02116	11	02011	-0004
03800	SF	P1,,6	02128	32	02208	00000
03810	BNF	NP,P2,11	02140	44	02172	0201J
03820	* IF INDIRECT, SUBTRACT RELCON.					
03830	S	P2,RELCON,6	02152	22	0201J	00449
03840	B	BB	02164	49	02184	00000
03850	DORG	=-3	02172			
03860	* IF NOT INDIRECT, ADD RELCON.					
03870	NF	A	P2,RELCON,6	02172	21	0201J 00449
03880	BB	AM	SET-1,1	02184	11	02079 -0001
03890	B	SET-1,,6	02196	49	0207R	00000
03900	* SIX INDICATOR - END OF DATA TO BE LOADED.					
04000	* READ IN SEGMENT 4.					
04010	SIX	TFM	PRDG+17,LEAVE	02208	16	02261 -1548

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04020 S SEEK
 04030 DORG 0-3
 04040 * STORAGE FOR NUMERIC BLANK - MUST BE PATCHED IN ABSOLUTE SECT.
 04050 BLANK DC 2,0
 -0
 04060 * DDA TO READ IN SEGMENT 4.
 04070 CONT1 DSC 9,019624005
 019624005
 04080 DSA NOZERO

 04090 * INPUT CONTROL FOR SEGMENT 4 - CONT1 IS DDA, LD 4 IS ERROR MESSG,
 04100 * NOZERO IS NORMAL RETURN.
 04110 PROG DC 1,7
 P
 04120 DSA CONT1,CYLOV

 04130 DC 2,74
 P4
 04140 DSA NOZERO

 04150 RM DC 1,
 ,
 04160 CARDAD DS ,19609
 04170 DISKAD DS ,19600
 04180 LOC DS ,NOZERO+11
 04190 M DS ,RSTOR+9
 04200 N DS ,RSTOR+9
 04210 P1 DS ,BB+23
 04230 SAVE1 DS ,RD+10
 04240 SAVE2 DS ,RD+7
 04250 TEMP DS ,BR+5
 04260 TEMP1 DS ,IFB+23
 04270 TEMP2 DS ,SF+11
 04280 XX DS 5,0
 04290 ARM DS ,464
 04295 COMM DS ,440
 04300 C DS ,439
 04310 HIGH DS ,434
 04320 LDM DS ,444
 04330 IOMED DS ,428
 04340 MAPENT DS ,402
 04350 RELCON DS ,449
 04360 SEQ DS ,454
 04390 TCD DS ,428
 04400 ITAB DS ,440
 SYSSCT DS ,19663
 04410 TCD TRY3

 04420 DORG 2500
 04430 * WRITE SEGMENT 4 OF LOADER ON DISK.
 04440 TRY4 34 DCONT4,701
 04450 38 DCONT4,702

02220 49 01240 00000
 02220
 02229 2

 02230 9
 02243 5 X 1
 02243 -1272

 02244 1
 02249 5 X 2

 02249 -2230
 02254 -0554
 02256 2

 02261 5 X 1

 02261 -1272
 02262 1

 19609 0
 19600 0
 01203 0
 02067 0
 02097 0
 02207 0
 00968 0
 00965 0
 01477 0
 01709 0
 02109 0
 00000 1
 00464 0
 00440 0
 00439 0
 00434 0
 00444 0
 00428 0
 00402 0
 00449 0
 00454 0
 00428 0
 00440 0
 19663 0
 02500

 02500
 02500 34 02504 00701
 02512 38 02504 00702

04460 BNI RIGHT4,1900
 04470 H
 04480 B TRY4
 04490 RIGHT4 TRA

 04500 DCONT4 DSC 9,119624005
 119624005
 04510 DSA NOZERO

 04520 DORG NOZERO
 04530 * ZERO INDICATOR - SET TCD INDICATOR.
 04540 CF TCD
 04550 BNF 0+20,CHAR1,11
 04560 * FLAGGED ZERO - DO NOT RELOCATE.
 04570 B NOT
 04580 DORG 0-3
 04590 * UNFLAGGED ZERO - DO RELOCATE.
 04600 AM CHAR1,5
 04610 BNF ADD,CHAR1,11
 04620 * INDIRECT ADDRESS - SUBTRACT RELCON.
 04630 S CHAR1,RELCON,6
 04640 B NOT+12
 04650 DORG 0-3
 04660 * NOT INDIRECT - ADD RELCON.
 04670 ADD A CHAR1,RELCON,6
 04680 B 0+20
 04690 DORG 0-3
 04700 NOT AM CHAR1,5
 04710 * PUT ADDRESS IN COMM. AREA.
 04720 TF MAPENT+18,CHAR1,11
 04730 * SAVE LAST SECTOR READ, IN DISK INPUT.
 BD EXIT ,IO MED.
 04740 TF MAPENT+5,CNTL+5
 04750 SM MAPENT+5,3
 04760 AM MAPENT+8,3,9
 04770 * WRITE THREE FIELDS ONTO COMMUNICATION SECTOR.
 EXIT TD CNTLE,ARM+1
 01 TR A,EX
 01 B DIS+12
 01 DORG 0-4
 01 EX DC 1,7
 P
 01 DSA CNTLE,CYLOV

 01 DC 2,74
 P4
 01 DSA THRU

 02 DSC 1,
 ,
 02 CNTLE DSC 1,0
 0

02524 47 02560 01900
 02534 48 00000 00000
 02548 49 02500 00000
 02560 36 00000 00500
 02572 49 00000 00000
 02584 9

 02597 5 X 1

 02597 -1272
 01272

 01272 33 00428 00000
 01284 44 01304 0086L

 01296 49 01368 00000
 01304

 01304 11 00863 -0005
 01316 44 01340 0086L

 01328 22 0086L 00449
 01340 49 01380 00000
 01348

 01348 21 0086L 00449
 01360 49 01380 00000
 01368

 01368 11 00863 -0005

 01380 26 00420 0086L

 01392 43 01440 00428
 01404 26 00407 00925
 01416 12 00407 -0003
 01428 11 00410 00-03

 01440 25 01480 00465
 01482 31 01073 01471
 01464 49 00946 00000
 01471
 01471 1

 01476 5 X 2

 01476 -1490
 01481 -0554
 01483 2

 01488 5 X 1

 01488 -1504
 01489 1

 01490 1

02	DSA	SYSSCT	01495	5 X	1
02	DC	8,100000	01495	J9663	
		-0100000	01503	8	
02	THRU	TR 84,COMM	01504	31	00084 00440
02		TOM RD+1,8	01516	15	00959 00008
02		TFM CNTLE-2,NEXT	01528	16	01488 -1650
02		B EXIT	01540	49	01440 00000
02		DORG +-3	01548		
04840	* SIX INDICATOR -UPDATE LAST LOCATION PLUS ONE INDICATOR. LEAVE TF HIGH,REL * MOVE THE ENTRY ADDRESS.		01548	26	00434 00718
		TF MAPENT+18,MAPENT+13	01560	26	00420 00415
04860	* IF NON-DISK INPUT, READ ONE MORE RECORD. BD ++20 ,IO MED B EXIT DORG +-4 TD ++21 ,IO MED		01572	43	01592 00428
		RNCD	01584	49	01440 00000
04894	TFM	SEQ,0	01592	25	01613 00428
	B	EXIT	01604	36	00000 00500
04910	DORG	+-4	01616	16	00454 -0000
04920	* DDA FOR IDRT-S LOADER RETURN SUBROUTINE.		01628	49	01440 00000
04930	CNTL3	DSC 14, 1979100300000' 1979100300000'	01635		14
04931	* READ AND EXECUTE EXIT SUBROUTINE.				
04932	NEXT	TFM 510,0	01650	16	00510 -0000
		TD COMM,ARM+1	01662	25	00440 00465
		TR COMM+1,CNTL3	01674	31	00441 01635
		B 480	01686	49	00480 00000
04940	TCD	TRY4	02500		
04950	DORG	2500	02500		
04960	* READ IM SEGMENT 1 OF LOADER AND BEGIN EXECUTION.				
04970	TRY5	34 DCONTS,701	02500	34	02584 00701
04980		36 DCONTS,702	02512	36	02584 00702
04990	BNI	RIGHTS,1900	02524	47	02560 01900
05000	H		02536	48	00000 00000
05010	B	TRY5	02548	49	02500 00000
05020	RIGHT5	H	02560	48	00000 00000
05030	B	LOADER	02572	49	01266 00000
05040	DCONT5	DSC 14,01960000900502 01960000900502	02584		14
05050	DEND	TRY5	02500		

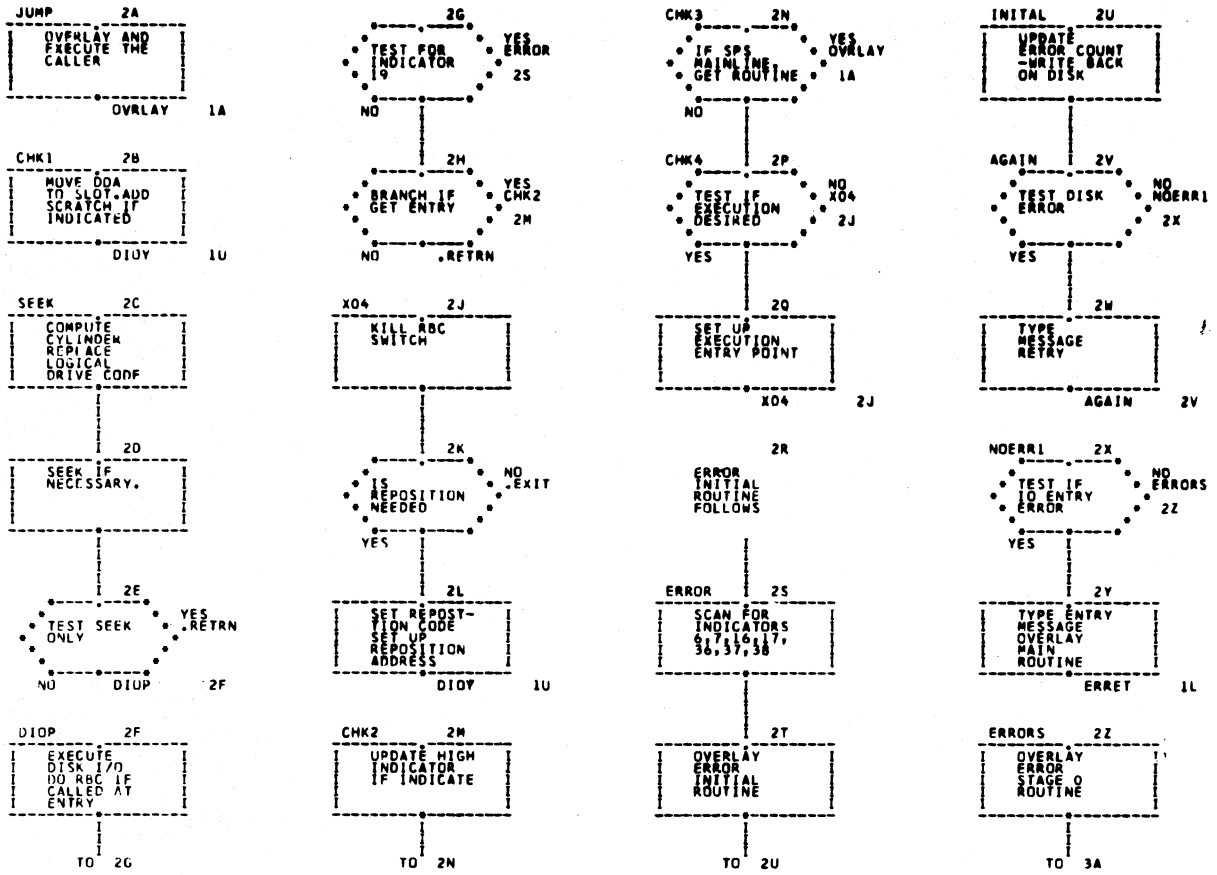
ANYERR	00982	BEGIN	01164	DO	01388	NEXT	01650	SET	02080
CARDAD	19609	BLANK	02229	D	01085	NF	02172	SF	02128
CARDIN	00512	BR	01472	ERR	01030	NDRM	00511	SIX	02208
DCONT1	02584	B	01078	E	01091	NO	01868	START	00720
DCONT2	02584	CARD	00536	EXIT	01440	NDRM	01228	STOP	01054
DCONT3	02584	CEND	00556	EX	01471	NOT	01368	STORE	01892
DCONT4	02584	CHAR1	00863	FAKE	00503	N	02057	TCD	00428
DCONT5	02584	CIN	01083	FIN	01092	NSTOR	02048	TD	01176
DISKAD	19600	CNTL1	00537	FIVE	01684	DK	00630	TEMP1	01789
LESS12	01834	CNTL2	00545	FLAG	01316	DUT	00816	TEMP2	02139
LOADER	01266	CNTL3	01635	FORK	00732	P1	02207	TEMP	01477
MAPENT	00402	CNTLE	01490	FOUR	01546	P2	02011	THREE	01480
NOFLAG	01208	CNTLI	01328	GET	00675	PLACE	02000	THRU	01504
NOZERO	01272	CNTL	00920	HERE	01116	PROG	02244	TRANS	01342
RELCON	00449	CNT	00553	HIGH	00434	Q	01614	TRY1	02500
RIGHT1	02560	COMM	00440	IF8	01766	RCON	01104	TRY2	02500
RIGHT2	02560	CONT1	02230	INIT	01309	RD	00958	TRY3	02500
RIGHT3	02560	CONT2	00694	IOMED	00428	READ	00796	TRY4	02500
RIGHT4	02560	CONT3	01250	ITAB	00440	REL	00718	TRY5	02500
RIGHT5	02560	C	00439	LEAVE	01548	RM	02262	TWO	01880
ADD	01348	CYLOV	00554	LOC	01283	RPROG	01231	XX	00000
ARM	00464	DISK	00864	LDM	00444	SAVE1	00968	ZERO	01140
A	01073	DISKX	00713	MORE	00610	SAVE2	00965	SYSSCT	19663
BACK	01066	DIS	00934	N	02067	SEEK	01240		
BB	02184	DONT	01660	MSTOR	02058	SEQ	00454		

END OF ONE ASSEMBLY.

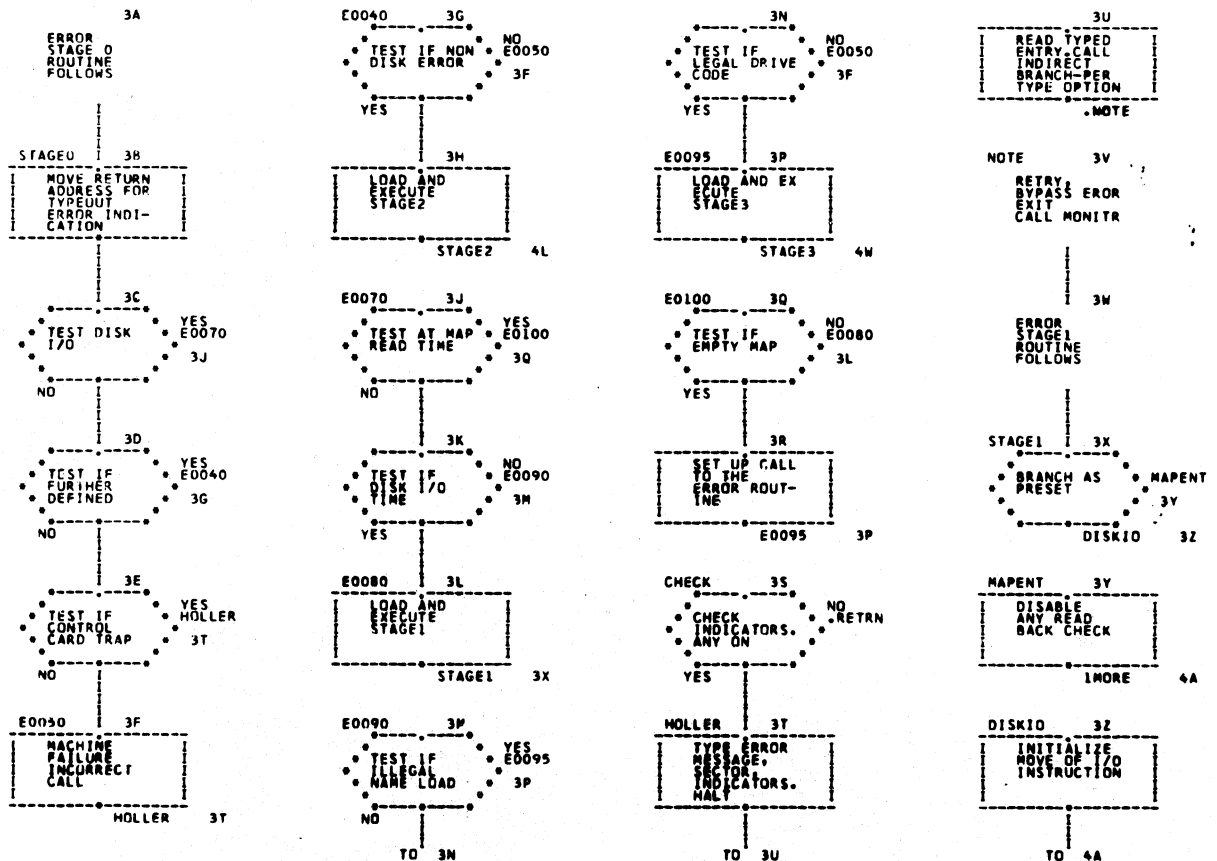
1620 MONITOR I SYSTEM SUPERVISOR MONITOR FLOW CHARTS

LABEL TABLE * INDICATES UNREFERENCED LABEL

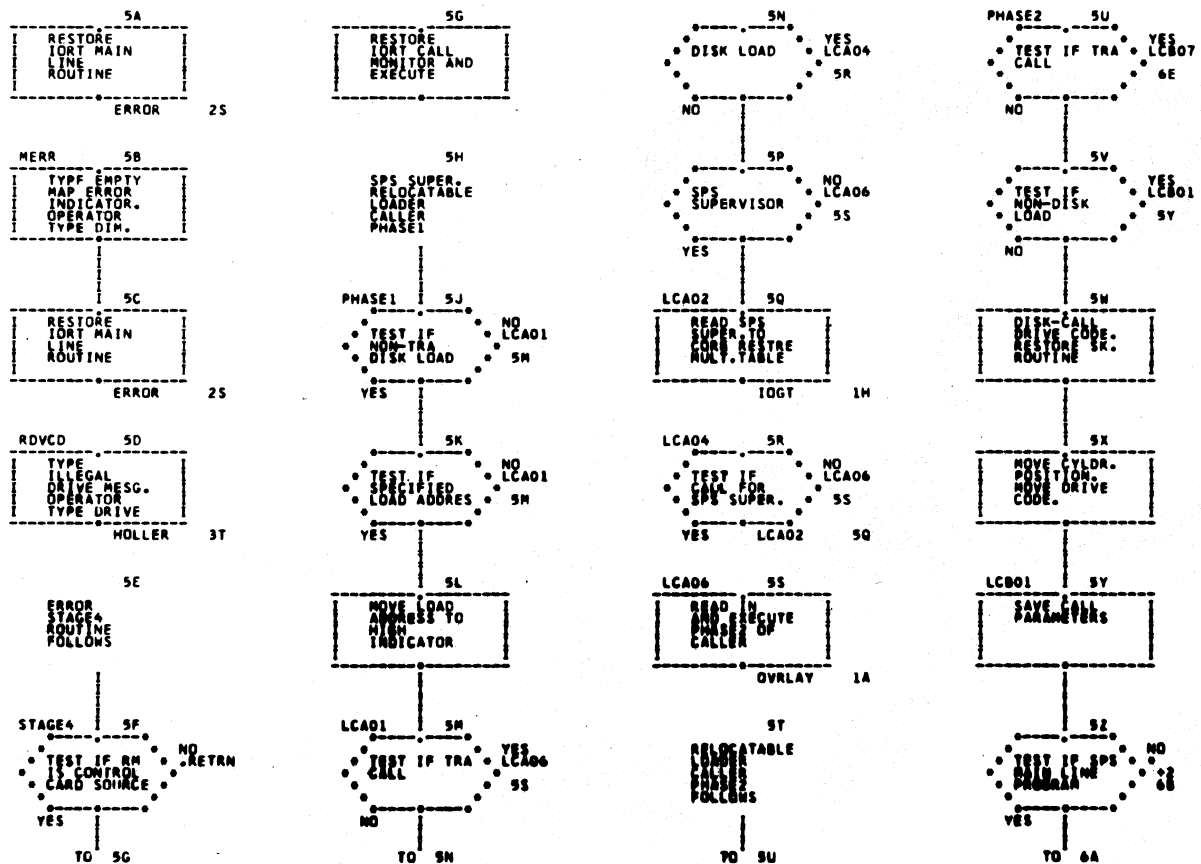
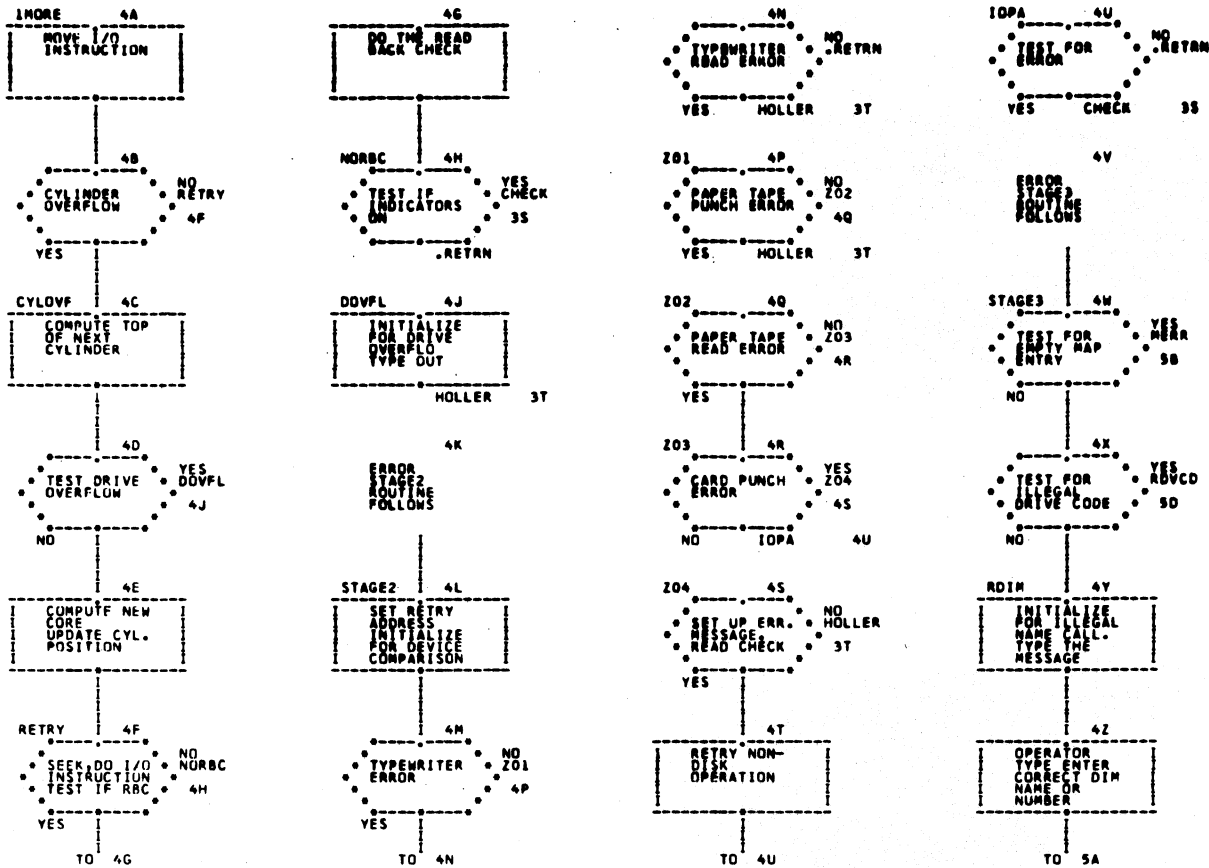
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AGAIN	2V	CHECK	3S	CHK1	28	CHK2	2H	*CHK3	2N	CHK4	2P
*CYLOVF	4C	DIO	1R	OIO	2F	*DIOX	1T	OIOY	1U	DIOZ	1X
DISKIO	3Z	DOVFL	4J	ERRET	1L	ERROR	2S	ERRORS	2Z	EO040	3G
EO050	3F	E0070	3J	E0080	3L	E0090	3M	E0095	3P	EO100	3Q
GTEST	1Y	HOLLER	3T	*INITAL	2U	*IOCAL	1J	IOG1	1H	IOPA	4U
*IOPT	1F	*IOBRC	1E	*IOSK	1G	JUMP	2A	LC401	5M	LCA02	5O
LCA04	5R	LCA06	5S	LCB01	5Y	LCB02	6D	LCB07	6E	LRA02	6M
MAPENT	3Y	MCA00	7F	MCA01	7G	MCA03	7H	MCA06	7M	HERR	58
*MONCAL	1K	MCA00	7F	*MONOSK	1P	NOR8C	4H	*NOTE	3V	OVRLAY	1A
*PHASEA	6R	*MERR1	2X	*PHASE1	5J	*PHASE2	5U	*RDIM	4V	RDVCO	5D
NETRY	4P	*PHASEB	6X	SEEK	2C	SRA01	6T	SRA02	6V	*STAGEA	6H
*STAGEU	3D	*SECT1	7P	STAGE2	4L	STAGE3	4W	*STAGE4	9F	X04	2J
Z01	4P	Z02	2Q	Z03	4R	Z04	4S	IMORE	4A		



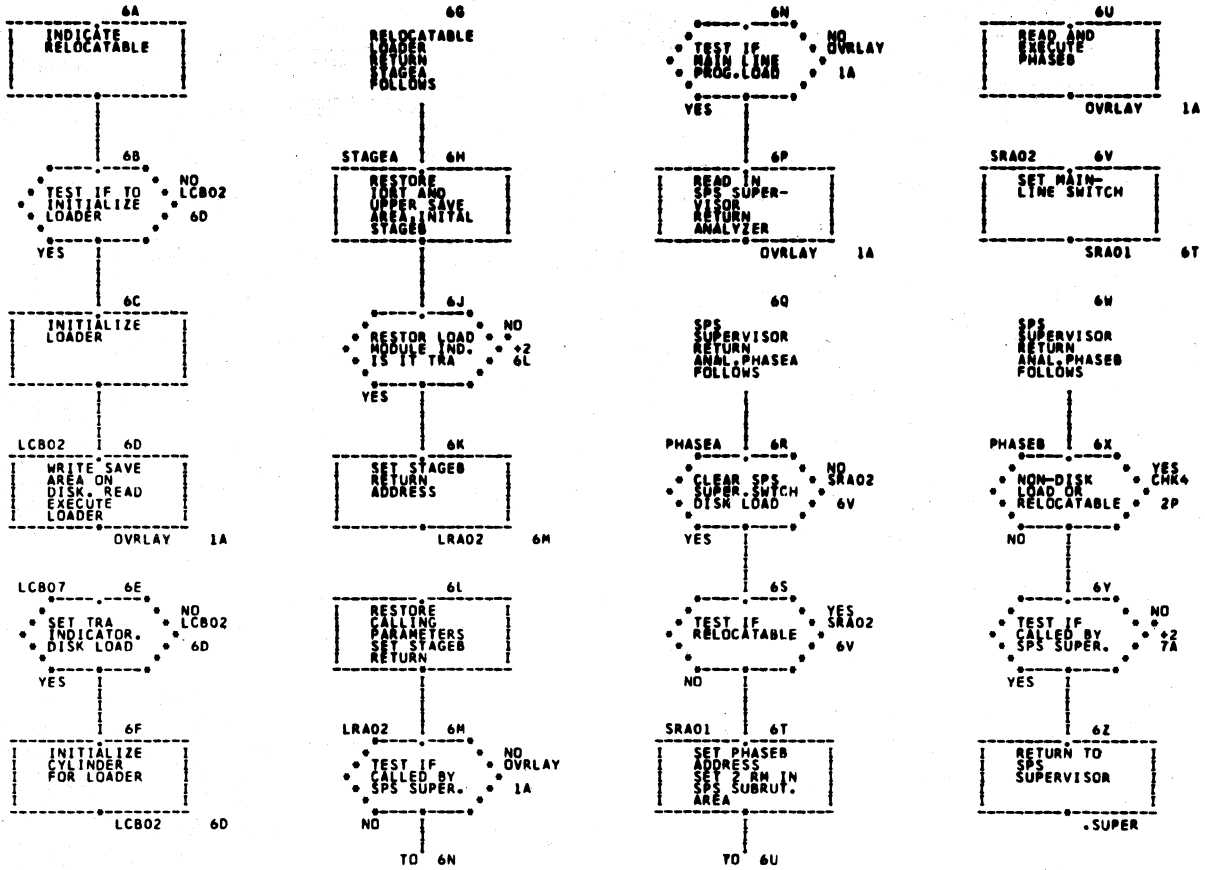
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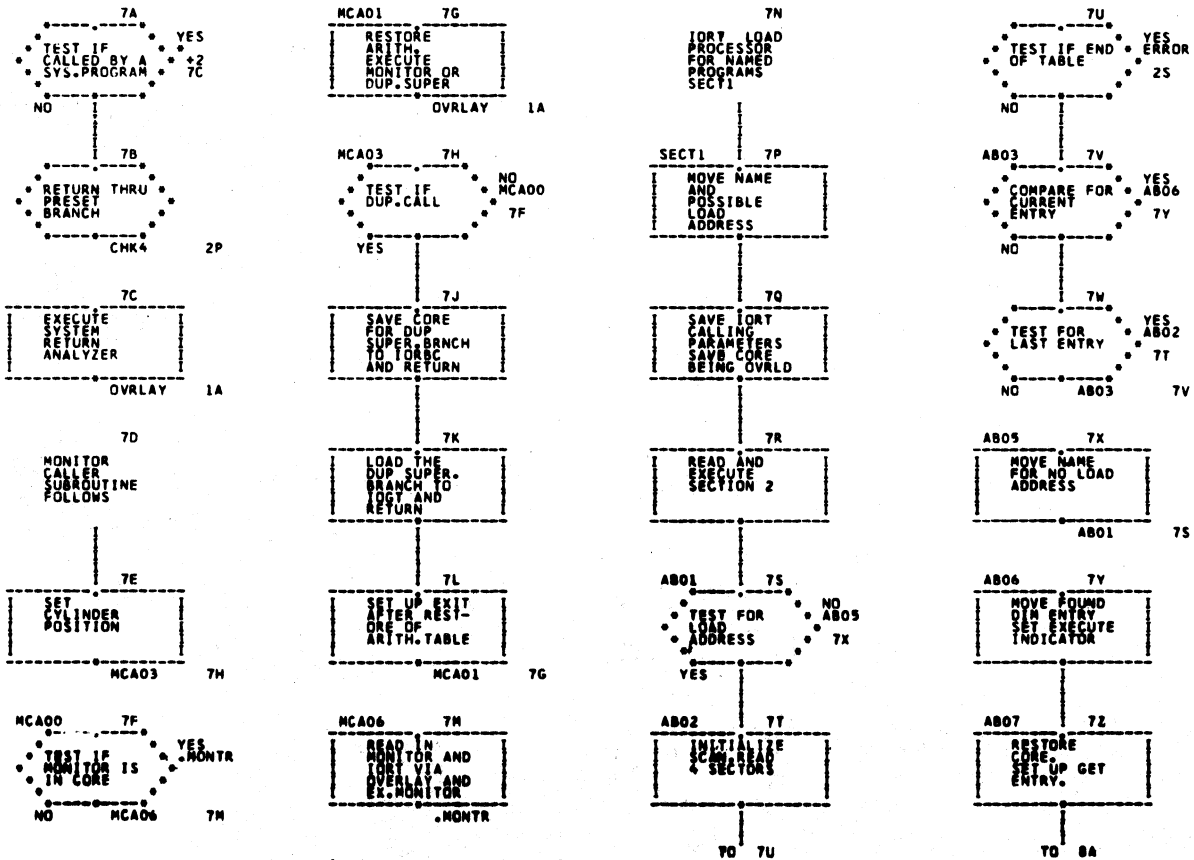


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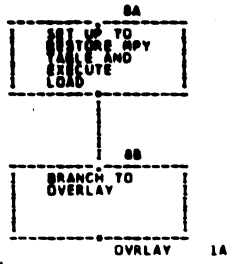


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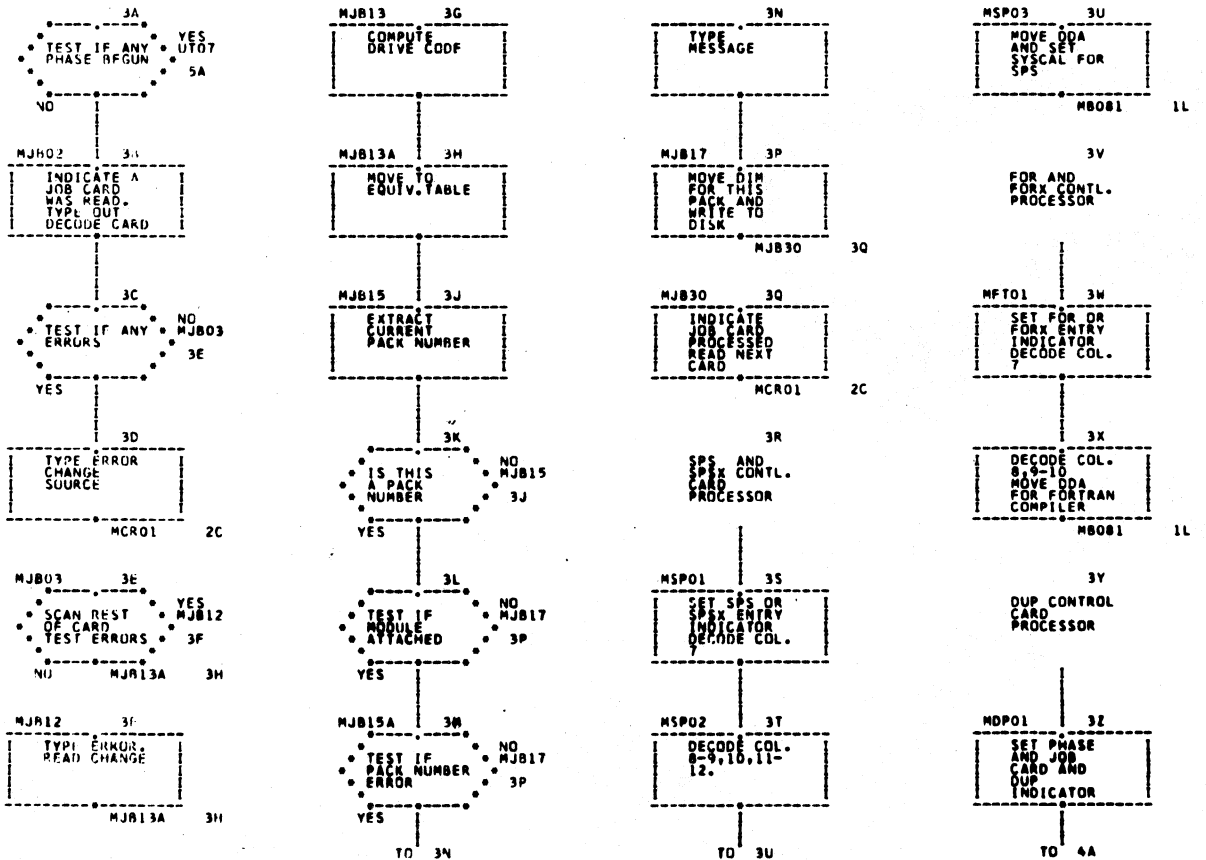
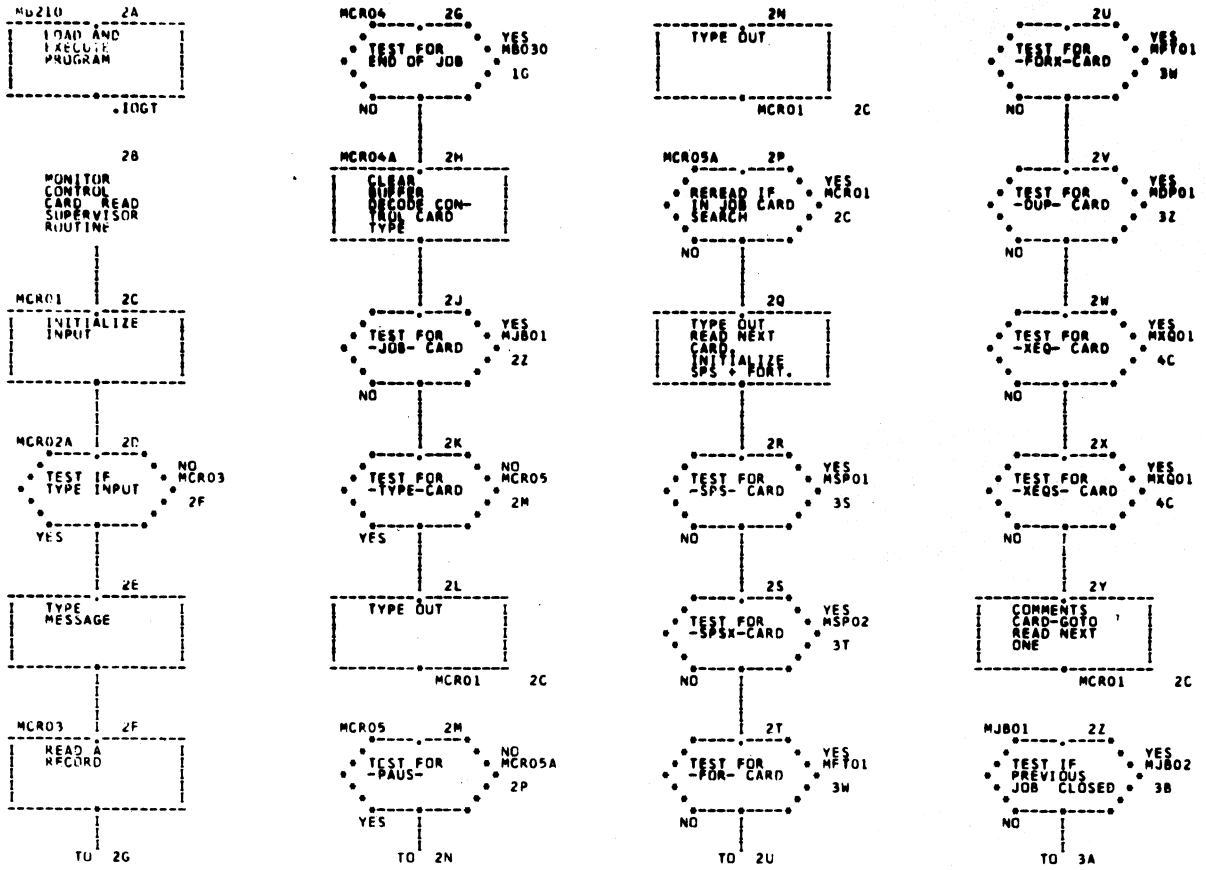
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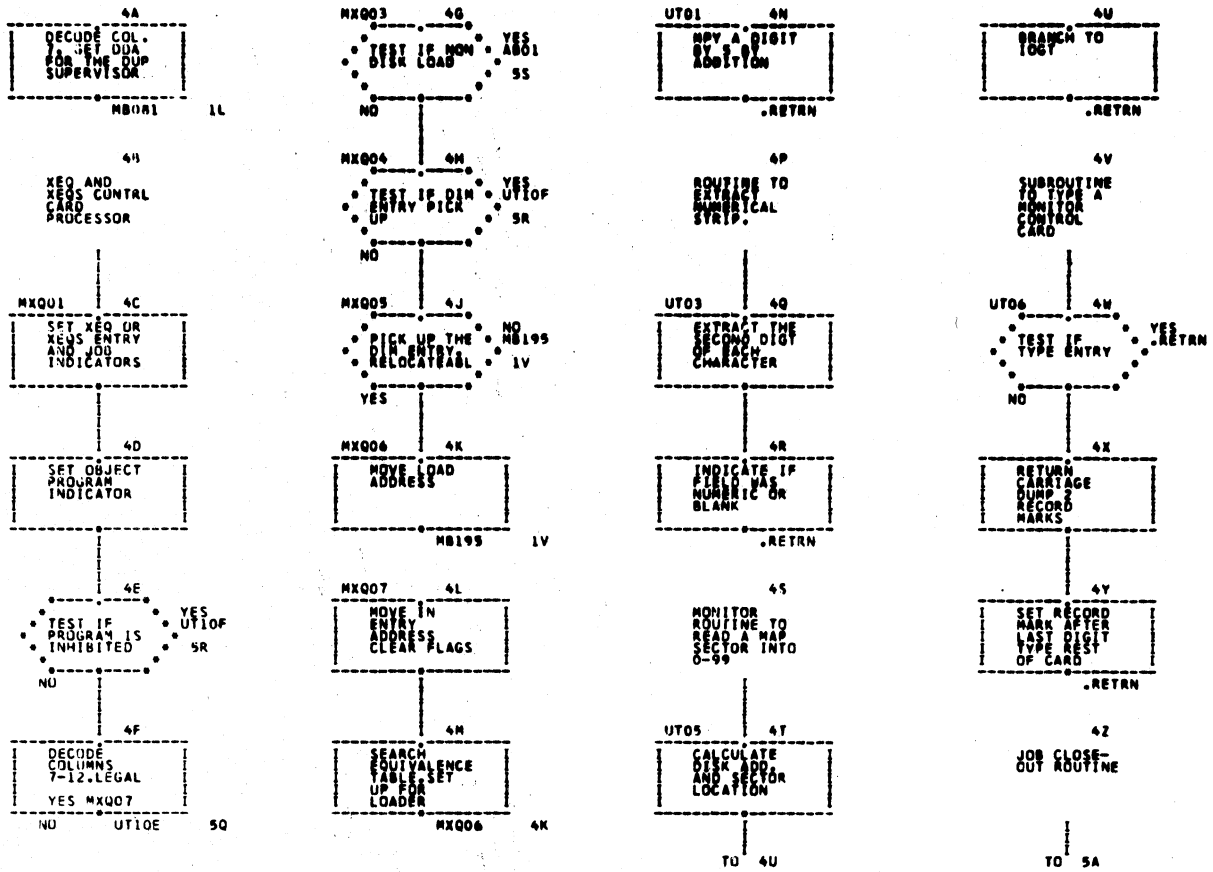
LABEL TABLE • INDICATES UNREFERENCED LABEL

AB01	5S	•MB020	ID	•MB030	IG	•MB035	IH	•MB045	IJ	•MB080	IK
•MB081	1L	•MB100	IP	•MB110	IN	•MB110A	IQ	•MB110B	1A	•MB120	1K
•MB140	1T	•MB145	IP	•MB150	IO	•MB200	IR	•MB205	1B	•MB210	1L
•MCRO2A	3D	•MCRO3	IN	•MCRO4	IR	•MCRO4A	IS	•MCRO5	1C	•MCRO5A	1M
•MDP01	3Z	•MPT01	IM	•MJ801	IS	•MJ802	IT	•MJ803	1D	•MJ812	1N
•NJB13	3C	•NJB13A	IM	•NJB14	IS	•NJB14A	IT	•NJB15	1E	•NJB20	1O
•NSP01	3S	•NSP02	IT	•NX001	IS	•NX001	4C	•NX002	4C	•NX004	4H
•NXQ05	4J	•NXQ06	4K	•NXQ07	4L	•UT01	4N	•UT03	4C	•UT05	4T
•UT06	4M	UT07	5A	•UT07A	5B	•UT07B	5C	•UT10	5J	UT10C	5N
UT10D	5P	UT10E	5Q	•UT10F	5R						

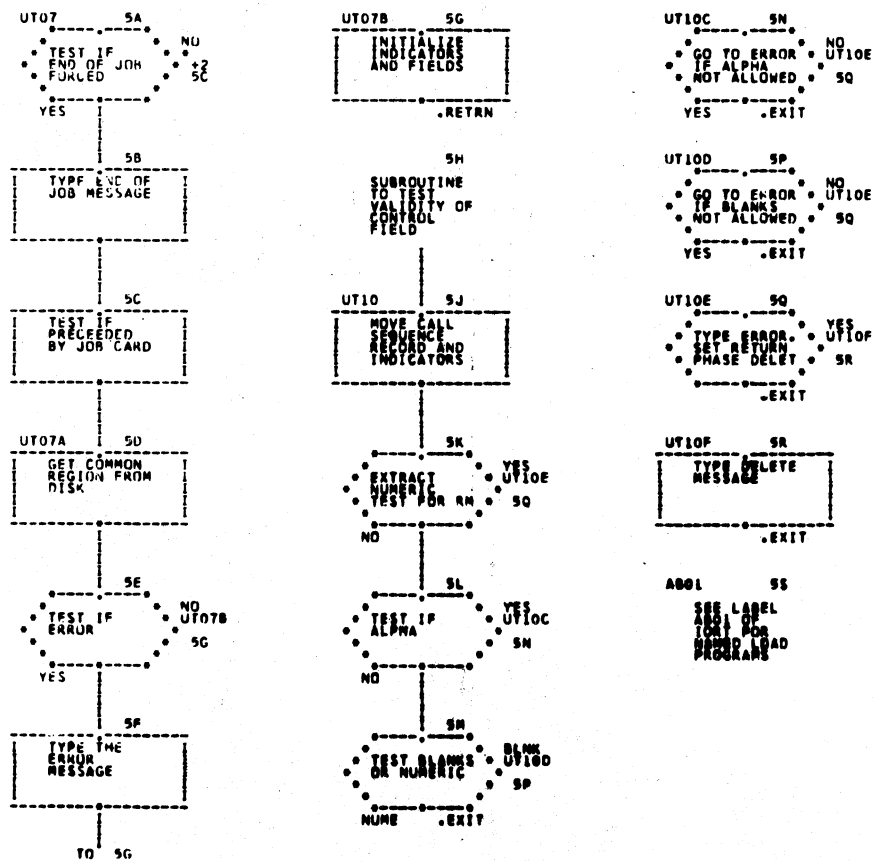
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LABEL TABLE • INDICATES UNREFERENCED LABEL

REGIN	1Z	GENO	1D	*COMPUT	3K	*DIE	1E	*DISE	1G	15	EXIT	1A
LESS12	4D	WYR	1P	DOA	1Q	ONE	1F	VEPC	16	14	ORAE	17
START	3D	STX	3R	*START	1V	STORE	1C		17	13		18
TWO	3K											

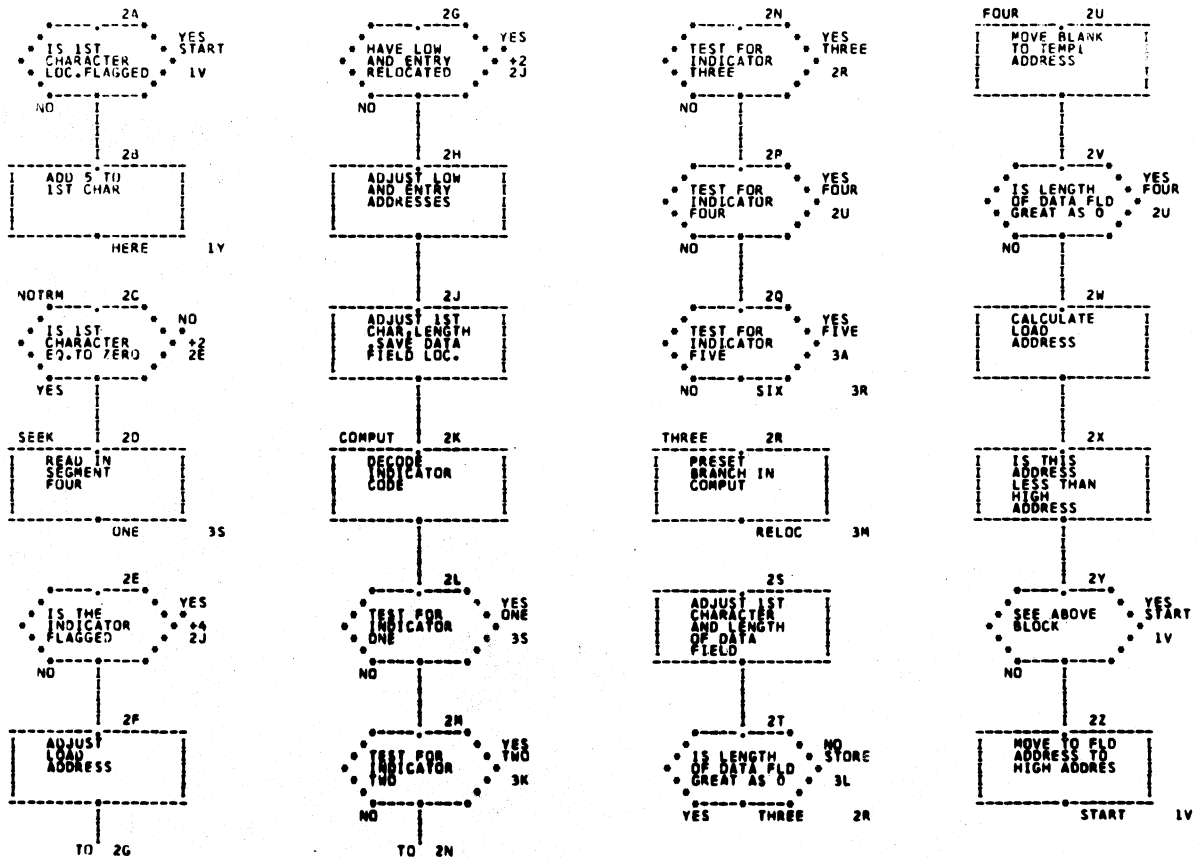
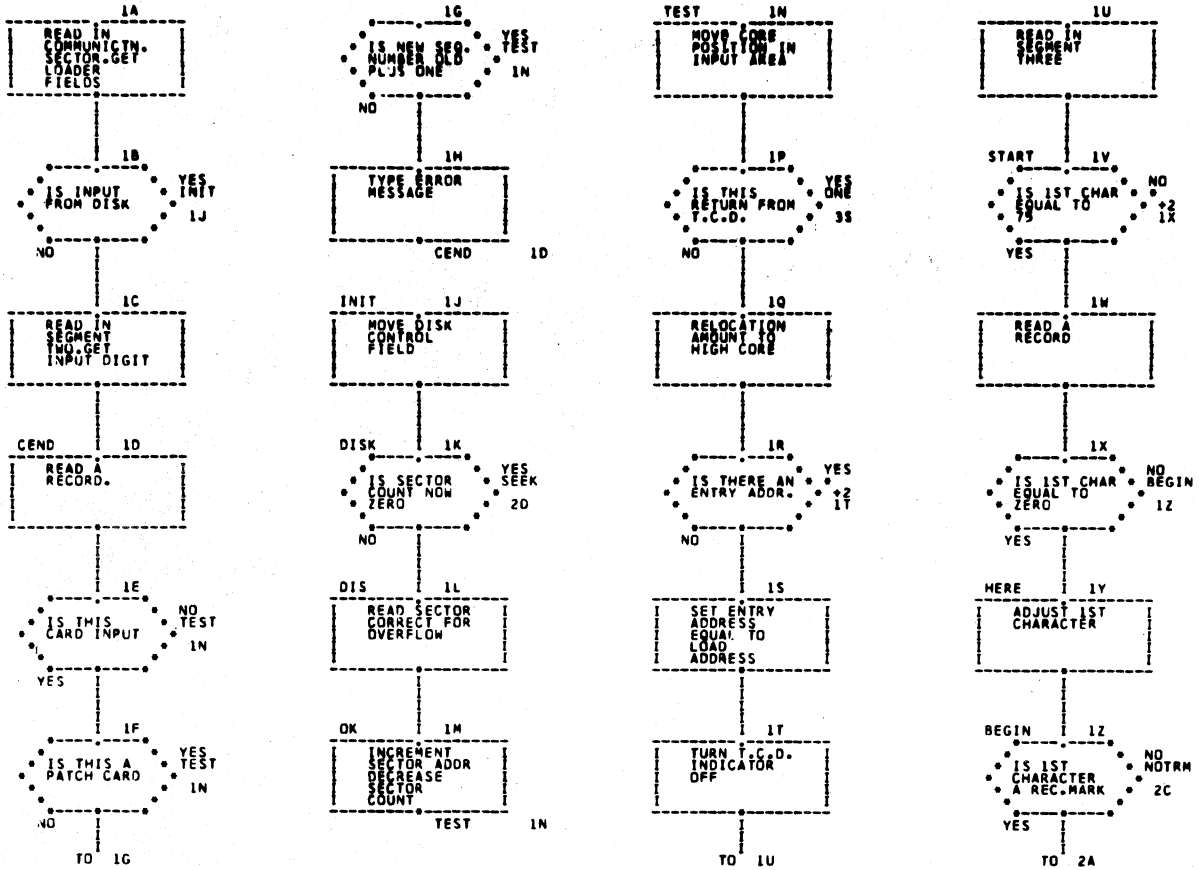
360

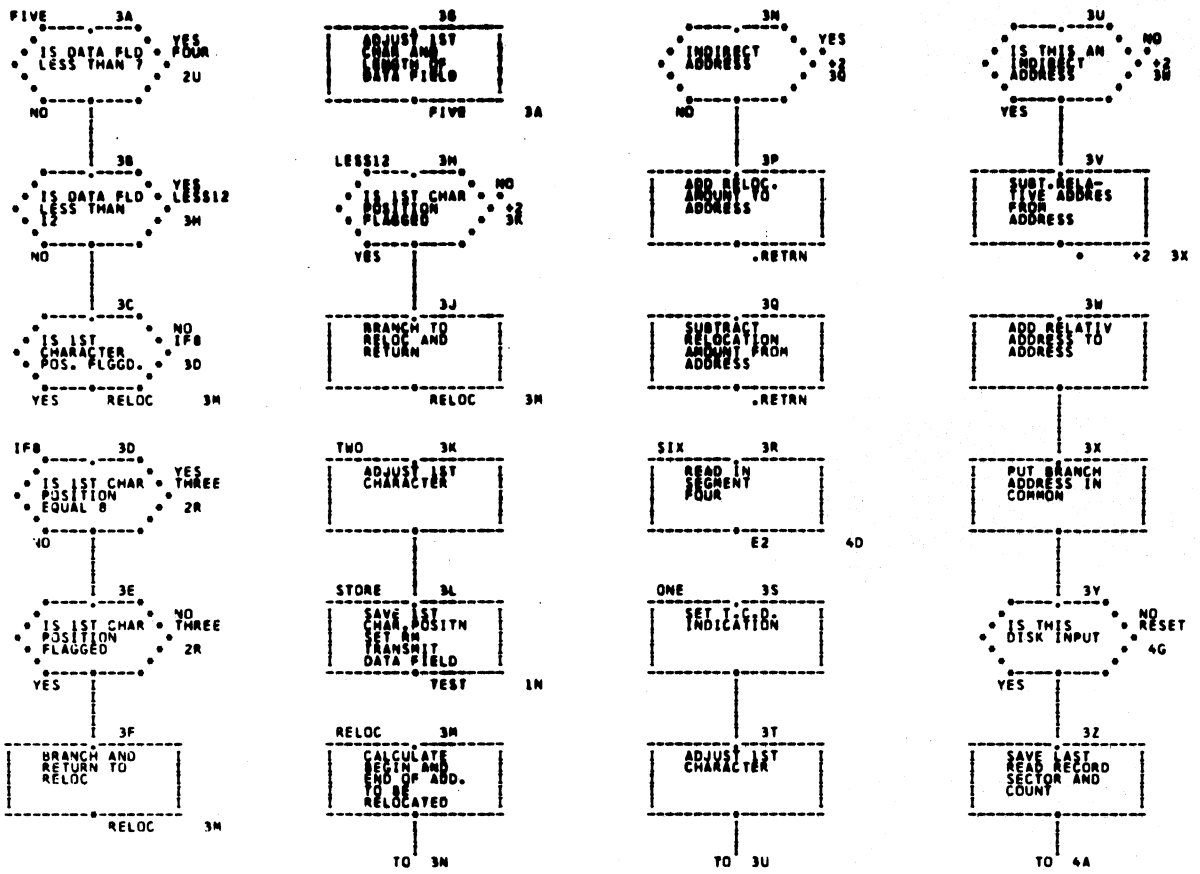
CROSS-REFERENCE TABLE • INDICATES LABEL NOT FOUND

*EXIT	49				
*RETRN	3Q	3P			
REGIN	1X				
GENO	1H				
WYR	4E	4G			
STX	3R				
DOA	3C	2Q			
ONE	3A	2V	2P		
STORE	2B				
VEPC	3C				
DISE	1B				
INIT	3B				
LESS12	1Z				
OUTR4	2L	2D	1P		
ONE	2L	3J	3C	2R	
RELOC	3P				
RESET	3V				
SEK	1K				
SIX	2Q				
START	2Z	2Y	2A		
STORE	2T				
TEST	3L	1M	1F	1E	1G
THREE	3E	3D	2Y	2N	
TWO	2M				

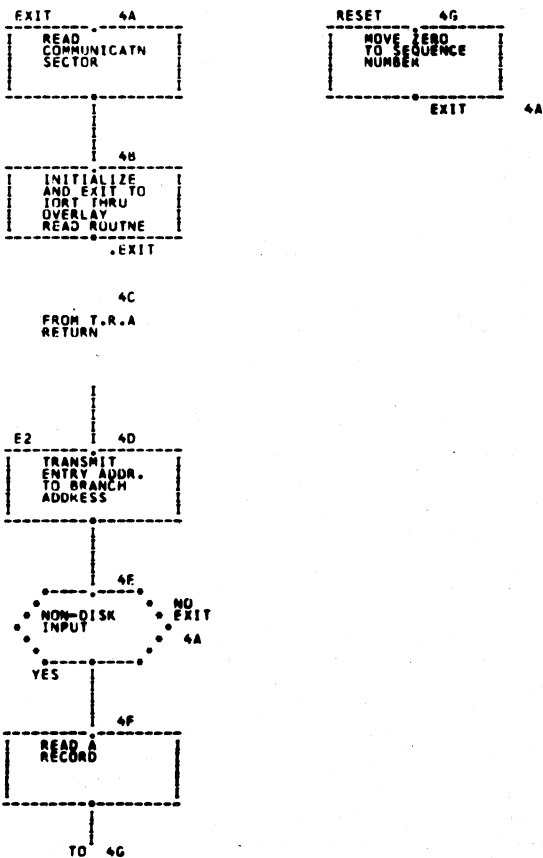
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1620 MONITOR I SYSTEM FORTRAN II-D LISTINGS

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1620 FORTRAN II-D PHASE 1-A				PAGE	1
00010	*****	1620 FORTRAN II-D PHASE 1-A			
00020		DORG 02218	02218		
00030		DC 5 , -100	02222	5	
		-010-			
00040		DSC 1 ,2	02223	1	
		2			
00050		DC 2 ,67	02225	2	
		07			
00060		DC 6 ,987898	02231	6	
		R87898			
00070	N1	DC 2 ,0	02233	2	
		-0			
00080	N2	DC 5 ,0	02238	5	
		-0000			
00090	W	DC 2 ,0	02240	2	
		-0			
00100	RECLG	DC 3 ,000	02243	3	
		-00			
00110	SAVSYM	DS 12 ,RECLG	02243	12	
00120	LENGTH	DS 5	02248	5	
00130	FLNG	DS 2	02250	2	
00140	KLNG	DS 2	02252	2	
00150	PRGST	DC 5 ,00000	02257	5	
		-0000			
00160	COMADD	DC 5 ,19999	02262	5	
		J9999			
00170	USEDFS	DSC 30 ,0	02263	30	
		00000000000000000000000000000000			
00180	SUBFCT	DC 1 ,0	02293	1	
		-			
00190	PUSTSN	DSC 1 ,0	02294	1	
		0			
00200	MM	DS 2	02296	2	
00210	FP2	DS 2	02298	2	
00220	TEND	DS 5	02303	5	
00230	LSTAD	DS 5	02308	5	
00240	P2PTR	DS 5	02313	5	
00250	FC TEND	DS 5	02318	5	
00260		DS 5	02323	5	
00270	FMON	TF ++42,FMON-1,,	02324	26	02364 02323
		SETUP ROUTINE ENTRY			
00280	TFM	IORT,++23	02336	16	00565 -2399
00290	B	IORT,,7	02348	49	00564 -0000
00300	B	...	02360	49	00000 00000
		GO TO EXECUTE CALLED ROUTINE			
00310	DORG	+-4	02367		
00320	JAY	DSC 1 ,2	02367	1	
		2			
00330	NXLOC	DC 5 ,15999	02372	5	
		J5999			
00340	STBL	DS 5	02377	5	
00350	CONST	DS 5	02382	5	
00360	DISKSW	DSC 1.0	02383	1	
		0			
00370	MULDEF	DC 1.0	02384	1	
		-			
00380	INTOP1	DSC 1.0	02385	1	
		0			

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00390	DC	5,00600		02390	5		
		-0600					
00400	DC	3,001		02393	3		
		-01					
00410	DSA	CARD		02398	5 X	1	
00420	DC	1,1		02398	J5036		
				02399	1		
00430	CALLP2	TFM	FMON+35,BLK8	02400	16	02359	-2461
00440	BTM		FMON,CALLP2	02412	17	02324	-2400
00450	INDIV	DS	1	02424	1		
00460	*		INDIV = 0 FOR CARDS, 1 FOR TYPEWRITER,				
00470	*		FLAGGED 3 FOR PAPER TAPE				
00480	TBCNT	DC	5	02429	5		
		-0000					
00490	ENTLN	DS	,RECLG+5	02248	0		
00500	AFTBL	DS	,15035	15035	0		
00510	CHI	DAS	430	15139	430 X	2	
00520	CHI5	DS	,CHI+700	15839	0		
00530	CHIEND	DS	,CHI+860	15999	0		
00540	CARD	DS	,CHI-103	15036	0		
00550	LOCAL	DS	,716	00716	0		
00560	IOGT	DS	,566	00566	0		
00570	IORBC	DS	,520	00520	0		
00580	IORT	DS	,532	00532	0		
00590	IOSK	DS	,554	00554	0		
00600	ERRET	DS	,602	00602	0		
00610	IORT	DS	,565	00565	0		
00620	MONCAL	DS	,796	00796	0		
00630	E86440	TFM	FMON+35,,BLK7	02430	16	02359	-0000
00640	BTM		FMON ,E86440	02442	17	02324	-2430
00650	BLK8	DS	,E86440+31	02461	0		
00660	PRSCAN	TFM	FMON+35 ,PHBDAT	02454	16	02359	-2478
00670	BTM		FMON ,PRSCAN ,, CALL IN PHASE B	02466	17	02324	-2454
00680	PHBDAT	DSC	2,22	02478	2		
		22					
00690	DSA	PHBDDA		02484	5 X	1	
00700	DC	1,1		02484	-2486		
				02485	1		
00710	PHBDDA	DSC	1,0	02486	1		
		0					
00720	DC	5,17200		02491	5		
		J7200					
00730	DC	3 ,082		02494	3		
		-82					
00740	DSA	E86440		02499	5 X	1	
00750	DC	1,1		02499	-2430		
				02500	1		
00760	N11	BV	**12	02502	46	02514	01400
00770	TDM	00000	,0	02514	15	00000	00000
00780	AM	**18	,20000 ,7, CALCULATE MEMORY SIZE	02526	11	02544	K0000

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00790	TR	1	,ALPHRM-1 ,26	02538	31	-000J	05141
00800	BNR	-24	,0	02550	45	02526	00000
00810	TF	STBL	,*-18	02562	26	02377	02544
00820	TF	INDDA+13	,STBL	02574	26	05164	02377
00830	SM	INDDA+13	,999 ,9	02586	12	05164	00R99
00840	TFM	IORT	,**23	02598	16	00565	-2621
00850	B	IOGT	,INDATA ,7, INITIALIZE SYMBOL TABLE	02610	49	00566	-5143
00860	SM	INDDA+10	,1 ,10	02622	12	05161	000-1
00870	C	INDDA+13	,NXLOC	02634	24	05164	02372
00880	BNL	-48		02646	46	02598	01300
00890	TDM	BUFSCS+100	,**	02658	15	06218	00000
00900	GRMK	DGM		02669	1		
00910	TD	BUFEQT+800	,GRMK	02670	25	07020	02669
00920	TD	BUFDIM+100	,GRMK	02682	25	07122	02669
00930	TF	T111	,STBL	02694	26	02909	02377
00940	TF	FCTEND	,STBL	02706	26	02318	02377
00950	TFM	IORT	,**23	02718	16	00565	-2741
00960	B	IOGT	,DIMDAT ,7, GET FIRST 5 DIM ENTRIES	02730	49	00566	-5166
00970	TF	DIMDDA+5	,BUFDIM+49,, IN EQUIVALENCE TABLE DIM ENTRY	02742	26	05179	07067
00980	TD	DIMDDA	,BUFDIM+40	02754	25	05174	07062
00990	TFM	DIMDDA+8	,008 ,9	02766	16	05182	00-08
01000	TFM	DIMDDA+13	,BUFEQT	02778	16	05187	-6220
01010	TFM	IORT	,**23	02790	16	00565	-2813
01020	B	IOGT	,DIMDAT ,7, GET 8 SECTORS OF EQUIV. TABLE	02802	49	00566	-5166
01030	N114	AM	**18 ,16 ,10, LOAD SYM TABLE FROM EQUIV TABLE	02814	11	02832	000J6
01040	C	BUFEQT-5	,I2NINE ,2, IS ENTRY ALL NINES	02826	24	-6215	05467
01050	BE	RDONE	,, YES	02838	46	0234	01200
01060	TF	**30	,N114+18 ,, NO	02850	26	02880	02832
01070	AM	**18	,04 ,10	02862	11	02880	000-6
01080	SM	DUMMY	,09 ,10, DETERMINE SUBROUTINE ADDRESS	02874	12	99999	000-9
01090	MN	-6	,05 ,610	02886	13	0288-	000-5
01100	SF	95		02898	32	00095	00000
01110	T111	DS	5 ,, SYMBOL TABLE POINTER	02909	5		
01120	AM	99	,ENTLN-5	02910	11	00099	-2243
01130	TF	T111	,99 ,6, STORE SUBR. ADDRESS IN SYM TABLE	02922	26	02909	00099
01140	SM	T111	,5 ,10	02934	12	02909	000-5
01150	TF	T112	,N114+18 ,, ELIMINATE BLANKS FROM NAME	02946	26	03041	02832
01160	SM	T112	,12 ,10	02958	12	03041	006J2
01170	LOOP41	AM	T112 ,02 ,10	02970	11	03041	000-2
01180	C	T112	,N114+18	02982	24	03041	02832
01190	BH	N1142		02994	46	03078	01100
01200	TA	T113	,T112	03006	26	03065	03041
01210	AM	T113	,01 ,10	03018	12	03065	000-1
01220	SF	T113	,, ,6	03030	32	0306M	00000
01230	T112	DS	5 ,, ,6	03041	5		
01240	CN	T112	,00 ,610	03042	14	0304J	000-0
01250	CF	T113	,, ,6	03054	33	0306M	00000
01260	T113	DS	5 ,, ,6	03065	5		
01270	BNE	LOOP41		03066	47	02970	01200
01280	N1142	SM	T112 ,02 ,10	03078	12	03041	000-2
01290	TF	T113	,N114+18	03090	26	03065	02832
01300	SM	T113	,11 ,10	03102	12	03065	000J1
01310	SF	T113	,, ,6	03114	32	0306M	00000
01320	T114	DS	5 ,, ,6	03125	5		
01330	TF	T114	,T112	03126	26	03125	03041
01340	S	T114	,T112	03138	22	03125	03065

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01350	AM	T114	.01	.10		03190	11	03125	000-1	
01360	A	NKLOC	.T114			03162	21	02372	03125	
01370	TF	NKLOC	.T112	.011,	STORE SUBR. NAME IN NAME TABLE	03174	26	0237K	0304J	
01380	TF	T111	.NKLOC	.0,	STORE POINTER IN SYM. TABLE	03186	26	0290R	02372	
01390	SM	T111	.05	.10		03198	12	02909	000-5	
01400	TF	FCYEND	.T111			03210	26	02318	02909	
01410	AM	TBCNT	.01	.10,	UPDATE TABLE COUNT	03222	11	02429	000-1	
01420	ROOME	CM	N114+18	.BUFEPT+795		03234	14	02832	-7015	
01430	BL	N114				03246	47	02814	01300	
01440	SM	FCYEND	.05	.10		03258	12	02318	000-5	
01450	SM	*+18	.02	.10,	INITIALIZE READ IN AREA	03270	12	03288	000-2	
01460	TFM	CHIEND	.00	.210		03282	16	J5999	000-0	
01470	CM	*-6	.CHI			03294	14	03288	J5139	
01480	BML	*-36				03306	46	03270	01300	
01490	TF	CHIEND	.ALPHRM			03318	26	J5999	05142	
01500	TD	INPUTD	.426	..	DETERMINE INPUT DEVICE	03330	25	05469	00426	
01510	CF	INPUTD				03342	33	05469	00000	
01520	CM	INPUTD	.01	.10		03354	14	05469	000-1	
01530	BE	IPY				03366	46	03466	01200	
01540	CM	INPUTD	.03	.10		03378	14	05469	000-3	
01550	BE	IPPT				03390	46	03434	01200	
01560	TDM	INDIV	.0	..	CARD INPUT	03402	15	02424	00000	
01570	TFM	N21KEY-1	.10	.10		03414	16	05476	000J0	
01580	B	N12				03426	49	03490	00000	
01590	DDRG	*-4				03433				
01600	IPPT	TDM	INDIV	.3	.11,	PAPER TAPE INPUT	03434	15	02424	0000L
01610	TFM	N21KEY-1	.08	.10		03446	16	05476	000-8	
01620	B	N12				03458	49	03490	00000	
01630	DDRG	*-4				03465				
01640	IPY	TDM	INDIV	.1	..	TYPEWRITER INPUT	03466	15	02424	00001
01650	TFM	N21KEY-1	.06	.10		03478	16	05476	000-6	
01660	N12	TFM	IORT	.*+23		03490	16	00565	-3513	
01670	B	IOGT	.SCSDAT	.7,	GET SYSTEM COMMUNICATION SECTOR	03502	49	00566	-5189	
01680	TD	COMADD-4	.BUFSCS+76,	..	MOVE OBJECT TIME MACHINE SIZE	03514	25	02258	06194	
01690	TF	COMST	.COMADD			03526	26	02382	02262	
01700	TR	BUFSCS	.INIT	..	SET UP DIM IN SYS COMM SECTOR	03538	31	06118	05213	
01710	TR	00402	.INIT-1	..	SET UP DIM IN SYS COMM AREA	03550	31	00402	05212	
01720	TF	FLNG	.BUFSCS+46,	..	MOVE F	03562	26	02250	06164	
01730	TF	KLNG	.BUFSCS+48,	..	MOVE K	03574	26	02252	06166	
01740	N21	CM	INPUTD	.01	.10		03586	14	05469	000-1
01750	BNE	*+24				03598	47	03622	01200	
01760	RCTY					03610	34	00000	00102	
01770	TFM	IORT	.*+23	..	READ AN INPUT RECORD	03622	16	00565	-3645	
01780	B	IOGT	.N21KEY-7	.7,	USING IORT.	03634	49	00566	-5470	
01790	CM	INPUTD	.01	.10		03646	14	05469	000-1	
01800	BNE	*+24				03658	47	03682	01200	
01810	BC4	N21+24		..	ALLOWS GOOF SWITCH	03670	46	03610	00400	
01820	CM	CHI	.14	.10,	IS THIS A CONTROL STATEMENT	03682	14	15139	000J4	
01830	BNE	CALLP1		..	NO, CALL IN PASS 1	03694	47	03930	01200	
01840	CF	CHI+3		..		03706	33	15142	00000	
01850	CF	CHI+5		..		03718	33	15144	00000	
01860	CF	CHI+7		..		03730	33	15146	00000	
01870	CF	CHI+9		..	YES	03742	33	15148	00000	
01880	C	CHI+10	.PSTSN+8	..	IS THIS A PSTSN STATEMENT	03754	24	15149	05245	
01890	BE	WASS		..	YES	03766	46	04142	01200	
01900	C	CHI+10	.POBJP+8	..	NO, IS THIS A POBJP ST.	03778	24	15149	05255	

01910	BE	WAOBJP		..	YES	03790	46	04290	01200	
01920	C	CHI+10	.LDISK+8	..	NO, IS THIS A LDISK ST.	03802	24	15149	05265	
01930	BE	WADK		..	YES	03814	46	04482	01200	
01940	C	CHI+10	.FANDK+8	..	NO, IS THIS A FANDK ST.	03826	24	15149	05275	
01950	BE	FKTEST		..	YES	03838	46	04742	01200	
01960	RCTY			..	NO, INVALID CTL. ST.	03850	34	00000	00102	
01970	TF	CHI+32	.ALPHRM			03862	26	15171	05142	
01980	WATY	CHI				03874	39	15139	00100	
01990	RCTY					03886	34	00000	00102	
02000	WATY	ERNES1		..	ERROR, INVALID CONTROL STATEMENT	03898	39	05277	00100	
02010	H			..		03910	48	00000	00000	
02020	B	N21		..	BR. TO READ NEXT STATEMENT	03922	49	03586	00000	
02030	DDRG	*-4				03929				
02040	CALLP1	SF	CHI+3			03930	32	15142	00000	
02050	SF	CHI+5				03942	32	15144	00000	
02060	SF	CHI+7				03954	32	15146	00000	
02070	SF	CHI+9				03966	32	15148	00000	
02080	BD	*+48	.INDIV	..	CARD INPUT	03978	43	04026	02424	
02090	TF	CHI+160	.ALPHRM	..	YES, MOVE INPUT RECORD	03990	26	15299	05142	
02100	TR	CHI5-1	.CHI-1	..	TO CHI5	04002	31	15838	15138	
02110	TFM	CHI+160	.00	.10,	ERASE RECORD MARK	04014	14	15299	000-0	
02120	TF	FP2	.FLNG			04026	26	02298	02250	
02130	AM	FP2	.02	.10,	CALCULATE F PLUS TWO	04038	11	02298	000-2	
02140	TF	W	.KLNG			04050	26	02240	02252	
02150	C	FP2	.KLNG			04062	24	02298	02252	
02160	BHM	*+24				04074	47	04098	01100	
02170	TF	W	.FP2	..	CALCULATE W. WORD SIZE FOR DISK IO	04086	26	02240	02298	
02180	TF	WW	.W			04098	26	02296	02240	
02190	TFM	IORT	.*+23	..		04110	16	00565	-4133	
02200	B	IOPT	.SCSDAT	.7,	PUT SYSTEM COMMUNICATION SECTOR	04122	49	00532	-5189	
02210	B	PRSCAN				04134	49	02454	00000	
02220	DDRG	*-4				04141				
02230	WASS	TF	CHI+14	.ALPHRM		04142	26	15153	05142	
02240	RCTY					04154	34	00000	00102	
02250	WATY	CHI				04166	39	15139	00100	
02260	CM	CHI+12	.72	.10,	IS DEVICE CODE PAPER TAPE	04178	14	15151	000P2	
02270	BE	WASS2		..	YES	04190	46	04270	01200	
02280	CM	CHI+12	.74	.10,	NO, IS DEVICE CODE CARDS	04202	14	15151	000P4	
02290	BE	WASS2		..	YES	04214	46	04270	01200	
02300	RCTY			..	ERROR, INVALID OUTPUT DEVICE CODE	04226	34	00000	00102	
02310	WATY	ERNES3				04238	39	05393	00100	
02320	H			..		04250	48	00000	00000	
02330	B	N21		..	BR. TO READ NEXT STATEMENT	04262	49	03586	00000	
02340	DDRG	*-4				04269				
02350	WASS2	TD	PSTSN	.CHI+12		04270	25	02294	15151	
02360	B	N21				04282	49	03586	00000	
02370	DDRG	*-4				04289				
02380	WAOBJP	TDM	JAY	.1	..	DUP ACTION REQUIRED	04290	15	02367	00001
02390	TF	CHI+14	.ALPHRM			04302	26	15153	05142	
02400	RCTY					04314	34	00000	00102	
02410	WATY	CHI				04326	39	15139	00100	
02420	CM	CHI+12	.72	.10,	IS DEVICE CODE PAPER TAPE	04338	14	15151	000P2	
02430	BNE	*+32		..	NO	04350	47	04382	01200	
02440	TDM	BUFSCS+23,	.1	.11,	YES	04362	15	06141	000J0	
02450	B	N21				04374	49	03586	00000	
02460	DDRG	*-4				04381				

02470	CM	CHI+12	,74	,10,	IS DEVICE CODE CARDS	04382	14	15151	000P4
02480	BNE	++32	,	..	NO	04394	47	04426	01200
02490	TDM	BUFSCS+23,0		,11,	YES	04406	15	06141	0000-
02500	B	N21	,	..		04418	49	03586	00000
02510	DORG	+-4		..		04425			
02520	TDM	BUFSCS+23,0		,11		04426	15	06141	0000-
02530	RCTY		,	..	ERROR, INVALID OUTPUT DEVICE CODE	04438	34	00000	00102
02540	WATY	ERMES3		..		04450	39	05393	00100
02550	H		,	..		04462	48	00000	00000
02560	B	N21	,	..	BR. TO READ NEXT STATEMENT	04474	49	03586	00000
02570	DORG	+-4		..		04481			
02580	WADK	TDM	BUFSCS+22,1	,11,	SET UP TO LOAD OBJECT PROG. ON DK.	04482	15	06140	0000J
02590	TDM	JAY	,1	..	DUP ACTION REQUIRED	04494	15	02367	00001
02600	TF	CHI+32	,ALPHRM			04506	26	15171	05142
02610	RCTY		,	..		04518	34	00000	00102
02620	WATY	CHI		..		04530	39	15139	00100
02630	CF	CHI+13		..		04542	33	15152	00000
02640	CF	CHI+15		..		04554	33	15154	00000
02650	CF	CHI+17		..		04566	33	15156	00000
02660	CF	CHI+19		..		04578	33	15158	00000
02670	CF	CHI+21		..		04590	33	15160	00000
02680	TF	BUFSCS+35,CHI+22		..		04602	26	06153	15161
02690	SF	CHI+13		..		04614	32	15152	00000
02700	SF	CHI+15		..		04626	32	15154	00000
02710	SF	CHI+17		..		04638	32	15156	00000
02720	SF	CHI+19		..		04650	32	15158	00000
02730	SF	CHI+21		..		04662	32	15160	00000
02740	TD	BUFSCS+36,CHI+24		..		04674	25	06154	15163
02750	TD	BUFSCS+37,CHI+26		..		04686	25	06155	15165
02760	TD	BUFSCS+38,CHI+28		..		04698	25	06156	15167
02770	TD	BUFSCS+39,CHI+30		..		04710	25	06157	15169
02780	SF	BUFSCS+36		..		04722	32	06154	00000
02790	B	N21	,	..		04734	49	03586	00000
02800	DORG	+-4		..		04741			
02810	FKTEST	TF	CHI+20	,ALPHRM		04742	26	15159	05142
02820	RCTY		,	..		04754	34	00000	00102
02830	WATY	CHI		..		04766	39	15139	00100
02840	TD	FWORK-1	,CHI+11			04778	25	05232	15150
02850	TD	FWORK	,CHI+13			04790	25	05233	15152
02860	CF	FWORK		..		04802	33	05233	00000
02870	CM	FWORK	,77	,10,	IS F NUMERIC	04814	14	05233	000P7
02880	BNE	N31	,	..	NO, ERROR	04826	47	05098	01200
02890	TD	FWORK-1	,CHI+12	..	YES, LOAD F	04838	25	05232	15151
02900	SF	FWORK-1		..		04850	32	05232	00000
02910	TD	FWORK	,CHI+14			04862	25	05233	15153
02920	CM	FWORK	,02	,10,	F IN RANGE	04874	14	05233	000-2
02930	BL	N31	,	..	NO, ERROR	04886	47	05098	01300
02940	CM	FWORK	,28	,10		04898	14	05233	000K8
02950	BH	N31	,	..	NO, ERROR	04910	46	05098	01100
02960	TF	FLNG	,FWORK	..	YES, MOVE F TO FORTRAN COM. AREA	04922	26	02250	05233
02970	TD	KWORK-1	,CHI+15			04934	25	05234	15154
02980	TD	KWORK	,CHI+17			04946	25	05235	15156
02990	CF	KWORK		..		04958	33	05235	00000
03000	CM	KWORK	,77	,10,	IS K NUMERIC	04970	14	05235	000P7
03010	BNE	N31	,	..	NO, ERROR	04982	47	05098	01200
03020	TD	KWORK-1	,CHI+16	..	YES, LOAD K	04994	25	05234	15155

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03030	SF	KWORK-1		..		05006	32	05234	00000
03040	TD	KWORK	,CHI+18			05018	25	05235	15157
03050	CM	KWORK	,04	,10,	K IN RANGE	05030	14	05235	000-4
03060	BL	N31	,	..	NO, ERROR	05042	47	05098	01300
03070	CM	KWORK	,10	,10		05054	14	05235	000J0
03080	BH	N31	,	..	NO, ERROR	05066	46	05098	01100
03090	TF	KLNG	,KWORK	..	YES, MOVE K TO FORTRAN COM. AREA	05078	26	02252	05235
03100	B	N21	,	..	BR. TO READ NEXT STATEMENT	05090	49	03586	00000
03110	DORG	+-4		..		05097			
03120	N31	RCTY	,	..	ERROR, F OR K OUTSIDE RANGE	05098	34	00000	00102
03130	WATY	ERMES2		..		05110	39	05337	00100
03140	H		,	..		05122	48	00000	00000
03150	B	N21	,	..	BR. TO READ NEXT STATEMENT	05134	49	03586	00000
03160	DORG	+-4		..		05141			
03170	ALPHRM	DC	2	,0*		05142		2	
03180	INDATA	DSC	2	,22		05143		2	
03190	DSA	INDDA				05149		5 X	1
03200	DC	1	,*			05149		-5151	
						05150		1	
03210	INDDA	DSC	1	,0		05151		1	
03220	DC	5	,17329			05156		5	
03230	DC	3	,010			05159		3	
03240	DS	5				05164		5	
03250	DC	1	,*			05165		1	
03260	DIMDAT	DSC	2	,20		05166		2	
03270	DSA	DIMDDA				05172		5 X	1
03280	DC	1	,*			05172		-5174	
						05173		1	
03290	DIMDDA	DSC	1	,0		05174		1	
03300	DC	5	,04800			05179		5	
03310	DC	3	,001			05182		3	
03320	DSA	BUFDM				05187		5 X	1
03330	DC	1	,*			05187		-7022	
						05188		1	
03340	SCSDAT	DSC	2	,20		05189		2	
03350	DSA	SCSDDA				05195		5 X	1
03360	DC	1	,*			05195		-5197	
						05196		1	

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1620 FORTRAN II-D PHASE 1-A				PAGE	8
03370	SCSDDA	DSC 1	,0	05197	1
		0			
03380		DC 5	,19663	05202	5
		J9663			
03390		DC 3	,001	05205	3
		-01			
03400		DSA	BUFSCS	05210	5 X 1
				05210	-6118
03410		DC 1	,'	05211	1
		,			
03420		DSC 1	,1	05212	1
		1			
03430		DC 5	,00000	05217	5
		-0000			
03440	INIT	DS	,*-4	05213	0
03450		DC 3	,999	05220	3
		R99			
03460		DC 5	,-99999	05225	5
		R9999R			
03470		DC 6	,00000'	05231	6
		-0000'			
03480	FWORK	DS 2		05233	2
03490	KWORK	DS 2		05235	2
03500	PSTSN	DAC 5,PSTSN		05237	5 X 2
		PSTSN			
03510	POBJP	DAC 5,POBJP		05247	5 X 2
		POBJP			
03520	LDISK	DAC 5,LDISK		05257	5 X 2
		LDISK			
03530	FANDK	DAC 5,FANDK		05267	5 X 2
		FANDK			
03540	ERMES1	DAC 30,ERROR, INVALID CONTROL RECORD'		05277	30 X 2
		ERROR, INVALID CONTROL RECORD'			
03550	ERMES2	DAC 28,ERROR, F OR K OUTSIDE RANGE'		05337	28 X 2
		ERROR, F OR K OUTSIDE RANGE'			
03560	ERMES3	DAC 32,ERROR, INVALID OUTPUT UNIT CODE'		05393	32 X 2
		ERROR, INVALID OUTPUT UNIT CODE'			
03570	LNINE	DC 12	,999999999999	05447	12
		R999999999999			
03580	INPUTD	DC 2	,00	05469	2
		-0			
03590		DSA	CHI	05474	5 X 1
				05474	J5139
03600	NZ1KEY	DC 3	,00'	05477	3
		-0'			
03610		DORG	06118	06118	
03620	BUFSCS	DSS 100		06118	100
03630		DS 2		06219	2
03640	BUFEQT	DSS 800		06220	800
03650		DS 2		07021	2
03660	BUFDIM	DSS 100		07022	100
03670		DS 2		07123	2
03680	DUMMY	DS	,99999	99999	0
03690		DORG	16000	16000	

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1620 FORTRAN II-D PHASE 1-A				PAGE	9
03700	PHADDA	DSC 1,0		16000	1
		0			
03710		DC 5,17290		16005	5
		J7290			
03720		DC 3,050		16008	3
		-50			
03730		DC 5,02218		16013	5
		-2218			
03750		DC 1	,'	16014	1
		,			
03760		DC 1	,'	16015	1
		,			
03770		DC 1	,'	16016	1
		,			
03780		DC 1	,'	16017	1
		,			
03790		DC 1	,'	16018	1
		,			
03800		DSC 4	,0000	16019	4
		0000			
03810	RECMKS	DSC 1	,0	16023	1
		0			
03820	LDPHA	SF RECMKS-9		16024	32 16014 00000
03830	TFM	**18 ,BUFSCS+999		16036	16 16054 -7117
03840	TF	DUMMY ,RECMKS ,,	SET SYMBOL TABLE TO RECORD MARKS	16048	26 99999 16023
03850	SM	**6 ,10 ,10		16060	12 16054 000J0
03860	CM	**18 ,BUFSCS-1		16072	14 16054 -6117
03870	BNE	**36		16084	47 16048 01200
03880	K	PHADDA,701		16096	34 16000 00701
03890	WN	PHADDA,702		16108	38 16000 00702
03900	TRA			16120	36 00000 00500
				16132	49 00000 00000
03910	TCD	LDPHA		16024	
03920	DEND			00000	

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12NINE 05467	INTOP1 02385	ENTLN 02248	KLNG 02252	T111 02909
ALPHRM 05142	LENGTH 02248	ERRET 00602	KWORK 05235	T112 03041
BUFDIM 07022	LOOP41 02970	FANDK 05267	LDISK 05257	T113 03065
BUFEQT 06220	MOMCAL 00796	FLNG 02250	LDPHA 16024	T114 03125
BUFSCS 06118	MULDEF 02384	FMON 02324	LSTAD 02308	TBCNT 02429
CALLP1 03930	N2IKEY 05477	FP2 02298	N1142 03078	TEND 02303
CALLP2 02400	PHADDA 16000	FWRK 05233	N114 02814	WADK 04482
CHIEND 15999	PHBDAT 02478	GRNK 02669	N11 02502	WASS2 04270
COMADD 02262	PHBDDA 02486	INDA 05151	N12 03490	WASS 04142
DINDAT 05166	PRGOST 02257	INDIV 02424	N1 02233	W 02240
DINDDA 05174	PRSCAM 02454	INIT 05213	N21 03586	WM 02296
DISKSN 02383	PUSTSN 02294	LOCAL 00716	N2 02238	SAVSYM 02243
E86440 02430	RECMKS 16023	IOGT 00566	N31 05098	SCSDAT 05189
ERNES1 05277	AFTBL 15035	IOPT 00532	NKLOC 02372	SCSDDA 05197
ERNES2 05337	BLK8 02461	IORBC 00520	P2PTR 02313	SUBFCT 02293
ERNES3 05393	CARD 15036	IORT 00565	POBJP 05247	USEDFS 02263
FCSEND 02318	CHI5 15839	IOSK 00554	PSTSN 05237	WAOBJP 04290
FKTEST 04742	CHI 15139	IPPT 03434	RDDNE 03234	
INDATA 05143	COMST 02382	IPTY 03466	RECLG 02243	
INPUTD 05469	DUMMY 99999	JAY 02367	STBL 02377	

END OF ONE ASSEMBLY.

Address	Code	Label	Value	Address	Code	Label	Value
00010	*****	1620 FORTRAN II-D PHASE 1-B					
00020	DORG	02210		02210			
00030	DC	5	, -100	02222		5	
			-010-				
00040	DC	1	, 2	02223		1	
			K				
00050	DC	2	, 67	02225		2	
			O7				
00060	DC	6	, 987898	02231		6	
			R87898				
00070	N1	DC	2, 0	02233		2	
			-0				
00080	N2	DC	5, 0	02238		5	
			-0000				
00090	W	DC	2, 0	02240		2	
			-0				
00100	RECLG	DC	3, 000	02243		3	
			-00				
00110	SAVSYS	DS	12, RECLG	02243		12	
00120	LENGTH	DS	5	02248		5	
00130	FLNG	DS	2	02250		2	
00140	KLNG	DS	2	02252		2	
00150	PROGST	DC	5, 00000	02257		5	
			-0000				
00160	COMADD	DS	5	02262		5	
00170	USEDFS	DSC	30, 0	02263		30	
			00000000000000000000000000000000				
00180	SUBFCT	DC	1, 0	02293		1	
			-				
00190	PUSTSN	DS	1	02294		1	
00200	WW	DS	2	02296		2	
00210	FP2	DS	2	02298		2	
00220	TEND	DS	5	02303		5	
00230	LSTAD	DS	5	02308		5	
00240	P2PTR	DS	5	02313		5	
00250	FCEND	DS	5	02318		5	
00260		DS	5	02323		5	
00270	FMON	TF	++42,FMON-1,,	02324	26	02366	02323
00280	TFM		IORT,++23	02336	16	00565	-2359
00290	B		IOGT,++7	02348	49	00566	-0000
00300			++	02360	49	00000	00000
00310	DORG		--4	02367			
00320	JAY	DS	1	02367		1	
00330	NXLOC	DS	5	02372		5	
00340	STBL	DS	5	02377		5	
00350	COMST	DS	5	02382		5	
00360	DISKSW	DC	1,0	02383		1	
			-				
00370	MULDEF	DC	1,0	02384		1	
			-				
00380	INTOP1	DSC	1,0	02385		1	
			0				
00390		DC	5,00600	02390		5	
			-0600				
00400		DC	3,001	02393		3	
			-01				

00410	DSA	CARD		02398		5 X	1
				02398		J5036	
00420	DC	1,1		02399		1	
00430	CALLP2	TFM	FMON+35,BLK8	02400	16	02359	-2461
00440	BTM		FMON,CALLP2	02412	17	02324	-2400
00450	INDIV	DS	1	02424		1	
00460			INDIV = 0 FOR CARDS, 1 FOR TYPEWRITER, FLAGGED 3 FOR PAPER TAPE				
00470			+				
00480	TBCNT	DS	5	02429		5	
00490	ENTLOG	DS		02248		0	
			,RECLG+5	15035		0	
00500	AFTBL	DS	,15035	15035		0	
00510	CHI	DAS	430,15139	15139		430 X	2
00520	CHIS	DS	,CHI+700	15839		0	
00530	CARD	DS	,CHI-103	15036		0	
00540	IOCAL	DS	,716	00716		0	
00550	IOGT	DS	,566	00566		0	
00560	IORBC	DS	,520	00520		0	
00570	IOPT	DS	,532	00532		0	
00580	IOSK	DS	,554	00554		0	
00590	ERRET	DS	,602	00602		0	
00600	IORT	DS	,565	00565		0	
00610	MONCAL	DS	,796	00796		0	
00620	E86440	TFM	FMON+35 ,BLK7	02430	16	02359	-9840
00630	BTM		FMON ,E86440	02442	17	02324	-2430
00640	BLK8	DS	,E86440+31	02461		0	
00650	PRSCAN	BD	++20,INDIV	02454	43	02474	02424
00660			++56	02466	49	02522	00000
00670	DORG		--3	02474			
00680	BNF		++48,INDIV	02474	44	02522	02424
00690	TFM		BA+1,41,10	02486	16	02731	000M1
00700	TFM		BA+37,41,10	02498	16	02767	000M1
00710	TFM		URDATA+2,08,10	02510	16	09869	000-8
00720	TF		SMTLU+11,STBL	02522	26	06951	02377
00730	SM		SMTLU+11,4,10	02534	12	06951	000-4
00740	S		SMTLU+23,STBL	02546	22	06963	02377
00750	AM		SMTLU+23,09,10	02558	11	06963	000-5
00760	TF		SMTLU+35,STBL	02570	26	06975	02377
00770	SM		SMTLU+35,6,10	02582	12	06975	000-6
00780	S		FXORFL-5,KLNG	02594	22	06400	02252
00790	A		PLUS+47,FLNG	02606	21	06865	02250
00800	BD		BA+48,INDIV	02618	43	02778	02424
00810	B		++20	02630	49	02650	00000
00820	DORG		--3	02638			
00830	BEGIN	BTM	PUT,132,8	02638	17	09036	0-132
00840	BEGINA	TFM	PARCNT,0,9	02650	16	03348	00-00
00850	BD		MODAFT,SINGST	02662	43	09888	10078
00860	TF		SUBSW,ZER13*2	02674	26	10092	10077
00870	BD		BA,INDIV	02686	43	02730	02424
00880	TDM		CHI5+144	02698	15	15983	00000
00890	DC		1,1,++	02709			
			+				
00900	TR		CHI-1,CHI5-1	02710	31	15138	15838
00910	B		READ1+24	02722	49	02918	00000
00920	DORG		--4	02729			

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00930 BA	RCTY		02730	34	00000	00102
00940 ESMO	DS	,--5	02736		0	
00950	DC	1,*,--4	02737		1	
00960	TFM	IOGT,++23	02742	16	00565	-2765
00970	B	IOGT,URDATA-4,7, READ STATEMENTS FROM TYPEWRITER	02754	49	00566	-9863
00980	BC4	=-36,,, ALLOWS GOOF SWITCH	02766	46	02730	00400
00990	BNC1	++36	02778	47	02814	00100
01000	RCTY		02790	34	00000	00102
01010 BLOC	DS	,--5	02796		0	
01020	WATY	CHI	02802	39	15139	00100
01030	CM	CHI,43,10, TEST FOR COMMENT	02814	14	15139	000M3
01040	BNE	LEADBL	02826	47	03106	01200
01050	CM	CHI+2,0,10,	02838	14	15141	000-0
01060	BNE	LEADBL	02850	47	03106	01200
01070	CM	CHI+4,0,10,	02862	14	15143	000-0
01080	BE	BEGINA	02874	46	02650	01200
01090	B	LEADBL	02886	49	03106	00000
01100	DORG	=-3	02894			
01110 READ1	TFM	IOGT,++23	02894	16	00565	-2917
01120	B	IOGT,CDDATA-4,7, READ FIRST CARD	02906	49	00566	-9871
01160	TFM	++35,CHI +144	02918	16	02953	J5283
01170	SM	++23,2,10	02930	12	02953	000-2
01180	TF	CKEND	02942	26	03336	00000
01190 CKRM	BD	++56,CKEND,, SCAN BACK TO PLACE RECORD MARK	02954	43	03010	03336
01200	BD	++44,CKEND-1	02966	43	03010	03335
01210	CM	CKRM-1,CHI	02978	14	02953	J5139
01220	BH	CKRM-24,,, CHECK FOR BLANK CARD	02990	46	02930	01100
01230	B	READ1,,,	03002	49	02894	00000
01240	DORG	=-3	03010			
01250	AM	CKRM-1 ,2	03010	11	02953	-0002
01260	TDM	CKRM-1 ,.6	03022	15	0295L	00000
01270	DC	1,*,*	03033		1	
01280	BNC1	++36	03034	47	03070	00100
01290	RCTY		03046	34	00000	00102
01300 ESNOP1	DC	4,0,--5	03052		4	
01310	DC	1,*,--4	03053		1	
01320	WATY	CHI	03058	39	15139	00100
01330	CM	CHI,43,10	03070	14	15139	000M3
01340	BE	READ1	03082	46	02894	01200
01345	TDM	CHI+9,0,11	03094	15	15148	0000-
01350 LEADBL	BD	++32,CHI	03106	43	03138	15139
01360	TR	CHI-1,CHI+1	03118	31	15138	15140
01370	B	=-24	03130	49	03106	00000
01380	DORG	=-3	03138			
01390	AM	ESNOPL,1,10	03138	11	03052	000-1
01400	CM	CHI,69,10	03150	14	15139	00009
01410	BNM	CSPVA-12,,, BRANCH IF NO STATEMENT NUMBER	03162	47	03630	01100
01420	SF	OUTSW	03174	32	07020	00000
01430 TRIND	DS	,*	03185		0	
01440	BTM	CSTNO,++12,, OUTPUT STATEMENT NUMBER	03186	17	05398	-3198
01450	BTM	PUT, 134,8,COLON	03198	17	09036	0-134
01460	TF	ESNO,SYM	03210	26	02736	10059

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01470	TFM	ESNOPL,0,8	03222	16	03052	0-000
01480	TDM	NOIND,1,11	03234	15	03243	0000J
01490 NOIND	DS	,--2	03243		0	
01500	AM	SHADD,5,10	03246	11	07194	000-5
01510	BD	STNER,SHADD,11, TEST IF STATEMENT NO. WAS USED BEFORE	03258	43	03418	0719M
01520	TDM	SHADD,1,6, SET INDICATOR THAT STA.NO. APPEARED	03270	15	0719M	00001
01530 INSW	DS	,--2	03279		0	
01540	SM	SHADD,2,10	03282	12	07194	000-2
01550	BD	++20,SHADD,11	03294	43	03314	0719M
01560	B	++44	03306	49	03350	00000
01570	DORG	=-3	03314			
01580	BTM	PUT, 140,8,DUMMY	03314	17	09036	0-140
01590	TDM	SHADD,0,6	03326	15	0719M	00000
01600 CKEND	DS	,--1	03336		0	
01610	TDM	DOTRAN,1	03338	15	10079	00001
01620 PARCNT	DC	3,0,--1	03348		3	
01630	AM	SHADD,1,10	03350	11	07194	000-1
01640	BD	FORM,SHADD,11	03362	43	03518	0719M
01650 LEADZ	CM	CHI,0,10,	03374	14	15139	000-0
01660	BNE	STNER+20,	03386	47	03438	01200
01670	TR	CHI-1,CHI+1	03398	31	15138	15140
01680	B	=-36	03410	49	03374	00000
01690	DORG	=-3	03418			
01700 STNER	TFM	SPGS+11,076,9	03418	16	09325	00-76
01710	B	SPERR+12,,, STATEMENT NO. PREVIOUSLY USED	03430	49	09242	00000
01720	DORG	=-3	03438			
01730	CM	CHI,46,10	03438	14	15139	000M6
01740	BNE	CSPVA	03480	47	03642	01200
01750	BTM	COLNAM,6,10	03462	17	04654	000-6
01760	C	SYM,FMTCTST	03474	24	10059	10009
01770	BV	CSPVA	03486	46	03642	01400
01780	BE	FORMAT	03498	46	10392	01200
01790	B	CSPVA	03510	49	03642	00000
01800	DORG	=-3	03518			
01810 FORM	CM	CHI,00,10, SHIFT OFF BLANKS	03518	14	15139	000-0
01820	BNE	++32	03530	47	03562	01200
01830	TR	CHI-1,CHI+1	03542	31	15138	15140
01840	B	=-36	03554	49	03518	00000
01850	DORG	=-3	03562			
01860	BTM	COLNAM,6,10	03562	17	04654	000-6
01870	C	SYM,FMTCTST,, MUST BE FORMANT STATEMENT	03574	24	10059	10009
01880	BV	++24	03586	46	03610	01400
01890	BE	FORMAT	03598	46	10392	01200
01900	TFM	SPGS+11,277,9	03610	16	09325	00K77
01910	B	SPERR+12,,, ELSE ERROR 27	03622	49	09242	00000
01920	DORG	=-3	03630			
01930	TDM	NOIND,	03630	15	03243	00000
01940 CSPVA	TFM	++35,CHI,	03642	16	03677	J5139
01950	AM	++23,2,10	03654	11	03677	000-2
01960	BNE	++44	03666	45	03710	00000
01970	TFM	CSPVA+35,37,610	03678	16	0367P	000L7
01980	TR	CSPVA+35,AVOID,6, AVOID = FLAG3,7,FLAG0,REMARK	03690	31	0367P	06018
01990	B	DECODE	03702	49	03802	00000
02000	DORG	=-3	03710			
02010	CM	CSPVA+35,0,610	03710	14	0367P	000-0

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02020	BNE	CSPVA+12	03722	47	03654	01200
02030	TF	++54,CSPVA+35	03734	26	03788	03677
02040	TF	++47,++42	03746	26	03793	03788
02090	AM	++35,1,10	03758	11	03793	000-1
02060	SM	++18,1,10	03770	12	03788	000-1
02070	TR	...	03782	31	00000	00000
02080	B	CSPVA+24	03794	49	03666	00000
02090	DORG	=-3	03802			
02100	DECODE	TFM ++35,CHI-2	03802	16	03837	J5137
02110	AM	++23,2,10	03814	11	03837	000-2
02120	BNR	++20	03826	45	03846	00000
02130	B	++80	03838	49	03918	00000
02140	DORG	=-3	03846			
02150	CM	DECODE+35,40,610	03846	14	0383P	000M0
02160	BH	DECODE+12	03858	46	03814	01100
02170	CM	DECODE+35,33,610	03870	14	0383P	000L3
02180	BNE	++56	03882	47	03938	01200
02190	CM	PARCNT,0,10	03894	14	03348	000-0
02200	BE	DECODA	03906	46	04026	01200
02210	TFM	PARCNT,0,9	03918	16	03348	00-00
02220	B	NONARI	03930	49	04138	00000
02230	DORG	=-3	03938			
02240	CM	DECODE+35,24,610	03938	14	0383P	000K4
02250	BNE	++32	03950	47	03982	01200
02260	AM	PARCNT,1,10	03962	11	03348	000-1
02270	B	DECODE+12	03974	49	03814	00000
02280	DORG	=-3	03982			
02290	CM	DECODE+35,4,610	03982	14	0383P	000-4
02300	BNE	DECODE+12	03994	47	03814	01200
02310	SM	PARCNT,1,10	04006	12	03348	000-1
02320	B	DECODE+12	04018	49	03814	00000
02330	DORG	=-3	04026			
02340	DECODA	AM DECODE+35,2,10	04026	11	03837	000-2
02350	BNR	++20,DECODE+35,11	04038	45	04058	0383P
02360	B	CKCTAR	04050	49	04106	00000
02370	DORG	=-3	04058			
02380	CM	DECODE+35,23,610	04058	14	0383P	000K3
02390	BE	000	04070	46	10416	01200
02400	CM	DECODE+35,24,610	04082	14	0383P	000K4
02410	BNE	DECODA	04094	47	04026	01200
02420	CKCTAR	BD ASCAN,INDIV	04106	43	10440	02424
02430	BTM	KKCNTU,0,10	04118	17	04836	000-0
02440	B	ASCAN	04130	49	10440	00000
02450	DORG	=-3	04138			
02460	NONARI	TFM LI+6,TBST	04138	16	04228	-4652
02470	CF	CHI+1	04150	33	15140	00000
02475	TEMP	DS 5 ,*	04161		5	
02480	CF	CHI+3	04162	33	15142	00000
02485	TEMPS	DS 5 ,*	04173		5	
02490	C	CHI+4,ENDCT+4	04174	24	15143	10019
02500	BE	END	04186	46	09554	01200
02510	BD	++24,INDIV	04198	43	04222	02424
02520	BTM	KKCNTU,0,10	04210	17	04836	000-0
02530	L1	C TBST,CHI+4	04222	24	04652	15143
02540	BE	L2	04234	46	04294	01200
02550	SM	LI+6,11,10	04246	12	04228	000J1

02560	BNR	LI,LI+6,11	04258	45	04222	04220
02570	TR	CHI-1,CHI+5	04270	31	15138	15144
02580	ERR01	BTM ERROR,071,9	04282	17	09330	00-71
02590	L2	CM LI+6,TBCM	04294	14	04228	-4498
02600	BNH	++72	04306	47	04378	01100
02610	TDM	STSN,0,,	04318	15	05627	00000
02620	BNF	++48,TRIND	04330	44	04378	03185
02630	TDM	TRIND,0	04342	15	03185	00000
02640	BD	++24,NDIND	04354	43	04378	03243
02650	BTM	ERROR2,572,9,	04366	17	09486	00N72
02660	SM	LI+6,6,10	04378	12	04228	000-6
02670	TR	CHI-1,CHI+5	04390	31	15138	15144
02680	SF	LI+6,AFTBL+5,7	04402	32	04228	J5040
02685	STAFF	DS 5 ,*	04413		5	
02690	B	LI+6,,6	04414	49	04220	00000
02700	DORG	=-4	04421			
02710	DC	1,*	04421		1	
02720	DSA	NONARA	04426		5 X	1
02730	DC	6,466455,, FUNCTION	04426		J0224	
		M66455	04432		6	
02740	DSA	NONARA	04437		5 X	1
02750	DC	6,626442,, SUBROUTINE	04437		J0224	
		026442	04443		6	
02760	DSA	NONARA	04448		5 X	1
02770	DC	6,444546,, DEFINE	04448		J0224	
		M44546	04454		6	
02780	DSA	NONARA	04459		5 X	1
02790	DC	6,455864,, EQUIVALENCE	04459		J0224	
		M55864	04465		6	
02800	DSA	COMMON	04470		5 X	1
02810	DC	6,435654,, COMMON	04470		J0272	
		M35654	04476		6	
02820	DSA	DIM	04481		5 X	1
02830	DC	6,444954,, DIMENSION	04481		J0248	
		M44954	04487		6	
02840	DSA	RETURN	04492		5 X	1
02850	TBCM	DC 6,594563,, RETURN	04492		J0368	
		N94563	04498		6	
02860	DSA	NONARA	04503		5 X	1
			04503		J0224	

02870	DC 6,626356,, STOP	04509	6
02880	DSA NONARA	04514	5 X 1
		04514	J0224
02890	DC 6,574164,, PAUSE	04520	6
02900	DSA DK10	04525	5 X 1
		04525	J0488
02910	DC 6,464955,, FIND	04531	6
02920	DSA DK10	04536	5 X 1
		04536	J0488
02930	DC 6,464563,, FETCH	04542	6
02940	DSA DK10	04547	5 X 1
		04547	J0488
02950	DC 6,594543,, RECORD	04553	6
02960	DSA IOUT	04558	5 X 1
		04558	J0200
02970	DC 6,414343,, ACCEPT	04564	6
02980	DSA IOUT	04569	5 X 1
		04569	J0200
02990	DC 6,576455,, PUNCH	04575	6
03000	DSA IOUT	04580	5 X 1
		04580	J0200
03010	DC 6,636857,, TYPE	04586	6
03020	DSA IOUT	04591	5 X 1
		04591	J0200
03030	DC 6,575949,, PRINT	04597	6
03040	DSA IOUT	04602	5 X 1
		04602	J0200
03050	DC 6,594541,, READ	04608	6
03060	DSA NONARA	04613	5 X 1
		04613	J0224
03070	DC 6,435655,, CONTINUE	04619	6
03080	DSA CALL	04624	5 X 1
		04624	J0344
03090	DC 6,434153,, CALL	04630	6
		04630	

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03100	DSA GOTO	04635	5 X 1
		04635	J0320
03110	DC 6,475663,, GOTO	04641	6
03120	DSA IF	04646	5 X 1
		04646	J0296
03130	TBST DC 6,494624,, IF(04652	6
	M94624		
03140	DS 2	04654	2
03150	COLNAM TFM ++42,SYN-26,, COLLECT NAMES TO DETERMINE TYPE OF STMT	04656	16 04698 J0033
03160	TFM ++35,CHI	04668	16 04703 J5139
03170	AM ++18,2,10	04680	11 04698 000-2
03180	TF ,CHI,7	04692	26 00000 J5139
03190	AM --1,2,10	04704	11 04703 000-2
03200	BNR ++20,--13,11	04716	45 04736 0470L
03210	B ++32	04728	49 04760 00000
03220	DORG --3	04736	
03230	SM COLNAM-1,1,10	04736	12 04655 000-1
03240	BNZ COLNAM+24	04748	47 04680 01200
03250	TFM ++30,SYN-25	04760	16 04790 J0034
03260	AM ++18,2,10	04772	11 04790 Q00-2
03270	CF	04784	33 00000 00000
03275	OUTSCE DS 5 ,*	04795	5
03280	C --6,COLNAM+42	04796	24 04790 04698
03290	BNH --36	04808	47 04772 01100
03300	TF SYN,COLNAM+42,11	04820	26 10059 04690
03310	BB	04832	42 00000 00000
03320	DORG --9	04834	
03330	**** CHECK FOR CONTINUATION CARDS ****		
03340	DS 2	04835	2
03350	KCKNTU TFM IORT,++23	04836	16 00565 -4859
03360	B IOGT,CSDATA-4,7	04848	49 00566 -9879
03370	BD CKN1,CHI5+10	04860	43 04922 15849
03380	TFM CCND,0,10	04872	16 05148 000-0
03390	CM CHI5,43,10	04884	14 15839 000M3
03400	BE ++24	04896	46 04920 01200
03410	TDM CHI5+9, 0,11	04908	15 15848 0000-
03420	BB	04920	42 00000 00000
03430	DORG --10	04921	
03440	KCKN1 CM CCND,04,10, TEST FOR MORE THAN 4 CONTINUATION CARDS	04922	14 05148 000-4
03450	BNE ++68	04934	47 05002 01200
03460	CM CHI5,43,10	04946	14 15839 000M3
03470	BE ++44	04958	46 05002 01200
03480	TFM CCND,0,10	04970	16 05148 000-0
03490	TFM SPCS+11,273,9	04982	16 09325 00R73
03500	B SPERR+12	04994	49 09242 00000
03510	DORG --3	05002	
03520	TFM ++47,CHI5+144	05002	16 05049 J5983
03530	BD CKN2+68,FMSW	05014	43 05118 10082
03540	SM ++23,2,10	05026	12 05049 000-2
03550	TF CKEND	05038	26 03334 00000
03560	KCKM2 BD ++56,CKEND	05050	43 05104 03334
03570	BD ++44,CKEND-1	05062	43 05104 03335
03580	CM CKN2-1,CHI5+12	05074	14 05049 J5851

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03990	BH	CKCN2-24		05084	46	05026	01100
03600	B	CKCNTU		05098	49	04836	00000
03610	DORG	+3		05106			
03620	AM	CKCN2-1 ,2,10		05106	11	05049	000-2
03630	TDM	CKCN2-1 ,6		05118	15	0504R	00000
03640	DC	1,'*		05129		1	
03650	BNC1	++36		05130	47	05166	00100
03660	RCTY			05142	34	00000	00102
03670	CCND	DC 2,0,*-5		05148		2	
03680	WATY	CHIS		05154	39	15839	00100
03690	CM	CHIS,43,10,		05166	14	15839	000M3
03700	BE	CKCNTU		05178	46	04836	01200
03710	AM	CCND,1,10		05190	11	05148	000-1
03720	BD	CKCN4,FMSW		05202	43	05338	10082
03730	TFM	++39,CHIS*10		05214	16	05249	15849
03740	AM	++23,2,10		05226	11	05249	000-2
03750	CKCN3	BNR ++49,		05238	45	05282	00000
03760	TFM	CSPVA+35,37,610		05250	16	0367P	00017
03770	TR	CSPVA+35,AVOID,6		05262	31	0367P	06018
03780	B	CKCNTU		05274	49	04836	00000
03790	DORG	+3		05282			
03800	CM	CKCN3+11,0,610 ,	CHECK FOR BLANKS AND MOVE NON BLANK	05282	14	0524R	000-0
03810	BE	CKCN3-12,,,	TO SCAN AREA	05294	46	05226	01200
03820	TF	CSPVA+35,CKCN3+11,611		05306	26	0367P	0524R
03830	AM	CSPVA+35,2,10		05318	11	03677	000-2
03840	B	CKCN3-12		05330	49	05226	00000
03850	DORG	+3		05338			
03860	CKCN4	TF ++30,CSPVA+35		05338	26	05368	03677
03870	SM	++18,1,10		05350	12	05368	000-1
03880	TR	,CHIS+11		05362	31	00000	15850
03890	AM	CSPVA+35,132,9		05374	11	03677	00J32
03900	B	CKCNTU		05386	49	04836	00000
03910	*****	THE FOLLOWING IS USED TO COLLECT STATEMENT NUMBERS *****					
03920	CSTNO	TF CSORN-1,0-1,,	SET UP RETURN ADDRESS	05398	26	05689	05397
03930	BD	++32,CHI		05410	43	05442	15139
03940	TR	CHI-1,CHI+1,,	SHIFT OFF LEADING ZEROS	05422	31	15138	15140
03950	B	++24		05434	49	05410	00000
03960	DORG	+3		05442			
03970	TFM	SYM-14,0000,8		05442	16	10045	0-000
03980	TFM	CSTNO1+6,SYM-14		05454	16	05508	J0045
03990	CM	CHI,69,10		05466	14	15139	00009
04000	BNN	CSTNO1+104		05478	47	05606	01100
04010	AM	++18,1,10		05490	11	05508	000-1
04020	CSTNO1	TD ,CHI		05502	25	00000	15139
04030	TR	CHI-1,CHI+1		05514	31	15138	15140
04040	BNR	++20,CHI+2		05526	45	05546	15141
04050	B	++32		05538	49	05570	00000
04060	DORG	+3		05546			
04070	CM	CHI,69,10		05546	14	15139	00009
04080	BH	CSTNO1-12		05558	46	05490	01100
04090	CM	CSTNO1+6,SYM-10		05570	14	05508	J0049
04100	BNN	++24		05582	47	05606	01100
04110	BTM	ERROR2,576,9,	STATEMENT NO GREATER THAN 4 DIGITS	05594	17	09486	00N76
04120	TF	SYM,CSTNO1+6,11		05606	26	10059	05500

04130	SF	SYM-3		05618	32	10056	00000
04135	RTSW	DS 1 ,*-4		05625		1	
04136	ERSW	DS 1 ,*-3		05626		1	
04137	STSN	DC 1 ,1,*-2		05627		1	
04138	STC	DC 2 ,00,*		05629		2	
04140	BD	CSTNO-1,DIMSW,6,	EXIT IF IN DIMENSION STATEMENT	05630	43	0539P	10084
04150	TDM	FXORFL,2		05642	15	06405	00002
04160	TDM	VARSW,1,,	EXIT TO LOOK UP STATEMENT NUMBER	05654	15	07567	00001
04170	TDM	STNDSW,1		05666	15	10083	00001
04180	B	SMTLU		05678	49	06940	00000
04190	CSORN	BD ++24,EQUSW		05690	43	05714	10088
04200	TFM	SCMI,CHI,,	INITIALIZE IF NOT IN EQUIVALENCE	05702	16	06001	J5139
04210	TDM	FXORFL,0,,	INITIALIZE FIX OR FLOAT SWITCH	05714	15	06405	00000
04220	CM	SCMI,3,610,		05726	14	0600J	000-3
04230	BE	NUMBER		05738	46	06102	01200
04240	CM	SCMI,69,610,		05750	14	0600J	00009
04250	BH	NUMBER		05762	46	06102	01100
04260	CM	SCMI,48,610,	TEST FOR FIX VAR	05774	14	0600J	000M8
04270	BNN	CS		05786	47	05834	01100
04280	CM	SCMI,55,610		05798	14	0600J	000M5
04290	BH	CS		05810	46	05834	01100
04300	TDM	FXORFL,2,,	SET FXORFL TO FIX VAR	05822	15	06405	00002
04310	CS	TFM SMLNG,0,10,	INITIALIZE SYMBOL LENGTH COUNT	05834	16	05917	000-0
04320	TFM	SALT+6,SYM-12		05846	16	05900	J0047
04330	TFM	SALT+18,SYM-13		05858	16	05912	J0046
04340	AM	SALT+6,2,10		05870	11	05900	000-2
04350	AM	SALT+18,2,10		05882	11	05912	000-2
04360	SALT	TF ,SCMI,11,		05894	26	06000	0600J
04370	CF			05906	33	00000	00000
04380	SMLNG	DS ,*		05917		0	
04390	AM	SMLNG,2,10		05918	11	05917	000-2
04400	AM	SCMI,2,10		05930	11	06001	000-2
04410	CM	SCMI,40,610		05942	14	0600J	000M0
04420	BNN	++56		05954	47	06010	01100
04430	CM	SMLNG,12,10		05966	14	05917	000J2
04440	BL	SALT-24		05978	47	05870	01300
04450	SF	SYM-11		05990	32	10048	00000
04460	SCMI	DS ,*		06001		0	
04470	B	SC2		06002	49	06090	00000
04480	DORG	+3		06010			
04490	SF	SYM-11		06010	32	10048	00000
04495	AVOID	DC 2,37,*-3		06018		2	
04496	L7	DC --		06020		2	
04500	TF	SYM,SALT+6,11,		06022	26	10059	0590-
04510	TDM	VARSW,0		06034	15	07567	00000
04520	BD	SMTLU,EQUSW,,	TEST TO SEE IF	06046	43	06940	10088
04530	SM	SCMI,1,10,	SYMBOL IS TO BE	06058	12	06001	000-1
04540	TR	CHI-1,SCMI,11,	SHIFTED OFF	06070	31	15138	0600J
04550	B	SMTLU		06082	49	06940	00000
04560	DORG	+3		06090			
04570	SC2	BTM ERROR,78,9	NAME GREATER THAN 6 CHARACTERS	06090	17	09330	00-78
04580	NUMBER	TDM VARSW,1,,	SET VARIABLE SW. TO INDICATE LITERAL	06102	15	07567	06001

04590	TF	SYM,ZERSYM+1	06114	26	10059	06940
04600	TFM	NUMB1+6,SYM-29	06126	16	06260	J0030
04610	CM	CHI,70,10,	06138	14	15139	000P0
04620	BNE	++32	06190	47	06182	01200
04630	TR	CHI-1,CHI+1	06162	31	15138	15140
04640	B	--36	06174	49	06138	00000
04650	DORG	--3	06182			
04660	NUMB	CM CHI,3,10	06182	14	15139	000-3
04670	BE	FLNUMB	06194	46	06414	01200
04680	CM	CHI,69,10	06206	14	15139	00009
04690	BNH	FXNUMB	06218	47	06310	01100
04700	CM	NUMB1+6,SYM+1	06230	14	06260	J0060
04710	BNL	++24	06242	46	06266	01300
04720	NUMB1	TD ,CHI,,	06254	25	00000	15139
04730	TR	CHI-1,CHI+1	06266	31	15138	15140
04740	AM	NUMB1+6,1,10	06278	11	06260	000-1
04750	NUMB5	AM SYM-30,1,10	06290	11	10029	000-1
04760	B	NUMB	06302	49	06182	00000
04770	DORG	--3	06310			
04780	FXNUMB	TDM FXORFL,2,,	06322	12	10029	000-1
04790	SM	SYM-30,1,10	06334	24	02252	10029
04800	C	KLNG,SYM-30,,	06346	46	06370	01300
04810	BNL	++24	06358	17	09330	00J77
04820	BTM	ERROR,177,9,	06370	26	10029	10071
04830	TF	SYM-30,TENZ	06382	26	10060	0626-
04840	TF	SYM+1,NUMB1+6,11,	06394	32	J0060	00000
04850	SF	SYM+1,,2	06403			
04860	MODE	DC 2,0,--2	06405			
04870	FXORFL	DC 2,0,0	06405			
04880	B	SMTLU	06406	49	06940	00000
04890	DORG	--3	06414			
04900	FLNUMB	TFM VARBR+6,NUMB3	06414	16	06504	-6462
04910	CM	SYM-30,1,10	06426	14	10029	000-1
04920	BE	++24	06438	46	06462	01200
04930	TFM	VARBR+6,NUMB2+12	06450	16	06504	-6570
04940	NUMB3	SM VARBR+6,1,10	06462	12	10029	000-1
04950	TR	CHI-1,CHI+1	06474	31	15138	15140
04960	CM	CHI,70,10	06486	14	15139	000P0
04970	VARBR	RE ,,,	06498	46	00000	01200
04980	BNH	CMPAR	06510	47	06590	01100
04990	TFM	VARBR+6,NUMB2+12	06522	16	06504	-6570
05000	CM	NUMB1+6,SYM+1	06534	14	06260	J0060
05010	BNL	++24	06546	46	06570	01300
05020	NUMB2	TD NUMB1+6,CHI,6,	06558	25	0626-	15139
05030	AM	NUMB1+6,1,10	06570	11	06260	000-1
05040	B	NUMB3+12	06582	49	06474	00000
05050	DORG	--3	06590			
05060	CMPAR	CM CHI,45,10,	06590	14	15139	000M5
05070	BNE	PLUS+12	06602	47	06830	01200
05080	TFM	PLUS+11,0,10	06614	16	06829	000-0
05090	TDM	PLUS+1,1	06626	15	06819	00001
05100	CM	CHI+2,20,10	06638	14	15141	000K0
05110	BL	++36	06650	47	06686	01300
05120	BNE	++36	06662	47	06698	01200

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05130	TDM	PLUS+1,2	06674	15	06819	00002
05140	TR	CHI-1,CHI+1	06686	31	15138	15140
05150	CM	CHI+2,69,10	06698	14	15141	00009
05160	BH	++24	06710	46	06734	01100
05170	EXCESS	BTM ERROR,178,9,	06722	17	09330	00J78
05180	TD	PLUS+11,CHI+2	06734	25	06829	15141
05190	TR	CHI-1,CHI+3	06746	31	15138	15142
05200	CM	CHI,69,10	06758	14	15139	00009
05210	BNH	PLUS	06770	47	06818	01100
05220	S	PLUS+10,PLUS+11	06782	22	06828	06829
05230	TD	PLUS+11,CHI	06794	25	06829	15139
05240	TR	CHI-1,CHI+1	06806	31	15138	15140
05250	PLUS	AM SYM-30,,7	06818	11	10029	-0000
05260	TF	SYM,SYM-30	06830	26	10059	10029
05270	SF	SYM-29	06842	32	10030	00000
05280	TF	SYM-2,SYM-30,7	06854	26	10057	J0029
05290	BV	EXCESS	06866	46	06722	01400
05300	BD	SMTLU,SYM-29	06878	43	06940	10030
05310	TFM	SYM,99,1011	06890	16	10059	000RR
05320	B	SMTLU	06902	49	06940	00000
05330	DORG	--3	06910			
05340	ZERSYM	DC 30,0	06939			
05350	DC	-00000000000000000000000000000000	06911			
05350	DC	3,010,ZERSYM-28	06911			
05360	*****	SYMBOL TABLE LOOK UP *****				
05370	*					
05380	SMTLU	TFM MODAD,STBL-4	06940	16	07871	-2373
05390	TFM	SMADD	06952	16	07194	-0000
05400	TFM	SMCNT,STBL-6	06964	16	07247	-2371
05410	*****	MODAD IS USED TO TEST FOR FIX OR FLOAT				
05420	**	SMADD WILL CONTAIN THE ADDRESS OF THE SYMBOL ENTRY AT EXIT				
05430	**	SMCNT IS USED TO FIND VARIABLE OR LITERAL				
05440	TF	LSTEN,TBCNT	06976	26	07011	02429
05450	AM	LSTEN,1,10	06988	11	07011	000-1
05460	CF	DHVAR	07000	33	08076	00000
05470	LSTEN	DS ,0	07011			
05480	B	SMLOOP+36	07012	49	07056	00000
05490	DORG	--3	07020			
05500	SMLOOP	SM SMCNT,10,10	07020	12	07247	000J0
05510	OUTSW	DS SMLOOP	07020			
05520	SM	MODAD,10,10	07032	12	07871	000J0
05530	AM	SMADD,10,10	07044	11	07194	000J0
05540	SM	LSTEN,1,10	07056	12	07011	000-1
05550	BM	JOE	07068	46	07156	01100
05560	TF	++35,SMCNT	07080	26	07115	07247
05570	SM	++23,50,10	07092	12	07115	000M0
05580	BNR	TBLFUL	07104	45	07136	00000
05590	AM	TBCNT,1,10	07116	11	02429	000-1
05600	B	ADVAR	07128	49	08076	00000
05610	DORG	--3	07136			
05620	TBLFUL	BTM ERROR2,74,9,	07136	17	09486	00-74
05640	B	MONCAL,,,	07148	49	00796	00000
05650	DORG	--3	07156			
05660	JOE	BD LITERL,VARSH,,	07156	43	07672	07567
05670	BNF	++20,SMCNT,11,	07168	44	07188	0724P

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05680	B	SMLOOP		07180	49	07020	00000
05690	DORG	+-3		07188			
05700	C	,SYM		07188	24	00000	10059
05710	SMADD	DS	,+5	07194			
05720	BV	SMLOOP		07200	46	07020	01400
05730	BNE	SMLOOP		07212	47	07020	01200
05740	TDM	INSM,1,,	SET DIGIT IN INSM IF VARIABLE FOUND	07224	15	03279	00001
05750	CF	SMADD		07236	33	07194	00000
05760	SMCNT	DS	,*	07247			
05770	C	SMADD,FCYEND,,	TEST IF SYMBOL WAS LIBRARY FUNCT	07248	24	07194	02318
05780	BM	FCYEST,,		07260	46	08832	01100
05790	AM	SMCNT,3,10		07272	11	07247	000-3
05800	BD	CSORN-1,DIMSW,4,	RETURN IF IN DIMENSION STATEMENT	07284	43	0568R	10084
05810	BD	++32,EQUSW		07296	43	07328	10088
05820	CM	CHI,24,10		07308	14	15139	000K4
05830	B	++20		07320	49	07340	00000
05840	DORG	+-3		07328			
05850	CM	SCHI,24,610		07328	14	0600J	000K4
05860	BMR	++20,SMCNT,11		07340	45	07360	0724P
05870	B	FCYEST		07352	49	07932	00000
05880	DORG	+-3		07360			
05890	BE	DIMERR+12		07360	46	07464	01200
05900	BD	++20,SMCNT,11,	TEST FOR DIM VARIABLE	07372	43	07392	0724P
05910	B	LUXIT		07384	49	07508	00000
05920	DORG	+-4		07391			
05925	FNTSW2	DSC	1,0	07391			1
05930	BD	LUXIT,IOSW,,	DIM VAR USED W/O DIM IN I/O STATEMENT	07392	43	07508	10091
05935	BD	LUXIT,FNTSW2		07404	43	07508	07391
05940	BD	LUXIT ,CALLSW,,	DIM VAR USED W/O DIM IN CALL	07416	43	07508	10089
05950	BD	COM2,COMSW,,	SAME FOR COMMON	07428	43	11968	10090
05960	BD	LUXIT-12,EQUSW		07440	43	07496	10088
05970	DIMERR	BTM	ERROR,73,9,	07452	17	09330	00-73
05980	BD	COMER2,COMSW	DIMENSIONED VAR USED WITH OUT SUBSCRIPT	07464	43	09542	10090
05990	BD	++20,SMCNT,11		07476	43	07496	0724P
06000	B	DIMERR		07488	49	07452	00000
06005	DORG	+-3		07496			
06010	SF	DMVAR,,	SET DIMENSION VARIABLE SWITCH	07496	32	08076	00000
06020	*****	EXIT FROM TABLE LOOK UP	*****				
06030	LUXIT	BNF	CSORN-1,OUTSW,6,	07508	44	0568R	07020
06040	CF	OUTSW	EXIT IF OUTSW NOT SET	07520	33	07020	00000
06050	BT	PUT,SMADD-1		07532	27	09036	07193
06060	BNF	++44,DMVAR		07544	44	07588	08076
06070	CF	DMVAR		07556	33	08076	00000
06080	VARSW	DS	,*	07567			
06090	TF	OUTSCE,CSORN-1		07568	26	04795	05689
06100	B	OUTSC		07580	49	10464	00000
06110	DORG	+-3		07588			
06120	BNF	++32 ,FNTSW,,	TEST IF SYMBOL WAS A FUNCTION NAME	07588	44	07620	10080
06130	BTM	PUT,0154,8,	ARITH STATEMENT CALL	07600	17	09036	0-154
06140	B	CSORN-1,,6		07612	49	0568R	00000
06150	DORG	+-3		07620			
06160	BD	++20,FNTSW,,	DIGIT AND NO FLAG IMPLIES SUBPROGRAM	07620	43	07640	10080
06170	B	CSORN-1,,6		07632	49	0568R	00000
06180	DORG	+-3		07640			
06190	BD	AERR1,OMM,,	STATEMENT FUNCTION PREV DEFINED	07640	43	09530	10087

06200	BTM	PUT,0153,8,	FUNCTION OPERATOR CALL	07652	17	09036	0-153
06210	B	CSORN-1,,6		07664	49	0568R	00000
06215	DORG	+-3		07672			
06220	*****	SEARCH SYMBOL TABLE FOR CONSTANTS	*****				
06230	LITERL	BNF	SMLOOP,SMCNT,11,	07672	44	07020	0724P
06240	BD	LUSTNO,STNOSW,,	BRANCH IF LOOKING-UP STATEMENT NUMBER	07684	43	08696	10083
06250	BD	FXLIT,FXORFL,,	BR IF SEARCHING FOR FIXED CONST	07696	43	08012	06405
06260	BD	SMLOOP,MODAD,11,		07708	43	07020	0787J
06270	LITF	C	SMADD,SYM,6,	07720	24	0719M	10059
06280	BNE	SMLOOP		07732	47	07020	01200
06290	TF	ADSAVE,SMADD		07744	26	08471	07194
06300	CF	ADSAVE		07756	33	08471	00000
06310	CF	SMCNT,,6		07768	33	0724P	00000
06320	SM	ADSAVE,2,610		07780	12	0847J	000-2
06330	C	SMADD ,SYM-2,6,	COMPARE MANTISSA	07792	24	0719M	10057
06360	BE	++44		07804	46	07848	01200
06370	AM	ADSAVE,2,610		07816	11	0847J	000-2
06380	SF	SMCNT,,6		07828	32	0724P	00000
06390	B	SMLOOP		07840	49	07020	00000
06400	DORG	+-3		07848			
06410	AM	ADSAVE,2,610		07848	11	0847J	000-2
06415	SF	SMCNT,,6		07860	32	0724P	00000
06416	MODAD	DS	,*	07871			
06420	TDM	INSM,1		07872	15	03279	00001
06430	E37061	CF	SMADD	07884	33	07194	00000
06440	CM	CHI,24,10		07896	14	15139	000K4
06450	BNE	LUXIT		07908	47	07508	01200
06460	BTM	ERROR,378,9		07920	17	09330	00L78
06470	*****	TEST FOR SINGLE STATEMENT FUNCTION OR FUNCTION SUBROUTINE					
06480	FCTST	RE	++36	07932	46	07968	01200
06490	BD	++24,CALLSW		07944	43	07968	10089
06500	ERR09	BTM	ERROR,079,9,	07956	17	09330	00-79
06510	TDM	FNTSW,1,,	INCORRECT USE OF SUBPROGRAM NAME	07968	15	10080	00001
06520	BNF	LUXIT,SMCNT,11	FUNCTION SUBROUTINE	07980	44	07508	0724P
06530	SF	FNTSW,,,		07992	32	10080	00000
06540	B	LUXIT		08004	49	07508	00000
06550	DORG	+-3		08012			
06560	FXLIT	BD	++20,MODAD,11,	08012	43	08032	0787J
06570	B	SMLOOP		08024	49	07020	00000
06580	DORG	+-3		08032			
06590	BNF	SMLOOP,MODAD,11,	TEST FOR STATEMENT NO.	08032	44	07020	0787J
06600	C	SMADD,SYM,6		08044	24	0719M	10059
06610	BNE	SMLOOP		08056	47	07020	01200
06620	B	E37061		08068	49	07884	00000
06630	DORG	+-3		08076			
06640	*****	ENTRY TO ADD A NEW VARIABLE TO SYMBOL TABLE	*****				
06650	ADVAR	CF	SMADD	08076	33	07194	00000
06660	DMVAR	DS	,ADVAR	08076			
06670	TDM	INSM,0		08088	15	03279	00000
06680	AM	SMCNT,3,10		08100	11	07247	000-3
06690	TD	MODAD,FXORFL,6,		08112	25	0787J	06405
06700	SF	MODAD,,6		08124	32	0787J	00000
06710	BD	ADLIT,VARSW,,	BRANCH TO ADD CONSTANT	08136	43	08536	07547
06720	A	NKLOC,SMNG,,	MOD SYMBOL STORAGE BY NUMBER OF CHAR	08148	21	02372	05917
06730	TF	NKLOC,SYM,6,	MOVE SYMBOL INTO SYM STORAGE	08160	26	0237M	10059
06740	ADVLOP	SMADD,NKLOC,6,	MOVE ADD OF SYM INTO SYMBOL TABLE	08172	26	0719M	02372

06750	BD	ADVARI,DIMSW,,	TEST IF IN DIMENSION STATEMENT	08184	43	08204	10084	
06760	B	ADVAR2		08196	49	08252	00000	
06770	DORG	=-3		08204				
06780	ADVARI	SM	SMADD,10,10	08204	12	07194	000J0	
06790	AM	TBCNT,1,10		08216	11	02429	000-1	
06800	TF	SMADD,NXLOC,6,	PLACE DOUBLE ENTRY FOR DIMENSION VAR	08228	26	0719M	02372	
06810	AM	SMADD,10,10		08240	11	07194	000J0	
06820	ADVARI	BD	ADSUBP,SUBSW,,	TEST IF IN SUBROUTINE STATEMENT	08252	43	08448	10092
06830	BD	CSORN-1,DIMSW,6,	GOTO COLLECT DIMENSIONS IF IN DIM	08264	43	0968R	10084	
06840	SETIND	BNF	++24,COMSW,,	TEST IF IN COMMON	08276	44	08300	10090
06850	SF	SMCNT,,6,	SET FLAG ON INDICATOR IF COMMON VARIABLE	08288	32	0724P	00000	
06860	SUBTST	BD	++32,EQUWS,,		08300	43	08332	10088
06870	CM	CHI,24,10		08312	14	15139	000K4	
06880	B	++20		08324	49	08344	00000	
06890	DORG	=-3		08332				
06900	CM	SCHI,24,610		08332	14	0600J	000K4	
06910	BNE	LUXIT		08344	47	07508	01200	
06920	BD	SUBTR,EQUWS,,		08356	43	08436	10088	
06930	BD	LUXIT,SUBSW,,	DO NOT SET SWITCH IF IN DECLARATION STMT	08368	43	07508	10092	
06940	BD	COMER2,COMSW		08380	43	09542	10090	
06950	TDM	FNTSW,1,,	SET SWITCH FOR FUNCTION NAME (A)	08392	15	10080	00001	
06960	TDM	SMCNT,,6		08404	15	0724P	00000	
06970	DC	1,,*		08415		1		
06980	BD	ASC21,OMM		08416	43	13282	10087	
06990	B	LUXIT,		08428	49	07508	00000	
07000	DORG	=-3		08436				
07010	SUBTR	BTM	ERROR,170,9,	DIM VAR IN EQUIV W/O PREVIOUS DIMENSIONS	08436	17	09330	00J70
07020	*****	ENTRY TO PLACE VARIABLE IN SUBROUTINE DEFINITION IN TABLE						
07030	*****	THESE VARIABLE ARE PLACED IN TWICE BECAUSE OF POSSIBLE						
07040	**	DIMENSIONING LATER						
07050	ADSUBP	BNF	++44,SUBSW		08448	44	08492	10092
07060	CF	SUBSW		08460	33	10092	00000	
07070	ADSAVE	DS	,*	08471		0		
07080	AM	SMADD,10,10		08472	11	07194	000J0	
07090	B	SETIND		08484	49	08276	00000	
07100	DORG	=-3		08492				
07110	SF	SUBSW		08492	32	10092	00000	
07120	SM	SMADD,10,10		08504	12	07194	000J0	
07130	AM	TBCNT,1,10		08516	11	02429	000-1	
07140	B	ADVLP,,	BRANCH TO PLACE SYMBOL IN SECOND TIME	08528	49	08172	00000	
07150	DORG	=-3		08536				
07160	*****	ENTRY TO PLACE CONSTANTS IN TABLE	*****					
07170	ADLIT	BD	ADSTN,STNDSW,,	BRANCH TO ADD STATEMENT NUMBER	08536	43	08760	10083
07180	BD	ADXLIT,FORFL,,	BRANCH TO ADD FIX CONST	08548	43	08664	06405	
07190	A	NXLOC,FLNG		08560	21	02372	02250	
07200	TF	NXLOC,SYM-2,6,	MOVE IN FLOATING MANTISSA	08572	26	0237K	10057	
07210	AM	NXLOC,2,10		08584	11	02372	000-2	
07220	TF	SMADD,NXLOC,6,	SET SYM ADD INTO TABLE	08596	26	0719M	02372	
07230	ADLIT1	TF	NXLOC,SYM,6,	MOVE CHARACTERISTIC OR FIX CONST	08608	26	0237K	10059
07240	SM	SMADD,1,10		08620	12	07194	000-1	
07250	SF	SMADD,,6		08632	32	0719M	00000	
07260	AM	SMADD,1,10		08644	11	07194	000-1	
07270	B	E37061+12		08656	49	07896	00000	
07280	DORG	=-3		08664				
07290	ADXLIT	A	NXLOC,KLNG	08664	21	02372	02252	

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07300	TF	SMADD,NXLOC,6		08676	26	0719M	02372	
07310	B	ADLIT1		08688	49	08608	00000	
07320	DORG	=-3		08696				
07330	*****	ENTER WHEN LOOKING UP STATEMENT NUMBERS	*****					
07340	LUSTNO	BNF	++20,MODAD,11,	08696	44	08716	0787J	
07350	P	SMLOOP		08708	49	07020	00000	
07360	DORG	=-3		08716				
07370	C	SMADD,SYM,6		08716	24	0719M	10059	
07380	BNE	SMLOOP		08728	47	07020	01200	
07390	TDM	STNDSW,0		08740	15	10083	00000	
07400	B	E37061-12,,	BRANCH TO SET INSW AND GO TO LUXIT	08752	49	07872	00000	
07410	DORG	=-3		08760				
07420	*****	ENTER TO ADD STATEMENT NUMBER	*****					
07430	ADSTN	AM	NXLOC,4,10	08760	11	02372	000-4	
07440	TF	SMADD,NXLOC,6,	MOVE STAMNT NO. ADDRESS TO TABLE	08772	26	0719M	02372	
07450	CF	MODAD,,6,	CLEAR FLAG FOR STATEMENT NUMBER	08784	33	0787J	00000	
07460	TDM	STNDSW,0		08796	15	10083	00000	
07470	B	ADLIT1		08808	49	08608	00000	
07480	BTM	ERROR,374,9,	ILLEGAL USE OF FUNCTION NAME	08820	17	09330	00L74	
07490	FCTEST	BD	=-12,COMSW,,	TEST FOR FUNCTION NAME IN COMMON	08832	43	08820	10090
07500	BD	=-24,EQUWS,,	FUNCTION NAME IN EQUIV	08844	43	08820	10088	
07510	BD	=-36,DIMSW,,	1	08856	43	08820	10084	
07520	BD	=-48,IOSW		08868	43	08820	10091	
07530	BD	FCTEST-12,OMM		08880	43	08820	10087	
07540	CM	CHI,24,10		08892	14	15139	000K4	
07550	BNE	FCTEST-12		08904	47	08820	01200	
07560	TF	++35,SMADD		08916	26	08951	07194	
07570	AM	++23,5,10		08928	11	08951	000-5	
07580	TF	TEMP,,		08940	26	04161	00000	
07590	SM	TEMP,ENTLOG-5		08952	12	04161	-2243	
07600	MM	TEMP,2,10		08964	13	04161	000-2	
07610	SF	97		08976	32	00097	00000	
07620	REF	DS	,*	08988		0		
07630	TFM	++30,USEDIFS-1		08988	16	09018	-2262	
07640	A	++18,98		09000	21	09018	00098	
07650	TDM	,1,10,	SET INDICATOR FOR FUNCTION USED	09012	15	00000	000-1	
07660	B	LUXIT		09024	49	07508	00000	
07670	PUT	BD	EXIT,ERSW	09036	43	09214	05624	
07680	TF	PUTOUT,PUT-1		09048	26	09372	09035	
07690	B	E94270		09060	49	09080	00000	
07700	DORG	=-3		09068				
07710	TF	PUTOUT,PUT-2		09068	26	09372	09034	
07720	E94270	TR	CARD,PUTOUT-3,2	09080	31	J5036	09369	
07730	AM	=-6,4,10		09092	11	09088	000-4	
07740	CM	=-18,CARD+100		09104	14	09088	J5136	
07750	BE	++14		09116	46	09130	01200	
07760	BB			09128	42	00000	00000	
07770	DORG	=-9		09130				
07780	TFM	IQRT,++23		09130	16	00565	-9153	
07790	B	IQPT,INTOP,7		09142	49	00532	-9221	
07800	AM	INTOPI+5,1,10		09154	11	02390	000-1	
07810	B	++36,00200,,	C977 ST OM SW 2	09166	49	09202	00200	
07820	RCTY			09178	34	00000	00102	
07830	WNTY	CARD		09190	38	15036	00100	
07840	TFM	E94270+6,CARD		09202	16	09088	J5036	
07850	EXIT	BB	E86440	09214	42	02430	00000	

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07860	DORG	*-4	09221	
07870	INTOP	DSC 2,02	09221	2
		OZ		
07880	DSA	INTOP1	09227	5 X 1
07890	DC	1, *	09227	-2385
		*	09228	1
07900	SPERR	TFM SPGS+11,071,9	09230	16 09325 00-71
07910		BD SPGS,INDIV	09242	43 09314 02424
07920		TFM IORT,**23	09254	16 00565 -9277
07930	B	IOGT,CSDATA-4,7, CHECK FOR CONTINUATION CARDS	09266	49 00566 -9879
07940	CM	CH15,43,10	09278	14 15839 00043
07950	BE	**24	09290	46 09314 01200
07960	BD	SPERR+24,CH15+10	09302	43 09254 15849
07970	SPGS	BTM ERROR,071,9	09314	17 09330 00-71
07980	DS	4	09329	4
07990	ERROR	TDM ERSW,1	09330	15 05426 00001
08000		TDM E94620+1,9	09342	15 09475 00009
08010	TF	ERMES+14,ERROR-1	09354	26 09995 09329
08020	RCTY		09366	34 00000 00102
08030	PUTOUT	DS ,*-5	09372	0
08040	DC	1,*,*-4	09373	1
		*		
08050	BC1	**84	09378	46 09462 00100
08060	WNTY	ESND-3	09390	38 02733 00100
08070	SPTY		09402	34 00000 00101
08080	WATY	PLUSS	09414	39 10011 00100
08090	SPTY		09426	34 00000 00101
08100	WNTY	ESNDPL-3	09438	38 03049 00100
08110	SPTY		09450	34 00000 00101
08120	WATY	ERMES	09462	39 09981 00100
08130	E94620	B BEGINA	09474	49 02650 00000
08140	ERROR2	TDM E94620+1,2	09486	15 09475 00002
08150	TDM	JAY,4	09498	15 02367 00004
08160	TF	ERMES+14,ERROR2-1	09510	26 09995 09485
08170	B	ERROR+36	09522	49 09366 00000
08180	DORG	*-3	09530	
08190	AERR1	BTM ERROR,376,9	09530	17 09330 00L76
08200	COMER	BTM ERROR,372,9, INCORRECT COMMON STATEMENT	09542	17 09330 00L72
08210	COMER2	DS ,COMER	09542	0
08220	END	BD **20,SUBFCT	09554	43 09574 02293
08230	B	**32	09566	49 09598 00000
08240	DORG	*-3	09574	
08250	BD	**24,RTSW	09574	43 09598 05625
08260	BTM	ERROR2,578,9	09586	17 09486 00N78
08270	BV	**12	09598	46 09610 01400
08280	BD	MONCAL ,ERSW,, SKIP STORAGE ALLOCATION IF PROG HAD ERR	09610	43 00796 05626
08290	BTM	PUT, 141,8,END	09622	17 09036 0-141
08300	BTM	PUT, 140,8,DUMMY	09634	17 09036 0-140
08310	BTM	PUT, 132,8,SEMI COLON	09646	17 09036 0-132
08320	CM	E94270+6,CARD	09658	14 09086 J5036
08330	BE	E86440,,, EXIT TO STORAGE ALLOCATION	09670	46 02430 01200
08340	TDM	EXIT+1,9	09682	15 09215 00009
08350	B	E94270+50	09694	49 09130 00000
08360	DORG	*-3	09702	

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08370	BLK1	DSC 2,22	09702	2
		22		
08380	DSA	BLK1A	09708	5 X 1
08390	DC	1, *	09708	-9710
		*	09709	1
08400	BLK1A	DSC 1,0	09710	1
		0		
08410	DC	5,17600	09715	5
		J7600		
08420	DC	3 ,043	09718	3
		-43		
08430	DSA	IOUT	09723	5 X 1
08440	DC	1, *	09723	J0200
		*	09724	1
08450	BLK2	DSC 2,22	09725	2
		22		
08460	DSA	BLK2A	09731	5 X 1
08470	DC	1, *	09731	-9733
		*	09732	1
08480	BLK2A	DSC 1,0	09733	1
		0		
08490	DC	5,17400	09738	5
		J7400		
08500	DC	3,046	09741	3
		-46		
08510	DSA	IOUT	09746	5 X 1
08520	DC	1, *	09746	J0200
		*	09747	1
08530	BLK3	DSC 2,22	09748	2
		22		
08540	DSA	BLK3A	09754	5 X 1
08550	DC	1, *	09754	-9756
		*	09755	1
08560	BLK3A	DSC 1,0	09756	1
		0		
08570	DC	5,17450	09761	5
		J7450		
08580	DC	3,046	09764	3
		-46		
08590	DSA	IOUT	09769	5 X 1
08600	DC	1, *	09769	J0200
		*	09770	1
08610	BLK4	DSC 2,22	09771	2
		22		

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08620	DSA	BLK4A	09777	5 X	1
08630	DC	1, *	09777	-9779	
			09778	1	
08640	BLK4A	DSC 1,0	09779	1	
		0	09784	5	
08650	DC	5,17500	09787	3	
		J7500	09792	5 X	1
08660	DC	3,046	09792	J0200	
		-46	09793	1	
08670	DSA	IDOUT	09794	2	
08680	DC	1, *	09800	5 X	1
			09800	-9802	
08690	BLK5	DSC 2,22	09801	1	
		22	09802	1	
08700	DSA	BLK5A	09807	5	
08710	DC	1, *	09810	3	
			09815	5 X	1
08720	BLK5A	DSC 1,0	09815	J0200	
		0	09816	1	
08730	DC	5,17650	09817	2	
		J7650	09823	5 X	1
08740	DC	3,046	09823	-9825	
		-46	09824	1	
08750	DSA	IDOUT	09825	1	
08760	DC	1, *	09830	5	
			09833	3	
08770	BLK6	DSC 2,22	09838	5 X	1
		22	09838	J0200	
08780	DSA	BLK6A	09839	1	
08790	DC	1, *	09840	2	
			09846	5 X	1
08800	BLK6A	DSC 1,0			
		0			
08810	DC	5,17550			
		J7550			
08820	DC	3,046			
		-46			
08830	DSA	IDOUT			
08840	DC	1, *			
08850	BLK7	DSC 2,22			
		22			
08860	DSA	BLK7A			

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08870	DC	1, *	09846	-9848	
			09847	1	
08880	BLK7A	DSC 1,0	09848	1	
		0	09853	5	
08890	DC	5,17700	09856	3	
		J7700	09861	5 X	1
08900	DC	3,100	09861	-2430	
		J00	09862	1	
08910	DSA	E86440	09867	5 X	1
08920	DC	1, *	09867	J5139	
			09870	3	
08930	URDATA	DSA CHI	09875	5 X	1
08940	DC	3,06*	09875	J5139	
		-6*	09878	3	
08950	CDDATA	DSA CHI	09883	5 X	1
08960	DC	3,10*	09883	J5839	
		J0*	09886	3	
08970	C5DATA	DSA CHI5	09888	16	09923 J5040
08980	DC	3,10*	09900	12	09923 000-5
		J0*	09912	24	09930 00000
08990	MODAFT	TFM **35,AFTBL+5	09924	11	00000 000-2
09000	SM	**23,5,10	09936	24	09923 04+13
09010	TF	**18,,	09948	46	09900 01100
09020	AM	,2,10	09960	16	04+13 J5040
09030	C	*-13,STAFF	09972	49	02674 00000
09040	BH	*-48	09979		
09050	TFM	STAFF,AFTBL+5	09981	9 X	2
09060	B	BEGIN+36	10009	12	
09070	DORG	*-4	10011	2 X	2
09080	ERMES	DAC 9,ERRDR 00*	10015	3 X	2
		ERRDR 00*	10059	40	
09090	FMTCT	DC 12,465699544163	10061	2	
		M65699544163	10077	16	
09100	PLUSS	DAC 2, **	10075	0	
		**	10071	0	
09110	ENDCT	DAC 3,END	10076	1	
		END	10079	1	
09130	SYM	DS 40			
09140	DS	2			
09150	DC	16,0			
		-0000000000000000			
09160	ZER13	DS **2			
09170	TENZ	DS *-6			
09180	SINGST	DC 1,0			
		-			
09190	DOTRAN	DSC 1,0			
		0			

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09200	FNTSW	DSC	1,0		10080		1
		0					
09210	FNTSW1	DSC	1,0		10081		1
		0					
09220	FMSW	DSC	1,0		10082		1
		0					
09230	STNDSW	DSC	1,0		10083		1
		0					
09240	DIMSW	DSC	1,0		10084		1
		0					
09250	IFSW	DSC	1,0		10085		1
		0					
09260	CGTO	DSC	1,0		10086		1
		0					
09270	QMM	DSC	1,0		10087		1
		0					
09280	EQUSSW	DSC	1,0		10088		1
		0					
09290	CALLSW	DSC	1,0		10089		1
		0					
09300	CDMSW	DSC	1,0		10090		1
		0					
09310	IOSW	DSC	1,0		10091		1
		0					
09320	SUBSW	DSC	1,0		10092		1
		0					
09410		DORG	10200		10200		
09420	IOUT	TFM	FMON+35,BLK4		10200	16	02359 -9771
09430		BTM	FMON,IOUT		10212	17	02324 J0200
09440	NONARA	TFM	FMON+35,BLK2		10224	16	02359 -9725
09450		BTM	FMON,NONARA		10236	17	02324 J0224
09460	DIM	TFM	FMON+35,BLK1		10248	16	02359 -9702
09470		BTM	FMON,DIM		10260	17	02324 J0248
09480	CUMMON	TFM	FMON+35,BLK1		10272	16	02359 -9702
09490		BTM	FMON,COMMON		10284	17	02324 J0272
09500	IF	TFM	FMON+35,BLK6		10296	16	02359 -9817
09510		BTM	FMON,IF		10308	17	02324 J0296
09520	GOTO	TFM	FMON+35,BLK6		10320	16	02359 -9817
09530		BTM	FMON,GOTO		10332	17	02324 J0320
09540	CALL	TFM	FMON+35,BLK6		10344	16	02359 -9817
09550		BTM	FMON,CALL		10356	17	02324 J0344
09560	RETURN	TFM	FMON+35,BLK6		10368	16	02359 -9817
09570		BTM	FMON,RETURN		10380	17	02324 J0368
09580	FORMAT	TFM	FMON+35,BLK1		10392	16	02359 -9702
09590		BTM	FMON,FORMAT		10404	17	02324 J0392
09600	DDD	TFM	FMON+35,BLK4		10416	16	02359 -9771
09610		BTM	FMON,DDD		10428	17	02324 J0416
09620	ASCAN	TFM	FMON+35,BLK3		10440	16	02359 -9748
09630		BTM	FMON,ASCAN		10452	17	02324 J0440
09640	OUTSC	TFM	FMON+35,BLK3		10464	16	02359 -9748
09650		BTM	FMON,OUTSC		10476	17	02324 J0464
09660	DKIO	TFM	FMON+35,BLK5		10488	16	02359 -9794
09670		BTM	FMON,DKIO		10500	17	02324 J0488
09680		DORG	16000		16000		
09690	PHBDAT	DSC	2,22		16000		2
		22					

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09700	DSA	PHBDDA			16006		5 X 1
					16006	J6008	
09710	DC	1, *			16007		1
09720	PHBDDA	DSC	1,0		16008		1
		0					
09730		DC	5,17200		16013		5
		J7200					
09740		DC	3 ,082		16016		3
		-82					
09750	DSA	E86440			16021		5 X 1
					16021	-2430	
09760	DC	1, *			16022		1
09770	LDPHB	TFM	IOPT,+23		16024	16	00565 J6047
09780		B	IOPT,PHBDAT,7		16036	49	00532 J6000
09790	TRA				16048	36	00000 00500
					16060	49	00000 00000
09800	TCD	LDPHB			16024		
09810	*		OUT OF CORE BLOCK 1 CONTAINS THE FOLLOWING				
09820	*		DIMENSION				
09830	*		COMMON				
09840	*		FORMAT				
09850		DORG	IOUT		10200		
09860		TFM	FMON+35,BLK4	,,IOUT	10200	16	02359 -9771
09870		BTM	FMON,IOUT		10212	17	02324 J0200
09880		TFM	FMON+35,BLK2		10224	16	02359 -9725
09890		BTM	FMON,NONARA		10236	17	02324 J0224
09900		CF	STSN	,,DIM	10248	33	05627 00000
09910		B	DIMEN		10260	49	10512 00000
09920		CF	STSN	,,COMMON	10272	33	05627 00000
09930		B	COMMEN		10284	49	11576 00000
09940		TFM	FMON+35,BLK6	,,IF	10296	16	02359 -9817
09950		BTM	FMON,IF		10308	17	02324 J0296
09960		TFM	FMON+35,BLK6	,,GOTO	10320	16	02359 -9817
09970		BTM	FMON,GOTO		10332	17	02324 J0320
09980		TFM	FMON+35,BLK6	,,CALL	10344	16	02359 -9817
09990		BTM	FMON,CALL		10356	17	02324 J0344
10000		TFM	FMON+35,BLK6	,,RETURN	10368	16	02359 -9817
10010		BTM	FMON,RETURN		10380	17	02324 J0368
10020		CF	FREQSW	,,FORMAT	10392	33	14170 00000
10030		B	FOHAT		10404	49	12166 00000
10040		TFM	FMON+35,BLK4	,,DDD	10416	16	02359 -9771
10050		BTM	FMON,DDD		10428	17	02324 J0416
10060		TFM	FMON+35,BLK3,,	ASCAN	10440	16	02359 -9748
10070		BTM	FMON,ASCAN		10452	17	02324 J0440
10080		TFM	FMON+35,BLK3,,	OUTSC	10464	16	02359 -9748
10090		BTM	FMON,OUTSC		10476	17	02324 J0464
10100		TFM	FMON+35,BLK5	,,DKIO	10488	16	02359 -9794
10110		BTM	FMON,DKIO		10500	17	02324 J0488
10120	*****		ENTRY TO DECOMPOSE DIMENSION STATEMENT	*****			
10130	DIMEN	BTM	COLNAM,6,10		10512	17	04656 000-6
10140		C	SYN,ENSTION+10		10524	24	10059 11575

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10150	BV	ERR01		10536	46	04282	01400
10160	BNE	ERR01		10548	47	04282	01200
10170	TR	CHI-1,CHI+11		10560	31	15138	15150
10180	TDM	DIMSM,1		10572	15	10084	00001
10190	BNR	++36,CHI+2		10584	45	10620	15141
10200	DIM1	BTM	ERROR,072,9	10596	17	09330	00-72
10210	BTM	ERROR,270,9		10608	17	09330	00K70
10220	CM	CHI,40,10		10620	14	15139	000M0
10230	BNH	*-24		10632	47	10608	01100
10240	CM	CHI,69,10		10644	14	15139	00009
10250	BTM	DIM1+12		10656	46	10608	01100
10270	BTM	CSORN,++12		10668	17	05690	J0680
10280	SETDM	BD	DIM2,INSW,,	10680	43	11484	03279
10290	TDM	SMCNT,1,6,	BRANCH IF S/M WAS ALREADY IN TABLE	10692	15	0724P	00001
10300	TF	ADSAVE,SMADD,11,		10704	26	08471	0719M
10310	SM	SMADD,05,10		10716	12	07194	000-5
10320	TFM	SMADD,1,67		10728	16	0719M	-0001
10330	CM	CHI,24,10		10740	14	15139	000K4
10340	BNE	DIM1		10752	47	10596	01200
10350	SF	DIM1		10764	32	10596	00000
10360	SF	SETDM		10776	32	10680	00000
10370	SD	TR	CHI-1,CHI+1,,	10788	31	15138	15140
10380	CM	CHI,69,10,	SHIFT OFF LEFT PARM OR COMMA	10800	14	15139	00009
10390	BNH	SETDM2+24	TEST FOR ABSOLUTE	10812	47	10860	01100
10400	BTM	CSTND,++12		10824	17	05398	J0836
10410	SETDM2	CM	SYM,0,10	10836	14	10059	000-0
10420	BNE	++24		10848	47	10872	01200
10430	BTM	ERROR,179,9		10860	17	09330	00J79
10440	AM	ADSAVE,5,10		10872	11	08471	000-5
10450	TDM	SYM-4,0,11		10884	15	10055	0000-
10460	CF	SYM-3		10896	33	10056	00000
10470	TF	ADSAVE,SYM,6		10908	26	0847J	10059
10480	AM	NXLOC,5,10		10920	11	02372	000-5
10490	TF	TEMP,SYM		10932	26	04161	10059
10500	CM	CHI,04,10		10944	14	15139	000-4
10510	BE	MOVDIM		10956	46	11116	01200
10520	CM	CHI,23,10		10968	14	15139	000K3
10530	BNE	DIM1		10980	47	10596	01200
10540	BNF	GENDIM,DIM1,,	TEST FOR SECOND DIMENSION	10992	44	11072	10596
10550	TDM	SMCNT,2,6		11004	15	0724P	00002
10560	SETDM3	M	SMADD,TEMP,6	11016	23	0719M	04161
10570	SF	95		11028	32	00095	00000
10580	TF	SMADD,99,6,		11040	26	0719M	00099
10590	CF	DIM1		11052	33	10596	00000
10600	B	SD		11064	49	10788	00000
10610	DDRG	*-3		11072			
10620	GENDIM	BNF	SETDM2+24,SETDM,,	11072	44	10860	10680
10630	TDM	SMCNT,3,6	TEST FOR THIRD DIMENSION	11084	15	0724P	00003
10640	CF	SETDM		11096	33	10680	00000
10650	B	SETDM3		11108	49	11016	00000
10660	DDRG	*-3		11116			
10670	MOVDIM	M	SMADD,TEMP,6	11116	23	0719M	04161
10680	SF	95		11128	32	00095	00000
10690	TF	SMADD,99,6		11140	26	0719M	00099
10700	TR	CHI-1,CHI+1		11152	31	15138	15140
10710	TD	DIMTP,SMCNT,11		11164	25	11185	0724P

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10720	CM	DIMTP,0002,810		11176	14	11185	0-0-2
10730	DIMTP	DS	,-2	11185		0	
10740	BNH	SETDM4,,,	3 DIMENSIONS	11188	46	11276	01100
10750	BE	++32,,,	2 DIMENSIONS	11200	46	11232	01200
10760	TFM	ADSAVE,1,67,	1 DIMENSION	11212	16	0847J	-0001
10770	B	SETDM5+12		11224	49	11396	00000
10780	DDRG	*-4		11231			
10790	TF	TEMP,ADSAVE		11232	26	04161	08471
10800	SM	TEMP,5,10		11244	12	04161	000-5
10810	TF	ADSAVE,TEMP,611		11256	26	0847J	0416J
10820	B	SETDM5		11268	49	11384	00000
10830	DDRG	*-4		11275			
10840	SETDM4	TF	TEMP,ADSAVE	11276	26	04161	08471
10850	SM	ADSAVE,5,10		11288	12	08471	000-5
10860	SM	TEMP,10,10		11300	12	04161	000J0
10870	M	TEMP,ADSAVE,611		11312	23	0416J	0847J
10880	SF	95		11324	32	00095	00000
10890	TF	NXLOC,99,6		11336	26	0237K	00099
10900	TF	ADSAVE,TEMP,611		11348	26	0847J	0416J
10910	TF	TEMP,NXLOC,611		11360	26	0416J	0237K
10920	A	TEMP,ADSAVE,611		11372	21	0416J	0847J
10930	SETDM5	AM	TEMP,1,610	11384	11	0416J	000-1
10940	AM	NXLOC,05,10		11396	11	02372	000-5
10950	TF	NXLOC,SMADD,611		11408	26	0237K	0719M
10960	BNR	++20,CHI+2		11420	45	11440	15141
10970	B	BEGINA		11432	49	02650	00000
10980	DDRG	*-3		11440			
10990	CM	CHI,23,10		11440	14	15139	000K3
11000	BNE	DIM1		11452	47	10596	01200
11010	TR	CHI-1,CHI+1		11464	31	15138	15140
11020	B	DIM1+24		11476	49	10620	00000
11030	DDRG	*-3		11484			
11040	DIM2	AM	MODAD,2,10	11484	11	07871	000-2
11050	BNR	DIM3,MODAD,11,	TEST IF DIM VAR WAS PLACED IN TABLE BY	11496	45	11552	0787J
11060	A	NXLOC,SMLNG,,	SUBROUTINE OR FUNCTION STATEMENT	11508	21	02372	05917
11070	TF	NXLOC,SYM,6		11520	26	0237K	10059
11080	TF	SMADD,NXLOC,6		11532	26	0719M	02372
11090	B	SETDM+12		11544	49	10692	00000
11100	DDRG	*-3		11552			
11110	DIM3	BTM	ERROR,271,9	11552	17	09330	00K71
11120	ENSI0N	DAC	6,ENSI0N	11565		6 X	2
11130	*****	DECODE COMMON STATEMENTS	*****				
11140	COMMON	BTM	COLNAM,3,10	11576	17	04656	000-3
11150	C	SYM,MDN+4		11588	24	10059	12165
11160	BV	ERR01		11600	46	04282	01400
11170	BNE	ERR01		11612	47	04282	01200
11180	TR	CHI-1,CHI+5		11624	31	15138	15144
11190	TDM	COMSM,1,11		11636	15	10090	0000J
11200	CM	CHI,40,10		11648	14	15139	000M0
11210	BNH	C0MER		11660	47	09542	01100
11220	CM	CHI,69,10		11672	14	15139	00009
11230	BNH	C0MER		11684	46	09542	01100
11240	BTM	CSORN,++12		11696	17	05690	J1708
11250	CM	CHI,24,10		11708	14	15139	000K4
11260	BE	C0MER		11720	46	09542	01200

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11270	BD	COMIN,INSM,,	BRANCH IF VARIABLE WAS PREVIOUSLY USED	11732	43	11076	03279
11280	*****		IF VARIABLE WAS NOT DEFINED THEN IT MUST BE SIMPLE VARIABLE				
11290	COMA	AM	NXLOC,5,10	11744	11	02372	000-5
11300	TF	NXLOC,COMADD,6,	MOVE OBJ TIME COMMON ADDRESS TO SYM AREA	11756	26	0237K	02262
11310	BD	**32,FXORFL		11768	43	11800	06405
11320	S	COMADD,FP2,,	ADJ COMMON ADDRESS FOR FLOAT VARIABLE	11780	22	02262	02298
11330	B	**20		11792	49	11812	00000
11340	DORG	=-3		11800			
11350	S	COMADD,KLNG,,	ADJ COMMON ADDRESS FOR FIX VARIABLE	11800	22	02262	02252
11360	COMAB	BNR	**20,CHI+2	11812	45	11832	15141
11370	B	BEGINA		11824	49	02650	00000
11380	DORG	=-3		11832			
11390	CM	CHI,23,10,	TEST FOR MORE LIST ELEMENTS	11832	14	15139	000K3
11400	BNE	COMER		11844	47	09542	01200
11410	TR	CHI-1,CHI+1		11856	31	15138	15140
11420	B	COMMEN+72		11868	49	11648	00000
11430	DORG	=-3		11876			
11440	*****		COME HERE IF SIMPLE VARIABLE WAS IN TABLE *****				
11450	COMIN	BNF	**24,SMCNT,11	11876	44	11900	0724P
11460	BTM	ERROR,373,9,	VARIABLE WAS PREVIOUSLY PLACED IN COMMON	11888	17	09330	00L73
11470	BNF	**12,MODAD,11,	WAS IT PREVIOUSLY EQUIVALENCED	11900	44	11888	0787J
11480	SF	SMCNT,,6,		11912	32	0724P	00000
11490	COMINA	A	NXLOC,SMNG	11924	21	02372	05917
11500	TF	SMADD,NXLOC,6,	MOVE NEW SYMBOL ADDRESS INTO TABLE	11936	26	0719M	02372
11510	TF	NXLOC,SYM,6		11948	26	0237K	10059
11520	B	COMA,,,	BRANCH TO PLACE COMMON ADDRESS IN TABLE	11960	49	11744	00000
11530	DORG	=-3		11968			
11540	*****		RETURN FROM SYM TABLE LOOK UP WHEN VARIABLE WAS DIMENSIONED				
11550	COME	BNF	**20,SMCNT,11	11968	44	11988	0724P
11560	B	COMIN+12,,,	VARIABLE PREVIOUSLY PLACED IN COMMON	11980	49	11888	00000
11570	DORG	=-3		11988			
11580	BNF	COMIN+12,MODAD,11,	TEST IF VAR WAS PREVIOUSLY EQUIVALENCED	11988	44	11888	0787J
11590	SF	SMCNT,,6,		12000	32	0724P	00000
11600	SM	SMCNT,07,10		12012	12	07247	000-7
11610	COMC	BD	**32,FXORFL	12024	43	12056	06405
11620	TF	COMM+11,FP2,,	SET UP TO MULTIPLY NUMBER	12036	24	12079	02298
11630	B	COMM		12048	49	12068	00000
11640	DORG	=-3		12056			
11650	TF	**23,KLNG		12056	26	12079	02252
11660	COMM	MM	SMCNT,,6,	12068	13	0724P	00000
11670	SF	95	GEN. NO. OF LOCATIONS FOR ARRAY	12080	32	00095	00000
11680	S	COMADD,99,,	UPDATA COMMON ADDRESS	12092	22	02262	00099
11690	BN	COMER3		12104	47	12148	01300
11700	TF	SMCNT,COMADD,6		12116	26	0724P	02262
11710	A	SMCNT,COMM+11,6		12128	21	0724P	12079
11720	B	COMAB,,,	THIS ADDRESS IS THE LOW ORDER DIGIT OF FIRST ELEMENT.	12140	49	11812	00000
11730	DORG	=-4,,,		12147			
11740	COMER3	BTM	ERROR,474,9,	12148	17	09330	00M74
11750	MON	DAC	3,MON	12161			3 X 2
11760	****		UNIT RECORD FORMAT OUTPUT ****				
11770	FOMAT	BD	**32,INSM	12166	43	12198	03279
11780	TDM	SMADD,1,6		12178	15	0719M	00001
11790	B	FOMAT1		12190	49	12230	00000
11800	DORG	=-3		12198			
11810	BD	FOMAT1,SMADD,11		12198	43	12230	0719M

11820	TFM	SPGS+11,277,9		12210	16	09325	00K77
11822	B	SPERR+12,,,	ERROR 27	12222	49	09242	00000
11824	DORG	=-3		12230			
11830	FOMAT1	TFM	CSPVA+35,CHI-2	12230	16	03677	J5137
11840	AM	CSPVA+35,2,10		12242	11	03677	000-2
11850	BNR	**12,CSPVA+35,11,	SCAN AHEAD FOR RECORD MARK	12254	45	12242	0367P
11860	BD	FORM99,INDIV		12266	43	12370	02424
11870	AM	CKRM-1,CHI+146,711		12278	11	02953	J528M
11880	AM	CKRM-1,2,10		12290	11	02953	000-2
11890	BE	**44		12302	46	12346	01200
11900	TFM	CSPVA+35,0,610		12314	16	0367P	000-0
11910	AM	CSPVA+35,2,10		12326	11	03677	000-2
11920	B	**48		12338	49	12290	00000
11930	DORG	=-3		12346			
11940	TDM	FMSW,1		12346	15	10082	00001
11950	BTM	CKCNTU,0,10		12358	17	04836	000-0
11960	FORM99	TFM	CSPVA+35,37,610	12370	16	0367P	000L7
11970	TR	CSPVA+35,AVOID,6		12382	31	0367P	06018
11980	TR	CHI-1,CHI+11		12394	31	15138	15150
11990	CM	CHI,0,10		12406	14	15139	000-0
12000	BNE	**32		12418	47	12418	01200
12010	TR	CHI-1,CHI+1		12430	31	15138	15140
12020	B	**36		12442	49	12406	00000
12030	DORG	=-3		12450			
12040	CM	CHI,24,10		12450	14	15139	000K4
12050	BE	**24		12462	46	12486	01200
12060	BTM	ERROR,375,9,	LEFT PAREN DOES NOT FOLLOW FORMAT	12474	17	09330	00L75
12070	BTM	PUT, 128,8,FORMAT		12486	17	09036	0-128
12080	BTM	PUT, 124,8,LEFT PAREN		12498	17	09036	0-124
12090	AM	PARCNT,1,10		12510	11	03348	000-1
12100	TFM	WIDTH,87,8,	INITIALIZE WIDTH CHECK	12522	14	14241	0-087
12110	FORM1	TR	CHI-1,CHI+1	12534	31	15138	15140
12120	CM	CHI,0,10		12546	14	15139	000-0
12130	BE	**24		12558	46	12534	01200
12140	CM	CHI,41,10,		12570	14	15139	000M1
12150	BH	FORM2		12582	46	12874	01100
12160	BL	SLASH		12594	47	12638	01300
12170	BTM	PUT, 144,8,A TYPE		12606	17	09036	0-144
12180	TDM	IATYPE,1		12618	15	14177	00001
12190	B	FORM3		12630	49	13046	00000
12200	DORG	=-3		12638			
12210	SLASH	CM	CHI,21,10,	12638	14	15139	000K1
12220	BE	FORM7	TEST FOR SLASH	12650	46	13662	01200
12230	CM	CHI,24,10		12662	14	15139	000K4
12240	BE	FORM4		12674	46	13898	01200
12250	CM	CHI,20,10,	TEST FOR SCALE FACTOR	12686	14	15139	000K0
12260	BE	FORMER+12		12698	46	12746	01200
12270	CM	CHI,10,10		12710	14	15139	000J0
12280	BE	**24,,,	INVALID FORMAT SPECIFICATION	12722	46	12746	01200
12290	FORMER	BTM	ERROR,375,9,	12734	17	09330	00L75
12300	TR	CHI-1,CHI+1		12746	31	15138	15140
12310	CM	CHI,0,10		12758	14	15139	000-0
12320	BE	**24		12770	46	12746	01200
12330	CM	CHI,69,10,	SHIFT OF SCALE FACTOR	12782	14	15139	00009
12340	BH	**48		12794	46	12746	01100
12350	CM	CHI,57,10,	TEST FOR P	12806	14	15139	000M7

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12360	BNE	FORMER		12010	47	12734	01200
12370	PTYPE	TR	CHI-1,CHI+1	12030	31	15138	15140
12380	CM	CHI,0,10		12042	14	15139	000-0
12390	BNE	FTYPE		12054	47	12954	01200
12400	B	+36		12066	49	12830	00000
12410	DORG	+3		12074			
12420	FORM2	CM	CHI,69,10	12074	14	15139	00009
12430	BM	FORM8		12086	46	13770	01100
12440	CM	CHI,49,10,	TEST FOR I TYPE	12098	14	15139	000M9
12450	BNE	+44		12910	47	12954	01200
12460	BTM	PUT,	149,8,I TYPE	12922	17	09036	0-149
12470	TDM	IATYPE,1		12934	15	14177	00001
12480	B	FORM3		12946	49	13046	00000
12490	DORG	+3		12954			
12500	FTYPE	CM	CHI,46,10,	12954	14	15139	000M6
12510	BNE	+32	TEST FOR F TYPE	12966	47	12998	01200
12520	BTM	PUT,	146,8,F TYPE	12978	17	09036	0-146
12530	B	FORM3-12		12990	49	13034	00000
12540	DORG	+3		12998			
12550	ETYPE	CM	CHI,45,10,	12998	14	15139	000M5
12560	BNE	FORMER	TEST FOR E TYPE	13010	47	12734	01200
12570	BTM	PUT,	145,8,E TYPE	13022	17	09036	0-145
12580	TDM	IATYPE,0		13034	15	14177	00000
12590	FORM3	TR	CHI-1,CHI+1	13046	31	15138	15140
12600	CM	CHI,0,10		13058	14	15139	000-0
12610	BE	+24		13070	46	13046	01200
12620	CM	CHI,69,10		13082	14	15139	00009
12630	BNM	FORMER		13094	47	12734	01100
12640	TDM	DIMSW,1,,	SET SWITCH TO RETURN FROM LSTND	13106	15	10084	00001
12650	BTM	CSTND,++12,,	COLLECT NUMBER	13118	17	05398	J3130
12660	CM	SYM,0,10		13130	14	10059	000-0
12670	BE	FORMER		13142	46	12734	01200
12680	BT	PUT,SYM,,	OUTPUT W	13154	27	09036	10059
12690	BNF	+*60,FREQSW,,	TEST IF SPEC WAS MULT SPECIFICATION	13166	44	13226	14170
12700	CF	FREQSW		13178	33	14170	00000
12710	M	SYM,SETFRQ+11		13190	23	10059	14181
12720	SF	96		13202	32	00096	00000
12730	TF	SYM,99		13214	26	10059	00099
12740	BTM	WIDCK,0,10		13226	17	14252	000-0
12750	BD	FORM5,IATYPE,,	TEST IF IN I OR A TYPE	13238	43	13414	14177
12760	CM	CHI,0,10		13250	14	15139	000-0
12770	BNE	+32		13262	47	13294	01200
12780	TR	CHI-1,CHI+1		13274	31	15138	15140
12790	B	+36		13286	49	13250	00000
12800	DORG	+3		13294			
12810	CM	CHI,3,10		13294	14	15139	000-3
12820	BNE	FORMER		13306	47	12734	01200
12830	BTM	PUT,	103,8,	13318	17	09036	0-103
12840	TR	CHI-1,CHI+1		13330	31	15138	15140
12850	CM	CHI,0,10		13342	14	15139	000-0
12860	BE	+24		13354	46	13330	01200
12870	CM	CHI,69,10		13366	14	15139	00009
12880	BNM	FORMER		13378	47	12734	01100
12890	BTM	CSTND,++12		13390	17	05398	J3402
12900	BT	PUT,SYM		13402	27	09036	10059
12910	FORM5	CM	CHI,0,10	13414	14	15139	000-0

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12920	BNE	+32		13426	47	13458	01200
12930	TR	CHI-1,CHI+1		13438	31	15138	15140
12940	B	FORM5		13450	49	13414	00000
12950	DORG	+3		13458			
12960	FORM51	CM	CHI,4,10,	13458	14	15139	000-4
12970	BNE	FCNA		13470	47	13594	01200
12980	BTM	PUT,	104,8,RIGHT PAREN	13482	17	09036	0-104
12990	TR	CHI-1,CHI+1		13494	31	15138	15140
13000	SM	PARCNT,1,10		13506	12	03348	000-1
13010	BNZ	FORM5		13518	47	13414	01200
13020	CM	CHI,0,10		13530	14	15139	000-0
13030	BE	+32		13542	46	13574	01200
13040	BNR	FORMER,CHI+2		13554	45	12734	15141
13050	B	BEGIN		13566	49	02638	00000
13060	DORG	+3		13574			
13070	TR	CHI-1,CHI+1		13574	31	15138	15140
13080	B	+56		13586	49	13530	00000
13090	DORG	+3		13594			
13100	FCNA	CM	CHI,23,10	13594	14	15139	000K3
13110	BNE	+32		13606	47	13638	01200
13120	BTM	PUT,	123,8,COMMA	13618	17	09036	0-123
13130	B	FORM1		13630	49	12534	00000
13140	DORG	+3		13638			
13150	CM	CHI,21,10		13638	14	15139	000K1
13160	BNE	FORM1+36		13650	47	12570	01200
13170	FORM7	BTM	PUT,	13662	17	09036	0-121
13180	TFM	WIDTH,87,8,	121,8,DIVIDE	13674	16	14241	0-087
13190	TR	CHI-1,CHI+1		13686	31	15138	15140
13200	CM	CHI,0,10		13698	14	15139	000-0
13210	BE	+24		13710	46	13686	01200
13220	CM	CHI,24,10		13722	14	15139	000K4
13230	BE	FORM4		13734	46	13898	01200
13240	CM	CHI,69,10		13746	14	15139	00009
13250	BNM	FORM51		13758	47	13458	01100
13260	FORM8	TDM	DIMSW,1	13770	15	10084	00001
13270	BTM	CSTND,++12		13782	17	05398	J3794
13280	CM	CHI,0,10		13794	14	15139	000-0
13290	BNE	+32		13806	47	13838	01200
13300	TR	CHI-1,CHI+1		13818	31	15138	15140
13310	B	+36		13830	49	13794	00000
13320	DORG	+3		13838			
13330	CM	CHI,57,10,	TEST FOR SCALE FACTOR	13838	14	15139	000N7
13340	BE	PTYPE		13850	46	12830	01200
13350	CM	CHI,24,10		13862	14	15139	000K4
13360	BNE	FORMX		13874	47	13930	01200
13370	BT	PUT,SYM		13886	27	09036	10059
13380	FORM4	AM	PARCNT,1,10	13898	11	03348	000-1
13390	BTM	PUT,	124,8,LEFT PAREN	13910	17	09036	0-124
13400	B	FORM1		13922	49	12534	00000
13410	DORG	+3		13930			
13420	FORMX	CM	CHI,67,10,	13930	14	15139	00007
13430	BNE	MOLL	TEST FOR X SPECIFICATION	13942	47	13908	01200
13440	BTM	WIDCK,0,10		13954	17	14252	000-0
13450	BT	PUT,SYM		13966	27	09036	10059
13460	BTM	PUT,	147,8,X TYPE	13978	17	09036	0-147
13470	B	FORM5+24		13990	49	13438	00000

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13480		DDRG	+-3		13990				
13490	HOLL	CM	CHI,48,10,		13998	14	15139	000M8	
13500		BNE	SETFRQ		14010	47	14170	01200	
13510		BTM	WIDCK,0,10		14022	17	14252	000-0	
13520		BT	PUT,SYN		14034	27	09036	10059	
13530		BTM	PUT, 148,8,M TYPE		14046	17	09036	0-148	
13540	HOLL1	TR	CHI-1,CHI+1		14058	31	15138	15140	
13550		BMR	++20,CHI+2		14070	45	14090	15141	
13560		B	FORMER		14082	49	12734	00000	
13570		DDRG	+-3		14090				
13580		TF	++35,CHI		14099	26	14125	15139	
13590		CF	++22		14102	33	14124	00000	
13600		BTM	PUT, ,6,OUTPUT HOLL		14114	17	09036	0-000	
13610		SM	SYM,1,10		14126	12	10059	000-1	
13620		BMZ	HOLL1		14138	47	14058	01200	
13630		BMR	FORM9+24,CHI+2		14150	45	13438	15141	
13640		B	FORMER		14162	49	12734	00000	
13650		DDRG	+-3		14170				
13660	SETFRQ	SF	FREQSM		14170	32	14170	00000	
13670	FREQSM	DS	,SETFRQ		14170				
13680	IATYPE	DS	,+-4		14177				
13690		BT	PUT,SYN		14182	27	09036	10059	
13700		TF	SETFRQ+11,SYN		14194	26	14181	10059	
13710		CM	CHI,24,10,		14206	14	15139	000K4	
13720		BNE	FORM1+36		14218	47	12570	01200	
13730		CF	FREQSM		14230	33	14170	00000	
13740	WIDTH	DS	,*		14241				
13750		B	FORM4		14242	49	13898	00000	
13760		DDRG	+-3		14250				
13770		DS	2,		14251				
13780	WIDCK	S	WIDTH,SYN		14252	22	14241	10059	
13790		BN	FORMER		14264	47	12734	01300	
13800		BB			14276	42	00000	00000	
13810		DDRG	+-9		14278				
13820		DDRG	16000		16000				
13830		TFM	IDRT,++23		16000	16	00565	J6023	
13840		B	IDPT,BLK1,7		16012	49	00532	-9702	
13850		TRA			16024	36	00000	00500	
13860		TCD	16000		16036	49	00000	00000	
13870	*		OUT OF CORE BLOCK 2 CONTAINS THE FOLLOWING		16000				
13880	*		EQUIVALENCE						
13890	*		SUBROUTINE						
13900	*		FUNCTION						
13910	*		CONTINUE						
13920	*		PAUSE						
13930	*		STOP						
13940	*		DEFINE						
13950		DDRG	IOUT		10200				
13960		TFM	FMON+35,BLK4,, IOUT		10200	16	02359	-9771	
13970		BTM	FMON,IOUT		10212	17	02324	J0200	
13980		CM	CHI,57,10,, CHECK FOR P IN STOP		10224	14	15139	000N7	
13990		B	NNARAA		10236	49	10512	00000	
14000		TFM	FMON+35,BLK1,, DIM		10248	16	02359	-9702	
14010		BTM	FMON,DIM		10260	17	02324	J0248	

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14020		TFM	FMON+35,BLK1,, COMMON		10272	16	02359	-9702	
14030		BTM	FMON,COMMON		10284	17	02324	J0272	
14040		TFM	FMON+35,BLK6,, IF		10296	16	02359	-9817	
14050		BTM	FMON,IF		10308	17	02324	J0296	
14060		TFM	FMON+35,BLK6,, GOTO		10320	16	02359	-9817	
14070		BTM	FMON,GOTO		10332	17	02324	J0320	
14080		TFM	FMON+35,BLK6,, CALL		10344	16	02359	-9817	
14090		BTM	FMON,CALL		10356	17	02324	J0344	
14100		TFM	FMON+35,BLK6,, RETURN		10368	16	02359	-9817	
14110		BTM	FMON,RETURN		10380	17	02324	J0368	
14120		TFM	FMON+35,BLK1,, FORMAT		10392	16	02359	-9702	
14130		BTM	FMON,FORMAT		10404	17	02324	J0392	
14140		TFM	FMON+35,BLK4,, DOO		10416	16	02359	-9771	
14150		BTM	FMON,DOO		10428	17	02324	J0416	
14160		TFM	FMON+35,BLK3,, ASCAN		10440	16	02359	-9748	
14170		BTM	FMON,ASCAN		10452	17	02324	J0440	
14180		TFM	FMON+35,BLK3,, OUTSC		10464	16	02359	-9748	
14190		BTM	FMON,OUTSC		10476	17	02324	J0464	
14200		TFM	FMON+35,BLK5,, DKIO		10488	16	02359	-9794	
14210		BTM	FMON,DKIO		10500	17	02324	J0488	
14220	NNARAA	BE	STOPEN		10512	46	13958	01200	
14230		BTM	COLNAM,2,10		10524	17	04656	000-2	
14240		CM	SYM,6245,8		10536	14	10059	00245	
14250		BV	ERRO1		10548	46	04282	01400	
14260		BE	PAUSEN		10560	46	13790	01200	
14270		BTM	COLNAM,5,10		10572	17	04656	000-5	
14280		C	SYM,TINUE+8		10584	24	10059	13789	
14290		BV	ERRO1		10596	46	04282	01400	
14300		BE	CONTEN		10608	46	13724	01200	
14310		C	SYM,CTION+8		10620	24	10059	13723	
14320		BE	FUNCTA		10632	46	13658	01200	
14330		BTM	COLNAM,7,10		10644	17	04656	000-7	
14340		C	SYM,ROUTN+12		10656	24	10059	13657	
14350		BV	ERRO1		10668	46	04282	01400	
14360		BE	SUBPA		10680	46	13124	01200	
14370		C	SYM,DEFCT+12		10692	24	10059	14419	
14380		BE	DEFINE		10704	46	13990	01200	
14390	*****		ENTER TO DECOMPOSE EQUIVALENCE STATEMENTS *****						
14400	EQUIVN	BTM	COLNAM,8,10		10716	17	04656	000-8	
14410		C	SYM,IVALEN+14		10728	24	10059	13123	
14420		BV	ERRO1		10740	46	04282	01400	
14430		BNE	ERRO1		10752	47	04282	01200	
14440		TR	CHI-1,CHI+15		10764	31	15138	15154	
14450		CF	STSN		10776	33	05427	00000	
14460	EQR	TDM	EQUW,1,11, SET SWITCH INDICATING EQUIV STATEMENT		10788	15	10088	0000J	
14470		TDM	PR,,, INITIALIZE PR		10800	15	12581	00000	
14480		DC	1,,'*		10811				
14490		CM	CHI,24,10		10812	14	15139	000K4	
14500		BE	++24,		10824	46	10848	01200	
14510		BTM	ERRR,72,9,		10836	17	09330	00-72	
14520		TFM	SCHI,CHI		10848	16	06001	J5139	
14530	EQ1	AM	SCHI,2,10		10860	11	06001	000-2	
14540		CM	SCHI,40,610		10872	14	0600J	000M0	
14550		BH	++24,		10884	46	10908	01100	
14560		BTM	ERRR,170,9, INVALID VAR		10896	17	09330	00J70	

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14570	CM	SCHI,69,610		10908	14	0600J	00009
14580	BM	+24		10920	46	10896	01100
14590	BTM	CSORN,++12,,	GO TO COLLECT NAME	10932	17	05690	J0944
14600	BD	+32,INSM,,	TEST IF SYM PREVIOUSLY DEFINED	10944	43	10976	03279
14610	E83230	AM	IF SYM NOT PREV DEFINED, SAVE ROOM FOR	10956	11	02372	000-5
14620	B	EQ21,,,	OFFSET VALUE	10968	49	11076	00000
14630	DORG	+3		10976			
14640	BD	EQ21,SMCNT,11,	TEST FOR DIM VAR	10976	43	11076	0724P
14650	BNF	EQ21,MODAD,11,	TEST IF SYM WAS PREVIOUSLY EQUIV	10988	44	11076	0787J
14660	BNF	+20,SMCNT,11,	TEST IF VAR WAS IN COMMON	11000	44	11020	0724P
14670	B	EQ21		11012	49	11076	00000
14680	DORG	+3		11020			
14690	A	NXLOC,SMLNG		11020	21	02372	05917
14700	TF	NXLOC,SYM,6,	MOVE SYM NAME INTO TABLE	11032	26	0237K	10059
14710	TF	SMADD,NXLOC,6,	MOVE NEW SYM ADD INTO TABLE	11044	26	0719H	02372
14720	B	E83230		11056	49	10956	00000
14730	DORG	+3		11064			
14740	BTM	ERROR,171,9,	INVALID NAME USED IN FUNCTION	11064	17	09330	00J71
14750	EQ21	BD	TEST FOR FUNCTION NAME IN EQUIVALENCE	11076	43	11064	10080
14760	AM	SMCNT,1,10		11088	11	07247	000-1
14770	BNR	+20,SMCNT,11,	TEST FOR DUMMY PARAMETERS OF SUBPROGRAM	11100	45	11120	0724P
14780	B	EQ21-12		11112	49	11064	00000
14790	DORG	+3		11120			
14792	AM	SMCNT,01,10		11120	11	07247	000-1
14794	BNR	+20,SMCNT,11,	TEST FOR SUBPROGRAM NAME IN SUBPROGRAM	11132	45	11152	0724P
14796	B	EQ21-12		11144	49	11064	00000
14798	DORG	+3		11152			
14800	SM	SMCNT,02,10		11152	12	07247	000-2
14810	BNR	+20,PR,,	TEST FOR FIRST NAME ON LIST	11164	45	11184	12581
14820	B	EQ7		11176	49	11756	00000
14830	DORG	+3		11184			
14840	C	MODE,FXORFL,,	TEST FOR MIXED EQUIV	11184	24	06403	06405
14850	BE	+48		11196	46	11244	01200
14860	C	FP2,KLNG,,	TEST FOR K EQUAL TO F+2 IN MIXED EQUIV	11208	24	02298	02252
14870	BE	+24		11220	46	11244	01200
14880	BTM	ERROR,172,9,		11232	17	09330	00J72
14890	BNF	EQ22,MODAD,11,	TEST IF SYM HAD BEEN PREVIOUSLY EQUIV	11244	44	12204	0787J
14900	RNF	+56,SMCNT,11,	BRANCH IF SYM IS NOT IN COMMON	11256	44	11312	0724P
14910	BNF	+24,PR,,	TEST IF PREVIOUS SYM WAS IN COMMON	11268	44	11292	12581
14920	BTM	ERROR,173,9,	ILLEGAL EQUIVALENCE	11280	17	09330	00J73
14930	BNF	+12,PR-1,,	TEST IF PREV SYM WAS EQUIV	11292	44	11280	12580
14940	B	EQ7		11304	49	11756	00000
14950	DORG	+3		11312			
14960	EQ24	BNF	TEST FOR DIM VAR, BRANCH IF NOT	11312	44	11700	08076
14970	CM	SCHI,24,610		11324	14	0600J	000K4
14980	BNE	EQBR+8		11336	47	11596	01200
14990	AM	SCHI,2,10		11348	11	06001	000-2
15000	TFM	EQBR+6,EQBR+20		11360	16	11594	J1608
15010	CM	SCHI,69,610		11372	14	0600J	00009
15020	BM	+24		11384	46	11408	01100
15030	BTM	ERROR,75,9,	INCORRECT SUBSCRIPTING	11396	17	09330	00-75
15040	TFM	SYM-3,0,7		11408	16	10056	-0000
15050	TFM	+30,SYM-4		11420	16	11450	J0055
15060	AM	+18,1,10		11432	11	11450	000-1
15070	EQ23	TD	COLLECT INDEX	11444	25	00000	0600J
15080	AM	SCHI,2,10		11456	11	06001	000-2

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15090	CM	SCHI,69,610		11468	14	0600J	00009
15100	BNH	+48		11480	47	11528	01100
15110	CM	EQ23+6,SYM		11492	14	11450	J0059
15120	BNE	EQ23-12		11504	47	11432	01200
15130	BTM	ERROR,75,9		11516	17	09330	00-75
15140	TF	SYM,EQ23+6,11,		11528	26	10059	1145-
15150	SF	SYM-4		11540	32	10055	00000
15160	SAVE1	DS		11551		0	
15170	CM	SCHI,4,610,	TEST FOR RIGHT PAREN	11552	14	0600J	000-4
15180	BNE	+48		11564	47	11516	01200
15190	AM	SCHI,2,10		11576	11	06001	000-2
15200	EQBR	B		11588	49	11608	00000
15210	DORG	+3		11596			
15220	TFM	SYM,1,		11596	16	10059	-0001
15230	BD	EQ4,PR,,	TEST IF PREVIOUS SYM WAS DIM VAR	11608	43	11700	12581
15240	BNF	+20,PR		11620	44	11640	12581
15250	B	EQ4		11632	49	11700	00000
15260	DORG	+3		11640			
15270	BNF	EQ4,PR-1,,	TEST IF PREVIOUS SYM WAS EQUIV	11640	44	11700	12580
15280	TF	REF,SMADD,		11652	26	08987	07194
15290	TD	PR,SMCNT,11,		11664	25	12580	0724P
15300	TD	PR-1,MODAD,11,	SAVE INDICATORS	11676	25	12580	0787J
15310	TF	TEMP,SYM,,	SAVE OFFSET	11688	26	04161	10059
15320	EQ4	CM		11700	14	0600J	000-4
15330	BE	EQLOOP,,	END OF LIST	11712	44	12236	01200
15340	CM	SCHI,23,610		11724	14	0600J	000K3
15350	BE	EQ1		11736	46	10860	01200
15360	B	EQ1-24		11748	49	10836	00000
15370	DORG	+3		11756			
15380	EQ7	TD	SET FIX OR FLOAT	11756	25	06403	0787J
15390	CF	MODE		11768	33	06403	00000
15400	SAVE3	DS		11779		0	
15410	TF	REF,SMADD,		11780	26	08987	07194
15420	TD	PR-1,MODAD,11		11792	25	12580	0787J
15430	TD	PR,SMCNT,11		11804	25	12581	0724P
15440	BD	+32,PR,,	TEST FOR DIM VAR	11816	43	11848	12581
15450	TFM	TEMP,1		11828	16	04161	-0001
15460	B	E84130		11840	49	11940	00000
15470	DORG	+3		11848			
15480	CM	SCHI,24,610		11848	14	0600J	000K4
15490	BNE	+32		11860	47	11828	01200
15500	AM	SCHI,2,10		11872	11	06001	000-2
15510	CM	SCHI,69,610		11884	14	0600J	00009
15520	BNH	EQ23-48		11896	47	11396	01100
15530	TFM	EQBR+6,++20		11908	16	11594	J1928
15540	B	EQ23-36,,,	GO TO COLLECT SUBSCRIPTING	11920	49	11408	00000
15550	DORG	+3		11928			
15560	TF	TEMP,SYM		11928	26	04161	10059
15570	EQ4130	BNF	TEST IF VAR PREVIOUSLY EQUIVALENCED	11940	44	11960	0787J
15580	B	EQ4		11952	49	11700	00000
15590	DORG	+3		11960			
15600	TF	+30,SMCNT		11960	26	11990	07247
15610	AM	+18,3,10		11972	11	11990	000-3
15620	EQ4180	CM	TEST IF PREVIOUSLY EQUIV SYM WAS A BASE	11984	14	00000	00-00
15630	BE	EQ4		11996	46	11700	01200
15640	BD	E84330,SMCNT,11,	TEST FOR DIM VAR	12008	43	12160	0724P

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15650	TF	++35,SMADD,11		12020	26	12055	0719H
15660	AM	++23,5,10		12032	11	12055	000-5
15670	A	TEMP,...	GENERATE OFFSET TO PREVIOUS BASE	12044	21	04161	00000
15680	EB4240	TF	ADSAVE,STBL	12056	26	08471	02377
15690	S	ADSAVE-1,EB4180+6,11,	GEN ADDRESS OF BASE	12068	22	08470	1190-
15700	AM	ADSAVE-1,1,10		12080	11	08470	000-1
15710	TF	REF,ADSAVE		12092	26	08987	08471
15720	SM	ADSAVE,04,10		12104	12	08471	000-4
15730	TD	PR-1,ADSAVE,11,	SAVE FIX OR FLOAT	12116	25	12580	0847J
15740	AM	ADSAVE,1,10		12128	11	08471	000-1
15750	TD	PR,ADSAVE,11,	SAVE DIM INDICATOR	12140	25	12581	0847J
15760	B	EQ4		12192	49	11700	00000
15770	DORG	--3		12160			
15780	EB4330	SM	SMADD,05,10	12160	12	07194	000-5
15790	TF	++23,SMADD		12172	26	12195	07194
15800	A	TEMP,...	GEN NEW OFFSET	12184	21	04161	00000
15810	B	EB4240		12196	49	12056	00000
15820	DORG	--3		12204			
15830	EQ22	BNF	EQ24-32,PR-1,,	12204	44	11280	12580
15840	BNF	EQ7,PR,,	ENTER FROM EQ3500, OR TO ERROR IF PREV	12216	44	11756	12581
15850	B	EQ24-32	SYM WAS EQUIVALENCED OR IN COMMON	12228	49	11280	00000
15860	DORG	--3		12236			
15870	EQLOOP	TFM	SCHI,CHI,,	12236	16	06001	J5139
15880	TF	EBASE,STBL	ENTER HERE AFTER EQUIV STATEMENT HAS	12248	26	12295	02377
15890	S	EBASE,REF		12260	22	12295	08987
15900	AM	EBASE-1,1,10		12272	11	12294	000-1
15910	SF	EBASE-3		12284	32	12292	00000
15920	EBASE	DS	,*	12295			
15930	AM	SCHI,2,10,	BEEN SCANNED ONCE TO DETERMINE BASE	12296	11	06001	000-2
15940	BTM	CSDRN,++12,		12308	17	05690	J2320
15950	BNF	E84804,MODAD,11,	IF SYM WAS PREV EQUIV IT MUST BE THE	12320	44	13028	0787J
15960	C	SMADD,REF,,	BASE OF THE PRESENT EQUIV	12332	24	07194	08987
15970	BE	E84695		12344	46	12616	01200
15980	BD	E84560,SMCNT,11,	TEST FOR DIM VAR	12356	43	12472	0724P
15990	TF	ADSAVE,SMADD,11,		12368	26	08471	0719H
16000	AM	ADSAVE,5,10,		12380	11	08471	000-5
16010	TFM	ADSAVE,1,6711,		12392	16	0847J	-000J
16020	A	ADSAVE,TEMP,6,	PLACE OFF SET INTO TABLE	12404	21	0847J	04161
16030	AM	SMADD,5,10		12416	11	07194	000-5
16040	TF	SMADD,EBASE-1,6		12428	26	0719H	12294
16050	BNF	E84710,PR		12440	44	12856	12581
16060	SF	SMCNT,,6		12452	32	0724P	00000
16070	B	E84710		12464	49	12856	00000
16080	DORG	--3		12472			
16090	EB4560	CM	SCHI,24,610	12472	14	0600J	000K4
16100	BE	++32		12484	46	12516	01200
16110	TFM	SYM,1,711		12496	16	10059	-000J
16120	B	++52		12508	49	12560	00000
16130	DORG	--3		12516			
16140	AM	SCHI,2,10		12516	11	06001	000-2
16150	TFM	EQBR+6,++20		12528	16	11594	J2548
16160	B	EQ23-36		12540	49	11408	00000
16170	DORG	--3		12548			
16180	SF	SYM		12548	32	10059	00000
16190	A	SYM,TEMP,,	GEN OFFSET	12560	21	10059	04161
16200	SM	SMADD,05,10		12572	12	07194	000-5

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16210	PR	DS	+-2	12581		0	
16220	TF	SMADD,SYM,6,	MOVE OFFSET INTO TABLE	12584	26	0719H	10059
16230	AM	SMADD,10,10		12596	11	07194	000J0
16240	B	E84560-44		12608	49	12428	00000
16250	DORG	--3		12616			
16260	EB4695	BNF	++20,SMCNT,11	12616	44	12636	0724P
16270	B	HERE		12628	49	12692	00000
16280	DORG	--3		12636			
16290	BD	HERE,SMCNT,11		12636	43	12692	0724P
16300	TF	ADSAVE,SMADD,11		12648	26	08471	0719H
16310	AM	ADSAVE,5,10		12660	11	08471	000-5
16320	TF	ADSAVE,TEMP,6		12672	26	0847J	04161
16330	B	E84710-36		12684	49	12820	00000
16340	DORG	--3		12692			
16350	HERE	CM	SCHI,24,610	12692	14	0600J	000K4
16360	BNE	++60		12704	47	12764	01200
16370	AM	SCHI,2,10		12716	11	06001	000-2
16380	CM	SCHI,4,610		12728	14	0600J	000-4
16390	BNE	--24		12740	47	12716	01200
16400	AM	SCHI,2,10		12752	11	06001	000-2
16410	BNF	++20,SMCNT,11		12764	44	12784	0724P
16420	B	E84710-36		12776	49	12820	00000
16430	DORG	--3		12784			
16440	SM	SMADD,5,10		12784	12	07194	000-5
16450	TF	SMADD,TEMP,6		12796	26	0719H	04161
16460	AM	SMADD,5,10		12808	11	07194	000-5
16470	AM	SMADD,5,10		12820	11	07194	000-5
16480	TFM	SMADD,0,69		12832	16	0719H	00-00
16490	SM	SMADD,5,10		12844	12	07194	000-5
16500	EB4710	CF	MODAD,,6,	12856	33	0787J	00000
16510	SAVE2	DS	,*	12867			
16520	CM	SCHI,4,610		12868	14	0600J	000-4
16530	BNE	EQLOOP+60		12880	47	12296	01200
16540	AM	SCHI,2,10		12892	11	06001	000-2
16550	CM	SCHI,23,610		12904	14	0600J	000K3
16560	BNE	++56		12916	47	12972	01200
16570	TF	++35,SCHI		12928	26	12963	06001
16580	AM	++23,1,10		12940	11	12963	000-1
16590	TR	CHI-1		12952	31	15138	00000
16600	B	EQR		12964	49	10788	00000
16610	DORG	--3		12972			
16620	TF	++35,SCHI		12972	26	13007	06001
16630	AM	++23,2,10		12984	11	13007	000-2
16640	BNR	++20		12996	45	13016	00000
16650	B	BEGINA		13008	49	02650	09000
16660	DORG	--3		13016			
16670	BTM	ERRDR,72,9,		13016	17	09330	00-72
16680	EB4804	CM	SCHI,24,610	13028	14	0600J	000K4
16690	BNE	E84710		13040	47	12856	01200
16700	AM	SCHI,2,10		13052	11	06001	000-2
16710	CM	SCHI,4,610		13064	14	0600J	000-4
16720	BNE	--24		13076	47	13052	01200
16730	AM	SCHI,2,10		13088	11	06001	000-2
16740	B	E84710		13100	49	12856	00000
16750	DORG	--3		13108			
16760	IIVALEN	DAC	,,IIVALEN	13109			
	IIVALEN						

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16770	*****	OUTPUT SUBROUTINE DECLARATION STATEMENT	*****				
16780	SUBPA	TFM	SUBPUT+11,0139,0	19124	16	13291	0-135
16790		TR	CHI-1,CHI+13	19134	31	15138	15152
16800		BD	++36,SUBFCT	19140	43	13184	02293
16810		TDM	SUBFCT,1	19160	15	02293	00001
16820		BD	++24,STSN	19172	43	13196	05627
16830		BTM	ERROR,370,0	19184	17	09330	00L70
16840		BNF	--12,STSN	19196	46	13184	05627
16850	SUBPF	TDM	SUBSM,1	19208	15	10092	00001
16860		CM	CHI,40,10	19220	14	15139	000M0
16870		BM	++24	19232	46	13256	01100
16880	SUBP1	BTM	ERROR,270,9, SUB DECLARATION ERROR	19244	17	09330	00K70
16890		CM	CHI,69,10	19256	14	15139	00009
16900		BM	--24	19268	46	13244	01100
16910	SUBPUT	BTM	PUT,0135,0, OUTPUT SUBROUTINE SYMBOL	19280	17	09036	0-135
16920		BTM	OUTSM	19292	32	07020	00000
16930		SF	CSORN,++12	19304	17	05690	J3314
16940		AM	SMADD,04,10	19316	11	07194	000-4
16950		TDM	SMADD,,6	19328	15	07194	00000
16960		DC	1,,'*	19339			1
16970		TF	SAVSYM,SYM	19340	26	02243	10059
16980		BNR	++36,CHI+2	19352	45	13388	15141
16990		BNF	BEGIN,SUBFCT	19364	44	02638	02293
17000		BTM	ERROR,371,9	19374	17	09330	00L71
17010		CM	CHI,24,10	19388	14	15139	000K4
17020		BE	++24	19400	46	13424	01200
17030		BTM	ERROR,371,9	19412	17	09330	00L71
17040		BTM	PUT, 124,8,LEFT PAREN	19424	17	09036	0-124
17050		TR	CHI-1,CHI+1	19436	31	15138	15140
17060	SUBP2	CM	CHI,40,10	19448	14	15139	000M0
17070		BNH	SUBP2-36	19460	47	13412	01100
17080		CM	CHI,69,10	19472	14	15139	00009
17090		BH	SUBP2-36,,, TEST FOR SYMBOLIC ARGUMENTS	19484	46	13412	01100
17100		SF	OUTSM,	19496	32	07020	00000
17110		BTM	CSORN,++12,, OUTPUT ARGUMENT	19508	17	05690	J3520
17120		BD	SUBP2-36,INSM,, ERROR IF ARGUMENT WAS IN	19520	43	13412	03279
17130		AM	SMADD,3,10	19532	11	07194	000-3
17140		TDM	SMADD,,6	19544	15	07194	00000
17150		DC	1,,'*	19555			1
17160		CM	CHI,23,10	19556	14	15139	000K3
17170		RNE	++32	19568	47	13600	01200
17180		BTM	PUT, 123,8,COMMA	19580	17	09036	0-123
17190		B	SUBP2-12	19592	49	13436	00000
17200		DORG	--3	19600			
17210		CM	CHI,4,10	19600	14	15139	000-4
17220		RNE	SUBP2-36	19612	47	13412	01200
17230		BTM	PUT, 104,8,RIGHT PAREN	19624	17	09036	0-104
17240		B	BEGIN	19636	49	02638	00000
17250		DORG	--3	19644			
17260	ROUTN	DAC	7,ROUTINE	19645		7 X	2
			ROUTINE				
17270	*****	OUTPUT FUNCTION DECLARATION STATEMENTS	*****				
17280	FUNCTA	TR	CHI-1,CHI+9	19658	31	15138	15148
17290		TFM	SUBPUT+11,136,8	19670	16	13291	0-136

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17300		BD	SUBPF-24,SUBFCT	19682	43	13184	02293
17310		TDM	SUBFCT,1,11	19694	15	02293	0000J
17320		B	SUBPF-36	19706	49	13172	00000
17330		DORG	--3	19714			
17340	CTION	DAC	5,CTION	19715		5 X	2
			CTION				
17350	*****	OUTPUT CONTINUE STATEMENT	*****				
17360	CONTEN	BD	++24,NOIND	19724	43	13748	03243
17370		BTM	ERROR2,574,9, UNNUMBERED CONTINUE STATEMENT	19736	17	09486	00N74
17380		BTM	PUT, 127,8,CONTINUE	19748	17	09036	0-127
17390		BTM	PUT, 140,8,DUMMY	19760	17	09036	0-140
17400		B	BEGIN	19772	49	02638	00000
17410		DORG	--3	19780			
17420	TINUE	DAC	5,TINUE	19781		5 X	2
			TINUE				
17430	****	OUTPUT PAUSE STATEMENT	****				
17440	PAUSEN	TR	CHI-1,CHI+3	19790	31	15138	15142
17450		BTM	PUT, 126,8,PAUSE	19802	17	09036	0-126
17460		BTM	PUT, 140,8,DUMMY	19814	17	09036	0-140
17470		BNR	++20,CHI+2	19826	45	13846	15141
17480		B	BEGIN	19838	49	02638	00000
17490		DORG	--3	19844			
17500	PAUS	CM	CHI,69,10	19844	14	15139	00009
17510		BH	++32	19858	46	13890	01100
17520		BTM	ERROR2,573,9, CHARACTER AFTER PAUSE NOT NUMERIC	19870	17	09486	00N73
17530		B	BEGIN	19882	49	02638	00000
17540		DORG	--3	19890			
17550		BTM	PUT, 140,8,DUMMY	19890	17	09036	0-140
17560		TD	++23,CHI	19902	25	13925	15139
17570		BTM	PUT,0,8	19914	17	09036	0-000
17580		TR	CHI-1,CHI+1	19926	31	15138	15140
17590		BNR	--36,CHI+2	19938	45	13902	15141
17600		B	BEGIN	19950	49	02638	00000
17610		DORG	--3	19958			
17620	****	OUTPUT STOP STATEMENT	****				
17630	STOPEN	TR	CHI-1,CHI+1	19958	31	15138	15140
17640		BTM	PUT, 125,8,STOP	19970	17	09036	0-125
17650		B	PAUSEN+24	19982	49	13814	00000
17660		DORG	--4	19989			
17670	DEFINE	TR	CHI-1,CHI+13,, SHIFT OFF INEDISK	19990	31	15138	15152
17680		CF	STSN	14002	33	05627	00000
17690		BD	ERR40+12,SUBFCT	14014	43	14432	02293
17700		BD	ERR60+12,MULDEF	14026	43	14432	02384
17710		TDM	MULDEF,1	14038	15	02384	00001
17720		CM	CHI,24,10, CHECK FOR LEFT PAREN	14050	14	15139	000K4
17730		BNE	ERR44	14062	47	14420	01200
17740		TR	CHI-1,CHI+1,, SHIFT OFF LEFT PAREN	14074	31	15138	15140
17750		CM	CHI,69,10	14086	14	15139	00009
17760		BNH	ERR44	14098	47	14420	01100
17770		BTM	CLOGT,03,10, COLLECT NI	14110	17	14478	000-3
17780		SF	SYM-1	14122	32	10058	00000
17790		CM	SYM,90,10	14134	14	10059	000M0
17800		BH	ERR44,,, NI GREATER THAN 90	14146	46	14420	01100
17810		TF	NI,SYM	14158	26	02293	10059
17820		CM	CHI,23,10	14170	14	15139	000K3
17830		BNE	ERR44	14182	47	14420	01200

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17840	TR	CHI-1,CHI+1	14196	31	15138	15140
17850	M	W,M1	14206	23	02240	02233
17860	CM	99,0100,8	14218	14	00099	0-100
17870	TDM	RECLG,2	14230	15	02243	00002
17880	BH	*+24	14242	46	14266	01100
17890	TDM	RECLG,1	14256	15	02243	00001
17900	CM	99,0200,8	14266	14	00099	0-200
17910	BH	ERR44,,,	14278	46	14420	01100
17920	CM	CHI,69,10	14290	14	15139	00009
17930	BNM	ERR44	14302	47	14420	01100
17940	BTM	CLDGT,06,10,	14314	17	14478	000-6
17950	SF	SYM-6	14326	32	10055	00000
17960	TF	N2,SYM	14338	26	02238	10059
17970	CM	SYM,20000	14350	14	10059	K0000
17980	BH	ERR44	14362	46	14420	01100
17990	CM	CHI,04,10	14374	14	15139	000-4
18000	BNE	ERR44	14386	47	14420	01200
18010	B	BEGINA	14398	49	02650	00000
18020	DORG	*-3	14406			
18030	DEFCT	DAC 7,INEDISK	14407		7 X	2
		INEDISK				
18040	ERR60	TFM RECLG,000,9	14420	16	02243	00-00
18050	TD	*+35,JAY	14432	25	14467	02367
18060	BTM	ERROR2,670,9	14444	17	09486	00070
18070	TDM	JAY,-*	14456	15	02367	00000
18080	B	BEGINA	14468	49	02650	00000
18090	DORG	*-4	14475			
18100	ERR44	DS ,ERR60	14420		0	
18110	***	COLLECT DIGITS SUBROUTINE ***				
18120	*					
18130	*	BTM CLDGT,XX,10, XX = NO. OF DIGITS TO COLLECT + 1				
18140	*					
18150	DS	2	14476		2	
18160	CLDGT	BD *+32,CHI	14478	43	14510	15139
18170	TR	CHI-1,CHI+1	14490	31	15138	15140
18180	B	*-24	14502	49	14478	00000
18190	DORG	*-3	14510			
18200	TFM	SYM-12,0	14510	16	10047	-0000
18210	TFM	CLDGT2+6,SYM-12	14522	16	14600	J0047
18220	CLDGT1	SM CLDGT-1,1,10	14534	12	14477	000-1
18230	BZ	XCLDGT	14546	46	14638	01200
18240	CM	CHI,69,10	14558	14	15139	00009
18250	BNM	XCLDGT	14570	47	14638	01100
18260	AM	*+18,1,10	14582	11	14600	000-1
18270	CLDGT2	TD ,CHI	14594	25	00000	15139
18280	TR	CHI-1,CHI+1	14606	31	15138	15140
18290	BNM	CLDGT1,CHI+2	14618	45	14534	15141
18300	B	ERR44	14630	49	14420	00000
18310	DORG	*-3	14638			
18320	XCLDGT	TF SYM,CLDGT2+6,11	14638	26	10059	1460-
18330	BB		14650	42	00000	00000
18340	DORG	*-9	14652			
18350	*	DEND				
18360	DORG	16000	16000			
18370	TFM	IOPT,*+23	16000	16	00565	J6023
18380	B	IOPT,BLK2,7	16012	49	00532	-9725

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18390	TRA		16024	36	00000	00500
18400	TCD	16000	16036	49	00000	00000
			16000			
18410	*	OUT OF CORE BLOCK 3 CONTAINS THE FOLLOWING				
18420	*	OUTSC				
18430	*	ASCAN				
18440	DORG	IOUT	10200			
18450	TFM	FMON+35,BLK4,, IOUT	10200	16	02359	-9771
18460	BTM	FMON,IOUT	10212	17	02324	J0200
18470	TFM	FMON+35,BLK2	10224	16	02359	-9725
18480	BTM	FMON,NOMARA	10236	17	02324	J0224
18490	TFM	FMON+35,BLK1,, DIM	10248	16	02359	-9702
18500	BTM	FMON,DIM	10260	17	02324	J0248
18510	TFM	FMON+35,BLK1,, COMMON	10272	16	02359	-9702
18520	BTM	FMON,COMMON	10284	17	02324	J0272
18530	TFM	FMON+35,BLK6,, IF	10296	16	02359	-9817
18540	BTM	FMON,IF	10308	17	02324	J0296
18550	TFM	FMON+35,BLK6,, GOTO	10320	16	02359	-9817
18560	BTM	FMON,GOTO	10332	17	02324	J0320
18570	TFM	FMON+35,BLK6,, CALL	10344	16	02359	-9817
18580	BTM	FMON,CALL	10356	17	02324	J0344
18590	TFM	FMON+35,BLK6,, RETURN	10368	16	02359	-9817
18600	BTM	FMON,RETURN	10380	17	02324	J0368
18610	TFM	FMON+35,BLK1,, FORMAT	10392	16	02359	-9702
18620	BTM	FMON,FORMAT	10404	17	02324	J0392
18630	TFM	FMON+35,BLK4,, DO SYMNT	10416	16	02359	-9771
18640	BTM	FMON,DOO	10428	17	02324	J0416
18650	BNF	ASCIA ,TRIND,, ASCAN	10440	44	12094	03185
18660	B	ASCAN1	10452	49	12058	00000
18670	BD	SCI ,SINGST,, OUTSC	10464	43	10884	10078
18680	B	OUTSC1	10476	49	10512	00000
18690	TFM	FMON+35,BLK5,, DKIO	10488	16	02359	-9794
18700	BTM	FMON,DKIO	10500	17	02324	J0488
18710	****	OUTPUT SUBSCRIBING CODE				
18720	OUTSC1	TF TEMP ,SMADD ,11	10512	26	04161	0719H
18730	TD	DINMO,SMCNT,11	10524	25	10677	0724P
18740	CF	DINMO	10536	33	10677	00000
18750	DINNOT	DS 2,*-2	10548		2	
18760	TF	DINNOT,DINMO	10548	26	10545	10477
18770	CF	SC22	10560	33	10620	00000
18780	TR	A1-3,MASK,, SET UP WORK AREA	10572	31	11920	11989
18790	TFM	PA1,A1-4	10584	16	10934	J1919
18800	TFM	PA2,A2-4	10596	16	10782	J1931
18810	TFM	PI,I-12	10608	16	11058	J1943
18820	SC22	AM PA1,4,10	10620	11	10934	000-4
18830	AM	PA2,4,10	10632	11	10782	000-4
18840	AM	PI,12,10	10644	11	11058	000J2
18850	TR	CHI-1,CHI+1	10656	31	15138	15140
18860	SM	DINMO,0001,810	10668	12	10677	0-0-1
18870	DINMO	DS 2,*-2	10677		2	
18880	CM	CHI,69,10	10680	14	15139	00009
18890	BNM	ALFAT	10692	47	10974	01100
18900	TDM	DINSM,1	10704	15	10084	00001
18910	BTM	CSTND,*+12	10716	17	05398	J0728
18920	TDM	DINSM,0	10728	15	10084	00000

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18930	CM	CHI,14,10	10740	14	15139	000J4
18940	BE	SC3	10752	46	10928	01200
18950 SC4	TDM	DIMSW,0	10764	15	10084	00000
18960	TF	PA2,SYM	10776	26	10782	10059
18970 PA2	DS	,*-5	10782		0	
18980	BNF	**36,SC22	10788	44	10824	10620
18990	CF	SC22	10800	33	10620	00000
19000	SF	PA2,,6	10812	32	1078K	00000
19010 SC5	CM	CHI,23,10	10824	14	15139	000K3
19020	BE	SC22	10836	46	10620	01200
19030	CM	CHI,4,10	10848	14	15139	000-4
19040	BE	**36	10860	46	10896	01200
19050	BTM	ERROR,75,9	10872	17	09330	00-75
19060 SC1	BTM	ERROR,272,9	10884	17	09330	00K72
19070	TR	CHI-1,CHI*1	10896	31	15138	15140
19080	BD	SC1-12,DIMND	10908	43	10872	10677
19090	B	SC9	10920	49	11164	00000
19100	DORG	*-3	10928			
19110 SC3	TF	PA1,SYM	10928	26	10934	10059
19120 PA1	DS	,*-5	10934		0	
19130	TR	CHI-1,CHI*1	10940	31	15138	15140
19140	CM	CHI,69,10	10952	14	15139	00009
19150	BH	SC1-12	10964	46	10872	01100
19160 ALFAT	CM	CHI,40,10	10976	14	15139	000M0
19170	BNH	SC1-12	10988	47	10872	01100
19180	BTM	CSORN,**12	11000	17	05690	J1012
19190	BD	**20,FXORFL	11012	43	11032	06405
19200	B	SC1-12,,	11024	49	10872	00000
19210	DORG	*-4	11031			
19220	TF	PI,SMADD-1	11032	26	11038	07193
19230 P1	DS	,*-5	11038		0	
19240	CM	CHI,10,10	11044	14	15139	000J0
19250	BE	**48	11056	46	11104	01200
19260	CM	CHI,20,10	11068	14	15139	000K0
19270	RNE	SC5	11080	47	10824	01200
19280	SF	SC22	11092	32	10620	00000
19290	TR	CHI-1,CHI*1	11104	31	15138	15140
19300	CM	CHI,69,10	11116	14	15139	00009
19310	BNH	SC1-12	11128	47	10872	01100
19320	TDM	DIMSW,1	11140	15	10084	00001
19330	BTM	CSTND,SC4	11152	17	05398	J0764
19340 SC9	TFM	MOVEIT*6,D1-12	11164	16	11230	J1939
19350 CALC	MM	DIMNDOT,05,10	11176	13	10545	000-5
19360	A	TEMP,99	11188	21	04161	00099
19370	MM	DIMNDOT,12,10	11200	13	10545	000J2
19380	A	MOVEIT*6,99	11212	21	11230	00099
19390 MOVEIT	A	,TEMP,11	11224	21	00000	0416J
19400	SM	DIMNDOT,1,10	11236	12	10545	000-1
19410	BZ	**44	11248	46	11292	01200
19420	SM	TEMP,05,10	11260	12	04161	000-5
19430	SM	MOVEIT*6,12,10	11272	12	11230	000J2
19440	B	MOVEIT	11284	49	11224	00000
19450	DORG	*-4	11291			
19460	S	D4,D1	11292	22	11987	11951
19470	M	D3,C2	11304	23	11975	11943
19480	SF	92	11316	32	00092	00000

, FLOATING VARIABLE USED IN SUBSCRIP

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19490	A	D4,99	11328	21	11987	00099
19500	M	D2,B2	11340	23	11963	11939
19510	SF	92	11352	32	00092	00000
19520	A	D4,99	11364	21	11987	00099
19530	A	D4,A2	11376	21	11987	11935
19540	M	D3,C1	11388	23	11975	11931
19550	SF	92	11400	32	00092	00000
19560	TF	D3,99	11412	26	11975	00099
19570	M	D2,B1	11424	23	11963	11927
19580	SF	92	11436	32	00092	00000
19590	TF	D2,99	11448	26	11963	00099
19600	MM	A1,00001,8	11460	13	11923	0-001
19610	TF	D1,99	11472	26	11951	00099
19620	TFM	IND1,D4	11484	16	11519	J1987
19630	TFM	IND2,D4-7	11496	16	11538	J1980
19640 TONY	BNF	**36,IND1	11508	44	11544	11519
19650 IND1	DS	,*	11519		0	
19660	CF	IND1,,6	11520	33	1151R	00000
19670	TDM	IND2,9,11	11532	15	11538	0000R
19680 IND2	DS	,*-5	11538		0	
19690	SM	IND1,12,10	11544	12	11519	000J2
19700	SM	IND2,12,10	11556	12	11538	000J2
19710	CM	IND1,D1,67	11568	14	1151R	J1951
19720	BNL	TONY	11580	46	11508	01300
19730	TFM	PI,1-12	11592	16	11038	J1943
19740 MV1	AM	PI,9,10	11604	11	11038	000-9
19750	BNR	**20,PI,11	11616	45	11636	1103Q
19760	B	CONT,,,	11628	49	11772	00000
19770	DORG	*-3	11636			
19780	AM	PI,3,10	11636	11	11038	000-3
19790	CM	PI,0,68	11648	14	1103Q	0-000
19800	BE	MV2	11660	46	11692	01200
19810	AM	DIMNDOT,01,10	11672	11	10545	000-1
19820	B	MV1	11684	49	11604	00000
19830	DORG	*-3	11692			
19840 MV2	TF	MV3*6,PI,,	11692	26	11746	11038
19850	TF	MV3*11,PI	11704	26	11751	11038
19860	AM	MV3*11,1,10	11716	11	11751	000-1
19870	SM	MV3*6,11,10	11728	12	11746	000J1
19880 MV3	TR	0,0	11740	31	00000	00000
19890	SM	PI,03,10	11752	12	11038	000-3
19900	B	MV1*12	11764	49	11616	00000
19910	DORG	*-3	11772			
19920 **		S0 = 148 LITERAL SUBSCRIPT, S1 = 149 ONE SUBSCRIPT				
19930 **		S2 = 150 TWO SUBSCRIPTS, S3 = 151 THREE SUBSCRIPTS				
19940 COMT	TFM	L4*11,0148,8,	11772	16	11807	0-148
19950	A	L4*11,DIMNDOT	11784	21	11807	10545
19960 L4	BTM	PUT,0	11796	17	09036	-0000
19970	BTM	PUT,124,8	11808	17	09036	0-124
19980	BTM	PUT,140,8	11820	17	09036	0-140
19990 L5	BNR	L6,D1-7	11832	45	11876	11944
20000	BTM	PUT,104,8	11844	17	09036	0-104
20005	TFM	SMCNT,2219	11856	16	07247	-2219
20010	B	OUTSCE,,6	11868	49	04794	00000
20020	DORG	*-3	11876			
20030 L6	SF	D1-7	11876	32	11944	00000

GO TO OUTPUT STRING

SHIFT OFF SUBSC NOT NEEDED

BASE FOR SUBSCRIPT OPERATORS

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20040	BT	PUT,D1-4	11888	27	09036	11947
20050	TR	D1-7,D1-3	11900	31	11944	11948
20060	B	LS	11912	49	11832	00000
20070	DORG	=-3	11920			
20080 A1	DS	4	11923		4	
20090 B1	DS	4	11927		4	
20100 C1	DS	4	11931		4	
20110 A2	DS	4	11935		4	
20120 B2	DS	4	11939		4	
20130 C2	DS	4	11943		4	
20140 D1	DS	8	11951		8	
20150 I	DS	4	11955		4	
20160 D2	DS	8	11963		8	
20170 J	DS	4	11967		4	
20180 D3	DS	8	11975		8	
20190 K	DS	4	11979		4	
20200 D4	DS	8	11987		8	
20210	DS	1	11988		1	
20220	DC	4,0001	11992		4	
	-001					
20230 MASK	DS	,=-3	11989		0	
20240	DC	4,1	11996		4	
	-001					
20250	DC	4,1	12000		4	
	-001					
20260	DC	4,0	12004		4	
	-000					
20270	DC	4,0	12008		4	
	-000					
20280	DC	4,0	12012		4	
	-000					
20290	DC	8,0	12020		8	
	-0000000					
20300	DC	4,0	12024		4	
	-000					
20310	DC	8,0	12032		8	
	-0000000					
20320	DC	4,0	12036		4	
	-000					
20330	DC	8,0	12044		8	
	-0000000					
20340	DC	4,0	12048		4	
	-000					
20350	DC	8,0	12056		8	
	-0000000					
20360	DC	1,1	12057		1	
	'					
20370 ****	ASCAN CODE					
20380 ASCAN1	CF	TRIND	12058	33	03185	00000
20390	BD	++24,NOIND	12070	43	12094	03243
20400	BTM	ERROR2,572,9,	12082	17	09486	00N72
20410 ASC1A	TDM	DMH ,1	12094	15	10087	00001
20420	CM	CHI,40,10	12106	14	15139	000M0
20430	BNH	AERR	12118	47	12214	01100
20434	CM	CHI,70,10	12130	14	15139	000P0
20436	RNL	AERR	12142	46	12214	01300

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20440	SF	OUTSW	12154	32	07020	00000
20450	BTM	CSORN,++12	12166	17	05690	J2178
20460	TDM	STSN	12178	15	05627	00000
20470	CM	CHI,33,10	12190	14	15139	000L3
20480	BE	++24	12202	46	12226	01200
20490 AERR	BTM	ERROR,376,9	12214	17	09330	00L76
20500	TDM	DMH,0	12226	15	10087	00000
20510 ASC22	BTM	PUT, 133,8,EQUAL	12238	17	09036	0-133
20513	TFM	NOPARM,00,10	12250	16	14700	000-0
20515	TFM	ASC14+18,FLIST-9	12262	14	14644	J4697
20520 IFSCAN	TR	CHI-1,CHI+1	12274	31	15138	15140
20530	BNR	++24,CHI+2	12286	45	12310	15141
20540	BTM	ERROR,378,9, MISSING OPERAND	12298	17	09330	00L78
20550	CM	CHI,40,10	12310	14	15139	000M0
20560	BH	ASC3	12322	46	12550	01100
20570	CM	CHI,20,10	12334	14	15139	000K0
20580	BNE	++44	12346	47	12390	01200
20590	BTM	PUT, 129,8,UNARY MINUS	12358	17	09036	0-129
20600	TR	CHI-1,CHI+1	12370	31	15138	15140
20610	B	IFSCAN+12	12382	49	12286	00000
20620	DORG	=-3	12390			
20630	CM	CHI,10,10	12390	14	15139	000J0
20640	BE	IFSCAN	12402	46	12274	01200
20650 ASC4	CM	CHI,24,10	12414	14	15139	000K4
20660	BNE	ASC6-24	12426	47	12502	01200
20670 ASC23	BD	++44,FNTSW1	12438	43	12482	10081
20680	AM	PARCNT, 1,10	12450	11	03348	000-1
20690	BTM	PUT, 124,8,LEFT PAREN	12462	17	09036	0-124
20700	B	IFSCAN	12474	49	12274	00000
20710	DORG	=-3	12482			
20720	AM	TPARCT,1,10	12482	11	14698	000-1
20730	B	ASC23+24	12494	49	12462	00000
20740	DORG	=-3	12502			
20750	CM	CHI,3,10	12502	14	15139	000-3
20760	BNE	IFSCAN+24	12514	47	12298	01200
20770 ASC6	CM	CHI+2,69,10	12526	14	15141	00009
20780	BNH	IFSCAN+24	12538	47	12298	01100
20790 ASC3	SF	OUTSW	12550	32	07020	00000
20800	BTM	CSORN,++12	12562	17	05690	J2574
20810	BD	ASC9,FNTSW1,, BRANCH IF COLLECTING FUNCTION PARAMETERS	12574	43	14586	10081
20820	BD	ASC8,FNTSW,, BRANCH IF SYMBOL WAS FUNCTION NAME	12586	43	13754	10080
20830 ASC7	BD	RTCALL,CALLSW,, RETURN TO CALL ROUTINE	12598	43	13242	10089
20840	BNR	ASCL,CHI+2,	12610	45	12658	15141
20850	CM	PARCNT,0,10	12622	14	03348	000-0
20860	BE	BEGIN	12634	46	02638	01200
20870	BTM	ERROR,379,9, UNBALANCED PARENTHESIS	12646	17	09330	00L79
20880 ASC1	CM	CHI,30,10	12658	14	15139	000L0
20890	BL	++24	12670	47	12694	01300
20900	BTM	ERROR,378,9, INVALID OPERATOR	12682	17	09330	00L78
20910	CM	CHI,24,10	12694	14	15139	000K4
20920	BE	ASC23	12706	46	12438	01200
20930	CM	CHI,10,10	12718	14	15139	000J0
20940	BNE	++32	12730	47	12762	01200
20950	BTM	PUT, 110,8,ADD	12742	17	09036	0-110
20960	B	ASC24	12754	49	12942	00000
20970	DORG	=-3	12762			

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20980	CM	CHI,20,10	12762	14	15139	000K0
20990	BNE	++32	12774	47	12806	01200
21000	BTM	PUT, 120.0,SUBTRACT	12786	17	09036	0-120
21010	B	ASC24	12798	49	12942	00000
21020	DDRG	--3	12806			
21030	CM	CHI,21,10	12806	14	15139	000K1
21040	BNE	++32	12818	47	12850	01200
21050	BTM	PUT, 121.0,DIVIDE	12830	17	09036	0-121
21060	B	ASC24	12842	49	12942	00000
21070	DDRG	--3	12850			
21080	CM	CHI,14,10	12850	14	15139	000J4
21090	BNE	ASC25	12862	47	12986	01200
21100	CM	CHI+2,14,10	12874	14	15141	000J4
21110	BNE	ASC24-12	12886	47	12930	01200
21120	BTM	PUT, 115.0,EXPONENTIAL	12898	17	09036	0-115
21130	TR	CHI-1,CHI+1	12910	31	15138	15140
21140	B	++20	12922	49	12942	00000
21150	DDRG	--3	12930			
21160	BTM	PUT, 114.0,MULTIPLY	12930	17	09036	0-114
21170	ASC24	TR CHI-1,CHI+1	12942	31	15138	15140
21180	CM	CHI,40,10	12954	14	15139	000M0
21190	BH	ASC3	12966	46	12550	01100
21200	B	ASC4	12978	49	12414	00000
21210	DDRG	--3	12986			
21220	ASC25	CM CHI,4,10	12986	14	15139	000-4
21230	BE	++36	12998	46	13034	01200
21240	BD	ASC281,FNTSW1	13010	43	14422	10081
21250	BTM	ERROR,378,9, INVALID OPERATOR	13022	17	09330	00L78
21260	BTM	PUT, 104.0,RIGHT PAREN	13034	17	09036	0-104
21270	BD	++32, FNTSW1	13046	43	13078	10081
21280	SM	PARCNT, 1,10	13058	12	03348	000-1
21290	B	++20	13070	49	13090	00000
21300	DDRG	--3	13078			
21310	SM	TPARCT, 1,10	13078	12	14698	000-1
21320	TR	CHI-1,CHI+1	13090	31	15138	15140
21330	BN	ASC1-12	13102	47	12646	01300
21340	BNH	++48	13114	47	13162	01100
21350	CM	CHI,24,10	13126	14	15139	000K4
21360	BNE	ASC7-24	13138	47	12574	01200
21370	BTM	ERROR,378,9	13150	17	09330	00L78
21380	CM	PARCNT,0,10	13162	14	03348	000-0
21390	BNE	++24	13174	47	13198	01200
21400	BD	OUTS12,IFSW	13186	43	13262	10085
21410	CM	CHI,24,10	13198	14	15139	000K4
21420	BE	--60	13210	46	13150	01200
21430	BD	ASC31-12,FNTSW1	13222	43	14466	10081
21440	B	ASC7	13234	49	12598	00000
21450	DDRG	--3	13242			
21460	RTCALL	TFM CALL+23,CALL2	13242	16	10367	J2486
21470	B	CALL	13254	49	10344	00000
21480	DDRG	--3	13262			
21490	OUTS12	TFM IF+23,OUTSN+12	13262	16	10319	J3672
21500	B	IF	13274	49	10296	00000
21510	DDRG	--4	13281			
21520	*****	ENTER HERE TO OUTPUT SINGLE STATEMENT FUNCTIONS	*****			
21530	*****		*****			

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21540	ASC21	BD	++24,STSN	13282	43	13306	05627
21550	BTM	ERROR,377,9,	SINGLE STATEMENT PRECEDED BY OTHER STMT	13294	17	09330	00L77
21560	CF	STSN		13306	33	05627	00000
21570	SF	SMCNT,,6		13318	32	0724P	00000
21580	TDM	OMM,0		13330	15	10087	00000
21590	TF	TEMP5,SMADD,,	SAVE SYMBOL ADDRESS TO MOVE IN NO.OF PAR	13342	26	04173	07194
21600	BTM	PUT, 137.0,ARITH STATEMENT FUNCTION		13354	17	09036	0-137
21610	BT	PUT,TEMP5-1,,	OUTPUT STMT NAME	13366	27	09036	04172
21620	TFM	PCNT,0,10,	INITIAL PARAMETER COUNT	13378	16	14093	000-0
21630	BTM	PUT, 124.0,LEFT PAREN		13390	17	09036	0-124
21640	TR	CHI-1,CHI+1		13402	31	15138	15140
21650	BNR	++24,CHI+2		13414	45	13438	15141
21660	ASC26	BTM ERROR,376,9,	INCOMPLETE STATEMENT FUNCTION	13426	17	09330	00L76
21670	CM	CHI,40,10		13438	14	15139	000M0
21680	BNH	--24		13450	47	13426	01100
21690	TDM	FNTSW,0		13462	15	10080	00000
21700	CM	CHI,49,10		13474	14	15139	00009
21710	BH	ASC26		13486	46	13426	01100
21720	SF	OUTSW		13498	32	07020	00000
21730	BTM	CSORN,++12		13510	17	05690	J3522
21740	BD	ASC26,FNTSW		13522	43	13426	10080
21750	AM	PCNT,1,10		13534	11	14093	000-1
21760	TFM	SYM+2,14,10		13546	16	10061	000J4
21770	CF	SYM+1		13558	33	10060	00000
21780	AM	NXL0C,2,10		13570	11	02372	000-2
21790	TF	NXL0C,SYM+2,6		13582	26	0237K	10061
21800	SM	STAF7,5,10		13594	12	04413	000-5
21810	TF	STAF7,SMADD,6		13606	26	0441L	07194
21820	CM	CHI,04,10		13618	14	15139	000-4
21830	BE	++56		13630	46	13686	01200
21840	CM	CHI,23,10		13642	14	15139	000K3
21850	BNE	ASC26		13654	47	13426	01200
21860	BTM	PUT, 123.0,COMMA		13666	17	09036	0-123
21870	B	ASC26-24		13678	49	13402	00000
21880	DDRG	--3		13686			
21890	BTM	PUT, 104.0,RIGHT PAREN		13686	17	09036	0-104
21900	TR	CHI-1,CHI+1		13698	31	15138	15140
21910	AM	TEMP5,4,10		13710	11	04173	000-4
21920	TF	TEMP5,PCNT,6		13722	26	0417L	14093
21930	TDM	SINGST,1,11,	SET SINGLE STAMT SWITCH, SWITCH TESTED	13734	15	10078	0000J
21940	B	AERR-24,...	IN PUTTING OUT SUBSCRIPTING	13746	49	12190	00000
21950	DDRG	--3		13754			
21960	*****	ENTER TO OUTPUT SINGLE STATEMENT FUNCTION CALL AND	*****				
21970	*****	FUNCTION SUBPROGRAM CALL	*****				
21980	ASC8	BNF ASC11,FNTSW,,	NO FLAG INDICATE FUNCTION SUBPROGRAM	13754	44	14606	10080
21990	AM	SMCNT,2,10		13766	11	07247	000-2
22000	TF	NOPARM,SMCNT,11,	MOVE NO. OF PARAMETERS TO COUNTER	13778	26	14700	0724P
22010	ASC15	CM CHI,24,10		13790	14	15139	000K4
22020	BE	++24		13802	46	13826	01200
22030	BTM	ERROR,079,0,	FUNCT NAME NOT FOLLOWED BY LPAREN	13814	17	09330	00-79
22040	BTM	PUT, 124.0,LEFT PAREN		13826	17	09036	0-124
22050	TFM	TPARCT,1,10,	SET UP TEMPORARY PAREN COUNT	13838	16	14698	000-1
22060	TR	CHI-1,CHI+1		13850	31	15138	15140
22070	TDM	FNTSW,0		13862	15	10080	00000
22080	ASC12	CM CHI,20,10		13874	14	15139	000K0
22090	BNE	++32		13886	47	13918	01200

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22100	BTM	PUT,	129,8,UNARY MINUS	13898	17	09036	0-129
22110	B	++32		13910	49	13942	00000
22120	DORG	-3		13918			
22130	CM	CHI,10,10		13918	14	15139	000J0
22140	BNE	++24		13930	47	13954	01200
22150	TR	CHI-1,CHI+1		13942	31	15138	15140
22160	CM	CHI,40,10		13954	14	15139	000M0
22170	BH	ASC27		13966	46	14082	01100
22180	CM	CHI,3,10,		13978	14	15139	000-3
22190	BE	ASC27		13990	46	14082	01200
22200	CM	CHI,24,10		14002	14	15139	000K4
22210	BE	++24		14014	46	14038	01200
22220	ASCER	BTM	ERROR,470,9, INVALID FUNCTION PARAMETER LIST	14026	17	09330	00M70
22230	BTM	PUT,	124,8,LEFT PAREN	14038	17	09036	0-124
22240	TR	CHI-1,CHI+1		14050	31	15138	15140
22250	AM	TPARCT,1,10		14062	11	14698	000-1
22260	B	ASC12		14074	49	13874	00000
22270	DORG	-3		14082			
22280	ASC27	SF	OUTSW	14082	32	07020	00000
22290	PCNT	DC	2,0,0	14093		2	
		-0					
22300	BNF	ASC27A,NOPARM		14094	44	14150	14700
22310	TDM	FNTSW2,1		14106	15	07391	00001
22320	BTM	CSORN,++12		14118	17	05690	J4130
22330	TDM	FNTSW2,0		14130	15	07391	00000
22340	B	ASC29-12		14142	49	14186	00000
22350	DORG	-3		14150			
22360	ASC27A	BTM	CSORN,++12	14150	17	05690	J4162
22380	SM	NOPARM,1,10		14162	12	14700	000-1
22390	BN	ASCER		14174	47	14026	01300
22400	BD	ASC14,FNTSW,,	TEST FOR NESTED FUNCTIONS	14186	43	14626	10080
22410	ASC29	BNR	++20,CHI+2	14198	45	14218	15141
22420	B	ASCER		14210	49	14026	00000
22430	DORG	-3		14218			
22440	CM	CHI,23,10		14218	14	15139	000K3
22450	BNE	ASC28		14230	47	14318	01200
22460	ASC30	BTM	PUT, 123,8,COMMA	14242	17	09036	0-123
22470	TR	CHI-1,CHI+1		14254	31	15138	15140
22480	BNF	++20,NOPARM		14266	44	14286	14700
22490	B	ASC12		14278	49	13874	00000
22500	DORG	-3		14286			
22510	CM	NOPARM,0,10		14286	14	14700	000-0
22520	BE	ASCER		14298	46	14026	01200
22530	B	ASC12		14310	49	13874	00000
22540	DORG	-3		14318			
22550	ASC28	CM	CHI,4,10	14318	14	15139	000-4
22560	BE	++32		14330	46	14362	01200
22570	TDM	FNTSW1,1		14342	15	10081	00001
22580	B	ASC1		14354	49	12658	00000
22590	DORG	-3		14362			
22600	BTM	PUT,	104,8,RIGHT PAREN	14362	17	09036	0-104
22610	SM	TPARCT,1,10		14374	12	14698	000-1
22620	TR	CHI-1,CHI+1		14386	31	15138	15140
22630	BN	ASCER		14398	47	14026	01300
22640	BE	++56		14410	46	14466	01200
22650	ASC281	CM	CHI,23,10	14422	14	15139	000K3

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22660	BE	ASC30		14434	46	14242	01200
22670	BNR	ASC28+24,CHI+2		14446	45	14342	15141
22680	B	ASCER		14458	49	14026	00000
22690	DORG	-3		14466			
22700	BNF	ASC9-32,NOPARM		14466	44	14554	14700
22710	ASC31	CM	ASC14+18,FLIST-9,, TEST IF NEST LIST IS EMPTY	14478	14	14644	J4697
22720	BNE	++32		14490	47	14522	01200
22730	TDM	FNTSW1		14502	15	10081	00000
22740	B	ASC7		14514	49	12598	00000
22750	DORG	-3		14522			
22760	TR	TPARCT-1,ASC14+18,11		14522	31	14697	1464M
22770	SM	ASC14+18,5,10		14534	12	14644	000-5
22780	B	ASC29		14546	49	14198	00000
22790	DORG	-3		14554			
22800	CM	NOPARM,0,10		14554	14	14700	000-0
22810	BZ	ASC31		14566	46	14478	01200
22820	B	ASCER		14578	49	14026	00000
22830	DORG	-3		14586			
22840	ASC9	TDM	FNTSW1,0,,	14586	15	10081	00000
22850	B	ASC29-12		14598	49	14186	00000
22860	DORG	-3		14606			
22870	ASC11	TFM	NOPARM,0,1011	14606	16	14700	000--
22880	B	ASC15		14618	49	13790	00000
22890	DORG	-3		14626			
22900	*****	ENTER HERE TO SHIFT PARAMETER LIST DOWN FOR NESTED CALLS ***					
22910	ASC14	AM	++18,5,10	14626	11	14644	000-5
22920	TR	FLIST-9,TPARCT-1,2		14638	31	J4697	14697
22930	B	ASC8		14650	49	13754	00000
22940	DORG	-4		14657			
22945	IFASEN	TFM	ASC14+18,FLIST-9	14658	16	14644	J4697
22946	B	IFSCAN+12		14670	49	12286	00000
22947	DORG	-4		14677			
22948	CLASEM	TFM	NOPARM,00,1011	14678	16	14700	000--
22949	B	IFSCAN-12		14690	49	12262	00000
22950	DORG	-4		14697			
22955	TPARCT	DS	2	14698		2	
22960	NOPARM	DS	2	14700		2	
22970	DC	1,1		14701		1	
		'					
22980	FLIST	DSB	5,20	14706		5 X	20
22990	DORG	16000		16000			
23000	TFM	IORT,++23		16000	16	00565	J6023
23010	B	IOPT,BLK3,7		16012	49	00532	-9748
23020	TRA			16024	36	00000	00500
				16036	49	00000	00000
23030	TCD	16000		16000			
23040	*	OUT OF CORE BLOCK 4 CONTAINS THE FOLLOWING					
23050	*	OUTSC					
23060	*	DO					
23070	*	ID OTHER THAN DISK					
23080	DORG	IOUT		10200			
23090	CM	CHI,44,10,,	IOUT, NONDISK I/O	10200	14	15139	000M4
23100	B	IOUTEN		10212	49	13148	00000
23110	TFM	FNON+35,BLK2		10224	16	02359	-9725
23120	BTM	FNON,NONARA		10236	17	02324	J0224

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23130	TFM	FMON+35,BLK1,,	DIM	10248	16	02359	-9702
23140	BTM	FMON,DIM		10260	17	02324	J0248
23150	TFM	FMON+35,BLK1,,	COMMON	10272	16	02359	-9702
23160	BTM	FMON,COMMON		10284	17	02324	J0272
23170	TFM	FMON+35,BLK6,,	IF STMT	10296	16	02359	-9817
23180	BTM	FMON,IF		10308	17	02324	J0296
23190	TFM	FMON+35,BLK6,,	GOTO	10320	16	02359	-9817
23200	BTM	FMON,GOTO		10332	17	02324	J0320
23210	TFM	FMON+35,BLK6,,	CALL	10344	16	02359	-9817
23220	BTM	FMON,CALL		10356	17	02324	J0344
23230	TFM	FMON+35,BLK6,,	RETURN	10368	16	02359	-9817
23240	BTM	FMON,RETURN		10380	17	02324	J0368
23250	TFM	FMON+35,BLK1,,	FORMAT	10392	16	02359	-9702
23260	BTM	FMON,FORMAT		10404	17	02324	J0392
23270	BNF	DOLoop+36,TRIND,,	DO STATEMENT	10416	44	12094	03185
23280	B	DOLoop		10428	49	12058	00000
23290	TFM	FMON+35,BLK3,,	ASCAN	10440	16	02359	-9748
23300	BTM	FMON,ASCAN		10452	17	02324	J0440
23310	BD	SCI,SINGST,,	OUTSC	10464	43	10884	10078
23320	R	OUTSCI		10476	49	10512	00000
23330	TFM	FMON+35,BLK5,,	DISK INPUT/OUTPUT	10488	16	02359	-9794
23340	BTM	FMON,DKID		10500	17	02324	J0488
23350	**	OUTSC CODE IS HERE					
23360	DORG	ASCANI		12058			
23370	*****	OUTPUT DO STATEMENTS	*****				
23380	DOLoop	TDM	TRIND,0	12058	15	03185	00000
23390	BD	**24,NOIND		12070	43	12094	03243
23400	BTM	ERROR2,572,9		12082	17	09486	00N72
23410	CM	CHI,44,10		12094	14	15139	000M4
23420	BNE	SPERR		12106	47	09230	01200
23430	CM	CHI+2,56,10		12118	14	15141	000N6
23440	RNE	SPERR		12130	47	09230	01200
23450	BD	**24,INDIV		12142	43	12166	02424
23460	BTM	KCKNTU,0,10		12154	17	04836	000-0
23470	TDM	STSN		12166	15	05627	00000
23480	TR	CHI-1,CHI+3		12178	31	15138	15142
23490	DO	CM	CHI,69,10	12190	14	15139	00009
23500	RH	**24		12202	46	12226	01100
23510	BTM	ERROR,275,9,	INCORRECT DO STATEMENT	12214	17	09330	00K75
23520	BTM	PUT, 108,8,DO		12226	17	09036	0-108
23530	SF	OUTSW		12238	32	07020	00000
23540	BTM	CSTND,**12		12250	17	05398	J2262
23550	AM	SMADD, 5,10		12262	11	07194	000-5
23560	B	DOCK		12274	49	12390	00000
23570	DORG	*-3		12282			
23580	TDM	SMADD,1,6,	SET BY DO, IF NOT SET DO REF IN TABLE	12282	15	0719M	00001
23590	DOC	CM	CHI,40,10	12294	14	15139	000M0
23600	BNM	DOCK-12		12306	47	12378	01100
23610	CM	CHI,69,10		12318	14	15139	00009
23620	RH	DOCK-12		12330	46	12378	01100
23630	SF	OUTSW		12342	32	07020	00000
23640	BTM	CSORN,**12,,	COLLECT DO INDEX SYMBOL	12354	17	05690	J2366
23650	BD	DOCI,FXORFL		12366	43	12446	06405
23660	BTM	ERROR,275,9,	FLOATING POINT VARIABLE FOR INDEX	12378	17	09330	00K75
23670	DOCK	BD	DOCI-12, SMADD,11	12390	43	12434	0719M
23680	SM	SMADD, 2,10		12402	12	07194	000-2

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23690	BD	DOC, SMADD,11		12414	43	12294	0719M
23700	B	DOC-12		12426	49	12282	00000
23710	DORG	*-3		12434			
23720	BTM	ERROR,274,9,	DO REFERENCING ILLEGAL STAMNT NO	12434	17	09330	00K74
23730	DOCI	CM	CHI,33,10,	12446	14	15139	000L3
23740	BNE	DO+24	TEST FOR EQUAL SIGN NEXT	12458	47	12214	01200
23750	BTM	PUT, 133,8,EQUAL		12470	17	09036	0-133
23760	TR	CHI-1,CHI+1		12482	31	15138	15140
23770	CF	DOA,,,	INITIALIZE SWITCHES	12494	33	12518	00000
23780	CF	DOB		12506	33	12670	00000
23790	DOA	CM	CHI,40,10	12518	14	15139	000M0
23800	BNM	DOCK-12,,	TEST FOR UNSIGNED VALUES	12530	47	12378	01100
23810	CM	CHI,69,10,		12542	14	15139	00009
23820	BNM	**24,,,		12554	47	12578	01100
23830	SF	DOA		12566	32	12518	00000
23840	SF	OUTSW		12578	32	07020	00000
23850	BTM	CSORN,**12,,	COLLECT AND OUTPUT FIRST INDEX	12590	17	05690	J2602
23860	BD	**20,FXORFL		12602	43	12622	06405
23870	B	DOCK-12		12614	49	12378	00000
23880	DORG	*-3		12622			
23890	BNF	DOB,DOA		12622	44	12670	12518
23900	TF	DOTEST,SYM		12634	26	13147	10059
23910	CM	SYM,0,10,	TEST IF FIRST INDEX WAS ZERO	12646	14	10059	000-0
23920	RE	DOCK-12		12658	46	12378	01200
23930	DOB	CM	CHI,23,10	12670	14	15139	000K3
23940	BNE	DO+24		12682	47	12214	01200
23950	BTM	PUT, 123,8,COMMA		12694	17	09036	0-123
23960	TR	CHI-1,CHI+1		12706	31	15138	15140
23970	CM	CHI,40,10		12718	14	15139	000M0
23980	BNM	DOCK-12		12730	47	12378	01100
23990	CM	CHI,69,10		12742	14	15139	00009
24000	BNM	**24		12754	47	12778	01100
24010	SF	DOB		12766	32	12670	00000
24020	SF	OUTSW		12778	32	07020	00000
24030	BTM	CSORN,**12		12790	17	05690	J2802
24040	BD	**20,FXORFL		12802	43	12822	06405
24050	B	DOCK-12		12814	49	12378	00000
24060	DORG	*-3		12822			
24070	BNF	**72,DOB		12822	44	12894	12670
24080	BNF	**36,DOA		12834	44	12870	12518
24090	C	SYM,DOTEST,,	TEST IF SECOND INDEX IS GREATER OR	12846	24	10059	13147
24100	BL	DOCK-12,,,	EQUAL TO THE FIRST IF BOTH ARE CONSTS	12858	47	12378	01300
24110	CM	SYM,0,10		12870	14	10059	000-0
24120	BE	DOCK-12		12882	46	12378	01200
24130	BNR	DOE,CHI+2		12894	45	12926	15141
24140	BD	DO+24,IOSM,,	I/O CANNOT END HERE	12906	43	12214	10091
24150	B	BEGIN		12918	49	02638	00000
24160	DORG	*-3		12926			
24170	DOE	CM	CHI,23,10	12926	14	15139	000K3
24180	BE	**32		12938	46	12970	01200
24190	BD	IOF,IOSM,,	RETURN TO I/O SCAN	12950	43	14236	10091
24200	B	DO+24		12962	49	12214	00000
24210	DORG	*-3		12970			
24220	BTM	PUT, 123,8,COMMA		12970	17	09036	0-123
24230	TR	CHI-1,CHI+1		12982	31	15138	15140
24240	CM	CHI,40,10		12994	14	15139	000M0

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24250	BNM	DOCK-12		13006	47	12378	01100
24260	SF	OUTSW		13018	32	07020	00000
24270	BTM	CSORN,++12		13030	17	05690	J3042
24280	BD	++20,FXORFL		13042	43	13062	06405
24290	B	DOCK-12		13054	49	12378	00000
24300	DORG	--3		13062			
24310	CM	SYM,0,10		13062	14	10059	000-0
24320	BE	DOCK-12		13074	46	12378	01200
24330	BD	IDF,IOSW,,		13086	43	14236	10091
24340	BNR	++20,CHI+2		13098	45	13118	15141
24350	B	BEGIN		13110	49	02638	00000
24360	DORG	--3		13118			
24370	BTM	ERRDR2,573,9		13118	17	09486	00N73
24380	B	BEGIN		13130	49	02638	00000
24390	DORG	--3		13138			
24400	DOTEST	DS 10		13147		10	
24410	****	ENTER HERE TO DECOMPOSE I/O STATEMENTS OTHER THAN DISK ****					
24420	IOUTEN	BNE ++44		13148	47	13192	01200
24430	TFM	IOUT1+11,112,8,	OUTPUT READ SYMBOL	13160	16	13543	0-112
24440	TR	CHI-1,CHI+1		13172	31	15138	15140
24450	B	IOUT1		13184	49	13532	00000
24460	DORG	--3		13192			
24470	CM	CHI,55,10		13192	14	15139	000M5
24480	BNE	IOUT2		13204	47	13284	01200
24490	CM	CHI+2,63,10		13216	14	15141	00003
24500	BE	++24		13228	46	13252	01200
24510	IOUTER	BTM ERRDR,71,9		13240	17	09330	00-71
24520	TFM	IOUT1+11,111,8,	OUTPUT PRINT SYMBOL	13252	16	13543	0-111
24530	TR	CHI-1,CHI+3		13264	31	15138	15142
24540	B	IOUT1		13276	49	13532	00000
24550	DORG	--3		13284			
24560	IOUT2	CM CHI,45,10		13284	14	15139	000M5
24570	BNE	IOUT3		13296	47	13364	01200
24580	TR	CHI-1,CHI+1,,	SHIFT OFF E	13308	31	15138	15140
24590	CM	CHI,69,10		13320	14	15139	00009
24600	BNM	IOUT3		13332	47	13364	01100
24610	TFM	IOUT1+11,0113,8,	OUTPUT TYPE SYMBOL	13344	16	13543	0-113
24620	B	IOUT1		13356	49	13532	00000
24630	DORG	--3		13364			
24640	IOUT3	BTM COLNAM,2,10		13364	17	04656	000-2
24650	CM	SYM,4348,8		13376	14	10059	0M348
24660	BV	IOUTER		13388	46	13240	01400
24670	BNE	IOUT4		13400	47	13552	01200
24680	TFM	IOUT1+11,118,8,	OUTPUT PUNCH SYMBOL	13412	16	13543	0-118
24690	IOUT5	TR CHI-1,CHI+3		13424	31	15138	15142
24700	CM	CHI,63,10		13436	14	15139	00003
24710	BNE	IOUT1		13448	47	13532	01200
24720	BTM	COLNAM,4,10		13460	17	04656	000-4
24730	C	SYM,TPCST		13472	24	10059	13615
24740	BV	IOUTER		13484	46	13240	01400
24750	BNE	IOUTER		13496	47	13240	01200
24760	TR	CHI-1,CHI+7		13508	31	15138	15146
24770	AM	IOUT1+11,1,10		13520	11	13543	000-1
24780	IOUT1	BTM PUT,,,	OUTPUT I/O SYMBOL	13532	17	09036	-0000
24790	B	INOUT		13544	49	13616	00000
24800	DORG	--3		13552			

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24810	IOUT4	CM SYM,5763,8		13552	14	10059	0N763
24820	BV	IOUTER		13564	46	13240	01400
24830	BNE	IOUTER		13576	47	13240	01200
24840	TFM	IOUT1+11,0116,8,	OUTPUT ACCEPT SYMBOL	13588	16	13543	0-116
24850	B	IOUT5		13600	49	13424	00000
24860	DORG	--3		13608			
24870	TPCST	DC 8,63415745,,	TAPE	13615		8	
		03415745					
24880	*****	OUTPUT INPUT-OUTPUT LISTS *****					
24890	INOUT	CM CHI,69,10		13616	14	15139	00009
24900	BH	++24		13628	46	13652	01100
24910	BTM	ERROR,276,9,	STATEMENT NUMBER MISSING	13640	17	09330	00K76
24920	SF	OUTSW		13652	32	07020	00000
24930	TDM	IOSW,1		13664	15	10091	00001
24940	BTM	CSTND,++12		13676	17	05398	J3688
24950	AM	SHADD,4,10		13688	11	07194	000-4
24960	BD	++32,INSW		13700	43	13732	03279
24970	TDM	SHADD,1,6,	SET DIGIT FOR FORMAT STAMNT NUMBER	13712	15	07194	00001
24980	B	++32		13724	49	13756	00000
24990	DORG	--3		13732			
25000	BD	++24,SHADD,11,	TEST IF STAMNT NUMBER CORRESPONDS TO FMT	13732	43	13756	0719M
25010	BTM	ERROR,277,9,	I/O STATEMENT NO. NOT A FORMAT NUMBER	13744	17	09330	00K77
25020	IOA	BNR ++20,CHI+2		13756	45	13776	15141
25030	B	BEGIN		13768	49	02638	00000
25040	DORG	--3		13776			
25080	CM	CHI,23,10		13776	14	15139	000K3
25090	BE	++24		13788	46	13812	01200
25100	IOLER	BTM ERROR,278,9,	MISSING COMMA OR INVALID LIST ELEMENT	13800	17	09330	00K78
25110	BTM	PUT, 123,8,COMMA		13812	17	09036	0-123
25120	TR	CHI-1,CHI+1		13824	31	15138	15140
25130	CM	CHI,40,10		13836	14	15139	000M0
25140	BNM	IOB		13848	47	13908	01100
25150	CM	CHI,69,10		13860	14	15139	00009
25160	BH	IOLER		13872	46	13800	01100
25170	SF	OUTSW		13884	32	07020	00000
25180	BTM	CSORN,IOA		13896	17	05690	J3756
25190	IOB	TFM IOLOOP,0,10		13908	16	14075	000-0
25200	CM	CHI,24,10		13920	14	15139	000K4
25210	BNE	IOLER		13932	47	13800	01200
25220	AM	PARCNT,1,10		13944	11	03348	000-1
25230	BTM	PUT, 124,8,LEFT PAREN		13956	17	09036	0-124
25240	TR	CHI-1,CHI+1		13968	31	15138	15140
25250	AM	IOLOOP,1,10		13980	11	14075	000-1
25260	CM	CHI,24,10		13992	14	15139	000K4
25270	BE	IOG		14004	46	14420	01200
25280	IOD	CM CHI,40,10		14016	14	15139	000M0
25290	BNM	IOB+12		14028	47	13920	01100
25300	CM	CHI,69,10		14040	14	15139	00009
25310	BH	IOLER		14052	46	13800	01100
25320	SF	OUTSW		14064	32	07020	00000
25330	IOLOOP	DC 2,0,0		14075		2	
		-0					
25340	BTM	CSORN,++12,,	COLLECT LIST ELEMENT	14076	17	05690	J4088
25350	CM	CHI,23,10		14088	14	15139	000K3
25360	BNE	IOE		14100	47	14156	01200
25370	BTM	PUT, 123,8,COMMA		14112	17	09036	0-123

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25380	SF	IOW	14124	32	10091	00000
25390	TR	CHI-1,CHI+1	14136	31	15138	15140
25400	B	IOW	14148	49	14016	00000
25410	DORG	+3	14156			
25420	IOE	BNF IOLER,IOW	14156	44	13800	10091
25430	CF	IOW	14168	33	10091	00000
25440	CM	CHI,33,10	14180	14	15139	000L3
25450	BNE	IOW+12	14192	47	13920	01200
25460	BTM	PUT, 133,8,EQUAL	14204	17	09036	0-133
25470	BD	DOA-36,FXORFL,, BRANCH TO COLLECT INDICS OF ARRAY LOOP	14216	43	12482	06405
25480	B	IOLER	14228	49	13800	00000
25490	DORG	+3	14236			
25500	*****	RETURN HERE FROM DO CODEING *****				
25510	IOF	CM CHI,4,10	14236	14	15139	000-4
25520	BNE	IOLER	14248	47	13800	01200
25530	BTM	PUT, 104,8,RIGHT PAREN	14260	17	09036	0-104
25540	TR	CHI-1,CHI+1	14272	31	15138	15140
25550	SM	PARCNT,1,10	14284	12	03348	000-1
25560	BN	IOLER	14296	47	13800	01300
25570	SM	IOLoop,1,10	14308	12	14075	000-1
25580	RNZ	+32	14320	47	14352	01200
25590	BNR	IOLER-24,CHI+2	14332	45	13776	15141
25600	B	BEGIN	14344	49	02638	00000
25610	DORG	+3	14352			
25620	CM	CHI,23,10	14352	14	15139	000K3
25630	BNE	IOLER	14364	47	13800	01200
25640	BTM	PUT, 123,8,COMMA	14376	17	09036	0-123
25650	TR	CHI-1,CHI+1	14388	31	15138	15140
25660	SF	IOW	14400	32	10091	00000
25670	B	IOW	14412	49	14016	00000
25680	DORG	+3	14420			
25690	IOG	BTM PUT, 124,8,LEFT PAREN	14420	17	09036	0-124
25700	AM	PARCNT,1,10	14432	11	03348	000-1
25710	TR	CHI-1,CHI+1	14444	31	15138	15140
25720	AM	IOLoop,1,10	14456	11	14075	000-1
25730	CM	CHI,24,10	14468	14	15139	000K4
25740	BE	+20	14480	46	14500	01200
25750	B	IOW	14492	49	14016	00000
25760	DORG	+3	14500			
25770	BTM	PUT, 124,8,LEFT PAREN	14500	17	09036	0-124
25780	AM	PARCNT,1,10	14512	11	03348	000-1
25790	TR	CHI-1,CHI+1	14524	31	15138	15140
25800	AM	IOLoop,1,10	14536	11	14075	000-1
25810	B	IOW	14548	49	14016	00000
25820	DORG	+3	14556			
25830	DORG	16000	16000			
25840	TFM	IORT,++23	16000	16	00565	J6023
25850	B	IOPT,BLK4,7	16012	49	00532	-9771
25860	TRA		16024	36	00000	00500
			16036	49	00000	00000
25870	TCD	16000	16000			
25880	*	OUT OF CORE BLOCK 5 CONTAINS THE FOLLOWING				
25890	*	OUTSC				
25900	*	DO				
25910	*	DKIO				

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25920	DORG	IOUT	10200			
25930	TFM	FMON+35,BLK4,, IOUT	10200	16	02359	-9771
25940	BTM	FMON,IOUT	10212	17	02324	J0200
25950	TFM	FMON+35,BLK2	10224	16	02359	-9725
25960	BTM	FMON,NONARA	10236	17	02324	J0224
25970	TFM	FMON+35,BLK1,, DIM	10248	16	02359	-9702
25980	BTM	FMON,DIM	10260	17	02324	J0248
25990	TFM	FMON+35,BLK1,, COMMON	10272	16	02359	-9702
26000	BTM	FMON,COMMON	10284	17	02324	J0272
26010	TFM	FMON+35,BLK6,, IF STMNT	10296	16	02359	-9817
26020	BTM	FMON,IF	10308	17	02324	J0296
26030	TFM	FMON+35,BLK6,, GOTO	10320	16	02359	-9817
26040	BTM	FMON,GOTO	10332	17	02324	J0320
26050	TFM	FMON+35,BLK6,, CALL	10344	16	02359	-9817
26060	BTM	FMON,CALL	10356	17	02324	J0344
26070	TFM	FMON+35,BLK6,, RETURN	10368	16	02359	-9817
26080	BTM	FMON,RETURN	10380	17	02324	J0368
26090	TFM	FMON+35,BLK1,, FORMAT	10392	16	02359	-9702
26100	BTM	FMON,FORMAT	10404	17	02324	J0392
26110	BNF	DOLOOP+36,TRIND,, DO STATEMENT	10416	44	12094	03185
26120	B	DOLOOP	10428	49	12058	00000
26130	TFM	FMON+35,BLK3,, ASCAN	10440	16	02359	-9748
26140	BTM	FMON,ASCAN	10452	17	02324	J0440
26150	BD	SCI,SINGST,, OUTSC	10464	43	10884	10078
26160	B	OUTSC1	10476	49	10512	00000
26170	TDM	USEDPS+5,1,, DISK I/O	10488	15	02268	00001
26180	B	DKIOEN	10500	49	13148	00000
26190	**	OUTSC CODE IS HERE				
26200	DORG	ASCAN1	12058			
26210	**	OUTPUT DO STATEMENT CODE IS HERE				
26220	DORG	DOE+24	12950			
26230	**	THE FOLLOWING INSTRUCTION IS A CHANGE TO DO STATEMENT CODE				
26240	BD	DKF,IOW,, RETURN TO I/O SCAN	12950	43	14352	10091
26250	DORG	IOUTEN	13148			
26260	****	ENTER HERE TO DECODE DISK I/O STATEMENTS ****				
26270	DKIOEN	SF DKIO,,, FLAG FOR FETCH AND RECORD	13148	32	10488	00000
26280	CM	CHI,43,10	13160	14	15139	000M3
26290	BNE	DKIO1	13172	47	13240	01200
26300	TFM	DKPUT+11,0142,8, FETCH SYMBOL	13184	16	13511	0-142
26310	CM	CHI+2,48,10, CHECK FOR H	13196	14	15141	000M8
26320	BNE	ERR01	13208	47	04282	01200
26330	TR	CHI-1,CHI+3,, SHIFT OFF TWO CHARACTERS	13220	31	15138	15142
26340	B	DKLIST	13232	49	13380	00000
26350	DORG	+3	13240			
26360	DKIO1	CM CHI,44,10	13240	14	15139	000M4
26370	BNE	DKIO2	13252	47	13308	01200
26380	CF	DKIO,, NO FLAG FOR FIND	13264	33	10488	00000
26390	TFM	DKPUT+11,0144,8, FIND SYMBOL	13276	16	13511	0-144
26400	TR	CHI-1,CHI+1,, SHIFT OFF ONE CHARACTER	13288	31	15138	15140
26410	B	DKLIST	13300	49	13380	00000
26420	DORG	+3	13308			
26430	DKIO2	BTM COLNAM,03,10	13308	17	04656	000-3
26440	C	SYN,ORDCT+4	13320	24	10059	14641
26450	BY	ERR01	13332	46	04282	01400
26460	BNE	ERR01	13344	47	04282	01200
26470	TR	CHI-1,CHI+5,, SHIFT OFF THREE CHARACTERS	13356	31	15138	15144

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26480	TFM	DKPUT+11,0146,8,	RECORD SYMBOL	13368	16	13911	0-146
26490	DKLIST	TDM	DISKSW,1,11,	SET SW TO INDICATE DISK I/O	13380	15	02383 0000J
26500	CM	CHI,24,10,	CHECK FOR LEFT PAREN	13392	14	15139	000K4
26510	BNE	DKER		13404	47	13728	01200
26520	TDM	IOSW,1		13416	15	10091	00001
26530	TR	CHI-1,CHI+1,,	SHIFT OFF LEFT PAREN	13428	31	15138	15140
26540	CM	CHI,69,10		13440	14	15139	00009
26550	BL	+24		13452	47	13476	01300
26560	AM	DKPUT+11,1,10	ADD ONE FOR LITERAL	13464	11	13911	000-1
26570	CM	CHI,40,10		13476	14	15139	000M0
26580	BL	DKER		13488	47	13728	01300
26590	DKPUT	BTM	PUT,,,	OUTPUT DISK I/O SYMBOL	13500	17	09036 -0000
26600	BTM	PUT,0124,8,	OUTPUT LEFT PAREN	13512	17	09036	0-124
26610	SF	OUTSW		13524	32	07020	00000
26620	BTM	CSORN,++12		13536	17	05690	J3548
26630	BD	+20,FXORFL		13548	43	13568	06405
26640	B	DKER		13560	49	13728	00000
26650	DORG	+4		13567			
26660	CM	CHI,04,10,	CHECK FOR RT PAREN	13568	14	15139	000-4
26670	BNE	DKER		13580	47	13728	01200
26680	BTM	PUT,0104,8,	OUTPUT RT PAREN	13592	17	09036	0-104
26690	BNF	BEGIN,DKI0,,	BRANCH TO BEGIN IF FIND STMT	13604	44	02638	10488
26700	BTM	PUT,0123,8,	OUTPUT COMMA	13616	17	09036	0-123
26710	TR	CHI-1,CHI+1,,	SHIFT OFF RT PAREN	13628	31	15138	15140
26720	DKL	BNR	+24,CHI+2	13640	45	13664	15141
26730	BTM	ERROR,472,9,	DISK I/O STMTS MUST HAVE LISTS	13652	17	09330	00M72
26740	TR	DKSW1-1,SWSET-6,,	INIT SWITCHES	13664	31	14259	14642
26750	B	DKB		13676	49	13764	00000
26760	DORG	+3		13684			
26770	DKA	BNR	+20,CHI+2	13684	45	13704	15141
26780	B	BEGIN		13696	49	02638	00000
26790	DORG	+3		13704			
26830	CM	CHI,23,10		13704	14	15139	000K3
26840	BE	+24		13716	46	13740	01200
26850	DKER	BTM	ERROR,471,9	13728	17	09330	00M71
26860	BTM	PUT,0123,8,	OUTPUT COMMA	13740	17	09036	0-123
26870	TR	CHI-1,CHI+1,,	SHIFT OFF ONE CHARACTER	13752	31	15138	15140
26880	DKB	CM	CHI,40,10	13764	14	15139	000M0
26890	BNH	DKC		13776	47	13976	01100
26900	CM	CHI,69,10		13788	14	15139	00009
26910	BH	DKER,,,	LITERAL ITEM ON LIST	13800	46	13728	01100
26920	SF	OUTSW		13812	32	07020	00000
26930	BTM	CSORN,++12		13824	17	05690	J3836
26940	BNR	+20,SMCNT,11		13836	45	13856	0724P
26950	B	DKER,,,	FUNCTION NAME	13848	49	13728	00000
26960	DORG	+3		13856			
26970	BD	+32,SMCNT,11,	DIGIT IMPLIES AN ARRAY NAME	13856	43	13888	0724P
26980	TDM	DKSW2,2		13868	15	14262	00002
26990	B	+20		13880	49	13900	00000
27000	DORG	+3		13888			
27010	TDM	DKSW2,1		13888	15	14262	00001
27020	BD	+20,DKSW1		13900	43	13920	14260
27030	B	DKB1+12		13912	49	13956	00000
27040	DORG	+4		13919			
27050	C	DKSW1,DKSW2		13920	24	14260	14262
27060	BE	DKA		13932	46	13684	01200

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27070	DKB1	BTM	ERROR,473,9,	ARRAYS AND SIMPLE VARIABLES ON SAME I/O	13944	17	09330 00M73
27080	TD	DKSW1,DKSW2		13956	25	14260	14262
27090	B	DKA		13968	49	13684	00000
27100	DORG	+3		13976			
27110	*		THE FOLLOWING HANDLES IMPLIED DO LOOPS IN LISTS				
27120	DKC	TFM	DKLOOP,0,10	13976	16	14143	000-0
27130	CM	CHI,24,10		13988	14	15139	000K4
27140	BNE	DKER		14000	47	13728	01200
27150	AM	PARCNT,1,10		14012	11	03348	000-1
27160	BTM	PUT,0124,8,	OUTPUT LEFT PAREN	14024	17	09036	0-124
27170	TR	CHI-1,CHI+1,,	SHIFT OFF ONE CHARACTER	14036	31	15138	15140
27180	AM	DKLOOP,1,10		14048	11	14143	000-1
27190	CM	CHI,24,10		14060	14	15139	000K4
27200	BE	DKG		14072	46	14500	01200
27210	DKD	CM	CHI,40,10	14084	14	15139	000M0
27220	BNH	DKC+12		14096	47	13988	01100
27230	CM	CHI,69,10		14108	14	15139	00009
27240	RH	DKER		14120	46	13728	01100
27250	SF	OUTSW		14132	32	07020	00000
27260	DKLOOP	DC	2,0,0	14143		2	
27270	BTM	CSORN,++12		14144	17	05690	J4156
27280	BD	+36,DKSW1		14156	43	14192	14260
27290	C	DKSW1,DKSW2		14168	24	14260	14262
27300	BNE	DKB1		14180	47	13944	01200
27310	TD	DKSW1,DKSW2		14192	25	14260	14262
27320	DKD1	CM	CHI,23,10	14204	14	15139	000K3
27330	BNE	DKE		14216	47	14272	01200
27340	BTM	PUT,0123,8,	OUTPUT COMMA	14228	17	09036	0-123
27350	TR	CHI-1,CHI+1		14240	31	15138	15140
27360	SF	DKE		14252	32	14272	00000
27370	DKSW1	DS	2,-3	14260		2	
27380	DKSW2	DS	2,-1	14262		2	
27390	B	DKD		14264	49	14084	00000
27400	DORG	+3		14272			
27410	DKE	BNF	DKER,DKE	14272	44	13728	14272
27420	CF	DKE		14284	33	14272	00000
27430	CM	CHI,33,10		14296	14	15139	000L3
27440	BNE	DKC+12		14308	47	13988	01200
27450	BTM	PUT,0133,8,	OUTPUT EQUAL SYMBOL	14320	17	09036	0-133
27460	BD	DOA-36,FXORFL,,	GO TO DO CODING FOR IMPLIED DO LOOP	14332	43	12482	06405
27470	B	DKER		14344	49	13728	00000
27480	DORG	+3		14352			
27490	*		RETURN HERE FROM DO CODING				
27500	DKF	CM	CHI,04,10	14352	14	15139	000-4
27510	BNE	DKER		14364	47	13728	01200
27520	BTM	PUT,0104,8,	OUTPUT RT PAREN	14376	17	09036	0-104
27530	TR	CHI-1,CHI+1		14388	31	15138	15140
27540	SM	PARCNT,1,10		14400	12	03348	000-1
27550	BN	DKER		14412	47	13728	01300
27560	SM	DKLOOP,1,10		14424	12	14143	000-1
27570	BNZ	+32		14436	47	14468	01200
27580	BNR	DKER-24,CHI+2		14448	45	13704	15141
27590	B	BEGIN		14460	49	02638	00000
27600	DORG	+3		14468			
27610	CM	CHI,23,10		14468	14	15139	000K3

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27620	BNE DKER		14480	47	13728	01200
27630	B DKBI		14482	49	14204	00000
27640	DORG +-3		14500			
27650	DKG BTM PUT,0124,8,	OUTPUT LEFT PAREN	14900	17	09036	0-124
27660	AM PARCNT,1,10		14912	11	03348	000-1
27670	TR CHI-1,CHI+1		14924	31	15138	15140
27680	AM DKLOOP,1,10		14936	11	14143	000-1
27690	CM CHI,24,10		14948	14	15139	000K4
27700	BE +-24		14960	46	14984	01200
27710	B DKD		14972	49	14084	00000
27720	DORG +-3		14980			
27730	BTM PUT,0124,8,	OUTPUT LEFT PAREN	14980	17	09036	0-124
27740	AM PARCNT,1,10		14992	11	03348	000-1
27750	TR CHI-1,CHI+1		14404	31	15138	15140
27760	AM DKLOOP,1,10		14616	11	14143	000-1
27770	B DKD		14628	49	14084	00000
27780	DORG +-3		14636			
27790	BRDCT DAC 3,ORD		14637		3 X	2
	ORD					
27800	DC 2,00		14643		2	
	-0					
27810	SWSET DC 3,00'		14646		3	
	-0'					
27820	DORG 16000		16000			
27830	TFM IDRT,++23		16000	16	00965	J6023
27840	B IDPT,8LK5,7		16012	49	00532	-9794
27850	TRA		16024	36	00000	00500
			16036	49	00000	00000
			16080			
27860	TCD 16000					
27870	*	OUT OF CORE BLOCK 6 CONTAINS THE FOLLOWING				
27880	*	OUTSC				
27890	*	CALL				
27900	*	RETURN				
27910	*	IF				
27920	*	IFSENSESWITCH				
27930	*	GOTO				
27940	DORG IOUT		10200			
27950	TFM FMON+35,BLK4,,	IOUT	10200	16	02359	-9771
27960	BTM FMON,IOUT		10212	17	02324	J0200
27970	TFM FMON+35,BLK2		10224	16	02359	-9725
27980	BTM FMON,NOMARA		10236	17	02324	J0224
27990	TFM FMON+35,BLK1,,	DIM	10248	16	02359	-9702
28000	BTM FMON,DIM		10260	17	02324	J0248
28010	TFM FMON+35,BLK1,,	COMMON	10272	16	02359	-9702
28020	BTM FMON,COMMON		10284	17	02324	J0272
28030	AM PARCNT,01,10,	IF	10296	11	03348	000-1
28040	B IF1		10308	49	13284	00000
28050	CM CHI,56,10,	GOTO	10320	14	15139	000N6
28060	B GOTOEN		10332	40	14120	00000
28070	CM CHI,53,10,	CALL	10344	14	15139	000N3
28080	B CALLEN		10356	49	12058	00000
28090	BTM COLNAM,03,10,	RETURN	10368	17	04656	000-3
28100	B RETRN		10380	49	13166	00000
28110	TFM FMON+35,BLK1,,	FORMAT	10392	16	02359	-9702
28120	BTM FMON,FORMAT		10404	17	02324	J0392

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28130	TFM FMON+35,BLK4,,	DOO	10416	16	02359	-9771
28140	BTM FMON,DOO		10428	17	02324	J0416
28150	TFM FMON+35,BLK3,,	ASCAN	10440	16	02359	-9748
28160	BTM FMON,ASCAN		10452	17	02324	J0440
28170	BD SCI,SINGST,,	OUTSC	10464	43	10884	10078
28180	B OUTSC1		10476	49	10512	00000
28190	TFM FMON+35,BLK5,,	DISK INPUT/OUTPUT	10488	16	02359	-9794
28200	BTM FMON,DKIO		10500	17	02324	J0488
28210	**	OUTSC CODE IS HERE				
28220	DORG ASCAN1		12058			
28230	***	ENTER HERE TO DECOMPOSE CALL STATEMENT	***			
28240	CALLER BNE ERRO1		12058	47	04282	01200
28250	TR CHI-L,CHI+1		12070	31	15138	15140
28260	BTM COLNAM,04,10		12082	17	04656	000-4
28270	C SYN,EXITCT+6		12094	24	10059	13129
28280	BY CALLER-48		12106	46	12154	01400
28290	BE EXITGD		12118	46	12662	01200
28300	C SYN,LINKCT+6		12130	24	10059	13137
28310	BE LINKGD		12142	46	12718	01200
28320	TDM CALLSW,1		12154	15	10089	00001
28330	BTM PUT, 138,8,CALL		12166	17	09036	0-138
28340	CM CHI,40,10		12178	14	15139	000M0
28350	BM +-24		12190	46	12214	01100
28360	CALLER BTM ERROR,279,9,	INCORRECT CALL NAME OR LIST	12202	17	09330	00K79
28370	CM CHI,69,10		12214	14	15139	000D9
28380	BM CALLER		12226	46	12202	01100
28390	SF OUTSW		12238	32	07820	00000
28400	BTM CSORN,++12		12250	17	09690	J2262
28410	BNR CALLB,CHI+2		12262	45	12338	15141
28420	BD CALLA,INSW		12274	43	12318	03279
28430	BTM PUT,0152,8,	FUNCTION OPERATOR CALL	12286	17	09036	0-153
28440	TDM SMCNT,16		12298	15	07248	00000
28450	DC 1,*,*		12309		1	
28460	B BEGIN		12310	49	02638	00000
28470	DORG +-3		12318			
28472	CALLA BNR ERROR9,SMCNT,11		12318	45	07956	07248
28474	B BEGIN		12330	49	02638	00000
28476	DORG +-3		12338			
28480	CALLB BD +-24,FNTSW		12338	43	12362	10080
28490	BTM ERROR,279,9,	SYN PREVIOUSLY USED NOT AS CALL NAME	12350	17	09330	00K79
28500	BMF +-20,FNTSW		12362	44	12382	10080
28510	B +-24,*,*	TRYING TO CALL SINGLE STATMNT FUNCT	12374	49	12350	00000
28520	DORG +-3		12382			
28530	TDM FNTSW,0		12382	15	10080	00000
28540	CM CHI,24,10		12394	14	15139	000K4
28550	BNE CALLER		12406	47	12202	01200
28560	BTM PUT, 124,8,LEFT PAREN		12418	17	09036	0-124
28570	AM PARCNT,1,10		12430	11	03348	000-1
28580	CM CHI+2,4,10,	TEST FOR NO FUNCTION ARGUMENTS	12442	14	15141	000-4
28600	BE CALLER		12454	46	12702	01200
28610	CALL1 TFM ASCAN+23,CLASEN		12466	14	10463	J4678
28620	B ASCAN,*,*	GO TO ARITHMETIC SCAN	12478	49	10440	00000
28650	DORG +-3		12486			
28700	CALL2 CM CHI,23,10,	TEST FOR MORE ARGUMENTS	12486	14	15139	000K3
28790	BNE +-32		12498	47	12530	01200

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28800	BTM	PUT,	123,8,COMMA	12510	17	09036	0-123
28820	B	CALL1		12522	49	12466	00000
28830	DORG	*-3		12530			
28840	CM	CHI,4,10		12530	14	15139	000-4
28850	BE	+*32		12542	46	12574	01200
28860	TFM	ASCAN+23,ASC1		12554	14	10463	J2658
28870	B	ASCAN...	GO TO SCAN ARITH EXPRESSION OPERATOR	12564	49	10440	00000
28880	DORG	*-3		12574			
28890	BTM	PUT,	104,8,RIGHT PAREN	12574	17	09036	0-104
28900	SM	PARCNT,1,10		12586	12	03348	000-1
28910	TR	CHI-1,CHI+1		12598	31	15138	15140
28920	BZ	+*32		12610	46	12642	01200
28930	BNR	CALL2,CHI+2		12622	45	12486	15141
28940	B	CALLER		12634	49	12202	00000
28950	DORG	*-3		12642			
28960	BNR	CALLER,CHI+2		12642	45	12202	15141
28970	B	BEGIN		12654	49	02638	00000
28980	DORG	*-3		12662			
28990	EXITCD	BNR	CALLER-48,CHI+10	12662	45	12154	15149
29000	TDM	TRIND,1,11		12674	15	03185	0000J
29010	BTM	PUT,0131,8,	CALL EXIT SYMBOL	12686	17	09036	0-131
29020	BTM	PUT,0140,8,	DUMMY	12698	17	09036	0-140
29030	B	BEGIN		12710	49	02638	00000
29040	DORG	*-3		12718			
29050	LINKCD	CM	CHI+8,24,10	12718	14	15147	000K4
29060	BE	+*32		12730	46	12762	01200
29070	BNR	CALLER-48,CHI+8		12742	45	12154	15147
29080	B	ERR01		12754	49	04282	00000
29090	DORG	*-3		12762			
29100	TDM	TRIND,1,11	CALL LINK SYMBOL	12762	15	03185	0000J
29110	BTM	PUT,0152,8,		12774	17	09036	0-152
29120	BTM	PUT,0140,8		12786	17	09036	0-140
29130	BTM	PUT,0140,8		12798	17	09036	0-140
29140	TR	CHI-1,CHI+9		12810	31	15138	15148
29150	CM	CHI,40,10		12822	14	15139	000M0
29160	SNH	CALLER		12834	47	12202	01100
29170	CM	CHI,69,10		12846	14	15139	000D9
29180	RH	CALLER		12858	46	12202	01100
29190	TR	OUTAR,MASKLK		12870	31	13138	13152
29200	TF	OUTAR+1,CHI		12882	26	13139	15139
29210	TR	CHI-1,CHI+1		12894	31	15138	15140
29220	TFM	LKCD3+6,OUTAR+3		12906	16	12968	J3141
29230	LKCD1	CM	CHI,40,10	12918	14	15139	000M0
29240	BNH	LKCD4		12930	47	13006	01100
29250	BNR	LKCD3,LKCD3+6,11		12942	45	12962	1296Q
29260	B	ERR01		12954	49	04282	00000
29270	DORG	*-3		12962			
29280	LKCD3	TF	,CHI,	12962	26	00000	15139
29290	TR	CHI-1,CHI+1		12974	31	15138	15140
29300	AM	LKCD3+6,02,10		12986	11	12968	000-2
29310	B	LKCD1		12998	49	12918	00000
29320	DORG	*-3		13006			
29330	LKCD4	CM	CHI,04,10	13006	14	15139	000-4
29340	BNE	ERR01		13018	47	04282	01200
29380	BNR	ERR01,CHI+4		13030	45	04282	15143
29390	CF	OUTAR+2		13042	33	13140	00000

29400	CF	OUTAR+6		13054	33	13144	00000
29410	CF	OUTAR+10		13066	33	13148	00000
29420	BT	PUT,OUTAR+3		13078	27	09036	13141
29430	BT	PUT,OUTAR+7		13090	27	09036	13145
29440	BT	PUT,OUTAR+11		13102	27	09036	13149
29450	B	BEGIN		13114	49	02638	00000
29460	DORG	*-3		13122			
29470	EXITCT	DAC	4,EXIT	13123		4 X	2
		EXIT					
29480	LINKCT	DAC	4,LINK	13131		4 X	2
		LINK					
29490	OUTAR	DSS	14	13138		14	
29500	DC	4,0		13155		4	
		-000					
29510	MASKLK	DS	,*-3	13152		0	
29520	DC	4,0		13159		4	
		-000					
29530	DC	4,0		13163		4	
		-000					
29540	DC	2,0'		13165		2	
		-'					
29550	***	ENTER HERE TO OUTPUT RETURN STATEMENT	***				
29560	RETRN	C	SYM,URNCT+4	13166	24	10059	13283
29570	BNE	ERR01		13178	47	04282	01200
29580	BD	+*44,SUBFCT		13190	43	13234	02293
29590	BTM	ERR0R2,577,9		13202	17	09486	00N77
29600	BD	BEGIN,NOIND		13214	43	02638	03243
29610	B	BEGINA		13226	49	02650	00000
29620	DORG	*-3		13234			
29630	BTM	PUT,	139,8,RETURN	13234	17	09036	0-139
29640	BTM	PUT,	140,8,DUMMY	13246	17	09036	0-140
29650	TDM	RTSW,1		13258	15	05625	00001
29660	B	BEGIN		13270	49	02638	00000
29670	DORG	*-3		13278			
29680	URNCT	DAC	3,URN	13279		3 X	2
		URN					
29690	*****	OUTPUT IF CODING	*****				
29700	*****		*****				
29710	IF1	TDM	TRIND,1,11,	13284	15	03185	0000J
			SET TRANSFER INDICATOR ON	13296	17	09036	0-107
29720	BTM	PUT,	107,8,IF SYMBOL	13308	17	09036	0-124
29730	BTM	PUT,	124,8,LEFT PAREN SYMBOL	13320	43	13340	10079
29740	BD	+*20,ODTRAN,,	TEST IF DO LOOP ENDING WITH TRANSFER	13332	49	13352	00000
29750	B	+*20		13340			
29760	DORG	*-3		13340			
29770	BTM	ERR0R2,571,9		13340	17	09486	00N71
29780	TDM	IFSW,1,,	SET SWITCH TO INDICAT IF STATEMENT	13352	15	10085	00001
29790	TFM	STC,3,10		13364	16	05629	000-3
29800	CM	CHI,04,10,	TEST FOR VACEOUS PARENS	13376	14	15139	000-4
29810	BE	ERR02		13388	46	13468	01200
29820	*	IFSS CODE					
29830	BTM	COLNAM,11,10		13400	17	04656	000J1
29840	C	SYM,SENSWC+20		13412	24	10059	14321
29850	BV	+*24		13424	46	13448	01400
29860	BE	ERR02+12		13436	46	13480	01200
29870	TFM	ASCAN+23,IFASEN		13448	16	10463	J4658
29880	B	ASCAN...	GO TO SCAN EXPRESSION	13460	49	10440	00000

29890	DORG	--3		13468			
29900	ERR02	BTM	ERROR,72,9	13468	17	09330	00-72
29910		TR	CHI-1,CHI+21	13480	31	15138	15140
29920		BTM	PUT, 130,8,SENSE SWITCH SYMBOL	13492	17	09036	0-130
29930		CM	CHI,70,10	13504	14	15139	000P0
29940		BH	**24	13516	46	13540	01100
29950		BTM	ERROR,174,9, SWITCH NUMBER IN ERROR	13528	17	09330	00J74
29960		TDM	DINSW,1	13540	15	10084	00001
29970		BTM	CSTND,**12,	13552	17	05398	J3564
29980		TDM	DINSW,0	13564	15	10084	00000
29990		SF	SYM=3	13576	32	10056	00000
30000		BT	PUT,SYM,, PUT OUT SWITCH NUMBER	13588	27	09036	10059
30010		CM	CHI,4,10, LOOK FOR RIGHT PAREN	13600	14	15139	000-4
30020		BNE	IF=36	13612	47	10332	01200
30030		SM	PARCNT,1,10	13624	12	03348	000-1
30040		BTM	PUT, 104,8,RIGHT PAREN SYMBOL	13636	17	09036	0-104
30050		TFM	STC,2,10, SET UP TO OUTPUT TWO STATEMENT NUMBERS	13648	16	05629	000-2
30060	OUTSN	TR	CHI-1,CHI+1	13660	31	15138	15140
30070		SF	OUTSN	13672	32	07020	00000
30080		CM	CHI,69,10	13684	14	15139	00009
30090		BH	**24	13696	46	13720	01100
30100		BTM	ERROR,175,9, INCORRECT STATEMENT NUMBER	13708	17	09330	00J75
30110		BTM	CSTND,**12,, COLLECT AND OUTPUT STATEMENT NUMBER	13720	17	05398	J3732
30120		BD	**20,INSW	13732	43	13752	03279
30130		B	**32	13744	49	13776	00000
30140		DORG	--3	13752			
30150		AM	SMADD,4,10	13752	11	07194	000-4
30160		BD	OUTSNE-12,SMADD,11	13764	43	13832	0719M
30170		BD	OUTSN2,CGTO,, BRANCH IF IN COMPUTED GO TO	13776	43	13908	10086
30180		SM	STC,1,10	13788	12	05629	000-1
30190		BH	OUTSNE+20	13800	46	13864	01100
30200		BNR	**32,CHI+2	13812	45	13844	15141
30210		B	BEGIN	13824	49	02638	00000
30220		DORG	--3	13832			
30230		BTM	ERROR,77,9	13832	17	09330	00-77
30240	OUTSNE	BTM	ERR02,573,9, INCORRECT NUMBER OF STATEMENT NUMBERS	13844	17	09486	00N73
30250		B	BEGIN	13856	49	02638	00000
30260		DORG	--3	13864			
30270		CM	CHI,23,10	13864	14	15139	000K3
30280		BNE	OUTSN+48	13876	47	13708	01200
30290		BNR	OUTSN,CHI+4	13888	45	13660	15143
30300		B	OUTSN+48	13900	49	13708	00000
30310		DORG	--3	13908			
30320	OUTSN2	CM	CHI,4,10	13908	14	15139	000-4
30330		BNE	OUTSNE+20	13920	47	13864	01200
30340		SM	PARCNT,1,10	13932	12	03348	000-1
30350		TR	CHI-1,CHI+1	13944	31	15138	15140
30360		BTM	PUT,104,8	13956	17	09036	0-104
30370		BNR	**24,CHI+2	13968	45	13992	15141
30380	OUTSN3	BTM	ERROR,176,9, INDEX OF COMP. GO TO MISSING OR INVALID	13980	17	09330	00J76
30390		CM	CHI,23,10	13992	14	15139	000K3
30400		BNE	**24	14004	47	13980	01200
30410		TR	CHI-1,CHI+1	14016	31	15138	15140
30420		CM	CHI,49,10, TEST FOR FIXED POINT VAR	14028	14	15139	000M9
30430		BL	OUTSN3	14040	47	13980	01300
30440		CM	CHI,55,10	14052	14	15139	000N5

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30450		BH	OUTSN3	14064	46	13980	01100
30460		BTM	CSORN,**12	14076	17	05690	J4088
30470		BD	OUTSN3,SMCNT,11	14088	43	13980	0724P
30480		BT	PUT,SMADD-1	14100	27	09036	07193
30490		B	OUTSNE-32	14112	49	13812	00000
30500		DORG	--3	14120			
30510	***		ENTER HERE TO OUTPUT GO TO STATEMENT ***				
30520	GOTOEN	BNE	SPERR	14120	47	09230	01200
30530		TDM	TRIND,1,11, SET TRANS INDICATOR	14132	15	03185	0000J
30540		BD	**20,DOTRAN	14144	43	14164	10079
30550		B	**20	14156	49	14176	00000
30560		DORG	--3	14164			
30570		BTM	ERR02,571,9	14164	17	09486	00N71
30580		TR	CHI-1,CHI+1	14176	31	15138	15140
30590		CM	CHI,24,10, TEST FOR COMPUTED GO TO	14188	14	15139	000K4
30600		BE	COMPUT	14200	46	14244	01200
30610		TFM	STC,1,10	14212	16	05629	000-1
30620		BTM	PUT, 105,8,GO TO SYMBOL	14224	17	09036	0-105
30630		B	OUTSN+12,, BRANCH TO OUTPUT STATEMENT NUMBER	14236	49	13672	00000
30640		DORG	--3	14244			
30650	COMPUT	BTM	PUT, 104,8,COMPUTED GO TO SYMBOL	14244	17	09036	0-104
30660		BTM	PUT, 124,8,LEFT PAREN SYMBOL	14256	17	09036	0-124
30670		AM	PARCNT,1,10	14268	11	03348	000-1
30680		TDM	CGTO,1	14280	15	10086	00001
30690		B	OUTSN,, BRANCH TO OUTPUT STATEMENT NUMBERS	14292	49	13660	00000
30692		DORG	--3	14300			
30700	SENSWC	DAC	11,SENSESWITCH	14301		11 X	2
30710		DORG	16000	16000			
30720		TFM	IDRT,**23	16000	16	00565	J6023
30730		B	IOPT,BLK6,7	16012	49	00532	-9817
30740		TRA		16024	36	00000	00500
				16036	49	00000	00000
30750		TCD	16000	16000			
30760		DEND		00000			

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AOLIT1	08608	E94620	09474	OUTSN3	13980	BLK3	09748	DIMMO	10677
AOSAVE	08471	ENSIOM	11568	OUTSME	13844	BLK4A	09779	DIM	10248
AOSUBP	08448	ENTLOG	02248	PARCNT	03348	BLK4	09771	DIMSW	10084
ADVAR1	08204	EQLDOP	12236	PAUSEM	13790	BLK5A	09802	DIMTP	11185
ADVAR2	08252	EQUIVN	10716	PHBDAT	16000	BLK5	09794	DKA	13684
ADVLOP	08172	ERRDR2	09486	PHBDDA	16008	BLK6A	09825	DKB1	13944
ADXLIT	08664	ESNOPL	03052	PROGST	02257	BLK6	09817	DKB	13764
ASC27A	14150	EXCESS	06722	PRSCAN	02454	BLK7A	09848	DKC	13976
ASC281	14422	EXITCD	12662	PUSTSM	02294	BLK7	09840	DKD1	14204
ASCAN1	12058	EXITCT	13123	PUTOUT	09372	BLK8	02461	DKD	14084
BEGINA	02650	FCTEND	02318	RETURN	10368	BLOC	02796	DKER	13728
CSDATA	09883	FCTESF	08832	RTCALL	13242	C1	11931	DKE	14272
CALLEM	12058	FLNUMB	06414	A1	11923	C2	11943	DKF	14352
CALLER	12202	FMTCTST	10009	A2	11935	CALLC	11176	DKG	14500
CALLP2	02400	FNTSM1	10081	ADLIT	08536	CALL1	12466	DKID1	13240
CALLSW	10089	FNTSM2	07391	ADSTN	08760	CALL2	12486	DKID2	13308
CDDATA	09875	FOMATI	12230	ADVAR	08076	CALLA	12318	DKID	10408
KRCNTU	04836	FORMS1	13458	AERR1	09530	CALLB	12338	DKL	13640
KRCTAR	04106	FORN99	12370	AERR	12214	CALL	10344	DKPUT	13500
CLASEN	14678	FORMAT	10392	AFTBL	15035	CARD	15036	DKSW1	14240
CLDGT1	14534	FORMER	12734	ALFAT	10976	CCNO	05148	DKSW2	14262
CLDGT2	14594	FREQSW	14170	ASC11	14406	CGTO	10086	DMVAR	08076
COLNAM	04656	FUNCTA	13658	ASC12	13874	CHI5	15839	DOA	12518
COMADD	02262	FXNUMB	06310	ASC14	14626	CHI	15139	DOB	12670
COMER2	09542	FXORFL	06405	ASC15	13790	CKCM1	04922	DOC1	12446
COMER3	12148	GENDIM	11072	ASC1A	12094	CKCN2	05050	DOCK	12390
COMINA	11924	GOTOEN	14120	ASC1	12658	CKCN3	05238	DOC	12294
COMMEN	11576	IATYPE	14177	ASC21	13282	CKCN4	05338	DOE	12926
COMMON	10272	IFASEN	14658	ASC22	12238	CKEND	03336	DOO	10416
COMPUT	14244	IFSCAN	12274	ASC23	12438	CKRM	02954	DO	12190
CONTEN	13724	INTOP1	02385	ASC24	12942	CLDGT	14478	EBASE	12295
CSTN01	05502	ILOOP	14075	ASC25	12986	CMPAR	06590	ENDCT	10015
DECODA	04026	IOUTEN	13148	ASC26	13426	COMAB	11812	END	09554
DECODE	03802	IOUTER	13240	ASC27	14082	COMA	11744	EQ1	10860
DEFINE	13990	IVALEN	13109	ASC28	14318	COMC	12024	EQ21	11076
DIMERR	07452	LEADRL	03106	ASC29	14198	COMER	09542	EQ22	12204
DIMNOT	10545	LENGTH	02248	ASC30	14242	COME	11968	EQ23	11444
DISKSW	02383	LINKCD	12718	ASC31	14478	COMIN	11876	EQ24	11312
DKIOEN	13148	LINKCT	13131	ASC3	12550	COMM	12068	EQ4	11700
DKLIST	13380	LITERL	07672	ASC4	12414	COMST	02382	EQ7	11756
DKLOOP	14143	LUSTNO	08696	ASC6	12526	COMSW	10090	EQBR	11588
DLLOOP	12058	MASKLK	13152	ASC7	12598	CONT	11772	EQR	10788
DDTEST	13147	MODAFT	09888	ASC8	13754	CSORN	05690	EQU5W	10088
DOTRAN	10079	MONCAL	00796	ASC9	14586	CSPVA	03642	ERMES	09981
E37061	07884	MOVDIM	11116	ASCAN	10440	CS	05834	ERR01	04282
E83230	10956	MOVEIT	11224	ASCER	14026	CSTNO	05398	ERR02	13468
E84130	11940	MULDEF	02384	AVOID	06018	CTION	13715	ERR09	07956
E84180	11984	NNARAA	10512	B1	11927	D1	11951	ERR44	14420
E84240	12056	NNARAA	10224	B2	11939	D2	11963	ERR60	14420
E84330	12160	NNARI	04138	BA	02730	D3	11975	ERRT	00602
E84560	12472	NOPARM	14700	BEGIN	02638	D4	11987	ERRDR	09330
E84695	12616	NUMBER	06102	BLK1A	09710	DEFCT	14407	ERSW	05626
E84710	12856	OUTS12	13262	BLK1	09702	DIM1	10596	ESNO	02736
E84804	13028	OUTSCL	10512	BLK2A	09733	DIM2	11484	ETYPE	12998
E86440	02430	OUTSCE	04795	BLK2	09725	DIM3	11552	EXIT	09214
E94270	09080	OUTSN2	13908	BLK3A	09756	DIMEN	10512	FCMA	13594

FCTST	07932	IOF	14236	MODE	06403	SALT	05894	TEMP5	04173
FLIST	14706	IOG	14420	MON	12161	SAVE1	11551	TEMP	04161
FLNG	02250	IOGT	00566	MV1	11604	SAVE2	12867	TEND	02303
FMON	02324	IOLR	13800	MV2	11692	SAVE3	11779	TENZ	10071
FMSW	10082	IOPT	00532	MV3	11740	SC1	10884	TINUE	13781
FNTSW	10080	IORBC	00520	N1	02233	SC22	10620	TONY	11508
FOMAT	12166	IORT	00565	N2	02238	SC2	06090	TPCST	13615
FORN1	12534	IOSK	00554	NOIND	03243	SC3	10928	TRIND	03185
FORN2	12874	IOSW	10091	NUMB1	06254	SC4	10764	URNCT	13279
FORN3	13046	IOUT1	13532	NUMB2	06558	SC5	10824	VARBR	06498
FORN4	13898	IOUT2	13284	NUMB3	06462	SC9	11164	VARSW	07567
FORN5	13414	IOUT3	13364	NUMB5	06290	SCHI	06001	WIDCK	14252
FORN7	13662	IOUT4	13552	NUMB	06182	SD	10788	WIDTH	14241
FORN8	13770	IOUT5	13424	NXLOC	02372	SETDM	10680	W	02240
FORN	03518	IOUT	10200	OMM	10087	SLASH	12638	MW	02296
FORNK	13930	I	11955	ORDCT	14637	SMADD	07194	ZER13	10075
FP2	02298	JAY	02367	OUTAR	13138	SMCNT	07247	SAVSYM	02243
FTYPE	12954	JOE	07156	OUTSC	10464	SMLNG	05917	SENSWC	14301
FXLIT	08012	J	11967	OUTSN	13660	SMTLU	06940	SETDM2	10836
GOTO	10320	KLNG	02252	OUTSW	07020	SPERR	09230	SETDM3	11016
HERE	12692	K	11979	P2PTR	02313	SPGS	09314	SETDM4	11276
HOLL1	14058	L1	04222	PA1	10934	STAFT	04413	SETDM5	11384
HOLL	13998	L2	04294	PA2	10782	STBL	02377	SETFRQ	14170
IFI	13284	L4	11796	PAUS	13846	STC	05629	SETIND	08276
IF	10296	L5	11832	PCNT	14093	STNER	03418	SINGST	10078
IFSW	10085	L6	11876	PI	11038	STSN	05627	SMLDOP	07020
IND1	11519	LDPHB	16024	PLUS	06818	SUBP1	13244	STNDSW	10083
IND2	11538	LEADZ	03374	PLUS	10011	SUBP2	13448	STOPEN	13958
INDIV	02424	LITF	07720	PR	12581	SUBPA	13124	SUBFCY	02293
INOUT	13616	LKCD1	12918	PTYPE	12830	SUBPF	13208	SUBPUT	13280
INSW	03279	LKCD3	12962	PUT	09036	SUBSW	10092	SUBSTY	08300
INTOP	09221	LKCD4	13006	READ1	02894	SUBTR	08436	TBLFUL	07136
IOA	13756	LSTAD	02308	RECLG	02243	SWSET	14646	TPARCT	14698
IOB	13908	LSTEN	07011	REF	08987	SYN	10059	URDATA	09867
IOCAL	00716	LUXIT	07508	RETRN	13146	TBCM	04498	USEDPS	02263
IOD	14016	MASK	11989	ROUTN	13645	TBCNT	02429	XCLDGT	14638
IOE	14156	MODAD	07871	RTSW	05825	TBST	04652	ZERSYM	06939

END OF ONE ASSEMBLY.

1620 FORTRAN II-D PHASE 1-C				PAGE	1
00010	*****	1620 FORTRAN II-D PHASE 1-C	STORAGE ALLOCATION		
00020		DORG 02218		02218	
00030		DC 5	,-100	02222	5
		-010-			
00040		DC 1	,2	02223	1
		K			
00050		DC 2	,67	02225	2
		07			
00060		DC 6	,987898	02231	6
		R87898			
00070	N1	DC 2	,0	02233	2
		-0			
00080	N2	DC 5	,0	02238	5
		-0000			
00090	W	DC 2	,0	02240	2
		-0			
00100	RECLG	DC 3	,000	02243	3
		-00			
00110	SAVSYM	DS 12	,RECLG	02243	12
00120	LENGTH	DS 5		02248	5
00130	FLMG	DS 2		02250	2
00140	KLNG	DS 2		02252	2
00150	PROGST	DC 5	,00000	02257	5
		-0000			
00160	COMADD	DS 5		02262	5
00170	USEDFS	DSC 30	,0	02263	30
		000000000000000000000000000000			
00180	SUBFCT	DC 1	,0	02293	1
		-			
00190	PUSTSM	DS 1		02294	1
00200	***	PUSTSN = 2 FOR PAPER TAPE			
00210	***	PUSTSN = 4 FOR CARDS			
00220	MW	DS 2		02296	2
00230	FP2	DS 2		02298	2
00240	TEND	DS 5		02303	5
00250	LSTAD	DS 5		02308	5
00260	P2PTR	DS 5		02313	5
00270	FCTEND	DS 5		02318	5
00280		DS 5		02323	5
00290	FROM	TF ++42,FROM-1,,	SETUP ROUTINE ENTRY	02324	24 02366 02323
00300		TFM IORT,++23		02336	16 00565 -2359
00310		B IOGT,,7		02348	49 00566 -0000
00320		B ***	GO TO EXECUTE CALLED ROUTINE	02360	49 00000 00000
00330		DORG *-4		02367	
00340	JAY	DS 1		02367	1
00350	NXLOC	DS 5		02372	5
00360	STBL	DS 5		02377	5
00370	COMST	DS 5		02382	5
00380	DISKSW	DC 1,0		02383	1
		-			
00390	MULDEF	DC 1,0		02384	1
		-			
00400	INTDP1	DSC 1,0		02385	1
		0			
00410		DC 5,00600		02390	5
		-0600			

00420	DC	3,001		02393	3		
	-01						
00430	DSA	CARD		02398	5 X	1	
				02398	-3274		
00440	DC	1, '		02399	1		
	'						
00450	CALLP2	TFM	FMOM+35, BLK8	02400	16	02359	-2461
00460	BTM	FMOM, CALLP2		02412	17	02324	-2400
00470	INDIV	DS	1	02424		1	
00480	*	INDIV	= 0 FOR CARDS, 1 FOR TYPEWRITER,				
00490	*		FLAGGED 3 FOR PAPER TAPE				
00500	TBCNT	DS	5	02429		5	
00510	ENTLOG	DS	,USEDPS+4	02267		0	
00520	AFTBL	DS	,15035	15035		0	
00530	CHI	DAS	430,15139	15139		430 X	2
00540	CHIS	DS	,CHI+700	15839		0	
00550	IOCAL	DS	,716	00716		0	
00560	IOGT	DS	,566	00566		0	
00570	IOBCC	DS	,520	00520		0	
00580	IOPT	DS	,532	00532		0	
00590	IOSK	DS	,554	00554		0	
00600	ERRET	DS	,602	00602		0	
00610	IORT	DS	,565	00565		0	
00620	MONCAL	DS	,796	00796		0	
00630	E86440	SF	K1+4	02430	32	10875	00000
00640	BT	OUTADD,PROGST,,	INIT OUTPUT ROUTINE	02442	27	10270	02257
00650	B	AROUND		02454	49	02484	00000
00660	DDRG	*-4		02461			
00670	BLK8	DSC	2,22	02461		2	
	22						
00680	DSA	BLK8A		02467		5 X	1
				02467		-2469	
00690	DC	1, '		02468		1	
	'						
00700	BLK8A	DSC	1,0	02469		1	
	0						
00710	DC	5,17800		02474		5	
	J7800						
00720	DC	3,136		02477		3	
	J36						
00730	DSA	CALLP2		02482		5 X	1
				02482		-2400	
00740	DC	1, '		02483		1	
	'						
00750	AROUND	TDM	SYM+1, *-*	02484	15	03400	00000
00760	DC	1, ', *		02495		1	
	'						
00770	SF	SYM+1, , ,	FLAGGED TERMINAL RM TO INDICATE CARD END	02496	32	03400	00000
00780	SM	PROGST,01,10		02508	12	02257	000-1
00790	TF	LOC,PROGST		02520	26	03406	02257
00800	TD	PTRA+2,PUSTSN		02532	25	11506	02294
00810	AM	PTRA+2,06,10		02544	11	11506	000-6
00820	TFM	SMADD,0,		02556	16	03359	-0000

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00830	S	SMADD,STBL		02568	22	03359	02377
00840	AM	SMADD,5,10		02580	11	03359	000-5
00850	TF	SMCNT,STBL		02592	26	03364	02377
00860	SM	SMCNT,6,10		02604	12	03364	000-6
00870	TF	MODAD,STBL		02616	26	03369	02377
00880	SM	MODAD,4,10		02628	12	03369	000-4
00890	E86601	SM	SMCNT,10,10	02640	12	03364	000J0
00900	SM	MODAD,10,10		02652	12	03369	000J0
00910	AM	SMADD,10,10		02664	11	03359	000J0
00920	BNR	*+20,SMCNT,11,	TEST FOR END OF TABLE	02676	45	02696	0336M
00930	B	E87210		02688	49	03608	00000
00940	DDRG	*-3		02696			
00950	BNF	E86601,SMCNT,11,	TEST FOR LITERAL	02696	44	02640	0336M
00960	BNF	STMTNO,MODAD,11,	TEST FOR STMT NO	02708	44	03456	0336M
00970	CF	SMCNT,6		02720	33	0336M	00000
00980	CF	MODAD,6		02732	33	0336M	00000
00990	TF	SYM,SMADD,11		02744	26	03399	0335R
01000	CF	SMADD		02756	33	03359	00000
01010	RD	E86801-48,MODAD,11,	BRANCH IF FIXED	02768	43	02860	0336R
01020	SM	SMADD,2,610		02780	12	0335R	000-2
01030	TF	*+23,SMADD,11		02792	26	02815	0335R
01040	TF	SYM-2		02804	24	03397	00000
01050	A	LOC,FP2		02816	21	03406	02298
01060	TF	SMADD,LOC,6		02828	24	0335R	03406
01070	TF	E86801+11,FP2		02840	26	02919	02298
01080	B	E86801-12		02852	49	02896	00000
01090	DDRG	*-3		02860			
01100	A	LOC,KLNG		02860	21	03406	02252
01110	TF	SMADD,LOC,6		02872	26	0335R	03406
01120	TF	E86801+11,KLNG		02884	26	02919	02252
01130	TFM	E86820+6,SYM+1		02896	16	02974	-3400
01140	E86801	SM	E86820+6, , , FP2 OR KLNG	02908	12	02974	-0000
01150	BNC1	*+60		02920	47	02980	00100
01160	RCTY			02932	34	00000	00102
01170	ABASE	DS	,*-5	02938		0	
01180	WNTY	LOC-4		02944	38	03402	00100
01190	SPTY			02956	34	00000	00101
01200	WDLN	DS	,*-5	02962		0	
01210	E86820	WNTY		02968	38	00000	00100
01220	AM	SMADD,5,10		02980	11	03359	000-5
01230	TDM	SMADD,6		02992	15	0335R	00000
01240	DC	1, ', *		03003		1	
	'						
01250	SM	SMADD,5,10		03004	12	03359	000-5
01260	SF	SMADD		03016	32	03359	00000
01270	TF	OUTLIT+21,E86820+6		03028	26	03073	02974
01280	BD	LL1,PUSTSN		03040	43	03082	02294
01290	OUTLIT	BTM	OUTK,*+16	03052	17	09692	-3068
01300	DSA	E86801+11,E86820+6		03068		5 X	2
				03068		-2919	
				03073		-2974	
01310	B	E86601		03074	49	02640	00000
01320	DDRG	*-3		03082			
01330	LL1	TR	CARD,CARD-01, , , INIT FOR PUNCHING CARDS/PAPERTAPE	03082	31	03274	03193
01340	TF	CARD+4,LOC		03094	26	03278	03406

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01345	CF	SYM+1		03106	33	03400	00000
01350	TR	CARD+6,E86020+6,11		03118	31	03280	0297M
01355	SF	SYM+1		03130	32	03400	00000
01360	TD	PTCD+2,PUSTSM		03142	25	03191	02294
01370	TFM	IGRT,++23		03154	16	00945	-3177
01380	B	IOPT,PTCD-4,7		03166	49	00532	-3145
01390	B	OUTLIT		03178	49	03052	00000
01400	DDRG	+4		03185			
01410	PTCD	DSA	CARD	03189		5 X	1
				03189		-3274	
01420	DC	3,00*		03192		3	
01430	DNB	50		03242		50	
01440	DNB	30		03272		30	
01450	DC	1,*		03273		1	
01460	CARD	DSS	81	03274		81	
01470	SMADD	DS	5	03359		5	
01480	SMCNT	DS	5	03364		5	
01490	MODAD	DS	5	03369		5	
01500	SYM	DS	30	03399		30	
01510	DS	2		03401		2	
01520	LOC	DS	5	03406		5	
01530	DC	1,*		03407		1	
01540	TEMP	DS	5	03412		5	
01550	TEMP2	DS	5	03417		5	
01560	TEMP3	DS	5	03422		5	
01570	TEMP5	DS	5	03427		5	
01580	SAVE1	DS	5	03432		5	
01590	SAVE2	DS	5	03437		5	
01600	SAVE3	DS	5	03442		5	
01610	ADSAVE	DS	5	03447		5	
01620	EBASE	DS	5	03452		5	
01630	MODE	DC	2,0	03454		2	
01640	STMTNO	TF	SYM,SMADD,11	03456	26	03399	0335R
01650	CF	SMADD,1		03468	33	03359	00000
01660	TFM	SMADD,+6		03480	16	0335R	00000
01670	DC	5,0000*,*		03491		5	
01680	TF	+35,SMADD		03492	26	03527	0335R
01690	AM	+23,5,10		03504	11	03527	000-5
01700	STMNT1	BD	STMNT2,0,	03516	43	03564	00000
01710	RCTY			03528	34	00000	00102
01720	WNTY	SYM-3		03540	38	03396	00100
01730	BTM	ERROR2,579,9		03552	17	10882	00N79
01740	STMNT2	TF	STMNT1+11,SYM+1,6, TABLE STMT NO. AND REC MARK	03564	26	0352P	03400
01750	SF	STMNT1+11,6, SET FLAG OVER R/M FOR PASS 2		03576	32	0352P	00000
01760	SF	SMADD		03588	32	03359	00000
01770	B	E86601		03600	49	02640	00000
01780	DDRG	+3		03608			
01790	E87210	TFM	SYM+2,10,	03608	16	03401	000-0
01800	DC	1,*,*		03619		1	

01810	TF	TEND,MODAD		03620	26	02303	03369
01820	BD	E92210,SUBFCT,, TEST IF IN SUBPROGRAM COMPILATION		03632	43	07736	02293
01830	TF	TRASE,FCTEND		03644	26	07555	02318
01840	B	BURFDUM,, GO TO OUTPUT BUFFER		03656	49	09492	00000
01850	DDRG	+4		03663			
01860	TF	SMADD,TRASE		03664	26	03359	07555
01870	AM	SMADD,1,10		03676	11	03359	000-1
01880	E87270	TF	SMCNT,TRASE	03688	26	03364	07555
01890	AM	SMCNT,5,10		03700	11	03364	000-5
01900	TF	MODAD,TRASE		03712	26	03369	07555
01910	AM	MODAD,2,10		03724	11	03369	000-2
01920	B	E87310+36		03736	49	03780	00000
01930	DDRG	+3		03744			
01940	E87310	SM	SMADD,10,10	03744	12	03359	000J0
01950	SM	MODAD,10,10		03756	12	03369	000J0
01960	SM	SMCNT,10,10		03768	12	03364	000J0
01970	TF	SYM,ZER13-1		03780	26	03399	11489
01980	C	SMADD,TEND,, TEST FOR END OF TABLE		03792	24	03359	02303
01990	BE	E93010		03804	44	00538	01200
02000	BMR	E87420,SMCNT,11, TEST FOR CONST OR VARIABLE ASSIGNED		03816	45	03948	0336M
02010	SM	SMADD,01,10		03828	12	03359	000-1
02020	BMR	+32,SMADD,11		03840	45	03872	0335R
02030	AM	SMADD,1,10		03852	11	03359	000-1
02040	B	E87310		03864	49	03744	00000
02050	DDRG	+3		03872			
02060	AM	SMADD,1,10		03872	11	03359	000-1
02070	BD	+20,MODAD,11,		03884	43	03904	0336R
02080	B	E87310		03896	49	03744	00000
02090	DDRG	+3		03904			
02100	SM	SMADD,10,10		03904	12	03359	000J0
02110	SM	SMCNT,10,10		03916	12	03364	000J0
02120	SM	MODAD,10,10		03928	12	03369	000J0
02130	B	E87310		03940	49	03744	00000
02140	DDRG	+3		03948			
02150	E87420	BMR	+20,MODAD,11, TEST OF FUNCT OR SUB CALL NAME	03948	45	03968	0336R
02160	B	E87310,		03960	49	03744	00000
02170	DDRG	+3		03968			
02180	BMP	E89820,MODAD,11, BRANCH IF NOT IN COMMON		03968	44	05844	0336R
02190	BD	E87670,MODAD,11, BRANCH IF COMMON VAR IS ARRAY		03980	43	04180	0336R
02200	BMP	E89660,SMADD,11, BRANCH IF COMMON VAR WAS EQUIV		03992	44	05740	0335R
02210	CF	SMADD,6,		04004	33	0335R	00000
02220	BD	MDLN,KLNG		04016	28	02962	02252
02230	BD	+24,SMADD,11		04028	43	04052	0335R
02240	TF	MDLN,FP2		04040	28	02962	02298
02250	E87490	SM	MODAD,2,10	04052	12	03369	000-2
02260	TF	+23,MODAD,11		04064	26	04087	0336R
02270	TF	SYM		04076	26	03399	00000
02280	AM	+1,5,10		04088	11	04087	000-3
02290	TF	MODAD,+19,6,11		04100	26	0336R	0408P
02300	TF	TEMP, +25,11		04112	26	03412	0408P
02310	AM	MODAD,2,10		04124	11	03369	000-2
02320	TDM	SMCNT,6		04136	15	0336M	00000
02330	DC	1,*,*		04147		1	
02340	BTM	PEPRT,++12,, TYPE AND OR PUNCH		04148	17	10944	-4160
02350	DC	1,0		04160		1	

02360	DSA	TEMP-4		04165	5	X	1
				04165		-3408	
02370	DSA	SYM-11		04170	5	X	1
				04170		-3388	
02380	B	E89740		04172	49	05784	00000
02390	DORG	*-3		04180			
02400	E87670	BNF E88420,SMADD,11,	BRANCH IF COMMON ARRAY WAS EQUIV	04180	44	04536	0335R
02410	CF	SMADD,,6		04192	33	0335R	00000
02420	TD	MODE,MODAD,11,	SAVE NUMBER OF DIM INDICIES	04204	25	03454	0336R
02430	CF	MODE		04216	33	03454	00000
02440	SM	MODAD,2,10		04228	12	03369	000-2
02450	TF	ADSAVE,MODAD,11,		04240	26	03447	0336R
02460	TF	SYM,ADSAVE,11,	MOVE VAR NAME TO SYM	04252	26	03399	0344P
02470	SM	SMCNT,10,10		04264	12	03364	000J0
02480	TF	TEMP,SMCNT,11,	SAVE COMMON ADDRESS	04276	26	03412	0336M
02490	TF	MODAD,SMCNT,611,	SET ENTRY TO COMMON	04288	26	0336R	0336M
02500	AM	MODE,1,10,	SAVE DIMENSION INDICES	04300	11	03454	000-1
02510	MM	MODE,5,10		04312	13	03454	000-5
02520	A	ADSAVE,99		04324	21	03447	00099
02530	TF	SMCNT,ADSAVE,611,	PICK UP NO OF ELEMENTS	04336	26	0336M	0344P
02540	BD	*+32,SMADD,11		04348	43	04380	0335R
02550	TF	WDLN,FP2		04360	26	02962	02298
02560	B	*+20		04372	49	04392	00000
02570	DORG	*-3		04380			
02580	TF	WDLN,KLNG		04380	26	02962	02252
02590	M	SMCNT,WDLN,6		04392	23	0336M	02962
02600	SF	95		04404	32	00095	00000
02610	S	99,WDLN,,	CALC TOTAL ARRAY VOLUME	04416	22	00099	02962
02620	TF	TEMP2,99		04428	26	03417	00099
02630	A	TEMP2,TEMP,,	TEMP2 CONTAINS LAST ELEMENT OF ARRAY	04440	21	03417	03412
02640	SM	MODAD,8,10		04452	12	03369	000-8
02650	AM	SMADD,4,10		04464	11	03359	000-4
02660	TDM	SMADD,,6		04476	15	0335R	00000
02670	DC	1,',*		04487			1
				04488	12	03359	000J4
02680	SM	SMADD,14,10		04500	17	10944	-4512
02690	BTM	PGPRT,*+12		04512			1
02700	DC	1,1					
	J			04517			5 X 1
02710	DSA	TEMP-4		04517		-3408	
				04522		5 X 1	
02720	DSA	SYM-11		04522		-3388	
				04527		5 X 1	
02730	DSA	TEMP2-4		04527		-3413	
				04528	49	05784	00000
02740	B	E89740		04536			
02750	DORG	*-3					
02760	*****	ENTER FOR COMMON ARRAYS WHICH WERE EQUIVALENCED					
02770	E88420	CM SMCNT,0,69		04536	14	0336M	00-00
02780	BNE	E90620,,	BRANCH IF NOT BASE	04548	47	06280	01200
02790	SF	E89660+1		04560	32	05741	00000

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02800	B	E87670+24		04572	49	04204	00000
02810	DORG	*-3		04580			
02820	E88470	TF EBASE,SMADD,,	ENTER HERE AFTER ASSIGNING BASE VARIABLE	04580	26	03452	03359
02830	CF	E87670		04592	33	04180	00000
02840	BNF	*+4,E89660		04604	44	04648	05740
02850	CF	E89660		04616	33	05740	00000
02860	SM	EBASE,10,10		04628	12	03452	000J0
02870	B	*+20		04640	49	04660	00000
02880	DORG	*-3		04648			
02890	SM	EBASE,1,10		04648	12	03452	000-1
02900	SF	EBASE		04660	32	03452	00000
02910	A	EBASE,STBL		04672	21	03452	02377
02920	SF	EBASE-3,,	GEN TABLE NUMBER	04684	32	03449	00000
02930	TF	SAVE1,SMADD		04696	26	03432	03359
02940	TF	SAVE2,SMCNT		04708	26	03437	03364
02950	TF	SAVE3,MODAD		04720	26	03442	03369
02960	BNF	*+60,E89660+1		04732	44	04792	05741
02970	CF	E89660+1		04744	33	05741	00000
02980	SM	SAVE1,10,10		04756	12	03432	000J0
02990	SM	SAVE2,10,10		04768	12	03437	000J0
03000	SM	SAVE3,10,10		04780	12	03442	000J0
03010	E88540	SM SMCNT,10,10		04792	12	03364	000J0
03020	SM	SMADD,10,10		04804	12	03359	000J0
03030	SM	MODAD,10,10		04816	12	03369	000J0
03040	C	SMADD,TEND		04828	24	03359	02303
03050	BE	E89610		04840	46	05672	01200
03060	BNR	*+20,MODAD,11,	BRANCH IF NOT SUBR OR FUNCT NAME	04852	45	04872	0336R
03070	B	E88540		04864	49	04792	00000
03080	DORG	*-3		04872			
03090	BNR	E88660,SMCNT,11,	BRANCH IF NO STORAGE ALLOCATION DONE	04872	45	04968	0336M
03100	BNF	E88600,SMCNT,11,	BRANCH IF NOT STATEMENT NUMBER	04884	44	04904	0336M
03110	B	E88540		04896	49	04792	00000
03120	DORG	*-4		04903			
03130	E88600	BD *+20,MODAD,11		04904	43	04924	0336R
03140	B	E88540		04916	49	04792	00000
03150	DORG	*-3		04924			
03160	SM	SMADD,10,10		04924	12	03359	000J0
03170	SM	SMCNT,10,10		04936	12	03364	000J0
03180	SM	MODAD,10,10		04948	12	03369	000J0
03190	B	E88540		04960	49	04792	00000
03200	DORG	*-3		04968			
03210	E88660	BNF *+20,SMADD,11,	SEARCH FOR EQUIV. VARIABLE	04968	44	04988	0335R
03220	B	E88600		04980	49	04904	00000
03230	DORG	*-3		04988			
03240	C	EBASE-1,SMCNT,11,	IS EQUIV VAR EQUIV TO PRESENT BASE	04988	24	03451	0336M
03250	BNE	E88600		05000	47	04904	01200
03260	E88710	SM SMADD,1,10		05012	12	03359	000-1
03270	TF	ADSAVE,SMADD,11,	SAVE SYMBOL ADDRESS	05024	26	03447	0335R
03280	TF	SYM,ZER13-1		05036	26	03399	11489
03290	TF	SYM,ADSAVE,11,	MOVE SYM NAME TO SYM	05048	26	03399	0344P
03300	BD	E88900,MODAD,11,	TEST IF VAR WAS DIMENSIONED	05060	43	05244	0336R
03310	AM	ADSAVE,5,10,		05072	11	03447	000-5
03320	CM	ADSAVE,0,67,	TEST FOR ZERO OFF SET	05084	14	0344P	-0000
03330	BNE	*+32		05096	47	05128	01200
03340	TF	TEMP3,TEMP		05108	26	03422	03412
03350	B	*+56,		05120	49	05176	00000

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03300	DORG	=-3		05120			
03370	M	ADSAVE,WDLN,6,		05120	23	0344P	02962
03380	SF	95		05140	32	00095	00000
03390	A	99,TEMP		05152	21	00099	03412
03400	TF	TEMP3,99		05164	26	03422	00099
03410	TF	SHADD,TEMP3,6,	MOVE OBJ TIME ADDRESS TO TABLE	05176	26	0335R	03422
03420	AM	SHADD,1,10		05188	11	03359	000-1
03430	TDM	SMCNT,,6,		05200	15	0336M	00000
03440	DC	1,*,0		05211		1	
03450	BTM	PGPRT,++12		05212	17	10944	-5224
03460	DC	1,0		05224		1	
03470	DSA	TEMP3-4,SYM-11		05229		5 X	2
				05229		-3418	
				05234		-3388	
				05236	49	05652	00000
				05244			
				05244	12	03364	000J0
				05256	14	0336M	-0000
				05268	47	05300	01200
				05280	26	00099	03412
				05292	49	05336	00000
				05300			
				05300	23	0336M	02962
				05312	32	00095	00000
				05323		0	
				05324	21	00099	03412
				05336	26	03422	00099
				05348	25	03454	0336R
				05360	33	03454	00000
				05372	26	03427	03422
				05384	11	03454	000-1
				05396	13	03454	000-5
				05408	21	03447	00099
				05420	26	0336M	0344P
				05432	23	0336M	02962
				05444	32	00095	00000
				05456	22	00099	02962
				05468	21	03427	00099
				05480	44	05528	07104
				05492	24	03406	03427
				05504	46	05528	01100
				05516	26	03406	03427
				05528	24	03427	02382
				05540	47	05564	01100
				05552	17	10882	00N75
				05564	26	0335R	03422
				05576	11	03359	000-5
				05588	15	0335R	00000
				05599		1	
				05600	12	03359	000J4
				05612	12	03369	000J0
				05624	17	10944	-5636

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03860	DC	1,1		05636		1	
03870	DSA	TEMP3-4		05641		5 X	1
03880	DSA	SYM-11		05641		-3418	
				05646		5 X	1
03890	DSA	TEMP5-4		05646		-3388	
				05651		5 X	1
				05651		-3423	
				05652	44	04792	07276
				05664	49	07656	00000
				05672			
				05672	26	03359	03432
				05684	26	03364	03437
				05696	26	03369	03442
				05708	44	03780	07104
				05720	33	07104	00000
				05732	49	03780	00000
				05740			
				05740	14	0336M	00-00
				05752	47	06280	01200
				05764	32	05740	00000
				05776	49	04016	00000
				05784			
				05784	44	05804	06960
				05796	49	04992	00000
				05804			
				05804	44	05824	05741
				05816	49	04580	00000
				05824			
				05824	44	03744	05740
				05836	49	04580	00000
				05844			
				05844	44	06280	0335R
				05856	33	0335R	00000
				05868	28	02962	02252
				05880	43	05904	0335R
				05892	26	02962	02298
				05904	21	03406	02962
				05916	26	03412	03406
				05928	12	03359	000-1
				05940	26	05963	0335R
				05952	26	03359	00000
				05964	26	0335R	03406
				05976	43	06044	0336R
				05988	11	03359	000-1
				06000	15	0336M	00000
				06011		1	
04300	BTM	PGPRT,++12		06012	17	10944	-6024
04310	DC	1,0		06024		1	
04320	DSA	TEMP-4		06029		5 X	1

04330	DSA	SYM-11		06029	-3408		
				06034	5 X	1	
04340	B	E90580		06034	-3388		
04350	DORG	--3		06036	49	06240	00000
04360	E90010	SM	SMADD,5,10,	06044	12	03359	000-5
04370	TD	MODE,MODAD,11,	POINT TO NO OF ELEMENTS	06056	25	03454	0336R
04380	AM	MODE,01,10	SAVE DIMENSION INDICES	06068	11	03454	000-1
04390	MM	MODE,05,10		06080	13	03454	000-5
04400	A	E89930+11,99		06092	21	05963	00099
04410	TF	SMADD,E89930+11,611		06104	26	0335R	0596L
04420	M	SMADD,WOLN,6		06116	23	0335R	02962
04430	SF	95		06128	32	00095	00000
04440	S	99,MDLN		06140	22	00099	02962
04450	A	LOC,99,,	LOC UPDATED TO END OF ARRAY	06152	21	03406	00099
04460	TDM	SMCNT,,6		06164	15	0336M	00000
04470	DC	1,,*		06175			1
04480	SM	SMADD,4,10		06176	12	03359	000-4
04490	SM	MODAD,10,10		06188	12	03369	000J0
04500	SM	SMCNT,10,10		06200	12	03364	000J0
04510	BTM	PGPRT,*,12		06212	17	10944	-6224
04520	DC	1,1		06224			1
04530	DSA	TEMP-4		06229		5 X	1
04540	DSA	SYM-11		06229	-3408		
				06234	5 X	1	
04550	DSA	LOC-4		06234	-3388		
				06239	5 X	1	
04560	E90580	BNF	++20,TELSW	06239	-3402		
04570	B	E91730		06240	44	06260	07104
04580	DORG	--3		06252	49	07380	00000
04590	BNF	E87310,EQRET		06260			
04600	B	E91810		06260	44	03744	07276
04610	DORG	--3		06272	49	07424	00000
04620	*****	ENTER FROM E89820 TO ASSIGN EQUIV VARIABLES NOT IN COMMON		06280			
04630	E90620	TF	SAVE1,SMADD,,	06280	26	03432	03359
04640	TF	SAVE2,SMCNT,,	SAVE ADDRESSES THEN SCAN TABLE TO	06292	26	03437	03364
04650	TF	SAVE3,MODAD,,	FIND ALL VARIABLES EQUIVALENCED TO THIS	06304	26	03442	03369
04660	TF	ADSAVE,SMADD,,	BASE, THE VARIABLE WITH THE LARGEST	06316	26	03447	03359
04670	CM	SMCNT,0,49,	NEGATIVE OFF-SET, IF ANY, WILL THEM BE	06328	14	0336M	00-00
04680	BNE	E91120,,	ASSIGNED STORAGE FIRST ELSE BASE VAR	06340	47	06852	01200
04690	TF	SAVE4,SMADD	WILL BE ASSIGNED FIRST	06352	26	06423	03359
04700	TF	EBASE,SMADD,,	SAVE REF NUMBER	06364	26	03452	03359
04710	SM	EBASE-1,1,10		06376	12	03451	000-1
04720	SF	EBASE		06388	32	03452	00000
04730	A	EBASE,STBL		06400	21	03452	02377
04740	SF	EBASE-3		06412	32	03449	00000
04750	SAVE4	DS	,*	06423			0
04760	TFM	TEMP,0,		06424	16	03412	-0000
04770	BD	E90850,MODAD,11,	TEST FOR DIM	06436	43	06580	0336R

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04780	E90750	SM	SMADD,10,10	06448	12	03359	000J0
04790	SM	SMCNT,10,10		06460	12	03364	000J0
04800	SM	MODAD,10,10		06472	12	03369	000J0
04810	C	SMADD,TEND		06484	24	03359	02303
04820	BE	E91410		06496	46	07104	01200
04830	BNR	++20,MODAD,11,	SUBR OR FUNCTION NAME	06508	45	06528	0336R
04840	B	E90750		06520	49	06448	00000
04850	DORG	--3		06528			
04860	BNR	E90900,SMCNT,11,	HAS STORAGE BEEN ALLOCATED	06528	45	06624	0336M
04870	BNF	++20,SMCNT,11,	BRANCH IF NOT STATEMENT NUMBER	06540	44	06560	0336M
04880	B	E90750		06552	49	06448	00000
04890	DORG	--4		06559			
04900	BD	++20,MODAD,11		06560	43	06580	0336R
04910	B	E90750		06572	49	06448	00000
04920	DORG	--3		06580			
04930	E90850	SM	SMCNT,10,10	06580	12	03364	000J0
04940	SM	SMADD,10,10		06592	12	03359	000J0
04950	SM	MODAD,10,10		06604	12	03369	000J0
04960	B	E90750		06616	49	06448	00000
04970	DORG	--3		06624			
04980	E90900	BNF	++20,SMADD,11,	06624	44	06644	0335R
04990	B	E90850-20	LOOK FOR EQUIV VARIABLE	06636	49	06560	00000
05000	DORG	--3		06644			
05010	C	SMCNT,EBASE-1,6,	TEST FOR EQUIVALENCE TO BASE VARIABLE	06644	24	0336M	03451
05020	BNE	E90850-20		06656	47	06560	01200
05030	BD	E91050,MODAD,11,	TEST FOR DIMENSION	06668	43	06784	0336R
05040	SM	SMADD,1,10		06680	12	03359	000-1
05050	TF	ABASE,SMADD,11,		06692	26	02938	0335R
05060	AM	ABASE,5,10		06704	11	02938	000-5
05070	AM	SMADD,1,10		06716	11	03359	000-1
05080	C	ABASE,TEMP,6,	FIND NEG OFF-SET	06728	24	02930	03412
05090	BNL	E90750		06740	46	06448	01300
05100	TF	TEMP,ABASE,11,	SAVE NEW OFF-SET	06752	26	03412	0293Q
05110	TF	SAVE4,SMADD,,	SAVE TABLE ADDRESS OF NEW VARIABLE	06764	26	06423	03359
05120	B	E90750		06776	49	06448	00000
05130	DORG	--3		06784			
05140	E91050	SM	SMCNT,10,10	06784	12	03364	000J0
05150	C	SMCNT,TEMP,6,	TEST OFF-SET	06796	24	0336M	03412
05160	BNL	E90850+12		06808	46	06592	01300
05170	TF	TEMP,SMCNT,11,	MOVE IN NEW OFF SET	06820	26	03412	0336M
05180	TF	SAVE4,SMADD		06832	26	06423	03359
05190	B	E90850+12		06844	49	06592	00000
05200	DORG	--3		06852			
05210	E91120	TF	ADSAVE,STBL	06852	26	03447	02377
05220	S	ADSAVE-1,SMCNT,11,	GEN ADDRESS OF BASE	06864	22	03446	0336M
05230	AM	ADSAVE,07,10		06876	11	03447	000-7
05240	BNF	E91320,ADSAVE,11,	TEST IF BASE IS IN COMMON, BRANCH NO,	06888	44	07060	0344P
05250	TF	MODAD,ADSAVE		06900	26	03369	03447
05260	TF	SMADD,ADSAVE		06912	26	03359	03447
05270	SM	SMADD,1,10		06924	12	03359	000-1
05280	TF	SMCNT,ADSAVE		06936	26	03364	03447
05290	AM	SMCNT,3,10		06948	11	03364	000-3
05300	OUTCE	DS	,*+1	06960			0
05310	SF	OUTCE		06960	32	06960	00000
05320	BD	E87670+12,MODAD,11,	RETURN TO OUTPUT COMMON ARRAY	06972	43	04192	0336R
05330	B	E87490-48,,	RETURN TO OUTPUT SIMPLE COMMON VARIABLE	06984	49	04004	00000

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05340	DORG	=-3		06992			
05350	E91250	CF	OUTCE,,,	ENTER FROM E89750	06992	33	06960 00000
05360		TF	SMADD,SAVE1		07004	26	03359 03432
05370		TF	SMCNT,SAVE2		07016	26	03364 03437
05380		TF	MODAD,SAVE3		07028	26	03369 03442
05390		TF	EBASE-1,SMCNT,11,	SET UP BASE NUMBER TO SEARCH FOR	07040	26	03451 0336M
05400		B	E88540+36,,,	THE REMAINING EQUIV VARIABLES	07052	49	04828 00000
05410	DORG	=-3			07060		
05420	E91320	SM	ADSAVE,1,10,	ENTER FROM E91150	07060	12	03447 000-1
05430		TFM	TEMP,0		07072	16	03412 -0000
05440		TF	EBASE-1,SMCNT,11,	SET UP BASE NUMBER	07084	26	03451 0336M
05450		B	E90900+44		07096	49	06668 00000
05460	DORG	=-3			07104		
05470	E91410	CM	TEMP,0,,	ENTER FROM E90790 AFTER SEARCHING TABLE	07104	14	03412 -0000
05480		BL	E91610,,,	FOR ALL EQUIV VARIABLES, IF TEMP IS LESS	07116	47	07276 01300
05490		SF	TELSW,,,	IF NOT NEGATIVE	07128	32	07104 00000
05500		C	ADSAVE,SAVE1,,	THAN ZERO, THEN THE BASE ELEMENT IS	07140	24	03447 03432
05510		BNE	+56,,,	NOT ASSIGNED FIRST	07152	47	07208 01200
05520		TF	SMADD,SAVE1		07164	26	03359 03432
05530		TF	SMCNT,SAVE2		07176	26	03364 03437
05540		TF	MODAD,SAVE3		07188	26	03369 03442
05550		B	E89820+12		07200	49	05856 00000
05560	DORG	=-3			07208		
05570		TF	SMADD,ADSAVE		07208	26	03359 03447
05580		TF	SMCNT,ADSAVE		07220	26	03364 03447
05590		AM	SMCNT,4		07232	11	03364 -0004
05600		TF	MODAD,ADSAVE		07244	26	03369 03447
05610		AM	MODAD,1,10		07256	11	03369 000-1
05620		B	E89820+12		07268	49	05856 00000
05630	DORG	=-3			07276		
05640	TELSW	DS	,E91410		07104		0
05650	E91610	TF	SAVDFS,TEMP,,	ENTER FROM E91420 ,SAVE OFF-SET VALUE	07276	26	07727 03412
05660		TF	SMADD,SAVE4,,		07288	26	03359 06423
05670		TF	SMCNT,SAVE4		07300	26	03364 06423
05680		AM	SMCNT,4,10		07312	11	03364 000-4
05690		TF	MODAD,SAVE4		07324	26	03369 06423
05700		AM	MODAD,1,10		07336	11	03369 000-1
05710		SF	EQRET		07348	32	07276 00000
05720	SAVAD	DS	,*		07359		0
05730		TF	SAVAD,ADSAVE,,	SAVE ADDRESS OF BASE ELEMENT	07360	26	07359 03447
05740	EQRET	DS	,E91610		07276		0
05750		B	E89820+12,,,	BRANCH TO OUTPUT SYM WITH NEG OFF-SET	07372	49	05856 00000
05760	DORG	=-3			07380		
05770	E91730	TF	SMADD,SAVE1,,	ENTER FROM E90600	07380	26	03359 03432
05780		TF	SMCNT,SAVE2,,	RESTORE TABLE ADDRESSES AND BRANCH TO	07392	26	03364 03437
05790		TF	MODAD,SAVE3,,	ASSIGN EQUIVALENT ADDRESSES	07404	26	03369 03442
05800		B	E88540+36		07416	49	04828 00000
05810	DORG	=-3			07424		
05820	E91810	TF	SMADD,SAVAD,,	ENTER FROM E90603	07424	26	03359 07359
05830		TF	SMCNT,SAVAD		07436	26	03364 07359
05840		AM	SMCNT,4,10		07448	11	03364 000-4
05850		TF	MODAD,SAVAD		07460	26	03369 07359
05860		AM	MODAD,1,10		07472	11	03369 000-1
05870		TF	EBASE,SAVAD		07484	26	03452 07359
05880		SM	EBASE-1,1,10		07496	12	03451 000-1
05890		SF	EBASE		07508	32	03452 00000

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05900	A	EBASE,STBL		07520	21	03452	02377
05910	SF	EBASE-3		07532	32	03449	00000
05920	CF	SAVDFS		07544	33	07727	00000
05930	TBASE	DS	,*	07555		0	
05940	BD	+*68 ,MODAD,11,	TEST IF DIM VAR	07556	43	07624	0336R
05950	SM	SAVAD,1,10		07568	12	07359	000-1
05960	TF	+*30,SAVAD,11		07580	26	07610	0735R
05970	AM	+*18,5,10		07592	11	07610	000-5
05980	TF	,SAVDFS,,	PLACE OFFSET INTO SYM AREA	07604	26	00000	07727
05990	B	E88710,,,		07616	49	05012	00000
06000	DORG	=-3		07624			
06010	AM	SAVAD,14,10		07624	11	07359	000J4
06020	TF	SAVAD,SAVDFS,6,	PLACE OFFSET INTO TABLE	07636	26	0735R	07727
06030	B	E88710,,,		07648	49	05012	00000
06040	DORG	=-3		07656			
06050	E92010	TF	TEMP,TEMP3,,	ENTER FROM E89601	07656	26	03412 03422
06060	CF	EQRET		07668	33	07276	00000
06070	TF	SMADD,SAVE1		07680	26	03359	03432
06080	TF	SMCNT,SAVE2		07692	26	03364	03437
06090	TF	MODAD,SAVE3		07704	26	03369	03442
06100	SF	TELSW		07716	32	07104	00000
06110	SAVDFS	DS	,*	07727		0	
06120	B	E88540+36		07728	49	04828	00000
06130	DORG	=-3		07736			
06140	E92210	TF	SUBADD,FACTEND,,	ENTER FROM E87240 TO OUTPUT SUBPROGRAM	07736	26	07887 02318
06150	BNR	+*24,FACTEND,11,	BRANCH IF NOT STATEMENT NUMBER	07748	45	07772	0231J
06160	SM	SUBADD,10,10		07760	12	07887	000J0
06170	TFM	E92440-23,41,10		07772	16	07961	000N1
06180	TF	SMADD,SUBADD		07784	26	03359	07887
06190	AM	SUBADD,3,10		07796	11	07887	000-3
06200	TF	MODAD,SUBADD		07808	26	03369	07887
06210	SM	MODAD,2,10		07820	12	03369	000-2
06220	E92290	BD	+*32 ,MODAD,11,	TEST FOR FIX OR FLOAT	07832	43	07864 0336R
06230	A	LOC,FP2		07844	21	03406	02298
06240	B	+*20		07856	49	07876	00000
06250	DORG	=-3		07864			
06260	A	LOC,KLNC		07864	21	03406	02252
06270	CF	MODAD,,6,		07876	33	0336R	00000
06280	SUBADD	DS	,*	07887		0	
06290	TF	SYN,ZER13-1		07888	26	03399	11489
06300	TF	+*23,SMADD,11		07900	26	07923	0335R
06310	TF	SYN,,,	MOVE NAME TO SYM	07912	26	03399	00000
06320	TF	SMADD,LOC,6,	MOVE OBJ TIME ADDRESS TO TABLE	07924	26	0335R	03406
06330	E92390	BTM	PGPRT,,*12	07936	17	10944	-7948
06340	DC	1,0		07948		1	
06350	DSA	LOC-4		07953		5 X	1
06360	DSA	SYN-11		07953		-3402	
				07958		5 X	1
06370	SF	SMADD,,6		07958		-3388	
06380	TFM	+*11,32,10		07960	32	0335R	00000
06390	E92440	SM	SUBADD,20,10	07972	16	07961	000L2
06400	SM	SMADD,20,10		07984	12	07887	000K0
				07996	12	03359	000K0

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06410	SM	MODAD,20,10		08008	12	03369	000K0
06420	BNR	E92860,SUBADD,11,	TEST FOR END OF PARAMETERS	08020	45	08312	0788P
06430	SM	SUBADD,1,10		08032	12	07887	000-1
06440	CF	SUBADD,,6		08044	33	0788P	00000
06450	TF	**30,SUBADD		08056	26	08086	07887
06460	SM	**18,1,10		08068	12	08086	000-1
06470	CF			08080	33	00000	00000
06480	BD	E92570,SUBADD,11,	TEST FOR DIM VAR	08092	43	08136	0788P
06490	AM	SUBADD,1,10,	FLAG INDICATES FUNCTION SUBPROGRAM IN	08104	11	07887	000-1
06500	AM	LOC,5,10		08116	11	03406	000-5
06510	B	E92390-60		08128	49	07876	00000
06520	DORG	*-3		08136			
06530	E92570	AM	LOC,5,10	08136	11	03406	000-5
06540	CF	MODAD,,6		08148	33	03369	00000
06550	TF	SYM,ZER13-1		08160	26	03399	11489
06560	TF	ADSAVE,SMADD,11,		08172	26	03447	0335R
06570	TF	SYM,ADSAVE,11,		08184	26	03399	0344P
06580	TF	SMADD,LOC,6,		08196	26	0335R	03406
06590	SF	SMADD,,6		08208	32	0335R	00000
06600	TD	MODE,SUBADD,11,	SAVE NUMBER OF DIMENSIONS	08220	25	03454	0788P
06610	SM	SUBADD,7,10		08232	12	07887	000-7
06620	MM	MODE,5,10		08244	13	03454	000-5
06630	AM	99,5,10		08256	11	00099	000-5
06640	A	ADSAVE,99		08268	21	03447	00099
06650	TF	SUBADD,ADSAVE,611		08280	26	0788P	0344P
06660	AM	SUBADD,8,10		08292	11	07887	000-8
06670	B	E92390		08304	49	07936	00000
06680	DORG	*-3		08312			
06690	E92860	TF	TBASE,SMADD,,	08312	26	07555	03359
06700	AM	LOC,01,10,	FOR RECORD MARK	08324	11	03406	000-1
06710	AM	CADD,11,10		08336	11	10855	000J1
06720	C	CEND,CADD		08348	24	10860	10855
06730	BNH	EMP		08360	47	08474	01100
06740	SM	CADD,11,10		08372	12	10855	000J1
06750	CF	CADD,,6		08384	33	1085N	00000
06760	AM	CADD,01,10		08396	11	10855	000-1
06770	GLP	BT	OUTADD,LOC	08408	27	10270	03406
06780	BTM	OUTK,,+16		08420	17	09692	-8436
06790	DSA	CST1,LOC+1		08436		5 X	2
				08436		-9366	
				08441		-3407	
06800	SF	LOC+1		08442	32	03407	00000
06810	TD	CADD,LOC+1,6		08454	25	1085N	03407
06820	B	MSP		08466	49	08494	00000
06830	DORG	*-4		08473			
06840	EMP	SM	CADD,09,10	08474	12	10855	000-9
06850	B	GLP		08486	49	08408	00000
06860	DORG	*-4		08493			
06870	MSP	MM	LOC,05,10	08494	13	03406	000-5
06880	BD	BUFDUM,99		08506	43	09492	00099
06890	AM	LOC,01,10		08518	11	03406	000-1
06900	B	BUFDUM,,,	GO TO OUTPUT BUFFER	08530	49	09492	00000
06910	DORG	*-3		08538			
06920	*****	ENTER HERE FROM E87530 AFTER ALL STORAGE ALLOCATION IS					
06930	*****	COMPLETE					

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06940	E93010	TF	DKADD,INTOP1+5	08538	26	10532	02390
06950	AM	TEND,9,10,	ESPECIALLY FOR JAY	08550	11	02303	000-9
06960	TF	SMADD,TBASE		08562	26	03359	07555
06970	TF	SMCNT,TBASE		08574	26	03364	07555
06980	AM	SMADD,2		08586	11	03359	-0002
06990	AM	SMCNT,5		08598	11	03364	-0005
07000	B	**32		08610	49	08642	00000
07010	DORG	*-3		08618			
07020	E93060	SM	SMADD,10,10	08618	12	03359	000J0
07030	SM	SMCNT,10,10		08630	12	03364	000J0
07040	C	SMCNT,TEND,		08642	24	03364	02303
07050	BL	E93610		08654	47	09024	01300
07060	BNR	E93200,SMCNT,11,		08666	45	08686	0336M
07070	B	E93060		08678	49	08618	00000
07080	DORG	*-3		08686			
07090	E93200	BNR	E93060,SMADD,11,	08686	45	08618	0335R
07100	BNF	**32,SMADD,11		08698	44	08730	0335R
07110	TDM	SMADD,0,6		08710	15	0335R	00000
07120	B	E93060		08722	49	08618	00000
07130	DORG	*-3		08730			
07140	TDM	SMADD,0,6,	CLEAR RECORD MARK	08730	15	0335R	00000
07150	SM	SMADD,2,10		08742	12	03359	000-2
07160	E93330	AM	LOC,5,10	08754	11	03406	000-5
07170	TF	SSYMK,ZER13-1		08766	26	09238	11489
07180	TF	**23,SMADD,11		08778	26	08801	0335R
07190	TF	SSYMK,,,	MOVE FUNCTION NAME	08790	26	09238	00000
07200	BWP	SF	SSYMK-11	08802	32	09227	00000
07210	CM	SSYMK-10,00,10		08814	14	09228	000-0
07220	BNE	MGP		08826	47	08882	01200
07230	TR	SSYMK-11,SSYMK-9		08838	31	09227	09229
07240	TFM	SSYMK,00,10		08850	16	09238	000-0
07250	CF	SSYMK-1		08862	33	09237	00000
07260	B	BWP		08874	49	08802	00000
07270	DORG	*-4		08881			
07280	MGP	TF	CARD+11,SSYMK	08882	26	03285	09238
07290	TF	CARD+16,LOC		08894	26	03290	03406
07300	TF	CARD+18,ALPHRM		08906	26	03292	09022
07310	TF	SMADD,LOC,6,	MOVE OBJ TIME ADDRESS TO TABLE	08918	26	0335R	03406
07320	BTM	OUTK,,+16		08930	17	09692	-8946
07330	DSA	CST17,CARD		08946		5 X	2
				08946		-9020	
				08951		-3274	
07340	AM	SMADD,2,10,		08952	11	03359	000-2
07350	TF	SYM,ZER13-1		08964	26	03399	11489
07360	TF	SYM,E93330+47,11,	MOVE SYM NAME	08976	26	03399	0880J
07370	BTM	PGPRT,,+12		08988	17	10944	-9000
07380	DC	1,0		09000		1	
07390	DSA	LOC-4		09005		5 X	1
				09005		-3402	
07400	DSA	SYM-11		09010		5 X	1
				09010			
07410	B	E93060		09010		-3388	
				09012	49	08618	00000

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07420 DORG -4
 07430 CST17 DC 2,18
 JB
 07440 ALPHRM DC 2,0'
 -'
 07450 E93610 BD **20,SUBPCT
 07460 B ERNEST
 07470 DORG -3
 07480 TFM IORT,**23
 07490 B IOGT,COMSEC,7
 07500 TF SSYMWK,ZER13-1
 07510 TF SSYMWK,SAVSYM
 07520 LTJUST SF SSYMWK-11
 07530 CM SSYMWK-10,00,10
 07540 BNE MVNAME
 07550 TR SSYMWK-11,SSYMWK-9
 07560 TFM SSYMWK,00,10
 07570 CF SSYMWK-1
 07580 B LTJUST
 07590 DORG -4
 07600 MVNAME TF COMNAM,SSYMWK
 07610 TF SAVSYM,SSYMWK
 07620 TFM IORT,**23
 07630 B IOPT,COMSEC,7
 07640 B HU
 07650 DORG -4
 07660 SSYMWK DC 12,0
 -0000000000
 07670 DC 1,'
 '
 07680 ERNEST BNF HU,DISKSW
 07690 BD HU,MULDEF
 07700 BTM ERROR2,670,9
 07710 HU BTM OUTK,**16
 07720 DSA CST1,ALPHRM

 07730 TDM CADD,6,6, END OF PROGRAM INDICATOR
 07740 TFM IORT,**23
 07750 B IOPT,DKDATA,7
 07760 TF PROGST,LOC
 07770 BV **12
 07780 B CALLP2
 07790 DORG -4
 07800 CST1 DC 2,01
 -1
 07810 COMSEC DSC 2,20
 20
 07820 DSA COMSC

 07830 DC 1,'
 '
 07840 COMSC DSC 1,0
 0

09019
 09020 2
 09022 2
 09024 43 09044 02293
 09036 49 09240 00000
 09044
 09044 16 00565 -9067
 09056 49 00566 -9367
 09068 26 09238 11489
 09080 26 09238 02243
 09092 32 09227 00000
 09104 14 09228 000-0
 09116 47 09172 01200
 09128 31 09227 09229
 09140 16 09238 000-0
 09152 33 09237 00000
 09164 49 09092 00000
 09171
 09172 26 09425 09238
 09184 26 02243 09238
 09196 16 00565 -9219
 09208 49 00532 -9367
 09220 49 09276 00000
 09227
 09238 12
 09239 1
 09240 44 09276 02383
 09252 43 09276 02384
 09264 17 10882 00070
 09276 17 09692 -9292
 09292 5 X 2
 09292 -9366
 09297 -9022
 09298 15 1085N 00006
 09310 16 00565 -9333
 09322 49 00532 J0542
 09334 26 02257 03406
 09346 46 09358 01400
 09358 49 02400 00000
 09365
 09366 2
 09367 2
 09373 5 X 1
 09373 -9375
 09374 1
 09375 1

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07850 DC 5 ,19663
 J9663
 07860 DC 3,001
 -01
 07870 DSA COMAR

 07880 DC 1,'
 '
 07890 COMAR DSS 50
 07900 DSS 50
 07910 DGM
 07920 COMNAM DS ,COMAR+35
 07930 * OUTPUT BUFFER-SET UP POINTER AND LAST DISK
 07940 * ADDRESS FOR PASS2
 07950 BUFDM1 TF LSTAD,DKADD
 07960 CM CADD,DISK*8
 07970 BNE BFDUM1
 07980 TFM P2PTR,0
 07990 B BFDUM2
 08000 DORG -3
 08010 BFDUM1 TF P2PTR,CEND
 08020 SM P2PTR,DISK
 08030 CM P2PTR,300
 08040 BNE **36
 08050 TFM P2PTR,0
 08060 AM LSTAD,03,10
 08070 TFM IORT,**23
 08080 B IOPT,DKDATA,7
 08090 BFDUM2 TFM CADD,DISK
 08100 TFM CEND,DISK*75
 08110 BTM OUTADD,00001
 08120 B E87270-24
 08130 DORG -4
 08140 * OUTPUT CONSTANT ROUTINE
 08150 *
 08160 * BTM OUTK,**16
 08170 * DSA LENGTH,HIGH-ORDER
 08180 *
 08190 DS 5
 08200 OUTK C LADD, CADD
 08210 BE OUTK2
 08220 C CEND,CADD
 08230 BE ITNC
 08240 * TEST FOR SPACE FOR ENTIRE CONSTANT
 08250 TF WK1, CADD
 08260 TF WK2, OUTK-1,11, LENGTH
 08270 TF WK2,WK2,11, MOVE IN LENGTH
 08280 AM OUTK-1, 5,10
 08290 TF WK3, OUTK-1,11, CONSTANT ADDRESS
 08300 AM OUTK-1, 1,10
 08310 AM WK1, -0-
 08320 WK2 DS ,0
 08330 C WK1, CEND
 08340 BML TD
 08350 OUTK1 TR CADD,-0-,6

09380 5
 09383 3
 09388 5 X 1
 09388 -9390
 09389 1
 09390 50
 09440 50
 09490 1
 09425 0
 09492 26 02308 10532
 09504 14 10855 J0558
 09516 47 09548 01200
 09528 16 02313 -0000
 09540 49 09644 00000
 09548
 09548 26 02313 10860
 09560 12 02313 J0550
 09572 14 02313 -0300
 09584 47 09620 01200
 09596 16 02313 -0000
 09608 11 02308 000-3
 09620 16 00565 -9643
 09632 49 00532 J0542
 09644 16 10855 J0550
 09656 16 10860 J0625
 09668 17 10270 -0001
 09680 49 03664 00000
 09687
 09691 5
 09692 24 10865 10855
 09704 46 10140 01200
 09716 24 10860 10855
 09728 46 10000 01200
 09740 26 10880 10855
 09752 26 09823 0969J
 09764 26 09823 0982L
 09776 11 09691 000-5
 09788 26 09859 0969J
 09800 11 09691 000-1
 09812 11 10880 -0000
 09823 0
 09824 24 10880 10860
 09836 46 09892 01300
 09848 31 1085N 00000

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10130 LOPHC TFM IORT,++23
 10140 B IOPT,BLK7,7
 10150 TRA
 10160 TCD LOPHC
 10170 DEND

16024 16 00565 J6047
 16036 49 00532 J6000
 16048 36 00000 00500
 16060 49 00000 00000
 16024
 00000

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10ZERO 11487
 ADSAVE 03447
 ALPHRM 09022
 ARDUM 02484
 BFUM1 09548
 BFUM2 09644
 BUFDM 09492
 CALLP2 02400
 COMADD 02262
 CONNAM 09425
 CONSEC 09367
 DISKSW 02383
 DKDATA 10542
 E86440 02430
 E86601 02640
 E86801 02908
 E86820 02968
 E87210 03608
 E87270 03688
 E87310 03744
 E87420 03948
 E87490 04052
 E87670 04180
 E88420 04536
 E88470 04580
 E88540 04792
 E88600 04904
 E88660 04968
 E88710 05012
 E88900 05244
 E89010 05372
 E89600 05652
 E89610 05672
 E89660 05740
 E89740 05784
 E89820 05844
 E89930 05952
 E90010 06044

E90580 06240
 E90620 06280
 E90750 06448
 E90850 06580
 E90900 06624
 E91050 06784
 E91120 06852
 E91250 06992
 E91320 07060
 E91410 07104
 E91610 07276
 E91730 07380
 E91810 07424
 E92010 07656
 E92210 07736
 E92290 07832
 E92390 07936
 E92440 07984
 E92570 08136
 E92860 08312
 E93010 08538
 E93060 08618
 E93200 08688
 E93330 08754
 E93610 09024
 ENTLOG 02267
 ERNEST 09240
 ERROR2 10882
 FCTEND 02318
 INTOP1 02388
 LENGTH 02248
 LTJUST 09092
 MONCAL 00796
 MULDEF 02384
 MVNAME 09172
 OUTADD 10270
 OUTLIT 03052
 PROGST 02257

PUSTSN 02294
 RACARD 11340
 RAWASK 11518
 RETURN 10520
 ABASE 02938
 AFTBL 15035
 BLK7A 16008
 BLK7 16000
 BLK8A 02469
 BLK8 02461
 BWP 08802
 CAOD 10855
 CARD 03274
 CEND 10860
 CH15 15839
 CHI 15139
 CKL1 10448
 CKLCD 10380
 CKL 10428
 CLGTH 10870
 COMAR 09390
 COMSC 09375
 COMST 02382
 CST17 09020
 CST1 09366
 DISK 10550
 DKADD 10532
 EBASE 03452
 EMP 08474
 EQRET 07276
 ERMES 10921
 ERRET 06062
 FAF1 10992
 FAF2 11124
 FAF3 11212
 FAF4 11260
 F2250 02250
 FMON 02324

FP2 02298
 GLP 08408
 HU 09276
 INDIV 02424
 LOCAL 00718
 IOGT 00566
 IOPT 00532
 IORBC 00520
 IORT 00565
 IOSK 00594
 ITNC 10000
 JAY 02367
 K1 10871
 KLNG 02252
 LADD 10865
 LDPHC 16024
 LL1 03082
 LOC 03406
 LSTAD 02308
 MODAD 03369
 MODE 03454
 MSP 08494
 N1 02233
 N2 02238
 NXLOC 02372
 OUTCE 06960
 OUTDM 10527
 OUTK1 09848
 OUTK2 10140
 OUTK3 10160
 OUTK 09692
 OUT 10318
 P2PTR 02313
 PGPRT 10944
 PTCO 03189
 PTR 11504
 RECLG 02243
 SAVAD 07359

SAVE1 03432
 SAVE2 03437
 SAVE3 03442
 SAVE4 06423
 SHADD 03359
 SMCNT 03364
 STBL 02377
 SYM 03399
 TBASE 07555
 TBCNT 02429
 TD 09892
 TELSW 07104
 TEMP2 03417
 TEMP3 03422
 TEMP4 03323
 TEMP5 03427
 TEMP 03412
 TEND 02303
 WDLN 02962
 WGP 08882
 WK1 10880
 WK2 09823
 WK3 09859
 W 02240
 WW 02296
 ZER13 11490
 SAVDFS 07727
 SAVSYM 02243
 SSYMWK 09238
 STMT1 03516
 STMT2 03564
 STMTN 03456
 SUBADD 07887
 SUBFCT 02293
 USEDFS 02263

END OF ONE ASSEMBLY.

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00010 *****	SECOND PASS FORTRAN II				
00020 IDPT DS	,532			00532	0
00030 IOGT DS	,565			00565	0
00040 IOGT DS	,566			00566	0
00050 MONCAL DS	,796			00796	0
00060 IOCAL DS	,716			00716	0
00070 SYSCAL DS	,475			00475	0
00080 DORG	2218			02218	
00090 HEADER DSS	14			02218	14
00100 N1 DS	2			02233	2
00110 N2 DS	5			02238	5
00120 W DS	2			02240	2
00130 RECLG DS	3			02243	3
00140 LENGTH DS	5			02248	5
00150 F DS	2			02250	2
00160 K DS	2			02252	2
00170 BEGAD DS	5			02257	5
00180 LOCOM DS	5			02262	5
00190 UFSTR DSS	30			02263	30
00200 FCTSW DS	1			02293	1
00210 PUSTSM DS	1			02294	1
00220 MW DS	2			02296	2
00230 FP2 DS	2			02298	2
00240 TBASE DS	5			02303	5
00250 LSTAD DS	5			02308	5
00260 P2PTR DS	5			02313	5
00270 FCTEND DS	5			02318	5
00280 DS	5			02323	5
00290 FMON TF	++42	,FMON-1		02324	26 02366 02323
00300 TFM IOGT		,+23		02336	16 00565 -2359
00310 B IOGT			,7	02348	49 00566 -0000
00320 B				02360	49 00000 00000
00330 DORG	--4			02367	
00340 JAY DS	1			02367	1
00341 SR DS	00005,,SR,,			02372	5
00342 SX DS	00005,,SX,,			02377	5
00343 OP DS	00002,,OP,,			02379	2
00344 SY DS	00005,,SY,,			02384	5
00345 ANS DS	00005,,ANS,,			02389	5
00346 ADTEMP DS	00005,,ADTEMP,,			02394	5
00347 SL DS	00005,,SL,,			02399	5
00350 PASSII TF	LNG	,MW		02400	26 09640 02296
00360 TF	ADCOM,BEGAD			02412	26 06977 02257
00370 AM	ADCOM,1,10			02424	11 06977 000-1
00380 *	SET ADDRESS IN ADCOM TO EVEN				
00390 BTM	ADJUST,ADCOM			02436	17 03950 -6977
00400 TF	BEGAD,ADCOM			02448	26 02257 06977
00410 *	INITIALIZE				
00420 JWG TFM	TMAX	,0	,9	02460	16 06972 00-00
00430 TF	PUTXZ	,LSTAD		02472	26 08415 02308
00440 TFM IOGT		,+23		02484	16 00565 -2507
00450 B IOGT		,PUTXX	,7	02496	49 00566 -8402
00460 TFM NEXT		,BUFL		02508	16 08456 -8460
00470 A NEXT		,P2PTR		02520	21 08456 02313
00480 TF PREBUF		,NEXT		02532	26 08763 08456
00490 SM NEXT		,1	,10	02544	12 08456 000-1

00500	SF	FLGRM			02596	32	08424	00000
00510	TDM	SKIPSM	,0		02568	15	09661	00000
00520	TF	DDMAX	,DOBASE		02580	26	09587	03810
00530	TDM	DOSM	,0		02592	15	09333	00000
00540	TF	DORF	,DOBASE		02604	26	03790	03810
00550	TFM	SCMT	,0		02616	16	09673	-0000
00560	TFM	GLMO	,0	,8	02628	16	09390	0-000
00570	CLEAR	BD	CD120,DOSM		02640	43	10314	09333
00580	*		SET UP STRING RECORD CONSTANTS					
00590	TFM	BGNST+1	,0	,7	02652	16	17000	-0000
00600	DC	L,*,*			02663		1	
00610	TFM	BGMSY	,0	,10	02664	16	16995	000-0
00620	TFM	ENDST	,BGMSY-1		02676	16	03970	J6994
00630	TF	SWAREA	,M13089		02688	26	09337	09364
00640	L1	BTM	GETX	,SX	02700	17	05210	-2377
00650	BTM	ADSL	,SX		02712	17	05312	-2377
00660	CM	SX,	132,8,SEMI COLON		02724	14	02377	0-132
00670	BNE	L1			02736	47	02700	01200
00680	TFM	I	,1	,8	02748	16	09547	0-001
00690	BT	GTSC	,GTSC-1		02760	27	06848	06847
00700	AM	SCNT	,1	,10	02772	11	09673	000-1
00710	L2	BTM	GTNS	,+16	02784	17	05446	-2800
00720	DSA	I			02800		5 X	1
00730	DSA	LV			02805		5 X	1
00740	CM	LV	,152	,8	02805		-9567	
00750	BH	L3			02806	14	09567	0-152
00760	TF	N40002	,1		02818	46	02928	01100
00770	AM	N40002	,2	,10	02830	26	03494	09547
00780	BTM	GTNS	,+16		02842	11	03494	000-2
00790	DSA	N40002			02854	17	05446	-2870
00800	DSA	RV			02870		-3494	
00810	BTM	FORCE	,+16		02875		5 X	1
00820	DSA	LV			02875		-9577	
00830	DSA	RV			02876	17	04380	-2892
00840	DSA	ANS			02892		5 X	1
00850	CM	ANS		,6	02892		-9567	
00860	BNE	ANS			02897		5 X	1
00870	L3	AM	I	,1	02897		-9577	
00880	B	L2			02902		5 X	1
00890	DORG	+3			02902		-2389	
00900	EXIT	SM	I	,1	02904	14	02389	-0000
					02916	47	02388	01200
					02928	11	09547	000-1
					02940	49	02784	00000
					02948			
					02968	12	09547	000-1

00910	B	L2			02960	49	02784	00000
00920	DORG	+3			02968			
00930	*****	OUTPUT	STATEMENT NUMBER	ADDRESSES	02968	12	09547	000-1
00940	CODES	SM	I	,1	02980	17	05416	-2996
00950	BTM	RMNS	,+16	,10	02996		5 X	1
00960	DSA	I			02996		-9547	
00970	DSA	SL			03001		5 X	1
00980	TF	T3,	SL		03001		-2399	
00990	BTM	RMNS	,+16		03002	26	09658	02399
01000	DSA	I			03014	17	05416	-3030
01010	DSA	LV			03030		5 X	1
01020	BTM	GTNS	,+16		03030		-9547	
01030	DSA	I			03035		5 X	1
01040	DSA	SR			03035		-9567	
01050	CM	SR,	140,8,DUMMY		03036	17	05446	-3052
01060	BNE	CKFMT			03052		5 X	1
01070	TDM	DOSM	,1		03052		-9547	
01080	BTM	RMNS	,+16		03057		5 X	1
01090	DSA	I,SR			03057		-2372	
01100	BTM	GTNS	,+16		03058	14	02372	0-140
01110	DSA	I,SR			03070	47	03138	01200
01120	CKFMT	CM	SR,	120,8,FORMAT	03082	15	09333	00001
01130	BNE	SETPCT			03094	17	05416	-3110
01140	BTM	PUTX	,+16		03110		5 X	2
01150	DSA	8,BLANK,BLANK			03110		-9547	
01160	TF	SXF	,ADCON		03115		-2372	
01170	SM	SXF	,10	,10	03116	17	05446	-3132
01180	SM	ADCON	,6	,10	03132		5 X	2
01190	SETPCT	TF	SETAD-1	,SL	03132		-9547	
01200	TDM	SETAD	,4		03137		-2372	
01210	BNE	SETNMT	,SETAD	,11	03138	14	02372	0-128
01220	TF	SETAD	,ADCON	,6	03150	47	03226	01200
01230	BNC1	NOTYP			03162	17	07032	-3178
01240	TDM	SETAD	,5		03178		5 X	3
					03178		-6982	
					03183		-9356	
					03188		-9356	
					03190	26	09582	06977
					03202	12	09582	000J0
					03214	12	06977	000-6
					03226	26	03470	02399
					03238	15	03471	00004
					03250	49	03402	0347J
					03262	26	0347J	06977
					03274	47	03346	00100
					03286	15	03471	00005

01250	RCTY				03298	34	00000	00102
01260	WNTY	SETAD	,	,6	03310	38	0347J	00100
01270	SPTY				03322	34	00000	00101
01280	WNTY	ADCON-4			03334	38	06973	00100
01290	NOTYP	TDM	SETAD	,9	03346	15	0347I	00009
01300	TDM	SETAD		,1	03358	15	0347J	0000J
01310	CM	SR		,128	03370	14	02372	0-128
01320	BE	CODE17			03382	46	10242	01200
01330	B	EXIT			03394	49	02948	00000
01340	DORG	-3			03402			
01350	SETNMT	TF	N40002	,SETAD	03402	26	03494	0347J
01360	CF	N40002			03414	33	03494	00000
01370	SM	N40002		,4	03426	12	03494	000-4
01380	BTM	PUTA		,**16	03438	17	08272	-3454
01390	DSA	N40002,ADCDW			03454		5 X	2
					03454		-3494	
					03459		-6977	
01400	B	SETFCT+36		,4	03460	49	03262	00004
01410	SETAD	DS	,*		03471		0	
01420	CODE0	B	EXIT		03472	49	02948	00000
01430	DORG	-3			03480		0	
01440	N20000	DS		,**1	03480		0	
01450	N40000	DS	5		03484		5	
01460	N40001	DS	5		03489		5	
01470	N40002	DS	5		03494		5	
01480	N40003	DS	5		03499		5	
01490	N40004	DS	5		03504		5	
01500	N40005	DS	5		03509		5	
01510	N40006	DS	5		03514		5	
01520	N40007	DS	5		03519		5	
01530	N40008	DS	5		03524		5	
01540	N40009	DS	5		03529		5	
01550	N40010	DS	5		03534		5	
01560	N40011	DS	5		03539		5	
01570	N40012	DS	5		03544		5	
01580	N20001	DS		,**1	03545		0	
01590	*****	FORTRAN ADJUST PROCEDURE		*****	03549		5	
01600	DS	5			03550	13	0354R	000-5
01610	ADJUST	MM	-1,5,610,	MULTIPLY ADCOM BY 5	03562	43	03576	00099
01620	BD	**14,99			03574	42	00000	00000
01630	BB				03576			
01640	DORG	-9			03576	11	0354R	000-1
01650	AM	ADJUST-1,1,610,		ADD 1 TO ADCOM	03588	42	00000	00000
01660	BB				03595			
01670	DORG	-4						
01680	*****	FORTRAN DP SEARCH ROUTINE		*****	03596	26	03667	0359N
01690	OPSR	TF	OPSR,**1,11,	MOVE IN PARAMETERS	03608	11	03595	000-5
01700	AM	OPSR-1,5,10			03620	26	03698	0359N
01710	TF	OPGT,OPSR-1,11			03632	11	03595	000-1
01720	AM	OPSR-1,1,10			03644	16	03703	-2625
01730	TFM	OPT1,OBASE			03656	21	03702	00000
01740	A	OPT1-1,**		GENERATE TABLE ADDRESS	03667		0	
01750	OPSX	DS	**		03668	43	03692	03715
01760	BD	**24,FX,**		IS IT FIXED OR FLOATING VARIABLE	03680	12	03703	000-5
01770	SM	OPT1,5,10,		FLOATING, ADJUST TABLE ADDRESS				

01780	TF	***		MOVE ENTRY ADDRESS TO A GT	03692	26	00000	00000
01790	OPGT	DS	,*-5		03698		0	
01800	OPT1	DS	,*		03703		0	
01810	B	OPSR-1,**6,		EXIT	03704	49	0359N	00000
01820	FX	DS	1,*		03715		1	
01830	DBASE	DS	**10-1100		02625		0	
01840	FLAD	DC	5,04090		03720		5	
		-4090						
01850	FXAD	DC	5,03878		03725		5	
		-3878						
01860	REP4	DC	5,06922		03730		5	
		-6922						
01870	PRINT	DC	5,04282		03735		5	
		-4282						
01880	TRACE	DC	5,03496		03740		5	
		-3496						
01890	READ	DC	5,04402		03745		5	
		-4402						
01900	DORF	DC	00005,17000,,DORF,		03750		5	
		J7000						
01910	TYPE	DC	5,04282		03755		5	
		-4282						
01920	FLMUL	DC	5,04138		03760		5	
		-4138						
01930	FXMUL	DC	5,03950		03765		5	
		-3950						
01940	FLEXP	DC	5,04258		03770		5	
		-4258						
01950	FXEXP	DC	5,04234		03775		5	
		-4234						
01960	SUB1	DC	5,-02258		03780		5	
		-2250						
01970	ACCEPT	DC	5,04354		03785		5	
		-4354						
01980	SUB2	DC	5,-02263		03790		5	
		-226L						
01990	ACCTAP	DC	5,04378		03795		5	
		-4378						
02000	SUB3	DC	5,-02268		03800		5	
		-226Q						
02010	PUNCH	DC	5,04330		03805		5	
		-4330						
02020	DOBASE	DC	00005,17000,,DOBASE,		03810		5	
		J7000						
02030	PUNTAP	DC	5,04306		03815		5	
		-4306						
02040	FLSUB	DC	5,04066		03820		5	
		-4066						
02050	FXSUB	DC	5,03902		03825		5	
		-3902						
02060	FLDVD	DC	5,04162		03830		5	
		-4162						
02070	FXDVD	DC	5,03974		03835		5	
		-3974						
02080	FLRDV	DC	5,04186		03840		5	
		-4186						

02090	FXRDV	DC	5,03998	03845	5
			-3998		
02100	FXTOFL	DC	5,04042	03850	5
			-4042		
02110	FLTOPX	DC	5,03854	03855	5
			-3854		
02120	RFLSUB	DC	5,04114	03860	5
			-4114		
02130	RFXSUB	DC	5,03926	03865	5
			-3926		
02140	RSNFL	DC	5,04020	03870	5
			-4020		
02150	RSNFX	DC	5,04020	03875	5
			-4020		
02160	ATYPE	DC	5,04512	03880	5
			-4512		
02170	SLASH	DC	5,06492	03885	5
			-6492		
02180	REP	DC	5,06818	03890	5
			-6818		
02190	ITYPE	DC	5,04424	03895	5
			-4424		
02200	FYTYPE	DC	5,04534	03900	5
			-4534		
02210	EYTYPE	DC	5,04556	03905	5
			-4556		
02220	REDD	DC	5,06718	03910	5
			-6718		
02230	HTYPE	DC	5,04578	03915	5
			-4578		
02240	XTYPE	DC	5,07046	03920	5
			-7046		
02250	ASTDP	DC	5,02395	03925	5
			-2395		
02260	FRFAC	DC	5,03452	03930	5
			-3452		
02270	TOFAC	DC	5,03408	03935	5
			-3408		
02280	FACAD	DC	5,02492	03940	5
			-2492		
02290	IO	DC	5,05982	03945	5
			-5982		
02300	IDEND	DC	5,06698	03950	5
			-6698		
02310	IXI	DC	5,04210	03955	5
			-4210		
02320	PAR	DC	5,03378	03960	5
			-3378		
02330	MAT	DC	5,06334	03965	5
			-6334		
02340	BGNST	DC	3,0,16999	16999	3
			-00		
02350	BGNSY	DC	2,0,16995	16995	2
			-0		
02360	ENDST	DC	5,16994	03970	5
			J6994		

02370	DC	1,*,17000	17000	1
02380	*****	FORTRAN SYMBOL TABLE SEARCH ROUTINE	*****	
02390	DS	5	03975	5
02400	SRFCT	TF SRSY,=-1,11, MOVE IN PARAMETERS	03976	26 04047 0397N
02410	AM	SRFCT-1,5,10	03988	11 03975 000-5
02420	TF	SRGT,SRFCT-1,11	04000	26 04098 0397N
02430	AM	SRFCT-1,1,10	04012	11 03975 000-1
02440	TDM	SBASE,4	04024	15 04371 00004
02450	TF	SBASE-1	04036	26 04370 00000
02460	SRSY	DS ,*	04047	0
02470	BMR	SRNX,SBASE,11	04048	45 04092 0437J
02480	TFM	SRGT,0,67	04060	16 04090 -0000
02490	TDM	RMSW,1,11	04072	15 04785 0000J
02500	B	SRFCT-1,,6	04084	49 0397N 00000
02510	DDRG	*-3	04092	0
02520	SRNX	TF ,SBASE,11, MOVE OBJECT ADDRESS OF SYMBOL TO CT	04092	26 00000 0437J
02530	SRGT	DS ,*-5	04098	0
02540	TDM	FPSW ,*0	04104	15 09659 00000
02550	BNF	*+68,SRGT,11	04116	44 04184 0409Q
02560	BD	*+36,SKIPSW	04128	43 04164 0966I
02570	CF	SRGT,,6	04140	33 04090 00000
02580	DMSW	DS ,*-1	04150	0
02590	COMSW	DS ,*	04151	0
02600	TDM	FPSW,1,11	04152	15 09659 0000J
02610	TFM	OPX,27,10	04164	16 04193 000K7
02620	B	*+20	04176	49 04196 00000
02630	DDRG	*-3	04184	0
02640	TFM	OPX,17,10	04184	16 04193 000J7
02650	OPX	DS ,*-2	04193	0
02660	AM	SBASE,1,10	04196	11 04371 000-1
02670	TD	FXORFL,SBASE,11, SET FIX OR FLOAT	04208	25 04373 0437J
02680	AM	SBASE,1,10	04220	11 04371 000-1
02690	TD	DMSW,SBASE,11, SET DIMENSION SWITCH	04232	25 04150 0437J
02700	TDM	COMSW ,*0	04244	15 04151 00000
02710	BNF	*+24,DMSW	04256	44 04280 04150
02720	TDM	COMSW,1,, SET COMMON SWITCH	04268	15 04151 0000I
02730	BD	*+20,DMSW,, IS IT DIMENSIONED	04280	43 04300 04150
02740	B	SRCFLL,,, NO EXIT	04292	49 04336 00000
02750	DDRG	*-3	04300	0
02760	SM	SBASE,7,10	04300	12 04371 000-7
02770	TF	P1,SBASE,11, SET I MAX	04312	26 09651 0437J
02780	AM	SBASE,7,10	04324	11 04371 000-7
02790	SRCFLL	CF FXORFL	04336	33 04373 00000
02800	SM	SBASE,2,10	04348	12 04371 000-2
02810	B	SRFCT-1,,6, EXIT	04360	49 0397N 00000
02820	SBASE	DS ,*	04371	0
02830	FXORFL	DC 2,0	04373	2
02840	*****	FORTRAN FORCE PROCEDURE	*****	
02850	DS	5	04378	5
02860	FORCE	TF FLV,=-1,11, MOVE IN PARAMETERS	04388	26 04458 0437R
02870	AM	FORCE-1,5,10	04392	11 04379 000-5
02880	TF	FRV,FORCE-1,11	04404	26 04542 0437R
02890	AM	FORCE-1,5,10	04416	11 04379 000-5
02900	TF	FANS,FORCE-1,11	04428	26 04674 0437R

02910	AM	FORCE-1,2,10		04440	11	04379	000-2
02920	CM	,	104.8, IS LEFT OPERATOR LESS THAN OP LOW VALUE	04452	14	00000	0-104
02930	FLV	DS	,,-5	04458		0	
02940	BL	FORCB*24		04464	47	04656	01300
02950	TFM	FT1,FBASE,,	MOVE TABLE BASE TO FT1	04476	16	04691	-3677
02960	A	FT1-1,FLV,11,	GENERATE TABLE ADDRESS	04488	21	04690	0465Q
02970	TF	LVAL,FT1,11,	REMOVE LEFT VALUE FROM TABLE	04500	26	04713	0469J
02980	AM	FT1,7,10,	ADD 7 TO TABLE ADDRESS	04512	11	04691	000-7
02990	TF	F,CODE,FT1,11,	REMOVE CODE FROM TABLE	04524	26	04679	0469J
03000	CM	,	104.8, IS RIGHT OPERATOR LESS THAN OP LOW VALUE	04536	14	00000	0-104
03010	FRV	DS	,,-5	04542		0	
03020	BL	FORCB*24		04548	47	04656	01300
03030	CM	FRV,141.69,	IS OP HIGHER THAN HIGH VALUE	04560	14	0454K	00J41
03040	BH	FORCC		04572	46	04692	01100
03050	TFM	FT1,FBASE,,	MOVE TABLE BASE TO FT1	04584	16	04691	-3677
03060	A	FT1-1,FRV,11,	GENERATE TABLE ADDRESS	04596	21	04690	0454K
03070	AM	FT1,2,10,	ADD 2 TO TABLE ADDRESS	04608	11	04691	000-2
03080	TF	RVAL,FT1,11,	REMOVE RIGHT VALUE FROM TABLE	04620	26	04715	0469J
03090	FORCB	C	LVAL,RVAL,,	04632	24	04713	04715
03100	BNH	**24		04644	47	04668	01100
03110	TFM	F,CODE,,	MOVE ZERO TO CODE	04656	16	04679	-0000
03120	TFM	,,,	MOVE ZERO OR CODE TO FANS	04668	16	00000	-0000
03130	F,CODE	DS	,,	04679		0	
03140	FANS	DS	,,-5	04674		0	
03150	B	FORCE-1,,6,	EXIT	04680	49	0437R	00000
03160	FT1	DS	5,,	04691		5	
03170	FORCC	TFM	RVAL,0,10	04692	16	04715	000-0
03180	B	FORCB		04704	49	04632	00000
03190	DDRG	**3		04712			
03200	LVAL	DS	2	04713		2	
03210	RVAL	DS	2	04715		2	
03220	FBASE	DS	,,+2-1040	03677		0	
03230	DC	2,1,,	RPAREN	04717		2	
	-1						
03240	DC	2,50		04719		2	
	NO						
03250	DSA	L3		04724		5 X	1
				04724		-2928	
03260	RFLAG	DC	1,0	04725		1	
	-						
03270	DC	2,60,,	GOTO	04727		2	
	00						
03280	DC	2,59		04729		2	
	N9						
03290	DSA	CODE6		04734		5 X	1
				04734		J0074	
03300	RXFLAG	DC	1,0	04735		1	
	-						
03310	DC	2,0,,	COMPUTED GOTO	04737		2	
	-0						
03320	DC	2,0		04739		2	
	-0						
03330	DSA	CODE9		04744		5 X	1

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03340	FYSW	DSC	1,0	04744		J0146	
	0			04745		1	
03350	DC	2,2,,	IF	04747		2	
	-2						
03360	DC	2,0		04749		2	
	-0						
03370	DSA	CODE7		04754		5 X	1
				04754		J0098	
03380	CALLX	DC	1,0	04755		1	
	-						
03390	DC	2,0,,	DO	04757		2	
	-0						
03400	DC	2,0		04759		2	
	-0						
03410	DSA	CODE12		04764		5 X	1
				04764		J0170	
03420	FFRSW	DS	1	04765		1	
03430	DC	2,0,,	DDA	04767		2	
	-0						
03440	DC	2,0		04769		2	
	-0						
03450	DSA	CODE0		04774		5 X	1
				04774		-3472	
03460	SUBPSW	DS	1	04775		1	
03470	DC	2,10,,	PLUS	04777		2	
	JO						
03480	DC	2,10		04779		2	
	JO						
03490	DSA	CODE1		04784		5 X	1
				04784		J0002	
03500	RMSW	DS	1	04785		1	
03510	DC	2,0,,	PRINT	04787		2	
	-0						
03520	DC	2,0		04789		2	
	-0						
03530	DSA	CODE14		04794		5 X	1
				04794		J0194	
03540	FLAGSW	DS	1	04795		1	
03550	DC	2,0,,	READ	04797		2	
	-0						
03560	DC	2,0		04799		2	
	-0						
03570	DSA	CODE14		04804		5 X	1
				04804		J0194	
03580	CRSW	DS	1	04805		1	
03590	DC	2,0,,	TYPE	04807		2	
	-0						
03600	DC	2,0		04809		2	
	-0						

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03610	DSA	CODE14		04814	5 X 1
03620	DC	1,0		04814	J0194
	-			04815	1
03630	DC	2,5,,	MPY	04817	2
	-5				
03640	DC	2,5		04819	2
	-5				
03650	DSA	CODE1		04824	5 X 1
03660	DC	1,0		04824	J0002
	-			04825	1
03670	DC	2,5,,	EXP	04827	2
	-5				
03680	DC	2,4		04829	2
	-4				
03690	DSA	CODE1		04834	5 X 1
03700	DC	1,0		04834	J0002
	-			04835	1
03710	DC	2,0,,	ACCEPT	04837	2
	-0				
03720	DC	2,0		04839	2
	-0				
03730	DSA	CODE14		04844	5 X 1
03740	DC	1,0		04844	J0194
	-			04845	1
03750	DC	2,0,,	ACCEPT TAPE	04847	2
	-0				
03760	DC	2,0		04849	2
	-0				
03770	DSA	CODE14		04854	5 X 1
03780	DC	1,0		04854	J0194
	-			04855	1
03790	DC	2,0,,	PUNCH	04857	2
	-0				
03800	DC	2,0		04859	2
	-0				
03810	DSA	CODE14		04864	5 X 1
03820	DC	1,0		04864	J0194
	-			04865	1
03830	DC	2,0,,	PUNCH TAPE	04867	2
	-0				
03840	DC	2,0		04869	2
	-0				
03850	DSA	CODE14		04874	5 X 1

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03860	DC	1,0		04874	J0194
	-			04875	1
03870	DC	2,10,,	MINUS	04877	2
	J0				
03880	DC	2,10		04879	2
	J0				
03890	DSA	CODE1		04884	5 X 1
03900	DC	1,0		04884	J0002
	-			04885	1
03910	DC	2,5,,	DIVIDE	04887	2
	-5				
03920	DC	2,5		04889	2
	-5				
03930	DSA	CODE1		04894	5 X 1
03940	DC	1,0		04894	J0002
	-			04895	1
03950	DC	2,0,,	RDVD	04897	2
	-0				
03960	DC	2,0		04899	2
	-0				
03970	DSA	CODE0		04904	5 X 1
03980	DC	1,0		04904	-3472
	-			04905	1
03990	DC	2,49,,	CMA	04907	2
	M9				
04000	DC	2,48		04909	2
	M8				
04010	DSA	CODE8		04914	5 X 1
04020	DC	1,0		04914	J0122
	-			04915	1
04030	DC	2,49,,	LPAREN	04917	2
	M9				
04040	DC	2,1		04919	2
	-1				
04050	DSA	CODE3		04924	5 X 1
04060	DC	1,0		04924	J0026
	-			04925	1
04070	DC	2,60,,	STOP	04927	2
	00				
04080	DC	2,59		04929	2
	M9				
04090	DSA	CODE6		04934	5 X 1
04100	DC	1,0		04934	J0074
	-			04935	1

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04110	DC 2,60,,	PAUSE	04937	2
04120	DC 2,59		04939	2
04130	DSA CODE6		04944	5 X 1
04140	DC 1,0		04944	J0074
04150	DC 2,60,,	CONTINUE	04945	1
04160	DC 2,59		04947	2
04170	DSA CODE6		04949	2
04180	DC 1,0		04954	5 X 1
04190	DC 2,60,,	FORMAT	04954	J0074
04200	DC 2,59		04955	1
04210	DSA CODE17		04957	2
04220	DC 1,0		04959	2
04230	DC 2,5,,	UNMNS	04964	5 X 1
04240	DC 2,0		04964	J0242
04250	DSA CODE4		04965	1
04260	DC 1,0		04967	2
04270	DC 2,0,,	SENSE SWITCH	04969	2
04280	DC 2,2		04974	5 X 1
04290	DSA CODE0		04974	J0050
04300	DC 1,0		04975	1
04310	DC 2,0,,	CALL EXIT	04977	2
04320	DC 2,0		04979	2
04330	DSA CDCALL		04984	5 X 1
04340	DC 1,0		04984	-3472
04350	DC 2,60,,	SC	04985	1
	DC 2,0		04987	2
	DC 2,0		04989	2
	DSA CDCALL		04994	5 X 1
	DC 1,0		04994	J0410
	DC 2,60,,		04995	1
	DC 2,0		04997	2

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04360	DC 2,60		04999	2
04370	DSA CODE0		05004	5 X 1
04380	DC 1,0		05004	-3472
04390	DC 2,60,,	EQUAL	05005	1
04400	DC 2,59		05007	2
04410	DSA CODE1		05009	2
04420	DC 1,0		05014	5 X 1
04430	DC 2,0,,	COLON	05014	J0002
04440	DC 2,0		05015	1
04450	DSA CODE5		05017	2
04460	DC 1,0		05019	2
04470	DC 2,0,,	SUBP	05024	5 X 1
04480	DC 2,0		05024	-2968
04490	DSA FCT1		05025	1
04500	DC 1,0		05027	2
04510	DC 2,0,,	SUBF	05029	2
04520	DC 2,0		05034	5 X 1
04530	DSA FCT1		05034	J0338
04540	DC 1,0		05035	1
04550	DC 2,0,,	DEF	05037	2
04560	DC 2,0		05039	2
04570	DSA FCT1		05044	5 X 1
04580	DC 1,0		05044	J0338
04590	DC 2,0,,	CALL	05045	1
04600	DC 2,0		05047	2
	DC 2,0		05049	2
	DC 2,0		05054	5 X 1
	DC 1,0		05054	J0338
	DC 2,0,,		05055	1
	DC 2,0		05057	2
	DC 2,0		05059	2

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04610	DSA CODE15		05064	5 X 1
04620	DC 1,0		05064	J0218
	-		05065	1
04630	DC 2,0,,	RETURN	05067	2
	-0			
04640	DC 2,0		05069	2
	-0			
04650	DSA FCTRT		05074	5 X 1
04660	DC 1,0		05074	J0362
	-		05075	1
04670	DC 2,0,,	DUMMY	05077	2
	-0			
04680	DC 2,60		05079	2
	00			
04690	DSA CODE0		05084	5 X 1
04700	DC 1,0		05084	-3472
	-		05085	1
04710	DC 2,0,,	END	05087	2
	-0			
04720	DC 2,0		05089	2
	-0			
04730	DSA CODE6		05094	5 X 1
04740	DC 1,0		05094	J0074
	-		05095	1
04750	DC 2,1,,	FETCHV	05097	2
	-1			
04760	DC 2,0		05099	2
	-0			
04770	DSA CODE14		05104	5 X 1
04780	DC 1,0		05104	J0194
	-		05105	1
04790	DC 2,1,,	FETCHL	05107	2
	-1			
04800	DC 2,0		05109	2
	-0			
04810	DSA CODE14		05114	5 X 1
04820	DC 1,0		05114	J0194
	-		05115	1
04830	DC 2,1,,	FINDV	05117	2
	-1			
04840	DC 2,0		05119	2
	-0			
04850	DSA CODE14		05124	5 X 1

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04860	DC 1,0		05124	J0194
	-		05125	1
04870	DC 2,1,,	FINDL	05127	2
	-1			
04880	DC 2,0		05129	2
	-0			
04890	DSA CODE14		05134	5 X 1
04900	DC 1,0		05134	J0194
	-		05135	1
04910	DC 2,1,,	RECORDV	05137	2
	-1			
04920	DC 2,0		05139	2
	-0			
04930	DSA CODE14		05144	5 X 1
04940	DC 1,0		05144	J0194
	-		05145	1
04950	DC 2,1,,	RECORDL	05147	2
	-1			
04960	DC 2,0		05149	2
	-0			
04970	DSA CODE14		05154	5 X 1
04980	DC 1,0		05154	J0194
	-		05155	1
04990	DC 2,0,,	S0	05157	2
	-0			
05000	DC 2,0		05159	2
	-0			
05010	DSA CDSSAB		05164	5 X 1
05020	DC 1,0		05164	J0290
	-		05165	1
05030	DC 2,0,,	S1	05167	2
	-0			
05040	DC 2,0		05169	2
	-0			
05050	DSA CODESS		05174	5 X 1
05060	DC 1,0		05174	J0266
	-		05175	1
05070	DC 2,0,,	S2	05177	2
	-0			
05080	DC 2,0		05179	2
	-0			
05090	DSA CODESS		05184	5 X 1
05100	DC 1,0		05184	J0266
	-		05185	1

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05110	DC	2,0,,	S3	05107	2		
05120	DC	2,0		05109	2		
05130	DSA	CODESS		05194	5 X	1	
05140	DC	1,0		05194	J0266		
05150	DC	2,0,,	CALL LINK	05195	1		
05160	DC	2,0		05197	2		
05170	DSA	DCALL		05199	2		
				05204	5 X	1	
05180	*****	GETX FORTRAN ROUTINE	*****	05204	J0410		
05190	DS	5		05209	5		
05200	GETX	BNR	GETSY,INPUT	05210	45	05258	09678
05210	TFM	IORT	,+23	05222	16	00565	-5245
05220	B	LOGT	,GETBLK	05234	49	00566	-5284
05230	AM	GTBLKB	,1	05246	11	05297	000-1
05240	GETSY	TF	GETX-1,INPUT+3,6, GET NEXT SYMBOL	05258	26	0520R	09681
05250	TR	INPUT,INPUT+4,,	SLIDE DOWN	05270	31	09678	09682
05260	BB			05282	42	00000	00000
05270	DORG	+9		05284			
05280	GETBLK	DSC	2,2	05284	2		
05290	DSA	GTBLKA		05290	5 X	1	
05300	DC	1,'		05290	-5292		
05310	GTBLKA	DSC	1,0	05291	1		
05320	GTBLKB	DC	5,600	05292	1		
05330	DC	3,1		05297	5		
05340	DSA	INPUT		05300	3		
				05305	5 X	1	
05350	DC	1,'		05305	-9678		
05360	*****	FORTRAN II GTNS, RMNS, RPNS ROUTINES	*****	05306	1		
05370	DS	5		05311	5		
05380	AUSL	TF	+30,ENDST,, SET UP OPEN ADDRESS	05312	26	05342	03970
05390	SM	+18,4,10		05324	12	05342	000-4
05400	TR	,ENDST,11,	OPEN STRING 4 LOCATIONS	05336	31	00000	0397-
05410	TD	BGNSY+1,BGNSY-3,,	RESTORE 1ST DIGIT OF NORM	05348	25	16996	16992
05420	TF	BGNSY,AUSL-1,11,	MOVE SYMBOL INTO FIRST POSITION	05360	26	16995	0531J
05430	CF	BGNSY-3,,, CLEAR	FLAG ON NEW SYMBOL	05372	33	16992	00000
05440	AM	BGNST,1,10,	INCREASE NORM BY ONE	05384	11	16999	000-1
05450	SM	ENDST,4,10,	ADJUST ENDST BY FOUR	05396	12	03970	000-4
05460	BB			05408	42	00000	00000
05470	DORG	+9		05410			

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05480	DS	5		05414	5		
05490	RMNS	TDM	RMNS+8,1,11, SET RMNS SWITCH TO FLAG 1	05416	15	05424	0000J
05500	BT	RGR,RMNS-1		05428	27	05506	05415
05510	DS	5		05444	5		
05520	GTNS	TDM	RMNS+8,1,, SET GTNS SWITCH TO 1	05446	15	05424	00001
05530	BT	RGR,GTNS-1		05458	27	05506	05445
05540	DS	5		05474	5		
05550	RPNS	TDM	RMNS+8,0,, SET RPNS SWITCH TO 0	05476	15	05424	00000
05560	BT	RGR,RPNS-1		05488	27	05506	05475
05570	DS	5		05504	5		
05580	RGR	TF	RGR1,-1,11, MOVE IN ADDRESS OF I	05506	26	05584	0550N
05590	AM	RGR-1,5,10		05518	11	05505	000-5
05600	TF	RGRS,RGR-1,11,	MOVE IN ADDRESS OF SYMBOL	05530	26	05757	0550N
05610	AM	RGR-1,1,10		05542	11	05505	000-1
05620	CM	BGNST,0,8,	COMPARE NORM TO ZERO	05554	14	16999	0-000
05630	BNM	RGRNUL		05566	47	05894	01100
05640	CM	,0,8,	COMPARE I TO ZERO	05578	14	00000	0-000
05650	RGR1	DS	+5	05584	0		
05660	BNM	RGRNUL		05590	47	05894	01100
05670	C	RGR1,BGNST,6,	COMPARE I TO NORM	05602	24	0558M	16999
05680	BH	RGRNUL		05614	46	05894	01100
05690	TF	RGRA,BGNST,,	MOVE IN NORM	05626	26	05685	16999
05700	S	RGRA,RGR1,11,	SUBTRACT I FROM NORM	05638	22	05685	0558M
05710	AM	RGRA,1,10,	ADD 1	05650	11	05685	000-1
05720	MM	RGRA,4,1011,	MULTIPLY BY MINUS 4	05662	13	05685	000-M
05730	SF	95		05674	32	00095	00000
05740	RGRA	DS	,*	05685	0		
05750	AM	+9,BGNST,,	ADD STRING ADDRESS	05686	11	00099	J6999
05760	TF	+30,99,,	MOVE SYMBOL ADDRESS	05698	26	05728	00099
05770	SM	+18,3,10,	SUBTRACT 3 FOR FLAG POSITION	05710	12	05728	000-3
05780	RGRF	SF	,,, SET FLAG IN STRING	05722	32	00000	00000
05790	BD	REMGET,RMNS+8,,	BRANCH IF RMNS OR GTNS	05734	43	05778	05424
05800	TF	99,,6,	MOVE SYMBOL INTO STRING	05746	26	0009R	00000
05810	RGRS	DS	,*	05757	0		
05820	CF	RGRF+6,,6,	CLEAR FLAG	05758	33	05720	00000
05830	B	RGR-1,,6,	EXIT	05770	49	0550N	00000
05840	DORG	+3		05778			
05850	REMGET	TF	RGRS,99,611, TAKE SYMBOL FROM STRING	05778	26	0575P	0009R
05860	CF	RGRF+6,,6,	CLEAR FLAG	05790	33	05720	00000
05870	BNF	RGR-1,RMNS+8,6,	EXIT IF GTNS	05802	44	0550N	05424
05880	SM	RGRF+6,1,10,	ADD ONE FOR CLOSE ADDRESS	05814	12	05728	000-1
05890	TF	+30,RGRF+6,,	MOVE CLOSE ADDRESS	05826	26	05856	05728
05900	AM	+18,4,10,	ADD 4 FOR CLOSE TO ADDRESS	05838	11	05856	000-4
05910	TF	,RGRF+6,11,	CLOSE STRING ONE SYMBOL	05850	26	00000	0572Q
05920	SM	BGNST,1,10,	DECREASE NORM BY ONE	05862	12	16999	000-1
05930	AM	ENDST,4,10,	ADJUST ENDST	05874	11	03970	000-4
05940	B	RGR-1,,6,	EXIT	05886	49	0550N	00000
05950	DORG	+3		05894			
05960	RGRNUL	BD	+20,RMNS+8,, BRANCH IF RMNS OR GTNS	05894	43	05914	05424
05970	B	RGR-1,,6,	EXIT IF RPNS	05906	49	0550N	00000
05980	DORG	+3		05914			
05990	TFM	RGRS,0,68,	MOVE NULL TO SYMBOL	05914	16	0575P	0-000
06000	B	RGR-1,,6,	EXIT	05926	49	0550N	00000
06010	DORG	+3		05934			
06020	*****	FORTRAN GENERATE TEMPORARY STORAGE ROUTINE	*****	05938	5		
06030	DS	5					

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06040	GMRP	TFM	GI,,8,	SET GI TO ZERO	05940	16	06735	0-000
06050		TDM	GTSBSW,0		05952	15	07026	00000
06060		AM	GI,1,10,	ADD 1 TO GI	05964	11	06735	000-1
06070		BTM	GTNS,++16,,	GET ITH SYMBOL	05976	17	05446	-5992
06080		DSA	GI,GA		05992	5	X	2
					05992		-6735	
					05997		-6591	
06090		CM	GA,101,8,	COMPARE TO FAC (101)	05998	14	06591	0-101
06100		BNE	GMRP+24		06010	47	05964	01200
06110		CM	TMAX,,9,	HAVE ANY TEMPS BEEN GENERATED	06022	14	06972	00-00
06120		BE	GNONE		06034	46	06150	01200
06130	GYES	TF	GBASE,TBASE		06046	26	09637	02303
06140		TFM	GCNT,0,9		06058	16	06117	00-00
06150		SM	GBASE,7,10		06070	12	09637	000-7
06160		BNF	GFREE,GBASE,11,	BRANCH IF FREE ONE FOUND	06082	44	06592	0963P
06170	GTPT	AM	GCNT,1,10		06094	11	06117	000-1
06180		CM	TMAX		06106	14	06972	-0000
06190	GCNT	DS	,*		06117		0	
06200		BE	GNONE		06118	46	06150	01200
06210		SM	GBASE,10,10		06130	12	09637	000J0
06220		B	GYES+36		06142	49	06082	00000
06230		DORG	=-3		06150			
06240	GNONE	AM	TMAX,1,10		06150	11	06972	000-1
06250		BD	FULLCK-24,GTSBSW		06162	43	06350	07026
06260		TF	GCOM,ADCOM,,	MOVE ADCOM TO GCOM	06174	26	06839	06977
06270		AM	GCOM,19,10,	ADD 19 FOR LENGTH OF INSTS	06186	11	06839	000J9
06280		A	GCOM,LNG		06198	21	06839	09640
06290		TF	TCOM,GCOM,,	SAVE CONSTANT ADDRESS	06210	26	06969	06839
06300		TDM	SS2,1		06222	15	07477	00001
06310		BTM	PUTX,++16,,	OUTPUT STORE FAC INST	06234	17	07032	-6250
06320		DSA	BTM,FRFAC,GCOM		06250	5	X	3
					06250		-6980	
					06255		-3930	
					06260		-6839	
06330		MM	GCOM,5,10,	IS GCOM ODD OR EVEN	06262	13	06839	000-5
06340		BD	GADD1,99		06274	43	06568	00099
06350		AM	GCOM,2,10,	ADD 2 TO GCOM	06286	11	06839	000-2
06360	GPUT	TDM	SS1,1		06298	15	07476	00001
06370		BTM	PUTX,++16		06310	17	07032	-6326
06380		DSA	B,GCOM,BLANK		06326	5	X	3
					06326		-6982	
					06331		-6839	
					06336		-9356	
06390		TF	ADCOM,GCOM,,	RESERVE SPACE FOR NEW TEMP	06338	26	06977	06839
06400		TF	GBASE,TBASE,,	MOVE IN NEXT AVAILABLE TABLE ADDRESS	06350	26	09637	02303
06410		S	GBASE-1,TMAX		06362	22	09636	06972
06420	FULLCK	C	GBASE,DOMAX		06374	24	09637	09587
06430		BNL	GPUTA		06386	46	06454	01300
06440		RCTY			06398	34	00000	00102
06450		WNTY	SCNT-3		06410	38	09670	00100
06460		WATY	FULMES		06422	39	09473	00100
06470	MNCLOV	BV	*+12		06434	46	06446	01400
06480		BT	MONCAL		06446	49	00796	

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06490	GPUTA	TF	GBASE,TCOM,6		06454	26	0963P	06969
06500	GFLAG	AM	GBASE,4,10		06466	11	09637	000-4
06510		TFM	GBASE,10,610		06478	16	0963P	000J0
06520		SM	GBASE,3,10		06490	12	09637	000-3
06530		TD	GBASE,FLAGSW,6		06502	25	0963P	04795
06540		RD	GTFIN,GTSBSW		06514	43	15418	07026
06550		TDM	FSW,0		06526	15	09326	00000
06560	GTJW	BTM	RPNS,++16		06538	17	05476	-6554
06570		DSA	GI,GBASE-1		06554	5	X	2
					06554		-6735	
					06559		-9636	
06580		B	GMRP-1,,6,	EXIT	06560	49	0593R	00000
06590		DORG	=-3		06568			
06600	GADD1	AM	GCOM,1,10,	ADD 1 TO GCOM	06568	11	06839	000-1
06610		B	GPUT		06580	49	06298	00000
06620	GA	DS	,*		06591		0	
06630	GFREE	AM	GBASE,1,10		06592	11	09637	000-1
06640		BD	GTST,GBASE,11		06604	43	06628	0963P
06650		BNF	NGFRE,GTSBSW		06616	44	06660	07026
06660	GTST	BD	GFLAG+12,GTSBSW		06628	43	06478	07026
06670		SM	GBASE,1,10		06640	12	09637	000-1
06680		BT	GTPT		06652	49	06094	
06690	NGFRE	SM	GBASE,4,10		06660	12	09637	000-4
06700		TF	TCOM,GBASE,11,	MOVE ADDRESS OF GT TO TCOM	06672	26	06969	0963P
06710		TDM	SS2,1		06684	15	07477	00001
06720		BTM	PUTX,++16,,	OUTPUT STORE FAC INST	06696	17	07032	-6712
06730		DSA	BTM,FRFAC,TCOM		06712	5	X	3
					06712		-6980	
					06717		-3930	
					06722		-6969	
06740		B	GFLAG		06724	49	06466	00000
06750	GI	DS	5,*		06735		5	
06760		DC	4,1000		06739		4	
			J000					
06770	GTCL	CM	GTCL-1,101,8		06740	14	06739	0-101
06780		BE	*+36		06752	46	06788	01200
06790		C	TBASE-1,GTCL-1		06764	24	02302	06739
06800		BH	GTFLCL		06776	46	06816	01100
06810		BB			06788	42	00000	00000
06820		DORG	=-9		06790			
06830	GCLEAR	TF	*+17,GTCL-1		06790	26	06807	06739
06840		TDM	7		06802	15	00007	00000
06850		BB	,,0		06814	M2	00000	00000
06860		DORG	=-9		06816			
06870	GTFLCL	TF	*+17,GTCL-1		06816	26	06833	06739
06880		CF	4		06828	33	00004	00000
06890	GCOM	DS	5,*		06839		5	
06900		B	GCLEAR		06840	49	06790	00000
06910		DORG	=-3		06848			
06920	GTSCCL	TF	GBASE,TBASE		06848	26	09637	02303
06930		S	GBASE-1,TMAX		06860	22	09636	06972
06940		AM	GBASE,3,10		06872	11	09637	000-3
06950		C	GBASE,TBASE		06884	24	09637	02303
06960		BNH	*+14		06896	47	06910	01100

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06970	BB				06908	42	00000	00000
06980	DORG	=-9			06910			
06990	TDM	GBASE,,6			06910	15	0963P	00000
06991	SM	GBASE,3,10			06922	12	09637	000-3
06992	CF	GBASE,,6			06934	33	0963P	00000
07000	AM	GBASE,13,10			06946	11	09637	000J3
07010	B	GTSCL+36			06958	49	06884	00000
07020	TCOW	DS	,*		06969			0
07030	TMAX	DC	3,0		06972			3
			-00					
07040	ADCOV	DC	5,0		06977			5
			-0000					
07050		DC	1,1		06978			1
			,					
07060	BTM	DC	2,17		06980			2
		J7						
07070	B	DC	2,49		06982			2
		M9						
07080	D1	DS	5		06987			5
07090	DI	DS	5		06992			5
07100	D2	DS	5		06997			5
07110	DJ	DS	5		07002			5
07120	D3	DS	5		07007			5
07130	DK	DS	5		07012			5
07140	D4	DS	5		07017			5
07150	T1	DS	5		07022			5
07160	L	DS	3		07025			3
07170	GTSBSW	DSC	1,0		07026			1
			0					
07180	*****	DISC OUTPUT ROUTINES FOR OBJECT PROGRAM						
07190	DS	5			07031			5
07200	PUTX	TF	PUT1	,PUTX-1	07032	26	08770	0703J
07210	AM	PUTX-1		,5	07044	11	07031	000-5
07220	TF	PUT2		,PUTX-1	07056	26	08775	0703J
07230	AM	PUTX-1		,5	07068	11	07031	000-5
07240	TR	TYPET		,TYPEX	07080	31	08425	08781
07250	PUTXA	TF	PUT3	,PUTX-1	07092	26	08780	0703J
07260	AM	PUTX-1		,2	07104	11	07031	000-2
07270	PUTXB	C	CODET	,LSTYPE	07116	24	08438	08444
07280	BNE	PUTDIF			07128	47	07604	01200
07290	C	SAVCOM		,ADCOV	07140	24	07499	06977
07300	BNE	OUTSEQ			07152	47	07744	01200
07310	C	BAL		,SLNG	07164	24	08446	08427
07320	BL	PUTNXT			07176	47	07904	01300
07330	PUTEST	RD	PUTINS	,CODET	07188	43	07208	08438
07340	B7	PUTCAD			07200	49	07528	
07350	*****	PLACE INSTRUCTIONS IN OUTPUT BUFFER						
07360	PUTINS	AM	NEXT	,2	07208	11	08456	000-2
07370	TF	NEXT		,PUT1	07220	26	08450	0877-
07380	C	LOCOM		,PUT3	07232	24	02262	0878-
07390	BNH	**24			07244	47	07268	01100
07400	BD	FLG2		,SS2	07256	43	07468	07477
07410	PUTXC	SM	NEXT	,1	07268	12	08456	000-1
07420	C	LOCOM		,PUT2	07280	24	02762	0877N
07430	BNH	**24			07292	47	07316	01100
07440	BD	**24		,SS1	07304	43	07328	07476

07450	CF	NEXT		,	07316	33	08450	00000
07460	PUTGT	DS	,*	,6	07327			0
07470	AM	NEXT		,6	07328	11	08456	000-6
07480	TF	NEXT		,PUT2	07340	26	08450	0877N
07490	BD	FLG3		,SS3	07352	43	07488	07478
07500	PUTXD	AM	NEXT	,5	07364	11	08456	000-5
07510	TF	NEXT		,PUT3	07376	26	08450	0878-
07520	BD	FLG4		,SS4	07388	43	07508	07479
07530	PUTXE	TFM	SS4	,0	07400	16	07479	0-000
07540	SM	BAL		,12	07412	12	08446	000J2
07550	PUTXF	A	ADCOV	,SLNG	07424	21	06977	08427
07560	TF	SAVCOM		,ADCOV	07436	26	07499	06977
07570	A	LNGAD		,SLNG	07448	21	0845J	08427
07580	B7	PUTX-1		,	07460	49	0703J	
07590	FLG2	SF	NEXT	,	07468	32	08450	00000
07600	SS1	DS	,*-3	,	07476			0
07610	SS2	DS	,*-2	,	07477			0
07620	SS3	DS	,*-1	,	07478			0
07630	SS4	DS	,*	,	07479			0
07640	B7	PUTXC		,	07480	49	07268	
07650	FLG3	SF	NEXT	,99999	07488	32	08450	R9999
07660	SAVCOM	DS	,*	,67	07499			0
07670	B7	PUTXD		,	07500	49	07364	
07680	FLG4	SF	NEXT	,	07508	32	08450	00000
07690	B7	PUTXE		,6	07520	49	07400	
07700	*****	PLACE DSA ADDRESSES IN OUTPUT BUFFER						
07710	PUTCAD	A	NEXT	,SLNG	07528	21	08456	08427
07720	S	BAL		,SLNG	07540	22	08446	08427
07730	TF	NEXT		,PUT3	07552	26	08450	0878-
07740	BD	**20		,CODET-3	07564	43	07584	08435
07750	B7	PUTXF		,	07576	49	07424	
07760	TFM	SAVCOM		,99999	07584	16	07499	R9999
07770	B7	PUTXF+24		,	07596	49	07448	
07780	*****	THIS TYPE NOT EQUAL TO LAST						
07790	PUTDIF	TF	LSTYPE	,CODET	07604	26	08444	08438
07800	C	SAVCOM		,ADCOV	07616	24	07499	06977
07810	BNE	OUTSEQ			07628	47	07744	01200
07820	C	BAL		,SSLNG	07640	24	08446	08429
07830	BL	PUTNXT			07652	47	07904	01300
07840	PUTXG	AM	NEXT	,1	07664	11	08456	000-1
07850	TD	NEXT		,TYPET	07676	25	08450	08425
07860	AM	NEXT		,2	07688	11	08456	000-2
07870	TFM	NEXT		,0	07700	16	08450	000-0
07880	TF	LNGAD		,NEXT	07712	26	08451	08456
07890	SM	BAL		,3	07724	12	08446	000-3
07900	B7	PUTEST		,	07736	49	07188	
07910	*****	OUT OF SEQUENCE						
07920	OUTSEQ	C	BAL	,SQLNG	07744	24	08446	08433
07930	BL	PUTNXT			07756	47	07904	01300
07940	CM	BAL		,75	07768	14	08446	000P5
07950	BE	PUTXH		,	07780	46	07828	01200
07960	AM	NEXT		,1	07792	11	08456	000-1
07970	SM	BAL		,1	07804	12	08446	000-1
07980	TDM	NEXT		,	07816	15	08450	00000
07990	DC	1,*,*		,6	07827			1

08820 DSC 25,0
 00000000000000000000000000000000
 08830 DGM
 08840 PREBUF DSA BUF1

 08850 PUT1 DS 5
 08860 PUT2 DS 5
 08870 PUT3 DS 5
 08880 TYPEX DSC 1,1
 1
 08890 DC 2,12
 J2
 08900 DC 2,15
 J5
 08910 DC 2,20
 KO
 08920 DC 2,21
 K1
 08930 DC 5,1
 -0001
 08940 DC 1,1

 08950 TYPECR DSC 1,3
 3
 08960 DC 2,5
 -5
 08970 DC 2,8
 -8
 08980 DC 2,13
 J3
 08990 DC 2,14
 J4
 09000 DC 5,10
 -0010
 09010 DC 1,1
 1

 09020 TYPECN DSC 1,2
 2
 09030 DC 2,5
 -5
 09040 DC 2,8
 -8
 09050 DC 2,13
 J3
 09060 DC 2,14
 J4
 09070 DC 5,100
 -0100
 09080 DC 1,1
 1

 09090 TYPEA DSC 1,3
 3
 09100 DC 2,5
 -5
 09110 DC 2,13
 J3

08735 25
 08760 1
 08765 5 X 1

 08765 -8460
 08770 5
 08775 5
 08780 5
 08781 1

 08783 2
 08785 2
 08787 2
 08789 2
 08794 5
 08795 1
 08796 1
 08798 2
 08800 2
 08802 2
 08804 2
 08809 5
 08810 1
 08811 1
 08813 2
 08815 2
 08817 2
 08819 2
 08824 5
 08825 1
 08826 1
 08828 2
 08830 2

09120 DC 2,13
 J3
 09130 DC 2,14
 J4
 09140 DC 5,1000
 -1000
 09150 DC 1,1
 1

 09160 DS 5
 09170 CANDS TF CANDSA ,*-1 ,11
 09180 BTM RMNS ,**16
 09190 DSA I,DX

 09200 BTM RMNS ,**16
 09210 DSA I,DY

 09220 CF DY-3
 09230 SF DX , ,10
 09240 TD *-1 ,DX-3
 09250 CM *-13 ,9 ,1011
 09260 BNE **24
 09270 SF DY
 09280 TF ,DY
 09290 CANDSA DS ,*-5
 09300 AM CANDS-1 ,5 ,10
 09310 BTM RMNS ,**16
 09320 DSA I,DX

 09330 CM DX ,104 ,8
 09340 BNE **32
 09350 CANDRT AM CANDS-1 ,1 ,10
 09360 R CANDS-1 , ,6
 09370 DORG *-3
 09380 BTM SRPCT ,**16
 09390 DSA DX,DX

 09400 TF **18 ,CANDS-1 ,11
 09410 TF ,DX
 09420 B CANDRT
 09430 DX DS ,*
 09440 DY DS 4
 09450 DAS 1
 09460 BLK1 DSC 2,22
 22
 09470 DSA BLK1A

 09480 DC 1,1
 1

08832 2
 08834 2
 08839 5
 08840 1
 08845 5
 08846 26 08980 0884N
 08858 17 05416 -8874
 08874 5 X 2

 08874 -9547
 08879 -9121
 08880 17 05416 -8896
 08896 5 X 2

 08896 -9547
 08901 -9125
 08902 33 09122 00000
 08914 32 09121 000-0
 08926 25 08925 09118
 08938 14 08925 000-R
 08950 47 08974 01200
 08962 32 09125 00000
 08974 26 00000 09125
 08980 0
 08986 11 08845 000-5
 08998 17 05416 -9014
 09014 5 X 2

 09014 -9547
 09019 -9121
 09020 14 09121 0-104
 09032 47 09084 01200
 09044 11 08845 000-1
 09056 49 0884N 00000
 09064
 09064 17 03976 -9080
 09080 5 X 2

 09080 -9121
 09085 -9121
 09086 26 09104 0884N
 09098 26 00000 09121
 09110 49 09044 00000
 09121 0
 09125 4
 09127 1 X 2
 09128 2

 09134 5 X 1

 09134 -9136
 09135 1

09490	BLK1A	DSC	1,0	09136	1
		0			
09500		DC	5,17876	09141	5
		J7876			
09510		DC	3,41	09144	3
		-41			
09520		DSA	CODE1-2	09149	5 X 1
09530		DC	1,0	09149	J0000
		0		09150	1
09540		DS	1	09151	1
09550	BLK2	DSC	2,22	09152	2
		22			
09560		DSA	BLK2A	09158	5 X 1
09570		DC	1,0	09158	-9160
		0		09159	1
09580	BLK2A	DSC	1,0	09160	1
		0			
09590		DC	5,17936	09165	5
		J7936			
09600		DC	3,60	09168	3
		-60			
09610		DSA	CODE1-2	09173	5 X 1
09620		DC	1,0	09173	J0000
		0		09174	1
09630		DS	1	09175	1
09640	BLK3	DSC	2,22	09176	2
		22			
09650		DSA	BLK3A	09182	5 X 1
09660		DC	1,0	09182	-9184
		0		09183	1
09670	BLK3A	DSC	1,0	09184	1
		0			
09680		DC	5,18000	09189	5
		J8000			
09690		DC	3,41	09192	3
		-41			
09700		DSA	CODE1-2	09197	5 X 1
09710		DC	1,0	09197	J0000
		0		09198	1
09720		DS	1	09199	1
09730	BLK4	DSC	2,22	09200	2
		22			
09740		DSA	BLK4A	09206	5 X 1
09750		DC	1,0	09206	-9208
		0		09207	1

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09760	BLK4A	DSC	1,0	09208	1
		0			
09770		DC	5,18041	09213	5
		J8041			
09780		DC	3,41	09216	3
		-41			
09790		DSA	CODE1-2	09221	5 X 1
09800		DC	1,0	09221	J0000
		0		09222	1
09810		DS	1	09223	1
09820	BLK5	DSC	2,22	09224	2
		22			
09830		DSA	BLK5A	09230	5 X 1
09840		DC	1,0	09230	-9232
		0		09231	1
09850	BLK5A	DSC	1,0	09232	1
		0			
09860		DC	5,17917	09237	5
		J7917			
09870		DC	3,019	09240	3
		-19			
09880		DSA	SUBCDS-2	09245	5 X 1
09890		DC	1,0	09245	J4100
		0		09246	1
09900		DS	1	09247	1
09910	BLK6	DSC	2,22	09248	2
		22			
09920		DSA	BLK6A	09254	5 X 1
09930		DC	1,0	09254	-9256
		0		09255	1
09940	BLK6A	DSC	1,0	09256	1
		0			
09950		DC	5,18082	09261	5
		J8082			
09960		DC	3,019	09264	3
		-19			
09970		DSA	SUBCDS-2	09269	5 X 1
09980		DC	1,0	09269	J4100
		0		09270	1
09990		DS	1	09271	1
10000	BLK7	DSC	2,22	09272	2
		22			
10010		DSA	BLK7A	09278	5 X 1
10020		DC	1,0	09278	-9280
		0		09279	1

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10030	BLK7A	DSC	1,0	09280	1
		0			
10040		DC	5,18101	09285	5
		J8101			
10050		DC	3,019	09288	3
		-19			
10060		DSA	SUBCDS-2	09293	5 X 1
10070		DC	1,'	09293	J4100
		'		09294	1
10080		DS	1	09295	1
10090	BLK8	DSC	2,22	09296	2
		22			
10100		DSA	BLK8A	09302	5 X 1
10110		DC	1,'	09302	-9304
		'		09303	1
10120	BLK8A	DSC	1,0	09304	1
		0			
10130		DC	5,18120	09309	5
		J8120			
10140		DC	3,019	09312	3
		-19			
10150		DSA	SUBCDS-2	09317	5 X 1
10160		DC	1,'	09317	J4100
		'		09318	1
10170	CKCOM	DC	5,0	09323	5
		-0000			
10180		DC	1,'	09324	1
		'			
10190	SSSW	DS	00001,,SSSW,,	09325	1
10200	FSW	DS	00001,,FSW,,	09326	1
10210	I01	DS	00001,,I01,,	09327	1
10220	I02	DS	00001,,I02,,	09328	1
10230	I03	DS	00001,,I03,,	09329	1
10240	STEMP1	DS	00001,,STEMP1,,	09330	1
10250	STEMP2	DS	00001,,STEMP2,,	09331	1
10260	CALLSW	DS	00001,,CALLSW,,	09332	1
10270	DOSW	DS	00001,,DOSW,,	09333	1
10280	EXIND	DS	00001,,EXIND,,	09334	1
10290	SUBSW	DS	00001,,SUBSW,,	09335	1
10300	REGSW	DS	1	09336	1
10310	RSW	DS	1	09337	1
10320	SWAREA	DS	,*	09337	0
10330	TFM	DC	00002,16,,TFM,	09339	2
		J6			
10340	SF	DC	00002,32,,SF,	09341	2
		L2			
10350	CF	DC	00002,33,,CF	09343	2
		L3			
10360	TF	DC	00002,26,,TF,	09345	2
		K6			

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10370	AM	DC	00002,11,,AM,	09347	2
		J1			
10380	MM	DC	00002,13,,MM,	09349	2
		J3			
10390	H	DC	00002,48,,H,	09351	2
		M8			
10400	N13089	DC	00013,0	09364	13
		-000000000000			
10410	ZER0	DS	,*-11	09353	0
10420	ZER06	DS	,*-7	09357	0
10430	ZER04	DS	,*-9	09355	0
10440	ZER05	DS	,*-8	09356	0
10450	BLANK	DS	,*-8	09356	0
10460	N13092	DC	5,00099,,,	09369	5
		-0099			
10470	SUB	DC	00002,22,,SUB,	09371	2
		K2			
10480	N13133	DC	5,00095,,,	09376	5
		-0095			
10490	MOD	DC	2,0	09378	2
		-0			
10500	MPY	DC	00002,23	09380	2
		K3			
10510	BT	DC	00002,27,,BT,	09382	2
		K7			
10520	RCTY	DC	00002,34,,RCTY,	09384	2
		L4			
10530	WATY	DC	00002,39,,WATY,	09386	2
		L9			
10540	GLNO	DC	00004,000,,GLNO,	09390	4
		-000			
10550	ADD	DC	00002,21,,ADD,	09392	2
		K1			
10560	SM	DC	00002,12,,SM,	09394	2
		J2			
10570	RVSN	DC	3,125	09397	3
		J25			
10580	RMOD	DC	3,123	09400	3
		J23			
10590	MODMES	DAC	13, MIXED MODE'	09403	13 X 2
			MIXED MODE'		
10600	DOMES	DAC	22, IMPROPER DO NESTING'	09429	22 X 2
			IMPROPER DO NESTING'		
10610	FULMES	DAC	20, SYMBOL TABLE FULL'	09473	20 X 2
			SYMBOL TABLE FULL'		
10620	DOA	DC	00004,109,,DOA,	09515	4
		-109			
10630	MNS5	DC	00002,-05,,MNS5,	09517	2
		-M			
10640	N13063	DC	5,00100,,,	09522	5
		-0100			
10650	N13062	DC	5,00102,,,	09527	5
		-0102			
10660	FAC	DC	00004,101,,FAC,	09531	4
		-101			
10670	FIVE	DC	2,5	09533	2
		-5			

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10680	RTNAME	DS	00005,,RTNAME,,	09538	5
10690	ST	DS	00005,,ST,,	09543	5
10700	I	DS	00004,,I,,	09547	4
10710	J	DS	00005,,J,,	09552	5
10720	P	DS	00005,,P,,	09557	5
10730	Q	DS	00005,,Q,,	09562	5
10740	LV	DS	00005,,LV,,	09567	5
10820	RTAD	DS	00005,,RTAD,,	09572	5
10830	RV	DS	00005,,RV,,	09577	5
10840	SXF	US	5	09582	5
10850	DOMAX	DS	5	09587	5
10860	J40004	DS	5	09592	5
10870	T2	DS	4	09596	4
10880	N01100	DC	5,1100	09601	5
			-1100		
10890	BNH	DC	2,47	09603	2
			M7		
10900	C	DC	2,24	09605	2
			K4		
10920	CM	DC	2,14	09607	2
			J4		
10930	BL	DC	2,47	09609	2
			M7		
10940	N01300	DC	5,1300	09614	5
			-1300		
10950	BE	DC	2,46	09616	2
			M6		
10960	N01200	DC	5,1200	09621	5
			-1200		
10970	RD	DC	2,43	09623	2
			M3		
10980	BNF	DC	2,44	09625	2
			M4		
10990	FACP2	DC	5,02490	09630	5
			-2490		
11000	BI	DC	2,46	09632	2
			M6		
11010	GBASE	DS	5	09637	5
11020	LNG	DS	3	09640	3
11030	P1	DS	11	09651	11
11040	F3	DS	5	09656	5
11050	OPZ	DS	2	09658	2
11060	FPSW	DSC	1,0	09659	1
			0		
11070	FPSWX	DSC	1,0	09660	1
			0		
11080	SKIPSW	DSC	1,0	09661	1
			0		
11090	COMXSW	DSC	1,0	09662	1
			0		
11100	ERSWT	DSC	1,0	09663	1
			0		
11110	N00796	DSA	MONCAL	09668	5 x 1
				09668	-0796
				09673	5
11120	SCNT	DS	00005,,SCNT,,		

11130		DC	1,1	09674	1
11131		DAS	1	09677	1 x 2
11140	INPUT	DC	1,1	09678	1
11150		DS	99	09777	99
11160		DC	1,1	09778	1
11170		DORG	10000	10000	
11180	*****		SECONDARY LINKAGE FOR BLOCK 1		
11190		DC	2,1	10001	2
			-1		
11200	CODE1	SM	I	10002	12 09547 000-1
11210		B	CODE1P	10014	49 10434 00000
11220	CODE3	TF	N40002	10026	26 03494 09547
11230		B	CODE3P	10038	49 12218 00000
11240	CODE4	BTM	RMNS	10050	17 05416 J3380
11250		H		10062	48 00000 00000
11260	CODE6	TFM	FMON+35	10074	16 02359 -9152
11270		BTM	FMON	10086	17 02324 J0074
11280	CODE7	TFM	FMON+35	10098	16 02359 -9152
11290		BTM	FMON	10110	17 02324 J0098
11300	CODE8	SM	I	10122	12 09547 000-2
11310		B	CODE8P	10134	49 13666 00000
11320	CODE9	TFM	FMON+35	10146	16 02359 -9152
11330		BTM	FMON	10158	17 02324 J0146
11340	CODE12	B	SUBC12	10170	49 14150 00000
11350		H		10182	48 00000 00000
11360	CODE14	TFM	FMON+35	10194	16 02359 -9176
11370		BTM	FMON	10206	17 02324 J0194
11380	CODE15	TDM	CALLSW	10218	15 09332 00001
11390		B	CD15P	10230	49 13720 00000
11400	CODE17	TFM	FMON+35	10242	16 02359 -9152
11410		BTM	FMON	10254	17 02324 J0242
11420	CODESS	B	SUBCDS	10266	49 14102 00000
11430		H		10278	48 00000 00000
11440	CDSSAB	B	SUBCAB	10290	49 14126 00000
11450		H		10302	48 00000 00000
11460	CD12B	B	SUB12B	10314	49 14174 00000
11470		H		10326	48 00000 00000
11480	FCT1	TFM	FMON+35	10338	16 02359 -9200
11490		BTM	FMON	10350	17 02324 J0338
11500	FCTRT	TFM	FMON+35	10362	16 02359 -9152
11510		BTM	FMON	10374	17 02324 J0362
11520	EOJ	TFM	FMON+35	10386	16 02359 -9200
11530		BTM	FMON	10398	17 02324 J0386
11540	CDCALL	TFM	FMON+35	10410	16 02359 -9176
11550		BTM	FMON	10422	17 02324 J0410
11560	*****		THE FOLLOWING CODES ARITHMETIC OPERATORS		
11570	CODE1P	BTM	RMNS	10434	17 05416 J0450
11580		DSA	I	10450	5 x 1
				10450	-9547
11590		DSA	SL	10455	5 x 1
				10455	-2399

11600	BTM	RMNS	,**16	10456	17	05416	J0472
11610	DSA	I		10472		5 X	1
11620	DSA	LV		10472		-9547	
				10477		5 X	1
11630	BTM	GTNS	,**16	10477		-9567	
11640	DSA	I		10478	17	05446	J0494
				10494		5 X	1
11650	DSA	SR		10494		-9547	
				10499		5 X	1
11660	CM	LV,	133,8,EQUAL	10499		-2372	
11670	BE	CODE1C		10500	14	09567	0-133
11680	CM	LV,	115,8,EXPONENTIAL	10512	46	11036	01200
11690	BE	CODE1D		10524	14	09567	0-115
11700	*****	CODE ADD,	SUBTRACT, MULTIPLY, DIVIDE	10536	46	11538	01200
11710	CM	SL,	101,8,FAC	10548	14	02399	0-101
11720	BNE	N60007		10560	47	10794	01200
11730	TD	MOD	,FLAGSW	10572	25	09378	04795
11740	CODE1A	TDM	SS2	10584	15	07477	00001
11750	BTM	SRFCT	,**16	10596	17	03976	J0612
11760	DSA	SR		10612		5 X	1
11770	DSA	J		10612		-2372	
				10617		5 X	1
11780	*	TEST FOR MIXED MODE		10617		-9552	
11790	C	MOD	,FXORFL	10618	24	09378	04373
11800	BE	**24		10630	46	10654	01200
11810	BT	ERMODE	,ERMODE-1	10642	27	12014	12013
11820	TD	FX	,FXORFL	10654	25	03715	04373
11830	*****	FX IS USED BY	DPSR ROUTINE	10666	17	03596	J0682
11840	BTM	OPSR	,**16	10682		5 X	1
11850	DSA	LV		10682		-9567	
				10687		5 X	1
11860	DSA	N40001		10687		-3489	
11870	BTM	PUTX	,**16	10688	17	07032	J0704
11880	DSA	OPX		10704		5 X	1
11890	DSA	N40001		10704		-4193	
				10709		5 X	1
11900	DSA	J		10709		-3489	
				10714		5 X	1
11910	CODE1M	BTM	RPNS	10714		-9552	
11920	DSA	I		10716	17	05476	J0732
				10732		5 X	1

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11930	DSA	FAC		10732		-9547	
				10737		5 X	1
11940	TDM	FSW	,1	10737		-9531	
11950	TD	FLAGSW	,FXORFL	10738	15	09326	0000J
11960	BT	GTCL	,SL	10750	25	04795	04373
11970	BT	GTCL	,SR	10762	27	06740	02399
11980	B	EXIT		10774	27	06740	02372
11990	DDRG	*-3		10786	49	02948	00000
12000	N60007	CM	SR,	10794			
			101,8,FAC	10794	14	02372	0-101
12010	BNE	N60009		10806	47	10838	01200
12020	TF	SR	,SL	10818	26	02372	02399
12030	B	CODE1B		10830	49	10944	00000
12040	DDRG	*-3		10838			
12050	N60009	BNF	N60010	10838	44	10862	09326
12060	BTM	GMRP	,**12	10850	17	05940	J0862
12070	N60010	TDM	SS2	10862	15	07477	00001
12080	BTM	SRFCT	,**16	10874	17	03976	J0890
12090	DSA	SL		10890		5 X	1
12100	DSA	N40001		10890		-2399	
				10895		5 X	1
12110	BTM	PUTX	,**16	10895		-3489	
12120	DSA	OPX		10896	17	07032	J0912
				10912		5 X	1
12130	DSA	TOPAC		10912		-4193	
				10917		5 X	1
12140	DSA	N40001		10917		-3935	
				10922		5 X	1
12150	TD	MOD	,FXORFL	10922		-3489	
12160	B	CODE1A		10924	25	09378	04373
12170	DDRG	*-3		10936	49	10584	00000
12180	*****	ENTRY IF RIGHT SYMBOL IS FAC,	THEN IF OPERATOR IS DIVIDE	10944			
12190	*****	SET UP REVERSE DIVIDE		10944	25	09378	04795
12200	CODE1B	TD	MOD	10956	14	09567	0-120
12210	CM	LV,	120,8,SUBTRACT	10968	47	10992	01200
12220	BNE	**24		10980	16	09567	0-124
12230	TFM	LV,	124,8,LEFT PAREN	10992	14	09567	0-121
12240	CM	LV,	121,8,DIVIDE	11004	47	10584	01200
12250	BNE	CODE1A		11016	16	09567	0-122
12260	TFM	LV,	122,8,	11028	49	10584	00000
12270	B	CODE1A		11036			
12280	DDRG	*-3		11036	44	11444	09326
12290	*****	ENTRY IF OPERATOR IS AN EQUAL SIGN		11048	25	09334	04795
12300	CODE1C	BNF	N60013	11060	43	11094	04745
12310	TD	EXIND	,FLAGSW	11072	17	03976	J1088
12320	BD	**34	,FTSW	11088		5 X	1
12330	SLC	BTM	SRFCT				
12340	DSA	SL	,**16				

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12350	DSA	SL			11088	-2399		
					11093	5 X	1	
12360	BNF	CODE1E	,RSW		11093	-2399		
12370	TD	FXORFL	,RFLAG		11094	44	11118	09337
12380	*****	FXORFL	IS SET BY SRFCT		11106	25	04373	04725
12390	CODE1E	TD	**23	,EXIND	11110	25	11141	09334
12400	CM	FXORFL	,0	,10	11130	14	04373	000-0
12410	BE	CODE1X			11142	46	11216	01200
12420	*****	OUTPUTS	FIX TO FLOAT OR FLOAT TO FIX INSTRUCTIONS		11154	25	03715	04373
12430	TD	FX	,FXORFL		11166	17	03596	J1182
12440	BTM	OPSR	,**16		11182		5 X	1
12450	DSA	RMOD						
12460	DSA	N40001			11182	-9400		
					11187	5 X	1	
12470	BTM	PUTX	,**16		11187	-3489		
12480	DSA	BTM			11188	17	07032	J1204
					11204	5 X	1	
12490	DSA	N40001			11204	-6980		
					11209	5 X	1	
12500	DSA	ZERO			11209	-3489		
					11214	5 X	1	
12510	CODE1X	BD	FTS	,FTSW	11214	-9353		
12520	BNF	N60014	,0	,RSW	11216	43	12064	04745
12530	TDM	RSW	,0		11228	44	11348	09337
12540	TDM	SS2	,1		11240	15	09337	00000
12550	BNC2	**48			11252	15	07477	00001
12560	*	OUTPUT TRACE INSTRUCTION			11264	47	11312	00200
12570	BTM	PUTX	,**16		11276	17	07032	J1292
12580	DSA	BT,TRACE,SL			11292	5 X	3	
12590	B	CLEAR			11292	-9382		
12600	UORG	**3			11297	-3740		
12610	*	OUTPUT FRFAC INSTRUCTION			11302	-2399		
12620	BTM	PUTX	,**16		11304	49	02640	00000
12630	DSA	BT,FRFAC,SL			11312			
12640	B	CLEAR			11312	-9382		
12650	DORG	**3			11333	-3930		
12660	N60014	TDM	SS2	,1	11338	-2399		
12670	BNC2	**48			11340	49	02640	00000
12680	*	OUTPUT TRACE INSTRUCTION			11348			
12690	BTM	PUTX	,**16		11348	15	07477	00001
					11360	47	11408	00200
					11372	17	07032	J1388

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12700	DSA	OPX,TRACE,SL			11388	5 X	3	
12710	B	CLEAR			11388	-4193		
12720	DORG	**3			11393	-3740		
12730	*	OUTPUT FRFAC INSTRUCTION			11398	-2399		
12740	BTM	PUTX	,**16		11400	49	02640	00000
12750	DSA	OPX			11408			
					11408	17	07032	J1424
12760	DSA	FRFAC			11424	5 X	1	
12770	DSA	SL			11424	-4193		
					11429	5 X	1	
12780	B	CLEAR			11429	-3930		
12790	DORG	**3			11434	5 X	1	
12800	N60013	BTM	SRFCT	,**16	11434	-2399		
12810	DSA	SR			11436	49	02640	00000
					11444			
12820	DSA	N40002			11444	17	03976	J1460
					11460	5 X	1	
12830	TDM	SS2	,1		11460	-2372		
12840	BTM	PUTX	,**16		11465	5 X	1	
12850	DSA	OPX						
					11465	-3494		
12860	DSA	TOFAC			11466	15	07477	00001
					11478	17	07032	J1494
12870	DSA	N40002			11494	5 X	1	
12880	TD	EXIND	,FXORFL		11494	-4193		
12890	BNF	SLC	,RSW		11499	5 X	1	
12900	B	SLC-12			11499	-3935		
12910	DORG	**3			11504	5 X	1	
12920	*	ENTRY OPERATOR IS EXPONENTIAL						
12930	CODE1D	CM	SL,	101,0,FAC	11504	-3494		
12940	BNE	N60015			11506	25	09334	04373
12950	CODE1G	BD	**20	,FLAGSW	11518	44	11072	09337
12960	B	N60016			11530	49	11060	00000
12970	DORG	**3			11538			
12980	TDM	SS2	,1		11538	14	02399	0-101
12990	BTM	SRFCT	,**16		11550	47	11806	01200
13000	DSA	SR			11562	43	11582	04799
					11574	49	11734	00000
13010	DSA	J			11582			
					11582	15	07477	00001
					11594	17	03976	J1610
					11610	5 X	1	
					11610	-2372		
					11615	5 X	1	
					11615	-9552		

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13020	TD	++23	,FLAGSW		11616	25	11639	04795
13030	CM	FXORFL	,0	,10	11628	14	04373	000-0
13040	BE	++24			11640	48	11664	01200
13050	BT	ERMODE	,ERMODE-1		11652	27	12014	12013
13060	N60017	BTM	PUTX	,++16	11664	17	07032	J1680
13070	DSA	OPX			11680		5 X	1
					11680		-4193	
13080	DSA	IXI			11685		5 X	1
					11685		-3955	
13090	DSA	J			11690		5 X	1
					11690		-9552	
13100	CODE1F	BTM	RPNS	,++16	11692	17	05476	J1708
13110	DSA	I			11708		5 X	1
					11708		-9547	
13120	DSA	FAC			11713		5 X	1
					11713		-9531	
13130	TDM	FSW	,1	,11	11714	15	09326	0000J
13140	B	EXIT			11726	49	02948	00000
13150	DORG	*-3			11734			
13160	N60016	BTM	SRFCT	,++16	11734	17	03976	J1750
13170	DSA	SR			11750		5 X	1
					11750		-2372	
13180	DSA	J			11755		5 X	1
					11755		-9552	
13190	TD	FX	,FXORFL		11756	25	03715	04373
13200	BD	++36	,FX		11768	43	11804	03715
13210	TDM	UFSTR	,1		11780	15	02263	00001
13220	TDM	UFSTR+1	,1		11792	15	02264	00001
13230	TDM	SS2	,1		11804	15	07477	00001
13240	BTM	OPSR	,++16		11816	17	03596	J1832
13250	DSA	LV			11832		5 X	1
					11832		-9567	
13260	DSA	N40002			11837		5 X	1
					11837		-3494	
13270	BTM	PUTX	,++16		11838	17	07032	J1854
13280	DSA	OPX			11854		5 X	1
					11854		-4193	
13290	DSA	N40002			11859		5 X	1
					11859		-3494	
13300	DSA	J			11864		5 X	1
					11864		-9552	
13310	TDM	FXORFL	,0		11866	15	04373	00000
13320	B	CODE1H			11878	49	10716	00000
13330	DORG	*-3			11886			

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13340	N60015	BNF	N60018	,FSW	11886	44	11932	09326
13350	BTM	GNRP	,++12		11898	17	05940	J1910
13360	BTM	GTNS	,++16		11910	17	05446	J1926
13370	DSA	I			11926		5 X	1
					11926		-9547	
13380	DSA	SR			11931		5 X	1
					11931		-2372	
13390	N60018	BTM	SRFCT	,++16	11932	17	03976	J1948
13400	DSA	SL			11948		5 X	1
					11948		-2399	
13410	DSA	J			11953		5 X	1
					11953		-9552	
13420	TD	FLAGSW	,FXORFL		11954	25	04795	04373
13430	TDM	SS2	,1		11966	15	07477	00001
13440	BTM	PUTX	,++16		11978	17	07032	J1994
13450	DSA	OPX			11994		5 X	1
					11994		-4193	
13460	DSA	TOFAC			11999		5 X	1
					11999		-3935	
13470	DSA	J			12004		5 X	1
					12004		-9552	
13480	B	CODE1G	,5		12006	49	11502	00000
13490	DORG	*-3			12014			
13500	ERMODE	RCTY			12014	34	00000	00102
13510	WNTY	SCNT-3			12026	38	09670	00100
13520	WATY	MODMES			12038	39	09403	00100
13530	TDM	ERSWT	,1		12050	15	09663	00001
13540	BB				12062	42	00000	00000
13550	DORG	*-9			12064			
13560	FCT1E	TDM	FTSW	,0	12064	15	04745	00000
13570	TDM	SS1	,1		12076	15	07476	00001
13580	TDM	SS3	,1		12088	15	07478	00001
13590	TF	N40011	,T1		12100	26	03539	07022
13600	SM	N40011	,1	,10	12112	12	03539	000-1
13610	BTM	PUTX	,++16		12124	17	07032	J2140
13620	DSA	B			12140		5 X	1
					12140		-6982	
13630	DSA	N40011			12145		5 X	1
					12145		-3539	
13640	DSA	BLANK			12190		5 X	1
					12190		-9356	
13650	SM	ADCOM	,4	,10	12152	12	06977	000-4
13660	BTM	PUTA	,++16		12164	17	08272	J2180
13670	DSA	SXF,ADCOM			12180		5 X	2
					12180		-9582	

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13680	S	TBASE-1, TMAX			12185		-6977		
13690	TFM	TMAX,	0,9		12186	22	02302	06972	
13700	B	CLEAR			12198	16	06972	00-00	
13710	DORG	*-3			12210	49	02640	00000	
13720	*****	OUTPUT FUNCTION LINKAGE OR REMOVE PARENTHESIS			12218				
13730	CODE3P	SM	N40002	,1	,10	12218	12	03494	000-1
13740	BTM	GTNS		,**16		12230	17	05446	J2246
13750	DSA	N40002				12246		5 X	1
13760	DSA	SL			12246		-3494		
					12251		5 X	1	
13770	CM	SL,	101,8,FAC		12251		-2399		
13780	BL	N60020			12252	14	02399	0-101	
13790	CM	SL,	154,8,ARITH STATEMENT CALL		12264	47	12308	01300	
13800	BH	N60020			12276	14	02399	0-154	
13810	B	CODE3B			12288	46	12308	01100	
13820	DORG	*-3			12300	49	12642	00000	
13830	N60020	SM	I	,1	,10	12308			
13840	BTM	RMNS		,**16		12308	12	09547	000-1
13850	DSA	I			12320	17	05416	J2336	
					12336		5 X	1	
13860	DSA	SL			12336		-9547		
					12341		5 X	1	
13870	BTM	RMNS		,**16		12341		-2399	
13880	DSA	I			12342	17	05416	J2358	
					12358		5 X	1	
13890	DSA	SR			12358		-9547		
					12363		5 X	1	
13900	BTM	RMNS		,**16		12363		-2372	
13910	DSA	I			12364	17	05416	J2380	
					12380		5 X	1	
13920	DSA	SR			12380		-9547		
					12385		5 X	1	
13930	CM	SR	,101	,9	12385		-2372		
13940	BE	N60021			12386	14	02372	00J01	
13950	BNF	N60022	,FSW		12398	46	12488	01200	
13960	BTM	GMRP	,**12		12410	44	12434	09326	
13970	N60022	BTM	SRFCT	,**16	12422	17	05940	J2434	
13980	DSA	SR			12434	17	03976	J2450	
					12450		5 X	1	
13990	DSA	SR			12450		-2372		
					12455		5 X	1	
14000	TDM	SS2	,1		12455		-2372		
14010	TD	FLAGSW	,FXORFL		12456	15	07477	00001	
14020	B	CODE3A			12468	25	04795	04373	
					12480	49	12512	00000	

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14030	DORG	*-3			12488				
14040	N60021	TF	SR	,FACAD		12488	26	02372	03940
14050	TFM	OPX		,17	,10	12500	16	04193	000J7
14060	*****	OUTPUT LIBRARY FUNCTION LINKAGE			12512	15	07478	00001	
14070	CODE3A	TDM	SS3	,1		12524	26	03494	02303
14080	TF	N40002	,TBASE		12536	26	03493	02399	
14090	TF	N40002-1	,SL		12548	15	03494	00009	
14100	TDM	N40002	,9		12560	26	03494	0349M	
14110	TF	N40002	,N40002	,11	12572	17	07032	J2588	
14120	BTM	PUTX	,**16		12588		5 X	1	
14130	DSA	OPX			12588		-4193		
					12593		5 X	1	
14140	DSA	N40002			12593		-3494		
					12598		5 X	1	
14150	DSA	SR			12598		-2372		
					12600	17	05476	J2616	
14160	BTM	RPNS	,**16		12616		5 X	1	
14170	DSA	I			12616		-9547		
					12621		5 X	1	
14180	DSA	FAC			12621		-9531		
					12622	15	09326	0000J	
14190	TDM	FSW	,1	,11	12634	49	02948	00000	
14200	B	EXIT			12642				
14210	DORG	*-3			12642	14	02399	0-154	
14220	CODE3B	CM	SL,	154,8,ARITH STATEMENT CALL	12654	46	12790	01200	
14230	BE	CODE3C			12666	14	02399	0-153	
14240	CM	SL,	153,8,FUNCTION CALL		12678	46	12790	01200	
14250	BE	CODE3C			12690	14	02399	0-107	
14260	N60023	CM	SL,	107,8,IF	12702	46	10098	01200	
14270	BE	CODE7			12714	17	05416	J2730	
14280	BTM	RMNS	,**16		12730		5 X	1	
14290	DSA	I			12730		-9547		
					12735		5 X	1	
14300	DSA	SR			12735		-2372		
					12736	11	09547	000-1	
14310	AM	I	,1	,10	12748	17	05416	J2764	
14320	BTM	RMNS	,**16		12764		5 X	1	
14330	DSA	I			12764		-9547		
					12769		5 X	1	
14340	DSA	SR			12769		-2372		
					12770	12	09547	000-1	
14350	SM	I	,1	,10	12782	49	02948	00000	
14360	B	EXIT			12790				
14370	DORG	*-3			12790				
14380	*	ARITH STATEMENT CALL OR FUNCTION CALL OPERATOR			12790				
14390	CODE3C	SM	I	,2	,10	12790	12	09547	000-2
14400	CODE3Y	BTM	RMNS	,**16		12802	17	05416	J2818

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14410	DSA	I			12818	5	X	1
14420	DSA	SL			12818	-9547		
					12823	5	X	1
14430	BTM	RMNS	,**16		12823	-2399		
14440	DSA	I			12824	17	05416	J2840
					12840	5	X	1
14450	DSA	LV			12840	-9547		
					12845	5	X	1
14460	BTM	RMNS	,**16		12845	-9567		
14470	DSA	I			12846	17	05416	J2862
					12862	5	X	1
14480	DSA	SR			12862	-9547		
					12867	5	X	1
14490	BNF	N60026	,FSW		12867	-2372		
14500	BTM	GRRP	,**12		12868	44	12892	09326
14510	CM	LV			12880	17	05940	J2892
14520	N60026	BE	N60027	154,8,ARITH STATEMENT CALL	12892	14	09567	0-154
14530	TDM	SS3	,I		12904	46	12928	01200
14540	N60027	TFM	SS2	,I	12916	15	07478	00001
14550	BTM	SRFCT	,**16	,I0	12928	16	07477	000J1
14560	DSA	SL			12940	17	03976	J2956
					12956	5	X	1
14570	DSA	N40001			12956	-2399		
					12961	5	X	1
14580	TF	N40003	,ADCDW		12961	-3489		
14590	AM	N40003	,I1	,I0	12962	26	03499	06977
14600	TD	FLAGSW	,FXORFL		12974	11	03499	000J1
14610	BTM	PUTX	,**16		12986	25	04795	04373
14620	DSA	BTM			12998	17	07032	J3014
					13014	5	X	1
14630	DSA	N40001			13014	-6980		
					13019	5	X	1
14640	DSA	N40003			13019	-3489		
					13024	5	X	1
14650	BD	CODE32	,CALLX		13024	-3499		
14660	CODE3D	TDM	FPSW	,0	13026	43	13278	04755
14670	BTM	RMNS	,**16		13038	15	09659	00000
14680	DSA	I			13050	17	05416	J3066
					13066	5	X	1
14690	DSA	SL			13066	-9547		
					13071	5	X	1
14700	BTM	GTNS	,**16		13071	-2399		
					13072	17	05446	J3088

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14710	DSA	I			13088	5	X	1
14720	DSA	SR			13088	-9547		
					13093	5	X	1
14730	BTM	SRFCT	,**16		13093	-2372		
14740	DSA	SL			13094	17	03976	J3110
					13110	5	X	1
14750	DSA	SL			13110	-2399		
					13115	5	X	1
14760	BNF	**24	,FPSW		13115	-2399		
14770	SF	SL			13116	44	13140	09659
14780	BTM	PUTC	,**16		13128	32	02399	00000
14790	DSA	SL			13140	17	08152	J3156
					13156	5	X	1
14800	CODE3E	CM	SR	104,8,RIGHT PAREN	13156	-2399		
14810	BE	N60032			13158	14	02372	0-104
14820	BTM	RMNS	,**16		13170	46	13212	01200
14830	DSA	I			13182	17	05416	J3198
					13198	5	X	1
14840	DSA	SR			13198	-9547		
					13203	5	X	1
14850	B	CODE3D			13203	-2372		
14860	DORG	**3			13204	49	13038	00000
14870	N60032	BTM	ADJUST	,ADCDW	13212	17	03550	-6977
14880	CODE3X	BD	CET	,CALLSW	13224	43	13298	09332
14890	BTM	RPNS	,**16		13236	17	05476	J3252
14900	DSA	I			13252	5	X	1
14910	DSA	FAC			13252	-9547		
					13257	5	X	1
14920	TDM	FSW	,I	,I1	13257	-9531		
14930	B	EXIT			13258	15	09326	0000J
14940	DORG	**3			13270	49	02948	00000
14950	CODE3Z	TDM	CALLX	,0	13278	15	04755	00000
14960	B	CLEAR			13290	49	02640	00000
14970	DORG	**3			13298			
14980	CET	TF	N40001	,I	13298	26	03489	09547
14990	AM	N40001	,I	,I0	13310	11	03489	000-1
15000	BTM	GTNS	,**16		13322	17	05446	J3338
15010	DSA	N40001,N40001			13338	5	X	2
15020	CM	N40001	,I32	,0	13338	-3489		
15030	BE	CLEAR			13343	-3489		
15040	B	CODE3X+12			13344	14	03489	0-132
15050	DORG	**3			13356	46	02640	01200
					13368	49	13236	00000
					13376			

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15740	BTM	RMNS	,+16		14202	-9547		
15750	DSA	I,SY			14207	-2372		
					14208	17	05416	J4224
					14224		5 X	2
					14224	-9547		
15760	BTM	RMNS	,+16		14229	-2384		
15770	USA	I,SY			14230	17	05416	J4246
					14246		5 X	2
					14246	-9547		
15780	SM	I	,1	,10	14251	-2384		
15790	BTM	GTNS	,+16		14252	12	09547	000-1
15800	DSA	I,SX			14264	17	05446	J4280
					14280		5 X	2
					14280	-9547		
15810	AM	I	,1	,10	14285	-2377		
15820	TDM	SKIPSW	,1		14286	11	09547	000-1
15830	BTM	SRFCT	,+16		14298	15	09661	00001
15840	DSA	SX,SX			14310	17	03976	J4326
					14326		5 X	2
					14326	-2377		
15850	TD	RXFLAG	,FXORFL		14331	-2377		
15860	BTM	CANDS	,+16		14332	25	04735	04373
15870	DSA	D1,DI			14344	17	08846	J4360
					14360		5 X	2
					14360	-6987		
15880	TF	N40005	,ADCDW		14365	-6992		
15890	AM	N40005	,12	,10	14366	26	03509	06977
15900	TDM	SS2	,1		14378	11	03509	000J2
15910	BD	**20	,RXFLAG		14390	15	07477	00001
15920	B7	**20			14402	43	14422	04735
15930	SF	N40005			14414	49	14434	
15940	CM	SR	,150	,8	14422	32	03509	00000
15950	BL	XX1			14434	14	02372	0-150
15960	BE	XX2			14446	47	14602	01300
15970	AM	I	,6	,10	14458	46	14536	01200
15980	TF	N40006	,SUB3		14470	11	09547	000-6
15990	BTM	CANDS	,+16		14482	26	03514	03800
16000	DSA	D4,SY			14494	17	08846	J4510
					14510		5 X	2
					14510	-7017		
16010	SM	I	,6	,10	14515	-2384		
16020	B7	XX4			14516	12	09547	000-6
16030	AM	I	,3	,10	14528	49	14660	
16040	TF	N40006	,SUB2		14536	11	09547	000-3
16050	BTM	CANDS	,+16		14548	26	03514	03790
16060	DSA	D4,SY			14560	17	08846	J4576
					14576		5 X	2
					14576	-7017		
					14581	-2384		

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16070	SM	I	,3	,10	14582	12	09547	000-3
16080	B7	XX4			14594	49	14660	
16090	BTM	CANDS	,+16		14602	17	08846	J4618
16100	DSA	D4,SY			14618		5 X	2
					14618	-7017		
16110	TF	N40006	,SUB1		14623	-2384		
16120	CM	D1	,1		14624	26	03514	03780
16130	BE	CDS1FP			14636	14	06987	-0001
16140	BTM	PUTX	,+16		14648	46	15430	01200
16150	DSA	BTM,N40006,N40005			14660	17	07032	J4676
					14676		5 X	3
					14676	-6980		
16160	BTM	PUTC	,+16		14681	-3514		
16170	DSA	SX			14686	-3509		
					14688	17	08152	J4704
					14704		5 X	1
					14704	-2377		
16180	BTM	PUTD	,+16		14706	17	08236	J4722
16190	DSA	D4			14722		5 X	1
					14722	-7017		
16200	BNF	**24	,101		14724	44	14748	09327
16210	SF	D1			14736	32	06987	00000
16220	BTM	PUTD	,+16		14748	17	08236	J4764
16230	DSA	D1			14764		5 X	1
					14764	-6987		
16240	BTM	PUTC	,+16		14766	17	08152	J4782
16250	DSA	DI			14782		5 X	1
					14782	-6992		
16260	CM	SR	,150	,8	14784	14	02372	0-150
16270	BL	CDSSS1			14796	47	14976	01300
16280	BE	CDSSS2			14808	46	14956	01200
16290	TDM	UFSTR+4	,1		14820	15	02267	00001
16300	BTM	CANDS	,+16		14832	17	08846	J4848
16310	DSA	D2,DJ			14848		5 X	2
					14848	-6997		
16320	BTM	PUTD	,+16		14853	-7002		
16330	DSA	D2			14854	17	08236	J4870
					14870		5 X	1
					14870	-6997		
16340	BTM	PUTC	,+16		14872	17	08152	J4888
16350	DSA	DJ			14888		5 X	1
					14888	-7002		
16360	BTM	CANDS	,+16		14890	17	08846	J4906
16370	DSA	D3,DK			14906		5 X	2
					14906	-7007		
					14911	-7012		

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16380	BTM	PUTD	,**16		14912	17	08236	J4928
16390	DSA	D3			14928		5 X	1
					14928		-7007	
16400	BTM	PUTC	,**16		14930	17	08152	J4946
16410	DSA	DK			14946		5 X	1
					14946		-7012	
16420	B7	CDS1V			14968	49	14988	
16430	CDS5S2	TDM	UFSTR+3	,1	14956	15	02266	00001
16440	B7	XX5			14968	49	14890	
16450	CDS5S1	TDM	UFSTR+2	,1	14976	15	02265	00001
16460	CDS1V	BTM	PUTRM	,**16	14988	17	08356	J5004
16470	DSA	ZRM			15004		5 X	1
					15004		J5727	
16480	TDM	SKIPSW	,0		15006	15	09661	00000
16490	BNF	QZP	,101		15018	44	15072	09327
16500	SM	I	,1	,10	15030	12	09547	000-1
16510	BTM	RMNS	,**16		15042	17	05416	J5058
16520	DSA	I,ST			15058		5 X	2
					15058		-9547	
16530	B	CD14B			15063		-9543	
16540	DDRG	**3			15064	49	11788	00000
16550	QZP	BTM	GTNS	,**16	15072	17	05446	J5088
16560	DSA	I,ST			15088		5 X	2
					15088		-9547	
16570	SM	I	,1	,10	15093		-9543	
16580	CM	ST	,133	,8	15094	12	09547	000-1
16590	BNE	CDS1T			15106	14	09543	0-133
16600	TD	RFLAG	,RXFLAG		15118	47	15224	01200
16610	TDM	RSW	,1	,11	15130	25	04725	04735
16620	BTM	PUTX	,**16		15142	15	09337	0000J
16630	DSA	TF,FACAD,N13092			15154	17	07032	J5170
					15170		5 X	3
					15170		-9345	
					15175		-3940	
					15180		-9369	
16640	BTM	RPNS	,**16		15182	17	05476	J5198
16650	DSA	I,FAC			15198		5 X	2
					15198		-9547	
16660	BTM	GMRP	,**12		15203		-9531	
16670	B7	EXIT			15204	17	05940	J5216
16680	CDS1T	BNF	**24	,FSW	15216	49	02948	
16690	BTM	GMRP	,**12		15224	44	15248	09326
16700	BD	**32	,CALLSW		15236	17	05940	J5248
16710	TFM	OPX	,27	,10	15248	43	15280	09332
16720	B	**20			15260	16	04193	000K7
16730	DDRG	**3			15272	49	15292	00000
16740	TFM	OPX	,17	,10	15280	16	04193	000J7

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16750	BTM	PUTX	,**16		15292	17	07032	J5308
16760	DSA	OPX,TOFAC,N13092			15308		5 X	3
					15308		-4193	
					15313		-3935	
					15318		-9369	
16770	BTM	RPNS	,**16		15320	17	05476	J5336
16780	DSA	I,FAC			15336		5 X	2
					15336		-9547	
16790	TDM	FSW	,1	,11	15341		-9531	
16800	TD	FLAGSW	,RXFLAG		15342	15	09326	0000J
16801	BD	**20	,CALLSW		15354	25	04795	04735
16802	B7	EXIT			15366	43	15386	09332
16803	BTM	GMRP	,**12		15378	49	02948	
16804	SM	GBASE	,1	,10	15386	17	05940	J5398
16805	SF	GBASE		,8	15398	12	09637	000-1
16810	B7	EXIT			15410	32	0963P	00000
16820	CDS1FP	BNF	CDS1Z	,5X	15422	49	02948	
16830	B7	XX4			15430	44	15450	02377
16840	CDS1Z	BD	**32	,RXFLAG	15442	49	14660	
16850	TF	L	,FP2		15450	43	15482	04735
16860	B7	CDS1S			15462	26	07025	02298
16880	TF	L	,K		15474	49	15494	
16910	CDS1S	TDM	SS2	,0	15482	26	07025	02252
16920	M	D4	,L		15494	15	07477	00000
16930	SF	95			15506	23	07017	07025
16940	TF	D4	,99		15518	32	00095	00000
16950	A	D4	,5X		15530	26	07017	00099
16960	BD	**20	,RXFLAG		15542	21	07017	02377
16970	B7	**44			15554	43	15574	04735
16980	BNF	**36	,101		15566	49	15610	
16990	SF	L			15574	44	15610	09327
17000	SF	D4			15586	32	07025	00000
17010	TDM	SS1	,1		15598	32	07017	00000
17020	BTM	PUTX	,**16		15610	15	07476	00001
17030	DSA	MM,DT,L			15622	17	07032	J5638
					15638		5 X	3
					15638		-9349	
					15643		-6992	
					15648		-7025	
17040	TDM	SS2	,1		15650	15	07477	00001
17050	BTM	PUTX	,**16		15662	17	07032	J5678
17060	DSA	AM,N13092,D4			15678		5 X	3
					15678		-9347	
					15683		-9369	
					15688		-7017	
17070	BTM	PUTX	,**16		15690	17	07032	J5706
17080	DSA	SF,N13133,8LANK			15706		5 X	3
					15706		-9341	
					15711		-9376	
					15716		-9356	
17090	B	CDS1V+18			15718	49	15006	00000

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17100	DORG	-3			15726			
17110	ZRM	DC	2,'		15727		2	
		-2						
17120	DORG	16002			16002			
17130	XOXX	DSC	14,01780013602400		16002		14	
			01780013602400					
17140	XYXX	34	XOXX,701		16016	34	16002	00701
17150		38	XOXX,702		16028	38	16002	00702
17200		TRA			16040	36	00000	00500
					16052	49	00000	00000
					16016			
17210	TCD	XYXX						
17220	DORG	10000			10000			
17230	*****	SECONDARY LINKAGE FOR BLOCK 2						
17240		DC	2.2		10001		2	
		-2						
17250	XODE1	TFM	FMON+35	,BLK1	10002	16	02359	-9128
17260		BTM	FMON	,CODE1	10014	17	02324	J0002
17270	XODE3	TFM	FMON+35	,BLK1	10026	16	02359	-9128
17280		BTM	FMON	,CODE3	10038	17	02324	J0026
17290	XODE4	TFM	FMON+35	,BLK1	10050	16	02359	-9128
17300		BTM	FMON	,CODE4	10062	17	02324	J0050
17310	XODE6	BTM	RMNS	,CODE6P	10074	17	05416	J0438
17320		H			10086	48	00000	00000
17330	XODE7	CM	RV	,130	10098	14	09577	0-130
17340		B	CODE7P		10110	49	11274	00000
17350	XODE8	TFM	FMON+35	,BLK1	10122	16	02359	-9128
17360		BTM	FMON	,CODE8	10134	17	02324	J0122
17370	XODE9	AM	I	,1	10146	11	09547	000-1
17380		B	CODE9P		10158	49	12190	00000
17390	XODE12	TFM	FMON+35	,BLK1	10170	16	02359	-9128
17400		BTM	FMON	,CODE12	10182	17	02324	J0170
17410	XODE14	TFM	FMON+35	,BLK3	10194	16	02359	-9176
17420		BTM	FMON	,CODE14	10206	17	02324	J0194
17430	XODE15	TFM	FMON+35	,BLK1	10218	16	02359	-9128
17440		BTM	FMON	,CODE15	10230	17	02324	J0218
17450	XODE17	BTM	RMNS	,CD17P	10242	17	05416	J2868
17460		H			10254	48	00000	00000
17470	XODESS	TFM	FMON+35	,BLK1	10266	16	02359	-9128
17480		BTM	FMON	,CODESS	10278	17	02324	J0266
17490	XDESSAB	TFM	FMON+35	,BLK1	10290	16	02359	-9128
17500		BTM	FMON	,CDSSAB	10302	17	02324	J0290
17510	XD12B	TFM	FMON+35	,BLK1	10314	16	02359	-9128
17520		BTM	FMON	,CD12B	10326	17	02324	J0314
17530	XCT1	TFM	FMON+35	,BLK4	10338	16	02359	-9200
17540		BTM	FMON	,FCT1	10350	17	02324	J0338
17550	XCTRT	BD	N60182	,SUBPSW	10362	43	14506	04775
17560		B	FCTRT		10374	49	14444	00000
17570	XOJ	TFM	FMON+35	,BLK4	10386	16	02359	-9200
17580		BTM	FMON	,EOJ	10398	17	02324	J0386
17590	XDCALL	TFM	FMON+35	,BLK3	10410	16	02359	-9176
17600		BTM	FMON	,CDCALL	10422	17	02324	J0410
17610	*****	OUTPUTS CODING FOR GO TO, STOP, PAUSE, AND END						
17620	CODE6P	DSA	I		10438		5 X	1
					10438		-9547	

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17630	DSA	LV			10443		5 X	1
					10443		-9567	
17640	BTM	RMNS	,**16		10444	17	05416	J0460
17650	DSA	I			10460		5 X	1
					10460		-9547	
17660	DSA	SR			10465		5 X	1
					10465		-2372	
17670	BTM	RMNS	,**16		10466	17	05416	J0482
17680	DSA	I, SX			10482		5 X	2
					10482		-9547	
					10487		-2377	
17690	*****	CODE GO TO						
17700		CM	LV, 105,8,GO TO		10488	14	09567	0-105
17710		BNE	N60041		10500	47	10652	01200
17720		TDM	SKIPSW	,1	10512	15	09661	00001
17730		BTM	SRFCT	,**16	10524	17	03976	J0540
17740		DSA	SR		10540		5 X	1
					10540		-2372	
17750	DSA	SK			10545		5 X	1
					10545		J0849	
17760		TDM	SKIPSW	,0	10546	15	09661	00000
17770		BNF	CODE6B	,RMSW	10558	44	10592	04785
17780		BTM	INSET	,**16	10570	17	11134	J0586
17790		DSA	SR,ADCOM		10586		5 X	2
					10586		-2372	
17800	CODE6B	TDM	SS1	,1	10591		-6977	
17810		BTM	PUTX	,**16	10592	15	07476	00001
17820		DSA	B		10604	17	07032	J0620
					10620		5 X	1
					10620		-6982	
17830	DSA	SK			10625		5 X	1
					10625		J0849	
17840	DSA	BLANK			10630		5 X	1
					10630		-9356	
17850		SM	ADCOM	,4	10632	12	06977	000-4
17860	CODE6A	B	CLEAR		10644	49	02640	00000
17870		DORG	-3		10652			
17880	N60041	CM	LV, 127,8,CONTINUE		10652	14	09567	0-127
17890		BE	CLEAR		10664	46	02640	01200
17900		CM	SX, 132,8,SEMI COLON		10676	14	02377	0-132
17910		BNE	N60043		10688	47	10720	01200
17920		TFM	J	,0	10700	16	09552	-0000
17930		B	N60044		10712	49	10850	00000
17940		DORG	-3		10720			
17950	N60043	TFM	J	,0	10720	16	09552	-0000
17960		TFM	**64	,J-4	10732	16	10796	-9548

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17970	BTH	RMNS	,**16			10744	17	05416	J0760
17980	DSA	I, SX				10760		5 X	2
17990	CM	SX,	132,8,SEMI COLON			10760		-9547	
18000	BE	N60044-12				10765		-2377	
18010	TD	J-4	,SX			10766	14	02377	0-132
18020	AM	0-6	,1	.10		10778	46	10838	01200
18030	CM	0-18	,J+1			10790	29	09548	02377
18040	BL	N60043+24				10802	11	10796	000-1
18050	SF	J-4				10814	14	10796	-953
18060	SK	DS	,*			10826	47	10744	01300
18070	*****	CODE PAUSE				10838	32	09548	00000
18080	N60044	CM	LV,	126,8,PAUSE		10849		0	
18090	BNE	N60045				10850	14	09567	0-126
18100	BTH	PUTX	,**16			10862	47	10910	01200
18110	DSA	H				10874	17	07032	J0890
18120	DSA	J				10890		5 X	1
18130	DSA	BLANK				10890		-9351	
18140	B	CLEAR				10895		5 X	1
18150	DDRG	0-3				10895		-9552	
18160	*****	CODE STOP				10900		5 X	1
18170	N60045	CM	LV,	125,8,STOP		10900		-9356	
18180	BNE	N60046				10902	49	02640	00000
18190	BTH	PUTX	,**16			10910			
18200	DSA	RCTY				10910	14	09567	0-125
18210	DSA	BLANK				10922	47	11066	01200
18220	DSA	N13062				10934	17	07032	J0950
18230	BTH	PUTX	,**16			10950		5 X	1
18240	DSA	WATY				10950		-9384	
18250	DSA	ASTOP				10955		5 X	1
18260	DSA	N13063				10955		-9356	
18270	BTH	PUTX	,**16			10960		5 X	1
18280	DSA	H				10960		-9527	
18290	DSA	J				10962	17	07032	J0978
						10978		5 X	1
						10978		-9386	
						10983		5 X	1
						10983		-3925	
						10988		5 X	1
						10988		-9522	
						10990	17	07032	J1006
						11006		5 X	1
						11006		-9351	
						11011		5 X	1

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18300	DSA	BLANK				11011		-9552	
18310	BTH	PUTX	,**16			11016		5 X	1
18320	DSA	B				11016		-9356	
18330	DSA	N00796				11018	17	07032	J1034
18340	DSA	BLANK				11034		5 X	1
18350	SM	ADCOM	,4	.10		11034		-6982	
18360	B	CLEAR				11039		5 X	1
18370	DDRG	0-3				11039		-9668	
18380	*****	CODE END				11044		5 X	1
18390	N60046	BTH	PUTX	,**16		11044		-9356	
18400	DSA	H				11046	12	06977	000-4
18410	DSA	BLANK				11058	49	02640	00000
18420	DSA	BLANK				11066		11066	
18430	BTH	PUTX	,**16			11066	17	07032	J1082
18440	DSA	B				11082		5 X	1
18450	DSA	N00796				11082		-9351	
18460	DSA	BLANK				11087		5 X	1
18470	B	EOJ				11087		-9356	
18480	INSET	TF	INSETA	,*-1	.11	11092		5 X	1
18490	AM	INSET-1	,5	.10		11092		-9356	
18500	TF	INSETB	,INSET-1	.11		11092		5 X	1
18510	AM	INSET-1	,1	.10		11092		-9356	
18520	TF	SETAD-1				11094	17	07032	J1110
18530	INSETA	DS	,*			11110		5 X	1
18540	TDM	SETAD	,4			11110		-6982	
18550	TF	SADCOM				11115		5 X	1
18560	INSETB	DS	,*			11115		-9668	
18570	AM	SADCOM	,6	.10		11115		5 X	1
18580	TF	SETAD	,SADCOM	.6		11115		-9668	
18590	SF	SETAD	,	.6		11120		5 X	1
18600	SADCOM	DS	,*			11120		-9356	
18610	TDM	AMSW	,0			11122	49	10386	00000
18620	B	INSET-1	,	.6		11134	26	11193	1113L
18630	DDRG	0-3				11146	11	11133	000-5
18640	*****	OUTPUT IF CODING				11158	26	11217	1113L
						11170	11	11133	000-1
						11182	26	03470	00000
						11193		0	
						11194	15	03471	00004
						11206	26	11253	00000
						11217		0	
						11218	11	11253	000-6
						11230	26	0347J	11253
						11242	32	0347J	00000
						11253		0	
						11254	15	04785	00000
						11266	49	1113L	00000
						11276			

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18650	CODE7P	BE	CODE7B					11274	46	12048	01200
18660		TF	N40001	,1				11286	26	03489	09547
18670		AM	N40001	,1		,10		11298	11	03489	000-1
18680		BTM	GTNS	,++16				11310	17	05446	J1326
18690		DSA	N40001					11326		5 X	1
								11326		-3489	
18700		DSA	SL					11331		5 X	1
								11331		-2399	
18710		CM	SL	,101		,8		11332	14	02399	0-101
18720		BE	N60048					11344	46	11430	01200
18730		BTM	SRFCT	,++16				11356	17	03976	J1372
18740		DSA	SL					11372		5 X	1
								11372		-2399	
18750		DSA	N40003					11377		5 X	1
								11377		-3499	
18760		TDM	SS2	,1				11378	15	07477	00001
18770		BTM	PUTX	,++16				11390	17	07032	J1406
18780		DSA	OPX					11406		5 X	1
								11406		-4193	
18790		DSA	TQFAC					11411		5 X	1
								11411		-3935	
18800		DSA	N40003					11416		5 X	1
								11416		-3499	
18810		TD	FLAGSW	,FXORFL				11418	25	04795	04373
18820	N60048	BNC3	++40					11430	47	11470	00300
18830		BTM	PUTX	,++16				11442	17	07032	J1458
18840		DSA	BTM					11458		5 X	1
								11458		-6980	
18850		DSA	TRACE					11463		5 X	1
								11463		-3740	
18860		DSA	FACAD					11468		5 X	1
								11468		-3940	
18870	*****		OUTPUT FIXED VARIABLE IF TEST					11470	43	11490	04795
18880		BD	++20	,FLAGSW				11482	49	11812	00000
18890		B	N60049					11490			
18900		DORG	--3					11490			
18910		AM	I	,2		,10		11490	11	09547	000-2
18920		BTM	PUTX	,++16				11502	17	07032	J1518
18930		DSA	CM,FACAD,ZERO4					11518		5 X	3
								11518		-9607	
								11523		-3940	
								11528		-9355	
18940		TDM	SKIPSW	,1				11530	15	09661	00001
18950		BTM	GSBI	,++12				11542	17	11698	J1554
18960		BTM	PUTX	,++16				11554	17	07032	J1570

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18970		DSA	BL,N40003,N01300					11570		5 X	3
								11570		-9609	
								11575		-3499	
								11580		-9614	
18980		BTM	GSBI	,++12				11582	17	11698	J1594
18990		BTM	PUTX	,++16				11594	17	07032	J1610
19000		DSA	BE,N40003,N01200					11610		5 X	3
								11610		-9616	
								11615		-3499	
								11620		-9621	
19010	CODE7C	BTM	GSBI	,++12				11622	17	11698	J1634
19020		BTM	PUTX	,++16				11634	17	07032	J1650
19030		DSA	B,N40003,ZEROS					11650		5 X	3
								11650		-6982	
								11655		-3499	
								11660		-9356	
19040		TDM	SKIPSW	,0				11662	15	09661	00000
19050		SM	ADCCW	,4		,10		11674	12	06977	000-4
19060		B	CLEAR					11686	49	02640	00000
19070	GSBI	AM	I	,1		,10		11698	11	09547	000-1
19080		BTM	GTNS	,++16				11710	17	05446	J1726
19090		DSA	I,SK					11726		5 X	2
								11726		-9547	
19100		BTM	SRFCT	,++16				11731		J0849	
19110		DSA	SK,N40003					11732	17	03976	J1748
								11748		5 X	2
								11748		J0849	
								11753		-3499	
19120		BNF	++34	,RMSW				11754	44	11788	04785
19130		BTM	INSET	,++16				11766	17	11134	J1782
19140		DSA	SK,ADCCW					11782		5 X	2
								11782		J0849	
								11787		-6977	
19150		TDM	SS1	,1				11788	15	07476	00001
19160		B	GSBI-1	,		,6		11800	49	1169P	00000
19170	N60049	TF	N40001	,ADCCW				11812	26	03489	06977
19180		AM	N40001	,20		,10		11824	11	03489	000K0
19190		TF	N40004	,FACAD				11836	26	03504	03940
19200		S	N40004	,FP2				11848	22	03504	02298
19210		AM	N40004	,1		,10		11860	11	03504	000-1
19220		TDM	SS1	,1				11872	15	07476	00001
19230		BTM	PUTX	,++16				11884	17	07032	J1900
19240		DSA	BD,N40001,N40004					11900		5 X	3
								11900		-9623	
								11905		-3489	
								11910		-3504	
19250		AM	I	,3		,10		11912	11	09547	000-3
19260		TDM	SKIPSW	,1				11924	15	09661	00001
19270		BTM	GSBI	,++12				11936	17	11698	J1948

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19280	BTM	PUTX	,**16		11948	17	07032	J1964
19290	DSA	B,N40003,ZEROS			11964		5 X	3
					11964		-6982	
					11969		-3499	
					11974		-9356	
19300	SM	ADCOM	,4	,10	11976	12	06977	000-4
19310	BTM	GSBI	,**12		11988	17	11698	J2000
19320	BTM	PUTX	,**16		12000	17	07032	J2016
19330	DSA	BNF,N40003,FACM2			12016		5 X	3
					12016		-9625	
					12021		-3499	
					12026		-9630	
19340	SM	I	,3	,10	12028	12	09547	000-3
19350	B	CODE7C			12040	49	11622	00000
19360	DORG	**3			12048			
19370	CODE7B	AM	I	,3	12048	11	09547	000-3
19380	BTM	GTNS	,**16		12060	17	05446	J2076
19390	DSA	I,N40001			12076		5 X	2
					12076		-9547	
					12081		-3489	
19400	TF	INDREC-2	,N40001		12082	26	12181	03489
19410	SF	INDREC-4			12094	32	12179	00000
19420	TDM	SKIPSW	,1		12106	15	09661	00001
19430	AM	I	,1	,10	12118	11	09547	000-1
19440	BTM	GSBI	,**12		12130	17	11698	J2142
19450	BTM	PUTX	,**16		12142	17	07032	J2158
19460	DSA	BI,N40003,INDREC			12158		5 X	3
					12158		-9632	
					12163		-3499	
					12168		J2183	
19470	B	CODE7C			12170	49	11622	00000
19480	DORG	**3			12178			
19490	INDREC	DC	6,0		12183		6	
19500	CGCOW	DS	5		12188		5	
19510	*****	OUTPUT COMPUTED GO TO						
19520	CODE9P	BTM	GTNS	,**16	12190	17	05446	J2206
19530	DSA	I			12206		5 X	1
					12206		-9547	
19540	DSA	SL			12211		5 X	1
					12211		-2399	
19550	CM	SL,	104,8,RIGHT PAREN		12212	14	02399	0-104
19560	BNE	CODE9			12224	47	10146	01200
19570	TF	N40004	,1		12236	26	03504	09547
19580	AM	N40004	,1	,10	12248	11	03504	000-1
19590	BTM	GTNS	,**16		12260	17	05446	J2276
19600	DSA	N40004			12276		5 X	1
					12276		-3504	
19610	DSA	SL			12281		5 X	1

					12281		-2399	
19620	TDM	SS1	,1		12282	15	07476	00001
19630	TDM	SKIPSW	,1		12294	15	09661	00001
19640	BTM	SRFCT	,**16		12306	17	03976	J2322
19650	DSA	SL			12322		5 X	1
					12322		-2399	
19660	DSA	N40004			12327		5 X	1
					12327		-3504	
19670	BTM	PUTX	,**16		12328	17	07032	J2344
19680	DSA	MM			12344		5 X	1
					12344		-9349	
19690	DSA	N40004			12349		5 X	1
					12349		-3504	
19700	DSA	MNS5			12354		5 X	1
					12354		-9517	
19710	TDM	SS2	,1		12356	15	07477	00001
19720	TF	N40001	,ADCOM		12368	26	03489	06977
19730	AM	N40001	,18	,10	12380	11	03489	000J8
19740	BTM	PUTX	,**16		12392	17	07032	J2408
19750	DSA	SM			12408		5 X	1
					12408		-9394	
19760	DSA	N13092			12413		5 X	1
					12413		-9369	
19770	DSA	N40001			12418		5 X	1
					12418		-3489	
19780	TFM	I	,3	,8	12420	16	09547	0-003
19790	TDM	SS3	,1		12432	15	07478	00001
19800	BTM	GTNS	,**16		12444	17	05446	J2460
19810	DSA	I			12460		5 X	1
					12460		-9547	
19820	DSA	SK			12465		5 X	1
					12465		J0849	
19830	BTM	SRFCT	,**16		12466	17	03976	J2482
19840	DSA	SK			12482		5 X	1
					12482		J0849	
19850	DSA	N40004			12487		5 X	1
					12487		-3504	
19860	TDM	SKIPSW	,0		12488	15	09661	00000
19870	BNF	CODE9B	,RMSW		12500	44	12550	04785
19880	TF	CGCOW	,ADCOM		12512	26	12188	06977
19890	AM	CGCOW	,5	,10	12524	11	12188	000-5
19900	BTM	INSET	,**16		12536	17	11134	J2552
19910	DSA	SK,CGCOW			12552		5 X	2

19920	CODE9B	TDM	SS2	,1		12552	J0849	
19930		BTM	PUTX	,**16		12557	J2188	
19940		DSA	B			12558	15 07477	00001
						12570	17 07032	J2586
						12586	5 X	1
19950		DSA	N13092			12586	-6982	
						12591	5 X	1
19960		DSA	N40004			12591	-9369	
						12596	5 X	1
19970		TFM	I	,4	,8	12596	-3504	
19980		BTM	GTNS	,**16		12598	16 09547	0-004
19990		DSA	I			12610	17 05446	J2626
						12626	5 X	1
20000		DSA	SL			12626	-9547	
						12631	5 X	1
20010		CM	SL		104,8,RIGHT PAREN	12631	-2399	
20020		BE	CLEAR			12632	14 02399	0-104
20030	CODE9A	BTM	GTNS	,**16		12644	46 02640	01200
20040		DSA	I,SL			12656	17 05446	J2672
						12672	5 X	2
20050		CM	SL	,104	,8	12672	-9547	
20060		BE	N60072			12677	-2399	
20070		TDM	SKIPSW	,1		12678	14 02399	0-104
20080		BTM	SRFCT	,**16		12690	46 12844	01200
20090		DSA	SL,N40001			12702	15 09661	00001
						12714	17 03976	J2730
						12730	5 X	2
20100		TDM	SKIPSW	,0		12730	-2399	
20110		BNF	CODE9C	,RMSW		12735	-3489	
20120		TF	CGCOM	,ADCOM		12736	15 09661	00000
20130		SM	CGCOM	,2	,10	12748	44 12806	04785
20140		BTM	INSET	,**16		12760	26 12188	06977
20150		DSA	SL,CGCOM			12772	12 12188	000-2
						12784	17 11134	J2800
						12800	5 X	2
20160	CODE9C	BTM	PUTC	,**16		12800	-2399	
20170		DSA	N40001			12805	J2188	
						12806	17 08152	J2822
						12822	5 X	1
20180		AM	I	,1	,10	12822	-3489	
20190		B	CODE9A			12824	11 09547	000-1
20200		DORG	**3			12836	49 12656	00000
20210	N60072	BTM	ADJUST	,ADCOM		12844		
20220		B	CLEAR			12844	17 03550	-6977
20230		DORG	**3			12856	49 02640	00000
20240	*****		OUTPUTS FORMAT SPECIFICATIONS			12864		

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20250	CD17P	DSA	I,SX17			12868	5 X	2
20260		BTM	RMNS,**16			12868	-9547	
20270		DSA	I,SX17			12873	J3119	
						12874	17 05416	J2890
						12890	5 X	2
20280		TF	REP3,ADCOM,,		SAVE ADDRESS OF 1ST SPEC	12890	-9547	
20290		AM	ADCOM	,1	,10	12895	J3119	
20300	CD17A	BTM	RMNS,**16,,		REMOVE A SYMBOL	12896	26 14013	06977
20310		DSA	I,SX17			12908	11 06977	000-1
						12920	17 05416	J2936
						12936	5 X	2
20320		CM	SX17,	101,8,IS IT AN OPERATOR		12936	-9547	
20330		BNL	CD17B,,,	YES, BRANCH		12941	J3119	
20340		BTM	RMNS,**16,,	REMOVE NEXT SYMBOL		12942	14 13119	0-101
20350		DSA	I,SY17			12954	46 13382	01300
						12966	17 05416	J2982
						12982	5 X	2
20360		CM	SY17,	147,8,IS IT XTYPE		12982	-9547	
20370		BE	CD17C			12987	J3909	
20380		CM	SY17,	148,8,IS IT HTYPE		12988	14 13909	0-147
20390		BE	CD17D			13000	46 13120	01200
20400		CM	SY17,	124,8,IS IT LEFT PAREN		13012	14 13909	0-148
20410		BE	CD17E			13024	46 13180	01200
20420		TF	FREQ1,SX17,,	OTHER OPERATOR, SAVE FREQ		13036	14 13909	0-124
20430		TF	REP1,ADCOM,,	SAVE ADDRESS OF NEXT SPEC		13048	46 13310	01200
20440		AM	REP1,4,10			13060	26 13215	13119
20450		TF	SX17,SY17			13072	26 13179	06977
20460		B	CD17B			13084	11 13179	000-4
20470	SX17	DS	,*			13096	26 13119	13909
20480	CD17C	BTM	PUT17,XTYPE,,	PUT XTYPE AND LENGTH		13108	49 13382	00000
20490		MM	SX17,2,10			13119	0	
20500		SF	97			13120	17 14286	-3920
20510		BT	PUT17C,99			13132	13 13119	000-2
20520		B	CD17A			13144	32 00097	00000
20530	REP1	DS	,*			13156	27 14322	00099
20540	CD17D	BTM	PUT17,HTYPE,,	PUT HTYPE, LENGTH AND CONSTANTS		13168	49 12920	00000
20550		MM	SX17,2,10			13179	0	
20560		SF	97,,9			13180	17 14286	-3915
20570	FREQ1	DS	,*			13192	13 13119	000-2
20580		BT	PUT17C,99			13204	32 00097	00-00
20590	CD17F	BTM	RMNS,**16			13215	0	
20600		DSA	I,SY17			13216	27 14322	00099
						13228	17 05416	J3244
						13244	5 X	2
20610		BT	PUT17B,SY17			13244	-9547	
20620		SM	SX17,1,10			13249	J3909	
20630		CM	SX17,0,9			13250	27 14370	13909
20640		BH	CD17F			13262	12 13119	000-1
20650		B	CD17A			13274	14 13119	00-00
						13286	46 13228	01100
						13298	49 12920	00000

522

20660	REP2	DS	,*			13309		0
20670	CD17E	TF	REP3,ADCOM,,	SAVE FREQUENCY ADDRESS		13310	26	14013 06977
20680		SM	REP3,1,10			13322	12	14013 000-1
20690		TF	REP2,ADCOM			13334	26	13309 06977
20700		AM	REP2,4,10			13346	11	13309 000-4
20710		TF	FREQ2,SX17			13358	26	13381 13119
20720		B	CD17A,,9			13370	49	12920 00-00
20730	FREQ2	DS	,*			13381		0
20740	CD17B	CM	SX17, 104,8,RIGHT PAREN			13382	14	13119 0-104
20750		BE	CD17G			13394	46	13930 01200
20760		CM	SX17, 145,8,E TYPE			13406	14	13119 0-145
20770		BE	CD17H			13418	46	13910 01200
20780		CM	SX17, 121,8,SLASH			13430	14	13119 0-121
20790		BE	CD17I			13442	46	13606 01200
20800		CM	SX17, 144,8,A TYPE			13454	14	13119 0-144
20810		BE	CD17J			13466	46	13626 01200
20820		CM	SX17, 149,8,I TYPE			13478	14	13119 0-149
20830		BE	CD17K			13490	46	13776 01200
20840		CM	SX17, 146,8,F TYPE			13502	14	13119 0-146
20850		BE	CD17L			13514	46	13796 01200
20860		CM	SX17, 132,8,SEMI COLON			13526	14	13119 0-132
20870		BE	CD175C			13538	46	14014 01200
20880		CM	SX17, 124,8,LEFT PAREN			13550	14	13119 0-124
20890		BNE	CD17A,,,	CMA		13562	47	12920 01200
20900	CD17M	TF	REP3,ADCOM,,	SAVE REPEAT ADDRESS		13574	26	14013 06977
20910		SM	REP3,1,10			13586	12	14013 000-1
20920		B	CD17A			13598	49	12920 00000
20930		DORG	*-3			13606		
20940	CD17I	BTM	PUT17,SLASH			13606	17	14286 -3885
20950		B	CD17A			13618	49	12920 00000
20960		DORG	*-3			13626		
20970	CD17J	BTM	PUT17,ATYPE			13626	17	14286 -3880
20980		BTM	RMNS,**16			13638	17	05416 J3654
20990		DSA	1,SX17			13654		5 X 2
						13654		-9547
						13659		J3119
21000	MM	SX17,2,10				13660	13	13119 000-2
21010	SF	97				13672	32	00097 00000
21020	BT	PUT17C,99				13684	27	14322 00099
21030	CD17N	CM	FREQ1,0,9,	PUT FREQ RETURN ADDRESS		13696	14	13215 00-00
21040		BE	CD17A			13708	46	12920 01200
21050		BTM	PUT17,REP			13720	17	14286 -3890
21060	CD117	BT	PUT17I,REP1			13732	27	14234 13179
21070		BT	PUT17B,FREQ1			13744	27	14370 13215
21080		TFM	FREQ1,0,9			13756	16	13215 00-00
21090		B	CD17A			13768	49	12920 00000
21100		DORG	*-3			13776		
21110	CD17K	BTM	PUT17,ITYPE			13776	17	14286 -3895
21120		B	CD17J*12			13788	49	13638 00000
21130		DORG	*-3			13796		
21140	CD17L	BTM	PUT17,FTYPE			13796	17	14286 -3900
21150		BTM	RMNS,**16			13808	17	05416 J3824
21160		DSA	1,SX17			13824		5 X 2
						13824		-9547

21170	BT	PUT17C,SX17				13829		J3119
21180	BTM	RMNS,**16				13830	27	14322 13119
21190	DSA	1,SX17				13842	17	05416 J3858
						13858		5 X 2
						13858		-9547
						13863		J3119
21200	BTM	RMNS,**16				13864	17	05416 J3880
21210	DSA	1,SX17				13880		5 X 2
						13880		-9547
						13885		J3119
21220	BT	PUT17B,SX17				13886	27	14370 13119
21230	B	CD17N				13898	49	13696 00000
21240	SY17	DS	,*			13909		0
21250	CD17H	BTM	PUT17,ETYPE			13910	17	14286 -3905
21260		B	CD17L*12			13922	49	13808 00000
21270		DORG	*-3			13930		
21280	CD17G	CM	FREQ2,0,9,	PUT FREQ RETURN ADDRESS		13930	14	13381 00-00
21290		BE	CD17A			13942	46	12920 01200
21300		TF	FREQ1,FREQ2			13954	26	13215 13381
21310		TF	REP1,REP2			13966	26	13179 13309
21320		TFM	FREQ2,0,9			13978	16	13381 00-00
21330		BTM	PUT17, REP4			13990	17	14286 -3730
21340		B	CD117			14002	49	13732 00000
21350	REP3	DS	,*			14013		0
21360	CD175C	BTM	PUT17,REDO			14014	17	14286 -3910
21370		BT	PUT17I,REP3			14026	27	14234 14013
21380	CD17XX	BTM	ADJUST,ADCOM,,	ADJUST ADCOM TO EVEN ADDRESS		14038	17	03550 -4977
21390		TF	N40002,SXF			14050	26	03494 09582
21400		B	WUB12B*24			14062	49	14198 00000
21410		DORG	14100			14100		
21420		DC	2,2			14101		2
						14102	16	02359 -9224
21430	WUBCDS	TFM	FMON*35	,BLK5		14114	17	02324 J4102
21440		BTM	FMON	,SUBCDS		14126	16	02359 -9248
21450	WUBCAB	TFM	FMON*35	,BLK6		14138	17	02324 J4126
21460		BTM	FMON	,SUBCAB		14150	16	02359 -9272
21470	WUBC12	TFM	FMON*35	,BLK7		14162	17	02324 J4150
21480		BTM	FMON	,SUBC12		14174	16	02359 -9296
21490	WUB12B	TFM	FMON*35	,BLK8		14186	17	02324 J4174
21500		BTM	FMON	,SUB12B		14198	17	08272 J4214
21510		BTM	PUTA	,**16		14214		5 X 2
21520		DSA	SXF,ADCOM			14214		-9582
						14219		-4977
21530	B	CLEAR				14220	49	02640 00000
21540		DORG	*-3			14228		
21550		DS	5			14232		5
21560	PUT17I	TR	TYPET	,TYPECR		14234	31	08425 08796
21570		TFM	PUT3	,PUT17I-1		14246	16	08760 J4233
21580		TFM	PUTX-1	,**20		14258	16	07031 J4278
21590		BT	PUTXB			14270	49	07116
21600		BB2				14278	42	
21610		DS	5			14286		5

21620	PUT17	TR	TYPET	,TYPECN	14286	31	00425	00811
21630	TF	PUT3		,PUT17-1	14298	26	00780	14285
21640	B	PUT17I+24			14310	49	14258	00000
21650	DS	,*			14321		0	
21660	PUT17C	TR	TYPET	,TYPEK3	14322	31	00425	14428
21670	SF	PUT17C-3			14334	32	14319	00000
21680	TFM	PUT3		,PUT17C-1	14346	16	00780	J4321
21690	B	PUT17I+24			14358	49	14258	00000
21700	DS	,*			14369		0	
21710	PUT17B	TR	TYPET	,TYPEK2	14370	31	00425	14413
21720	SF	PUT17B-2			14382	32	14368	00000
21730	TFM	PUT3		,PUT17B-1	14394	16	00780	J4369
21740	B7	PUT17I+24			14406	49	14258	
21750	TYPEK2	DSC	1,2		14413		1	
		2						
21760	DC	2,2			14415		2	
		-2						
21770	DC	2,5			14417		2	
		-5						
21780	DC	2,10			14419		2	
		J0						
21790	DC	2,11			14421		2	
		J1						
21800	DC	5,10000			14426		5	
		J0000						
21810	DC	1,1			14427		1	
		,						
21820	TYPEK3	DSC	1,2		14428		1	
		2						
21830	DC	2,3			14430		2	
		-3						
21840	DC	2,6			14432		2	
		-6						
21850	DC	2,11			14434		2	
		J1						
21860	DC	2,12			14436		2	
		J2						
21870	DC	5,10000			14441		5	
		J0000						
21880	DC	1,1			14442		1	
		,						
21890	*****	OUTPUT RETURN						
21900	FCRTRP	TDM	SS2	,1	14444	15	07477	00001
21910	BTM	SRFCT		,**16	14456	17	03976	J4472
21920	DSA	RTNAME			14472		5 X	1
					14472		-9538	
21930	DSA	N40011			14477		5 X	1
					14477		-3539	
21940	BTM	PUTX		,**16	14478	17	07032	J4494
21950	DSA	BTM			14494		5 X	1
					14494		-6980	
21960	DSA	TOFAC			14499		5 X	1

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21970	DSA	N40011			14499		-3935	
					14504		5 X	1
					14504		-3539	
21980	N60182	TFM	SS3	,101	14506	16	07478	00J01
21990	TF	N40012		,RTAD	14518	26	03544	09572
22000	SM	N40012		,1	14530	12	03544	000-1
22010	BTM	PUTX		,**16	14542	17	07032	J4558
22020	DSA	B			14558		5 X	1
					14558		-6982	
22030	DSA	N40012			14563		5 X	1
					14563		-3544	
22040	DSA	BLANK			14568		5 X	1
					14568		-9356	
22050	B	CLEAR			14570	49	02640	00000
22060	DORG	*-3			14578			
22070	DORG	16002			16002			
22080	XZZX	34	BLK2A,701		16002	34	09160	00701
22090	38	BLK2A,702			16014	38	09160	00702
22100	TRA				16026	36	00000	00500
					16038	49	00000	00000
22110	TCD	XZZX			16002			
22120	DORG	10000			10000			
22130	*****	SECONDARY LINKAGE FOR BLOCK 3						
22140	DC	2,3			10001		2	
		-3						
22150	YODE1	TFM	FNON+35	,BLK1	10002	16	02359	-9128
22160	BTM	FNON		,CODE1	10014	17	02324	J0002
22170	YODE3	TFM	FNON+35	,BLK1	10026	16	02359	-9128
22180	BTM	FNON		,CODE3	10038	17	02324	J0026
22190	YODE4	TFM	FNON+35	,BLK1	10050	16	02359	-9128
22200	BTM	FNON		,CODE4	10062	17	02324	J0050
22210	YODE6	TFM	FNON+35	,BLK2	10074	16	02359	-9152
22220	BTM	FNON		,CODE6	10086	17	02324	J0074
22230	YODE7	TFM	FNON+35	,BLK2	10098	16	02359	-9152
22240	BTM	FNON		,CODE7	10110	17	02324	J0098
22250	YODE8	TFM	FNON+35	,BLK1	10122	16	02359	-9128
22260	BTM	FNON		,CODE8	10134	17	02324	J0122
22270	YODE9	TFM	FNON+35	,BLK2	10146	16	02359	-9152
22280	BTM	FNON		,CODE9	10158	17	02324	J0146
22290	YODE12	B	SUBC12		10170	49	14150	00000
22300	H				10182	48	00000	00000
22310	YODE14	TDM	FX	,1	10194	15	03715	00001
22320	B	CD14P			10206	49	10434	00000
22330	YODE15	TFM	FNON+35	,BLK1	10218	16	02359	-9128
22340	BTM	FNON		,CODE15	10230	17	02324	J0218
22350	YODE17	TFM	FNON+35	,BLK2	10242	16	02359	-9152
22360	BTM	FNON		,CODE17	10254	17	02324	J0242
22370	YODESS	B	SUBCDS		10266	49	14102	00000
22380	H				10278	48	00000	00000
22390	YDSSAB	B	SUBCAB		10290	49	14126	00000
22400	H				10302	48	00000	00000

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22410	YD128	B	SUB128			10314	49	14174	00000
22420		H				10328	48	00000	00000
22430	YCT1	TFM	FMON+35	,BLK4		10338	16	02359	-9200
22440		BTM	FMON	,FCT1		10350	17	02324	J0338
22450	YCTRT	TFM	FMON+35	,BLK2		10362	16	02359	-9152
22460		BTM	FMON	,FCTRT		10374	17	02324	J0362
22470	YOJ	TFM	FMON+35	,BLK4		10386	16	02359	-9200
22480		BTM	FMON	,EQJ		10398	17	02324	J0386
22490	YDCALL	CM	LV	,131	,0	10410	14	09567	0-131
22500		B	CDCALP			10422	49	12888	00000
22510	*****		OUTPUT IO STATEMENT						
22520	CD14P	TDM	FFRSW	,0		10434	15	04765	00000
22530		BTM	RMNS	,++16		10446	17	05416	J0462
22540		DSA	I			10462		5 X	1
						10462		-9547	
22550		DSA	SR			10467		5 X	1
						10467		-2372	
22560		BTM	GTNS	,++16		10468	17	05446	J0484
22570		DSA	I,SL			10484		5 X	2
						10484		-9547	
						10489		-2399	
22580		CM	LV	,142	,0	10490	14	09567	0-142
22590		BL	CD14JG			10502	47	10980	01300
22600		CM	LV	,147	,0	10514	14	09567	0-147
22610		BH	CD14JG			10526	46	10980	01100
22620		TDM	FFRSW	,1		10538	15	04765	00001
22630		CM	LV	,142	,0	10550	14	09567	0-142
22640		BE	CD14FV			10562	46	10690	01200
22650		CM	LV	,143	,0	10574	14	09567	0-143
22660		BE	CD14FL			10586	46	10784	01200
22670		CM	LV	,146	,0	10598	14	09567	0-146
22680		BE	CD14RV			10610	46	10990	01200
22690		CM	LV	,147	,0	10622	14	09567	0-147
22700		BE	CD14RL			10634	46	10920	01200
22710		SF	FFRSW			10646	32	04765	00000
22720		CM	LV	,144	,0	10658	14	09567	0-144
22730		BE	CD14SV			10670	46	10940	01200
22740		B	CD14SL			10682	49	10960	00000
22750		DORG	*-3			10690			
22760	CD14FV	TF	LVP	,FETCH		10690	26	12855	12887
22770		CM	SL	,101	,0	10702	14	02399	0-101
22780		BNE	CD14JW			10714	47	11002	01200
22790		BTM	PUTX	,++16		10726	17	07032	J0742
22800		DSA	BT,LVP,N13092			10742		5 X	3
						10742		-9382	
						10747		J2855	
						10752		-9369	
22810		BTM	RMNS	,++16		10754	17	05416	J0770
22820		DSA	I,SL			10770		5 X	2
						10770		-9547	
						10775		-2399	

22830		B	CD14A			10776	49	11214	00000
22840		DORG	*-3			10784			
22850	CD14FL	TF	LVP	,FETCH		10784	26	12855	12887
22860		BTM	SRFCT	,++16		10796	17	03976	J0812
22870		DSA	SL,N40004			10812		5 X	2
						10812		-2399	
						10817		-3504	
22880		TDM	SS2	,1		10818	15	07477	00001
22890		BTM	PUTX	,++16		10830	17	07032	J0846
22900		DSA	BTM,TOFAC,N40004			10846		5 X	3
						10846		-6980	
						10851		-3935	
						10856		-3504	
22910		BTM	RPNS	,++16		10858	17	05476	J0874
22920		DSA	I,FAC			10874		5 X	2
						10874		-9547	
						10879		-9531	
22930		BTM	GMRP	,++12		10880	17	05940	J0892
22940		B7	CD14FV+12			10892	49	10702	
22950	CD14RV	TF	LVP	,RECORD		10900	26	12855	12882
22960		B7	CD14FV+12			10912	49	10702	
22970	CD14RL	TF	LVP	,RECORD		10920	26	12855	12882
22980		B7	CD14FL+12			10932	49	10796	
22990	CD14SV	TF	LVP	,FIND		10940	26	12855	12877
23000		B7	CD14FV+12			10952	49	10702	
23010	CD14SL	TF	LVP	,FIND		10960	26	12855	12877
23020		B7	CD14FL+12			10972	49	10796	
23030	CD14JG	BTM	OPSR	,++16		10980	17	03596	J0996
23040		DSA	LV,LVP			10996		5 X	2
						10996		-9567	
						11001		J2855	
23050	CD14JW	BTM	RMNS	,++16		11002	17	05416	J1018
23060		DSA	I			11018		5 X	1
						11018		-9547	
23070		DSA	SL			11023		5 X	1
						11023		-2399	
23080		TDM	SS2	,1		11024	15	07477	00001
23090	*****		OUTPUT INSTRUCTION FOR IO DEVICE						
23100		BTM	SRFCT	,++16		11036	17	03976	J1052
23110		DSA	SL			11052		5 X	1
						11052		-2399	
23120		DSA	N40004			11057		5 X	1
						11057		-3504	
23121		BD	CD14NR	,FFRSW		11058	43	11174	04765
23130		BD	CD14RM	,RMS		11070	43	11126	04785
23140		AM	SBASE	,5	,10	11082	11	04371	000-5
23150		BMR	CD14NR	,SBASE	,11	11094	45	11174	0437J
23160		TFM	OPY	,27	,10	11106	16	12857	000K7

23170	B7	CD14NR+12			11118	49	11186	
23180	CD14RM	TF	N40001	,ADCOV	11126	26	03489	04977
23190	AM	N40001		,11	11138	11	03489	000J1
23200	TF	SBASE		,N40001	11150	26	0437J	03489
23210	TDM	RMSW		,0	11162	15	04785	00000
23220	CD14NR	TFM	OPY	,17	11174	16	12857	000J7
23230	BTM	PUTX		,**16	11186	17	07032	J1202
23240	DSA	OPY,LVP,N40004			11202		5 X	3
					11202		J2857	
					11207		J2855	
					11212		-3504	
23250	CD14A	BNF	**20	,FFRSW	11214	46	11234	04765
23260	B7	CLEAR			11226	49	02640	
23270	BTM	RMNS		,**16	11234	17	05416	J1250
23280	DSA	I			11250		5 X	1
					11250		-9547	
23290	DSA	SL			11255		5 X	1
					11255		-2399	
23300	CM	SL,	132,8,SEMI	COLDN	11256	14	02399	0-132
23310	BE	CD14EN			11268	46	12442	01200
23320	BTM	GTNS		,**16	11280	17	05446	J1296
23330	DSA	I			11296		5 X	1
					11296		-9547	
23340	DSA	SL			11301		5 X	1
					11301		-2399	
23350	CM	SL,	109,8,DOA		11302	14	02399	0-109
23360	BE	CDDOA			11314	46	12334	01200
23370	CM	SL,	124,8,LEFT	PAREN	11326	14	02399	0-124
23380	BE	CODEPA			11338	46	11880	01200
23390	BTM	SRFCT		,**16	11350	17	03976	J1366
23400	DSA	SL			11366		5 X	1
					11366		-2399	
23410	DSA	SR			11371		5 X	1
					11371		-2372	
23420	BD	CODARR		,DMSW	11372	43	11662	04150
23430	*****	OUTPUT	SIMPLE	VARIABLE				
23440	BD	**20		,FXORFL	11384	43	11404	04373
23450	B	CD99			11396	49	11476	00000
23460	DDRG	+ -3			11404			
23470	BNF	CD98		,FPSW	11404	44	11464	09659
23480	TDM	SS1			11416	15	07476	00001
23490	BTM	PUTX		,**16	11428	17	07032	J1444
23500	DSA	SF			11444		5 X	1
					11444		-9341	
23510	DSA	SR			11449		5 X	1
					11449		-2372	
23520	DSA	BLANK			11454		5 X	1

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23530	B	**20			11454		-9356	
23540	DDRG	+ -3			11456	49	11476	00000
23550	CD98	TDM	SS4	,1	11464	15	07479	00001
23560	CD99	TDM	SS2	,1	11476	15	07477	00001
23570	BD	CD97		,FFRSW	11488	43	11520	04765
23580	TF	N40004		,10	11500	26	03504	03945
23590	B7	CD96			11512	49	11532	
23600	CD97	TF	N40004	,SWF	11520	26	03504	12862
23610	CD96	BTM	PUTX	,**16	11532	17	07032	J1548
23620	DSA	OPX			11548		5 X	1
					11548		-4193	
23630	DSA	N40004			11553		5 X	1
					11553		-3504	
23640	DSA	SR			11558		5 X	1
					11558		-2372	
23650	BD	**20		,FXORFL	11560	43	11580	04373
23660	B	CD14C			11572	49	11632	00000
23670	DDRG	+ -3			11580			
23680	BNF	CD14C		,FPSW	11580	44	11632	09659
23690	TDM	SS1		,1	11592	15	07476	00001
23700	BTM	PUTX		,**16	11604	17	07032	J1620
23710	DSA	CF			11620		5 X	1
					11620		-9343	
23720	DSA	SR			11625		5 X	1
					11625		-2372	
23730	DSA	BLANK			11630		5 X	1
					11630		-9356	
23740	CD14C	BTM	RMNS	,**16	11632	17	05416	J1648
23750	DSA	I			11648		5 X	1
					11648		-9547	
23760	DSA	SL			11653		5 X	1
					11653		-2399	
23770	B	CD14A			11654	49	11214	00000
23780	DDRG	+ -3			11662			
23790	*****	OUTPUT	DIMENSION	VARIABLES				
23800	CODARR	TF	N40004	,1	11662	26	03504	09547
23810	AM	N40004		,1	11674	11	03504	000-1
23820	BTM	GTNS		,**16	11686	17	05446	J1702
23830	DSA	N40004			11702		5 X	1
					11702		-3504	
23840	DSA	LV			11707		5 X	1
					11707		-9547	
23850	CM	LV		,148	11708	14	09547	0-148
23860	BL	CODMAT			11720	47	12534	01300
23870	AM	I		,1	11732	11	09547	000-1

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23880	TDM	IO1	,1	,11	11744	15	09327	0000J
23890	CM	LV	,148	,8	11756	14	09567	0-148
23900	BE	CDSSAB			11768	46	10290	01200
23910	B7	CODESS			11780	49	10266	
23920	CD148	TDM	IO1	,0	11788	15	09327	00000
23930	BD	CD95	,FFRSW		11800	43	11832	04765
23940	TF	N40004	,10		11812	26	03504	03945
23950	B7	CD9A			11824	49	11844	
23960	CD95	TF	N40004	,SWF	11832	26	03504	12862
23970	CD94	BTM	PUTX	,**16	11844	17	07032	J1860
23980	DSA	BT			11860		5 X	1
					11860		-9382	
23990	DSA	N40004			11865		5 X	1
					11865		-3504	
24000	DSA	N13092			11870		5 X	1
					11870		-9369	
24010	B	CD14A			11872	49	11214	00000
24020	DORG	*-3			11880			
24030	CODEPA	TFM	PARCNT,1,10		11880	16	12017	000-1
24040	CD14NA	AM	I,1,10		11892	11	09547	000-1
24050	BTM	GTNS,**16			11904	17	05446	J1920
24060	DSA	I,SL			11920		5 X	2
					11920		-9547	
					11925		-2399	
24070	CM	SL,104,8			11926	14	02399	0-104
24080	BNE	**32			11938	47	11970	01200
24090	SM	PARCNT,1,10			11950	12	12017	000-1
24100	B	CD14NA			11962	49	11892	00000
24110	DORG	*-3			11970			
24120	CM	SL,124,8			11970	14	02399	0-124
24130	BNE	**36			11982	47	12018	01200
24140	AM	PARCNT,1,10			11994	11	12017	000-1
24150	B	CD14NA			12006	49	11892	00000
24160	PARCNT	DS	2,*		12017		2	
24170	CM	SL,133,8			12018	14	02399	0-133
24180	BNE	CD14NA			12030	47	11892	01200
24190	CM	PARCNT,1,10			12042	14	12017	000-1
24200	BH	CD14NA			12054	46	11892	01100
24210	AM	GLND,1,10			12066	11	09390	000-1
24220	TF	T2,GLND			12078	26	09596	09390
24230	SM	I,3,10			12090	12	09547	000-3
24240	TDM	IO1,1			12102	15	09327	00001
24250	B7	CODE12			12114	49	10170	
24260	CD14E	TDM	IO1,0		12122	15	09327	00000
24270	AM	I,2,10			12134	11	09547	000-2
24280	BTM	RMNS,**16			12146	17	05416	J2162
24290	DSA	I,SL			12162		5 X	2
					12162		-9547	
					12167		-2399	
24300	BTM	RMNS,**16			12168	17	05416	J2184
24310	DSA	I,SL			12184		5 X	2

					12184		-9547	
					12189		-2399	
24320	BTM	RPNS,**16			12190	17	05476	J2206
24330	DSA	I,DDA			12206		5 X	2
					12206		-9547	
					12211		-9515	
24340	AM	I,1,10			12212	11	09547	000-1
24350	BTM	RMNS,**16			12224	17	05416	J2240
24360	DSA	I,SL			12240		5 X	2
					12240		-9547	
					12245		-2399	
24370	CD14NC	BTM	RMNS,**16		12246	17	05416	J2262
24380	DSA	I,SL			12262		5 X	2
					12262		-9547	
					12267		-2399	
24390	BTM	GTNS,**16			12268	17	05446	J2284
24400	DSA	I,SL			12284		5 X	2
					12284		-9547	
					12289		-2399	
24410	CM	SL,104,8			12290	14	02399	0-104
24420	BNE	CD14NC			12302	47	12246	01200
24430	TFM	I,1,8			12314	16	09547	0-001
24440	B	CD14A			12326	49	11214	00000
24450	DORG	*-3			12334			
24460	CODDA	TDM	IO1	,1	12334	15	09327	00001
24470	TF	T2	,GLND		12346	26	09596	09390
24480	B7	CD12B			12358	49	10314	
24490	CD14M	SM	GLND	,1	12366	12	09390	000-1
24500	TDM	IO1		,0	12378	15	09327	00000
24510	BTM	RMNS	,**16		12390	17	05416	J2406
24520	DSA	I			12406		5 X	1
					12406		-9547	
24530	DSA	SL			12411		5 X	1
					12411		-2399	
24540	BTM	RMNS	,**16		12412	17	05416	J2428
24550	DSA	I			12428		5 X	1
					12428		-9547	
24560	DSA	SL			12433		5 X	1
					12433		-2399	
24570	B	CD14A			12434	49	11214	00000
24580	DORG	*-3			12442			
24590	CD14EN	BD	CD14ND	,FFRSW	12442	43	12502	04765
24600	TF	N40004	,10END		12454	26	03504	03950
24610	BTM	PUTX	,**16		12466	17	07032	J2482
24620	DSA	BTM			12482		5 X	1
					12482		-6980	
24630	DSA	N40004			12487		5 X	1

24640	DSA	ZERO			12487	-3504		
					12492	5 X	1	
24650	B	CLEAR			12492	-9353		
24660	DORG	+3			12494	49	02640	00000
24670	CD14ND	TF	N40004	,DIOEND	12502			
24680	TDM	FRSW		,0	12502	26	03504	12867
24690	B7	CD14EN+24			12514	15	04765	00000
24700	*****	OUTPUT CODING FOR COMPLETE MATRICES IN IO STATEMENTS			12526	49	12466	
24710	CODMAT	BTM	PUTX	,**16	12534	17	07032	J2550
24720	DSA	TFM			12550		5 X	1
24730	DSA	PAR			12550	-9339		
					12555	5 X	1	
24740	DSA	PI			12555	-3960		
					12560	5 X	1	
24750	BD	+20		,FXORFL	12560	-9651		
24760	B	CM99			12562	43	12582	04373
24770	DORG	+3			12574	49	12666	00000
24780	BNF	CM98		,FPSW	12582			
24790	TDM	SS1		,1	12582	44	12642	09659
24800	BTM	PUTX		,**16	12594	15	07476	00001
24810	DSA	SF			12606	17	07032	J2622
					12622		5 X	1
24820	DSA	SR			12622	-9341		
					12627	5 X	1	
24830	DSA	BLANK			12627	-2372		
					12632	5 X	1	
24840	B	+20			12632	-9356		
24850	DORG	+3			12634	49	12654	00000
24860	CM98	TDM	SS4	,1	12642			
24870	BD	+24,	COMSW	,1	12642	15	07479	00001
24880	CM99	TDM	SS2	,1	12654	43	12678	04151
24890	BD	CM96		,FFRSW	12666	15	07477	00001
24900	TF	N40004		,MAT	12678	43	12832	04765
24910	BTM	PUTX		,**16	12690	26	03504	03965
24920	DSA	DPX			12702	17	07032	J2718
					12718		5 X	1
24930	DSA	N40004			12718	-4193		
					12723	5 X	1	
24940	DSA	SR			12723	-3504		
					12728	5 X	1	
24950	BD	+20		,FXORFL	12728	-2372		
24960	B	CM97			12730	43	12750	04373
24970	DORG	+3			12742	49	12802	00000
24980	BNF	CM97		,FPSW	12750			
					12750	44	12802	09659

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24990	TDM	SS1		,1	12762	15	07476	00001
25000	BTM	PUTX		,**16	12774	17	07032	J2790
25010	DSA	CF			12790		5 X	1
25020	DSA	SR			12790	-9343		
					12795	5 X	1	
25030	DSA	BLANK			12795	-2372		
					12800	5 X	1	
25040	CM97	BTM	RMNS	,**16	12800	-9356		
25050	DSA	I			12802	17	05416	J2818
					12818		5 X	1
25060	DSA	SL			12818	-9547		
					12823	5 X	1	
25070	B	CD14A			12823	-2399		
25080	DORG	+3			12824	49	11214	00000
25090	CM96	TF	N40004	,DRAY	12832			
25100	B7	CM99+36			12832	26	03504	12872
25110	LVP	DS	5		12844	49	12702	
25120	DPY	DS	2		12855		5	
25130	SWF	DC	5,-02288		12857		2	
			-228Q		12862		5	
25140	DIOEND	DC	5,-02298		12867		5	
			-229Q		12872		5	
25150	DRAY	DC	5,-02293		12872		5	
			-229L		12877		5	
25160	FIND	DC	5,-02273		12877		5	
			-227L		12882		5	
25170	RECORD	DC	5,-02278		12882		5	
			-227Q		12887		5	
25180	FETCH	DC	5,-02283		12887		5	
			-228L					
25190	*****	CALL EXIT AND CALL LINK ROUTINES						
25200	CDALP	BE	CDXIT		12888	46	13462	01200
25210	CDLINK	AM	I	,3	12900	11	09547	000-3
25220	BTM	RMNS		,**16	12912	17	09416	J2928
25230	DSA	I,SY			12928		5 X	2
					12928	-9547		
25240	TF	NAME-8		,SY	12933	-2384		
25250	BTM	RMNS		,**16	12934	26	13453	02384
25260	DSA	I,SY			12946	17	09416	J2962
					12962		5 X	2
25270	TF	NAME-4		,SY	12962	-9547		
25280	CF	NAME-7			12967	-2384		
25290	BTM	RMNS		,**16	12968	26	13457	02384
25300	DSA	I,SY			12980	33	13454	00000
					12992	17	09416	J3008
					13008		5 X	2
					13008	-9547		

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25310	TF	NAME	,SY		13013	-2384		
25320	CF	NAME-3			13014	26	13461	02384
25330	COLGT	DS	,*		13026	33	13458	00000
25340	TF	CDLGT	,ADCOM		13037		0	
25341	TDM	SS2	,+1		13038	26	13037	06977
25350	AM	CDLGT	,50	,10	13050	15	07477	00001
25360	BTM	PUTX	,+16		13062	11	13037	00000
25370	DSA	TFM,N07495,CDLGT			13074	17	07032	J3090
					13090		5	X 3
					13090		-9339	
					13095		J3427	
					13100		J3037	
25380	TF	CDLGT	,ADCOM		13102	26	13037	06977
25381	TDM	SS2	,+1		13114	15	07477	00001
25390	AM	CDLGT	,19	,10	13126	11	13037	000J9
25400	BTM	PUTX	,+16		13138	17	07032	J3154
25410	DSA	TFM,N00565,CDLGT			13154		5	X 3
					13154		-9339	
					13159		J3432	
					13164		J3037	
25420	BTM	PUTX	,+16		13166	,17	07032	J3182
25430	DSA	B,N00716,N2THD			13182		5	X 3
					13182		-6982	
					13187		J3437	
					13192		J3442	
25440	SM	ADCOM	,4	,10	13194	12	06977	000-4
25450	BT	PUTX2	,NM22		13206	27	13266	13444
25460	BT	PUTX17	,N147RM		13218	27	13318	13449
25470	BT	PUTX12	,NAME		13230	27	13362	13461
25480	AM	ADCOM	,+1	,10	13242	11	06977	000-1
25490	B	CLEAR			13254	49	02640	00000
25500	DS	,*			13265		0	
25510	PUTX2	TR	TYPET		13266	31	08425	13393
25520	TFM	PUT3	,PUTX2-1		13278	16	08780	J3265
25530	TFM	PUTX-1	,+20		13290	16	07031	J3310
25540	B7	PUTXB			13302	49	07116	
25550	BB2				13310	42		
25560	DS	5			13316		5	
25570	PUTX17	TR	TYPET		13318	31	08425	08811
25580	TFM	PUT3	,PUTX17-1		13330	16	08780	J3317
25590	B	PUTX2+24			13342	49	13290	00000
25600	DS	7			13360		7	
25610	PUTX12	TR	TYPET		13362	31	08425	13408
25620	TFM	PUT3	,PUTX12-1		13374	16	08780	J3361
25630	B7	PUTX2+24			13386	49	13290	
25640	TYPE2	DSC	1,2		13393		1	
			2					
25650	DC	2,2			13395		2	
		-2						
25660	DC	2,5			13397		2	
		-5						
25670	DC	2,10			13399		2	
		JO						

25680	DC	2,11			13401		2	
	J1							
25690	DC	5,10000			13406		5	
	J0000							
25700	DC	1,1			13407		1	
25710	TYPE12	DSC	1,2		13408		1	
			2					
25720	DC	2,12			13410		2	
	J2							
25730	DC	2,15			13412		2	
	J5							
25740	DC	2,20			13414		2	
	K0							
25750	DC	2,21			13416		2	
	K1							
25760	DC	5,10000			13421		5	
	J0000							
25770	DC	1,1			13422		1	
25780	N07495	DC	5,7495		13427		5	
			-7495					
25790	N00565	DSA	IORT		13432		5	X 1
25800	N00716	DSA	I0CAL		13432		-0565	
					13437		5	X 1
25810	N2THD	DC	5,20000		13437		-0716	
			K0000		13442		5	
25820	NM22	DC	2,20		13444		2	
			K0					
25830	N147RM	DC	5,147'		13449		5	
			-147'					
25840	NAME	DS	12		13461		12	
25850	CDXIT	BTM	PUTX	,+16	13462	17	07032	J3478
25860	DSA	B,N00796,BLANK			13478		5	X 3
					13478		-6982	
					13483		-9668	
					13488		-9356	
25870	SM	ADCOM	,4	,10	13490	12	06977	000-4
25880	B7	CLEAR			13502	49	02640	
25890	DORG	16002			16002			
25900	XWX	34	BLK3A,701		16002	34	09184	00701
25910		38	BLK3A,702		16014	38	09184	00702
25920	TRA				16026	36	08000	00500
					16038	49	00000	00000
25930	TCD	XWX			16002			
25940	DORG	10000			10000			
25950	*****	SECONDARY LINKAGE FOR BLOCK 4						
25960	DC	2,4			10001		2	
		-4						
25970	ZODE1	TFM	FM0N+35	,BLK1	10002	16	02359	-9128
25980		BTM	FM0N	,CODE1	10014	17	02324	J0002

25990	ZODE3	TFM	FMON+35	,BLK1		10026	16	02359	-9128
26000		BTM	FMON	,CODE3		10038	17	02324	J0026
26010	ZODE4	TFM	FMON+35	,BLK1		10050	16	02359	-9128
26020		BTM	FMON	,CODE4		10062	17	02324	J0050
26030	ZODE6	TFM	FMON+35	,BLK2		10074	16	02359	-9152
26040		BTM	FMON	,CODE6		10086	17	02324	J0074
26050	ZODE7	TFM	FMON+35	,BLK2		10098	16	02359	-9152
26060		BTM	FMON	,CODE7		10110	17	02324	J0098
26070	ZODE8	TFM	FMON+35	,BLK1		10122	16	02359	-9128
26080		BTM	FMON	,CODE8		10134	17	02324	J0122
26090	ZODE9	TFM	FMON+35	,BLK2		10146	16	02359	-9152
26100		BTM	FMON	,CODE9		10158	17	02324	J0146
26110	ZODE12	TFM	FMON+35	,BLK1		10170	16	02359	-9128
26120		BTM	FMON	,CODE12		10182	17	02324	J0170
26130	ZODE14	TFM	FMON+35	,BLK3		10194	16	02359	-9176
26140		BTM	FMON	,CODE14		10206	17	02324	J0194
26150	ZODE15	TFM	FMON+35	,BLK1		10218	16	02359	-9128
26160		BTM	FMON	,CODE15		10230	17	02324	J0218
26170	ZODE17	TFM	FMON+35	,BLK2		10242	16	02359	-9152
26180		BTM	FMON	,CODE17		10254	17	02324	J0242
26190	ZODESS	TFM	FMON+35	,BLK1		10266	16	02359	-9128
26200		BTM	FMON	,CODESS		10278	17	02324	J0266
26210	ZDSSAB	TFM	FMON+35	,BLK1		10290	16	02359	-9128
26220		BTM	FMON	,CDSSAB		10302	17	02324	J0290
26230	ZD12B	TFM	FMON+35	,BLK1		10314	16	02359	-9128
26240		BTM	FMON	,CD12B		10326	17	02324	J0314
26250	ZCT1	BTM	RMNS	,FCT1P		10338	17	05416	J0438
26260						10350	48	00000	00000
26270	ZCTRT	TFM	FMON+35	,BLK2		10362	16	02359	-9152
26280		BTM	FMON	,FCTRT		10374	17	02324	J0362
26290	ZDJ	NOP				10386	41	00000	00000
26300		B	EQJP			10398	49	11964	00000
26310	ZDCALL	TFM	FMON+35	,BLK3		10410	16	02359	-9176
26320		BTM	FMON	,CDCALL		10422	17	02324	J0410
26330	FCT1P	DSA	I, LV			10438		5 X	2
						10438			-9547
						10443			-9567
26340		BTM	RMNS	,**16		10444	17	05416	J0460
26350		DSA	I, SL			10460		5 X	2
						10460			-9547
						10465			-2399
26360		CM	LV	,136	,8	10466	14	09567	0-136
26370		BE	**36			10478	46	10514	01200
26380		CM	LV	,135	,8	10490	14	09567	0-135
26390		BNE	FCT11			10502	47	10602	01200
26400		AM	ADCOV	,6	,10	10514	11	06977	000-6
26410		TF	RTAD	,ADCOV		10526	26	09572	06977
26420		CM	LV	,136	,8	10538	14	09567	0-136
26430		BNE	**32			10550	47	10582	01200
26440		TF	RTNAME	,SL		10562	26	09538	02399
26450		B7	FCT1G			10574	49	10756	
26460		TDM	SUBPSW	,1		10582	15	04775	00001
26470		B7	FCT1G			10594	49	10756	
26480	FCT11	TDM	FTSW	,1	,11	10602	15	04745	0000J

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26490		BTM	SRFCT	,**16		10614	17	03976	J0630
26500		DSA	SL,N40012			10630		5 X	2
						10630			-2399
						10635			-3544
26510		TD	RFLAG	,FXORFL		10636	25	04725	04373
26520		BTM	PUTX	,**16		10648	17	07032	J0664
26530		DSA	B,BLANK,BLANK			10664		5 X	3
						10664			-6982
						10669			-9356
						10674			-9356
26540		TF	SXF	,ADCOV		10676	26	09582	06977
26550		SM	SXF	,10	,10	10688	12	09582	000J0
26560		TFM	ADTEMP	,4		10700	16	02394	-0004
26570		TF	ADTEMP-1	,SL		10712	26	02393	02399
26580		TF	ADTEMP	,ADCOV	,6	10724	26	02399	06977
26590		AM	I	,1	,10	10736	11	09547	000-1
26600		B7	FCT1G1			10748	49	10778	
26610	FCT1G	BTM	RMNS	,**16		10756	17	05416	J0772
26620		DSA	I, SL			10772		5 X	2
						10772			-9547
						10777			-2399
26630	FCT1G1	TF	I1	,ADCOV		10778	26	07022	06977
26640		TFM	RV	,0	,9	10790	16	09577	00-00
26650		TF	LV	,ADCOV		10802	26	09567	06977
26660		SM	LV	,1	,10	10814	12	09567	000-1
26670		CM	SL	,132	,8	10826	14	02399	0-132
26680		BE	FCT1C			10838	46	11420	01200
26690	FCT1A	BTM	RMNS	,**16		10850	17	05416	J0866
26700		DSA	I, SL			10866		5 X	2
						10866			-9547
						10871			-2399
26710		BTM	RMNS	,**16		10872	17	05416	J0888
26720		DSA	I, SR			10888		5 X	2
						10888			-9547
						10893			-2372
26730		BNF	FCT12	,FTSW		10894	44	11492	04745
26740	*****		ARITHMETIC STATEMENT FUNCTION IN MAIN LINE			10906	15	13262	00000
26750		TDM	SARGSW	,0		10918	26	02377	09567
26760		TF	SX	,LV		10930	15	07476	00001
26770	FCT1H	TDM	SSI	,1		10942	17	07032	J0958
26780		BTM	PUTX	,**16		10958		5 X	3
26790		DSA	AM, LV, FIVE			10958			-9347
						10963			-9567
						10968			-9533
26800		TDM	SS4	,1		10970	15	07479	00001
26810		BD	**20	,FCTSW		10982	43	11002	02293
26820		B7	FCT13			10994	49	11242	
26830		TFM	SS2	,11	,10	11002	16	07477	000J1
26840		TF	SUBCOV	,ADCOV		11014	26	13267	06977

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26850	AM	SUBCOM	,35	,10		11026	11	13267	000L5
26860	BTM	PUTX	,**16			11038	17	07032	J1054
26870	DSA	TF,SUBCOM,LV				11054		5 X	3
						11054		-9345	
						11059		J3267	
						11064		-9567	
26880	TF	BCOM	,ADCOM			11066	26	13272	06977
26890	AM	BCOM	,36	,10		11078	11	13272	000L6
26900	TFM	SS2	,11	,10		11090	16	07477	000J1
26910	BTM	PUTX	,**16			11102	17	07032	J1118
26920	DSA	BNF,BCOM,SUBCOM				11118		5 X	3
						11118		-9625	
						11123		J3272	
						11128		J3267	
26930	TDM	SS1	,1			11130	15	07476	00001
26940	BTM	PUTX	,**16			11142	17	07032	J1158
26950	DSA	CF,SUBCOM,BLANK				11158		5 X	3
						11158		-9343	
						11163		J3267	
						11168		-9356	
26960	TFM	SS4	,1101	,8		11170	16	07479	OJ101
26970	BTM	PUTX	,**16			11182	17	07032	J1198
26980	DSA	TF,SUBCOM,SUBCOM				11198		5 X	3
						11198		-9345	
						11203		J3267	
						11208		J3267	
26990	BNF	**20	,SARGSM			11210	44	11230	13262
27000	B7	FCT1J				11222	49	11694	
27010	TF	SX	,SUBCOM			11230	26	02377	13267
27020	TDM	SS2	,1			11242	15	07477	00001
27030	BTM	PUTX	,**16			11254	17	07032	J1270
27040	DSA	BT,TOFAC,SX				11270		5 X	3
						11270		-9382	
						11275		-3935	
						11280		-2377	
27050	TDM	SS2	,1			11282	15	07477	00001
27060	BTM	SRFCT	,**16			11294	17	03976	J1310
27070	DSA	SL,N40012				11310		5 X	2
						11310		-2399	
						11315		-3544	
27080	BTM	PUTX	,**16			11316	17	07032	J1332
27090	DSA	BTM,FRFAC,N40012				11332		5 X	3
						11332		-6980	
						11337		-3930	
						11342		-3544	
27100	FCT1F	CM	SR	,104	,8	11344	14	02372	0-104
27110	BE	FCT1B				11356	46	11388	01200
27120	AM	RV	,5	,10		11368	11	09577	000-5
27130	B7	FCT1A				11380	49	10850	

27140	FCT1B	BD	FCT1C	,RV		11388	43	11420	09577
27150	FCT1K	TFM	SR	,2	,10	11400	16	02372	000-2
27160	B7	FCT1D				11412	49	11432	
27170	FCT1C	TFM	SR	,1	,10	11420	16	02372	000-1
27180	FCT1D	TDM	SS1	,1		11432	15	07476	00001
27190	BTM	PUTX	,**16			11444	17	07032	J1460
27200	DSA	AM,LV,SR				11460		5 X	3
						11460		-9347	
						11465		-9567	
						11470		-2372	
27210	BD	EXIT	,FTSM			11472	43	02948	04745
27220	B7	CLEAR				11484	49	02640	
27221	FCT12	BTM	SRFCT	,**16		11492	17	03976	J1508
27222	DSA	SL,N40011				11508		5 X	2
						11508		-2399	
						11513		-3539	
27230	CM	SR	,104	,8	,RIGHT PAREN	11514	14	02372	0-104
27240	BNE	**32				11526	47	11558	01200
27250	TDM	SARGSM	,1	,11		11538	15	13262	0000J
27260	B7	FCT1H				11550	49	10930	
27270	TFM	SS2	,11	,10		11558	16	07477	000J1
27280	TF	N40012	,ADCOM			11570	26	03544	06977
27290	AM	N40012	,90	,10		11582	11	03544	000R0
27320	SM	N40011	,4	,10		11594	12	03539	000-4
27330	BTM	PUTX	,**16			11606	17	07032	J1622
27340	DSA	TFM,N40012,N40011				11622		5 X	3
						11622		-9339	
						11627		-3544	
						11632		-3539	
27350	TDM	SS1	,1			11634	15	07476	00001
27360	BTM	PUTX	,**16			11646	17	07032	J1662
27370	DSA	AM,N40012,FOUR				11662		5 X	3
						11662		-9347	
						11667		-3544	
						11672		J3278	
27380	TDM	SARGSM	,0	,11		11674	15	13262	0000-
27390	B7	FCT1H				11686	49	10930	
27400	FCT1J	TFM	SS2	,11	,10	11694	16	07477	000J1
27410	BTM	PUTX	,**16			11706	17	07032	J1722
27420	DSA	TF,N40011,SUBCOM				11722		5 X	3
						11722		-9345	
						11727		-3539	
						11732		J3267	
27430	TDM	SS1	,1			11734	15	07476	00001
27440	BD	FCT1K	,SARGSM			11746	43	11400	13262
27450	TDM	SS1	,1			11758	15	07476	00001
27460	TF	N40011	,ADCOM			11770	26	03539	06977
27470	SM	N40011	,6	,10		11782	12	03539	000-6
27480	BTM	PUTX	,**16			11794	17	07032	J1810
27490	DSA	AM,N40011,ONE2				11810		5 X	3

27500	TFM	SS4	,1101	,0	11810	-9347		
27510	TF	N40012	,LV		11815	-3539		
27520	AM	N40012	,13	,10	11820	J3276		
27530	BTM	PUTX	,**16		11822	16 07479	OJ101	
27540	DSA	BNR,N40012,N40011			11834	26 03544	09567	
					11846	11 03544	000J3	
					11850	17 07032	J1874	
					11874	5 X	3	
					11874	J3274		
					11879	-3544		
					11884	-3539		
27550	FCTIL	AM	RV	,5	11886	11 09577	000-5	
27560		AM	I	,1	11898	11 09547	000-1	
27570		BTM	RHNS	,**16	11910	17 05416	J1926	
27580		DSA	I,SR		11926	5 X	2	
					11926	-9547		
					11931	-2372		
27590		CM	SR	,104	11932	14 02372	0-104	
27600		BNE	FCTLL		11944	47 11866	01200	
27610		B7	FCT1B		11956	49 11388		
27620	*****		END OF JOB ROUTINE					
27630	EOJP	SM	ADCOV	,5	11964	12 06977	000-5	
27640		CM	BAL	,0	11976	14 08446	000-0	
27650		BNH	**36		11988	47 12024	01100	
27660	EOJJ	AM	NEXT	,1	12000	11 08456	000-1	
27670		TD	NEXT	,FLGRM	12012	25 08450	08424	
27680		CM	PREBUF	,BUF4	12024	14 08765	-8685	
27690		BE	EOJG		12036	46 12104	01200	
27700		AM	PREBUF	,75	12048	11 08765	000P5	
27710		TF	NEXT	,PREBUF	12060	26 08456	08765	
27720		AM	NEXT	,4	12072	11 08456	000-4	
27730		TFM	NEXT	,0	12084	16 08450	-0000	
27740		B7	EOJJ		12096	49 12000		
27750	EOJG	TF	CLLBLK	,GTBLKB	12104	26 13252	05297	
27760		TFM	LNG	,67	12116	16 09640	00007	
27770		TD	BUF4+75	,PUTPCH+11	12128	25 08760	08019	
27780		TFM	IORT	,**23	12140	16 00565	J2163	
27790		B	IOPT	,PUTXX	12152	49 00532	-8402	
27800		AM	PUTXZ	,3	12164	11 08415	000-3	
27810		TFM	PREBUF	,BUF1	12176	16 08765	-8460	
27820		CM	LNG	,67	12188	14 09640	00007	
27830		BNE	EOJW+24		12200	47 12356	01200	
27840		TFM	IORT	,**23	12212	16 00565	J2235	
27850		B	IOGT	,CALBLK	12224	49 00566	J3239	
27860		AM	CLLBLK	,3	12236	11 13252	000-3	
27870	EOJWG	AM	PREBUF	,4	12248	11 08765	000-4	
27880		A	PREBUF	,ADCOV	12260	21 0876N	06977	
27890		AM	PREBUF	,3	12272	11 08765	000-3	
27900		TF	LNG	,PREBUF	12284	26 09640	0876N	
27910		AM	PREBUF	,68	12296	11 08765	00008	
27920		CM	PREBUF	,BUF4+75	12308	14 08765	-8760	
27930		BE	EOJG+24		12320	46 12128	01200	
27940	EOJW	CM	LNG	,67	12332	14 09640	00007	
27950		BE	EOJWG		12344	46 12248	01200	

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27960		AM	PREBUF	,74	12356	11 08765	000P4	
27970		TF	PREBUF	,SIX9Z	12368	26 0876N	13118	
27980		TFM	IORT	,**23	12380	16 00565	J2403	
27990		B	IOPT	,PUTXX	12392	49 00532	-8402	
28000		BD	EOJSTN	,PUSTSN	12404	43 12672	02294	
28010	EOJEND	AM	ADCOV	,1	12416	11 06977	000-1	
28020		TF	LENGTH	,ADCOV	12428	26 02248	06977	
28030		TR	FCTSW	,GRBAGE	12440	31 02293	13190	
28040		TF	SCNT	,LOCOM	12452	26 09673	02262	
28050		MM	LOCOM	,5	12464	13 02262	000-5	
28060		BD	**20	,99	12476	43 12496	00099	
28070		B7	**20		12488	49 12508		
28080		SM	LOCOM	,1	12496	12 02262	000-1	
28090		TFM	IORT	,**23	12508	16 00565	J2531	
28100		B	IOPT	,SECTO	12520	49 00532	J3216	
28110		BD	**24	,ERSHT	12532	43 12552	09663	
28120		TD	SYSCAL	,JAY	12544	25 00475	02367	
28130		RCTY			12556	34 00000	00102	
28140		WNTY	ADCOV-4		12568	38 06973	00100	
28150		WATY	USEDRC		12580	39 12993	00100	
28160		RCTY			12592	34 00000	00102	
28170		WNTY	SCNT-4		12604	38 09669	00100	
28180		WATY	LOCOMAD		12616	39 13017	00100	
28190		RCTY			12628	34 00000	00102	
28200		WATY	ENDMES		12640	39 13281	00100	
28210		BV	**12		12652	46 12664	01400	
28220		B7	MONCAL		12664	49 00796		
28230	EOJSTN	TD	**21	,PUSTSN	12672	25 12693	02294	
28240		CM	**9	,2	12684	14 12693	0-0-2	
28250		BNE	EOTONY		12696	47 12728	01200	
28260		TFM	TSW	,1	12708	16 13043	000-1	
28290		B7	EOPETE		12720	49 12752		
28300	EUTONY	TFM	TSW	,10	12728	16 13043	000J0	
28310		TR	INPUT+10	,SVTYNB	12740	31 09688	13119	
28330	EOPETE	AM	FCTEND	,5	12752	11 02318	000-5	
28340		BNF	EOROD	,FCTEND	12764	44 12940	02310	
28350		TDM	FCTEND	,8	12776	15 02318	00008	
28360		TF	INPUT+3	,FCTEND	12788	26 09681	02310	
28370		CF	INPUT		12800	33 09678	00000	
28380		TDM	FCTEND	,4	12812	15 02318	00004	
28390		TF	INPUT+9	,FCTEND	12824	26 09687	02310	
28400		CF	INPUT+5		12836	33 09683	00000	
28410		BD	CDPCH	,CSW	12848	43 12960	13042	
28420		TDM	INPUT+10		12860	15 09688	00000	
28430		DC	1,*,*		12871	1		
28440	EOJRT	WNPT	INPUT		12872	38 09678	00200	
28441		WNPT	INPUT+5		12884	38 09683	00200	
28450		SM	FCTEND	,10	12896	12 02318	000J0	
28460		C	FCTEND	,TBASE	12908	24 02318	02303	
28470		BNL	EOPETE		12920	46 12752	01300	
28480		B7	EOJEND		12932	49 12416		
28490	EOROD	SM	FCTEND	,15	12940	12 02318	000J5	
28500		B7	EOJRT+36		12952	49 12908		
28501	CDPCH	TD	INPUT+4	,SVTYNB	12960	25 09682	13119	
28502		WNCD	INPUT		12972	38 09678	00400	

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29150	BTM	SRFCT	,**16		14298	17	03976	J4314
29160	DSA	SX,SX			14314		5 X	2
					14314		-2377	
					14319		-2377	
29170	TD	RXFLAG	,FXORFL		14320	25	04735	04373
29180	AM	I	,I	,10	14332	11	09547	000-1
29190	BNF	CDABZ	,SX		14344	44	14348	02377
29200	TDM	FPSW	,I	,11	14356	15	09659	0000J
29210	CDABZ	BD	**32		14368	43	14400	04373
29220	TF	L	,FXORFL		14380	26	07025	02298
29230	B7	CDABW	,FPZ		14392	49	14436	
29240	TF	L	,K		14400	26	07025	02252
29250	BNF	CDABW	,I01		14412	44	14436	09327
29260	SF	L			14424	32	07025	00000
29270	CDABW	BTM	CANDS	,**16	14436	17	08846	J4452
29280	DSA	D4,SX			14452		5 X	2
					14452		-7017	
					14457		-2384	
29290	M	D4	,L		14458	23	07017	07025
29300	SF	95			14470	32	00095	00000
29310	TF	D4	,99		14482	26	07017	00099
29320	CDSAB1	BD	CDSAB7	,I01	14494	43	14542	09327
29330	BNF	CDSABX	,FPSW		14506	44	15010	09659
29340	BNF	CDSAB7*12	,FSW		14518	44	14554	09326
29350	BTM	GMRP	,**12		14530	17	03940	J4542
29360	CDSAB7	BNF	CDSABX	,FPSW	14542	44	15010	09659
29370	BNF	CDSAB2-12	,I01		14554	44	14610	09327
29380	CM	D4	,0		14566	14	07017	-0000
29390	BNL	**32			14578	46	14610	01300
29400	TFM	OPX	,22	,10	14590	16	04193	000K2
29410	B7	CDSAB2			14602	49	14622	
29420	TFM	OPX	,21	,10	14610	16	04193	000K1
29440	CDSAB2	TDM	SS1	,I	14622	15	07476	00001
29450	TF	N40005	,ADCOM		14634	26	03509	06977
29460	AM	N40005	,35	,10	14646	11	03509	000L5
29470	BTM	PUTX	,**16		14658	17	07032	J4674
29480	DSA	TFM,N40005,D4			14674		5 X	3
					14674		-9339	
					14679		-3509	
					14684		-7017	
29490	B7	CDSAB8			14686	49	14902	
29500	CDSAB5	BD	**32	,FFRSW	14694	43	14726	04765
29510	TF	N40005	,I0		14706	26	03509	03945
29520	B7	**20			14718	49	14738	
29530	TF	N40005	,SWF		14726	26	03509	12862
29540	CDSAB4	TFM	OPX	,17	14738	16	04193	000J7
29550	CDSAB3	TDM	SS2	,I	14750	15	07477	00001
29560	BTM	GTNS	,**16		14762	17	05446	J4778
29570	DSA	I,ST			14778		5 X	2
					14778		-9547	
					14783		-9543	
29580	SM	I	,I	,10	14784	12	09547	000-1

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29590	CM	ST	,133	,8	14796	14	09543	0-133
29600	BE	CDABU			14808	46	15190	01200
29610	BTM	PUTX	,**16		14820	17	07032	J4836
29620	DSA	OPX,N40005,D4			14836		5 X	3
					14836		-4193	
					14841		-3509	
					14846		-7017	
29630	BNF	CDABP	,I01		14848	44	15284	09327
29640	TDM	SKIPSW	,0		14860	15	09661	00000
29650	BTM	RMNS	,**16		14872	17	05416	J4888
29660	DSA	I,ST			14888		5 X	2
					14888		-9547	
					14893		-9543	
29670	B7	CD14A			14894	49	11214	
29680	CDSAB8	TFM	SS2	,11	14902	16	07477	000J1
29690	CF	SX		,10	14914	33	02377	00000
29700	BTM	PUTX	,**16		14926	17	07032	J4942
29710	DSA	OPX,N40005,SX			14942		5 X	3
					14942		-4193	
					14947		-3509	
					14952		-2377	
29720	BD	FPCL	,CALLSW		14954	43	15158	09332
29730	TF	D4	,BLANK		14966	26	07017	09356
29740	BD	CDSAB5	,I01		14978	43	14694	09327
29750	TF	N40005	,TOFAC		14990	26	03509	03935
29760	B7	CDSAB4			15002	49	14738	
29770	CDSABX	BNF	CDSABZ	,I01	15010	44	15066	09327
29780	CM	D4	,0		15022	14	07017	-0000
29790	BNL	CDSABZ			15034	46	15066	01300
29800	S	D4	,SX		15046	22	07017	02377
29810	B7	**20			15058	49	15078	
29820	CDSABZ	A	D4	,SX	15066	21	07017	02377
29830	BD	CDSAB5	,I01		15078	43	14694	09327
29840	SM	I	,I	,10	15090	12	09547	000-1
29850	TF	GI	,I		15102	26	06735	09547
29860	TF	TCOM	,D4		15114	26	06969	07017
29870	TDM	GTSBSW	,I	,11	15126	15	07026	0000J
29880	TFM	GMRP-1	,CDABXT		15138	16	05939	J5398
29890	B7	GYES-24			15150	49	06022	
29900	FPCL	TF	N40005	,FACAD	15158	26	03509	03940
29910	TFM	OPX	,16	,10	15170	16	04193	000J6
29920	B7	CDSAB3			15182	49	14750	
29930	CDABU	TDM	RSW	,I	15190	15	09337	0000J
29940	TD	RFLAG	,RXFLAG		15202	25	04725	04735
29950	BTM	PUTX	,**16		15214	17	07032	J5230
29960	DSA	TFM,FACAD,D4			15230		5 X	3
					15230		-9339	
					15235		-3940	
					15240		-7017	
29970	BTM	RPNS	,**16		15242	17	05476	J5258
29980	DSA	I,FAC			15258		5 X	2

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29990	BTM	GMRP	,+12		15258	-9547	
30000	BT	CDABXT			15263	-9531	
30010	CDABP	BTM	RPNS	,+16	15264	17	05940 J5276
30020	DSA	I,FAC			15276	49	15398
					15284	17	05476 J5300
					15300	5	X 2
					15300	-9547	
					15305	-9531	
30030	TDM	FSW	,1	,11	15306	15	09326 0000J
30040	TD	FLAGSW	,RXFLAG		15318	25	04795 04735
30041	BNF	CDABXT	,PPSW		15330	46	15398 09659
30042	BD	,+20	,CALLSW		15342	43	15362 09332
30043	BT	CDABXT			15354	49	15398
30044	BTM	GMRP	,+12		15362	17	05940 J5374
30045	SM	GBASE	,1	,10	15374	12	09637 000-1
30046	SF	GBASE	,1	,6	15386	32	0963P 00000
30050	CDABXT	TDM	SKIPSW	,0	15398	15	09641 00000
30060	BT	EXIT			15410	49	02948
30070	GTFIN	TD	GBASE	,RXFLAG	15418	25	0963P 04735
30080	AM	GBASE	,3	,10	15430	11	09637 000-3
30090	TDM	GBASE	,1	,6	15442	15	0963P 00001
30100	SM	GBASE	,4	,10	15454	12	09637 000-4
30110	TF	GBASE	,TCOW	,6	15466	26	0963P 06969
30120	BT	GTJM			15478	49	06538
30130	DORG	16002			16002		
30140	XUUX	34	BLK6A,701		16002	34	09256 00701
30150		38	BLK6A,702		16014	38	09256 00702
30160	TRA				16026	36	00000 00500
					16038	49	00000 00000
30170	TCD	XUUX			16002		
30180	DORG	14100			14100		
30190	*****	TERTIARY LINKAGE BLOCK 7					
30200	DC	2,7			14101		2
		-7					
30210	YUBCDS	TFM	FMON+35	,BLK5	14102	16	02359 -9224
30220	BTM	FMON	,SUBCDS		14114	17	02324 J4102
30230	YURCAB	TFM	FMON+35	,BLK6	14126	16	02359 -9248
30240	BTM	FMON	,SUBCAB		14138	17	02324 J4126
30250	YUBC12	TF	N40004	,1	14150	26	03504 09547
30260	B	CD12P			14162	49	14198 00000
30270	YUB12B	TFM	FMON+35	,BLK8	14174	16	02359 -9296
30280	BTM	FMON	,SUB12B		14186	17	02324 J4174
30290	*****	OUTPUT INITIALIZING INSTRUCTION FOR DD CODING AND PLACE					
30300	*****	INDICIES ON DD LIST					
30310	CD12P	AM	N40004	,1	14198	11	03504 000-1
30320	BD	CD12C	,101	,10	14210	43	14244 09327
30330	BTM	GTNS	,+16		14222	17	05446 J4238
30340	DSA	N40004			14238		5 X 1
					14238	-3504	
30350	DSA	T2			14243		5 X 1
					14243	-9596	
30360	CD12C	AM	DOREF	,21	14244	11	03750 000K1

30370	C	DOREF	,GBASE		14256	24	03750 09637
30380	BNH	CD12E			14268	47	14364 01100
30390	RCTY				14280	34	00000 00102
30400	WNTY	SCNT-3			14292	38	09670 00100
30410	WATY	DFLMS			14304	39	14337 00100
30420	BV	,+12			14316	46	14328 01400
30430	BT	MONCAL			14328	49	00796
30440	DFLMS	DAC	14,DD TABLE FULL'		14337		14 X 2
			DO TABLE FULL'				
30450	CD12E	TF	DOMAX	,DOREF	14364	26	09587 03750
30460	AM	DOMAX	,21	,10	14376	11	09587 000K1
30470	TF	DOREF	,T2	,6	14388	26	0375- 09596
30480	AM	N40004	,1	,10	14400	11	03504 000-1
30490	BTM	GTNS	,+16		14412	17	05446 J4428
30500	DSA	N40004			14428		5 X 1
					14428	-3504	
30510	DSA	SL			14433		5 X 1
					14433	-2399	
30520	TF	J40004	,DOREF		14434	26	09592 03750
30530	AM	J40004	,9	,10	14446	11	09592 000-9
30540	TF	J40004	,SL	,6	14458	26	0959K 02399
30550	AM	N40004	,2	,10	14470	11	03504 000-2
30560	BTM	GTNS	,+16		14482	17	05446 J4498
30570	DSA	N40004			14498		5 X 1
					14498	-3504	
30580	DSA	SR			14503		5 X 1
					14503	-2372	
30590	TDM	SS1	,1		14504	15	07476 00001
30600	TDM	SS2	,1		14516	15	07477 00001
30610	TDM	SKIPSW	,1		14528	15	09661 00001
30620	BTM	SRFCT	,+16		14540	17	03976 J4556
30630	DSA	SL			14556		5 X 1
					14556	-2399	
30640	DSA	N40001			14561		5 X 1
					14561	-3489	
30650	BTM	SRFCT	,+16		14562	17	03976 J4578
30660	DSA	SR			14578		5 X 1
					14578	-2372	
30670	DSA	N40003			14583		5 X 1
					14583	-3499	
30680	BTM	PUTX	,+16		14584	17	07032 J4600
30690	DSA	TF			14600		5 X 1
					14600	-9345	
30700	DSA	N40001			14605		5 X 1
					14605	-3489	
30710	DSA	N40003			14610		5 X 1

30720	TDM	SKIPSW	,0		14610	-3499	
30730	SM	J40004	,4	,10	14612	15	09661 00000
30740	TF	J40004	,ADCDW	,6	14624	12	09592 000-4
30750	AM	J40004	,8	,10	14636	26	0959K 06977
30760	AM	N40004	,2	,10	14648	11	09592 000-8
30770	BTM	GTNS	,**16		14660	11	03504 000-2
30780	DSA	N40004			14672	17	05446 J4688
					14688		5 X 1
30790	DSA	N40001			14688	-3504	
					14693		5 X 1
30800	TF	J40004	,N40001	,6	14693	-3489	
30810	AM	N40004	,1	,10	14694	26	0959K 03489
30820	BTM	GTNS	,**16		14706	11	03504 000-1
30830	DSA	N40004			14718	17	05446 J4734
					14734		5 X 1
30840	DSA	SL			14734	-3504	
					14739		5 X 1
30850	CM	SL	132,8,SEMI COLDN		14739	-2399	
30860	BE	N60084			14740	14	02399 0-132
30870	CM	SL	104,8,RIGHT PAREN		14752	46	14788 01200
30880	BNE	N60085			14764	14	02399 0-104
30890	N60084	AM	J40004	,4	14776	47	14832 01200
30900	TF	J40004	,ZERO4	,6	14788	11	09592 000-4
30910	BD	CD14E	,I01		14800	26	0959K 09355
30920	CD12A	B	CLEAR		14812	43	12122 09327
30930	DORG	**3			14824	49	02640 00000
30940	N60085	AM	J40004	,4	14832		
30950	AM	N40004	,1	,10	14832	11	09592 000-4
30960	BTM	GTNS	,**16		14844	11	03504 000-1
30970	DSA	N40004			14856	17	05446 J4872
					14872		5 X 1
30980	DSA	N40003			14872	-3504	
					14877		5 X 1
30990	TF	J40004	,N40003	,6	14877	-3499	
31000	B	CD12A-12			14878	26	0959K 03499
31010	DORG	**3			14890	49	14812 00000
31020	DORG	16002			14898		
31030	XTTX	34	BLK7A,701		16002	34	09280 00701
31040		38	BLK7A,702		16014	38	09280 00702
31050	TRA				16026	36	00000 00500
					16038	49	00000 00000
31060	TCD	XTTX			16002		
31070	DORG	14100			14100		
31080	*****	TERTIARY LINKAGE BLOCK 8					
31090	DC	2,8			14101		2
	-8						
31100	ZURCDS	TFM	FMOM+35	,BLK5	14102	16	02359 -9224
31110	BTM	FMOM		,SUBCDS	14114	17	02324 J4102

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31120	ZUBCAB	TFM	FMOM+35	,BLK6	14126	16	02359 -9248
31130	BTM	FMOM		,SUBCAB	14138	17	02324 J4126
31140	ZUBC12	TFM	FMOM+35	,BLK7	14150	16	02359 -9272
31150	BTM	FMOM		,SUBC12	14162	17	02324 J4150
31160	ZUB12B	BD	CD12BP+24	,I01	14174	43	14222 09327
31170	B	CD12BP			14186	49	14198 00000
31180	*****	THE FOLLOWING OUTPUTS THE TEST AT THE END OF A DO LOOP					
31190	CD12BP	TF	T2	,T3	14198	26	09596 09656
31200	TDM	DOSW	,0		14210	15	09333 00000
31210	TF	GBASE	,DOREF		14222	26	09637 03750
31220	TDM	CKSW	,1		14234	15	04805 00001
31230	TDM	SKIPSW	,1		14246	15	09661 00001
31240	CD12Y	C	T2	,DOREF	14258	24	09596 0375-
31250	BNE	CD12X			14270	47	14408 01200
31260	CD12D	TF	N40003	,DOREF	14282	26	03499 03750
31270	AM	N40003	,17	,10	14294	11	03499 000J7
31280	TF	SL	,N40003	,11	14306	26	02399 0349R
31290	CM	SL		,8	14318	14	02399 0-000
31300	TDM	SKIPSW	,1		14330	15	09661 00001
31310	BE	N60092			14342	46	14476 01200
31320	TFM	OPZ	,21	,10	14354	16	09658 000K1
31330	BTM	SRFCT	,**16		14366	17	03976 J4382
31340	DSA	SL			14382		5 X 1
					14382	-2399	
31350	DSA	N40001			14387		5 X 1
31360	TDM	SS2	,1		14387	-3489	
31370	B	N60095			14388	15	07477 00001
31380	DORG	**3			14400	49	14500 00000
31390	CD12X	TDM	CKSW	,0	14408		
31400	BT	DOER	,DOER-1		14408	15	04805 00000
31410	SM	DOREF	,21	,10	14420	27	14876 14875
31420	CM	DOREF	,DOBASE		14432	12	03750 000K1
31430	BL	EXITA			14444	14	03750 -3810
31440	B	CD12Y			14456	47	14844 01300
31450	DORG	**3			14468	49	14258 00000
31460	N60092	TFM	OPZ	,11	14476		
31470	TFM	N40001	,1	,10	14476	16	09658 000J1
31480	N60095	SM	N40003	,8	14488	16	03489 000-1
31490	TF	N60099	,N40003	,10	14500	12	03499 000-8
31500	BTM	SRFCT	,**16		14512	26	14540 03499
31510	DSA	N60099			14524	17	03976 J4540
					14540		5 X 1
31520	N60099	DS	,0		14540	J4540	
31530	DSA	N40004			14540	0	
					14545		5 X 1
31540	TDM	SS1	,1		14545	-3504	
31550	BTM	PUTX	,**16		14546	15	07476 00001
31560	DSA	OPZ,N40004,N40001			14558	17	07032 J4574
					14574		5 X 3
					14574	-9658	
					14579	-3504	

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31570	AM	N40003	,4	,10	14584	-3489		
31580	TF	N40101	,N40003		14588	11	03499	000-4
31590	BTM	SRFCT	,**16		14598	26	14626	03499
31600	DSA	N60101			14610	17	03976	J4626
					14626		5	X 1
31610	N60101	DS	,*		14626		J4626	
31620	DSA	N40001			14626		0	
					14631		5	X 1
31630	TFM	SS2	,11	,10	14631		-3489	
31640	BTM	PUTX	,**16		14632	16	07477	000J1
31650	DSA	C,N40004,N40001			14644	17	07032	J4660
					14660		5	X 3
31660	SM	N40003	,8	,10	14660		-9605	
31670	TF	N40004	,N40003	, 11	14665		-3504	
31680	TDM	SS1	,1		14670		-3489	
31690	BTM	PUTX	,**16		14672	12	03499	000-8
31700	DSA	BNH,N40004,N01100			14684	26	03504	0349R
					14696	15	07476	00001
					14708	17	07032	J4724
					14724		5	X 3
31710	SM	DOREF	,21	,10	14724		-9603	
31720	C	DOREF	,DOBASE		14729		-3504	
31730	WE	N60107			14734		-9601	
31740	TF	N40003	,DOREF		14736	12	03750	000K1
31750	AM	N40003	,21	,10	14748	24	03750	03810
31760	C	DOREF	,N40003	,611	14760	46	14820	01200
31770	BE	CD12D			14772	26	03499	03750
31780	N60107	BD	**24		14784	11	03499	000K1
31790	TF	DOREF	,GBASE		14796	24	0375-	0349R
31800	EXITA	TDM	SKIPSW		14808	46	14282	01200
31810	RD	CD14M	,101		14820	43	14844	04805
31820	B	CLEAR	,	,5	14832	26	03750	09637
31830	DORG	**3			14844	15	09661	00000
31840	DOER	RCTY			14856	43	12366	09327
31850	WNTY	SCNT-3			14868	49	02640	00000
31860	WATY	DOMES			14876			
31870	TDM	ERSWT	,1		14876	34	00000	00102
31880	BB				14888	38	09670	00100
31890	DORG	**9			14900	39	09429	00100
31900	DORG	16002			14912	15	09663	00001
31910	XSSX	34	BLK8A,701		14924	42	00000	00000
31920		38	BLK8A,702		14926			
31930	TRA				16002	34	09304	00701
31940	TCD	XSSX			16014	38	09304	00702
					16026	36	00000	00500
					16038	49	00000	00000
31950	DEND	PASSII			16002			
					02400			

ACCEPT	03785	CODE1G	11562	INDREC	12183	N60041	10652	BLANK	09356
ACJTAP	03795	CODE1H	10716	INSETA	11193	N60043	10720	BLK1A	09136
ADJUST	03550	CODE1P	10434	INSETB	11217	N60044	10850	BLK1	09128
ADTEMP	02394	CODE1X	11216	J40004	09592	N60045	10910	BLK2A	09160
CALBLK	13239	CODE3A	12512	LCOMAD	13017	N60046	11066	BLK2	09152
CALLBK	13247	CODE3B	12642	LENGTH	02248	N60048	11430	BLK3A	09184
CALLSW	09332	CODE3C	12790	LSTYPE	08444	N60049	11812	BLK3	09176
CANDRT	09044	CODE3D	13038	MNCLDV	06434	N60072	12844	BLK4A	09208
CANDSA	08980	CODE3E	13158	MODMES	09403	N60084	14788	BLK4	09200
CD12BP	14198	CODE3P	12218	MONCAL	00796	N60085	14832	BLK5A	09232
CD14EN	12442	CODE3X	13224	NO0565	13432	N60092	14476	BLK5	09224
CD14FL	10784	CODE3Y	12802	NO0716	13437	N60095	14500	BLK6A	09256
CD14FV	10690	CODE3Z	13278	NO0796	09668	N60099	14540	BLK6	09248
CD14JG	10980	CODE4A	13456	NO1100	09601	N60101	14626	BLK7A	09280
CD14JW	11002	CODE4P	13380	NO1200	09621	N60107	14820	BLK7	09272
CD14NA	11892	CODE6A	10644	NO1300	09614	N60182	14506	BLK8A	09304
CD14NC	12246	CODE6B	10592	NO7495	13427	NINERM	13049	BLK8	09296
CD14ND	12502	CODE6P	10438	NI3062	09527	OUTSEQ	07744	BL	09609
CD14NR	11174	CODE7C	12048	NI3063	09522	PARCNT	12017	BNF	09625
CD14RL	10920	CODE7B	11622	NI3089	09364	PASSII	02400	BNH	09603
CD14RM	11126	CODE7P	11274	NI3092	09369	PREBUF	08765	BNR	13274
CD14RV	10900	CODE8P	13666	NI3133	09376	PUNTAB	03815	B	06982
CD14SL	10960	CODE9A	12656	NI47RM	13449	PUSTSN	02294	BTM	06980
CD14SV	10940	CODE9B	12558	N20000	03480	PUT17B	14370	BT	09382
CD17SC	14014	CODE9C	12806	N20001	03545	PUT17C	14322	BUF1	08660
CD17XX	14038	CODE9P	12190	N40000	03484	PUT17I	14234	BUF2	08535
CDABXT	15398	CODEPA	11880	N40001	03489	PUTCAD	07528	BUF3	08610
CDALL	10410	CODESS	10266	N40002	03494	PUTDIF	07604	BUF4	08685
CDALP	12888	CDMHAT	12534	N40003	03499	PUTEST	07188	CALLX	04755
CDL1NK	12900	COMXSW	09662	N40004	03504	PUTINS	07208	CANDS	08846
CDL1FP	15430	DIOEND	12867	N40005	03509	PUTNCT	07904	CD117	13732
CDL1AB1	14494	DOBASE	03810	N40006	03514	PUTPCH	08008	CD12A	14824
CDL1AB2	14622	ENDMES	13281	N40007	03519	PUTX12	13362	CD12B	10314
CDL1AB3	14750	EOJEND	12416	N40008	03524	PUTX17	13318	CD12C	14244
CDL1AB4	14738	EOJRTY	12872	N40009	03529	RECORD	12882	CD12D	14282
CDL1AB5	14694	EOJSTN	12672	N40010	03534	REMGOT	05778	CD12E	14364
CDL1AB7	14942	EOPETE	12752	N40011	03539	RFLSUB	03860	CD12P	14198
CDL1AB8	14902	EOTONY	12728	N40012	03544	RFXSUB	03865	CD12X	14408
CDL1ABX	15010	ERMODE	12014	N60007	10794	RGRNUL	05894	CD12Y	14258
CDL1ABZ	15066	FCTIG1	10778	N60009	10838	RTNAME	09538	CD14A	11214
CDL1AB	10290	FCTEND	02318	N60010	10862	RXFLAG	04735	CD14B	11788
CDL1SS1	14976	FCTRTP	14444	N60013	11444	ADCOM	06977	CD14C	11632
CDL1SS2	14956	FLAGSW	04795	N60014	11348	ADD	09392	CD14E	12122
CDL1SS3	14820	FLTOPX	03855	N60015	11886	ADSL	05312	CD14M	12366
CDL1BLK	13252	FULLCK	06374	N60016	11734	AM	09347	CD14P	10434
CDL1AR	11662	FULMES	09473	N60017	11664	ANS	02389	CD15P	13720
CODE12	10170	FXORFL	04373	N60018	11932	ASTOP	03925	CD17A	12920
CODE14	10194	FXTOPF	03850	N60020	12308	ATYPE	03880	CD17B	13382
CODE15	10218	GCLEAR	06790	N60021	12488	BAL	08446	CD17C	13120
CODE17	10242	GETBLK	05284	N60022	12434	BCDW	13272	CD17D	13180
CODE1A	10584	GRBAGE	13190	N60023	12690	BD	09623	CD17E	13310
CODE1B	10944	GTBLKA	05292	N60026	12892	BEGAD	02257	CD17F	13228
CODE1C	11036	GTBLKB	05297	N60027	12928	BE	09616	CD17G	13930
CODE1D	11538	GTFLLC	06816	N60032	13212	BGNST	16999	CD17H	13910
CODE1E	11118	GTSBSW	07026	N60034	13514	BGNSY	16995	CD17I	13666
CODE1F	11692	HEADER	02218	N60035	13938	BI	09632	CD17J	13626

CD17K	13776	DK	07012	FLG3	07488	H	09351	P2PTR	02313
CD17L	13796	DMSW	04150	FLG4	07508	HTYPE	03915	PAR	03960
CD17M	13574	DOA	09515	FLGRM	08424	INPUT	09678	PRINT	03735
CD17N	13696	DOER	14876	FLMUL	03760	INSET	11134	P	09557
CD17P	12868	DOMAX	09587	FLRDV	03840	IO1	09327	PUNCH	03805
CD94	11844	DOMES	09429	FLSUB	03820	IO2	09328	PUT17	14286
CD95	11832	DORF	03750	FLV	04458	IO3	09329	PUT1	08770
CD96	11532	DOSW	09333	FMON	02324	IOCAL	00716	PUT2	08775
CD97	11520	DRAY	12872	FORCB	04632	IOEND	03950	PUT3	08780
CD98	11464	DX	09121	FORCC	04692	IOGT	00566	PUTA	08272
CD99	11476	DY	09125	FORCE	04380	IOPT	00532	PUTCA	08248
CDABP	15284	ENDST	03970	FOUR	13278	IORT	00565	PUTCB	08212
CDABU	15190	EDJG	12104	FP2	02298	IO	03945	PUTC	08152
CDABW	14436	EDJJ	12000	FPCL	15158	I	09547	PUTD	08236
CDABZ	14368	EDJP	11964	FPSW	09659	ITYPE	03899	PUTGT	07327
CDLGT	13037	EOJ	10386	FPSWX	09660	IXI	03955	PUTRM	08356
CDPCM	12960	EOJWG	12248	FREQ1	13215	JAY	02367	PUTTA	07884
CDSL5	15494	EOJW	12332	FREQ2	13381	J	09552	PUTX2	13266
CDSLT	15224	EDROD	12940	FRFAC	03930	JMG	02460	PUTXA	07092
CDSLV	14988	ERSWT	09663	FRV	04542	K	02252	PUTXB	07116
CDSLZ	15450	ETYPE	03905	F	02250	L1	02700	PUTXC	07268
CDSSP	14202	EXIND	09334	FSW	09326	L2	02784	PUTXD	07364
CDXIT	13462	EXITA	14844	FT1	04691	L3	02928	PUTXE	07400
CET	13298	EXIT	02948	FTSW	04745	LNGAD	08451	PUTXF	07424
CF	09343	FACAD	03940	FTYPE	03900	LNG	09640	PUTXG	07664
CGCOW	12188	FACM2	09630	FXAD	03725	LOCOM	02262	PUTXH	07828
CKCOW	09323	FAC	09531	FXDVP	03835	L	07025	PUTXI	07988
CKFMT	03138	FANS	04674	FXEXP	03775	LSTAD	02308	PUTXJ	07864
CKSW	04805	FBASE	03677	FXMUL	03765	LVAL	04713	PUTX	07032
CLEAR	02640	FCODE	04679	FXRDV	03845	LVP	12855	PUTXX	08402
CM96	12832	FCT11	10602	FX	03715	LV	09567	PUTXY	08410
CM97	12802	FCT12	11492	FXSUB	03825	MAT	03965	PUTXZ	08415
CM98	12642	FCT13	11242	GADD1	06568	MM	09349	Q	09562
CM99	12666	FCT1A	10850	GA	06591	MNS5	09517	QZP	15072
CM	09607	FCT1B	11388	GBASE	09637	MOD	09378	RCTY	09384
CODE0	03472	FCT1C	11420	GCNT	06117	MPY	09380	READ	03745
CODE1	10002	FCT1D	11432	GCOW	06839	N1	02233	RECLG	02243
CODE3	10026	FCT1E	12064	GETSY	05258	N2	02238	REDO	03910
CODE4	10050	FCT1F	11344	GETX	05210	N2THD	13442	REGSW	09336
CODE5	02968	FCT1G	10756	GFLAG	06466	NAME	13461	REP1	13179
CODE6	10074	FCT1H	10930	GFREE	06592	NEXT	08456	REP2	13309
CODE7	10098	FCT1J	11694	GI	06735	NGFRE	06660	REP3	14013
CODE8	10122	FCT1K	11400	GLNO	09390	NLNG	08431	REP4	03730
CODE9	10146	FCT1L	11886	GNONE	06150	NM22	13444	REP	03890
CODET	08438	FCT1P	10438	GMRP	05940	NOTYP	03366	RFLAG	04725
CODDA	12334	FCT1Q	10338	GPUTA	06454	OBASE	02625	RGRA	05685
COMSW	04151	FCTRT	10362	GPUT	06298	ONE2	13276	RGRF	05722
C	09605	FCTSW	02293	GSBI	11698	OPGT	03698	RGRI	05584
CSW	13042	FETCH	12887	GTCL	06740	OP	02379	RGR	05506
D1	06987	FFRSW	04765	GTFIN	15418	OPSR	03596	RGRS	05757
D2	06997	FIND	12877	GTJW	06538	OPSL	03667	RMNS	05416
D3	07007	FIVE	09533	GTNS	05446	DPT1	03703	RMOD	09400
D4	07017	FLAD	03720	GTPT	06094	DPX	04193	RMSW	04785
DFLMS	14337	FLDVP	03830	GTSC	06848	DPY	12857	RPNS	05476
D1	06992	FLEXP	03770	GTST	06628	DPZ	09658	RSNFL	03870
DJ	07002	FLG2	07468	GYES	06046	P1	09651	RSNFX	03875

RSW	09337	SUBSW	09335	XODE9	10146	ZODE6	10074	XDCALL	10410
RTAD	09572	SWF	12862	XOJ	10386	ZODE7	10098	XDSSAB	10290
RVAL	04715	SW17	13119	XSSX	16002	ZODE8	10122	XODE12	10170
RV	09577	SKF	09582	XTTX	16002	ZODE9	10146	XODE14	10194
RVSN	09397	SK	02377	XTYPE	03920	ZOJ	10386	XODE15	10218
SBASE	04371	SY17	13909	XUUX	16002	ZRM	15727	XODE17	10242
SCABP	14202	SY	02384	XVXX	16002	SADCOM	11253	XODESS	10266
SCNT	09673	T1	07022	XWHX	16002	SARGSW	13262	XUB12B	14174
SECTD	13216	T2	09596	XX1	14602	SAVCOM	07499	XUBC12	14150
SECTY	13224	T3	09656	XX2	14536	SETFCT	03226	XUBCAB	14126
SETAD	03471	TBASE	02303	XX3	14470	SETNMT	03402	XUBCDS	14102
SF	09341	TCOW	06969	XX4	14660	SKIPSW	09661	YDCALL	10410
SIX9Z	13118	TFM	09339	XX5	14890	SRCFFL	04336	YDSSAB	10290
SK	10849	TF	09345	XXYX	16016	STEMP1	09330	YODE12	10170
SLASH	03885	THAX	06972	XZZX	16002	STEMP2	09331	YODE14	10194
SLC	11072	TOFAC	03935	YCT1	10338	SUB12B	14174	YODE15	10218
SLNG	08427	TRACE	03740	YCTRT	10362	SUBC12	14150	YODE17	10242
SL	02399	TSH	13043	YD12B	10314	SUBCAB	14126	YODESS	10266
SM	09394	TYPEA	08826	YODE1	10002	SUBCDS	14102	YUB12B	14174
SQLNG	08433	TYPE	03755	YODE3	10026	SUBCOM	13267	YURC12	14150
SRFCT	03976	TYPEB	08425	YODE4	10050	SUBPSW	04775	YURCAB	14126
SRGT	04098	TYPEX	08781	YODE6	10074	SVTYNB	13119	YURCDS	14102
SRNX	04092	UFSTR	02263	YODE7	10098	SWAREA	09337	ZDCALL	10410
SR	02372	WATY	09386	YODE8	10122	SYSCAL	00475	ZDSSAB	10290
SRSY	04047	W	02240	YODE9	10146	TYPE12	13408	ZODE12	10170
SS1	07476	WW	02296	YOJ	10386	TYPECN	08811	ZODE14	10194
SS2	07477	XOOX	16002	ZCT1	10338	TYPECR	08796	ZODE15	10218
SS3	07478	KCTRT	10338	ZCTRT	10362	TYPEK2	14413	ZODE17	10242
SS4	07479	XCTRT	10362	ZD12B	10314	TYPEK3	14428	ZODESS	10266
SSLNG	08429	XD12B	10314	ZERD0	09355	TYPEM2	13393	ZUB12B	14174
SSSW	09325	XODE1	10002	ZERD5	09356	TYPEPM	08387	ZUBC12	14150
ST	09543	XODE3	10026	ZERD6	09357	USEDCA	12993	ZUBCAB	14126
SUB1	03780	XODE4	10050	ZERO	09353	WUB12B	14174	ZUBCDS	14102
SUB2	03790	XODE6	10074	ZODE1	10002	WUBC12	14150		
SUB3	03800	XODE7	10098	ZODE3	10026	WUBCAB	14126		
SUB	09371	XODE8	10122	ZODE4	10050	WUBCDS	14102		

END OF ONE ASSEMBLY.

1620 FORTRAN II-D SUBROUTINES SET 1		PAGE	1
00010	***** 1620 FORTRAN II-D SUBROUTINES		
00020	***** IORT ENTRY POINTS AND CONSTANTS		
00030	IORB DS ,520	00520	0
00040	IOPT DS ,532	00532	0
00050	IOSK DS ,554	00554	0
00060	IOGT DS ,566	00566	0
00070	ERRET DS ,602	00602	0
00080	IORT DS ,565	00565	0
00090	IOCAL DS ,716	00716	0
00100	MONCAL DS ,796	00796	0
00110	DIO DS ,816	00816	0
00120	***** 1620 FORTRAN II-D IN CORE AREAS		
00130	*** COMMUNICATION AREA		
00140	DORG 2218	02218	
00150	F DS 2,, FLOATING POINT WORD LENGTH	02219	2
00160	K DS 2,, FIXED POINT WORD LENGTH	02221	2
00170	PROGST DS 5,, STARTING ADDRESS OF MAINLINE PROGRAM	02226	5
00180	COMADD DS 5,, STARTING ADDRESS OF COMMON AREA	02231	5
00190	N1 DS 2,, NUMBER OF WORDS IN LOGICAL RECORD	02233	2
00200	N2 DS 5,, NUMBER OF LOGICAL RECORDS	02238	5
00210	W DS 2,, WORD LENGTH	02240	2
00220	RECLG DS 3,, RECORD LENGTH	02243	3
00230	ENTLN DS 5,, ENTRY ADDRESS TO LOG SUBROUTINE	02248	5
00240	ENTEXP DS 5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE	02253	5
00250	ENTSC1 DS 5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE	02258	5
00260	ENTSC2 DS 5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE	02263	5
00270	ENTSC3 DS 5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE	02268	5
00280	ENTFID DS 5,, ENTRY ADDRESS TO FIND SUBROUTINE	02273	5
00290	ENTREC DS 5,, ENTRY ADDRESS TO RECORD SUBROUTINE	02278	5
00300	ENTFET DS 5,, ENTRY ADDRESS TO FETCH SUBROUTINE	02283	5
00310	ENTSWD DS 5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE	02288	5
00320	ENTDAR DS 5,, ENTRY ADDRESS TO ARRAY SUBROUTINE	02293	5
00330	ENTDED DS 5,, ENTRY ADDRESS TO DISK END SUBROUTINE	02298	5
00340	ENTCOS DS 5,, ENTRY ADDRESS TO COSINE SUBROUTINE	02303	5
00350	ENTSDN DS 5,, ENTRY ADDRESS TO SINE SUBROUTINE	02308	5
00360	ENTATN DS 5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE	02313	5
00370	ENTSQT DS 5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE	02318	5
00380	ENTABS DS 5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE	02323	5
00390	DS 70,, RESERVED FOR ENTRIES TO ADDED SUBROUTINES	02393	70
00400	***** COMMON WORKING AREAS		
00410	STOP DAC 5,STOP	02395	5 X 2
	STOP		
00420	RECMK DS ,STOP*8	02403	0
00430	DKBUFF DSS 29	02404	29
00440	FAC DS 60	02492	60
00450	DC 1 ,	02493	1
	,		
00460	SAVE DS 72	02565	72
00470	BETA DS 38	02603	38
00480	DGM	02604	1
00490	GAM DS ,SAVE-10	02555	0
00500	TAFE DS ,SAVE -30	02535	0
00510	INSA DS ,BETA -20	02575	0
00520	MESERR DAC 6,ER E	02607	6 X 2
	ER E		
00530	DUDM DS ,MESERR	02607	0

01130	DC	5	,00000			03392	5		
01140	DC	3	,000			03395	3		
01150	DSA	DKBUFF				03400	5 X	1	
01160	DC	1	,			03400	-2404		
						03401	1		
01170	*****	1620 FORTRAN II-D	IN CORE	SUBROUTINES					
01180	DS	5				03406	5		
01190	TOFAC	TF	FAC	,TO FAC-1	,11	03408	26	02492	0340P
01200		SM	TOFAC-1	,0102	,0910	03420	12	03407	0-J-2
01210	2FM1	DS		,=-2		03429	0		
									TWO TIMES F MINUS ONE
01220	FKODD	DS	1	,=-4		03427	1		
									0 F OR K ODD, 1 F AND K EVEN
01230		TF	FAC-2	,TO FAC-1	,11	03432	26	02490	0340P
01240		BB				03444	42	00000	00000
01250		DORG	=-9			03446			
01260		DS	5			03450	5		
01270	FMFAC	TF	FM FAC-1	,FAC	,6	03452	26	0345J	02492
01280		SM	FMFAC-1	,0002	,810	03464	12	03451	0-0-2
01290	MF	DS		,=-2		03473	0		
									MINUS F
01300		TF	FM FAC-1	,FAC-2	,6	03476	26	0345J	02490
01310		BB				03488	42	00000	00000
01320		DORG	=-9			03490			
01330		DS	5			03494	5		
01340	TRACE	TF	FM FAC-1	,=-1		03496	26	03451	03495
01350		BNC4	FM FAC			03508	47	03452	00400
01360		RCTY	GAM-1		,2	03520	34	-2554	00102
01370	GM1M2F	DS		,=-5		03526	0		
									GAMMA MINUS ONE MINUS TWO TIMES F
01380		BNF	TRFX	,FAC-1		03532	44	03564	02491
									BR IF FIXED ARG
01390		WNTY	FNH		,6.	03544	38	0331L	00100
									TYPE FLOATING ARG
01400		B	FM FAC			03556	49	03452	00000
01410		DORG	=-4			03563			
01420	TRFX	WNTY	FXH		,6.	03564	38	0328L	00100
									TYPE FIXED ARG
01430		B	FM FAC			03576	49	03452	00000
01440		DORG	=-4			03583			
01450	FINDIN	DC	1	,1		03583	1		
01460	ZERFAC	TF	FAC-2	,9SPF-1		03584	26	02490	02853
01470		TFM	FAC	,0299	,01011	03596	16	02492	0-2RR
01480	FP2	DS		,=-2		03605	0		
									F PLUS TWO
01490		B	FINISH+1			03608	49	03804	00000
01500		DORG	=-4			03615			
01510	LV1	AM	SAVE	,0101	,0910	03616	11	02565	0-J-1
01520	FMI	DS		,=-2		03625	0		
									F MINUS ONE
01530		BNV	FINISH		,6	03628	47	0380L	01400
01540		TFM	EI	,00571	,79.	03640	16	02615	-0N71
									SET UP ERROR CODE E1
01550	K2	DS		,=-3		03648	0		
									TWO TIMES K
01560	OVFLOW	TFM	FAC	,0099	,810	03652	16	02492	0-0R9
01570	F2	DS		,=-2		03661	0		
									TWO TIMES F
01580		TF	FAC-2	,9SCPF		03664	26	02490	02795
									SET RESULT TO ALL NINES.
01590	ERROR	RCTY	FINISH		,6	03676	34	0380L	00102
01600		WATY	MESERR			03688	39	02607	00100
01610		B	ENDD+12			03700	49	03780	00000
01620	MU	BNF	++24	,MU-1		03712	44	03736	03711
									SET CORRECT SIGN ON FAC

01630	GM2F	SF	FAC	,GAM		03724	32	02492	02555
01640		DS		,*		03735	0		
									GAMMA MINUS TWO TIMES F
01650		TDM	FXERR+25	,9		03736	15	03701	00009
									RESET ERROR EXIT
01660		TFM	FXERR+30	,ENDD+12		03748	16	03706	-3780
01670	FIXEND	BB				03760	42	00000	00000
01680		DORG	=-3			03768			
01690	FXERR	DS		,ERROR		03676	0		
01700	ENDD	TF	FAC	,SAVE		03768	26	02492	02565
									MOVE EXPONENT.
01710		BNF	++24	,99		03780	44	03804	00099
									SET PROPER SIGN
01720		SF	FAC-2	,ENDD		03792	32	02490	03768
01730	FINISH	DS		,*		03803	0		
01740	FLTEND	DS		,FINISH+7		03810	0		
01750		BB				03804	42	00000	00000
01760		DORG	=-4			03811			
01770	DUMMY	DS		,99999		99999	0		
01780	START	DS		,03851		03851	0		
01790	*****	1620 FORTRAN II-D	SUBROUTINES - INITIAL	SECONDARY LINKAGE					
01800		DORG	START			03851	1		
01810		DS	1			03851	2		
01820		DC	2	,00		03853			
01830		TFM	FMON+11	,=-START		03854	16	07165	-0003
01840		DC	2	,1	,=-3	03862	2		
01850		B	FMON			03866	49	07154	00000
01860		TFM	FMON+11	,=-START		03878	16	07165	-0027
01870		DC	2	,1	,=-3	03866	2		
01880		B	FMON			03890	49	07154	00000
01890		TFM	FMON+11	,=-START		03902	16	07165	-0051
01900		DC	2	,1	,=-3	03910	2		
01910		B	FMON			03914	49	07154	00000
01920		TFM	FMON+11	,=-START		03926	16	07165	-0075
01930		DC	2	,1	,=-3	03934	2		
01940		B	FMON			03938	49	07154	00000
01950		TFM	FMON+11	,=-START		03950	16	07165	-0099
01960		DC	2	,1	,=-3	03958	2		
01970		B	FMON			03962	49	07154	00000
01980		TFM	FMON+11	,=-START		03974	16	07165	-0123
01990		DC	2	,1	,=-3	03982	2		
02000		B	FMON			03986	49	07154	00000
02010		TFM	FMON+11	,=-START		03998	16	07165	-0147
02020		DC	2	,1	,=-3	04006	2		
02030		B	FMON			04010	49	07154	00000
02040		DORG	=-1			04020			
02050		TFM	FMON+11	,=-START		04020	16	07165	-0169
02060		DC	2	,1	,=-3	04028	2		
02070		B	FMON		,8	04032	49	07154	0-000
02080		DORG	=-1			04042			
02090		TFM	FMON+11	,=-START		04042	16	07165	-0191

1620 FORTRAN II-D SUBROUTINES SET 1					PAGE	6
02100	DC	2	,1	,0-3	04050	2
	-1					
02110	B	FMON			04054	49 07154 00000
02120	TFM	FMON+11	,0-START		04066	16 07165 -0215
02130	DC	2	,1	,0-3	04074	2
	-1					
02140	B	FMON			04078	49 07154 00000
02150	TFM	FMON+11	,0-START		04090	16 07165 -0239
02160	DC	2	,1	,0-3	04098	2
	-1					
02170	B	FMON			04102	49 07154 00000
02180	TFM	FMON+11	,0-START		04114	16 07165 -0263
02190	DC	2	,1	,0-3	04122	2
	-1					
02200	B	FMON			04126	49 07154 00000
02210	TFM	FMON+11	,0-START		04138	16 07165 -0287
02220	DC	2	,1	,0-3	04146	2
	-1					
02230	B	FMON			04150	49 07154 00000
02240	TFM	FMON+11	,0-START		04162	16 07165 -0311
02250	DC	2	,1	,0-3	04170	2
	-1					
02260	B	FMON			04174	49 07154 00000
02270	TFM	FMON+11	,0-START		04186	16 07165 -0335
02280	DC	2	,1	,0-3	04194	2
	-1					
02290	B	FMON			04198	49 07154 00000
02300	TFM	FMON+11	,0-START		04210	16 07165 -0359
02310	DC	2	,2	,0-3	04218	2
	-2					
02320	B	FMON			04222	49 07154 00000
02330	TFM	FMON+11	,0-START		04234	16 07165 -0383
02340	DC	2	,2	,0-3	04242	2
	-2					
02350	B	FMON			04246	49 07154 00000
02360	TFM	FMON+11	,0-START		04258	16 07165 -0407
02370	DC	2	,2	,0-3	04266	2
	-2					
02380	B	FMON			04270	49 07154 00000
02390	TFM	FMON+11	,0-START		04282	16 07165 -0431
02400	DC	2	,3	,0-3	04290	2
	-3					
02410	B	FMON			04294	49 07154 00000
02420	TFM	FMON+11	,0-START		04306	16 07165 -0455
02430	DC	2	,3	,0-3	04314	2
	-3					
02440	B	FMON			04318	49 07154 00000
02450	TFM	FMON+11	,0-START		04330	16 07165 -0479
02460	DC	2	,3	,0-3	04330	2
	-3					
02470	B	FMON			04342	49 07154 00000
02480	TFM	FMON+11	,0-START		04354	16 07165 -0503
02490	DC	2	,3	,0-3	04362	2
	-3					
02500	B	FMON			04366	49 07154 00000
02510	TFM	FMON+11	,0-START		04378	16 07165 -0527

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1620 FORTRAN II-D SUBROUTINES SET 1					PAGE	7	
02520	DC	2	,3	,0-3	04386	2	
	-3						
02530	B	FMON			04390	49 07154 00000	
02540	TFM	FMON+11	,0-START		04402	16 07165 -0551	
02550	DC	2	,3	,0-3	04410	2	
	-3						
02560	B	FMON		,0	04414	49 07154 0-000	
02570	DORG	-1			04424		
02580	TFM	FMON+11	,0-START		04424	16 07165 -0573	
02590	DC	2	,4	,0-3	04432	2	
	-4						
02600	B	FMON		,0	04436	49 07154 0-000	
02610	DORG	-1			04446		
02620	TFM	FMON+11	,0-START		04446	16 07165 -0595	
02630	DC	2	,5	,0-3	04454	2	
	-5						
02640	B	FMON		,0	04458	49 07154 0-000	
02650	DORG	-1			04468		
02660	TFM	FMON+11	,0-START		04468	16 07165 -0617	
02670	DC	2	,8	,0-3	04476	2	
	-8						
02680	B	FMON		,0	04480	49 07154 0-000	
02690	DORG	-1			04490		
02700	TFM	FMON+11	,0-START		04490	16 07165 -0639	
02710	DC	2	,9	,0-3	04498	2	
	-9						
02720	B	FMON		,0	04502	49 07154 0-000	
02730	DORG	-1			04512		
02740	TFM	FMON+11	,0-START		04512	16 07165 -0661	
02750	DC	2	,8	,0-3	04520	2	
	-8						
02760	B	FMON		,0	04524	49 07154 0-000	
02770	DORG	-1			04534		
02780	TFM	FMON+11	,0-START		04534	16 07165 -0683	
02790	DC	2	,6	,0-3	04542	2	
	-6						
02800	B	FMON		,0	04546	49 07154 0-000	
02810	DORG	-1			04556		
02820	TFM	FMON+11	,0-START		04556	16 07165 -0705	
02830	DC	2	,6	,0-3	04564	2	
	-6						
02840	B	FMON		,0	04568	49 07154 0-000	
02850	DORG	-1			04578		
02860	TFM	FMON+11	,0-START		04578	16 07165 -0727	
02870	DC	2	,6	,0-3	04586	2	
	-6						
02880	B	FMON			04590	49 07154 00000	
02890	DORG	-4			04597		
02900	*****	MODIFICATIONS MADE BEFORE START OF EXECUTION					
02910	A	++23	,F		04598	21 04621 02219	
02920	TF	LN2	,LN2-28	,7	04610	26 02887 -2859	
02930	A	++23	,F		04622	21 04645 02219	
02940	TF	LN4	,LN4-28	,7	04634	26 02918 -2890	
02950	A	++23	,F		04646	21 04669 02219	
02960	TF	LN8	,LN8-28	,7	04658	26 02949 -2921	
02970	A	++23	,F		04670	21 04693 02219	

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1620 FORTRAN II-D SUBROUTINES SET 1				PAGE	8
02980	TF	LN10	,LN10-28 ,7	04482	26 02980 -2952
02990	A	++23	,F	04494	21 04717 02219
03000	TF	LOGE	,LOGE-28 ,7	04706	26 03010 -2982
03010	A	++23	,F	04718	21 04741 02219
03020	TF	ONEZ	,ONEZ-28 ,7	04730	26 03038 -3010
03030	A	++23	,F	04742	21 04765 02219
03040	TF	TWOZ	,TWOZ-28 ,7	04754	26 03073 -3045
03050	A	++23	,F	04766	21 04789 02219
03060	TF	THOP1	,THOP1-28 ,7	04778	26 03103 -3075
03070	A	++23	,F	04790	21 04813 02219
03080	TF	PI	,PI-28 ,7	04802	26 03133 -3105
03090	A	++23	,F	04814	21 04837 02219
03100	TF	PIOV2	,PIOV2-28 ,7	04826	26 03163 -3135
03110	A	++23	,F	04838	21 04861 02219
03120	TF	PIOV4	,PIOV4-28 ,7	04850	26 03191 -3163
03130	A	++23	,F	04862	21 04885 02219
03140	TF	SIX	,SIX-28 ,7	04874	26 03219 -3191
03150	A	++23	,F	04886	21 04909 02219
03160	TF	TAN6	,TAN6-28 ,7	04898	26 03248 -3220
03170	A	++23	,F	04910	21 04933 02219
03180	TF	TEN34	,TEN34-28 ,7	04922	26 03278 -3250
03190	S	++18	,F	04934	22 04952 02219
03200	SF	95PF	,K ,2	04946	32 -2854 00000
03210	S	++18	,K	04958	22 04976 02221
03220	SF	FX9+1	,K ,2	04970	32 -2806 00000
03230	S	++18	,K	04982	22 05000 02221
03240	SF	FX2+1	,K ,2	04994	32 -2816 00000
03250	S	++18	,K	05006	22 05024 02221
03260	SF	FX1+1	,K ,2	05018	32 -2826 00000
03270	S	++18	,F	05030	22 05048 02219
03280	SF	95CPF+1	,K ,2	05042	32 -2796 00000
03290	S	FXH	,K ,2	05054	22 03283 02221
03300	S	99MK	,K ,2	05066	22 03288 02221
03310	S	100MK	,K ,2	05078	22 03298 02221
03320	A	IMSAPP	,F ,2	05090	21 03298 02219
03330	A	15PPM1	,F ,2	05102	21 03303 02219
03340	S	FM	,F ,2	05114	22 03308 02219
03350	S	FHM	,F ,2	05126	22 03313 02219
03360	S	96MF	,F ,2	05138	22 03318 02219
03370	S	97MF	,F ,2	05150	22 03323 02219
03380	S	98MF	,F ,2	05162	22 03328 02219
03390	S	99MF	,F ,2	05174	22 03333 02219
03400	S	HND	,F ,2	05186	22 03338 02219
03410	S	102MF	,F ,2	05198	22 03343 02219
03420	A	FLZALP	,F ,2	05210	21 03348 02219
03430	A	FLZ	,F ,2	05222	21 03353 02219
03440	S	FHM1	,F ,2	05234	22 03358 02219
03450	TF	F2	,F ,2	05246	26 03661 02219
03460	A	F2	,F ,2	05258	21 03661 02219
03470	TF	K2	,K ,2	05270	26 03668 02221
03480	A	K2	,K ,2	05282	21 03668 02221
03490	S	97M2F	,F2 ,2	05294	22 03363 03661
03500	S	98M2F	,F2 ,2	05306	22 03373 03661
03510	S	99M2F	,F2 ,2	05318	22 03526 03661
03520	A	FM1	,F ,2	05330	21 03623 02219
03530	A	FP2	,F ,2	05342	21 03605 02219

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1620 FORTRAN II-D SUBROUTINES SET 1				PAGE	9
03540	S	MF	,F ,2	05354	22 03473 02219
03550	A	2FM1	,F2 ,2	05366	21 03429 03661
03560	MM	F	,05 ,10	05378	13 02219 000-5
03570	BD	ODDSET	,99 ,2	05390	43 05446 00099
03580	MM	K	,05 ,10	05402	13 02221 000-5
03590	BD	ODDSET	,99 ,2	05414	43 05446 00099
03600	TDM	FKODD	,1 ,2	05426	15 03427 00001
03610	B	ODDSET+12	,22 ,2	05438	49 05458 00000
03620	DORG	+-4	,22 ,2	05449	49 05458 00000
03630	ODDSET	TDM FKODD	,0 ,2	05446	15 03427 00000
03640	BNF	++36	,ENTLN-4 ,2	05458	44 05494 02244
03650	A	LNENT	,ENTLN ,2	05470	21 03368 02248
03660	A	EXPENT	,ENTEXP ,2	05482	21 03373 02253
03670	BV	++12	,22 ,2	05494	46 05506 01400
03680	BD	SHORT	,07499 ,2	05506	43 05574 07499
03690	TFM	IORT	,++23 ,2	05518	16 00565 -5541
03700	B	IOGT	,DALONG ,7	05530	49 00566 -5542
03710	DALONG	DSC	,2 ,2	05542	2
03720	2K	DSC	,1 ,2	05544	1
03730	DC	4	,0146 ,2	05548	4
03740	DC	1	,1 ,2	05549	1
03750	DAFMON	DSC	,22 ,2	05550	2
03760	DSA	DDFMON	,22 ,2	05556	5 x 1
03770	DC	1	,1 ,2	05556	-5558
03780	DDFMON	DSC	,1 ,2	05557	1
03790	DC	5	,16835 ,2	05558	1
03800	DC	3	,004 ,2	05563	5
03810	DSA	FMON-56	,56 ,2	05566	3
03820	DC	1	,1 ,2	05571	5 x 1
03830	SHORT	TFM IORT	,++23 ,7	05571	-7098
03840	B	IOGT	,DAFMON ,7	05572	1
03850	B	PROGST	, ,2	05574	16 00565 -5597
03860	DORG	+-4	,22 ,2	05586	49 00566 -5550
03870	DORG	06000	,06000 ,2	05598	49 02220 00000
03880	34	B1	,00701 ,2	05605	
03890	38	B1	,00702 ,2	06000	34 06044 00701
03900	36	B1	,00703 ,2	06012	38 06044 00702
03910	B	++22	,22 ,2	06024	36 06044 00703
03920	DORG	+-3	,22 ,2	06036	49 06058 00000
03930	BL	DSC	, ,2	06044	
03940	OSA	STOP-1	,016800035 ,2	06044	9
				06057	5 x 1

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03950	TRA				06057	-2394	
					06058	36	00000 00500
					06070	49	00000 00000
					06000		
03960	TCO	06000					
03970	*****	1620 FORTRAN II-D	ARITHMETIC BLOCK				
03980	*****	1620 FORTRAN II-D	ARITHMETIC BLOCK - SECONDARY LINKAGE				
03990	DORG	START			03851		
04000	DS	3			03853	3	
04010	FIX	CM	FAC ,00 ,10, IS CHAR POSITIVE		03854	14	02492 000-0
04020	B	FIX1			03866	49	04598 00000
04030	FXA	A	FAC ,FXA-1 ,11		03878	21	02492 0387P
04040	B	FXA1			03890	49	04790 00000
04050	FXS	S	FAC ,FXS-1 ,11		03902	22	02492 0390J
04060	B	FXA1			03914	49	04790 00000
04070	FXSR	BNF	FXSR1+32 ,FAC ,, CHANGE SIGN ON FAC		03926	44	04836 02492
04080	B	FXSR1			03938	49	04804 00000
04090	FXM	M	FAC ,FXM-1 ,11		03950	23	02492 0394R
04100	B	FXM1			03962	49	04856 00000
04110	FXD	LD	99 ,FAC ,, FAC = FAC/J		03974	28	00099 02492
04120	B	FXD1			03986	49	04882 00000
04130	FXDR	LD	99 ,FXDR-1 ,11, FAC = J/FAC		03998	28	00099 0399P
04140	B	FXDR1			04010	49	04964 00000
04150	DORG	+ -1			04020		
04160	RSGN	BNF	RSGN1+40 ,FAC-1		04032	44	05024 02491
04170	B	RSGN1			04032	49	04984 0-000
04180	DORG	+ -1			04042		
04190	FLOAT	AM	FAC ,00 ,10, IS FAC ZERO		04042	11	02492 000-0
04200	B	FLOAT1			04054	49	05064 00000
04210	FSB	TDM	FAD1+37 ,2 , SET UP INST. TO SUBTRACT		04066	15	05341 00002
04220	B	FSB1			04078	49	05284 00000
04230	FAD	TDM	FAD1+37 ,1 , SET UP INST. TO ADD		04090	15	05341 00001
04240	B	FAD1			04102	49	05304 00000
04250	FSBR	BNF	FSBR1+32 ,FAC-1 ,, CHANGE SIGN ON FAC		04114	44	05862 02490
04260	B	FSBR1			04126	49	05830 00000
04270	FMP	TF	SAVE ,FMP-1 ,11, MOVE EXPONENT TO SAVE.		04138	26	02565 0413P
04280	B	FMP1			04150	49	05882 00000
04290	FD	TF	SE+11 ,FD-1 ,1, MOVE EXPONENT.		04162	26	06173 0416J
04300	B	FD1			04174	49	06042 00000
04310	FDVR	TF	SAVE ,FDVR-1 ,11, MOVE EXPONENT.		04186	26	02565 0418N
04320	B	FDVR1			04198	49	06254 00000
04330	TF	IMSA	,FIX1-1 ,11, IMSA = 1		04210	26	02575 0420R
04340	B	FIX111			04222	49	06334 00000
04350	TFM	FMON+11	,*-START		04234	16	07165 -0383
04360	DC	2	,3 ,*-3		04242		2
	-2						
04370	B	FMON			04246	49	07154 00000
04380	TF	TAFE	,FAXB-1 ,11, LOAD EXPONENT B		04258	26	02535 0425P
04390	B	FAXB11			04270	49	06740 00000
04400	TFM	FMON+11	,*-START		04282	16	07165 -0431
04410	DC	2	,3 ,*-3		04290		2
	-3						
04420	B	FMON			04294	49	07154 00000
04430	TFM	FMON+11	,*-START		04306	16	07165 -0455
04440	DC	2	,3 ,*-3		04314		2
	-3						

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04450	B	FMON			04318	49	07154 00000
04460	TFM	FMON+11	,*-START		04330	16	07165 -0479
04470	DC	2	,3 ,*-3		04338		2
	-3						
04480	B	FMON			04342	49	07154 00000
04490	TFM	FMON+11	,*-START		04354	16	07165 -0503
04500	DC	2	,3 ,*-3		04362		2
	-3						
04510	B	FMON			04366	49	07154 00000
04520	TFM	FMON+11	,*-START		04378	16	07165 -0527
04530	DC	2	,3 ,*-3		04386		2
	-3						
04540	B	FMON			04390	49	07154 00000
04550	TFM	FMON+11	,*-START		04402	16	07165 -0551
04560	DC	2	,3 ,*-3		04410		2
	-3						
04570	B	FMON			04414	49	07154 0-000
04580	DORG	+ -1			04424		
04590	TFM	FMON+11	,*-START		04424	16	07165 -0573
04600	DC	2	,4 ,*-3		04432		2
	-4						
04610	B	FMON			04436	49	07154 0-000
04620	DORG	+ -1			04446		
04630	TFM	FMON+11	,*-START		04446	16	07165 -0595
04640	DC	2	,5 ,*-3		04454		2
	-5						
04650	B	FMON			04458	49	07154 0-000
04660	DORG	+ -1			04468		
04670	TFM	FMON+11	,*-START		04468	16	07165 -0617
04680	DC	2	,8 ,*-3		04476		2
	-8						
04690	B	FMON			04480	49	07154 0-000
04700	DORG	+ -1			04490		
04710	TFM	FMON+11	,*-START		04490	16	07165 -0639
04720	DC	2	,9 ,*-3		04498		2
	-9						
04730	B	FMON			04502	49	07154 0-000
04740	DORG	+ -1			04512		
04750	TFM	FMON+11	,*-START		04512	16	07165 -0661
04760	DC	2	,8 ,*-3		04520		2
	-8						
04770	B	FMON			04524	49	07154 0-000
04780	DORG	+ -1			04534		
04790	TFM	FMON+11	,*-START		04534	16	07165 -0683
04800	DC	2	,6 ,*-3		04542		2
	-6						
04810	B	FMON			04546	49	07154 0-000
04820	DORG	+ -1			04556		
04830	TFM	FMON+11	,*-START		04556	16	07165 -0705
04840	DC	2	,6 ,*-3		04564		2
	-6						
04850	B	FMON			04568	49	07154 0-000
04860	DORG	+ -1			04578		
04870	TFM	FMON+11	,*-START		04578	16	07165 -0727
04880	DC	2	,6 ,*-3		04586		2
	-6						

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04890	B	FNON			04590	49	07154	00000
04900	DORG	-4			04597			
04910	*****	1620 FORTRAN II-D	ARITHMETIC BLOCK - SUBROUTINES					
04920	FIX1	BP	++32	,	04598	46	04630	01100
04930		TF	FAC	,FXZ	04610	24	02492	02815
04940	B	FIXEND			04622	49	03760	00000
04950	DORG	-3			04630			
04960	TD	MU-1	,FAC-2	,,	04630	25	03711	02490
04970	C	FAC	,K	,,	04642	24	02492	02221
04980	BNH	++44			04654	47	04698	01100
04990	TDM	FXERR+25	,1	,,	04666	15	03701	00001
05000	TFM	EI	,579	,9,	04678	16	02615	00N79
05010	B	FXNINE+12,		,,	04690	49	04944	00000
05020	DORG	-3			04698			
05030	CF	FAC-2			04698	33	02490	00000
05040	TF	BETA	,ZERO-51	,,	04710	26	02603	02716
05050	TF	IMSA	,FXZ	,,	04722	26	02575	02815
05060	TF	++30	,IMSAPP	,,	04734	26	04764	03298
05070	S	++18	,FAC	,,	04746	22	04764	02492
05080	A	DUMMY	,FAC-2		04758	21	99999	02490
05090	TF	FAC	,IMSA		04770	26	02492	02575
05100	B	MU			04782	49	03712	00000
05110	DORG	-4			04789			
05120	FXA1	BN	++12		04790	46	04802	01400
05130	BB				04802	42	00000	00000
05140	DORG	-9			04804			
05150	FXSR1	CF	FAC		04804	33	02492	00000
05160	TF	FXA-1	,FXSR-1	,,	04816	26	03877	03925
05170	B	FXA	,	,,	04828	49	03878	00000
05180	DORG	-3			04836			
05190	SF	FAC			04836	32	02492	00000
05200	B	FXSR1+12			04848	49	04816	00000
05210	DORG	-3			04856			
05220	FXM1	SF	100MK	,	04856	32	0329L	00000
05230	TF	FAC	,99	,6	04868	26	02492	00099
05240	BB				04880	42	00000	00000
05250	DORG	-9			04882			
05260	FXD1	D	100MK	,FXD-1	04882	29	0329L	0397L
05270	BV	++26		,611	04894	46	04920	01400
05280	TF	FAC	,99MK	,11	04906	26	02492	0328Q
05290	BB				04918	42	00000	00000
05300	DORG	-9			04920			
05310	TFM	EI	,578	,9,	04920	16	02615	00N78
05320	FXNINE	TFM	FXERR+30	,FIXEND-12,,	04922	16	03706	-3748
05330	TF	FAC	,FX9	,,	04944	26	02492	02805
05340	B	FXERR			04956	49	03676	00000
05350	DORG	-3			04964			
05360	FXDR1	D	100MK	,FAC	04964	29	0329L	02492
05370	B	FXD1+12			04976	49	04894	00000
05380	DORG	-4			04983			
05390	RSGN1	BNF	++26	,FAC-2	04984	44	05010	02490
05400	CF	FAC-2			04996	33	02490	00000
05410	BB				05008	42	00000	00000
05420	DORG	-9			05010			
05430	SF	FAC-2			05010	32	02490	00000
05440	BB				05020	42	00000	00000

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05450	DORG	-9			05024			
05460	BNF	++26	,FAC	,,	05024	44	05050	02492
05470	CF	FAC			05036	33	02492	00000
05480	BB				05048	42	00000	00000
05490	DORG	-9			05050			
05500	SF	FAC			05050	32	02492	00000
05510	BB				05062	42	00000	00000
05520	DORG	-9			05064			
05530	FLOAT1	BZ	ZERFAC	,	05064	46	03584	01200
05540	TD	99	,FAC	,,	05076	25	00099	02492
05550	CF	FAC			05088	33	02492	00000
05560	TR	BETA-9	,FXH	,11	05100	31	02594	0328L
05570	TF	FAC-2	,9SPF-1	,,	05112	26	02490	02853
05580	TF	SAVE	,K	,,	05124	26	02565	02221
05590	TFM	++23	,BETA-9		05136	16	05159	-2594
05600	BD	++44		,,	05148	43	05192	00000
05610	SM	SAVE	,1	,10,	05160	12	02565	000-1
05620	AM	-13	,1		05172	11	05159	-0001
05630	B	-36			05184	49	05148	00000
05640	DORG	-3			05192			
05650	TR	FNH	,-33	,611	05192	31	0331L	0515R
05660	TF	++35	,FNH	,,	05204	26	05239	03313
05670	AM	++23	,1		05216	11	05239	-0001
05680	BNR	-12			05228	45	05216	00000
05690	TDM	-1	,0	,6	05240	15	0523R	00000
05700	TD	FAC+1	,RECHK	,,	05252	25	02493	02403
05710	TF	BETA	,ZERO-74	,,	05264	26	02603	02693
05720	B	NORM+60			05276	49	05700	00000
05730	DORG	-4			05283			
05740	FSB1	TF	FAD-1	,FSB-1	05284	26	04089	04065
05750	B	FAD1			05296	49	05304	00000
05760	DORG	-3			05304			
05770	FAD1	TF	BETA	,FAD-1	05304	26	02603	0408R
05780	SM	FAD-1	,2	,10	05316	12	04089	000-2
05790	TF	BETA-2	,9SPF	,,	05328	26	02601	02854
05800	A	BETA-2	,FAD-1	,11,	05340	21	02601	0408R
05810	TF	SAVE	,FAC	,,	05352	26	02565	02492
05820	TF	FAC-1	,FAC-2	,,	05364	26	02491	02490
05830	CF	FM	,	,6,	05376	33	0330Q	00000
05840	TDM	FNH	,0	,611,	05388	15	0331L	0000-
05850	C	BETA	,SAVE	,,	05400	24	02603	02565
05860	BNH	++84		,,	05412	47	05496	01100
05870	TF	SAVE-2	,FAC-1	,,	05424	26	02563	02491
05880	TF	FAC-1	,BETA-2	,,	05436	26	02491	02601
05890	TF	BETA-2	,SAVE-2	,,	05448	26	02601	02563
05900	TF	FAD+0	,SAVE	,,	05460	26	04098	02565
05910	TF	SAVE	,BETA	,,	05472	26	02565	02603
05920	TF	BETA	,FAD+0	,,	05484	26	02603	04098
05930	TFM	ADD+11	,BETA-2	,,	05496	16	05603	-2601
05940	S	BETA	,SAVE	,,	05508	22	02603	02565
05950	BV	NOADD	,	,,	05520	46	03792	01400
05960	A	ADD+11	,BETA	,,	05532	21	05603	02603
05970	A	BETA	,F	,,	05944	21	02603	02219
05980	BNH	NOADD	,	,,	05956	47	03792	01100
05990	BNF	ADD	,BETA-2	,,	05968	44	03992	02601
06000	SF	ADD+11	,	,6,	05980	32	0360L	00000

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06010	ADD	A	FAC-1	,	,,		05592	21	02491	00000
06020		BZ	ZERFAC+12,		,,	BRANCH IF ZERO RESULT	05604	46	03596	01200
06030		TDM	UNFLOW-1	,2	,,		05616	15	05759	00002
06040		TDM	OVFLOW-1	,1	,,		05628	15	03651	00001
06050	NORM	TD	99	,FAC-1	,,	STORE SIGN OF RESULT	05640	25	00099	02491
06060		CF	FAC-1		,,		05652	33	02491	00000
06070		BD	LVI	,FNM	,11,		05664	43	03616	0331L
06080		TR	FNM	,FM	,611,	LEFT SHIFT ONCE	05676	31	0331L	0330Q
06090		TDM	FAC-1	,0	,,	SET LAST DIGIT TO ZERO.	05688	15	02491	00000
06100		SF	FNM	,	,6,		05700	32	0331L	00000
06110		BD	FINISH	,FNM	,611,	TEST LEADING ZERO	05712	43	0380L	0331L
06120		SM	SAVE	,1	,10,	SUBT ONE FROM EXPONENT.	05724	12	02565	000-1
06130		BNV	NORM+36				05736	47	05676	01400
06140		TFM	EI	,572	,9,	SET UP ERROR CODE E2.	05748	16	02615	00N7Z
06150	UNFLOW	TFM	FAC	,99	,10,		05760	16	02492	000RR
06160		TF	FAC-2	,95PF-1	,,	SET RESULT TO ZERO.	05772	26	02490	02853
06170		B	ERROR				05784	49	03676	00000
06180		DORG	+4				05791			
06190	NOADD	SF	FM	,	,6		05792	32	0330Q	00000
06200		TR	FNM	,FM	,611		05804	31	0331L	0330Q
06210		TF	FAC	,SAVE			05816	26	02492	02565
06220		BB					05828	42	00000	00000
06230		DORG	+9				05830			
06240	FSBR1	CF	FAC-2				05830	33	02490	00000
06250		TF	FAD-1	,FSBR-1	,,	SET UP ADD	05842	26	04089	04113
06260		B	FAD	,	,,	BRANCH TO FLOATING POINT ADD	05854	49	04090	00000
06270		DORG	+3				05862			
06280		SF	FAC-2				05862	32	02490	00000
06290		B	FSBR1+12				05874	49	05842	00G00
06300		DORG	+4				05881			
06310	FMP1	SM	FMP-1	,2	,10,	SUBT. TWO FROM ADDRESS.	05882	12	04137	000-2
06320		LD	79	,ZERO-10	,,	CLEAR AREA FOR PRODUCT.	05894	28	00079	02757
06330		M	FAC-2	,FMP-1	,11,	MULTIPLY TWO MANTISSAS.	05906	23	02490	0413P
06340		BZ	ZERFAC				05918	46	03584	01200
06350		A	SAVE	,FAC	,,	ADD EXPONENTS.	05930	21	02565	02492
06360		TF	FAC-1	,HND	,11,	MOVE F+1 DIGITS OF PRODUCT.	05942	26	02491	0333Q
06370		TDM	UNFLOW-1	,4	,,	SET UP ERROR CODE E4.	05954	15	05759	00004
06380		BNV	NORM+72		,,	NORMALIZE IF SUM NOT OVERFLOW.	05966	47	05712	01400
06390		BNF	+20	,FAC	,,	TEST SIGN OF EXPONENT.	05978	44	05998	02492
06400		B	UNFLOW-12,		,,	UNDERFLOW	05990	49	05748	00000
06410		DORG	+4				05997			
06420		TDM	OVFLOW-1	,3	,,	SET UP ERROR CODE E3.	05998	15	03651	00003
06430		BM	OVFLOW-12,		,,	OVERFLOW.	06010	46	03640	01100
06440		TFM	SAVE	,99	,10,	SET EXPONENT TO 99.	06022	16	02565	000R9
06450		B	NORM+24		,,	NORMALIZE.	06034	49	05664	00000
06460		DORG	+4				06041			
06470	FD1	TF	SAVE	,FAC	,,	SAVE EXPONENT OF FAC.	06042	26	02565	02492
06480		SM	FD-1	,2	,10,	SUBTRACT TWO FROM ADDRESS.	06054	12	04161	000-2
06490		TF	79	,ZERO-9	,,	CLEAR AREA FOR QUOTIENT	06066	26	00079	02758
06500		LD	PDT	,FAC-2	,6,		06078	28	0333L	02490
06510		D	PDT	,FD-1	,611,		06090	29	0333L	0416J
06520		TDM	OVFLOW-1	,7	,,	SET UP ERROR CODE E7 FOR 0 DIVISOR.	06102	15	03651	00007
06530		BV	OVFLOW-12,		,,	DIVIDED BY ZERO.	06114	46	03640	01400
06540		TF	FAC-1	,PDT	,11,	MOVE QUOTIENT.	06126	26	02491	0333L
06550		TD	99	,FAC-1	,,	STORE SIGN DIGIT.	06138	25	00099	02491
06560		BZ	ZERFAC+12,		,,	ZERO QUOTIENT.	06150	46	03596	01200

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06570	SE	SM	SAVE	,	,10,	SUBTRACT EXPONENTS.	06162	12	02565	000-0
06580		TDM	OVFLOW-1	,5	,,	SET UP ERROR CODE E5.	06174	15	03651	00005
06590		BNV	NORM+24				06186	47	05664	01400
06600		BNF	OVFLOW-12,FAC		,,	OVERFLOW IF RESULT IS POSITIVE.	06198	44	03640	02492
06610		TDM	UNFLOW-1	,6	,,	SET UP ERROR CODE E6.	06210	15	05759	00006
06620		BN	UNFLOW-12,		,,	UNDERFLOW IF RESULT NEGATIVE.	06222	47	05748	01300
06630		TFM	SAVE	,99	,10,	SET EXPONENT TO -99.	06234	16	02565	000RR
06640		B	NORM+72		,,	NORMALIZE.	06246	49	05712	00000
06650		DORG	+4				06253			
06660	FDVR1	TF	SE+11	,FAC	,,		06254	26	06173	02492
06670		SM	FDVR-1	,2	,10,		06266	12	04185	000-2
06680		TF	79	,ZERO-9	,,	CLEAR AREA FOR QUOTIENT.	06278	26	00079	02758
06690		LD	PDT	,FDVR-1	,611,		06290	28	0333L	0418N
06700		D	PDT	,FAC-2	,6		06302	29	0333L	02490
06710		TD	FAC	,SAVE	,,	KEEP SIGN OF DIVIDEND EXPONENT.	06314	25	02492	02565
06720		B	FD1+60				06326	49	06102	00000
06730		DORG	+4				06333			
06740	FIX111	AM	IMSA	,0C	,10,	IS I = ZERO	06334	11	02575	000-0
06750		BNZ	+26				06346	47	06372	01200
06760		TF	FAC	,FX1	,,	YES, J=I = ONE	06358	26	02492	02825
06770		BB					06370	42	00000	00000
06780		DORG	+9				06372			
06790		AM	FAC	,00	,10,	IS J = ZERO	06372	11	02492	000-0
06800		BNZ	PS11				06384	47	06428	01200
06810		BNF	+26	,IMSA	,,	YES, IS I POSITIVE	06396	44	06370	02575
06820		TFM	EI	,771	,9,	NO, ER G1, ZERO TO MINUS I POWER	06408	16	02615	00P71
06830		B	FXNINE	,	,,	FAC = FX9	06420	49	04932	00000
06840		DORG	+4				06427			
06850	PS11	CF	MU-1	,	,,	SET SIGN POSITIVE	06428	33	03711	00000
06860		SF	IMSA-1				06440	32	02574	00000
06870		MM	IMSA	,05	,10		06452	13	02575	000-5
06880		CF	IMSA-1				06464	33	02574	00000
06890		BD	+20	,99			06476	43	06496	00099
06900		B	+32	,	,,	I EVEN	06488	49	06520	00000
06910		DORG	+4				06495			
06920		BNF	+36	,FAC	,,	I ODD	06496	44	06532	02492
06930		SF	MU-1	,	,,	J NEG, SET SIGN NEGATIVE	06508	32	03711	00000
06940		CF	FAC				06520	33	02492	00000
06950		C	FAC	,FX1	,,		06532	24	02492	02825
06960		BE	MU	,	,,	J = + OR - ONE	06544	46	03712	01200
06970		BNF	+56	,IMSA	,,	IS I POSITIVE	06556	44	06612	02575
06980		TFM	EI	,772	,9,	NO, ER G2, J TO MINUS I POWER	06568	16	02615	00P72
06990		TF	FAC	,FXZ	,,	FAC = FXZ	06580	26	02492	02815
07000		TFM	FXERR+30	,FIXEND-12,	,,	SET UP ERROR EXIT	06592	16	03706	-3748
07010		B	FXERR				06604	49	03676	00000
07020		DORG	+4				06611			
07030		TF	BETA	,FAC	,,	STORE J	06612	26	02603	02492
07040		SM	IMSA	,01	,10,	I = I - 1	06624	12	02575	000-1
07050		BZ	MU				06636	46	03712	01200
07060		M	FAC	,BETA			06648	23	02492	02603
07070		SF	100MK	,	,6		06660	32	0329L	00000
07080		TF	FAC	,99			06672	26	02492	00099
07090		AM	99MK	,00	,610,	TEST OVFL	06684	11	03280	000-0
07100		BZ	+72				06696	46	06624	01200
07110		TFM	EI	,773	,9,	ER G3, OVFL IN FIXI	06708	16	02615	00P73
07120		TDM	FXERR+25	,1	,,	SET UP SIGN	06720	15	03701	00001

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07130	B	FXNINE	,	..	FAC = FX9	06732	49	04932	C0000	
07140	DORG	e-4				06739				
07150	FAXR11	SM	FAXB-1	,02	,10	06740	12	04257	000-2	
07160	TF	TAFE-2	,FAXB-1	,11		06752	26	02533	0425P	
07170	AM	TAFE-2	,00	,10,	IS B ZERO	06764	11	02533	000-0	
07180	BZ	SETONE	,	..	YES	06776	46	07032	01200	
07190	BD	+56	,FNH	,11,	IS A ZERO	06788	43	06844	0331L	
07200	BNF	FINISH+1	,TAFE-2	..	IS B NEGATIVE	06800	44	03804	02533	
07210	TFM	EI	,777	,9,	YES, ER G7 ZERO TO MINUS B	06812	16	02615	00P77	
07220	TDM	99	,0	..	SET SIGN	06824	15	00099	00000	
07230	B	OVFLOW				06836	49	03652	00000	
07240	DORG	e-4				06843				
07250	TDM	OLWRB+1	,9	..	SET UP NO ERR TYPE	06844	15	06989	00009	
07260	BNF	+36	,FAC-2	..	IS A NEGATIVE	06856	44	06892	02490	
07270	TDM	OLWRB+1	,1	..	YES, SET UP ERR TYPE	06868	15	06989	00001	
07280	CF	FAC-2				06880	33	02490	00000	
07290	TDM	FINISH+2	,9			06892	15	03805	00009	
07300	TFM	FINISH+7	,+20			06904	16	03810	-6924	
07310	B	LNENT	,	,6,	FIND LN OF A	06916	49	03360	00000	
07320	DORG	e-4				06923				
07330	TFM	FINISH+7	,+32			06924	16	03810	-6956	
07340	TFM	FMP-1	,TAFE	..	SET UP MULTIPLICATION	06936	16	04137	-2535	
07350	B	FMP	,	..	MULTIPLY B TIMES LN(A)	06948	49	04138	00000	
07360	DORG	e-4				06955				
07370	TFM	FINISH+7	,+20			06956	16	03810	-6976	
07380	B	EXPENT	,	,6,	FIND A**B = E**BLN(A)	06968	49	0337L	00000	
07390	DORG	e-4				06975				
07400	TDM	FINISH+2	,2			06976	15	03805	00002	
07410	OLWRB	NOP	FINISH+1			06988	41	03804	00000	
07420	TFM	EI	,676	,9,	ERR F6, -ATOB	07000	16	02615	00076	
07430	TDM	99	,0			07012	15	00099	00000	
07440	B	ERROR				07024	49	03676	00000	
07450	DORG	e-4				07031				
07460	SETONE	TFM	FAC	,01	,10,	FAC = FLT PT ONE	07032	16	02492	000-1
07470	TF	FAC-2	,DNEZ			07044	26	02490	03038	
07480	BB					07056	42	00000	00000	
07490	DORG	e-9				07058				
07500	DORG	08000				08000				
07510	34	A1	,00701	..	FIRST TIME ONLY	08000	34	08068	00701	
07520	38	A1	,00702			08012	38	08068	00702	
07530	36	A1	,00703			08024	36	08068	00703	
07540	TD	15999	,400	..	FIRST TIME ONLY	08036	25	15999	00400	
07550	TR	START+3	,12000			08048	31	03854	12000	
07560	B	+22				08060	49	08082	00000	
07570	DORG	e-3				08068				
07580	A1	DSC	9	,019400033		08068		9		
07590	DSA	FIX				08081		5 X	1	
07600	TRA					08081		-3854		
07610	TCD	08000				08082	36	00000	00500	
						08094	49	00000	00000	
						08000				
07620	*****	1620 FORTRAN II-D	EXPONENTIATION BLOCK							
07630	*****	1620 FORTRAN II-D	EXPONENTIATION BLOCK - SECONDARY LINKAGE							

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07640	DORG	START				03851				
07650	DS	3				03853		3		
07660	CM	FAC	,00	,10,	IS CHAR POSITIVE	03854	14	02492	000-0	
07670	B	FIX11				03866	49	06006	00000	
07680	A	FAC	,FXA-1	,11		03878	21	02492	0387P	
07690	B	FXA11				03890	49	06198	00000	
07700	S	FAC	,FXS-1	,11		03902	22	02492	0390J	
07710	B	FXA11				03914	49	06198	00000	
07720	BNF	FXSR11+32	,FAC	..	CHANGE SIGN ON FAC	03926	44	06244	02492	
07730	B	FXSR11				03938	49	06212	00000	
07740	M	FAC	,FXM-1	,11,		03950	23	02492	0394R	
07750	B	FXM11				03962	49	06264	00000	
07760	LD	99	,FAC	..	FAC = FAC/J	03974	28	00099	02492	
07770	B	FXD11				03986	49	06290	00000	
07780	LD	99	,FXDR-1	,11,	FAC = J/FAC	03998	28	00099	0399P	
07790	B	FXDR11				04010	49	06372	00000	
07800	DORG	e-1				04020				
07810	BNF	RSGN11+40	,FAC-1			04020	44	06432	02491	
07820	B	RSGN11	,	,8		04032	49	06392	0-000	
07830	DORG	e-1				04042				
07840	TFM	FMON+11	,e-START			04042	16	07165	-0191	
07850	DC	2	,1	,e-3		04050		2		
	-1									
07860	B	FMON				04054	49	07154	00000	
07870	TFM	FMON+11	,e-START			04066	16	07165	-0215	
07880	DC	2	,1	,e-3		04074		2		
	-1									
07890	B	FMON				04078	49	07154	00000	
07900	TFM	FMON+11	,e-START			04090	16	07165	-0239	
07910	DC	2	,1	,e-3		04098		2		
	-1									
07920	B	FMON				04102	49	07154	00000	
07930	TFM	FMON+11	,e-START			04114	16	07165	-0263	
07940	DC	2	,1	,e-3		04122		2		
	-1									
07950	B	FMON				04126	49	07154	00000	
07960	TF	SAVE	,FMP-1	,11,	MOVE EXPONENT TO SAVE.	04138	26	02565	0413P	
07970	B	FMP11				04150	49	06472	00000	
07980	TF	XSE+11	,FD-1	,11,	MOVE EXPONENT.	04162	26	06763	0416J	
07990	B	XPD				04174	49	06432	00000	
08000	TF	SAVE	,FDVR-1	,11,	MOVE EXPONENT.	04186	26	02565	0418M	
08010	B	XPDR				04198	49	06484	00000	
08020	FIX1	TF	IMSA	,FIXI-1	,11,	IMSA = I	0-210	26	02575	0420R
08030	B	FIX11				04222	49	04598	00000	
08040	FAX1	TF	IMSA	,FAXI-1	,11,	IMSA = I	04234	26	02575	0423L
08050	B	FAX11				04246	49	05052	00000	
08060	FAXB	TF	TAFE	,FAXB-1	,11,	LOAD EXPONENT B	04258	26	02533	0425P
08070	B	FAXB1				04270	49	05714	00000	
08080	TFM	FMON+11	,e-START			04282	16	07165	-0431	
08090	DC	2	,3	,e-3		04290		2		
	-3									
08100	B	FMON				04294	49	07154	00000	
08110	TFM	FMON+11	,e-START			04306	16	07165	-0455	
08120	DC	2	,3	,e-3		04314		2		
	-3									
08130	B	FMON				04318	49	07154	00000	

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08140	TFM	FMON+11	,0-START		04330	16	07165	-0479
08150	DC	2	,3	,0-3	04330		2	
	-3							
08160	B	FMON			04342	49	07154	00000
08170	TFM	FMON+11	,0-START		04354	16	07165	-0503
08180	DC	2	,3	,0-3	04362		2	
	-3							
08190	B	FMON			04366	49	07154	00000
08200	TFM	FMON+11	,0-START		04378	16	07165	-0527
08210	DC	2	,3	,0-3	04386		2	
	-3							
08220	B	FMON			04390	49	07154	00000
08230	TFM	FMON+11	,0-START		04402	16	07165	-0551
08240	DC	2	,3	,0-3	04410		2	
	-3							
08250	B	FMON		,0	04414	49	07154	0-000
08260	DORG	0-1			04424			
08270	TFM	FMON+11	,0-START		04424	16	07165	-0573
08280	DC	2	,4	,0-3	04432		2	
	-4							
08290	B	FMON		,0	04436	49	07154	0-000
08300	DORG	0-1			04446			
08310	TFM	FMON+11	,0-START		04446	16	07165	-0595
08320	DC	2	,5	,0-3	04454		2	
	-5							
08330	B	FMON		,0	04458	49	07154	0-000
08340	DORG	0-1			04468			
08350	TFM	FMON+11	,0-START		04468	16	07165	-0617
08360	DC	2	,8	,0-3	04476		2	
	-8							
08370	B	FMON		,0	04480	49	07154	0-000
08380	DORG	0-1			04490			
08390	TFM	FMON+11	,0-START		04490	16	07165	-0639
08400	DC	2	,9	,0-3	04498		2	
	-9							
08410	B	FMON		,0	04502	49	07154	0-000
08420	DORG	0-1			04512			
08430	TFM	FMON+11	,0-START		04512	16	07165	-0661
08440	DC	2	,8	,0-3	04520		2	
	-8							
08450	B	FMON		,0	04524	49	07154	0-000
08460	DORG	0-1			04534			
08470	TFM	FMON+11	,0-START		04534	16	07165	-0683
08480	DC	2	,6	,0-3	04542		2	
	-6							
08490	B	FMON		,0	04546	49	07154	0-000
08500	DORG	0-1			04556			
08510	TFM	FMON+11	,0-START		04556	16	07165	-0705
08520	DC	2	,6	,0-3	04564		2	
	-6							
08530	B	FMON		,0	04568	49	07154	0-000
08540	DORG	0-1			04578			
08550	TFM	FMON+11	,0-START		04578	16	07165	-0727
08560	DC	2	,6	,0-3	04586		2	
	-6							
08570	B	FMON			04590	49	07154	00000

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08580	DORG	0-4			04597			
08590	*****	1620 FORTRAN II-D EXPONENTIATION BLOCK - SUBROUTINES						
08600	FIX11	AM	IMSA	,00	,10,	IS I = ZERO	04598	11 02575 000-0
08610	BNZ	++26					04610	47 04636 01200
08620	TF	FAC	,FX1			YES, J+I = ONE	04622	26 02492 02825
08630	BB						04634	42 00000 00000
							04636	
08640	DORG	0-9					04636	11 02492 000-0
08650	AM	FAC	,00		,10,	IS J = ZERO	04648	47 04716 01200
08660	BNZ	PSI-12					04660	44 04634 02575
08670	BNF	0-26	,IMSA			YES, IS I POSITIVE	04672	16 02615 00P71
08680	TFM	EI	,771	,9,		NO, ERR G1, ZERO TO MINUS I POWER	04684	16 03706 -3748
08690	FXNIN	TFM	FXERR+30	,FIXEND-12,,		SET UP ERROR EXIT	04696	26 02492 02405
08700	TF	FAC	,FX9			FAC = FX9	04708	49 03676 00000
08710	B	FXERR					04715	
08720	DORG	0-4					04716	15 04833 00001
08730	TDM	ODDREV+1,1					04728	33 03711 00000
08740	PSI	CF	MU-1			SET SIGN POSITIVE	04740	32 02574 00000
08750	SF	IMSA-1					04752	13 02575 000-5
08760	MM	IMSA	,05		,10		04764	33 02574 00000
08770	CF	IMSA-1					04776	43 04796 00099
08780	BD	++20	,99				04788	49 04820 00000
08790	B	++32				I EVEN	04795	
08800	DORG	0-4					04796	44 04832 02492
08810	BNF	++36	,FAC			I ODD	04808	32 03711 00000
08820	SF	MU-1				J NEG, SET SIGN NEGATIVE	04820	33 02492 00000
08830	CF	FAC					04832	41 05214 00000
08840	ODDREV	NOP	AXJ				04844	24 02492 02825
08850	C	FAC	,FX1				04856	46 03712 01200
08860	BE	MU				J = + OR - ONE	04868	44 04924 02575
08870	BNF	++56	,IMSA			IS I POSITIVE	04880	16 02615 00P72
08880	TFM	EI	,772	,9,		NO, ERR G2, J TO MINUS I POWER	04892	26 02492 02815
08890	TF	FAC	,FXZ			FAC = FXZ	04904	16 03706 -3748
08900	TFM	FXERR+30	,FIXEND-12,,			SET UP ERROR EXIT	04916	49 03676 00000
08910	B	FXERR					04924	26 02603 02492
08920	DORG	0-4					04936	12 02575 000-1
08930	TF	BETA	,FAC			STORE J	04948	46 03712 01200
08940	SM	IMSA	,01		,10,	I = I-1	04960	23 02492 02603
08950	BZ	MU					04972	32 0329L 00000
08960	M	FAC	,BETA				04984	26 02492 00099
08970	SF	100MK			,6		04996	11 03280 000-0
08980	TF	FAC	,99				05008	46 04936 01200
08990	AM	99MK	,00		,610,	TEST OVFL	05020	16 02615 00P73
09000	BZ	0-72					05032	15 03701 00001
09010	TFM	EI	,773	,9,		ERR G3, OVFL IN FIX1	05044	49 04696 00000
09020	TDM	FXERR+25	,1			SET UP SIGN	05051	
09030	B	FXNIN+12					05052	11 02575 000-0
09040	DORG	0-4					05064	47 05102 01200
09050	FAX11	AM	IMSA	,00		IS I ZERO	05076	16 02492 000-1
09060	BNZ	++38					05088	26 02490 03038
09070	ONEFAC	TFM	FAC	,01	,10,	YES	05100	42 00000 00000
09080	TF	FAC-2	,ONEZ			FAC = FLT PT ONE	05102	
09090	BB						05102	43 05146 0331L
09100	DORG	0-9					05114	44 05100 02575
09110	BD	++44	,FMH	,11,		IS A ZERO	05126	16 02615 00P74
09120	BNF	0-14	,IMSA			YES, IS I NEGATIVE		
09130	TFM	EI	,774	,9,		YES, ERR G4, ZERO TO MINUS I		

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09140	B	MANTP				05138	49	05798	00000	
09150	DORG	0-4				05145				
09160	TF	SAVE	,FAC	::	STORE CHAR	05146	26	02565	02492	
09170	TD	FAC	,FAC-2	::	CONVERT A TO F+2 FORM	05158	25	02492	02490	
09180	CF	FAC-2				05170	33	02490	00000	
09190	TDM	FAC-1	,0			05187	15	02491	00000	
09200	TDM	ODDREV+1,9		::	SET UP RETURN 3	05194	15	04833	00009	
09210	B	PSI	,	::	SET UP SIGN AT MU-1	05206	49	04728	00000	
09220	DORG	0-4				05213				
09230	AXJ	TDM	FAC	,0		05214	15	02492	00000	
09240	TFM	XNORM+30	,FAC	::	SET UP F+2 NORMALIZATION	05226	16	06954	-2492	
09250	TFM	ERROR+1	,49	,10,	SET UP RETURN ON ERROR	05238	16	03677	000M9	
09260	TDM	FINISH+2,9				05250	15	03805	00009	
09270	TFM	FINISH+7,FINISH	,711			05262	16	03810	-380L	
09280	BNF	NODIV	,INSA		IS I NEGATIVE	05274	44	05422	02575	
09290	CF	INSA			YES	05286	33	02575	00000	
09300	TF	79	,ZERO-35		CLEAR QUOTIENT AREA	05298	26	00079	02732	
09310	LD	98MF	,ONEZ+2	,6,	FIND 1/A	05310	28	03320	03040	
09320	D	98MF	,FAC	,6		05322	29	03320	02492	
09330	TF	FAC	,97MF	,11		05334	26	02492	0332L	
09340	TFM	FINISH	,+44			05346	16	03803	-5390	
09350	TF	XSE+11	,SAVE			05358	26	06763	02565	
09360	TFM	SAVE	,01	,10		05370	16	02565	000-1	
09370	B	XSE	,		FOR CHAR ERROR CHECK	05382	49	06752	00000	
09380	DORG	0-4				05389				
09390	BNF	NODIV	,FAC-1	::	DID OVFL OR UNFL OCCUR	05390	44	05422	02491	
09400	BNF	SOS	,FAC	::	YES, OVFL	05402	44	05570	02492	
09410	B	SOS+20		::	UNFL	05414	49	05590	00000	
09420	DORG	0-4				05421				
09430	NODIV	TF	GAM	,FAC	STORE A	05422	26	02555	02492	
09440	TF	SAVE-2	,SAVE			05434	26	02563	02565	
09450	TFM	FINISH	,SOS-20	::	SET UP RETURN FROM FMP	05446	16	03803	-5550	
09460	TFM	FMFAXI+23,SAVE-2				05458	16	06579	-2563	
09470	SM	INSA	,01	,10,	I = I - 1	05470	12	02575	000-1	
09480	BZ	M14				05482	46	05622	01200	
09490	TF	79	,ZERO-35	::	CLEAR PROD AREA	05494	26	00079	02732	
09500	M	FAC	,GAM			05506	23	02492	02555	
09510	TF	FAC	,97MF	,11		05518	26	02492	0332L	
09520	A	SAVE	,SAVE-2			05530	21	02565	02563	
09530	B	FMFAXI	,		GO TO FMP FOR CHAR CHECK	05542	49	06556	00000	
09540	DORG	0-4				05549				
09550	BNF	NODIV+48,FAC-1		::	DID OVFL OR UNFL OCCUR	05550	44	05470	02491	
09560	B	NODIV-20,		::	YES	05562	49	05402	00000	
09570	DORG	0-4				05569				
09580	SUS	TFM	EI	,775	,9,	ERR G5, OVFL IN FAXI	05570	16	02615	00P75
09590	B	+20				05582	49	05602	00000	
09600	DORG	0-4				05589				
09610	TFM	EI	,776	,9,	ERR G6, UNFL IN FAXI	05590	16	02615	00P76	
09620	TFM	GEHT+6	,ERROR	::	SET UP TYPE OUT OF ERR	05602	16	05712	-3676	
09630	B	M14+12				05614	49	05634	00000	
09640	DORG	0-4				05621				
09650	M14	TFM	GEHT+6	,ENDD	REMOVE ERROR TYPE OUT	05622	16	05712	-3768	
09660	TD	99	,MU-1	::	SET UP SIGN	05634	25	00099	03711	
09670	TFM	ERROR+1,34		,10,	RESET	05646	16	03677	000L4	
09680	TFM	FINISH	,ENDD			05658	16	03803	-3768	
09690	TFM	XNORM+30	,FAC-1			05670	16	06954	-2491	

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09700	TDM	FINISH+2	,2			05682	15	03805	00002
09710	TFM	FMFAXI+23,FAC				05694	16	06579	-2492
09720	GEHT	B				05706	49	00000	00000
09730	DORG	0-4				05713			
09740	FAXB1	SM	FAXB-1	,02	,10	05714	12	04257	000-2
09750	TF	TAFE-2	,FAXB-1	,11		05726	26	02533	0425P
09760	AM	TAFE-2	,00	,10,	IS B ZERO	05738	11	02533	000-0
09770	BZ	ONEFAC			YES	05750	46	05076	01200
09780	BD	+56	,FNH	,11,	IS A ZERO	05762	43	05818	0331L
09790	BNF	FINISH+1	,TAFE-2		IS B NEGATIVE	05774	44	03804	02533
09800	TFM	EI	,777	,9,	YES, ER G7 ZERO TO MINUS B	05786	16	02615	00P77
09810	MANTP	TDM	99	,0	SET SIGN	05798	15	00099	00000
09820	B	OVFLOW				05810	49	03652	00000
09830	DORG	0-4				05817			
09840	TDM	DLWR+1	,9	::	SET UP NO ERR TYPE	05818	15	05963	00009
09850	BNF	+36	,FAC-2	::	IS A NEGATIVE	05830	44	05866	02490
09860	TDM	DLWR+1	,1	::	YES, SET UP ERR TYPE	05842	15	05963	00001
09870	CF	FAC-2				05854	33	02490	00000
09880	TDM	FINISH+2	,9			05866	15	03805	00009
09890	TFM	FINISH+7	,+20			05878	16	03810	-5898
09900	B	LNENT	,	,6,	FIND LN OF A	05890	49	0336Q	00000
09910	DORG	0-4				05897			
09920	TFM	FINISH+7	,+32			05898	16	03810	-5930
09930	TFM	FMP-1	,TAFE	::	SET UP MULTIPLICATION	05910	16	04137	-2535
09940	B	FMP	,		MULTIPLY B TIMES LN(A)	05922	49	04138	00000
09950	DORG	0-4				05929			
09960	TFM	FINISH+7	,+20			05930	16	03810	-5950
09970	B	EXPENT	,	,6,	FIND A*B = E*BLN(A)	05942	49	0337L	00000
09980	DORG	0-4				05949			
09990	TDM	FINISH+2	,2			05950	15	03805	00002
10000	NOP	FINISH+1				05962	41	03804	00000
10010	TFM	EI	,676	,9,	ERR F6, -ATOB	05974	16	02615	00076
10020	TDM	99	,0			05986	15	00099	00000
10030	B	ERROR				05998	49	03676	00000
10040	DORG	0-4				06005			
10050	FIX11	BP	+32		YES	06006	46	06038	01100
10060	TF	FAC	,FXZ		NO	06018	26	02492	02815
10070	B	FIXEND				06030	49	03760	00000
10080	DORG	0-3				06038			
10090	TD	MU-1	,FAC-2	::	STORE SIGN	06038	25	03711	02490
10100	C	FAC	,K	::	IS CHAR GREATER THAN K	06050	24	02492	02221
10110	BNH	+44				06062	47	06106	01100
10120	TDM	FXERR+25	,1		SET ERR TYPE	06074	15	03701	00001
10130	TFM	EI	,579	,9,	SET ER E9, OVFL IN FIX	06086	16	02615	00N79
10140	B	FXNI+12	,		YES, FAC = FX9	06098	49	06352	00000
10150	DORG	0-3				06106			
10160	CF	FAC-2				06106	33	02490	00000
10170	TF	BETA	,ZERO-51	::	CLEAR ADD AREA	06118	26	02603	02714
10180	TF	INSA	,FRZ			06130	26	02579	02815
10190	TF	+30	,INSAPP	::	ALIGN DECIMAL POINTS	06142	26	06172	03298
10200	S	+18	,FAC			06154	22	06172	02492
10210	A	DUMMY	,FAC-2			06166	21	99999	02490
10220	TF	FAC	,INSA			06178	26	02492	02375
10230	B	MU				06190	49	03712	00000
10240	DORG	0-4				06197			
10250	FXA11	BV	+12			06198	46	06210	01400

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10260	BB				06210	42	00000	00000
10270	DORG	0-9			06212			
10280	FXSR11	CF FAC			06212	33	02492	00000
10290	TF	FXA-1	,FXSR-1	,, SET UP ADD	06224	26	03877	03925
10300	B	FXA		,, BRANCH TO FIXED POINT ADD	06236	49	03878	00000
10310	DORG	0-3			06244			
10320	SF	FAC			06244	32	02492	00000
10330	B	FXSR11+12			06256	49	06224	00000
10340	DORG	0-3			06264			
10350	FXM11	SF 100MK		,0	06264	32	0329L	00000
10360	TF	FAC	,99		06276	26	02492	00099
10370	BB				06288	42	00000	00000
10380	DORG	0-9			06290			
10390	FXD11	D 100MK	,FXD-1	,611	06290	29	0329L	0397L
10400	BV	0+26			06302	46	06328	01400
10410	TF	FAC	,99MK	,11	06314	26	02492	0328Q
10420	BB				06326	42	00000	00000
10430	DORG	0-9			06328			
10440	TFM	E1	,578	,9, ERROR E8	06328	16	02615	00N78
10450	FXNI	TFM FXERR+30	,FIXEND-12,,	SET UP ERROR EXIT	06340	16	03706	-3748
10460	TF	FAC	,FX9	,, FAC = FX9	06352	26	02492	02805
10470	B	FXERR			06364	49	03676	00000
10480	DORG	0-3			06372			
10490	FXDR11	D 100MK	,FAC	,6	06372	29	0329L	02492
10500	B	FXD11+12			06384	49	06302	00000
10510	DORG	0-4			06391			
10520	RSGN11	BNF 0+26	,FAC-2	,, FLOATING POINT NUMBER	06392	44	06418	02490
10530	CF	FAC-2			06404	33	02490	00000
10540	BB				06416	42	00000	00000
10550	DORG	0-9			06418			
10560	SF	FAC-2			06418	32	02490	00000
10570	BB				06430	42	00000	00000
10580	DORG	0-9			06432			
10590	BNF	0+26	,FAC	,, FIXED POINT NUMBER	06432	44	06458	02492
10600	CF	FAC			06444	33	02492	00000
10610	BB				06456	42	00000	00000
10620	DORG	0-9			06458			
10630	SF	FAC			06458	32	02492	00000
10640	BB				06470	42	00000	00000
10650	DORG	0-9			06472			
10660	FMP11	SM FMP-1	,2	,10, SUBT TWO FROM ADDRESS.	06472	12	04137	000-2
10670	LD	79	,ZERO-10	,, CLEAR AREA FOR PRODUCT.	06484	28	00079	02757
10680	M	FAC-2	,FMP-1	,11, MULTIPLY TWO MANTISSAS.	06496	23	02490	0413P
10690	BZ	ZERFAC			06508	46	03584	01200
10700	A	SAVE	,FAC	,, ADD EXPONENTS.	06520	21	02565	02492
10710	TF	FAC-1	,HND	,11, MOVE F+1 DIGITS OF PRODUCT.	06532	26	02491	0333Q
10720	TDM	UNFLD -1	,4	,, SET UP ERROR CODE E4.	06544	15	07019	00004
10730	FMFAXI	BNV XNORM+48		,, NORMALIZE IF SUM NOT OVERFLOW.	06556	47	06972	01400
10740	BNF	0+20	,FAC	,, TEST SIGN OF EXPONENT.	06568	44	06588	02492
10750	B	UNFLD-12		,, UNDERFLOW.	06580	49	07008	00000
10760	DORG	0-4			06587			
10770	TDM	OVFLOW-1	,3	,, SET UP ERROR CODE E3.	06588	15	03651	00003
10780	BH	OVFLOW-12,		,, OVERFLOW.	06600	46	03640	01100
10790	TFM	SAVE	,99	,10, SET EXPONENT TO 99.	06612	16	02565	000R9
10800	B	XNORM		,, NORMALIZE.	06624	49	06924	00000
10810	DORG	0-4			06631			

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10820	XFD	TF SAVE	,FAC	,, SAVE EXPONENT OF FAC.	06632	26	02565	02492
10830	SM	FD-1	,2	,10, SUBTRACT TWO FROM ADDRESS.	06644	12	04161	000-2
10840	TF	79	,ZERO-9	,, CLEAR AREA FOR QUOTIENT	06656	26	00079	02758
10850	LD	PDT	,FAC-2	,6,	06668	28	0333L	02490
10860	D	PDT	,FD-1	,611,	06680	29	0333L	0416J
10870	TDM	OVFLOW-1	,7	,, SET UP ERROR CODE E7 FOR 0 DIVISOR.	06692	15	03651	00007
10880	BV	OVFLOW-12,		,, DIVIDED BY ZERO.	06704	46	03640	01400
10890	TF	FAC-1	,PDT	,11, MOVE QUOTIENT.	06716	26	02491	0333L
10900	TD	99	,FAC-1	,, STORE SIGN DIGIT.	06728	25	00099	02491
10910	BZ	ZERFAC+12,		,, ZERO QUOTIENT.	06740	46	03596	01200
10920	XSE	SM SAVE	,10,	,, SUBTRACT EXPONENTS.	06752	12	02565	000-0
10930	TDM	OVFLOW-1	,5	,, SET UP ERROR CODE E5.	06764	15	03651	00005
10940	BNV	XNORM			06776	47	06924	01400
10950	BNF	OVFLOW-12,FAC		,, OVERFLOW IF RESULT IS POSITIVE.	06788	44	03640	02492
10960	TDM	UNFLD -1	,6	,, SET UP ERROR CODE E6.	06800	15	07019	00006
10970	BN	UNFLD -12,		,, UNDERFLOW IF RESULT NEGATIVE.	06812	47	07008	01300
10980	TFM	SAVE	,-99	,10, SET EXPONENT TO -99	06824	16	02565	000RR
10990	B	XNORM+48		,, NORMALIZE.	06836	49	06972	00000
11000	DORG	0-4			06843			
11010	XFDVR	TF XSE+11	,FAC		06844	26	06763	02492
11020	SM	FDVR-1	,2	,10,	06856	12	04165	000-2
11030	TF	79	,ZERO-9	,, CLEAR AREA FOR QUOTIENT.	06868	26	00079	02758
11040	LD	PDT	,FDVR-1	,611,	06880	28	0333L	0418M
11050	D	PDT	,FAC-2	,6	06892	29	0333L	02490
11060	TD	FAC	,SAVE	,, KEEP SIGN OF DIVIDEND EXPONENT.	06904	25	02492	02565
11070	B	FDV+60			06916	49	06692	00000
11080	DORG	0-4			06923			
11090	XNORM	BD LV1	,FMH	,11	06924	43	03616	0331L
11100	TR	FMH	,FMH	,611, LEFT SHIFT ONCE	06936	31	0331L	03300
11110	TDM	FAC-1	,0	,, SET LAST DIGIT TO ZERO.	06948	15	02491	00000
11120	SF	FMH	,6		06960	32	0331L	00000
11130	BD	FINISH	,FMH	,611, TEST LEADING ZERO	06972	43	0380L	0331L
11140	SM	SAVE	,1	,10, SUBT ONE FROM EXPONENT.	06984	12	02565	000-1
11150	BNV	XNORM+12			06996	47	06936	01400
11160	TFM	E1	,572	,9, SET UP ERROR CODE E2.	07008	16	02615	00N72
11170	UNFLD	TFM FAC	,-99	,10	07020	16	02492	000RR
11180	TF	FAC-2	,95PF-1	,, SET RESULT TO ZERO.	07032	26	02490	02853
11190	B	ERROR			07044	49	03676	00000
11200	DORG	0-4			07051			
11210	DORG	08000			08000			
11220	38	A2	,00702		08000	38	08044	00702
11230	36	A2	,00703		08012	36	08044	00703
11240	TR	START+3	,12000		08024	31	03854	12000
11250	B	0+22			08036	49	08058	00000
11260	DORG	0-3			08044			
11270	A2	DSC 9	,019433033		08044			
11280	OSA	FIX			08057		S X	1
11290	TRA				08057		-3854	
11300	TCD	08000			08058	36	00000	00500
					08070	49	00000	00000
					08000			

11310 ***** 1620 FORTRAN II-D FORMAT
 11320 ***** 1620 FORTRAN II-D FORMAT - SECONDARY LINKAGE

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11330	DORG	START				03851			
11340	DS	3				03853		3	
11350	TFM	FMON+11	,0--START			03854	16	07165	-0003
11360	DC	2	,1	,0-3		03862		2	
	-1								
11370	B	FMON				03866	49	07154	00000
11380	TFM	FMON+11	,0--START			03878	16	07165	-0027
11390	DC	2	,1	,0-3		03886		2	
	-1								
11400	B	FMON				03890	49	07154	00000
11410	TFM	FMON+11	,0--START			03902	16	07165	-0051
11420	DC	2	,1	,0-3		03910		2	
	-1								
11430	B	FMON				03914	49	07154	00000
11440	TFM	FMON+11	,0--START			03926	16	07165	-0075
11450	DC	2	,1	,0-3		03934		2	
	-1								
11460	B	FMON				03938	49	07154	00000
11470	TFM	FMON+11	,0--START			03950	16	07165	-0099
11480	DC	2	,1	,0-3		03958		2	
	-1								
11490	B	FMON				03962	49	07154	00000
11500	TFM	FMON+11	,0--START			03974	16	07165	-0123
11510	DC	2	,1	,0-3		03982		2	
	-1								
11520	B	FMON				03986	49	07154	00000
11530	TFM	FMON+11	,0--START			03998	16	07165	-0147
11540	DC	2	,1	,0-3		04006		2	
	-1								
11550	B	FMON				04010	49	07154	00000
11560	DORG	*-1				04020			
11570	TFM	FMON+11	,0--START			04020	16	07165	-0169
11580	DC	2	,1	,0-3		04028		2	
	-1								
11590	B	FMON				04032	49	07154	0-000
11600	DORG	*-1				04042			
11610	AM	FLOAT	,00	,10, IS FAC ZERO		04042	11	02492	000-0
11620	B	FLOAT				04054	49	05106	00000
11630	TFM	FMON+11	,0--START			04066	16	07165	-0215
11640	DC	2	,1	,0-3		04074		2	
	-1								
11650	B	FMON				04078	49	07154	00000
11660	TFM	FMON+11	,0--START			04090	16	07165	-0239
11670	DC	2	,1	,0-3		04098		2	
	-1								
11680	B	FMON				04102	49	07154	00000
11690	TFM	FMON+11	,0--START			04114	16	07165	-0263
11700	DC	2	,1	,0-3		04122		2	
	-1								
11710	B	FMON				04126	49	07154	00000
11720	TFM	FMON+11	,0--START			04138	16	07165	-0287
11730	DC	2	,1	,0-3		04146		2	
	-1								
11740	B	FMON				04150	49	07154	00000
11750	TFM	FMON+11	,0--START			04162	16	07165	-0311
11760	DC	2	,1	,0-3		04170		2	
	-1								

11770	B	FMON				04174	49	07154	00000
11780	TFM	FMON+11	,0--START			04186	16	07165	-0335
11790	DC	2	,1	,0-3		04194		2	
	-1								
11800	B	FMON				04198	49	07154	00000
11810	TFM	FMON+11	,0--START			04210	16	07165	-0359
11820	DC	2	,2	,0-3		04218		2	
	-2								
11830	B	FMON				04222	49	07154	00000
11840	TFM	FMON+11	,0--START			04234	16	07165	-0383
11850	DC	2	,2	,0-3		04242		2	
	-2								
11860	B	FMON				04246	49	07154	00000
11870	TFM	FMON+11	,0--START			04258	16	07165	-0407
11880	DC	2	,2	,0-3		04266		2	
	-2								
11890	B	FMON				04270	49	07154	00000
11900	*****		WRITE ALPHAMERIC						
11910	WATY	TF SWF	,WATY-1			04282	26	05861	04281
11920	B	WATY1				04294	49	05498	00000
11930	WAPT	TF SWF	,WAPT-1			04306	26	05861	04305
11940	B	WAPT1				04318	49	05518	00000
11950	WACD	TF SWF	,WACD-1			04330	26	05861	04329
11960	B	WACD1				04342	49	05538	00000
11970	*****		READ ALPHAMERIC						
11980	RATY	TF SWF	,RATY-1			04354	26	05861	04353
11990	B	RATY1				04366	49	05862	00000
12000	RAPT	TF SWF	,RAPT-1			04378	26	05861	04377
12010	B	RAPT1				04390	49	05882	00000
12020	RACD	TF SWF	,RACD-1			04402	26	05861	04401
12030	B	RACD1				04414	49	05902	0-000
12040	DORG	*-1				04424			
12050	ITYPE	AM SWF	,3			04424	11	05861	-0003
12060	B	ITYPE1				04436	49	04598	0-000
12070	DORG	*-1				04446			
12080	TFM	FMON+11	,0--START			04446	16	07165	-0595
12090	DC	2	,5	,0-3		04454		2	
	-5								
12100	B	FMON				04458	49	07154	0-000
12110	DORG	*-1				04468			
12120	TFM	FMON+11	,0--START			04468	16	07165	-0617
12130	DC	2	,8	,0-3		04476		2	
	-8								
12140	B	FMON				04480	49	07154	0-000
12150	DORG	*-1				04490			
12160	TFM	FMON+11	,0--START			04490	16	07165	-0639
12170	DC	2	,9	,0-3		04498		2	
	-9								
12180	B	FMON				04502	49	07154	0-000
12190	DORG	*-1				04512			
12200	TFM	FMON+11	,0--START			04512	16	07165	-0661
12210	DC	2	,8	,0-3		04520		2	
	-8								
12220	B	FMON				04524	49	07154	0-000
12230	DORG	*-1				04534			
12240	TFM	FMON+11	,0--START			04534	16	07165	-0683

12250	DC	2	,6	,*-3	04542	2		
12260	B	FMON	,	,8	04546	49	07154	0-000
12270	DORG	*-1			04556			
12280	TFM	FMON+11	,*-START		04556	16	07165	-0705
12290	DC	2	,6	,*-3	04564	2		
		-6						
12300	B	FMON	,	,8	04568	49	07154	0-000
12310	DORG	*-1			04578			
12320	TFM	FMON+11	,*-START		04578	16	07165	-0727
12330	DC	2	,6	,*-3	04586	2		
		-6						
12340	B	FMON	,		04590	49	07154	00000
12350	DORG	*-4			04597			
12360	*****	1620 FORTRAN II-D I FORMAT - SUBROUTINES						
12370	*****	MACRO FOR I TYPE READ AND WRITE						
12380	ITYPE1	TF	WIDTH2	,SWF	,11	04598	26	05956 0586J
12390	A	LAST	,WIDTH2			04610	21	05736 05956
12400	C	LAST	,MAX2			04622	24	05736 06037
12410	BH	ER F9				04634	46	07002 01100
12420	TF	INPLUS	,LAST			04646	26	05945 05736
12430	TFM	IR DIG+6	,FAC			04658	16	04888 -2492
12440	TFM	SMC ADJ	,WRITE I			04670	16	06044 -4446
12450	BD	SWL	,RWEFSW			04682	43	05934 05953
12460	TF	TERM	,FPIMK			04694	26	06785 03283
12470	TF	FAC	,FXZ			04706	26	02492 02815
12480	TFM	SMC ADJ	,READI			04718	16	06044 -4990
12490	*****	CHAR BY CHAR IS MOVED INTO FAC,RIGHT JUSTIFIED,UNTIL SIGN						
12500	*****	OR W CHAR ARE EXAMINED.						
12510	*****	ERROR F7 WILL OCCUR IF MORE THAN K CHAR ARE AVAIL TO READ						
12520	IREAD	SM	WIDTH2	,2	,10	04730	12	05956 000-2
12530	BL	SWL				04742	47	05934 01300
12540	SM	INPLUS	,2			04754	12	05945 -0002
12550	CM	INPLUS	,70	,610		04766	14	05946 000P0
12560	BH	IR DIG				04778	46	04882 01100
12570	BE	IR BLNK				04790	46	04918 01200
12580	CM	INPLUS	,00	,610		04802	14	05946 000-0
12590	BE	IR BLNK				04814	46	04918 01200
12600	CM	INPLUS	,20	,610		04826	14	05946 000K0
12610	BE	I MINUS				04838	46	04938 01200
12620	CM	INPLUS	,10	,610		04850	14	05946 000J0
12630	BE	SWL				04862	46	05934 01200
12640	B	ERR F7I				04874	49	04958 00000
12650	DORG	*-4				04881		
12660	IRDIG	TD		,INPLUS	,11	04882	25	00000 0594N
12670	C	*-6		,TERM		04894	24	04888 06785
12680	BL	ERR F7 I				04906	47	04958 01300
12690	IRBLNK	SM	IR DIG+6	,1		04918	12	04888 -0001
12700	B	I READ				04930	49	04730 00000
12710	DORG	*-4				04937		
12720	IMINUS	SF	FAC			04938	32	02492 00000
12730	B	SWL				04950	49	05934 00000
12740	DORG	*-4				04957		
12750	ERRF7I	TF	FAC	,FXZ	,, SET FIXED ZERO INTO FAC	04958	26	02492 02815
12760	TFM	EI		,677	,911, SET ERROR F7 INDICATION	04970	16	02615 0007P
12770	B	SWL				04982	49	05934 00000

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12780	DORG	*-4				04989		
12790	READI	SF	FPIMK	,	,6	04990	32	0328L 00000
12800	TF	FLT END	,ICON2+6			05002	26	03810 05400
12810	BNF	FLOAT	,LOC			05014	44	04042 05981
12820	CF	LOC				05026	33	05981 00000
12830	READIF	TF	LOC	,FAC	,6	05038	26	0598J 02492
12840	SM	LOC		,2		05050	12	05981 -0002
12850	TF	LOC	,FAC-2	,6		05062	26	0598J 02490
12860	ERF7	BNF	BSWF-12	,, EI	,, BR IF NOT ERROR TYPE F7	05074	44	05814 02615
12870	CF	EI		,, ERASE ERROR F 7 INDICATION		05086	33	02615 00000
12880	B	ERCOM2				05098	49	07078 00000
12890	DORG	*-4				05105		
12900	IFLOAT	BZ	ZERFAC	,, YES		05106	46	03584 01200
12910	TD	99	,FAC	,, STORE SIGN		05118	25	00099 02492
12920	CF	FAC				05130	33	02492 00000
12930	TR	BETA-9	,FXH	,11		05142	31	02594 0328L
12940	TF	FAC-2	,9SPF-1	,, CLEAR FAC		05154	26	02490 02853
12950	TF	SAVE	,K	,, CHAR = K		05166	26	02565 02221
12960	TFM	*+23	,BETA-9			05178	16	05201 -2594
12970	BD	*+44		,, FIND HI ORD DIGIT		05190	43	05234 00000
12980	SM	SAVE	,01	,10, ADJUST CHAR		05202	12	02565 000-1
12990	AM	*-13	,01			05214	11	05201 -0001
13000	B	*-36				05226	49	05190 00000
13010	DORG	*-3				05234		
13020	TR	FNH	,*-33	,611		05234	31	0331L 0520J
13030	TF	*+35	,FNH	,, FIND AND CLEAR RECORD MARK		05246	26	05281 03313
13040	AM	*+23	,01			05258	11	05281 -0001
13050	BNR	*-12				05270	45	05258 00000
13060	TDM	*-1	,0	,6		05282	13	0528J 00000
13070	TD	FAC+1	,RECK	,, REPLACE RECORD MARK		05294	25	02493 02403
13080	TF	BETA	,ZERO-74	,, CLEAR BETA		05306	26	02603 02693
13090	B	INDR60				05318	49	05350 00000
13100	DORG	*-3				05326		
13110	INOR36	TR	FNH	,FH	,611, LEFT SHIFT ONCE	05326	31	0331L 0330Q
13120	TDM	FAC-1	,0	,, SET LAST DIGIT TO ZERO.		05338	15	02491 00000
13130	INOR60	SF	FNH	,, 6		05350	32	0331L 00000
13140	BD	FINISH	,FNH	,611, TEST LEADING ZERO		05362	43	0380L 0331L
13150	SM	SAVE	,1	,10, SUBT ONE FROM EXPONENT.		05374	12	02565 000-1
13160	B	INDR36				05386	49	05326 00000
13170	DORG	*-4				05393		
13180	ICON2	B	READ IF	,, 1		05394	4R	05038 00000
13190	DORG	*-4				05401		
13200	*****	1620 FORTRAN II-D I FORMAT - SUBROUTINES						
13210	DORG	START+1647				05498		
13220	WATY1	TFM	MAX	,0687	,8	05498	16	05924 0-687
13230	B	WRTALP				05510	49	05550 00000
13240	DORG	*-3				05518		
13250	WAPT1	TFM	MAX	,0887	,8	05518	16	05924 0-887
13260	B	WRTALP				05530	49	05550 00000
13270	DORG	*-3				05538		
13280	WACD1	TFM	MAX	,1080	,8	05538	16	05924 0J080
13290	WRTALP	TDM	RWEFSW	,1	,, COMMON FOR EACH WRITE	05550	13	05933 00001
13300	RWA	SF	DATINH+2	,MAX-2	,, INITIALIZATION FOR EACH RD OR WRITE	05562	26	06059 05922
13310	TF	MAX-1				05574	32	05923 00000
13320	REPSW	DS	2	,*-3		05582		
13330	MATSW	DS	1	,*-2	,, SET TO 1 WHEN MATRIX HAS CONTROL	05583		

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13340	REPSW3	DS	2	..		05585	2	
13350	TFM	+-1	..00000	,711		05586	16	05585 -000-
13360	TDM	SWL+1	,2			05598	15	05935 00002
13370	LOCD	DS	2	+-1	,LOC OF DECIMAL AS SPEC BY FORMAT	05608	2	
13380	LOCD2	DS	2	+-3	, TWICE LOC D	05606	2	
13390	TFM	MESERR+8	,670	,9		05610	16	02615 00079
13400	TFM	MAX2	,INH			05622	16	06037 -6063
13410	A	MAX2	,MAX			05634	21	06037 05924
13420	A	MAX 2	,MAX			05646	21	06037 05924
13430	*****				CONTINUATION OF RWA. ALSO USED AFTER EACH OUTPUT			
13440	*****				RECORD NOT TERMINATED BY COMPLT MACRO			
13450	TFM	LAST	,INH			05658	16	05736 -6063
13460	RMA2	TDM	COMP SW	+-1		05670	15	05678 0000J
13470	COMP SW	DS	..	+-3	+-1 PROHIBITS,0 REQUIRES OUTPUT	05678	0	
13480	TR	INH-1	,STZERO+1			05682	31	06062 06240
13490	TR	INH+86	,STZERO			05694	31	06149 06239
13500	CM	MAX-2	,06	,10		05706	14	05922 000-6
13510	WIDTH	DS	3	+-2	, MD. OF EFF. DIGITS IN FIELD	05715	3	
13520	BNE	++24				05718	47	05742 01200
13530	RCTY					05730	34	00000 00102
13540	LAST	DS	5	+-5	, ADR OF RM AT END OF VARIABLE OUT REC	05736	5	
13550	BD	BSWF	,RWEFSW			05742	43	05826 05953
13560	RADDDIT	TFM	IORT	++28		05756	16	00565 -5777
13570	B	IOGT	,DAT	+-4	,7	05766	49	00566 -6053
13580	CM	MAX-2	,06	,10		05778	14	05922 000-6
13590	BNE	++24			ALLOWS GOOD SWITCH FOR RATY	05790	47	05814 01200
13600	BC4	+-72				05802	46	05730 00400
13610	TDM	FLT END-5,2				05816	15	03805 00002
13620	*****				CONTROLS POSITION IN FORMAT SPECS			
13630	BSWF	AM	SWF	,5		05826	11	05861 -0005
13640	TF	++18	,SWF	,11		05838	26	05856 0586J
13650	B	SWF	,6	,6	BR TO ADR INDICATED BY FORMAT SPEC.	05850	49	0586J 00000
13660	SWF	DS	5	..		05861	5	
13670	RATY1	TFM	MAX	,0687	,8	05862	16	05924 0-687
13680	B	RDALP				05874	49	05914 00000
13690	DORG	+-3				05882		
13700	RAPT1	TFM	MAX	,0887	,8	05882	16	05924 0-887
13710	B	RDALP				05894	49	05914 00000
13720	DORG	+-3				05902		
13730	RACD1	TFM	MAX	,1080	,8	05902	16	05924 0J080
13740	RDALP	TDM	RWEFSW	,0		05914	15	05953 00000
13750	MAX	DS	4	+-1		05924	4	
13760	B	RWA				05926	49	05562 00000
13770	DORG	+-4				05933		
13780	*****				SWL IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE			
13790	*****				TO OBTAIN THE LOCATION THAT GOES WITH THE FORMAT MACRO			
13800	*****				BEING PERFORMED BB FOR OBJECT PROGRAM			
13810	*****				NOP FOR REDO CONTROL			
13820	*****				B FOR MATRIX CONTROL			
13830	SWL	NOP	MATRIX 2			05934	41	06418 00000
13840	INPLUS	DS	5	..	WORKING POSITION OF I/O RECORD	05945	5	
13850	TDM	SWL+1	,9	..	MATRIX CONTROL SETS SWL TO 49	05946	15	05935 00009
13860	RWEFSW	DS	1	+-4	, 1 FOR WRT, 0 FOR RD, FLAG FOR E	05953	1	
13870	WIDTH2	DS	3	+-1		05956	3	
13880	BD	SWC+12	,MATSW			05958	43	05994 05583
13890	NOP					05970	41	00000 00000

13900	DPG	DS	5	+-5	, TEMP ADR OF DEC PT IN GAMMA	05976	5	
13910	LOC	DS	5	..	CORE LOCATION TO BE USED	05981	5	
13920	*****				AFTER LOC ADR OBTAINED BR TO PROPER MACRO			
13930	SWC	TDM	SWL+1	,2		05982	15	05935 00002
13940	BD	++20	,RWEFSW	..	BR IF WRITING	05994	43	06014 05953
13950	B	SWC ADJ	,6	,6		06006	49	0604M 00000
13960	DORG	+-4				06013		
13970	TDM	COMP SW	,0	..	SET TO REQUIRE OUTPUT	06014	15	05678 00000
13980	CF	LOC				06026	33	05981 00000
13990	MAX2	DS	5	..	TWICE MAXIMUM CHAR FOR OUTPUT	06037	5	
14000	B					06038	49	00000 00000
14010	SWCADJ	DS	..	+-5	.. RETURN ADD OF MACRO IN CONTROL	06044	0	
14020	DDRG	+-4				06045		
14030	DATDUD	DSA	DUDH			06049	5	X 1
14040	DC	3	,00'			06049		-2607
	-0'					06052	3	
14050	DATINH	DSA	INH			06057	5	X 1
14060	DC	3	,00'			06057		-6063
	-0'					06060	3	
14070	DC	1	,0			06061	1	
	-							
14080	ENDFOR	DAC	1,0			06063	1	X 2
	0							
14090	INH	DS		,ENDFOR		06063	0	
14100	DS	174				06237	174	
14110	IN	DS	176	,INH+174		06237	176	
14120	STZERO	DC	2	,00		06239	2	
	-0							
14130	00			,0246810		06240	-0	-0-0 0-0-0
14140	00			,0246810		06252	-0	-0-0 0-0-0
14150	00			,0246810		06264	-0	-0-0 0-0-0
14160	00			,0246810		06276	-0	-0-0 0-0-0
14170	00			,0246810		06288	-0	-0-0 0-0-0
14180	00			,0246810		06300	-0	-0-0 0-0-0
14190	00			,0246810		06312	-0	-0-0 0-0-0
14200	DC	2	,00			06325	2	
	-0							
14210	FLZERS	DC	2	,0'		06327	2	
	-							
14220	DS	5				06332	5	
14230	MATRIX	TDM	MATSW	,1	.. MACRO TO PROCESS MATRICIES	06334	15	05583 00001
14240	TDM	SWL+1	,9	..		06346	15	05935 00009
14250	TF	LOCADJ	,FP2			06358	26	06390 03605
14260	BNF	MATRIX2-12,MATRIX-1				06370	44	06406 06333
14270	TFM	LOCADJ	,00	,10		06382	16	06390 000-0
14280	LOCADJ	DS	2	+-3	.. ADJUST LOC FOR MATRIX	06390	2	
14290	S	LOCADJ	,K			06394	22	06390 02221
14300	S	MATRIX-1	,LOCADJ			06406	22	06333 06390
14310	MATRIX2	A	MATRIX-1	,LOCADJ	.. RETURN FROM SWL, EACH MATRIX ELEMENT	06418	21	06333 06390
14320	TF	LOC	,MATRIX-1	..	MOVE ADJUSTED LOCATION	06430	26	05981 06333
14330	SM	PAR	,1	,10		06442	12	03378 000-1
14340	BNE	++24				06454	47	06478 01200

14350	TDM	MATSW	,0		06466	15	05583	00000	
14360	BNL	SMC+12			06478	46	05994	01300	
14370	BB				06490	42	00000	00000	
14380	DORG	--9			06492				
14390	*****	MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT							
14400	SLASH	TDM	COMEND+1	,9	06492	15	06657	00009	
14410	BD	SLASH2	,RMEFSW	,,	06504	43	06524	05953	
14420	B	COMEND			06516	49	06656	00000	
14430	DORG	--4			06523				
14440	SLASH2	BD	IOCR	,COMP SW	,,	06524	43	06664	05678
14450	CM	DATINH+2	,06	,10	06536	14	06059	000-6	
14460	BH	WRITE		,,	06548	46	06632	01100	
14470	TF	LAST	,FLZERS	,6	06560	26	05730	06327	
14480	SM	LAST	,02	,10	06572	12	05736	000-2	
14490	CM	LAST	,00	,610	06584	14	05730	000-0	
14500	BE	--36			06596	46	06560	01200	
14510	CM	LAST	,INH		06608	14	05736	-6063	
14520	BL	COM END			06620	47	06656	01300	
14530	WRITE	TFM	IOPT	,+23	06632	16	00565	-6655	
14540	B	IOPT	,DATINH-4	,7	06644	49	00532	-6053	
14550	COMEND	B	RMA2-12		06656	49	05658	00000	
14560	DORG	--4			06663				
14570	IOCR	CM	MAX-2	,08	06664	14	05922	000-8	
14580	CKW	DS	3	,--2	06673		3		
14590	BNL	WRITE			06676	46	06632	01300	
14600	B	COMEND			06688	49	06656	00000	
14610	DORG	--4			06695				
14620	*****	MACRO TERMINATING I/O CONTROL							
14630	DS	3			06697		3		
14640	COMPLT	TDM	COMEND+1	,2	06698	15	06657	00002	
14650	CHAR2	DS	3	,--1	06708		3		
14660	B	SLASH+12			06710	49	06504	00000	
14670	DORG	--4			06717				
14680	REDD	BD	REDD A+24	,MAT SW	06718	43	06786	05583	
14690	TD	REDDA+23	,COMPSW		06730	25	06785	05678	
14700	TFM	SMC ADJ	,REDD A	,,	06742	16	06044	-6762	
14710	B	SWL			06754	49	05934	00000	
14720	DORG	--4			06761				
14730	REDDA	TDM	SWL+1	,1	06762	15	05935	00001	
14740	TDM	COMPSW		,,	06774	15	05678	00000	
14750	TERM	DS	5		06785		5		
14760	AM	SWF	,5		06786	11	05861	-0005	
14770	TF	SWF	,SWF	,11	06798	26	05861	0586J	
14780	B	SLASH			06810	49	06492	00000	
14790	DORG	--4			06817				
14800	*****	MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES							
14810	*****	SUB FROM REP SW, INITIALLY SET TO ZERO							
14820	*****	IF REPSW NEG, SET TO REPS REQD AND REPEAT FORMAT							
14830	*****	IF REPSW ZERO, LAST FORMAT REPETITION IS COMPLETE							
14840	*****	IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC							
14850	REP	AM	SWF	,7	06818	11	05861	-0007	
14860	SM	REP SW	,1	,10	06830	12	05582	000-1	
14870	BH	REP 2			06842	46	06890	01100	
14880	BE	BSWF			06854	46	05826	01200	
14890	A	REP SW	,SWF	,11	06866	21	05582	0586J	
14900	BNH	BSWF			06878	47	05826	01100	

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14910	REP2	SM	SWF	,2	06890	12	05861	-0002
14920	TF	SWF	,SWF	,11	06902	26	05861	0586J
14930	B	SWF-23			06914	49	05838	00000
14940	DORG	--4			06921			
14950	REP3	SF	REPSW3-1		06922	32	05584	00000
14960	WA	DS	5	,*	06933		5	
14970	AM	SWF	,7	,10	06934	11	05861	000-7
14980	SM	REPSW 3	,1	,10	06946	12	05585	000-1
14990	BH	REP 2			06958	46	06890	01100
15000	BE	BSWF			06970	46	05826	01200
15010	A	REPSW 3	,SWF	,11	06982	21	05585	0586J
15020	B	REP 2-12			06994	49	06878	00000
15030	DORG	--4			07001			
15040	ERF9	TFM	SMC ADJ	,ER COM 2	07002	16	06044	-7078
15050	TF	LAST	,MAX 2		07014	26	05736	06037
15060	TFM	EI	,679	,9	07026	16	02615	00079
15070	B	SWL			07038	49	05934	00000
15080	DORG	--4			07045			
15090	XTYPE	AM	SWF	,3	07046	11	05861	-0003
15100	A	LAST	,SWF	,11	07058	21	05736	0586J
15110	B	BSWF			07070	49	05826	00000
15120	DORG	--4			07077			
15130	ERCOM2	RCTY			07078	34	00000	00102
15140	WA2	DS	,--5		07084		0	
15150	WATY	DUDH			07090	39	02607	00100
15160	RCTY				07102	34	00000	00102
15170	CHAR	DS	5	,--5	07108		5	
15180	TR	EI+1	,FLZERS-1	,,	07114	31	02616	06326
15190	B	BSWF-12			07126	49	05814	00000
15200	DPT	DS	5	,*	07137		5	
15210	DPTM2	DS	5	,+5	07142		5	
15220	DS	5			07142		5	
15230	DORG	08000			08000			
15240	38	A3	,00702		08000	38	08032	00702
15250	36	A3	,00703		08012	36	08032	00703
15260	B	+22			08024	49	08046	00000
15270	DORG	--3			08032			
15280	A3	DSC	9	,019466033	08032		9	
15290	DSA	FIX			08045		5 X	1
15300	TRA				08045		-3854	
15310	TCD	08000			08046	36	00000	00500
					08058	49	00000	00000
					08000			
15320	*****	1620 FORTRAN II-D I WA FORMAT						
15330	*****	1620 FORTRAN II-D I WA FORMAT - SECONDARY LINKAGE						
15340	DORG	START			03851			
15350	DS	3			03853		3	
15360	CM	FAC	,00	,10	03854	14	02492	000-0
15370	B	IFIX			03866	49	05118	00000
15380	TFM	FMOM+11	,--START		03878	16	07165	-0027
15390	DC	2	,1	,--3	03886		2	
-1								
15400	B	FMOM			03890	49	07154	00000

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15410	TFM	FMON+11	,0-START		03902	16	07165	-0051
15420	DC	2	,1	,0-3	03910		2	
	-1							
15430	B	FMON			03914	49	07154	00000
15440	TFM	FMON+11	,0-START		03926	16	07165	-0075
15450	DC	2	,1	,0-3	03934		2	
	-1							
15460	B	FMON			03938	49	07154	00000
15470	TFM	FMON+11	,0-START		03950	16	07165	-0099
15480	DC	2	,1	,0-3	03958		2	
	-1							
15490	B	FMON			03962	49	07154	00000
15500	TFM	FMON+11	,0-START		03974	16	07165	-0123
15510	DC	2	,1	,0-3	03982		2	
	-1							
15520	B	FMON			03986	49	07154	00000
15530	TFM	FMON+11	,0-START		03998	16	07165	-0147
15540	DC	2	,1	,0-3	04006		2	
	-1							
15550	B	FMON			04010	49	07154	00000
15560	DORG	0-1			04020			
15570	TFM	FMON+11	,0-START		04020	16	07165	-0169
15580	DC	2	,1	,0-3	04028		2	
	-1							
15590	B	FMON		,8	04032	49	07154	0-000
15600	DORG	0-1			04042			
15610	TFM	FMON+11	,0-START		04042	16	07165	-0191
15620	DC	2	,1	,0-3	04050		2	
	-1							
15630	B	FMON			04054	49	07154	00000
15640	TFM	FMON+11	,0-START		04066	16	07165	-0215
15650	DC	2	,1	,0-3	04074		2	
	-1							
15660	B	FMON			04078	49	07154	00000
15670	TFM	FMON+11	,0-START		04090	16	07165	-0239
15680	DC	2	,1	,0-3	04098		2	
	-1							
15690	B	FMON			04102	49	07154	00000
15700	TFM	FMON+11	,0-START		04114	16	07165	-0263
15710	DC	2	,1	,0-3	04122		2	
	-1							
15720	B	FMON			04126	49	07154	00000
15730	TFM	FMON+11	,0-START		04138	16	07165	-0287
15740	DC	2	,1	,0-3	04146		2	
	-1							
15750	B	FMON			04150	49	07154	00000
15760	TFM	FMON+11	,0-START		04162	16	07165	-0311
15770	DC	2	,1	,0-3	04170		2	
	-1							
15780	B	FMON			04174	49	07154	00000
15790	TFM	FMON+11	,0-START		04186	16	07165	-0335
15800	DC	2	,1	,0-3	04194		2	
	-1							
15810	B	FMON			04198	49	07154	00000
15820	TFM	FMON+11	,0-START		04210	16	07165	-0359
15830	DC	2	,2	,0-3	04218		2	
	-2							

15840	B	FMON			04222	49	07154	00000
15850	TFM	FMON+11	,0-START		04234	16	07165	-0383
15860	DC	2	,2	,0-3	04242		2	
	-2							
15870	B	FMON			04246	49	07154	00000
15880	TFM	FMON+11	,0-START		04258	16	07165	-0407
15890	DC	2	,2	,0-3	04266		2	
	-2							
15900	B	FMON			04270	49	07154	00000
15910	****		WRITE ALPHAMERIC					
15920	TF	SWF	,WATY-1		04282	26	05861	04281
15930	B	WATY1			04294	49	05498	00000
15940	TF	SWF	,WAPT-1		04306	26	05861	04305
15950	B	WAPT1			04318	49	05518	00000
15960	TF	SWF	,WACD-1		04330	26	05861	04329
15970	B	WACD1			04342	49	05538	00000
15980	****		READ ALPHAMERIC					
15990	TF	SWF	,RATY-1		04354	26	05861	04353
16000	B	RATY1			04366	49	05862	00000
16010	TF	SWF	,RAPY-1		04378	26	05861	04377
16020	B	RAPT1			04390	49	05882	00000
16030	TF	SWF	,RACD-1		04402	26	05861	04401
16040	B	RACD1		,8	04414	49	05902	0-000
16050	DORG	0-1			04424			
16060	TFM	FMON+11	,0-START		04424	16	07165	-0573
16070	DC	2	,4	,0-3	04432		2	
	-4							
16080	B	FMON		,8	04436	49	07154	0-000
16090	DORG	0-1			04446			
16100	WRITEI	TFM	WA	,GAM+2	04446	16	06933	-2557
16110	B	WRIT11		,8	04458	49	04598	0-000
16120	DORG	0-1			04468			
16130	TFM	FMON+11	,0-START		04468	16	07165	-0617
16140	DC	2	,8	,0-3	04476		2	
	-8							
16150	B	FMON		,8	04480	49	07154	0-000
16160	DORG	0-1			04490			
16170	TFM	FMON+11	,0-START		04490	16	07165	-0639
16180	DC	2	,9	,0-3	04498		2	
	-9							
16190	B	FMON		,8	04502	49	07154	0-000
16200	DORG	0-1			04512			
16210	TFM	FMON+11	,0-START		04512	16	07165	-0661
16220	DC	2	,8	,0-3	04520		2	
	-8							
16230	B	FMON		,8	04524	49	07154	0-000
16240	DORG	0-1			04534			
16250	TFM	FMON+11	,0-START		04534	16	07165	-0683
16260	DC	2	,6	,0-3	04542		2	
	-6							
16270	B	FMON		,8	04546	49	07154	0-000
16280	DORG	0-1			04556			
16290	TFM	FMON+11	,0-START		04556	16	07165	-0705
16300	DC	2	,6	,0-3	04564		2	
	-6							
16310	B	FMON		,8	04568	49	07154	0-000

16320	DORG	--1			04578		
16330	TFM	FMON+11	,--START		04578	16	07165 -0727
16340	DC	2	,6	,--3	04586	2	
		-6					
16350	B	FMON			04590	49	07154 00000
16360	DORG	--4			04597		
16370	*****	1620 FORTRAN II-D	I WA FORMAT - SUBROUTINES				
16380	*****	RETURN FROM SWL	VIA SWC IF WRITING I TYPE				
16390	*****	VALUE PUT IN FAC	IN I FORM, EXPANDED TO ALPHA IN				
16400	*****	GAMMA RIGHT TO LEFT.	HO CONTAINS ADR OF HIGH ORDER				
16410	*****	DIGIT IN GAM.	AFTER VALUE IN GAM IS SIGNED,CHECKED				
16420	*****	FOR WIDTH, MOVE TO OUTPUT RECORD.					
16430	*****	ERFBI RESULTS IF	VALUE TOO LARGE FOR FORMAT SPECS.				
16440	WRIT11	TFM	WA2	,FAC+1	04598	16	07084 -2493
16450	TF	FAC	,LOC	,11	04610	26	02492 0598J
16460	BNF	WRTI2+12	,FAC-1		04622	44	04690 02491
16470	IFWRT	SM	LOC	,2	04634	12	05981 -0002
16480	TF	FAC-2	,LOC	,11	04646	26	02490 0598J
16490	TF	FIXEND+6	,ICON3+6		04658	26	03766 05328
16500	B	FIX			04670	49	03854 00000
16510	DORG	--4			04677		
16520	WRTI2	TDM	FIXEND+1	,2	04678	15	03761 00002
16530	TR	GAM-19	,MASK I-1		04690	31	02536 05330
16540	TFM	HO	,GAM+1		04702	16	04793 -2556
16550	WRTI	SM	WA 2	,1	04714	12	07084 -0001
16560	SM	WA	,2		04726	12	06933 -0002
16570	TD	WA	,WA 2	,611	04738	25	0693L 0708M
16580	BD	I DIG	,WA 2	,11	04750	43	04770 0708M
16590	B	I DIG+12			04762	49	04782 00000
16600	DORG	--4			04769		
16610	IDIG	TF	HO	,WA	04770	26	04793 06933
16620	CF	GAM	,,	,,	04782	33	02555 00000
16630	HO	DS	5	,*	04793	5	
				,,			PREVENTS PREMATURE TERM.FOR NEG ARG
16640	BNF	WRTI	,WA	,11	04794	44	04714 0693L
16650	CM	HO	,GAM+1		04806	14	04793 -2556
16660	BNE	WRT SGN			04818	47	74850 01200
16670	TFM	LAST	,7000	,68	04830	16	05730 0P000
16680	B	BSWF			04842	49	05826 00000
16690	DORG	--4			04849		
16700	WRTSGN	BNF	WRT I3	,FAC	04850	44	04884 02492
16710	SM	HO	,2		04862	12	04793 -0002
16720	TFM	HO	,20	,610	04874	16	0479L 0000K
16730	WRTI3	SM	HO	,1	04886	12	04793 -0001
16740	TFM	OUT	,GAM		04898	16	04957 -2555
16750	S	OUT	,HO		04910	22	04957 04793
16760	C	OUT	,WIDTH 2		04922	24	04957 05956
16770	BH	ER F8 I			04934	46	05014 01100
16780	SF	OUT			04946	32	04957 00000
16790	OUT	DS	5	,*	04957	5	
				,,			HI ORDER WKG ADR IN I/O RECORD, I TYPE
16800	A	OUT	,LAST		04958	21	04957 05736
16810	SM	OUT	,2		04970	12	04957 -0002
16820	TR	OUT	,HO	,611	04982	31	0495P 0479L
16830	TFM	LAST	,00	,610	04994	16	05730 000-0
16840	B	BSWF			05006	49	05826 00000
16850	DORG	--4			05013		
16860	ERFBI	TR	DUD H+11	,FLZERS-67	05014	31	02618 06260

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16870	TR	DUD H+11	,HO	,11	05026	31	02618 0479L
16880	CM	DATINH+2	,08	,10	05038	14	06059 000-8
16890	TFM	EI+2	,67800	,,	05050	16	02617 07800
16900	BL	ER COM 2		,,	05062	47	07078 01300
16910	TF	DATDUD+2	,DATINH+2		05074	26	06051 06059
16920	TFM	IORT	,+23		05086	16	00565 -5109
16930	B	IORT	,DATDUD-4	,7	05098	49	00532 -6045
16940	B	ER COM 2			05110	49	07078 00000
16950	DORG	--4			05117		
16960	IFIX	BP	,+32	,,	05118	46	05150 01100
16970	TF	FAC	,FXZ	,,	05130	26	02492 02815
16980	B	FIXEND		,,	05142	49	03760 00000
16990	DORG	--3			05150		
17000	TD	MU-1	,FAC-2	,,	05150	25	03711 02490
17010	C	FAC	,K	,,	05162	24	02492 02221
17020	BNH	,+56		,,	05174	47	05230 01100
17030	TDM	FXERR+25	,1	,,	05186	15	03701 00001
17040	TFM	EI	,579	,9,	05198	16	02615 00N79
17050	TF	FAC	,FX9	,,	05210	26	02492 02805
17060	B	FXERR		,,	05222	49	03676 00000
17070	DORG	--3			05230		
17080	CF	FAC-2			05230	33	02490 00000
17090	TF	BETA	,ZERO-51	,,	05242	26	02603 02716
17100	TF	IMSA	,FXZ	,,	05254	26	02575 02815
17110	TF	,+30	,IMSAPP	,,	05266	26	05296 03298
17120	S	,+18	,FAC		05278	22	05296 02492
17130	A	DUMMY	,FAC-2		05290	21	99999 02490
17140	TF	FAC	,IMSA		05302	26	02492 02575
17150	B	MU			05314	49	03712 00000
17160	DORG	--4			05321		
17170	ICON3	B	WRT I2	,1	05322	4R	04678 00000
17180	DORG	--4			05329		
17190	MASKI	DAC	11,000000000000		05331		11 X 2
17200	DORG	08000			08000		
17210	38	A5	,00702		08000	38	08032 00702
17220	36	A5	,00703		08012	36	08032 00703
17230	B	,+22			08024	49	08046 00000
17240	DORG	--3			08032		
17250	A5	DSC	9	,019499016	08032		9
17260	DSA	FIX			08045		5 X 1
17270	TRA				08045		-3854
					08046	36	00000 00500
					08058	49	00000 00000
17280	TCD	08000			08000		
17290	*****	1620 FORTRAN II-D	EF-HTYPE	FORMAT			
17300	*****	1620 FORTRAN II-D	EF-HTYPE	FORMAT - SECONDARY LINKAGE			
17310	DORG	START			03851		
17320	DS	3			03853		3
17330	TFM	FMON+11	,--START		03854	16	07165 -0003
17340	DC	2	,1	,--3	03862	2	
		-1					
17350	B	FMON			03866	49	07154 00000

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1620 FORTRAN II-D SUBROUTINES SET 1				PAGE	36
17360	TFM	FMON+11	,0-START	03878	16 07165 -0027
17370	DC	2	,1 ,0-3	03886	2
	-1				
17380	B	FMON		03890	49 07154 00000
17390	TFM	FMON+11	,0-START	03902	16 07165 -0051
17400	DC	2	,1 ,0-3	03910	2
	-1				
17410	B	FMON		03914	49 07154 00000
17420	TFM	FMON+11	,0-START	03926	16 07165 -0075
17430	DC	2	,1 ,0-3	03934	2
	-1				
17440	B	FMON		03938	49 07154 00000
17450	TFM	FMON+11	,0-START	03950	16 07165 -0099
17460	DC	2	,1 ,0-3	03958	2
	-1				
17470	B	FMON		03962	49 07154 00000
17480	TFM	FMON+11	,0-START	03974	16 07165 -0123
17490	DC	2	,1 ,0-3	03982	2
	-1				
17500	B	FMON		03986	49 07154 00000
17510	TFM	FMON+11	,0-START	03998	16 07165 -0147
17520	DC	2	,1 ,0-3	04006	2
	-1				
17530	B	FMON		04010	49 07154 00000
17540	DORG	0-1		04020	
17550	TFM	FMON+11	,0-START	04020	16 07165 -0169
17560	DC	2	,1 ,0-3	04028	2
	-1				
17570	B	FMON	, ,0	04032	49 07154 0-000
17580	DORG	0-1		04042	
17590	TFM	FMON+11	,0-START	04042	16 07165 -0191
17600	DC	2	,1 ,0-3	04050	2
	-1				
17610	B	FMON		04054	49 07154 00000
17620	TFM	FMON+11	,0-START	04066	16 07165 -0215
17630	DC	2	,1 ,0-3	04074	2
	-1				
17640	B	FMON		04078	49 07154 00000
17650	TFM	FMON+11	,0-START	04090	16 07165 -0239
17660	DC	2	,1 ,0-3	04098	2
	-1				
17670	B	FMON		04102	49 07154 00000
17680	TFM	FMON+11	,0-START	04114	16 07165 -0263
17690	DC	2	,1 ,0-3	04122	2
	-1				
17700	B	FMON		04126	49 07154 00000
17710	TFM	FMON+11	,0-START	04138	16 07165 -0287
17720	DC	2	,1 ,0-3	04146	2
	-1				
17730	B	FMON		04150	49 07154 00000
17740	TFM	FMON+11	,0-START	04162	16 07165 -0311
17750	DC	2	,1 ,0-3	04170	2
	-1				
17760	B	FMON		04174	49 07154 00000
17770	TFM	FMON+11	,0-START	04186	16 07165 -0335
17780	DC	2	,1 ,0-3	04194	2
	-1				

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1620 FORTRAN II-D SUBROUTINES SET 1				PAGE	37
17790	B	FMON		04198	49 07154 00000
17800	TFM	FMON+11	,0-START	04210	16 07165 -0359
17810	DC	2	,2 ,0-3	04218	2
	-2				
17820	B	FMON		04222	49 07154 00000
17830	TFM	FMON+11	,0-START	04234	16 07165 -0383
17840	DC	2	,2 ,0-3	04242	2
	-2				
17850	B	FMON		04246	49 07154 00000
17860	TFM	FMON+11	,0-START	04258	16 07165 -0407
17870	DC	2	,2 ,0-3	04266	2
	-2				
17880	B	FMON		04270	49 07154 00000
17890	****		WRITE ALPHAMERIC		
17900	TF	SWF	,WATY-1	04282	26 05861 04281
17910	B	WATY1		04294	49 05498 00000
17920	TF	SWF	,WAPT-1	04306	26 05861 04305
17930	B	WAPT1		04318	49 05518 00000
17940	TF	SWF	,WACD-1	04330	26 05861 04329
17950	B	WACD1		04342	49 05538 00000
17960	****		READ ALPHAMERIC		
17970	TF	SWF	,RATY-1	04354	26 05861 04353
17980	B	RATY1		04366	49 05862 00000
17990	TF	SWF	,RAPT-1	04378	26 05861 04377
18000	B	RAPT1		04390	49 05882 00000
18010	EF2SM	DS	, ,	04401	5
18020	TF	SWF	,RACD-1	04402	26 05861 04401
18030	B	RACD1	, ,0	04414	49 05902 0-000
18040	DORG	0-1		04424	
18050	TFM	FMON+11	,0-START	04424	16 07165 -0573
18060	DC	2	,4 ,0-3	04432	2
	-4				
18070	B	FMON	, ,0	04436	49 07154 0-000
18080	DORG	0-1		04446	
18090	TFM	FMON+11	,0-START	04446	16 07165 -0595
18100	DC	2	,5 ,0-3	04454	2
	-5				
18110	B	FMON	, ,0	04458	49 07154 0-000
18120	DORG	0-1		04468	
18130	TFM	FMON+11	,0-START	04468	16 07165 -0617
18140	DC	2	,0 ,0-3	04476	2
	-0				
18150	B	FMON	, ,0	04480	49 07154 0-000
18160	DORG	0-1		04490	
18170	TFM	FMON+11	,0-START	04490	16 07165 -0639
18180	DC	2	,9 ,0-3	04498	2
	-9				
18190	B	FMON	, ,0	04502	49 07154 0-000
18200	DORG	0-1		04512	
18210	TFM	FMON+11	,0-START	04512	16 07165 -0661
18220	DC	2	,0 ,0-3	04520	2
	-0				
18230	B	FMON	, ,0	04524	49 07154 0-000
18240	DORG	0-1		04534	
18250	****		MACRO FOR F TYPE READ AND WRITE		
18260	FTYPE	CF	RHEFSM	04534	33 05953 00000

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18270	B	EF COM	,	,	04566	49	04600	0-000
18280	DORG	*-1			04556			
18290	****	MACRO FOR E TYPE READ AND WRITE						
18300	ETYPE	SF	RNEFSW		04556	32	05953	00000
18310	B	EFCDM	,	,	04568	49	04600	0-000
18320	DORG	*-1			04578			
18330	HTYPE	AM	SWF	,	04578	11	05861	-0003
18340	B	HTYPE1	,	,	04590	49	05192	0-000
18350	DORG	*-1			04600			
18360	*****	1620 FORTRAN II-D EF-HTYPE FORMAT - SUBROUTINES						
18370	EFCDM	AM	SWF	,	04600	11	05861	-0003
18380	TF	WIDTH	,SWF	,	04612	26	05715	0586J
18390	AM	SWF	,	2	04624	11	05861	-0002
18400	TF	LOC D	,SWF	,	04636	26	05608	0586J
18410	TF	INPLUS	,LAST		04648	26	05945	05736
18420	TF	WIDTH 2	,WIDTH		04660	26	05956	05715
18430	A	WIDTH 2	,WIDTH		04672	21	05956	05715
18440	A	LAST	,WIDTH2		04684	21	05736	05956
18450	C	LAST	,MAX 2		04696	24	05736	06037
18460	BH	ER F9			04708	46	07002	01100
18470	TF	TERM	,LAST		04720	26	06785	05736
18480	SM	TERM	,	2	04732	12	06785	-0002
18490	TF	CHAR	,WIDTH		04744	26	07108	05715
18500	TF	WA	,FNH		04756	26	06933	03313
18510	TDM	97			04768	15	00097	00000
18520	TFM	99		10	04780	16	00099	000-0
18530	BD	EF WRT	,RNEFSW		04792	43	05028	05953
18540	TF	FAC	,FLZALP	,	04804	26	02492	03340
18550	TFM	SWCADJ	,READ EF		04816	16	06044	-4468
18560	RDFCH	CM	INPLUS	,	04828	14	0594N	000-0
18570	BNE	FCH NB	,	00	04840	47	04920	01200
18580	SM	CHAR	,	1	04852	12	07108	000-1
18590	AM	INPLUS	,	2	04864	11	05945	-0002
18600	C	INPLUS	,LAST		04876	24	05945	05736
18610	BL	RD FCH			04888	47	04828	01300
18620	TFM	EF2SW	,EFEND+12		04900	16	04401	-5212
18630	B	BEF2SW			04912	49	05384	00000
18640	DORG	*-4			04919			
18650	FCHNB	CM	INPLUS	,	04920	14	0594N	000K0
18660	BNE	**32			04932	47	04964	01200
18670	TFM	EF2SW	,EF MIN		04944	16	04401	-4632
18680	B	BEF2SW			04956	49	05384	00000
18690	DORG	*-4			04963			
18700	CM	INPLUS	,	10	04964	14	0594N	000J0
18710	BNE	**32			04976	47	05008	01200
18720	TFM	EF2SW	,EF PLUS		04988	16	04401	-4644
18730	B	BEF2SW			05000	49	05384	00000
18740	DORG	*-4			05007			
18750	TFM	EF2SW	,EFTYPE+36		05008	16	04401	-4692
18760	B	BEF2SW			05020	49	05384	00000
18770	DORG	*-4			05027			
18780	EFWRT	C	LOC D	,	05028	24	05608	02219
18790	RNH	**24			05040	47	05064	01100
18800	TF	LOC D	,	F	05052	26	05608	02219
18810	TF	LOC D 2	,LOC D		05064	26	05606	05608
18820	A	LOC D 2	,LOC D		05076	21	05606	05608

18830	TR	GAM-59	,MASK F-1		05088	31	02496	05416
18840	TFM	WA	,GAM		05100	16	06933	-2555
18850	TFM	WA2	,FAC-1		05112	16	07084	-2491
18860	TFM	SWCADJ	,EFMW		05124	16	06044	-4490
18870	SM	WIDTH	,	2	05136	12	05715	000-2
18880	BNF	SWL	,RNEFSW	,	05148	44	05934	05953
18890	SM	TERM	,	8	05160	12	06785	-0008
18900	SM	WIDTH	,	4	05172	12	05715	000-4
18910	B	SWL			05184	49	05934	00000
18920	DORG	*-4			05191			
18930	****	MACRO FOR HOLLERITH TYPE READ AND WRITE						
18940	HTYPE1	TF	WIDTH2	,SWF	05192	26	05956	0586J
18950	TF	INPLUS	,LAST	,	05204	26	05945	05736
18960	A	LAST	,WIDTH2		05216	21	05736	05956
18970	C	LAST	,MAX2		05228	24	05736	06037
18980	BNH	**32			05240	47	05272	01100
18990	A	SWF	,WIDTH2		05252	21	05861	05956
19000	B	ER COM 2			05264	49	07078	00000
19010	DORG	*-4			05271			
19020	BD	HVRT	,RNEFSW		05272	43	05304	05953
19030	TFM	EF2SW	,HRD		05284	16	04401	-5356
19040	B	BEF2SW			05296	49	05384	00000
19050	DORG	*-4			05303			
19060	HVRT	SM	WIDTH 2	,	05304	12	05956	000-2
19070	TDM	COMP SW	,	0	05316	15	05678	00000
19080	BL	BSWF			05328	47	05826	01300
19090	AM	SWF	,	2	05340	11	05861	-0002
19100	TF	INPLUS	,SWF	,	05352	26	0594N	0586J
19110	AM	INPLUS	,	2	05364	11	05945	-0002
19120	B	H WRT			05376	49	05304	00000
19130	DORG	*-4			05383			
19140	BEF2SW	TFM	MBASE+5	,FTYPE	05384	16	07398	-4534
19150	TFM	FMON+11	,HTYPE+22-START		05396	16	07165	-0749
19160	DC	2	,	7	05404		2	
19170	B	FMON			05408	49	07154	00000
19180	DORG	*-4			05415			
19190	MASKF	DAC	31,00		05417		31 X	2
			00					
19200	DORG	08000			08000			
19210	38	A6	,00702		08000	38	08032	00702
19220	36	A6	,00703		08012	36	08032	00703
19230	B	**22			08024	49	08046	00000
19240	DORG	*-3			08032			
19250	A6	DSC	9	,019515017	08032		9	
19260	DSA	FIX			08045		5 X	1
					08045		-3854	
19270	TRA				08046	36	00000	00500
					08058	49	00000	00000
19280	TCD	08000			08000			
19290	*****	1620 FORTRAN II-D EF-HTYPE 2 FORMAT						
19300	*****	1620 FORTRAN II-D EF-HTYPE 2 FORMAT - SUBROUTINES						
19310	DORG	FTYPE			04534			

19320	TFM	FMON+11	,0-START		04534	16	07165	-0683
19330	DC	2	,6	,0-3	04542	2		
	B	FMON		,0	04546	49	07154	0-000
19340	DORG	0-1			04556			
19360	TFM	FMON+11	,0-START		04556	16	07165	-0705
19370	DC	2	,6	,0-3	04564	2		
	B	FMON		,0	04568	49	07154	0-000
19380	DORG	0-1			04578			
19400	TFM	FMON+11	,0-START		04578	16	07165	-0727
19410	DC	2	,6	,0-3	04586	2		
	B	FMON		,0	04590	49	07154	00000
19420	DORG	0-1			04600			
19440	TFM	MBASE+5	,FIX		04600	16	07398	-3854
19450	TFM	EFTERM+10	,EF TYPE		04612	16	05194	-4656
19460	B	EF2SN		,6	04624	49	0440J	00000
19470	DORG	0-4			04631			
19480	EFMIN	SF	99		04632	32	00099	00000
19490	EFPLUS	SM	CHAR	,1	04644	12	07108	000-1
19500	EFTYPE	AM	INPLUS	,2	04656	11	05945	-0002
19510	CM	INPLUS	,00	,610	04668	14	0594N	000-0
19520	BE	LDG DIG			04680	46	05016	01200
19530	CM	INPLUS	,70	,610	04692	14	0594N	000P0
19540	BH	EF DIG			04704	46	05116	01100
19550	BE	LDG DIG			04716	46	05016	01200
19560	CM	INPLUS	,03	,610	04728	14	0594N	000-3
19570	BE	EF DEC			04740	46	05048	01200
19580	BNF	ERRF7 E	,RMEFSM		04752	44	05324	05953
19590	TFM	EXP	,000	,9	04764	16	04785	00-00
19600	TDM	E EXPAD+1	,1		04776	15	04997	00001
19610	EXP	DS	3	,0-2	04785	3		
19620	CM	INPLUS	,45	,610	04788	14	0594N	000M5
19630	BE	E EXP			04800	46	04952	01200
19640	EEXP2	CM	INPLUS	,20	04812	14	0594N	000K0
19650	BE	E EXP M			04824	46	04940	01200
19660	CM	INPLUS	,10	,610	04836	14	0594N	000J0
19670	BE	E EXP			04848	46	04952	01200
19680	EEXP22	BD	+24	,97	04860	43	04884	00097
19690	SM	CHAR	,1	,9	04872	12	07108	00-01
19700	C	INPLUS	,TERM		04884	24	05945	06785
19710	BNL	EEXPAD-12			04896	46	04984	01300
19720	TD	EXP-1	,INPLUS	,11	04908	25	04784	0594N
19730	AM	INPLUS	,2		04920	11	05945	-0002
19740	B	EEXP22+12			04932	49	04872	00000
19750	DORG	0-4			04939			
19760	EEXPM	TDM	E EXPAD+1	,2	04940	15	04997	00002
19770	EEXP	AM	INPLUS	,2	04952	11	05945	-0002
19780	SM	CHAR	,1	,10	04964	12	07108	000-1
19790	B	E EXP 2			04976	49	04812	00000
19800	DORG	0-4			04983			
19810	TD	EXP	,INPLUS	,11	04984	25	04785	0594N
19820	EEXPAD	A	CHAR	,EXP	04996	21	07108	04785
19830	B	EF END			05008	49	05200	00000
19840	DORG	0-4			05015			

19850	LDGDIG	BNF	EF DIG	,98	05016	44	05116	00098
19860	SM	CHAR	,1	,10	05028	12	07108	000-1
19870	B	EF TERM			05040	49	05176	00000
19880	DORG	0-4			05047			
19890	EFDEC	BD	ERRF7 E	,97	05048	43	05324	00097
19900	TFM	LOC D	,00	,10	05060	16	05608	000-0
19910	TFM	EFTERM+10	,EF PLUS		05072	16	05194	-4644
19920	TDM	97	,1		05084	15	00097	0000J
19930	SM	CHAR	,1	,10	05096	12	07108	000-1
19940	B	EF TERM			05108	49	05176	00000
19950	DORG	0-4			05115			
19960	EFDIG	CF	98		05116	33	00098	00000
19970	CM	WA	,FAC-1		05128	14	06933	-2491
19980	BNL	+36	,,	,,	05140	46	05176	01300
19990	TD	WA	,INPLUS	,611	05152	25	0693L	0594N
20000	AM	WA	,1		05164	11	06933	-0001
20010	EFTERM	C	INPLUS	,TERM	05176	24	05945	06785
20020	BL	EFTYPE			05188	47	04656	01300
20030	EFEND	BNF	EFEND2	,FMH	05200	44	05232	0331L
20040	TFM	FAC	,99	,1011	05212	16	02492	000RR
20050	B	SML			05224	49	05934	00000
20060	DORG	0-3			05232			
20070	EFEND2	S	CHAR	,LDC D	05232	22	07108	05608
20080	BD	ERR F7E	,CHAR-2		05244	43	05324	07106
20090	SF	CHAR-1			05256	32	07107	00000
20100	TF	FAC	,CHAR		05268	26	02492	07108
20110	SF	FMH		,6	05280	32	0331L	00000
20120	BNF	SML	,99		05292	44	05934	00099
20130	SF	FAC-2			05304	32	02490	00000
20140	B	SML			05316	49	05934	00000
20150	DORG	0-4			05323			
20160	ERRF7E	TF	FAC	,FLZALP	05324	26	02492	03340
20170	TDM	EI	,7	,11	05336	15	02615	0000P
20180	B	EFEND			05348	49	05200	00000
20190	DORG	0-4			05355			
20200	HRD	SM	WIDTH 2	,2	05356	12	05956	000-2
20210	BL	BSWF		,10	05368	47	05626	01300
20220	AM	SWF	,2		05380	11	05861	-0002
20230	TF	SWF	,INPLUS	,611	05392	26	0586J	0594N
20240	AM	INPLUS	,2		05404	11	05945	-0002
20250	B	HRD			05416	49	05356	00000
20260	DORG	0-4			05423			
20270	DORG	08000			08000			
20280	38	A7	,00702		08000	38	08032	00702
20290	36	A7	,00703		08012	36	08032	00703
20300	B	+22			08024	49	08046	00000
20310	DORG	0-3			08032			
20320	AT	OSC	9	,019932009	08032	9		
20330	OSA	FTYPE			08045	5	X	1
					08045			
20340	TRA				08046	36	00000	00500
					08058	49	00000	00000
20350	TCD	08000			08000			

Address	Label	Operation	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5	Parameter 6	Parameter 7	Parameter 8
20360	*****									
20370	*****									
20380	DORG	START								
20390	DS	3								
20400	CM	FAC	.00		.10					IS CHAR POSITIVE
20410	B	EFFIX								
20420	TFM	FMON+11	,+-START							
20430	DC	2	.1		,+-3					
	-1									
20440	B	FMON								
20450	TFM	FMON+11	,+-START							
20460	DC	2	.1		,+-3					
	-1									
20470	B	FMON								
20480	TFM	FMON+11	,+-START							
20490	DC	2	.1		,+-3					
	-1									
20500	B	FMON								
20510	TFM	FMON+11	,+-START							
20520	DC	2	.1		,+-3					
	-1									
20530	B	FMON								
20540	TFM	FMON+11	,+-START							
20550	DC	2	.1		,+-3					
	-1									
20560	B	FMON								
20570	TFM	FMON+11	,+-START							
20580	DC	2	.1		,+-3					
	-1									
20590	B	FMON								
20600	DORG	+1								
20610	TFM	FMON+11	,+-START							
20620	DC	2	.1		,+-3					
	-1									
20630	B	FMON			.8					
20640	DORG	+1								
20650	TFM	FMON+11	,+-START							
20660	DC	2	.1		,+-3					
	-1									
20670	B	FMON								
20680	TFM	FMON+11	,+-START							
20690	DC	2	.1		,+-3					
	-1									
20700	B	FMON								
20710	TFM	FMON+11	,+-START							
20720	DC	2	.1		,+-3					
	-1									
20730	B	FMON								
20740	TFM	FMON+11	,+-START							
20750	DC	2	.1		,+-3					
	-1									
20760	B	FMON								
20770	TFM	FMON+11	,+-START							
20780	DC	2	.1		,+-3					
	-1									
20790	B	FMON								

20800	TFM	FMON+11	,+-START							
20810	DC	2	.1		,+-3					
	-1									
20820	B	FMON								
20830	TFM	FMON+11	,+-START							
20840	DC	2	.1		,+-3					
	-1									
20850	B	FMON								
20860	TFM	FMON+11	,+-START							
20870	DC	2	.2		,+-3					
	-2									
20880	B	FMON								
20890	TFM	FMON+11	,+-START							
20900	DC	2	.2		,+-3					
	-2									
20910	B	FMON								
20920	TFM	FMON+11	,+-START							
20930	DC	2	.2		,+-3					
	-2									
20940	B	FMON								
20950	****									
20960	TF	SWF	,WATY-1							
20970	B	WATY1								
20980	TF	SWF	,WAPT-1							
20990	B	WAPT1								
21000	TF	SWF	,WACD-1							
21010	B	WACD1								
21020	****									
21030	TF	SWF	,RATY-1							
21040	B	RATY1								
21050	TF	SWF	,RAPT-1							
21060	B	RAPT1								
21070	TF	SWF	,RACD-1							
21080	B	RACD1			.8					
21090	DORG	+1								
21100	TFM	FMON+11	,+-START							
21110	DC	2	.4		,+-3					
	-4									
21120	B	FMON			.8					
21130	DORG	+1								
21140	TFM	FMON+11	,+-START							
21150	DC	2	.5		,+-3					
	-5									
21160	B	FMON			.8					
21170	DORG	+1								
21180	READEF	BNF	EF RD2+12,LOC							
21190	B	EF RD1			.8					
21200	DORG	+1								
21210	TFM	FMON+11	,+-START							
21220	DC	2	.9		,+-3					
	-9									
21230	B	FMON			.8					
21240	DORG	+1								
1250	ATYPE	AM	SWF	.3						
1260	B	ATYPE1			.8					
1270	DORG	+1								

21280	TFM	FNDN+11	,0-START		04534	16	07165	-0683
21290	DC	2	,6	,0-3	04542		2	
21300	B	FNDN	,	,8	04546	49	07154	0-000
21310	DORG	0-1			04556			
21320	TFM	FNDN+11	,0-START		04556	16	07165	-0705
21330	DC	2	,6	,0-3	04564		2	
21340	B	FNDN	,	,8	04568	49	07154	0-000
21350	DORG	0-1			04578			
21360	TFM	FNDN+11	,0-START		04578	16	07165	-0727
21370	DC	2	,6	,0-3	04586		2	
21380	B	FNDN	,		04590	49	07154	00000
21390	DORG	0-4			04597			
21400	*****	1620 FORTRAN II-D RAEF-ATYPE FORMAT - SUBROUTINES						
21410	EFRD1	CF	LOC		04598	33	05981	00000
21420	TF	FIXEND+6	,I CON 5+6		04610	26	03766	04920
21430	B	FIX			04622	49	03854	00000
21440	DORG	0-4			04628			
21450	EFRD2	TDM	FIXEND+1	,2	04430	15	03761	00002
21460	TF	LOC	,FAC	,6	04442	26	0598J	02492
21470	SM	LOC	,2		04654	12	05981	-0002
21480	TF	LOC	,FAC-2	,6	04666	26	0598J	02490
21490	ERF7S	BNF	B5WF-12	,E1	04678	44	05814	02615
21500	CF	E1			04690	33	02615	00000
21510	B	ERCOM2			04702	49	07078	00000
21520	DORG	0-4			04709			
21530	EFFIX	BP	+32		04710	46	04742	01100
21540	TF	FAC	,FXZ		04722	26	02492	02815
21550	B	FIXEND			04734	49	03760	00000
21560	DORG	0-3			04742			
21570	TD	MU-1	,FAC-2		04742	25	03711	02490
21580	C	FAC	,K		04754	24	02492	02221
21590	BNH	+56			04766	47	04822	01100
21600	TDM	FXERR+25	,1		04778	15	03701	00001
21610	TFM	E1	,579	,9	04790	14	02615	00N79
21620	TF	FAC	,FX9		04802	26	02492	02805
21630	B	FXERR			04814	49	03676	00000
21640	DORG	0-3			04822			
21650	CF	FAC-2			04822	33	02490	00000
21660	TF	BETA	,ZERO-51		04834	26	02603	02716
21670	TF	INSA	,FXZ		04846	26	02575	02815
21680	TF	+30	,INSAPF		04858	26	04888	03298
21690	S	+18	,FAC		04870	22	04888	02492
21700	A	DUMMY	,FAC-2		04882	21	99999	02490
21710	TF	FAC	,INSA		04894	26	02492	02575
21720	B	MU			04906	49	03712	00000
21730	DORG	0-4			04913			
21740	ICONS	B	EFRD 2	,1	04914	4R	04630	00000
21750	DORG	0-4			04921			
21760	*****	MACRO FOR A TYPE READ AND WRITE						
21770	ATYPE1	TF	WIDTH 2	,SWF	04922	26	05956	0586J
21780	TF	INPLUS	,LAST		04934	26	05945	05736
21790	A	LAST	,WIDTH 2		04946	21	05736	05956
21800	C	LAST	,MAX 2		04958	24	05736	06037

21810	BH	ER F9			04970	46	07002	01100
21820	TF	TERM	,LAST		04982	26	06785	05736
21830	SM	TERM	,2		04994	12	06785	-0002
21840	TFM	SWC ADJ	,WRITE A		05006	16	06044	-5266
21850	BD	SWL	,RW EF SW		05018	43	05934	05953
21860	TFM	SWC ADJ	,READ A		05030	16	06044	-5050
21870	B	SWL			05042	49	05934	00000
21880	DORG	0-4			05049			
21890	READA	CF	INPLUS	,1	05050	33	0594N	00000
21900	AM	INPLUS	,10		05062	11	05945	000-1
21910	C	INPLUS	,TERM		05074	24	05945	06785
21920	BL	READ A			05086	47	05050	01300
21930	BNF	RDAFL	,LOC		05098	44	05210	05981
21940	CF	LOC			05110	33	05981	00000
21950	TF	LOC	,FXZ	,6	05122	26	0598J	02815
21960	S	WIDTH 2	,K		05134	22	05956	02221
21970	RDA	BH	ERF7A		05146	46	05190	01100
21980	A	LOC	,WIDTH 2		05158	21	05981	05956
21990	TF	LOC	,TERM	,611	05170	26	0598J	0678N
22000	B	ERF7S			05182	49	04678	00000
22010	DORG	0-4			05189			
22020	ERF7A	TOM	E1	,7	05190	15	02615	0000P
22030	B	ERF7S		,11	05202	49	04678	00000
22040	DORG	0-4			05209			
22050	RDAFL	TFM	LOC	,00	05210	16	0598J	000-0
22060	SM	LOC	,2	,10	05222	12	05981	000-2
22070	TF	LOC	,FLZ	,611	05234	26	0598J	0335L
22080	S	WIDTH 2	,F		05246	22	05956	02219
22090	B	RD A			05258	49	05146	00000
22100	DORG	0-4			05265			
22110	WRITEA	TF	FAC	,LOC	05266	26	02492	0598J
22120	BNF	WA FX	,FAC-1		05278	44	05378	02491
22130	SM	LOC	,2		05290	12	05981	-0002
22140	S	WIDTH 2	,F		05302	22	05956	02219
22150	WRTA	BH	WRTA 2		05314	46	05358	01100
22160	A	LOC	,WIDTH 2		05326	21	05981	05956
22170	TF	TERM	,LOC	,611	05338	26	0678N	0598J
22180	B	B5WF			05350	49	05826	00000
22190	DORG	0-4			05357			
22200	WRTA2	SM	WIDTH 2	,02	05358	12	05956	000-2
22210	B	WRTA			05370	49	05314	00000
22220	DORG	0-4			05377			
22230	MAFX	S	WIDTH 2	,K	05378	22	05956	02221
22240	B	WRT A			05390	49	05314	00000
22250	DORG	0-4			05397			
22260	DORG	08000			08000			
22270	38	AB	,00702		08000	38	08032	00702
22280	36	AB	,00703		08012	36	08032	00703
22290	B	+22			08024	49	08046	00000
22300	DORG	0-3			08032			
22310	AB	DSC	9	,019941016	08032		9	
22320		OSA	FIX		08045		5 X	1
22330	TRA				08045		-3854	
					08046	36	00000	00500

Address	Code	Label	Operation	Address	Code	Label	Operation
22340	TCD	08000		08058	49	00000	00000
				08000			
22350	*****	1620 FORTRAN II-D	EFMW FORMAT				
22360	*****	1620 FORTRAN II-D	EFMW FORMAT - SECONDARY LINKAGE				
22370		DORG	START	03851			
22380		DS	3	03853		3	
22390		TFM	FMON+11 ,*-START	03854	16	07165	-0003
22400		DC	2 ,1 ,*-3	03862		2	
		-1					
22410		B	FMON	03866	49	07154	00000
22420		TFM	FMON+11 ,*-START	03878	16	07165	-0027
22430		DC	2 ,1 ,*-3	03886		2	
		-1					
22440		B	FMON	03890	49	07154	00000
22450		TFM	FMON+11 ,*-START	03902	16	07165	-0051
22460		DC	2 ,1 ,*-3	03910		2	
		-1					
22470		B	FMON	03914	49	07154	00000
22480		TFM	FMON+11 ,*-START	03926	16	07165	-0075
22490		DC	2 ,1 ,*-3	03934		2	
		-1					
22500		B	FMON	03938	49	07154	00000
22510		TFM	FMON+11 ,*-START	03950	16	07165	-0099
22520		DC	2 ,1 ,*-3	03958		2	
		-1					
22530		B	FMON	03962	49	07154	00000
22540		TFM	FMON+11 ,*-START	03974	16	07165	-0123
22550		DC	2 ,1 ,*-3	03982		2	
		-1					
22560		B	FMON	03986	49	07154	00000
22570		TFM	FMON+11 ,*-START	03998	16	07165	-0147
22580		DC	2 ,1 ,*-3	04006		2	
		-1					
22590		B	FMON	04010	49	07154	00000
22600		DORG	*-1	04020			
22610		TFM	FMON+11 ,*-START	04020	16	07165	-0169
22620		DC	2 ,1 ,*-3	04028		2	
		-1					
22630		B	FMON	04032	49	07154	0-000
22640		DORG	*-1	04042			
22650		TFM	FMON+11 ,*-START	04042	16	07165	-0191
22660		DC	2 ,1 ,*-3	04050		2	
		-1					
22670		B	FMON	04054	49	07154	00000
22680		TFM	FMON+11 ,*-START	04066	16	07165	-0215
22690		DC	2 ,1 ,*-3	04074		2	
		-1					
22700		B	FMON	04078	49	07154	00000
22710		TFM	FMON+11 ,*-START	04090	16	07165	-0239
22720		DC	2 ,1 ,*-3	04098		2	
		-1					
22730		B	FMON	04102	49	07154	00000
22740		TFM	FMON+11 ,*-START	04114	16	07165	-0263
22750		DC	2 ,1 ,*-3	04122		2	
		-1					

22760		B	FMON	04126	49	07154	00000
22770		TFM	FMON+11 ,*-START	04138	16	07165	-0287
22780		DC	2 ,1 ,*-3	04146		2	
		-1					
22790		B	FMON	04150	49	07154	00000
22800		TFM	FMON+11 ,*-START	04162	16	07165	-0311
22810		DC	2 ,1 ,*-3	04170		2	
		-1					
22820		B	FMON	04174	49	07154	00000
22830		TFM	FMON+11 ,*-START	04186	16	07165	-0335
22840		DC	2 ,1 ,*-3	04196		2	
		-1					
22850		B	FMON	04198	49	07154	00000
22860		TFM	FMON+11 ,*-START	04210	16	07165	-0359
22870		DC	2 ,2 ,*-3	04218		2	
		-2					
22880		B	FMON	04222	49	07154	00000
22890		TFM	FMON+11 ,*-START	04234	16	07165	-0383
22900		DC	2 ,2 ,*-3	04242		2	
		-2					
22910		B	FMON	04246	49	07154	00000
22920		TFM	FMON+11 ,*-START	04258	16	07165	-0407
22930		DC	2 ,2 ,*-3	04266		2	
		-2					
22940		B	FMON	04270	49	07154	00000
22950	****		WRITE ALPHAMERIC				
22960		TF	SWF ,WATY-1	04282	26	05861	04281
22970		B	WATY1	04294	49	05498	00000
22980		TF	SWF ,WAPT-1	04306	26	05861	04305
22990		B	WAPT1	04318	49	05518	00000
23000		TF	SWF ,WACD-1	04330	26	05861	04329
23010		B	WACD1	04342	49	05538	00000
23020	****		READ ALPHAMERIC				
23030		TF	SWF ,RATY-1	04354	26	05861	04353
23040		B	RATY1	04366	49	05862	00000
23050		TF	SWF ,RAPT-1	04378	26	05861	04377
23060		B	RAPT1	04390	49	05882	00000
23070		TF	SWF ,RACD-1	04402	26	05861	04401
23080		B	RAED1	04414	49	05902	0-000
23090		DORG	*-1	04424			
23100		TFM	FMON+11 ,*-START	04424	16	07165	-0573
23110		DC	2 ,4 ,*-3	04432		2	
		-4					
23120		B	FMON	04436	49	07154	0-000
23130		DORG	*-1	04446			
23140		TFM	FMON+11 ,*-START	04446	16	07165	-0595
23150		DC	2 ,5 ,*-3	04454		2	
		-5					
23160		B	FMON	04458	49	07154	0-000
23170		DORG	*-1	04468			
23180		TFM	FMON+11 ,*-START	04468	16	07165	-0617
23190		DC	2 ,8 ,*-3	04476		2	
		-8					
23200		B	FMON	04480	49	07154	0-000
23210		DORG	*-1	04490			
23220	EFMW	TF	FLYEND ,ICON6+6	04490	26	03810	05456

23230	B	EFHW1	,	,8	04502	49	04607	0-000	
23240	DORG	+-1			04512				
23250	TFM	FMON+11	,+-START		04512	16	07165	-0661	
23260	DC	2	,8	,+-3	04520		2		
	-8								
23270	B	FMON	,	,8	04524	49	07154	0-000	
23280	DORG	+-1			04534				
23290	TFM	FMON+11	,+-START		04534	16	07165	-0683	
23300	DC	2	,6	,+-3	04542		2		
	-6								
23310	B	FMON	,	,8	04546	49	07154	0-000	
23320	DORG	+-1			04556				
23330	TFM	FMON+11	,+-START		04556	16	07165	-0705	
23340	DC	2	,6	,+-3	04564		2		
	-6								
23350	B	FMON	,	,8	04568	49	07154	0-000	
23360	DORG	+-1			04578				
23370	TFM	FMON+11	,+-START		04578	16	07165	-0727	
23380	DC	2	,6	,+-3	04586		2		
	-6								
23390	B	FMON	,	,8	04590	49	07154	00000	
23400	REFSW	US	5	,8	04601		5		
23410	*****	1620 FORTRAN II-D EFMW FORMAT - SUBROUTINES							
23420	*****	E AND F TYPE MANTISSA WRITING; FLOAT ARG IF REQ.							
23430	*****	COMPUTE DEC PT IN GAM AND OUTPUT RECORD. MOVE							
23440	*****	MANTISSA DIGIT BY DIGIT, RIGHT TO LEFT, FROM FAC							
23450	*****	TO GAM. INSERT SIGN, CHECK WIDTH, AND ZERO.							
23460	*****	BR TO WRT F FOR F TYPE CONTINUATION							
23470	EFHW1	TF	FAC	,LOC	,11	04602	26	02492 0598J	
23480	BNF	EFLOAT	,FAC-1			04614	44	05150 02491	
23490	SM	LOC	,2			04626	12	05981 -0002	
23500	TF	FAC-2	,LOC	,11		04638	26	02490 0598J	
23510	EFALPH	TFM	FLTEND-4	,20	,10	04650	16	03806 000K0	
23520	TF	DPT	,TERM			04662	28	07137 06785	
23530	S	DPT	,LOC D 2			04674	22	07137 05606	
23540	TFM	DPG	,GAM			04686	16	05976 -2555	
23550	S	DPG	,LOC D 2			04698	22	05976 05606	
23560	TF	DPTM2	,DPT			04710	26	07142 07137	
23570	SM	DPTM2	,2			04722	12	07142 -0002	
23580	EFALP	SM	WA 2	,1		04734	12	07084 -0001	
23590	TD	WA	,WA2	,611		04746	25	0693L 0708M	
23600	CF	WA	,6			04758	33	0693L 00000	
23610	SM	WA	,2			04770	12	06933 -0002	
23620	C	WA2	,FM1MF			04782	24	07084 03313	
23630	BH	EF ALP				04794	46	04734 01100	
23640	TFM	WA	,00	,610		04806	16	0693L 000-0	
23650	BNF	EF CHKS	,FAC-2			04818	44	04842 02490	
23660	TFM	WA	,20	,610		04830	16	0693L 000K0	
23670	EFCHKS	TFM	,000	,9		04842	16	06673 00-00	
23680	A	CKW	,LOC D			04854	21	06673 05608	
23690	A	CKW	,FAC			04866	21	06673 02492	
23700	TF	CHAR	,CKW			04878	26	07108 06673	
23710	S	CHAR	,F			04890	22	07108 02219	
23720	C	WIDTH	,LOC D			04902	24	05715 05608	
23730	BNL	++32				04914	46	04946 01300	
23740	ERF8ES	TFM	REFSW	,ERF8E		04926	16	04601 -5226	

23750	B	BREFSW			04938	49	05458	00000	
23760	DORG	+-4			04945				
23770	BD	++36	,FNH	,11	04946	43	04982	0331L	
23780	TDM	FLTEND-4	,-1		04958	15	03806	0000J	
23790	TFM	CHAR	,-099	,9	04970	16	07108	00-9R	
23800	BNF	WRTEFS	,RREFSW		04982	44	05130	05953	
23810	*****	WRITE TYPE. ASSEMBLE EXP IN GAM USING A MASK,							
23820	*****	THE CHAR AND SIGN. MOVE LEFT GAM AND RIGHT GAM TO							
23830	*****	OUTPUT. THEN GO TO INSERT DECIMAL POINT							
23840	WRTF	S	WIDTH	,F	04994	22	05715	02219	
23850	BL	++32	,	,,	05006	47	05038	01300	
23860	WRTE2S	TFM	REFSW	,WRTE2	05018	16	04601	-4622	
23870	B	BREFSW			05030	49	05458	00000	
23880	DORG	+-4			05037				
23890	BD	++36	,FLTEND-4		05038	43	05074	03806	
23900	S	CHAR	,WIDTH		05050	22	07108	05715	
23910	BD	ERF8ES	,CHAR-2		05062	43	04926	07106	
23920	TFM	++47	,GAM		05074	16	05121	-2555	
23930	A	++35	,WIDTH		05086	21	05121	05715	
23940	A	++23	,WIDTH		05098	21	05121	05715	
23950	TF	GAM			05110	26	02555	00000	
23960	B	WRTE2S			05122	49	05018	00000	
23970	DORG	+-4			05129				
23980	WRTEFS	TFM	REFSW	,WRTF	05130	16	04601	-4726	
23990	B	BREFSW			05142	49	05458	00000	
24000	DORG	+-4			05149				
24010	EFLOAT	AM	FAC	,00	,10,	05150	11	02492 000-0	
24020	BZ	ZERFAC	,,	,,	05162	46	03584	01200	
24030	TD	99	,FAC	,,	05174	25	00099	02492	
24040	CF	FAC			05186	33	02492	00000	
24050	TR	BETA-9	,FXH	,11	05198	31	02594	0328L	
24060	TF	FAC-2	,9SPF-1	,,	05210	26	02490	02853	
24070	TF	SAVE	,K	,,	05222	26	02565	02221	
24080	TFM	++23	,BETA-9		05234	16	05257	-2594	
24090	BD	++44	,DUMMY	,,	05246	43	05290	99999	
24100	SM	SAVE	,01	,10,	05258	12	02565	000-1	
24110	AM	+-13	,01		05270	11	05257	-0001	
24120	B	+-36			05282	49	05246	00000	
24130	DORG	+-3			05290				
24140	TR	FNH	,+-33	,611	05290	31	0331L	0525P	
24150	TF	++35	,FNH	,,	05302	26	05337	03313	
24160	AM	++23	,01		05314	11	05337	-0001	
24170	BNR	+-12	,DUMMY		05326	45	05314	99999	
24180	TDM	+-1	,0	,6	05338	15	0533P	00000	
24190	TD	FAC+1	,RECMK	,,	05350	25	02493	02403	
24200	TF	BETA	,ZERO-74	,,	05362	26	02603	02693	
24210	B	ENOR60			05374	49	05406	00000	
24220	DORG	+-3			05382				
24230	ENOR36	TR	FNH	,FH	,611,	05382	31	0331L 03300	
24240	TDM	FAC-1	,0	,,	05394	15	02491	00000	
24250	ENOR60	SF	FNH	,,	05406	32	0331L	00000	
24260	BD	FINISH	,FNH	,611,	05418	43	0380L	0331L	
24270	SM	SAVE	,.1	,10,	05430	12	02565	000-1	
24280	B	ENOR36			05442	49	05382	00000	
24290	DORG	+-4			05449				
24300	ICON6	B	EF ALPH	,	,1	05450	4R	04650 00000	

25350	DORG 08000		08000		
25360	38 A10	,00702	08000	38	08032 00702
25370	36 A10	,00703	08012	36	08032 08703
25380	B ++22		08024	49	08046 00000
25390	DORG +-3		08032		9
25400 A10	DSC 9	,019874009	08032		
	019874009				
25410	DSA MTYPE+24		08045		5 X 1
25420	TRA		08045		-4602
			08046	36	00000 00500
			08058	49	00000 00000
			08000		
25430	TCD 08000				
25440	DORG START+3+3300		07154		
25450 FROM	SF FROM+9		07154	32	07163 00000
25460	TFM RETURN+6 ,START		07166	16	07376 -3851
25470	TFM BAS+11 ,FIL=0		07178	16	07285 -7399
25480	AM BAS+11 ,8	,10	07190	11	07285 000-8
25490	SM FROM+8 ,1	,10	07202	12	07162 000-1
25500	BNZ +-24		07214	47	07190 01200
25510	A RETURN+6 ,FROM+11		07226	21	07376 07165
25520	TF ARGOUT+11,RETURN+6		07238	26	07273 07376
25530	SM ARGOUT+11,1		07250	12	07273 -0001
25540 ARGOUT	TF RETARG+11,DUMMY		07262	26	07369 99999
25550 BAS	TF MBASE ,DUMMY		07274	26	07393 99999
25560	SF MBASE-2		07286	32	07391 00000
25570	TFM IORT ,++23		07298	16	00565 -7321
25580	B IOGT ,MDATA	,7	07310	49	00566 -7377
25590	BD ++36 ,FINDIM		07322	43	07358 03583
25600	TFM IORT ,++23		07334	16	00565 -7357
25610	B IOSK ,DKDATA	,7	07346	49	00554 -3379
25620 RETARG	TFM ARGOUT+11,DUMMY	,6	07358	16	0727L 99999
25630 RETURN	B		07370	49	00000 00000
25640	DORG +-4		07377		
25650 MDATA	DSC 2	,02	07377		2
	O2				
25660	DSA MBASE-8		07383		5 X 1
25670	DC 1,1		07383		-7385
			07384		1
25680	DSC 1	,0	07385		1
	O				
25690 MBASE	DS 8		07393		8
25700	DSA FIX		07398		5 X 1
25710	DC 1	,1	07398		-3854
			07399		1
25720 FIL	DC 8	,00000033	07407		8
	-0000033				
25730	DC 8	,00033033	07415		8
	-0033033				
25740	DC 8	,00066033	07423		8
	-0066033				

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25750	DC 8	,00066016	07431		8
	-0066016				
25760	DC 8	,00099016	07439		8
	-0099016				
25770	DC 8	,00115017	07447		8
	-0115017				
25780	DC 8	,00132009	07455		8
	-0132009				
25790	DC 8	,00141016	07463		8
	-0141016				
25800	DC 8	,00157017	07471		8
	-0157017				
25810	DC 8	,00174009	07479		8
	-0174009				
25820	DORG 06000		06000		
25830	34 B2	,00701	06000	34	06044 00701
25840	38 B2	,00702	06012	38	06044 00702
25850	36 B2	,00703	06024	36	06044 00703
25860	B ++22		06036	49	06058 00000
25870	DORG +-3		06044		9
25880 B2	DSC 9	,016835004	06044		
	016835004				
25890	DSA FROM-56		06057		5 X 1
25900	TRA		06057		-7098
			06058	36	00000 00500
25910	TCD 06000		06070	49	00000 00000
			06000		
25920	DEND		00000		

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ARGOUT	07262	FLZALP	03348	A8	08032	FAXI	04234	GEMT	05706
ATYPE1	04922	FLZERS	06327	A9	08032	FCHNB	04920	GM2F	03735
BEF2SW	05384	FMPAXI	06556	ADD	05592	FD1	06042	MND	03338
BREFSW	05498	FNCNEZ	04930	ATYPE	04512	FD	04162	MO	04793
CLR7OS	05158	FXDR11	06372	AXJ	05214	FDVRI	06294	HRD	05356
COMADD	02231	FXMINE	04932	B1	06044	FDVR	04186	HTYPE	04578
COMEND	06656	FXSR11	06212	B2	06044	FH	03308	HWRT	05304
COMPLT	06698	GM1M2F	03526	BA5	07274	FIL	07407	ICOM2	05394
COMP5W	05678	HTYPE1	05192	BETA	02603	FIX11	06006	ICOM3	05322
DAFMON	05550	IFLOAT	05106	BSHF	05826	FIX1	04598	ICOM5	04914
DALONG	05542	IMINUS	04938	CMAR2	06708	FIX11	04598	ICOM6	05450
DATDUO	06042	IMSAPF	03298	CMAR	07108	FIX1	04210	IDIG	04770
DATINH	06057	INOR36	05326	CKW	06673	FIX	03854	IFIX	05118
DDFMON	05558	INOR60	05350	DIO	00816	FKODD	03427	IFWRT	04434
DIODDA	03387	INPLUS	05945	DPG	05976	FLOAT	04042	IMSA	02575
DKBUFF	02404	IRBLNK	04918	DPTM2	07142	FLZ	03353	INH	06063
DKDATA	03379	ISPFM1	03303	DPT	07137	FMIMF	03313	IN	06237
EEXP22	0486Q	ITYPE1	04598	DUOH	02607	FM1	03625	IOCAL	00716
EEXPAD	04996	LDGDIG	05016	DUD	02687	FMFAC	03452	IOCR	06664
EFALPH	04650	LQCADJ	06390	DUMMY	99999	FMON	07154	IOGT	00566
EFCMKS	04842	MASKEP	05426	EEXP2	04812	FMP11	06472	IOPT	00532
EFEND2	05232	MASKF1	05437	EEXPM	04940	FMP1	05882	IORBC	00520
EFLOAT	05150	MATRIX	06334	EEXP	04952	FMP	04138	IORT	00565
EPPLUS	04644	MATRIX2	06418	EF2SW	04401	FNHM1	03358	IOSK	00554
EPTERM	05176	MESERR	02607	EFALP	04734	FNH	03313	IRDIG	04882
EFTYPE	04656	NONCAL	00796	EFCOM	04600	FP1MK	03283	IREAD	04730
ENDFOR	06063	ODDSET	05446	EFDCM	05048	FP2	03605	ITYPE	04424
ENOR36	05382	ODDREV	04832	EPDIG	05116	F	02219	K2	03648
ENOR60	05406	ONEFAC	05076	EFEND	05200	FSB1	05284	K	02221
ENTABS	02323	OVFLDW	03652	EFFIX	04710	FSBR1	05830	LAST	05736
ENTATN	02313	PROGST	02226	EFMIN	04632	FSBR	04114	LN10	02980
ENTCOS	02303	RADDIT	05754	EFMW1	04602	FSB	04066	LN2	02887
ENTDED	02298	READEF	04468	EFMW	04490	FTYPE	04534	LN4	02918
ENTDRR	02293	READIF	05038	EFRD1	04598	FX1	02825	LN8	02949
ENTEXP	02253	REPSW3	05585	EFRD2	04630	FX9	02805	LNENT	03368
ENTFET	02283	RETARG	07358	EFWRT	05028	FXA11	06198	LOCOD2	05606
ENTFID	02273	RETURN	07370	EI	02615	FXA1	04790	LOCD	05608
ENTREC	02278	RSGN11	06392	ENOD	03768	FXA	03878	LOC	05981
ENTSC1	02258	RWEFSW	05953	ENTLN	02248	FXD11	06290	LOGE	03010
ENTSC2	02263	100MK	03293	ERF7A	05190	FXD1	04882	LVI	03616
ENTSC3	02268	102MF	03343	ERF7	05074	FXDR1	04964	M14	05622
ENTSIN	02308	2FM1	03429	ERF7S	04678	FXDR	03998	MANTP	05798
ENTSQT	02318	96MF	03318	ERF8E	05226	FXD	03974	MASKF	05417
ENTSWD	02288	97M2F	03363	ERF8I	05014	FXERR	03676	MASK1	05331
ERCOM2	07078	97MF	03323	ERF9	07002	FXH	03283	MASK	05425
ERF8ES	04926	98MF	03328	ERRET	00602	FXM11	06264	MATSW	05583
ERRF7E	05324	99MK	03288	ERROR	03676	FXM1	04856	MAX2	06037
ERRF7I	04958	95CPF	02795	ETYPE	04556	FXM	03950	MAX	05924
EXPENT	03373	95PF	02854	EXP	04785	FXNIN	04684	MBASE	07393
FAXB11	06740	A10	08032	F2	03661	FXN1	06360	MDATA	07377
FINDIN	03583	A1	08068	FAC	02492	FXSR1	04804	MF	03473
FINISH	03803	A2	08044	FAD1	05304	FXSR	03926	MU	03712
FIXEND	03760	A3	08032	FAD	04090	FXS	03902	N1	02233
FIX111	06334	A5	08032	FAXB1	05714	FXZ	02815	N2	02238
FLDAT1	05064	A6	08032	FAXB	04258	FZERO	04974	NOADD	05792
FLTEND	03810	A7	08032	FAX11	05052	GAM	02555	NODIV	05422

NORM	05640	RDFCH	04828	SOS	05570	HAPT1	05518	XTYPE	07046
OLWRB	06988	READA	05050	START	03851	HAPT	04306	ZERO	02767
OLWR	05962	READI	04990	STOP	02395	WA	06933	SETONE	07032
ONEZ	03038	RECLG	02243	SWC	05982	WATY1	05498	SLASH2	06524
OUT	04957	RECMK	02403	SWF	05861	WATY	04282	STZRO	06239
PAR	03378	REDDA	06762	SWL	05934	WIDTH	05715	SWCADJ	06044
PDT	03333	REDDO	06718	TAFE	02535	WRITE	06632	UNFLO	05760
PIOV2	03163	REFSW	04601	TAN6	03248	WRTA2	05358	WEFDEC	05194
PIOV4	03191	REP2	06890	TEN34	03278	WRTA	05314	WIDTH2	05956
PI	03133	REP3	06922	TERM	06785	WRTE2	04622	WRITEA	05266
PS11	06428	REP	06818	TOFAC	03408	WRTE	04994	WRITEI	04446
PSI	04728	REPSW	05582	TRACE	03496	WRTF	04726	WRIT11	04598
RACD1	05902	RSGN1	04984	TRFX	03564	WRTFS	05130	WRTALP	05550
RACD	04402	RSGN	04020	TWOPI	03103	WRTI2	04678	WRT2S	05018
RAPT1	05882	RWA2	05670	TWOZ	03073	WRTI3	04886	WRTFPC	05050
RAPT	04378	RWA	05562	UNFLO	07020	WRTI	04714	WRTFPE	05018
RATY1	05862	SAVE	02565	WA2	07084	W	02240	WRTSGN	04850
RATY	04354	SE	06162	WA3	04601	XFD	06632	ZERFAC	03584
RDAFL	05210	SHORT	05574	WACD1	05538	XFDVR	06844		
RDALP	05914	SIX	03219	WACD	04330	XNORM	06924		
RDA	05146	SLASH	06492	WAFX	05378	XSE	06752		

END OF ONE ASSEMBLY.

1620 FORTRAN II-D SUBROUTINES SET 2			PAGE	1
00010	*****	1620 FORTRAN II-D SUBROUTINES		
00020	*****	IURT ENTRY POINTS AND CONTANTS		
00030	IORBC DS	,520	00520	0
00040	IOPT DS	,532	00532	0
00050	IOSK DS	,554	00554	0
00060	IOGT DS	,566	00566	0
00070	ERRET DS	,602	00602	0
00080	IORT DS	,565	00565	0
00090	IICAL DS	,716	00716	0
00100	MONCAL DS	,796	00796	0
00110	DIO DS	,816	00816	0
00120	*****	1620 FORTRAN II-D IN CORE AREAS		
00130	***	COMMUNICATION AREA		
00140	DORG	2218	02218	
00150	F DS	2,, FLOATING POINT WORD LENGTH	02219	2
00160	K DS	2,, FIXED POINT WORD LENGTH	02221	2
00170	PROGST DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM	02226	5
00180	CUMADD DS	5,, STARTING ADDRESS OF COMMON AREA	02231	5
00190	N1 DS	2,, NUMBER OF WORDS IN LOGICAL RECORD 1	02233	2
00200	N2 DS	5,, NUMBER OF LOGICAL RECORDS	02238	5
00210	W DS	2,, WORD LENGTH	02240	2
00220	RECLG DS	3,, RECORD LENGTH	02243	3
00230	ENTLN DS	5,, ENTRY ADDRESS TO LOG SUBROUTINE	02248	5
00240	ENTEXP DS	5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE	02253	5
00250	ENTSC1 DS	5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE	02258	5
00260	ENTSC2 DS	5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE	02263	5
00270	ENTSC3 DS	5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE	02268	5
00280	ENTFID DS	5,, ENTRY ADDRESS TO FIND SUBROUTINE	02273	5
00290	ENTREC DS	5,, ENTRY ADDRESS TO RECORD SUBROUTINE	02278	5
00300	ENTFET DS	5,, ENTRY ADDRESS TO FETCH SUBROUTINE	02283	5
00310	ENTSWD DS	5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE	02288	5
00320	ENTDRA DS	5,, ENTRY ADDRESS TO ARRAY SUBROUTINE	02293	5
00330	ENTDED DS	5,, ENTRY ADDRESS TO DISK END SUBROUTINE	02298	5
00340	ENTCOS DS	5,, ENTRY ADDRESS TO COSINE SUBROUTINE	02303	5
00350	ENT SIN DS	5,, ENTRY ADDRESS TO SINE SUBROUTINE	02308	5
00360	ENTATN DS	5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE	02313	5
00370	ENTSQ DS	5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE	02318	5
00380	ENTABS DS	5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE	02323	5
00390	DS	70,,RESERVED FOR ENTRIES TO ADDED SUBROUTINES	02393	70
00400	*****	COMMON WORKING AREAS		
00410	STOP DAC	5,STOP'	02395	5 X 2
		STOP'		
00420	RECHK DS	,STOP#	02403	0
00430	DKBUFF DSS	29	02404	29
00440	FAC DS	60	02492	60
00450	DC	1	02493	1
		'		
00460	SAVE DS	72	02965	72
00470	BETA DS	38	02603	38
00480	DGM		02604	1
00490	GAM DS	,SAVE-10	02955	0
00500	TAPE DS	,SAVE -30	02935	0
00510	IMSA DS	,BETA -28	02975	0
00520	MESERR DAC	6,ER E'	02607	6 X 2
		ER E'		
00530	DUDM DS	,MESERR	02607	0

1620 FORTRAN II-D SUBROUTINES SET 2				PAGE	4
01130	DC	5	,0000	03392	5
		-0000			
01140	DC	3	,000	03395	3
		-00			
01150	DSA	DKBUFF		03400	5 X 1
				03400	-2404
01160	DC	1	,0	03401	1
01170	*****	1620 FORTRAN II-D	IN CORE SUBROUTINES		
01180	DS	5		03406	5
01190	TOFAC	TF	FAC ,TO FAC-1 ,11	03408	26 02492 0340P
01200	SM	TOFAC-1	,0102 ,0910	03420	12 03407 0-J-2
01210	ZFM1	DS	,0-2 ,	03429	0
01220	FKODD	DS	,1 ,	03427	1
			,0-4 ,		
01230	TF	FAC-2	,TO FAC-1 ,11	03432	26 02490 0340P
01240	BB			03444	42 00000 00000
01250	DORG	0-9		03444	
01260	DS	5		03450	5
01270	FMFAC	TF	FM FAC-1 ,FAC ,06	03452	26 03454 02492
01280	SM	FMFAC-1	,0002 ,010	03464	12 03451 0-0-2
01290	MF	DS	,0-2 ,	03473	0
01300	TF	FM FAC-1	,FAC-2 ,06	03476	26 03454 02490
01310	BB			03488	42 00000 00000
01320	DORG	0-9		03490	
01330	DS	5		03494	5
01340	TRACE	TF	FM FAC-1 ,0-1	03496	26 03451 03495
01350	BNC4	FM FAC		03508	47 03452 00400
01360	RCTY	GAM-1	, ,02	03520	34 -2554 00102
01370	GMIN2F	DS	,0-5 ,	03524	0
			,FAC-1 ,		
01380	BNF	TRFX	,FAC-1 ,	03532	44 03544 02491
01390	WNTY	FNH	, ,06	03544	18 03311 00100
01400	B	FM FAC		03556	49 03452 00000
01410	DORG	0-4		03563	
01420	TRFX	WNTY	FXH , ,06	03564	38 03281 00100
01430	B	FM FAC		03576	49 03452 00000
01440	DORG	0-4		03583	
01450	FINDIN	DC	1 ,1	03583	1
		J			
01460	ZERFAC	TF	FAC-2 ,9SPF-1	03584	26 02490 02853
01470	TFM	FAC	,0299 ,01011	03596	16 02492 0-2RR
01480	FP2	DS	,0-2 ,	03605	0
01490	B	FINISH+1		03608	49 03804 00000
01500	DORG	0-4		03615	
01510	LV1	AM	SAVE ,0101 ,0910	03616	11 02565 0-J-1
01520	FM1	DS	,0-2 ,	03625	0
01530	BNV	FINISH	, ,06	03628	47 03801 01400
01540	TFM	EI	,00371 ,79	03640	16 02615 -0N71
01550	K2	DS	,0-3 ,	03648	0
01560	OVFLOW	TFM	FAC ,0099 ,010	03652	16 02492 0-0R9
01570	F2	DS	,0-2 ,	03661	0
01580	TF	FAC-2	,9SCPF ,	03664	26 02490 02795
01590	ERROR	RCTY	FINISH , ,06	03676	34 03801 00102
01600	WATY	MESERR		03688	39 02607 00100
01610	B	ENDD+12		03700	49 03780 00000
01620	MU	BNF	++24 ,MU-1 ,	03712	44 03736 03711

1620 FORTRAN II-D SUBROUTINES SET 2				PAGE	5
01630	SF	FAC	,GAM	03724	32 02492 02555
01640	GM2F	DS	,0	03735	0
01650	TDM	FXERR+25	,9 ,	03736	15 03701 00009
01660	TFM	FXERR+30	,ENDD+12 ,	03748	16 03706 -3780
01670	FIXEND	BB		03760	42 00000 00000
01680	DORG	0-3		03768	0
01690	FXERR	DS	,ERROR	03768	26 02492 02565
01700	ENDD	TF	FAC ,SAVE ,	03780	44 03804 00099
01710	BNF	++24	,99 ,	03792	32 02490 03768
01720	SF	FAC-2	,ENDD ,	03803	0
01730	FINISH	DS	,0	03810	0
01740	FLTEND	DS	,FINISH+7	03804	42 00000 00000
01750	BB			03811	
01760	DORG	0-4		99999	0
01770	DUMMY	DS	,99999	03851	0
01780	START	DS	,03851		
01790	*****	1620 FORTRAN II-D	ALL SUBR IN CORE		
01800	*****	1620 FORTRAN II-D	ALL SUBR IN CORE - SECONDARY LINKAGE		
01810	DORG	START		03851	3
01820	DS	3		03854	14 02492 000-0
01830	FIX	CM	FAC ,00 ,10	03864	49 10658 00000
01840	B	FIX1		03878	21 02492 0387P
01850	FXA	A	FAC ,FXA-1 ,11	03890	49 10850 00000
01860	B	FXA1		03902	22 02492 0390J
01870	FXS	S	FAC ,FXS-1 ,11	03914	49 10850 00000
01880	B	FXA1		03926	44 10896 02492
01890	FXSR	BNF	FXSR1+32 ,FAC ,	03938	49 10864 00000
01900	B	FXSR1		03950	23 02492 0394R
01910	FXM	M	FAC ,FXM-1 ,11	03962	49 10916 00000
01920	B	FXM1		03974	28 00099 02492
01930	FXD	LD	,99 ,FAC	03986	49 10942 00000
01940	B	FXD1		03998	28 00099 0399P
01950	FXDR	LD	,99 ,FXDR-1 ,11	04010	49 11024 00000
01960	B	FXDR1		04020	
01970	DORG	0-1		04020	44 11084 02491
01980	RSGN	BNF	RSGN1+40 ,FAC-1	04032	49 11044 0-000
01990	B	RSGN1	, ,0	04042	
02000	DORG	0-1		04042	11 02492 000-0
02010	FLOAT	AM	FAC ,00 ,10	04054	49 11124 00000
02020	B	FLOAT1		04066	15 11401 00002
02030	FSB	TDM	FAD1+37 ,02 ,	04078	49 11344 00000
02040	B	FSB1		04090	15 11401 00001
02050	FAD	TDM	FAD1+37 ,01 ,	04102	49 11364 00000
02060	B	FAD1		04114	44 11922 02490
02070	FSBR	BNF	FSBR1+32 ,FAC-2 ,	04126	49 11890 00000
02080	B	FSBR1		04138	26 02565 0413P
02090	FMP	TF	SAVE ,FMP-1 ,11	04150	49 11942 00000
02100	B	FMP1		04162	26 12233 0416J
02110	PD	TF	SB+11 ,PB-1 ,11	04174	49 12102 00000
02120	B	PD1		04186	26 02565 0418N
02130	PDVR	TF	SAVE ,PDVR-1 ,11	04198	49 12114 00000
02140	B	PDVR1		04210	26 02573 0421R
02150	FIX1	TF	INBA ,FIX1-1 ,11	04222	49 12394 00000
02160	B	FIX11		04234	26 02573 0423L
02170	FAX1	TF	INBA ,FAX1-1 ,11	04246	49 12824 00000
02180	B	FAX11			

02190	PAXB	TF	TAFE	,PAXB-1	,11,	LOAD EXPONENT 8	04258	26	02535	0425P
02200		B	FAXB1				04270	49	13486	00000
02210	****			WRITE ALPHAMERIC						
02220	WATY	TF	SWF	,WATY-1			04282	26	05861	04281
02230		B	WATY1				04294	49	05498	00000
02240	WAPT	TF	SWF	,WAPT-1			04306	26	05861	04305
02250		B	WAPT1				04318	49	05518	00000
02260	WACD	TF	SWF	,WACD-1			04330	26	05861	04329
02270		B	WACD1				04342	49	05538	00000
02280	****			READ ALPHAMERIC						
02290	RATY	TF	SWF	,RATY-1			04354	26	05861	04353
02300		B	RATY1				04366	49	05862	00000
02310	RAPT	TF	SWF	,RAPT-1			04378	26	05861	04377
02320		B	RAPT1				04390	49	05882	00000
02330	RACD	TF	SWF	,RACD-1			04402	26	05861	04401
02340		B	RACD1		,8		04414	49	05902	0-000
02350	DORG		=-1				04424			
02360	ITYPE	AM	SWF	,3			04424	11	05861	-0003
02370		B	ITYPE1		,8		04436	49	09694	0-000
02380	DORG		=-1				04446			
02390	WRITEI	TFM	WA	,GAM+2			04446	16	06933	-2557
02400		B	WRITE1		,8		04458	49	10210	0-000
02410	DORG		=-1				04468			
02420	READEF	BNF	EF RD2+12,LOC				04468	44	08686	05981
02430		B	EF RD1		,8		04480	49	08642	0-000
02440	DORG		=-1				04490			
02450	EFMW	TF	FLTEND	,ICON6+6			04490	26	03810	05480
02460		B	EFMW1		,8		04502	49	09206	0-000
02470	DORG		=-1				04512			
02480	ATYPE	AM	SWF	,3			04512	11	05861	-0003
02490		B	ATYPE1		,8		04524	49	08730	0-000
02500	DORG		=-1				04534			
02510	****			MACRO FOR F TYPE READ AND WRITE						
02520	FTYPE	CF	RWEFSW				04534	33	05953	00000
02530		B	EF COM		,8		04546	49	07138	0-000
02540	DORG		=-1				04556			
02550	****			MACRO FOR E TYPE READ AND WRITE						
02560	ETYPE	SF	RWEFSW				04556	32	05953	00000
02570	WA3	DS	5	,*		TEMP STORE FOR ZERO INSERT ADDRESS	04567		5	
02580		B	EFCOM		,8		04568	49	07138	0-000
02590	DORG		=-1				04578			
02600	HTYPE	AM	SWF	,3			04578	11	05861	-0003
02610		B	HTYPE1				04590	49	08402	00000
02620	DORG		=-4				04597			
02630	*****			1620 FORTRAN II-D ALL SUBR IN CORE - SUBROUTINES						
02640	WRTE2	TR	GAM+1	,MASK			04598	31	02556	05401
02650		BD	ERF8E	,CHAR-2			04610	43	05202	07106
02660		TD	GAM+8	,CHAR			04622	25	02563	07108
02670		TD	GAM+6	,CHAR-1			04634	25	02561	07107
02680		BNF	**24	,CHAR			04646	44	04670	07108
02690		TDM	GAM+3	,2			04658	15	02558	00002
02700		TF	TERM	,GAM+2	,6		04670	26	0678N	02557
02710		TR	DPT	,DPG	,611		04682	31	0713P	05970
02720		B	WEF DEC				04694	49	05170	00000
02730	DORG		=-4				04701			
02740	*****			3 CASES FOR WRITING F TYPE,CHAR IS EXP-LOCDF						

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02750	*****			CHAR IS NEG, EXP IS NEG						
02760	*****			CHAR IS NEG, EXP IS POSITIVE (WRTFPE)						
02770	*****			CHAR IS POSITIVE (WRTFPC)						
02780	WRTF	TR	GAM+1	,MASK EP+7			04702	31	02556	05409
02790		BD	F ZERO	,FLTEND-4			04714	43	04950	03806
02800		BD	ER FB E	,CHAR-2			04726	43	05202	07106
02810		CM	CKW	,000	,9		04738	14	06673	00-00
02820		BNH	F ZERO				04750	47	04950	01100
02830		C	CKW	,WIDTH			04762	24	06673	05715
02840		BH	ER FB E				04774	46	05202	01100
02850		TF	CHAR 2	,CHAR			04786	26	06708	07108
02860		A	CHAR 2	,CHAR			04798	21	06708	07108
02870		BNF	WRTFPC	,CHAR			04810	44	05026	07108
02880		TFM	**35	,GAM			04822	16	04857	-2555
02890		A	**23	,CHAR 2			04834	21	04857	06708
02900		TF	GAM				04846	26	02555	00000
02910		BNF	WRTFPE	,FAC			04858	44	04994	02492
02920		TF	LAST	,GAM+2	,6		04870	26	05730	02557
02930		TF	OPTM2	,GM2F	,611,	SET SIGN LEFT OF DEC PT	04882	26	0817L	0373N
02940		TF	WA3	,DPT			04894	26	04567	07137
02950	FNCNEZ	AM	WA3	,2	,,	INSERT ZERO FROM DEC PT TO	04906	11	04567	-0002
02960		BD	WEF DEC	,WA3	,11,	FIRST NON ZERO DIGIT ON RIGHT	04918	43	05170	0456P
02970		TFM	WA3	,70	,610		04930	16	0456P	000P0
02980		B	FNCNEZ				04942	49	04906	00000
02990	DORG		=-4				04949			
03000	FZERO	TFM	DPTM2	,70	,610,	F TYPE OUTPUT EQUALS ZERO	04950	16	0817L	000P0
03010		TF	CHAR 2	,LOCD 2			04962	26	06708	05606
03020		TDM	CHAR-2	,0	,11		04974	15	07106	0000-
03030		B	CLR70S-12				04986	49	05122	00000
03040	DORG		=-4				04993			
03050	WRTFPE	TF	DPTM2	,DPG	,611		04994	26	0817L	05970
03060		TR	DPT	,DPG	,611		05006	31	0713P	05970
03070		B	WEF DEC				05018	49	05170	00000
03080	DORG		=-4				05025			
03090	WRTFPC	TF	**30	,TERM			05026	26	05056	06785
03100		S	**18	,CHAR 2			05038	22	05056	06708
03110		TF		,GAM+2			05050	26	00000	02557
03120		TF	CLR70S+30,TERM				05062	26	05164	06785
03130		C	CHAR	,LOCD			05074	24	07108	05608
03140		BNL	CLR 70S				05086	46	05134	01300
03150		A	DPG	,CHAR 2			05098	21	05976	06708
03160		TR	DPT	,DPG	,611		05110	31	0713P	05970
03170		TF	CLR70S+30,LAST				05122	26	05164	05736
03180	CLR70S	TFM	**35	,MASK F			05134	16	05169	-5413
03190		A	**23	,CHAR 2			05146	21	05169	06708
03200		TF	TERM	,6			05158	26	0678N	00000
03210	WEFDEC	TFM	DPT	,03	,610		05170	16	0713P	000-3
03220		TFM	LAST	,00	,610		05182	16	05730	000-0
03230		B	BSWF				05194	49	05826	00000
03240	DORG		=-4				05201			
03250	ERF8E	TR	DUD H+21,FLZERS-57				05202	31	02628	06270
03260		TR	GAM+1	,MASK	,,	MOVES E+00 ALPHAMERICALLY	05214	31	02556	05401
03270		TD	GAM+8	,FAC			05226	25	02563	02492
03280		TD	GAM+6	,FAC-1			05238	25	02561	02491
03290		TFM	GAM+3	,451	,9		05250	16	02558	00M51
03300		BNF	**24	,FAC			05262	44	05286	02492

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03310	TDM	GAM+3	,2			05274	15	02558	00002
03320	TR	DUD	H+13	,RMINZF	,11	05286	31	02620	03520
03330	TF	DUD	H+12	,DUD	H+14	05298	26	02619	02621
03340	TFM	DUD	H+14	,03	,10	05310	16	02621	000-3
03350	ERCOM	CM	DATINH+2	,08	,10	05322	14	06059	000-8
03360	TFM	EI+2	,A7ADD	,, SETS ERROR F 8	ERASES REC MARK	05334	16	02617	07800
03370	BL	ER COM 2				05346	47	07078	01300
03380	TF	DATDUD+2	,DATINH+2			05358	26	06051	06059
03390	TFM	IORT	,+23			05370	16	00565	-5393
03400	B	IOPT	,DATDUD-4	,7		05382	49	00532	-6045
03410	B	ERCOM2				05394	49	07078	00000
03420	DDRG	+4				05401			
03430	*****				MASKS				
03440	MASK	DSC	10	,451070700'		05401		10	
03450	MASKP	DS		,MASK+1		05402		0	
03460	MASKF	DAC	31	,00000000000000000000000000000000'		05413		31 X	2
03470	MASKI	DS		,MASKF+39		05452		0	
03480	ICON6	B	EF ALPH	,	,1	05474	4R	09254	00000
03490	DDRG	+3				05482			
03500	ICONS	B	EFRD 2	,	,1	05482	4R	08674	00000
03510	DDRG	+3				05490			
03520	ICONS	B	WRT I2	,	,1	05490	4R	10290	00000
03530	DDRG	+3				05498			
03540	WATY1	TFM	MAX	,0687	,8	05498	16	05924	0-687
03550	B	WRTALP				05510	49	05550	00000
03560	DDRG	+3				05518			
03570	WAPT1	TFM	MAX	,0887	,8	05518	16	05924	0-887
03580	B	WRTALP				05530	49	05550	00000
03590	DDRG	+3				05538			
03600	MACD1	TFM	MAX	,1080	,8	05538	16	05924	0J080
03610	WRTALP	TDM	RWEFSW	,1	,, COMMON FOR EACH WRITE	05550	15	05953	00001
03620	RWA	TF	DATINH+2	,MAX-2	,, INITIALIZATION FOR EACH RD OR WRITE	05562	26	06059	05922
03630	SF	MAX-1				05574	32	05923	00000
03640	REPSW	DS	2	,+3		05582		2	
03650	MATSW	DS	1	,+2	,, SET TO 1 WHEN MATRIX HAS CONTROL	05583		1	
03660	REPSW3	DS	2	,+		05585		2	
03670	TFM	+1	,00000	,711		05586	16	05585	-000-
03680	TDM	SWL+1	,2			05598	15	05935	00002
03690	LOCD	DS	2	,+1	,LOC OF DECIMAL AS SPEC BY FORMAT	05608		2	
03700	LOCD2	DS	2	,+3	, TWICE LOC D	05606		2	
03710	TFM	MESERR+8	,679	,9		05610	16	02615	00079
03720	TFM	MAX2	,INH			05622	16	06037	-6063
03730	A	MAX2	,MAX			05634	21	06037	05924
03740	A	MAX 2	,MAX			05646	21	06037	05924
03750	*****				CONTINUATION OF RWA. ALSO USED AFTER EACH OUTPUT				
03760	*****				RECORD NOT TERMINATED BY COMPLT MACRO				
03770	TFM	LAST	,INH			05658	16	05736	-6063
03780	RWA2	TDM	COMP5M	,-1		05670	15	05678	0000J
03790	COMP5M	DS		,+3	,-1 PROHIBITS,0 REQUIRES OUTPUT	05678		0	
03800	TR	INH-1	,STZERO+1			05682	31	06062	06240
03810	TR	INH+86	,STZERO			05694	31	06149	06239
03820	CM	MAX-2	,06	,10		05706	14	05922	000-6
03830	WIDTH	DS	3	,+2	, NO. OF EFF. DIGITS IN FIELD	05715		3	
03840	BNE	+24				05718	47	05742	01200

03850	RCTY					05730	34	00000	00102
03860	LAST	DS	5	,+5	, ADR OF RM AT END OF VARIABLE OUT REC	05736		5	
03870	BD	BSWF	,RWEFSW			05742	43	05826	05953
03880	RADDIT	TFM	IORT	,+23		05754	16	00565	-5777
03890	B	IOGT	,DATINH-4	,7		05766	49	00566	-6053
03900	CM	MAX-2	,06	,10		05778	14	05922	000-6
03910	BNE	+24	,,	,, ALLOWS GOOF SWITCH FOR RATY		05790	47	05814	01200
03920	BC4	+72	,,	,,		05802	46	05730	00400
03930	TDM	FLT END-5	,2			05814	15	03805	00002
03940	*****				CONTROLS POSITION IN FORMAT SPECS				
03950	BSWF	AM	SWF	,5		05826	11	05861	-0005
03960	TF	+18	,SWF	,11		05838	26	05856	0586J
03970	B	SWF	,,	,6,	BR TO ADR INDICATED BY FORMAT SPEC.	05850	49	0586J	00000
03980	SWF	DS	5	,+		05861		5	
03990	RATY1	TFM	MAX	,0687	,8	05862	16	05924	0-687
04000	B	RDALP				05874	49	05914	00000
04010	DDRG	+3				05882			
04020	RAPT1	TFM	MAX	,0887	,8	05882	16	05924	0-887
04030	B	RDALP				05894	49	05914	00000
04040	DDRG	+3				05902			
04050	RACD1	TFM	MAX	,1080	,8	05902	16	05924	0J080
04060	RDALP	TDM	RWEFSW	,0		05914	15	05953	00000
04070	MAX	DS	4	,+1		05924		4	
04080	B	RWA				05926	49	05562	00000
04090	DDRG	+4				05933			
04100	*****				SWL IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE				
04110	*****				TO OBTAIN THE LOCATION THAT GOES WITH THE FORMAT MACRO				
04120	*****				BEING PERFORMED				
04130	*****				BB FOR OBJECT PROGRAM				
04140	*****				NOP FOR REDO CONTROL				
04150	SWL	NOP	MATR 2			05934	41	06418	00000
04160	INPLUS	DS	5	,+	, WORKING POSITION OF I/O RECORD	05945		5	
04170	TDM	SWL+1	,9	,, MATRIX CONTROL SETS SWL TO 49		05946	15	05935	00009
04180	RWEFSW	DS	1	,+4	, 1 FOR WRT, 0 FOR RD, FLAG FOR E	05953		1	
04190	WIDTH2	DS	3	,+1		05956		3	
04200	BD	SWC+12	,MATSW			05958	43	05994	05583
04210	NOP					05970	41	00000	00000
04220	DPG	DS	5	,+5	, TEMP ADR OF DEC PT IN GAMMA	05976		5	
04230	LOC	DS	5	,+	CORE LOCATION TO BE USED	05981		5	
04240	*****				AFTER LOC ADR OBTAINED BR TO PROPER MACRO				
04250	SWC	TDM	SWL+1	,2		05982	15	05935	00002
04260	BD	+20	,RWEFSW	,, BR IF WRITING		05994	43	06014	05953
04270	B	SWC ADJ	,,	,6		06006	49	0604M	00000
04280	DDRG	+4				06013			
04290	TDM	COMP5M	,0	,, SET TO REQUIRE OUTPUT		06014	15	05678	00000
04300	CF	LOC				06026	33	05981	00000
04310	MAX2	DS	5	,+	TWICE MAXIMUM CHAR FOR OUTPUT	06037		5	
04320	B					06038	49	00000	00000
04330	SWCADJ	DS		,+5	, RETURN ADR OF MACRO IN CONTROL	06044		0	
04340	DDRG	+4				06045			
04350	DATDUD	DSA	DUDM			06049		5 X	1
04360	DC	3	,00'			06049		-2607	
						06052		3	
04370	DATINH	DSA	INH			06057		5 X	1

04380	DC	3	,00'		06057	-6063		
	-0'				06060	3		
04390	DC	1	,0		06061	1		
04400	ENDFOR	DAC	1,0		06063	1 X	2	
	0							
04410	INH	DS	,ENDFOR		06063	0		
04420	DS	174			06237	174		
04430	IN	DS	,INH+174		06237	176		
04440	STZERO	DC	2 ,00		06239	2		
	-0							
04450	00	,	,0246810		06240	-0	-0-0	-0-0-0
04460	00	,	,0246810		06252	-0	-0-0	-0-0-0
04470	00	,	,0246810		06264	-0	-0-0	-0-0-0
04480	00	,	,0246810		06276	-0	-0-0	-0-0-0
04490	00	,	,0246810		06288	-0	-0-0	-0-0-0
04500	00	,	,0246810		06300	-0	-0-0	-0-0-0
04510	00	,	,0246810		06312	-0	-0-0	-0-0-0
04520	DC	2	,00		06325	2		
	-0							
04530	FLZERS	DC	2 ,0'		06327	2		
	-'							
04540	DS	5			06332	5		
04550	MATRIX	TDM	MATSW ,1 ,,	MACRO TO PROCESS MATRICIES	06334	15	05583	00001
04560	TDM	SWL+1	,9		06346	15	05935	00009
04570	TF	LOCADJ	,FP2		06358	26	06390	03605
04580	BNF	MATRIX2-12	,MATRIX-1		06370	44	06406	06333
04590	TFM	LOCADJ	,00 ,10		06382	16	06390	000-0
04600	LOCADJ	DS	2 ,*-3 ,,	ADJUST LOC FOR MATRIX	06390	2		
04610	S	LOCADJ	,K		06394	22	06390	02221
04620	S	MATRIX-1	,LOCADJ		06406	22	06333	06390
04630	MATRIX2	A	MATRIX-1 ,LOCADJ ,,	RETURN FROM SWL, EACH MATRIX ELEMENT	06418	21	06333	06390
04640	TF	LOC	,MATRIX-1 ,,	MOVE ADJUSTED LOCATION	06430	26	05981	06333
04650	SM	PAR	,1 ,10		06442	12	03378	000-1
04660	BNE	*,+24			06454	47	06478	01200
04670	TDM	MATSW	,0		06466	15	05583	00000
04680	BNL	SWC+12			06478	46	05994	01300
04690	BB				06490	42	00000	00000
04700	DORG	*,-9			06492			
04710	*****			MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT				
04720	SLASH	TDM	COMEND+1 ,9		04492	15	06657	00009
04730	BD	SLASH2	,RWEFSW ,,	BR IF WRITING	06504	43	06524	05953
04740	B	COMEND			06516	49	06656	00000
04750	DORG	*,-4			06523			
04760	SLASH2	BD	IOCR ,COMP SW ,,	BR TO IO CR IF OUTPUT RECORD BLANK	06524	43	06664	05678
04770	CM	DATINH+2	,06 ,10		06536	14	06059	000-6
04780	BH	WRITE	,6 ,,	BR IF NOT TYPEWRITER OUTPUT	06548	46	06632	01100
04790	TF	LAST	,FLZERS ,6		06560	26	05730	06327
04800	SM	LAST	,02 ,10,	ERASE BLANKS FROM END OF I/O RECORD	06572	12	05736	000-2
04810	CM	LAST	,00 ,610		06584	14	05730	000-0
04820	BE	*,-36			06596	46	06560	01200
04830	CM	LAST	,INH		06608	14	05736	-6063
04840	BL	COM END			06620	47	06656	01300
04850	WRITE	TFM	IOBT ,*,+23		06632	16	05865	-6655
04860	B	IOBT	,DATINH-4 ,7		06644	49	00532	-6053

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04870	COMEND	B	RWA2-12		06656	49	05658	00000
04880	DORG	*,-4			06663			
04890	IOCR	CM	MAX-2 ,08 ,10		06664	14	05922	000-8
04900	CKW	DS	3 ,*-2 ,	DEC SPEC PLUS CHAR OF ARG	06673		3	
04910	BNL	WRITE			06676	46	06632	01300
04920	B	COMEND			06688	49	06656	00000
04930	DORG	*,-4			06695			
04940	*****			MACRO TERMINATING I/O CONTROL				
04950	DS	3			06697	3		
04960	COMPLT	TDM	COMEND+1 ,2		06698	15	06657	00002
04970	CHAR2	DS	3 ,*-1 ,	TWICE MODIFIED CHARACTERISTIC	06708	3		
04980	B	SLASH+12			06710	49	06504	00000
04990	DORG	*,-4			06717			
05000	REDD	BD	REDDA A+24,MAT SW		06718	43	06786	05583
05010	TD	REDDA+23	,COMP SW		06730	25	06785	05678
05020	TFM	SWC ADJ	,REDDA A ,,	MACRO PERMITS REDDING BACK TO I	06742	16	06044	-6762
05030	B	SWL			06754	49	05934	00000
05040	DORG	*,-4			06761			
05050	REDDA	TDM	SWL+1 ,1 ,,	RETURN FROM SWL IF MORE DATA	06762	15	05935	00001
05060	TDM	COMP SW	, ,	VOID REDD USING SWC EFFECT ON COMP SW	06774	15	05678	00000
05070	TERM	DS	5 ,*	REFERENCE ADR IN I/O RECORD	06785	5		
05080	AM	SWF	,5		06786	11	05861	-0005
05090	TF	SWF	,SWF ,11		06798	26	05861	0586J
05100	B	SLASH			06810	49	06492	00000
05110	DORG	*,-4			06817			
05120	*****			MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES				
05130	*****			SUB FROM REP SW, INITIALLY SET TO ZERO				
05140	*****			IF REPSW NEG, SET TO REPS REQD AND REPEAT FORMAT				
05150	*****			IF REPSW ZERO, LAST FORMAT REPETITION IS COMPLETE				
05160	*****			IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC				
05170	REP	AM	SWF ,7		06818	11	05861	-0007
05180	SM	REP SW	,1 ,10,	CONTROL REPETITION OF FIELDS	06830	12	05582	000-1
05190	BH	REP 2			06842	46	06890	01100
05200	BE	BSWF			06854	46	05826	01200
05210	A	REP SW	,SWF ,11		06866	21	05582	0586J
05220	BNH	BSWF			06878	47	05826	01100
05230	REP2	SM	SWF ,2		06890	12	05861	-0002
05240	TF	SWF	,SWF ,11		06902	26	05861	0586J
05250	B	SWF-23			06914	49	05838	00000
05260	DORG	*,-4			06921			
05270	REP3	SF	REPSW3-1		06922	32	05584	00000
05280	WA	DS	5 ,*	WORKING AREA ADR REF TO FAC OR GAM	06933	5		
05290	AM	SWF	,7 ,10		06934	11	05861	000-7
05300	SM	REPSW 3	,1 ,10		06946	12	05585	000-1
05310	BH	REP 2			06958	46	06890	01100
05320	BE	BSWF			06970	46	05826	01200
05330	A	REPSW 3	,SWF ,11		06982	21	05585	0586J
05340	B	REP 2-12			06994	49	06878	00000
05350	DORG	*,-4			07001			
05360	ERF9	TFM	SWC ADJ ,ER COM 2 ,,	MACRO FOR ERROR F9 WHEN WRITING	07002	16	06044	-7078
05370	TF	LAST	,MAX 2		07014	26	05736	06037
05380	TFM	EI	,679 ,9		07026	16	02615	00079
05390	B	SWL			07038	49	05934	00000
05400	DORG	*,-4			07045			
05410	XTYPE	AM	SWF ,3 ,,	MACRO FOR SKIPPING FIELDS	07046	11	05861	-0003
05420	A	LAST	,SWF ,11		07058	21	05736	0586J

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05430	B	BSMF			07070	49	0582A	00000
05440	DORG	--4			07077			
05450	ERCOM2	RCTY			07078	34	00000	00102
05460	WA2	DS	5	,--5	07084			
05470	WATY	DUOH			07090	39	02607	00100
05480	RCTY				07102	34	00000	00102
05490	CHAR	DS	5	,--5	07108			
05500	TR	EI+1			07114	31	0261A	06326
05510	B	BSMF-12			07126	49	05814	00000
05520	DPT	DS	5	,0	07137			
05530	EF.COM	AM	SWF	,3	07138	11	05861	-0003
05540	TF	WIDTH	,SWF	,11	07150	26	05715	0586J
05550	AM	SWF	,2		07162	11	05861	-0002
05560	TF	LOC D	,SWF	,11	07174	26	05608	0586J
05570	TF	INPLUS	,LAST		07186	26	05944	05736
05580	TF	WIDTH 2	,WIDTH		07198	26	05956	05715
05590	A	WIDTH 2	,WIDTH		07210	21	05956	05715
05600	A	LAST	,WIDTH2		07222	21	05736	05956
05610	C	LAST	,MAX 2		07234	24	05736	06037
05620	BH	ER F9			07246	46	07002	01100
05630	TF	TERM	,LAST		07258	26	06785	05736
05640	SM	TERM	,2		07270	12	06785	-0002
05650	TF	CHAR	,WIDTH		07282	26	07108	05715
05660	TF	WA	,FNM		07294	26	06933	03313
05670	TDM	97	,0		07306	15	00097	00000
05680	TFM	99	,00	,10	07318	16	00099	000-0
05690	BD	EF WRT	,RMEFSW		07330	43	07514	05953
05700	TF	FAC	,FLZALP	,11	07342	26	07492	0334Q
05710	TFM	EFTERM+10	,EF TYPE		07354	16	00240	-7702
05720	TFM	SWCADJ	,READ EF		07366	16	06044	-4468
05730	RDFCM	CM	INPLUS	,00	07378	14	0594N	000-0
05740	BNE	FCH NB		,610	07390	47	07458	01200
05750	SM	CHAR	,1	,10	07402	12	07108	000-1
05760	AM	INPLUS	,2		07414	11	05945	-0002
05770	C	INPLUS	,LAST		07426	24	05945	05736
05780	BL	RD FCH			07438	47	07378	01300
05790	B	EFEND+12			07450	49	08258	00000
05800	DORG	--4			07457			
05810	FCHNB	CM	INPLUS	,20	07458	14	0594N	000K0
05820	BE	EF MIN		,610	07470	46	07678	01200
05830	CM	INPLUS	,10	,610	07482	14	0594N	000J0
05840	BE	EF PLUS			07494	46	07690	01200
05850	B	EFFTYPE+36			07506	47	07738	00000
05860	DORG	--4			07513			
05870	FFWRT	C	LOC D	,F	07514	24	05608	02219
05880	BNH	++24			07526	47	07550	01100
05890	TF	LOC D	,F		07538	26	05608	02219
05900	TF	LOC D 2	,LOC D		07550	26	05606	05608
05910	A	LOC D 2	,LOC D		07562	21	05606	05608
05920	TR	GAM-59	,MASK F-1		07574	31	02496	05412
05930	TFM	WA	,GAM		07586	16	06933	-2555
05940	TFM	WA2	,FAC-1		07598	16	07084	-2491
05950	TFM	SWCADJ	,EFMW		07610	16	06044	-4490
05960	SM	WIDTH	,2	,10	07622	12	05715	000-2
05970	BNF	SML	,RMEFSW		07634	44	05934	05953
05980	SM	TERM	,8		07646	12	06785	-0008

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05990	SM	WIDTH	,4	,10	07658	12	05715	000-4
06000	B	SML			07670	49	05934	00000
06010	DORG	--4			07677			
06020	EFMIN	SF	99		07678	32	00099	00000
06030	EFPLUS	SM	CHAR	,1	07690	12	07108	000-1
06040	EFTYPE	AM	INPLUS	,2	07702	11	05945	-0002
06050	CM	INPLUS	,00	,610	07714	14	0594N	000-0
06060	BE	LOG DIG			07726	46	08062	01200
06070	CM	INPLUS	,70	,610	07738	14	0594N	000P0
06080	BH	EF DIG			07750	46	08162	01100
06090	BE	LOG DIG			07762	46	08062	01200
06100	CM	INPLUS	,03	,610	07774	14	0594N	000-3
06110	BE	EF DEC			07786	46	08094	01200
06120	BNF	ERRF7 E	,RMEFSW		07798	44	08370	05953
06130	TFM	EXP	,000	,9	07810	16	07831	00-00
06140	TDM	E EXPAD+1	,1		07822	15	08043	00001
06150	EXP	DS	3	,--2	07831			
06160	CM	INPLUS	,45	,610	07834	14	0594N	000M5
06170	BE	E EXP			07846	46	07998	01200
06180	EEXP2	CM	INPLUS	,20	07858	14	0594N	000K0
06190	BE	E EXP M			07870	46	07986	01200
06200	CM	INPLUS	,10	,610	07882	14	0594N	000J0
06210	BE	E EXP			07894	46	07998	01200
06220	EEXP22	BD	++24	,97	07906	43	07930	00097
06230	SM	CHAR	,1	,9	07918	12	07108	00-01
06240	C	INPLUS	,TERM		07930	24	05945	06785
06250	BNL	EEXPAD-12			07942	46	08030	01300
06260	TD	EXP-1	,INPLUS	,11	07954	25	07830	0594N
06270	AM	INPLUS	,2		07966	11	05945	-0002
06280	B	EEXP22+12			07978	49	07718	00000
06290	DORG	--4			07985			
06300	EEXPM	TDM	E EXPAD+1,2		07986	15	08043	00002
06310	EEXP	AM	INPLUS	,2	07998	11	05945	-0002
06320	SM	CHAR	,1	,10	08010	12	07108	000-1
06330	B	E EXP 2			08022	49	07858	00000
06340	DORG	--4			08029			
06350	TD	EXP	,INPLUS	,11	08030	25	07831	0594N
06360	EEXPAD	A	CHAR	,EXP	08042	21	07108	07831
06370	B	EF END			08054	49	08246	00000
06380	DORG	--4			08061			
06390	LDG DIG	BNF	EF DIG	,98	08062	44	08162	00098
06400	SM	CHAR	,1	,10	08074	12	07108	000-1
06410	B	EF TERM			08086	49	08222	00000
06420	DORG	--4			08093			
06430	EFDEC	BD	ERRF7 E	,97	08094	43	08370	00097
06440	TFM	LOC D	,00	,10	08106	16	05608	000-0
06450	TFM	EFTERM+10	,EF PLUS		08118	16	08240	-7690
06460	TDM	97	,-1		08130	15	00097	0000J
06470	SM	CHAR	,1	,10	08142	12	07108	000-1
06480	B	EF TERM			08154	49	08222	00000
06490	DORG	--4			08161			
06500	EFDIG	CF	98		08162	33	00098	00000
06510	DPTM2	DS	5	,2	08173			
06520	CM	WA	,FAC-1		08174	14	06933	-2491
06530	BNL	++36		,9	08186	46	08222	01300
06540	TO	WA	,INPLUS	,611	08198	25	0693L	0594N

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07670	SM	LOC	,2			09230	12	05981	-0002
07680	TF	FAC-2	,LOC	,11		09242	26	02490	0598J
07690	EFALPH	TOM	FLTEND-5	,2		09294	15	03805	00002
07700	TF	DPT	,TERM			09266	26	07137	06785
07710	S	DPT	,LOC D 2			09278	22	07137	05606
07720	TFM	DPG	,BAM			09290	16	05976	-2555
07730	S	DPG	,LOC D 2			09302	22	05976	05606
07740	TF	DPTHZ	,DPT			09314	26	08173	07137
07750	SM	DPTHZ	,2			09326	12	08173	-0002
07760	EFALP	SM	WA 2	,1		09338	12	07084	-0001
07770	TD	WA	,WA2	,611		09350	25	0693L	0708M
07780	CF	WA	,2	,6		09362	33	0693L	00000
07790	SM	WA	,2			09374	12	06933	-0002
07800	C	WA2	,FMINF			09386	24	07084	03313
07810	BH	EF ALP				09398	46	09338	01100
07820	TFM	WA	,00	,610		09410	16	0693L	000-0
07830	BNF	EF CHKS	,FAC-2			09422	44	09446	02490
07840	TFM	WA	,20	,610		09434	16	0693L	000K0
07850	EFCHKS	TFM	CKM	,000	,9	09446	16	06673	00-00
07860	A	CKM	,LQCD			09458	21	06673	05608
07870	A	CKM	,FAC			09470	21	06673	02492
07880	TF	CHAR	,CKM			09482	26	07108	06673
07890	S	CHAR	,F			09494	22	07108	02219
07900	C	WIDTH	,LQC D			09506	24	05715	05608
07910	BL	ER F8 E				09518	47	05202	01300
07920	BD	++36	,FNM	,11		09530	43	09566	0331L
07930	TOM	FLTEND-4	,-1			09542	15	03806	0000J
07940	TFM	CHAR	,-099	,9		09554	16	07108	00-9R
07950	BNF	WRTF	,RWEFSM			09566	44	04702	05953
07960	*****		WRITE E TYPE, ASSEMBLE EXP IN GAM USING A MASK,						
07970	*****		THE CHAR AND SIGN. MOVE LEFT GAM AND RIGHT GAM TO						
07980	*****		OUTPUT. THEN GO TO INSERT DECIMAL POINT						
07990	WRTE	S	WIDTH	,F		09578	22	05715	02219
08000	BNL	WRT E2		,F	BR IF F NOT LARGER THAN EFF WIDTH	09590	46	04598	01300
08010	BD	++36	,FLTEND-4			09602	43	09638	03806
08020	S	CHAR	,WIDTH			09614	22	07108	05715
08030	BD	ERFBE	,CHAR-2			09626	43	05202	07106
08040	TFM	++47	,GAM			09638	16	09685	-2555
08050	A	++35	,WIDTH			09650	21	09685	05715
08060	A	++23	,WIDTH			09662	21	09685	05715
08070	TF	GAM				09674	26	02555	00000
08080	B	WRT E2				09686	49	04598	00000
08090	DORG	--4				09693			
08100	*****		MACRO FOR I TYPE READ AND WRITE						
08110	ITYPE1	TF	WIDTH2	,SWF	,11	09694	26	05956	0586J
08120	A	LAST	,WIDTH2			09706	21	05736	05956
08130	C	LAST	,MAX2			09718	24	05736	06037
08140	BH	ER F9				09730	46	07002	01100
08150	TF	INPLUS	,LAST			09742	26	05945	05736
08160	TFM	IR DIG+6	,FAC			09754	16	09984	-2492
08170	TFM	SWC ADJ	,WRITE I			09766	16	06044	-4446
08180	BD	SWL	,RWEFSM			09778	43	05934	05953
08190	TF	TERM	,FP1MK			09790	26	06785	03283
08200	TF	FAC	,FXZ			09802	26	02492	02815
08210	TFM	SWC ADJ	,READI			09814	16	06044	J0086
08220	*****		CHAR BY CHAR IS MOVED INTO FAC,RIGHT JUSTIFIED,UNTIL SIGN						

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08230	*****		OR W CHAR ARE EXAMINED.						
08240	*****		ERROR F7 WILL OCCUR IF MORE THAN K CHAR ARE AVAIL TO READ						
08250	IREAD	SM	WIDTH2	,2	,10	09826	12	05956	000-2
08260	BL	SWL				09838	47	05934	01300
08270	SM	INPLUS	,2			09850	12	05945	-0002
08280	CM	INPLUS	,70	,610		09862	14	0594N	000P0
08290	BH	IR DIG				09874	46	09978	01100
08300	BE	IR BLNK				09886	46	10014	01200
08310	CM	INPLUS	,00	,610		09898	14	0594N	000-0
08320	BE	IR BLNK				09910	46	10014	01200
08330	CM	INPLUS	,20	,610		09922	14	0594N	000K0
08340	BE	I MINUS				09934	46	10034	01200
08350	CM	INPLUS	,10	,610		09946	14	0594N	000J0
08360	BE	SWL				09958	46	05934	01200
08370	B	ERR F7I				09970	49	10054	00000
08380	DORG	--4				09977			
08390	IRDIG	TD	,INPLUS	,11		09978	25	00000	0594N
08400	C	--6	,TERM			09990	24	09984	06785
08410	BL	ERR F7 I				10002	47	10054	01300
08420	IRBLNK	SM	IR DIG+6	,1		10014	12	09984	-0001
08430	B	I READ				10026	49	09826	00000
08440	DORG	--4				10033			
08450	IMINUS	SF	FAC			10034	32	02492	00000
08460	B	SWL				10046	49	05934	00000
08470	DORG	--4				10053			
08480	ERRF7I	TF	FAC	,FXZ	,, SET FIXED ZERO INTO FAC	10054	26	02492	02815
08490	TFM	EI	,677	,911,	SET ERROR F7 INDICATION	10066	16	02615	0007P
08500	B	SWL				10078	49	05934	00000
08510	DORG	--4				10085			
08520	READI	SF	FP1MK	,	,6	10086	32	0328L	00000
08530	TF	FLT END	,ICON 2+6			10098	26	03810	10208
08540	BNF	FLOAT	,LOC			10110	44	04042	05981
08550	CF	LOC				10122	33	05981	00000
08560	READIF	TF	LOC	,FAC	,6	10134	26	0598J	02492
08570	SM	LOC	,2			10146	12	05981	-0002
08580	TF	LOC	,FAC-2	,6		10158	26	0598J	02490
08590	ERF7	BNF	BSWF-12	,E1	,, BR IF NOT ERROR TYPE F7	10170	44	05814	02615
08600	CF	EI	,	,, ERASE ERROR F7 INDICATION		10182	33	02615	00000
08610	B	ER COM 2				10194	49	07078	00000
08620	DORG	--4				10201			
08630	ICON2	B	READ IF	,	,11	10202	4R	10134	00000
08640	DORG	--4				10209			
08650	*****		RETURN FROM SWL VIA SWC IF WRITING I TYPE						
08660	*****		VALUE PUT IN FAC IN I FORM,EXPANDED TO ALPHA IN						
08670	*****		GAMMA RIGHT TO LEFT. NO CONTAINS ADR OF HIGH ORDER						
08680	*****		DIGIT IN GAM. AFTER VALUE IN GAM IS SIGNED,CHECKED						
08690	*****		FOR WIDTH. MOVE TO OUTPUT RECORD.						
08700	*****		ERF01 RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.						
08710	WRITII	TFM	WA2	,FAC1		10210	16	07084	-2493
08720	TF	FAC	,LOC	,11		10222	26	02492	0598J
08730	BNF	WRTI2+12	,FAC-1			10234	44	10302	02491
08740	IFWRT	SM	LOC	,2		10246	12	05981	-0002
08750	TF	FAC-2	,LOC	,11		10258	26	02490	0598J
08760	TF	FIXEND+6	,ICON3+6			10270	26	03766	05496
08770	B	FIX				10282	49	03854	00000
08780	DORG	--4				10289			

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08790	WRTI2	TDM	FIXEND+1	,2		10290	15	03761	00002
08800		TR	GAM-19	,MASK 1		10302	31	02536	05452
08810		TFM	HO	,GAM+1		10314	16	10405	-2556
08820	WRTI	SM	WA 2	,1		10326	12	07084	-0001
08830		SM	WA	,2		10338	12	06933	-0002
08840		TD	WA	,WA 2	,611	10350	25	0693L	0708M
08850		BD	I DIG	,WA 2	,11	10362	43	10382	0708M
08860		B	I DIG+12			10374	49	10394	00000
08870		DORG	-4			10381			
08880	IDIG	TF	HO	,WA		10382	26	10405	06933
08890		CF	GAM			10394	33	02555	00000
08900	HO	DS	5			10405		5	
08910		BNF	WRTI	,WA	,11	10406	44	10326	0693L
08920		CM	HO	,GAM+1		10418	14	10405	-2556
08930		BNE	WRT SGN			10430	47	10462	01200
08940		TFM	LAST	,7000	,68	10442	16	05730	0P000
08950		B	BSWF			10454	49	05826	00000
08960		DORG	-4			10461			
08970	WRTSGN	BNF	WRT I3	,FAC		10462	44	10498	02492
08980		SM	HO	,2		10474	12	10405	-0002
08990		TFM	HO	,20	,610	10486	16	10400	000K0
09000	WRTI3	SM	HO	,1		10498	12	10405	-0001
09010		TFM	OUT	,GAM		10510	16	10569	-2555
09020		S	OUT	,HO		10522	22	10569	10405
09030		C	OUT	,WIDTH 2		10534	24	10569	05956
09040		BH	ER F8 I			10546	46	10626	01100
09050		SF	OUT			10558	32	10569	00000
09060	OUT	DS	5		, HI ORDER MKG ADR IN I/O RECORD, I TYPE	10569		5	
09070		A	OUT	,LAST		10570	21	10569	05736
09080		SM	OUT	,2		10582	12	10569	-0002
09090		TR	OUT	,HO	,611	10594	31	1056R	1040N
09100		TFM	LAST	,00	,610	10606	16	05730	000-0
09110		B	BSWF			10618	49	05826	00000
09120		DORG	-4			10625			
09130	ERFBI	TR	DUD	M+11,FLZERS-67		10626	31	02618	06260
09140		TR	DUD	M+11,HO	,11	10638	31	02618	1040N
09150		B	ERCOM			10650	49	03322	00000
09160		DORG	-4			10657			
09170	*****		1620 FORTRAN II-D	ARITHMETIC SUBROUTINES					
09180	FIX1	BP	++32		, YES	10658	46	10690	01100
09190		TF	FAC	,FXZ	, NO	10670	26	02492	02815
09200		B	FIXEND			10682	49	03760	00000
09210		DORG	-3			10690			
09220		TD	MU-1	,FAC-2	, STORE SIGN	10690	25	03711	02490
09230		C	FAC	,K	, IS CHAR GREATER THAN K	10702	24	02492	02221
09240		BNH	++44			10714	47	10758	01100
09250		TDM	FXERR+25	,1	, SET ERR TYPE	10726	15	03701	00001
09260		TFM	EI	,579	, SET ER E9, OVFL IN FIX	10738	16	02615	00N79
09270		B	FXNINE+12		, YES, FAC = FX9	10750	49	11004	00000
09280		DORG	-3			10758			
09290		CF	FAC-2			10758	33	02490	00000
09300		TF	BETA	,ZERO-51	, CLEAR ADD AREA	10770	26	02603	02716
09310		TF	IMSA	,FXZ		10782	26	02575	02815
09320		TF	++30	,IMSAPP	, ALIGN DECIMAL POINTS	10794	26	10824	03298
09330		S	++18	,FAC		10806	22	10824	02492
09340		A	DUMMY	,FAC-2		10818	21	99999	02490

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09350		TF	FAC	,IMSA		10830	26	02492	02575
09360		B	MU			10842	49	03712	00000
09370		DORG	-4			10849			
09380	FXA1	BV	++12			10850	46	10862	01400
09390		BB				10862	42	00000	00000
09400		DORG	-9			10864			
09410	FXSR1	CF	FAC			10864	33	02492	00000
09420		TF	FXA-1	,FXSR-1	, SET UP ADD	10876	26	03877	03925
09430		B	FXA		, BRANCH TO FIXED POINT ADD	10888	49	03878	00000
09440		DORG	-3			10896			
09450		SF	FAC			10896	32	02492	00000
09460		B	FXSR1+12			10908	49	10876	00000
09470		DORG	-3			10916			
09480	FXM1	SF	100MK	,99	,6	10916	32	0329L	00000
09490		TF	FAC			10928	26	02492	00099
09500		BB				10940	42	00000	00000
09510		DORG	-9			10942			
09520	FXD1	D	100MK	,FXD-1	,611	10942	29	0329L	0397L
09530		BV	++26			10954	46	10980	01400
09540		TF	FAC	,99MK	,11	10966	26	02492	0328Q
09550		BB				10978	42	00000	00000
09560		DORG	-9			10980			
09570		TFM	EI	,578	,9, ERROR E8	10980	16	02615	00N78
09580	FXNINE	TFM	FXERR+30	,FIXEND-12,,	, SET UP ERROR EXIT	10992	16	03706	-3748
09590		TF	FAC	,FX9	, FAC = FX9	11004	26	02492	02805
09600		B	FXERR			11016	49	03676	00000
09610		DORG	-3			11024			
09620	FXDR1	D	100MK	,FAC	,6	11024	29	0329L	02492
09630		B	FXD1+12			11036	49	10954	00000
09640		DORG	-4			11043			
09650	RSGN1	BNF	++26	,FAC-2	, FLOATING POINT NUMBER	11044	44	11070	02490
09660		CF	FAC-2			11056	33	02490	00000
09670		BB				11068	42	00000	00000
09680		DORG	-9			11070			
09690		SF	FAC-2			11070	32	02490	00000
09700		BB				11082	42	00000	00000
09710		DORG	-9			11084			
09720		BNF	++26	,FAC	, FIXED POINT NUMBER	11084	44	11110	02492
09730		CF	FAC			11096	33	02492	00000
09740		BB				11108	42	00000	00000
09750		DORG	-9			11110			
09760		SF	FAC			11110	32	02492	00000
09770		BB				11122	42	00000	00000
09780		DORG	-9			11124			
09790	FLOA1	BZ	ZERFAC		, YES	11124	46	03584	01200
09800		TD	99	,FAC	, STORE SIGN	11136	25	00099	02492
09810		CF	FAC			11148	33	02492	00000
09820		TR	BETA-9	,FXM	,11	11160	31	02594	0328L
09830		TF	FAC-2	,9SPF-1	, CLEAR FAC	11172	26	02490	02853
09840		TF	SAVE	,K	, CHAR = K	11184	26	02565	02221
09850		TFM	++23	,BETA-9		11196	16	11219	-2594
09860		BD	++44		, FIND HI ORD DIGIT	11208	43	11232	00000
09870		SM	SAVE	,1	,10, ADJUST CHAR	11220	12	02565	000-1
09880		AM	-13	,1		11232	11	11219	-0001
09890		B	-36			11244	49	11208	00000
09900		DORG	-3			11252			

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09910	TR	FNH	,0-33	,611		11252	31	0331L	1121R
09920	TF	+035	,FNH	..	FIND AND CLEAR RECORD MARK	11264	26	11299	0331B
09930	AM	+023	,1	..		11276	11	11299	-0001
09940	BHR	0-12	,1	..		11288	45	11276	00000
09950	TDM	0-1	,0	,6		11300	15	1129R	00000
09960	TD	FAC+1	,RECNK	..	REPLACE RECORD MARK	11312	25	02493	02403
09970	TF	BETA	,ZERO-74	..	CLEAR BETA	11324	26	02603	02693
09980	B	NORM+60				11336	49	11760	00000
09990	DORG	0-4				11343			
10000	FSB1	TF	FAD-1	,FSB-1		11344	26	04089	04085
10010	B	FAD1				11356	49	11364	00000
10020	DORG	0-3				11364			
10030	FAD1	TF	BETA	,FAD-1	,11, MOVE EXPONENT	11364	26	02603	0408R
10040	SM	FAD-1	,2	,10		11376	12	04089	000-2
10050	TF	BETA-2	,9SPF	..	CLEAR BETA-2 TO F+1 ZEROS.	11388	26	02601	02854
10060	A	BETA-2	,FAD-1	,11,	ADD OR SUBT.MANTISSA	11400	21	02601	0408R
10070	TF	SAVE	,FAC	..	MOVE EXPONENT.	11412	26	02565	02492
10080	TF	FAC-1	,FAC-2	..	RIGHT SHIFT ONE DIGIT.	11424	26	02491	02490
10090	CF	FH	,0	,6,	CLEAR FLAG ON HIGH ORDER DIGIT.	11436	33	03300	00000
10100	TDM	FNH	,0	,611,	SET NEXT HIGH DIGIT TO FLAG ZERO.	11448	15	0331L	0000-
10110	C	BETA	,SAVE	..	COMPARE EXPONENTS.	11460	24	02603	02565
10120	BNH	+084		..	BRANCH IF NO EXCHANGE OF OPERANDS	11472	47	11856	01100
10130	TF	SAVE-2	,FAC-1	..	EXCHANGE MANTISSAS.	11484	26	02563	02491
10140	TF	FAC-1	,BETA-2	..		11496	26	02491	02601
10150	TF	BETA-2	,SAVE-2	..		11508	26	02601	02563
10160	TF	FAD+0	,SAVE	..	EXCHANGE EXPONENTS.	11520	26	04098	02565
10170	TF	SAVE	,BETA	..		11532	26	02565	02603
10180	TF	BETA	,FAD+0	..		11544	26	02403	04098
10190	TFM	ADD+11	,BETA-2	..	SET UP ADDRESS	11556	16	11663	-2601
10200	S	BETA	,SAVE	..	SUBTRACT EXPONENTS	11568	22	02603	02565
10210	BV	NOADD		..	NO OPERATION IF OVERFLOW.	11580	46	11852	01400
10220	A	ADD+11	,BETA	..	MODIFY ADDRESS FOR SHIFT.	11592	21	11661	02603
10230	A	BETA	,F	..	ADD F TO BETA	11604	21	02603	02219
10240	BNH	NOADD		..	NO OP IF EX DIF NOT LESS THAN F	11616	47	11852	01100
10250	BNF	ADD	,BETA-2	..		11628	44	11652	02601
10260	SF	ADD+11		,6,	SET SIGN OF OPERAND.	11640	32	11661	00000
10270	ADD	A	FAC-1	..		11652	21	02491	00000
10280	BZ	ZERFAC+12,		..	BRANCH IF ZERO RESULT	11664	46	03596	01200
10290	TDM	UNFLOW-1,	,2	..		11676	15	11819	00002
10300	TDM	OVFLOW-1,	,1	..		11688	15	03651	00001
10310	NORM	TD	99	,FAC-1	.. STORE SIGN OF RESULT	11700	25	00099	02491
10320	CF	FAC-1		..		11712	33	02491	00000
10330	BD	LVI	,FNH	,11,		11724	43	03616	0331L
10340	TR	FNH	,FH	,611,	LEFT SHIFT ONCE	11736	31	0331L	0330Q
10350	TDM	FAC-1	,0	..	SET LAST DIGIT TO ZERO.	11748	15	02491	00000
10360	SF	FNH	,0	,6,		11760	32	0331L	00000
10370	BD	FINISH	,FNH	,611,	TEST LEADING ZERO	11772	43	0360L	0331L
10380	SM	SAVE	,1	,10,	SUBT ONE FROM EXPONENT.	11784	12	02565	000-1
10390	BNV	NORM+36				11796	47	11736	01400
10400	TFM	EI	,572	,9,	SET UP ERROR CODE E2.	11808	16	02615	00N72
10410	UNFLOW	TFM	FAC	,99	,10,	11820	16	02492	000RR
10420	TF	FAC-2	,9SPF-1	..	SET RESULT TO ZERO.	11832	26	02490	02853
10430	B	ERROR				11844	49	07674	00000
10440	DORG	0-4				11851			
10450	NOADD	SF	FH	,6		11852	32	0330Q	00000
10460	TR	FH	,FH	,611		11864	31	0331L	0330Q

10470	TF	FAC	,SAVE			11876	26	02492	02565
10480	BB					11888	42	00000	00000
10490	DORG	0-9				11890			
10500	FSBR1	CF	FAC-2			11890	33	02490	00000
10510	TF	FAD-1	,FSBR-1	..	SET UP ADD	11902	26	04089	04113
10520	B	FAD		..	BRANCH TO FLOATING POINT ADD	11914	49	04090	00000
10530	DORG	0-3				11922			
10540	SF	FAC-2				11922	32	02490	00000
10550	B	FSBR1+12				11934	49	11902	00000
10560	DORG	0-4				11941			
10570	FHP1	SM	FHP-1	,2	,10, SUBT. TWO FROM ADDRESS.	11942	12	04137	000-2
10580	LD	79	,ZERO-10	..	CLEAR AREA FOR PRODUCT.	11954	28	00079	02757
10590	M	FAC-2	,FHP-1	,11,	MULTIPLY TWO MANTISSAS.	11966	23	02490	0413P
10600	BZ	ZERFAC				11978	46	03584	01200
10610	A	SAVE	,FAC	..	ADD EXPONENTS.	11990	21	02565	02492
10620	TF	FAC-1	,MND	,11,	MOVE F+1 DIGITS OF PRODUCT.	12002	26	02491	0330Q
10630	TDM	UNFLOW-1,	,4	..	SET UP ERROR CODE E4.	12014	15	11819	00004
10640	FMFAXI	BNV	NORM+72	..	NORMALIZE IF SUM NOT OVERFLOW.	12026	47	11772	01400
10650	BNF	+20	,FAC	..	TEST SIGN OF EXPONENT.	12038	44	12058	02492
10660	B	UNFLOW-12,		..	UNDERFLOW	12050	49	11808	00000
10670	DORG	0-4				12057			
10680	TDM	OVFLOW-1,	,3	..	SET UP ERROR CODE E3.	12058	15	03651	00003
10690	BH	OVFLOW-12,		..	OVERFLOW.	12070	46	03640	01100
10700	TFM	SAVE	,99	,10,	SET EXPONENT TO 99.	12082	16	02565	000R9
10710	B	NORM+24		..	NORMALIZE.	12094	49	11724	00000
10720	DORG	0-4				12101			
10730	FD1	TF	SAVE	,FAC	.. SAVE EXPONENT OF FAC.	12102	26	02565	02492
10740	SM	FD-1	,2	,10,	SUBTRACT TWO FROM ADDRESS.	12114	12	04161	000-2
10750	TF	79	,ZERO-9	..	CLEAR AREA FOR QUOTIENT	12126	26	00079	02758
10760	LD	PDT	,FAC-2	,6,		12138	28	0333L	02490
10770	D	PDT	,FD-1	,611,		12150	27	0333L	0416J
10780	TDM	OVFLOW-1,	,7	..	SET UP ERROR CODE E7 FOR 0 DIVISOR.	12162	15	03651	00007
10790	BV	OVFLOW-12,		..	DIVIDED BY ZERO.	12174	44	03640	01400
10800	TF	FAC-1	,PDT	,11,	MOVE QUOTIENT.	12186	26	02491	0333L
10810	TD	99	,FAC-1	..	STORE SIGN DIGIT.	12198	25	00099	02491
10820	BZ	ZERFAC+12,		..	ZERO QUOTIENT.	12210	46	03596	01200
10830	SE	SM	SAVE	,10,	SUBTRACT EXPONENTS.	12222	12	02565	000-0
10840	TDM	OVFLOW-1,	,5	..	SET UP ERROR CODE E5.	12234	15	03651	00005
10850	BNV	NORM+26				12246	47	11724	01400
10860	BNF	OVFLOW-12,FAC		..	OVERFLOW IF RESULT IS POSITIVE.	12258	44	03640	02492
10870	TDM	UNFLOW-1,	,6	..	SET UP ERROR CODE E6.	12270	15	11819	00004
10880	BN	UNFLOW-12,		..	UNDERFLOW IF RESULT NEGATIVE.	12282	47	11808	01300
10890	TFM	SAVE	,99	,10,	SET EXPONENT TO -99.	12294	16	02565	000RR
10900	B	NORM+72		..	NORMALIZE.	12306	49	11772	00000
10910	DORG	0-4				12313			
10920	FOVR1	TF	SE+11	,FAC		12314	26	12233	02492
10930	SM	FOVR-1	,2-	,10,		12326	12	04185	000-2
10940	TF	79	,ZERO-9	..	CLEAR AREA FOR QUOTIENT.	12338	26	00079	02758
10950	LD	PDT	,FOVR-1	,611,		12350	28	0333L	0418M
10960	D	PDT	,FAC-2	,6		12362	29	0333L	02490
10970	TD	FAC	,SAVE	..	KEEP SIGN OF DIVIDEND EXPONENT.	12374	25	02492	02565
10980	B	FOVR+0				12386	49	12162	00000
10990	DORG	0-4				12393			
11000	*****	1620 FORTRAN II-D	EXPONENTIATION SUBROUTINES			12394	11	02575	000-0
11010	FIX11	AM	IRSA	,00	,10, IS 1 = ZERO	12406	47	12432	01200
11020	BNZ	+26							

11030	TF	FAC	,FX1	..	YES, J=I = ONE	12418	26	02492	02825
11040	BB					12430	42	00000	00000
11050	DORG	0-9				12432			
11060	AM	FAC	,00	,10,	IS J = ZERO	12432	11	02492	000-0
11070	BNZ	PSI-12				12444	47	12488	01200
11080	BNF	0-26	,IMSA	..	YES, IS I POSITIVE	12456	44	12430	02575
11090	TFM	EI	,771	,9,	NO, ERR G1, ZERO TO MINUS I POWER	12468	16	02615	00P71
11100	B	FXMINE				12480	49	10992	00000
11110	DORG	0-4				12487			
11120	TDM	ODDREV+1,1				12488	15	12605	00001
11130	CF	MU-1		..	SET SIGN POSITIVE	12500	33	03711	00000
11140	SF	IMSA-1				12512	32	02574	00000
11150	MM	IMSA	,05	,10		12524	13	02575	000-5
11160	CF	IMSA-1				12536	33	02574	00000
11170	BD	+20	,99			12548	43	12568	00099
11180	B	+32		..	I EVEN	12560	49	12592	00000
11190	DORG	0-4				12567			
11200	BNF	+36	,FAC	..	I ODD	12568	44	12604	02492
11210	SF	MU-1		..	J NEG, SET SIGN NEGATIVE	12580	32	03711	00000
11220	CF	FAC				12592	33	02492	00000
11230	ODDREV	NOP	AXJ			12604	41	12986	00000
11240	C	FAC	,FX1			12616	24	02492	02825
11250	BE	MU		..	J = + OR - ONE	12628	46	03712	01200
11260	BNF	+56	,IMSA	..	IS I POSITIVE	12640	44	12696	02575
11270	TFM	EI	,772	,9,	NO, ERR G2, J TO MINUS I POWER	12652	16	02615	00P72
11280	TF	FAC	,FXZ	..	FAC = FXZ	12664	26	02492	02815
11290	TFM	FXERR+30	,FIXEND-12,,		SET UP ERROR EXIT	12676	16	03706	-3748
11300	B	FXERR				12688	49	03676	00000
11310	DORG	0-4				12695			
11320	TF	BETA	,FAC	..	STORE J	12696	26	02603	02492
11330	SM	IMSA	,01	,10,	I = I-1	12708	12	02575	000-1
11340	BZ	MU				12720	46	03712	01200
11350	M	FAC	,BETA			12732	23	02492	02603
11360	SF	100MK		,6		12744	32	0329L	00000
11370	TF	FAC	,99			12756	26	02492	00099
11380	AM	99MK	,00	,610,	TEST OVFL	12768	11	03280	000-0
11390	BZ	0-72				12780	46	03708	01200
11400	TFM	EI	,773	,9,	ERR G3, OVFL IN FIXI	12792	16	02615	00P73
11410	TDM	FXERR+25	,1	..	SET UP SIGN	12804	15	03701	00001
11420	B	FXMINE+12				12816	49	11004	00000
11430	DORG	0-4				12823			
11440	AM	IMSA	,00	,10,	IS I ZERO	12824	11	02575	000-0
11450	BNZ	+38				12836	47	12874	01200
11460	ONEFAC	TFM	FAC	,01	YES	12848	16	02492	000-1
11470	TF	FAC-2	,ONEZ	..	FAC = FLT PT ONE	12860	26	02490	03038
11480	BB					12872	42	00000	00000
11490	DORG	0-9				12874			
11500	BD	+44	,FNH	,11,	IS A ZERO	12874	43	12918	0331L
11510	BNF	0-14	,IMSA	..	YES, IS I NEGATIVE	12886	44	12872	02575
11520	TFM	EI	,774	,9,	YES, ERR G4, ZERO TO MINUS I	12898	16	02615	00P74
11530	B	MANTP				12910	49	13570	00000
11540	DORG	0-4				12917			
11550	TF	SAVE	,FAC	..	STORE CMAR	12918	26	02565	02492
11560	TD	FAC	,FAC-2	..	CONVERT A TO F+2 FORM	12930	25	02492	02490
11570	CF	FAC-2				12942	33	02490	00000
11580	TDM	FAC-1	,0			12954	15	02491	00000

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11590	TDM	ODDREV+1,9		..	SET UP RETURN	12966	15	12605	00009	
11600	B	PSI		..	SET UP SIGN AT MU-1	12978	49	12500	00000	
11610	DORG	0-4				12985				
11620	AXJ	TDM	FAC	,0		12986	15	02492	00000	
11630	TFM	NORM+54	,FAC	..	SET UP F+2 NORMALIZATION	12998	16	11754	-2492	
11640	TFM	ERROR+1	,49	,10,	SET UP RETURN ON ERROR	13010	16	03677	000M9	
11650	TDM	FINISH+2,9				13022	15	03805	00009	
11660	TFM	FINISH+7,FINISH		,711		13034	16	03810	-380L	
11670	BNF	NODIV	,IMSA	..	IS I NEGATIVE	13046	44	13194	02575	
11680	CF	IMSA		..	YES	13058	33	02575	00000	
11690	TF	79	,ZERO-35	..	CLEAR QUOTIENT AREA	13070	26	00079	02732	
11700	LD	98MF	,ONEZ+2	,6,	FIND I/A	13082	28	03320	03040	
11710	D	98MF	,FAC	,6		13094	29	03320	02492	
11720	TF	FAC	,97MF	,11		13106	26	02492	0332L	
11730	TFM	FINISH	,+44			13118	16	03803	J3162	
11740	TF	SE+11	,SAVE			13130	26	12233	02565	
11750	TFM	SAVE	,01	,10		13142	16	02565	000-1	
11760	B	SE		..	GO TO FD FOR CHAR CHECK	13154	49	12222	00000	
11770	DORG	0-4				13161				
11780	BNF	NODIV	,FAC-1	..	DID OVFL OR UNFL OCCUR	13162	44	13194	02491	
11790	BNF	SOS	,FAC	..	YES, OVFL	13174	44	13342	02492	
11800	B	SOS+20		..	UNFL	13186	49	13362	00000	
11810	DORG	0-4				13193				
11820	NODIV	TF	GAM	,FAC	..	STORE A	13194	26	02555	02492
11830	TF	SAVE-2	,SAVE	..		13206	26	02563	02565	
11840	TFM	FINISH	,SOS-20	..	SET UP RETURN FROM FMP	13218	16	03803	J3322	
11850	TFM	FMFAXI+23,SAVE-2				13230	16	12049	-2563	
11860	SM	IMSA	,01	,10,	I = I - 1	13242	12	02575	000-1	
11870	BZ	M14				13254	46	13394	01200	
11880	TF	79	,ZERO-35	..	CLEAR PROD AREA	13266	26	00079	02732	
11890	M	FAC	,GAM	..		13278	23	02492	02555	
11900	TF	FAC	,97MF	,11		13290	26	02492	0332L	
11910	A	SAVE	,SAVE-2			13302	21	02565	02563	
11920	B	FMFAXI		..	GO TO FMP FOR CHAR CHECK	13314	49	12026	00000	
11930	DORG	0-4				13321				
11940	BNF	NODIV+48,FAC-1		..	DID OVFL OR UNFL OCCUR	13322	44	13242	02491	
11950	B	NODIV-20,		..	YES	13334	49	13174	00000	
11960	DORG	0-4				13341				
11970	SOS	TFM	EI	,775	,9,	ERR G5, OVFL IN FAXI	13342	16	02615	00P75
11980	B	+20				13354	49	13374	00000	
11990	DORG	0-4				13361				
12000	TFM	EI	,776	,9,	ERR G6, UNFL IN FAXI	13362	16	02615	00P76	
12010	TFM	GEHT+6	,ERROR	..	SET UP TYPE OUT OF ERR	13374	16	13484	-3676	
12020	B	M14+12				13386	49	13406	00000	
12030	DORG	0-4				13393				
12040	M14	TFM	GEHT+6	,ENDD	..	REMOVE ERROR TYPE OUT	13394	16	13484	-3768
12050	TD	99	,MU-1	..	SET UP SIGN	13406	25	00099	03711	
12060	TFM	ERROR+1,34		,10,	RESET	13418	16	03677	000L4	
12070	TFM	FINISH	,ENDD			13430	16	03803	-3768	
12080	TFM	NORM+54	,FAC-1			13442	16	11754	-2491	
12090	TDM	FINISH+2	,2			13454	15	03805	00002	
12100	TFM	FMFAXI+23,FAC				13466	16	12049	-2492	
12110	GEHT	B				13478	49	00000	00000	
12120	DORG	0-4				13485				
12130	FAXB1	SM	FAXB-1	,02	,10	13486	12	04257	000-2	
12140	TF	TAFE-2	,FAXB-1	,11		13498	26	02533	0425P	

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12150	AM	TAFE-2	,00	,10,	IS B ZERO	13510	11	02533	000-0
12160	BZ	ONEFAC	,	,,	YES	13522	46	12848	01200
12170	BD	**56	,FNH	,11,	IS A ZERO	13534	43	13590	0331L
12180	BNF	FINISH+1	,TAFE-2	,,	IS B NEGATIVE	13544	44	03804	02533
12190	TFM	E1	,777	,9,	YES, ER G7 ZERO TO MINUS B	13558	16	02615	00P77
12200	MANTP	TDM	99	,0	SET SIGN	13570	15	00099	00000
12210	B	OVFLOW	,	,,		13582	49	03652	00000
12220	DORG	-4	,	,,		13589			
12230	TDM	OLMR+1	,9	,,	SET UP NO ERR TYPE	13590	15	13735	00009
12240	BNF	**36	,FAC-2	,,	IS A NEGATIVE	13602	44	13638	02490
12250	TDM	OLMR+1	,1	,,	YES, SET UP ERR TYPE	13614	15	13735	00001
12260	CF	FAC-2	,	,,		13626	33	02490	00000
12270	TDM	FINISH+2	,9	,,		13638	15	03805	00009
12280	TFM	FINISH+7	,**20	,,		13650	16	03810	J3670
12290	B	LNENT	,	,6,	FIND LN OF A	13662	49	03360	00000
12300	DORG	-4	,	,,		13669			
12310	TFM	FINISH+7	,**32	,,		13670	16	03810	J3702
12320	TFM	FME-1	,IAFE	,,	SET UP MULTIPLICATION	13682	16	04137	-2535
12330	B	FMP	,	,,	MULTIPLY B TIMES LN(A)	13694	49	04138	00000
12340	DORG	-4	,	,,		13701			
12350	TFM	FINISH+7	,**20	,,		13702	16	03810	J3722
12360	B	EXPENT	,	,6,	FIND A**B = E**BLN(A)	13714	49	0337L	00000
12370	DORG	-4	,	,,		13721			
12380	TDM	FINISH+2	,2	,,		13722	15	03805	00002
12390	OLWR	NOP	FINISH+1	,,		13734	41	03804	00000
12400	TFM	E1	,676	,9,	ERR F6, -ATOB	13746	16	02615	00076
12410	TDM	99	,0	,,		13758	15	00099	00000
12420	B	ERRDR	,	,,		13770	49	03676	00000
12430	DORG	-4	,	,,		13777			
12440	DORG	15000	,	,,		15000			
12450	34	B3	,00701	,,		15000	34	15044	00701
12460	38	B3	,00702	,,		15012	38	15044	00702
12470	36	B3	,00703	,,		15024	36	15044	00703
12480	B	**22	,	,,		15036	49	15058	00000
12490	DORG	-3	,	,,		15044			
12500	B3	DSC	9	,016840100		15044		9	
		016840100							
12510	DSA	START+3				15057		5 X	1
12520	TRA					15057		-3854	
						15058	36	00000	00500
12530	TCD	15000				15070	49	00000	00000
						15000			
12540	DEND					00000			

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ATYPE1	08730	ITYPE1	09694	EFWRT	07514	FXDR	03998	MATSW	05583
CLR705	05134	LDGDIG	08062	EI	02615	FXD	03974	MAX2	06037
COMADD	02231	LOCADJ	06390	ENDD	03768	FXERR	03676	MAX	05924
COMEND	06656	MASKEP	05402	ENTLN	02248	FXH	03283	MF	03473
COMPLT	06698	MATRIX	06334	ERCOM	05322	FXM1	10916	MU	03712
COMP5W	05678	MATRX2	06418	ERF7A	08998	FXM	03950	N1	02233
DATDUD	06049	MESERR	02607	ERF7	10170	FXSR1	10864	N2	02238
DATINH	06057	MONCAL	00796	ERF8E	05202	FXSR	03926	NOADD	11892
DIODDA	03387	ODUREY	12604	ERF8I	10626	FXS	03902	MODIV	13194
DKBUFF	02404	ONEFAC	12848	ERF9	07002	FXZ	02815	NORM	11700
DKDATA	03379	OVFLOW	03652	ERRET	00602	FZERO	04950	OLWR	13734
EEXK22	07906	PRD6ST	02226	ERROR	03676	GAM	02555	ONEZ	03038
EEXPAD	08042	RADGIT	05754	ETYPE	04556	GENT	13478	OUT	10569
EFALPH	09254	READ6F	04468	EXP	07831	GMZF	03735	PAR	03378
EFCHKS	09446	READIF	10134	F2	03661	HND	03338	PDT	03333
EFEND2	08278	REPSW3	05585	FAC	02492	HO	10405	PIOV2	03163
EFPLUS	07690	RHEFSW	05953	FAD1	11364	HRD	08494	PIOV4	03191
EFTERM	08222	100MK	03293	FAD	04090	HTYPE	04378	PI	03133
EFTYPE	07702	102MF	03343	FAXB1	13486	HVRT	08562	PSI	12500
ENDFOR	06063	2FM1	03429	FAXB	04258	ICON2	10202	RACD1	05902
ENTABS	02323	96MF	03318	FAX11	12824	ICON3	05490	RACD	04402
ENTATN	02313	97MF	03363	FAXI	04234	ICON5	05482	RAPT1	05882
ENTCOS	02303	97MF	03323	FCHNB	07458	ICON6	05474	RAPT	04378
ENTDED	02298	98MF	03328	FD1	12102	IDIG	10382	RATY1	05862
ENTDOR	02293	99MK	03288	FD	04162	IFWRT	10246	RATY	04354
ENTEXP	02253	95CPF	02795	FDVR1	12314	INSA	02575	RDAFL	09018
ENTFET	02283	95PF	02854	FQVR	04186	INH	06063	RDALP	05914
ENTFID	02273	ADD	11652	FH	03308	IN	06237	RDA	08954
ENTIREC	02278	ATYPE	04512	FIX1	10658	LOCAL	00716	RDFCH	07378
ENTSC1	02258	AXJ	12986	FIX11	12394	IOCR	06664	READA	08858
ENTSC2	02263	B3	15044	FIXI	04210	IOGT	00566	READI	10086
ENTSC3	02268	BETA	02603	FIX	03854	IOPT	00532	RECLG	02243
ENT5IN	02308	BSWF	05826	FKODD	03427	IORBC	00520	RECMK	02403
ENT5OT	02318	CHAR2	06708	FLOAT	04042	IORT	00565	REDOA	06762
ENT5WD	02288	CHAR	07108	FLZ	03353	IOSK	00554	REDO	06718
ERCON2	07078	CKM	06673	FMINF	03313	IRDIG	09978	REP2	06890
ERFFTE	08370	DIO	00816	FMI	03625	IREAD	09826	REP3	06922
ERRFTI	10054	OPG	05976	FMFAC	03452	ITYPE	04424	REP	06818
EXPENT	03373	DPTH2	08173	FMP1	11942	K2	03648	REPSW	05582
FINDIN	03583	DPT	07137	FMP	04138	K	02221	RSGN1	11044
FINISH	03803	DUOH	02607	FNMH1	03358	LAST	05736	RSGN	04020
FIXEND	03760	DUD	02687	FNM	03313	LN10	02980	RWA2	05670
FL0AT1	11124	DUMMY	99999	FPIHK	03283	LN2	02887	RWA	05562
FLTEND	03810	EEXK2	07858	FP2	03605	LN4	02918	SAVE	02565
FLZALP	03348	EEXPM	07986	F	02219	LN8	02949	SE	12222
FLZERS	06327	EEXP	07998	FSB1	11344	LNENT	03368	SIX	03219
FMFAXI	12026	EFALP	09338	FSBR1	11890	LOC02	05406	SLASH	06492
FMCNEZ	04906	EFCOM	07138	FSBR	04114	LOC0	05408	SOS	13342
FXMINE	10992	EFCO	08094	FSB	04066	LOC	05981	START	03851
GM12F	03526	EPDIG	08162	FTYPE	04534	LOGE	03010	STOP	02395
HTYPE1	08402	EPEND	08246	FXI	02829	LVI	03616	SWC	05982
IMINUS	10034	EPMIN	07678	FX9	02805	M14	13394	SWF	05861
INSAPF	03298	EPH1	09206	FXA1	10850	MANTP	13970	SWL	05934
INPLUS	05945	EPH	04490	FXA	03878	MASKF	05413	TAFE	02535
IRBLNK	10014	EPRD1	08642	FXD1	10942	MASKI	05452	TAN6	03248
ISPFL1	03303	EPRD2	08674	FXDR1	11024	MASK	05401	TEN34	03278

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TERN	06785	MACD	04330	WRTA2	09166	XYPE	07046	WRITEI	04446
TOPAC	03408	MAPX	09186	WRTA	09122	ZERO	02767	WRITII	10210
TRACE	03496	MAPY1	05518	WRTE2	04598	SLASH2	06524	WRTALP	05550
TRPX	03564	MAPT	04306	WRTE	09578	STZERO	06239	WRTFPC	05026
TWOPI	03103	MA	06933	WRTF	04702	SMCADJ	06044	WRTFPE	04994
TWOZ	03073	MATY1	05498	WRTI2	10290	UNFLOW	11820	WRTSGN	10462
WA2	07084	MATY	04282	WRTI3	10498	MEFDEC	05170	ZERFAC	03584
WA3	04567	WIDTH	05719	WRTI	10326	WIDTH2	05956		
WACD1	05538	WRITE	06632	W	02240	WRITEA	09074		

END OF ONE ASSEMBLY.

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00870	FP1MK	DS		,FXH	03283	-2493		
00880	99MK	DC	5	,99	03283	0		
				-0099	03288	5		
00890	100MK	DC	5	,100	03293	5		
				-0100				
00900	IMSAPP	DSA	IMSA		03298	5 X	1	
00910	ISPFM1	DSA	IMSA-1		03298	-2575		
					03303	5 X	1	
00920	FH	DSA	FAC		03303	-2574		
					03308	5 X	1	
00930	FNH	DSA	FAC-1		03308	-2492		
					03313	5 X	1	
00940	F1MF	DS		,FNH	03313	-2491		
00950	96MF	DC	5	,96	03313	0		
				-0096	03318	5		
00960	97MF	DC	5	,97	03323	5		
				-0097				
00970	98MF	DC	5	,98	03328	5		
				-0098				
00980	PDT	DC	5	,99	03333	5		
				-0099				
00990	HND	DC	5	,100	03338	5		
				-0100				
01000	102MF	DC	5	,102	03343	5		
				-0102				
01010	FLZALP	DSA	ZERO-78		03348	5 X	1	
01020	FLZ	DSA	ZERO-80		03348	-2689		
					03353	5 X	1	
01030	FNHM1	DSA	FAC-2		03353	-2687		
					03358	5 X	1	
01040	97MZF	DC	5	,97	03358	-2490		
				-0097	03363	5		
01050	LNENT	DC	5	,56	03368	5		
				-0056				
01060	EXPENT	DC	5	,12	03373	5		
				-0012				
01070	PAR	DS	5	,**5	03378	5		NO OF ELEMENTS IN MATRIX TO PROCESS
01080		DS	5		03378	5		
01090	DKDATA	DSC	2	,00	03379	2		
				00				
01100		DSA	DIODDA		03385	5 X	1	
01110		DC	1	,*	03385	-3387		
					03386	1		
01120	DIODDA	DSC	1	,0	03387	1		
				0				

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01130		DC	5	,00000	03392	5		
				-0000				
01140		DC	3	,000	03395	3		
				-00				
01150		DSA	DKBUFF		03400	5 X	1	
01160		DC	1	,*	03400	-2404		
					03401	1		
01170	*****	1620 FORTRAN II-D IN CORE SUBROUTINES						
01180		DS	5		03406	5		
01190	TOFAC	TFL	FAC	,TOFAC-1 ,11	03408	06	02492	0340P
01200		BB			03420	42	00000	00000
01210		DDRG	**9		03422			
01220	ZERFAC	TFL	FAC	,FLZER	03422	06	02492	03760
01230		B	FINISH+1	,ZERO-94	03434	49	03724	02673
01240	ZEROM	DS	5	,*	03445	5		
01250		DS	5		03450	5		
01260	FMFAC	TFL	FMFAC-1	,FAC ,6	03452	06	0345J	02492
01270		BB			03464	42	00000	00000
01280		DDRG	**9		03466			
01290	UNFLO	TFL	FAC	,FLZER ,,	03466	06	02492	03760
01300		B	ERXV+12	,FAC-3 ,,	03478	49	03774	02489
01310	FNHM2	DS	5	,*	03489	5		
01320		DS	5		03494	5		
01330	TRACE	TFL	TRACE-1	,FAC ,6	03496	06	0349N	02492
01340		BNC4	FMFAC+12		03508	47	03464	00400
01350		RCTY	GAM-1	, ,2	03520	34	-2554	00102
01360	FINDIN	DC	1	,1 ,*-4	03527	1		
01370	GM1M2F	DS		,*-5 ,	03526	0		
01380		BNF	TRFX	,FAC-1 ,,	03532	44	03558	02491
01390		WNTY	FNH	, ,6,	03544	38	03311	00100
01400		BB			03556	42	00000	00000
01410		DDRG	**9		03558			
01420	TRFX	WNTY	FXH	, ,6,	03558	38	0328L	00100
01430		BB			03570	42	00000	00000
01440		DDRG	**9		03572			
01450	OVFLOW	TFM	FAC	,0199 ,0910	03572	16	02492	0-JR9
01460	2FN1	DS	2	,*-2 ,	03591	1		
01470	FKODD	DS	1	,*-4 ,	03591	1		
01480		TF	FAC-2	,95CPF ,,	03594	26	02490	02795
01490	ERROR	RCTY	FINISH	, ,6	03594	34	0372L	00102
01500		WATY	MESERR		03608	39	0260T	00100
01510		B	ENDD+12		03620	49	03700	00000
01520	MU	BNF	**24	,MU-1 ,,	03632	44	03456	03631
01530		SF	FAC	,GAM ,	03644	32	02492	02555
01540	GM2F	DS		,* ,	03655	0		
01550		TDM	FXERR+25	,02009 ,79,	03656	15	03621	-2-09
01560	MF	DS	2	,*-1 ,	03664	2		
01570	FP2	DS	2	,*-3 ,	03664	2		
01580		TFM	FXERR+30	,ENDD+12 ,	03668	16	03624	-3700
01590	FIXEND	BB			03680	42	00000	00000
01600		DDRG	**3		03688			
01610	FXERR	DS		,ERROR ,	03596	0		
01620	ENDD	TF	FAC	,SAVE ,,	03688	26	02492	02565

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01630	BNF	++24	,99	SET PROPER SIGN	03700	44	03724	00099
01640	SF	FAC-2	,ENDD		03712	32	02490	03688
01650	FINISH	DS	,8		03723		0	
01660	FLTEND	DS	,FINISH+7		03730		0	
01670	BB				03724	42	00000	00000
01680	DDRG	+-4	,0		03731			
01690	DC	28	,0		03758		28	
			-00000000000000000000000000000000					
01700	FLZER	DC	2	, -99	03760		2	
	RR							
01710	EXAV	BNF	++24	,FAC	03762	44	03786	02492
01720	AM	EI	,0101	,8910,ERR CODE = ERR CODE + 1	03774	11	02615	0-J-1
01730	FML	DS	2	, -2	03783		2	
				F MINUS ONE				
01740	XCTY	FMFAC+12			03786	34	03464	00102
01750	WATY	MESERR			03798	39	02607	00100
01760	B	ERXV+30		,6	03810	49	0379K	00000
01770	DDRG	+-4			03817			
01780	F2	DC	2	,0	03818		2	
01790	K2	DC	2	,0	03820		2	
01800	DUMMY	DS		,99999	99999		0	
01810	START	DS		,03851	03851		0	
01820	*****			1620 FORTRAN II-D SUBROUTINES - INITIAL SECONDARY LINKAGE				
01830	DDRG	START			03851		1	
01840	US	1			03851		1	
01850	DC	2		,00	03853		2	
01860	TFM	FMON+11		,+-START	03854	16	07165	-0003
01870	DC	2		,1	03862		2	
01880	B	FMON			03866	49	07154	00000
01890	TFM	FMON+11		,+-START	03878	16	07165	-0027
01900	DC	2		,1	03886		2	
01910	B	FMON			03890	49	07154	00000
01920	TFM	FMON+11		,+-START	03902	16	07165	-0051
01930	DC	2		,1	03910		2	
01940	B	FMON			03914	49	07154	00000
01950	TFM	FMON+11		,+-START	03926	16	07165	-0075
01960	DC	2		,1	03934		2	
01970	B	FMON			03938	49	07154	00000
01980	TFM	FMON+11		,+-START	03950	16	07165	-0099
01990	DC	2		,1	03958		2	
02000	B	FMON			03962	49	07154	00000
02010	TFM	FMON+11		,+-START	03974	16	07165	-0123
02020	DC	2		,1	03982		2	
02030	B	FMON			03986	49	07154	00000
02040	TFM	FMON+11		,+-START	03998	16	07165	-0147
02050	DC	2		,1	04006		2	
02060	B	FMON			04010	49	07154	00000

02070	DDRG	+-1			04020			
02080	TFM	FMON+11		,+-START	04020	16	07165	-0169
02090	DC	2		,1	04028		2	
02100	B	FMON		,8	04032	49	07154	0-000
02110	DDRG	+-1			04042			
02120	TFM	FMON+11		,+-START	04042	16	07165	-0191
02130	DC	2		,1	04050		2	
02140	B	FMON			04054	49	07154	00000
02150	TFM	FMON+11		,+-START	04066	16	07165	-0215
02160	DC	2		,1	04074		2	
02170	B	FMON			04078	49	07154	00000
02180	TFM	FMON+11		,+-START	04090	16	07165	-0239
02190	DC	2		,1	04098		2	
02200	B	FMON			04102	49	07154	00000
02210	TFM	FMON+11		,+-START	04114	16	07165	-0263
02220	DC	2		,1	04122		2	
02230	B	FMON			04126	49	07154	00000
02240	TFM	FMON+11		,+-START	04138	16	07165	-0287
02250	DC	2		,1	04146		2	
02260	B	FMON			04150	49	07154	00000
02270	TFM	FMON+11		,+-START	04162	16	07165	-0311
02280	DC	2		,1	04170		2	
02290	B	FMON			04174	49	07154	00000
02300	TFM	FMON+11		,+-START	04186	16	07165	-0335
02310	DC	2		,1	04194		2	
02320	B	FMON			04198	49	07154	00000
02330	TFM	FMON+11		,+-START	04210	16	07165	-0359
02340	DC	2		,1	04218		2	
02350	B	FMON			04222	49	07154	00000
02360	TFM	FMON+11		,+-START	04234	16	07165	-0383
02370	DC	2		,1	04242		2	
02380	B	FMON			04246	49	07154	00000
02390	TFM	FMON+11		,+-START	04258	16	07165	-0407
02400	DC	2		,1	04266		2	
02410	B	FMON			04270	49	07154	00000
02420	TFM	FMON+11		,+-START	04282	16	07165	-0431
02430	DC	2		,2	04290		2	
02440	B	FMON			04294	49	07154	00000
02450	TFM	FMON+11		,+-START	04306	16	07165	-0455
02460	DC	2		,2	04314		2	
02470	B	FMON			04318	49	07154	00000
02480	TFM	FMON+11		,+-START	04330	16	07165	-0479
02490	DC	2		,2	04338		2	

02500	B	FMON			04362	49	07154	00000
02510	TFM	FMON+11	,*-START		04354	16	07165	-0503
02520	DC	2	,2	,*-3	04362		2	
	-2							
02530	B	FMON			04366	49	07154	00000
02540	TFM	FMON+11	,*-START		04378	16	07165	-0527
02550	DC	2	,2	,*-3	04386		2	
	-2							
02560	B	FMON			04390	49	07154	00000
02570	TFM	FMON+11	,*-START		04402	16	07165	-0551
02580	DC	2	,2	,*-3	04410		2	
	-2							
02590	B	FMON		,8	04414	49	07154	0-000
02600	DDRG	*-1			04424			
02610	TFM	FMON+11	,*-START		04424	16	07165	-0573
02620	DC	2	,3	,*-3	04432		2	
	-3							
02630	B	FMON		,8	04436	49	07154	0-000
02640	DDRG	*-1			04446			
02650	TFM	FMON+11	,*-START		04446	16	07165	-0595
02660	DC	2	,4	,*-3	04454		2	
	-4							
02670	B	FMON		,8	04458	49	07154	0-000
02680	DDRG	*-1			04468			
02690	TFM	FMON+11	,*-START		04468	16	07165	-0617
02700	DC	2	,7	,*-3	04476		2	
	-7							
02710	B	FMON		,8	04480	49	07154	0-000
02720	DDRG	*-1			04490			
02730	TFM	FMON+11	,*-START		04490	16	07165	-0639
02740	DC	2	,8	,*-3	04498		2	
	-8							
02750	B	FMON		,8	04502	49	07154	0-000
02760	DDRG	*-1			04512			
02770	TFM	FMON+11	,*-START		04512	16	07165	-0661
02780	DC	2	,7	,*-3	04520		2	
	-7							
02790	B	FMON		,8	04524	49	07154	0-000
02800	DDRG	*-1			04534			
02810	TFM	FMON+11	,*-START		04534	16	07165	-0683
02820	DC	2	,5	,*-3	04542		2	
	-5							
02830	B	FMON		,8	04546	49	07154	0-000
02840	DDRG	*-1			04556			
02850	TFM	FMON+11	,*-START		04556	16	07165	-0705
02860	DC	2	,5	,*-3	04564		2	
	-5							
02870	B	FMON		,8	04568	49	07154	0-000
02880	DDRG	*-1			04578			
02890	TFM	FMON+11	,*-START		04578	16	07165	-0727
02900	DC	2	,5	,*-3	04586		2	
	-5							
02910	B	FMON		,8	04590	49	07154	00000
02920	DDRG	*-4			04597			
02930	*****	A	MODIFICATIONS MADE BEFORE START OF EXECUTION					
02940	A	**23	,F		04598	21	04621	02219

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02950	TF	LN2	,LN2-28	,7	04610	26	02887	-2859
02960	A	**23	,F		04622	21	04645	02219
02970	TF	LN4	,LN4-28	,7	04634	26	02918	-2890
02980	A	**23	,F		04646	21	04669	02219
02990	TF	LN8	,LN8-28	,7	04658	26	02949	-2921
03000	A	**23	,F		04670	21	04693	02219
03010	TF	LN10	,LN10-28	,7	04682	26	02980	-2952
03020	A	**23	,F		04694	21	04717	02219
03030	TF	LOGE	,LOGE-28	,7	04706	26	03010	-2982
03040	A	**23	,F		04718	21	04741	02219
03050	TF	ONEZ	,ONEZ-28	,7	04730	26	03038	-3010
03060	A	**23	,F		04742	21	04765	02219
03070	TF	TWOZ	,TWOZ-28	,7	04754	26	03073	-3045
03080	A	**23	,F		04766	21	04789	02219
03090	TF	TWOPI	,TWOPI-28	,7	04778	26	03103	-3075
03100	A	**23	,F		04790	21	04813	02219
03110	TF	PI	,PI-28	,7	04802	26	03133	-3105
03120	A	**23	,F		04814	21	04837	02219
03130	TF	PIOV2	,PIOV2-28	,7	04826	26	03163	-3135
03140	A	**23	,F		04838	21	04861	02219
03150	TF	PIOV4	,PIOV4-28	,7	04850	26	03191	-3163
03160	A	**23	,F		04862	21	04885	02219
03170	TF	SIX	,SIX-28	,7	04874	26	03219	-3191
03180	A	**23	,F		04886	21	04909	02219
03190	TF	TANG	,TANG-28	,7	04898	26	03248	-3220
03200	A	**23	,F		04910	21	04933	02219
03210	TF	TEN34	,TEN34-28	,7	04922	26	03278	-3250
03220	S	**18	,F		04934	22	04952	02219
03230	SF	9SPF		,2	04946	32	-2854	00000
03240	S	**18	,K		04958	22	04976	02221
03250	SF	FX9+1		,2	04970	32	-2806	00000
03260	S	**18	,K		04982	22	05000	02221
03270	SF	FX2+1		,2	04994	32	-2816	00000
03280	S	**18	,K		05006	22	05024	02221
03290	SF	FX1+1		,2	05018	32	-2826	00000
03300	S	**18	,F		05030	22	05048	02219
03310	SF	9SCPF+1		,2	05042	32	-2796	00000
03320	S	FXH	,K		05054	22	03283	02221
03330	S	99MK	,K		05066	22	03288	02221
03340	S	100MK	,K		05078	22	03293	02221
03350	A	IMSAPP	,F		05090	21	03298	02219
03360	A	ISPFM1	,F		05102	21	03303	02219
03370	S	FH	,F		05114	22	03308	02219
03380	S	FNH	,F		05126	22	03313	02219
03390	S	96MF	,F		05138	22	03318	02219
03400	S	97MF	,F		05150	22	03323	02219
03410	S	98MF	,F		05162	22	03328	02219
03420	S	PDT	,F		05174	22	03333	02219
03430	S	MND	,F		05186	22	03338	02219
03440	S	102MF	,F		05198	22	03343	02219
03450	A	FLZALP	,F		05210	21	03348	02219
03460	A	FLZ	,F		05222	21	03353	02219
03470	S	FNMH1	,F		05234	22	03358	02219
03480	TF	F2	,F		05246	26	03818	02219
03490	A	F2	,F		05258	21	03818	02219
03500	TF	K2	,K		05270	26	03820	02221

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03510	A	K2	,K	..	2K	05202	21	03820	02221	
03520	S	97N2F	,F2	..	97-2F	05204	22	03363	03810	
03530	S	GM2F	,F2	..	GAMMA-2F	05306	22	03655	03810	
03540	S	GM12F	,F2	..	GAMMA-1-2F	05318	22	03526	03810	
03550	A	ZEROM	,F2	..	ZERO-94+2F	05330	21	03445	03810	
03560	S	FMM2	,F	..	FAC-3-F	05342	22	03489	02219	
03570	S	++18	,F	..		05354	22	05372	02219	
03580	SF	FLZER-1		..		05366	32	-3759	00000	
03590	A	FMI	,F	..	-1+F	05378	21	03783	02219	
03600	A	FP2	,F	..	2+F	05390	21	03664	02219	
03610	S	MF	,F	..	-F	05402	22	03666	02219	
03620	A	2FM1	,F2	..	-1+2F	05414	21	03581	03810	
03630	MM	F	,05	..10,	F EVEN	05426	13	02219	000-5	
03640	BD	ODDSET	,99	..	NO, BR. TO ODDSET	05438	13	05494	00099	
03650	MM	K	,05	..10,	YES, K EVEN	05450	13	02221	000-5	
03660	BD	ODDSET	,99	..	NO, BR. TO ODDSET	05462	13	05494	00099	
03670	TDM	FKODD	,1	..	YES, FKODD = 1	05474	15	03579	00001	
03680	B	ODDSET+12		..		05486	49	05506	00000	
03690	DORG	+-4		..		05493				
03700	ODDSET	TDM	FKODD	,0	..	FKODD = 0	05494	15	03579	00000
03710	BNF	++36	,ENTLN-4	..		05506	44	05542	02244	
03720	A	LNENT	,ENTLN	..	FLN ENTRY POINT FROM FAXB	05518	21	03368	02248	
03730	A	EXPENT	,ENTEXP	..	FEXP ENTRY POINT FROM FAXB	05530	21	03373	02253	
03740	BV	++12		..		05542	46	05554	01400	
03750	BD	SHORT	,07499	..		05544	43	05422	07499	
03760	TFM	IORT	,++23	..		05566	16	00565	-5589	
03770	B	IGT	,DALONG	,7		05578	49	00566	-5590	
03780	DALONG	DSC	2	..		05590			2	
03790		ZK		..						
03800		DSC	1	..0		05592			1	
03810		DC	4	..0146		05596			4	
03820	DAFMON	DSC	2	..22		05597			1	
03830	DSA	DDFMON		..		05598			2	
03840		DC	1	..,		05604		5 X	1	
03850	DDFMON	DSC	1	..0		05604		-5606		
03860		DC	5	..16835		05605			1	
03870		J6835		..		05606			1	
03880	DSA	FMON-56		..		05611			5	
03890		DC	1	..,		05614			3	
03900	SHORT	TFM	IORT	,++23		05619		5 X	1	
03910	B	IGT	,DAFMON	,7		05619		-7098		
03920	B	PROGST		,6		05620			1	
						05622	16	00565	-5645	
						05634	49	00566	-5598	
						05646	49	02220	00000	

03930	DORG	+-4		..		05653			
03940	DORG	06000		..		06000			
03950		34	81	..00701		06000	34	06044	00701
03960		38	81	..00702		06012	38	06044	00702
03970		36	81	..00703		06024	36	06044	00703
03980	B	++22		..		06036	49	06058	00000
03990	DORG	+-3		..		06044			
04000	B1	DSC	9	..016800035		06044			9
04010	DSA	STOP-1		..		06057		5 X	1
04020	TRA			..		06057		-2394	
04030	TCD	06000		..		06058	36	00000	00500
04040	*****	1620 FORTRAN II-D	ARITHMETIC BLOCK			06070	49	00000	00000
04050	*****	1620 FORTRAN II-D	ARITHMETIC BLOCK - SECONDARY LINKAGE			06000			
04060	DORG	START		..		03851			
04070	DS	3		..		03853		3	
04080	FIX	FAC	,00	..10,	IS CHAR POSITIVE	03854	14	02492	000-0
04090	B	FIX1		..		03866	49	04598	00000
04100	FXA	FAC	,FXA-1	..11		03878	21	02492	0387P
04110	B	FXA1		..		03890	49	04790	00000
04120	FXS	FAC	,FXS-1	..11		03902	22	02492	0390J
04130	B	FXA1		..		03914	49	04790	00000
04140	FXSR	BNF	FXSR1+32	,FAC	..	03926	44	04836	02492
04150	B	FXSR1		..	CHANGE SIGN ON FAC	03938	49	04804	00000
04160	FXM	FAC	,FXM-1	..11		03950	23	02492	0394A
04170	B	FXM1		..		03962	49	04856	00000
04180	FXD	LD	99	,FAC	..	03974	28	00099	02492
04190	B	FXD1		..	FAC = FAC/J	03986	49	04882	00000
04200	FXDR	LD	99	,FXDR-1	..11,	03998	28	00099	0399P
04210	B	FXDR1		..	FAC = J/FAC	04010	49	04964	00000
04220	DDRG	+-1		..		04020			
04230	RSGN	BNF	RSGN1+40	,FAC-1	..	04020	44	05024	02491
04240	B	RSGN1		..		04032	49	04984	0-000
04250	DDRG	+-1		..		04042			
04260	FLOAT	AM	FAC	,00	..10,	04042	11	02492	000-0
04270	B	FLOAT1		..	IS FAC ZERO	04054	49	05064	00000
04280	FSB	FAC	,FSB-1	..11		04066	02	02492	0406N
04290	B	FAD1		..		04078	49	05352	00000
04300	FAD	FAC	,FAD-1	..11		04090	01	02492	0408R
04310	B	FAD1		..		04102	49	05352	00000
04320	FSBR	BNF	FSBR1+32	,FAC-2	..	04114	44	05416	02490
04330	B	FSBR1		..	CHANGE SIGN ON FAC	04126	49	05384	00000
04340	FMP	TFM	EI	,573	..9,	04138	14	02415	00N73
04350	B	FMP1		..	SET UP ERR E3 CODE	04150	49	05436	00000
04360	FD	TFM	EI	,575	..9,	04162	14	02415	00N75
04370	B	FD1		..	SET UP ERR E5 CODE	04174	49	05468	00000
04380	FOVR	TFL	SAVE	,FAC	..	04186	06	02565	02492
04390	B	FOVR1		..		04198	49	05548	00000
04400	FIX1	TF	INSA	,FIX1-1	..11,	04210	26	02575	0420R
04410	B	FIX11		..	INSA = 1	04222	49	05580	00000
04420	FAX1	TF	INSA	,FAX1-1	..11,	04234	26	02575	0423L
04430	B	FAX11		..	INSA = 1	04246	49	06010	00000

04440 FAXB	TFL	TAFE	,FAXB-1	,11,	LOAD B	04258	06	02535	0425P
04450	B	FAXB1				04270	49	06448	00000
04460	TFM	FMON+11	,*-START			04282	16	07165	-0431
04470	DC	2	,2	,*-3		04290		2	
	-2								
04480	B	FMON				04294	49	07154	00000
04490	TFM	FMON+11	,*-START			04306	16	07165	-0455
04500	DC	2	,2	,*-3		04314		2	
	-2								
04510	B	FMON				04318	49	07154	00000
04520	TFM	FMON+11	,*-START			04330	16	07165	-0479
04530	DC	2	,2	,*-3		04338		2	
	-2								
04540	B	FMON				04342	49	07154	00000
04550	TFM	FMON+11	,*-START			04354	16	07165	-0503
04560	DC	2	,2	,*-3		04362		2	
	-2								
04570	B	FMON				04366	49	07154	00000
04580	TFM	FMON+11	,*-START			04378	16	07165	-0527
04590	DC	2	,2	,*-3		04386		2	
	-2								
04600	B	FMON				04390	49	07154	00000
04610	TFM	FMON+11	,*-START			04402	16	07165	-0551
04620	DC	2	,2	,*-3		04410		2	
	-2								
04630	B	FMON		,8		04414	49	07154	0-000
04640	DDRG	*-1				04424			
04650	TFM	FMON+11	,*-START			04424	16	07165	-0573
04660	DC	2	,3	,*-3		04432		2	
	-3								
04670	B	FMON		,8		04436	49	07154	0-000
04680	DDRG	*-1				04446			
04690	TFM	FMON+11	,*-START			04446	16	07165	-0595
04700	DC	2	,4	,*-3		04454		2	
	-4								
04710	B	FMON		,8		04458	49	07154	0-000
04720	DDRG	*-1				04468			
04730	TFM	FMON+11	,*-START			04468	16	07165	-0617
04740	DC	2	,7	,*-3		04476		2	
	-7								
04750	B	FMON		,8		04480	49	07154	0-000
04760	DDRG	*-1				04490			
04770	TFM	FMON+11	,*-START			04490	16	07165	-0639
04780	DC	2	,8	,*-3		04498		2	
	-8								
04790	B	FMON		,8		04502	49	07154	0-000
04800	DDRG	*-1				04512			
04810	TFM	FMON+11	,*-START			04512	16	07165	-0661
04820	DC	2	,7	,*-3		04520		2	
	-7								
04830	B	FMON		,8		04524	49	07154	0-000
04840	DDRG	*-1				04534			
04850	TFM	FMON+11	,*-START			04534	16	07165	-0683
04860	DC	2	,5	,*-3		04542		2	
	-5								
04870	B	FMON		,8		04546	49	07154	0-000

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04880	DDRG	*-1				04556			
04890	TFM	FMON+11	,*-START			04556	16	07165	-0705
04900	DC	2	,5	,*-3		04564		2	
	-5								
04910	B	FMON		,8		04568	49	07154	0-000
04920	DDRG	*-1				04578			
04930	TFM	FMON+11	,*-START			04578	16	07165	-0727
04940	DC	2	,5	,*-3		04586		2	
	-5								
04950	B	FMON				04590	49	07154	00000
04960	DDRG	*-4				04597			
04970	*****	1620 FORTRAN II-D	ARITHMETIC BLOCK - SUBROUTINES						
04980	FIX1	BP	*+32	,,	YES	04598	46	04630	01100
04990	TF	FAC	,FXZ	,,	NO	04610	26	02492	02815
05000	B	FIXEND				04622	49	03680	00000
05010	DDRG	*-3				04630			
05020	TD	MU-1	,FAC-2	,,	STORE SIGN	04630	25	03631	02490
05030	C	FAC	,K	,,	IS CHAR.GREATER THAN K	04642	24	02492	02221
05040	BNH	*+44		,,	NO	04654	47	04698	01100
05050	TDM	FXERR+25	,1	,,	YES, SET ERR TYPE	04666	15	03621	00001
05060	TFM	EI	,579	,9,	SET ER.E9, OVFL IN FIX	04678	16	02615	00N79
05070	B	FXNINE+12,		,,	FAC = FX9	04690	49	04944	00000
05080	DDRG	*-3				04698			
05090	CF	FAC-2				04698	33	02490	00000
05100	TF	BETA	,ZERO-51	,,	CLEAR ADD AREA	04710	26	02603	02716
05110	TF	IMSA	,FXZ	,,		04722	26	02575	02815
05120	TF	*+30	,IMSAPP	,,	ALIGN DECIMAL POINTS	04734	26	04764	03298
05130	S	*+18	,FAC			04746	22	04764	02492
05140	A	DUMMY	,FAC-2			04758	21	99999	02490
05150	TF	FAC	,IMSA			04770	26	02492	02575
05160	B	MU				04782	49	03632	00000
05170	DDRG	*-4				04789			
05180	FXA1	BV	*+12			04790	46	04802	01400
05190	BB					04802	42	00000	00000
05200	DDRG	*-9				04804			
05210	FXSR1	CF	FAC			04804	33	02492	00000
05220	TF	FXA-1	,FXSR-1	,,	SET UP ADD	04816	26	03877	03925
05230	B	FXA		,,	BRANCH TO FIXED POINT ADD	04828	49	03878	00000
05240	DDRG	*-3				04836			
05250	SF	FAC				04836	32	02492	00000
05260	B	FXSR1+12				04848	49	04816	00000
05270	DDRG	*-4				04855			
05280	FXM1	SF	100MK	,,		04856	32	0329L	00000
05290	TF	FAC	,99			04868	26	02492	00099
05300	BB					04880	42	00000	00000
05310	DDRG	*-9				04882			
05320	FXD1	D	100MK	,FXD-1	,611	04882	29	0329L	0397L
05330	BV	*+26				04894	46	04920	01400
05340	TF	FAC	,99MK	,11		04906	26	02492	0328Q
05350	BB					04918	42	00000	00000
05360	DDRG	*-9				04920			
05370	TFM	EI	,578	,9,	ERROR E9, ZERO DIVISION	04920	16	02615	00N78
05380	FXNINE	TFM	FXERR+30	,FIXEND-12,,	SET UP ERROR EXIT	04932	16	03626	-3668
05390	TF	FAC	,FX9	,,	FAC = FX9	04944	26	02492	02805
05400	B	FXERR				04956	49	03596	00000
05410	DDRG	*-4				04963			

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05420	FXDR1	D	100MK	,FAC	,6			04964	29	0329L	0249Z
05430		B	FXD1+12					04976	49	04894	00000
05440		DORG	+-4					04983			
05450	RSGN1	BNF	++26	,FAC-2	,,	FLOATING POINT NUMBER		04984	44	05010	02490
05460		CF	FAC-2					04996	33	02490	00000
05470		BB						05008	42	00000	00000
05480		DORG	+-9					05010			
05490		SF	FAC-2					05010	32	02490	00000
05500		BB						05022	42	00000	00000
05510		DORG	+-9					05024			
05520		BNF	++26	,FAC	,,	FIXED POINT NUMBER		05024	44	05050	0249Z
05530		CF	FAC					05036	33	0249Z	00000
05540		BB						05048	42	00000	00000
05550		DORG	+-9					05050			
05560		SF	FAC					05050	32	0249Z	00000
05570		BB						05062	42	00000	00000
05580		DORG	+-9					05064			
05590	FLOAT1	BZ	ZERFAC	,	,,	YES		05064	46	0342Z	01200
05600		TD	99	,FAC	,,	STORE SIGN		05076	25	00099	0249Z
05610		CF	FAC					05088	33	0249Z	00000
05620		TR	BETA-9	,FXH	,11			05100	31	02594	0328L
05630		TF	FAC-2	,9SPF-1	,,	CLEAR FAC		05112	26	02490	02853
05640		TF	SAVE	,K	,,	CHAR = K		05124	26	02565	02221
05650		TFM	++23	,BETA-9	,,			05136	16	05159	-2594
05660		BD	++44	,DUMMY	,,	FIND HI ORDER DIGIT		05148	43	0519Z	99999
05670		SM	SAVE	,1	,10,	ADJUST CHAR		05160	12	02565	000-1
05680		AM	+-13	,1				05172	11	05159	-0001
05690		B	+-36					05184	49	05148	00000
05700		DORG	+-3					05192			
05710		TR	FNH	,+-33	,611			05192	31	0331L	0515R
05720		TF	FNH	,+-35	,,	FIND AND CLEAR RECORD MARK		05204	26	05239	03313
05730		AM	++23	,1				05216	11	05239	-0001
05740		BNR	+-12	,DUMMY	,,			05228	45	05216	99999
05750		TDM	+-1	,0	,6			05240	15	0523R	00000
05760		TD	FAC+1	,RECMK	,,	REPLACE RECORD MARK		05252	25	02493	02403
05770		TF	BETA	,ZERO-74	,,	CLEAR BETA		05264	26	02603	02693
05780		B	NORM60					05276	49	05308	00000
05790		DORG	+-3					05284			
05800	NORM36	TR	FNH	,FH	,611,	LEFT SHIFT ONCE		05284	31	0331L	0330Q
05810		TDM	FAC-1	,0	,,	SET LAST DIGIT TO ZERO		05296	15	02491	00000
05820	NORM60	SF	FNH	,6	,,			05308	32	0331L	00000
05830		BD	FINISH	,FNH	,611,	TEST LEADING ZERO		05320	43	0372L	0331L
05840		SM	SAVE	,1	,10,	SUBT ONE FROM EXPONENT		05332	12	02565	000-1
05850		B	NORM36					05344	49	05284	00000
05860		DORG	+-4					05351			
05870	FAD1	TFM	EI	,571	,9,	SET UP ERR E1 CODE		05352	16	02615	00N71
05880		BNXV	ERXV+30	,	,6			05364	47	0379K	01500
05890		B	ERXV					05376	49	0376Z	00000
05900		DORG	+-4					05383			
05910	FSBR1	CF	FAC-2					05384	33	02490	00000
05920		FADD	FAC	,FSBR-1	,11,	SET UP ADD		05396	01	0249Z	0411L
05930		B	FAD1	,	,,	BRANCH TO FLOATING POINT ADD		05408	49	0535Z	00000
05940		DORG	+-3					05416			
05950		SF	FAC-2					05416	32	02490	00000
05960		B	FSBR1+12					05428	49	05396	00000
05970		DORG	+-4					05435			

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05980	FMP1	TF	79	,ZEROM	,11,	CLEAR MULTIPLY AREA		05436	26	00079	0344N
05990		FMUL	FAC	,FMP-1	,11			05448	03	0249Z	0413P
06000		B	FAD1+12					05460	49	05364	00000
06010		DORG	+-4					05467			
06020	FD1	TF	79	,ZEROM	,11,	CLEAR MULTIPLY AREA		05468	26	00079	0344N
06030		FDIV	FAC	,FD-1	,11			05480	09	0249Z	0416J
06040		BNV	FAD1+12					05492	47	05364	01400
06050		TDM	EI	,7				05504	15	02615	00007
06060	OVFL0	TF	FAC-2	,9SCPF	,,			05516	26	02490	02795
06070		TFM	FAC	,99	,10			05528	16	0249Z	000R9
06080		B	ERXV+24					05540	49	03786	00000
06090		DORG	+-4					05547			
06100	FDVR1	TFL	FAC	,FDVR-1	,11			05548	06	0249Z	0418N
06110		TFM	FD-1	,SAVE	,,			05560	16	04161	-2565
06120		B	FD					05572	49	0416Z	00000
06130		DORG	+-4					05579			
06140	FIX11	AM	IMSA	,00	,10,	IS I = ZERO		05580	11	02575	000-0
06150		BNZ	++26	,,	,,	NO, CONTINUE		05592	47	05618	01200
06160		TF	FAC	,FX1	,,	YES, J++I = ONE		05604	26	0249Z	02825
06170		BB						05616	42	00000	00000
06180		DORG	+-9					05618			
06190		AM	FAC	,00	,10,	IS J = ZERO		05618	11	0249Z	000-0
06200		BNZ	++44	,,	,,	NO, CONTINUE		05630	47	05674	01200
06210		BNF	+-26	,IMSA	,,	YES, THEN IS I POSITIVE		05642	44	05616	02575
06220		TFM	EI	,771	,9,	NO, ER G1, 0 TO MINUS I POWER		05654	16	02615	00P71
06230		B	FXNINE					05666	49	0493Z	00000
06240		DORG	+-3					05674			
06250		TDM	DDOREV+1	,1				05674	15	05791	00001
06260	PSI	CF	MU-1	,,	,,	SET SIGN POSITIVE		05686	33	03631	00000
06270		SF	IMSA-1					05698	32	02574	00000
06280		MM	IMSA	,05	,10			05710	13	02575	000-5
06290		CF	IMSA-1					05722	33	02574	00000
06300		BD	++20	,99				05734	43	05754	00099
06310		B	++32	,,	,,	I EVEN		05746	49	05778	00000
06320		DORG	+-3					05754			
06330		BNF	++36	,FAC	,,	I ODD		05754	44	05790	0249Z
06340		SF	MU-1	,,	,,	J NEG, SET SIGN NEGATIVE		05766	32	03631	00000
06350		CF	FAC					05778	33	0249Z	00000
06360	DDOREV	NOP	AXJ					05790	41	0617Z	00000
06370		C	FAC	,FX1				05802	24	0249Z	02825
06380		BE	MU	,,	,,	J = + OR - ONE		05814	46	0363Z	01200
06390		BNF	++56	,IMSA	,,	IS I POSITIVE		05826	44	0588Z	02575
06400		TFM	EI	,772	,9,	NO, ERR G2, J TO MINUS I POWER		05838	16	02615	00P7Z
06410		TF	FAC	,FXZ	,,	FAC = FXZ		05850	26	0249Z	02815
06420		TFM	FXERR+30	,FIXEND-12,,		SET UP ERROR EXIT		05862	16	0362Z	-3668
06430		B	FXERR					05874	49	03596	00000
06440		DORG	+-3					05882			
06450		TF	BETA	,FAC	,,	STORE J		05882	26	02603	0249Z
06460		SM	IMSA	,01	,10,			05894	12	02575	000-1
06470		BZ	MU					05906	46	0363Z	01200
06480		M	FAC	,BETA				05918	23	0249Z	02603
06490		SF	100MK	,,	,6			05930	32	0329L	00000
06500		TF	FAC	,99				05942	26	0249Z	00099
06510		AM	99MK	,00	,610,	TEST OVFL		05954	11	0328Q	000-0
06520		BZ	+-72					05966	46	05894	01200
06530		TFM	EI	,773	,9,	ERR G3, OVFL IN FIXI		05978	16	02615	00P73

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06540	TDM	FXERR+25	.1	..	SET UP SIGN	05990	15	03621	00001	
06550	B	FXNINE				06002	49	04932	00000	
06560	DORG	+4				06009				
06570	FAX11	AM	INSA	.00	.10, IS I ZERO	06010	11	02575	000-0	
06580		BNZ	+38	..	NO, CONTINUE	06022	47	06060	01200	
06590	ONEFAC	TFM	FAC	.01	.10, YES	06034	16	02492	000-1	
06600		TF	FAC-2	.ONEZ	..	FAC = FLT PT ONE	06046	26	02490	03038
06610	BB					06058	42	00000	00000	
06620	DORG	+9				06060				
06630	BD	+44	.FNH	.11,	IS A ZERO	06060	43	06104	0331L	
06640	BNF	+14	.INSA	..	YES, IS I NEGATIVE	06072	44	06088	02575	
06650	TFM	EI	.774	.9,	YES, ER G4, ZERO TO MINUS I	06084	16	02615	00P74	
06660	B	OVFLD				06096	49	05516	00000	
06670	DDRG	+3				06104				
06680	TF	SAVE	.FAC	..	STORE CHAR	06104	26	02565	02492	
06690	TD	FAC	.FAC-2	..	CONVERT A TO F+2 FORM	06116	25	02492	02490	
06700	CF	FAC-2				06128	33	02490	00000	
06710	TDM	FAC-1	.0			06140	18	02491	00000	
06720	TDM	ODDREV+1	.9	..	SET UP RETURN	06152	15	05791	00009	
06730	B	PSI	.	..	SET UP SIGN AT MU-1	06164	49	05686	00000	
06740	DORG	+3				06172				
06750	AXJ	TF	FAC	.SAVE		06172	26	02492	02565	
06760	FSL	FNHM2	.FAC-2	.6		06184	05	03688	02490	
06770	TFM	EI	.775	.9,	SET UP ERR GS CODE	06196	16	02615	00P75	
06780	BNF	NO DIV	.INSA			06208	44	06324	02575	
06790	CF	INSA				06220	33	02575	00000	
06800	RECIP	TF	79	.ZEROM	.11,	CLEAR MULTIPLY AREA	06232	26	00079	0344N
06810	TFL	SAVE	.FAC			06244	06	02565	02492	
06820	TF	FAC-2	.ONEZ+2			06256	26	02490	03040	
06830	TFM	FAC	.01	.10		06268	16	02492	000-1	
06840	FDIV	FAC	.SAVE			06280	09	02492	02565	
06850	BNXV	NODIV				06292	47	06324	01500	
06860	TF	FAC-2	.FAC-4			06304	26	02490	02488	
06870	B	ERXV				06316	49	03762	00000	
06880	DORG	+3				06324				
06890	NODIV	TFL	GAM	.FAC		06324	06	02555	02492	
06900	SM	INSA	.01	.10		06336	12	02575	000-1	
06910	BZ	+68				06348	46	06416	01200	
06920	TF	79	.ZEROM	.11,	CLEAR MULTIPLY AREA	06360	26	00079	0344N	
06930	FMUL	FAC	.GAM			06372	03	02492	02555	
06940	BNXV	NODIV+12				06384	47	06336	01500	
06950	TF	FAC-2	.FAC-4			06396	26	02490	02488	
06960	B	ERXV				06408	49	03762	00000	
06970	DDRG	+3				06416				
06980	TF	FAC-2	.FAC-4			06416	26	02490	02488	
06990	BNF	ENDD+36	.MU-1			06428	44	03724	03631	
07000	B	ENDD+24				06440	49	03712	00000	
07010	DDRG	+4				06447				
07020	FAXB1	AM	TAFE-2	.00	.10, IS B ZERO	06448	11	02533	000-0	
07030	BZ	ONEFAC	.	..	YES	06460	46	06034	01200	
07040	BD	+44	.FNH	.11,	NO, IS A ZERO	06472	43	06516	0331L	
07050	BNF	FINISH+1	.TAFE-2	..	NO, IS B NEGATIVE	06484	44	03724	02533	
07060	TFM	EI	.777	.9,	YES, ER G7, ZERO TO MINUS B	06496	16	02615	00P77	
07070	B	OVFLD				06508	49	05516	00000	
07080	DDRG	+3				06516				
07090	TDM	DLWR+1	.9	..	SET UP NO ERR TYPE	06516	15	06673	00009	

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07100	BNF	+36	.FAC-2	..	IS A NEGATIVE	06528	44	06564	02490
07110	TDM	DLWR+1	.1	..	YES, SET UP ERR TYPE	06540	15	06673	00001
07120	CF	FAC-2				06552	33	02490	00000
07130	TDM	FINISH+2	.9			06564	15	03725	00009
07140	TFM	FINISH+7	.+20			06576	16	03730	-6596
07150	B	LNENT	.	.6,	FIND LN OF A	06588	49	03360	00000
07160	DDRG	+3				06596			
07170	TDM	FINISH+2	.2			06596	15	03725	00002
07180	TFM	FMP-1	.TAFE	..	SET UP MULTIPLICATION	06608	16	04137	-2535
07190	TFM	ERXV+30	.+20			06620	16	03792	-6640
07200	B	FMP	.	..	MULTIPLY B TIMES LNA	06632	49	04138	00000
07210	DDRG	+3				06640			
07220	TFM	ERXV+30	.+20			06640	16	03792	-6660
07230	B	EXPENT	.	.6,	FIND A**B = E**BLN(A)	06652	49	0337L	00000
07240	DDRG	+3				06660			
07250	TFM	ERXV+30	.FHFAC+12			06660	16	03792	-3464
07260	OLWR	NOP	FINISH+1			06672	41	03724	00000
07270	TFM	EI	.676	.9,	ERR F6, -A TO B	06684	16	02615	00076
07280	TDM	.99	.0			06696	15	00099	00000
07290	B	ERROR				06708	49	03596	00000
07300	DDRG	+4				06715			
07310	DDRG	08000				08000			
07320	34	A1	.00701	..	FIRST TIME ONLY	08000	34	08068	00701
07330	38	A1	.00702			08012	38	08068	00702
07340	36	A1	.00703			08024	36	08068	00703
07350	TD	15999	.400	..	FIRST TIME ONLY	08036	25	15999	00400
07360	TR	START+3	.12000			08048	31	03884	12000
07370	B	+22				08060	49	08082	00000
07380	DDRG	+3				08068			
07390	A1	DSC	9	.019400033		08068		9	
07400	DSA	FIX				08081		5 X	1
07410	TRA					08081		-3854	
07420	TCD	08000				08082	36	00000	00500
						08094	49	00000	00000
						08000			
07430	*****	1620 FORTRAN II-D	FORMAT						
07440	*****	1620 FORTRAN II-D	FORMAT - SECONDARY LINKAGE						
07450	DDRG	START				03851			
07460	DS	3				03853		3	
07470	TFM	FMON+11	.-START			03854	16	07165	-0003
07480	DC	2	.1	.-3		03862		2	
	-1								
07490	B	FMON				03866	49	07194	00000
07500	TFM	FMON+11	.-START			03878	16	07165	-0027
07510	DC	2	.1	.-3		03886		2	
	-1								
07520	B	FMON				03890	49	07194	00000
07530	TFM	FMON+11	.-START			03902	16	07165	-0051
07540	DC	2	.1	.-3		03910		2	
	-1								
07550	B	FMON				03914	49	07194	00000
07560	TFM	FMON+11	.-START			03926	16	07165	-0075
07570	DC	2	.1	.-3		03934		2	
	-1								

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07580	B	FMON			03938	49	07154	00000
07590	TFM	FMON+11	,0--START		03950	16	07165	-0099
07600	DC	2	,1	,0-3	03958		2	
	-1							
07610	B	FMON			03962	49	07154	00000
07620	TFM	FMON+11	,0--START		03974	16	07165	-0123
07630	DC	2	,1	,0-3	03982		2	
	-1							
07640	B	FMON			03986	49	07154	00000
07650	TFM	FMON+11	,0--START		03998	16	07165	-0147
07660	DC	2	,1	,0-3	04006		2	
	-1							
07670	B	FMON			04010	49	07154	00000
07680	DORG	0-1			04020			
07690	TFM	FMON+11	,0--START		04020	16	07165	-0169
07700	DC	2	,1	,0-3	04028		2	
	-1							
07710	B	FMON		,0	04032	49	07154	0-000
07720	DORG	0-1			04042			
07730	AM	FAC	,00	,10, IS FAC ZERO	04042	11	02492	000-0
07740	B	IFLOAT			04054	49	05082	00000
07750	TFM	FMON+11	,0--START		04066	16	07165	-0215
07760	DC	2	,1	,0-3	04074		2	
	-1							
07770	B	FMON			04078	49	07154	00000
07780	TFM	FMON+11	,0--START		04090	16	07165	-0239
07790	DC	2	,1	,0-3	04098		2	
	-1							
07800	B	FMON			04102	49	07154	00000
07810	TFM	FMON+11	,0--START		04114	16	07165	-0263
07820	DC	2	,1	,0-3	04122		2	
	-1							
07830	B	FMON			04126	49	07154	00000
07840	TFM	FMON+11	,0--START		04138	16	07165	-0287
07850	DC	2	,1	,0-3	04146		2	
	-1							
07860	B	FMON			04150	49	07154	00000
07870	TFM	FMON+11	,0--START		04162	16	07165	-0311
07880	DC	2	,1	,0-3	04170		2	
	-1							
07890	B	FMON			04174	49	07154	00000
07900	TFM	FMON+11	,0--START		04186	16	07165	-0335
07910	DC	2	,1	,0-3	04194		2	
	-1							
07920	B	FMON			04198	49	07154	00000
07930	TFM	FMON+11	,0--START		04210	16	07165	-0359
07940	DC	2	,1	,0-3	04218		2	
	-1							
07950	B	FMON			04222	49	07154	00000
07960	TFM	FMON+11	,0--START		04234	16	07165	-0383
07970	DC	2	,1	,0-3	04242		2	
	-1							
07980	B	FMON			04246	49	07154	00000
07990	TFM	FMON+11	,0--START		04258	16	07165	-0407
08000	DC	2	,1	,0-3	04266		2	
	-1							

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08010	B	FMON			04270	49	07154	00000
08020	*****		WRITE ALPHAMERIC					
08030	WATY	TF	SWF	,WATY-1	04282	26	05861	04281
08040	B	WATY1			04294	49	05498	00000
08050	WAPT	TF	SWF	,WAPT-1	04306	26	05861	04305
08060	B	WAPT1			04318	49	05518	00000
08070	WACD	TF	SWF	,WACD-1	04330	26	05861	04329
08080	B	WACD1			04342	49	05538	00000
08090	*****		READ ALPHAMERIC					
08100	RATY	TF	SWF	,RATY-1	04354	26	05861	04353
08110	B	RATY1			04366	49	05862	00000
08120	RAPT	TF	SWF	,RAPT-1	04378	26	05861	04377
08130	B	RAPT1			04390	49	05882	00000
08140	RACD	TF	SWF	,RACD-1	04402	26	05861	04401
08150	B	RACD1		,0	04414	49	05902	0-000
08160	DORG	0-1			04424			
08170	ITYPE	AM	SWF	,3	04424	11	05861	-0003
08180	B	ITYPE1		,0	04436	49	04598	0-000
08190	DORG	0-1			04446			
08200	TFM	FMON+11	,0--START		04446	16	07165	-0595
08210	DC	2	,4	,0-3	04454		2	
	-4							
08220	B	FMON		,0	04458	49	07154	0-000
08230	DORG	0-1			04468			
08240	TFM	FMON+11	,0--START		04468	16	07165	-0617
08250	DC	2	,7	,0-3	04476		2	
	-7							
08260	B	FMON		,0	04480	49	07154	0-000
08270	DORG	0-1			04490			
08280	TFM	FMON+11	,0--START		04490	16	07165	-0639
08290	DC	2	,8	,0-3	04498		2	
	-8							
08300	B	FMON		,0	04502	49	07154	0-000
08310	DORG	0-1			04512			
08320	TFM	FMON+11	,0--START		04512	16	07165	-0661
08330	DC	2	,7	,0-3	04520		2	
	-7							
08340	B	FMON		,0	04524	49	07154	0-000
08350	DORG	0-1			04534			
08360	TFM	FMON+11	,0--START		04534	16	07165	-0683
08370	DC	2	,5	,0-3	04542		2	
	-5							
08380	B	FMON		,0	04546	49	07154	0-000
08390	DORG	0-1			04556			
08400	TFM	FMON+11	,0--START		04556	16	07165	-0705
08410	DC	2	,5	,0-3	04564		2	
	-5							
08420	B	FMON		,0	04568	49	07154	0-000
08430	DORG	0-1			04578			
08440	TFM	FMON+11	,0--START		04578	16	07165	-0727
08450	DC	2	,5	,0-3	04586		2	
	-5							
08460	B	FMON			04590	49	07154	00000
08470	DORG	0-4			04597			
08480	*****		1620 FORTRAN II-D I FORMAT - SUBROUTINES					
08490	****		MACRO FOR I TYPE READ AND WRITE					

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08500	ITYPE1	TF	WIDTH2	,SWF	,11			04598	26	05956	0586J	
08510	A	LAST	,WIDTH2					04610	21	05736	05956	
08520	C	LAST	,MAX2					04622	24	05736	06037	
08530	BH	ER F9						04634	46	07002	01100	
08540	TF	INPLUS	,LAST					04646	26	05945	05736	
08550	TFM	IR DIG+6	,FAC					04658	16	04888	-2492	
08560	TFM	SMC ADJ	,WRITE 1					04670	16	06044	-4446	
08570	BD	SWL	,RWFPSW					04682	43	05934	05953	
08580	TF	TERM	,FPINK					04694	26	06785	03283	
08590	TF	FAC	,FXZ					04706	26	02492	02815	
08600	TFM	SMC ADJ	,READI					04718	16	06044	-4990	
08610	*****	CHAR BY CHAR IS MOVED INTO FAC,RIGHT JUSTIFIED,UNTIL SIGN										
08620	*****	OR M CHAR ARE EXAMINED.										
08630	*****	ERROR F7 WILL OCCUR IF MORE THAN K CHAR ARE AVAIL TO READ										
08640	IREAD	SM	WIDTH2	,2	,10			04730	12	05956	000-2	
08650	BL	SWL						04742	47	05934	01300	
08660	SM	INPLUS	,2					04754	12	05945	-0002	
08670	CM	INPLUS	,70		,610			04766	14	0594N	000P0	
08680	BH	IR DIG						04778	46	04882	01100	
08690	BE	IR BLNK						04790	46	04918	01200	
08700	CM	INPLUS	,00		,610			04802	14	0594N	000-0	
08710	BE	IR BLNK						04814	46	04918	01200	
08720	CM	INPLUS	,20		,610			04826	14	0594N	000K0	
08730	BE	I MINUS						04838	46	04938	01200	
08740	CM	INPLUS	,10		,610			04850	14	0594N	000J0	
08750	BE	SWL						04862	46	05934	01200	
08760	B	ERR F71						04874	49	04958	00000	
08770	DDRG	--4						04881				
08780	IRDIG	TD	,INPLUS	,11				04882	25	00000	0594N	
08790	C	--6	,TERM					04894	24	04888	06785	
08800	BL	ERR F7 I						04906	47	04958	01300	
08810	IRBLNK	SM	IR DIG+6	,1				04918	12	04888	-0001	
08820	B	I READ						04930	49	04730	00000	
08830	DDRG	--4						04937				
08840	IMINUS	SF	FAC					04938	32	02492	00000	
08850	B	SWL						04950	49	05934	00000	
08860	DDRG	--4						04957				
08870	ERRF71	TF	FAC	,FXZ	,,	SET FIXED ZERO INTO FAC		04958	26	02492	02815	
08880	TFM	EI	,677	,911,		SET ERROR F7 INDICATION		04970	16	02615	0007P	
08890	B	SWL						04982	49	05934	00000	
08900	DDRG	--4						04989				
08910	READI	SF	FPINK	,,	,6			04990	32	0328L	00000	
08920	TF	FLT END	,ICON2+6					05002	26	03730	05376	
08930	BNF	FLOAT	,LOC					05014	44	04042	05981	
08940	CF	LOC						05026	33	05981	00000	
08950	READIF	TFL	LOC	,FAC	,6			05038	06	0598J	02492	
08960	ERF7	BNF	BSWF-12	,EI	,,	BR IF NOT ERROR TYPE F7		05050	44	05814	02615	
08970	CF	EI		,,	,,	ERASE ERROR F 7 INDICATION		05062	33	02615	00000	
08980	B	ERCOM2						05074	49	07078	00000	
08990	DDRG	--4						05081				
09000	IFLOAT	BZ	ZERFAC	,,	,,	YES		05082	46	03422	01200	
09010	TD	99	,FAC	,,	,,	STORE SIGN		05094	25	00099	02492	
09020	CF	FAC						05106	33	02492	00000	
09030	TR	BETA-9	,FXH	,11				05118	31	02594	0328L	
09040	TF	FAC-2	,9SPF-1	,,	,,	CLEAR FAC		05130	26	02490	02853	
09050	TF	SAVE	,K	,,	,,	CHAR = K		05142	26	02565	02221	

09060	TFM	**23	,BETA-9					05154	16	05177	-2594	
09070	BD	**44	,,	,,	,,	FIND HI ORD DIGIT		05166	43	05210	00000	
09080	SM	SAVE	,01	,10,		ADJUST CHAR		05178	12	02565	000-1	
09090	AM	**13	,01					05190	11	05177	-0001	
09100	B	**36						05202	49	05166	00000	
09110	DDRG	**3						05210				
09120	TR	FNH	,*-33	,611				05210	31	0331L	0517P	
09130	TF	**35	,FNH	,,	,,	FIND AND CLEAR RECORD MARK		05222	26	05257	03313	
09140	AM	**23	,01					05234	11	05257	-0001	
09150	BNR	**12						05246	45	05234	00000	
09160	TDM	**1	,0	,6				05258	15	0525P	00000	
09170	TD	FAC+1	,RECMK	,,	,,	REPLACE RECORD MARK		05270	25	02493	02403	
09180	TF	BETA	,ZERO-74	,,	,,	CLEAR BETA		05282	26	02603	02693	
09190	B	INOR60						05294	49	05326	00000	
09200	DDRG	**3						05302				
09210	INOR36	TR	FNH	,FH	,611,	LEFT SHIFT ONCE		05302	31	0331L	0330Q	
09220	TDM	FAC-1	,0	,,	,,	SET LAST DIGIT TO ZERO.		05314	15	02491	00000	
09230	INOR60	SF	FNH	,,	,6			05326	32	0331L	00000	
09240	BD	FINISH	,FNH	,611,		TEST LEADING ZERO		05338	43	0372L	0331L	
09250	SM	SAVE	,1	,10,		SUBT ONE FROM EXPONENT.		05350	12	02565	000-1	
09260	B	INOR36						05362	49	05302	00000	
09270	DDRG	**4						05369				
09280	ICON2	B	READ IF	,,	,1			05370	4R	05038	00000	
09290	DDRG	**4						05377				
09300	*****	1620 FORTRAN II-D FORMAT - SUBROUTINES										
09310	DDRG	START+1647						05498				
09320	WATY1	TFM	MAX	,0687	,8			05498	16	05924	0-687	
09330	B	WRTALP						05510	49	05550	00000	
09340	DDRG	**3						05518				
09350	WAPT1	TFM	MAX	,0887	,8			05518	16	05924	0-887	
09360	B	WRTALP						05530	49	05550	00000	
09370	DDRG	**3						05538				
09380	WACD1	TFM	MAX	,1080	,8			05538	16	05924	0J080	
09390	WRTALP	TDM	RWFPSW	,1	,,	COMMON FOR EACH WRITE		05550	15	05953	00001	
09400	RWA	TF	DATINH+2	,MAX-2	,,	INITIALIZATION FOR EACH RD OR WRITE		05562	26	06059	05922	
09410	SF	MAX-1						05574	32	05923	00000	
09420	REPSW	DS	2	,*-3				05582				
09430	MATSW	DS	1	,*-2	,,	SET TO 1 WHEN MATRIX HAS CONTROL		05583				
09440	REPSW3	DS	2	,*				05585				
09450	TFM	**1	,00000	,711				05586	16	05585	-000-	
09460	TDM	SWL+1	,2					05598	15	05935	00002	
09470	LOCD	DS	2	,*-1	,,	LOC OF DECIMAL AS SPEC BY FORMAT		05608				
09480	LOCD2	DS	2	,*-3	,,	TWICE LOC D		05606				
09490	TFM	MESERR+8	,679	,9				05610	16	02615	00079	
09500	TFM	MAX2	,INH					05622	16	06037	-6063	
09510	A	MAX2	,MAX					05634	21	06037	05924	
09520	A	MAX 2	,MAX					05646	21	06037	05924	
09530	*****	CONTINUATION OF RWA. ALSO USED AFTER EACH OUTPUT										
09540	*****	RECORD NOT TERMINATED BY COMPLT MACRO										
09550	TFM	LAST	,INH					05658	16	05736	-6063	
09560	RWA2	TDM	COMPWS	,*-1				05670	15	05678	0000J	
09570	COMPWS	DS	2	,*-3	,,	-1 PROHIBITS,0 REQUIRES OUTPUT		05678				
09580	TR	INH-1	,STZERO+1					05682	31	06062	06240	
09590	TR	INH+86	,STZERO					05694	31	06149	06239	
09600	CM	MAX-2	,06	,10				05706	14	05922	000-6	
09610	WIDTH	DS	3	,*-2	,,	NO. OF EFF. DIGITS IN FIELD		05715				

09620	BNE	++24			05718	47	05742	01200
09630	RCVY				05730	34	00000	00102
09640	LAST	DS	5	,-5	05736		5	
09650	BD	BSWF		,RWEFSW	05742	43	05826	05953
09660	RADDTI	TFM	IORT	,-23	05754	16	00565	-5777
09670	B	IOGT		,DATINH-4	05766	49	00566	-6033
09680	CM	MAX-2		,06	05778	14	05922	000-6
09690	BNE	++24			05790	47	05814	01200
09700	BC4	,-72			05802	46	05730	00400
09710	TDM	FLT END-5,2			05814	15	03725	00002
09720	*****		CONTROLS POSITION IN FORMAT SPECS					
09730	BSWF	AM	SWF	,5	05826	11	05861	-0005
09740	TF	++18	,SWF	,11	05838	26	05856	0586J
09750	B	SWF		,6	05850	49	0586J	00000
09760	SWF	DS	5	,0	05861		5	
09770	RATY1	TFM	MAX	,0687	05862	16	05924	0-687
09780	B	RDALP			05874	49	05914	00000
09790	DORG	,-3			05882			
09800	RAPT1	TFM	MAX	,0887	05882	16	05924	0-887
09810	B	RDALP			05894	49	05914	00000
09820	DORG	,-3			05902			
09830	RACD1	TFM	MAX	,1080	05902	16	05924	0J080
09840	RDALP	TDM	RWEFSW	,0	05914	15	05953	00000
09850	MAX	DS	4	,-1	05924		4	
09860	B	RWA			05926	49	05562	00000
09870	DORG	,-4			05933			
09880	*****		SWL IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE					
09890	*****		TO OBTAIN THE LOCATION THAT GOES WITH THE FORMAT MACRO					
09900	*****		BEING PERFORMED					
09910	*****		BB FOR OBJECT PROGRAM					
09920	*****		NOP FOR REDD CONTROL					
09930	*****		B FOR MATRIX CONTROL					
09930	SWL	NOP	MATRIX 2		05934	41	06418	00000
09940	INPLUS	DS	5	,0	05945		5	
09950	TDM	SWL+1		,9	05946	15	05935	00009
09960	RWEFSW	DS	1	,-4	05953		1	
09970	WIDTH2	DS	3	,-1	05956		3	
09980	BD	SWC+12	,MATSW		05958	43	05994	05583
09990	NOP				05970	41	00000	00000
10000	DPG	DS	5	,-5	05976		5	
10010	LOC	DS	5	,0	05981		5	
10020	*****		AFTER LOC ADR OBTAINED BR TO PROPER MACRO					
10030	SWC	TDM	SWL+1	,2	05982	15	05935	00002
10040	BD	++20	,RWEFSW	,6	05994	43	06014	05953
10050	B	SWC ADJ		,6	06006	49	0604M	00000
10060	DORG	,-4			06013			
10070	TDM	COMP SW	,0		06014	15	05678	00000
10080	CF	LOC			06026	33	05981	00000
10090	MAX2	DS	5	,0	06037		5	
10100	B				06038	49	00000	00000
10110	SWCADJ	DS		,-5	06044		0	
10120	DORG	,-4			06045			
10130	DATDUD	DSA	DUDH		06049		5 X	1
					06049		-2607	
10140	DC	3	,00'		06052		3	
		-0'						

10150	DATINH	DSA	INH		06057		5 X	1
					06057		-6063	
10160	DC	3	,00'		06060		3	
10170	DC	1	,0		06061		1	
10180	ENDFOR	DAC	1,0		06063		1 X	2
		0						
10190	INH	DS		,ENDFOR	06063		0	
10200	DS	174			06237		174	
10210	IN	DS	176	,INH+174	06237		176	
10220	STZERO	DC	2	,00	06239		2	
		-0						
10230	00			,0246810	06240	-0	-0-0	0-0-0
10240	00			,0246810	06252	-0	-0-0	0-0-0
10250	00			,0246810	06264	-0	-0-0	0-0-0
10260	00			,0246810	06276	-0	-0-0	0-0-0
10270	00			,0246810	06288	-0	-0-0	0-0-0
10280	00			,0246810	06300	-0	-0-0	0-0-0
10290	00			,0246810	06312	-0	-0-0	0-0-0
10300	DC	2	,00		06325		2	
		-0						
10310	FLZERS	DC	2	,0'	06327		2	
		-0						
10320	DS	5			06332		5	
10330	MATRIX	TDM	MATSW	,1	06334	15	05583	00001
10340	TDM	SWL+1		,9	06346	15	05935	00009
10350	YF	LOCADJ	,FP2		06358	26	06390	03664
10360	BNF	MATRIX2-12	,MATRIX-1		06370	44	06406	06333
10370	TFM	LOCADJ	,00	,10	06382	16	06390	000-0
10380	LOCADJ	DS	2	,-3	06390		2	
10390	S	LOCADJ	,K		06394	22	06390	02221
10400	S	MATRIX-1	,LOCADJ		06406	22	06333	06390
10410	MATRIX2	A	MATRIX-1	,LOCADJ	06418	21	06333	06390
10420	TF	LOC	,MATRIX-1	,10	06430	26	05981	06333
10430	SM	PAR	,1	,10	06442	12	03378	000-1
10440	BNE	++24			06454	47	06478	01200
10450	TDM	MATSW	,0		06466	15	05583	00000
10460	BML	SWC+12			06478	44	05994	01300
10470	BB				06490	42	00000	00000
10480	DORG	,-9			06492			
10490	*****		MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT					
10500	SLASH	TDM	COMEND+1	,9	06492	15	06657	00009
10510	BD	SLASH2	,RWEFSW	,6	06504	43	06524	05953
10520	B	COMEND			06516	49	06656	00000
10530	DORG	,-4			06523			
10540	SLASH2	BD	IOCR	,COMP SW	06524	43	06664	05678
10550	CM	DATINH+2	,06	,10	06536	14	06059	000-6
10560	BN	WRITE			06548	46	06632	01100
10570	TF	LAST	,FLZERS	,6	06560	26	05730	06327
10580	SM	LAST	,02	,10	06572	12	05736	000-2
10590	CM	LAST	,00	,610	06584	14	05730	000-0
10600	BE	,-36			06596	46	06560	01200
10610	CM	LAST	,INH		06608	14	05736	-6063
10620	BL	COM END			06620	47	06656	01300

10630	WRITE	TFM	IORT	.,+23		06632	16	00565	-6655
10640	B	IOPT	.,DATINH-4	,7		06644	49	00532	-6053
10650	COMEND	B	RMA2-12			06656	49	05658	00000
10660	DORG	*-4				06663			
10670	IOCR	CM	MAX-2	.,08	.,10	06664	14	05922	000-8
10680	CKW	DS	3	.,*2		06673			
10690	BML	WRITE				06676	46	06632	01300
10700	B	COMEND				06688	49	06656	00000
10710	DORG	*-4				06695			
10720	*****		MACRO TERMINATING I/O CONTROL						
10730	DS	3				06697		3	
10740	COMPLT	TDM	COMEND+1	.,2		06698	15	06657	00002
10750	CHAR2	DS	3	.,*-1		06708		3	
10760	B	SLASH+12				06710	49	06504	00000
10770	DORG	*-4				06717			
10780	REDD	BD	REDDA A+24, MAT SW			06718	43	06786	05583
10790	TD	REDDA+23	.,COMPSW			06730	25	06785	05678
10800	TFM	SWC ADJ	.,REDDA	.,		06742	16	06044	-6762
10810	B	SWL				06754	49	05934	00000
10820	DORG	*-4				06761			
10830	REDDA	TDM	SWL+1	.,1	.,	06762	15	05935	00001
10840	TDM	COMPSW		.,	.,	06774	15	05678	00000
10850	TERM	DS	5	.,*	.,	06785		5	
10860	AM	SWF	.,5			06786	11	05861	-0005
10870	TF	SWF	.,SWF	.,11		06798	26	05861	0586J
10880	B	SLASH				06810	49	06492	00000
10890	DORG	*-4				06817			
10900	*****		MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES						
10910	*****		SUB FROM REP SW, INITIALLY SET TO ZERO						
10920	*****		IF REPSW NEG, SET TO REPS REOD AND REPEAT FORMAT						
10930	*****		IF REPSW ZERO, LAST FORMAT REPETITION IS COMPLETE						
10940	*****		IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC						
10950	REP	AM	SWF	.,7		06818	11	05861	-0007
10960	SM	REP SW	.,1	.,10		06830	12	05582	000-1
10970	BH	REP 2				06842	46	06890	01100
10980	BE	B SWF				06854	46	05826	01200
10990	A	REP SW	.,SWF	.,11		06866	21	05582	0586J
11000	BNH	B SWF				06878	47	05826	01100
11010	REP2	SM	SWF	.,2		06890	12	05861	-0002
11020	TF	SWF	.,SWF	.,11		06902	26	05861	0586J
11030	B	SWF-23				06914	49	05838	00000
11040	DORG	*-4				06921			
11050	REP3	SF	REPSW3-1			06922	32	05584	00000
11060	WA	DS	5	.,*	.,	06933		5	
11070	AM	SWF	.,7	.,10		06934	11	05861	000-7
11080	SM	REPSW 3	.,1	.,10		06946	12	05585	000-1
11090	BH	REP 2				06958	46	06890	01100
11100	BE	B SWF				06970	46	05826	01200
11110	A	REPSW 3	.,SWF	.,11		06982	21	05585	0586J
11120	B	REP 2-12				06994	49	06878	00000
11130	DORG	*-4				07001			
11140	ERF9	TFM	SWC ADJ	.,ER COM 2	.,	07002	16	06044	-7078
11150	TF	LAST	.,MAX 2			07014	26	05736	06037
11160	TFM	EI	.,679	.,9		07026	16	02615	00079
11170	B	SWL				07038	49	05934	00000
11180	DORG	*-4				07045			

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11190	XTYPE	AM	SWF	.,3	.,	07046	11	05861	-0003
11200	A	LAST	.,SWF	.,11		07058	21	05736	0586J
11210	B	B SWF				07070	49	05826	00000
11220	DORG	*-4				07077			
11230	ERCOM2	RCTY				07078	34	00000	00102
11240	HA2	DS	.,*-5	.,		07084		0	
11250	WATY	DUDH				07090	39	02607	00100
11260	RCTY					07102	34	00000	00102
11270	CHAR	DS	5	.,*-5	.,	07108		5	
11280	TR	EI+1	.,FLZERS-1	.,		07114	31	02616	06326
11290	B	B SWF-12				07126	49	05814	00000
11300	DPT	DS	5	.,*	.,	07137		5	
11310	DPTH2	DS	5	.,**5	.,	07142		5	
11320	DS	5				07142		5	
11330	DORG	08000				08000			
11340	38	A3	.,00702			08000	38	08032	00702
11350	36	A3	.,00703			08012	36	08032	00703
11360	B	.,+22				08024	49	08046	00000
11370	DORG	*-3				08032			
11380	A3	DSC	9	.,019433033		08032		9	
11390	DSA	FIX				08045		5 X	1
11400	TRA					08045		-3854	
11410	TCD	08000				08046	36	00000	00500
11420	*****		1620 FORTRAN II-D I WA FORMAT			08058	49	00000	00000
11430	*****		1620 FORTRAN II-D I WA FORMAT - SECONDARY LINKAGE						
11440	DORG	START				03851			
11450	DS	3				03853		3	
11460	CM	FAC	.,00	.,10		03854	14	02492	000-0
11470	B	IFIX				03866	49	05094	00000
11480	TFM	FMON+11	.,*-START			03878	16	07165	-0027
11490	DC	2	.,1	.,*-3		03886		2	
11500	B	FMON				03890	49	07154	00000
11510	TFM	FMON+11	.,*-START			03902	16	07165	-0051
11520	DC	2	.,1	.,*-3		03910		2	
11530	B	FMON				03914	49	07154	00000
11540	TFM	FMON+11	.,*-START			03926	16	07165	-0075
11550	DC	2	.,1	.,*-3		03934		2	
11560	B	FMON				03938	49	07154	00000
11570	TFM	FMON+11	.,*-START			03950	16	07165	-0099
11580	DC	2	.,1	.,*-3		03958		2	
11590	B	FMON				03962	49	07154	00000
11600	TFM	FMON+11	.,*-START			03974	16	07165	-0123
11610	DC	2	.,1	.,*-3		03982		2	
11620	B	FMON				03986	49	07154	00000
11630	TFM	FMON+11	.,*-START			03998	16	07165	-0147
11640	DC	2	.,1	.,*-3		04006		2	

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11650	B	FMON			04010	49	07154	00000
11660	DORG	e-1			04020			
11670	TFM	FMON+11	,e-START		04020	16	07165	-0169
11680	DC	2	,1	,e-3	04028		2	
	-1							
11690	B	FMON		,8	04032	49	07154	0-000
11700	DORG	e-1			04042			
11710	TFM	FMON+11	,e-START		04042	16	07165	-0191
11720	DC	2	,1	,e-3	04050		2	
	-1							
11730	B	FMON			04054	49	07154	00000
11740	TFM	FMON+11	,e-START		04066	16	07165	-0215
11750	DC	2	,1	,e-3	04074		2	
	-1							
11760	B	FMON			04078	49	07154	00000
11770	TFM	FMON+11	,e-START		04090	16	07165	-0239
11780	DC	2	,1	,e-3	04098		2	
	-1							
11790	B	FMON			04102	49	07154	00000
11800	TFM	FMON+11	,e-START		04114	16	07165	-0263
11810	DC	2	,1	,e-3	04122		2	
	-1							
11820	B	FMON			04126	49	07154	00000
11830	TFM	FMON+11	,e-START		04138	16	07165	-0287
11840	DC	2	,1	,e-3	04146		2	
	-1							
11850	B	FMON			04150	49	07154	00000
11860	TFM	FMON+11	,e-START		04162	16	07165	-0311
11870	DC	2	,1	,e-3	04170		2	
	-1							
11880	B	FMON			04174	49	07154	00000
11890	TFM	FMON+11	,e-START		04186	16	07165	-0335
11900	DC	2	,1	,e-3	04194		2	
	-1							
11910	B	FMON			04198	49	07154	00000
11920	TFM	FMON+11	,e-START		04210	16	07165	-0359
11930	DC	2	,1	,e-3	04218		2	
	-1							
11940	B	FMON			04222	49	07154	00000
11950	TFM	FMON+11	,e-START		04234	16	07165	-0383
11960	DC	2	,1	,e-3	04242		2	
	-1							
11970	B	FMON			04246	49	07154	00000
11980	TFM	FMON+11	,e-START		04258	16	07165	-0407
11990	DC	2	,1	,e-3	04266		2	
	-1							
12000	B	FMON			04270	49	07154	00000
12010	****		WRITE ALPHAMERIC					
12020	TF	SWF	,WATY-1		04282	26	05861	04281
12030	B	WATY1			04294	49	05498	00000
12040	TF	SWF	,WAPT-1		04306	26	05861	04305
12050	B	WAPT1			04318	49	05518	00000
12060	TF	SWF	,WACD-1		04330	26	05861	04329
12070	B	WACD1			04342	49	05538	00000
12080	****		READ ALPHAMERIC					
12090	TF	SWF	,RATY-1		04354	26	05861	04353

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12100	B	RATY1			04366	49	05862	00000
12110	TF	SWF	,RAPT-1		04378	26	05861	04377
12120	B	RAPT1			04390	49	05882	00000
12130	TF	SWF	,RACD-1		04402	26	05861	04401
12140	B	RACD1		,8	04414	49	05902	0-000
12150	DORG	e-1			04424			
12160	TFM	FMON+11	,e-START		04424	16	07165	-0573
12170	DC	2	,3	,e-3	04432		2	
	-3							
12180	B	FMON		,8	04436	49	07154	0-000
12190	DORG	e-1			04446			
12200	WRITEI	TFM	WA	,GAM+2	04446	16	06933	-2557
12210	B	WRIT11		,8	04458	49	04598	0-000
12220	DORG	e-1			04468			
12230	TFM	FMON+11	,e-START		04468	16	07165	-0617
12240	DC	2	,7	,e-3	04476		2	
	-7							
12250	B	FMON		,8	04480	49	07154	0-000
12260	DORG	e-1			04490			
12270	TFM	FMON+11	,e-START		04490	16	07165	-0639
12280	DC	2	,8	,e-3	04498		2	
	-8							
12290	B	FMON		,8	04502	49	07154	0-000
12300	DORG	e-1			04512			
12310	TFM	FMON+11	,e-START		04512	16	07165	-0661
12320	DC	2	,7	,e-3	04520		2	
	-7							
12330	B	FMON		,8	04524	49	07154	0-000
12340	DORG	e-1			04534			
12350	TFM	FMON+11	,e-START		04534	16	07165	-0683
12360	DC	2	,5	,e-3	04542		2	
	-5							
12370	B	FMON		,8	04546	49	07154	0-000
12380	DORG	e-1			04556			
12390	TFM	FMON+11	,e-START		04556	16	07165	-0705
12400	DC	2	,5	,e-3	04564		2	
	-5							
12410	B	FMON		,8	04568	49	07154	0-000
12420	DORG	e-1			04578			
12430	TFM	FMON+11	,e-START		04578	16	07165	-0727
12440	DC	2	,5	,e-3	04586		2	
	-5							
12450	B	FMON			04590	49	07154	00000
12460	DORG	e-4			04597			
12470	*****		1620 FORTRAN II-D I WA FORMAT - SUBROUTINES					
12480	*****		RETURN FROM SWL VIA SMC IF WRITING I TYPE					
12490	*****		VALUE PUT IN FAC IN I FORM, EXPANDED TO ALPHA IN					
12500	*****		GAMMA RIGHT TO LEFT. HQ CONTAINS ADR OF HIGH ORDER					
12510	*****		DIGIT IN GAM. AFTER VALUE IN GAM IS SIGNED,CHECKED					
12520	*****		FOR WIDTH, MOVE TO OUTPUT RECORD.					
12530	*****		ERF01 RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.					
12540	WRIT11	TFM	WA2	,FAC+1	04598	16	07084	-2493
12550		TFL	FAC	,LOC	04610	06	02492	0598J
12560		BNF	WRT12+12	,FAC-1	04622	44	04666	0249I
12570		TF	FIXEND+6	,ICONS+6	04634	26	03686	0530A
12580		B	FIX		04646	49	03854	00000

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12590	DORG	*-4			04653			
12600	WRTI2	TDM	FIXEND+1	,2	04654	15	03681	00002
12610		TR	GAM-19	,MASK I-1	04666	31	02536	05306
12620		TFM	HO	,GAM+1	04678	16	04769	-2556
12630	WRTI	SM	WA 2	,1	04690	12	07084	-0001
12640		SM	WA	,2	04702	12	04933	-0002
12650		TD	WA	,WA 2	04714	25	04931	0708M
12660		BD	I DIG	,WA 2	04726	43	04746	0708M
12670		B	I DIG+12	,11	04738	49	04758	00000
12680	DORG	*-4			04745			
12690	IDIG	TF	HO	,WA	04746	26	04769	06933
12700		CF	GAM	,,	04758	33	02555	00000
12710	HO	DS	5	,,	04769		5	
12720		BNF	WRTI	,WA	04770	44	04690	0693L
12730		CM	HO	,GAM+1	04782	14	04769	-2556
12740		BNE	WRT SGN		04794	47	04826	01200
12750		TFM	LAST	,Z000	04806	16	05730	0P000
12760		B	BSWF	,68	04818	49	05826	00000
12770	DORG	*-4			04825			
12780	WRTSGN	BNF	WRT I3	,FAC	04826	44	04862	02492
12790		SM	HO	,2	04838	12	04769	-0002
12800		TFM	HO	,20	04850	16	04768	000K0
12810	WRTI3	SM	HO	,1	04862	12	04769	-0001
12820		TFM	OUT	,GAM	04874	16	04933	-2555
12830		S	OUT	,HO	04886	22	04933	04769
12840		C	OUT	,WIDTH 2	04898	24	04933	05956
12850		BH	ER F8 I		04910	46	04990	01100
12860		SF	OUT		04922	32	04933	00000
12870	OUT	DS	5	,, HI ORDER WKG ADR IN I/O RECORD, I TYPE	04933		5	
12880		A	OUT	,LAST	04934	21	04933	05736
12890		SM	OUT	,2	04946	12	04933	-0602
12900		TR	OUT	,HO	04958	31	04931	0476R
12910		TFM	LAST	,00	04970	16	05730	000-0
12920		B	BSWF	,610	04982	49	05826	00000
12930	DORG	*-4			04989			
12940	ERF8I	TR	DUD M+11	,FLZERS-67	04990	31	02618	06260
12950		TR	DUD M+11	,HO	05002	31	02618	0476R
12960		CM	DATINH+2	,08	05014	14	06059	000-8
12970		TFM	EI+2	,67800	05026	16	02617	07800
12980		BL	ER COM 2		05038	47	07078	01300
12990		TF	DATDUD+2	,DATINH+2	05050	26	06051	06059
13000		TFM	IORT	,+23	05062	16	00565	-5085
13010		B	IOPT	,DATDUD-4	05074	49	00532	-6045
13020		B	ER COM 2	,7	05086	49	07078	00000
13030	DORG	*-4			05093			
13040	IFIX	BP	+32	,, YES	05094	46	05126	01100
13050		TF	FAC	,FXZ	05106	26	02492	02815
13060		B	FIXEND	,, NO	05118	49	03680	00000
13070	DORG	*-3			05126			
13080		TD	MU-1	,FAC-2	05126	25	03631	02490
13090		C	FAC	,K	05138	24	02492	02221
13100		BNH	+56	,, IS CHAR GREATER THAN K	05150	47	05206	01100
13110		TDM	FXERR+25	,1	05162	15	03621	00001
13120		TFM	EI	,579	05174	16	02615	00M79
13130		TF	FAC	,FX9	05186	26	02492	02805
13140		B	FXERR	,, YES, FAC = FX9	05198	49	03596	00000

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13150	DORG	*-3			05206			
13160		CF	FAC-2		05206	33	02490	00000
13170		TF	BETA	,ZERO-51	05218	26	02603	02716
13180		TF	INSA	,FXZ	05230	26	02575	02815
13190		TF	+30	,INSAPP	05242	26	05272	03298
13200		S	+18	,FAC	05254	22	05272	02492
13210		A	DUMMY	,FAC-2	05266	21	99999	02490
13220		TF	FAC	,INSA	05278	26	02492	02575
13230		B	MU		05290	49	03632	00000
13240	DORG	*-4			05297			
13250	ICDN3	B	WRT I2	,1	05298	4R	04654	00000
13260	DORG	*-4			05305			
13270	MASKI	DAC	11,0000000000		05307		11 X	2
13280		DORG	08000		08000			
13290		38	A5	,00702	08000	38	08032	00702
13300		36	A5	,00703	08012	36	08032	00703
13310		B	+22		08024	49	08046	00000
13320		DORG	*-3		08032			
13330	A5	DSC	9	,019466016	08032		9	
13340		DSA	FIX		08045		5 X	1
13350		TRA			08045		-3854	
13360		TCD	08000		08046	36	00000	00500
					08058	49	00000	00000
					08000			
13370	*****		1620 FORTRAN II-D EF-HTYPE	FORMAT				
13380	*****		1620 FORTRAN II-D EF-HTYPE	FORMAT - SECONDARY LINKAGE				
13390		DORG	START		03851			
13400		DS	3		03853		3	
13410		TFM	FNON+11	,*-START	03854	16	07165	-0003
13420		DC	2	,1	03862		2	
		-1		,*-3				
13430		B	FNON		03866	49	07154	00000
13440		TFM	FNON+11	,*-START	03878	16	07165	-0027
13450		DC	2	,1	03886		2	
		-1		,*-3				
13460		B	FNON		03890	49	07154	00000
13470		TFM	FNON+11	,*-START	03902	16	07165	-0051
13480		DC	2	,1	03910		2	
		-1		,*-3				
13490		B	FNON		03914	49	07154	00000
13500		TFM	FNON+11	,*-START	03926	16	07165	-0075
13510		DC	2	,1	03934		2	
		-1		,*-3				
13520		B	FNON		03938	49	07154	00000
13530		TFM	FNON+11	,*-START	03950	16	07165	-0099
13540		DC	2	,1	03958		2	
		-1		,*-3				
13550		B	FNON		03962	49	07154	00000
13560		TFM	FNON+11	,*-START	03974	16	07165	-0123
13570		DC	2	,1	03982		2	
		-1		,*-3				
13580		B	FNON		03986	49	07154	00000

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1620 FORTRAN II-D SUBROUTINES SET 3				PAGE	29
13590	TFM	FMON+11	,0-START	03998	16 07165 -0147
13600	DC	2	,1 ,0-3	04006	2
	-1				
13610	B	FMON	,	04010	49 07154 00000
13620	DORG	0-1		04020	
13630	TFM	FMON+11	,0-START	04020	16 07165 -0169
13640	DC	2	,1 ,0-3	04028	2
	-1				
13650	B	FMON	,	04032	49 07154 0-000
13660	DORG	0-1		04042	
13670	TFM	FMON+11	,0-START	04042	16 07165 -0191
13680	DC	2	,1 ,0-3	04050	2
	-1				
13690	B	FMON	,	04054	49 07154 00000
13700	TFM	FMON+11	,0-START	04068	16 07165 -0215
13710	DC	2	,1 ,0-3	04074	2
	-1				
13720	B	FMON	,	04078	49 07154 00000
13730	TFM	FMON+11	,0-START	04090	16 07165 -0239
13740	DC	2	,1 ,0-3	04098	2
	-1				
13750	B	FMON	,	04102	49 07154 00000
13760	TFM	FMON+11	,0-START	04114	16 07165 -0263
13770	DC	2	,1 ,0-3	04122	2
	-1				
13780	B	FMON	,	04126	49 07154 00000
13790	TFM	FMON+11	,0-START	04138	16 07165 -0287
13800	DC	2	,1 ,0-3	04146	2
	-1				
13810	B	FMON	,	04150	49 07154 00000
13820	TFM	FMON+11	,0-START	04162	16 07165 -0311
13830	DC	2	,1 ,0-3	04170	2
	-1				
13840	B	FMON	,	04174	49 07154 00000
13850	TFM	FMON+11	,0-START	04186	16 07165 -0335
13860	DC	2	,1 ,0-3	04194	2
	-1				
13870	B	FMON	,	04198	49 07154 00000
13880	TFM	FMON+11	,0-START	04210	16 07165 -0359
13890	DC	2	,1 ,0-3	04218	2
	-1				
13900	B	FMON	,	04222	49 07154 00000
13910	TFM	FMON+11	,0-START	04234	16 07165 -0383
13920	DC	2	,1 ,0-3	04242	2
	-1				
13930	B	FMON	,	04246	49 07154 00000
13940	TFM	FMON+11	,0-START	04258	16 07165 -0407
13950	DC	2	,1 ,0-3	04266	2
	-1				
13960	B	FMON	,	04270	49 07154 00000
13970	****		WRITE ALPHAMERIC		
13980	TF	SWF	,WATY-1	04282	26 05861 04281
13990	B	WATY1	,	04294	49 05498 00000
14000	TF	SWF	,WAPT-1	04306	26 05861 04305
14010	B	WAPT1	,	04318	49 05518 00000
14020	TF	SWF	,WACD-1	04330	26 05861 04329

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1620 FORTRAN II-D SUBROUTINES SET 3				PAGE	30
14030	B	WACD1		04342	49 05538 00000
14040	****		READ ALPHAMERIC		
14050	TF	SWF	,RATY-1	04354	26 05861 04353
14060	B	RATY1	,	04366	49 05862 00000
14070	TF	SWF	,RAPT-1	04378	26 05861 04377
14080	B	RAPT1	,	04390	49 05882 00000
14090	EF2SW	DS	5	04401	5
14100	TF	SWF	,RACD-1	04402	26 05861 04401
14110	B	RACD1	,	04414	49 05902 0-000
14120	DORG	0-1		04424	
14130	TFM	FMON+11	,0-START	04424	16 07165 -0573
14140	DC	2	,3 ,0-3	04432	2
	-3				
14150	B	FMON	,	04436	49 07154 0-000
14160	DORG	0-1		04446	
14170	TFM	FMON+11	,0-START	04446	16 07165 -0595
14180	DC	2	,4 ,0-3	04454	2
	-4				
14190	B	FMON	,	04458	49 07154 0-000
14200	DORG	0-1		04468	
14210	TFM	FMON+11	,0-START	04468	16 07165 -0617
14220	DC	2	,7 ,0-3	04476	2
	-7				
14230	B	FMON	,	04480	49 07154 0-000
14240	DORG	0-1		04490	
14250	TFM	FMON+11	,0-START	04490	16 07165 -0639
14260	DC	2	,8 ,0-3	04498	2
	-8				
14270	B	FMON	,	04502	49 07154 0-000
14280	DORG	0-1		04512	
14290	TFM	FMON+11	,0-START	04512	16 07165 -0661
14300	DC	2	,7 ,0-3	04520	2
	-7				
14310	B	FMON	,	04524	49 07154 0-000
14320	DORG	0-1		04534	
14330	****		MACRO FOR E TYPE READ AND WRITE		
14340	FTYPE	CF	RWEFSW	04534	33 05953 00000
14350	B	EF COM	,	04546	49 04600 0-000
14360	DORG	0-1		04556	
14370	****		MACRO FOR E TYPE READ AND WRITE		
14380	ETYPE	SF	RWEFSW	04556	32 05953 00000
14390	B	EFCOM	,	04568	49 04600 0-000
14400	DORG	0-1		04578	
14410	HTYPE	AM	SWF	04578	11 05861 -0003
14420	B	HTYPE1	,	04590	49 05192 0-000
14430	DORG	0-1		04600	
14440	*****		1620 FORTRAN II-D EF-HTYPE FORMAT - SUBROUTINES		
14450	EFCOM	AM	SWF	04600	11 05861 -0003
14460	TF	WIDTH	,SWF	04612	26 05715 0586J
14470	AM	SWF	,2	04624	11 05861 -0002
14480	TF	LOC D	,SWF	04636	26 05608 0586J
14490	TF	INPLUS	,LAST	04648	26 05945 05736
14500	TF	WIDTH 2	,WIDTH	04660	26 05956 05715
14510	A	WIDTH 2	,WIDTH	04672	21 05956 05715
14520	A	LAST	,WIDTH2	04684	21 05736 05956
14530	C	LAST	,MAX 2	04696	24 05736 06037

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15560	EFMIN	SF	99			04632	32	00099	00000
15570	EFPLUS	SM	CHAR	,1	,10	04644	12	07108	000-1
15580	EFTYPE	AM	INPLUS	,2		04656	11	05945	-0002
15590		CM	INPLUS	,00	,610	04668	14	05949	000-0
15600		BE	LDG DIG			04680	46	05016	01200
15610		CM	INPLUS	,70	,610	04692	14	05949	000P0
15620		BM	EF DIG			04704	46	05116	01100
15630		BE	LDG DIG			04716	46	05016	01200
15640		CM	INPLUS	,03	,610	04728	14	05949	000-3
15650		BE	EF DEC			04740	46	05048	01200
15660		BNF	ERRF7 E	,RWEFSW		04752	44	05324	05953
15670		TFM	EXP	,000	,9	04764	16	04785	00-00
15680		TDM	E EXPAD+1	,1		04776	15	04997	00001
15690	EXP	DS	3	,*-2		04788	3		
15700		CM	INPLUS	,45	,610	04800	14	05949	000M5
15710		BE	E EXP			04812	46	04952	01200
15720	EEXP2	CM	INPLUS	,20	,610	04824	14	05949	000K0
15730		BE	E EXP M			04836	46	04940	01200
15740		CM	INPLUS	,10	,610	04848	14	05949	000J0
15750		BE	E EXP			04860	46	04952	01200
15760	EEXP22	BD	**24	,97		04872	43	04884	00097
15770		SM	CHAR	,1	,9	04884	12	07108	00-01
15780		C	INPLUS	,TERM		04896	24	05945	06785
15790		BNL	EEXPAD-12			04908	46	04984	01300
15800		TD	EXP-1	,INPLUS	,11	04920	25	04784	0594N
15810		AM	INPLUS	,2		04932	11	05945	-0002
15820		B	EEXP22+12			04939	49	04872	00000
15830		DORG	**4			04940	15	04997	00002
15840	EEXPM	TDM	E EXPAD+1	,2		04952	11	05945	-0002
15850	EEXP	AM	INPLUS	,2		04964	12	07108	000-1
15860		SM	CHAR	,1	,10	04976	49	04812	00000
15870		B	E EXP 2			04984	49	04812	00000
15880		DORG	**4			04984	25	04785	0594N
15890		TD	EXP	,INPLUS	,11	04996	21	07108	04785
15900	EEXPAD	A	CHAR	,EXP		05008	49	05200	00000
15910		B	EF END			05015			
15920		DORG	**4			05016	44	05116	00098
15930	LDGDIG	BNF	EF DIG	,98		05028	12	07108	000-1
15940		SM	CHAR	,1	,10	05040	49	05176	00000
15950		B	EF TERM			05047			
15960		DORG	**4			05048	43	05324	00097
15970	EFDEC	BD	ERRF7 E	,97		05060	16	05608	000-0
15980		TFM	LOC D	,00	,10	05072	16	05194	-4644
15990		TFM	EFTERM+18	,EF PLUS		05084	15	00097	0000J
16000		TDM	97	,-1		05096	12	07108	000-1
16010		SM	CHAR	,1	,10	05108	49	05176	00000
16020		B	EF TERM			05115			
16030		DORG	**4			05116	33	00098	00000
16040	EFDIG	CF	98			05128	14	06933	-2491
16050		CM	WA	,FAC-1		05140	46	05176	01300
16060		BNL	**36	,,	,,	05152	25	0693L	0594N
16070		TD	WA	,INPLUS	,611	05164	11	06933	-0001
16080		AM	WA	,1		05176	24	05945	06785
16090	EFTERM	C	INPLUS	,TERM		05188	47	04656	01300
16100		BL	EFTYPE			05200	44	05232	0331L
16110	EFEND	BNF	EFEND2	,FNH	,11, ZERO CHECK				

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16120		TFM	FAC	,99	,1011	05212	16	02492	000RR
16130		B	SWL			05224	49	05934	00000
16140		DORG	**3			05232			
16150	EFEND2	S	CHAR	,LOC D		05232	22	07108	05608
16160		BD	ERR F7E	,CHAR-2		05244	43	05324	07106
16170		SF	CHAR-1			05256	32	07107	00000
16180		TF	FAC	,CHAR		05268	26	02492	07108
16190		SF	FNH	,	,6	05280	32	0331L	00000
16200		BNF	SWL	,99		05292	44	05934	00099
16210		SF	FAC-2			05304	32	02490	00000
16220		B	SWL			05316	49	05934	00000
16230		DORG	**4			05323			
16240	ERRF7E	TF	FAC	,FLZALP	,11, F PLUS 2 ZEROS TO FAC	05324	26	02492	0334Q
16250		TDM	EI	,7	,11, SET ER F7 INDICATION SWITCH	05336	15	02615	0000P
16260		B	EFEND			05348	49	05200	00000
16270		DORG	**4			05355			
16280	HRD	SM	WIDTH 2	,2	,10, READ H FROM IO REC TO FORMAT RECORD	05356	12	05956	000-2
16290		BL	BSWF			05368	47	05826	01300
16300		AM	SWF	,2		05380	11	05861	-0002
16310		TF	SWF	,INPLUS	,611	05392	26	0586J	0594N
16320		AM	INPLUS	,2		05404	11	05945	-0002
16330		B	HRD			05416	49	05356	00000
16340		DORG	**4			05423			
16350		DORG	08000			08000			
16360		38	A7	,00702		08000	38	08032	00702
16370		36	A7	,00703		08012	36	08032	00703
16380		B	**22			08024	49	08046	00000
16390		DORG	**3			08032			
16400	A7	DSC	9	,019499009		08032		9	
16410		DSA	FTYPE			08045		5 X	1
16420		TRA				08045		-4534	
16430		TCD	08000			08046	36	00000	00500
16440						08058	49	00000	00000
16440	*****		1620 FORTRAN II-D RAEF-ATYPE FORMAT			08051			
16450	*****		1620 FORTRAN II-D RAEF-ATYPE FORMAT - SECONDARY LINKAGE			03853		3	
16460		DORG	START			03854	14	02492	000-0
16470		DS	3			03866	49	04686	00000
16480		CM	FAC	,00	,10, IS CHAR POSITIVE	03878	16	07165	-0027
16490		B	EFFIX			03886		2	
16500		TFM	FMON+11	,*-START		03890	49	07154	00000
16510		DC	2	,1	,*-3	03902	16	07165	-0051
16520		B	FMON			03910		2	
16530		TFM	FMON+11	,*-START		03914	49	07154	00000
16540		DC	2	,1	,*-3	03926	16	07165	-0075
16550		B	FMON			03934		2	
16560		TFM	FMON+11	,*-START		03938	49	07154	00000
16570		DC	2	,1	,*-3	03950	16	07165	-0099
16580		B	FMON						
16590		TFM	FMON+11	,*-START					

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16600	DC	2	.1	.0-3	03958	2		
	-1							
16610	B	FMON			03962	49	07154	00000
16620	TFM	FMON+11	.0-START		03974	16	07165	-0123
16630	DC	2	.1	.0-3	03982	2		
	-1							
16640	B	FMON			03986	49	07154	00000
16650	TFM	FMON+11	.0-START		03998	16	07165	-0147
16660	DC	2	.1	.0-3	04006	2		
	-1							
16670	B	FMON			04010	49	07154	00000
16680	DORG	*-1			04020			
16690	TFM	FMON+11	.0-START		04020	16	07165	-0169
16700	DC	2	.1	.0-3	04028	2		
	-1							
16710	B	FMON	.	.0	04032	49	07154	0-000
16720	DORG	*-1			04042			
16730	TFM	FMON+11	.0-START		04042	16	07165	-0191
16740	DC	2	.1	.0-3	04050	2		
	-1							
16750	B	FMON			04054	49	07154	00000
16760	TFM	FMON+11	.0-START		04066	16	07165	-0215
16770	DC	2	.1	.0-3	04074	2		
	-1							
16780	B	FMON			04078	49	07154	00000
16790	TFM	FMON+11	.0-START		04090	16	07165	-0239
16800	DC	2	.1	.0-3	04098	2		
	-1							
16810	B	FMON			04102	49	07154	00000
16820	TFM	FMON+11	.0-START		04114	16	07165	-0243
16830	DC	2	.1	.0-3	04122	2		
	-1							
16840	B	FMON			04126	49	07154	00000
16850	TFM	FMON+11	.0-START		04138	16	07165	-0287
16860	DC	2	.1	.0-3	04146	2		
	-1							
16870	B	FMON			04150	49	07154	00000
16880	TFM	FMON+11	.0-START		04162	16	07165	-0311
16890	DC	2	.1	.0-3	04170	2		
	-1							
16900	B	FMON			04174	49	07154	00000
16910	TFM	FMON+11	.0-START		04186	16	07165	-0335
16920	DC	2	.1	.0-3	04194	2		
	-1							
16930	B	FMON			04198	49	07154	00000
16940	TFM	FMON+11	.0-START		04210	16	07165	-0359
16950	DC	2	.1	.0-3	04218	2		
	-1							
16960	B	FMON			04222	49	07154	00000
16970	TFM	FMON+11	.0-START		04234	16	07165	-0383
16980	DC	2	.1	.0-3	04242	2		
	-1							
16990	B	FMON			04246	49	07154	00000
17000	TFM	FMON+11	.0-START		04258	16	07165	-0407
17010	DC	2	.1	.0-3	04266	2		
	-1							

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17020	B	FMON			04270	49	07154	00000
17030	****		WRITE ALPHAMERIC					
17040	TF	SWF	,MATY-1		04282	26	05861	04281
17050	TF	SWF	,MATY1		04294	49	05498	00000
17060	TF	SWF	,WAPT-1		04306	26	05861	04305
17070	B	WAPT1	.	.0	04318	49	05518	00000
17080	TF	SWF	,WACD-1		04330	26	05861	04329
17090	B	WACD1	.	.0	04342	49	05538	00000
17100	****		READ ALPHAMERIC					
17110	TF	SWF	,RATY-1		04354	26	05861	04353
17120	B	RATY1	.	.0	04366	49	05862	00000
17130	TF	SWF	,RAPT-1		04378	26	05861	04377
17140	B	RAPT1	.	.0	04390	49	05882	00000
17150	TF	SWF	,RACD-1		04402	26	05861	04401
17160	B	RACD1	.	.0	04414	49	05902	0-000
17170	DORG	*-1			04424			
17180	TFM	FMON+11	.0-START		04424	16	07165	-0573
17190	DC	2	.3	.0-3	04432	2		
	-3							
17200	B	FMON	.	.0	04436	49	07154	0-000
17210	DORG	*-1			04446			
17220	TFM	FMON+11	.0-START		04446	16	07165	-0595
17230	DC	2	.4	.0-3	04454	2		
	-4							
17240	B	FMON	.	.0	04458	49	07154	0-000
17250	DORG	*-1			04468			
17260	RADEF	BNF	EF RD2+12,LOC		04468	44	04642	05981
17270	B	EF RD1	.	.0	04480	49	04598	0-000
17280	DORG	*-1			04490			
17290	TFM	FMON+11	.0-START		04490	16	07165	-0639
17300	DC	2	.0	.0-3	04498	2		
	-8							
17310	B	FMON	.	.0	04502	49	07154	0-000
17320	DORG	*-1			04512			
17330	ATYPE	AM	SWF	.3	04512	11	05861	-0003
17340	B	ATYPE1	.	.0	04524	49	04898	0-000
17350	DORG	*-1			04534			
17360	TFM	FMON+11	.0-START		04534	16	07165	-0683
17370	DC	2	.5	.0-3	04542	2		
	-5							
17380	B	FMON	.	.0	04546	49	07154	0-000
17390	DORG	*-1			04556			
17400	TFM	FMON+11	.0-START		04556	16	07165	-0705
17410	DC	2	.5	.0-3	04564	2		
	-5							
17420	B	FMON	.	.0	04568	49	07154	0-000
17430	DORG	*-1			04578			
17440	TFM	FMON+11	.0-START		04578	16	07165	-0727
17450	DC	2	.5	.0-3	04586	2		
	-5							
17460	B	FMON			04590	49	07154	00000
17470	DORG	*-4			04597			
17480	*****		1620 FORTRAN II-D RADEF-ATYPE FORMAT - SUBROUTINES					
17490	EFRD1	CF	LOC		04598	33	05981	00000
17500	TF	FIXEND+6	.1 CON 3+6		04610	26	03686	04896
17510	B	FIX	.	.0	04622	49	03854	00000

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17520	DORG	0-4			04629		
17530	EPRD2	TDM	FIXEND+1	,2	04630	15	03681 00002
17540	TFL	LOC	,FAC	,6	04642	06	0598J 02492
17550	ERF7S	BNF	BSNF-12	,EI	04654	44	05814 02615
17560	CF	EI			04666	33	02615 00000
17570	B	ERCOM2			04678	49	07078 00000
17580	DORG	0-4			04685		
17590	EFFIX	BP	0+32		04686	46	04718 01100
17600	TF	FAC	,FXZ		04698	26	02492 02815
17610	B	FIXEND			04710	49	03680 00000
17620	DORG	0-3			04718		
17630	TD	MU-1	,FAC-2		04718	25	03631 02490
17640	C	FAC	,K		04730	24	02492 02221
17650	BNH	0+56			04742	47	04798 01100
17660	TDM	FXERR+25	,1		04754	15	03621 00001
17670	TFM	EI	,579	,9	04766	16	02615 00N79
17680	TF	FAC	,FX9		04778	26	02492 02805
17690	B	FXERR			04790	49	03596 00000
17700	DORG	0-3			04798		
17710	CF	FAC-2			04798	33	02490 00000
17720	TF	BETA	,ZERO-51		04810	26	02603 02716
17730	TF	IMSA	,FIXZ		04822	26	02575 02815
17740	TF	0+30	,IMSAPP		04834	26	04864 03298
17750	S	0+18	,FAC		04846	22	04864 02492
17760	A	DUMMY	,FAC-2		04858	21	99999 02490
17770	TF	FAC	,IMSA		04870	26	02492 02575
17780	B	MU			04882	49	03632 00000
17790	DORG	0-4			04889		
17800	ICOM5	B	EPRD 2	,1	04890	4R	04630 00000
17810	DORG	0-4			04897		
17820	*****		MACRO FOR A TYPE READ AND WRITE				
17830	ATYPE1	TF	WIDTH 2	,SMF	04898	26	05956 0586J
17840	TF	INPLUS	,LAST	,11	04910	26	05945 05736
17850	A	LAST	,WIDTH 2		04922	21	05736 05956
17860	C	LAST	,MAX 2		04934	24	05736 06037
17870	BH	ER F9			04946	46	07002 01100
17880	TF	TERM	,LAST		04958	26	06785 05736
17890	SM	TERM	,2		04970	12	06785 -0002
17900	TFM	SMC ADJ	,WRITE A		04982	16	06044 -5242
17910	BD	SWL	,RW EF SW		04994	43	05934 05953
17920	TFM	SMC ADJ	,READ A		05006	16	06044 -5026
17930	B	SWL			05018	49	05934 00000
17940	DORG	0-4			05025		
17950	READA	CF	INPLUS	,6	05026	33	0594N 00000
17960	AM	INPLUS	,1	,10	05038	11	05945 000-1
17970	C	INPLUS	,TERM		05050	24	05945 06785
17980	BL	READ A			05062	47	05026 01300
17990	BNF	RDAFL	,LOC		05074	44	05186 05981
18000	CF	LOC			05086	33	05981 00000
18010	TF	LOC	,FXZ	,6	05098	26	0598J 02815
18020	S	WIDTH 2	,K		05110	22	05956 02221
18030	RDA	BH	ERF7A		05122	46	05166 01100
18040	A	LOC	,WIDTH 2		05134	21	05981 05956
18050	TF	LOC	,TERM	,611	05146	26	0598J 0678N
18060	B	ERF7S			05158	49	04654 00000
18070	DORG	0-4			05165		

18080	ERF7A	TDM	EI	,7	,11	05166	15	02615 0000P
18090	B	ERF7S				05178	49	04654 00000
18100	DORG	0-4				05185		
18110	RDAFL	TFM	LOC	,00	,610	05186	16	0598J 000-0
18120	SM	LOC	,2	,10	05198	12	05981 000-2	
18130	TF	LOC	,FLZ	,611	05210	26	0598J 0335L	
18140	S	WIDTH 2	,F		05222	22	05956 02219	
18150	B	RD A			05234	49	05122 00000	
18160	DORG	0-4			05241			
18170	WRITEA	TF	FAC	,LOC	,11	05242	26	02492 0598J
18180	BNF	WA FX	,FAC-1		05254	44	05354 02491	
18190	SM	LOC	,2		05266	12	05981 -0002	
18200	S	WIDTH 2	,F		05278	22	05956 02219	
18210	WRTA	BH	WRTA 2		05290	46	05354 01100	
18220	A	LOC	,WIDTH 2		05302	21	05981 05956	
18230	TF	TERM	,LOC	,611	05314	26	0678N 0598J	
18240	B	BSWF			05326	49	05826 00000	
18250	DORG	0-4			05333			
18260	WRTA2	SM	WIDTH 2	,02	,10	05334	12	05956 000-2
18270	B	WRTA			05346	49	05290 00000	
18280	DORG	0-4			05353			
18290	WAFX	S	WIDTH 2	,K	05354	22	05956 02221	
18300	B	WRT A			05366	49	05290 00000	
18310	DORG	0-4			05373			
18320	DORG	08000			08000			
18330	38	A8	,00702		08000	38	08032 00702	
18340	36	A8	,00703		08012	36	08032 00703	
18350	B	0+22			08024	49	08046 00000	
18360	DORG	0-3			08032			
18370	AB	DSC	9		08032		9	
18380	DSA	FIX	,019508016		08045		5 X 1	
18390	TRA				08045		-3854	
18400	TCD	08000			08046	36	00000 00500	
18410	*****		1620 FORTRAN II-D EFMH FORMAT		08058	49	00000 00600	
18420	*****		1620 FORTRAN II-D EFMH FORMAT - SECONDARY LINKAGE		08000			
18430	DORG	START			03851			
18440	DS	3			03853		3	
18450	TFM	FMON+11	,--START		03854	16	07165 -0003	
18460	DC	2	,1	,--3	03862		2	
18470	B	FMON			03866	49	07154 00000	
18480	TFM	FMON+11	,--START		03878	16	07165 -0027	
18490	DC	2	,1	,--3	03886		2	
18500	B	FMON			03890	49	07154 00000	
18510	TFM	FMON+11	,--START		03902	16	07165 -0051	
18520	DC	2	,1	,--3	03910		2	
18530	B	FMON			03914	49	07154 00000	
18540	TFM	FMON+11	,--START		03926	16	07165 -0075	
18550	DC	2	,1	,--3	03934		2	

18560	B	FMON			03938	49	07154	00000
18570	TFM	FMON+11	,*-START		03950	16	07165	-0099
18580	DC	2	.1	,*-3	03958		2	
	-1							
18590	B	FMON			03962	49	07154	00000
18600	TFM	FMON+11	,*-START		03974	16	07165	-0123
18610	DC	2	.1	,*-3	03982		2	
	-1							
18620	B	FMON			03986	49	07154	00000
18630	TFM	FMON+11	,*-START		03998	16	07165	-0147
18640	DC	2	.1	-----*-3	04006		2	
	-1							
18650	B	FMON			04010	49	07154	00000
18660	DORG	*-1			04020			
18670	TFM	FMON+11	,*-START		04020	16	07165	-0169
18680	DC	2	.1	,*-3	04028		2	
	-1							
18690	B	FMON		.8	04032	49	07154	0-000
18700	DORG	*-1			04042			
18710	TFM	FMON+11	,*-START		04042	16	07165	-0191
18720	DC	2	.1	,*-3	04050		2	
	-1							
18730	B	FMON			04054	49	07154	00000
18740	TFM	FMON+11	,*-START		04066	16	07165	-0215
18750	DC	2	.1	,*-3	04074		2	
	-1							
18760	B	FMON			04078	49	07154	00000
18770	TFM	FMON+11	,*-START		04090	16	07165	-0239
18780	DC	2	.1	,*-3	04098		2	
	-1							
18790	B	FMON			04102	49	07154	00000
18800	TFM	FMON+11	,*-START		04114	16	07165	-0263
18810	DC	2	.1	,*-3	04122		2	
	-1							
18820	B	FMON			04126	49	07154	00000
18830	TFM	FMON+11	,*-START		04138	16	07165	-0287
18840	DC	2	.1	,*-3	04146		2	
	-1							
18850	B	FMON			04150	49	07154	00000
18860	TFM	FMON+11	,*-START		04162	16	07165	-0311
18870	DC	2	.1	,*-3	04170		2	
	-1							
18880	B	FMON			04174	49	07154	00000
18890	TFM	FMON+11	,*-START		04186	16	07165	-0335
18900	DC	2	.1	,*-3	04194		2	
	-1							
18910	B	FMON			04198	49	07154	00000
18920	TFM	FMON+11	,*-START		04210	16	07165	-0359
18930	DC	2	.1	,*-3	04218		2	
	-1							
18940	B	FMON			04222	49	07154	00000
18950	TFM	FMON+11	,*-START		04234	16	07165	-0383
18960	DC	2	.1	,*-3	04242		2	
	-1							
18970	B	FMON			04246	49	07154	00000
18980	TFM	FMON+11	,*-START		04258	16	07165	-0407

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18990	DC	2	.1	,*-3	04266		2	
	-1							
19000	B	FMON			04270	49	07154	00000
19010	****							
19020	TF	SWF	WRITE ALPHAMERIC		04282	26	05861	04281
19030	B	WATY1	,WATY-1		04294	49	05498	00000
19040	TF	SWF	,WAPT-1		04306	26	05861	04305
19050	B	WAPT1	,WAPT-1		04318	49	05518	00000
19060	TF	SWF	,WACD-1		04330	26	05861	04329
19070	B	WACD1	,WACD-1		04342	49	05538	00000
19080	****							
19090	TF	SWF	READ ALPHAMERIC		04354	26	05861	04353
19100	B	RATY1	,RATY-1		04366	49	05862	00000
19110	TF	SWF	,RAPT-1		04378	26	05861	04377
19120	B	RAPT1	,RAPT-1		04390	49	05882	00000
19130	TF	SWF	,RACD-1		04402	26	05861	04401
19140	B	RACD1	,RACD-1	.8	04414	49	05902	0-000
19150	DORG	*-1			04424			
19160	TFM	FMON+11	,*-START		04424	16	07165	-0573
19170	DC	2	.3	,*-3	04432		2	
	-3							
19180	B	FMON		.8	04436	49	07154	0-000
19190	DORG	*-1			04446			
19200	TFM	FMON+11	,*-START		04446	16	07165	-0595
19210	DC	2	.4	,*-3	04454		2	
	-4							
19220	B	FMON		.8	04458	49	07154	0-000
19230	DORG	*-1			04468			
19240	TFM	FMON+11	,*-START		04468	16	07165	-0617
19250	DC	2	.7	,*-3	04476		2	
	-7							
19260	B	FMON		.8	04480	49	07154	0-000
19270	DORG	*-1			04490			
19280	EFMW	TF	FLTEMD	,ICON6+6	04490	26	03730	05432
19290	B	EFMW1	,EFMW1	.8	04502	49	04602	0-000
19300	DORG	*-1			04512			
19310	TFM	FMON+11	,*-START		04512	16	07165	-0661
19320	DC	2	.7	,*-3	04520		2	
	-7							
19330	B	FMON		.8	04524	49	07154	0-000
19340	DORG	*-1			04534			
19350	TFM	FMON+11	,*-START		04534	16	07165	-0683
19360	DC	2	.5	,*-3	04542		2	
	-5							
19370	B	FMON		.8	04546	49	07154	0-000
19380	DORG	*-1			04556			
19390	TFM	FMON+11	,*-START		04556	16	07165	-0705
19400	DC	2	.5	,*-3	04564		2	
	-5							
19410	B	FMON		.8	04568	49	07154	0-000
19420	DORG	*-1			04578			
19430	TFM	FMON+11	,*-START		04578	16	07165	-0727
19440	DC	2	.5	,*-3	04586		2	
	-5							
19450	B	FMON		.8	04590	49	07154	00000
19460	REFSW	DS	5	.8	04601		5	

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19470	*****	1620 FORTRAN II-D	EFMW FORMAT - SUBROUTINES				
19480	*****		E AND F TYPE MANTISSA WRITING, FLOAT ARG IF REQ.				
19490	*****		COMPUTE DEC PT IN GAM AND OUTPUT RECORD. MOVE				
19500	*****		MANTISSA DIGIT BY DIGIT, RIGHT TO LEFT, FROM FAC				
19510	*****		TO GAM, INSERT SIGN, CHECK WIDTH, AND ZERO.				
19520	*****		BR TO WRT F FOR F TYPE CONTINUATION				
19530	EFMW1	TFL	FAC	,LOC	,11	04602	06 02492 0598J
19540		BNF	EFLOAT	,FAC-1		04614	44 05126 0249I
19550	EFALPH	TFM	FLTEND-4	,20	,10	04626	16 03726 000K0
19560		TF	DPT	,TERM		04638	26 07137 0678S
19570		S	DPT	,LOC D 2		04650	22 07137 0560E
19580		TFM	DPG	,GAM		04662	16 05976 -255S
19590		S	DPG	,LOC D 2		04674	22 05976 0560E
19600		TF	DPTM2	,DPT		04686	26 07142 07137
19610		SM	DPTM2	,2		04698	12 07142 -0002
19620	EFALP	SM	WA 2	,1		04710	12 07084 -0001
19630		TD	WA	,WA2	,611	04722	25 0693L 0708M
19640		CF	WA	,6		04734	33 0693L 00000
19650		SM	WA	,2		04746	12 06933 -0002
19660		C	WA2	,FM1MF		04758	24 07084 0331J
19670		BH	EF ALP			04770	46 04710 01100
19680		TFM	WA	,00	,610	04782	16 0693L 000-0
19690		BNF	EF CHKS	,FAC-2		04794	44 04818 02490
19700		TFM	WA	,20	,610	04806	16 0693L 000K0
19710	EFCHKS	TFM	CKW	,000	,9	04818	16 06673 00-00
19720		A	CKW	,LOCD		04830	21 06673 05608
19730		A	CKW	,FAC		04842	21 06673 02492
19740		TF	CHAR	,CKW		04854	26 07108 06673
19750		S	CHAR	,F		04866	22 07108 02219
19760		C	WIDTH	,LOC D		04878	24 05715 05608
19770		BNL	+32			04890	46 04922 01300
19780	ERF8ES	TFM	REFSW	,ERF8E		04902	16 04601 -5226
19790		B	BREFSW			04914	49 05434 00000
19800		DORG	-4			04921	
19810		BD	+36	,FNH	,11	04922	43 04958 0331L
19820		TDM	FLTEND-4	,-1		04934	15 03726 0000J
19830		TFM	CHAR	,-099	,9	04946	16 07108 00-9R
19840		BNF	WRTFS	,RNEFSW		04958	44 05106 05953
19850	*****		WRITE E TYPE. ASSEMBLE EXP IN GAM USING A MASK,				
19860	*****		THE CHAR AND SIGN. MOVE LEFT GAM AND RIGHT GAM TO				
19870	*****		OUTPUT. THEN GO TO INSERT DECIMAL POINT				
19880	WRT E	S	WIDTH	,F		04970	22 05715 02219
19890		BL	+32			04982	47 05014 01300
19900	WRT E2S	TFM	REFSW	,WRT E2		04994	16 04601 -4622
19910		B	BREFSW			05006	49 05434 00000
19920		DORG	-4			05013	
19930		BD	+36	,FLTEND-4		05014	43 05050 03726
19940		S	CHAR	,WIDTH		05026	22 07108 05715
19950		BD	ERF8ES	,CHAR-2		05038	43 04902 07106
19960		TFM	+47	,GAM		05050	16 05097 -255S
19970		A	+35	,WIDTH		05062	21 05097 05715
19980		A	+23	,WIDTH		05074	21 05097 05715
19990		TF	GAM			05086	26 02555 00000
20000		B	WRT E2S			05098	49 04994 00000
20010		DORG	-4			05105	
20020	WRTFS	TFM	REFSW	,WRT F		05106	16 04601 -4726

20030		B	BREFSW			05118	49 05434 00000
20040		DORG	-4			05125	
20050	EFLOAT	AM	FAC	,00	,10,	05126	11 02492 000-0
20060		BZ	ZERFAC	,	,,	05138	46 03422 01200
20070		TD	99	,FAC	,,	05150	25 00099 02492
20080		CF	FAC			05162	33 02492 00000
20090		TR	BETA-9	,FXH	,11	05174	31 02594 0328L
20100		TF	FAC-2	,9SPF-1	,,	05186	26 02490 02853
20110		TF	SAVE	,K	,,	05198	26 02565 02221
20120		TFM	+23	,BETA-9	,,	05210	16 05233 -2594
20130		BD	+44	,DUMMY	,,	05222	43 05266 99999
20140		SM	SAVE	,01	,10,	05234	12 02565 000-1
20150		AM	-13	,01	,,	05246	11 05233 -0001
20160		B	-36			05258	49 05222 00000
20170		DORG	-3			05266	
20180		TR	FNH	,-33	,611	05266	31 0331L 0523L
20190		TF	+35	,FNH	,,	05278	26 05313 03313
20200		AM	+23	,01	,,	05290	11 05313 -0001
20210		BNR	-12	,DUMMY	,,	05302	45 05290 99999
20220		TDM	-1	,0	,6	05314	15 0531L 00000
20230		TD	FAC+1	,RECMK	,,	05326	25 02493 02403
20240		TF	BETA	,ZERO-74	,,	05338	26 02603 02693
20250		B	ENOR60			05350	49 05382 00000
20260		DORG	-3			05358	
20270	ENOR36	TR	FNH	,FH	,611,	05358	31 0331L 0330Q
20280		TDM	FAC-1	,0	,,	05370	15 02491 00000
20290	ENOR60	SF	FNH	,6	,,	05382	32 0331L 00000
20300		BD	FINISH	,FNH	,611,	05394	43 0372L 0331L
20310		SM	SAVE	,1	,10,	05406	12 02565 000-1
20320		B	ENOR36			05418	49 05358 00000
20330		DORG	-4			05425	
20340	ICON6	B	EF ALPH	,	,1	05426	4R 04626 00000
20350		DORG	-6			05433	
20360	BREFSW	TFM	MBASE+5	,HTYPE+24		05434	16 07398 -4602
20370		TFM	FMON+11	,HTYPE+24-START		05446	16 07165 -0751
20380		DC	2	,9,	,-3	05454	2
20390		B	FMON			05458	49 07154 00000
20400		DORG	-4			05465	
20410		DORG	08000			08000	
20420		38	A9	,00702		08000	38 08032 00702
20430		36	A9	,00703		08012	36 08032 00703
20440		B	+22			08024	49 08046 00000
20450		DORG	-3			08032	
20460	A9	DSC	9	,019524017		08032	9
20470		DSA	FIX			08045	5 X 1
20480		TRA				08045	-3854
20490		TCO	08000			08046	36 00000 00500
20500	*****		1620 FORTRAN II-D	WRT E-F FORMAT		08058	49 00000 00000
20510	*****		1620 FORTRAN II-D	WRT E-F FORMAT - SUBROUTINES		08000	
20520		DORG	HTYPE+24			04602	

21580	ARGOUT	TF	RETARG+11,DUMMY	07262	26	07369	99999
21590	BAS	TF	MBASE ,DUMMY	07274	26	07393	99999
21600		SF	MBASE-2	07286	32	07391	00000
21610		TFM	IORT ,++23	07298	16	00565	-7321
21620		B	IQGT ,MDATA ,7	07310	49	00566	-7377
21630		BD	++36 ,FINDIN	07322	43	07358	03527
21640		TFM	IORT ,++23	07334	16	00565	-7357
21650		B	IQSK ,DKDATA ,7	07346	49	00554	-3379
21660	RETARG	TFM	ARGOUT+11,DUMMY ,6	07358	16	0727L	99999
21670	RETURN	B		07370	49	00000	00000
21680		DDRG	*-4	07377			
21690	MDATA	DSC	2 ,.02	07377		2	
		Q2					
21700		DSA	MBASE-8	07383		5 X	1
21710		DC	1, *	07383		-7385	
				07384		1	
21720		DSC	1 ,.0	07385		1	
		0					
21730	MBASE	DS	8	07393		8	
21740		DSA	FIX	07398		5 X	1
21750		DC	1 , *	07398		-3854	
				07399		1	
21760	FIL	DC	8 ,00000033	07407		8	
		-0000033					
21770		DC	8 ,00033033	07415		8	
		-0033033					
21780		DC	8 ,00033016	07423		8	
		-0033016					
21790		DC	8 ,00066016	07431		8	
		-0066016					
21800		DC	8 ,00082017	07439		8	
		-0082017					
21810		DC	8 ,00099009	07447		8	
		-0099009					
21820		DC	8 ,00108016	07455		8	
		-0108016					
21830		DC	8 ,00124017	07463		8	
		-0124017					
21840		DC	8 ,00141009	07471		8	
		-0141009					
21850		DDRG	06000	06000			
21860		34	82 ,00701	06000	34	06044	00701
21870		38	82 ,00702	06012	38	06044	00702
21880		36	82 ,00703	06024	36	06044	00703
21890		B	++22	06036	49	06058	00000
21900		DDRG	*-3	06044			
21910	B2	DSC	9 ,016835004	06044		9	
		016835004					
21920		DSA	FMDN-56	06057		5 X	1
21930		TRA		06057		-7098	
				06058	36	00000	00500

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21940		TCD	06000	06070	49	00000	00000
				06000			
21950		DEND		00000			

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ARGOUT	07262	FMCNEZ	04930	B2	06044	FDVR	04186	IFIX	05094
ATYPE1	04898	FXMINE	04932	BAS	07274	FH	03308	IMSA	02575
BEP2SW	05384	GMIN2F	03526	BETA	02603	FIL	07407	INM	06063
BREFSW	05434	HTYPE1	05192	BSWF	05826	FIX1	04598	IN	06237
CLRTOS	05158	IFLQAT	05082	CHAR2	06708	FIX11	05580	IOCAL	00716
COMADD	02231	IMINUS	04938	CHAR	07108	FIXI	04210	IOCR	06664
COMEND	06656	IMSAPF	03298	CKW	06673	FIX	03854	IOGT	00566
COMPLT	06698	INOR36	05302	DIO	00816	FKODD	03579	IOPT	00532
COMP SW	05678	INDR60	05326	DPG	05976	FLOAT	04042	IQRBC	00520
DAFMON	05598	INPLUS	05945	DPTM2	07142	FLZER	03760	IORT	00565
DALONG	05590	IRBLNK	04918	DPT	07137	FLZ	03353	IOSK	00554
DATDUD	06049	ISPFM1	03303	DUDH	02607	FM1MF	03313	IRDIG	04882
DATINH	06057	ITYPE1	04598	DUD	02687	FM1	03783	IREAD	04730
DDFMON	05606	LDGDIG	05016	DUMMY	99999	FMFAC	03452	ITYPE	04424
DIODDA	03387	LOCADJ	06390	EEXP2	04812	FMON	07154	K2	03820
DNBUFF	02404	MASKEP	05426	EEXPM	04940	FMP1	05436	K	02221
DKDATA	03379	MASKF1	05437	EEXP	04952	FMP	04138	LAST	05736
EEXP22	04860	MATRIX	06334	EF2SW	04401	FNHML	03358	LNLO	02980
EEXPAD	04996	MATRX2	06418	EFALP	04710	FNHM2	03489	LN2	02887
EFLALPH	04626	MESERR	02607	EFCOM	04600	FNH	03313	LN4	02918
EFCNKS	04818	MONCAL	00796	EFOEC	05048	FP1MK	03283	LN8	02949
EFPND2	05232	NORM36	05284	FDIG	05116	FP2	03664	LNENT	03368
EFLQAT	05126	NORM60	05308	EFEND	05200	F	02219	LOC2D	05606
EPLUS	04644	ODDSET	05494	EFFIX	04686	FSBR1	05384	LOC0	05608
EFTERM	05176	ODOREV	05790	EFMNI	04632	FSBR	04114	LOC	05981
EFTYPE	04656	ONEFAC	06034	EFMWI	04602	FSB	04066	LOGE	03010
ENDFOR	06063	OVFLOW	03572	EFMW	04490	FTYPE	04534	MASKF	05417
ENOR36	05358	PROGST	02226	EFRD1	04598	FX1	02825	MASKI	05307
ENOR60	05382	RADDIT	05754	EFRD2	04630	FX9	02805	MASK	05425
ENTABS	02323	READEP	04468	EFWR2	05028	FXA1	04790	MATSW	05583
ENTATN	02313	READIF	05038	EI	02615	FXA	03878	MAX2	06037
ENTCOS	02303	REPSW3	05585	ENDD	03688	FXD1	04882	MAX	05924
ENTDED	02298	RE TARG	07358	ENTLN	02248	FXDR1	04964	MBASE	07393
ENTDRR	02293	RETURN	07370	ERF7A	05166	FXDR	03998	MDATA	07377
ENTEXP	02253	RWEFSW	05953	ERF7	05050	FXD	03974	MF	03666
ENTFET	02283	100MK	03293	ERF7S	04654	FXERR	03596	MU	03632
ENTFID	02273	102MF	03343	ERF8E	05226	FXH	03283	N1	02233
ENTREC	02278	2FMI	03581	ERF8I	04990	FXM1	04856	N2	02238
ENTSC1	02258	96MF	03318	ERF9	07002	FXM	03950	NDDIV	06324
ENTSC2	02263	97M2F	03363	ERRET	06602	FXSR1	04804	OLWR	06672
ENTSC3	02268	97MF	03323	ERRDR	03596	FXSR	03926	ONEZ	03038
ENTSIN	02308	98MK	03328	ERXV	03762	FXS	03902	OUT	04933
ENTSQT	02318	99MK	03288	ETYPE	04556	FXZ	02815	OVFLD	05516
ENTSWD	02288	95CPF	02795	EXP	04785	FZERD	04974	PAR	03378
ERCDM2	07078	95PF	02854	F2	03818	GAM	02555	PDT	03333
ERFBES	04902	A10	08032	FAC	02492	GM2F	03655	P1OV2	03163
ERRFF7E	04958	A1	08068	FAD	05352	HND	03338	P1OV4	03191
EXPENT	03373	A3	08032	FAD1	04090	HD	04769	P1	03133
FINDIN	03527	A5	08032	FAXB1	06448	HRD	05356	PSI	05686
FINISH	03723	A6	08032	FAXB	04258	HTYPE	04578	RACD1	05902
FIXEND	03680	A7	08032	FAXI1	06010	HWRT	05304	RACD	04402
FLOAT1	05064	A8	08032	FAXI	04234	ICON2	05370	RAPT1	05882
FLTEND	03730	A9	08032	FCHNB	04920	ICON3	05298	RAPT	04378
FLZALP	03348	ATYPE	04512	FD1	05468	ICON5	04890	RATY1	05862
FLZERS	06327	AXJ	06172	FD	04162	ICON6	05426	RATY	04354
		B1	06044	FDVRL	05548	IDIG	04746	RDAFL	05186

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RDALP	05914	RSGN	04020	TDFAC	03408	WIDTH	05715	STZERO	06239
ROA	05122	RWA2	05670	TRACE	03496	WRITE	06632	SWCADJ	06044
RDFCH	04828	RWA	05562	TRFX	03558	WR2A2	05334	WEFDEC	05194
READA	05026	SAVE	02565	TNOPI	03103	WR2A	05290	WIDTH2	05956
READI	04990	SHORT	05622	TWOZ	03073	WR2E2	04622	WRITEA	05242
RECIP	06232	SIX	03219	UNFLO	03466	WRTE	04970	WRITEI	04466
RECLG	02243	SLASH	06492	WA2	07084	WRTE	04726	WRIT11	04598
RECMK	02403	START	03851	WA3	04601	WRTF5	05106	WRTALP	05550
REDDA	06762	STOP	02395	WACD1	05538	WRTI2	04654	WRTE2S	04994
REDD	06718	SWC	05982	WACD	04330	WRTI3	04862	WRTFPC	05050
REFSW	04601	SWF	05861	WAFX	05354	WRTI	04690	WRTFPC	05018
REP2	06890	SWL	05934	WAPT1	05518	W	02240	WRTSGN	04826
REP3	06922	TAFE	02535	WAPT	04306	XTYPE	07046	ZERFAC	03422
REP	06818	TAN6	03248	WA	06933	ZEROM	03445		
REPSW	05582	TEN34	03278	WATY1	05498	ZERO	02767		
RSGN1	04984	TERM	06785	WATY	04282	SLASH2	06524		

END OF ONE ASSEMBLY.

1620 FORTRAN II-D SUBROUTINES SET 4			PAGE	1
00010	*****	1620 FORTRAN II-D SUBROUTINES WITH FLOATING POINT HARDWARE		
00020	*****	IORT ENTRY POINTS AND CONTANTS		
00030	IORBC DS	,520	00520	0
00040	IORT DS	,532	00532	0
00050	IOSK DS	,554	00554	0
00060	IUGT DS	,566	00566	0
00070	EKRET DS	,602	00602	0
00080	IORT DS	,565	00565	0
00090	IICAL DS	,716	00716	0
00100	MNCAL DS	,796	00796	0
00110	DIO DS	,816	00816	0
00120	*****	1620 FORTRAN II-D IN CORE AREAS		
00130	***	COMMUNICATION AREA		
00140		DORG 2218	02218	
00150	F DS	2,, FLOATING POINT WORD LENGTH	02219	2
00160	K DS	2,, FIXED POINT WORD LENGTH	02221	2
00170	PROGST DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM	02226	5
00180	COMADD DS	5,, STARTING ADDRESS OF COMMON AREA	02231	5
00190	N1 DS	2,, NUMBER OF WORDS IN LOGICAL RECORD	02233	2
00200	N2 DS	5,, NUMBER OF LOGICAL RECORDS	02238	5
00210	W DS	2,, WORD LENGTH	02240	2
00220	RECLG DS	3,, RECORD LENGTH	02243	3
00230	ENTLN DS	5,, ENTRY ADDRESS TO LOG SUBROUTINE	02248	5
00240	ENTEXP DS	5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE	02253	5
00250	ENTSC1 DS	5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE	02258	5
00260	ENTSC2 DS	5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE	02263	5
00270	ENTSC3 DS	5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE	02268	5
00280	ENTFID DS	5,, ENTRY ADDRESS TO FIND SUBROUTINE	02273	5
00290	ENTREC DS	5,, ENTRY ADDRESS TO RECORD SUBROUTINE	02278	5
00300	ENTFET DS	5,, ENTRY ADDRESS TO FETCH SUBROUTINE	02283	5
00310	ENTSWD DS	5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE	02288	5
00320	ENTDRR DS	5,, ENTRY ADDRESS TO ARRAY SUBROUTINE	02293	5
00330	ENTDED DS	5,, ENTRY ADDRESS TO DISK END SUBROUTINE	02298	5
00340	ENTCOS DS	5,, ENTRY ADDRESS TO COSINE SUBROUTINE	02303	5
00350	ENTSIN DS	5,, ENTRY ADDRESS TO SINE SUBROUTINE	02308	5
00360	ENTATN DS	5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE	02313	5
00370	ENTSQT DS	5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE	02318	5
00380	ENTABS DS	5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE	02323	5
00390	DS	70,, RESERVED FOR ENTRIES TO ADDED SUBROUTINES	02393	70
00400	*****	COMMON WORKING AREAS		
00410	STOP	DAC 5,STOP'	02395	5 X 2
		STOP'		
00420	RECMK DS	,STOP*B	02403	0
00430	DKBUFF DSS	29	02404	29
00440	FAC DS	60	02492	60
00450	DC	1 ,'	02493	1
		'		
00460	SAVE DS	72	02565	72
00470	BETA DS	38	02603	38
00480	DGM		02604	1
00490	GAM DS	,SAVE-10	02555	0
00500	TAFE DS	,SAVE -30	02535	0
00510	INSA DS	,BETA -28	02575	0
00520	MESERR DAC	6,ER E'	02607	6 X 2
		ER E'		
00530	DUDM DS	,MESERR	02607	0

1620 FORTRAN II-D SUBROUTINES SET 4				PAGE	4
01130	DC	5	,0000	03392	5
			-0000		
01140	DC	3	,000	03395	3
			-00		
01150	DSA	DKBUFF		03400	5 X 1
				03400	-2404
01160	DC	1	,	03401	1
01170	*****	1620 FORTRAN II-D	IN CORE SUBROUTINES		
01180	DS	5		03406	5
01190	TOFAC	TFL	FAC ,TOFAC-1 ,11	03408	06 02492 0340P
01200		BB		03420	42 00000 00000
01210		DDRG	+-9	03422	
01220	ZERFAC	TFL	FAC ,FLZER	03422	06 02492 03760
01230		B	FINISH+1 ,ZERO-94	03434	49 03724 02673
01240	ZEROM	DS	5 ,*	03445	5
01250		DS	5	03450	5
01260	FMFAC	TFL	FMFAC-1 ,FAC ,6	03452	06 0345J 02492
01270		BB		03464	42 00000 00000
01280		DDRG	+-9	03466	
01290	UNFLO	TFL	FAC ,FLZER ,*	03466	06 02492 03760
01300		B	ERXV+12 ,FAC-3 ,*	03478	49 03774 02489
01310	FNHM2	DS	5 ,*	03489	5
01320		DS	5	03494	5
01330	TRACE	TFL	TRACE-1 ,FAC ,6	03496	06 0349M 02492
01340		BNC4	FMFAC+12	03508	47 03464 00400
01350		RCTY	GAM-1 ,*	03520	34 -2554 00102
01360	FINDIN	DC	1 ,1 ,*-4	03527	1
		J			
01370	GMIM2F	DS	+-5 ,*	03526	0
01380		BNF	TRFX ,FAC-1 ,*	03532	44 03558 02491
01390		WNTY	FXH ,*	03544	38 0331L 00100
01400		BB		03556	42 00000 00000
01410		DDRG	+-9	03558	
01420	TRFX	WNTY	FXH ,*	03558	38 0328L 00100
01430		BB		03570	42 00000 00000
01440		DDRG	+-9	03572	
01450	OVFLOW	TFM	FAC ,0199 ,8910	03572	16 02492 0-JR9
01460	2FM1	DS	2 ,*-2 ,*	03581	2
01470	FKODD	DS	1 ,**4 ,*	03579	1
01480		TF	FAC-2 ,*9PCPF ,*	03584	26 02490 02795
01490	ERROR	RCTY	FINISH ,*	03596	34 0372L 00102
01500		WATY	MESERR ,*	03608	39 02607 00100
01510		B	ENDD+12	03620	49 03700 00000
01520	MU	BNF	**24 ,MU-1 ,*	03632	44 03656 03631
01530		SF	FAC ,GAM	03644	32 02492 02555
01540	GM2F	DS	+-2 ,*	03655	0
01550		TDM	FXERR+25 ,02009 ,79, RESET ERROR EXIT	03656	15 03621 -2-09
01560	MF	DS	2 ,*-1 ,*	03666	2
01570	FP2	DS	2 ,*-3 ,*	03664	2
01580		TFM	FXERR+30 ,ENDD+12	03668	16 03626 -3700
01590	FIXEND	BB		03680	42 00000 00000
01600		DDRG	+-3	03688	
01610	FXERR	DS	,ERROR	03596	0
01620	ENDD	TF	FAC ,SAVE ,*	03688	26 02492 02565

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1620 FORTRAN II-D SUBROUTINES SET 4				PAGE	5
01630	BNF	**24	,99 ,*	03700	44 03724 00099
01640	SF	FAC-2	,ENDD ,*	03712	32 02490 03688
01650	FINISH	DS	,*	03723	0
01660	FLTEND	DS	,FINISH+7	03730	0
01670		BB		03724	42 00000 00000
01680		DDRG	+-4	03731	
01690		DC	28 ,0	03758	28
			-00000000000000000000000000000000		
01700	FLZER	DC	2 ,*-99	03760	2
		RR			
01710	ERXV	BNF	**24 ,FAC	03762	44 03786 02492
01720		AM	EI ,0101 ,8910,ERR CODE = ERR CODE + 1	03774	11 02615 0-J-1
01730	FM1	DS	2 ,*-2 ,*	03783	2
01740		RCTY	FMFAC+12	03786	34 03464 00102
01750		WATY	MESERR	03798	39 02607 00100
01760		B	ERXV+30 ,*	03810	49 0379K 00000
01770		DDRG	+-4	03817	
01780	F2	DC	2 ,0	03818	2
		-0			
01790	K2	DC	2 ,0	03820	2
		-0			
01800	DUMMY	DS	,99999	99999	0
01810	START	DS	,03851	03851	0
01820	*****	1620 FORTRAN II-D	ALL SUBR IN CORE		
01830	*****	1620 FORTRAN II-D	ALL SUBR IN CORE - SECONDARY LINKAGE		
01840		DDRG	START	03851	
01850		DS	3	03853	3
01860	FIX	CM	FAC ,00 ,10, IS CHAR POSITIVE	03854	14 02492 000-0
01870		B	FIX1	03866	49 10562 00000
01880	FXA	A	FAC ,FXA-1 ,11	03878	21 02492 0387P
01890		B	FXA1	03890	49 10754 00000
01900	FXS	S	FAC ,FXS-1 ,11	03902	22 02492 0390J
01910		B	FXA1	03914	49 10754 00000
01920	FXSR	BNF	FXSR1+32 ,FAC ,*	03926	44 10800 02492
01930		B	FXSR1	03938	49 10768 00000
01940	FXM	M	FAC ,FXM-1 ,11	03950	23 02492 0394R
01950		B	FXM1	03962	49 10820 00000
01960	FXD	LD	99 ,FAC ,*	03974	28 00099 02492
01970		B	FXD1	03986	49 10846 00000
01980	FXDR	LD	99 ,FXDR-1 ,11, FAC = J/FAC	03998	28 00099 0399P
01990		B	FXDR1	04010	49 10928 00000
02000		DDRG	+-1	04020	
02010	RSGN	BNF	RSGM1+40 ,FAC-1	04020	44 10988 02491
02020		B	RSGM1 ,*	04032	49 10948 0-000
02030		DDRG	+-1	04042	
02040	FLOAT	AM	FAC ,00 ,10, IS FAC ZERO	04042	11 02492 000-0
02050		B	FLOAT1	04054	49 11028 00000
02060	FSB	FAC	FAC ,FSB-1 ,11	04066	02 02492 0406M
02070		B	FAD1	04078	49 11316 00000
02080	FAD	FAC	FAC ,FAD-1 ,11	04090	01 02492 0408R
02090		B	FAD1	04102	49 11316 00000
02100	FSBR	BNF	FSBR1+32 ,FAC-2 ,*	04114	44 11380 02490
02110		B	FSBR1	04126	49 11348 00000
02120	FMP	TFM	EI ,573 ,9, SET UP ERR E3 CODE	04138	16 02615 00M73
02130		B	FMP1	04150	49 11400 00000
02140	FD	TFM	EI ,575 ,9, SET UP ERR E5 CODE	04162	16 02615 00M75

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02150	B	FDI			04174	49	11432	00000
02160	FDVR	TFL	SAVE	,FAC	04186	06	02565	02492
02170	B	FDVRI			04198	49	11512	00000
02180	FIXI	TF	IMSA	,FIXI-1 ,11, IMSA = I	04210	26	02575	0420R
02190	B	FIXI1			04222	49	11544	00000
02200	FAXI	TF	IMSA	,FAXI-1 ,11, IMSA = I	04234	26	02575	0423L
02210	B	FAXI1			04246	49	11974	00000
02220	FAXB	TFL	TAFE	,FAXB-1 ,11, LOAD B	04258	06	02535	0425P
02230	B	FAXB1			04270	49	12412	00000
02240	****		WRITE ALPHAMERIC					
02250	WATY	TF	SWF	,WATY-1	04282	26	05861	04281
02260	B	WATY1			04294	49	05498	00000
02270	WAPT	TF	SWF	,WAPT-1	04306	26	05861	04305
02280	B	WAPT1			04318	49	05518	00000
02290	WACD	TF	SWF	,WACD-1	04330	26	05861	04329
02300	B	WACD1			04342	49	05538	00000
02310	****		READ ALPHAMERIC					
02320	RATY	TF	SWF	,RATY-1	04354	26	05861	04353
02330	B	RATY1			04366	49	05862	00000
02340	RAPT	TF	SWF	,RAPT-1	04378	26	05861	04377
02350	B	RAPT1			04390	49	05882	00000
02360	RACD	TF	SWF	,RACD-1	04402	26	05861	04401
02370	B	RACD1			04414	49	05902	0-000
02380	DORG	+ -1			04424			
02390	ITYPE	AM	SWF	,3	04424	11	05861	-0003
02400	B	ITYPE1			04436	49	09646	0-000
02410	DORG	+ -1			04446			
02420	WRITEI	TFM	WA	,GAM+2	04446	16	06933	-2557
02430	B	WRITEI1			04458	49	10138	0-000
02440	DORG	+ -1			04468			
02450	READEF	BNF	EF RD2+12,LOC		04468	44	08686	05981
02460	B	EF RD1			04480	49	08642	0-000
02470	DORG	+ -1			04490			
02480	EFMW	TF	FLTEND	,ICON6+6	04490	26	03730	05480
02490	B	EFMW1			04502	49	09182	0-000
02500	DORG	+ -1			04512			
02510	ATYPE	AM	SWF	,3	04512	11	05861	-0003
02520	B	ATYPE1			04524	49	08706	0-000
02530	DORG	+ -1			04534			
02540	****		MACRO FOR F TYPE READ AND WRITE					
02550	FTYPE	CF	RWEFSW		04534	33	05953	00000
02560	B	EF COM			04546	49	07138	0-000
02570	DORG	+ -1			04556			
02580	****		MACRO FOR E TYPE READ AND WRITE					
02590	ETYPE	SF	RWEFSW		04556	32	05953	00000
02600	WA3	DS	5	,* , TEMP STORE FOR ZERO INSERT ADDRESS	04567		5	
02610	B	EFCOM			04568	49	07138	0-000
02620	DORG	+ -1			04578			
02630	HTYPE	AM	SWF	,3	04578	11	05861	-0003
02640	B	HTYPE1			04590	49	08402	00000
02650	DORG	+ -4			04597			
02660	*****		1620 FORTRAN II-D ALL SUBR IN CORE - SUBROUTINES					
02670	WRTE2	TR	GAM+1	,MASK	04598	31	02556	05401
02680	BD	ERF8E	,CHAR-2		04610	43	05202	07106
02690	TD	GAM+8	,CHAR		04622	25	02563	07108
02700	TD	GAM+6	,CHAR-1		04634	25	02561	07107

02710	BNF	+24	,CHAR		04646	44	04670	07108
02720	TDM	GAM+3	,2		04658	15	02558	00002
02730	TF	TERM	,GAM+2	,6	04670	26	0678N	02557
02740	TR	DPT	,DPG	,611	04682	31	0713P	05970
02750	B	WEF DEC			04694	49	05170	00000
02760	DORG	+ -4			04701			
02770	*****		3 CASES FOR WRITING F TYPE,CHAR IS EXP-LOCD-F					
02780	*****		CHAR IS NEG, EXP IS NEG					
02790	*****		CHAR IS NEG, EXP IS POSITIVE (WRTFPE)					
02800	*****		CHAR IS POSITIVE (WRTFPC)					
02810	WRTF	TR	GAM+1	,MASK EP+7	04702	31	02556	05409
02820	BD	F ZERO	,FLTEND-4		04714	43	04950	03726
02830	BD	ER F8 E	,CHAR-2		04726	43	05202	07106
02840	CM	CKW	,000	,9	04738	14	06673	00-00
02850	BNH	F ZERO			04750	47	04950	01100
02860	C	CKW	,WIDTH		04762	24	06673	05715
02870	BH	ER F8 E			04774	46	05202	01100
02880	TF	CHAR 2	,CHAR		04786	26	06708	07108
02890	A	CHAR 2	,CHAR		04798	21	06708	07108
02900	BNF	WRTFPC	,CHAR		04810	44	05026	07108
02910	TFM	+35	,GAM		04822	16	04857	-2555
02920	A	+23	,CHAR 2		04834	21	04857	06708
02930	TF	GAM			04846	26	02555	00000
02940	BNF	WRTFPE	,FAC		04858	44	04994	02492
02950	TF	LAST	,GAM+2	,6	04870	26	05730	02557
02960	TF	DPTM2	,GNZF	,611, SET SIGN LEFT OF DEC PT	04882	26	0817L	0365H
02970	TF	WA3	,DPT		04894	26	04567	07137
02980	FNCNEZ	AM	WA3	,, INSERT ZERO FROM DEC PT TO	04906	11	04567	-0002
02990	BD	WEF DEC	,WA3	,11, FIRST NON ZERO DIGIT ON RIGHT	04918	43	05170	0456P
03000	TFM	WA3	,70	,610	04930	16	0456P	000P0
03010	B	FNCNEZ			04942	49	04906	00000
03020	DORG	+ -4			04949			
03030	FZERO	TFM	DPTM2	,70 ,610, F TYPE OUTPUT EQUALS ZERO	04950	16	0817L	000P0
03040	TF	CHAR 2	,LOCD 2		04962	26	06708	05606
03050	TDM	CHAR-2	,0	,11	04974	15	07106	0000-
03060	B	CLR70S-12			04986	49	05122	00000
03070	DORG	+ -4			04993			
03080	WRTFPE	TF	DPTM2	,DPG ,611	04994	26	0817L	05970
03090	TR	DPT	,DPG	,611	05006	31	0713P	05970
03100	B	WEF DEC			05018	49	05170	00000
03110	DORG	+ -4			05025			
03120	WRTFPC	TF	+30	,TERM	05026	26	05056	06785
03130	S	+18	,CHAR 2		05038	22	05056	06708
03140	TF		,GAM+2		05050	26	00000	02557
03150	TF	CLR70S+30	,TERM		05062	26	05164	06785
03160	C	CHAR	,LOCD		05074	24	07108	05608
03170	BNL	CLR 70S			05086	46	05134	01300
03180	A	DPG	,CHAR 2		05098	21	05976	06708
03190	TR	DPT	,DPG	,611	05110	31	0713P	05970
03200	TF	CLR70S+30	,LAST		05122	26	05164	05736
03210	CLR70S	TFM	+35	,MASK F	05134	16	05169	-5413
03220	A	+23	,CHAR 2		05146	21	05169	06708
03230	TF	TERM			05158	26	0678N	00000
03240	WEFDEC	TFM	DPT	,03 ,610	05170	16	0713P	000-3
03250	TFM	LAST	,00	,610	05182	16	09730	000-0
03260	B	BSWF			05194	49	05826	00000

04370	DORG	--4			06045				
04380	DATOU	DSA	DUDH		06049	5	X	1	
04390	DC	3	,00'		06049	-2607			
	-0'				06052	3			
04400	DATINH	DSA	INH		06057	5	X	1	
04410	DC	3	,00'		06057	-6063			
	-0'				06060	3			
04420	DC	1	,0		06061	1			
04430	ENDFOR	DAC	1,0		06063	1	X	2	
	0								
04440	INH	DS	,ENDFOR		06063	0			
04450	DS	174			06237	174			
04460	IN	DS	,INH+174		06237	176			
04470	STZERO	DC	,00		06239	2			
	-0								
04480	00	,	,0246810		06240	-0	-0-0-	0-0-0	
04490	00	,	,0246810		06252	-0	-0-0-	0-0-0	
04500	00	,	,0246810		06264	-0	-0-0-	0-0-0	
04510	00	,	,0246810		06276	-0	-0-0-	0-0-0	
04520	00	,	,0246810		06288	-0	-0-0-	0-0-0	
04530	00	,	,0246810		06300	-0	-0-0-	0-0-0	
04540	00	,	,0246810		06312	-0	-0-0-	0-0-0	
04550	DC	2	,00		06325	2			
	-0								
04560	FLZERS	DC	,0'		06327	2			
	-1								
04570	DS	5			06332	5			
04580	MATRIX	TDM	MATSW ,1	MACRO TO PROCESS MATRICIES	06334	15	05583	00001	
04590	TDM	SWL+1	,9		06346	15	05935	00009	
04600	TF	LOCADJ	,FP2		06358	26	06390	03664	
04610	BNF	MATRIX2-12,MATRIX-1			06370	44	06406	06333	
04620	TFM	LOCADJ	,00 ,10		06382	16	06390	000-0	
04630	LOCADJ	DS	,+3	ADJUST LOC FOR MATRIX	06390	2			
04640	S	LOCADJ	,K		06394	22	06390	02221	
04650	S	MATRIX-1,LOCADJ			06406	22	06333	06390	
04660	MATRIX2	A	MATRIX-1,LOCADJ	RETURN FROM SWL, EACH MATRIX ELEMENT	06418	21	06333	06390	
04670	TF	LOC	,MATRIX-1	MOVE ADJUSTED LOCATION	06430	26	05981	06333	
04680	SM	PAR	,1 ,10		06442	12	03378	000-1	
04690	BNE	+24			06454	47	06478	01200	
04700	TDM	MATSW	,0		06466	15	05583	00000	
04710	BNL	SWC+12			06478	46	05994	01300	
04720	BB				06490	42	00000	00000	
04730	DORG	--2			06492				
04740	*****	MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT							
04750	SLASH	TDM	COMEND+1 ,9		06492	15	06657	00009	
04760	BD	SLASH2	,RNEFSW	BR IF WRITING	06504	43	06524	05953	
04770	B	COMEND			06516	49	06656	00000	
04780	DORG	--4			06523				
04790	SLASH2	BD	IOCR ,COMP SW	BR TO IO CR IF OUTPUT RECORD BLANK	06524	43	06664	05678	
04800	CM	DATINH+2	,06 ,10		06536	14	06059	000-6	
04810	BH	WRITE	,	BR IF NOT TYPEWRITER OUTPUT	06548	46	06632	01100	

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04820	TF	LAST	,FLZERS ,6		06560	26	05730	06327	
04830	SM	LAST	,02 ,10	ERASE BLANKS FROM END OF I/O RECORD	06572	12	05736	000-2	
04840	CM	LAST	,00 ,610		06584	14	05730	000-0	
04850	BE	--36			06596	46	06560	01200	
04860	CM	LAST	,INH		06608	14	05736	-6063	
04870	BL	COM END			06620	47	06656	01300	
04880	WRITE	TFM	IOCRT ,+23		06632	16	00565	-6655	
04890	B	IOPT	,DATINH-4 ,7		06644	49	00532	-6053	
04900	COMEND	B	RWA2-12		06656	49	05658	00000	
04910	DORG	--4			06663				
04920	IOCR	CM	MAX-2 ,08 ,10		06664	14	05922	000-8	
04930	CKW	DS	3 ,+2	DEC SPEC PLUS CHAR OF ARG	06673	3			
04940	BNL	WRITE			06674	46	06632	01300	
04950	B	COMEND			06688	49	06656	00000	
04960	DORG	--4			06695				
04970	*****	MACRO TERMINATING I/O CONTROL							
04980	DS	3			06697	3			
04990	COMPLT	TDM	COMEND+1 ,2		06698	15	06657	00002	
05000	CHAR2	DS	3 ,+1	TWICE MODIFIED CHARACTERISTIC	06708	3			
05010	B	SLASH+12			06710	49	06504	00000	
05020	DORG	--4			06717				
05030	REDO	BD	REDO A+24,MAT SW		06718	43	06786	05583	
05040	TD	REDOA+23	,COMPSW		06730	25	06785	05678	
05050	TFM	SWC ADJ	,REDO A	MACRO PERMITS REDDING BACK TO I	06742	16	06044	-6762	
05060	B	SWL			06754	49	05934	00000	
05070	DORG	--4			06761				
05080	REDOA	TDM	SWL+1 ,1	RETURN FROM SWL IF MORE DATA	06762	15	05935	00001	
05090	TDM	COMPSW	,	VOID REDO USING SWC EFFECT ON COMPSW	06774	15	05678	00000	
05100	TERM	DS	5 ,*	REFERENCE ADR IN I/O RECORD	06785	5			
05110	AM	SWF	,5		06786	11	05861	-0005	
05120	TF	SWF	,SWF ,11		06798	26	05861	0586J	
05130	B	SLASH			06810	49	06492	00000	
05140	DORG	--4			06817				
05150	*****	MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES							
05160	*****	SUB FROM REP SW, INITIALLY SET TO ZERO							
05170	*****	IF REPSW NEG, SET TOREPS REQD AND REPEAT FORMAT							
05180	*****	IF REPSW ZERO, LAST FORMAT REPETITION IS COMPLETE							
05190	*****	IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC							
05200	REP	AM	SWF ,7		06818	11	05861	-0007	
05210	SM	REP SW	,1 ,10	CONTROL REPETITION OF FIELDS	06830	12	05582	000-1	
05220	BH	REP 2			06842	46	06890	01100	
05230	BE	BSWF			06854	46	05826	01200	
05240	A	REP SW	,SWF ,11		06866	21	05582	0586J	
05250	BNH	BSWF			06878	47	05826	01100	
05260	REP2	SM	SWF ,2		06890	12	05861	-0002	
05270	TF	SWF	,SWF ,11		06902	26	05861	0586J	
05280	B	SWF-23			06914	49	05838	00000	
05290	DORG	--4			06921				
05300	REP3	SF	REPSW3-1		06922	32	05584	00000	
05310	WA	DS	5 ,*	WORKING AREA ADR REF TO FAC OR GAM	06933	5			
05320	AM	SWF	,7 ,10		06934	11	05861	000-7	
05330	SM	REPSW 3	,1 ,10		06946	12	05585	000-1	
05340	BH	REP 2			06958	46	06890	01100	
05350	BE	BSWF			06970	46	05826	01200	
05360	A	REPSW 3	,SWF ,11		06982	21	05585	0586J	
05370	B	REP 2-12			06994	49	06878	00000	

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05380	DORG	--4			07001			
05390	ERF9	TFM	SWC ADJ	,ER COM 2	MACRO FOR ERROR F9 WHEN WRITING	07002	16	06044 -7078
05400	TF	LAST		,MAX 2		07014	26	05736 06037
05410	TFM	EI		,679	,9	07026	16	02615 00079
05420	B	SWL				07038	49	05934 00000
05430	DORG	--4				07045		
05440	XTYPE	AM	SWF	,3	MACRO FOR SKIPPING FIELDS	07046	11	05861 -0003
05450	A	LAST		,SWF	,11	07058	21	05736 0586J
05460	B	BSWF				07070	49	05826 00000
05470	DORG	--4				07077		
05480	ERCOM2	RCTY				07078	34	00000 00102
05490	WA2	DS	5	,--5	WORKING AREA ADR REF TO FAC OR GAM	07084	5	
05500	WATY	DUDH				07090	39	02607 00100
05510	RCTY					07102	34	00000 00102
05520	CHAR	DS	5	,--5	MODIFIED CHARACTERISTIC	07108	5	
05530	TR	EI+1		,FLZERS-1	RESTORES RECORD MARK	07114	31	02616 06326
05540	B	BSWF-12				07126	49	05814 00000
05550	DPT	DS	5	,0	TEMP LOC OF DEC PT IN OUTPUT RECORD	07137	5	
05560	EFCOM	AM	SWF	,3		07138	11	05861 -0003
05570	TF	WIDTH		,SWF	,11	07150	26	05715 0586J
05580	AM	SWF		,2		07162	11	05861 -0002
05590	TF	LOC D		,SWF	,11	07174	26	05608 0586J
05600	TF	INPLUS		,LAST		07186	26	05945 05736
05610	TF	WIDTH 2		,WIDTH		07198	26	05956 05715
05620	A	WIDTH 2		,WIDTH		07210	21	05956 05715
05630	A	LAST		,WIDTH2		07222	21	05736 05956
05640	C	LAST		,MAX 2		07234	24	05736 06037
05650	BH	ER F9				07246	46	07002 01100
05660	TF	TERM		,LAST		07258	26	06785 05736
05670	SM	TERM		,2		07270	12	06785 -0002
05680	TF	CHAR		,WIDTH		07282	26	07108 05715
05690	TF	WA		,FNH		07294	26	06933 03313
05700	TDM	97		,0		07306	15	00097 00000
05710	TFM	99		,00	,10	07318	16	00099 000-0
05720	BD	EF WRT		,RNEFSW		07330	43	07514 05953
05730	TF	FAC		,FLZALP	,11	07342	26	02492 0334Q
05740	TFM	EFTERM+18		,EF TYPE		07354	16	08240 -7702
05750	TFM	SWCADJ		,READ EF		07366	16	06044 -4468
05760	RDFCH	CM	INPLUS	,00	,610, ELIMINATE LEADING BLANKS	07378	14	0594N 000-0
05770	BNE	FCH NB				07390	47	07458 01200
05780	SM	CHAR		,1	,10	07402	12	07108 000-1
05790	AM	INPLUS		,2		07414	11	05945 -0002
05800	C	INPLUS		,LAST		07426	24	05945 05736
05810	BL	RD FCH				07438	47	07378 01300
05820	B	EFEND+12				07450	49	08258 00000
05830	DORG	--4				07457		
05840	FCHNB	CM	INPLUS	,20	,610, PROCESS FIRST NON BLANK CHARACTER	07458	14	0594N 000K0
05850	BE	EF MIN				07470	46	07678 01200
05860	CM	INPLUS		,10	,610	07482	14	0594N 000J0
05870	BE	EF PLUS				07494	46	07690 01200
05880	B	EFTYPE+36				07506	49	07738 00000
05890	DORG	--4				07513		
05900	EFMRT	C	LOC D	,F		07514	24	05608 02219
05910	BNH	++24				07526	47	07550 01100
05920	TF	LOC D		,F		07538	26	05608 02219
05930	TF	LOCD 2		,LOC D		07550	26	05606 05608

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05940	A	LOCD 2		,LOC D		07562	21	05606 05608
05950	TR	GAM-59		,MASK F-1		07574	31	02496 05412
05960	TFM	WA		,GAM		07586	16	06933 -2555
05970	TFM	WA2		,FAC-1		07598	16	07084 -2491
05980	TFM	SWCADJ		,EFMW		07610	16	06044 -4490
05990	SM	WIDTH		,2	,10	07622	12	05715 000-2
06000	BNF	SWL		,RNEFSW		07634	44	05934 05953
06010	SM	TERM		,8		07646	12	06785 -0008
06020	SM	WIDTH		,4	,10	07658	12	05715 000-4
06030	B	SWL				07670	49	05934 00000
06040	DORG	--4				07677		
06050	EFMIN	SF	99			07678	32	00099 00000
06060	EFPLUS	SM	CHAR	,1	,10	07690	12	07108 000-1
06070	EFTYPE	AM	INPLUS	,2		07702	11	05945 -0002
06080	CM	INPLUS		,00	,610	07714	14	0594N 000-0
06090	BE	LDG DIG				07726	46	08062 01200
06100	CM	INPLUS		,70	,610	07738	14	0594N 000P0
06110	BH	EF DIG				07750	46	08162 01100
06120	BE	LDG DIG				07762	46	08062 01200
06130	CM	INPLUS		,03	,610	07774	14	0594N 000-3
06140	BE	EF DEC				07786	46	08094 01200
06150	BNF	ERRF7 E		,RNEFSW		07798	46	08370 05953
06160	TFM	EXP		,000	,9	07810	16	07831 00-00
06170	TDM	E EXPAD+18		,1		07822	15	08043 00001
06180	EXP	DS	3	,--2	VALUE OF CALC CHAR FOR OUTPUT	07831	3	
06190	CM	INPLUS		,45	,610	07834	14	0594N 000M5
06200	BE	E EXP				07846	46	07998 01200
06210	EEXP2	CM	INPLUS	,20	,610	07858	14	0594N 000K0
06220	BE	E EXP M				07870	46	07986 01200
06230	CM	INPLUS		,10	,610	07882	14	0594N 000J0
06240	BE	E EXP				07894	46	07998 01200
06250	EEXP22	BD	++24	,97		07906	43	07930 00097
06260	SM	CHAR		,1	,9	07918	12	07108 00-01
06270	C	INPLUS		,TERM		07930	24	05945 06785
06280	BNL	EEXPAD-12				07942	46	08030 01300
06290	TD	EXP-1		,INPLUS	,11	07954	25	07830 0594N
06300	AM	INPLUS		,2		07966	11	05945 -0002
06310	B	EEXP22+12				07978	49	07918 00000
06320	DORG	--4				07985		
06330	EEXPM	TDM	E EXPAD+1.2			07986	15	08043 00002
06340	EEXP	AM	INPLUS	,2		07998	11	05945 -0002
06350	SM	CHAR		,1	,10	08010	12	07108 000-1
06360	B	E EXP 2				08022	49	07858 00000
06370	DORG	--4				08029		
06380	TD	EXP		,INPLUS	,11	08030	25	07831 0594N
06390	EEXPAD	A	CHAR	,EXP		08042	21	07108 07831
06400	B	EF END				08054	49	08246 00000
06410	DORG	--4				08061		
06420	LOGDIG	BNF	EF DIG	,98		08062	44	08162 00098
06430	SM	CHAR		,1	,10	08074	12	07108 000-1
06440	B	EF TERM				08086	49	08222 00000
06450	DORG	--4				08093		
06460	EFDEC	BD	ERRF7 E	,97		08094	43	08370 00097
06470	TFM	LOC D		,00	,10	08106	16	05608 000-0
06480	TFM	EFTERM+18		,EF PLUS		08118	16	08240 -7690
06490	TDM	97		,-1		08130	15	00097 0000J

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06500	SM	CHAR	,1	,10	08142	12	07108	000-1
06510	B	EF TERM			08154	49	08222	00000
06520	DORG	--4			08161			
06530	CF	98			08162	33	00098	00000
06540	DPTM2	DS	5	,*	08173		5	
06550	CM	WA	,*	,FAC-1	08174	14	06933	-2491
06560	BNL	+*36	,*	,*	08186	46	08222	01300
06570	TD	WA	,*	,INPLUS	08198	25	0693L	0594N
06580	AM	WA	,1		08210	11	06933	-0001
06590	EFTERM	C	INPLUS	,TERM	08222	24	05945	06785
06600	BL	EFTYPE			08234	47	07702	01300
06610	EFEND	BNF	EFEND2	,FNM	08246	44	08278	0331L
06620	TFM	FAC	,99	,1011	08258	16	02492	000RR
06630	B	SWL			08270	49	05934	00000
06640	DORG	--3			08278			
06650	EFEND2	S	CHAR	,LOC D	08278	22	07108	05608
06660	BD	ERR F7E	,CHAR-2		08290	43	08370	07106
06670	SF	CHAR-1			08302	32	07107	00000
06680	TF	FAC	,CHAR		08314	26	02492	07108
06690	SF	FNM	,*	,6	08326	32	0331L	00000
06700	BNF	SWL	,99		08338	44	05934	00099
06710	SF	FAC-2			08350	32	02490	00000
06720	B	SWL			08362	49	05934	00000
06730	DORG	--4			08369			
06740	ERRF7E	TF	FAC	,FLZALP	08370	26	02492	0334Q
06750	TDM	EI	,7	,11, SET ER F7 INDICATION SWITCH	08382	15	02615	0000P
06760	B	EFEND			08394	49	08246	00000
06770	DORG	--4			08401			
06780	****			MACRO FOR HOLLERITH TYPE READ AND WRITE				
06790	HTYPE1	TF	WIDTH2	,SWF	08402	26	05956	0586J
06800	TF	INPLUS	,LAST	,11	08414	26	05945	05736
06810	A	LAST	,WIDTH2		08426	21	05736	05956
06820	C	LAST	,MAX2		08438	24	05736	06037
06830	BNH	+*32			08450	47	08482	01100
06840	A	SWF	,WIDTH2		08462	21	05861	05956
06850	B	ER COM 2			08474	49	07078	00000
06860	DORG	--4			08481			
06870	BD	HWRT	,RMEFSM		08482	43	08562	05953
06880	HRD	SM	WIDTH 2	,2	08494	12	05956	000-2
06890	BL	BSWF		,10, READ H FROM IO REC TO FORMAT RECORD	08506	47	05826	01300
06900	AM	SWF	,2		08518	11	05861	-0002
06910	TF	SWF	,INPLUS	,611	08530	26	0586J	0594N
06920	AM	INPLUS	,2		08542	11	05945	-0002
06930	B	HRD			08554	49	08494	00000
06940	DORG	--4			08561			
06950	HWRT	SM	WIDTH 2	,2	08562	12	05956	000-2
06960	TDM	COMP SM	,0	,10, WRITE H TO I/O REC FROM FORMAT REC	08574	15	05678	00000
06970	BL	BSWF	,*		08586	47	05826	01300
06980	AM	SWF	,2		08598	11	05861	-0002
06990	TF	INPLUS	,SWF	,611	08610	26	0594N	0586J
07000	AM	INPLUS	,2		08622	11	05945	-0002
07010	B	H WRT			08634	49	08562	00000
07020	DORG	--4			08641			
07030	EFRD1	CF	LOC		08642	33	05981	00000
07040	TF	FIXEND+6	,I CON 5+6		08654	26	03686	05488
07050	B	FIX			08666	49	03854	00000

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07060	DORG	--4			08673			
07070	EFRD2	TDM	FIXEND+1	,2	08674	15	03681	00002
07080	TFL	LOC	,FAC	,6	08686	06	0598J	02492
07090	B	ER F7			08698	49	10098	00000
07100	DORG	--4			08705			
07110	*****			MACRO FOR A TYPE READ AND WRITE				
07120	ATYPE1	TF	WIDTH2	,SWF	08706	26	05956	0586J
07130	TF	INPLUS	,LAST	,11	08718	26	05945	05736
07140	A	LAST	,WIDTH 2		08730	21	05736	05956
07150	C	LAST	,MAX 2		08742	24	05736	06037
07160	BH	ER F9			08754	46	07002	01100
07170	TF	TERM	,LAST		08766	26	06785	05736
07180	SM	TERM	,2		08778	12	06785	-0002
07190	TFM	SWC ADJ	,WRITE A		08790	16	06044	-9050
07200	BD	SWL	,RW EF SM		08802	43	05934	05953
07210	TFM	SWC ADJ	,READ A		08814	16	06044	-8834
07220	B	SWL			08826	49	05934	00000
07230	DORG	--4			08833			
07240	READA	CF	INPLUS	,*	08834	33	0594N	00000
07250	AM	INPLUS	,1	,10	08845	11	05945	000-1
07260	C	INPLUS	,TERM		08858	24	05945	06785
07270	BL	READ A			08870	47	08834	01300
07280	BNF	RDAFL	,LOC		08882	44	08994	05981
07290	CF	LOC			08894	33	05981	00000
07300	TF	LOC	,FXZ	,6	08906	26	0598J	02815
07310	S	WIDTH 2	,K		08918	22	05956	02221
07320	RDA	BH	ERF7A		08930	46	08974	01100
07330	A	LOC	,WIDTH 2		08942	21	05981	05956
07340	TF	LOC	,TERM	,611	08954	26	0598J	0678N
07350	B	ER F7			08966	49	10098	00000
07360	DORG	--4			08973			
07370	ERF7A	TDM	EI	,7	08974	15	02615	0000P
07380	B	ER F7			08986	49	10098	00000
07390	DORG	--4			08993			
07400	RDAFL	TFM	LOC	,00	08994	16	0598J	000-0
07410	SM	LOC	,2	,10	09006	12	05981	000-2
07420	TF	LOC	,FLZ	,611	09018	26	0598J	0335L
07430	S	WIDTH 2	,F		09030	22	05956	02219
07440	B	RD A			09042	49	08930	00000
07450	DORG	--4			09049			
07460	WRITEA	TF	FAC	,LOC	09050	26	02492	0598J
07470	BNF	WA FX	,FAC-1		09062	44	09162	02491
07480	SM	LOC	,2		09074	12	05981	-0002
07490	S	WIDTH 2	,F		09086	22	05956	02219
07500	WRTA	BH	WRTA 2		09098	46	09142	01100
07510	A	LOC	,WIDTH 2		09110	21	05981	05956
07520	TF	TERM	,LOC	,611	09122	26	0678N	0598J
07530	B	BSWF			09134	49	05826	00000
07540	DORG	--4			09141			
07550	WRTA2	SM	WIDTH 2	,02	09142	12	05956	000-2
07560	B	WRTA			09154	49	09098	00000
07570	DORG	--4			09161			
07580	WAFX	S	WIDTH 2	,K	09162	22	05956	02221
07590	B	WRT A			09174	49	09098	00000
07600	DORG	--4			09181			
07610	*****			E AND F TYPE MANTISSA WRITING, FLOAT ARG IF REQ.				

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07620	*****		COMPUTE DEC PT IN GAM AND OUTPUT RECORD. MOVE				
07630	*****		MANTISSA DIGIT BY DIGIT. RIGHT TO LEFT, FROM FAC				
07640	*****		TO GAM. INSERT SIGN, CHECK WIDTH, AND ZERO.				
07650	*****		BR TO WRT F FOR F TYPE CONTINUATION				
07660	EPMW1	TFL	FAC	,LOC	,11	09182	06 02492 0598J
07670		BNF	FLOAT	,FAC-1		09194	44 04042 0249I
07680	EFALPH	TDM	FLTEND-5	,2		09206	15 03725 0000Z
07690		TF	DPT	,TERM		09218	26 07137 06785
07700		S	DPT	,LOC D 2		09230	22 07137 05606
07710		TFM	DPG	,GAM		09242	16 05976 -2555
07720		S	DPG	,LOC D 2		09254	22 05976 05606
07730		TF	DPTM2	,DPT		09266	26 08173 07137
07740		SM	DPTM2	,2		09278	12 08173 -000Z
07750	EFALP	SM	WA 2	,1		09290	12 07084 -000I
07760		TD	WA	,WA2	,611	09302	25 0693L 0708M
07770		CF	WA	,6		09314	33 0693L 00000
07780		SM	WA	,2		09326	12 06933 -000Z
07790		C	WA2	,FM1MF		09338	24 07084 03313
07800		SH	EF ALP			09350	46 09290 01100
07810		TFM	WA	,00	,610	09362	16 0693L 000-0
07820		BNF	EF CHKS	,FAC-2		09374	44 09398 02490
07830		TFM	WA	,20	,610	09386	16 0693L 000K0
07840	EFCCHKS	TFM	CKW	,000	,9	09398	16 06673 00-00
07850		A	CKW	,LOCD		09410	21 06673 05608
07860		A	CKW	,FAC		09422	21 06673 0249Z
07870		TF	CHAR	,CKW		09434	26 07108 06673
07880		S	CHAR	,F		09446	22 07108 02219
07890		C	WIDTH	,LOC D		09458	24 05715 05608
07900		BL	ER F8 E			09470	47 05202 01300
07910		BD	**36	,FNH	,11	09482	43 09518 0331L
07920		TDM	FLTEND-4	,-1		09494	15 03726 0000J
07930		TFM	CHAR	,-099	,9	09506	16 07108 00-9R
07940		BNF	WRTF	,RWEFSW		09518	44 04702 05953
07950	*****		WRITE E TYPE. ASSEMBLE EXP IN GAM USING A MASK,				
07960	*****		THE CHAR AND SIGN. MOVE LEFT GAM AND RIGHT GAM TO				
07970	*****		OUTPUT. THEN GO TO INSERT DECIMAL POINT				
07980	WRT E	S	WIDTH	,F		09530	22 05715 02219
07990		BNL	WRT E2	,,	BR IF F NOT LARGER THAN EFF WIDTH	09542	46 04598 01300
08000		BD	**36	,FLTEND-4		09554	43 09590 03726
08010		S	CHAR	,WIDTH		09566	22 07108 05715
08020		BD	ERF8E	,CHAR-2		09578	43 05202 07106
08030		TFM	**47	,GAM		09590	16 09637 -2555
08040		A	**35	,WIDTH		09602	21 09637 05715
08050		A	**23	,WIDTH		09614	21 09637 05715
08060		TF	GAM			09626	26 02555 00000
08070		B	WRT E2			09638	49 04598 00000
08080		DORG	**4			09645	
08090	*****		MACRO FOR I TYPE READ AND WRITE				
08100	ITYPE1	TF	WIDTH2	,SWF	,11	09646	26 05956 0586J
08110		A	LAST	,WIDTH2		09658	21 05736 05956
08120		C	LAST	,MAX2		09670	24 05736 06037
08130		BH	ER F9			09682	46 07002 01100
08140		TF	INPLUS	,LAST		09694	26 05945 05736
08150		TFM	IR DIG+6	,FAC		09706	16 09936 -249Z
08160		TFM	SWC ADJ	,WRITE 1		09718	16 06044 -4446
08170		BD	SWL	,RWEFSW		09730	43 05934 05953

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08180		TF	TERM	,FP1MK		09742	26 06785 03283
08190		TF	FAC	,FXZ		09754	26 0249Z 02815
08200		TFM	SWC ADJ	,READI		09766	16 06044 J0038
08210	*****		CHAR BY CHAR IS MOVED INTO FAC,RIGHT JUSTIFIED,UNTIL SIGN				
08220	*****		OR W CHAR ARE EXAMINED.				
08230	*****		ERROR F7 WILL OCCUR IF MORE THAN K CHAR ARE AVAIL TO READ				
08240	IREAD	SM	WIDTH2	,2	,10	09778	12 05956 000-2
08250		BL	SWL			09790	47 05934 01300
08260		SM	INPLUS	,2		09802	12 05945 -000Z
08270		CM	INPLUS	,70	,610	09814	14 0594N 000P0
08280		BH	IR DIG			09826	46 09930 01100
08290		BE	IR BLNK			09838	46 09966 01200
08300		CM	INPLUS	,00	,610	09850	14 0594N 000-0
08310		BE	IR BLNK			09862	46 09966 01200
08320		CM	INPLUS	,20	,610	09874	14 0594N 000K0
08330		BE	I MINUS			09886	46 09986 01200
08340		CM	INPLUS	,10	,610	09898	14 0594N 000J0
08350		BE	SWL			09910	46 05934 01200
08360		B	ERR F7I			09922	49 10006 00000
08370		DORG	**4			09929	
08380	IRDIG	TD		,INPLUS	,11	09930	25 00000 0594N
08390		C	**6	,TERM		09942	24 09936 06785
08400		BL	ERR F7 I			09954	47 10006 01300
08410	IRBLNK	SM	IR DIG+6	,1		09966	12 09936 -000I
08420		B	I READ			09978	49 09778 00000
08430		DORG	**4			09985	
08440	IMINUS	SF	FAC			09986	32 0249Z 00000
08450		B	SWL			09998	49 05934 00000
08460		DORG	**4			10005	
08470	ERRF7I	TF	FAC	,FXZ	,,	10006	26 0249Z 02815
08480		TFM	EI	,677	,911,	10018	16 02615 0007P
08490		B	SWL			10030	49 05934 00000
08500		DORG	**4			10037	
08510	READI	SF	FP1MK	,,	,6	10038	32 0328L 00000
08520		TF	FLT END	,ICON 2+6		10050	26 03730 10136
08530		BNF	FLOAT	,LOC		10062	44 0404Z 0598I
08540		CF	LOC			10074	33 0598I 00000
08550	READIF	TFL	LOC	,FAC	,6	10086	06 0598J 0249Z
08560	ERF7	BNF	BSWF-12	,EI	,,	10098	44 05814 02615
08570		CF	EI	,,	,,	10110	33 02615 00000
08580		B	ER COM 2			10122	49 07078 00000
08590		DORG	**4			10129	
08600	ICON2	B	READ IF	,,	,1	10130	4R 10086 00000
08610		DORG	**4			10137	
08620	*****		RETURN FROM SWL VIA SWC IF WRITING I TYPE				
08630	*****		VALUE PUT IN FAC IN I FORM,EXPANDED TO ALPHA IN				
08640	*****		GAMMA RIGHT TO LEFT. HO CONTAINS ADR OF HIGH ORDER				
08650	*****		DIGIT IN GAM. AFTER VALUE IN GAM IS SIGNED,CHECKED				
08660	*****		FOR WIDTH, MOVE TO OUTPUT RECORD.				
08670	*****		ERF0I RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.				
08680	WRTI1	TFM	WA2	,FAC+1		10138	16 07084 -2493
08690		TFL	FAC	,LOC	,11	10150	06 0249Z 0598J
08700		BNF	WRTI2+12	,FAC-1		10162	44 10206 0249I
08710		TF	FIXEND+6	,ICON3+6		10174	26 03686 05496
08720		B	FIX			10186	49 03854 00000
08730		DORG	**4			10193	

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08740	WRTI2	TDM	FIXEND+1	,2		10194	15	03681	00002
08750		TR	GAM-19	,MASK 1		10206	31	02536	05452
08760		TFM	HO	,GAM+1		10218	16	10309	-2556
08770	WRTI	SM	WA 2	,1		10230	12	07084	-0001
08780		SM	WA	,2		10242	12	06933	-0002
08790		TD	WA	,WA 2	,611	10254	25	0693L	0708M
08800		BD	I DIG	,WA 2	,11	10266	43	10286	0708M
08810		B	I DIG+12			10278	49	10298	00000
08820		DORG	-4			10285			
08830	IDIG	TF	HO	,WA		10286	26	10309	06933
08840		CF	GAM			10298	33	02555	00000
08850	HO	DS	5	,0		10309		5	
08860		BNF	WRTI	,WA	,11	10310	44	10230	0693L
08870		CM	HO	,GAM+1		10322	14	10309	-2556
08880		BNE	WRT SGN			10334	47	10366	01200
08890		TFM	LAST	,7000	,68	10346	16	05730	0P000
08900		B	B SWF			10358	49	05826	00000
08910		DORG	-4			10365			
08920	WRTSGN	BNF	WRT I3	,FAC		10366	44	10402	02492
08930		SM	HO	,2		10378	12	10309	-0002
08940		TFM	HO	,20	,610	10390	16	1030R	000K0
08950	WRTI3	SM	HO	,1		10402	12	10309	-0001
08960		TFM	OUT	,GAM		10414	16	10473	-2555
08970		S	OUT	,HO		10426	22	10473	10309
08980		C	OUT	,WIDTH 2		10438	24	10473	05956
08990		BH	ER F8 I			10450	46	10530	01100
09000		SF	OUT			10462	32	10473	00000
09010	OUT	DS	5	,0	, HI ORDER WKG ADR IN I/O RECORD, I TYPE	10473		5	
09020		A	OUT	,LAST		10474	21	10473	05736
09030		SM	OUT	,2		10486	12	10473	-0002
09040		TR	OUT	,HO	,611	10498	31	1047L	1030R
09050		TFM	LAST	,00	,610	10510	16	05730	000-0
09060		B	B SWF			10522	49	05826	00000
09070		DORG	-4			10529			
09080	ERF8I	TR	DUD H+11,FLZERS-67			10530	31	02618	06260
09090		TR	DUD H+11,HO	,11		10542	31	02618	1030R
09100		B	ERCOM			10554	49	05322	00000
09110		DORG	-4			10561			
09120	*****		1620 FORTRAN II-D	ARITHMETIC SUBROUTINES					
09130	FIX1	BP	++32	,,	YES	10562	46	10594	01100
09140		TF	FAC	,FXZ	NO	10574	26	02492	02815
09150		B	FIXEND			10586	49	03680	00000
09160		DORG	-3			10594			
09170		TD	MU-1	,FAC-2	,, STORE SIGN	10594	25	03631	02490
09180		C	FAC	,K	,, IS CHAR GREATER THAN K	10606	24	02492	02221
09190		BNH	++44	,,	NO	10618	47	10662	01100
09200		TDM	FXERR+25	,1	,, YES, SET ERR TYPE	10630	15	03621	00001
09210		TFM	EI	,579	,, SET ER E9, OVFL IN FIX	10642	16	02615	00N79
09220		B	FXNINE+12,	,,	FAC = FX9	10654	49	10908	00000
09230		DORG	-3			10662			
09240		CF	FAC-2			10662	33	02490	00000
09250		TF	BETA	,ZERO-51	,, CLEAR ADD AREA	10674	26	02603	02716
09260		TF	IMSA	,FXZ		10686	26	02575	02815
09270		TF	++30	,IMSAFF	,, ALIGN DECIMAL POINTS	10698	26	10728	03298
09280		S	++18	,FAC		10710	22	10728	02492
09290		A	DUMMY	,FAC-2		10722	21	99999	02490

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09300		TF	FAC	,IMSA		10734	26	02492	02575
09310		B	MU			10746	49	03632	00000
09320		DORG	-4			10753			
09330	FXA1	BV	++12			10754	46	10766	01400
09340		BB				10766	42	00000	00000
09350		DORG	-9			10768			
09360	FXSR1	CF	FAC			10768	33	02492	00000
09370		TF	FXA-1	,FXSR-1	,, SET UP ADD	10780	26	03877	03925
09380		B	FXA	,,	BRANCH TO FIXED POINT ADD	10792	49	03878	00000
09390		DORG	-3			10800			
09400		SF	FAC			10800	32	02492	00000
09410		B	FXSR1+12			10812	49	10780	00000
09420		DORG	-4			10819			
09430	FXM1	SF	100MK	,,	,6	10820	32	0329L	00000
09440		TF	FAC	,99		10832	26	02492	00099
09450		BB				10844	42	00000	00000
09460		DORG	-9			10846			
09470	FXD1	D	100MK	,FXD-1	,611	10846	29	0329L	0397L
09480		BV	++26			10858	46	10884	01400
09490		TF	FAC	,99MK	,11	10870	26	02492	0328Q
09500		BB				10882	42	00000	00000
09510		DORG	-9			10884			
09520		TFM	EI	,578	,, ERROR E8, ZERO DIVISION	10884	16	02615	00N78
09530	FXNINE	TFM	FXERR+30	,FIXEND-12,,	SET UP ERROR EXIT	10896	16	03626	-3668
09540		TF	FAC	,FX9	,, FAC = FX9	10908	26	02492	02805
09550		B	FXERR			10920	49	03596	00000
09560		DORG	-4			10927			
09570	FXDR1	D	100MK	,FAC	,6	10928	29	0329L	02492
09580		B	FXD1+12			10940	49	10858	00000
09590		DORG	-4			10947			
09600	RSGN1	BNF	++26	,FAC-2	,, FLOATING POINT NUMBER	10948	44	10974	02490
09610		CF	FAC-2			10960	33	02490	00000
09620		BB				10972	42	00000	00000
09630		DORG	-9			10974			
09640		SF	FAC-2			10974	32	02490	00000
09650		BB				10986	42	00000	00000
09660		DORG	-9			10988			
09670		BNF	++26	,FAC	,, FIXED POINT NUMBER	10988	44	11014	02492
09680		CF	FAC			11000	33	02492	00000
09690		BB				11012	42	00000	00000
09700		DORG	-9			11014			
09710		SF	FAC			11014	32	02492	00000
09720		BB				11026	42	00000	00000
09730		DORG	-9			11028			
09740	FLOAT1	BZ	ZERFAC	,,	YES	11028	46	03422	01200
09750		TD	99	,FAC	,, STORE SIGN	11040	25	00099	02492
09760		CF	FAC			11052	33	02492	00000
09770		TR	BETA-9	,FXH	,11	11064	31	02594	0328L
09780		TF	FAC-2	,9SPF-1	,, CLEAR FAC	11076	26	02490	02853
09790		TF	SAVE	,K	,, CHAR = K	11088	26	02565	02221
09800		TFM	++23	,BETA-9		11100	16	11123	-2594
09810		BD	++44	,DUMMY	,, FIND HI ORDER DIGIT	11112	43	11156	99999
09820		SM	SAVE	,1	,10, ADJUST CHAR	11124	12	02565	000-1
09830		AM	-13	,1		11136	11	11123	-0001
09840		B	-36			11148	49	11112	00000
09850		DORG	-3			11156			

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09860	TR	FNH	,0-33	,611		11156	31	0331L	1121L
09870	TF	++35	,FNH		FIND AND CLEAR RECORD MARK	11168	26	11203	03313
09880	AM	++23	,1			11180	11	11203	-0001
09890	BNR	0-12	,DUMMY			11192	45	11180	99999
09900	TDM	0-1	,0	,6		11204	15	1120L	00000
09910	TD	FAC+1	,RECMK		REPLACE RECORD MARK	11216	25	02493	02403
09920	YF	BETA	,ZERO-74		CLEAR BETA	11228	26	02603	02693
09930	B	NORM60				11240	49	11272	00000
09940	DORG	0-3				11248			
09950	NORM36	TR	FNH	,611	LEFT SHIFT ONCE	11248	31	0331L	0330Q
09960	TDM	FAC-1	,0		SET LAST DIGIT TO ZERO	11260	15	02491	00000
09970	NORM60	SF	FNH	,6		11272	32	0331L	00000
09980	BD	FINISH	,FNH	,611	TEST LEADING ZERO	11284	43	0372L	0331L
09990	SM	SAVE	,1	,10	SUBT ONE FROM EXPONENT	11296	12	02565	000-1
10000	B	NORM36				11308	49	11248	00000
10010	DORG	0-4				11315			
10020	FAD1	TFM	EI	,571	SET UP ERR E1 CODE	11316	16	02615	00N71
10030	RNV	ERXV+30		,6		11328	47	0379K	01500
10040	B	ERXV				11340	49	03762	00000
10050	DORG	0-4				11347			
10060	FSBR1	CF	FAC-2			11348	33	02490	00000
10070	FADD	FAC	,FSBR-1	,11	SET UP ADD	11360	01	02492	0411L
10080	B	FAD1			BRANCH TO FLOATING POINT ADD	11372	49	11316	00000
10090	DORG	0-3				11380			
10100	SF	FAC-2				11380	32	02490	00000
10110	B	FSBR1+12				11392	49	11360	00000
10120	DORG	0-4				11399			
10130	FMP1	TF	79	,ZEROM	CLEAR MULTIPLY AREA	11400	26	00079	0344N
10140	FMUL	FAC	,FMP-1	,11		11412	03	02492	0413P
10150	B	FAD1+12				11424	49	11328	00000
10160	DORG	0-4				11431			
10170	FD1	TF	79	,ZEROM	CLEAR MULTIPLY AREA	11432	26	00079	0344N
10180	FDIV	FAC	,FD-1	,11		11444	09	02492	0416J
10190	BNV	FAD1+12				11456	47	11328	01400
10200	TDM	EI	,7			11468	15	02615	00007
10210	OVFLO	TF	FAC-2	,9SCPF		11480	26	02490	02795
10220	TFM	FAC	,99	,10		11492	16	02492	000R9
10230	B	ERXV+24				11504	49	03786	00000
10240	DORG	0-4				11511			
10250	FDVR1	TFL	FAC	,FDVR-1		11512	06	02492	0418N
10260	TFM	FD-1	,SAVE			11524	16	04161	-2565
10270	B	FD				11536	49	04162	00000
10280	DORG	0-4				11543			
10290	FIX11	AM	IMSA	,00	IS I = ZERO	11544	11	02575	000-0
10300	BNZ	++26			NO, CONTINUE	11556	47	11582	01200
10310	TF	FAC	,FX1		YES, J=I = ONE	11568	26	02492	02825
10320	BB					11580	42	00000	00000
10330	DORG	0-9				11582			
10340	AM	FAC	,00	,10	IS J = ZERO	11582	11	02492	000-0
10350	BNZ	++44			NO, CONTINUE	11594	47	11638	01200
10360	BNF	0-26	,IMSA		YES, THEN IS I POSITIVE	11606	44	11580	02575
10370	TFM	EI	,771	,9	NO, ER G1, 0 TO MINUS I POWER	11618	16	02615	00P71
10380	B	FXNINE				11630	49	10896	00000
10390	DORG	0-3				11638			
10400	TDM	ODDREV+1	,1			11638	15	11755	00001
10410	PSI	CF	MU-1		SET SIGN POSITIVE	11650	33	03631	00000

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10420	SF	IMSA-1				11662	32	02574	00000
10430	MM	IMSA	,05	,10		11674	13	02575	000-5
10440	CF	IMSA-1				11686	33	02574	00000
10450	RD	++20	,99			11698	43	11718	00099
10460	B	++32			I EVEN	11710	49	11742	00000
10470	DORG	0-3				11718			
10480	RNF	++36	,FAC		I ODD	11718	44	11754	02492
10490	SF	MU-1			J NEG, SET SIGN NEGATIVE	11730	32	03631	00000
10500	CF	FAC				11742	33	02492	00000
10510	ODDREV	NOP	AXJ	,FX1		11754	41	12136	00000
10520	C	FAC				11766	24	02492	02825
10530	BE	MU			J = + OR - ONE	11778	46	03632	01200
10540	BNF	++56	,IMSA		IS I POSITIVE	11790	44	11846	02575
10550	TFM	EI	,772	,9	NO, ERR G2, J TO MINUS I POWER	11802	16	02615	00P72
10560	TF	FAC	,FXZ		FAC = FXZ	11814	26	02492	02815
10570	TFM	FXERR+30	,FIXEND-12		SET UP ERROR EXIT	11826	16	03626	-3668
10580	B	FXERR				11838	49	03596	00000
10590	DORG	0-3				11846			
10600	TF	BETA	,FAC		STORE J	11846	26	02603	02492
10610	SM	IMSA	,01	,10		11858	12	02575	000-1
10620	BZ	MU				11870	46	03632	01200
10630	M	FAC	,BETA			11882	23	02492	02603
10640	SF	100MK		,6		11894	32	0329L	00000
10650	TF	FAC	,99			11906	26	02492	00099
10660	AM	99MK	,00	,610	TEST OVFL	11918	11	03280	000-0
10670	BZ	0-72				11930	46	11858	01200
10680	TFM	EI	,773	,9	ERR G3, OVFL IN FIX1	11942	16	02615	00P73
10690	TDM	FXERR+25	,1		SET UP SIGN	11954	15	03621	00001
10700	B	FXNINE				11966	49	10896	00000
10710	DORG	0-4				11973			
10720	FAX11	AM	IMSA	,00	IS I ZERO	11974	11	02575	000-0
10730	BNZ	++38			NO, CONTINUE	11986	47	12024	01200
10740	ONEFAC	TFM	FAC	,01	YES	11998	16	02492	000-1
10750	TF	FAC-2	,ONEZ		FAC = FLT PT ONE	12010	26	02490	03038
10760	BB					12022	42	00000	00000
10770	DORG	0-9				12024			
10780	BD	++44	,FNH	,11	IS A ZERO	12024	43	12068	0331L
10790	BNF	0-14	,IMSA		YES, IS I NEGATIVE	12036	44	12022	02575
10800	TFM	EI	,774	,9	YES, ER G4, ZERO TO MINUS I	12048	16	02615	00P74
10810	B	OVFLO				12060	49	11480	00000
10820	DORG	0-3				12068			
10830	TF	SAVE	,FAC		STORE CHAR	12068	26	02565	02492
10840	TD	FAC	,FAC-2		CONVERT A TO F+2 FORM	12080	25	02492	02490
10850	CF	FAC-2				12092	33	02490	00000
10860	TDM	FAC-1	,0			12104	15	02491	00000
10870	TDM	ODDREV+1	,9		SET UP RETURN	12116	15	11755	00009
10880	B	PSI			SET UP SIGN AT MU-1	12128	49	11650	00000
10890	DORG	0-3				12136			
10900	AXJ	TF	FAC	,SAVE		12136	26	02492	02565
10910	FSL	FNHM2	,FAC-2	,6		12148	05	0348R	02490
10920	TFM	EI	,775	,9	SET UP ERR G5 CODE	12160	16	02615	00P75
10930	BNF	NO DIV	,IMSA			12172	44	12288	02575
10940	CF	IMSA				12184	33	02575	00000
10950	RECIP	TF	79	,ZEROM	CLEAR MULTIPLY AREA	12196	26	00079	0344N
10960	TFL	SAVE	,FAC			12208	06	02565	02492
10970	TF	FAC-2	,ONEZ+2			12220	26	02490	03040

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10980	TFM	FAC	,01	,10	12232	16	02492	000-1
10990	FDIV	FAC	,SAVE		12244	09	02492	02565
11000	BNXV	NODIV			12256	47	12288	01500
11010	TF	FAC-2	,FAC-4		12268	26	02490	02488
11020	R	ERXV			12280	49	03762	00000
11030	DORG	-3			12288			
11040	NODIV	TFL	,FAC		12288	06	02555	02492
11050	SM	MSA	,01	,10	12300	12	02575	000-1
11060	BZ	++68			12312	46	12380	01200
11070	TF	79	,ZEROM	,11, CLEAR MULTIPLY AREA	12324	26	00079	0344N
11080	FMUL	FAC	,GAM		12336	03	02492	02555
11090	BNXV	NODIV+12			12348	47	12300	01500
11100	TF	FAC-2	,FAC-4		12360	26	02490	02488
11110	B	ERXV			12372	49	03762	00000
11120	DORG	-3			12380			
11130	TF	FAC-2	,FAC-4		12380	26	02490	02488
11140	BNF	ENDD+36	,MU-1		12392	44	03724	03631
11150	B	ENDD+24			12404	49	03712	00000
11160	DORG	-4			12411			
11170	FAXB1	AM	TAFE-2	,00, ,10, IS B ZERO	12412	11	02533	000-0
11180	BZ	ONEFAC	,	,, YES	12424	46	11998	01200
11190	BD	++44	,FNH	,11, NO, IS A ZERO	12436	43	12480	0331L
11200	BNF	FINISH+1	,TAFE-2	,, NO, IS B NEGATIVE	12448	44	03724	02533
11210	TFM	EI	,777	,9, YES, ER G7, ZERO TO MINUS B	12460	16	02615	00P77
11220	B	DVFLD			12472	49	11480	00000
11230	DORG	-3			12480			
11240	TDM	OLWR+1	,9	,, SET UP NO ERR TYPE	12480	15	12637	00009
11250	RNF	++36	,FAC-2	,, IS A NEGATIVE	12492	44	12528	02490
11260	TDM	OLWR+1	,1	,, YES, SET UP ERR TYPE	12504	15	12637	00001
11270	CF	FAC-2			12516	33	02490	00000
11280	TDM	FINISH+2	,9		12528	15	03725	00009
11290	TFM	FINISH+7	,++20		12540	16	03730	J2560
11300	B	LNENT	,	,6, FIND LN OF A	12552	49	0336Q	00000
11310	DORG	-3			12560			
11320	TDM	FINISH+2	,2		12560	15	03725	00002
11330	TFM	FMP-1	,TAFE	,, SET UP MULTIPLICATION	12572	16	04137	-2535
11340	TFM	ERXV+30	,++20		12584	16	03792	J2604
11350	B	FMP	,	,, MULTIPLY B TIMES LNA	12596	49	04138	00000
11360	DORG	-3			12604			
11370	TFM	ERXV+30	,++20		12604	16	03792	J2624
11380	B	EXPENT	,	,6, FIND A**B = E**BLN(A)	12616	49	0337L	00000
11390	DORG	-3			12624			
11400	TFM	ERXV+30	,FMFAC+12		12624	16	03792	-3464
11410	DLWR	NOP	FINISH+1		12636	41	03724	00000
11420	TFM	EI	,676	,9, ERR F6, -A TO B	12648	16	02615	00076
11430	TDM	99	,0		12660	15	00099	00000
11440	B	ERROR			12672	49	03596	00000
11450	DORG	-4			12679			
11460	DURG	15000			15000			
11470	34	B3	,00701		15000	34	15044	00701
11480	38	B3	,00702		15012	38	15044	00702
11490	36	B3	,00703		15024	36	15044	00703
11500	B	++22			15036	49	15058	00000
11510	DORG	-3			15044			
11520	B3	DSC	9	,016840100	15044	9		
			016840100					

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11530	DSA	START+3			15057		5 X	1
					15057		-3854	
11540	TRA				15058	36	00000	00500
					15070	49	00000	00000
11550	TCD	15000			15000			
11560	DEND				00000			

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1620 FORTRAN II-D SUBROUTINES SET 4				PAGE	24				
ATYPE1	08706	LOGDIG	08062	EFWRT	07514	FXDL	10846	MF	03666
CLR705	05134	LOCADJ	06390	EI	02615	FXDR1	10928	MU	03632
COMADD	02231	MASKEP	05402	ENDD	03688	FXDR	03998	N1	02233
COMEND	06656	MATRIX	06334	ENTLN	02248	FXD	03974	N2	02238
COMPLT	06698	MATRIX2	06418	ERCOM	05322	FXERR	03596	NODIV	12208
COMP5W	05678	MESERR	02407	ERF7A	08974	FXH	03283	OLWR	12636
DATDUD	04009	MONCAL	00796	ERF7	10098	FXM1	10820	ONEZ	03038
DATINH	04051	NORM36	11248	ERF8E	05202	FXM	03990	OUT	10473
DIODDA	03387	NORM60	11272	ERF8I	10530	FXSR1	10768	UVFLO	11480
DKBUFF	02404	ODDREV	11754	ERF9	07002	FXSR	03926	PAR	03378
DKDATA	03379	ONEFAC	11998	ERRET	00602	FXS	03902	PDT	03333
EEXP22	07906	OVFLOW	03572	ERROR	03596	FXZ	02815	PIDV2	03163
EEXP4D	08042	PROGST	02226	ERXV	03762	FZERO	04990	PIDV4	03191
EFAIPH	09206	RADGIT	05754	ETYPE	04556	GAM	02555	PI	03133
EFCHKS	09398	READEP	04468	EXP	07831	GM2F	03655	PSI	11650
EFEND2	08278	READIF	10086	F2	03818	HND	03338	RACD1	05902
EFPLUS	07690	REPSW3	05585	FAC	02492	HO	10309	RACD	04402
EFTERM	08222	RWEFSW	05953	FAD1	11316	HRD	08494	RAPT1	05882
EFTYPE	07702	100MK	03293	FAD	04090	HTYPE	04578	RAPT	04378
FNDFOR	06063	102MF	03343	FA8B1	12412	HWRT	08562	RATY1	05862
ENTABS	02323	2FM1	03581	FA8B	04258	ICON2	10130	RATY	04354
ENTAIN	02313	96MF	03318	FA8I1	11974	ICON3	05490	RDAPL	08994
ENTCDS	02303	97M2F	03363	FA8I	04234	ICON5	05482	RDALP	05914
ENTDED	02298	97MF	03323	FCHNB	07458	ICON6	05474	RDA	08930
ENTDRR	02293	98MF	03328	FD1	11432	IDIG	10286	RDFCH	07378
ENTEXP	02253	99MK	03288	FD	04162	IMSA	02575	READA	08834
ENTFET	02283	9SCP	02795	FDVR1	11512	INH	06063	READ1	10038
ENTFID	02273	9SPF	02854	FDVR	04186	IN	06237	RECIP	12196
ENTREC	02278	ATYPE	04512	FH	03308	LOCAL	00716	RECLG	02243
ENTSC1	02258	AXJ	12136	FIX1	10562	IDCR	06664	RECMK	02403
ENTSC2	02263	B3	15044	FIX11	11544	IDGT	00566	REDDA	06762
ENTSC3	02268	BETA	02603	FIX	04210	IDPT	00532	REDO	06718
ENTSIN	02308	B5WF	05826	FIX	03854	IDRBC	00520	REP2	06890
ENTSQT	02318	CHAR2	06708	FKODD	03579	IDRT	00565	REP3	06922
ENTSND	02288	CHAR	07108	FLGAT	04042	IDSK	00554	REP	06818
ERCUM7	07078	CKW	06673	FLZER	03760	IRDIG	09930	REPSW	05582
ERRF7	08370	DIO	00816	FLZ	03353	IREAD	09778	RSGN1	10948
ERRF7I	10006	DPC	05976	FMLMF	03313	ITYPE	04424	RSGN	04020
EXPENT	03373	DPTM2	08173	FM1	03783	K2	03820	RWA2	05670
FINDIN	03527	DPT	07137	FMFAC	03452	K	02221	RWA	05562
FINISH	03723	DUDH	02407	FMP1	11400	LAST	05736	SAVE	02565
FIXEND	03680	DUD	02487	FMP	04138	LN10	02980	SIX	03219
FLOATI	11078	DUMMY	99999	FNHM1	03358	LN2	02887	SLASH	06492
FLTEND	03730	EEXP2	07858	FNHM2	03489	LN4	02918	START	03851
FLZALP	03348	EEXP4	07986	FNH	03313	LNB	02949	STOP	02395
FLZERS	06327	EEXP	07998	FPLMK	03283	LNENT	03368	SWC	05982
FNCNEZ	04906	EFALP	09290	FP2	03664	LOC2	05406	SWF	05861
FXNINE	10896	EFCOM	07138	F	02219	LOC2	05408	SWL	05934
GMLM2F	03526	EFDEC	08094	FSBR1	11348	LOC	05981	TAFE	02535
HTYPE1	08402	EFDIG	08162	FSBR	04114	LOGE	03010	TAN6	03248
IMINUS	09986	EFEND	08246	FSB	04066	MASKF	05413	TEN34	03278
IMSAPE	03298	EFMIN	07678	FTYPE	04534	MASK1	05452	TERM	04785
INPLUS	05945	EFM1	09182	FX1	02825	MASK	05401	TDFAC	03408
IRALNK	09966	EFMW	04490	FX9	02805	MATSW	05583	TRACE	03496
ISPFM1	03303	EFRD1	08642	FXA1	10754	MAX2	06037	TRFX	03558
ITYPE1	09646	EFRD2	08674	FXA	03878	MAX	05924	TWOPI	03103

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1620 FORTRAN II-D SUBROUTINES SET 4				PAGE	25				
TWOZ	03073	WAPT	04306	WRTE2	04598	ZEROM	03445	WRITEI	04446
UNFLO	03466	WA	06933	WRTE	09530	ZERO	02767	WRIT11	10138
WA2	07084	WATY1	05498	WRTF	04702	SLASH2	06524	WRTALP	05550
WA3	04567	WATY	04282	WRTI2	10194	STZER0	06239	WRTFPC	05026
WACD1	05538	WIDTH	05715	WRTI3	10402	SWCADJ	06044	WRTFPE	04994
WACD	04330	WRITE	06632	WRT1	10230	WEFDEC	05170	WRTSGN	10366
WAF4	09162	WRTA2	09142	W	02240	WIDTH2	05956	ZERFAC	03422
WAPT1	05518	WRTA	09098	XTYPE	07046	WRITEA	09050		

END OF ONE ASSEMBLY.

1620 FORTRAN II-D LOADER BLOCK 1		PAGE	1
00010	DORG 2426	02426	
00020	NAMBUF DC 16,0	02441	16
	-0000000000000000		
00030	DC 2,1	02443	2
	-1		
00040	OVLAP DS 1	02444	1
00050	FLGRMK DS 1	02445	1
00060	ADDCDW DS 5	02450	5
00070	EQADDR DS 5	02455	5
00080	SCADDR DS 5	02460	5
00090	IOIND DS 1	02461	1
00100	MLIND DS 1	02462	1
00110	EXTIND DS 1	02463	1
00120	SECT DS 3	02466	3
00130	ZROTST DS 1	02467	1
00140	ADDSVE DS 5	02472	5
00150	DC 1,1	02473	1
	'		
00160	LDDA DDA 1,0,0,SUBTBL	02474	14
	1-0000-00-2522		
00170	DC 1,1	02488	1
	'		
00180	SVEDDA DDA 1,0,21,0	02490	14
	1-0000-21-0000		
00190	DC 1,1	02504	1
	'		
00200	INCDDA DDA 1,0,10,SUBTBL	02506	14
	1-0000-10-2522		
00210	DC 1,1	02520	1
	'		
00220	DS 1	02521	1
00230	SUBTBL DSS 1000	02522	1000
00240	DC 12,1	03533	12
	-000000000000'		
00250	DORG 7280	07280	
00260	DDAR DSS 20	07280	20
00270	COMSEC DSS 100,, SYSTEM COMMUNICATION SECTOR	07300	100
00280	INRK DSS 100,, READ IN AREA FOR INDICATOR RECORD	07400	100
00290	SBPTBL DS ,INRK	07400	0
00300	*		
00310	*		
00320	*		
00330	*		
00340	*		
00350	IORT DS ,565	00565	0
00360	IOGT DS ,566	00566	0
00370	IOPT DS ,532	00532	0
00380	MONCAL DS ,796	00796	0
00410	TFM IORT,++23,, GET BLOCK 2	07500	16 00565 -7523
00420	B IOGT,FOR,7	07512	49 00566 J0268
00430	MLINIT TFM TDIS+6,MTBL+11,, INITIALIZE MAINLINE TABLE	07524	16 07542 J0673
00440	TDIS TDM	07536	15 00000 00000
00450	DC 1,1,*	07547	1
	'		
00460	AM TDIS+6,20,10	07548	11 07542 000K0
00470	Msize CM TDIS+6,MTBL+20*51+11	07560	14 07542 J1693

00480	BL	TDIS	07572	47	07536	01300
00490	TD	SUBSET+11,COMSEC+82,, INITIALIZE ADDRESS COUNTER	07584	25	07655	07382
00500	CM	SUBSET+11,4,10	07596	14	07655	000-4
00510	BNM	SUBSET	07608	47	07644	01100
00520	BTM	EPRINT,78,8	07620	17	10196	0-078
00530	TDM	SUBSET+11,1	07632	15	07655	00001
00540	SUBSET	AM *+35,,10	07644	11	07679	000-0
00550	TDM	IOIND	07656	15	02461	00000
00560	BD	TWO,ONETWO	07668	43	07712	13008
00570	ONE	TFM ADDCOW,7499	07680	16	02450	-7499
00580	TDM	IOIND,1	07692	15	02461	00001
00590	B	*+20	07704	49	07724	00000
00600	DORG	*-3	07712			
00610	TWO	TFM ADDCOW,13999	07712	16	02450	J3999
00620	LUDPRO	TF ADUSVE,ADDCOW	07724	26	02472	02450
00630	AM	ADDSVE,1,10	07736	11	02472	000-1
00640	TF	FLOD+19,ADDCOW	07748	26	12823	02450
00650	START	TF CCNT,COMSEC+75,, GET CONTROL CARD COUNT	07760	26	10484	07375
00660	GETDIM	TFM IORT,*+23,, GET FIRST SECTOR OF DIM	07772	16	00565	-7795
00670	B	IOGT,MAP,7	07784	49	00566	J2741
00680	TF	FLOD+13,CCIN+24	07796	26	12817	10523
00690	A	CCIN+22,CCIN+27	07808	21	10521	10526
00700	A	CCIN+22,CCIN+27	07820	21	10521	10526
00710	TF	FLOD+36,ADDCOW	07832	26	12840	02450
00720	SM	CCIN+24,21,10	07844	12	10523	000K1
00730	TF	FLOD+18,CCIN+24	07856	26	12822	10523
00740	SM	CCIN+24,1,10	07868	12	10523	000-1
00750	TF	FLSDDA+5,CCIN+24	07880	26	12917	10523
00760	TF	SUBDDA+5,CCIN+24	07892	26	12731	10523
00770	TF	FLOD+7,CCIN+24	07904	26	12811	10523
00780	TF	FLOD+23,CCIN+44	07916	26	12827	10543
00790	TF	FLOD+26,CCIN+47	07928	26	12830	10546
00800	TF	SVEDDA+5,FLOD+18	07940	26	02495	12822
00810	TF	SCADDR,FLOD+13	07952	26	02460	12817
00820	TF	SECT,FLOD+26	07964	26	02466	12830
00830	TF	EQADDR,FLOD+23	07976	26	02455	12827
00840	TD	FLOD+99,IOIND	07988	25	12903	02461
00850	TD	FLGRMK,FLOD+99	08000	25	02445	12903
00860	CM	CCNT,,10, ANY CONTROL CARDS PRESENT	08012	14	10484	000-0
00870	BE	XEODN,, BRANCH IF NONE TO READ INDICATOR RECORD	08024	46	09640	01200
00880	SBINIT	TFM SDIS+6,STBL+11,, INITIALIZE SUBPROGRAM TABLE	08036	16	08054	J1693
00890	SDIS	TDM	08048	15	00000	00000
00900	DC	1,*,*	08059		1	
00910	AM	SDIS+6,5,10	08060	11	08054	000-5
00920	TFM	SDIS+6,,67	08072	16	0805M	-0000
00930	AM	SDIS+6,15,10	08084	11	08054	000J5
00940	SSIZE	CM SDIS+6,STBL+20+51+11	08096	14	08054	J2713
00950	RL	SDIS	08108	47	08048	01300
00960	TFM	SUBCOW	08120	16	12971	-0000
00970	TR	CCIN-1,INTCC,, INITIALIZE CONTROL READ IN AREA	08132	31	10498	10276
00980	RDAGN	TFM TFCC+11,INDV-1	08144	16	08191	J0485
00990	TD	AMI+11,429,, GET INPUT DEVICE	08156	25	08179	00429
01000	AMI	AM TFCC+11,,10	08168	11	08191	000-0
01010	TFCC	TF NEXC+2	08180	26	12708	00000
01020	TFM	IORT,*+23,, GET CONTROL RECORD	08192	16	00565	-8215

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01030	B	IOGT,NEXC-4,7	08204	49	00566	J2702
01040	CM	NEXC+2,6,10, IS IT A TYPED ENTRY	08216	14	12708	000-6
01050	BNE	*+24	08228	47	08252	01200
01060	BC4	RDAGN-12	08240	46	08132	00400
01070	TFM	*+23,CCIN+160	08252	16	08275	J0659
01080	SETRM	BNR SETRM1	08264	45	08320	00000
01090	SM	*-1,2,10	08276	12	08275	000-2
01100	CM	SETRM+11,CCIN	08288	14	08275	J0499
01110	BE	RDLOC+12	08300	46	08440	01200
01120	B	SETRM	08312	49	08264	00000
01130	DORG	*-3	08320			
01140	SETRM1	CM SETRM+11,,610	08320	14	0827N	000-0
01150	BE	SETRM+12	08332	46	08276	01200
01160	AM	SETRM+11,2,10	08344	11	08275	000-2
01170	TDM	SETRM+11,,6	08356	15	0827N	00000
01180	DC	1,*,*	08367		1	
01190	RCTY		08368	34	00000	00102
01200	TFM	IORT,*+23	08380	16	00565	-8403
01210	B	IOPT,TYPE-4,7	08392	49	00532	J2710
01220	RCTY		08404	34	00000	00102
01230	TDM	SETRM+11,,6	08416	15	0827N	00000
01240	RDLOC	BNR *+32,CCIN	08428	45	08460	10499
01250	BTM	EPRINT,71,8	08440	17	10196	0-071
01260	B	MONCAL	08452	49	00796	00000
01270	DORG	*-3	08460			
01280	CM	CCIN,14,10, IS IT A CONTROL CARD	08460	14	10499	000J4
01290	BNE	RDLOC+12	08472	47	08440	01200
01300	RMCHK	TFM *+23,CCIN+2,, CHECK FOR RECORD MARK IN LOCAL NAME	08484	16	08507	J0501
01310	BNR	*+20	08496	45	08516	00000
01320	B	RDLOC+12	08508	49	08440	00000
01330	DORG	*-3	08516			
01340	AM	RMCHK+23,2,10	08516	11	08507	000-2
01350	CM	RMCHK+23,CCIN+12	08528	14	08507	J0511
01360	BNE	RMCHK+12	08540	47	08496	01200
01370	C	CCIN+10,LOCAL+8,, IS IT A LOCAL RECORD	08552	24	10509	10449
01380	BE	COLNAM,, BRANCH IF LOCAL	08564	46	08584	01200
01390	B	RDLOC+12	08576	49	08440	00000
01400	DORG	*-3	08584			
01410	*****	COLLECT AND STORE MAINLINE AND SUBPROGRAM NAMES				
01420	COLNAM	BD *+24,CONT,, CONTINUE CARD TEST --BRANCH IF ON--	08584	43	08608	10266
01430	TDM	MLIND,1,, TURN ON MAINLINE INDICATOR	08596	15	02462	00001
01440	TFM	CONT,00100	08608	16	10266	-0100
01450	TR	NAMBUF-13,INTCC1-10,, INITIALIZE COLLECT AREA	08620	31	02428	10422
01460	RMCHK	BNR BLNKCK,CCIN+12,,TEST FOR RECORD MARK IN NAME	08632	45	08664	10511
01470	BTM	EPRINT,72,8	08644	17	10196	0-072
01480	B	MONCAL	08656	49	00796	00000
01490	DORG	*-3	08664			
01500	BLNKCK	CM CCIN+12,,10, TEST FOR BLANK	08664	14	10511	000-0
01510	BE	END	08676	46	09924	01200
01520	CM	CCIN+12,23,10, TEST FOR COMMA	08688	14	10511	000K3
01530	BNE	SPCHAR	08700	47	08732	01200
01540	TDM	COMIND,1,, TURN ON COMMA INDICATOR	08712	15	10265	00001
01550	B	ENTER	08724	49	08860	00000
01560	DORG	*-3	08732			
01570	SPCHAR	CM CCIN+12,40,10, TEST FOR SPECIAL CHARACTER	08732	14	10511	00000

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01580	BL	RCMKCK+12	08744	47	08644	01300
01590	TF	NAMBUF,CCIN+12,, MOVE CHARACTER INTO COLLECT AREA	08756	26	02441	10511
01600	CM	NAMBUF,69,10, TEST FOR ALPHA CHARACTER	08768	14	02441	00009
01610	BH	**24	08780	46	08804	01100
01620	TDM	ALFIND,0,, TURN ON ALPHA INDICATOR	08792	15	10264	00000
01630	CF	NAMBUF-1	08804	33	02440	00000
01640	TR	NAMBUF-15,NAMBUF-13,, SHIFT COLLECT AREA	08816	31	02426	02428
01650	TR	CCIN+10,CCIN+12,, SHIFT INPUT AREA	08828	31	10509	10511
01660	B	RCMKCK	08840	49	08632	00000
01670	DORG	=-3	08848			
01680	TR	NAMBUF-15,NAMBUF-13,, SHIFT COLLECT AREA	08848	31	02426	02428
01690	ENTER	CM NAMBUF-2,,10	08860	14	02439	000-0
01700	BNE	LABFUL	08872	47	08928	01200
01710	BD	**20,MLIND	08884	43	08904	02462
01720	B	RCMKCK+12	08896	49	08644	00000
01730	DORG	=-3	08904			
01740	*****	INSERT % IF BLANK MAINLINE NAME				
01750	TFM	NAMBUF-2,13,10	08904	16	02439	000J3
01760	TDM	ALFIND	08916	15	10264	00000
01770	LABFUL	TDM NAMBUF,,, SET TRAILING BLANK	08928	15	02441	00000
01780	CF	NAMBUF-1	08940	33	02440	00000
01790	CM	NAMBUF-12,,10, TEST FOR LEADING BLANKS	08952	14	02429	000-0
01800	BE	ENTER-12	08964	46	08848	01200
01810	CM	NAMBUF-14,,10, TEST FOR MAX LENGTH OF SIX CHARACTERS	08976	14	02427	000-0
01820	BNE	RCMKCK+12	08988	47	08644	01200
01830	BD	RCMKCK+12,ALFIND,, TEST FOR ALL NUMERIC ENTRY	09000	43	08644	10264
01840	SF	NAMBUF-13	09012	32	02428	00000
01850	DD	MLSCH,MLIND,, TEST FOR TYPE OF ENTRY	09024	43	09068	02462
01860	SUBSCH	TFM SEARCH+11,STBL+11,, INITIALIZE FOR SUBPROGRAM TABLE SEARCH	09036	16	09103	J1693
01870	TFM	TBLSZE+11,STBL+51*20+11	09048	16	09191	J2713
01880	B	SEARCH	09060	49	09092	00000
01890	DORG	=-3	09068			
01900	MLSCH	TFM SEARCH+11,MTBL+11	09068	16	09103	J0673
01910	TFM	TBLSZE+11,MTBL+51*20+11	09080	16	09191	J1693
01920	SEARCH	DNR **20,,, TEST FOR AVAILABLE ENTRY	09092	45	09112	00000
01930	B	LOAD	09104	49	09224	00000
01940	DORG	=-3	09112			
01950	AM	SEARCH+11,11,10	09112	11	09103	000J1
01960	C	SEARCH+11,NAMBUF-2,6, TEST FOR MULTIPLE ENTRY	09124	24	09101	02439
01970	BNE	**32	09136	47	09168	01200
01980	BTM	EPRINT,73,8	09148	17	10196	0-073
01990	B	MONCAL	09160	49	00796	00000
02000	DORG	=-3	09168			
02010	AM	SEARCH+11,9,10	09168	11	09103	000-9
02020	TBLSZE	CM SEARCH+11,,, TEST FOR FULL TABLE	09180	14	09103	-0000
02030	BNE	SEARCH	09192	47	09092	01200
02040	BTM	EPRINT,74,8	09204	17	10196	0-074
02050	B	LOAD1+24	09216	49	09308	00000
02060	DORG	=-3	09224			
02070	LOAD	TF SEARCH+11,NAMBUF-2,6	09224	26	09101	02439
02080	BD	MAIN,MLIND	09236	43	09868	02462
02090	AM	SUBCOW,20,10	09248	11	12971	000K0
02100	AM	SEARCH+11,8,10	09260	11	09103	000-8
02110	TDM	SEARCH+11,1,6, LOAD DIGIT TO INDICATE FLIPPED SUBPROGRAM	09272	15	09101	00001
02120	LOAD1	BD RNDED-36,RLKIND	09284	43	09364	10263
02130	BD	**36,CCIN+13	09296	43	09332	10512

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02140	BD	**24,CCIN+14	09308	43	09332	10513
02150	B	**24	09320	49	09344	00000
02160	TDM	COMIND	09332	15	10265	00000
02170	TR	CCIN+10,CCIN+12	09344	31	10509	10511
02180	B	RCMKCK-12	09356	49	08620	00000
02190	DORG	=-3	09364			
02200	SM	CCCNT,1,10, DECREMENT CARD COUNT BY ONE	09364	12	10484	000-1
02210	AM	SUBCOW-1,2,10	09376	11	12970	000-2
02220	BD	ROUND,SUBCOW-1	09388	43	09828	12970
02230	RNDED	S SUBDDA+5,SUBCOW-2	09400	22	12731	12969
02240	TF	SUBDDA+8,SUBCOW-2	09412	26	12734	12969
02250	TF	IORT,**23,, LOAD SUBPROGRAM TABLE IN SCRATCH AREA	09424	16	00565	-9447
02260	B	IORT,SUB,7	09436	49	00532	J2718
02270	TF	MLCOW,SUBDDA+8,6	09448	26	12970	12734
02280	AM	MLCOW,9,10	09460	11	12976	000-5
02290	TF	MLCOW,SUBDDA+5,6	09472	26	12976	12731
02300	CM	CCCNT,,10	09484	14	10484	000-0
02310	BNE	SBNIT	09496	47	08036	01200
02320	AM	MAINCT,20,10	09508	11	10482	000K0
02330	BD	ROUND1,MAINCT-1	09520	43	09848	10481
02340	RNDED1	S SUBDDA+5,MAINCT-2	09532	22	12731	10480
02350	TF	SUBDDA+8,MAINCT-2	09544	26	12734	10480
02360	TFM	SUBDDA+13,MTBL	09556	16	12739	J0662
02370	TFM	IORT,**23,, LOAD MAINLINE TABLE	09568	16	00565	-9591
02380	B	IORT,SUB,7	09580	49	00532	J2718
02390	TF	FLOD+2,MAINCT-2	09592	26	12806	10480
02400	TF	FLOD+7,SUBDDA+5,, STORE DISK LOAD ADDRESS OF MAINLINE TABLE	09604	26	12811	12731
02410	TF	LDDA+5,FLOD+7	09616	26	02479	12811
02420	TF	LDDA+8,FLOD+2	09628	26	02482	12806
02430	XEQON	TF COMSEC+71,FLSDDA+5	09640	26	07371	12917
02440	TF	FLOD+31,FLOD+7	09652	26	12835	12811
02450	SM	FLOD+31,10,10	09664	12	12835	000J0
02460	TF	INCDDA+5,FLOD+31	09676	26	02511	12835
02470	TFM	**18,SUBTBL+11	09688	16	09706	-2533
02480	TDM		09700	15	06000	00000
02490	DC	1,*,*	09711			1
02500	AM	**6,20,10	09712	11	09706	000K0
02510	CM	**18,SUBTBL+1031	09724	14	09706	-3553
02520	BNE	**36	09736	47	09700	01200
02530	TFM	IORT,**23,, STORE IN-CORE TABLE	09748	16	00565	-9771
02540	B	IORT,INC,7	09760	49	00532	J2951
02550	TFM	IORT,**23,, STORE COMMUNICATION SECTOR	09772	16	00565	-9795
02560	B	IORT,COM,7	09784	49	00532	J2927
02570	TFM	IORT,**23	09796	16	00565	-9819
02580	B	IORT,FLS,7	09808	49	00532	J2904
02590	B	XEQON1	09820	49	10004	00000
02600	DORG	=-3	09828			
02610	ROUND	AM SUBCOW-2,1,10	09828	11	12969	000-1
02620	B	RNDED	09840	49	09400	00000
02630	DORG	=-3	09848			
02640	ROUND1	AM MAINCT-2,1,10, ROUND TO NEXT HIGHER SECTOR	09848	11	10480	000-1
02650	B	RNDED1	09860	49	09532	00000
02660	DORG	=-3	09868			
02670	MAIN	TDM MLIND,, TURN OFF MAINLINE INDICATOR	09868	15	02462	00000
02680	AM	MAINCT,20,10	09880	11	10482	000K0

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02690	TF	MLCOM,SEARCH+11	09892	26	12976	09103
02700	AM	MLCOM,3,10	09904	11	12976	000-3
02710	B	LOAD1	09916	49	09284	00000
02720	DORG	--3	09924			
02730	END	BD	09924	43	09956	10265
02740	TDM	BLKIND,1,, TURN ON BLANK INDICATOR	09936	15	10263	00001
02750	B	ENTER	09948	49	08860	00000
02760	DORG	--3	09956			
02770	TDM	CONT,1	09956	15	10266	00001
02780	SM	CCCNT,1,10	09968	12	10484	000-1
02790	RE	RDLOC+12	09980	46	08440	01200
02800	B	TFCC	09992	49	08180	00000
02810	XEQON1	TDM DDAR+14	10004	15	07294	00000
02820	DC	1,,*	10015		1	
02830	TDM	EXTIND	10016	15	02463	00000
02840	TF	SVEDDA+13,FLOD+18	10028	26	02503	12822
02850	TR	NAMBUF-11,LDMM-1	10040	31	02430	12998
02870	CM	COMSEC+25,,10	10052	14	07325	000-0
02880	HNE	**56	10064	47	10120	01200
02890	TFM	COMSEC+25,13,10	10076	16	07325	000J3
02900	CF	COMSEC+35	10088	33	07335	00000
02901	RD	XEQON2,428	10100	43	10152	00428
02910	B	3540,,6	10112	49	0354-	00000
02920	DORG	--3	10120			
02930	TF	NAMBUF,COMSEC+35	10120	26	02441	07335
02931	RD	XEQON2,428	10132	43	10152	00428
02940	B	3540,,6	10144	49	0354-	00000
02950	DORG	--3	10152			
02960	XEQON2	TDM EXTIND,1	10152	15	02463	00001
02970	CM	COMSEC+75,,10	10164	14	07375	000-0
02980	RE	3540,,6	10176	46	0354-	01200
02990	B	3545,,6	10188	49	0354N	00000
03000	DORG	--3	10196			
03010	*****	ERROR MESSAGE SUBROUTINE				
03020	EPRINT	TF ERMES+16,EPRINT-1	10196	26	12995	10195
03030	RCTY		10208	34	00000	00102
03040	WATY	ERMES	10220	39	12979	00100
03050	RCTY		10232	34	00000	00102
03060	WATY	JOBOUT	10244	39	10451	00100
03070	BB		10256	42	00000	00000
03080	CONT	DS ,*-1, CONTINUE INDICATOR	10266		0	
03090	COMIND	DS ,*-2, COMMA INDICATOR	10265		0	
03100	ALFIND	DS ,*-3, ALPHA INDICATOR	10264		0	
03110	BLKIND	DS ,*-4, BLANK INDICATOR	10263		0	
03120	FOR	DSC 2,22	10268		2	
03130	DSC	1,0	10270		1	
03140	DC	5,147'	10275		5	
03150	INTCC	00 ,02	10276	-0	-0000	00000
03160	00	,,0246810	10288	-0	-0-0-	0-0-0
03170	00	,,0246810	10300	-0	-0-0-	0-0-0
03180	00	,,0246810	10312	-0	-0-0-	0-0-0
03190	00	,,0246810	10324	-0	-0-0-	0-0-0

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03200	00	,,0246810	10336	-0	-0-0-	0-0-0
03210	00	,,0246810	10348	-0	-0-0-	0-0-0
03220	00	,,0246810	10360	-0	-0-0-	0-0-0
03230	00	,,0246810	10372	-0	-0-0-	0-0-0
03240	00	,,0246810	10384	-0	-0-0-	0-0-0
03250	00	,,0246810	10396	-0	-0-0-	0-0-0
03260	00	,,0246810	10408	-0	-0-0-	0-0-0
03270	00	,,0246810	10420	-0	-0-0-	0-0-0
03280	INTCC1	00 ,0246810	10432	-0	-0-0-	0-0-0
03290	DORG	--4	10439			
03300	DC	1,1'	10439		1	
03310	LOCAL	DAC 5,LOCAL	10441		5 X	2
03320	JOBOUT	DAC 14,JOB ABANDONED'	10451		14 X	2
03330	MAINCT	DC 5,0	10462		5	
03340	CCCNT	DS 2,, CONTROL CARD COUNT	10484		2	
03350	INDV	DC 2,6,, TYPE IN LOCAL INFORMATION	10486		2	
03360	DC	2,8,, READ LOCAL INFORMATION FROM PAPER TAPE	10488		2	
03370	DC	2,10,,READ LOCAL INFORMATION FROM CARDS	10490		2	
03380	DC	1,1'	10491		1	
03390	CKSTL	DS 5	10496		5	
03400	CCIN	DAS 82,, READ IN AREA FOR LOCAL CARDS	10499		82 X	2
03410	MTBL	DSS 1020,,MAINLINE NAME TABLE	10662		1020	
03420	STBL	DSS 1020,,SUBPROGRAM NAME TABLE	11682		1020	
03430	NEXC	DSA CCIN	12706		5 X	1
03440	DC	3,10'	12706		J0499	
03450	TYPE	DSA CCIN	12709		3	
03460	DC	3,06'	12714		5 X	1
03470	SUB	USC 2,22	12714		J0499	
03480	DSA	SUBDDA	12717		3	
03490	DC	1,1'	12718		2	
03500	SUBDDA	DDA ,1,0,0,STBL	12724		5 X	1
03510	DC	1,1'	12724		J2726	
03520	MAP	DSC 2,22	12725		1	
03530	DSA	MAPDDA	12726		14	
		1-0000-00J1682	12740		1	
		22	12741		2	
		MAPDDA	12747		5 X	1

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03540	DC	1,1		12747	J2750	
				12748	1	
03550	MAPDDA	DDA	,1,4800,1,CCIN-1	12750	14	
			1-4800-01J0498			
03560	DC	1,1		12764	1	
03570	LDMAN	DAC	19,LOAD MAINLINE PROG	12767	19 X	2
			LOAD MAINLINE PROG			
03580	*****		FORTRAN LOADER INFORMATION SECTOR			
03590	*		0-2 CONTAINS SECTOR COUNT OF MAINLINE TABLE			
03600	*		3-7 CONTAINS DISK ADDRESS OF MAINLINE TABLE			
03610	*		9-13 CONTAINS DISK ADDRESS OF SCRATCH AREA			
03620	*		14-18 CONTAINS DISK ADDRESS OF COMMON RESERVE AREA			
03630	*		19-23 CONTAINS DISK ADDRESS OF EQUIVALENCE TABLE			
03640	*		24-26 CONTAINS SECTOR COUNT OF EQUIVALENCE TABLE			
03650	*		27-31 CONTAINS ADDRESS OF IN-CORE SUBPROGRAM TABLE			
03660	*		32-36 CONTAINS INITIAL LOADING ADDRESS			
03670	*		99 CONTAINS A FLAGGED RECORD MARK			
03680	FLOD	DSS	100	12804	100	
03690	FLS	DSC	2,22	12904	2	
			22			
03700	DSA	FLSDDA		12910	5 X	1
03710	DC	1,1		12910	J2912	
				12911	1	
03720	FLSDDA	DDA	,1,0,1,FLOD	12912	14	
			1-0000-01J2804			
03730	DC	1,1		12926	1	
03740	COM	DSC	2,22	12927	2	
			22			
03750	DSA	COMDDA		12933	5 X	1
03760	DC	1,1		12933	J2936	
				12934	1	
03770	COMDDA	DDA	,1,19663,1,COMSEC	12936	14	
			1J9663-01-7300			
03780	DC	1,1		12950	1	
03790	INC	DSC	2,22	12951	2	
			22			
03800	DSA	INCDDA		12957	5 X	1
03810	DC	1,1		12957	-2506	
				12958	1	
03820	SVE	DSC	2,22,, LINKAGE TO SAVE COMMON AREA	12959	2	
			22			
03830	DSA	SVEDDA		12965	5 X	1
03840	DC	1,1		12965	-2490	
				12966	1	

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03850	SUBCOW	DC	5,0	12971	5	
			-0000			
03860	MLCOW	DC	5,0	12976	5	
			-0000			
03870	ERMESS	DAC	10,ERROR L *	12979	10 X	2
			ERRDR L			
03880	LDMN	DAC	5,MAIN*	12999	5 X	2
			MAIN*			
03890	ONETWU	DSC	5,00101	13008	5	
			00101			
03900	DEND			00000		

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ADDCOW	02450	LDMAN	12767	ENTER	08860	MLIND	02462	TFCC	08180
ADDSVE	02472	LODPRO	07724	FLOD	12804	MLSCH	09068	TWO	07712
ALFIND	10264	MAINCT	10482	FLS	12904	MSIZE	07560	TYPE	12714
BLKCK	10263	MAPDDA	12750	FOR	10268	MTBL	10662	XEQON	09640
BLNKCK	08664	MLINIT	07524	INC	12951	NEXC	12706	SBINIT	08036
CULNAM	08584	MONCAL	00796	INDV	10486	ONE	07680	SBPTBL	07400
COMDA	12936	NAMBUF	02441	INRK	07400	RDAGN	08144	SCADDR	02460
COMIND	10265	ONETWO	13008	INTCC	10276	RDLOC	08428	SEARCH	09092
COMSEC	07300	OVRLAP	02444	IOGT	00566	RMCHK	08484	SETRM1	08320
EPRINT	10196	RCMKCK	08632	IOIND	02461	RNDED	09400	SPCHAR	08732
EQADDR	02455	RNDED1	09532	IORT	00532	ROUND	09828	SUBCOW	12971
ERMESS	12979	ROUND1	09848	IORT	00565	SDIS	08048	SUBDDA	12726
EXTIND	02463	AMI	08168	LDDA	02474	SECT	02466	SUBSCH	09036
FLGRMK	02445	CCCNT	10484	LDHN	12999	SETRM	08264	SUBSET	07644
FLSDDA	12912	CCIN	10499	LOAD1	09284	SSIZE	08096	SUBTBL	02522
GETDIM	07772	CKSTL	10496	LOAD	09224	START	07760	SVEDDA	02490
INCDDA	02506	COM	12927	LOCAL	10441	STBL	11682	TBLSZE	09180
INTCC1	10432	CONT	10266	MAIN	09868	SUB	12718	XEQON1	10004
JOBOUT	10451	DDAR	07280	MAP	12741	SVE	12959	XEQON2	10152
LARFUL	08928	END	09924	MLCOW	12976	TDIS	07536	ZROTST	02467

END OF ONE ASSEMBLY.

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00010 *					
00020 IOPT DS	,532		00532	0	
00030 IOGT DS	,566		00566	0	
00040 IORT DS	,565		00565	0	
00050 MONCAL DS	,796		00796	0	
00060 ERRET DS	,602		00602	0	
00070 INDS DS	,610		00610	0	
00080 ERROR DS	,624		00624	0	
00090 DIO DS	,816		00816	0	
00100 ***	COMMUNICATION AREA				
00110 DORG	2218		02218		
00120 F DS	2,, FLOATING POINT WORD LENGTH		02219	2	
00130 K DS	2,, FIXED POINT WORD LENGTH		02221	2	
00140 PROGST DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM		02226	5	
00150 COMADD DS	5,, STARTING ADDRESS OF COMMON AREA		02231	5	
00160 N1 DS	2,, NUMBER OF WORDS IN LOGICAL RECORD		02233	2	
00170 N2 DS	5,, NUMBER OF LOGICAL RECORDS		02238	5	
00180 W DS	2,, WORD LENGTH		02240	2	
00190 RECLG DS	3,, RECORD LENGTH		02243	3	
00200 ENTLN DS	5,, ENTRY ADDRESS TO LOG SUBROUTINE		02248	5	
00210 ENTXP DS	5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE		02253	5	
00220 ENTSC1 DS	5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE		02258	5	
00230 ENTSC2 DS	5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE		02263	5	
00240 ENTSC3 DS	5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE		02268	5	
00250 ENTFID DS	5,, ENTRY ADDRESS TO FIND SUBROUTINE		02273	5	
00260 ENTREC DS	5,, ENTRY ADDRESS TO RECORD SUBROUTINE		02278	5	
00270 ENTFET DS	5,, ENTRY ADDRESS TO FETCH SUBROUTINE		02283	5	
00280 ENTSHD DS	5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE		02288	5	
00290 ENTDRR DS	5,, ENTRY ADDRESS TO ARRAY SUBROUTINE		02293	5	
00300 ENTDED DS	5,, ENTRY ADDRESS TO DISK END SUBROUTINE		02298	5	
00310 ENTCOS DS	5,, ENTRY ADDRESS TO COSINE SUBROUTINE		02303	5	
00320 ENTSIN DS	5,, ENTRY ADDRESS TO SINE SUBROUTINE		02308	5	
00330 ENTATN DS	5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE		02313	5	
00340 ENTSTQ DS	5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE		02318	5	
00350 ENTABS DS	5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE		02323	5	
00360 DS	70,, RESERVED FOR ENTRIES TO ADDED SUBROUTINES		02393	70	
00370 LIBSUB DSS	30,, LIBRARY SUBROUTINE INDICATORS		02394	30	
00380 DC	1,,		02424	1	
00390 DORG	2426		02426		
00400 NAMBUF DC	16,0		02441	16	
	-0000000000000000				
00410 DC	2,,		02443	2	
	-				
00420 DVRLAP DC	1,0		02444	1	
	-				
00430 FLGRMK DS	1		02445	1	
00440 ADDCOW DS	5		02450	5	
00450 EQADDR DS	5		02455	5	
00460 SCADDR DS	5		02460	5	
00470 IOIND DC	1,0		02461	1	
	-				
00480 MLIND DC	1,0		02462	1	
	-				
00490 EXTIND DS	1		02463	1	
00500 SECT DS	3		02466	3	

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00510 ZRUTST DC	1,0		02467	1
	-			
00520 ADDSVE DS	5		02472	5
00530 DC	1,,		02473	1
	*			
00540 LDDA DDA	,1,0,0,SUBTBL		02474	14
	1-0000-00-2522			
00550 DC	1,,		02488	1
	*			
00560 SVEDDA DDA	,1,0,21,0		02490	14
	1-0000-21-0000			
00570 DC	1,,		02504	1
	*			
00580 INCDDA DDA	,1,0,10,SUBTBL		02506	14
	1-0000-10-2522			
00590 DC	1,,		02520	1
	*			
00600 DS	1		02521	1
00610 SUBTBL DSS	1000		02522	1000
00620 DC	12,,		03533	12
	-0000000000*			
00630 *****	ENTRY FROM CALL LINK STATEMENT			
00640 JAYENT NOP	ISTVLD,CDORTP	03534 41	04342	05448
00650 TFM	IORT,**23	03546 16	00565	-3569
00660 B	IOGT,COM,7	03558 49	00566	-5843
00670 TFM	CDTPLD+13,25,10	03570 16	05051	000K5
00680 TF	DMEDDA+5,COMSEC+71	03582 26	05833	07371
00690 TF	NAMBUF,7495,11	03594 26	02441	0749N
00700 TF	COMSEC+35,NAMBUF	03608 26	07335	02441
00710 TFM	IORT,**23,, GET FLOD SECTOR	03618 16	00565	-3641
00720 B	IOGT,DME,7	03630 49	00566	-5820
00730 TF	SVEDDA+5,INRK+18	03642 26	02495	07418
00740 TF	SCADDR,INRK+13	03654 26	02460	07413
00750 TF	ADDCOW,INRK+36	03666 26	02450	07436
00760 TF	ADDSVE,ADDCOW	03678 26	02472	02450
00770 AM	ADDSVE,1,10	03690 11	02472	000-1
00780 TF	LDDA+5,INRK+7	03702 26	02479	07407
00790 TF	LDDA+8,INRK+2	03714 26	02482	07402
00800 TF	SECT,INRK+26	03726 26	02466	07426
00810 TF	EQADDR,INRK+23	03738 26	02455	07423
00820 TF	INCDDA+5,INRK+31	03750 26	02511	07431
00830 TFM	**18,SUBTBL+11	03762 16	03780	-2533
00840 TDM		03774 15	00000	00000
00850 DC	1,,*		03785	1
	*			
00860 AM	*-6,20,10	03786 11	03780	000K0
00870 CM	*-18,SUBTBL+1031	03798 14	03780	-3553
00880 BNE	*-36	03810 47	03774	01200
00890 TFM	IORT,**23,, STORE IN-CORE TABLE	03822 16	00565	-3845
00900 B	IOPT,INC,7	03834 49	00532	-5891
00910 TDM	LNKIND,1	03846 15	03856	00001
00920 LNKIND DS	,-1		03856	0
00930 TD	IOIND,INRK+99	03858 25	02461	07499
00940 TDM	EXTIND,1	03870 15	02463	00001
00950 *****	EQUIVALENCE TABLE SEARCH			
00960 EQSRCH TF	EQUDDA+5,EQADDR	03882 26	05913	02455

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00970	TFM	INRK+48,SECT	03894	16	07448	-2466
00980	TFM	IORT,+23,, READ IN FOUR SECTORS OF EQUIV. TABLE	03906	16	00565	-3929
00990	B	IOGT,EQU,7	03918	49	00566	-5899
01000	COMPER	TFM COMP+11,SUBTBL+11,, SEARCH EQUIV. TABLE	03930	16	03973	-2533
01010	BNR	**20,COMP+11,11	03942	45	03962	0397L
01020	B	NXTRD+24	03954	49	04046	00000
01030	DORG	*-3	03962			
01040	COMP	C NAMBUF	03962	24	02441	00000
01050	BE	FOUND	03974	46	04090	01200
01060	AM	COMP+11,16,10, INCREMENT TO NEXT NAME	03986	11	03973	000J6
01070	CM	COMP+11,SUBTBL+11,, TEST FOR END OF TABLE	03998	14	03973	-2933
01080	BNE	COMPER+12	04010	47	03942	01200
01090	NXTRD	CM INRK+48,0,9, TEST FOR END OF EQUIV. TABLE	04022	14	07448	00-00
01100	8H	**20	04034	46	04054	01100
01110	B	CDORTP	04046	49	05448	00000
01120	DORG	*-3	04054			
01130	SM	INRK+48,4,10, DECREMENT SECTOR COUNT	04054	12	07448	000-4
01140	AM	EQUDDA+5,4,10	04066	11	05913	000-4
01150	R	COMPER-24	04078	49	03906	00000
01160	FOUND	AM COMP+11,4,10, INCREMENT TO GET DIM NUMBER	04090	11	03973	000-4
01170	TFM	DIMDDA+5,4800	04102	16	05957	-4800
01180	S	DIMDDA+6,COMP+11,11	04114	22	05958	0397L
01190	S	DIMDDA+6,COMP+11,11	04126	22	05958	0397L
01200	TDM	DIMDDA+6,,11	04138	15	05958	0000-
01210	*****	READ IN DIM SECTOR				
01220	FOUND1	TFM IORT,+23	04150	16	00565	-4173
01230	B	IOGT,DIM,7	04162	49	00566	-5944
01240	TD	SECCT,COMP+11,11	04174	25	06035	0397L
01250	CM	SECCT,5,10	04186	14	06035	000-5
01260	BL	**24	04198	47	04222	01300
01270	SM	SECCT,5,10, CALCULATE DIM ENTRY ADDRESS	04210	12	06035	000-5
01280	MM	SECCT,20,9	04222	13	06035	00-20
01290	AM	99,INRK	04234	11	00099	-7400
01300	TR	DIMSVE,99,11	04246	31	05994	0009R
01310	TD	DMEDDA,DIMSVE	04258	25	05828	05994
01320	TF	DMEDDA+5,DIMSVE+5	04270	26	05833	05999
01330	TR	DDAR,DMEDDA,, MOVE SECTOR DDA TO PROGRAM DDA AREA	04282	31	07280	05828
01340	TFM	IORT,+23,, READ IN INDICATOR RECORD	04294	16	00565	-4317
01350	B	IOGT,DME,7	04306	49	00566	-5820
01360	TF	DDAR+8,DIMSVE+8,, MOVE SECTOR COUNT	04318	26	07288	06002
01370	*****	INDICATOR RECORD CHECK				
01380	TDM	EXTIND,0	04330	15	02463	00000
01390	TSTVLD	C INRK+13,INDCON,, CHECK FOR VALID INDICATOR RECORD	04342	24	07413	06019
01400	RE	RELFM	04354	46	05178	01200
01410	C	INRK+5,INDCON,, CHECK FOR VALIDITY IN CORE IMAGE	04366	24	07405	06019
01420	BE	**32	04378	46	04410	01200
01430	BTM	EPRINT,75,8	04390	17	05262	0-075
01440	R	MONCAL	04402	49	00796	00000
01450	DORG	*-3	04410			
01460	TF	INDR+11,ADDSVE	04410	26	05942	02472
01470	TDM	INDR+7,, CONVERT DEFINER TO CORE IMAGE	04422	15	05938	00000
01480	DC	1,*,*	04433		1	
01490	AM	DDAR+5,1,10, INCREMENT DISK ADDRESS BY ONE	04434	11	07285	000-1
01500	SM	DDAR+8,1,10, DECREMENT SECTOR COUNT BY ONE	04446	12	07288	000-1
01510	*****	INITIALIZE FORTRAN COMMUNICATION AREA				

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01520	COMLD	TF N1,INRK+7	04458	26	02233	07407
01530	TF	N2,INRK+12	04470	26	02238	07412
01540	TF	M,INRK+14	04482	26	02240	07414
01550	TF	RELG,INRK+17	04494	26	02243	07417
01560	BD	LNK,LNKIND	04506	43	04550	03856
01570	TF	F,INRK+24	04518	26	02219	07424
01580	TF	K,INRK+26	04530	26	02221	07426
01590	B	ML	04542	49	04618	00000
01600	DORG	*-3	04550			
01610	LNK	C INRK+24,F	04550	24	07424	02219
01620	BNE	**36	04562	47	04598	01200
01630	C	INRK+26,K	04574	24	07426	02221
01640	BE	ML	04586	46	04618	01200
01650	BTM	EPRINT,76,8	04598	17	05262	0-076
01660	B	MONCAL	04610	49	00796	00000
01670	DORG	*-3	04618			
01680	ML	TF PROGST,INRK+31	04618	26	02226	07431
01690	A	PROGST,ADDSVE	04630	21	02226	02472
01700	TF	COMADD,INRK+36	04642	26	02231	07436
01710	TF	SVEDDA+13,COMADD	04654	26	02503	02231
01720	TF	MLLGTH,INRK+22	04666	26	06024	07422
01730	*****	INITIALIZE LIBRARY SUBROUTINE INDICATORS				
01740	SF	INRK+37	04678	32	07437	00000
01750	TF	LIBSUB+29,INRK+66	04690	26	02423	07466
01760	*****	SAVE COMMON AREA				
01770	TFM	DIO+35,ENT,67	04702	16	0085J	-5404
01780	TDM	*	04714	15	00000	00000
01790	DGM	*	04725		1	
01800	TFM	IORT,+23,, PUT 21 SECTORS OF COMMON AREA IN SCRATCH	04726	16	00565	-4749
01810	B	IOPT,SVE,7	04738	49	00532	-5923
01820	CLEAR	TR 7500,ZEROS,2	04750	31	-7500	06088
01830	AM	CLEAR+6,500,9	04762	11	04756	00N00
01840	C	CLEAR+6,COMADD	04774	24	04756	02231
01850	BL	CLEAR	04786	47	04750	01300
01860	TRYSZE	TF ADDSVE,ADDCOW	04798	26	02472	02450
01870	AM	ADDSVE,1,10	04810	11	02472	000-1
01880	A	ADDCOW,INRK+22	04822	21	02450	07422
01890	TDM	INRK+23	04834	15	07423	00000
01900	DC	1,*,*	04845		1	
01910	C	ADDCOW,COMADD	04846	24	02450	02231
01920	BH	ERML	04858	46	05324	01100
01930	SIZEOK	BD **24,OVRLAP	04870	43	04894	02444
01940	BNC1	RDRPRG	04882	47	04978	00100
01950	RCTY	*	04894	34	00000	00102
01960	WATY	NAMBUF-10,, TYPE OUT NAME	04906	39	02431	00100
01970	SPTY	*	04918	34	00000	00101
01980	WNTY	ADDSVE-4	04930	38	02468	00100
01990	SPTY	*	04942	34	00000	00101
02000	WNTY	INRK+18,, TYPE OUT LENGTH	04954	38	07418	00100
02010	WATY	LDED	04966	39	06043	00100
02020	*****	LOAD PROGRAMS ROUTINE				
02030	RDRPRG	RD CDTPLD,EXTIND,, BRANCH IF PROGRAM IN CARD OR TAPE	04978	43	05038	02463
02040	SCHLD	TFM IORT,+23,, GET PROGRAM FROM DISK	04990	16	00565	-5013
02050	B	IOGT,INDR,7	05002	49	00566	-5931
02060	CALL2	TFM IORT,+23	05014	16	00565	-5037

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02070	B	IOGT,BL2,7	05026	49	00566	-6060
02080	*****	ROUTINE TO LOAD PROGRAM FROM CARD OR TAPE				
02090	CDTPLD	TDM 416	05038	15	00416	00000
02100	DC	1,*,*	05049		1	
02110	NOP	428,COMSEC+73	05050	41	00428	07373
02120	SF	428	05062	32	00428	00000
02130	CF	429	05074	33	00429	00000
02140	TF	434,ADDSVE	05086	26	00434	02472
02150	SF	489	05098	32	00489	00000
02160	TF	COMSEC+98,INRK+79	05110	26	07398	07479
02170	TFM	IOPT,++23,, PUT BACK COMMUNICATION SECTOR	05122	16	00565	-5145
02180	B	IOPT,COM,7	05134	49	00532	-5843
02190	TFM	IOPT,++23,, GET PROGRAM	05146	16	00565	-5169
02200	B	IOGT,EXT,7	05158	49	00566	-5867
02210	B	CALL2	05170	49	05014	00000
02220	DDRG	*-3	05178			
02230	RELFRM	TDM INRK+80	05178	15	07480	00000
02240	DC	1,*,*	05189		1	
02250	TR	INRK,INRK+8,, MOVE INDICATOR RECORD TO CONFORM TO CARD IMAGE	05190	31	07400	07408
02260	CF	427	05202	33	00427	00000
02270	TFM	439,75	05214	16	00439	-0075
02280	TFM	DDAR+13,99999	05226	16	07293	R9999
02290	TF	INDR+11,ADDSVE	05238	26	05942	02472
02300	B	COMLD	05250	49	04458	00000
02310	*****	ERROR MESSAGE SUBROUTINE				
02320	EPRINT	TF ERMES+16,EPRINT-1	05262	26	05985	05261
02330	RCTY		05274	34	00000	00102
02340	WATY	ERMES	05286	39	05969	00100
02350	RCTY		05298	34	00000	00102
02360	WATY	JOBOUT	05310	39	05793	00100
02370	BB		05322	42	00000	00000
02380	DDRG	*-9	05324			
02390	*****	MAINLINE OVERLAP ROUTINE				
02400	ERML	RCTY	05324	34	00000	00102
02410	WATY	NAMBUF-10	05336	39	02431	00100
02420	WNTY	INRK+18	05348	38	07418	00100
02430	WATY	OVRMES	05360	39	05775	00100
02440	RCTY		05372	34	00000	00102
02450	WATY	JOBOUT	05384	39	05793	00100
02460	H	MONCAL	05396	49	00796	00000
02470	DDRG	*-3	05404			
02480	ENT	BI ++12,3700	05404	46	05416	03700
02490	BNI	ERRET,1900	05416	47	00602	01900
02500	TDM	INDS+10,6	05428	15	00620	00006
02510	B	ERROR	05440	49	00624	00000
02520	DDRG	*-3	05448			
02530	CDORTP	RCTY	05448	34	00000	00102
02540	RELADD	DS *-5	05454		0	
02550	WATY	LDMES	05460	39	05761	00100
02560	WATY	NAMBUF-10	05472	39	02431	00100
02570	*****	LOAD CARD OR TAPE STORED PROGRAMS				
02580	TD	CDTP+2,COMSEC+73	05484	25	06032	07373
02590	SM	CDTP+2,1,10	05496	12	06032	000-1
02600	READ	TFM IOPT,++23,, GET INDICATOR RECORD	05508	16	00565	-5531

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02610	B	IOGT,CDTP-4,7	05520	49	00566	-6026
02620	TFM	++23,INRK	05532	16	05555	-7400
02630	RMCHK	BNR ++20	05544	45	05564	00000
02640	B	READ	05556	49	05508	00000
02650	DDRG	*-3	05564			
02660	AM	RMCHK+11,1,10	05564	11	05555	000-1
02670	CM	RMCHK+11,INRK+80	05576	14	05555	-7480
02680	BNE	RMCHK	05588	47	05544	01200
02690	SF	INRK+1	05600	32	07401	00000
02700	CF	INRK+2	05612	33	07402	00000
02710	CF	INRK+3	05624	33	07403	00000
02720	CF	INRK+4	05636	33	07404	00000
02730	CM	INRK+4,4131,8	05648	14	07404	0M131
02740	BNE	HEADER	05660	47	05716	01200
02750	RCTY		05672	34	00000	00102
02760	TFM	IOPT,++23	05684	16	00565	-5707
02770	B	IOPT,TYPE-4,7	05696	49	00532	-6068
02780	B	CDORTP	05708	49	05448	00000
02790	DDRG	*-3	05716			
02800	HEADER	C INRK+13,INDCON	05716	24	07413	06019
02810	BNE	READ	05728	47	05508	01200
02820	BNE	READ,INRK+16	05740	44	05508	07416
02830	B	TSTVLD	05752	49	04342	00000
02840	DDRG	*-3	05760			
02850	LDMES	DAC 7,LOAD	05761		7 x	2
02860	OVRMES	DAC 9, OVERLAP	05775		9 x	2
02870	JOBOUT	DAC 14, JOB ABANDONED	05793		14 x	2
02880	DME	DSC 2,22	05820		2	
02890	DSA	DMEDDA	05826		5 x	1
02900	DC	1,*	05826		-5828	
02910	DMEDDA	DDA .1,0,1,INRK	05827		1	
02920	DC	1,*	05828		14	
02930	COM	DSC 2,22	05842		1	
02940	DSA	COMDDA	05843		2	
02950	DC	1,*	05849		5 x	1
02960	COMDDA	DDA .1,19663,1,COMSEC	05849		-5852	
02970	DC	1,*	05850		1	
02980	EXT	DSC 2,-22	05852		14	
02990	DSA	EXTDDA	05866		1	
			05867		2	
			05873		5 x	1

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ADDCOM 02450	ENTSC3 02268	NAMBUF 02441	ENT 05404	ML 04618
ADDSVE 02472	ENTSIN 02308	ONETWO 06036	EQU 05899	N1 02233
CDORTP 05448	ENTSQT 02318	OVLAP 02444	ERML 05324	N2 02238
COTPLD 05038	ENTSWD 02288	OVRMES 05775	ERRRT 00602	NXTRD 04022
COMDDA 02231	EPRINT 05262	PROGST 02226	ERROR 00624	READ 05508
COMDDA 05852	EQADDR 02455	RPROG 04978	EXT 05867	RECLG 02243
COMPER 03930	EQSRCH 03882	READD 05454	FOUND 04090	RMCHK 05544
COMSEC 07300	EQUDDA 05908	RELFM 05178	F 02219	SCHLD 04990
DIMDDA 05952	ERNES 05969	BL2 06060	INC 05891	SECT 06035
DIMSVE 05994	EXTDDA 05876	CALL2 05014	INDR 05931	SECT 02466
DMEDDA 05828	EXTIND 02463	CDINP 06025	INDS 00610	SVE 05923
ENTABS 02323	FLGRMK 02445	CDTP 06030	INRK 07400	TYPE 06072
ENTATM 02313	FOUND1 04150	CLEAR 04750	IOGT 00566	W 02240
ENTCOS 02303	HFADER 05716	COMLD 04458	IOIND 02461	ZEROS 06088
ENTDED 02298	INCDDA 02506	COMP 03962	IOPT 00532	SCADDR 02460
ENTDRR 02293	INDCON 06019	CON 05843	IORT 00565	SIZEOK 04870
ENTFET 02253	JAYENT 03534	DATA 06077	K 02221	SUBTBL 02522
ENTFID 02273	JOBOUT 05793	DDAR 07280	LDDDA 02474	SVDDA 02490
ENTREC 02278	LIBSUB 02394	DIM 05944	LDED 06043	TRYSZE 04798
ENTSC1 02258	LNKIND 03856	DIO 00816	DMES 05761	TSTVLD 04342
ENTSC2 02263	MLLGTH 06024	DME 05820	LNK 04550	ZERONE 05993
	MONCAL 00796	ENTLN 02248	MLIND 02462	ZROTST 02467

END OF ONE ASSEMBLY.

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00010 *							
00020 *							
00030 IOPT DS	,532			00532		0	
00040 IOGT DS	,566			00566		0	
00050 IORT DS	,565			00565		0	
00060 MONCAL DS	,796			00796		0	
00070 ***	COMMUNICATION AREA						
00080	DORG 2218			02218			
00090 F DS	2,,	FLOATING POINT WORD LENGTH		02219		2	
00100 K DS	2,,	FIXED POINT WORD LENGTH		02221		2	
00110 PROGST DS	5,,	STARTING ADDRESS OF MAINLINE PROGRAM		02226		5	
00120 COMADD DS	5,,	STARTING ADDRESS OF COMMON AREA		02231		5	
00130 N1 DS	2,,	NUMBER OF WORDS IN LOGICAL RECORD		02233		2	
00140 N2 DS	5,,	NUMBER OF LOGICAL RECORDS		02238		5	
00150 W DS	2,,	WORD LENGTH		02240		2	
00160 RECLG DS	3,,	RECORD LENGTH		02243		3	
00170 ENTLN DS	5,,	ENTRY ADDRESS TO LOG SUBROUTINE		02248		5	
00180 ENTXP DS	5,,	ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE		02253		5	
00190 ENTSC1 DS	5,,	ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE		02258		5	
00200 ENTSC2 DS	5,,	ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE		02263		5	
00210 ENTSC3 DS	5,,	ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE		02268		5	
00220 ENTFID DS	5,,	ENTRY ADDRESS TO FIND SUBROUTINE		02273		5	
00230 ENTREC DS	5,,	ENTRY ADDRESS TO RECORD SUBROUTINE		02278		5	
00240 ENTRET DS	5,,	ENTRY ADDRESS TO FETCH SUBROUTINE		02283		5	
00250 ENTSWD DS	5,,	ENTRY ADDRESS TO SWITCH D SUBROUTINE		02288		5	
00260 ENTDRR DS	5,,	ENTRY ADDRESS TO ARRAY SUBROUTINE		02293		5	
00270 ENTDED DS	5,,	ENTRY ADDRESS TO DISK END SUBROUTINE		02298		5	
00280 ENTCOS DS	5,,	ENTRY ADDRESS TO COSINE SUBROUTINE		02303		5	
00290 ENTSIN DS	5,,	ENTRY ADDRESS TO SINE SUBROUTINE		02308		5	
00300 ENTATN DS	5,,	ENTRY ADDRESS TO ARCTANGENT SUBROUTINE		02313		5	
00310 ENTSQT DS	5,,	ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE		02318		5	
00320 ENTARS DS	5,,	ENTRY ADDRESS TO ABSOLUTE SUBROUTINE		02323		5	
00330 DS	70,,	RESERVED FOR ENTRIES TO ADDED SUBROUTINES		02393		70	
00340 LIBSUB DSS	30,,	LIBRARY SUBROUTINE INDICATORS		02394		30	
00350 DC	1,'			02424		1	
00360 *****	MAINLINE TABLE SEARCH						
00370	DORG 2426			02426			
00380 NAMBUF DC	16,0			02441		16	
	-0000000000000000						
00390 DC	2,'			02443		2	
	-'						
00400 OVLAP DS	1			02444		1	
00410 FLGRMK DS	1			02445		1	
00420 ADDCOW DS	5			02450		5	
00430 EQADDR DS	5			02455		5	
00440 SCADDR DS	5			02460		5	
00450 IQIND DS	1			02461		1	
00460 MLIND DS	1			02462		1	
00470 EXTIND DS	1			02463		1	
00480 SECT DS	3			02466		3	
00490 ZROTST DS	1			02467		1	
00500 ADDSVE DS	5			02472		5	
00510 DC	1,'			02473		1	
	*						
00520 LDDA DDA	,1,0,0,SUBTBL			02474		14	
	1-0000-00-2522						

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00530 DC	1,'			02488		1	
	*						
00540 SVEDDA DDA	,1,0,21,0			02490		14	
	1-0000-21-0000						
00550 DC	1,'			02504		1	
	*						
00560 DATA DC	1,0			02505		1	
	-						
00570 INCDDA DDA	,1,0,10,SUBTBL			02506		14	
	1-0000-10-2522						
00580 DC	1,'			02520		1	
	*						
00590 DS	1			02521		1	
00600 SUBTBL DSS	1000			02522		1000	
00610 DC	12,'			03533		12	
	-0000000000'						
00620 RMTBL CM	COMSEC+75,,10,	BRANCH IF NO LOCAL CARDS		03534	14	07375	000-0
00630 BE	LODINC			03546	46	05086	01200
00640 TFM	IORT,+23			03558	16	00565	-3581
00650 B	IOGT,LD,7			03570	49	00266	-7221
00660 TFM	+23,SUBTBL+11			03582	16	03605	-2533
00670 SRCH BNR	+32,,	TEST FOR END OF TABLE		03594	45	03626	00000
00680 TDM	TBLIND,1			03606	15	03615	00001
00690 TBLIND DS	,+2			03615		0	
00700 B	LODINC			03618	49	05086	00000
00710 DORG	+3			03626			
00720 C	COMSEC+35,SRCH+11,11,	COMPARE NAMES		03626	24	07335	0360N
00730 BE	TBLD			03638	46	04918	01200
00740 AM	SRCH+11,20,10,	INCREMENT TO NEXT ENTRY		03650	11	03605	000K0
00750 B	SRCH			03662	49	03594	00000
00760 EQSRCH TF	EQUDDA+5,EQADDR			03674	26	07011	02455
00770 TF	INRK+48,SECT			03686	26	07448	02466
00780 TFM	IORT,+23,,	READ IN FOUR SECTORS OF EQUIV. TABLE		03698	16	00565	-3721
00790 B	IOGT,EQU,7			03710	49	00566	-6997
00800 COMPER TFM	COMP+11,SUBTBL+11,,	SEARCH EQUIV. TABLE		03722	16	03765	-2533
00810 BNR	+20,COMP+11,11			03734	45	03754	0376N
00820 B	EQSRCH-1,,6			03746	49	0367L	00000
00830 DORG	+3			03754			
00840 COMP C	NAMBUF			03754	24	02441	00000
00850 BE	FOUND			03766	46	03874	01200
00860 AM	COMP+11,16,10,	INCREMENT TO NEXT NAME		03778	11	03765	000J6
00870 CM	COMP+11,SUBTBL+41,,	TEST FOR END OF TABLE		03790	14	03765	-2933
00880 BNE	COMPER+12			03802	47	03734	01200
00890 NXTRD CM	INRK+48,0,9,	TEST FOR END OF EQUIV. TABLE		03814	14	07448	00-00
00910 BE	EQSRCH-1,,6			03826	46	0367L	01200
00930 SM	INRK+48,4,10,	DECREMENT SECTOR COUNT		03838	12	07448	000-4
00940 AM	EQUDDA+5,4,10			03850	11	07011	000-4
00950 B	COMPER-24			03862	49	03698	00000
00960 FOUND AM	COMP+11,4,10,	INCREMENT TO GET DIM NUMBER		03874	11	03765	000-4
00970 TFM	DIMDDA+5,4800			03886	16	07071	-4800
00980 S	DIMDDA+6,COMP+11,11			03898	22	07072	0376N
00990 S	DIMDDA+6,COMP+11,11			03910	22	07072	0376N
01000 TDM	DIMDDA+6,,11			03922	15	07072	0000-
01010 *****	READ IN DIM SECTOR						
01020 TD	SECT,COMP+11,11			03934	25	07132	0376N
01030 BTM	INCGET,+12			03946	17	06822	-3958

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01040	SF	ENDTST+11,,6,	SET -LOADED- INDICATOR	03958	32	0566R	00000
01050	BTM	INCPUT,,+12		03970	17	06786	-3982
01060	FOUND1	TFM	IORT,,+23	03982	16	00565	-4005
01070	B	IOGT,DIM,7		03994	49	00566	-7058
01080	CM	SECT,5,10		04006	14	07132	000-5
01090	BL	+24		04018	47	04042	01300
01100	SM	SECT,5,10,	CALCULATE DIM ENTRY ADDRESS	04030	12	07132	000-5
01110	MM	SECT,20,9		04042	13	07132	00-20
01120	AM	99,INRK		04054	11	00099	-7400
01130	TR	DIMSVE,99,11		04066	31	07102	0009R
01140	TD	DMEDDA,DIMSVE		04078	25	06974	07102
01150	TF	DMEDDA+5,DIMSVE+5		04090	26	06979	07107
01160	TR	DDAR,DMEDDA,,	MOVE SECTOR DDA TO PROGRAM DDA AREA	04102	31	07280	06974
01170	TFM	IORT,,+23,,	READ IN INDICATOR RECORD	04114	16	00565	-4137
01180	R	IOGT,DME,7		04126	49	00566	-6966
01190	TF	DDAR+8,DIMSVE+8,,	MOVE SECTOR COUNT	04138	26	07288	07110
01200	*****		INDICATOR RECORD CHECK				
01210	TSTVLD	C	INRK+13,INDCON,, CHECK FOR VALID INDICATOR RECORD	04150	24	07413	04217
01220	BE	RELFRM		04162	46	06526	01200
01230	C	INRK+5,INDCON,,	CHECK FOR VALIDITY IN CORE IMAGE	04174	24	07405	04217
01240	RE	+56		04186	46	04242	01200
01250	BTM	EPRINT,75,8		04198	17	06858	0-075
01260	RCTY			04210	34	00000	00102
01270	INDCON	DC	6,987898,-4	04217			6
		R87898					
01280	WATY	JOROUT		04222	39	06939	00100
01290	B	MONCAL		04234	49	00796	00000
01300	DORG	+3		04242			
01310	TF	INDR+11,ADDSVE		04242	26	07056	02472
01320	TDM	INDR+7,,	CONVERT DEFINER TO CORE IMAGE	04254	15	07052	00000
01330	DC	1,,*		04265			1
		*					
01340	AM	DDAR+5,1,10,	INCREMENT DISK ADDRESS BY ONE	04266	11	07285	000-1
01350	SM	DDAR+8,1,10,	DECREMENT SECTOR COUNT BY ONE	04278	12	07288	000-1
01360	B	SUBPRO-24		04290	49	06586	00000
01370	DORG	+3		04298			
01380	TRYSZE	TF	ADDSVE,ADDCOW	04298	26	02472	02450
01390	AM	ADDSVE,1,10		04310	11	02472	000-1
01400	A	SPROST,ADDSVE		04322	21	06168	02472
01410	A	ADDCOW,INRK+22		04334	21	02450	07422
01420	TDM	INRK+23		04346	15	07423	00000
01430	DC	1,,*		04357			1
		*					
01440	C	ADDCOW,COMADD		04358	24	02450	02231
01450	BL	SIZEDK		04370	47	06138	01300
01460	S	ADDCOW,INRK+22		04382	22	02450	07422
01470	*****		OVERLAP INDICATION				
01480	TDM	OVRLAP,1,,	TURN ON OVERLAP INDICATOR	04394	15	02444	00001
01490	RCTY			04406	34	00000	00102
01500	ONETWO	DSC	5,00101,-9	04408			5
		00101					
01510	WATY	NAMBUF-10,,	TYPE PROGRAM NAME	04418	39	02431	00100
01520	WNTY	INRK+18,,	TYPE LENGTH	04430	38	07418	00100
01530	WATY	OVRMES,,	TYPE OVERLAP	04442	39	06921	00100
01540	BD	+20,EXTIND,,	BRANCH IF PROGRAM ON CARDS OR TAPE	04454	43	04474	02463
01550	B	COMP+24,,	BRANCH TO GET NEXT NAME	04466	49	03778	00000

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01560	DORG	+3		04474			
01570	**		ROUTINE TO READ INDICATOR RECORD FROM CARDS OR TAPE				
01580	*****		LOAD CARD OR TAPE STORED PROGRAMS				
01590	PHASEC	BTM	INCGET,,+12	04474	17	06822	-4486
01600	TD	CDTP+2,COMSEC+73		04486	25	07129	07373
01610	SM	CDTP+2,1,10		04498	12	07129	000-1
01620	READ	TFM	IORT,,+23,, GET INDICATOR RECORD	04510	16	00565	-4533
01630	B	IOGT,CDTP-4,7		04522	49	00566	-7123
01640	TDM	EXTIND,1		04534	15	02463	00001
01650	TFM	+35,SURTBL-9		04546	16	04581	-2513
01651	GONXT	AM	ENTST+11,20,10	04558	11	04581	000K0
01660	ENTST	BNR	+20,, TEST FOR END OF TABLE	04570	45	04590	00000
01670	B	READ		04582	49	04510	00000
01680	DORG	+3		04590			
01690	TFM	+23,INRK		04590	16	04613	-7400
01700	RMCHK	BNR	+20	04602	45	04622	00000
01710	B	READ		04614	49	04510	00000
01720	DORG	+3		04622			
01730	AM	RMCHK+11,1,10		04622	11	04613	000-1
01740	CM	RMCHK+11,INRK+80		04634	14	04613	-7480
01750	BNE	RMCHK		04646	47	04602	01200
01760	SF	INRK+1		04658	32	07401	00000
01770	CF	INRK+2		04670	33	07402	00000
01780	CF	INRK+3		04682	33	07403	00000
01790	CF	INRK+4		04694	33	07404	00000
01800	CM	INRK+4,4131,8		04706	14	07404	0M131
01810	BNE	HEADER		04718	47	04762	01200
01820	RCTY			04730	34	00000	00102
01830	WATY	DATAL		04742	39	07231	00100
01840	B	PHASED		04754	49	05930	00000
01850	DORG	+3		04762			
01860	HEADER	C	INRK+13,INDCON,, TEST FOR INDICATOR RECORD	04762	24	07413	04217
01870	BNE	READ		04774	47	04510	01200
01880	BNF	+20,INRK+16		04786	44	04806	07416
01890	B	READ		04798	49	04510	00000
01900	DORG	+3		04806			
01910	C	INRK+25,ENTST+11,11,	COMPARE NAMES	04806	24	07425	0458J
01920	BNE	GONXT		04818	47	04558	01200
01930	TF	NAMBUF,ENTST+11,11		04830	26	02441	0458J
01940	AM	ENTST+11,6,10		04842	11	04581	000-6
01950	BNF	+32,ENTST+11,11		04854	44	04886	0458J
01951	AM	ENTST+11,14,10		04866	11	04581	000J4
01960	B	ENTST		04878	49	04570	00000
01970	DORG	+3		04886			
01980	SF	ENTST+11,,6,	SET -LOADED- INDICATOR	04886	32	0458J	00000
01990	BTM	INCPUT,,+12		04898	17	06786	-4910
02000	B	RELFRM		04910	49	06526	00000
02010	DORG	+3		04918			
02050	*****		FLIP SUBPROGRAM TABLE SEARCH				
02060	TBLLD	AM	SRCH+11,3,10	04918	11	03605	000-3
02070	TF	FLPDDA+8,SRCH+11,11		04930	26	07038	0360N
02080	AM	SRCH+11,5,10		04942	11	03605	000-5
02090	TF	FLPDDA+5,SRCH+11,11		04954	26	07035	0360N
02100	TFM	IORT,,+23		04966	16	00565	-4989
02110	B	IOGT,FLP,7		04978	49	00566	-7021
02120	SF	COMPAR		04990	32	05038	00000

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02130	TFM	COMPAR+11,SUBTBL+11,,	INITIALIZE POINTER	05002	16	05049	-2533
02140	TF	COMPRE+11,ADDCOM		05014	26	05129	02450
02150	AM	COMPRE+11,1,10		05026	11	05129	000-1
02160	COMPAR	BNR	COMPRE	05038	45	05118	0000
02170	BNF	COMPRE,COMPAR		05050	44	05118	05038
02180	TFM	IORT,++23		05062	16	05065	-5085
02190	B	IOPT,FLP,7		05074	49	05052	-7021
02200	*****	IN-CORE SUBPROGRAM TABLE SEARCH AND LOAD					
02210	LODINC	BTM	INCGET,++12	05086	17	06822	-5098
02220	CF	COMPAR		05098	33	05038	00000
02230	B	COMPAR-36		05110	49	05002	00000
02240	DORG	+3		05118			
02250	COMPRE	BNR	SERCH	05118	45	05138	00000
02260	B	SERCH3		05130	49	05570	00000
02270	DORG	+3		05138			
02280	SERCH	BD	++32,COMPRE+11,11	05138	43	05170	0512R
02290	AM	COMPRE+11,18,10		05150	11	05129	000J8
02300	B	COMPRE		05162	49	05118	00000
02310	DORG	+3		05170			
02320	AM	COMPRE+11,11,10		05170	11	05129	000J1
02330	HNF	SERCH2,COMPAR		05182	44	05422	05038
02340	C	COMPAR+11,COMPRE+11,611,	CHECK FOR SAME NAME	05194	24	0504R	0512R
02350	RE	SERCH1		05206	46	05238	01200
02360	AM	COMPRE+11,7,10		05218	11	05129	000-7
02370	R	COMPRE		05230	49	05118	00000
02380	DORG	+3		05238			
02390	SERCH1	SM	COMPRE+11,11,10	05238	12	05129	000J1
02400	TDM	COMPRE+11,0,6		05250	15	0512R	00000
02410	AM	COMPAR+11,5,10		05262	11	05049	000-5
02420	AM	COMPRE+11,16,10		05274	11	05129	000J6
02430	A	COMPRE+11,ADDSVE,6		05286	21	0512R	02472
02440	BNF	++56,COMPAR		05298	44	05354	05038
02450	CM	COMPAR+11,,67		05310	14	0504R	-0000
02460	BNE	++32		05322	47	05354	01200
02470	TF	COMPAR+11,COMPRE+11,611,	MOVE ADDRESS IN	05334	26	0504R	0512R
02480	B	SERCH2-20		05346	49	05402	00000
02490	DORG	+3		05354			
02500	*****	ROUTINE TO PLACE INDIRECT ENTRY ADDRESSES INTO SUBPROGRAMS					
02510	TF	++35,COMPAR+11,11		05354	26	05389	0504R
02520	TF	++18,COMPRE+11,11		05366	26	05384	0512R
02530	TFM	,,,	MOVE ADDRESS INTO PROGRAM	05378	16	00000	-0000
02540	SF	-6,,6		05390	32	0538M	00000
02550	AM	COMPAR+11,15,10		05402	11	05049	000J5
02560	B	COMPAR-24		05414	49	05014	00000
02570	DORG	+3		05422			
02580	*****	ROUTINE TO LOAD ENTRIES IN IN-CORE SUBPROGRAM TABLE					
02590	SERCH2	CM	COMPAR+11,SUBT9L+1011	05422	14	05049	-3533
02600	BNE	++12		05434	47	05466	01200
02610	BTM	EPRINT,79,8		05446	17	06858	0-079
02620	R	MVADD+24		05458	49	05538	00000
02630	DORG	+3		05466			
02640	BNR	SERCH+56,COMPAR+11,11		05466	45	05194	0504R
02650	TF	COMPAR+11,COMPRE+11,611		05478	26	0504R	0512R
02660	AM	COMPAR+11,5,10		05490	11	05049	000-5
02670	AM	COMPRE+11,5,10		05502	11	05129	000-5
02680	MVADD	TF	COMPAR+11,COMPRE+11,611	05514	26	0504R	0512R

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02690	A	COMPAR+11,ADDSVE,6		05526	21	0504R	02472
02700	AM	COMPAR+11,15,10		05538	11	05049	000J5
02710	AM	COMPRE+11,2,10		05550	11	05129	000-2
02720	B	COMPAR		05562	49	05038	00000
02730	DORG	+3		05570			
02740	SERCH3	BNR	++44,COMPAR+11,11	05570	45	05614	0504R
02750	TDM	COMPRE+11,,6		05582	15	0512R	00000
02760	BTM	INCPUT,++12		05594	17	06786	-5606
02770	B	PHASEB		05606	49	05634	00000
02780	DORG	+3		05614			
02790	AM	COMPAR+11,20,10		05614	11	05049	000K0
02800	B	COMPAR-24		05626	49	05014	00000
02810	DORG	+3		05634			
02820	*****	LOAD DISK-STORED SUBPROGRAMS					
02830	PHASEB	BTM	INCGET,++12	05634	17	06822	-5646
02840	TFM	++23,SUBTBL+11		05646	16	05669	-2533
02850	ENDTST	BNR	++44,,, TEST FOR END OF TABLE	05658	45	05702	00000
02860	CM	PROCCOW,,9		05670	14	05844	00-00
02870	BNE	PHASEC		05682	47	04474	01200
02880	B	CALL3		05694	49	05990	00000
02890	DORG	+3		05702			
02900	TF	NAMBUF,ENDTST+11,11		05702	26	02441	0566R
02910	AM	ENDTST+11,6,10		05714	11	05669	000-6
02920	BNF	INC13-60,ENDTST+11,11		05726	44	05758	0566R
02930	AM	ENDTST+11,14,10		05738	11	05669	000J4
02940	B	ENDTST		05750	49	05658	00000
02950	DORG	+3		05758			
02960	BTM	INCPUT,++12		05758	17	06786	-5770
02970	BTM	EQSRCH,++12,,	SEARCH EQUIVALENCE TABLE	05770	17	03674	-5782
02980	*****	RETURN IF ENTRY NOT FOUND IN EQUIV. TABLE					
02990	AM	ENDTST+11,1,10		05782	11	05669	000-1
03000	BTM	INCGET,++12		05794	17	06822	-5806
03010	BNF	++32,ENDTST+11,11		05806	44	05838	0566R
03020	INC13	AM	ENDTST+11,13,10	05818	11	05669	000J3
03030	B	ENDTST		05830	49	05658	00000
03040	DORG	+3		05838			
03050	*****	TYPE -LOAD NAME-					
03060	RCTY			05838	34	00000	00102
03070	PROCCOW	DC	3,0,+-5	05844		3	
03080	WATY	LDMES		05850	39	07153	00100
03090	WATY	NAMBUF-10		05862	39	02431	00100
03100	BTM	INCGET,++12		05874	17	06822	-5886
03110	SF	ENDTST+11,,6,	SET -TYPED- INDICATOR	05886	32	0566R	00000
03120	AM	PROCCOW,1,10		05898	11	05844	000-1
03130	BTM	INCPUT,++2		05910	17	06786	-5922
03140	B	INC13		05922	49	05818	00000
03150	DORG	+3		05930			
03160	*****	CHECK AND TYPE OUT NAMES OF UNLOADED SUBPROGRAMS					
03170	PHASED	TDM	DATA,1	05930	15	02505	00001
03180	TFM	++35,SUBTBL+11		05942	16	05977	-2533
03190	TDM	MORE		05954	15	06079	00000
03200	BNR	++48		05966	45	06014	00000
03210	BD	PHASEC,MORE		05978	43	04474	06079
03220	CALL3	TFM	IORT,++23	05990	16	05065	-6013
03230	B	IOGT,BL3,7		06002	49	05066	-7166

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03240	TF	NAMBUF,PHASED+47,11	06014	26	02441	0597P
03250	AM	PHASED+47,6,10	06026	11	05977	000-6
03260	BNF	**32,PHASED+47,11	06038	44	06070	0597P
03270	AM	PHASED+47,14,10	06050	11	05977	000J4
03280	B	PHASED+36	06062	49	05966	00000
03290	DORG	*-3	06070			
03300	TDM	MORE,1	06070	15	06079	00001
03310	MORE	DS	06079		0	
03320	RCTY	,*-2	06082	34	00000	00102
03330	TDM	DATA,0	06094	15	02505	00000
03340	WATY	LDMES	06106	39	07153	00100
03350	WATY	NAMBUF-10	06118	39	02431	00100
03360	B	*-80	06130	49	06050	00000
03370	DORG	*-3	06138			
03380	SIZEOK	BD **24,OVRLAP	06138	43	06162	02444
03390	BNC1	**96	06150	47	06246	00100
03400	RCTY		06162	34	00000	00102
03410	SPROST	DS *-5	06168		0	
03420	WATY	NAMBUF-10,,, TYPE OUT NAME	06174	39	02431	00100
03421	SPTY		06186	34	00000	00101
03430	WNTY	ADDSVE-4	06198	38	02468	00100
03440	SPTY		06210	34	00000	00101
03450	SPRST	DS *-5	06216		0	
03460	WNTY	INRK+18,,, TYPE OUT LENGTH	06222	38	07418	00100
03470	WATY	LDED	06234	39	07135	00100
03480	*****	LOAD PROGRAMS ROUTINE				
03490	TF	INDR+11,ADDSVE	06246	26	07056	02472
03500	BD	**24,EXTIND	06258	43	06282	02463
03510	TF	ENTST+11,ENDTST+11	06270	26	04581	05669
03520	SM	ENTST+11,1,10	06282	12	04581	000-1
03530	TF	**18,ENTST+11,11	06294	26	06312	0458J
03540	TF	ENTST+11,SPROST,6	06306	26	0458J	06168
03550	RDPROG	BD CDTPLD,EXTIND,,, BRANCH IF PROGRAM IN CARD OR TAPE	06318	43	06362	02463
03560	SCHLD	TFM IORT,**23,,, GET PROGRAM FROM DISK	06330	16	00565	-6353
03570	B	IOGT,INDR,7	06342	49	00566	-7045
03580	B	RMTBL	06354	49	03534	00000
03590	DORG	*-3	06362			
03600	*****	ROUTINE TO LOAD PROGRAM FROM CARD OR TAPE				
03610	CDTPLD	TDM 416	06362	15	00416	00000
03620	DC	1,*,*	06373		1	
03630	TD	428,COMSEC+73	06374	25	00428	07373
03640	SF	428	06386	32	00428	00000
03650	MLLGH	DS *	06397		0	
03660	CF	429	06398	33	00429	00000
03670	TF	434,ADDSVE	06410	26	00434	02472
03680	SF	489	06422	32	00489	00000
03690	TF	COMSEC+98,INRK+79	06434	26	07398	07479
03700	TFM	IORT,**23,,, PUT BACK COMMUNICATION SECTOR	06446	16	00565	-6469
03710	B	IOPT,COM,7	06458	49	00532	-7197
03720	TFM	IORT,**23,,, GET PROGRAM	06470	16	00565	-6493
03730	B	IOGT,EXT,7	06482	49	00566	-7174
03740	SM	PROCOM,1,10	06494	12	05844	000-1
03750	TDM	EXTIND	06506	15	02463	00000
03760	B	RMTBL	06518	49	03534	00000
03770	DORG	*-3	06526			

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03780	RELFM	TDM INRK+80	06526	15	07480	00000
03790	DC	1,*,*	06537		1	
03800	TR	INRK,INRK+8,,, MOVE INDICATOR RECORD TO CONFORM TO CARD IMAGE	06538	31	07400	07408
03810	CF	427	06550	33	00427	00000
03820	TFM	439,75	06562	16	00439	-0075
03830	TFM	DDAR+13,99999	06574	16	07293	R9999
03840	TF	SPROST,INRK+31	06586	26	06168	07431
03850	AM	SPROST,6,10	06598	11	06168	000-6
03860	SUBPRO	C INRK+24,F,,, TEST FOR EQUAL F	06610	24	07424	02219
03870	BNE	**36	06622	47	06658	01200
03880	C	INRK+26,K,,, TEST FOR EQUAL K	06634	24	07426	02221
03890	BE	**24	06646	46	06670	01200
03900	BTM	EPRINT,76,8	06658	17	06858	0-076
03910	TFM	MOVE+11,INRK+37,,, UPDATE SUBROUTINE TABLE	06670	16	06737	-7437
03920	TFM	MOVE+6,LIBSUB	06682	16	06732	-2394
03930	CF	MOVE+7	06694	33	06733	00000
03940	SUBDIG	BD MOVE,MOVE+11,11	06706	43	06726	0673P
03950	B	MOVE+12	06718	49	06738	00000
03960	DORG	*-3	06726			
03970	MOVE	TD	06726	25	00000	00000
03980	A	MOVE+11,ZERONE	06738	21	06737	06877
03990	CM	MOVE+6,LIBSUB+30	06750	14	06732	-2424
04000	BE	TRYSE	06762	46	04298	01200
04010	B	SUBDIG	06774	49	06706	00000
04020	INCPUT	TFM IORT,**23	06786	16	00565	-6809
04030	B	IOPT,INC,7	06798	49	00532	-6989
04040	B	INCPUT-1,,6	06810	49	0678N	00000
04050	INCGET	TFM IORT,**23	06822	16	00565	-6845
04060	B	IOGT,INC,7	06834	49	00566	-6989
04070	B	INCGET-1,,6	06846	49	0682J	00000
04090	*****	ERROR MESSAGE SUBROUTINE				
04100	EPRINT	TF ERMES+16,EPRINT-1	06858	26	07099	06857
04110	RCTY		06870	34	00000	00102
04120	ZERONE	DC 6,100001,*-4	06877		6	
04130	J00001					
04140	WATY	NAMBUF-10	06882	39	02431	00100
04150	WATY	ERMES	06894	39	07083	00100
04160	TDM	SVEDDA-1,1	06906	15	02489	00001
04170	BB		06918	42	00000	00000
04180	DORG	*-9	06920			
04180	OVRES	DAC 9, OVERLAP'	06921		9 x 2	
		OVERLAP'				
04190	JOBOUT	DAC 14, JOB ABANDONED'	06939		14 x 2	
		JOB ABANDONED'				
04200	DME	DSC 2,22	06966		2	
04210	DSA	DMEDDA	06972		5 x 1	
04220	DC	1,1	06972		-6974	
			06973		1	
04230	DMEDDA	DDA 1,0,1,INRK	06974		14	
		1-0000-01-7400				
04240	DC	1,1	06988		1	

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04250	INC	DSC	2,22		06989	2
			22			
04260		DSA	INCDDA		06995	5 X 1
04270		DC	1, *		06995	-2506
					06996	1
04280	EQU	DSC	2,22		06997	2
			22			
04290		DSA	EQUDDA		07003	5 X 1
04300		DC	1, *		07003	-7006
					07004	1
04310	EQUDDA	DDA	,1,0,4, SUBTBL		07006	14
			1-0000-04-2522			
04320		DC	1, *		07020	1
04330	FLP	DSC	2,22		07021	2
			22			
04340		DSA	FLPDDA		07027	5 X 1
04350		DC	1, *		07027	-7030
					07028	1
04360	FLPDDA	DDA	,1,0,0, SUBTBL		07030	14
			1-0000-00-2522			
04370		DC	1, *		07044	1
04380	INDR	DSC	2,22		07045	2
			22			
04390		DSA	DDAR,0		07051	5 X 2
04400		DC	1, *		07051	-7280
					07056	-0000
					07057	1
04410	DIM	DSC	2,22		07058	2
			22			
04420		DSA	DIMDDA		07064	5 X 1
04430		DC	1, *		07064	-7066
					07065	1
04440	DIMDDA	DDA	,1,4800,1, INRK		07066	14
			1-4800-01-7400			
04450		DC	1, *		07080	1
04460	ERMESS	DAC	10, ERROR L		07083	10 X 2
			ERROR L			
04470	DIMSVE	DSS	20,, RESERVES CURRENT DIM ENTRY		07102	20
04480	CDINP	DS	1		07122	1
04490	CDTP	DSA	INRK		07127	5 X 1
04500		DC	3, *		07127	-7400
			-0*		07130	3

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04510	SECCT	DC	2,0		07132	2
			-0			
04620	LODED	DAC	9, LOADED*		07135	9 X 2
			LOADED*			
04630	LDMES	DAC	7, LOAD *		07153	7 X 2
			LOAD *			
04640	BL3	DSC	2,-22		07166	2
			2K			
04650		DSC	1,0		07168	1
			0			
04660		DC	5,150*		07173	5
			-150*			
04670	EXT	DSC	2,-22		07174	2
			2K			
04680		DSA	EXTDDA		07180	5 X 1
04690		DC	1, *		07180	-7182
					07181	1
04700	EXTDDA	DDA	,1,19783,3,0		07182	14
			1J9783-03-0000			
04710		DC	1, *		07196	1
04720	COM	DSC	2,22		07197	2
			22			
04730		DSA	COMDDA		07203	5 X 1
04740		DC	1, *		07203	-7206
					07204	1
04750	COMDDA	DDA	,1,19663,1, COMSEC		07206	14
			1J9663-01-7300			
04760		DC	1, *		07220	1
04770	LD	DSC	2,22		07221	2
			22			
04780		DSA	LDDDA		07227	5 X 1
04790		DC	1, *		07227	-2474
					07228	1
04800	DATAL	DAC	6, *DATA*		07231	6 X 2
			DATA			
04810		DDRG	7280		07280	
04820	DDAR	DSS	20		07280	20
04830	COMSEC	DSS	100,, SYSTEM COMMUNICATION SECTOR		07300	100
04840	INRK	DSS	100,, READ IN AREA FOR INDICATOR RECORD		07400	100
04850		DEND			00000	

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ADDCOM 02450	ENTSIN 02308	OVRLAP 02444	FOUND 03874	RMCHK 04402
ADDSVE 02472	ENTSQT 02318	OVRMES 06921	F 02219	RMTBL 03534
CDTPLD 06362	ENTSWO 02288	PHASEB 05634	GONXT 04958	SCMLD 06330
COMADD 02231	EPRINT 06858	PHASEC 04474	INCL3 05818	SECTT 07132
COMDDA 07206	EQAADR 02455	PHASED 05930	INC 06989	SECT 02466
COMPAR 05038	EQRCH 03674	PROGOW 05844	INDR 07045	SERCH 05138
COMPER 03722	EQUODA 07006	PROGST 02226	INRK 07400	SPRST 06216
COMPRES 05118	ERMESS 07083	RDRPROG 06318	IOGT 00566	SRCH 03594
COMSEC 07300	EXTODA 07182	RELFPM 06526	IOIND 02461	TBLLO 04918
DIMDDA 07066	EXTIND 02463	BL3 07166	IOPT 00532	W 02240
DIMSVE 07102	FLGRMK 02445	CALL3 05990	IORT 00565	SCADDR 02460
DMEDDA 06974	FLPDDA 07030	CDINP 07122	K 02221	SERCH1 05238
ENDTST 05658	FOUND1 03982	CDTP 07127	LDDA 02474	SERCH2 05422
ENTABS 02323	HEADER 04762	COMP 03754	LDED 07135	SERCH3 05570
ENTATN 02313	INCDDA 02506	COM 07197	LDMES 07153	SIZEOK 06138
ENTCOS 02303	INCGET 06822	DATAL 07231	LD 07221	SPROST 06168
ENTDED 02298	INCPUT 06786	DATA 02505	MLIND 02462	SUBDIG 06706
ENTDRR 02293	INDCON 04217	ODAR 07280	MORE 06079	SUBPRD 06610
ENTEXP 02253	JOBOUT 06939	DIM 07058	MOVE 06726	SUBTBL 02522
ENTFET 02283	LIBSUB 02394	DME 06966	MVADD 05514	SVEDDA 02490
ENTFID 02273	LODINC 05086	ENTLN 02248	N1 02233	TBLIND 03615
ENTREC 02278	MLLGTH 06397	ENTST 04570	N2 02238	TRYSE 04298
ENTSC1 02258	MONCAL 00796	EQU 06997	NXTRD 03814	TSTVLD 04150
ENTSC2 02263	NAMBUF 02441	EXT 07174	READ 04510	ZERONE 06677
ENTSC3 02268	ONETWO 04408	FLP 07021	RECLG 02243	ZRTST 02467

END OF ONE ASSEMBLY.

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00010	N1	DS	,2233	02233	0
00020	N2	DS	,2238	02238	0
00030	W	DS	,2240	02240	0
00040	RECLG	DS	,2243	02243	0
00050	IORT	DS	,565	00565	0
00060	IOGT	DS	,566	00566	0
00070	IOPT	DS	,532	00532	0
00080	ERRET	DS	,602	00602	0
00090	INDS	DS	,610	00610	0
00100	ERRDR	DS	,624	00624	0
00110	DIO	DS	,816	00816	0
00120	LIBSUB	DS	,2394	02394	0
00130	COMADD	DS	,2231	02231	0
00140	DDRG		2426	02426	
00150	NAMBUF	DC	16,0	02441	16
			-0000000000000000		
00160	DC		2,'	02443	2
			'		
00170	OVRLAP	DS	1	02444	1
00180	FLGRM	DS	1	02445	1
00190	ADDCOW	DS	5	02450	5
00200	FQADDR	DS	5	02455	5
00210	SCADDR	DS	5	02460	5
00220	IOIND	DS	1	02461	1
00230	MLIND	DS	1	02462	1
00240	EXTIND	DS	1	02463	1
00250	SECT	DS	3	02466	3
00260	ZROTST	DS	1	02467	1
00270	ADDSVE	DS	5	02472	5
00280	DC		1,'	02473	1
			'		
00290	LDDA	DDA	,1,0,0,0	02474	14
			1-0000-00-0000		
00300	DC		1,'	02488	1
			'		
00310	SVEDDA	DDA	,1,0,21,0	02490	14
			1-0000-21-0000		
00320	DC		1,'	02504	1
			'		
00330	DATA	DS	1	02505	1
00340	INCDDA	DDA	,1,0,0,0	02506	14
			1-0000-00-0000		
00350	DC		1,'	02520	1
			'		
00360	DS		1	02521	1
00370	SUBTBL	DSS	1000	02522	1000
00380	DC		12,'	03533	12
			'		
			-000000000000'		
00390	LNKADD	DS	5	03538	5
00400	FLPDDA	DDA	,1,0,0,SUBTBL	03540	14
			1-0000-00-2522		
00410	DC		1,'	03554	1
			'		
00420	*****		LIBRARY SUBROUTINE LOADER ROUTINE		
00430	LBSUBA	CF	PTRS+1	03556 33	05538 00000
00440	CF		PTRS+6	03568 33	05543 00000

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00450	TFM	IORT,**23,,	GET SUBROUTINE DIM ENTRIES (6 SECTORS)	03580 16	00565 -3603
00460	B	IOGT,LIB,7		03592 49	00566 -5504
00470	BD	**56,PTRS,11,	BRANCH IF SUBROUTINE FOUND	03604 43	03660 0553P
00480	S	PTRS+10,PTRCON,,	DECREMENT POINTERS TO NEXT ENTRY	03616 22	05547 05559
00490	CM	PTRS,LIBSUB-1		03628 14	05537 -2393
00500	BE	RMTBL		03640 46	04528 01200
00510	B	*-48		03652 49	03604 00000
00520	DDRG	*-3		03660	
00530	CM	PTRS,LIBSUB+5		03660 14	05537 -2399
00540	BL	*+48		03672 47	03720 01300
00550	CM	PTRS,LIBSUB+7		03684 14	05537 -2401
00560	BH	*+24		03696 46	03720 01100
00570	TDM	ZROTST,1		03708 15	02467 00001
00580	BNR	**32,PTRS+10,11,	TEST FOR EMPTY DIM ENTRY	03720 45	03752 0554P
00590	S	PTRS+10,PTRCON,,	DECREMENT POINTERS TO NEXT ENTRY	03732 22	05547 05559
00600	B	*-24		03744 49	03720 00000
00610	DDRG	*-3		03752	
00620	AM	PTRS+10,8,10		03752 11	05547 000-8
00630	TF	LIBDDA+8,PTRS+10,11		03764 26	05526 0554P
00640	AM	PTRS+10,5,10		03776 11	05547 000-5
00650	TF	ADDSVE,ADDCOW		03788 26	02472 02450
00660	AM	ADDSVE,1,10		03800 11	02472 000-1
00670	A	ADDCOW,PTRS+10,11,	INCREMENT ADDRESS COUNTER BY LENGTH	03812 21	02450 0554P
00671	AM	PTRS+10,5,10		03824 11	05547 000-5
00672	TF	DIMCT,PTRS+10,11		03836 26	04058 0554P
00673	A	PTRS,DIMCT		03848 21	05537 04058
00674	DIMLD	SM	PTRS,1,10	03860 12	05537 000-1
00675	SM	DIMCT,1,10		03872 12	04058 000-1
00676	TDM	PTRS,1,6		03884 15	0553P 00001
00677	CM	DIMCT		03896 14	04058 -0000
00678	BNE	DIMLD		03908 47	03860 01200
00679	SM	PTRS+10,5,10		03920 12	05547 000-5
00680	C	ADDCOW,COMADD		03932 24	02450 02231
00690	BL	*+24		03944 47	03968 01300
00700	TDM	OVRLAP,1		03956 15	02444 00001
00710	TF	SUBBUF+6,PTRS,,	CALCULATE SUBROUTINE NUMBER	03968 26	04034 05537
00720	SM	SUBBUF+6,LIBSUB		03980 12	04034 -2394
00730	AM	SUBBUF+6,1,10		03992 11	04034 000-1
00740	BD	*+24,OVRLAP		04004 43	04028 02444
00750	BNCI	LBSUB1		04016 47	04200 00100
00760	SUBBUF	RCTY		04028 34	00000 00102
00770	DC	1,'*-4		04035	1
			'		
00780	WNTY	SUBBUF+5,,,	TYPE OUT SUBROUTINE NUMBER	04040 38	04033 00100
00790	SPTY			04052 34	00000 00101
00791	DIMCT	DS	*-5	04058	0
00800	BD	*+24,OVRLAP		04064 43	04088 02444
00810	WNTY	ADDSVE-4		04076 38	02468 00100
00820	TF	SUBBUF+6,PTRS+10,11,	MOVE ADDRESS INTO BUFFER	04088 26	04034 0554P
00830	SPTY			04100 34	00000 00101
00840	WNTY	SUBBUF+2,,,	TYPE OUT LENGTH OF SUBROUTINE	04112 38	04030 00100
00850	BD	*+32,OVRLAP		04124 43	04156 02444
00860	WATY	LDED		04136 39	05579 00100
00870	B	LBSUB1		04148 49	04200 00000
00880	DDRG	*-3		04156	
00890	WATY	DVRMES		04156 39	05561 00100

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00900	S	ADDCOW,PTRS+10,11, RESET ADDRESS COUNTER	04168	22	02450	0554P
00910	SM	PTRS+10,13,10, CORRECT DIM POINTER	04180	12	05547	000J3
00920	B	LBSUBA+60,,, BRANCH TO CHECK NEXT ENTRY	04192	49	03616	00000
00930	DORG	--3	04200			
00940	LBSUB1	SM PTRS+10,5,10, DECREMENT DIM TO SECTOR COUNT	04200	12	05547	000-5
00950	TF	LIBDDA+8,PTRS+10,11, MOVE IN SECTOR COUNT	04212	26	05526	0554P
00960	SM	PTRS+10,3,10, DECREMENT DIM TO DISK ADDRESS	04224	12	05547	000-3
00970	TF	LIBDDA+5,PTRS+10,11, TRANSFER DISK ADDRESS	04236	26	05523	0554P
00980	TF	DMEDDA+5,LIBDDA+5,,, SET UP ONE SECTOR DDA	04248	26	05609	05523
00990	SM	PTRS+10,5,10, DECREMENT TO DISK DRIVE CODE	04260	12	05547	000-5
01000	TD	LIBDDA,PTRS+10,11, TRANSFER DRIVE CODE	04272	25	05518	0554P
01010	TD	DMEDDA,LIBDDA	04284	25	05604	05518
01020	TFM	IORT,++23,,, GET ONE SECTOR OF SUBROUTINE	04296	16	00565	-4319
01030	B	IOGT,DME,7	04308	49	00566	-5596
01040	TFM	++23,INRK+8	04320	16	04343	-7408
01050	LBSUB2	BNR RELOC	04332	45	04484	00000
01060	TF	99,PTRS+5	04344	26	00099	05542
01070	A	99,INRK+7	04356	21	00099	07407
01080	TD	++35,99,11, SAVE DIGIT TO BE OVERLAYED	04368	25	04403	0009R
01090	TR	PTRS+5,INRK+8,6, LOAD ENTRY ADDRESS	04380	31	0554K	07408
01100	TDM	99,,,6, RESTORE DIGIT	04392	15	0009R	00000
01110	TF	LIB+11,ADDSVE	04404	26	05515	02472
01120	TFM	LIBDDA+13,99999	04416	16	05531	R9999
01130	CF	427	04428	33	00427	00000
01140	TFM	439	04440	16	00439	-0000
01150	TFM	IORT,++23,,, LOAD SUBROUTINES	04452	16	00565	-4475
01160	B	IOGT,LIB,7	04464	49	00566	-5504
01170	B	LBSUBA+60	04476	49	03616	00000
01180	DORG	--3	04484			
01190	*****	RELOCATE ENTRY ADDRESSES				
01200	RELOC	AM LBSUB2+11,4,10	04484	11	04343	000-4
01210	A	LBSUB2+11,ADDSVE,6, RELOCATE ADDRESS	04496	21	0434L	02472
01220	AM	LBSUB2+11,1,10	04508	11	04343	000-1
01230	B	LBSUB2	04520	49	04332	00000
01240	DORG	--3	04528			
01250	RMTBL	CM COMSEC+75,,,10, BRANCH IF NO LOCAL CARDS	04528	14	07375	000-0
01260	BNE	++48	04540	47	04588	01200
01270	CALL6	TF INRK+4,INDDA+5	04552	26	07404	02511
01271	TFM	IORT,++23	04564	16	00565	-4587
01280	B	IOGT,BL6,7	04576	49	00566	-5488
01290	BD	CALL6,OVRLAP	04588	43	04552	02444
01300	TFM	IORT,++23	04600	16	00566	-4623
01310	B	IOGT,LD,7	04612	49	00566	-5496
01320	TFM	++23,SUBTBL+11	04624	16	04647	-2533
01330	SRCH	BNR ++20,,, TEST FOR END OF TABLE	04636	45	04656	00000
01340	B	CALL6	04648	49	04552	00000
01350	DORG	--3	04656			
01360	C	COMSEC+35,SRCH+11,11	04656	24	07335	0464P
01370	BE	TBLLD	04668	46	04700	01200
01380	AM	SRCH+11,20,10, INCREMENT TO NEXT ENTRY	04680	11	04647	000K0
01390	B	SRCH	04692	49	04636	00000
01400	DORG	--3	04700			
01410	TBLLD	AM SRCH+11,3,10	04700	11	04647	000-3
01420	TF	FLPDDA+8,SRCH+11,11	04712	26	03548	0464P
01430	AM	SRCH+11,5,10	04724	11	04647	000-5
01440	TF	FLPDDA+5,SRCH+11,11	04736	26	03545	0464P

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01450	TFM	IORT,++23	04748	16	00565	-4771
01460	B	IOGT,FLP,7	04760	49	00566	-5670
01461	Y	AM X+11,6,10	04772	11	04819	000-6
01462	DC	1,*,*-2	04781		1	
01463	TR	X+11,Y+7,6	04784	31	0481R	04779
01464	AM	X+11,14,10	04796	11	04819	000J4
01465	X	BNR Y,SUBTBL+11,7	04808	45	04772	-2533
01466	TFM	IORT,++23	04820	16	00565	-4843
01467	B	IOPT,FLP,7	04832	49	00532	-5670
01470	TF	FLPPRO+11,ADDCOW	04844	26	05689	02450
01480	AM	FLPPRO+11,1,10	04856	11	05689	000-1
01490	TF	STADD,FLPPRO+11	04868	26	05652	05689
01500	A	ADDCOW,FLPCOW	04880	21	02450	05150
01510	TF	LNKADD,ADDCOW	04892	26	03538	02450
01520	AM	LNKADD,24,10	04904	11	03538	000K4
01530	C	ADDCOW,COMADD	04916	24	02450	02231
01540	BH	FLPOVR	04928	46	05460	01100
01550	CF	427	04940	33	00427	00000
01560	TFM	439,0	04952	16	00439	-0000
01570	TFM	IORT,++23	04964	16	00565	-4987
01580	B	IOGT,FLPPRO,7	04976	49	00566	-5678
01590	FLIP	TF FLPLNK+11,FLPPRO+11	04988	26	05630	05689
01600	AM	FLPLNK+11,4,10	05000	11	05630	000-4
01610	TF	FLPLNK+11,ADDCOW,6	05012	26	0563-	02450
01620	AM	FLPLNK+11,1,610	05024	11	0563-	000-1
01630	AM	FLPLNK+11,6,10	05036	11	05630	000-6
01640	SIZEOK	BNR CALL5+24,SUBTBL+11	05048	45	05284	02533
01650	TF	ADDSVE,ADDCOW	05060	26	02472	02450
01660	AM	FLPPRO+11,4,10	05072	11	05689	000-4
01670	AM	ADDSVE,3,10	05084	11	02472	000-3
01680	TF	FLPPRO+11,ADDSVE,6	05096	26	0568R	02472
01690	AM	ADDCOW,2,10	05108	11	02450	000-2
01700	BD	++24,OVRLAP	05120	43	05144	02444
01710	BNC1	CALL5	05132	47	05260	00100
01720	RCTY		05144	34	00000	00102
01730	FLPCOW	DC 5,256,+-5	05150		5	
		-0256				
01740	DC	1,*,*-4	05151		1	
01750	WATY	FLPMES	05156	39	05655	00100
01760	BD	++24,OVRLAP	05168	43	05192	02444
01770	WNTY	STADD-4	05180	38	05648	00100
01780	SPTY		05192	34	00000	00101
01790	WNTY	FLPCOW-4	05204	38	05146	00100
01800	BD	++32,OVRLAP	05216	43	05248	02444
01810	WATY	LOED	05228	39	05579	00100
01820	B	CALL5	05240	49	05260	00000
01830	DORG	--3	05248			
01840	WATY	OVRMES	05248	39	05561	00100
01850	CALL5	TFM IORT,++23	05260	16	00565	-5283
01860	B	IOGT,BL5,7	05272	49	00566	-5480
01870	TF	SECLNK+6,ADDCOW	05284	26	05338	02450
01880	AM	SECLNK+6,2,10	05296	11	05338	000-2
01890	AM	ADDCOW,19,10	05308	11	02450	000J9
01900	TF	FLPLNK+16,ADDCOW	05320	26	05635	02450

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01910	SECLNK	TR	,FLPLNK	05332	31	00000	05619
01920	AM		SIZEOK+11,5,10	05344	11	05059	000-5
01930	AM		SECLNK+6,5,10	05356	11	05338	000-5
01940	TF		**18,SIZEOK+11,11	05368	26	05386	0505R
01950	TF		,SECLNK+6	05380	26	00000	05338
01960	AM		SIZEOK+11,15,10	05392	11	05059	000J5
01970	AM		ADDCOW,11,10	05404	11	02450	000J1
01980	AM		FLPCOW,30,10	05416	11	05150	000L0
01990	C		ADDCOW,COMADD	05428	24	02450	02231
02000	RH		FLPOVR	05440	46	05460	01100
02010	B		SIZEOK	05452	49	05048	00000
02020	DORG		*-3	05460			
02030	FLPOVR	TDM	OVRLAP,1	05460	15	02444	00001
02040	B		FLIP	05472	49	04988	00000
02050	DORG		*-3	05480			
02060	BL5	DSC	2,-22	05480			2
		ZK					
02070		DSC	1,0	05482			1
		U					
02080		DC	5,152'	05487			5
			-152'				
02090	BL6	DSC	2,-22	05488			2
		ZK					
02100		DSC	1,0	05490			1
		U					
02110		DC	5,157'	05495			5
			-157'				
02120	DIMTBL	DS	,SUBTBL+599	03121			0
02130	DIMTB	DS	,SUBTBL	02522			0
02140	LD	DSC	2,22	05496			2
		ZK					
02150		DSA	LODDA	05502		5 X	1
				05502		-2474	
02160		DC	1,1	05503		1	
02170	LIB	DSC	2,22	05504			2
		ZK					
02180		DSA	LIBDDA,0	05510		5 X	2
				05510		-5518	
				05515		-0000	
02190		DC	1,1	05516		1	
02200		DC	1,1,LIB+7	05511		1	
02210	LIBDDA	DDA	,1,4802,6,DIMTB	05518		14	
			1-4802-06-2522				
02220		DC	1,1	05532		1	
02230	PTRS	DSA	LIBSUB+29,LIBSUB-5,DIMTB-19	05537		5 X	3
				05537		-2423	
				05542		-2389	
				05547		-3102	
				05559		12	
02240	PTRCON	DC	12,010000500020				
			-10000500020				

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02250	OVRMES	DAC	9, OVERLAP*	05561		9 X	2
			OVERLAP*				
02260	LOED	DAC	9, LOADED*	05579		9 X	2
			LOADED*				
02270	DME	DSC	2,22	05596			2
		ZK					
02280		DSA	DMEDDA	05602		5 X	1
				05602		-5604	
02290		DC	1,1	05603		1	
02300	DMEDDA	DDA	,1,0,1,INRK	05604		14	
			1-0000-01-7400				
02310		DC	1,1	05618		1	
02320	FLPLNK	DSC	5,0	05619		5	
			00000				
02330		BTM		05624	17	00000	-0000
02340		DSC	1,1	05636		1	
02350		DC	5,0	05641		5	
			-0000				
02360		DC	6,1	05647		6	
			-0000'				
02370	STADD	DS	5	05652		5	
02380		DC	1,1,	05653		1	
02390	FLPMES	DAC	8,FLIPER *	05655		8 X	2
			FLIPER *				
02400	FLP	DSC	2,22	05670		2	
		ZK					
02410		DSA	FLPDDA	05676		5 X	1
				05676		-3540	
02420		DC	1,1	05677		1	
02430	FLPPRD	DSC	2,22	05678		2	
		ZK					
02440		DSA	FLDDA,0	05684		5 X	2
				05684		-5692	
				05689		-0000	
02450		DC	1,1	05690		1	
02460	FLDDA	DDA	,1,16195,999,99999	05692		14	
			1J6195R99R9999				
02470		DC	1,1	05706		1	
02480		DORG	7280	07280			
02490	DDAR	DSS	20	07280		20	
02500	COMSEC	DSS	100,, SYSTEM COMMUNICATION SECTOR	07300		100	
02510	INRK	DSS	100,, READ IN AREA FOR INDICATOR RECORD	07400		100	
02520		DEND		00000			

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ADDCOM 02450	INCDDA 02506	DATA 02505	IOIND 02461	SRCH 04636
ADDSVE 02472	LBSUB1 04200	DDAR 07280	IOPT 00532	STADD 05652
COMADD 02231	LBSUB2 04332	DINCT 04058	IORT 00565	TBLLD 04700
COMSEC 07300	LBSUBA 03556	DIMLD 03860	LDDDA 02474	W 02240
DIMTBL 03121	LIBDDA 05518	DIMTB 02522	LDED 05579	X 04808
DMEDDA 05604	LBSUB 02394	DIO 00816	LD 05496	Y 04772
EQADDR 02455	LNKADD 03538	DME 05596	LIB 05504	SCADDR 02460
EXTIND 02463	NAMBUF 02441	ERRER 00602	MLIND 02462	SECLNK 05332
FLGRMK 02445	OVR LAP 02444	ERROR 00624	N1 02233	SIZEOK 05048
FLPCDW 05150	OVRNES 05561	FLDDA 05692	N2 02230	SUBBUF 04028
FLPDDA 03540	PTRCON 05559	FLIP 04988	PTRS 05537	SUBTBL 02522
FLPLNK 05619	BL5 05480	FLP 05670	RECLG 02243	SVEDDA 02490
FLPMES 05655	BL6 05488	INDS 00610	RELOC 04484	ZROTST 02467
FLPOVR 05460	CALL5 05260	INRK 07400	RMTBL 04528	
FLPPRO 05678	CALL6 04552	IOGT 00566	SECT 02466	

END OF ONE ASSEMBLY.

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00010	*							
00020	*							
00030	IOPY	DS	,532		00532		0	
00040	IOGT	DS	,566		00566		0	
00050	IORT	DS	,565		00565		0	
00060	MUNCAL	DS	,796		00796		0	
00070	***	COMMUNICATION AREA						
00080	DORG		2218		02218			
00090	F	DS	2,,	FLOATING POINT WORD LENGTH	02219		2	
00100	K	DS	2,,	FIXED POINT WORD LENGTH	02221		2	
00110	PROGST	DS	5,,	STARTING ADDRESS OF MAINLINE PROGRAM	02226		5	
00120	COMADD	DS	5,,	STARTING ADDRESS OF COMMON AREA	02231		5	
00130	N1	DS	2,,	NUMBER OF WORDS IN LOGICAL RECORD	02233		2	
00140	N2	DS	5,,	NUMBER OF LOGICAL RECORDS	02238		5	
00150	W	DS	2,,	WORD LENGTH	02240		2	
00160	RECLG	DS	3,,	RECORD LENGTH	02243		3	
00170	ENTLN	DS	5,,	ENTRY ADDRESS TO LOG SUBROUTINE	02248		5	
00180	ENTEXP	DS	5,,	ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE	02253		5	
00190	ENTSC1	DS	5,,	ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE	02258		5	
00200	ENTSC2	DS	5,,	ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE	02263		5	
00210	ENTSC3	DS	5,,	ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE	02268		5	
00220	ENTFID	DS	5,,	ENTRY ADDRESS TO FIND SUBROUTINE	02273		5	
00230	ENTREC	DS	5,,	ENTRY ADDRESS TO RECORD SUBROUTINE	02278		5	
00240	ENTFET	DS	5,,	ENTRY ADDRESS TO FETCH SUBROUTINE	02283		5	
00250	ENTSWD	DS	5,,	ENTRY ADDRESS TO SWITCH D SUBROUTINE	02288		5	
00260	ENTDRR	DS	5,,	ENTRY ADDRESS TO ARRAY SUBROUTINE	02293		5	
00270	ENTDED	DS	5,,	ENTRY ADDRESS TO DISK END SUBROUTINE	02298		5	
00280	ENTCOS	DS	5,,	ENTRY ADDRESS TO COSINE SUBROUTINE	02303		5	
00290	ENTSIN	DS	5,,	ENTRY ADDRESS TO SINE SUBROUTINE	02308		5	
00300	ENTATN	DS	5,,	ENTRY ADDRESS TO ARCTANGENT SUBROUTINE	02313		5	
00310	ENTSQT	DS	5,,	ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE	02318		5	
00320	ENTABS	DS	5,,	ENTRY ADDRESS TO ABSOLUTE SUBROUTINE	02323		5	
00330	DS		70,,	RESERVED FOR ENTRIES TO ADDED SUBROUTINES	02393		70	
00340	LIBSUB	DSS	30,,	LIBRARY SUBROUTINE INDICATORS	02394		30	
00350	DC		1, *		02424		1	
00360	*****	MAINLINE TABLE SEARCH						
00370	DORG		2426		02426			
00380	NAMBUF	DC	16,0		02441		16	
			-0000000000000000					
00390	DC		2, *		02443		2	
			-*					
00400	OVRLAP	DS	1		02444		1	
00410	FLGRMK	DS	1		02445		1	
00420	ADDCOW	DS	5		02450		5	
00430	EQADDR	DS	5		02455		5	
00440	SCADDR	DS	5		02460		5	
00450	IDIND	DS	1		02461		1	
00460	MLIND	DS	1		02462		1	
00470	EXTIND	DS	1		02463		1	
00480	SECT	DS	3		02466		3	
00490	ZROTST	DS	1		02467		1	
00500	ADDSVE	DS	5		02472		5	
00510	DC		1, *		02473		1	
			*					
00520	LDDDA	DDA	,1,0,0,SUBTBL		02474		14	
			1-0000-00-2522					

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00530	DC		1, *		02488		1	
			*					
00540	SVEDDA	DDA	,1,0,21,0		02490		14	
			1-0000-21-0000					
00550	DC		1, *		02504		1	
			*					
00560	DATA	DC	1,0		02505		1	
			-					
00570	INCDDA	DDA	,1,0,10,SUBTBL		02506		14	
			1-0000-10-2522					
00580	DC		1, *		02520		1	
			*					
00590	DS		1		02521		1	
00600	SUBTBL	DSS	1000		02522		1000	
00610	DC		12, *		03533		12	
			-00000000000*					
00620	LNKADD	DS	5		03538		5	
00630	FLPDDA	DDA	,1,0,0,SUBTBL		03540		14	
			1-0000-00-2522					
00640	DC		1, *		03554		1	
			*					
00650	*****	LOAD DISK-STORED SUBPROGRAMS						
00660	TF		SPRST,SCADDR		03556	26	06773 02460	
00670	AM		SPRST,218		03568	11	06773 -0218	
00680	TF		SCHDDA+5,INCDDA+5		03580	26	06857 02511	
00690	TF		SCHDDA+13,ADDSVE		03592	26	06865 02472	
00700	PHASEB	BTM	FLPGET,**12		03604	17	06656 -3616	
00710	TF		LNKPTR,LNKADD		03616	26	06758 03538	
00720	TFM		**23,SUBTBL+11		03628	16	03651 -2533	
00730	ENDTST	BNR	**44,,, TEST FOR END OF TABLE		03640	45	03684 00000	
00740	CM		PRDCW,,9		03652	14	03834 00-00	
00750	BNE		PHASEC		03664	47	04740 01200	
00760	B		CALL6		03676	49	06436 00000	
00770	DORG		-3		03684			
00780	TF		NAMBUF,ENDTST+11,11		03684	26	02441 0365J	
00790	AM		ENDTST+11,6,10		03696	11	03651 000-6	
00800	BNF		INC13-56,ENDTST+11,11, TEST FOR -LOADED- INDICATOR		03708	44	03752 0365J	
00810	AM		ENDTST+11,14,10		03720	11	03651 000J4	
00820	AM		LNKPTR,30,10		03732	11	06758 000L0	
00830	B		ENDTST		03744	49	03640 00000	
00840	DORG		-3		03752			
00850	BTM		FLPPUT,**12		03752	17	04620 -3764	
00860	B		EQSRCH		03764	49	03932 00000	
00870	DORG		-3		03772			
00880	*****	RETURN IF ENTRY NOT FOUND IN EQUIV. TABLE						
00890	AM		ENDTST+11,1,10		03772	11	03651 000-1	
00900	BTM		FLPGET,**12		03784	17	06656 -3796	
00910	BNF		**32,ENDTST+11,11		03796	44	03828 0365J	
00920	INC13	AM	ENDTST+11,13,10		03808	11	03651 000J3	
00930	B		ENDTST		03820	49	03640 00000	
00940	DORG		-3		03828			
00950	*****	TYPE -LOAD NAME-						
00960	RCTY				03828	34	00000 00102	
00970	PROCON	DC	3,0,-5		03834		3	
			-00					
00980	WATY	LDMS			03840	39	07099 00100	

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00990	WATY	NAMBUF-10	03852	39	02431	00100
01000	BTM	FLPGET,+12	03864	17	06656	-3876
01010	SF	ENDTST+11,,6, SET -TYPED- INDICATOR	03876	32	0365J	00000
01020	AM	PRDCOM,1,10	03888	11	03834	000-1
01030	AM	LNKPTR,30,10	03900	11	06758	000L0
01040	BTM	FLPPUT,+12	03912	17	06620	-3924
01050	B	INCL3	03924	49	03808	00000
01060	DORG	+3	03932			
01070	EQSRCH	TF EQUDDA+5,EQADDR	03932	26	06913	02455
01080	TF	INRK+48,SECT	03944	26	07448	02466
01090	TFM	IORT,+23,, READ IN FOUR SECTORS OF EQUIV. TABLE	03956	16	00565	-3979
01100	B	IOGT,EQU,7	03968	49	00566	-4899
01110	COMPER	TFM COMP+11,SUBTBL+11,, SEARCH EQUIV. TABLE	03980	16	04023	-2533
01120	BNR	+20,COMP+11,11	03992	65	04012	0402L
01130	B	NXTRD+24	04004	49	04096	00000
01140	DORG	+3	04012			
01150	COMP	C NAMBUF	04012	24	02441	00000
01160	BE	FOUND	04024	46	04140	01200
01170	AM	COMP+11,16,10, INCREMENT TO NEXT NAME	04036	11	04023	000J6
01180	CM	COMP+11,SUBTBL+411,, TEST FOR END OF TABLE	04048	14	04023	-2933
01190	BNE	COMPER+12	04060	47	03992	01200
01200	NXTRD	CM INRK+48,0,9, TEST FOR END OF EQUIV. TABLE	04072	14	07448	00-00
01210	BH	+20	04084	46	04104	01100
01220	B	INCL3-36	04096	49	03772	00000
01230	DORG	+3	04104			
01240	SM	INRK+48,4,10, DECREMENT SECTOR COUNT	04104	12	07448	000-4
01250	AM	EQUDDA+5,4,10	04116	11	06913	000-4
01260	R	COMPER-24	04128	49	03956	00000
01270	FOUND	AM COMP+11,4,10, INCREMENT TO GET DIM NUMBER	04140	11	04023	000-4
01280	TFM	DIMDDA+5,4800	04152	16	06949	-4800
01290	S	DIMDDA+6,COMP+11,11	04164	22	06950	0402L
01300	S	DIMDDA+6,COMP+11,11	04176	22	06950	0402L
01310	TDM	DIMDDA+6,,11	04188	15	06950	0000-
01320	*****	READ IN DIM SECTOR				
01321	TD	SECT,COMP+11,11, SAVE UNIT POSITION OF DIM NO.	04200	25	07027	0402L
01330	BTM	FLPGET,+12	04212	17	06656	-4224
01340	SF	ENDTST+11,,6, SET -LOADED- INDICATOR	04224	32	0365J	00000
01350	BTM	FLPPUT,+12	04236	17	06620	-4248
01360	FOUND1	TFM IORT,+23	04248	16	00565	-4271
01370	B	IOGT,DIM,7	04260	49	00566	-6936
01390	CM	SECT,5,10	04272	14	07027	000-5
01400	BL	+24	04284	47	04308	01300
01410	SM	SECT,5,10, CALCULATE DIM ENTRY ADDRESS	04296	12	07027	000-5
01420	MM	SECT,20,9	04308	13	07027	00-20
01430	AM	99,INRK	04320	11	00099	-7400
01440	TR	DIMSVE,99,11	04332	31	06986	0009R
01450	TD	DMEDDA,DIMSVE	04344	25	06876	06986
01460	TF	DMEDDA+5,DIMSVE+5	04356	26	06881	06991
01470	TR	DDAR,DMEDDA,, MOVE SECTOR DDA TO PROGRAM DDA AREA	04368	31	07280	06876
01480	TFM	IORT,+23,, READ IN INDICATOR RECORD	04380	16	00565	-4403
01490	B	IOGT,DME,7	04392	49	00566	-6867
01500	TF	DDAR+8,DIMSVE+8,, MOVE SECTOR COUNT	04404	26	07288	06994
01510	*****	INDICATOR RECORD CHECK				
01520	TSTVLD	C INRK+13,INDCON,, CHECK FOR VALID INDICATOR RECORD	04416	24	07413	07011
01530	BE	RELFM	04428	46	05592	01200
01540	C	INRK+5,INDCON,, CHECK FOR VALIDITY IN CORE IMAGE	04440	24	07405	07011

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01550	BE	+56	04452	46	04508	01200
01560	BTM	EPRINT,75,8	04464	17	06692	0-075
01570	RCTY		04476	34	00000	00102
01580	WATY	JOBOUT	04488	39	07113	00100
01590	B	MONCAL	04500	49	00796	00000
01600	DORG	+3	04508			
01610	TF	INDR+11,ADDSVE	04508	26	06934	02472
01620	TDM	INDR+7,, CONVERT DEFINER TO CORE IMAGE	04520	15	06930	00000
01630	DC	1,,*	04531		1	
01640	AM	DDAR+5,1,10, INCREMENT DISK ADDRESS BY ONE	04532	11	07285	000-1
01650	SM	DDAR+8,1,10, DECREMENT SECTOR COUNT BY ONE	04544	12	07288	000-1
01660	B	SUBPRO-24	04556	49	05664	00000
01670	DORG	+3	04564			
01680	TRYSZE	A SPROST,ADDSVE	04564	21	06768	02472
01690	A	ADDCOM,INRK+22	04576	21	02450	07422
01700	TF	ADDR,ADDCOM	04588	26	06763	02450
01710	S	ADDCOM,INRK+22	04600	22	02450	07422
01720	TDM	INRK+23	04612	15	07423	00000
01730	DC	1,,*	04623		1	
01740	C	ADDR,COMADD	04624	24	06763	02231
01750	BL	SIZEOK	04636	47	05228	01300
01760	*****	OVERLAP INDICATION				
01770	TDM	OVRLAP,1,, TURN ON OVERLAP INDICATOR	04648	15	02444	00001
01780	RCTY		04660	34	00000	00102
01790	WATY	NAMBUF-10,, TYPE PROGRAM NAME	04672	39	02431	00100
01800	WNTY	INRK+18,, TYPE LENGTH	04684	38	07418	00100
01810	WATY	OVRMES,, TYPE OVERLAP	04696	39	06775	00100
01820	OLAP	AM LNKPTR,30,10	04708	11	06758	000L0
01830	BD	+20,EXTIND,, BRANCH IF PROGRAM ON CARDS OR TAPE	04720	43	04740	02463
01840	B	COMP+24,, BRANCH TO GET NEXT NAME	04732	49	04036	00000
01850	DORG	+3	04740			
01860	**	ROUTINE TO READ INDICATOR RECORD FROM CARDS OR TAPE				
01870	PHASEC	BTM FLPGET,+12	04740	17	06656	-4752
01880	TD	CDTP+2,COMSEC+73	04752	25	07024	07373
01890	SM	CDTP+2,1,10	04764	12	07024	000-1
01900	READ	TFM IORT,+23,, GET INDICATOR RECORD	04776	16	00565	-4799
01910	B	IOGT,CDTP-4,7	04788	49	00566	-7018
01920	TDM	EXTIND,1	04800	15	02463	00001
01930	TF	LNKPTR,LNKADD	04812	26	06758	03538
01940	TFM	+23,SUBTBL+11	04824	16	04847	-2533
01950	ENTST	BNR +20,, TEST FOR END OF TABLE	04836	45	04856	00000
01960	B	READ	04848	49	04776	00000
01970	DORG	+3	04856			
01980	TFM	+23,INRK	04856	16	04879	-7400
01990	RMCHK	BNR +20	04868	45	04888	00000
02000	B	READ	04880	49	04776	00000
02010	DORG	+3	04888			
02020	AM	RMCHK+11,1,10	04888	11	04879	000-1
02030	CM	RMCHK+11,INRK+80	04900	14	04879	-7480
02040	BNE	RMCHK	04912	47	04868	01200
02050	SF	INRK+1	04924	32	07401	00000
02060	CF	INRK+2	04936	33	07402	00000
02070	CF	INRK+3	04948	33	07403	00000
02080	CF	INRK+4	04960	33	07404	00000

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02090	CM	INRK+4,4131,8	04972	14	07404	0M131
02100	BNE	HEADER	04984	47	05040	01200
02110	RCTY		04996	34	00000	00102
02120	TFM	IORT,++23	05008	16	00565	-5031
02130	B	IORT,TYPE-4,7	05020	49	00532	-7211
02140	B	PHASED	05032	49	06376	00000
02150	DORG	=-3	05040			
02160	HEADER	C INRK+13,INDCON,, TEST FOR INDICATOR RECORD	05040	24	07413	07011
02170	BNE	READ	05052	47	04776	01200
02180	BNF	++20,INRK+16	05064	44	05084	07416
02190	B	READ	05076	49	04776	00000
02200	DORG	=-3	05084			
02210	C	INRK+25,ENTST+11,11, COMPARE NAMES	05084	24	07425	0484P
02220	BNE	GONXT	05096	47	05196	01200
02230	TF	NAMBUF,ENTST+11,11	05108	26	02441	0484P
02240	AM	ENTST+11,6,10	05120	11	04847	000-6
02250	BNF	++32,ENTST+11,11	05132	44	05164	0484P
02251	AM	ENTST+11,14,10	05144	11	04847	000J4
02260	B	GONXT+12	05156	49	05208	00000
02270	DORG	=-3	05164			
02280	SF	ENTST+11,,6, SET -LOADED- INDICATOR	05164	32	0484P	00000
02290	BTM	FLPPUT,++12	05176	17	06620	-5188
02300	B	RELFM	05188	49	05592	00000
02310	DORG	=-3	05196			
02320	GONXT	AM ENTST+11,20,10	05196	11	04847	000K0
02330	AM	LNKPTR,30,10	05208	11	06758	000L0
02340	B	ENTST	05220	49	04836	00000
02350	DORG	=-3	05228			
02360	SIZEOK	TF ++18,ADDSVE	05240	26	05246	02472
02370	TR	,ZEROS	05240	31	00000	06792
02380	AM	=-6,50,10	05252	11	05246	000N0
02390	C	SIZEOK+18,SPROST	05264	24	05246	06768
02400	BL	=-36	05276	47	05240	01300
02410	BD	++24,OVRLAP	05288	43	05312	02444
02420	BNCL	++84	05300	47	05384	00100
02430	RCTY		05312	34	00000	00102
02440	WATY	NAMBUF-10,,, TYPE OUT NAME	05324	39	02431	00100
02450	WNTY	ADDSVE-4	05336	38	02468	00100
02460	SPTY		05348	34	00000	00101
02470	WNTY	INRK+18,,, TYPE OUT LENGTH	05360	38	07418	00100
02480	WATY	LDED	05372	39	07081	00100
02490	*****	LOAD PROGRAMS ROUTINE				
02500	RUPROG	BD COTPLD,EXTIND,, BRANCH IF PROGRAM IN CARD OR TAPE	05384	43	05428	02463
02510	SCHLD	TFM IORT,++23,, GET PROGRAM FROM DISK	05396	16	00565	-5419
02520	B	IOGT,INDR,7	05408	49	00566	-6923
02530	B	LODINC	05420	49	05872	00000
02540	DORG	=-3	05428			
02550	*****	ROUTINE TO LOAD PROGRAM FROM CARD OR TAPE				
02560	COTPLD	TDM 416	05428	15	00416	00000
02570	DC	1,*,*	05439		1	
02580	TD	428,COMSEC+73	05440	25	00428	07373
02590	SF	428	05452	32	00428	00000
02600	CF	429	05464	33	00429	00000
02610	TF	434,ADDSVE	05476	26	00434	02472
02620	SF	489	05488	32	00489	06000

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02630	TF	COMSEC+98,INRK+79	05500	26	07398	07479
02640	TFM	IORT,++23,, PUT BACK COMMUNICATION SECTOR	05512	16	00565	-5535
02650	B	IOPT,COM,7	05524	49	00532	-7179
02660	TFM	IORT,++23,, GET PROGRAM	05536	16	00565	-5559
02670	B	IOGT,EXT,7	05548	49	00566	-7148
02680	SM	PROCOW,1,10	05560	12	03834	000-1
02690	TDM	EXTIND	05572	15	02463	00000
02700	B	LODINC	05584	49	05872	00000
02710	DORG	=-3	05592			
02720	RELFM	TDM INRK+80	05592	15	07480	00000
02730	DC	1,*,*	05603		1	
02740	TR	INRK,INRK+8,, MOVE INDICATOR RECORD TO CONFORM TO CARD IMAGE	05604	31	07400	07408
02750	CF	427	05616	33	00427	00000
02760	TFM	439,75	05628	16	00439	-0075
02770	TFM	DDAR+13,999999	05640	16	07293	R99999
02780	TF	INDR+11,ADDSVE	05652	26	06934	02472
02790	TF	SPROST,INRK+31	05664	26	06768	07431
02800	AM	SPROST,5,10	05676	11	06768	000-5
02810	SUBPRD	C INRK+24,F,, TEST FOR EQUAL F	05688	24	07424	02219
02820	BNE	++36	05700	47	05736	01200
02830	C	INRK+26,K,, TEST FOR EQUAL K	05712	24	07426	02221
02840	BE	++24	05724	46	05748	01200
02850	BTM	EPRINT,76,8	05736	17	06692	0-076
02860	*****	TEST FOR NEW SUBROUTINES CALLED FROM FLIPPED SUBPROGRAM				
02870	FLIP	TFM CCSUB+11,INRK+37	05748	16	05783	-7437
02880	TFM	LBSUB+11,LIBSUB	05760	16	05851	-2394
02890	CCSUB	BD LBSUB	05772	43	05840	00000
02900	AM	=-1,1,10	05784	11	05783	000-1
02910	AM	LBSUB+11,1,10	05796	11	05851	000-1
02920	CM	LBSUB+11,LIBSUB+30	05808	14	05851	-2424
02930	BNE	CCSUB	05820	47	05772	01200
02940	B	TRYSZE	05832	49	04564	00000
02950	DORG	=-3	05840			
02960	LBSUB	BD CCSUB+12	05840	43	05784	00000
02970	BTM	EPRINT,77,8	05852	17	06692	0-077
02980	B	CCSUB+12	05864	49	05784	00000
02990	DORG	=-3	05872			
03000	*****	IN-CORE SUBPROGRAM TABLE SEARCH AND LOAD				
03010	LODINC	TFM IORT,++23	05872	16	00565	-5895
03020	B	IOGT,INC,7	05884	49	00566	-6891
03030	TF	COMPARE+11,ADDR	05896	26	05943	06763
03040	AM	COMPARE+11,1,10	05908	11	05943	000-1
03050	TFM	COMPAR+11,SUBTBL+11,, INITIALIZE POINTER	05920	16	05963	-2533
03060	COMPRE	BNR SERCH	05932	45	05996	00000
03070	B	SCHPRD	05944	49	06168	00000
03080	DORG	=-3	05952			
03090	COMPAR	BNR COMPRE	05952	45	05932	00000
03100	BTM	EPRINT,7170,8	05964	17	06692	0P170
03110	AM	COMPARE+11,18,10	05976	11	05943	000J8
03120	B	COMPARE-12	05988	49	05920	00000
03130	DORG	=-3	05996			
03140	SERCH	AM COMPARE+11,11,10	05996	11	05943	000J1
03150	C	COMPAR+11,COMPRE+11,611, CHECK FOR SAME NAME	06008	24	05961	0594L
03160	BE	SERCH1	06020	46	06064	01200
03170	AM	COMPAR+11,20,10	06032	11	05963	000K0

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04110 EQU	DSC 2,22	06899	2
04120	22 DSA EQUDDA	06905	5 X 1
04130	DC 1,'	06905	-6908
	'	06906	1
04140 EQUDDA	DDA ,1,0,4,SUBTBL	06908	14
	1-0000-04-2522		
04150	DC 1,'	06922	1
	'		
04160 INDR	DSC 2,22	06923	2
	22		
04170	DSA DDAR,0	06929	5 X 2
04180	DC 1,'	06929	-7280
	'	06934	-0000
		06935	1
04190 DIM	DSC 2,22	06936	2
	22		
04200	DSA DIMDDA	06942	5 X 1
04210	DC 1,'	06942	-6944
	'	06943	1
04220 DIMDDA	DDA ,1,4800,1,INRK	06944	14
	1-4800-01-7400		
04230	DC 1,'	06958	1
	'		
04240 ERMES	DAC 10,ERROR L	06961	10 X 2
	ERROR L		
04250 ZERONE	DC 6,100001	06985	6
	J00001		
04260 DIMSVE	DSS 20,, RESERVES CURRENT DIM ENTRY	06986	20
04270 INDCON	DC 6,987898,, INDICATOR RECORD CONSTANT	07011	6
	R87898		
04280 MLLGTH	DS 5,, LENGTH OF MAINLINE PROGRAM	07016	5
04290 CDINP	DS 1	07017	1
04300 CDTP	DSA INRK	07022	5 X 1
04310	DC 3,'	07022	-7400
	-0'	07025	3
04320 SECCT	DC 2,0	07027	2
	-0		
04330 TAB	DSC 2,22	07028	2
	22		
04340	DSA TABDDA	07034	5 X 1
04350	DC 1,'	07034	-7036
	'	07035	1
04360 TABDDA	DDA ,1,0,1,INRK	07036	14
	1-0000-01-7400		
04370	DC 1,'	07050	1
	'		

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04380 TBL	DSC 2,22	07051	2
	22		
04390	DSA TBLDDA	07057	5 X 1
04400	DC 1,'	07057	-7060
	'	07058	1
04410 TBLDDA	DDA ,1,0,1,INRK	07060	14
	1-0000-01-7400		
04420	DC 1,'	07074	1
	'		
04430 ONETWO	DSC 5,00101	07075	5
	00101		
04440 LDED	DAC 9, LOADED'	07081	9 X 2
	LOADED'		
04450 LDMS	DAC 7,LOAD	07099	7 X 2
	LOAD		
04460 JOBDUT	DAC 14,JOB ABANDONED'	07113	14 X 2
	JOB ABANDONED'		
04470 BL6	DSC 2,-22	07140	2
	2K		
04480	DSC 1,0	07142	1
	0		
04490	DC 5,157'	07147	5
	-157'		
04500 EXT	DSC 2,-22	07148	2
	2K		
04510	DSA EXTDDA	07154	5 X 1
04520	DC 1,'	07154	-7156
	'	07155	1
04530 EXTDDA	DDA ,1,19783,3,0	07156	14
	1J9783-03-0000		
04540	DC 1,'	07170	1
	'		
04550 FLP	DSC 2,22	07171	2
	22		
04560	DSA FLPPDA	07177	5 X 1
04570	DC 1,'	07177	-3540
	'	07178	1
04580 COM	DSC 2,22	07179	2
	22		
04590	DSA COMDDA	07185	5 X 1
04600	DC 1,'	07185	-7188
	'	07186	1
04610 COMDDA	DDA ,1,19663,1,COMSEC	07188	14
	1J9663-01-7300		
04620	DC 1,'	07202	1
	'		
04630 LD	DSC 2,22	07203	2
	22		

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04640	DSA	LDDDA		07209	5 X	1
04650	DC	1, *		07209	-2474	
		*		07210	1	
04660	TYPE	DSA	DATA1	07215	5 X	1
04670	DC	3,06'		07215	-7221	
		-6'		07218	3	
04680	DATA1	DAC	6, *DATA'	07221	6 X	2
		*DATA'				
04690	DDRG	7280		07280		
04700	DDAR	DSS	20	07280	20	
04710	COMSEC	DSS	100,,	07300	100	
04720	INRK	DSS	100,,	07400	100	
			SYSTEM COMMUNICATION SECTOR			
			READ IN AREA FOR INDICATOR RECORD			
04730	DEND			00000		

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ADDCOW	02450	EPRINT	06692	PHASEC	04740	GONXT	05196	SECT	02466
ADDSVE	02472	EQADDR	02455	PHASED	06376	INC13	03808	SERCH	05996
CDTPLD	05428	EQSRCH	03932	PROCGW	03834	INC	06891	SETGM	06192
COMADD	02231	EQUDDA	06908	PROGST	02226	INDR	06923	SPRST	06773
COMDDA	07188	ERMESS	06961	RDPRG	05384	INRK	07400	TAB	07028
COMPAR	05952	EXTDDA	07156	RELFM	05592	LOGT	00566	TBL	07051
COMPER	03980	EXTIND	02463	ADDR	06763	IOIND	02461	TYPE	07215
COMPRE	05932	FLGRMK	02445	BL6	07140	IOPT	00532	W	02240
COMSEC	07300	FLPDDA	03540	CALL6	06436	IORT	00565	ZEROS	06792
DIMDDA	06944	FLPGET	06656	CCSUB	05772	K	02221	SCADDR	02460
DIMSVE	06986	FLPPUT	06620	CDINP	07017	LBSUB	05840	SCHDDA	06852
DMEDDA	06876	FOUND1	04248	CDTP	07022	LDDDA	02474	SCHPRD	06168
ENDTST	03640	HEADER	05040	COMP	04012	LDDE	07081	SERCHI	06064
ENTABS	02323	INCDDA	02506	COM	07179	LDMES	07099	SIZEOK	05228
ENTATN	02313	INDCON	07011	DATA1	07221	LD	07203	SPRST	06768
ENTCOS	02303	JOBOUT	07113	DATA	02505	MLIND	02462	SUBPRO	05688
ENTDED	02298	LIBSUB	02394	DDAR	07280	MORE	06537	SUBTBL	02522
ENTDRR	02293	LNKADD	03538	DIM	06936	N1	02233	SVEDDA	02490
ENTEXP	02253	LNKPTR	06758	DME	06867	N2	02238	TABDDA	07036
ENTFET	02283	LODINC	05872	ENTLN	02248	NXTRD	04072	TBLDDA	07060
ENTFID	02273	MLLGTH	07016	ENTST	04836	OLAP	04708	TRYSE	04564
ENTREC	02278	MONGAL	00796	EQU	06899	READ	04776	TSTVLD	04416
ENTSC1	02258	MVESCT	06228	ERL	06596	RECLG	02243	ZERONE	06985
ENTSC2	02263	NAMBUF	02441	EXT	07148	RMCHK	04868	ZROTST	02467
ENTSC3	02268	ONETWO	07075	FLIP	05748	ROUND	06356		
ENTSIN	02308	OVR LAP	02444	FLP	07171	SCHLD	05396		
ENTSQT	02318	OVRNES	06775	FOUND	04140	SCH	06643		
ENTSWD	02288	PHASEB	03604	F	02219	SECT	07027		

END OF ONE ASSEMBLY.

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1620 FORTRAN II-D LOADER BLOCK 6		PAGE	1
00010	*		
00020	*		
00030	IOPT DS ,532	00532	0
00040	IOGT DS ,566	00566	0
00050	IORT DS ,565	00565	0
00060	MONCAL DS ,796	00796	0
00070	DIO DS ,816	00816	0
00080	ERRET DS ,602	00602	0
00090	INDS DS ,610	00610	0
00100	ERROR DS ,624	00624	0
00110	*** COMMUNICATION AREA		
00120	DORG 2218	02218	
00130	F DS 2,, FLOATING POINT WORD LENGTH	02219	2
00140	K DS 2,, FIXED POINT WORD LENGTH	02221	2
00150	PROGST DS 5,, STARTING ADDRESS OF MAINLINE PROGRAM	02226	5
00160	COMADD DS 5,, STARTING ADDRESS OF COMMON AREA	02231	5
00170	N1 DS 2,, NUMBER OF WORDS IN LOGICAL RECORD	02233	2
00180	N2 DS 5,, NUMBER OF LOGICAL RECORDS	02238	5
00190	W DS 2,, WORD LENGTH	02240	2
00200	RECLG DS 3,, RECORD LENGTH	02243	3
00210	ENTLN DS 5,, ENTRY ADDRESS TO LOG SUBROUTINE	02248	5
00220	ENTEXP DS 5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE	02253	5
00230	ENTSC1 DS 5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE	02258	5
00240	ENTSC2 DS 5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE	02263	5
00250	ENTSC3 DS 5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE	02268	5
00260	ENTFID DS 5,, ENTRY ADDRESS TO FIND SUBROUTINE	02273	5
00270	ENTREC DS 5,, ENTRY ADDRESS TO RECORD SUBROUTINE	02278	5
00280	ENTFET DS 5,, ENTRY ADDRESS TO FETCH SUBROUTINE	02283	5
00290	ENTSWD DS 5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE	02288	5
00300	ENTDRA DS 5,, ENTRY ADDRESS TO ARRAY SUBROUTINE	02293	5
00310	ENTDED DS 5,, ENTRY ADDRESS TO DISK END SUBROUTINE	02298	5
00320	ENTCOS DS 5,, ENTRY ADDRESS TO COSINE SUBROUTINE	02303	5
00330	ENTSIN DS 5,, ENTRY ADDRESS TO SINE SUBROUTINE	02308	5
00340	ENTATN DS 5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE	02313	5
00350	ENTSOT DS 5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE	02318	5
00360	ENTABS DS 5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE	02323	5
00370	DS 70,, RESERVED FOR ENTRIES TO ADDED SUBROUTINES	02393	70
00380	LIBSUB DSS 30,, LIBRARY SUBROUTINE INDICATORS	02394	30
00390	DC 1,,	02424	1
00400	***** MAINLINE TABLE SEARCH		
00410	DORG 2424	02424	
00420	NAMBUF DC 16,0	02441	16
	-0000000000000000		
00430	DC 2,,	02443	2
	-*		
00440	OVRLAP DS 1	02444	1
00450	FLGRMK DS 1	02445	1
00460	ADDCOM DS 5	02450	5
00470	EQADDR DS 5	02455	5
00480	SCADDR DS 5	02460	5
00490	IOIND DS 1	02461	1
00500	MLIND DS 1	02462	1
00510	EXTIND DS 1	02463	1
00520	SECT DS 3	02466	3
00530	ZACTST DS 1	02467	1

00540	ADDSVE	DS	5	02472	5		
00550		DC	1,'	02473	1		
00560	LDDDA	DDA	,1,0,0,0	02474	14		
			1-0000-00-0000				
00570		DC	1,'	02488	1		
00580	SVEDDA	DDA	,1,0,21,0	02490	14		
			1-0000-21-0000				
00590		DC	1,'	02504	1		
00600	DATA	DC	1,0	02505	1		
00610	INCDDA	DDA	,1,0,10,0	02506	14		
			1-0000-10-0000				
00620		DC	1,'	02520	1		
00630		DS	1	02521	1		
00640	*****		ROUTINE TO LOAD ARITH AND I/O PACKAGE				
00650	ARITH	TFM	D10+35,ENT,67	02522	16	0085J	-3670
00660		RD	INH18,OVRLAP	02534	43	03714	02444
00670		BD	INH18,SVEDDA-1	02546	43	03714	02489
00680		TFM	IORT,++23	02558	16	00565	-2581
00690		B	IOGT,SVE,7	02570	49	00566	-3838
00700		BD	N1TST,ZROTST	02582	43	02602	02467
		B	LDFIX2	02594	49	03506	00000
00720		DORG	*-3	02602			
00730	N1TST	BD	N1N2OK,N1	02602	43	02790	02233
00740		BD	N1N2OK,N1-1	02614	43	02790	02232
00750		RCTY		02626	34	00000	00102
00760		TFM	IORT,++23	02638	16	00565	-2661
00770		B	IOPT,TYPE-4,7	02650	49	00532	-3846
00780		RCTY		02662	34	00000	00102
00790		TFM	IORT,++23	02674	16	00565	-2697
00800		B	IOGT,TYPE1-6,7	02686	49	00566	-3862
00810		RC4	N1TST+24	02698	46	02626	00400
00820		SF	INRK+10	02710	32	07410	00000
00830		SF	INRK+12	02722	32	07412	00000
00840		TF	N1,INRK+11	02734	26	02233	07411
00850		TF	N2,INRK+16	02746	26	02238	07416
00860		CM	N2	02758	14	02238	-0000
00870		BNE	N1TST	02770	47	02602	01200
00880		B	N1TST+24	02782	49	02626	00000
00890		DORG	*-3	02790			
00900	N1N2OK	M	W,N1	02790	23	02240	02233
00910		SF	96	02802	32	00096	00000
00920		CM	99,101,8	02814	14	00099	0-101
00930		BL	SET1	02826	47	02882	01300
00940		CM	99,200,8	02838	14	00099	0-200
00950		BH	N1TST+24	02850	46	02626	01100
00960		TFM	RECLG,2,9	02862	16	02243	00-02
00970		B	N2TST	02874	49	02894	00000
00980		DORG	*-3	02882			
00990	SET1	TFM	RECLG,1,9	02882	16	02243	00-01
01000	N2TST	M	N2,RECLG	02894	23	02238	02243
01010		SF	95	02906	32	00095	00000

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01020		CM	99,19999	02918	14	00099	J9999
01030		BH	N1TST+24	02930	46	02626	01100
01040		CM	99,00001	02942	14	00099	-0001
01050		BL	N1TST+24	02954	47	02626	01300
		B	LDFIX2	02966	49	03506	00000
		DORG	*-3	02974			
01060	LDFIX	RD	LDFIX1,DATA	02974	43	02994	02505
01070		B	READ-24	02986	49	03274	00000
01080		DORG	*-3	02994			
01090	LDFIX1	BD	++20,IOIND	02994	43	03014	02461
01100		B	GETFIX	03006	49	03194	00000
01110		DORG	*-3	03014			
01120		TFM	DDAR+5,19400	03014	16	07285	J9400
01130		TDM	DDAR,1	03026	15	07280	00001
01140		TDM	DDAR+14	03038	15	07294	00000
01150		DC	1,',*	03049		1	
01160	XFER	TFM	DDAR+8,40,9	03050	16	07288	00-40
01170		TFM	DDAR+13,3280	03062	16	07293	-3280
01180		TF	IODDA+5,SCADDR	03074	26	03251	02460
01190		TDM	INDR+7	03086	15	03268	00000
01200		DC	1,',*	03097		1	
01210	CYLCTR	DC	2,5,*-1	03096		2	
		-5					
01220		TFM	IORT,++23	03098	16	00565	-3121
01230		B	IOGT,INDR,7	03110	49	00566	-3261
01240		TFM	IORT,++23	03122	16	00565	-3145
01250		B	IOPT,IO,7	03134	49	00532	-3238
01260		AM	DDAR+5,40,10	03146	11	07285	000M0
01270		AM	IODDA+5,40,10	03158	11	03251	000M0
01280		SM	CYLCTR,1,10	03170	12	03096	000-1
01290		BNE	CYLCTR+2	03182	47	03098	01200
01300	GETFIX	TD	7499,IOIND	03194	25	07499	02461
01310		TFM	IORT,++23,,	03206	16	00565	-3229
01320		B	IOGT,++12,7	03218	49	00566	-3230
01330		DSC	2,-22	03230		2	
		ZK					
01340		DSC	1,0	03232		1	
		0					
01350		DC	5,144'	03237		5	
		-144'					
01360	IO	DSC	2,22	03238		2	
		22					
01370		DSA	IODDA	03244		5 X	1
01380		DC	1,'	03244		-3246	
				03245		1	
01390	IODDA	DDA	,1,0,40,3280	03246		14	
			1-0000-40-3280				
01400		DC	1,'	03260		1	
01410	INDR	DSC	2,22	03261		2	
		22					
01420		DSA	DDAR,0	03267		5 X	2

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01430	DC	1,'	03267	-7280		
			03272	-0000		
			03273	1		
01440	TD	CDTP+2,COMSEC+73	03274	25	03860	07373
01450	SM	CDTP+2,1,10	03286	12	03860	000-1
01460	READ	TFM IORT,++23	03298	16	00565	-3321
01470	B	IOGT,CDTP-4,7	03310	49	00566	-3854
01480	TFM	++23,INRK	03322	16	03345	-7400
01490	RMCHK	BNR ++20	03334	45	03354	00000
01500	B	READ	03346	49	03298	00000
01510	DORG	*-3	03354			
01520	AM	RMCHK+11,1,10	03354	11	03345	000-1
01530	CM	RMCHK+11,INRK+80	03366	14	03345	-7480
01540	BNE	RMCHK	03378	47	03334	01200
01550	SF	INRK+1	03390	32	07401	00000
01560	CF	INRK+2	03402	33	07402	00000
01570	CF	INRK+3	03414	33	07403	00000
01580	CF	INRK+4	03426	33	07404	00000
01590	CM	INRK+4,4131,8	03438	14	07404	0M131
01600	BNE	READ	03450	47	03298	01200
01610	RCTY		03462	34	00000	00102
01620	TFM	IORT,++23	03474	16	00565	-3497
01630	B	IOPT,TYPE2-4,7	03486	49	00532	-3870
01640	B	LDFIX1	03498	49	02994	00000
01650	DORG	*-3	03506			
01651	LDFIX2	M N2,RECLG	03506	23	02238	02243
01652	SF	95	03518	32	00095	00000
01653	AM	99,218,9	03530	11	00099	00K18
01654	C	INRK+4,99	03542	24	07404	00099
01655	BH	LDFIX	03554	46	02974	01100
01656	SM	INRK+4,218	03566	12	07404	-0218
01657	LD	99,INRK+4	03578	28	00099	07404
01658	D	95,RECLG	03590	29	00095	02243
01659	TF	N2,96	03602	26	02238	00096
01660	TF	ADDSVE,96	03614	26	02472	00096
01661	RCTY		03626	34	00000	00102
01662	WATY	MAXN2	03638	39	03803	00100
01663	WNTY	ADDSVE-4	03650	38	02468	00100
01664	B	LDFIX	03662	49	02974	00000
01665	DORG	*-3	03670			
01666	ENT	BI ++12,3700	03670	46	03682	03700
01670	BNI	ERRET,1900	03682	47	00602	01900
01680	TDM	INDS+10,6	03694	15	00620	00006
01690	B	ERROR	03706	49	00624	00000
01700	DORG	*-3	03714			
01710	INHIB	RCTY	03714	34	00000	00102
01720	WATY	JOBOUT	03726	39	03747	00100
01730	B	MONCAL	03738	49	00796	00000
01740	DORG	*-3	03746			
01750	JOBOUT	DAC 20,EXECUTION INHIBITED'	03747		20 X	2
		EXECUTION INHIBITED'				
01760	ERD1	DAC 8,ER D1 '	03787		8 X	2
		ER D1 '				
	MAXN2	DAC 18,MAX N2 ALLOWABLE '	03803		18 X	2
		MAX N2 ALLOWABLE '				

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01770	SVE	DSC 2,20	03838	2		
01780	DSA	SVEDDA	03844	5 X	1	
			03844		-2490	
			03845	1		
01790	DC	1,'	03850	5 X	1	
01800	TYPE	DSA ERD1	03850		-3787	
			03853	3		
01810	DC	3,06'	03858	5 X	1	
		-6'	03858		-7400	
			03861	3		
01820	CDTP	DSA INRK	03866	5 X	1	
01830	DC	3,'	03866		-7410	
		-0'	03869	3		
01840	TYPE1	DSA INRK+10	03874	5 X	1	
01850	DC	3,00'	03874		-3879	
		-0'	03877	3		
01860	TYPE2	DSA DATA1	03879	6 X	2	
01870	DC	3,06'	07280			
		-6'	07280		20	
01880	DATA1	DAC 6,*DATA'	07300		100	
		*DATA'	07400		100	
01890	DDAR	DSS 20				
01900	DDAR	DSS 20				
01910	CUMSEC	DSS 100				
01920	INRK	DSS 100				
01930	DEND		00000			

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ADDCOM	02450	ENTSC3	02268	OVRLAP	02444	INHIB	03714	N2TST	02894
ADDSVE	02472	ENTSIN	02308	PROGST	02226	INRK	07400	READ	03298
COMADD	02231	ENTSQT	02318	ARITH	02522	IODDA	03246	RECLG	02243
COMSEC	07300	ENTSWD	02288	CDTP	03858	IOGT	00566	RMCHK	03334
CVLCTR	03096	EQADDR	02455	DATA	03879	IOIND	02461	SECT	02466
ENTABS	02323	EXTIND	02463	DATA	02505	IOPT	00532	SET1	02882
ENTATN	02313	FLGRMK	02443	DDAR	07280	IORT	00565	SVE	03838
ENTCOS	02303	GETFIX	03194	DIO	00816	IO	03238	TYPE1	03866
ENTDED	02298	INCDDA	02506	ENTLN	02248	K	02221	TYPE2	03874
ENTDRR	02293	JOBOUT	03747	ENT	03670	LDDDA	02474	TYPE	03850
ENTEXP	02253	LDFIX1	02994	ERD1	03787	LDFIX	02974	W	02240
ENTFFET	02283	LDFIX2	03506	ERR1	00602	MAXN2	03803	XFER	03050
ENTFID	02273	LBSUB	02394	ERROR	00624	MLIND	02462	SCADDR	02460
ENTREC	02278	MDCAL	00796	F	02219	N1	02233	SVEDDA	02490
ENTSC1	02258	MINZDK	02790	INDR	03261	NITST	02602	ZROTST	02467
ENTSC2	02263	NAMBUF	02441	INDS	00610	N2	02238		

END OF ONE ASSEMBLY.

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FORTAN II-D Flip Routine for Load on
Call Subroutines
Page 1

STCORE	00004R	DID	00816	SYMBOL TABLE					
FLIP	00010R	INDS	00610	ERR1	00602	ERROR	00624	EXIT	00178R
MYER	00186R	SMI	00142R	IOGT	00566	IOGT	00565	LABEL	00249R
				SWK	00234R	WK	00233R		

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02010* FLIP ROUTINE FOR LOAD ON CALL SUBROUTINES
02020*
02030 STCORE DS 5
FLIP TR SWK, *-1, 11
C SWK+5, WK
02050 BE SMI
TF EXIT+6, SWK+10
TFM SWK+8, 999, 9
TF SWK+13, STCORE
TFM OI+35, MYER, 67
TF WK, SWK+5
TFM SWK+14
DC 1, 1, *
02070 TFM IOGT, *+23
02080 B IOGT, LABEL, 7
SMI SM FLIP-1, 13
TF **30, FLIP-1, 611
AM **18+1, 10
EXIT B
DORG *-3
MYER BI **12, 3700
BNI ERR1, 1900
TFM INDS+10, 6
B ERROR
DORG *-4
WK DC 5, 99999
SWK DSS 15
LABEL DSC 2, 20
DSA SWK
02140 DC 1, 1
INDS DS +610
DIO DS +816
ERROR DS +624
ERR1 DS +602
IOGT DS +565
IOGT DS +566
DENDU
00004 00005
00009 00005
00010 LJ 00234 0000R
00022 KM 00239 00233
00034 M6 00142 01200
00046 KD 00184 00244
00058 J6 00242 00R99
00070 KD 00247 00004
00082 IO 0085J -0186
00094 KD 00233 00239
00106 J5 00248 00000
00117 00001
00118 IO 00565 -0141
00130 4R 00566 -0249
00142 J2 00009 -0013
00154 KD 0018M 0000R
00196 J1 00184 000-1
00178 49 00000 00000
00186
00186 M6 00198 03700
00198 47 00602 01900
00210 15 00620 00006
00222 49 00624 00000
00229
00233 00005
00234 00015
00249 00002
00255 00005 -0234
00256 00001
00610 00000
00816 00000
00624 00000
00602 00000
00565 00000
00566 00000
00000

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00010***** 1620 FORTRAN II-D RELOCATABLE LN ROUTINE
00020 DSA FLN
00030 FLN TF FAC ,FLN-1 ,111, LOAD ARGUMENT 00004 00005 -0006
00040 SM *-13 ,02 ,010 00006 20 02492 0000N
00050 TF FAC-2 ,*-25 ,111 00018 J2 00005 000-2
00060 BD **44 ,FNH ,011, IS A ZERO 00030 20 02490 0000N
00070 TFM EI ,672 ,9, YES, ERR F2, LN 00042 M3 00086 0331L
ZERO
00080 SF 99 , , SET SIGN 00054 16 02615 00072
00090 B OVFLOW , , FAC IS NEGATIVE ALL NINES 00066 32 00099 00000
00078 49 03652 00000
00100 DORG *-4
00110 TFM GOAL+18 ,ENDD+12 ,07, SET UP NO ERR TYPE 00085
00086 J6 00816 -3780
00120 BNF **48 ,FAC-2 ,0, IS A NEGATIVE 00098 M4 00146 02490
00130 TFM EI ,673 ,9, YES, ERR F3, LN -A 00110 16 02615 00073
00140 TFM GOAL+18 ,ERROR ,07, SET UP ERR TYPE 00122 J6 00816 -3676
00150 CF FAC-2 , , A EQUALS POSITIVE A 00134 33 02490 00000
00160 TFM CORN-25 ,9SPF+2 ,07, SET UP CONSTANT EQUAL ZERO 00146 J6 00573 -2856
00170 TF CORN-13 ,FAC ,0, STORE CHAR 00158 K6 00585 02492
00180 CF FNH , , FIND 1 + A MANTISSA 00170 33 0331L 00000
00190 TOM FNHM1 ,1 ,611 00182 15 0335Q 0000J
00200 CM FNH ,15 ,610, COMPARE TWO HIGH ORDER DIGITS 00194 14 0331L 000J5
00210 BNL **44 , ,0, TO 1.5, IF LESS THAN, NO BR 00206 M6 00250 01300
00220 A FAC-2 ,FAC-2 ,0218 21 02490 02490
00230 AM CORN-25 ,31 ,010, ADJUST CONSTANT TO LN 2,4, OR 8 00230 J1 00573 000L1
00240 B *-60 , ,0 00242 M9 00182 00000
00250 DORG *-4
00260 TF BETA ,TWOZ , , FIND 1 - A MANTISSA 00249
00270 S BETA ,FAC-2 00250 26 02603 03073
00280 TF 99 ,ZERO-20 , , FIND 1-A MANT/1+A MANT 00262 22 02603 02490
00274 26 00099 02747
00286 26 0332L 02603
00298 29 0332Q 02490
00310 TF 97MF ,BETA ,6 00310 26 02492 0332Q
00320 TF 79 ,FAC ,11, STORE IN FAC 00322 26 00079 02728
00330 M FAC ,ZERO-39 , , FIND FAC*2 00334 23 02492 02492
00340 TF SAVE ,97MF ,11, STORE IN SAVE 00346 26 02565 0332L
00350 A FAC , , FAC EQUALS 2*FAC 00358 21 02492 02492
00360 COUN TF IMSA-4 ,FM1 , , SET COUNTER EQUAL F-1 00370 26 02571 03625
00370 TF COUN+71 ,2FM1 ,0, SET DIVISOR P EQUAL TO 2F-1 00382 K6 00441 03429
00380 TF BETA ,9SPF+1 , , BETA EQUALS F+2 ZEROS 00394 26 02603 02855
00390 TF 99 ,ZERO-19 , , FIND 10/P 00406 26 00099 02748
00400 TFM 98MF , ,10 ,610 00418 16 0332Q 000J0
00410 DM 98MF , ,6, DIVIDE BY P 00430 19 0332Q 00000
00420 A BETA ,97 , , ADD QUOTIENT TO BETA 00442 21 02603 00097
00430 TF 79 ,ZERO-39 00454 26 00079 02728

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00440 M BETA ,SAVE 00466 23 02603 02565
00450 TF BETA ,97MF ,11, BETA EQUALS BETA*SAVE 00478 26 02603 0332L
00460 SM COUN+71 ,02 ,010, P EQUALS P-2 00490 J2 00441 000-2
00470 SM IMSA-4 ,01 ,10, REDUCE COUNTER BY ONE 00502 12 02571 000-1
00480 BNZ COUN+36 , ,0, IS COUNTER ZERO 00514 M7 00406 01200
00490 TF 79 ,ZERO-39 , , YES 00526 26 00079 02728
00500 M BETA ,FAC , , MULTIPLY BETA BY FAC 00538 23 02603 02492
00510 A 97MF ,FAC ,6, ADD FAC TO PRODUCT 00550 21 0332L 02492
00520 TF FAC , , , SET CONSTANT IN FAC 00562 26 02492 00000
00530 SF FAC , , , NEGATE CONSTANT 00574 32 02492 00000
00540 S FAC ,97MF ,11, SUBTRACT PRODUCT FROM CONSTANT 00586 22 02492 0332L
00550 CORN TF 92 ,9SPF-1 00598 26 00092 02853
00560 M LN10 ,CORN-13 ,1, MULTIPLY CHAR BY LN 10 00610 2L 02980 00585
00570 A 99 ,FAC , , ADD FAC TO PRODUCT 00622 21 00099 02492
00580 AM 97 ,00 ,10, ZERO CHECK 00634 11 00097 000-0
00590 BZ GOAL+20 , ,0, 00646 M6 00818 01200
00600 TFM SAVE ,03 ,10, SET UP CHAR 00658 16 02565 000-3
00610 TF FAC+3 ,99 , , NORMALIZE 00670 26 02495 00099
00620 CF FAC+3 , , , 00682 33 02495 00000
00630 TD FAC+4 ,RECMK , , SET RECORD MARK 00694 25 02496 02403
00640 DD **68 ,FNH ,011 00706 M3 00774 0331L
00650 TR FNH ,FH ,611 00718 31 0331L 0330Q
00660 TDM FAC+3 ,0 00730 15 02495 00000
00670 SF FNH , ,6 00742 32 0331L 00000
00680 SM SAVE ,01 ,10, ADJUST CHAR 00754 12 02565 000-1
00690 B *-60 , ,0 00766 M9 00706 00000
00700 DORG *-4 00773
00710 TDM FAC+4 ,0 , , CLEAR RECORD MARK 00774 15 02496 00000
00720 TD FAC+1 ,RECMK , , REPLACE RECORD MARK 00786 25 02493 02403
00730 GUAL TF FAC ,SAVE , , SET CHAR IN FAC 00798 26 02492 02565
00740 B ENDD+12 00810 49 03780 00000
00750 DORG *-4 00817
00760 TF FAC-2 ,9SPF-1 00818 26 02490 02853
00770 TFM FAC , -99 ,10 00830 16 02492 000RR
00780 B GOAL+12 , ,0 00842 M9 00810 00000
00790 DORG *-4 00849
00800 FAC DS ,02492 00000
00810 FNH DS ,03313 00000
00820 EI DS ,02615 00000
00830 OVFLOW DS ,03652 00000
00840 ENDD DS ,03768 00000
00850 FRRDR DS ,03676 00000
00860 9SPF DS ,02854 00000
00870 FNHM1 DS ,03358 00000
00880 BETA DS ,02603 00000
00890 TWOZ DS ,03073 00000
00900 ZERO DS ,02767 00000
00910 97MF DS ,03323 00000

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00920	98MF	DS	,03328	03328	00000
00930	FM1	DS	,03625	03625	00000
00940	IMSA	DS	,02575	02575	00000
00950	SAVE	DS	,02565	02565	00000
00960	2FM1	DS	,03429	03429	00000
00970	LN10	DS	,02980	02980	00000
00980	RECKM	DS	,02403	02403	00000
00990	FH	DS	,03308	03308	00000
01000	DEND	1		00001	

SYMBOL TABLE

OVFLOW	03652	BETA	02603	CORN	00998R	COUM	00370R	EI	02615
ENDD	03768	ERROR	03676	FAC	02492	FH	03308	FLN	00006R
FM1	03625	FNH	03313	FNHM1	03358	GOAL	00798R	IMSA	02575
LN10	02980	RECKM	02403	SAVE	02565	TMOZ	03073	ZERO	02767
2FM1	03429	9SPF	02854	97MF	03323	98MF	03328		

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00010***** 1620 FORTTRAN II-D RELOCATABLE FLOATING EXPONENTIAL ROUTINE

00020	DSA	FEXP			00004	00005	-0006
00030	FEXP	TF	FAC	,FEXP-1	,111,	LOAD ARGUMENT	00006 20 02492 0000N
00040		SM	--13	,02	,010		00018 J2 00005 000-2
00050		TF	FAC-2	,--25	,111		00030 20 02490 0000N
00060		TFM	BETA	,01	,10		00042 16 02603 000-1
00070		TF	BETA-2	,ONEZ+4	,,	BETA= FT PT ONE (F+4 FORM)	
							00054 26 02601 03042
00080	BD	++20	,FNH	,011,	ZERO CHECK		00066 M3 00086 0331L
00090	B	GOBACK-24,		,0			00078 M9 00978 00000
00100	DDRG	--4					00085
00110	TD	MU-1	,FAC-2	,,	STORE SIGN		00086 25 03711 02490
00120	CF	FAC-2					00098 33 02490 00000
00130	TF	79	,ZERO-42	,,	CLEAR PRODUCT AREA		
							00110 26 00079 02725
00140	M	FAC-2	,LOGE	,,	MULTIPLY BY LOGE		00122 23 02490 03010
00150	TF	SAVE+2	,FAC	,,	STORE CHAR		00134 26 02567 02492
00160	TD	FAC+4	,FAC+1	,,	MOVE RECORD MARK		00146 25 02496 02493
00170	TF	FAC+3	,102MF	,11,	MOVE F+5 DIGITS OF PRODUCT		
							00158 26 02495 0334L
00180	BD	++48	,FNH	,011,	NORMALIZE		00170 M3 00218 0331L
00190	TR	FNH	,FH	,611			00182 31 0331L 0330Q
00200	SM	SAVE+2	,01	,10			00194 12 02567 000-1
00210	SF	FNH	,	,6			00206 32 0331L 00000
00220	C	SAVE+2	,MF	,,	IS CHAR LESS THAN, EQUAL TO -F		00218 24 02567 03473
							00230 M7 00978 01100
00230	BNM	GOBACK-24,		,0,	YES- RESULT IS FLT PT ONE		
00240	BV	++12	,	,0,	TURN OFF OVFL IND		
							00242 M6 00254 01400
00250	AM	SAVE+2	,00	,10,	IS CHAR ZERO		00254 11 02567 000-0
00260	BE	CALC	,	,0,	YES		00266 M6 00430 01200
00270	BL	CALC+68	,	,0,	CHAR LESS THAN ZERO		
							00278 M7 00498 01300
00280	CM	SAVE+2	,02	,10,	CHAR POSITIVE		00290 14 02567 000-2
00290	DM	E12	,	,0,	CHAR GREATER THAN 2, ERROR		
							00302 M6 01138 01100
00300	BL	++44	,	,0,	CHAR LESS THAN 2		00314 M7 00358 01300
00310	A	BETA	,FH	,11,	CHAR IS 2		00326 21 02603 0330Q
00320	TR	FNHM1	,FH	,611,	ADJUST MANTISSA		00338 31 0339Q 0330Q
00330	B	CALC-24	,	,0			00350 M9 00406 00000
00340	DDRG	--4					00357
00350	TDM	FNHM1	,0	,611,	CHAR IS 1		00358 15 0339Q 0000-
00360	CF	FNH	,FNH	,6,	ADJUST MANTISSA		00370 33 0331L 00000
00370	A	BETA	,FNH	,11			00382 21 02603 0331L
00380	TR	FNH	,FH	,611			00394 31 0331L 0330Q
00390	BV	E12	,	,0,	OV ON CHAR ADJUST, ERROR		
							00406 M6 01138 01400
00400	SF	FNH	,	,610			00418 32 0331L 000-0
00410	CALC	TFM	--1	,00	,010,	SET COUNTER EQUAL TO ZERO	
							00430 J6 00429 000-0
00420	CM	FN	,34	,610,	ARE HIGH ORDER DIGITS OF MANTISSA		
							00442 14 0330Q 000L4
00430	BL	GORD	,	,0,	LESS THAN 34, IF YES GO TO GORD		
							00454 M7 00570 01300
00440	SM	FN	,34	,610,	SUB 34 FROM HIGH ORD DIGITS		
							00466 12 0330Q 000L4
00450	AM	CALC-1	,01	,010,	ADJUST COUNTER		00478 J1 00429 000-1

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00460	B	CALC+12	,	,0		00490 M9 00442 00000
00470	DORG	+4				00497
00480	TFM	+59	,FAC	,07,	ADJUST MANTISSA FOR CASE WHEN	00498 J6 00557 -2492
00490	A	+47	,SAVE+2	,0,	CHAR LESS THAN ZERO, GREATER THAN	00510 K1 00557 02567
00500	TF	FNMH1	,9SPF-1	,6,	MINUS F	00522 26 0335Q 02853
00510	CF	FNH	,	,6		00534 33 0331L 00000
00520	TF	FAC	,			00546 26 02492 00000
00530	SF	FNH	,	,6		00558 32 0331L 00000
00540	TF	79	,ZERO-20			00570 26 00079 02747
00550	M	FAC	,LN10-1	,,	MULTIPLY ADJUSTED ARGUMENT	00582 23 02492 02979
00560	SF	97M2F	,	,6,	BY LN10	00594 32 0336L 00000
00570	TF	SAVE	,PDT	,11,	SET SAVE EQUAL PRODUCT	00606 26 02565 0333L
00580	TF	FAC+2	,PDT	,11,	STORE PRODUCT IN FAC	00618 26 02494 0333L
00590	TFM	FACT+11	,02	,010,	SET DIVISOR EQUAL 2, DENOTE AS L	00630 J6 00713 000-2
00600	A	BETA-2	,SAVE	,,	ADD SAVE TO BETA	00642 21 02601 02565
00610	TF	79	,ZERO-38	,,		00654 26 00079 02729
00620	M	SAVE	,FAC+2	,,	MULTIPLY SAVE BY PRODUCT IN FAC	00666 23 02565 02494
00630	TF	99	,96MF	,11		00678 26 00099 0331Q
00640	TFM	96MF	,00	,610		00690 L6 0331Q 000-0
00650	FACT	DM	97MF	,	DIVIDE NEW PRODUCT BY L	00702 19 0332L 00000
00660	BZ	FACT+56	,	,0,	BR IF QUOTIENT IS ZERO	00714 M6 00758 01200
00670	TF	SAVE	,97	,,	PUT QUOTIENT IN SAVE	00726 26 02565 00097
00680	AM	FACT+11	,01	,010,	INCREASE L BY ONE	00738 J1 00713 000-1
00690	B	FACT-60	,	,0		00750 M9 00642 00000
00700	DORG	+4				00757
00710	CM	CALC-1	,00	,010,	QUOTIENT WAS ZERO, IS COUNTER	00758 J4 00429 000-0
00720	BE	+80	,	,0,	ZERO, IF YES BR	00770 M6 00850 01200
00730	TF	79	,ZERO-38	,,	INDICATOR NOT ZERO	00782 26 00079 02729
00740	M	BETA-4	,TEN34	,,	MULTIPLY BETA BY 10 TO .34	00794 23 02599 03278
00750	SF	97M2F	,	,6		00806 32 0336L 00000
00760	TF	BETA-4	,98MF	,11,	STORE PRODUCT IN BETA	00818 26 02599 0332Q
00770	SM	CALC-1	,01	,010,	DECREASE COUNTER BY ONE	00830 J2 00429 000-1
00780	B	FACT+68	,	,0		00842 M9 00770 00000
00790	DORG	+4				00849
00800	BNF	GOBACK-24,MU-1	,	,0,	COUNTER WAS ZERO, WAS ORIGINAL	00850 M4 00978 03711
00810	TF	99	,ZERO-21	,,	ARGUMENT NEGATIVE	00862 26 00099 02746
00820	TF	PDT	,ONEZ+2	,6,	YES, FIND RECIPROCAL	00874 26 0333L 03040
00830	D	HND	,BETA-4	,6		00886 29 0333Q 02599
00840	BV	+44	,	,0		00898 M6 00942 01400
00850	TF	BETA-6	,97MF	,11		00910 26 02597 0332L

00860	SM	BETA	,01	,10		00922 12 02603 000-1
00870	B	+20	,	,0		00934 M9 00954 00000
00880	DORG	+4				00941
00890	SM	BETA	,02	,10		00942 12 02603 000-2
00900	BE	+24	,	,0		00954 M6 00978 01200
00910	SF	BETA	,			00966 32 02603 00000
00920	TF	FAC-2	,BETA-6	,,	PUT RESULT IN FAC	00978 26 02490 02597
00930	TF	FAC	,BETA			00990 26 02492 02603
00940	GOBACK	TDM	GOBACK+37,9	,0,	NO ERROR	01002 J5 01039 00009
00950	TD	FAC+1	,RECMK	,,	REPLACE RECORD MARK	01014 25 02493 02403
00960	TFM	FAC+4	,0	,9,	REMOVE RECORD MARKS	01026 16 02496 00-00
00970	B	FINISH+1	,			01038 49 03804 00000
00980	TDM	99	,0	,,	SET SIGN POSITIVE	01050 15 00099 00000
00990	BNF	+56	,MU-1	,0		01062 M4 01118 03711
01000	TFM	EI	,675	,9,	ERR F5 UNFL IN FEXP	01074 16 02615 00075
01010	TFM	FAC	,99	,10,	FAC IS FL PT ZERO	01086 16 02492 000RR
01020	TF	FAC-2	,9SPF-1	,		01098 26 02490 02853
01030	B	ERROR	,			01110 49 03676 00000
01040	DORG	+4				01117
01050	TFM	EI	,674	,9,	ERR F4 OVFL IN FEXP	01118 16 02615 00074
01060	B	OVFLOW	,	,,	FAC IS FL PT NINES	01130 49 03652 00000
01070	DORG	+4				01137
01080	E12	TDM	GOBACK+37,1	,0,	SET ERROR BRANCH	01138 J5 01039 00001
01090	B	GOBACK+12,	,	,0		01150 M9 01014 00000
01100	DORG	+4				01157
01110	FAC	DS	,02492			02492 00000
01120	BETA	DS	,02603			02603 00000
01130	ONEZ	DS	,03038			03038 00000
01140	FNH	DS	,03313			03313 00000
01150	MU	DS	,03712			03712 00000
01160	ZERO	DS	,02767			02767 00000
01170	LOGE	DS	,03010			03010 00000
01180	SAVE	DS	,02565			02565 00000
01190	102MF	DS	,03343			03343 00000
01200	FH	DS	,03308			03308 00000
01210	MF	DS	,03473			03473 00000
01220	FNMH1	DS	,03358			03358 00000
01230	9SPF	DS	,02854			02854 00000
01240	LN10	DS	,02980			02980 00000
01250	97M2F	DS	,03363			03363 00000
01260	PDT	DS	,03333			03333 00000
01270	96MF	DS	,03318			03318 00000
01280	97MF	DS	,03323			03323 00000
01290	TEN34	DS	,03278			03278 00000
01300	98MF	DS	,03328			03328 00000
01310	HND	DS	,03338			03338 00000
01320	RECMK	DS	,02403			02403 00000
01330	FINISH	DS	,03803			03803 00000
01340	EI	DS	,02615			02615 00000
01350	ERROR	DS	,03676			03676 00000

SYMBOL TABLE

DVFLOW 03652	GOBACK 01002R	FINISH 03803	BETA 02603	CALC 00430R
EI 02615	ERROR 03676	E12 01138R	FAC 02492	FACT 00702R
FEXP 00006R	FH 03308	FNM 03313	FNHMI 03358	GORD 00570R
HND 03338	LN10 02980	LOGE 03010	MF 03473	MU 03712
ONEZ 03038	PDT 03333	RECMK 02403	SAVE 02565	TEN34 03278
ZERO 02767	LO2MF 03343	95PF 02854	96MF 03318	97MF 03323
97M2F 03363	98MF 03328			

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Subscribing Subroutine - Relocatable
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00010*   SUBSCRIBING SUBROUTINE - RELOCATABLE- FOR ONE, TWO OR
00020*   THREE DIMENSIONAL SUBSCRIPTED VARIABLES
00030*   LINKAGE   BTM ENTRYX,*,*12,, WHERE X=1,2 OR 3
00040*   DSA BASE,D4,D1,I,D2,J,D3,K,OR/M
00050*   IF Q ADDR FLAGGED BASE IS FIXED
00060*   IF BASE IS FLAGGED ARRAY IS FORMAL PARAMETER
00070*   IF D1 IS FLAGGED - I/O STMTN
00080 FP2   DS   ,3605
00090 K     DS   ,2221
00100      DSA  ENTRY1,ENTRY2,ENTRY3
00110      DORG *-9
00120 ENTRY1 TFM BRINST+6,L1
00130      TFM  EXIT-1,22,10
00140      B    COM
00150 ENTRY2 TFM BRINST+6,L2
00160      TFM  EXIT-1,32,10
00170      TF   ENTRY1-1,ENTRY2-1
00180      B    COM
00190 ENTRY3 TFM BRINST+6,L3
00200      TFM  EXIT-1,42,10
00210      TF   ENTRY1-1,ENTRY3-1
00220*   SET LENGTH OF FX OR FL
00230 COM   TF   X+11,FP2
00240      BNF  **+8,ENTRY1-1
00250      SF  COM+1
00260      CF  ENTRY1-1
00270      TF  X+11,K
00280*
00290*   MOVE PARAMETERS TO WORK AREA
00300*
00310      TR   WKAREA,ENTRY1-1,11
00320*
00330      CF  Y+11
00340      BNF **+36,BASE
00345     CF  BASE
00350     SF  Y+11
00360*   CHECK IF IN I/O
00370*
00380     BNF  CFINST,COM+1
00390     CF  COM+1
00400     BNF  CFINST+12,D1
00410     SF  X+11
00420     TDM  Y+1,2,,
00430 CFINST CF  D1
00440     S    HOLD,HOLD
00450 BRINST B   *-e
00460     DORG *-3
00470*
00480 L3    M    D3,KK,11
00490     TF  HOLD,99
00500 L2    M    D2,J,11
00510     A   HOLD,99
00520 L1    M    D1,I,11
00530     A   HOLD,99
00540     A   HOLD,D4
00550 X     MM   HOLD,*-*,
00006 J0   00336 -0386
00018 J6   00481 000K2
00030 M9   00126 00000
00042 J0   00336 -0362
00054 J6   00481 000L2
00066 K0   00005 00041
00078 M9   00126 00000
00090 J0   00336 -0338
00102 J6   00481 000M2
00114 K0   00005 00089
00126 K6   00433 03605
00138 MM   00186 00005
00150 L2   00127 00000
00162 L3   00005 00000
00174 K6   00433 02221
00186 J3   00000 0000N
00198 L3   00445 00000
00210 M4   00246 00004
00222 J3   00004 00000
00234 L2   00445 00000
00246 MM   00306 00127
00258 L3   00127 00000
00270 M4   00318 00014
00282 L2   00433 00000
00294 J5   00435 00002
00306 J3   00014 00000
00318 KK   00508 00508
00330 J9   00000 00000
00338
00338 J3   00034 0003R
00350 K6   00508 00099
00362 J3   00024 0002R
00374 K1   00508 00099
00386 J3   00014 0001R
00398 K1   00508 00099
00410 K1   00508 00009
00422 J3   00508 -0000

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00560 Y      A      99,BASE,11,      00434 21 00099 0000M
00570      TDM     *-11.1,,      00446 J5 00435 00001
00580      SF      95      00458 32 00095 00000
00590      AM     ENTRY1-1,,*-*      00470 J1 00005 -0000
00600 EXIT    B      ENTRY1-1,,*      00482 M9 0000N 00000
00610 WKAREA  DSS   42,0      00000 00042
00620 HOLD    DC    15,0      00508 00015
00630 BASE    DS    5,4      00004 00005
00640 D4      DS    5,9      00009 00005
00650 D1      DS    5,14     00014 00005
00660 I       DS    5,19     00019 00005
00670 D2      DS    5,24     00024 00005
00680 J       DS    5,29     00029 00005
00690 D3      DS    5,34     00034 00005
00700 KK      DS    5,39     00039 00005
00710      OEND 3      00003
    
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SYMBOL TABLE

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WKAREA 00000  ENTRY3 00090R  ENTRY2 00042R  ENTRY1 00006R  CFINST 00306R
BRINST 00330R  BASE 00004  COM 00126R  D1 00014  D2 00024
D3 00034  D4 00009  EXIT 00482R  FP2 03605  HOLD 00508R
I 00019  J 00029  K 02221  KK 00039  LI 00386R
L2 00362R  L3 00338R  X 00422R  Y 00434R
    
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00010*      FORTRAN DISK I/O WITHOUT FLOATING POINT HARDWARE
00020*
00030 ADR    DSA  FIND  ,RECORD,FETCH,SWD,DRAY,DIOEND      00004 00005 -0072
                                                    00009 00005 -0334
                                                    00014 00005 -0298
                                                    00019 00005 -0216
                                                    00024 00005 -0024
                                                    00029 00005 -0270
00040      DORG  ADR-4      00000
00050 IUCAL  DS    ,716     00716 00000
00060 IORBC  DS    ,520     00520 00000
00070 IORT   DS    ,565     00565 00000
00080 DIO    DS    ,816     00816 00000
00090 IOSK   DS    ,554     00554 00000
00100 INDS   DS    ,610     00610 00000
00110 ERRET  DS    ,602     00602 00000
00120 IDERR  DS    ,624     00624 00000
00130 IOGT   DS    ,566     00566 00000
00140 IOPT   DS    ,532     00532 00000
00150 FAC    DS    ,2492    02492 00000
00160 DIODDA DS    ,3387    03387 00000
00170 FINDIN DS    ,3583    03583 00000
00180 FP2    DS    ,3605    03605 00000
00190 FKODD  DS    ,3427    03427 00000
00200 PAR    DS    ,3378    03378 00000
00210 ERROR  DS    ,3676    03676 00000
00220 E1     DS    ,2615    02615 00000
00230 FIXEND DS    ,3760    03760 00000
00240 FLTEND DS    ,3810    03810 00000
00250 FLOATA DS    ,4042    04042 00000
00260 DKDATA DS    ,3379    03379 00000
00270 ZERO   DS    ,2700    02700 00000
00280 FIX    DS    ,3854    03854 00000
00290 RECLG  DS    ,2243    02243 00000
00300 W      DS    ,2240    02240 00000
00310 N2     DS    ,2238    02238 00000
00320 N1     DS    ,2233    02233 00000
00330 K      DS    ,2221    02221 00000
00340 F      DS    ,2219    02219 00000
00350*
00360      TF  NITEMP,N1      00000 K6 00143 02233
00370 TOBB   B  DRAY1,,0      00012 M9 01004 00000
00380 DRAY   TDM  TOBB+1,9,,      SET TOBB TO BRANCH
                                                    00024 J5 00013 00009
00390      BD  EVEN,FKODD,,      TEST FOR EVEN ADDRESS
                                                    00036 M3 00536 03427
00400      TFM DSABLK+5,AGAIN      00048 J0 00265 -0698
00410      B  SWD+12      00060 M9 00228 00000
00420 FIND   TDM  FINDIN,0,,      SET FIND INDICATOR ON .
                                                    00072 L5 03583 00000
00430      TFM RETD2+6,SET1,,      BRANCH TO COMPUTE ADDRESS AND TESTI
                                                    00084 J0 00150 -0370
00440*      N2 ERROR ROUTINE (I GRT N2)
00450 N2CK   C  FIND-1,ZERO,6,  IS I ZERO OR NEG      00096 K4 0007J 02700
00460      BMH BE2      00108 M7 00156 01100
00470      C  FIND-1,N2,6,      COMPARE I AND N2
                                                    00120 K4 0007J 02238
00480      BM  BE2      00132 M6 00156 01100
    
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0490 ETD2 B +--+ 00144 49 00000 00000
0500 UFFAR DS ,+ 00155 00000
0510 BE2 B1 ++12,1400 00156 M6 00168 01400
0520 TFM EI,472,9, I GRT N2 00168 16 02615 00M72
0530 BD ERROR,DOABLK,, BR IF CK WAS ENTERED FROM BUFFER ROUTINE
00180 4L 03676 00247
00192 J6 00403 -3676
00540 TFM DSAOTR+5,ERROR 00204 M9 00354 00000
00550 B SETRMK
00560
00570***** SWD SUBROUTINE
00580 SWDA TDM SWD+900,0 00216 J5 01116 00000
00590 TFM +-11,41,10 00228 J6 00217 000M1
00600 A BUFFAR,W,, INCREMENT BUFFER ARROW
00240 K1 00155 02240
00252 M9 00406 00000
00610 B SWD1 00259 00001
00620 DORG +-4 00269 00005 -0896
00630 ICON8 DC 1,9 00270 J0 00403 -0270
00640 DSA RETFLT 00282 ML 00354 00163
00650 DORG +-5 00294 K4 00143 02233
00660 IOEND TFM DSAOTR+5,DI0END 00306 M6 00354 01200
00670 BD SETRMK,FRIND,, BRANCH IF FETCH 00318 I0 00565 -0341
00680 C NITEMP,N1 00330 49 00532 -3379
00690 E SETRMK,,, BRANCH IF BUFFER EMPTY 00342 J1 0007J 000-1
00700 TFM IORT,++23,, WRITE BUFFER TO FILE 00354 KN 01116 01270
00366 I0 00565 -0429
00710 B IOPT ,DKDATA,7 00378 49 00566 00000
00720 AM FIND-1,1,610 00385
00730 SETRMK TD SWD+900,DKBUFF+200 00385 00001
00740 TFM IORT,IOREF2+11 00390 00005 -0200
00750 B IOGT 00393 00003
00760 DORG +-4 00398 00005 -0216
00770 DDB DSC 1,1 00403 00005 -0270
00780 DSA 200 00404 00001
00790 DC 3,9 00406 ML 00718 00163
00800 DSAOTR DSA SWD,DI0END
00810 DC 1,1
00820 SWD1 BD FETCH1,FRIND,, BRANCH IF FETCH
00830** RECORD 00406 ML 00718 00163
00840 IOREF2 CF SWD-1,DAT8,7, CLEAR FLAG ON ADDRESS OF DATA
00418 LL 00215 -1061
00850 SM NITEMP,1,10 , DECREMENT WORD COUNT
00430 J2 00143 000-1
00860 TF BUFFAR,SWD-1,611 , SEND WORD TO BUFFER
00442 K0 0015N 0021N
00870 SM BUFFAR,2 00454 J2 00155 -0002
00880 SM SWD-1,2 00466 J2 00215 -0002
00890 TF BUFFAR,SWD-1,611 00478 K0 0015N 0021N
00900 AM BUFFAR,2 00490 J1 00155 -0002
00910 CK CM NITEMP,0,10, CHECK FOR FULL BUFFER
00502 J4 00143 000-0
00920 BNZ TOBB 00514 M7 00012 01200
00930 BD TOBB-12,FRIND,, BR IF FETCH 00526 ML 00000 00163
00940 TFM LINKB+18,IOPT 00538 J6 00588 -0532
00950 CKI TFM RETD2+6,LINKB 00550 J0 00150 -0570
00960 B NZCK 00562 M9 00096 00000
00970 DORG +-4 00569

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00980 LINKB TFM IORT,++23,, CALL CORRECT IORT ROUTINE
00570 I0 00565 -0593
00990 B ,DKDATA,7 00582 49 00000 -3379
01000 TFM BUFFAR,DKBUFF+199,, INITIALIZE BUFFER ARROW
00594 J0 00155 -1269
01010 S BUFFAR-2,RECLG 00606 K2 00153 02243
01020 BNF ++24,FRIND 00618 MM 00642 00163
01030 A BUFFAR,W 00630 K1 00155 02240
01040 ADDTOI AM FIND-1,1,610, INCREMENT I 00642 J1 0007J 000-1
01050 A DIODDA+5,DIODDA+8,, INCREMENT SECTOR ADDRESS
00654 21 03392 03395
01060 BD FETCH2,FRIND 00666 ML 00762 00163
01070 B TOBB-12 00678 M9 00000 00000
01080 DORG +-4 00685
01090 A DRAY-1,FP2 00686 K1 00023 03605
01100 AGAIN TF SWD-1,DRAY-1 00698 K0 00215 00023
01110 B SWD 00710 M9 00216 00000
01120 DORG +-4 00717
01130 FETCH1 C NITEMP,N1 00718 K4 00143 02233
01140 BNE FETCH2,,, BRANCH IF BUFFER NOT EMPTY
00730 M7 00762 01200
00742 J6 00588 -0566
01150 TFM LINKB+18,IOGT 00754 M9 00550 00000
01160 B CKI 00761
01170 DORG +-4 00762 J2 00143 000-1
01180 FETCH2 SM NITEMP,1,10 SEND THE WORD TO FAC
00774 20 02492 0015N
01190* TF FAC,BUFFAR,11 00786 J2 00155 -0002
01200 SM BUFFAR,2 00798 20 02490 0015N
01210 TF FAC-2,BUFFAR,11 00810 J1 00155 -0002
01220 AM BUFFAR,2 00822 M6 00834 01400
01230 BI ++12,1400
01240
01250* TEST FOR FLOATING ADDRESS AT SWD-1
01260 BNF FETCH3,SWD-1 00834 MM 00928 00215
01270* IT IS A FIXED ADDRESS
01280 CF SWD-1 00846 L3 00215 00000
01290* TEST FOR FLOATING WORD IN FAC
01300 BNF FETCH4,FAC-1 00858 M4 00940 02491
01310* THE WORD IS FLOATING SET UP LINKAGE FOR FIX
01320 TF FIXEND+6,ICON7+6 00870 20 03766 00895
01330 B FIX 00882 49 03854 00000
01340 DORG +-4 00889
01350 ICON7 DC 1,4 00889 00001
01360 DSC 1,9 00890 00001
01370 DSA RETFLT 00895 00005 -0896
01380 RETFLT TDM FIXEND+1,2 00896 15 03761 00002
01390 TDM FLTEND-5,2 00908 15 03805 00002
01400* BRANCH TO STORE NUMBER
01410 CKLD B FETCH4 00920 M9 00940 00000
01420 DORG +-4 00927
01430 FETCH3 BNF FETCH5,FAC-1,, BRANCH IF FIXED
00928 M4 00984 02491
01440* STORE THE WORD IN MEMORY
01450 FETCH4 TF SWD-1,FAC,6 00940 K6 0021N 02492
01460 SM SWD-1,2 00952 J2 00215 -0002
01470 TF SWD-1,FAC-2,6 00964 K6 0021N 02490
01480* CHECK FOR EMPTY BUFFER
01490 B CK 00976 M9 00502 00000
01500 DORG +-4 00983

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01510*      SET UP LINKAGE FOR FLOAT
01520 FETCHS TF  FLTEND,ICONB+5      00984 20 03810 00264
01530      B      FLOAT                00996 49 04042 00000
01540      DORG  *-4                    01003
01550 DRAY1 SM  PAR,1,10,,           DECREMENT WORD COUNT
                                       01004 12 03378 000-1
                                       01016 M7 01030 01200
01560      BNZ  **14                    01028 42 00000 00000
01570      BR      **14                    01030
01580      DORG  *-9                    01030 MM 00686 00023
01590      RNF  AGAIN-12,DRAY-1      01042 K2 00023 02221
01600      S      DRAY-1,K
01610      B      AGAIN                01054 M9 00698 00000
01620      DORG  *-4                    01061
01630 DATB DSC  2,-00                01061 00002
01640      DSA  DDB                    01067 00005 -0385
01650      DC   1,'                    01068 00001
01660 DKBUFF DS   ,DATB+9            01070 00000
01670*
01680*
01690*      WRITE 2ND BLOCK
01700*
01710 LDIRD DSC  2,00                  01069 00002
01720      DSA  DIM1                    01075 00005 -1077
01730      DC   1,'                    01076 00001
01740 DIM1 DSC  1,1                    01077 00001
01750      DSA  209                      01082 00005 -0209
01760      DC   3,9                      01085 00003
01770      DSA  SWD                      01090 00005 -0216
01780      DC   1,'                    01091 00001
01790      DORG  SWDA+902                01118
01800 STLD1 TDM  DKBUFF+200,0          01118 J5 01270 00000
01810      DGM  *                        01129 00001
01820      TD   SWD+900,DKBUFF+200      01130 KN 01116 01270
01830      CF   ICON7+2                  01142 L3 00891 00000
01840      CF   ICON8+1                  01154 L3 00260 00000
01850      TFM  IORT,**+23              01166 10 00565 -1189
01860      B      IOPT,LDIRD,7          01178 4R 00532 -1069
01870      TRA
                                       01190 10 00565 -1209
                                       01202 49 00716 00000
                                       01209 00002 2K
                                       01211 00005 -1217
                                       01216 00001 *
                                       01217 00006 1J9783
                                       01223 00003 -03
                                       01226 00006 -0000*
                                       01118

01880      TCD  STLD1
01890*
01900*      BLOCK 1 OF FETCH FIND RECORD
01910      DORG  SWDA                    00216
01920 SWD  TFM  DSABLK+5,SWD            00216 J0 00265 -0216
01930      TFM  IORT,IREF+11            00228 10 00565 -0571
01940      B      LOGT                    00240 49 00566 00000
01950      DORG  *-4                    00247
01960 DDABLK DSC  1,1                    00247 00001
01970      DSA  209                      00252 00005 -0209
01980      DC   3,9                      00255 00003
01990 DSABLK DSA  SWD,SWD              00240 00005 -0216
                                       00245 00005 -0216
                                       00266 00001

02000      DC   1,'                    00266 00001

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02010      DORG  IOEND                    00270
02020 DIOEND BI  **12,1400              00270 M6 00282 01400
02030      BB
02040      DORG  *-9                    00284
02050 DAT1 DSC  2,-00                    00284 00002
02060      DSA  DDABLK                    00290 00005 -0247
02070      DC   1,'                    00291 00001
02080      DS   5                        00296 00005
02090 FETCH YF  FIND-1,FETCH-1,,        TRANSFER I 00298 K0 00071 00297
02100      TDM  FRIND,1,11,,           SET FETCH-RECORD INDICATOR TO FETCH
                                       00310 J5 00163 0000J
02110      B      AITEST,,              BRANCH TO SET FIND INDICATOR OFF ,
                                       00322 M9 00358 00000
02120*      COMPUTE ADDRESS , TEST I , AND TEST
02130*      FOR DEFINE STATEMENT .
02140 RECORD TF  FIND-1,RECORD-1,,        TRANSFER I 00334 K0 00071 00333
02150      TDM  FRIND,0,,              SET FETCH-RECORD INDICATOR TO RECRD
                                       00346 J5 00163 00000
02160 AITEST TDM  FINDIN,1,,           SET FIND INDICATOR OFF
                                       00358 15 03583 00001
02170 SET1 TFM  DIODDA+5,217,,          SET SECTOR ADDRESS IN DDA
                                       00370 16 03392 -0217
02180      M      FIND-1,RECLG,6,,      COMPUTE ADDRESS OF FILE RECORD
                                       00382 K3 0007J 02243
                                       00394 21 03392 00099
02190      A      DIODDA+5,99           BRANCH IF NOT FIND 00406 M3 00450 03583
02200      RD   **44,FINDIN,,          00418 10 00565 -0441
02210 SSEEK TFM  IORT,**+23              TRANSFER TO IORT TO SEEK
02220      B      IOSK,DKDATA,7,
                                       00430 49 00554 -3379
                                       00442 M9 00270 00000
                                       00450
02230      B      DIOEND                    00450
02240      DORG  *-3                    00450
02250      TFM  BUFFAR,DKBUFF+199,,      INITIALIZE BUFFER ARROW
                                       00450 J0 00155 -1269
                                       00462 K2 00153 02243
02260      S      BUFFAR-2,RECLG        00474 K6 00143 02233
02270      TF   NITEMP,N1,,
02280      TF   DIODDA+8,RECLG,,        STORE RECORD LENGTH IN DDA
                                       00486 26 03395 02243
02290      TFM  DIODDA+13,DKBUFF+200,,  STORE ADDRESS OF BUFFER
                                       00498 10 03400 -1270
02300      S      DIODDA+11,RECLG,,     SUB LENGTH OF RECORD TO GET FIRST COR
                                       00510 22 03398 02243
02310 OVER TDM  TOBB+1,2,,            INITIALIZE BRANCH BACK
                                       00522 J5 00013 00002
                                       00534 42 00000 00000
02320      BB
02330      DORG  *-9                    00536
02340 EVEN TF   TEMPA,FP2,,           STORE FLOATING LENGTH IN TEMPA
                                       00536 K6 00119 03605
02350      BNF  **36,DRAY-1,,          BRANCH IF FLOATING ARRAY
                                       00548 MM 00584 00023
                                       00560 LL 00023 -0284
02360 IOREF CF   DRAY-1,DAT1,7          STORE FIXED LENGTH IN TEMPA
02370      TF   TEMPA,K,,              00572 K6 00119 02221
                                       00584 20 03400 00023
02380      TF   DIODDA+13,DRAY-1,,     STORE ADDRESS OF FIRST ELEMENT
                                       00596 11 03400 -0001
02390      AM  DIODDA+13,1
02400      S      DIODDA+13,TEMPA,,     HIGH ORDER POSITION OF ARRAY
                                       00608 2K 03400 00119
02410      TF   EVEN1+11,DIODDA+13     00620 K6 00667 03400

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02420 M   TEMPA,PAR                00632 K3 00119 03378
02430 A   EVEN1+11,99            00644 K1 00667 00099
02440 EVEN1 TD  EVEN2+11                00656 K5 00855 00000
                                EVALUATE SECTOR COUNT
02450*
02460 TFM  DIODDA+8,1,9            00668 16 03395 00-01
02470 A   DIODDA+8,97            00680 21 03395 00097
02480 CM  RECLG,1,9              00692 14 02243 00-01
02490 BE  **36                    00704 M6 00740 01200
02500 MM  DIODDA+8,5,10          00716 13 03395 000-5
                                IS NOW IN DDA
                                EVALUATE AND STORE LOW ORDER
                                POSITION + 1 OF ARRAY
02510*
02520*
02530*
02540*
02550 S   FIND-1,98,6              00728 K2 0007J 00098
02560 A   FIND-1,DIODDA+8,6        00740 K1 0007J 03395
02570 TFM  RETD2+6,**20           00752 J0 00150 -0772
02580 B   N2CK                     00764 M9 00096 00000
02590 DDRG +-4                     00771
02600 TFM  DID+35,YTURN,67,        INSERT ADDRESS FOR ERROR ENTRY
                                00772 10 0085J -0952
02610 BD  FETCH8,FRIND,,          BRANCH IF FETCH
                                00784 ML 00870 00163
02620* RECORD
02630 TD  EVEN1+11,DKBUFF+200,6,    SET GROUP MARK AT END OF ARRAY
                                00796 KN 0066P 01270
                                WRITE ARRAY ONTO FILE
02640*
02650 TFM  IORT,**23                00808 10 00565 -0831
02660 B   IORBC,NOWLC ,7           00820 4R 00520 -0995
02670 TDM  FLTEND-5,2              00832 15 03805 00002
02680 EVEN2 TDM  EVEN1+11,,6,      RESTORE DIGIT
                                00844 J5 0066P 00000
02690 A   DIODDA+5,DIODDA+8,,      INCREMENT SECTOR ADDRESS
                                00856 21 03392 03395
02700 BB
02710 DDRG +-9                     00868 42 00000 00000
02720 FETCH8 TFM  IORT,**23,,      READ ARRAY FROM FILE
                                00870 10 00565 -0893
                                00882 49 00566 -3379
02730 B   IOGT,DKDATA,7            TEST FOR NO GROUP MARK
02740*
02750 BNG **20,EVEN1+11,11         00894 NN 00914 0066P
02760 B   EVEN2                    00906 M9 00844 00000
02770 DDRG +-4                     00913
02780 TF   FLTEND,EVENSP+6         00914 20 03810 00951
02790 TFM  EI,475,9                00926 16 02615 00M75
02800 B   ERROR                    00938 49 03676 00000
02810 DDRG +-4                     00945
02820 EVENSP DC 1,4                00945 00001
02830 DSC 1,9                      00946 00001
02840 DSA  EVEN2-12                00951 00005 -0832
02850 YTURN BI **12,3700           00952 M6 00964 03700
02860 BNI  ERRET,1900              00964 47 00602 01900
02870 TDM  INDS+10,6               00976 15 00620 00006
02880 B   IOERR                    00988 49 00624 00000
02890 DDRG +-4                     00995
02900 NOWLC DSC 2,02               00995 00002
02910 DSA  DIODDA                  01001 00005 -3387
02920 DC 1,'                       01002 00001
02930 TEMPA DS 2,N2CK+23           00119 00002
02940 NITEMP DS 2,RETD2-1         00143 00002

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02950 FRIND DS 1,BE2+7              00163 00001
02960* WRITE FIRST BLOCK
02970*
02980 DIM2 DSC 1,1                  01003 00001
02990 DSA 200                      01008 00005 -0200
03000 DC 3,9                        01011 00003
03010 DSA SWD                       01016 00005 -0216
03020 DC 1,'                        01017 00001
03030 LD2ND DSC 2,00                01018 00002
03040 DSA DIM2                      01024 00005 -1003
03050 DC 1,'                        01025 00001
03060 DDRG SWD+902                  01118
03070 STLD2 CF  EVENSP+2            01118 L3 00947 00000
03080 TFM  IORT,**23                01130 10 00565 -1153
03090 B   IOPT ,LD2ND,7,          WRITE OUT 2ND PART BLK 1
03100 TRA                          01142 4R 00532 -1018
                                01154 10 00565 -1173
                                01166 49 00716 00000
                                01173 00002 2K
                                01175 00005 -1181
                                01180 00001 '
                                01181 00006 1J9783
                                01187 00003 -03
                                01190 00006 -0000'
03110 TCD STLD2                    01118
03120 DEND 6                        00006

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SYMBOL TABLE

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SETRMK 00354R  RETFLT 00896R  RECORD 00334R  NITEMP 00143R  IOREF2 00418R
FLTEND 03810  FIXEND 03760  FINDIN 03583  FETCH8 00870R  FETCH5 00984R
FETCH4 00940R  FETCH3 00928R  FETCH2 00762R  FETCH1 00718R  EVENSP 00945R
DSADTR 00398R  DSABLK 00260R  DKDATA 03379  DKBUFF 01070R  DIOEND 00270R
DIODDA 03387  DDABLK 00247R  BUFFAR 00155R  AITEST 00358R  ADDTDI 00642R
ADR 00004R  AGAIN 00698R  BE2 00156R  CK 00502R  CKI 00550R
CKLD 00920R  DATB 01061R  DAT1 00284R  DDB 00385R  DIM1 01077R
DIM2 01003R  DIO 00816  DRAY 00024R  DRAY1 01004R  EI 02615
FRRET 00602  ERROR 03676  EVEN 00536R  EVEN1 00656R  EVEN2 00844R
F 02219  FAC 02492  FETCH 00298R  FIND 00072R  FIX 03854
FKODD 03427  FLOAT 04042  FP2 03605  FRIND 00163R  ICON7 00889R
ICON8 00259R  INDS 00610  IOCAL 00716  IOEND 00270R  IOERR 00624
IOGT 00566  IOPT 00532  IORBC 00520  IOREF 00560R  IORT 00565
IOSK 00554  K 02221  LD1RD 01069R  LD2ND 01018R  LINKB 00570R
NOWLC 00995R  N1 02233  N2 02238  N2CK 00096R  OVER 00522R
PAR 03378  RECLG 02243  RETD2 00144R  SET1 00370R  SSEEK 00418R
STLD1 01118R  STLD2 01118R  SWD 00216R  SWDA 00216R  SWD1 00406R
TEMPA 00119R  TOBB 00012R  W 02240  YTURN 00952R  ZERO 02700

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00010***** 1620 FORTRAN II-D RELOCATABLE SINE AND COSINE ROUTINES
00020***** COS(X) = 1 - (X**2)/2 + (X**4)/24 - (X**6)/720 + ...
00030***** SIN(A) = COS(PI/2 - A)
00040 DSA FCOS,FSIN
00050 DORG +-4
00060 FCOS TDM CLF+11 ,0 ,0, SET ROUTINE FOR COSINE
00070 TF FSIN-1 ,FCOS-1 ,01, LOAD ADDRESS OF ARGUMENT
00080 B FSIN+12 , ,0
00090 FSIN TDM CLF+11 ,1 ,011, SET ROUTINE FOR SINE
00100 TF FAC ,FSIN-1 ,111, LOAD ARGUMENT
00110 SM FSIN-1 ,02 ,010
00120 TF FAC-2 ,FSIN-1 ,111
00130 CF FNH , ,6, CLEAR HIGH ORDER FLAG
00140 TDM FNHM1 ,0 ,611, SET FLAG AT HIGH ORDER DIGIT -1
00150 TDM CLF+10 ,1 ,0, SET SWITCH ARG POSITIVE, RESULT POS
00160 BNF +-48 ,FAC-2 ,0, IS ARG NEGATIVE
00170 CLF CF FAC-2 , ,9, YES, REPLACE BY ABSOLUTE VALUE
00180 BNF +-24 ,CLF+11 ,01, IS ROUTINE SINE OR COSINE
00190 TDM CLF+10 ,0 ,0, SINE, SIN(-A)=-SIN(A), RESULT NEG
00200 TF IMSAFP ,9SPF+1 ,6, IMSA+F = F+2 ZEROS
00210 CM FAC ,00 ,10, CHECK SIGN OF CHARACTERISTIC
00220 BNL POZEXP , ,0, BR IF POSITIVE, EQUAL TO ZERO
00230 C FAC ,MF , , COMPARE CHAR TO -F
00240 BL BRD , ,0, BR IF CHAR LESS THAN -F
00250 TFM +-35 ,FAC-1 ,07, ADJUST MANTISSA (IN IMSAFP) FOR
00260 A +-23 ,FAC ,0, CHAR GREATER THAN OR EQUAL TO -F
00270 A IMSAFP , ,6, AND LESS THAN ZERO
00280 BRD BD +-24 ,CLF+11 ,01, BR IF ROUTINE IS SINE
00290 A IMSAFP ,PIOV2 ,6, ADD PIOV2, COS(A) = SIN(PIOV2-A)
00300 S IMSAFP ,TWOPI ,6, REDUCE ARGUMENT TO PRINCIPAL VALUE
00310 RH +-12 , ,0, RANGE, MINUS PIOV2 TO POS PIOV2
00320 SF IMSA-1 , , , SET HIGH ORDER FLAG
00330 A IMSAFP ,PI ,6
00340 BN +-36 , ,0, BR ARG NEGATIVE
00350 SM CLF+10 ,01 ,010, SET SIGN OF RESULT
00354 J2 00148 000-1

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00360 SF IMSAFP , ,6, SET SIGN ON ARGUMENT TO MINUS
00370 A IMSAFP ,PIOV2 ,6, ADD PIOV2, SIN(A) = COS(PIOV2-A)
00380 TF 79 ,ZERO-40 , , CLEAR PRODUCT AREA
00390 M IMSAFP ,IMSAF ,611, FIND A**2
00400 TF IMSAFP ,98MF ,611, PUT RESULT IN IMSA+F
00410 SF IMSA-1 , , , SET HIGH ORDER FLAG
00420 TF FAC ,ONEZ+2 , , FAC = 1 (F+2 DIGITS)
00430 TR AAB-3 ,AABS-8 ,01, SET COUNTERS, AB = 2 FACTORIAL
00440 OVER TDM SUM+1 ,2 ,0, SET SUM TO SUBTRACT
00450 TF 99 ,98MF ,11, SHIFT PRODUCT
00460 TFM 97MF ,0000 ,68
00470 D 98MF ,AB ,16, DIVIDE BY AB
00480 BZ DONE , ,0
00490 TF SAVE ,95 ,10, STORE QUOTIENT
00500 SUM S FAC ,SAVE , , SUBTRACT QUOTIENT FROM FAC
00510 AM AAB-2 ,02 ,010, AB CONTAINS K FACTORIAL
00520 AM AAB ,02 ,010, FIND K+2 FACTORIAL MODIFIED FOR
00530 M AAB ,AAB-2 ,01, PRODUCT DEVELOPMENT, PUT IN AB
00540 TF AB ,99 ,0
00550 TF 79 ,ZERO-12 ,0
00560 M IMSAFP , ,6, MULTIPLY ARG BY QUOTIENT
00570 CM SUM+1 ,9521 ,08, ADD OR SUBTRACT AT SUM
00580 BE OVER , ,0, SUBTRACT
00590 TDM SUM+1 ,1 ,0, SET SUM TO ADD
00600 B OVER+12 , ,0
00610 DORG +-4 , ,0
00620 DONE C FAC-1 ,9SPF , , COMPARE RESULT TO ZERO
00630 BE ZERFAC , , , EQUAL, RESULT = ZERO
00640 TFM SAVE ,01 ,10, SET UP CHARACTERISTIC OF RESULT
00650 BD NORM72 ,CLF+10 ,01, SET UP SIGN OF RESULT
00660 SF 99 , , , BR TO NORMALIZATION
00670 B NORM72 , ,0
00680 DORG +-4 , ,0
00690 POZEXP C FAC ,F , , COMPARE CHAR TO F
00700 BM E9 , ,0, BR TO E9 IF GREATER
00710 TF +-30 ,ISPFM1 ,0, ADJUST MANTISSA (IN IMSAFP) FOR
00754 K6 00784 03303

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00720      S    ++18  ,FAC  ,0,  CHAR GREATER THAN OR EQUAL TO ZERO
                                00766 K2 00784 02492
00730      TF          ,FAC-2  ,,  AND LESS THAN OR
                                00778 26 00000 02490
                                00790 M9 00270 00000
00740      B    BRD      ,      ,0
00750      DORG  +-4     ,      ,0
00760      E9  TDM  99    ,0     ,,  SET SIGN
00770      TFM  EI      ,671    ,9,  SET ERROR FL, LOSS OF SIGNIFICANCE
                                00810 16 02615 00071
00780      UNDFLO TFM FAC  , -99 ,10,  IN FCOS OR FSIN, FAC = ZERO
                                00822 16 02492 000RR
                                00834 26 02490 02853
                                00846 49 03676 00000
                                00853
00790      TF  FAC-2     ,9SPF-1 ,
00800      B    ERROR    ,
00810      DORG  +-4     ,
00820      NORM36 TR  FNH  ,FH    ,611, LEFT SHIFT ONCE
00830      TDM  FAC-1    ,0     ,,  SET LAST DIGIT TO ZERO.
                                00866 15 02491 00000
                                00878 32 0331L 00000
00840      SF  FNH      ,
00850      NORM72 BD  FINISH ,FNH ,611, TEST LEADING ZERO
                                00890 43 0380L 0331L
00860      SM  SAVE     ,1     ,10,  SUBT ONE FROM EXPONENT.
                                00902 12 02565 000-1
                                00914 M9 00854 00000
00870      B    NORM36  ,
00880      DORG  +-4     ,
00890      AAB  DS      4
00900      AB   DS      4
00910      DS   DS      1
00920      DC   DC      2,01
00930      DC   DC      2,02
00940      AABS DC      5,0002'
00950      FAC  DS      ,02492
00960      FNH  DS      ,03313
00970      FNHM1 DS     ,03358
00980      IMSAPP DS    ,03298
00990      9SPF DS     ,02854
01000      MF   DS      ,03473
01010      PIOV2 DS    ,03163
01020      TWOP1 DS    ,03103
01030      IMSA  DS     ,02575
01040      PI   DS      ,03133
01050      ZERO DS     ,02767
01060      98MF DS     ,03328
01070      97MF DS     ,03323
01080      SAVE DS     ,02565
01090      ZERFAC DS   ,03584
01100      F    DS      ,02219
01110      ISPFM1 DS   ,03303
01120      EI   DS      ,02615
01130      ERROR DS    ,03676
01140      FH   DS      ,03308
01150      FINISH DS   ,03803
01160      ONEZ DS     ,03038
01170      DEND 2
                                00002

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SYMBOL TABLE

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ZERFAC 03584  UNDFLO 00822R  POZEXP 00730R  NORM72 00890R  NORM36 00854R
ISPFM1 03303  IMSAPP 03298  FINISH 03803  AAB 00924R  AABS 00938R
AB 00928R  BRD 00270R  CLF 00138R  DONE 00662R  EI 02615
ERROR 03676  E9 00798R  F 02219  FAC 02492  FCOS 00006R
FH 03308  FNH 03313  FNHM1 03358  FSIN 00042R  IMSA 02575
MF 03473  DNEZ 03038  OVER 00462R  PI 03133  PIOV2 03163
SAVE 02565  SUM 00534R  TWOP1 03103  ZERO 02767  9SPF 02854
97MF 03323  98MF 03328

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00010***** 1620 FORTRAN II-D RELOCATABLE FLOATING ARCTANGENT ROUTINE
00020***** ARCTAN(X) = X - (X**3)/3 + (X**5)/5 - (X**7)/7 + ...
00030 DSA FATN 00004 00005 -0006
00040 FATN TF FAC ,FATN-1 ,111, LOAD ARGUMENT 00006 20 02492 0000N
00050 SM *-13 ,02 ,010, 00018 J2 00005 000-2
00060 TF FAC-2 ,*-25 ,111, 00030 20 02490 0000N
00070 DD *+20 ,FNH ,011, IS ARG ZERO 00042 M3 00062 0331L
00080 R ZERFAC , , YES 00054 49 03584 00000
00090 DORG *-4 , , 00061
00100 TFM TEST+11 , ,08, RESET INDICATORS 00062 J6 00097 0-000
00110 BNF TEST+24 ,FAC-2 ,0, BR IF ARG NEGATIVE
00120 TEST SF **9 , ,0, SET INDICATOR, ARG NEG 00074 M4 00110 02490
00130 CF FAC-2 , , , ARG = ABS ARG 00088 L2 00095 00000
00140 CM FAC ,00 , ,10, IS CHAR OF ARG 00098 33 02490 00000
00150 RH TEST1+20 , ,0, POSITIVE 00110 14 02492 000-0
00160 BE ALPH+12 , ,0, EQUAL ZERO 00122 M6 00894 01100
00170 M **35 ,F ,0, NEGATIVE 00134 M6 00290 01200
00180 SM 98 ,05 ,10, FIND-.5(F-1) 00146 K3 00181 02219
00190 SF 97 ,50 ,10, 00158 12 00098 000-5
00200 TF **23 ,97 ,0, 00170 32 00097 000N0
00210 CM FAC , , , IF CHAR OF ARG IS 00182 K6 00205 00097
00220 BL E0D , ,0, LESS THAN -.5(F-1),BR 00194 14 02492 -0000
00230 TFM ALPH-1 ,FAC-2 ,07, SET UP ADJUST MANTISSA 00206 M7 01118 01300
00240 A ALPH-1 ,FAC ,0, 00218 J6 00277 -2490
00250 TF FNHM1 ,9SPF-1 ,6, 00230 K1 00277 02492
00260 CF FNH , ,6, 00242 26 03350 02853
00270 TF FAC-2 , ,6, ADJUST MANTISSA 00254 33 0331L 00000
00280 SF FNH , ,6, 00266 26 02490 00000
00290 CM FH ,29 ,610, COMPARE HI ORD MANTISSA DIGITS 00278 32 0331L 00000
00300 BL **132 , ,0, TO 29, IF LESS THAN 29 BR 00290 14 03300 000K9
00310 TF 97 ,9SPF-1 ,0302 M7 00434 01300
00320 MM FAC-2 ,06 ,10, FIND 1.6 TIMES MANTISSA 00314 26 00097 02853
00330 TOM *8MF ,1 ,611 00326 13 02490 000-6
00340 S FAC-2 ,SIX , , FIND MANTISSA MINUS .6, PUT IN FAC 00338 15 03320 0000J
00350 TF BETA ,99 , , STORE 1.6 MANTISSA IN BETA 00350 22 02490 03219
00360 TF 79 ,ZERO-42 00362 26 02603 00099
00370 LD *8MF ,FAC-2 ,6, FIND (FAC-.6)/(1.6 X MANTISSA) 00374 26 00079 02725
00380 D HND ,BETA ,6, 00386 28 03320 02490
00390 TF FAC-2 ,97MF ,11, PUT QUOTIENT IN FAC 00398 29 0333Q 02603
00400 SF TEST+11 , ,0, SET INDICATOR, HI ORD GREATER 29 00410 26 02490 0332L
00410 TF 79 ,ZERO-44 00422 L2 00097 00000
00420 M FAC-2 ,FAC-2 , , SQUARE FAC MANTISSA 00434 26 00079 02723
00430 TF SAVE ,PDT ,11, STORE IN SAVE 00446 23 02490 02490
00440 TF BETA ,9SPF , , BETA IS F+1 ZEROS 00458 26 02565 0333L
00470 26 02603 02854

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00450 TF ATN1+35 ,2FM1 ,0, SET DIVISOR EQUAL 2F-1, DENOTE AS W 00482 K6 00541 03429
00460 TF ALPH+11 ,FM1 ,0, SET COUNTER EQUAL F-1 00494 K6 00289 03625
00470 ATN1 TF 99 ,ZERO-47 00506 26 00099 02720
00480 TFM *8MF ,10 ,610 00518 16 03320 000J0
00490 DM *8MF , ,6, DIVIDE 10/W 00530 19 0332Q 00000
00500 S 96 ,BETA , , SUBTRACT BETA FROM QUOTIENT 00542 22 00096 02603
00510 TF BETA ,96 , , REPLACE BETA BY DIFFERENCE 00554 26 02603 00096
00520 TF 79 ,ZERO-43 00566 26 00079 02724
00530 M BETA ,SAVE , , BETA EQUALS BETA TIMES 00578 23 02603 02565
00540 TF BETA ,PDT ,11, SQUARE OF MANTISSA 00590 26 02603 0333L
00550 SM ATN1+35 ,02 ,010, W EQUALS W-2 00602 J2 00541 000-2
00560 SM ALPH+11 ,01 ,010, REDUCE COUNTER BY ONE 00614 J2 00289 000-1
00570 BNZ ATN1 , ,0, IS COUNTER ZERO 00626 M7 00506 01200
00580 TF SAVE ,ONEZ+2 , , YES, SAVE IS ONE (F+2 DIGITS) 00638 26 02565 03040
00590 S SAVE ,BETA , , FIND 1 - BETA 00650 22 02565 02603
00600 TF 79 ,ZERO-42 00662 26 00079 02725
00610 M SAVE ,FAC-2 00674 23 02565 02490
00620 BNF TEST2 ,TEST+11 ,01, TEST INDICATOR, HI ORD GREATER 29 00686 MM 00734 00097
00630 BNN TEST2-12 , ,0, IS PRODUCT NEGATIVE 00698 M6 00722 01300
00640 SF PDT , ,6, YES, SET SIGN 00710 32 0333L 00000
00650 A PDT ,TAN6 ,6, ADD ARCTAN OF .6 TO PRODUCT 00722 21 0333L 03248
00660 TEST2 BNF **36 ,TEST+10 ,01, TEST INDICATOR, CHAR POSITIVE 00734 MM 00770 00096
00670 SF PDT , ,6, SET SIGN 00746 32 0333L 00000
00680 A PDT ,PIOV2 ,6, SUB PRODUCT FROM PIOV2 00758 21 0333L 03163
00690 TFM SAVE ,01 ,10, SET CHARACTERISTIC OF RESULT 00770 16 02565 000-1
00700 TF FAC ,HND ,11, PUT RESULT IN FAC 00782 26 02492 0333Q
00710 BD TEST1-24 ,FNHM1 ,011, NORMALIZE 00794 M3 00850 0335Q
00720 TR FNHM1 ,FNH ,611 00806 31 0335Q 0331L
00730 TOM FAC ,0 ,0 00818 15 02492 00000
00740 SM SAVE ,01 ,10 00830 12 02565 000-1
00750 B *-48 , ,0 00842 M9 00794 00000
00760 DORG *-4 , ,0 00849
00770 SF FNHM1 , ,6 00850 32 0335Q 00000
00780 TF FAC-2 ,FAC-3 ,0862 26 02490 02489
00790 TEST1 TD 99 ,TEST+9 ,1, SET SIGN 00874 2M 00099 00095
00800 B ENDD , , , RETURN 00886 49 03768 00000
00810 DORG *-4 , ,0893
00820 SF TEST+10 , ,0, SET INDICATOR, CHAR POSITIVE 00894 L2 00096 00000
00830 TF 99 ,ZERO-23 00906 26 00099 02744
00840 TF PDT ,ONEZ ,6 00918 26 0333L 03038
00850 D PUT ,FAC-2 ,6, FIND RECIPROCAL OF MANTISSA 00930 29 0333L 02490

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00860 TF FAC-2 ,PDT ,11, PUT IN FAC-2 00942 26 02490 0333L
00870 BD **44 ,FNMM1 ,011, NORMALIZE 00954 M3 00998 0335Q
00880 SF FNH , ,6 00966 32 0331L 00000
00890 SM FAC ,01 ,10 00978 12 02492 000-1
00900 B **32 , ,0 00990 M9 01022 00000
00910 DORG **4 00997
00920 TF FAC-2 ,FAC-3 00998 26 02490 02489
00930 SM FAC ,02 ,10 01010 12 02492 000-2
00940 BL **44 , ,0, BR NEW CHAR NEGATIVE
01022 M7 01066 01300
00950 BE ALPH+12 , ,0, BR NEW CHAR ZERO 01034 M6 00290 01200
00960 SF FAC , ,,, NEW CHAR POSITIVE
01046 32 02492 00000
00970 B TEST+60 , ,0 01058 M9 00146 00000
00980 DORG **4 01065
00990 TFM SAVE ,00 ,10 01066 16 02565 000-0
01000 TF FAC-2 ,PIOV4 , ,01078 26 02490 03191
01010 B TEST1 , ,0 01090 M9 00874 00000
01020 DORG **4 01097
01030 TD 99 ,TEST+9 ,1 01098 2M 00099 00095
01040 B ENDD+12 , ,01110 49 03780 00000
01050 DORG **4 01117
01060 EDD BNF **20 ,TEST+10 ,01, TEST INDICATOR, CHAR POSITIVE
01118 M7 01098 00096
01070 TF IMSAPF ,FAC-2 ,6, CHAR NEG, STORE FAC MANTISSA
01130 26 03290 02490
01080 TF FAC-2 ,PIOV2-1 ,, FAC MANTISSA IS F+1 DIGIT P1OV2
01142 26 02490 03162
01090 C FAC ,MF ,, COMPARE CHAR TO -F
01154 24 02492 03473
01100 BNH **72 , ,0, BR IF CHAR NOT GREATER, EQUAL -F
01166 M7 01238 01100
01110 CF IMSA+1 , ,,, SUB OLD FAC MANTISSA FROM P1OV2
01178 33 02576 00000
01120 TDM IMSA , ,11 01190 15 02575 000-0
01130 TF **35 ,IMSAPF ,0 01202 K6 01237 03298
01140 A **23 ,FAC ,0 01214 K1 01237 02492
01150 S FAC-2 , ,01226 22 02490 00000
01160 TFM SAVE ,01 ,10, SET CHAR 01238 16 02565 000-1
01170 B TEST1-12 , ,0, NORM AND RETURN 01250 M9 00862 00000
01180 DORG **4 01257
01190 FAC DS ,02492 02492 00000
01200 FNH DS ,03313 03313 00000
01210 ZERFAC DS ,03584 03584 00000
01220 F DS ,02219 02219 00000
01230 FNHM1 DS ,03358 03358 00000
01240 9SPF DS ,02854 02854 00000
01250 FH DS ,03308 03308 00000
01260 98MF DS ,03328 03328 00000
01270 SIX DS ,03219 03219 00000
01280 BETA DS ,02603 02603 00000
01290 ZERO DS ,02767 02767 00000
01300 HND DS ,03338 03338 00000
01310 97MF DS ,03323 03323 00000
01320 SAVE DS ,02565 02565 00000
01330 PDT DS ,03333 03333 00000
01340 2FM1 DS ,03429 03429 00000
01350 FM1 DS ,03625 03625 00000
01360 ONEZ DS ,03038 03038 00000

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01370 TAN6 DS ,03248 03248 00000
01380 P1OV2 DS ,03163 03163 00000
01390 ENDD DS ,03768 03768 00000
01400 P1OV4 DS ,03191 03191 00000
01410 IMSAPF DS ,03298 03298 00000
01420 MF DS ,03473 03473 00000
01430 IMSA DS ,02575 02575 00000
01440 DEND 1 00001

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SYMBOL TABLE

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ZERFAC 03584 IMSAPF 03298 ALPH 00278R ATN1 00506R BETA 02603
ENDD 03768 EOD 01118 F 02219 FAC 02492 FATN 00006R
FH 03308 FM1 03625 FNH 03313 FNHM1 03358 HND 03338
IMSA 02575 MF 03473 ONEZ 03038 PDT 03333 P1OV2 03163
P1OV4 03191 SAVE 02565 SIX 03219 TAN6 03248 TEST 00086R
TEST1 00874R TEST2 00734R ZERO 02767 2FM1 03429 9SPF 02854
97MF 03323 98MF 03328

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00010***** 1620 FORTRAN II-D RELOCATABLE SQUARE ROOT ROUTINE
00020 DSA SQR1 ,50 ,0610, HALF THE EXPONENT 00004 00005 -0006
00030 SQR1
00040 SM SQR1-1 ,2 ,010, GET ADDRESS OF MANTISSA 00006 J3 0000N 000N0
00050 TF FAC-2 ,SQR1-1 ,111, MOVE MANTISSA TO FAC-2 00018 J2 00005 000-2
00060 B1 SQ1 ,FNH ,011, TEST FOR ZERO 00030 20 02490 0000N
00070 B ZERFAC , , RESULT IS ZERO 00042 M3 00062 0331L
00080 DORG +-4 , , 00054 49 03584 00000
00090 SQ1 TDM FNHM1 ,0 ,611, SET NEXT HIGH ORDER DIGIT TO ZERO 00061
00100 TDM SQEX+1 ,2 ,0, SET EXIT TO BRANCH BACK 00062 15 0335Q 0000-
00110 BNF +-48 ,FAC-2 ,0, TEST FOR SIGN 00074 J5 00475 00002
00120 CF FAC-2 , , REMOVE MINUS SIGN 00086 M4 00134 02490
00130 TDM SQEX+1 ,9 ,0, SET EXIT TO ERROR ROUTINE 00098 33 02490 00000
00140 TFM EI ,676 ,9, SET ERROR MESSAGE F6 00110 J5 00475 00009
00150 B1 SQ3 ,98 ,0, BRANCH IF EXPONENT ODD 00122 16 02615 00076
00160 TF SQ2+42 ,97MF ,0, SET ADDRESS TO 97-F 00134 M3 00482 00098
00170 BNF SQ2+12 ,99 ,0, TEST FOR SIGN 00146 K6 00212 0332J
00180 SQ2 SF 97 , , SET SIGN 00158 M4 00182 00099
00190 TF FAC ,97 , , STORE EXPONENT 00170 32 00097 00000
00200 LD 80 ,95PF , , CLEAR PRODUCT AREA 00182 26 02492 00097
00210 TF ,FAC-2 , , MOVE MANTISSA INTO 97-F OR 98-F 00194 28 00080 02854
00220 TF LOOP+18 ,97M2F ,0, SET ADDRESS TO 97-2F 00206 26 00000 02490
00230 TF LOOP+23 ,FNHM1 ,0, SET ADDRESS TO FNH-1 00218 K6 00292 0336J
00240 TF LOOP+102 ,97M2F ,0, SET ADDRESS TO 97-2F 00230 K6 00297 03358
00250 TF FAC-2 ,ONEZ+1 , , SET RESULT TO 100... 00242 K6 00376 0336J
00260 B LOOP+108 , , 00254 26 02490 03039
00270 DORG +-4 , , 00266 M9 00382 00000
00280 AM LOOP+23 ,2 ,0610, ADD 2 TO RESULT 00274 J1 0029P 000-2
00290 S , , SUBTRACT RESULT FROM MANTISSA 00273
00300 BNN LOOP , , CONTINUE LOOP IF NOT MINUS 00286 22 00000 00000
00310 CM LOOP+23 ,FAC-2 ,07, COMPARE WITH TERMINAL ADDRESS 00298 M6 00274 01300
00320 BNL SQEX-48 , , GO TO EXIT IF EQUAL 00310 J4 00297 -2490
00330 A LOOP+18 ,LOOP+23 ,01611, ADD BACK 00322 M6 00426 01300
00340 CF LOOP+18 , , 06, CLEAR FLAG 00334 KJ 0029K 0029P
00350 AM +-18 ,1 ,010, ADD 1 TO ADDRESS 00346 L3 0029K 00000
00360 SF , , SET FLAG ON MANTISSA ONE PLACE OVER 00358 J1 00376 000-1
00370 AM LOOP+18 ,02 ,010, ADD 2 TO MANTISSA 00370 32 00000 00000
00382 J1 00292 000-2

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00380 AM LOOP+23 ,01 ,010, ADD 1 TO RESULT ADD 00394 J1 00297 000-1
00390 SM LOOP+23 ,9 ,0610, SUBTRACT 9 FROM RESULT 00406 J2 0029P 000-9
00400 B LOOP+12 , , GO TO LOOP 00418 M9 00286 00000
00410 DORG +-4 , , 00425
00420 LD 80 ,95PF , , CLEAR PRODUCT AREA 00426 28 00080 02854
00430 MM FAC-2 ,50 ,10, HALF THE RESULT 00438 13 02490 000N0
00440 TF FAC-2 ,97 , , STORE RESULT 00450 26 02490 00097
00450 SF FNH , , 6, SET FLAG IN HIGH ORDER DIGIT 00462 32 0331L 00000
00460 SQEX BB ERROR , , GO BACK OR ERROR TYPE-OUT 00474 42 03676 00000
00470 DORG +-4 , , 00481
00480 SQ3 AM 99 ,50 ,10, ADD 5 TO PRODUCT 00482 11 00099 000N0
00490 CF FNH , , 6, CLEAR HIGH ORDER FLAG IN FAC 00494 33 0331L 00000
00500 TF SQ2+42 ,98MF ,0, SET ADDRESS TO 98-F 00506 K6 00212 03328
00510 BNN SQ2+12 , , 0, BRANCH IF NOT NEGATIVE 00518 M6 00182 01300
00520 B SQ2 , , GO TO SET SIGN IF NEGATIVE 00530 M9 00170 00000
00530 DORG +-4 , , 00537
00540 FAC DS ,02492 02492 00000
00550 FNH DS ,03313 03313 00000
00560 ZERFAC DS ,03584 03584 00000
00570 FNHM1 DS ,03358 03358 00000
00580 EI DS ,02615 02615 00000
00590 97MF DS ,03323 03323 00000
00600 95PF DS ,02854 02854 00000
00610 97M2F DS ,03363 03363 00000
00620 ONEZ DS ,03038 03038 00000
00630 ERROR DS ,03676 03676 00000
00640 98MF DS ,03328 03328 00000
00650 DEND 1 00001

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SYMBOL TABLE

ZERFAC 03584	EI 02615	ERROR 03676	FAC 02492	FNH 03313
FNHM1 03358	LOOP 00274R	ONEZ 03038	SQEX 00474R	SQR1 00006R
SQ1 00062R	SQ2 00170R	SQ3 00482R	95PF 02854	97MF 03323
97M2F 03363	98MF 03328			

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0001 ***** 1620 FORTRAN II-D RELOCATABLE ABSOLUTE VALUE ROUTINE
0002( DSA ABS 00004 00005 -0006
00030 ABS TF FAC ,ABS-1 ,111 00006 20 02492 0000M
00040 SM ABS-1 ,2 ,010 00018 J2 00005 000-2
00050 YF FAC-2 ,ABS-1 ,111 00030 20 02490 0000M
00060 BNF **26 ,FAC-1 ,0 00042 M4 00068 02491
00070 CF FAC-2 , , , FLOATING POINT NUMBER
00054 33 02490 00000
00080 BB 00066 42 00000 00000
00090 DORG +-9 00068
00100 CF FAC , , , FIXED POINT NUMBER
00068 33 02492 00000
00110 BB 00080 42 00000 00000
00120 DORG +-9 00082
00130 FAC DS ,02492 02492 00000
00140 DEND 1 00001

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SYMBOL TABLE

ABS 00006R FAC 02492

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00010 ***** 1620 FORTRAN II-D RELOCATABLE LN ROUTINE
00020 DSA FLN 00004 00005 -0006
00030 FLN TFL FAC ,FLN-1 ,111, LOAD ARGUMENT 00006 00 02492 0000M
00040 BD **44 ,FNH ,011, IS A ZERO 00018 M3 00062 0331L
00050 TFM EI ,672 ,9, YES, ERR F2, LOG ZERO
00030 16 02615 00072
00060 SF 99 , , , SET SIGN 00042 32 00099 00000
00070 B OVFLOW , , , FAC IS NEGATIVE ALL NINES
00054 49 03572 00000
00061
00080 DORG +-4
00090 TFM GOAL+18 ,ENDD+12 ,07, SET UP NO ERR TYPE
00062 J6 00780 -3700
00100 BNF **48 ,FAC-2 ,0, IS A NEGATIVE 00074 M4 00122 02490
00110 TFM EI ,673 ,9, YES, ERR F3, LOG -A
00086 16 02615 00073
00120 TFM GOAL+18 ,ERROR ,07, SET UP ERR TYPE 00098 J6 00780 -3596
00130 CF FAC-2 , , , A EQUALS POSITIVE A
00110 33 02490 00000
00140 TFM CORN-25 ,9SPF+2 ,07, SET UP CONSTANT EQUAL ZERO
00122 J6 00549 -2856
00150 TF CORN-13 ,FAC ,0, STORE CHAR 00134 K6 00561 02492
00160 CF FNH , , ,6, FIND 1 + A MANTISSA
00146 33 0331L 00000
00170 TDM FNHM1 ,1 ,611 00158 15 0335Q 0000J
00180 CM FNH ,15 ,610, COMPARE TWO HIGH ORDER DIGITS
00170 14 0331L 000J5
00190 BNL **44 , , ,0, TO 1.5, IF LESS THAN, NO BR
00182 M6 00226 01300
00200 A FAC-2 ,FAC-2 ,010, ADJUST CONSTANT TO LN 2, 4, OR 8
00194 21 02490 02490
00210 AM CORN-25 ,31 ,010, ADJUST CONSTANT TO LN 2, 4, OR 8
00206 J1 00549 000L1
00220 B +-60 , , ,0 00218 M9 00158 00000
00230 DORG +-4 00225
00240 TF BETA ,TWOZ , , , FIND 1 - A MANTISSA
00226 26 02603 03073
00250 S BETA ,FAC-2 ,0228 22 02603 02490
00260 TF 99 ,ZERO-20 , , , FIND 1-A MANT/1+A MANT
00250 26 00099 02747
00270 TF 97MF ,BETA ,6 00262 26 0332L 02603
00280 D 98MF ,FAC-2 ,6 00274 29 0332Q 02490
00290 TF FAC ,98MF ,11, STORE IN FAC 00286 26 02492 0332Q
00300 TF 79 ,ZERO-39 , , , FIND FAC+2 00298 26 00079 02728
00310 M FAC ,FAC ,0310 23 02492 02492
00320 TF SAVE ,97MF ,11, STORE IN SAVE 00322 26 02565 0332L
00330 A FAC ,FAC , , , FAC EQUALS 2*FAC 00334 21 02492 02492
00340 COUN TF IMSA-4 ,FN1 , , , SET COUNTER EQUAL F-1
00346 26 02571 03783
00350 TF COUN+71 ,2FN1 ,0, SET DIVISOR P EQUAL TO 2F-1
00358 K6 00417 03581
00360 TF BETA ,9SPF+1 , , , BETA EQUALS F+2 ZEROS
00370 26 02603 02655
00370 TF 99 ,ZERO-19 , , , FIND 10/P 00382 26 00099 02748
00380 TFM 98MF ,10 ,610 00394 14 0332Q 000J0
00390 DM 98MF , , ,6, DIVIDE BY P 00406 19 0332Q 00000
00400 A BETA ,97 , , , ADD QUOTIENT TO BETA
00418 21 02603 00097
00410 TF 79 ,ZERO-39 00430 26 00079 02728
00420 M BETA ,SAVE 00442 23 02603 02565

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00430	TF	BETA	,97MF	,11,	BETA EQUALS BETA*SAVE	00454	26	02603	0332L
00440	SM	COUN+71	,02	,010,	P EQUALS P-2	00466	J2	00417	000-2
00450	SM	IMSA-4	,01	,10,	REDUCE COUNTER BY ONE				
00460	BNZ	COUN+36	,	,0,	IS COUNTER ZERO	00478	L2	02571	000-1
00470	TF	79	,ZERO-39	,,	YES	00490	M7	00382	01200
00480	M	BETA	,FAC	,,	MULTIPLY BETA BY FAC	00502	26	00079	02728
						00514	23	02603	02492
00490	A	97MF	,FAC	,6,	ADD FAC TO PRODUCT				
						00526	21	0332L	02492
00500	TF	FAC	,	,,	SET CONSTANT IN FAC				
						00538	26	02492	00000
00510	SF	FAC	,	,,	NEGATE CONSTANT	00550	32	02492	00000
00520	S	FAC	,97MF	,11,	SUBTRACT PRODUCT FROM CONSTANT	00562	22	02492	0332L
						00574	26	00092	02853
00530	CORN	TF	92	,95PF-1					
00540	M	LN10	,CORN-13	,1,	MULTIPLY CHAR BY LN 10	00586	2L	02980	00561
00550	A	99	,FAC	,,	ADD FAC TO PRODUCT				
						00598	21	00099	02492
00560	AM	97	,00	,10,	ZERO CHECK	00610	11	00097	000-0
00570	RZ	GOAL+20	,	,0		00622	M6	00782	01200
00580	TFM	SAVE	,03	,10,	SET UP CHAR	00634	16	02565	000-3
00590	TF	FAC+3	,99	,,	NORMALIZE	00646	26	02495	00099
00600	CF	FAC+3	,	,,		00658	33	02495	00000
00610	TD	FAC+4	,RECMK	,,	SET RECORD MARK	00670	25	02496	02403
00620	BD	**+68	,FNH	,011		00682	M3	00750	0331L
00630	TR	FNH	,FH	,611		00694	31	0331L	0330Q
00640	TDM	FAC+3	,0	,,		00706	15	02495	00000
00650	SF	FNH	,	,6		00718	32	0331L	00000
00660	SM	SAVE	,01	,10,	ADJUST CHAR	00730	12	02565	000-1
00670	R	**60	,	,0		00742	M9	00682	00000
00680	DDRG	**4	,	,,		00749			
00690	TD	FAC+1	,RECMK	,,	REPLACE RECORD MARK				
						00750	25	02493	02403
00700	GOAL	TF	FAC	,SAVE	SET CHAR IN FAC	00762	26	02492	02565
00710	R	ENDD+12	,	,,		00774	49	03700	00000
00720	DDRG	**4	,	,,		00781			
00730	TFL	FAC	,FLZER	,,		00782	06	02492	03760
00740	R	GOAL+12	,	,0		00794	M9	00774	00000
00750	DDRG	**4	,	,,		00801			
00760	FAC	DS	,02492	,,		02492		00000	
00770	FNH	DS	,03313	,,		03313		00000	
00780	EI	DS	,02615	,,		02615		00000	
00790	OVFLOW	DS	,03572	,,		03572		00000	
00800	ENDD	DS	,03688	,,		03688		00000	
00810	ERRDR	DS	,03596	,,		03596		00000	
00820	95PF	DS	,02854	,,		02854		00000	
00830	FNH1	DS	,03358	,,		03358		00000	
00840	BETA	DS	,02603	,,		02603		00000	
00850	TWOZ	DS	,03073	,,		03073		00000	
00860	ZERO	DS	,02767	,,		02767		00000	
00870	97MF	DS	,03323	,,		03323		00000	
00880	98MF	DS	,03328	,,		03328		00000	
00890	FM1	DS	,03783	,,		03783		00000	
00900	IMSA	DS	,02575	,,		02575		00000	
00910	SAVE	DS	,02565	,,		02565		00000	
00920	2FM1	DS	,03581	,,		03581		00000	

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00930	LN10	DS	,02980		02980	00000
00940	RECMK	DS	,02403		02403	00000
00950	FH	DS	,03308		03308	00000
00960	FLZER	DS	,03760		03760	00000
00970	DEND	1			00001	

SYMBOL TABLE

OVFLOW	03572	BETA	02603	CORN	00574R	COUN	00346R	EI	02615
ENDD	03688	ERROR	03596	FAC	02492	FH	03308	FLN	00006R
FLZER	03760	FM1	03783	FNH	03313	FNH1	03358	GOAL	00762R
IMSA	02575	LN10	02980	RECMK	02403	SAVE	02565	TWOZ	03073
ZERO	02767	2FM1	03581	95PF	02854	97MF	03323	98MF	03328

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00010 **** 1620 FORTTRAN II-D RELOCATABLE FLOATING EXPONENTIAL ROUTINE
00020 DSA FEXP 00004 00005 -0006
00030 FEXP TFL FAC ,FEXP-1 ,111, LOAD ARGUMENT 00006 00 02492 0000N
00040 TFL BETA ,ONEZ+6 00018 06 02603 03044
00050 BD ,+20 ,FNH ,011, ZERO CHECK 00030 M3 00050 0331L
00060 B GOBACK-24, ,0 00042 M9 00942 00000
00070 DORG ,+4 00049
00080 TD MU-1 ,FAC-2 , , STORE SIGN 00050 25 03631 02490
00090 CF FAC-2 00062 33 02490 00000
00100 TF 79 ,ZERO-42 , , CLEAR PRODUCT AREA 00074 26 00079 02725
00110 M FAC-2 ,LOGE , , MULTIPLY BY LOGE 00086 23 02490 03010
00120 TF SAVE+2 ,FAC , , STORE CHAR 00098 26 02567 02492
00130 TD FAC+4 ,FAC+1 , , MOVE RECORD MARK 00110 25 02496 02493
00140 TF FAC+3 ,LOZMF ,11, MOVE F+5 DIGITS OF PRODUCT 00122 26 02495 0334L
00150 BD ,+48 ,FNH ,011, NORMALIZE 00134 M3 00182 0331L
00160 TR FNH ,FH ,611 00146 31 0331L 0330Q
00170 SM SAVE+2 ,01 ,10 00158 12 02567 000-1
00180 SF FNH , ,6 00170 32 0331L 00000
00190 C SAVE+2 ,MF , , IS CHAR LESS THAN, EQUAL TO -F 00182 24 02567 03666
00200 BNH GOBACK-24, ,0, YES- RESULT IS FLT PT ONE 00194 M7 00942 01100
00210 BV ,+12 , ,0, TURN OFF OVFL IND 00206 M6 00218 01400
00220 AM SAVE+2 ,00 ,10, IS CHAR ZERO 00218 11 02567 000-0
00230 BE CALC , ,0, YES 00230 M6 00394 01200
00240 BL CALC+68 , ,0, CHAR LESS THAN ZERO 00242 M7 00462 01300
00250 CM SAVE+2 ,02 ,10, CHAR POSITIVE 00254 14 02567 000-2
00260 BH E12 , ,0, CHAR GREATER THAN 2, ERROR 00266 M6 00986 01100
00270 BL ,+44 , ,0, CHAR LESS THAN 2 00278 M7 00322 01300
00280 A BETA ,FH ,11, CHAR IS 2 00290 21 02603 0330Q
00290 TR FNHM1 ,FH ,611, ADJUST MANTISSA 00302 31 0335Q 0330Q
00300 B CALC-24 , ,0 00314 M9 00370 00000
00310 DORG ,+4 00321
00320 TDM FNHM1 ,0 ,611, CHAR IS 1 00322 15 0335Q 0000-
00330 CF FNH , ,6, ADJUST MANTISSA 00334 33 0331L 00000
00340 A BETA ,FNH ,11 00346 21 02603 0331L
00350 TR FNH ,FH ,611 00358 31 0331L 0330Q
00360 BV E12 , ,0, OV ON CHAR ADJUST, ERROR 00370 M6 00986 01400
00370 SF FNH , ,610 00382 32 0331L 000-0
00380 CALC TFM ,+1 ,00 ,010, SET COUNTER EQUAL TO ZERO 00394 J6 00393 000-0
00390 CM FH ,34 ,610, ARE HIGH ORDER DIGITS OF MANTISSA 00406 14 0330Q 000L4
00400 BL GORD , ,0, LESS THAN 34, IF YES GO TO GORD 00418 M7 00534 01300
00410 SM FH ,34 ,610, SUB 34 FROM HIGH ORD DIGITS 00430 12 0330Q 000L4
00420 AM CALC-1 ,01 ,010, ADJUST COUNTER 00442 J1 00393 000-1
00430 B CALC+12 , ,0 00454 M9 00406 00000
00440 DORG ,+4 00461
00450 TFM ,+59 ,FAC ,07, ADJUST MANTISSA FOR CASE WHEN 00462 J6 00521 -2492
00460 A ,+47 ,SAVE+2 ,0, CHAR LESS THAN ZERO, GREATER THAN

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00470 TF FNHM1 ,9SPF-1 ,6, MINUS F 00474 K1 00521 02567
00480 CF FNH , ,6 00486 26 0335Q 02853
00490 TF FAC , ,6 00498 33 0331L 00000
00500 SF FNH , ,6 00510 26 02492 00000
00510 GORD TF 79 ,ZERO-20 ,6 00522 32 0331L 00000
00520 M FAC ,LN10-1 , , MULTIPLY ADJUSTED ARGUMENT 00534 26 00079 02747
00530 SF 97M2F , ,6, BY LN10 00546 23 02492 02979
00540 TF SAVE ,PDT ,11, SET SAVE EQUAL PRODUCT 00558 32 0336L 00000
00550 TF FAC+2 ,PDT ,11, STORE PRODUCT IN FAC 00570 26 02565 0333L
00560 TFM FACT+11 ,02 ,010, SET DIVISOR EQUAL 2, DENOTE AS L 00582 26 02494 0333L
00570 A BETA-2 ,SAVE , , ADD SAVE TO BETA 00594 J6 00677 000-2
00580 TF 79 ,ZERO-38 , , 00606 21 02601 02565
00590 M SAVE ,FAC+2 , , MULTIPLY SAVE BY PRODUCT IN FAC 00618 26 00079 02729
00600 TF 99 ,96MF ,11 00630 23 02565 02494
00610 TFM 96MF ,00 ,610 00642 26 00099 0331Q
00620 FACT DM 97MF , ,6, DIVIDE NEW PRODUCT BY L 00654 16 0331Q 000-0
00630 BZ FACT+56 , ,0, BR IF QUOTIENT IS ZERO 00666 19 0332L 00000
00640 TF SAVE ,97 , , PUT QUOTIENT IN SAVE 00678 M6 00722 01200
00650 AM FACT+11 ,01 ,010, INCREASE L BY ONE 00690 26 02565 00097
00660 B FACT-60 , ,0 00702 J1 00677 000-1
00670 DORG ,+4 00714 M9 00606 00000
00680 CM CALC-1 ,00 ,010, QUOTIENT WAS ZERO, IS COUNTER 00721
00690 BE ,+80 , ,0, ZERO, IF YES BR 00722 J4 00393 000-0
00700 TF 79 ,ZERO-38 , , INDICATOR NOT ZERO 00734 M6 00814 01200
00710 M BETA-4 ,TEN34 , , MULTIPLY BETA BY 10 TO -34 00746 26 00079 02729
00720 SF 97M2F , ,6 00758 23 02599 03278
00730 TF BETA-4 ,98MF ,11, STORE PRODUCT IN BETA 00770 32 0336L 00000
00740 SM CALC-1 ,01 ,010, DECREASE COUNTER BY ONE 00782 26 02599 0332Q
00750 B FACT+68 , ,0 00794 J2 00393 000-1
00760 DORG ,+4 00806 M9 00734 00000
00770 BNF GOBACK-24,MU-1 ,0, COUNTER WAS ZERO, WAS ORIGINAL 00813
00780 TF 99 ,ZERO-21 , , ARGUMENT NEGATIVE 00814 M4 00942 03631
00790 TF PDT ,ONEZ+2 ,6, YES, FIND RECIPROCAL 00826 26 00099 02746
00800 D HND ,BETA-4 ,6 00838 26 0333L 03040
00810 BV ,+44 , ,0 00850 29 0333Q 02599
00820 TF BETA-6 ,97MF ,11 00862 M6 00906 01400
00830 SM BETA ,01 ,10 00874 26 02597 0332L
00840 B ,+20 , ,0 00886 12 02603 000-1
00850 DORG ,+4 00898 M9 00918 00000
00860 SM BETA ,02 ,10 00905
00906 12 02603 000-2

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00870 BE **24 , ,0 00918 M6 00942 01200
00880 SF BETA 00930 32 02603 00000
00890 TF FAC-2 ,BETA-6 ,, PUT RESULT IN FAC 00942 26 02490 02597
00900 TF FAC ,BETA 00954 26 02492 02603
00910 GOBACK TD FAC+1 ,RECMK ,, REPLACE RECORD MARK 00966 25 02493 02403
00920 B ERXV+30 , ,6 00978 49 0379K 00000
00930 DORG *-4 00985
00940 E12 TD FAC+1 ,BETA+1 00986 25 02493 02604
00950 TFM EI ,674 ,9, ERR F4 OVFL IN FEXP
00960 BNF OVFLDX ,MU-1 ,0 00998 16 02615 00074
00970 B UNFLO 01010 M4 01030 03631
00980 DORG *-4 01022 49 03466 00000
00990 OVFLDX TF FAC-2 ,9SCPF 01029
01000 TFM FAC ,99 ,10 01030 26 02490 02795
01010 B ERXV.24 01042 16 02492 000R9
01020 DORG *-4 01054 49 03786 00000
01061
01030 FAC DS ,02492 02492 00000
01040 BETA DS ,02603 02603 00000
01050 ONEZ DS ,03038 03038 00000
01060 FNM DS ,03313 03313 00000
01070 MU DS ,03632 03632 00000
01080 ZERO DS ,02767 02767 00000
01090 LODGE DS ,03010 03010 00000
01100 SAVE DS ,02565 02565 00000
01110 102MF DS ,03343 03343 00000
01120 FH DS ,03308 03308 00000
01130 MF DS ,03666 03666 00000
01140 FNHM1 DS ,03358 03358 00000
01150 9SPF DS ,02854 02854 00000
01160 LN10 DS ,02980 02980 00000
01170 97M2F DS ,03363 03363 00000
01180 PDT DS ,03333 03333 00000
01190 96MF DS ,03318 03318 00000
01200 97MF DS ,03323 03323 00000
01210 TEN34 DS ,03278 03278 00000
01220 98MF DS ,03328 03328 00000
01230 HND DS ,03338 03338 00000
01240 RECMK DS ,02403 02403 00000
01250 EI DS ,02615 02615 00000
01260 ERXV DS ,03762 03762 00000
01270 UNFLO DS ,03466 03466 00000
01280 9SCPF DS ,02795 02795 00000
01290 DEND 1 00001

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SYMBOL TABLE

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OVFLDX 01030R GOBACK 00966R BETA 02603 CALC 00394R EI 02615
ERXV 03762 E12 00986R FAC 02492 FACT 00666R FEXP 00006R
FH 03308 FNM 03313 FNHM1 03358 GDRD 00534R HND 03338
LN10 02980 LODGE 03010 MF 03666 MU 03632 ONEZ 03038
PDT 03333 RECMK 02403 SAVE 02565 TEN34 03278 UNFLO 03466
ZERO 02767 102MF 03343 9SCPF 02795 9SPF 02854 96MF 03318

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00010* SUBSCRIBTING SUBROUTINE - RELOCATABLE- FOR ONE, TWO OR
00020* THREE DIMENSIONAL SUBSCRIBED VARIABLES
00030* LINKAGE BTM ENTRYX,**12,, WHERE X=1,2 OR 3
00040* DSA BASE,D4,D1,1;D2,J,D3,K,OR/M
00050* IF Q ADDR FLAGGED BASE IS FIXED
00060* IF BASE IS FLAGGED ARRAY IS FORMAL PARAMETER
00070* IF D1 IS FLAGGED - I/O STMT
00080 DSA ENTRY1,ENTRY2,ENTRY3 00004 00005 -0006
00009 00005 -0042
00014 00005 -0090
00005
00090 DORG *-9
00100 ENTRY1 TFM BRINST+6,L1 00006 JO 00336 -0386
00110 TFM EXIT-1,22,10 00018 J6 00481 000K2
00120 B COM 00030 M9 00126 00000
00130 ENTRY2 TFM BRINST+6,L2 00042 JO 00336 -0362
00140 TFM EXIT-1,32,10 00054 J6 00481 000L2
00150 TF ENTRY1-1,ENTRY2-1 00066 KO 00005 00041
00160 B COM 00078 M9 00126 00000
00170 ENTRY3 TFM BRINST+6,L3 00090 JO 00336 -0338
00180 TFM EXIT-1,42,10 00102 J6 00481 000M2
00190 TF ENTRY1-1,ENTRY3-1 00114 KO 00005 00089
00200* SET LENGTH OF FX OR FL
00210 COM TF X+11,FP2 00126 K6 00433 03664
00220 BNF **48,ENTRY1-1 00138 MM 00186 00005
00230 SF COM+1 00150 L2 00127 00000
00240 CF ENTRY1-1 00162 L3 00005 00000
00250 TF X+11,K 00174 K6 00433 02221
00260*
00270* MOVE PARAMETERS TO WORK AREA
00280*
00290 TR WKAREA,ENTRY1-1,11 00186 3J 00000 0000N
00300*
00310 CF Y+11 00198 L3 00445 00000
00320 BNF **36,BASE 00210 M4 00246 00004
00330 CF BASE 00222 33 00004 00000
00340 SF Y+11 00234 L2 00445 00000
00350* CHECK IF IN I/O
00360*
00370 BNF CFINST,COM+1 00246 MM 00306 00127
00380 CF COM+1 00258 L3 00127 00000
00390 BNF CFINST+12,D1 00270 M4 00318 00014
00400 SF X+11 00282 L2 00433 00000
00410 TOM Y+1,2,, SET OP TO SUBTRACT 00294 J5 00435 00002
00420 CFINST CF D1 00306 33 00014 00000
00430 S HOLD,HOLD 00318 KK 00508 00508
00440 BRINST B *- 00330 49 00000 00000
00450 DORG *-3 00338
00460*
00470 L3 M D3,KK,11 00338 23 00034 0003R
00480 TF HOLD,99 00350 K6 00508 00099
00490 L2 M D2,J,11 00362 23 00024 0002R
00500 A HOLD,99 00374 K1 00508 00099
00510 L1 M D1,1,11 00386 23 00014 0001R
00520 A HOLD,99 00398 K1 00508 00099
00530 A HOLD,D4 00410 K1 00508 00009
00540 X MM HOLD,-*,, MULTIPLY BY LENGTH 00422 J3 00508 -0000
00550 Y A 99,BASE,11, 00434 21 00099 0000M
00560 TOM *-11,1,, INIT OP TO ADD 00446 J5 00435 00001
00570 SF 95 00458 32 00095 00000

```

00580	AM	ENTRY1-1,++*	00470	J1	00005	-0000
00590	EXIT	B ENTRY1-1,06	00482	M9	0000N	00000
00600	WKAREA	DSS 42,0	00000	00042		
00610	HOLD	DC 15,0	00508	00015		
00620	BASE	DS 5,4	00004	00005		
00640	D4	DS 5,9	00009	00005		
00640	D1	DS 5,14	00014	00005		
00650	I	DS 5,19	00019	00005		
00660	D2	DS 5,24	00024	00005		
00670	J	DS 5,29	00029	00005		
00680	D3	DS 5,34	00034	00005		
00690	KK	DS 5,39	00039	00005		
00700	FP2	DS ,03664	03664	00000		
00710	K	DS ,02221	02221	00000		
00720	DEND	3	00003			

SYMBOL TABLE

WKAREA	00000	ENTRY3	00090R	ENTRY2	00042R	ENTRY1	00006R	CFINST	00306R
BRINST	00330R	BASE	00004	COM	00126R	D1	00014	D2	00024
D3	00034	D4	00009	EXIT	00482R	FP2	03664	HOLD	00508R
I	00019	J	00029	K	02221	KK	00039	L1	00386R
L2	00362R	L3	00338R	X	00422R	Y	00434R		

00010* FORTRAN II-D DK ID. WITH FLT HARDWARE
 00020*
 00030 ADR DSA FIND ,RECORD,FETCH,SWD,DRAY,DIOEND

00040	DDRG	ADR-4	00004	00005	-0072	
00050	IOCAL	DS ,716	00009	00005	-0334	
00060	IQRBC	DS ,520	00014	00005	-0298	
00070	IORT	DS ,565	00019	00005	-0216	
00080	D10	DS ,816	00024	00005	-0024	
00090	I0SK	DS ,554	00029	00005	-0270	
00100	INDS	DS ,610	00000			
00110	ERRET	DS ,602	00716	00000		
00120	IDERR	DS ,624	00520	00000		
00130	IOGT	DS ,566	00565	00000		
00140	IOPT	DS ,532	00816	00000		
00150	FAC	DS ,2492	00554	00000		
00160	DIODDA	DS ,3387	00610	00000		
00170	FINDIN	DS ,3527	00602	00000		
00180	FP2	DS ,3664	00624	00000		
00190	FKODD	DS ,3579	00566	00000		
00200	PAR	DS ,3378	00532	00000		
00210	ERROR	DS ,3596	02492	00000		
00220	EI	DS ,2615	03387	00000		
00230	FIXEND	DS ,3680	03527	00000		
00240	FLTEND	DS ,3730	03664	00000		
00250	FLOAT	DS ,4042	03579	00000		
00260	DKDATA	DS ,3379	03378	00000		
00270	ZERO	DS ,2700	03596	00000		
00280	FIX	DS ,3854	02615	00000		
00290	RECLG	DS ,2243	02615	00000		
00300	W	DS ,2240	03680	00000		
00310	N2	DS ,2238	03730	00000		
00320	N1	DS ,2233	04042	00000		
00330	K	DS ,2221	03379	00000		
00340	F	DS ,2219	02700	00000		
00350*			03854	00000		
00360	TF	NITEMP,N1	02243	00000		
00370	TOBB	B DRAY1,,0	02240	00000		
00380	DRAY	TDM TOBB+1,9,,	02238	00000		
			02233	00000		
			02221	00000		
			02219	00000		
00390	BD	EVEN,FKODD,,	00000	K6	00143	02233
			00012	M9	00896	00000
			00024	J5	00013	00009
00400	TFM	DSABLK+5,AGAIN	00036	M3	00536	03579
00410	B	SWD+12	00048	J0	00265	-0650
00420	FIND	TDM FINDIN,0,,	00060	M9	00228	00000
			00072	15	03527	00000
00430	TFM	RET02+6,SET1,,	00084	J0	00150	-0370
			00096	K4	0007J	02700
00440*	N2	ERROR ROUTINE (I GRT N2)	00108	M7	00156	01100
00450	N2CK	C FIND-1,ZERO,6, IS, I ZERO OR NEG	00120	K4	0007J	02238
00460	BHM	BE2	00132	M6	00156	01100
00470	C	FIND-1,N2,6, COMPARE I AND N2	00144	49	00000	00000
00480	BH	BE2				
00490	RET02	B ***				

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00500  BUFFER DS ,*
00510  BE2 BI **12,1400
00520  TFM EI,472,9, I GRT N2
00530  BD ERROR,ODABLK,, BR IF CK WAS ENTERED FROM BUFFER ROUTINE
00540  TFM DSAOTR+5,ERROR
00550  B SETRMK
00560*
00570****** SWD SUBROUTINE
00580  SWDA TDM SWD+900,0
00590  TFM *-11,+1,10
00600  A  BUFFER,W,, INCREMENT BUFFER ARROW
00610  B SWD1
00620  DORG *-4
00630  ICON8 DC 1,9
00640  DSA RETFLT
00650  DORG *-5
00660  IUEND TFM DSAOTR+5,DI0END
00670  BD SETRMK,FRIND,, BRANCH IF FETCH
00680  C NITEMP,N1
00690  RE SETRMK,,, BRANCH IF BUFFER EMPTY
00700  TFM IORT,**23,, WRITE BUFFER TO FILE
00710  B IOPT ,DKDATA,7
00720  AM FIND-1,1,610
00730  SETRMK TD SWD+900,DKBUFF+200
00740  TFM IORT,I0REF2+11
00750  B IOGT
00760  DORG *-4
00770  DDH DSC 1,1
00780  DSA 200
00790  DC 3,9
00800  DSAOTR DSA SWD,DI0END
00810  DC 1,1
00820  SWD1 BD SETRMK,FRIND,, BRANCH IF FETCH
00830** RECORD
00840  I0REF2 CF SWD-1,DAT8,7, CLEAR FLAG ON ADDRESS OF DATA
00850  SM NITEMP,1,10 , DECREMENT WORD COUNT
00860  TFL BUFFER,SWD-1,611
00870  CK CM NITEMP,0,10, CHECK FOR FULL BUFFER
00880  BNZ TOBB
00890  BD TOBB-12,FRIND,, BR IF FETCH
00900  TFM LINKB+18,IOPT
00910  CKI TFM RETD2+6,LINKB
00920  B N2CK
00930  DORG *-4
00940  LINKB TFM IORT,**23,, CALL CORRECT IORT ROUTINE
00950  B ,DKDATA,7
00960  TFM BUFFER,DKBUFF+199,, INITIALIZE BUFFER ARROW
00155  00000
00156  M6 00168 01400
00168  L6 02615 00M72
00180  L4 03596 00247
00192  J6 00403 -3596
00204  M9 00354 00000
00216  J5 01116 00000
00228  J6 00217 000M1
00240  K1 00155 02240
00252  M9 00406 00000
00259
00259 00001
00264 00005 -0812
00269
00270 J0 00403 -0270
00272 ML 00354 00163
00294 K4 00143 02233
00306 M6 00354 01200
00318 L0 00565 -0341
00330 J9 00532 -3379
00342 J1 0007J 000-1
00354 KN 01116 01162
00366 L0 00565 -0429
00378 J9 00566 00000
00385
00385 00001
00390 00005 -0200
00393 00003
00398 00005 -0216
00403 00005 -0270
00404 00001
00406 ML 00670 00163
00418 LL 00215 -0953
00430 J2 00143 000-1
00442 -0 0015N 0021N
00454 J4 00143 000-0
00466 M7 00012 01200
00478 ML 00000 00163
00490 J6 00540 -0532
00502 J0 00150 -0522
00514 M9 00096 00000
00521
00522 L0 00565 -0545
00534 J9 00000 -3379
00546 J0 00155 -1161

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00970  S  BUFFER-2,RECLG
00980  BNF **24,FRIND
00990  A  BUFFER,W
01000  ADDTOI AM FIND-1,1,610, INCREMENT I
01010  A  DI0DDA+5,DI0DDA+8,, INCREMENT SECTOR ADDRESS
01020  BD  FETCH2,FRIND
01030  B  TOBB-12
01040  DORG *-4
01050  A  DRAY-1,FP2
01060  AGAIN TF SWD-1,DRAY-1
01070  B  SWD
01080  DORG *-4
01090  FETCH1 C NITEMP,N1
01100  BNE  FETCH2,,, BRANCH IF BUFFER NOT EMPTY
01110  TFM  LINKB+18,IOGT
01120  B  CKI
01130  DORG *-4
01140  FETCH2 SM NITEMP,1,10
01150* SEND THE WORD TO FAC
01160  TFL  FAC,BUFFER,11
01170  BI  **12,1400
01180* TEST FOR FLOATING ADDRESS AT SWD-1
01190  BNF  FETCH3,SWD-1
01200* IT IS A FIXED ADDRESS
01210  CF  SWD-1
01220* TEST FOR FLOATING WORD IN FAC
01230  BNF  FETCH4,FAC-1
01240* THE WORD IS FLOATING SET-UP LINKAGE FOR FIX
01250  TF  FIXEND+6,ICON7+6
01260  B  FIX
01270  DORG *-4
01280  ICON7 DC 1,4
01290  DSC 1,9
01300  DSA RETFLT
01310  RETFLT TDM FIXEND+1,2
01320  TDM FLTEND-5,2
01330* BRANCH TO STORE NUMBER
01340  CKLD B  FETCH4
01350  DORG *-4
01360  FETCH3 BNF  FETCH5,FAC-1,, BRANCH IF FIXED
01370* STORE THE WORD IN MEMORY
01380  FETCH4 TFL  SWD-1,FAC,6
01390* CHECK FOR EMPTY BUFFER
01400  B  CK
01410  DORG *-4
01420* SET UP LINKAGE FOR FLOAT
01430  FETCH5 TF  FLTEND,ICON8+5
01440  B  FLOAT
01450  DORG *-4
01460  DRAY1 SM  PAR,1,10,, DECREMENT WORD COUNT
01470  BNZ  **14
01480  BB
01490  DORG *-9
01500  BNF  AGAIN-12,DRAY-1
01510  S  DRAY-1,K
00558  K2 00153 02243
00570  MM 00594 00163
00582  K1 00155 02240
00594  J1 0007J 000-1
00606  Z1 03392 03395
00618  ML 00714 00163
00630  M9 00000 00000
00637
00638  K1 00023 03664
00650  K0 00215 00023
00662  M9 00216 00000
00669
00670  K4 00143 02233
00682  M7 00714 01200
00694  J6 00540 -0566
00706  M9 00502 00000
00713
00714  J2 00143 000-1
00726  00 02492 0015N
00738  M6 00750 01400
00750  MM 00844 00215
00762  L3 00215 00000
00774  M4 00856 02491
00786  20 03686 00811
00798  J9 03854 00000
00805
00805 00001
00806 00001
00811 00005 -0812
00812  L5 03681 00002
00824  L5 02725 00002
00836  M9 00856 00000
00843
00844  M4 00876 02491
00856  -6 0021N 02492
00868  M9 00454 00000
00875
00876  20 03730 00264
00888  J9 04042 00000
00895
00896  L2 03378 000-1
00908  M7 00922 01200
00920  J2 00000 00000
00922
00922  MM 00638 00023
00934  K2 00023 02221

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01520      B      AGAIN
01530      DORG  *-4
01540 DATB  DSC  2,-00
01550      DSA  DDB
01560      DC   1,
01570 DKBUFF DS  ,DATB*9
01580*
01590*
01600*      WRITE 2ND BLOCK
01610*
01620 LDIRD  DSC  2,00
01630      DSA  DIM1
01640      DC   1,
01650 DIM1  DSC  1,1
01660      DSA  209
01670      DC   3,9
01680      DSA  SWD
01690      DC   1,
01700 STLD1  CF  ICON7*2
01710      DGM  DATR*9+200
01720      CF  ICON8*1
01730      TFM  IORT,HERE*11
01740      TD  SWD*900,DKBUFF*200
01750 HERE  B
01760      TRA  IOPT,LDIRD,7

00946 M9 00650 00000
00953
00953 00002
00959 00005 -0385
00960 00001
00962 00000

00961 00002
00967 00005 -0969
00968 00001
00969 00001
00974 00005 -0209
00977 00003
00982 00005 -0216
00983 00001
00984 L3 00807 00000
01162 00001
00996 L3 00260 00000
01008 I0 00565 -1043
01020 KN 01116 01162
01032 4R 00532 -0961
01044 I0 00565 -1063
01056 49 00716 00000
01063 00002 2K
01065 00005 -1071
01070 00001
01071 00006 1J9783
01077 00003 -03
01080 00006 -0000*
00984

01770      TCD  STLD1
01780*
01790*      BLOCK 1 OF FETCH FIND RECORD
01800      DORG  SWDA
01810 SWD   TFM  DSABLK*5,SWD
01820      TFM  IORT,IORF*11
01830      B      IOGT
01840      DORG  *-4
01850 DDABLK DSC  1,1
01860      DSA  209
01870      DC   3,9
01880 DSABLK DSA  SWD,SWD

00216
00216 J0 00265 -0216
00228 I0 00565 -0571
00240 49 00566 00000
00247
00247 00001
00252 00005 -0209
00255 00003
00260 00005 -0216
00265 00005 -0216
00266 00001
00270
00270 M6 00282 01400
00282 42 00000 00000
00284
00284 00002
00290 00005 -0247
00291 00001
00296 00005
00298 K0 00071 00297
00310 J5 00163 0000J

01890      DC   1,
01900      DORG  IUEND
01910 DIOEND BI  **12,1400
01920      BB
01930      DORG  *-9
01940 DAT1  DSC  2,-00
01950      DSA  DDABLK
01960      DC   1,
01970      DS   5
01980 FETCH TF  FIND-1,FETCH-1,,
01990      TDM  FRIND,1,11,,
02000      B      AITEST,,,

TRANSFER I
SET FETCH-RECORD INDICATOR TO FETCH
BRANCH TO SET FIND INDICATOR OFF ,

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02010*      COMPUTE ADDRESS , TEST I , AND TEST
02020*      FOR DEFINE STATEMENT .
02030 RECRD TF  FIND-1,RECORD-1,,
02040      TDM  FRIND,0,,
02050 AITEST TDM  FINDIN,1,,
02060 SET1   TFM  DIODDA*5,217,,
02070      M      FIND-1,RECLG,6,,
02080      A      DIODDA*5,99
02090      BD  **44,FINDIN,,
02100 SSEEK  TFM  IORT,**23
02110      B      IOSK,DKDATA,7,
02120      B      DIOEND
02130      DORG  *-3
02140      TFM  BUFFAR,DKBUFF*199,,
02150      S      BUFFAR-2,RECLG
02160      TF  NITEMP,N1,,
02170      TF  DIODDA*8,RECLG,,
02180      TFM  DIODDA*13,DKBUFF*200,,
02190      S      DIODDA*11,RECLG,,
02200 OVER  TDM  TOBB*1,2,,
02210      BB
02220      DORG  *-9
02230 EVEN  TF  TEMPA,FP2,,
02240      BNF  **36,DRAY-1,,
02250 IORF   CF  DRAY-1,DAT1,7
02260      TF  TEMPA,K,,
02270      TF  DIODDA*13,DRAY-1,,
02280      AM  DIODDA*13,1
02290      S      DIODDA*13,TEMPA,,
02300      TF  EVEN*11,DIODDA*13
02310      M  TEMPA,PAR
02320      TD  EVEN*11,99
02330 EVEN1 A  EVEN2*11
02340*
02350      TFM  DIODDA*8,1,9
02360      A      DIODDA*8,97
02370      CM  RECLG,1,9
02380      BE  **36
02390      MM  DIODDA*8,5,10
02400*
02410*
02420*
02430*

00322 M9 00358 00000
00334 K0 00071 00333
00346 J5 00163 00000
00358 I5 03527 00001
00370 I6 03392 -0217
00382 K3 0007J 02243
00394 21 03392 00099
00406 M3 00450 03527
00418 I0 00565 -0441
00430 49 00554 -3379
00442 M9 00270 00000
00450
00450 J0 00155 -1161
00462 K2 00153 02243
00474 K6 00143 02233
00486 26 03395 02243
00498 I0 03400 -1162
00510 22 03398 02243
00522 J5 00013 00002
00534 42 00000 00000
00536
00536 K6 00119 03664
00548 MM 00584 00023
00560 LL 00023 -0284
00572 K6 00119 02221
00584 20 03400 00023
00596 I1 03400 -0001
00608 2K 03400 00119
00620 K6 00667 03400
00632 K3 00119 03378
00644 K1 00667 00099
00656 K5 00843 00000

EVALUATE SECTOR COUNT
00668 I6 03395 00-01
00680 21 03395 00097
00692 I4 02243 00-01
00704 M6 00740 01200
00716 I3 03395 000-5

IS NOW IN DDA
EVALUATE AND STORE LOW ORDER
POSITION + 1 OF ARRAY

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02440 S FIND-1,98,6 00728 K2 0007J 00098
02450 A FIND-1,DIODDA+8,6 00740 K1 0007J 03395
02460 TFM RETD2+6,++20 00752 JO 00150 -0772
02470 B N2CK 00764 M9 00096 00000
02480 DORG +-4 00771
02490 BD FETCH8,FRIND,, BRANCH IF FETCH 00772 ML 00858 00163

02500* RECORD
02510 TD EVEN1+11,DKBUFF+200,6, SET GROUP MARK AT END OF ARRAY 00784 KN 0066P 01162
WRITE ARRAY ONTO FILE
02520* TFM IORT,++23 00796 IO 00565 -0819
02530 B IORBC,NOWLC ,7 00808 4R 00520 -0995
02540 TDM FLTEND-5,2 00820 L5 03725 00002
02550 EVEN2 TDM EVEN1+11,,6, RESTORE DIGIT 00832 J5 0066P 00000
02570 A DIODDA+5,DIODDA+8,, INCREMENT SECTOR ADDRESS 00844 21 03392 03395
02580 BB 00856 42 00000 00000
02590 DORG +-9 00858
02600 FETCH8 TFM DIO+35,YTURN,67, INSERT ADDRESS FOR ERROR ENTRY 00858 IO 0085J -0952
02610 TFM IORT,++23,, READ ARRAY FROM FILE 00870 IO 00565 -0893
02620 B IOGT,DKDATA,7 00882 49 00566 -3379
02630* TEST FOR NO GROUP MARK
02640 BNG ++20,EVEN1+11,11 00894 NN 00914 0066P
02650 B EVEN2 00906 M9 00832 00000
02660 DORG +-4 00913
02670 TF FLTEND,EVENSP+6 00914 20 03730 00951
02680 TFM EI,473,9 00926 16 02615 00M73
02690 B ERROR 00938 49 03596 00000
02700 DORG +-4 00945
02710 EVENSP DC 1,4 00945 00001
02720 DSC 1,9 00946 00001
02730 DSA EVEN2-12 00951 00005 -0820
02740 YTURN BI ++12,3700 00952 M6 00964 03700
02750 BNI ERRET,1900 00964 47 00602 01900
02760 TDM INDS+10,6 00976 15 00620 00006
02770 B IOERR 00988 49 00624 00000
02780 DORG +-4 00995
02790 NOWLC DSC 2,02 00995 00002
02800 DSA DIODDA 01001 00005 -3387
02810 DC 1, 01002 00001
02820 TEMPA DS 2,N2CK+23 00119 00002
02830 NITEMP DS 2,RET02-1 00143 00002
02840 FRIND DS 1,BF2+7 00163 00001
02850* WRITE FIRST BLOCK
02860*
02870 DIM2 DSC 1,1 01003 00001
02880 DSA 200 01008 00005 -0200
02890 DC 3,9 01011 00003
02900 DSA SWD 01016 00005 -0216
02910 DC 1, 01017 00001
02920 LD2ND DSC 2,00 01018 00002
02930 DSA DIM2 01024 00005 -1003
02940 DC 1, 01025 00001
02950 STLD2 CF EVENSP+2 01026 L3 00947 00000

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02960 TFM IORT,++23 01038 IO 00565 -1061
02970 B IOPT ,LD2ND,7, WRITE OUT 2ND PART BLK 1 01050 4R 00532 -1018
02980 B SWD+902 01062 M9 01118 00000
02990 DORG SWD+902 01118
03000 TRA 01118 IO 00565 -1137
01130 49 00716 00000
01137 00002 2K
01139 00005 -1145
01144 00001
01145 00006 1J9783
01151 00003 -03
01154 00006 -0000*
01026
01026
03010 TCD STLD2 01026
03020 DEND 6 00006

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SYMBOL TABLE

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SETRMK 00354R RETFLT 00812R RECORD 00334R NITEMP 00143R IOREF2 00418R
FLTEND 03730 FIXEND 03680 FINDIN 03527 FETCH8 00858R FETCH5 00876R
FETCH4 00856R FETCH3 00844R FETCH2 00714R FETCH1 00670R EVENSP 00945R
DSAGTR 00398R DSABLK 00260R DKDATA 03379 DKBUFF 00962R DIDEND 00270R
DIODDA 03387 DDABLK 00247R RUFFAR 00155R AITEST 00358R ADDTOI 00594R
ADR 00004R AGAIN 00650R BE2 00156R CK 00454R CKI 00502R
CKLD 00836R DATA 00953R DAT1 00284R DDB 00385R DIM1 00969R
DIM2 01003R DIO 00816 DRAY 00024R DRAY1 00896R EI 02615
ERRET 00602 ERROR 03596 EVEN 00536R EVEN1 00656R EVEN2 00832R
F 02219 FAC 02492 FETCH 00298R FIND 00072R FIX 03854
FKODD 03579 FLOAD 04042 FP2 03664 FRIND 00163R HERE 01032R
ICDN7 00805R ICN8 00259R INDS 00610 LOCAL 00716 IDEND 00270R
IOERR 00624 IOGT 00566 IOPT 00532 IORBC 00520 IDREF 00560R
IDRT 00565 IOSK 00554 K 02221 LD1RD 00961R LD2ND 01018R
LINK9 00522R NOWLC 00995R NI 02233 N2 02238 N2CK 00096R
OVER 00522R PAR 03378 RECLG 02243 RETD2 00144R SET1 00370R
SSEK 00418R STLD1 00984R STLD2 01026R SWD 00216R SWDA 00216R
SWD1 00406R TEMPA 00119R TOBB 00012R W 02240 YTURN 00952R
ZERO 02700

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00010***** 1620 FORTRAN II-D RELOCATABLE SINE AND COSINE ROUTINES
00020***** COS(X) = 1 - (X**2)/2 + (X**4)/24 - (X**6)/720 + ...
00030***** SIN(A) = COS(PI/2 - A)
00040 DSA FCOS,FSIN 00004 00005 -0006
00050 DORG *-4 00009 00005 -0042
00060 FCOS TDM CLF+11 ,0 ,0, SET ROUTINE FOR COSINE 00005
00070 TFL FAC ,FCOS-1 ,111, LOAD ARGUMENT 00006 J5 00125 00000
00080 B FSIN+24 , ,0 00018 00 02492 0000N
00090 FSIN TDM CLF+11 ,1 ,011, SET ROUTINE FOR SINE 00030 M9 00066 00000
00100 TFL FAC ,FSIN-1 ,111, LOAD ARGUMENT 00042 J5 00125 0000J
00110 CF FNM , ,6, CLEAR HIGH ORDER FLAG 00054 00 02492 0004J
00120 TDM FNMH1 ,0 ,611, SET FLAG AT HIGH ORDER DIGIT -1 00066 33 0331L 00000
00130 TDM CLF+10 ,1 ,0, SET SWITCH ARG POSITIVE, RESULT PDS 00078 15 0335Q 0000-
00140 BNF *+48 ,FAC-2 ,0, IS ARG NEGATIVE 00090 J5 00124 00001
00150 CLF CF FAC-2 , ,9, YES, REPLACE BY ABSOLUTE VALUE 00102 M4 00150 02490
00160 BNF *+24 ,CLF+11 ,01, IS ROUTINE SINE OR COSINE 00114 33 02490 00-00
00170 TDM CLF+10 ,0 ,0, SINE, SIN(-A)=-SIN(A), RESULT NEG 00126 MM 00150 00125
00180 TF IMSAPF ,9SPF+1 ,6, IMSA+F = F+2 ZEROS 00138 J5 00124 00000
00190 CM FAC ,00 ,10, CHECK SIGN OF CHARACTERISTIC 00150 26 0329Q 02855
00200 BNL POZEXP , ,0, BR IF POSITIVE, EQUAL TO ZERO 00162 14 02492 000-0
00210 C FAC ,MF , , COMPARE CHAR TO -F 00174 M6 00706 01300
00220 BL BRD , ,0, BR IF CHAR LESS THAN -F 00186 24 02492 03666
00230 TFM *+35 ,FAC-1 ,07, ADJUST MANTISSA (IN IMSAPF) FOR 00198 M7 00246 01300
00240 A *+23 ,FAC ,0, CHAR GREATER THAN OR EQUAL TO -F 00210 J6 00245 -2491
00250 A IMSAPF , ,6, AND LESS THAN ZERO 00222 K1 00245 02492
00260 BRD BD *+24 ,CLF+11 ,01, BR IF ROUTINE IS SINE 00234 21 0329Q 00000
00270 A IMSAPF ,PIOV2 ,6, ADD PIOV2, COS(A) = SIN(PIOV2-A) 00246 ML 00270 00125
00280 S IMSAPF ,TWOPI ,6, REDUCE ARGUMENT TO PRINCIPAL VALUE 00258 21 0329Q 03163
00290 BH *-12 , ,0, RANGE, MINUS PIOV2 TO POS PIOV2 00270 22 0329Q 03103
00300 SF IMSA-1 , , , SET HIGH ORDER FLAG 00282 M6 00270 01100
00310 A IMSAPF ,PI ,6 00294 32 02574 00000
00320 BN *+36 , ,0, BR ARG NEGATIVE 00306 21 0329Q 03133
00330 SM CLF+10 ,01 ,010, SET SIGN OF RESULT 00318 M7 00354 01300
00340 SF IMSAPF , ,6, SET SIGN ON ARGUMENT TO MINUS 00330 J2 00124 000-1
00342 32 0329Q 00000

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00350 A IMSAPF ,PIOV2 ,6, ADD PIOV2, SIN(A) = COS(PIOV2-A) 00354 21 0329Q 03163
00360 TF 79 ,ZEROM ,11, CLEAR PRODUCT AREA 00366 26 00079 0344N
00370 M IMSAPF ,IMSAPF ,611, FIND A**2 00378 23 0329Q 0329Q
00380 TF IMSAPF ,98MF ,611, PUT RESULT IN IMSA+F 00390 26 0329Q 0332Q
00390 SF IMSA-1 , , , SET HIGH ORDER FLAG 00402 32 02574 00000
00400 TF FAC ,ONEZ+2 , , FAC = 1 (F+2 DIGITS) 00414 26 02492 03040
00410 TR AAB-3 ,AABS-8 ,01, SET COUNTERS, AB = 2 FACTORIAL 00426 LJ 00861 00870
00420 OVER TDM SUM+1 ,2 ,0, SET SUM TO SUBTRACT 00438 J5 00511 00002
00430 TF 99 ,98MF ,11, SHIFT PRODUCT 00450 26 00099 0332Q
00440 TFM 97MF ,0000 ,68 00462 16 0332L 0-000
00450 D 98MF ,AB ,16, DIVIDE BY AB 00474 2R 0332Q 00868
00460 BZ DDNE , ,0 00486 M6 00638 01200
00470 TF SAVE ,95 ,10, STORE QUOTIENT 00498 26 02565 000R5
00480 SUM S FAC ,SAVE , , SUBTRACT QUOTIENT FROM FAC 00510 22 02492 02565
00490 AM AAB-2 ,02 ,010, AB CONTAINS K FACTORIAL 00522 J1 00862 000-2
00500 AM AAB ,02 ,010, FIND K+2 FACTORIAL MODIFIED FOR 00534 J1 00864 000-2
00510 M AAB ,AAB-2 ,01, PRODUCT DEVELOPMENT, PUT IN AB 00546 KL 00864 00862
00520 TF AB ,99 ,0 00558 K6 00868 00099
00530 TF 79 ,ZEROM ,11 00570 26 00079 0344N
00540 M IMSAPF ,SAVE ,6, MULTIPLY ARG BY QUOTIENT 00582 23 0329Q 02565
00550 CM SUM+1 ,9521 ,08, ADD OR SUBTRACT AT SUM 00594 J4 00511 0R521
00560 BE OVER , ,0, SUBTRACT 00606 M6 00438 01200
00570 TDM SUM+1 ,1 ,0, SET SUM TO ADD 00618 J5 00511 00001
00580 B OVER+12 , ,0 00630 M9 00450 00000
00590 DORG *-4 00637
00600 DONE C FAC-1 ,9SPF , , COMPARE RESULT TO ZERO 00638 24 02491 02854
00610 BE ZERFAC , , , EQUAL, RESULT = ZERO 00650 46 03422 01200
00620 TFM SAVE ,01 ,10, SET UP CHARACTERISTIC OF RESULT 00662 16 02565 000-1
00630 BD NORH72 ,CLF+10 ,01, SET UP SIGN OF RESULT 00674 ML 00830 00124
00640 SF 99 , , , BR TO NORMALIZATION 00686 32 00099 00000
00650 B NORH72 , ,0 00698 M9 00830 00000
00660 DORG *-4 00705
00670 POZEXP C FAC ,F , , COMPARE CHAR TO F 00706 24 02492 02219
00680 BH *+56 , ,0, BR IF GREATER 00718 M6 00774 01100
00690 TF *+30 ,ISPFM1 ,0, ADJUST MANTISSA (IN IMSAPF) FOR 00730 K6 00760 03303
00700 S *+18 ,FAC ,0, CHAR GREATER THAN OR EQUAL TO ZERO 00742 K2 00760 02492
00710 TF ,FAC-2 , , AND LESS THAN OR EQUAL TO F 00754 26 00000 02490

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00720      B   BRD      ,      ,0      00766 M9 00246 00000
00730      DORG *--4      00773
00740      TFM EI      ,670      ,9, SET ERROR F1, LOSS OF SIGNIFICANCE
                                00774 16 02615 00070
00750      B   UNFLO    ,      ,,, IN FSIN OR FCOS,FAC = ZERO
                                00786 49 03466 00000
00760      DORG *--4      00793
00770      NORP36 TR FNH      ,FH      ,611, LEFT SHIFT ONCE 00794 31 0331L 03300
00780      TDM FAC-1      ,0      ,,, SET LAST DIGIT TO ZERO.
                                00806 15 02491 00000
00790      SF FNH      ,      ,6      00818 32 0331L 00000
00800      NORM72 BD FINISH      ,FNH      ,611, TEST LEADING ZERO
                                00830 43 0372L 0331L
00810      SM SAVE      ,01      ,10, SUBT ONE FROM EXPINENT.
                                00842 12 02565 000-1
00820      B   NORP36      ,      ,0      00854 M9 00794 00000
00830      DORG *--4      00861
00840      AAR DS      4      00864 00004
00850      AB DS      4      00868 00004
00860      DS      1      00869 00001
00870      DC      2,01      00871 00002
00880      DC      2,02      00873 00002
00890      AABS DC      5,0002'      00878 00005
00900      FAC DS      ,02492      02492 00000
00910      FNH DS      ,03313      03313 00000
00920      FNHM DS      ,03358      03358 00000
00930      IMSAPF DS      ,03298      03298 00000
00940      9SPF DS      ,02854      02854 00000
00950      MF DS      ,03666      03666 00000
00960      P1OV2 DS      ,03163      03163 00000
00970      TWOP1 DS      ,03103      03103 00000
00980      IMSA DS      ,02575      02575 00000
00990      PI DS      ,03133      03133 00000
01000      ZERO DS      ,02767      02767 00000
01010      98MF DS      ,03328      03328 00000
01020      97MF DS      ,03323      03323 00000
01030      SAVE DS      ,02565      02565 00000
01040      ZERFAC DS      ,03422      03422 00000
01050      F DS      ,02219      02219 00000
01060      ISPFM1 DS      ,03303      03303 00000
01070      EI DS      ,02615      02615 00000
01080      FH DS      ,03308      03308 00000
01090      FINISH DS      ,03723      03723 00000
01100      ONEZ DS      ,03038      03038 00000
01110      ZEROM DS      ,03445      03445 00000
01120      UNFLO DS      ,03466      03466 00000
01130      PEND 2
                                00002

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SYMBOL TABLE

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ZERFAC 03422  PUZEXP 00706R  NORP36 00794R  NORM72 00830R  ISPFM1 03303
IMSAPF 03298  FINISH 03723  AAB 00864R  AABS 00878R  AB 00868R
BRD 00246R  CLF 00114R  DONE 00638R  EI 02615  F 02219
FAC 02492  FCOS 00006R  FH 03308  FNH 03313  FNHM1 03358

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FSIN 00042R  IMSA 02575  MF 03666  ONEZ 03038  OVER 00438R
PI 03133  P1OV2 03163  SAVE 02565  SUM 00510R  TWOP1 03103
UNFLO 03466  ZERO 02767  ZEROM 03445  9SPF 02854  97MF 03323
98MF 03328

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0001C..... 1&20 FORTTRAN II-D RELOCATABLE FLOATING ARCTANGENT ROUTINE
00020..... ARCTAN(X) = X - (X**3)/3 + (X**5)/5 - (X**7)/7 + ...
00030 DSA FATN 00004 00005 -0006
00040 FATN TFL FAC ,FATN-1 ,111, LOAD ARGUMENT 00006 00 02492 0000M
00050 BD **20 ,FNH ,011, IS ARG ZERO 00018 M3 00038 0331L
00060 B ZERFAC , , , YES 00030 49 03422 00000
00070 DORG **4 00037
00080 TFM TEST+11 , ,08, RESET INDICATORS 00038 J6 00073 0-000
00090 BNF TEST+24 ,FAC-2 ,0, BR IF ARG NEGATIVE 00050 M4 00086 02490
00100 TEST SF **9 , ,0, SET INDICATOR, ARG NEG 00062 L2 00071 00000
00110 CF FAC-2 , , , ARG = ABS ARG 00074 33 02490 00000
00120 CM FAC ,00 ,10, IS CHAR OF ARG 00086 14 02492 000-0
00130 BH TEST1+20 , ,0, POSITIVE 00098 M6 00870 01100
00140 BE ALPH+12 , ,0, EQUAL ZERO 00110 M6 00266 01200
00150 M **35 ,F ,0, NEGATIVE 00122 K3 00157 02219
00160 SM 98 ,05 ,10, FIND--5(F-1) 00134 12 00098 000-5
00170 SF 97 ,50 ,10, 00146 32 00097 00000
00180 TF **23 ,97 ,0, 00158 K6 00181 00097
00190 CM FAC , , , IF CHAR OF ARG IS 00170 14 02492 -0000
00200 BL EOD , ,0, LESS THAN -.5(F-1),BR 00182 M7 01094 01300
00210 TFM ALPH-1 ,FAC-2 ,07, SET UP ADJUST MANTISSA 00194 J6 00253 -2490
00220 A ALPH-1 ,FAC ,0, 00206 K1 00253 02492
00230 TF FNHM1 ,9SPF-1 ,6, 00218 26 03350 02853
00240 CF FNH , ,6, 00230 33 03311 00000
00250 TF FAC-2 , , , ADJUST MANTISSA 00242 26 02490 00000
00260 ALPH SF FNH , ,6, 00254 32 03311 00000
00270 CM FH ,29 ,610, COMPARE HI ORD MANTISSA DIGITS 00266 14 0330Q 000K9
00280 BL **132 , ,0, TO 29, IF LESS THAN 29 BR 00278 M7 00410 01300
00290 TF 97 ,9SPF-1 ,6, 00290 26 00097 02853
00300 MM FAC-2 ,06 ,10, FIND 1.6 TIMES MANTISSA 00302 13 02490 000-6
00310 TDM 98MF ,1 ,611 00314 15 0332Q 0000J
00320 S FAC-2 ,SIX , , FIND MANTISSA MINUS .6, PUT IN FAC 00326 22 02490 03219
00330 TF BETA ,99 , , STORE 1.6 MANTISSA IN BETA 00338 26 02603 00099
00340 TF 79 ,ZERO-42 00350 26 00079 02725
00350 LD 98MF ,FAC-2 ,6, FIND (FAC-.6)/(1.6 X MANTISSA) 00362 28 0332Q 02490
00360 D HND ,BETA ,6, 00374 29 0333Q 02603
00370 TF FAC-2 ,97MF ,11, PUT QUOTIENT IN FAC 00386 26 02490 0332L
00380 SF TEST+11 , ,0, SET INDICATOR, HI ORD GREATER 29 00398 L2 00073 00000
00390 TF 79 ,ZERO-44 00410 26 00079 02723
00400 M FAC-2 ,FAC-2 , , SQUARE FAC MANTISSA 00422 23 02490 02490
00410 TF SAVE ,PDT ,11, STORE IN SAVE 00434 26 02565 0333L
00420 TF BETA ,9SPF , , BETA IS F+1 ZEROS 00446 26 02603 02854
00430 TF ATN1+35 ,2FM1 ,0, SET DIVISOR EQUAL 2F-1, DENOTE AS W

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00440 TF ALPH+11 ,FM1 ,0, SET COUNTER EQUAL F-1 00458 K6 00517 03581
00450 ATN1 TF 99 ,ZERO-47 00470 K6 00265 03783
00460 TFM 98MF ,10 ,610 00482 26 00099 02720
00470 DM 98MF , ,6, DIVIDE 10/W 00494 16 0332Q 000J0
00480 S 96 ,BETA , , SUBTRACT BETA FROM QUOTIENT 00506 19 0332Q 00000
00490 TF BETA ,96 , , REPLACE BETA BY DIFFERENCE 00518 22 00096 02603
00500 TF 79 ,ZERO-43 00530 26 02603 00096
00510 M BETA ,SAVE , , BETA EQUALS BETA TIMES 00542 26 00079 02724
00520 TF BETA ,PDT ,11, SQUARE OF MANTISSA 00554 23 02603 02565
00530 SM ATN1+35 ,02 ,010, W EQUALS W-2 00566 26 02603 0333L
00540 SM ALPH+11 ,01 ,010, REDUCE COUNTER BY ONE 00578 J2 00517 000-2
00550 BNZ ATN1 , ,0, IS COUNTER ZERO 00590 J2 00265 000-1
00560 TF SAVE ,ONEZ+2 , , YES, SAVE IS ONE (F+2 DIGITS) 00602 M7 00482 01200
00570 S SAVE ,BETA , , FIND 1 - BETA 00614 26 02565 03040
00580 TF 79 ,ZERO-42 00626 22 02565 02603
00590 M SAVE ,FAC-2 , , 00638 26 00079 02725
00600 BNF TEST2 ,TEST+11 ,01, TEST INDICATOR, HI ORD GREATER 29 00650 23 02565 02490
00610 BNN TEST2-12 , ,0, IS PRODUCT NEGATIVE 00662 MM 00710 00073
00620 SF PDT , ,6, YES, SET SIGN 00674 M6 00698 01300
00630 A PDT ,TAN6 ,6, ADD ARCTAN OF .6 TO PRODUCT 00686 32 0333L 00000
00640 TEST2 BNF **36 ,TEST+10 ,01, TEST INDICATOR, CHAR POSITIVE 00698 21 0333L 03248
00650 SF PDT , ,6, SET SIGN 00710 MM 00746 00072
00660 A PDT ,PIOV2 ,6, SUB PRODUCT FROM PIOV2 00722 32 0333L 00000
00670 TFM SAVE ,01 ,10, SET CHARACTERISTIC OF RESULT 00734 21 0333L 03163
00680 TF FAC ,HND ,11, PUT RESULT IN FAC 00746 16 02565 000-1
00690 BD TEST1-24 ,FNHM1 ,011, NORMALIZE 00758 26 02492 0333Q
00700 TR FNHM1 ,FNH ,611 00770 M3 00826 0335Q
00710 TDM FAC ,0, 00782 31 0335Q 0331L
00720 SM SAVE ,01 ,10 00794 15 02492 00000
00730 B **48 , ,0 00806 12 02565 000-1
00740 DORG **4 , ,0 00818 M9 00770 00000
00750 SF FNHM1 , ,6 00825
00760 TF FAC-2 ,FAC-3 ,6 00826 32 0335Q 00000
00770 TEST1 TD 99 ,TEST+9 ,1, SET SIGN 00838 26 02490 02489
00780 B ENDD , , , RETURN 00850 2N 00099 00071
00790 DORG **4 , ,0 00862 49 03688 00000
00800 SF TEST+10 , ,0, SET INDICATOR, CHAR POSITIVE 00869
00810 TF 99 ,ZERO-23 00870 L2 00072 00000
00820 TF PDT ,ONEZ ,6 00882 26 00099 02744
00830 D PDT ,FAC-2 ,6, FIND RECIPROCAL OF MANTISSA 00894 26 0333L 03038
00840 TF FAC-2 ,PDT ,11, PUT IN FAC-2 00906 29 0333L 02490
00850 BD **44 ,FNHM1 ,011, NORMALIZE 00918 26 02490 0333L

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00860 SF FNM , ,.6 00942 32 0331L 00000
00870 SM FAC ,.01 ,.10 00954 12 02492 000-1
00880 B **32 , ,.0 00966 M9 00998 00000
00890 DORG *-4 , 00973
00900 TF FAC-2 ,FAC-3 00974 26 02490 02489
00910 SM FAC ,.02 ,.10 00986 12 02492 000-2
00920 BL **44 , ,.0 BR NEW CHAR NEGATIVE
                                00998 M7 01042 01300
00930 BE ALPH*12 , ,.0 BR NEW CHAR ZERO 01010 M6 00266 01200
00940 SF FAC , ,. NEW CHAR POSITIVE
                                01022 32 02492 00000
00950 B TEST*60 , ,.0 01034 M9 00122 00000
00960 DORG *-4 , 01041
00970 TFM SAVE ,.00 ,.10 01042 16 02565 000-0
00980 TF FAC-2 ,PIOV4 ,.0 01054 26 02490 03191
00990 B TEST1 , ,.0 01066 M9 00850 00000
01000 DORG *-4 , 01073
01010 TD 99 ,TEST*9 ,.1 01074 2N 00099 00071
01020 B ENDD*12 , ,.0 01086 49 03700 00000
01030 DORG *-4 , 01093
01040 EOD BNF **20 ,TEST*10 ,.01, TEST INDICATOR, CHAR POSITIVE
                                01094 MM 01074 00072
01050 TF IMSAPF ,FAC-2 ,.6, CHAR NEG, STORE FAC MANTISSA
                                01106 26 03290 02490
01060 TF FAC-2 ,PIOV2-1 ,, FAC MANTISSA IS F+1 DIGIT PIOV2
                                01110 26 02490 03162
01070 C FAC ,MF ,, COMPARE CHAR TO -F
                                01130 24 02492 03666
01080 BNH **72 , ,.0, BR IF CHAR NOT GREATER, EQUAL -F
                                01142 M7 01214 01100
01090 CF IMSA*1 , ,. SUB OLD FAC MANTISSA FROM PIOV2
                                01154 33 02576 00000
01100 TDM IMSA , ,.11 01166 15 02575 0000-
01110 TF **35 ,IMSAPF ,.0 01178 K6 01213 03298
01120 A **23 ,FAC ,.0 01190 K1 01213 02492
01130 S FAC-2 , ,.0 01202 22 02490 00000
01140 TFM SAVE ,.01 ,.10, SET CHAR
                                01214 16 02565 000-1
01150 B TEST1-12 , ,.0, NORM AND RETURN 01226 M9 00838 00000
01160 DORG *-4 , 01233
01170 FAC DS ,.02492 02492 00000
01180 FNM DS ,.03313 03313 00000
01190 ZERFAC DS ,.03422 03422 00000
01200 F DS ,.02219 02219 00000
01210 FNHM1 DS ,.03358 03358 00000
01220 95PF DS ,.02854 02854 00000
01230 FH DS ,.03308 03308 00000
01240 98MF DS ,.03328 03328 00000
01250 SIX DS ,.03219 03219 00000
01260 BETA DS ,.02603 02603 00000
01270 ZERO DS ,.02767 02767 00000
01280 HND DS ,.03338 03338 00000
01290 97MF DS ,.03323 03323 00000
01300 SAVE DS ,.02565 02565 00000
01310 PDT DS ,.03333 03333 00000
01320 2FM1 DS ,.03581 03581 00000
01330 FM1 DS ,.03783 03783 00000
01340 ONEZ DS ,.03038 03038 00000
01350 TAN6 DS ,.03248 03248 00000
  
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01360 PIOV2 DS ,.03163 03163 00000
01370 ENDD DS ,.03688 03688 00000
01380 PIOV4 DS ,.03191 03191 00000
01390 IMSAPF DS ,.03298 03298 00000
01400 MF DS ,.03666 03666 00000
01410 IMSA DS ,.02575 02575 00000
01420 DEND 1 00001
  
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SYMBOL TABLE

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ZERFAC 03422 IMSAPF 03298 ALPH 00254R ATN1 00482R BETA 02603
ENDD 03688 EOD 01094R F 02219 FAC 02492 FATN 00006R
FH 03308 FM1 03783 FNH 03313 FNHM1 03358 HND 03338
IMSA 02575 MF 03666 ONEZ 03038 PDT 03333 PIOV2 03163
PIOV4 03191 SAVE 02565 SIX 03219 TAN6 03248 TEST 00062R
TEST1 00850R TEST2 00710R ZERO 02767 2FM1 03581 95PF 02854
97MF 03323 98MF 03328
  
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00010***** 1620 FORTRAN II-D RELOCATABLE SQUARE ROOT ROUTINE
00020 DSA SQRT 00004 00005 -0006
00030 SQRT MM SQRT-1 ,50 ,0610,HALF THE EXPONENT
00040 TFL FAC ,SQRT-1 ,111, MOVE MANTISSA TO FAC-2
00050 BD SQ1 ,FNH ,011, TEST FOR ZERO 00006 J3 0000N 0000N
00060 B ZERFAC , ,0018 00 02492 0000N
00070 DORG *-4 , ,00030 M3 00050 0331L
00080 SQ1 TDM FNHM1 ,0 ,011, SET NEXT HIGH ORDER DIGIT TO ZERO
00090 TDM SQEX+1 ,2 ,0, SET EXIT TO BRANCH BACK
00100 BNF ++48 ,FAC-2 ,0, TEST FOR SIGN 00062 J5 00463 00002
00110 CF FAC-2 , ,00074 M4 00122 02490
00120 TDM SQEX+1 ,9 ,0, SET EXIT TO ERROR ROUTINE
00130 TFM EI ,676 ,9, SET ERROR MESSAGE F6
00140 BD SQ3 ,98 ,0, BRANCH IF EXPONENT ODD
00150 TF SQ2+42 ,97MF ,0, SET ADDRESS TO 97-F
00160 BNF SQ2+12 ,99 ,0, TEST FOR SIGN 00134 K6 00200 03323
00170 SQ2 SF 97 , ,00146 M4 00170 00099
00180 TF FAC ,97 , ,00158 32 00097 00000
00190 LD 80 ,9SPF , ,00170 26 02492 00097
00200 TF ,FAC-2 , ,00182 28 00080 02854
00210 TF LOOP+18 ,97M2F ,0, SET ADDRESS TO 97 - 2F
00220 TF LOOP+23 ,FNHM1 ,0, SET ADDRESS TO FNH - 1
00230 TF LOOP+102 ,97M2F ,0, SET ADDRESS TO 97-2F
00240 TF FAC-2 ,ONEZ+1 , ,00230 K6 00364 03363
00250 R LOOP+108 , ,0,
00260 DORG *-4 , ,00242 26 02490 03039
00270 LOOP AM LOOP+23 ,2 ,0610,ADD 2 TO RESULT 00254 M9 00370 00000
00280 S , ,00261
00290 BNN LOOP , ,0, CONTINUE LOOP IF NOT MINUS
00300 CM LOOP+23 ,FAC-2 ,07, COMPARE WITH TERMINAL ADDRESS
00310 BNL SQEX-48 , ,0, GO TO EXIT IF EQUAL
00320 A LOOP+18 ,LOOP+23 ,01611,ADD BACK 00310 M6 00414 01300
00330 CF LOOP+18 , ,06, CLEAR FLAG 00322 KJ 0028- 0028N
00340 AM **18 ,1 ,010, ADD 1 TO ADDRESS 00334 L3 0028- 00000
00350 SF , , ,00346 J1 00364 000-1
00360 AM LOOP+18 ,02 ,010, ADD 2 TO MANTISSA
00370 AM LOOP+23 ,01 ,010, ADD 1 TO RESULT ADD 00358 32 00000 00000
00370 J1 00280 000-2
00380 SM LOOP+23 ,9 ,0610,SUBTRACT 9 FROM RESULT 00382 J1 00285 000-1
00390 B LOOP+12 , ,0, GO TO LOOP 00394 J2 0028N 000-9
00400 DORG *-4 , ,00406 M9 00274 00000
00410 LD 80 ,9SPF , ,00413
00420 MM FAC-2 ,50 ,10, HALF THE RESULT 00414 28 00080 02854
00430 TF FAC-2 ,97 , ,00426 13 02490 000N0
00440 SF FNH , ,00438 26 02490 00097
00450 SQEX BB ERROR , ,00450 32 0331L 00000
00460 DORG *-4 , ,00462 42 03596 00000
00470 SQ3 AM 99 ,50 ,10, ADD 5 TO PRODUCT 00469
00480 CF FNH , ,00470 11 00099 000N0
00490 TF SQ2+42 ,98MF ,0, SET ADDRESS TO 98-F
00500 BNN SQ2+12 , ,0, BRANCH IF NOT NEGATIVE
00510 B SQ2 , ,0, GO TO SET SIGN IF NEGATIVE
00520 DORG *-4 , ,00506 M6 00170 01300
00530 FAC DS ,02492 00518 M9 00158 00000
00540 FNH DS ,03313 00525
00550 ZERFAC DS ,03422 02492 00000
00560 FNHM1 DS ,03358 03313 00000
00570 EI DS ,02615 03422 00000
00580 97MF DS ,03323 03358 00000
00590 9SPF DS ,02854 02615 00000
00600 97M2F DS ,03363 03323 00000
00610 ONEZ DS ,03038 02854 00000
00620 ERROR DS ,03596 03363 00000
00630 98MF DS ,03328 03038 00000
00640 DEND 1 03596 00000
00001 03328 00000

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825

SYMBOL TABLE

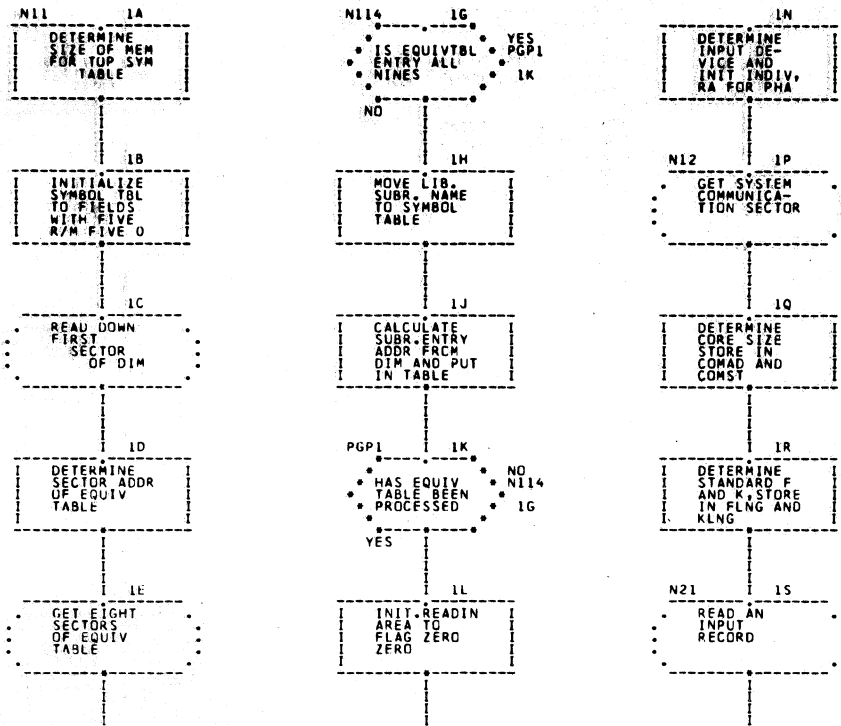
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FNHM1	03358	LOOP	00262R	ONEZ	03038	SQEX	00462R	SQRT	00006R
SQ1	00050R	SQ2	00158R	SQ3	00470R	9SPF	02854	97MF	03323
97M2F	03363	98MF	03328						

```
00010***** 1620 FORTRAN II-D RELOCATABLE ABSOLUTE VALUE ROUTINE
00020 DSA ABS 00004 00005 -0006
00030 ABS TFL FAC ,ABS-1 ,111 00006 00 02492 0000M
00040 BMF **26 ,FAC-1 ,0 00018 M4 00044 02491
00050 CF FAC-2 , ** FLOATING POINT NUMBER
00060 BB 00030 33 02490 00000
00070 DORG +-9 00042 42 00000 00000
00080 CF FAC , ** FIXED POINT NUMBER
00090 BB 00044 33 02492 00000
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00110 FAC DS ,02492 00058
00120 DEND I 02492 00000
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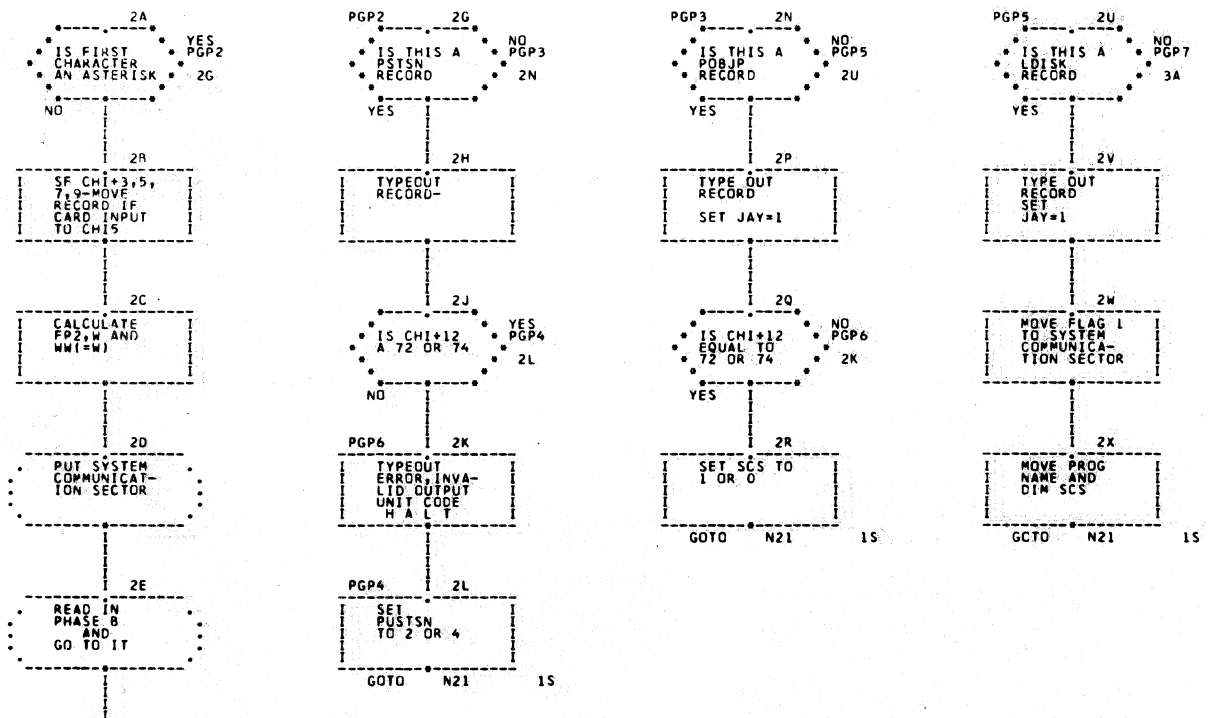
SYMBOL TABLE

ABS 00006R FAC 02492

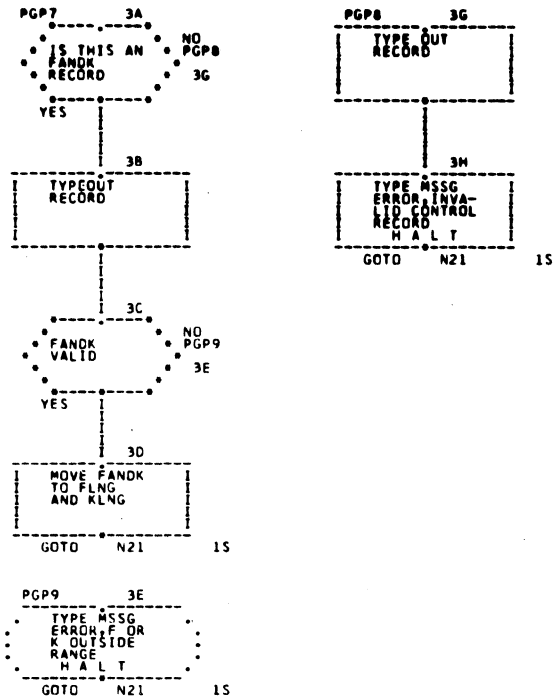
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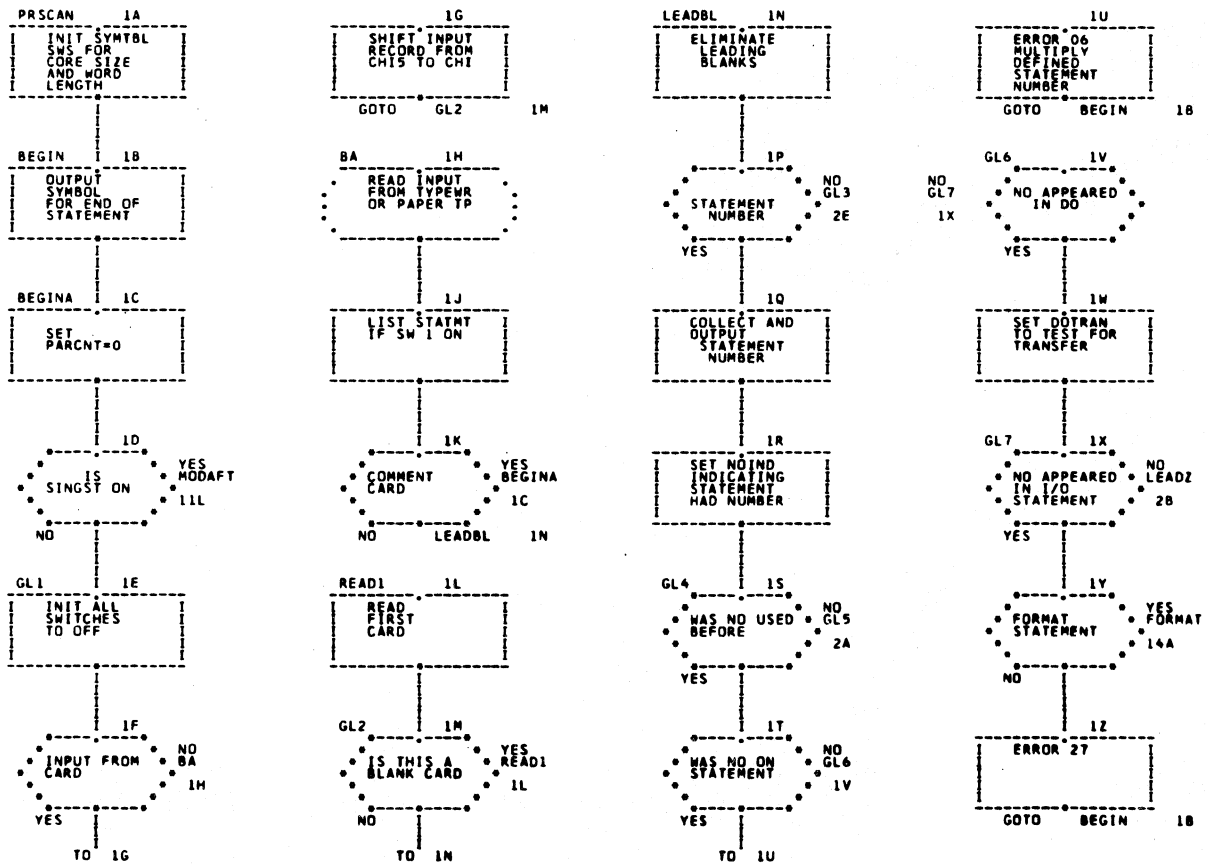
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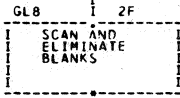
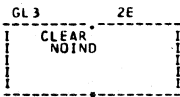
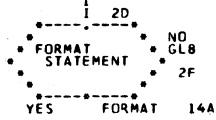
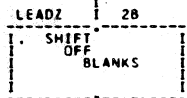
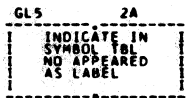
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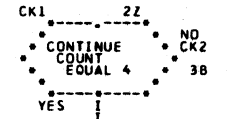
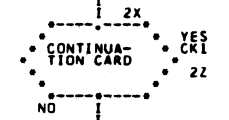
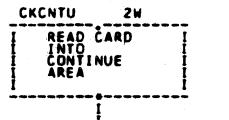
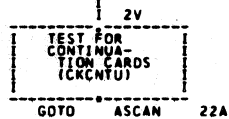
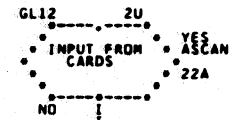
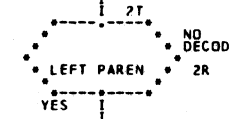
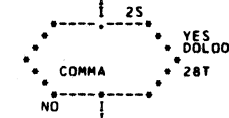
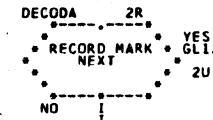
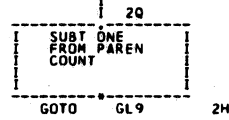
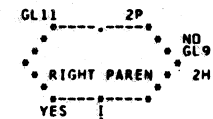
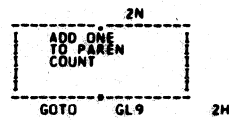
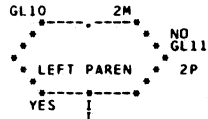
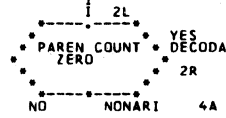
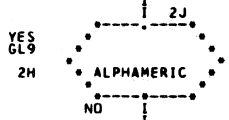
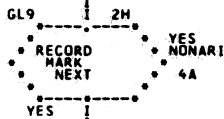
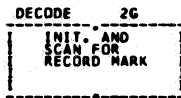
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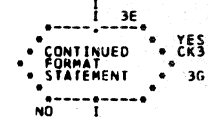
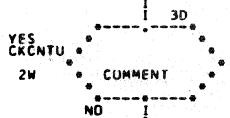
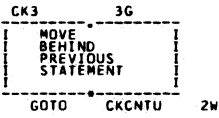
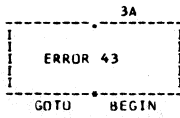
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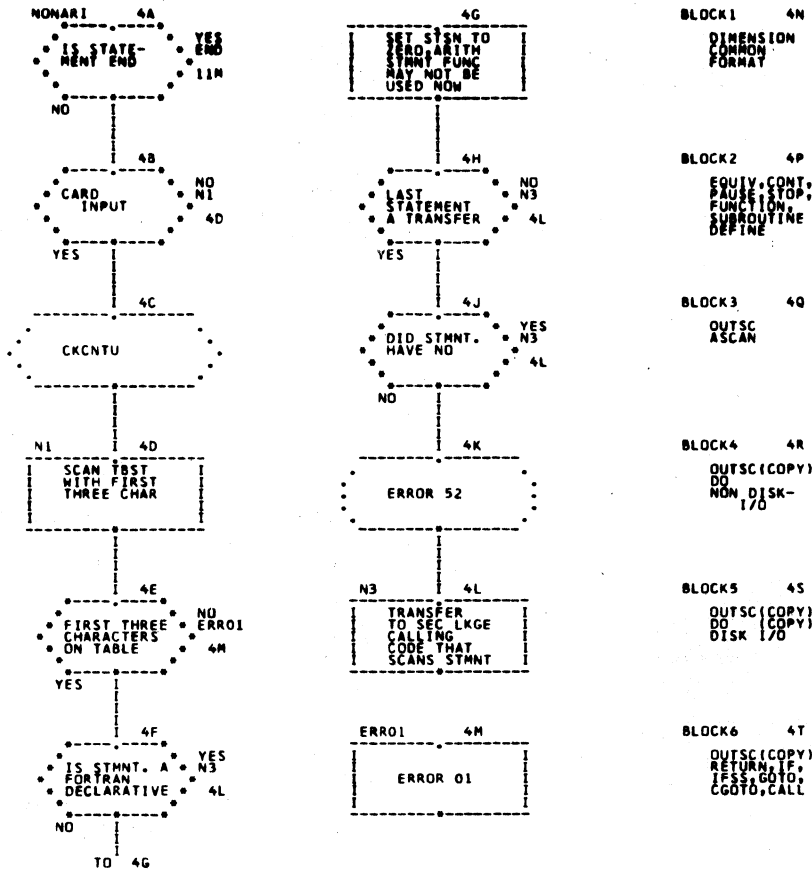
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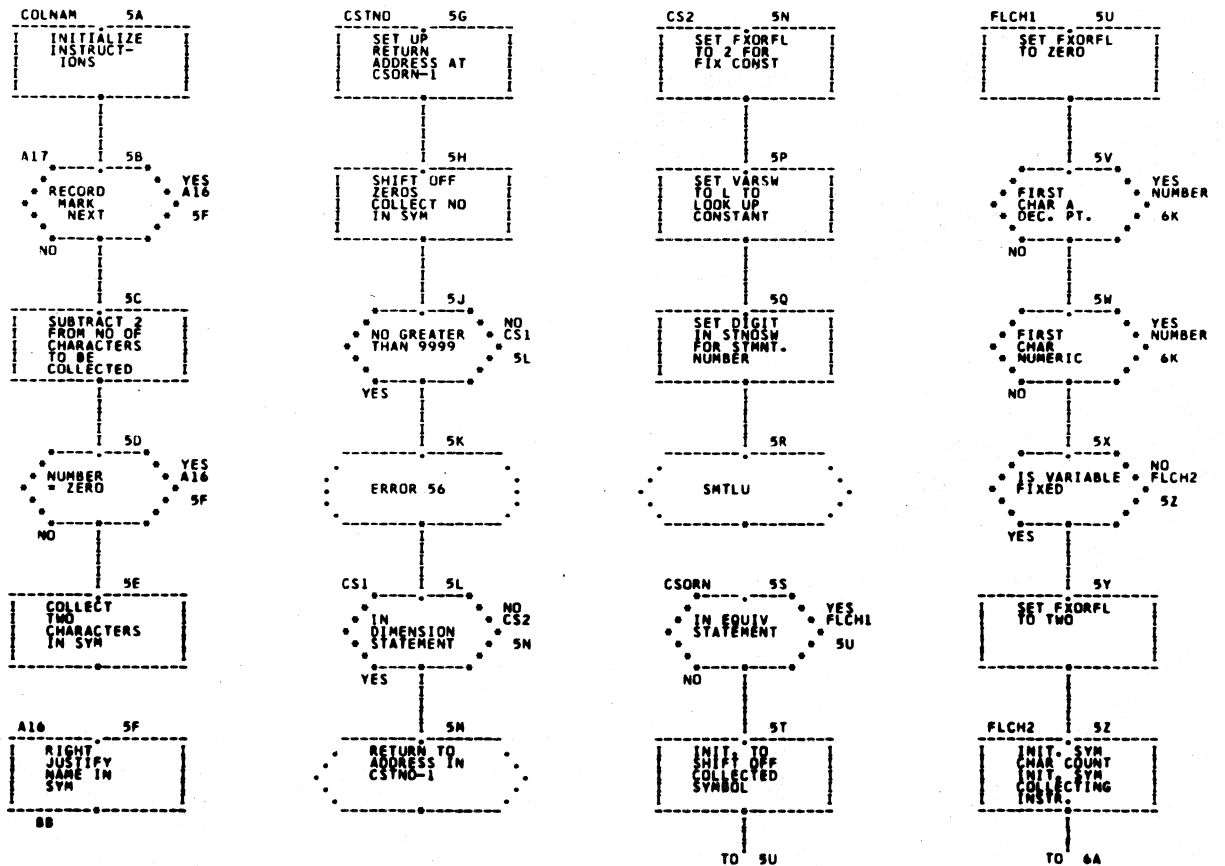
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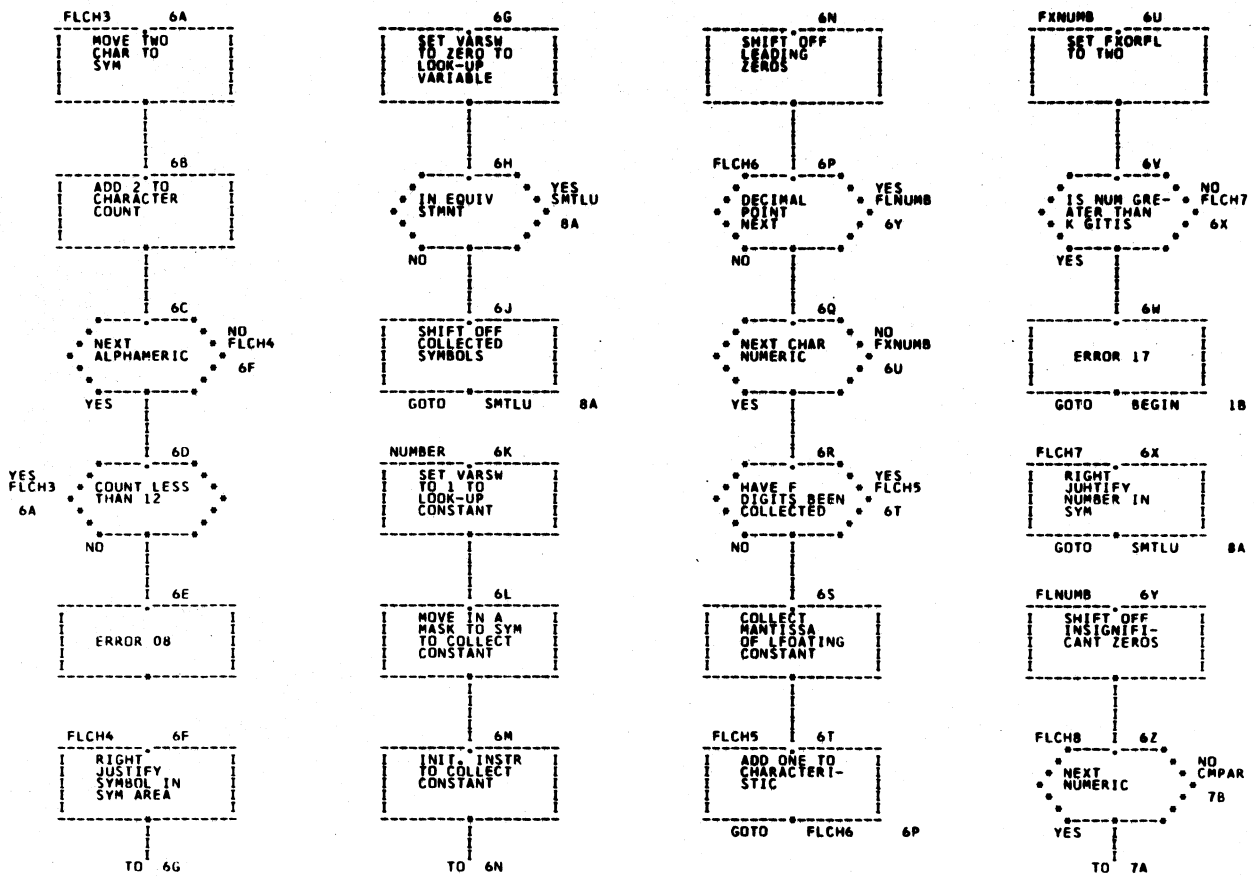


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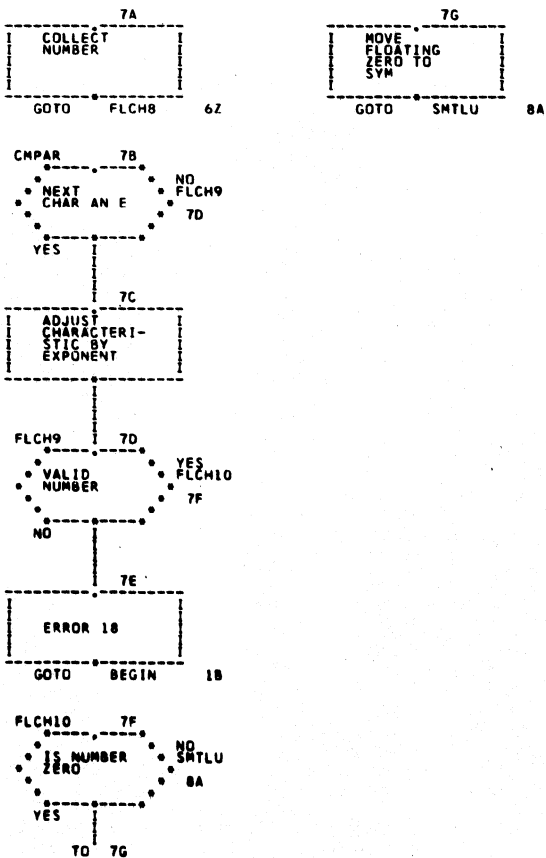


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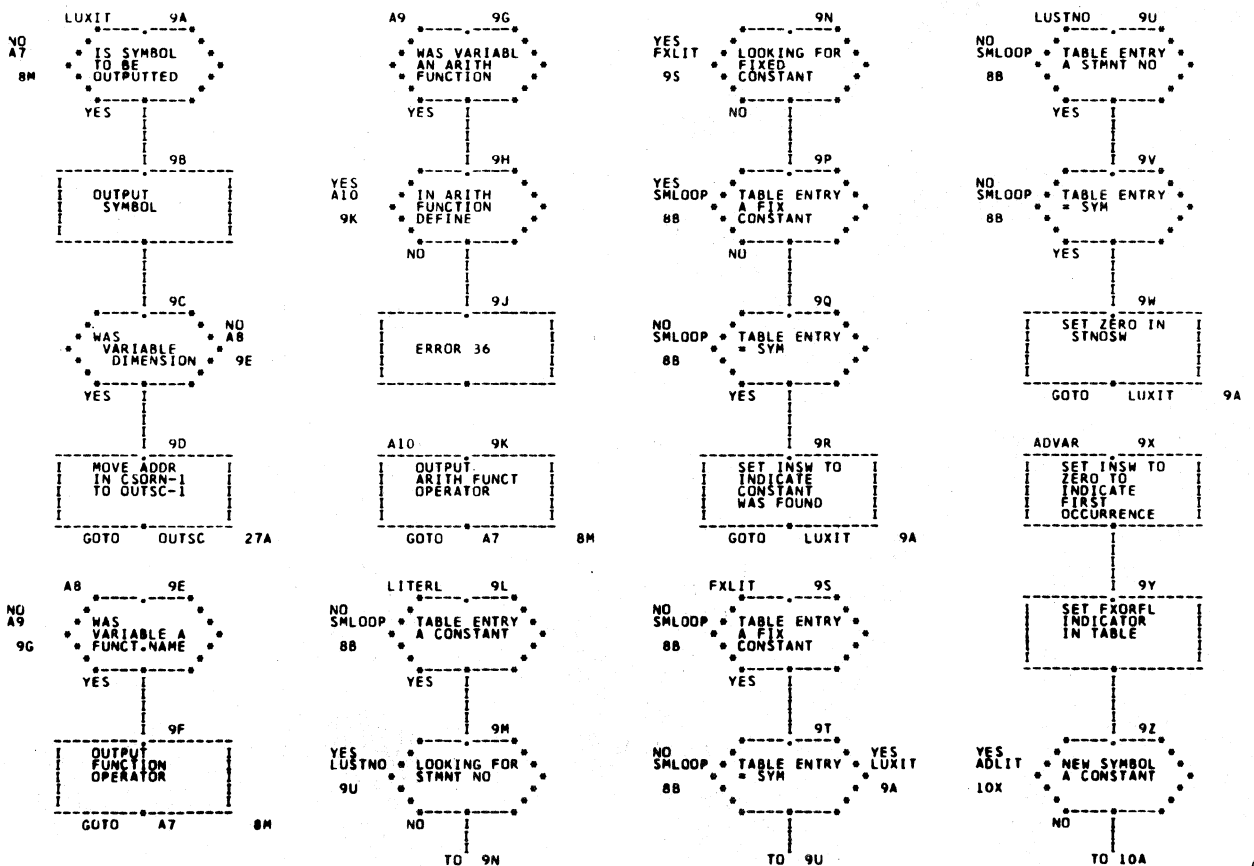
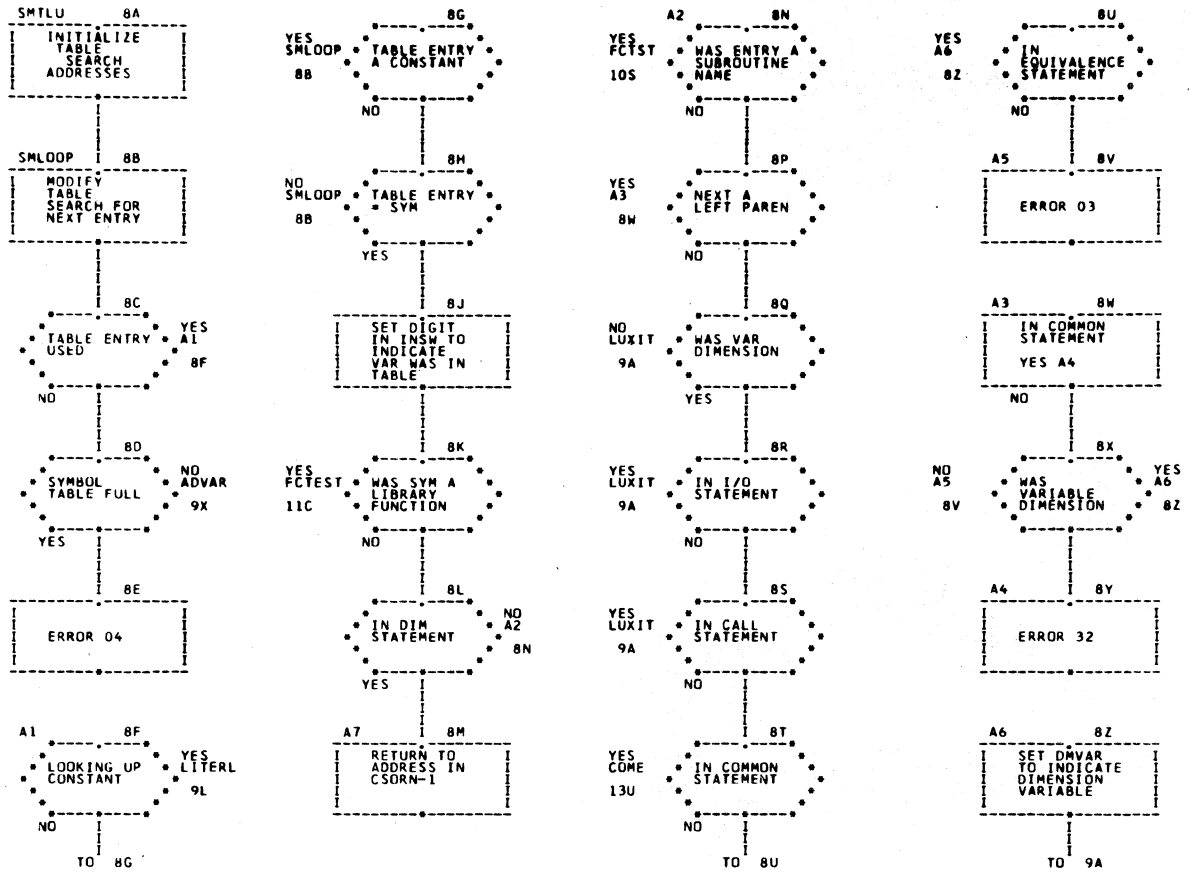
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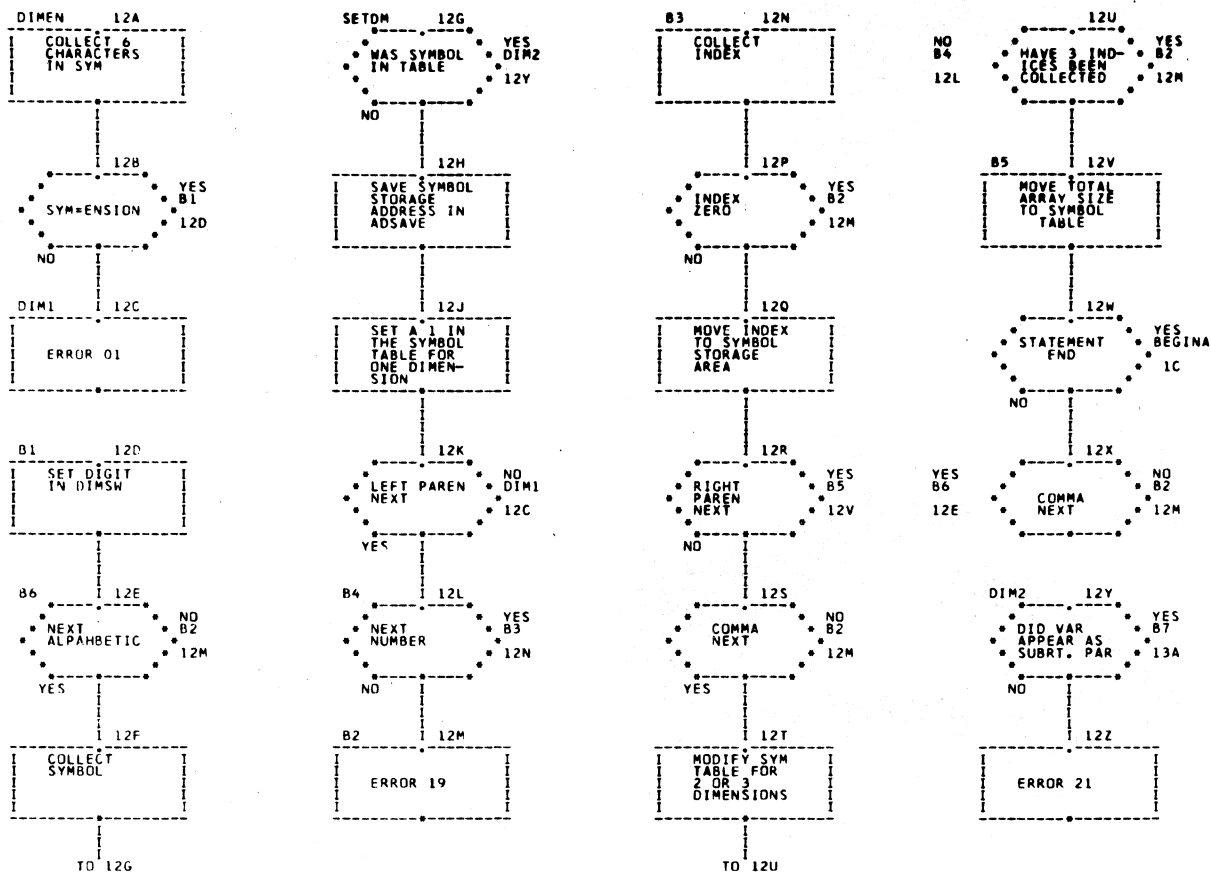
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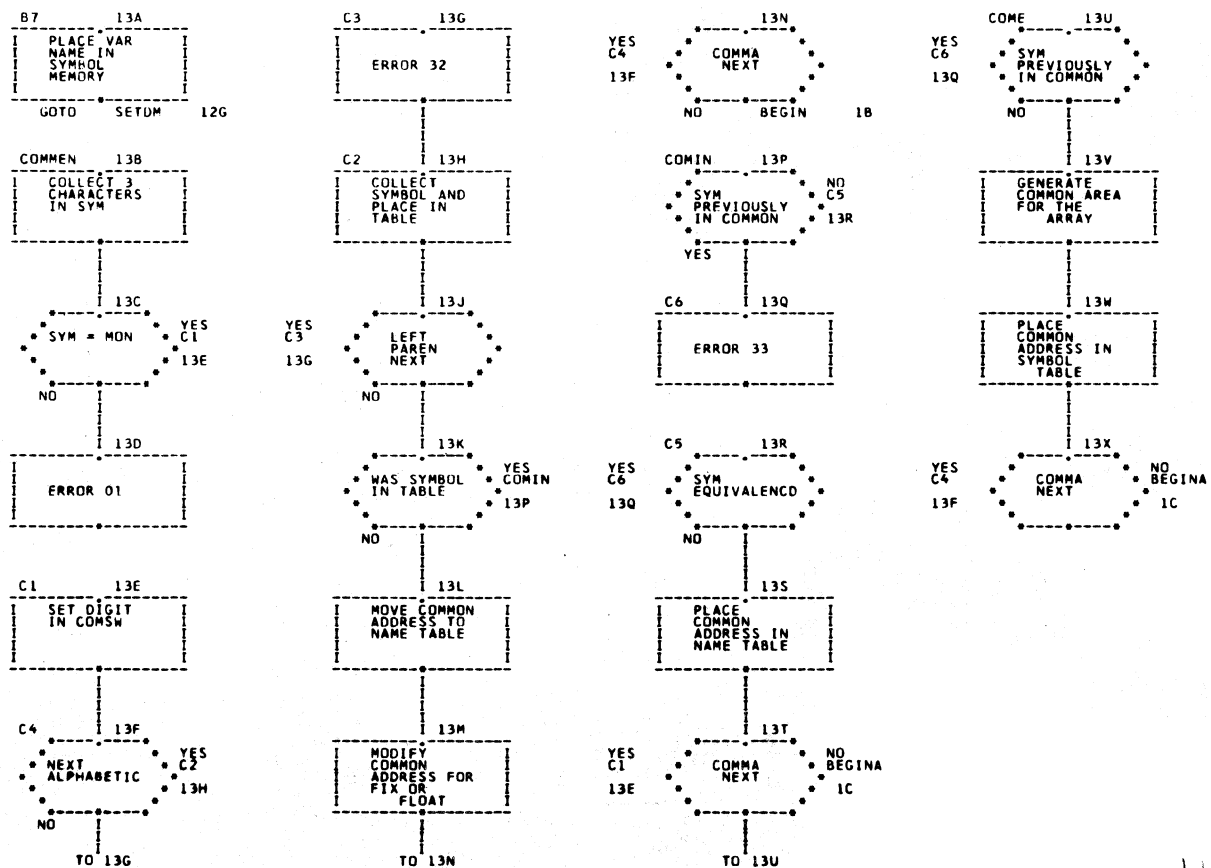
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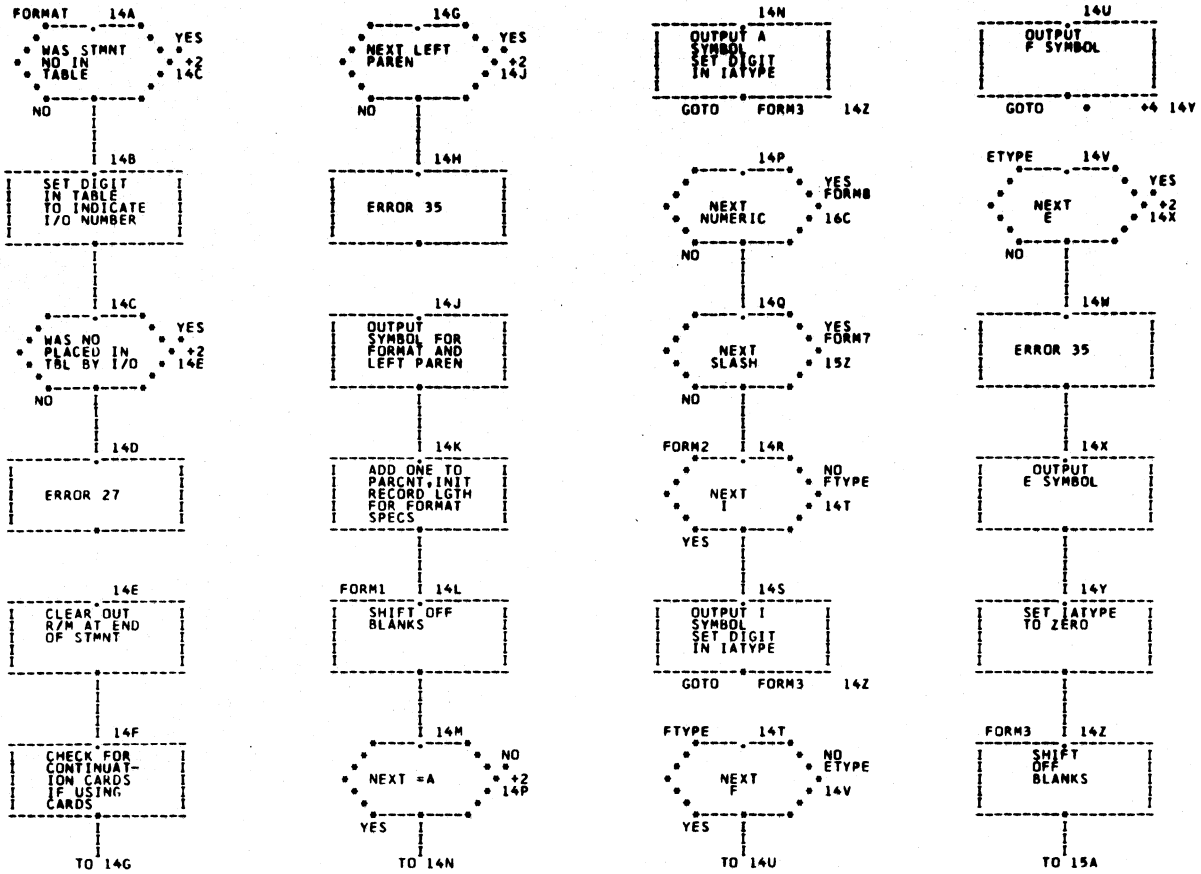


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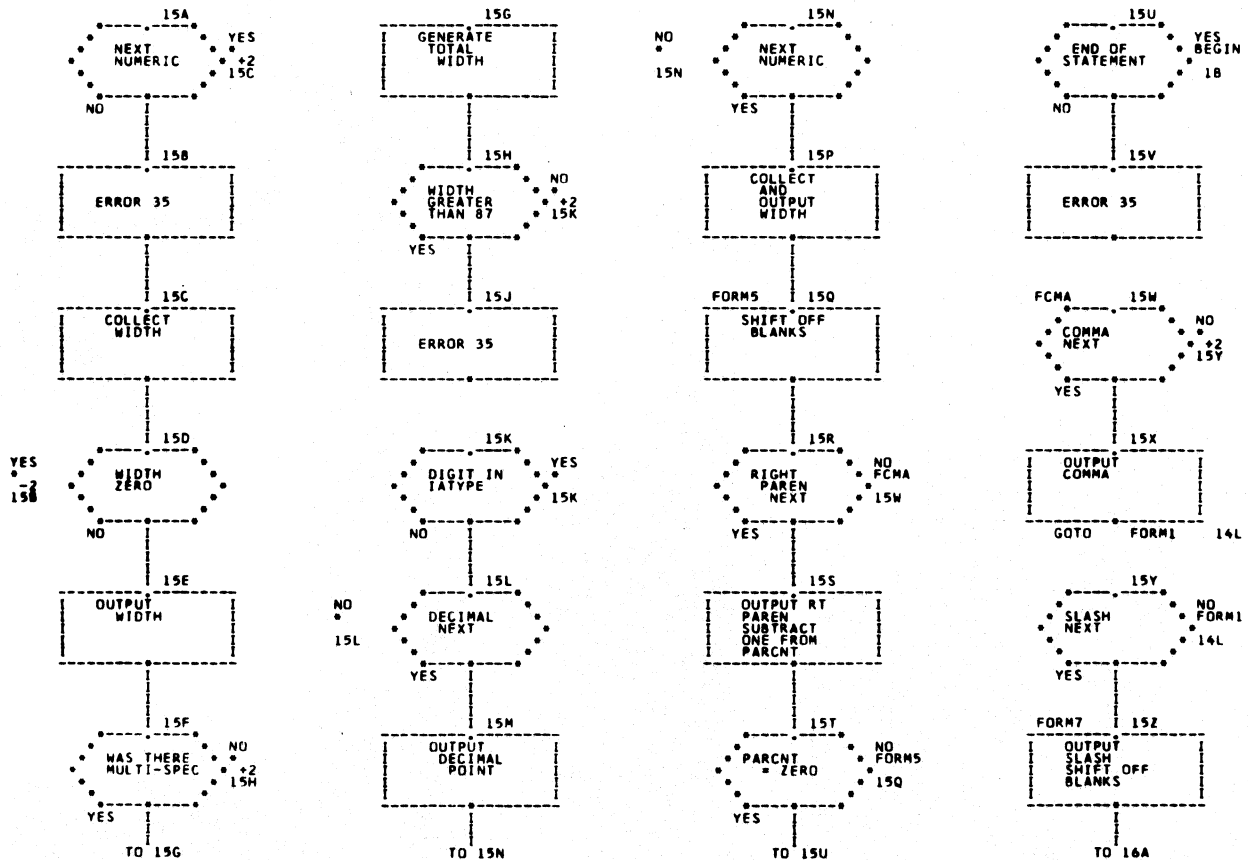


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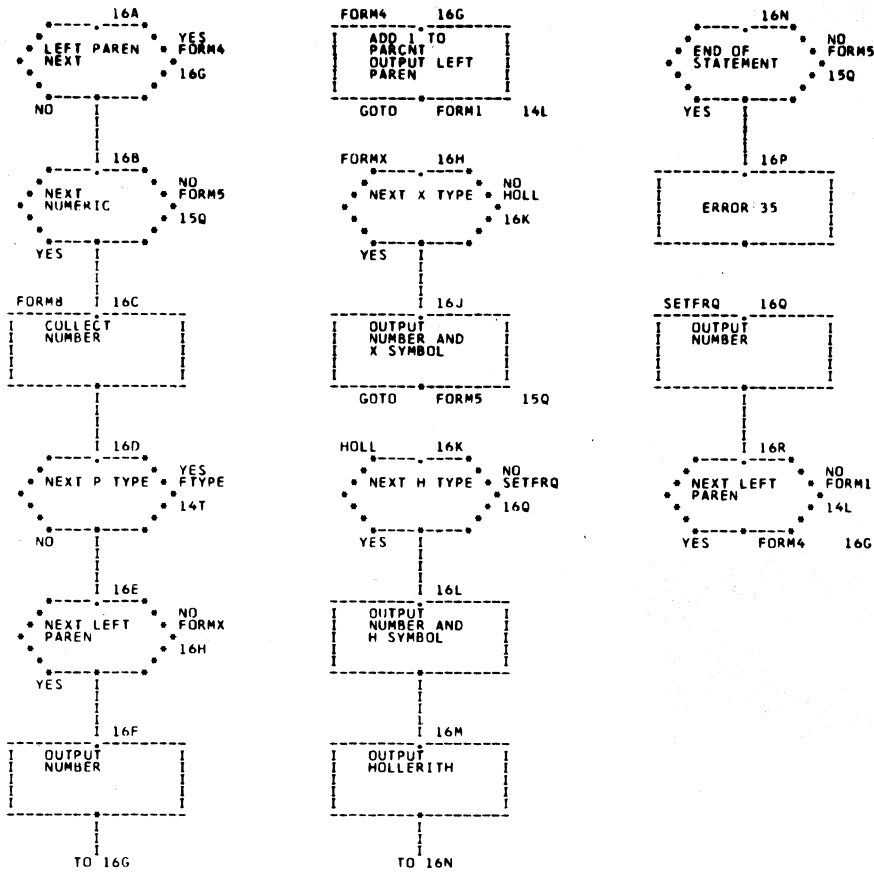
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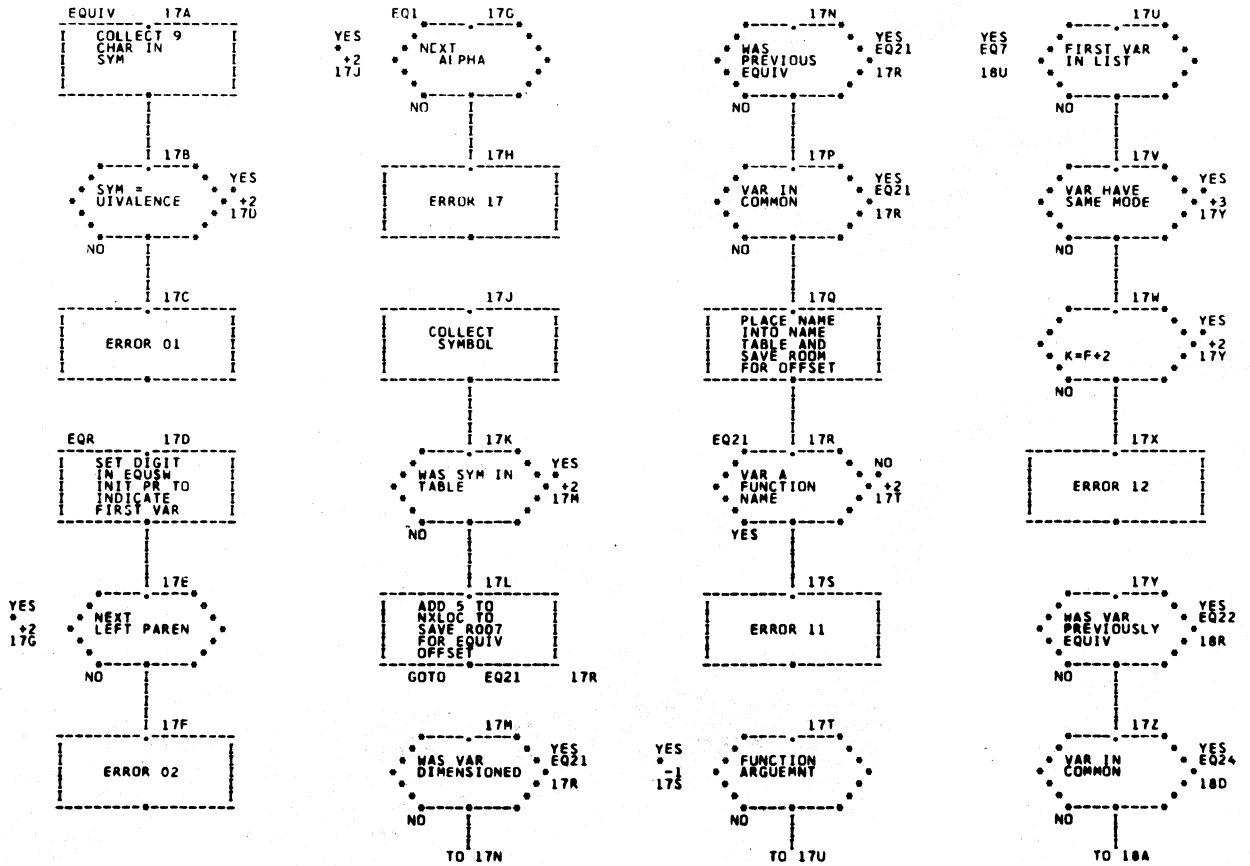
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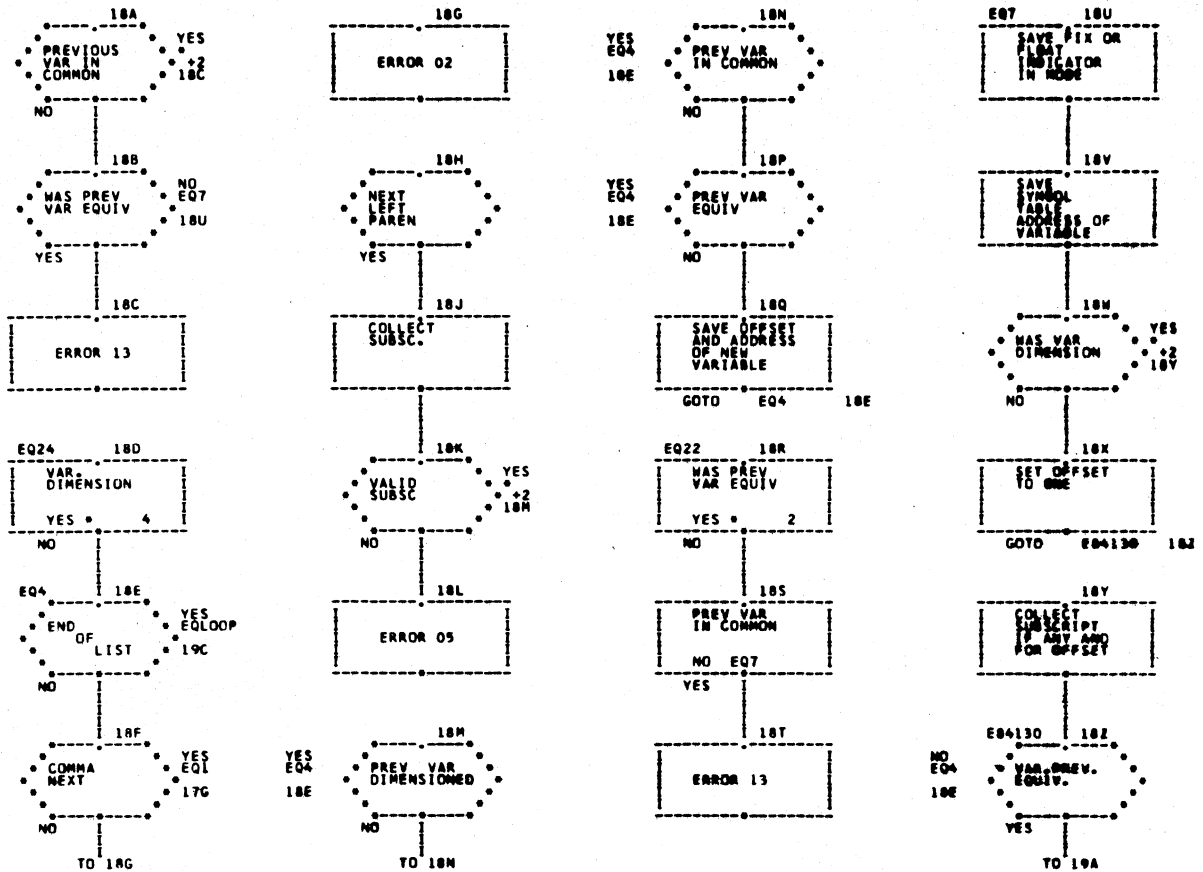


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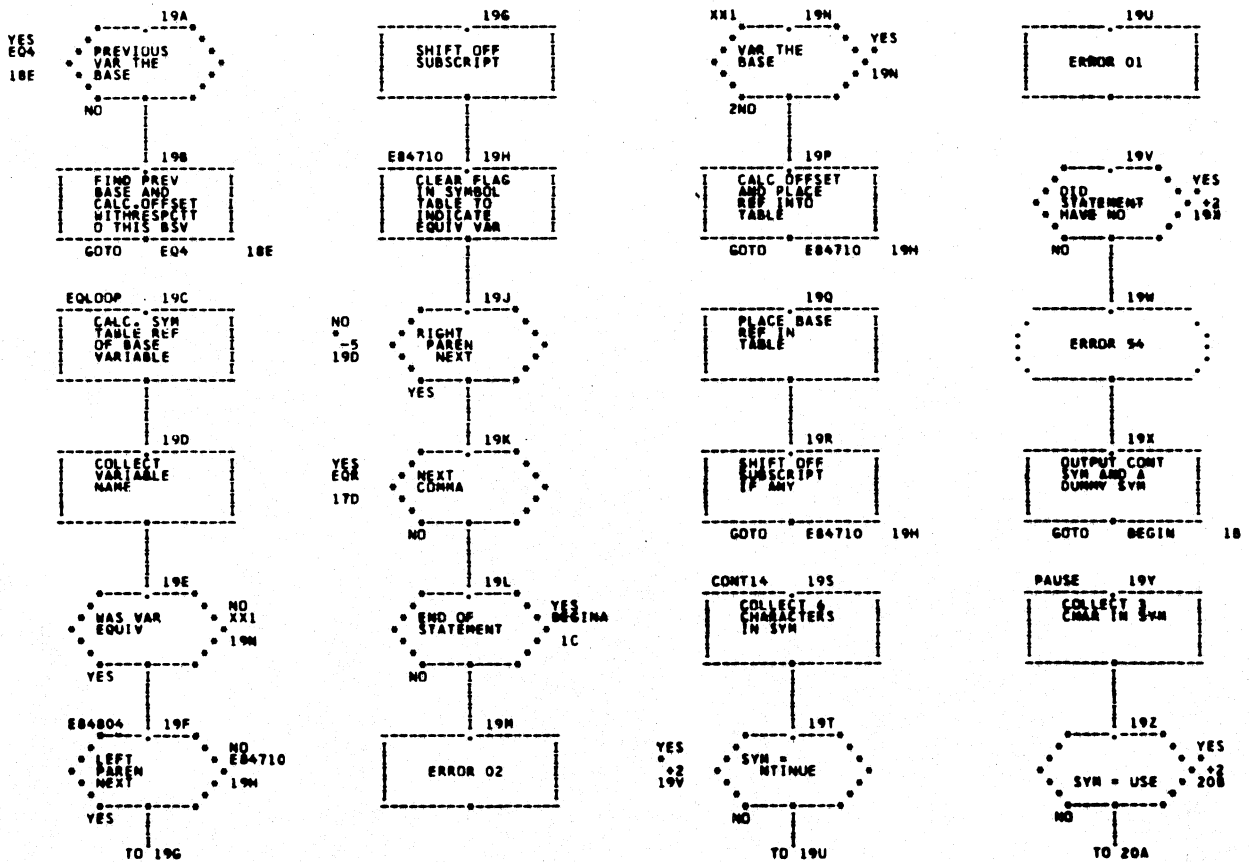


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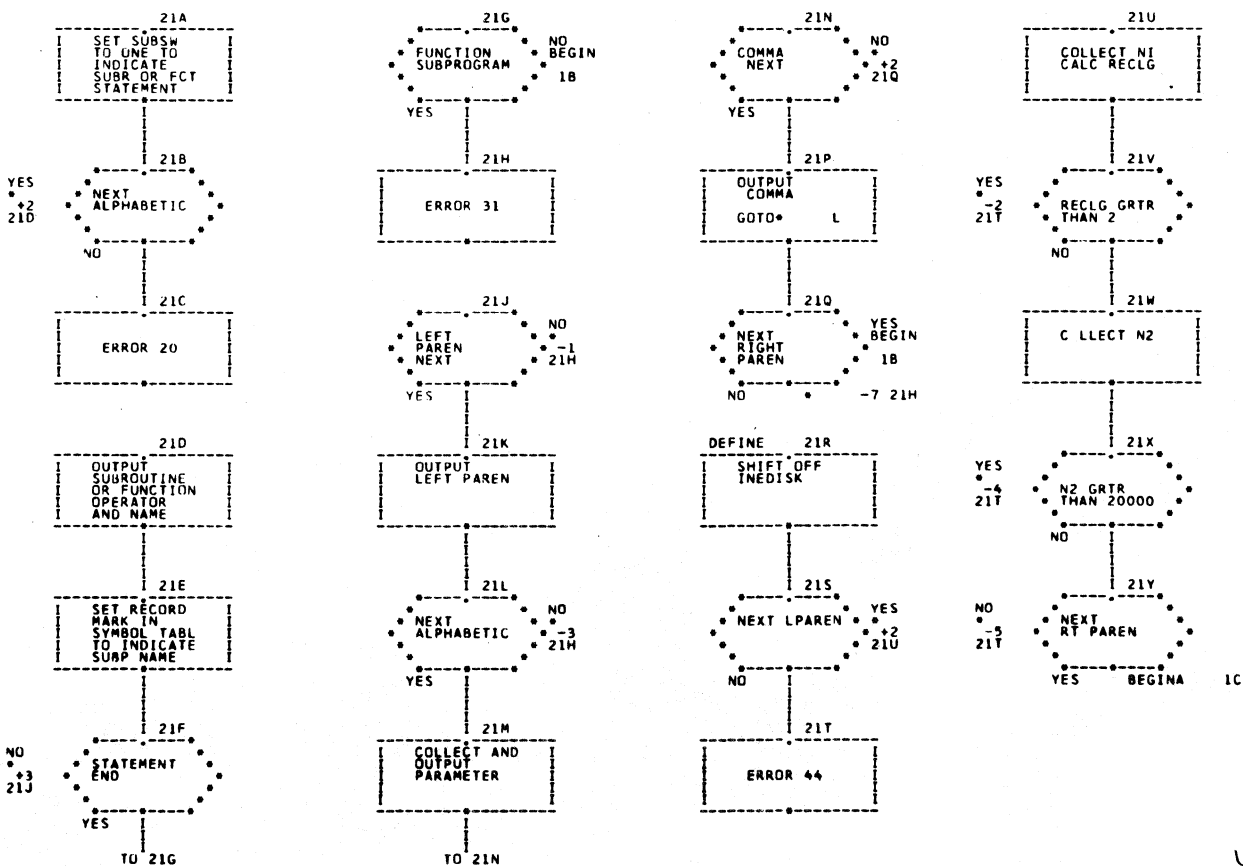
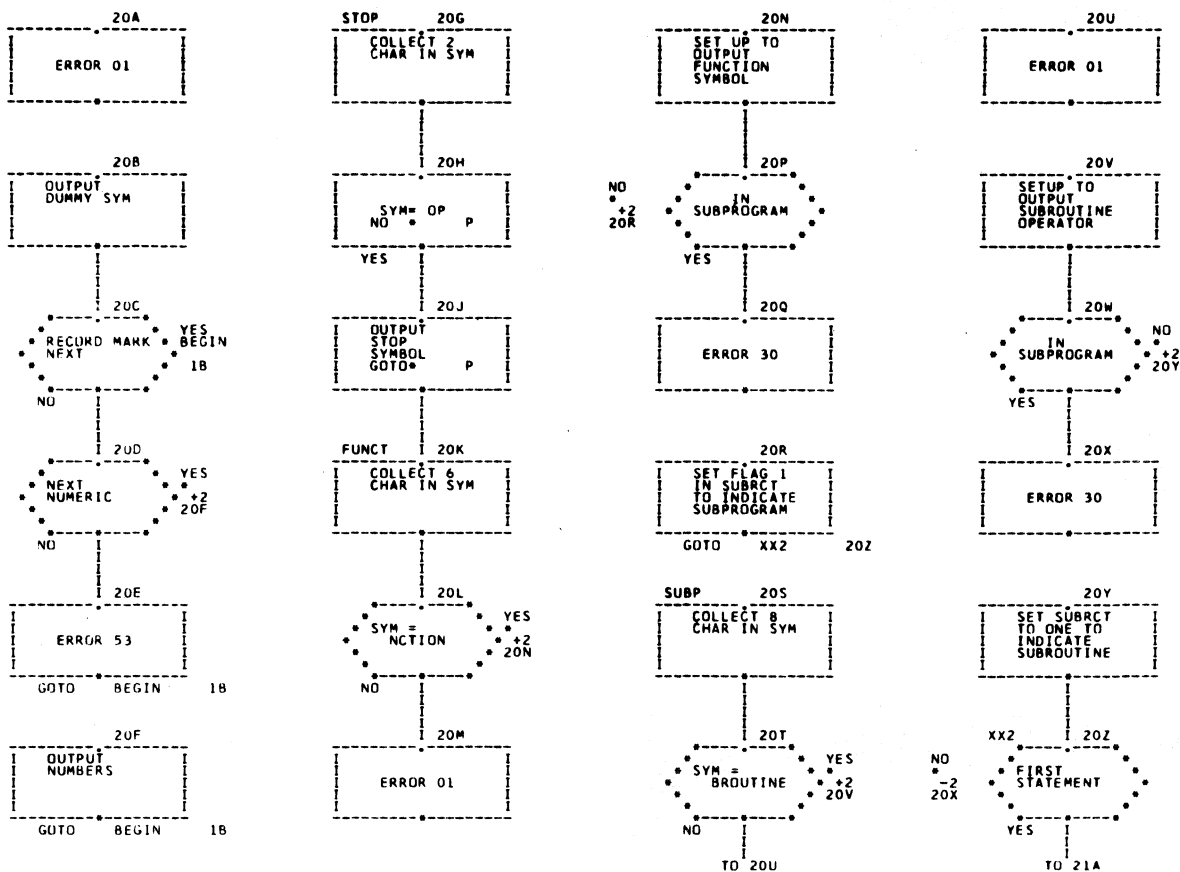
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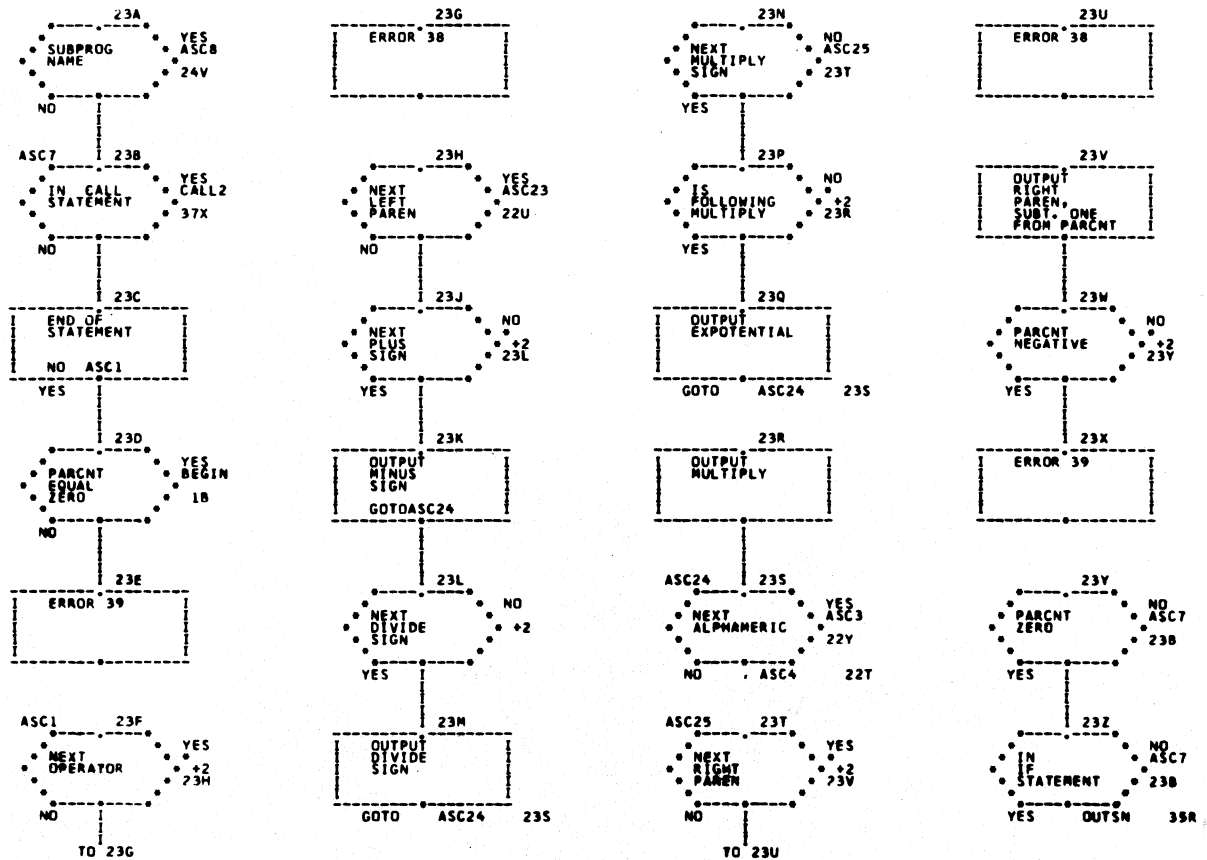
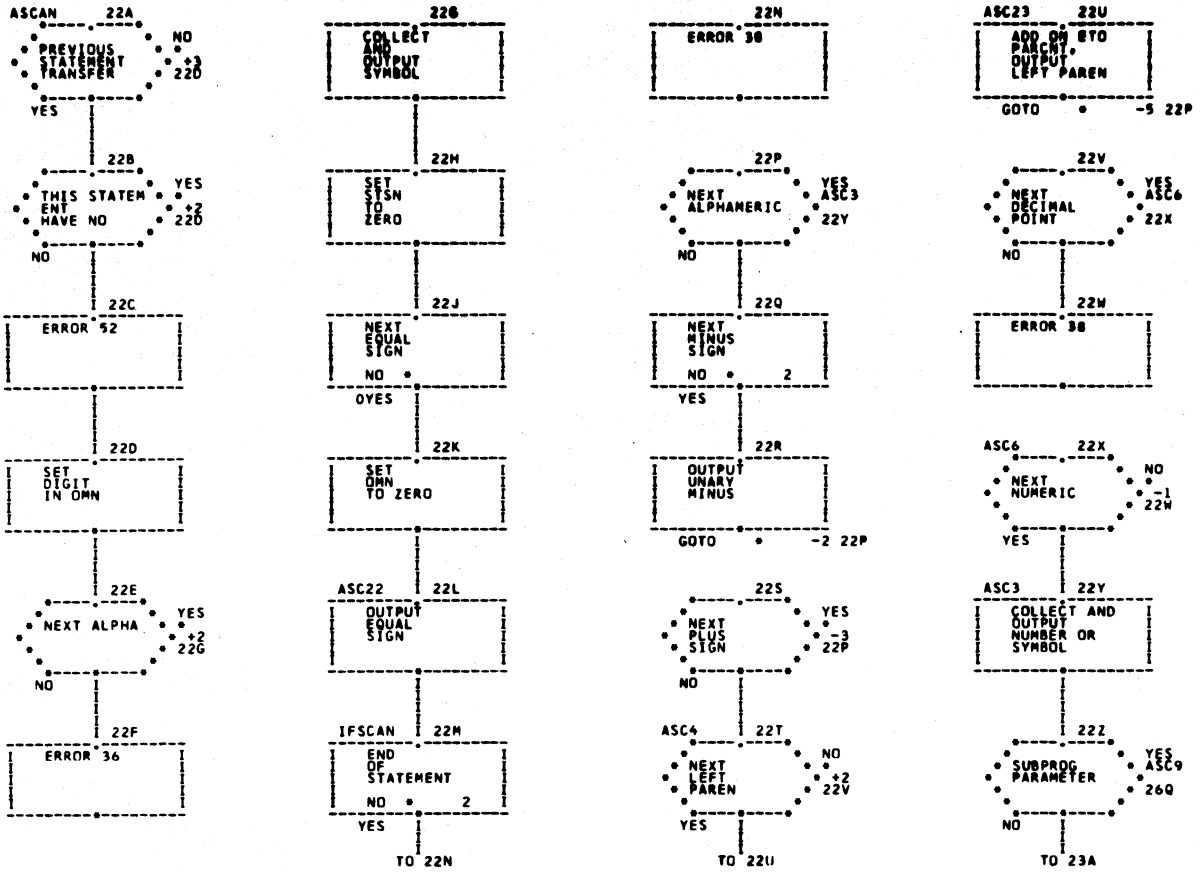
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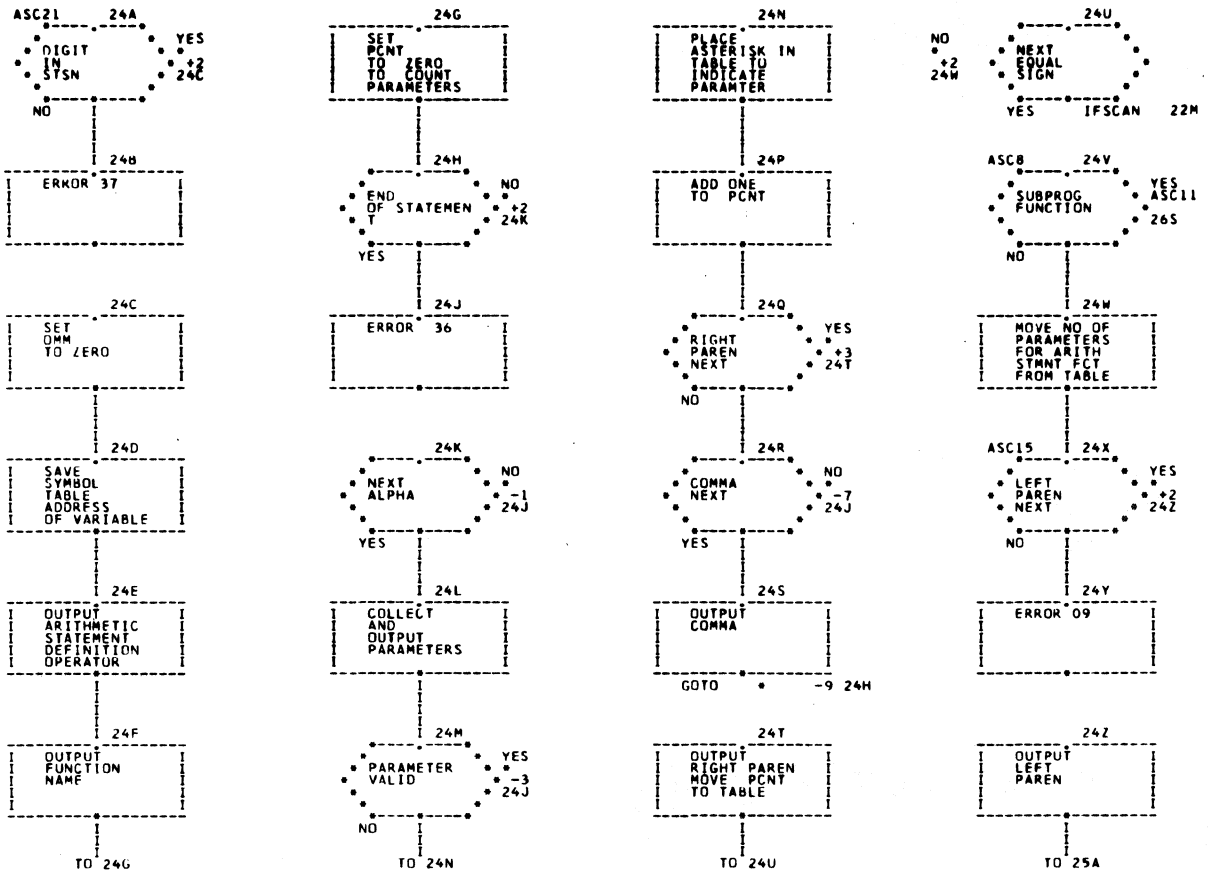


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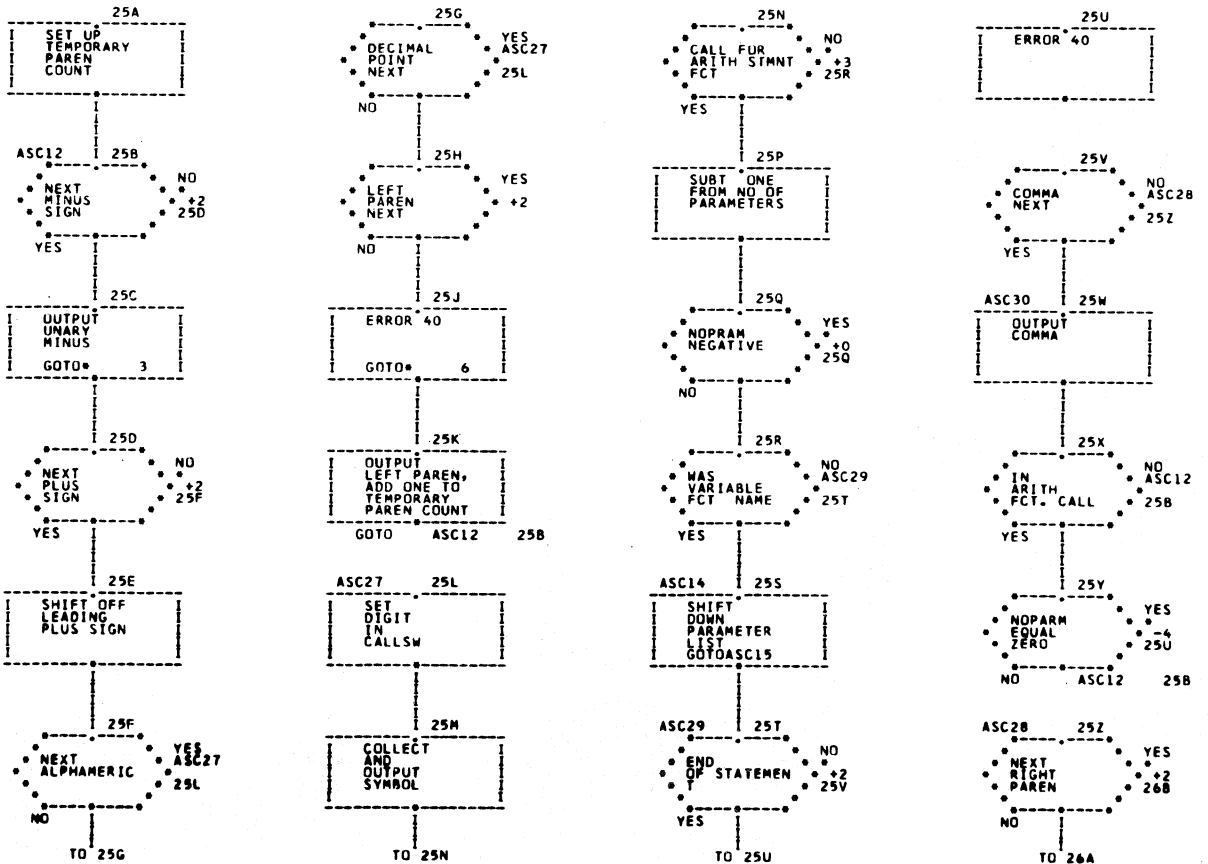


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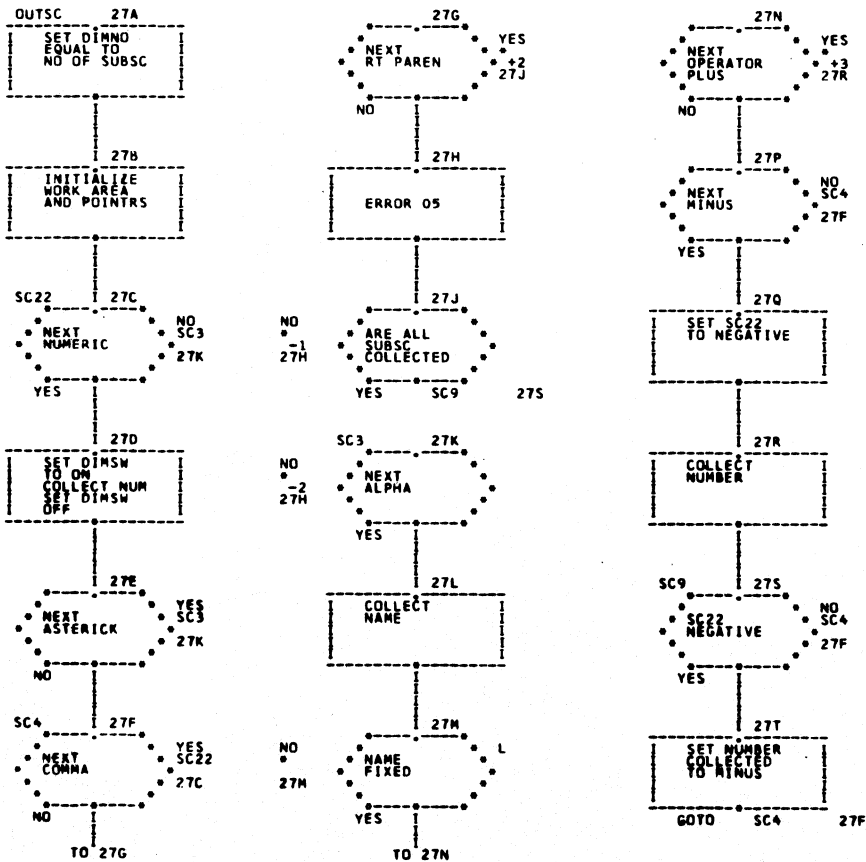
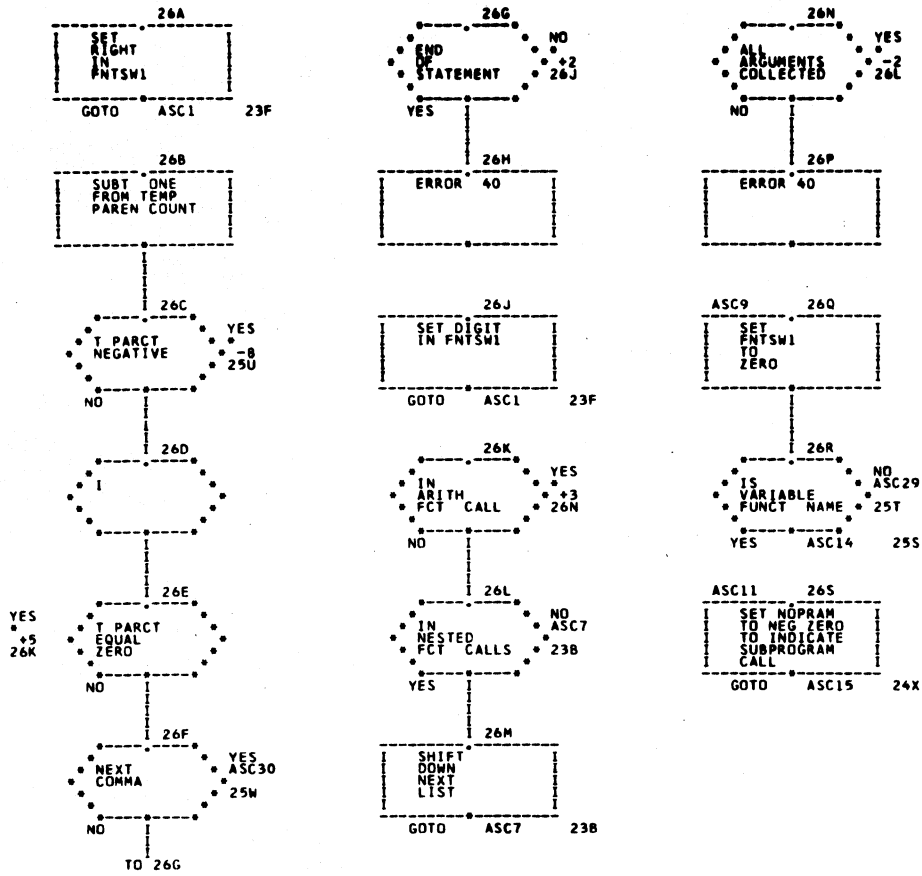


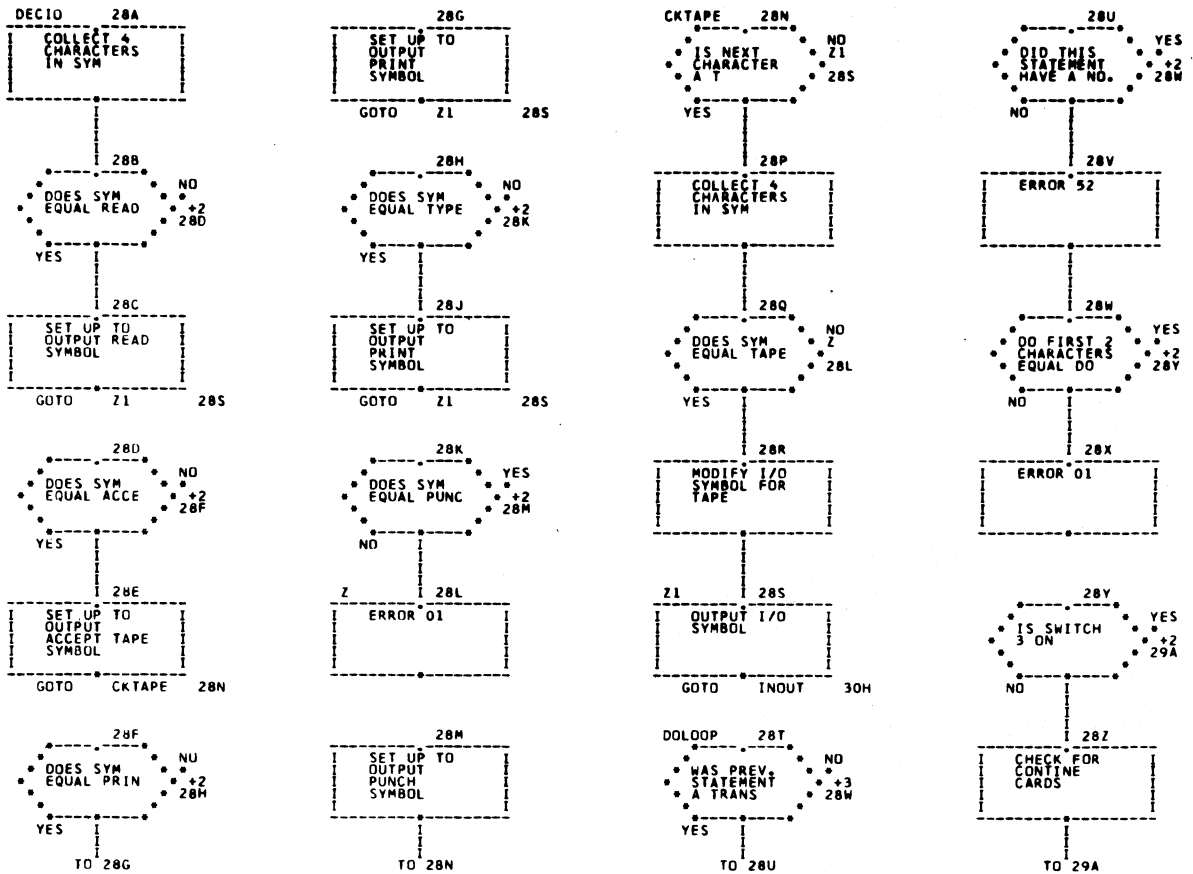
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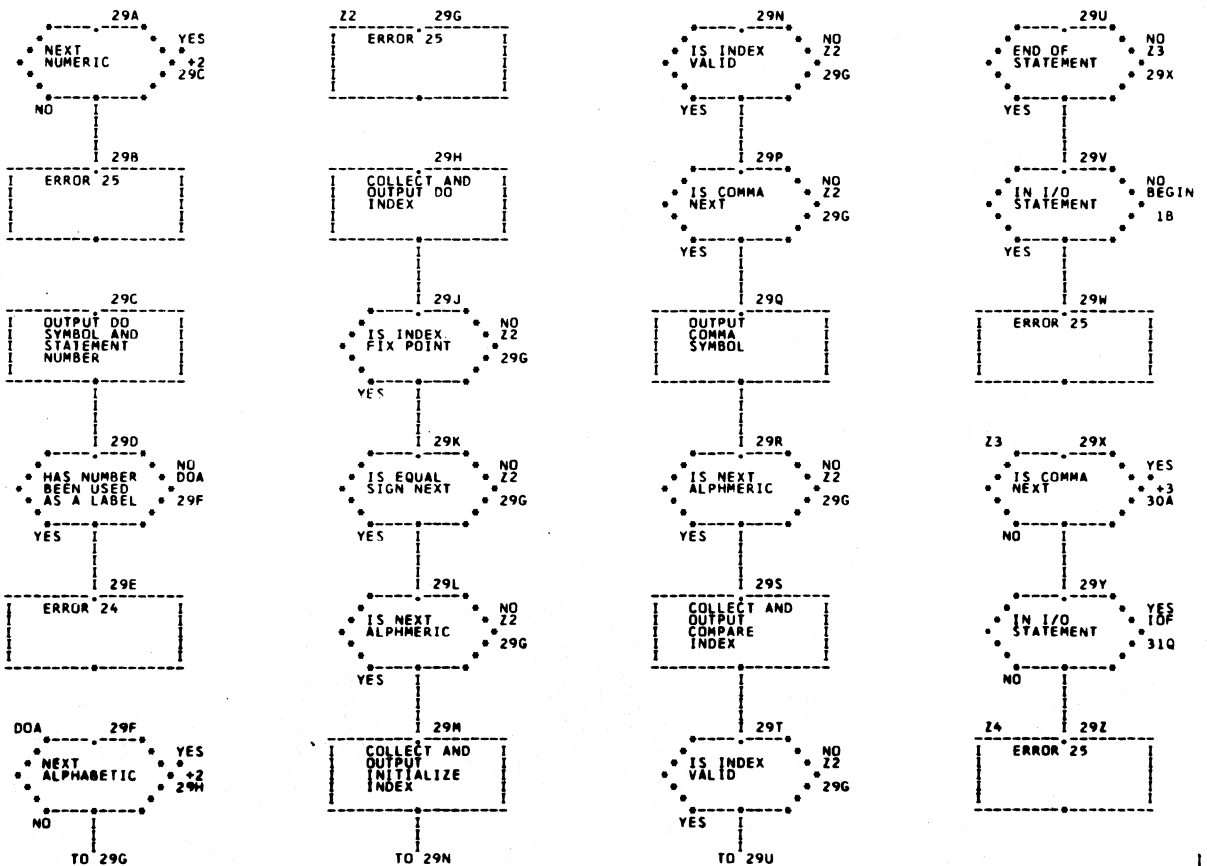
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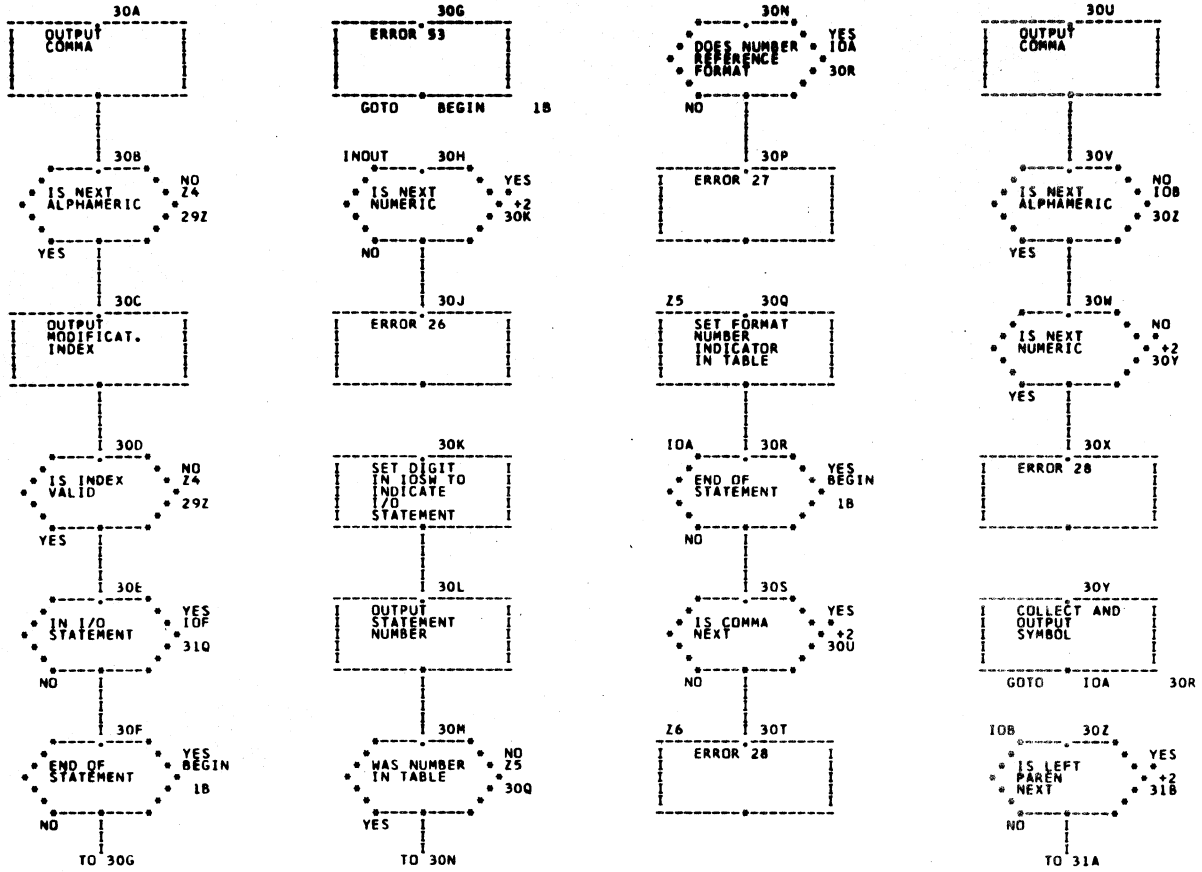


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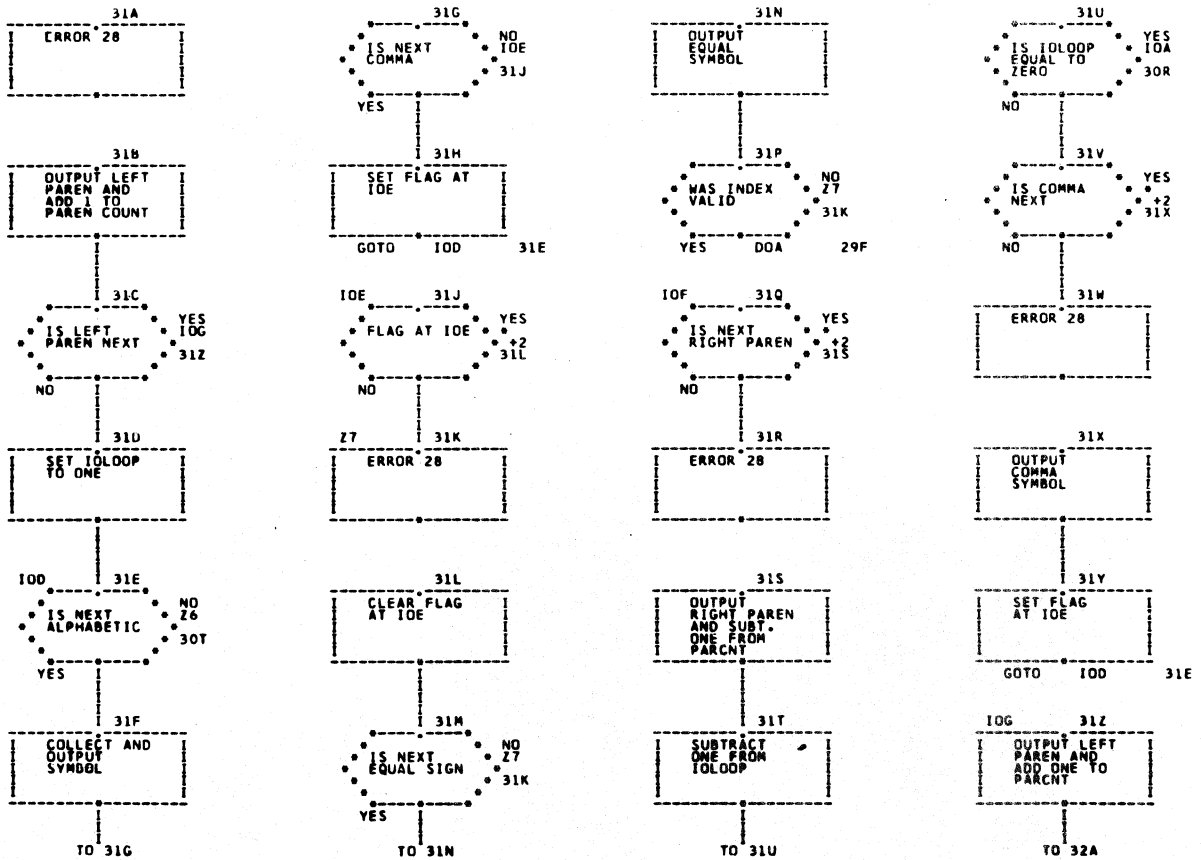


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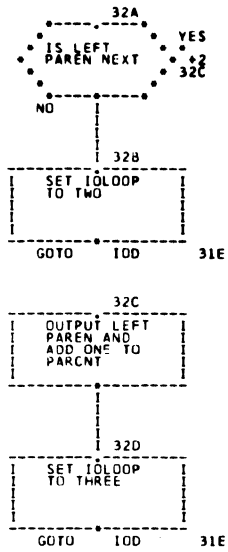
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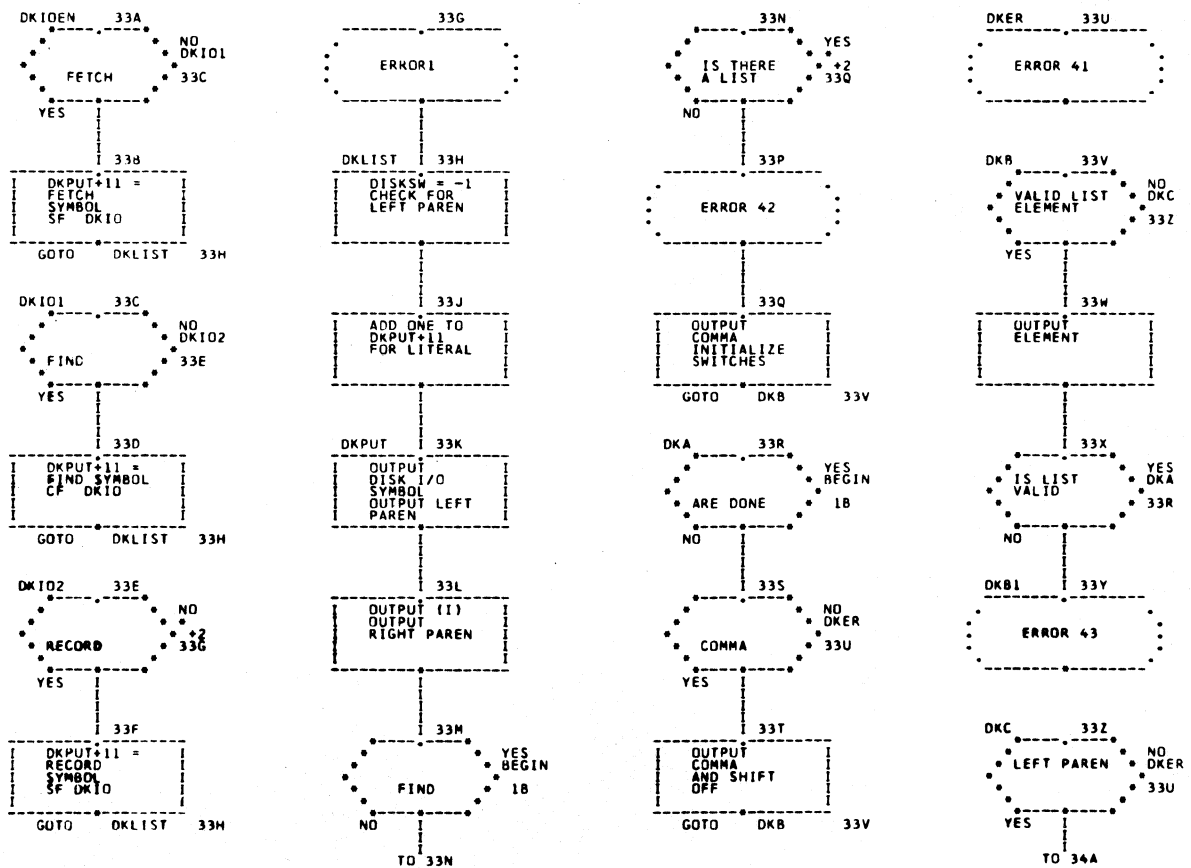
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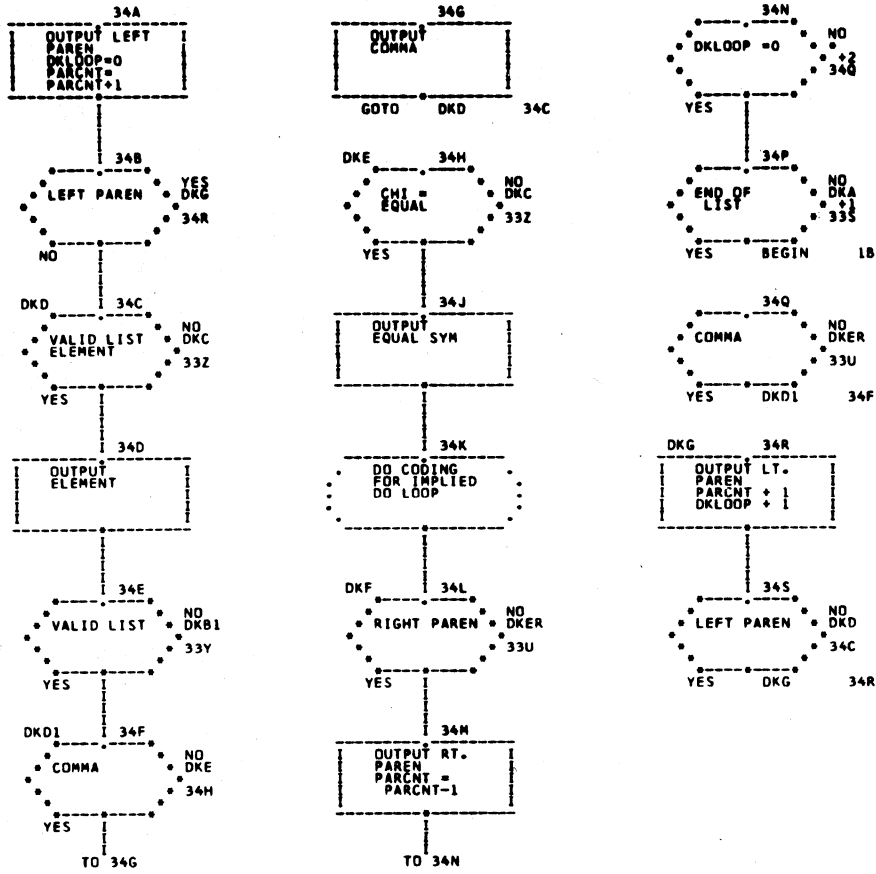


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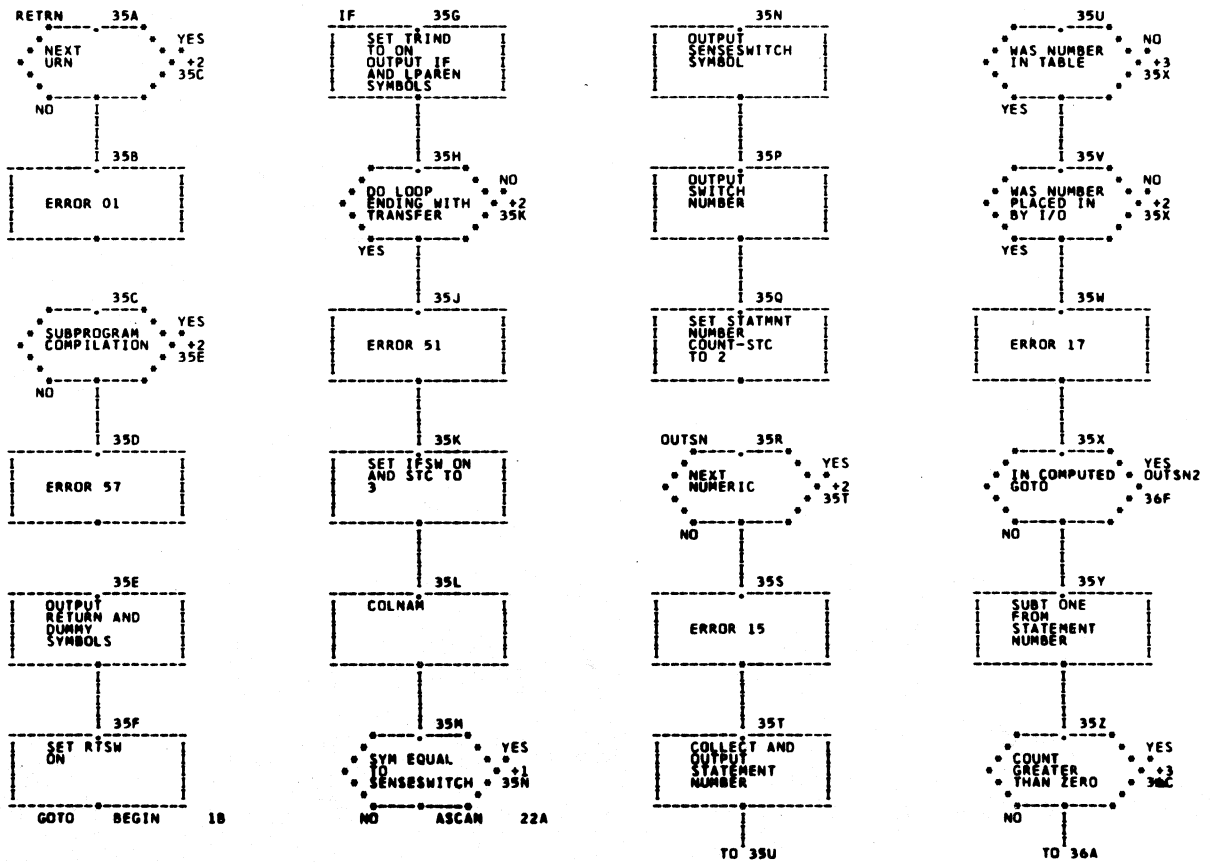


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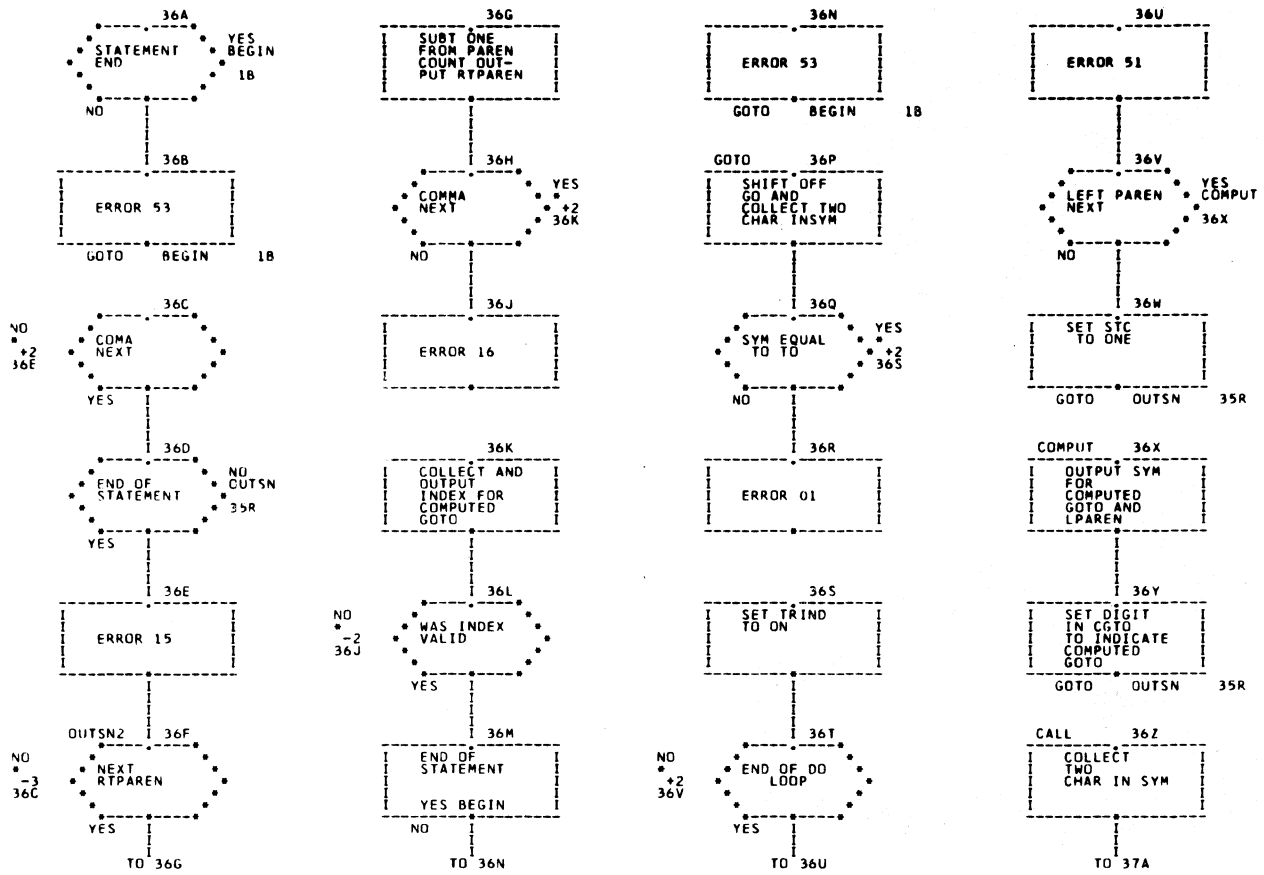
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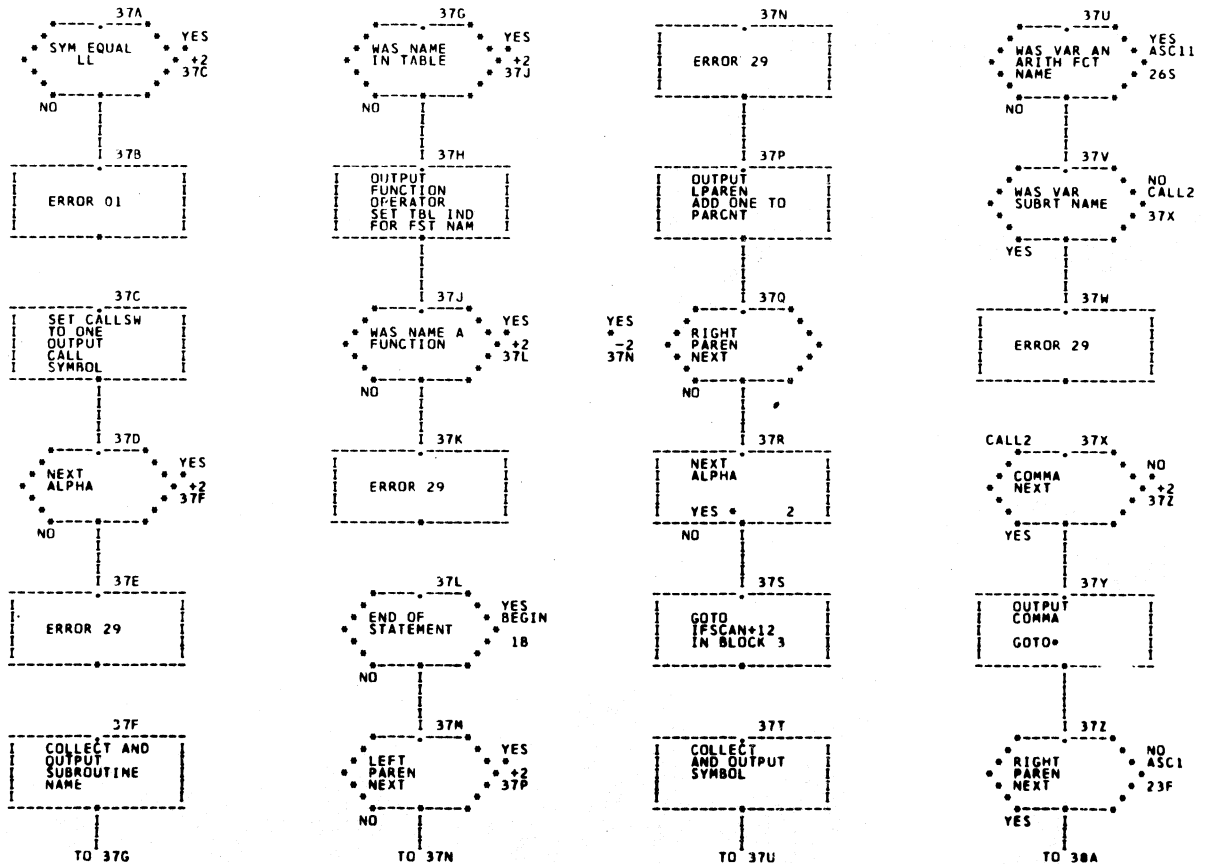
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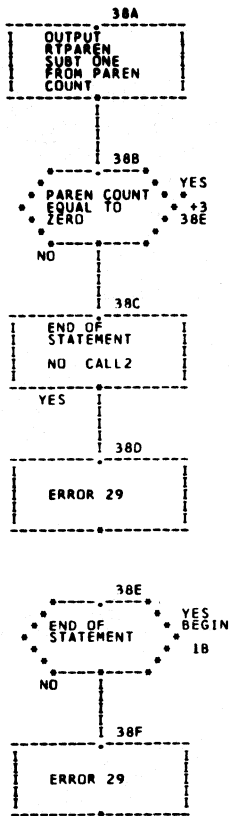


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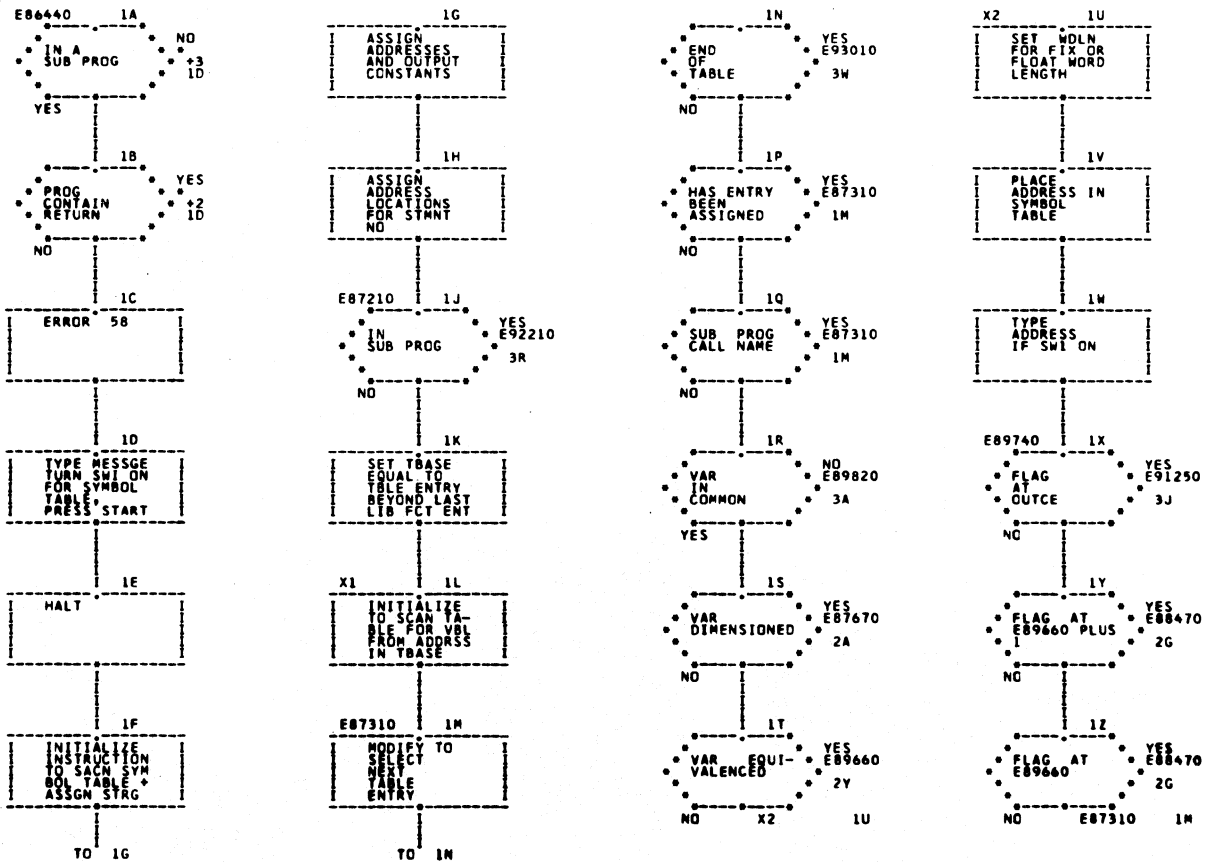


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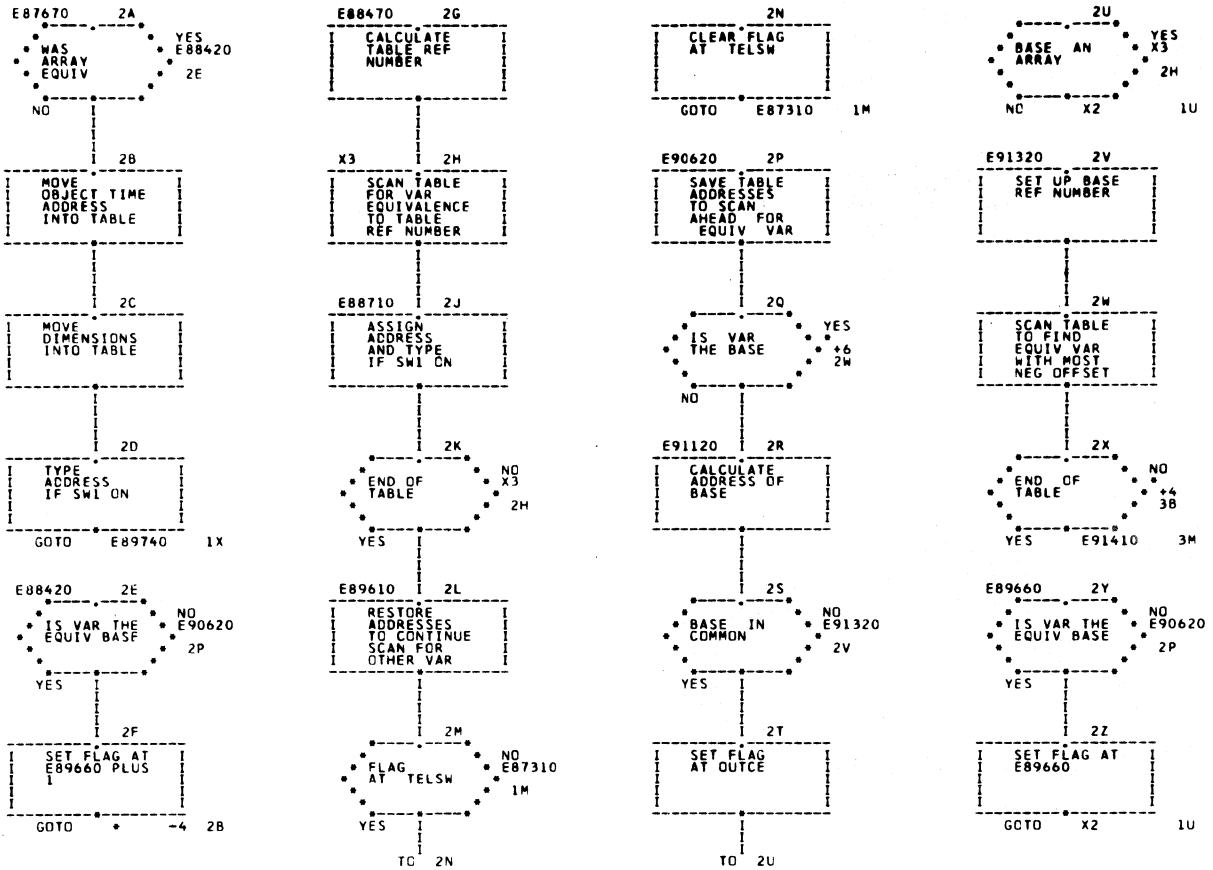
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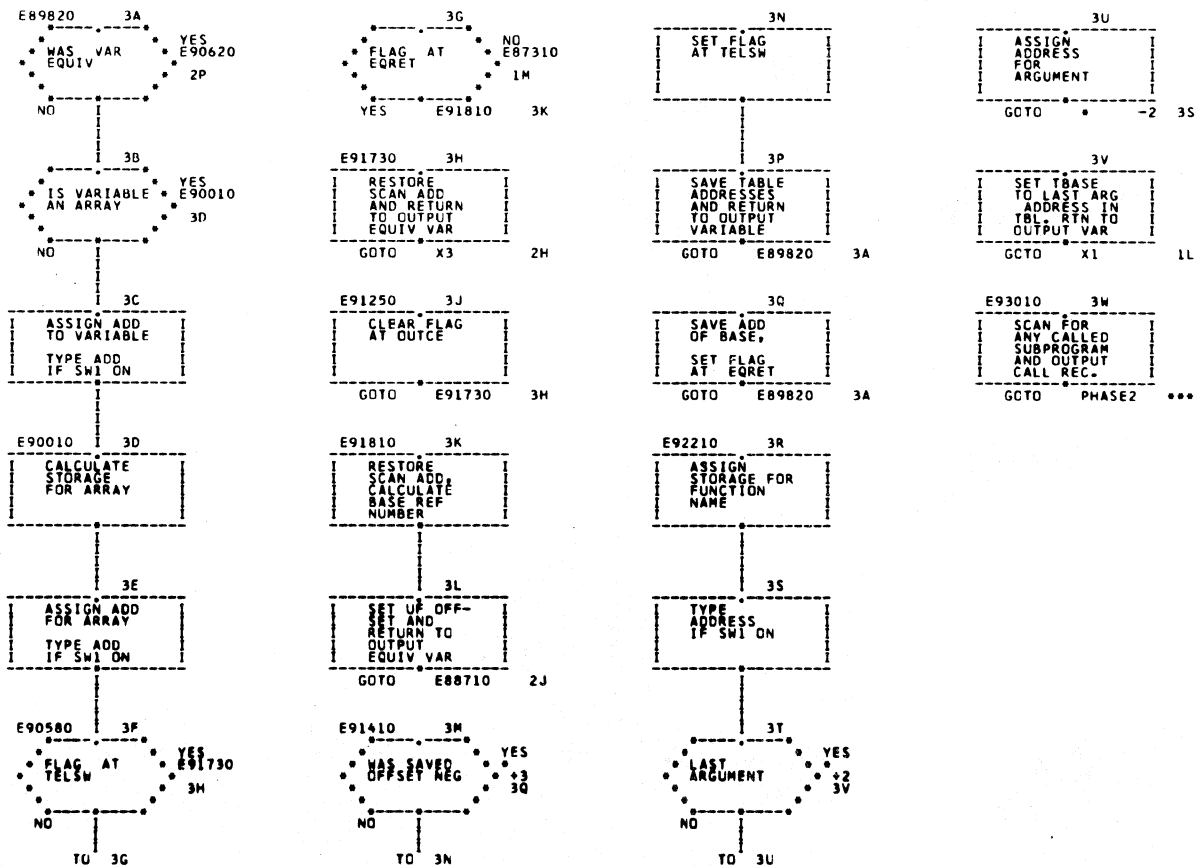
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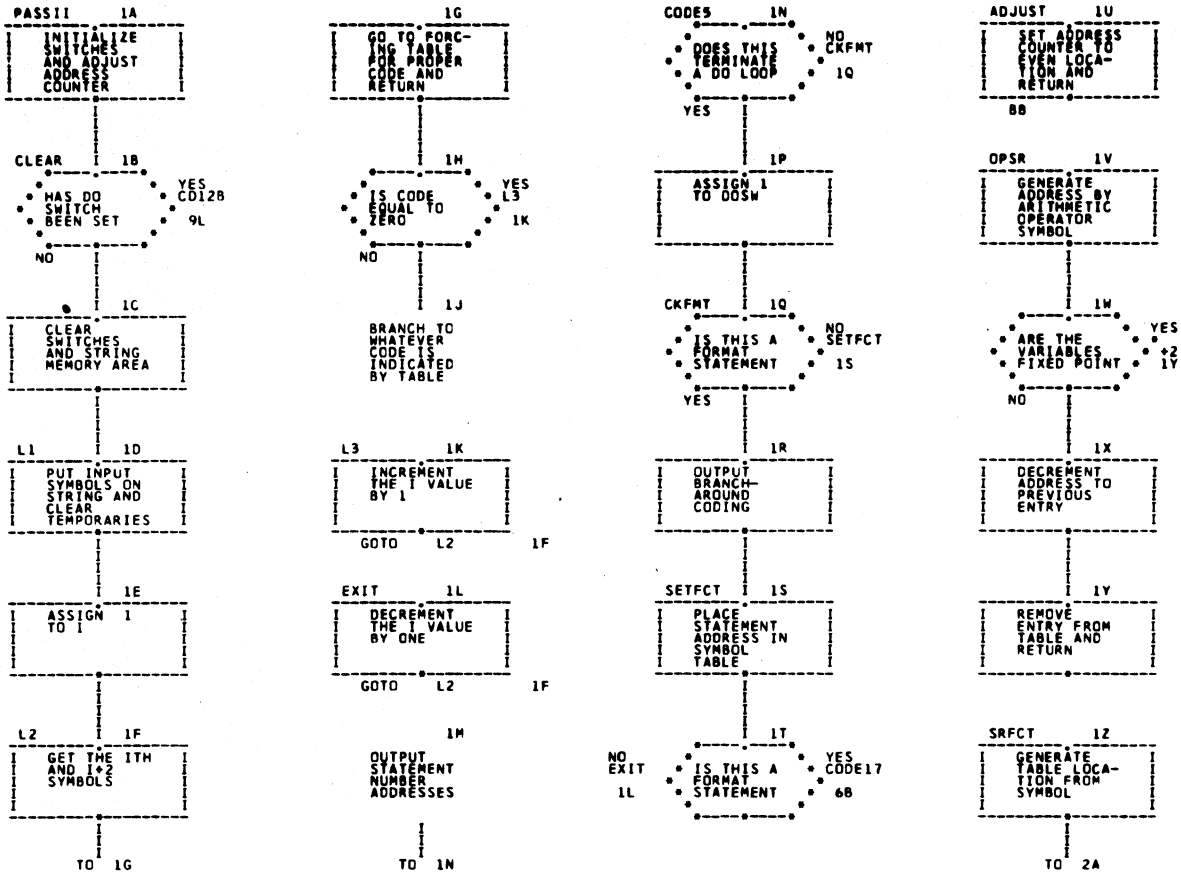


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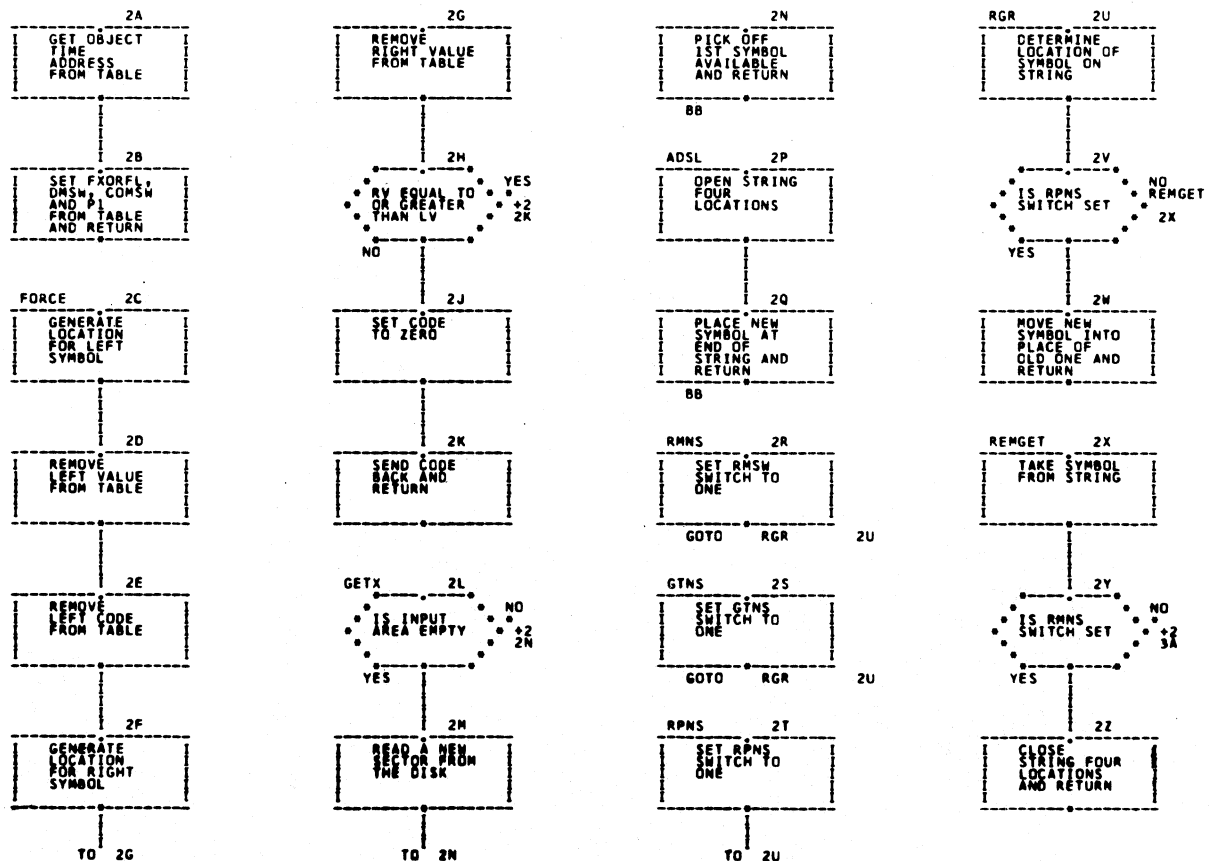


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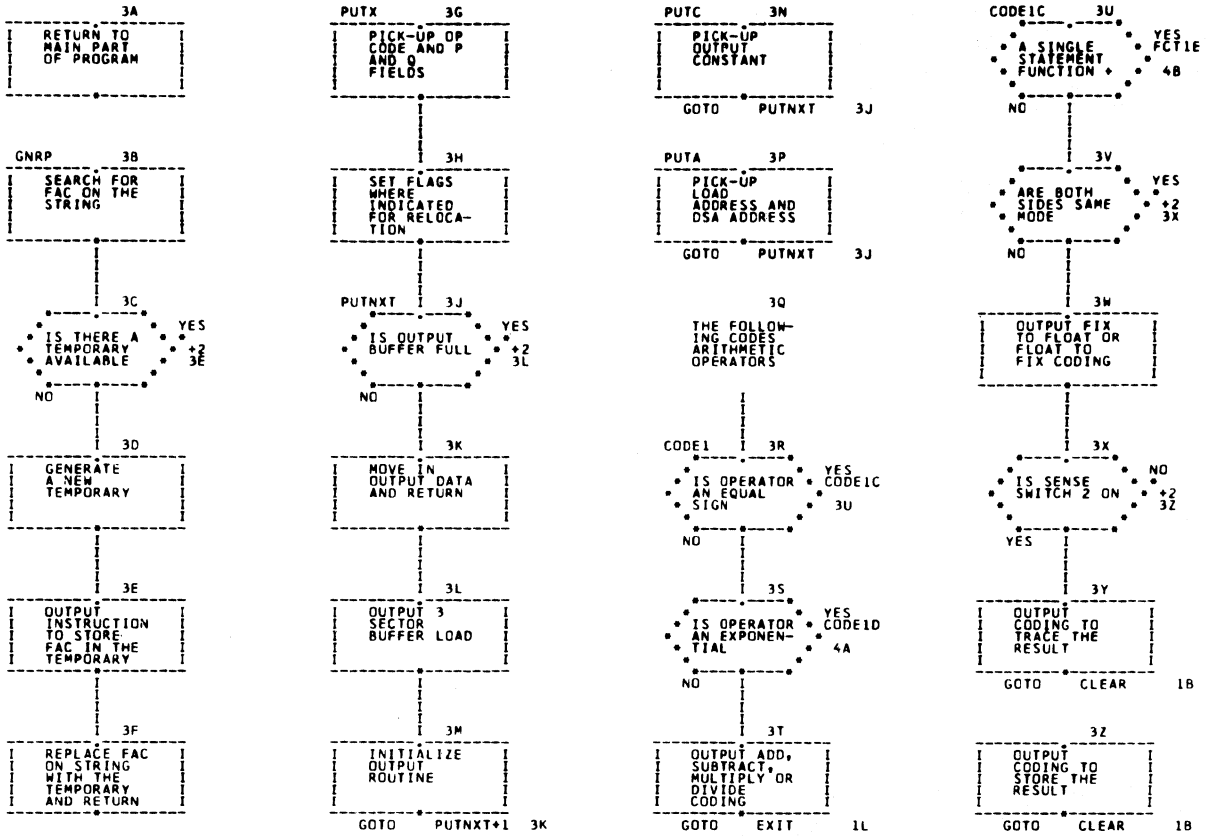
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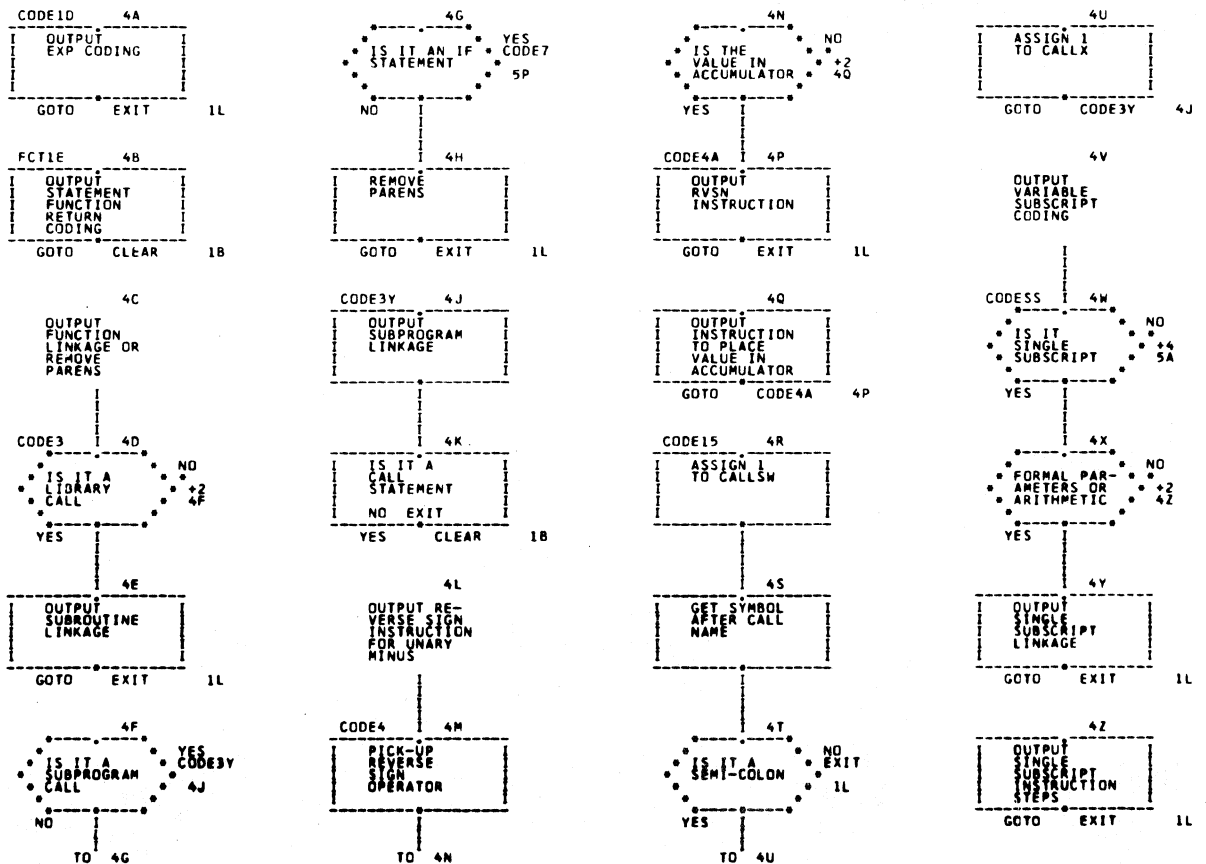
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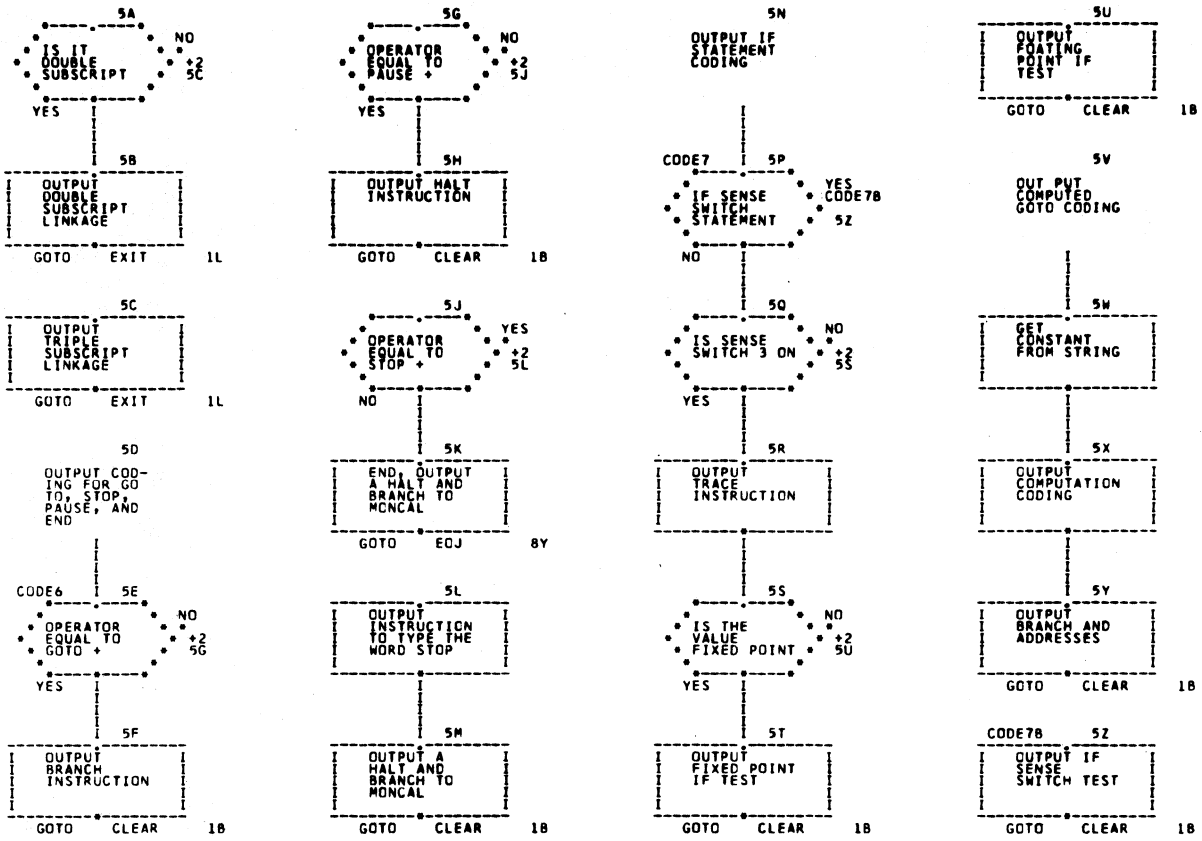


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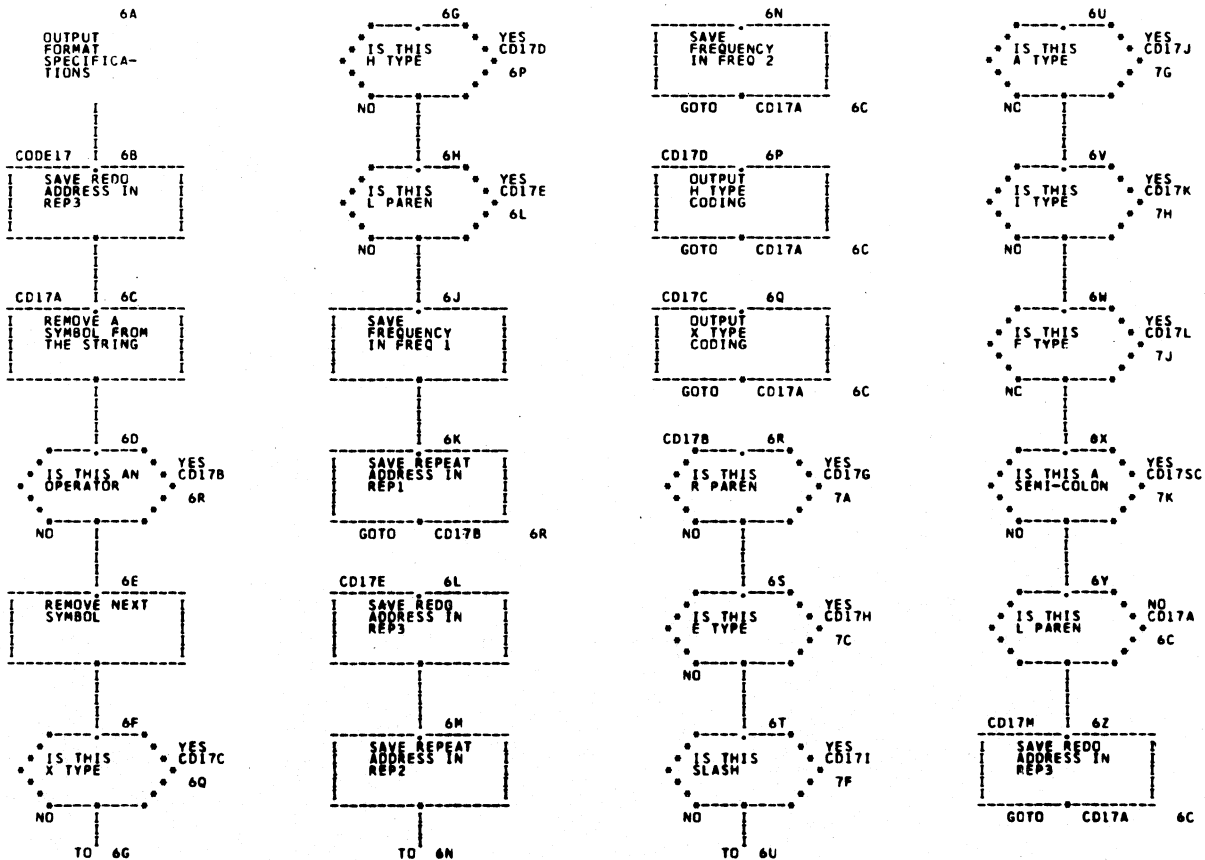


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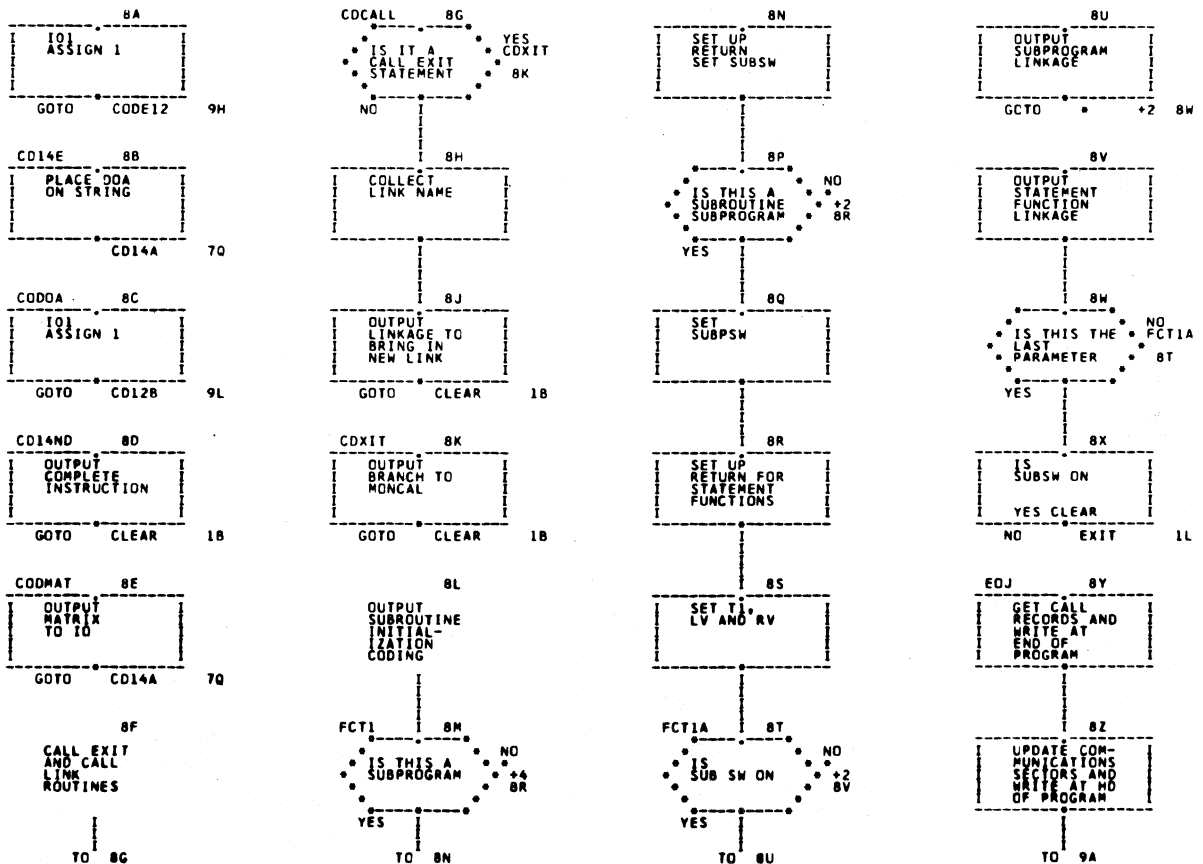
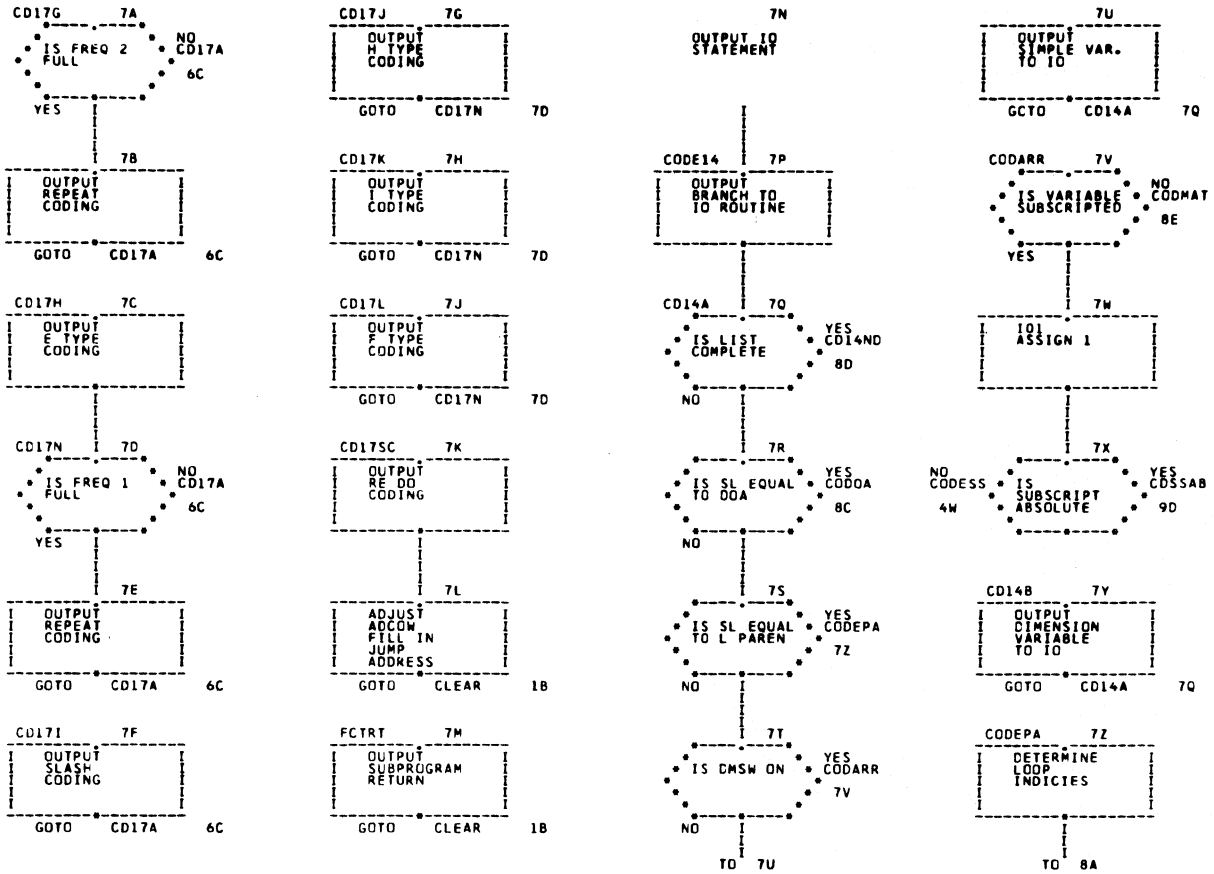
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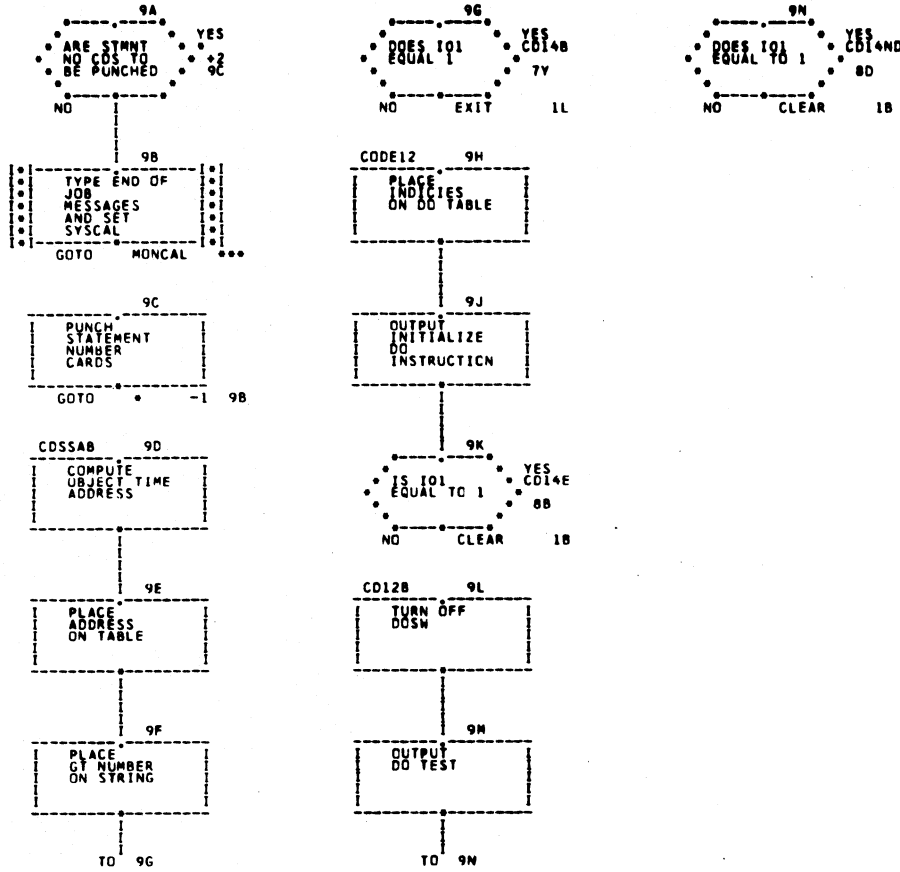
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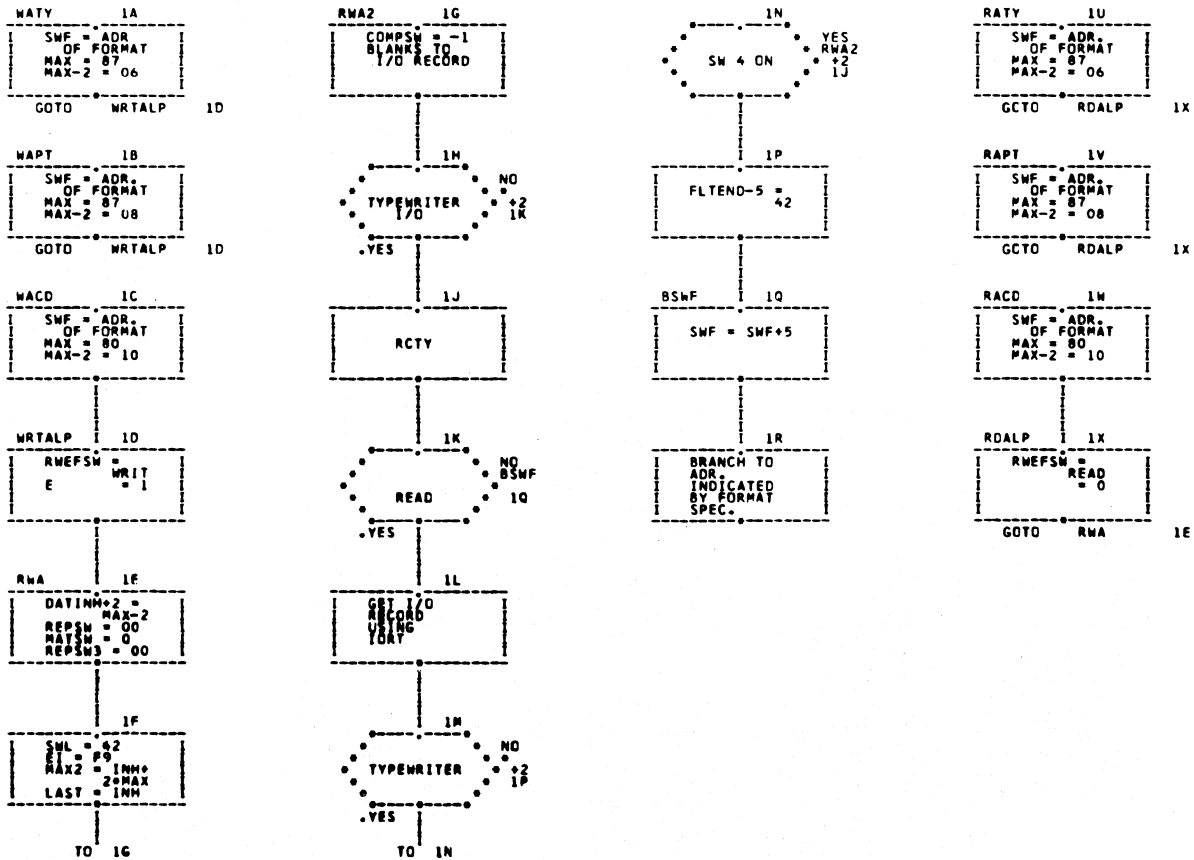
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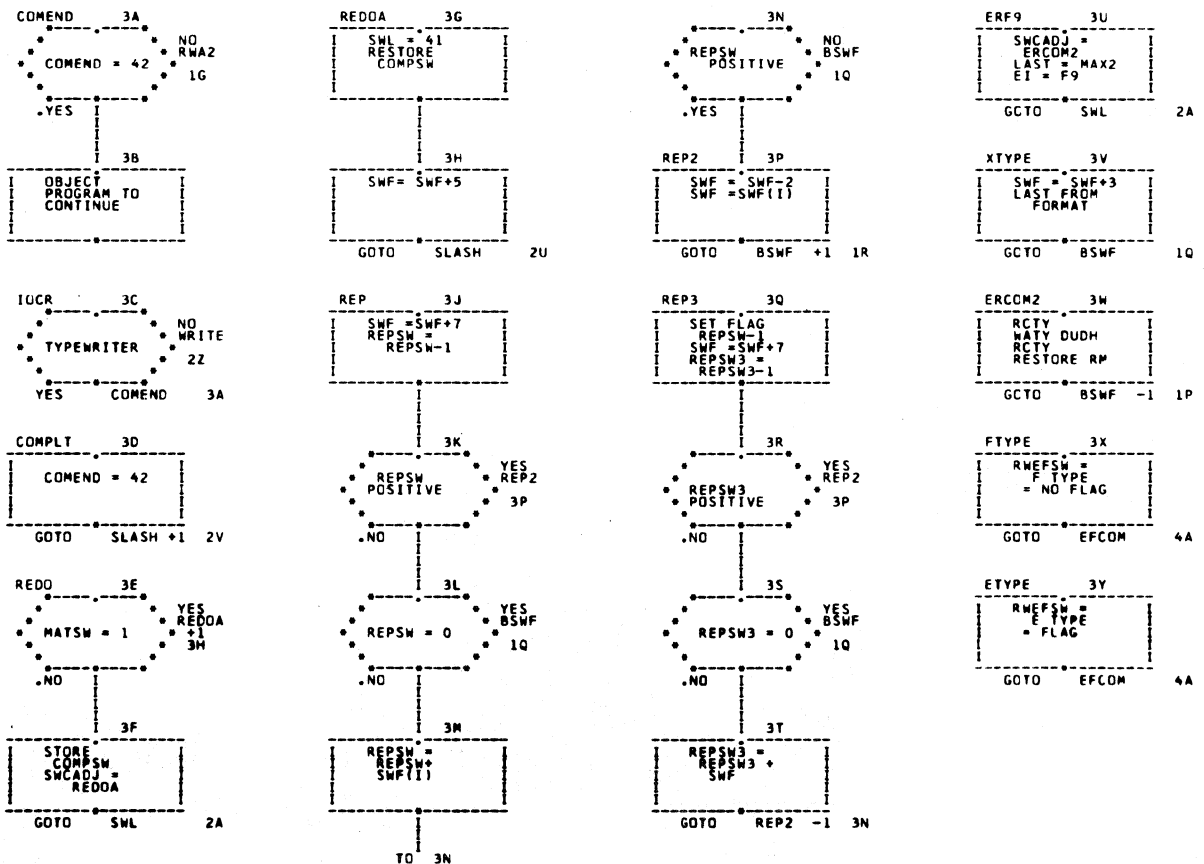
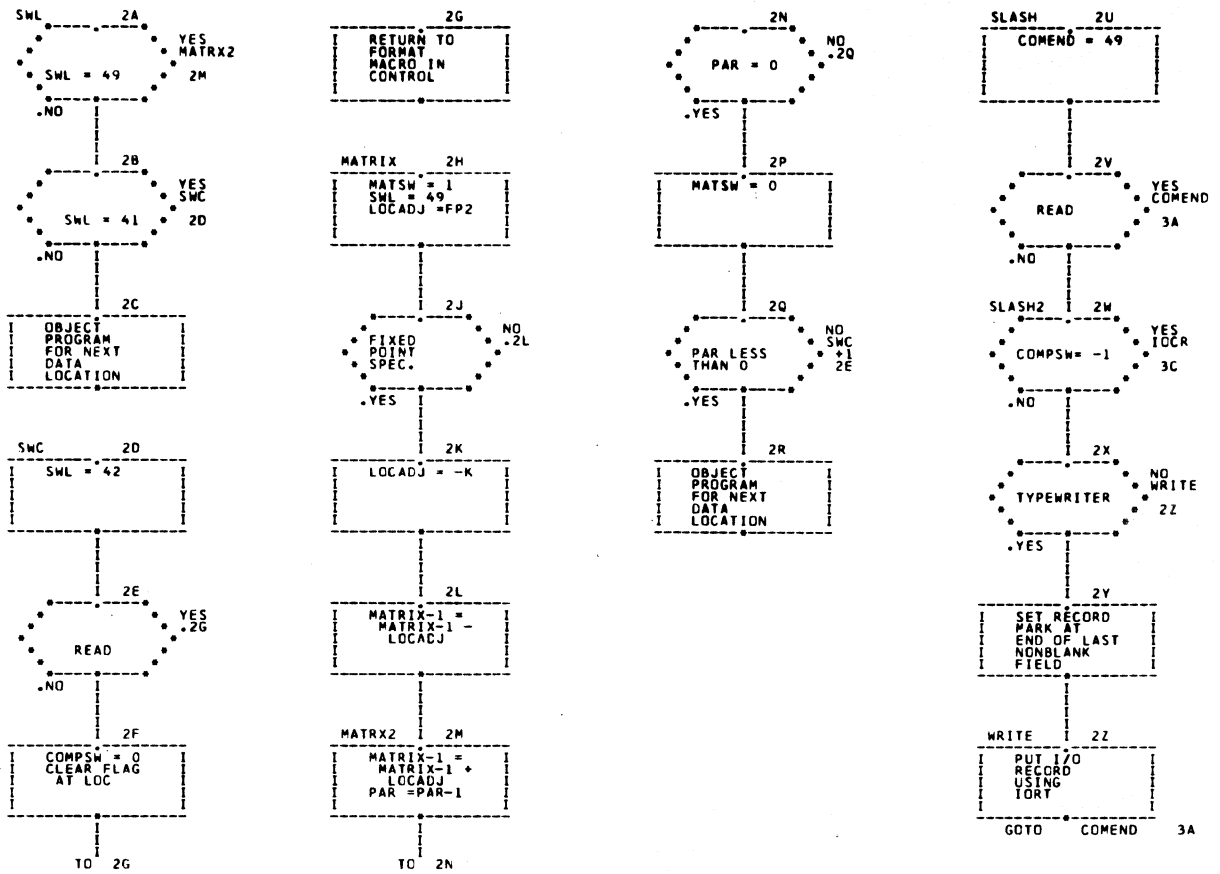
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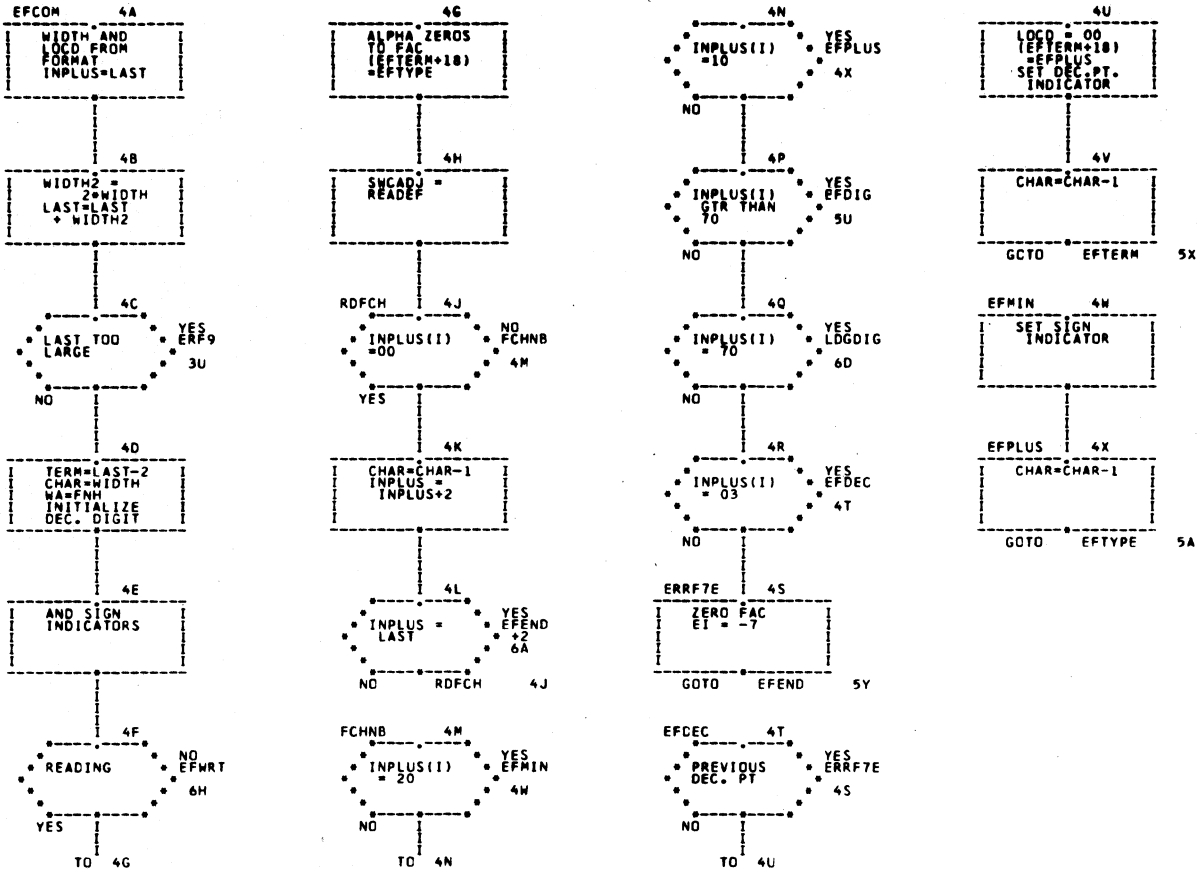
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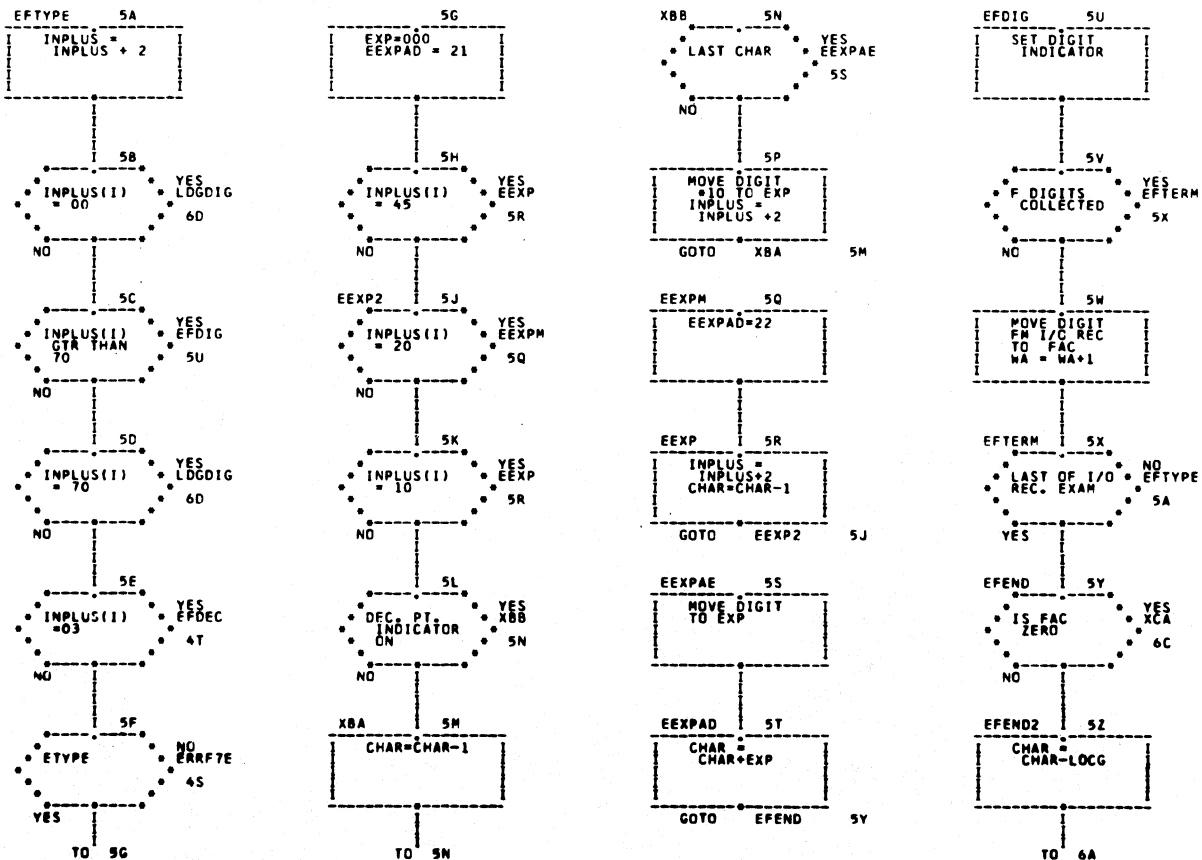
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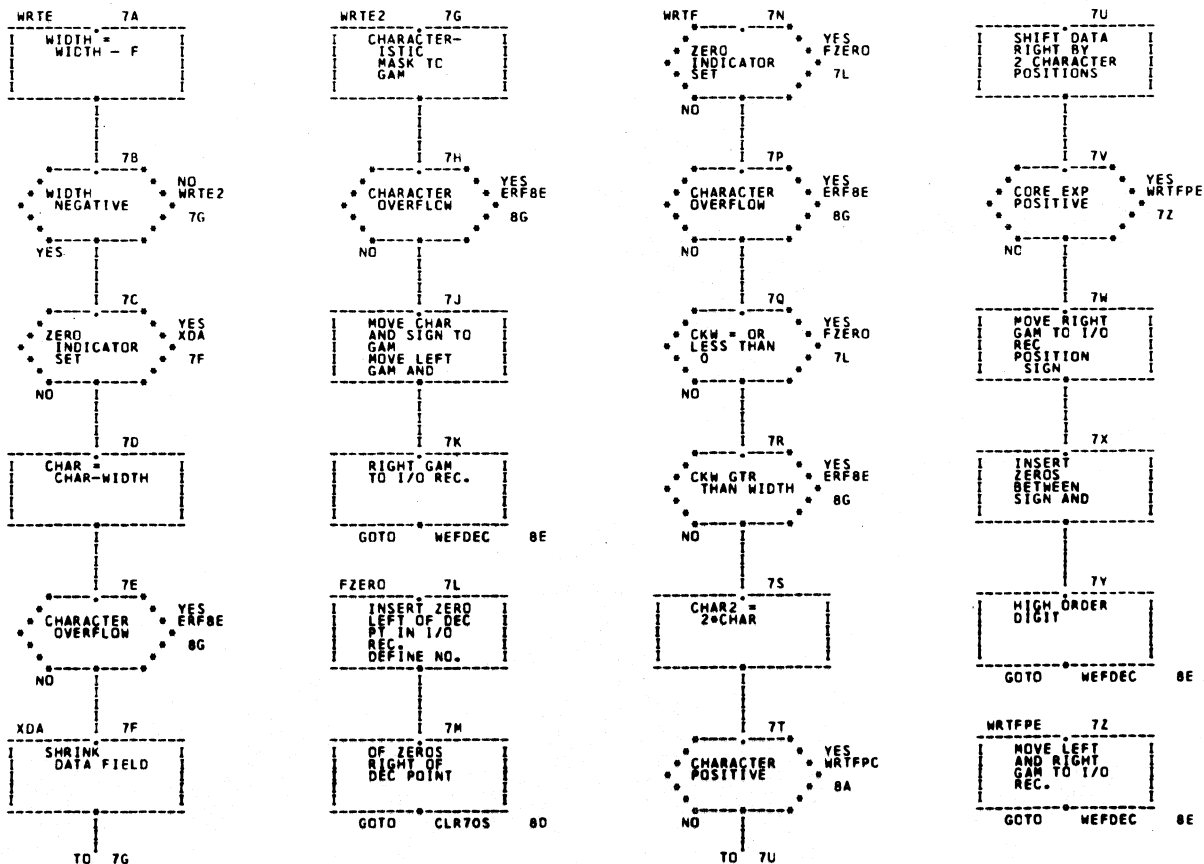
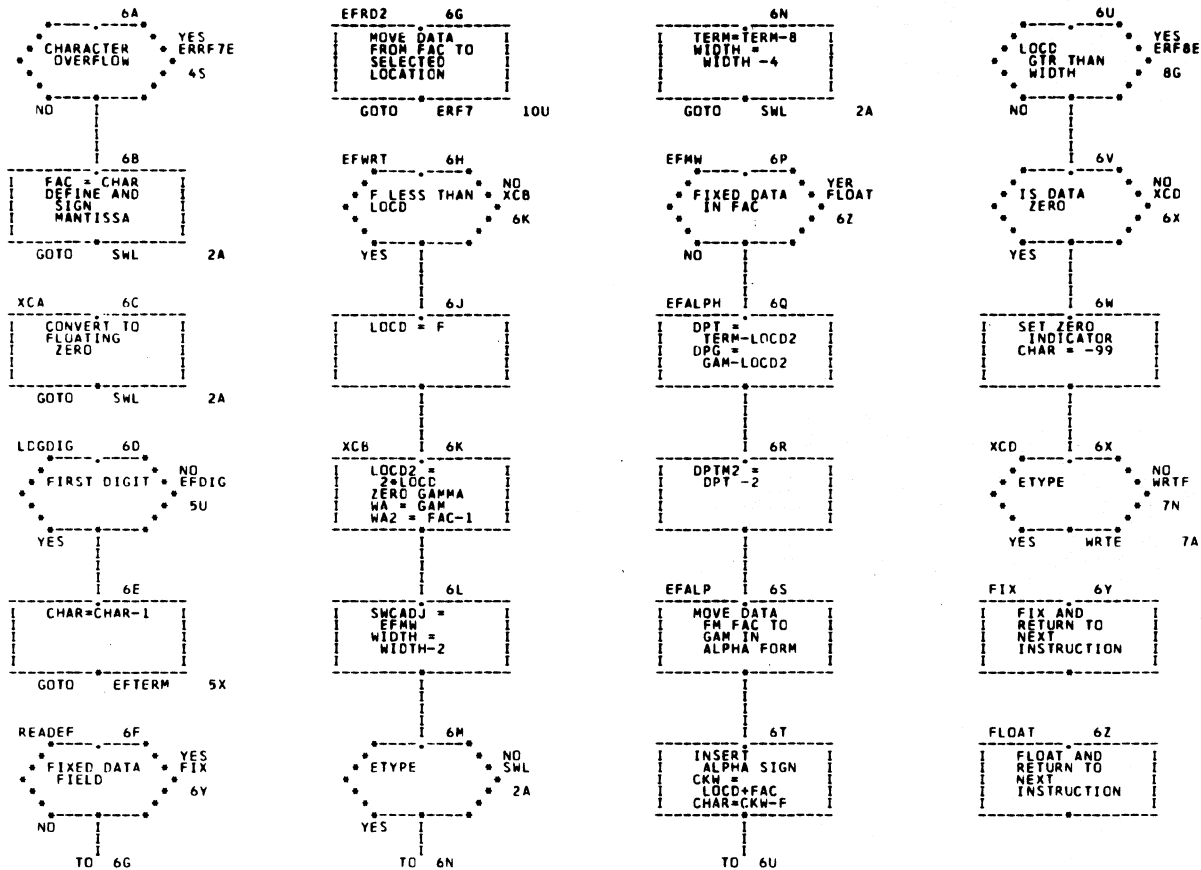
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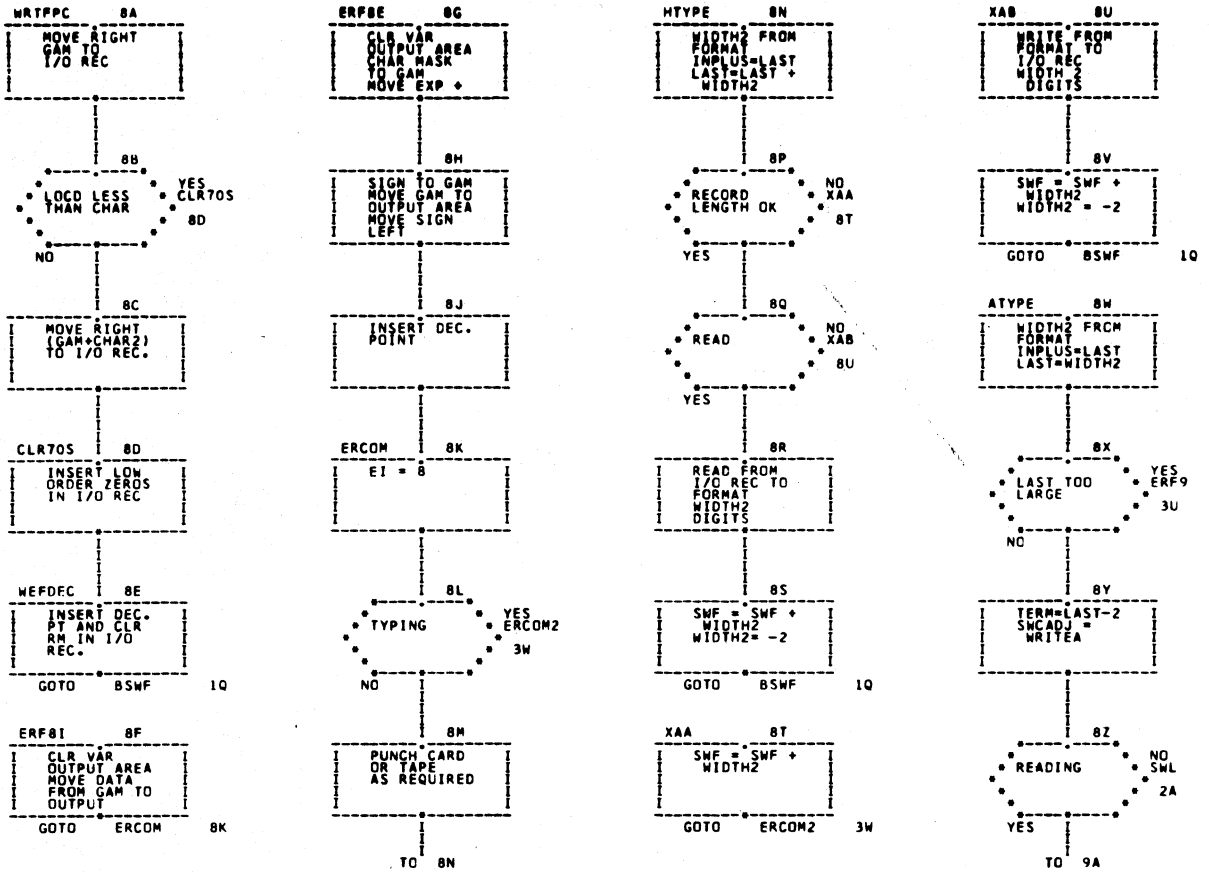
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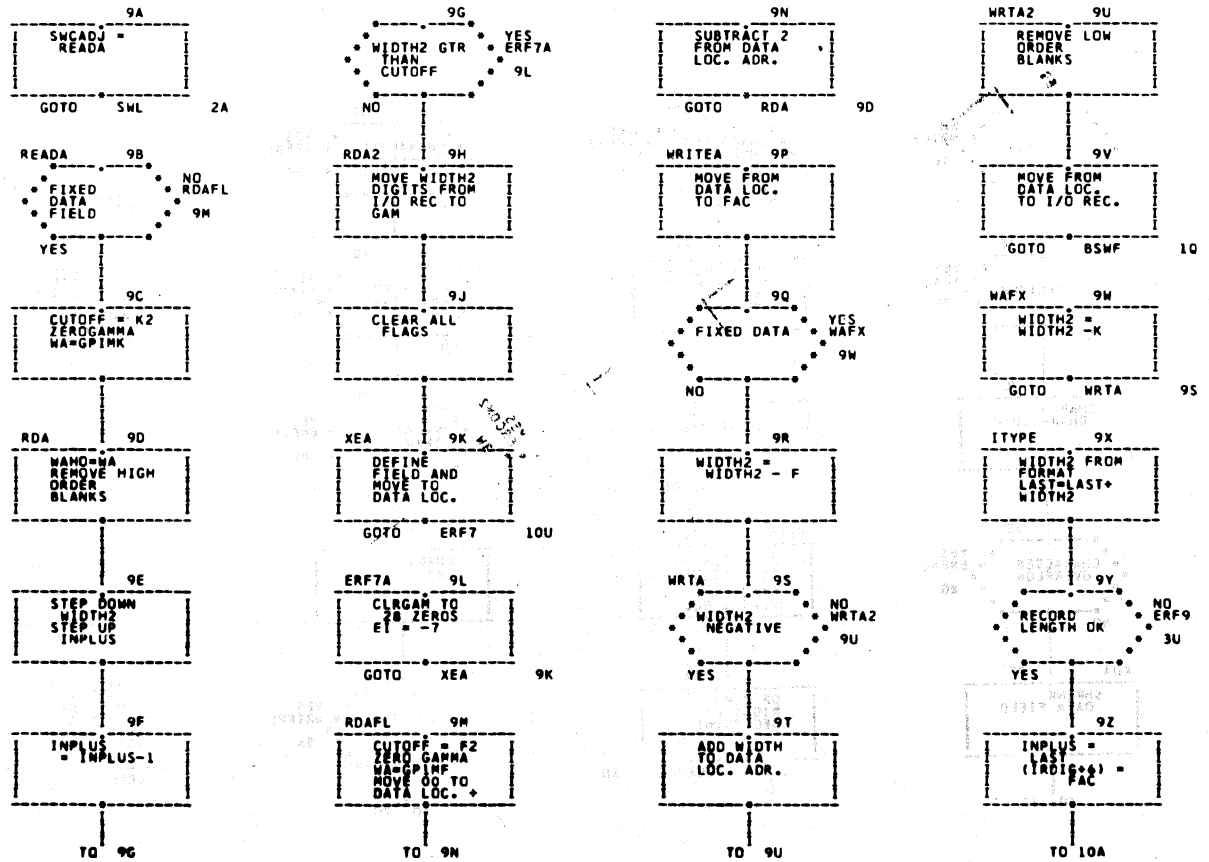
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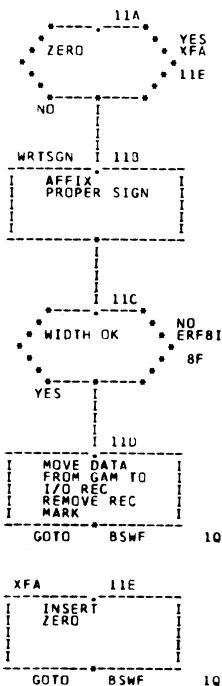
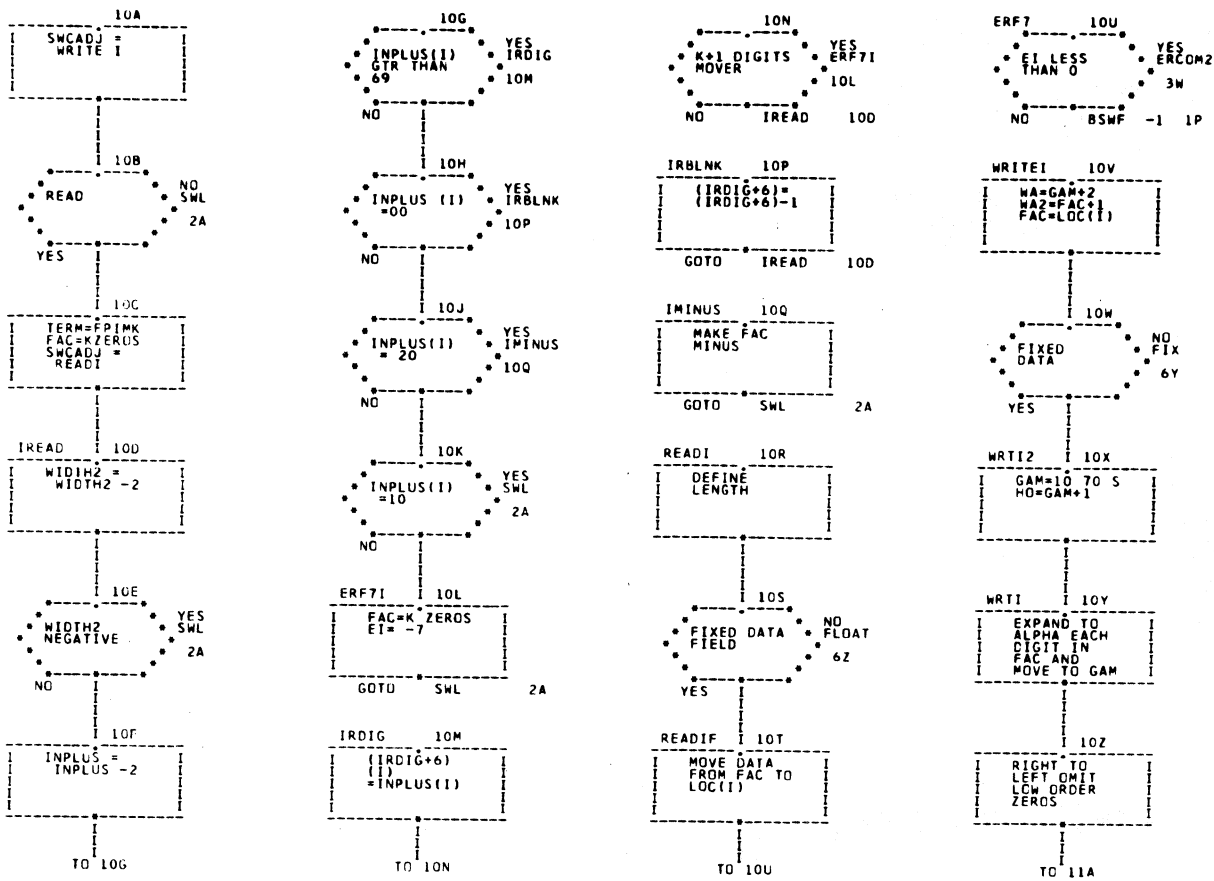
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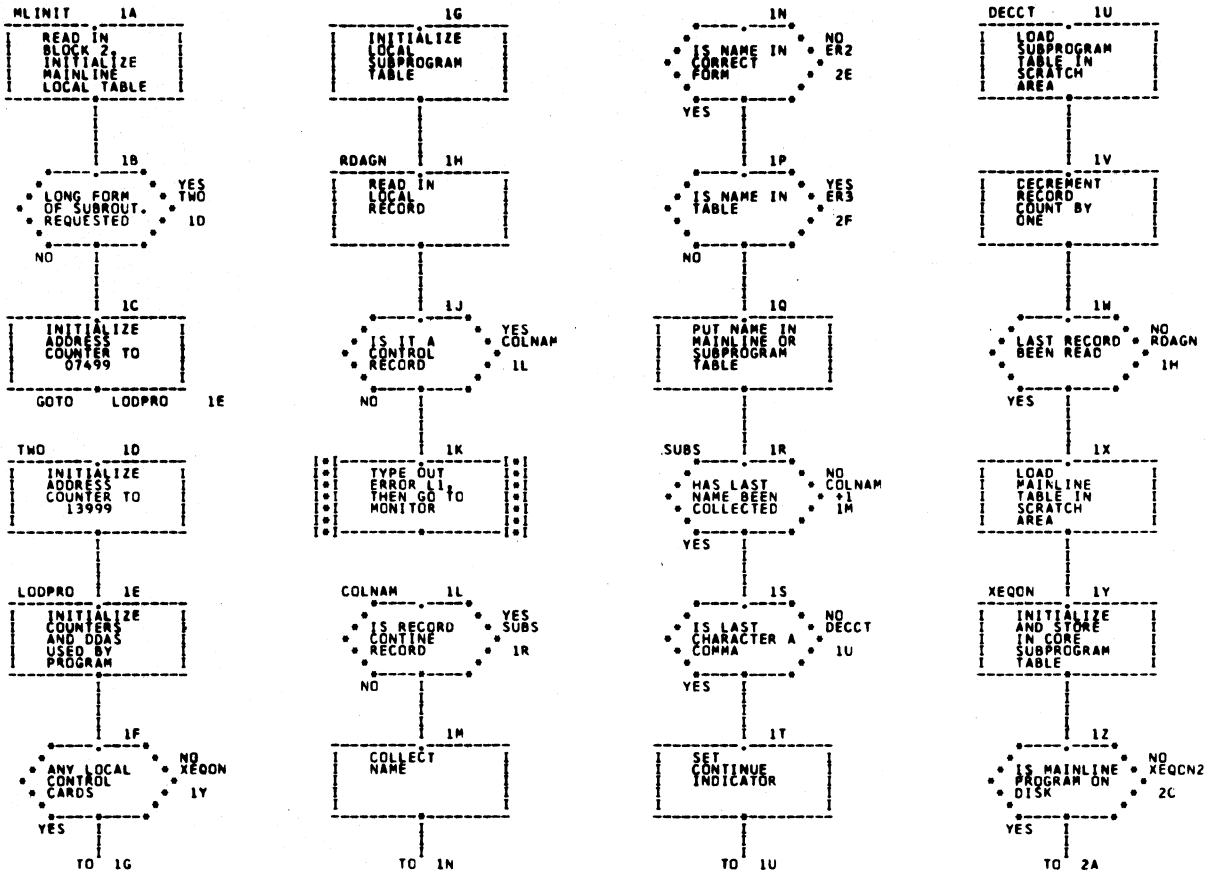
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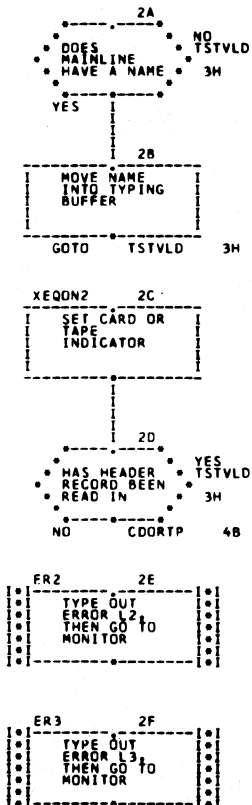
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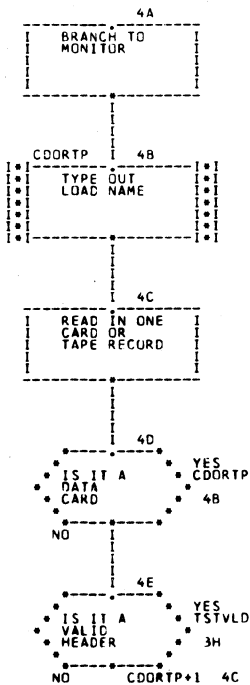
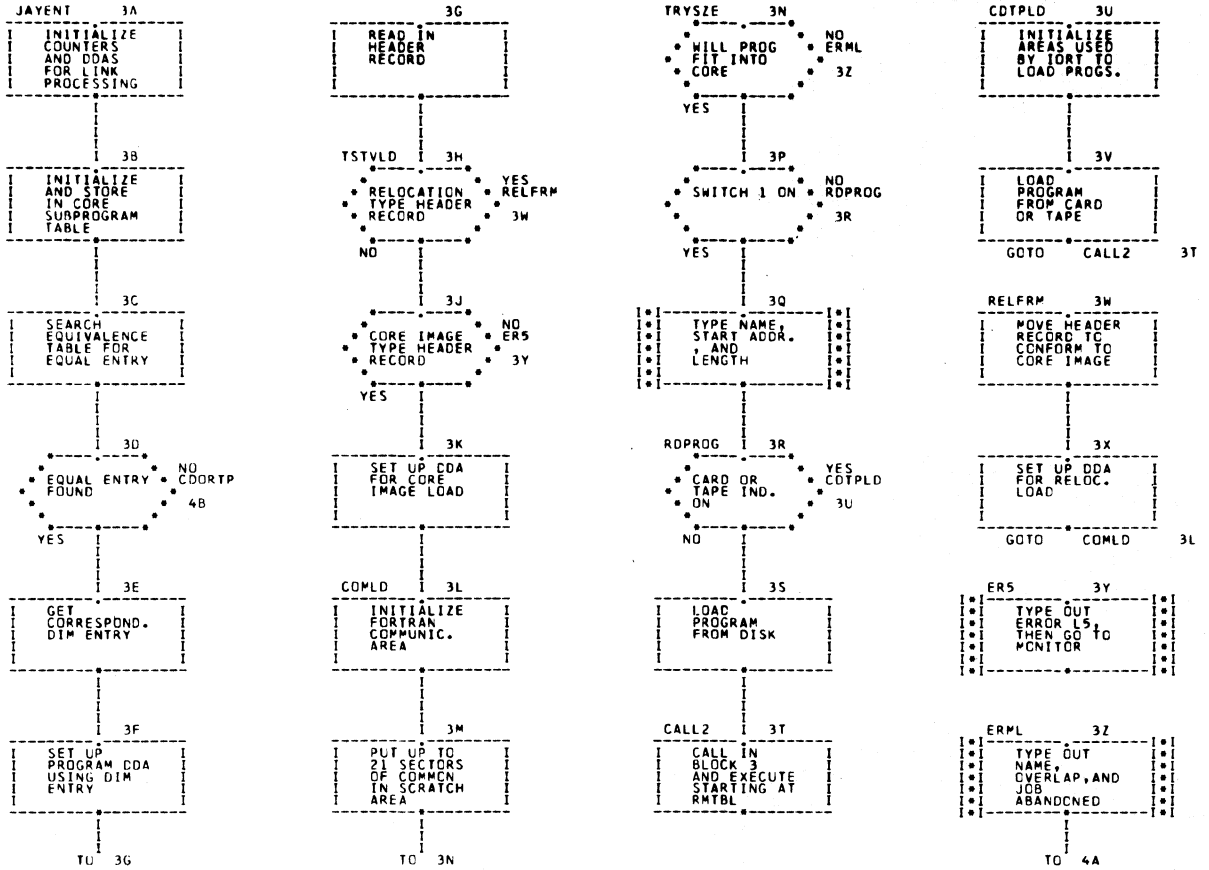
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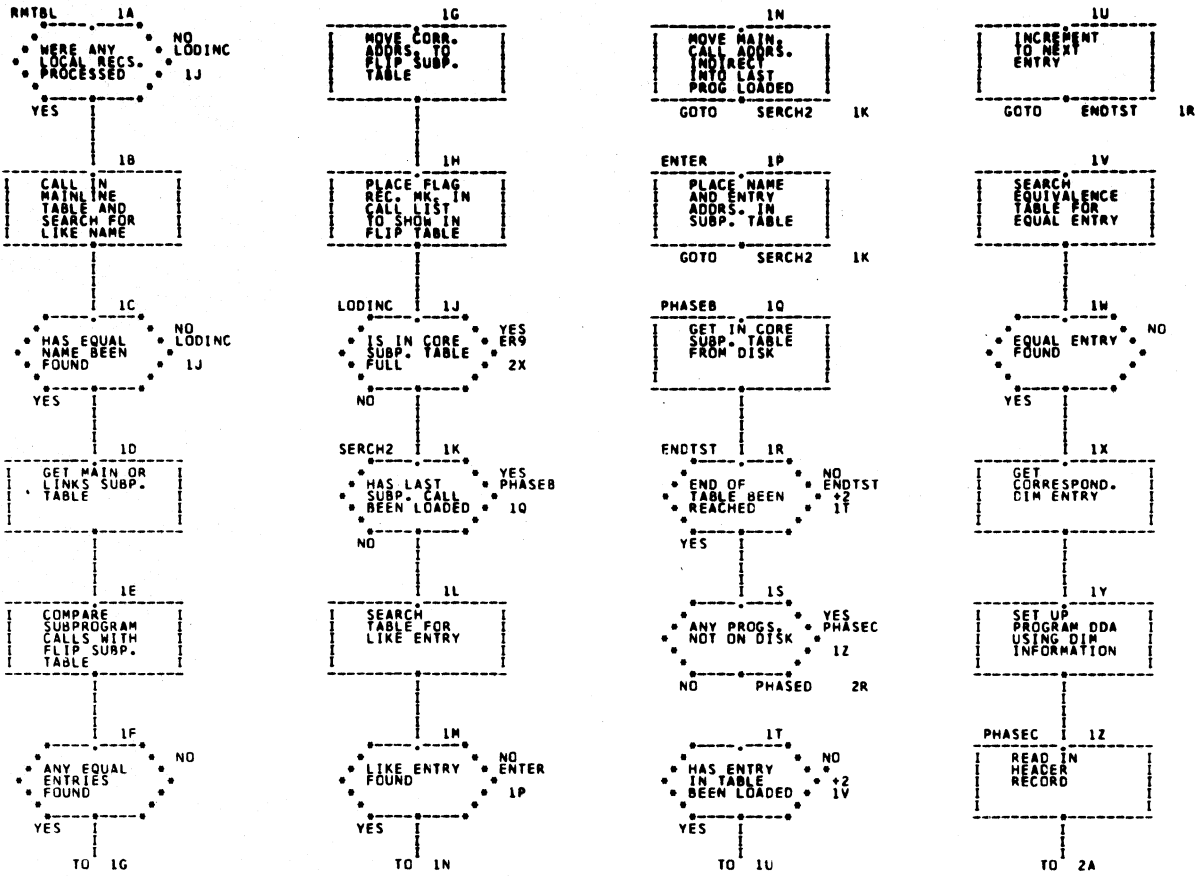
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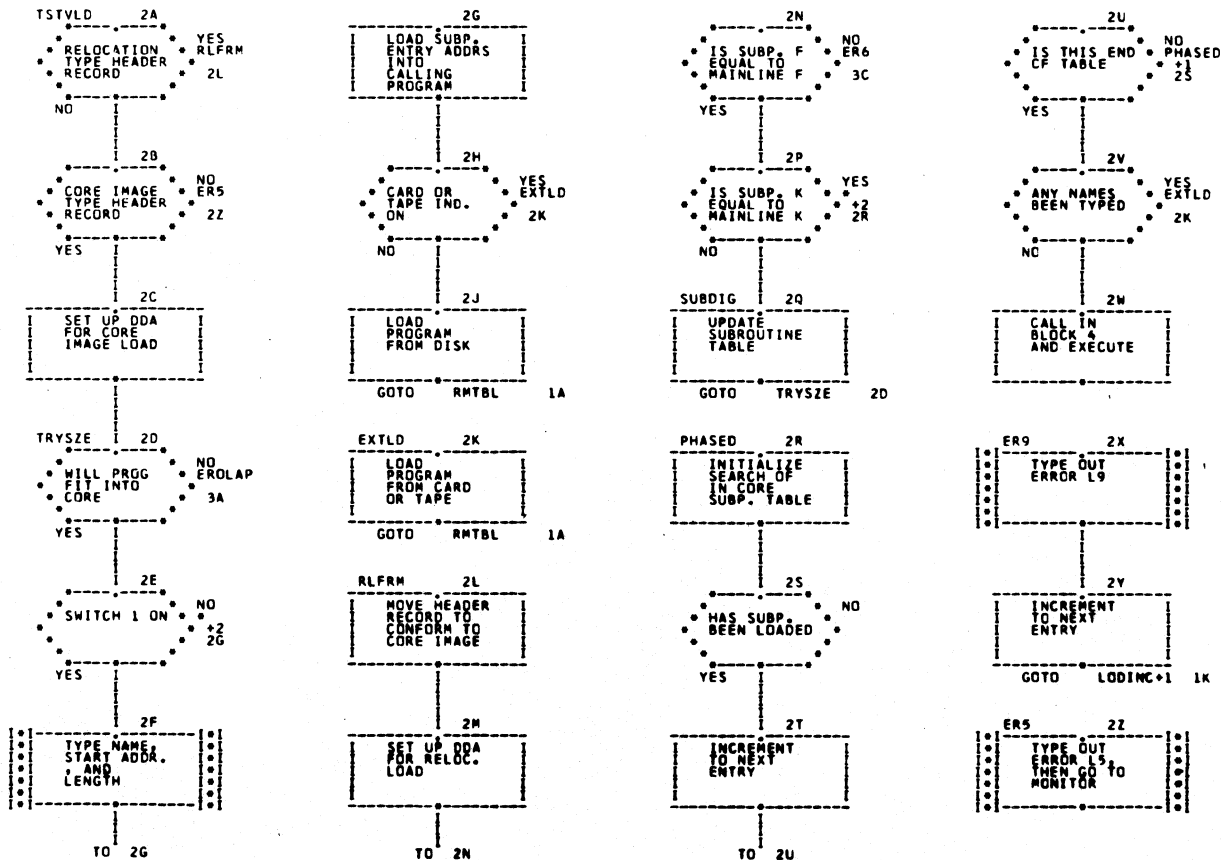
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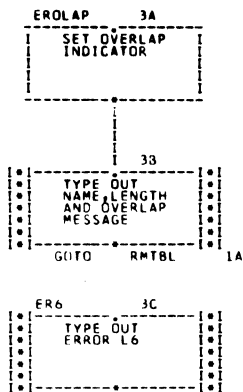
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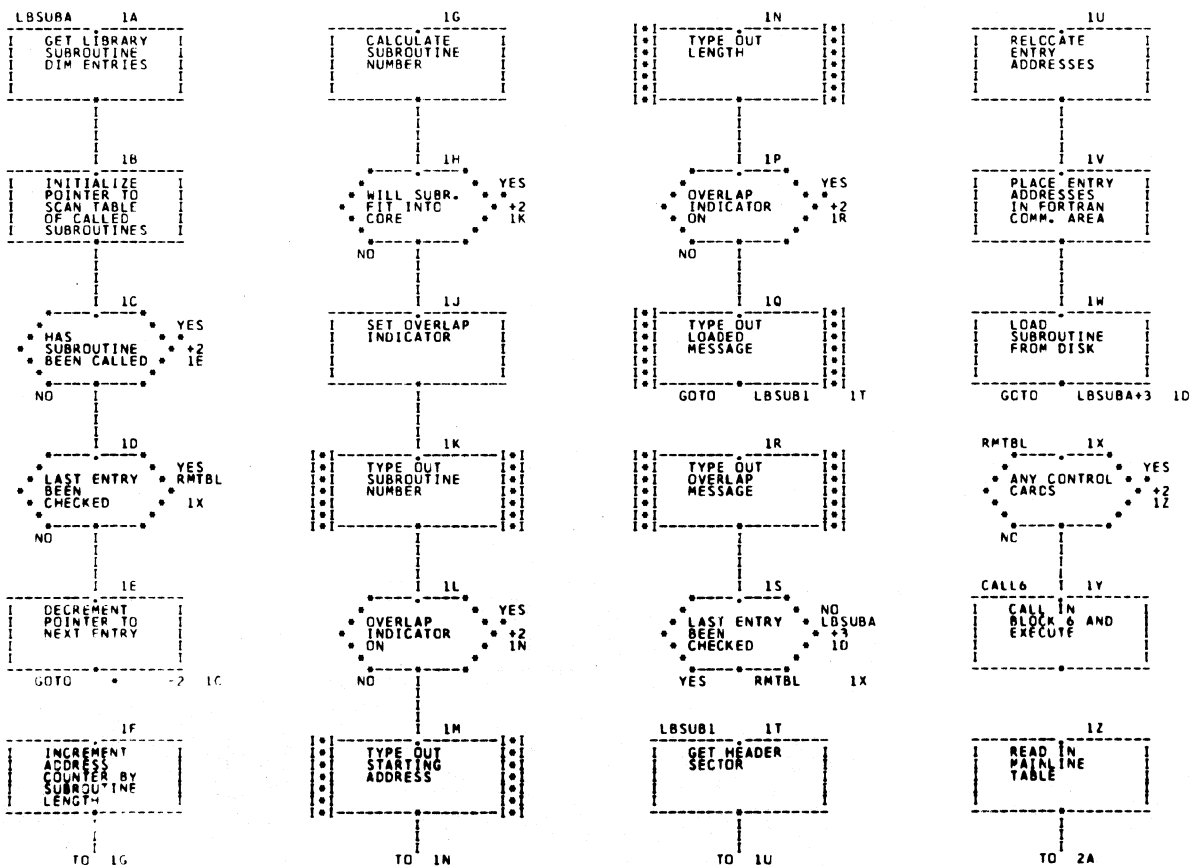
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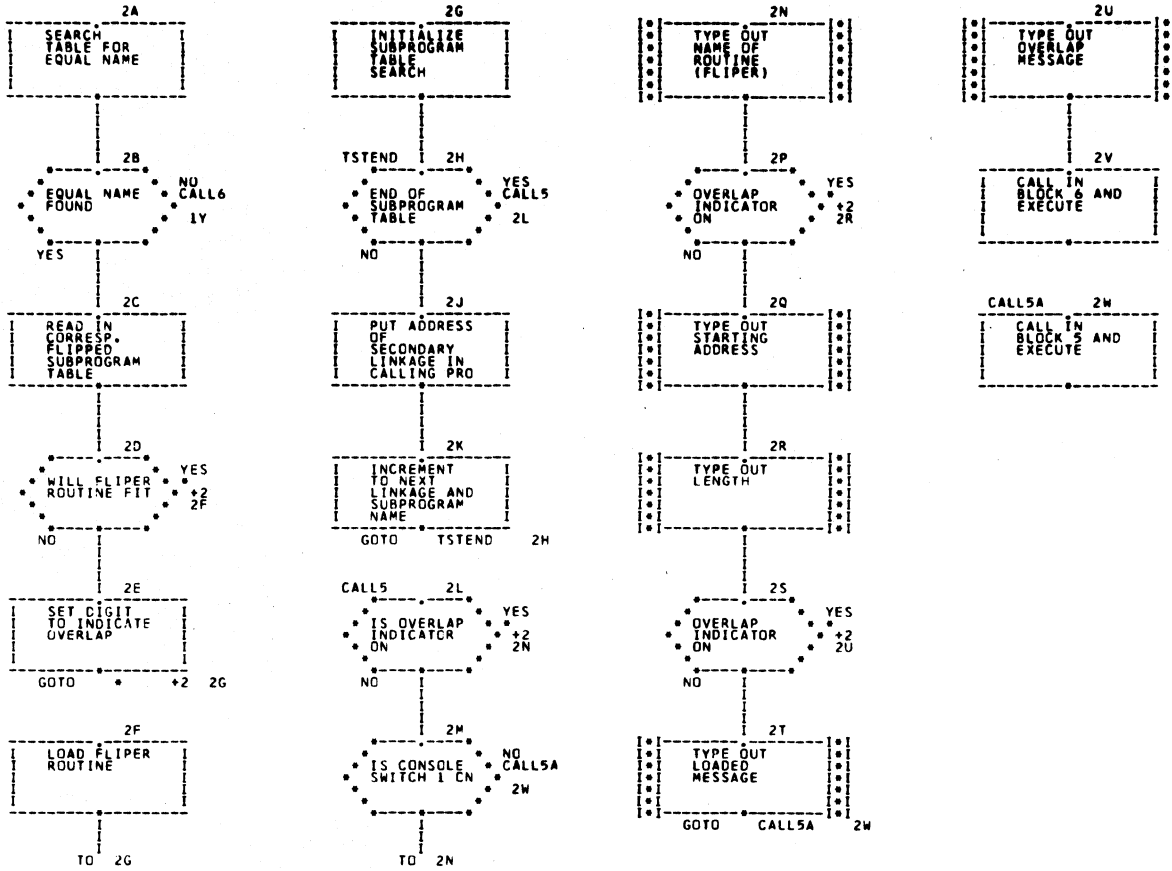


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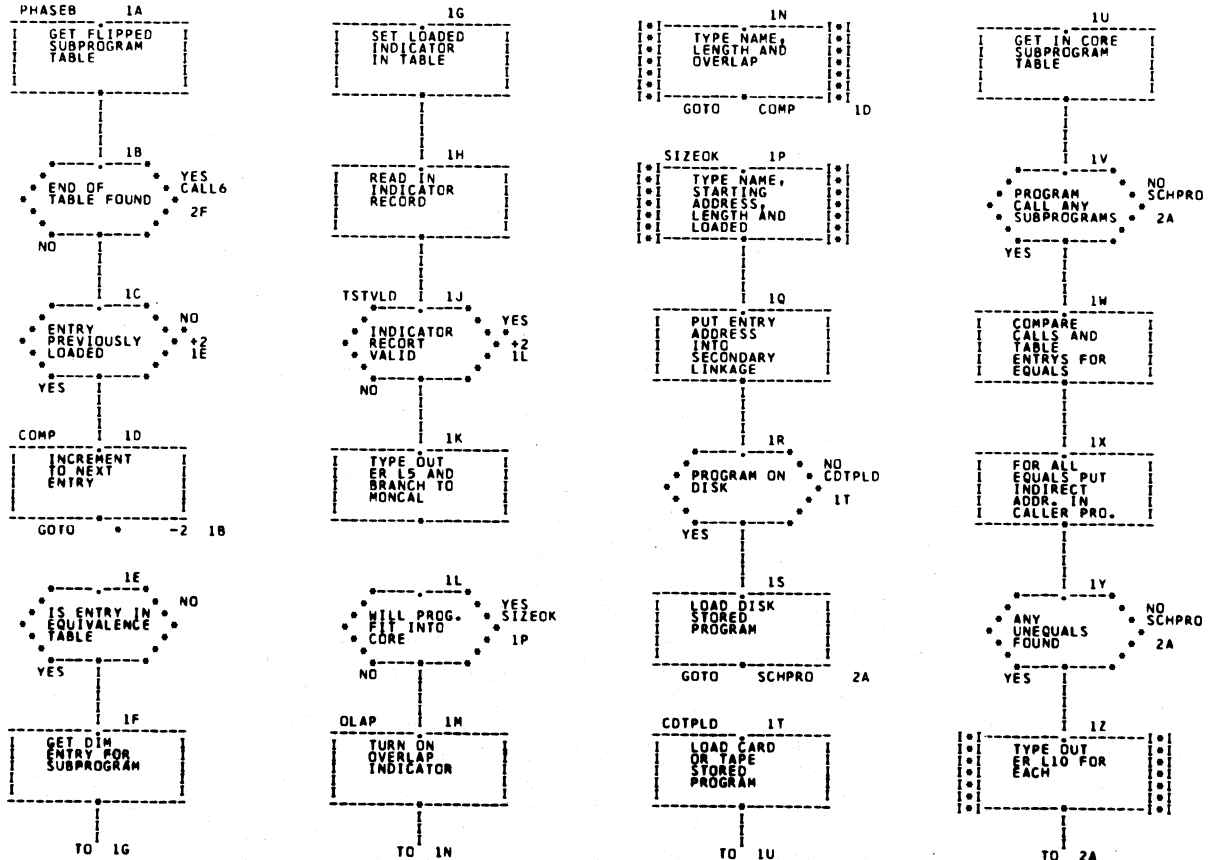


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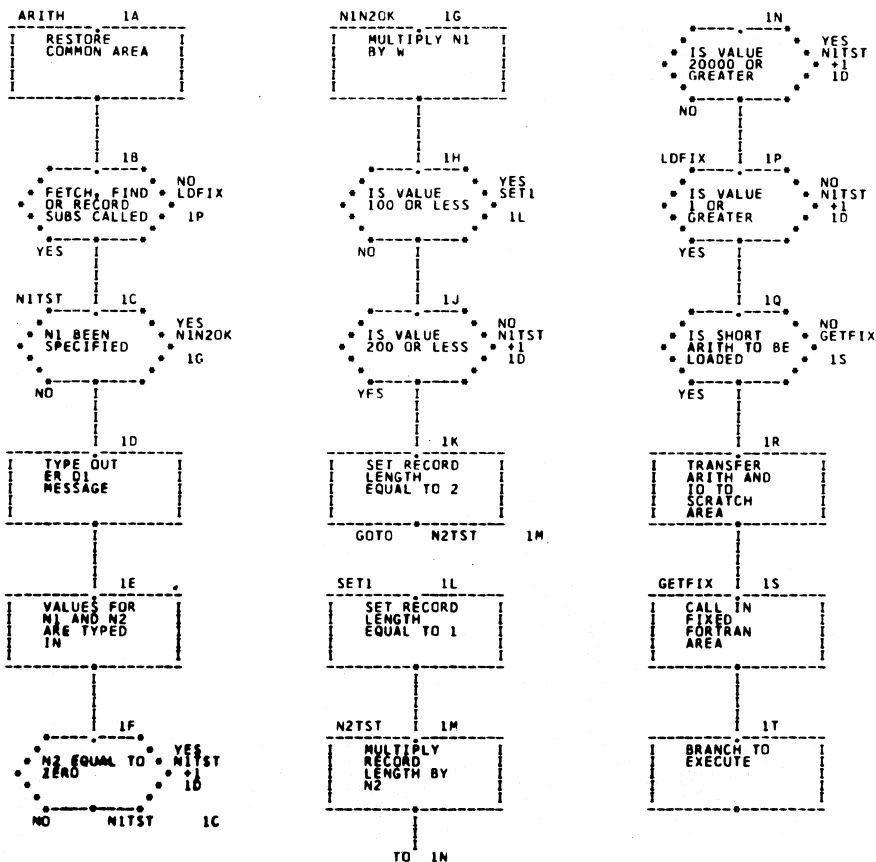
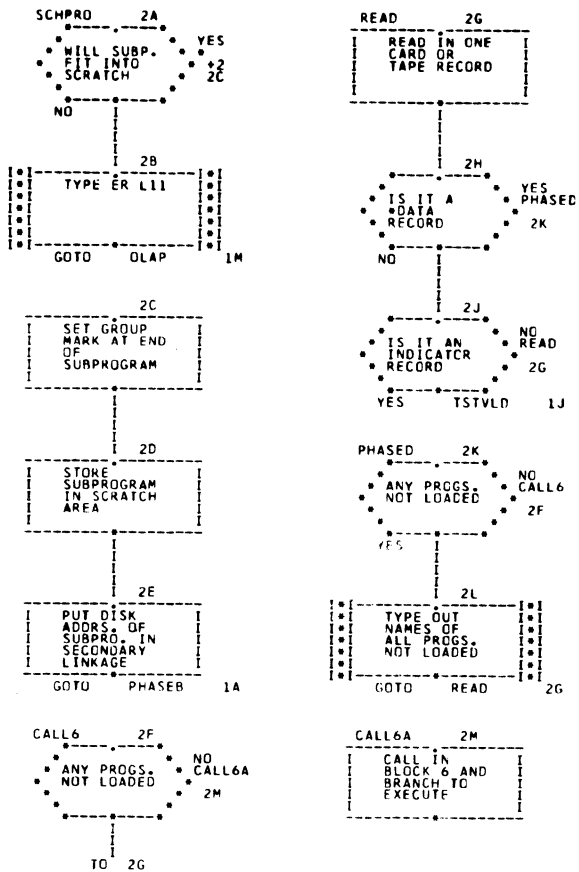
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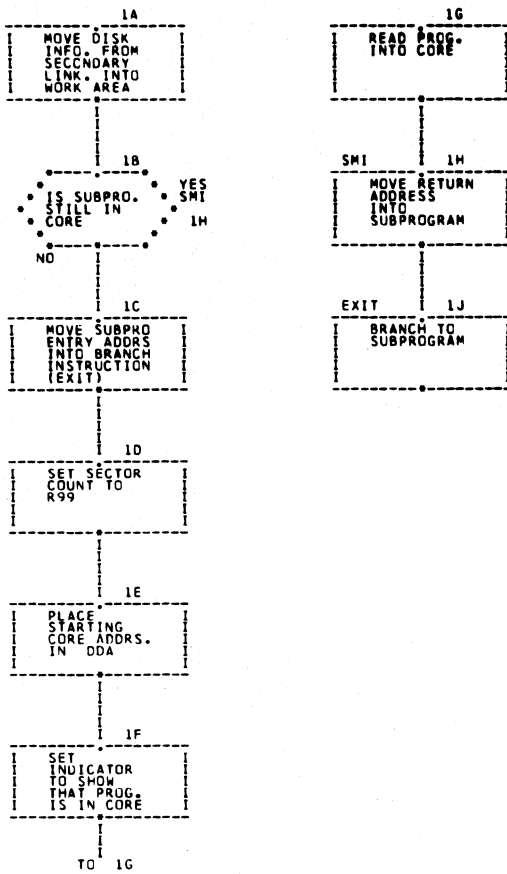
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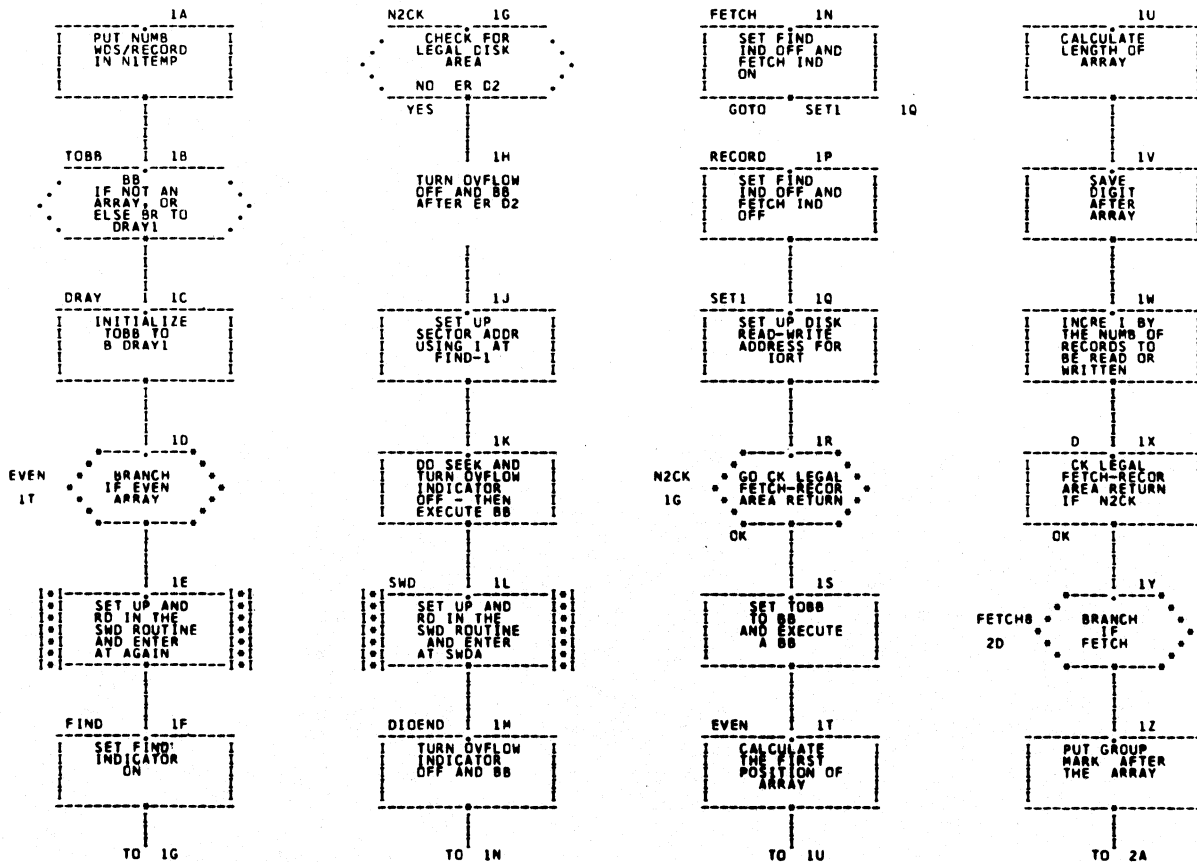
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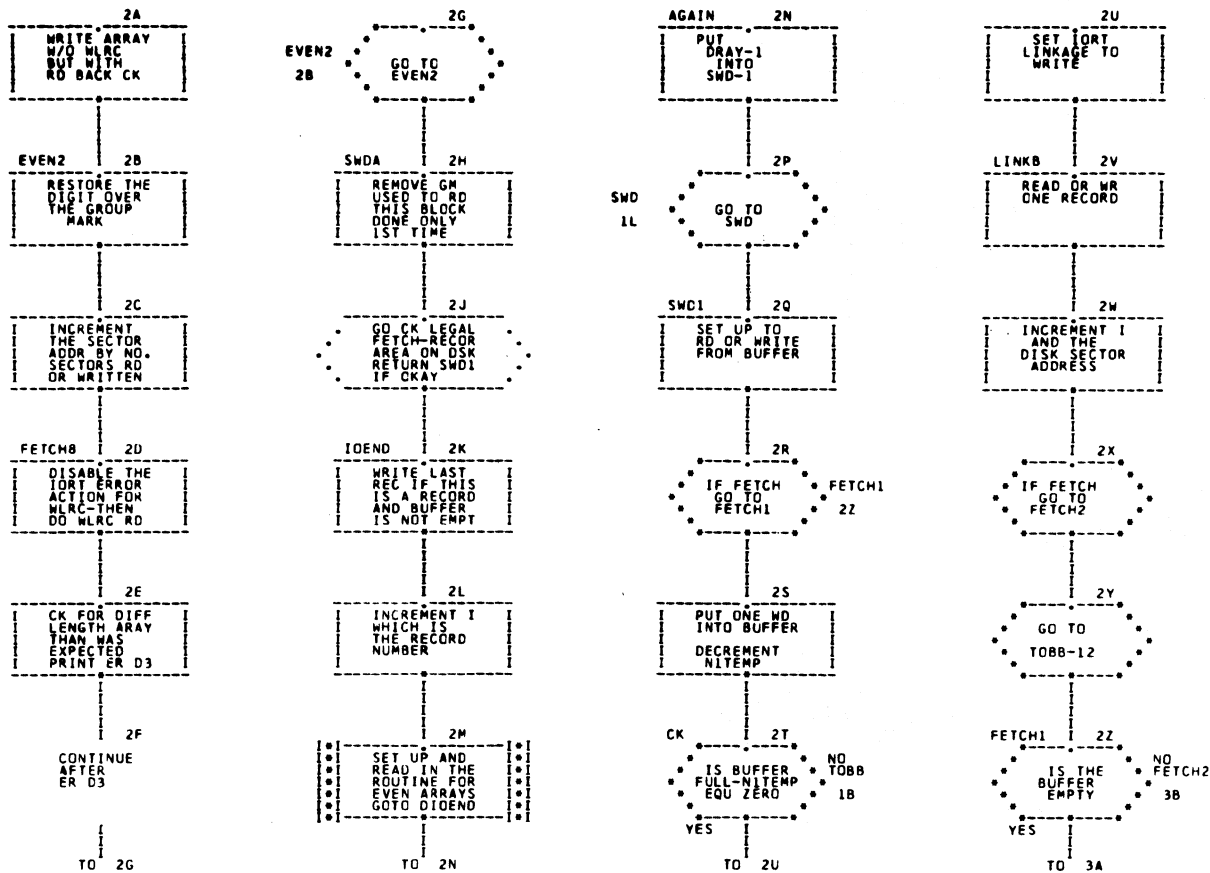
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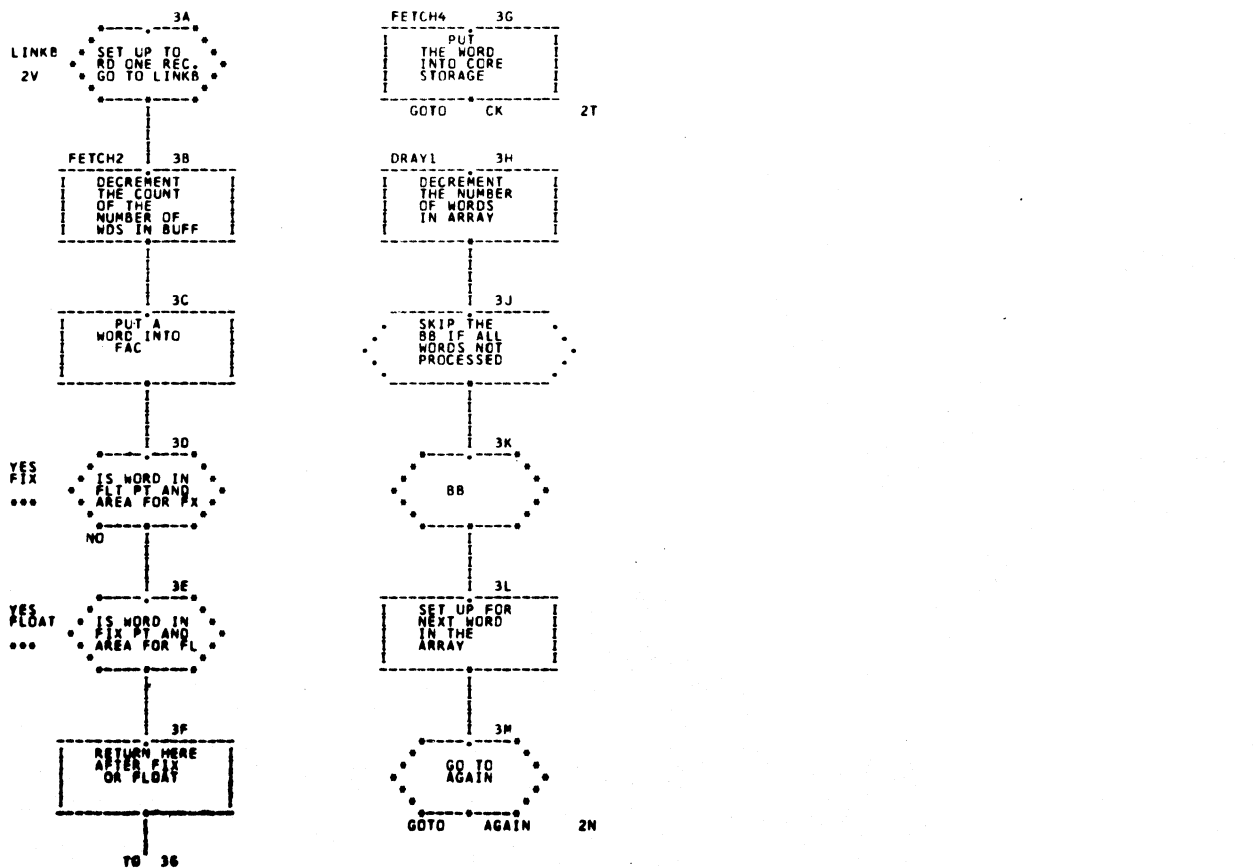
904



905



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00010 ***	READ/WRITE FOR CORE IMAGE LOAD				
00020	DORG 2201			02201	
00030 IOCAL	DS ,716			00716	0
00040 RDWR	DSA RD1			02205	5 X 1
				02205	-4513
00050	TFM IORT,**23,,	PUT CORE IMAGE PROGRAM		02206	16 00565 -2229
00060	B IOPT,WR,7			02218	49 00532 -2249
00070	TFM IORT,SL1,7			02230	16 00565 -2272
00080	B7 IOCAL			02242	49 00716
00090 WR	DSC 2,02			02249	2
	02				
00100	DSA WR2			02255	5 X 1
				02255	-2257
00110	DSC 1,'			02256	1
	'				
00120 WR2	DSC 1,0			02257	1
	0				
00130	DC 5,0			02262	5
	-0000				
00140	DC 3,0			02265	3
	-00				
00150	DC 5,0			02270	5
	-0000				
00160	DSC 1,'			02271	1
	'				
00170 SL1	DSC 2,-22			02272	2
	2K				
00180	DSA SL2			02278	5 X 1
				02278	-2280
00190	DSC 1,'			02279	1
	'				
00200 SL2	DSC 1,1			02280	1
	1				
00210	DC 5,18550			02285	5
	J8550				
00220	DC 3,036			02288	3
	-36				
00230	DC 5,2402			02293	5
	-2402				
00240	DSA SOLDON			02298	5 X 1
				02298	-4560
00250	DSC 1,'			02299	1
	'				
00260 COR	TFM IORT,**23			02300	16 00565 -2323
00270	B IOPT,COR1,7			02312	49 00532 -2348
00280	TRA			02324	36 00000 00500
				02336	49 00000 00000
00290 COR1	DSC 2,22			02348	2
	22				
00300	DSA COR2			02354	5 X 1
				02354	-2356

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00310	DC	1,1		02355	1		
00320	COR2	DSC	1,1	02356	1		
00330		DC	5,10260	02361	5		
00340		J9260		02364	3		
00350		DC	5,02200	02369	5		
00360		DC	1,1	02370	1		
00370		TCO	COR	02300			
00380	****		1620 DISK UTILITY PROGRAM SELECTION ROUTINE				
00390		DORG	2402	02402			
00400	SELEC	TFM	IORT,++23	02402	16	00565	-2425
00410		B	IOGT,DDA,7	02414	49	00566	-2434
00420		B	00000	02426	49	00000	00000
00430		DORG	*-3	02434			
00440	DDA	OSC	2,22	02434			
00450		??					
00460		DSA	DCF	02440	5 X	1	
00470		OSC	1,1	02440			-2442
00480		DSC	1,1	02441	1		
00490		DC	5,0	02442	1		
00500		DC	5,0	02447	5		
00510		DC	3,0	02450	3		
00520	SELECT	TFM	HOLD2,0,10	02455	5		
00530		TFM	IORT,++23	02456	1		
00540		B	IOGT,DDA1,7	02458	16	05279	000-0
00550		TFM	MCS+98,0,7	02470	16	00565	-2493
00560		TFM	IORT,++23	02482	49	00566	-5280
00570		B	IOPT,DDA1,7	02494	16	17876	-0000
00580		TFM	++18,INPUT-1	02506	16	00565	-2529
00590		TDM	INPUT,0,,	02518	49	00532	-5280
00600		AM	*-6,1,10	02530	16	02548	J3612
00610		CM	*-18,INPUT+161	02542	15	13613	00000
00620		BL	*-36	02554	11	02548	000-1
00630		TD	HOLD2,SYSCAL	02566	14	02548	J3774
00640		CM	HOLD2,4,10	02578	47	02542	01300
00650		BE	CONTCO	02590	25	05279	00475
00660		CM	HOLD2,6,10	02602	14	05279	000-4
00670		BNE	NDCOMP	02614	46	03050	01200
00680		BNF	DWP,MCS+22	02626	14	05279	000-6
00690		CM	MCS+39,0,8	02638	47	04146	01200
00700		BE	CALLD	02650	44	02994	17800
				02662	14	17817	0-000
				02674	46	02734	01200

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00710	TF	NEWDM,MCS+39		02686	26	05306	17817
00720	TFM	DIMMER-6,MAP		02698	16	04712	-5307
00730	BTM	DIMMER,++12		02710	17	04718	-2722
00740	BNR	CALRPL,MAP		02722	45	02862	05307
00750	CALLD	TFM	IORT,++23,,	02734	16	00565	-2757
00760		B	IOGT,DDA2,7	02746	49	00566	-5327
00770		TDM	REPLAC,0,10	02758	15	02200	000-0
00780	CALCOM	TFM	IORT,++23,,	02770	16	00565	-2793
00790		B	IOGT,COM2,7	02782	49	00566	-5373
00800		TFM	IORT,++23	02794	16	00565	-2817
00810		B	IOGT,DDA4,7	02806	49	00566	-5350
00820		TFM	SELEC+30,05800	02818	16	02432	-5800
00830		TR	DDA,DDA5,,	02830	31	02434	05396
00840		TR	DCF,DCF5,,	02842	31	02442	05404
00850		B	SELEC	02854	49	02402	00000
00860		DORG	*-3	02862			
00870	CALRPL	BNF	++32,MAP+19	02862	44	02894	05326
00880		TFM	DIMERR+22,7578,8	02874	16	05875	0P578
00890		B	UPI	02886	49	05198	00000
00900		DORG	*-3	02894			
00910		C	MCS+35,ZERO12	02894	24	17813	05924
00920		BE	*+24	02906	46	02930	01200
00930		RTM	EQUIV,++12	02918	17	04910	-2930
00940		TFM	IORT,++23,,	02930	16	00565	-2953
00950		B	IOGT,DDA3,7	02942	49	00566	-5419
00960		TDM	REPLAC,1	02954	15	02200	00001
00970		B	CALCOM	02966	49	02770	00000
00980		DORG	*-3	02974			
00990	SELERR	TFM	DIMERR+22,7579,8	02974	16	05875	0P579
01000		B	UPI	02986	49	05198	00000
01010		DORG	*-3	02994			
01020	DMP	BNF	MONCAL,MCS+23	02994	44	00796	17801
01030		TR	DDA,DDA6,,	03006	31	02434	05442
01040		TR	DCF,DCF6	03018	31	02442	05450
01050		TFM	SELEC+30,02500	03030	16	02432	-2500
01060		B	SELEC	03042	49	02402	00000
01070		DORG	*-3	03050			
01080	CONTCO	TFM	CARDIO+2,0,10	03050	16	05931	000-0
01090		TD	CARDIO+2,426	03062	25	05931	00426
01100		CF	CARDIO+2	03074	33	05931	00000
01110		AM	CARDIO+2,5,10	03086	11	05931	000-5
01120		CM	CARDIO+2,06,10	03098	14	05931	000-6
01130		BNE	*+60	03110	47	03170	01200
01140		RCTY		03122	34	00000	00102
01150		TFM	IORT,++23	03134	16	00565	-3157
01160		B	IOPT,ENTMES-4,7	03146	49	00532	-5769
01170		RCTY		03158	34	00000	00102
01180		TFM	IORT,++23	03170	16	00565	-3193
01190		B	IOGT,CARDIO-4,7	03182	49	00566	-5925
01200		CM	CARDIO+2,06,10	03194	14	05931	000-6
01210		BNE	*+24	03206	47	03230	01200
01220		BC+	CONTCO+72	03218	46	03122	00400
01230		TFM	++23,INPUT+159	03230	16	03253	J3772
01240	BDTEST	BD	*+32,INPUT	03242	43	03274	13613
01250		SM	*-1,2,10	03254	12	03253	000-2
01260		B	*-24	03266	49	03242	00000

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01270	DORG	--3		03274			
01280	AM	BDTEST+11,3,10		03274	11	03253	000-3
01290	CM	BDTEST+11,INPUT+10		03286	14	03253	J3623
01300	BH	++32		03298	46	03330	01100
01310	TDM	INPUT+12,,,		03310	15	13625	00000
01320	DSC	1,1,,		03321		1	
01330	B	++20		03322	49	03342	00000
01340	DORG	--3		03330			
01350	TDM	BDTEST+11,,6		03330	15	0325L	00000
01360	DSC	1,1,,		03341		1	
01370	CM	CARDIO+2,06,10		03342	14	05931	000-6
01380	BE	++72		03354	46	03426	01200
01390	TFM	CARDIO+2,06,10		03366	16	05931	000-6
01400	RCTY			03378	34	00000	00102
01410	TFM	IORT,++23		03390	16	00565	-3413
01420	B	IOPT,CARDIO-4,7		03402	49	00532	-5925
01430	RCTY			03414	34	00000	00102
01440	CM	BDTEST+11,INPUT+10		03426	14	03253	J3623
01450	BH	++32		03438	46	03470	01100
01460	TDM	INPUT+12,0		03450	15	13625	00000
01470	B	++20		03462	49	03482	00000
01480	DORG	--3		03470			
01490	TDM	BDTEST+11,0,6		03470	15	0325L	00000
01500	TDM	MCS+23,0,10		03482	15	17801	000-0
01510	SF	INPUT-1		03494	32	13612	00000
01520	C	INPUT+10,WRAD		03506	24	13623	05476
01530	BNE	++56		03518	47	03574	01200
01540	TR	DDA,DDAP1		03530	31	02434	05477
01550	TR	DCF,DCFP1		03542	31	02442	05485
01560	TFM	SELEC+30,02502		03554	16	02432	-2502
01570	B	SELEC		03566	49	02402	00000
01580	DORG	--3		03574			
01590	C	INPUT+10,ALTR		03574	24	13623	05511
01600	BNE	++56		03586	47	03642	01200
01610	TR	DDA,DDAP2		03598	31	02434	05512
01620	TR	DCF,DCFP2		03610	31	02442	05520
01630	TFM	SELEC+30,3000		03622	16	02432	-3000
01640	B	SELEC		03634	49	02402	00000
01650	DORG	--3		03642			
01660	C	INPUT+10,DUMP		03642	24	13623	05546
01670	BE	DMP+12		03654	46	03006	01200
01680	C	INPUT+10,LOAD		03666	24	13623	05558
01690	BF	CALLD		03678	46	02734	01200
01700	C	INPUT+10,REPL		03690	24	13623	05570
01710	BE	CALRPL+68		03702	46	02930	01200
01720	C	INPUT+10,COPY		03714	24	13623	05582
01730	BNE	++56		03726	47	03782	01200
01740	TR	DDA,DDAP5		03738	31	02434	05583
01750	TR	DCF,DCFP5		03750	31	02442	05591
01760	TFM	SELEC+30,02700		03762	16	02432	-2700
01770	B	SELEC		03774	49	02402	00000
01780	DORG	--3		03782			
01790	C	INPUT+10,DELET		03782	24	13623	05617
01800	BNE	++92		03794	47	03886	01200

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	1620 MONITOR 1	DUP ROUTINE	*SELECTION ROUTINE		PAGE	5
01810	TFM	IORT,++23		03806	16	00565 -3829
01820	B	IOGT,DDAP6,7		03818	49	00566 -5618
01830	TFM	IORT,++23		03830	16	00565 -3853
01840	B	IOGT,EQUDDA,7		03842	49	00566 -5641
01850	TFM	IORT,++23		03854	16	00565 -3877
01860	B	IOGT,COM2,7		03866	49	00566 -5373
01870	B	CALCOM+48		03878	49	02818 00000
01880	DORG	--3		03886		
01890	C	INPUT+10,FINE		03886	24	13623 05675
01900	BNE	++56		03898	47	03954 01200
01910	TR	DDA,DDAP7		03910	31	02434 05676
01920	TR	DCF,DCFP7		03922	31	02442 05684
01930	TFM	SELEC+30,05000		03934	16	02432 -5000
01940	B	SELEC		03946	49	02402 00000
01950	DORG	--3		03954		
01960	C	INPUT+10,LABL		03954	24	13623 05710
01970	BNE	++56		03966	47	04022 01200
01980	TR	DDA,DDAP8		03978	31	02434 05711
01990	TR	DCF,DCFP8		03990	31	02442 05719
02000	TFM	SELEC+30,02502		04002	16	02432 -2502
02010	B	SELEC		04014	49	02402 00000
02020	DORG	--3		04022		
02030	C	INPUT+10,FLIB		04022	24	13623 05745
02040	BNE	++56		04034	47	04090 01200
02050	TR	DDA,DDAP9		04046	31	02434 05746
02060	TR	DCF,DCFP9		04058	31	02442 05754
02070	TFM	SELEC+30,03040		04070	16	02432 -3040
02080	B	SELEC		04082	49	02402 00000
02090	DORG	--3		04090		
02100	RCTY			04090	34	00000 00102
02110	TFM	IORT,++23		04102	16	00565 -4125
02120	B	IOPT,ERCD-4,7		04114	49	00532 -5820
02130	H			04126	48	00000 00000
02140	B	MONCAL		04138	49	00796 00000
02150	DORG	--3		04146		
02160	NOCOMP	CM HOLD2,5,10		04146	14	05279 000-5
02170	BNE	NOCOMP-56		04158	47	04090 01200
02180	RTURNL	BNF MONCAL,428,,	CHANGE TO ERROR MESS. LATER	04170	44	00796 00428
02190	TD	UP1+14,REPLAC	GET TWO SECTORS RD , WR	04182	25	05212 02200
02200	TFM	IORT,++23,,		04194	16	00565 -4217
02210	B	IOGT,SEC2,7		04206	49	00566 -4536
02220	TD	REPLAC,UP1+14		04218	25	02200 05212
02230	TFM	HOLD2,0,10		04230	16	05279 000-0
02240	TD	HOLD2,MCS+88		04242	25	05279 17866
02250	MM	HOLD2,5,10		04254	13	05279 000-5
02260	BD	++20,99		04266	43	04286 00099
02270	B	++20		04278	49	04298 00000
02280	DORG	--3		04286		
02290	SM	MCS+88,1,10	COMPUTE SECTOR COUNT	04286	12	17866 000-1
02300	TF	HOLD5,434,,		04298	26	05269 00434
02310	S	HOLD5,MCS+88		04310	22	05269 17866
02320	BD	++32,HOLD5		04322	43	04354 05269
02330	BD	++20,HOLD5-1		04334	43	04354 05268
02340	B	++20		04346	49	04366 00000
02350	DORG	--3		04354		
02360	AM	HOLD5-2,1,10		04354	11	05267 000-1

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1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE		6
02370	TF	WR2+8,HOLD5-2	04366	26	02265	05267
02380	CM	MCS+88,02302	04378	14	17866	-2302
02390	BNL	+56	04390	46	04446	01300
02400	TFM	DIMERR+22,7179,8	04402	16	05875	0P179
02410	RCTY		04414	34	00000	00102
02420	WATY	DIMERR	04426	39	05853	00100
02430	B	NOCDMP-20	04438	49	04126	00000
02440	DORG	+3	04446			
02450	TF	WR2+13,MCS+88	04446	26	02270	17866
02451	BNF	+24,MCS+12	04458	44	04482	17790
02452	SF	WR2+13	04470	32	02270	00000
02460	TFM	WR2+5,00800	04482	16	02262	-0800
02470	TFM	IORT,RDWR	04494	16	00565	-2205
02480	B7	IOGT	04506	49	00566	
02490	MD1	DSC 2,02	04513		2	
	O2					
02500	DSA	RD2	04519		5 X	1
02510	DSC	1,1	04519		-4521	
	*		04520		1	
02520	RD2	DSC 1,1	04521		1	
	1					
02530	DC	5,01400	04526		5	
	-1400					
02540	DC	3,177	04529		3	
	J77					
02550	DC	5,02302	04534		5	
	-2302					
02560	DSC	1,1	04535		1	
	*					
02570	SEC2	DSC 2,22	04536		2	
	22					
02580	DSA	SEC22	04542		5 X	1
02590	DSC	1,1	04542		-4544	
	*		04543		1	
02600	SEC22	DSC 1,1	04544		1	
	1					
02610	DC	5,18260	04549		5	
	J8260					
02620	DC	3,1	04552		3	
	-01					
02630	DC	5,02200	04557		5	
	-2200					
02640	DSC	1,1	04558		1	
	*					
02650	SOLDON	TFM IORT,+23	04560	16	00565	-4583
02660	B	IOGT,DDA1,7	04572	49	00566	-5280
02670	TF	INPUT+74,ZERO12	04584	26	13687	05924
02680	BNF	+20,MCS+22	04596	44	04616	17800
02690	B	+32	04608	49	04640	00000
02700	DORG	+3	04616			
02710	TFM	IORT,+23	04616	16	00565	-4639
02720	B	IOGT,CCD,7	04628	49	00566	-4684

1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE		7
02730	TFM	INPUT+96,44,10	04640	16	13709	000M4
02740	TFM	INPUT+98,49,10	04652	16	13711	000M9
02750	BD	CALRPL+68,REPLAC	04664	43	02930	02200
02760	B	CALLD	04676	49	02734	00000
02770	DORG	+3	04684			
02780	CCD	DSC 2,02	04684		2	
	O2					
02790	DSA	CCD2	04690		5 X	1
02800	DSC	1,1	04690		-4692	
	*		04691		1	
02810	CCD2	DSC 1,1	04692		1	
	1					
02820	DC	5,00798	04697		5	
	-0798					
02830	DC	3,2	04700		3	
	-02					
02840	DSA	INPUT-1	04705		5 X	1
02850	DSC	1,1	04705		J3612	
	*		04706		1	
02860	REPLAC	DSC 1,0,2200	02200		1	
	O					
02870	DC	5,0	04711		5	
	-0000					
02880	DC	5,0	04716		5	
	-0000					
02890	DIMMER	CM NEWDIM,4994	04718	14	05306	-4994
02900	BH	SELERR	04730	46	02974	01100
02910	TF	HOLD6,ZER06	04742	26	05883	05889
02920	TF	HOLD6,NEWDIM	04754	26	05883	05306
02930	A	HOLD6,HOLD6	04766	21	05883	05883
02940	CF	HOLD6-3	04778	33	05880	00000
02950	SF	HOLD6-4	04790	32	05879	00000
02960	AM	HOLD6,48000,7	04802	11	05883	M8000
02970	TF	DMREAD+5,HOLD6-1	04814	26	05903	05882
02980	TFM	IORT,+23	04826	16	00565	-4849
02990	B	IOGT,DDREAD,7	04838	49	00566	-5890
03000	TFM	TREC+11,READIN	04850	16	04897	-5936
03010	TD	+23,HOLD6	04862	25	04885	05883
03020	AM	TREC+10,0,10	04874	11	04896	000-0
03030	TREC	TR DIMMER-6,,6	04886	31	0471K	00000
03040	B	DIMMER-1,,6	04898	49	0471P	00000
03050	EQUIV	TFM NEWDIM,0002,8	04910	16	05306	0-002
03060	TFM	DIMMER-6,MAP	04922	16	04712	-5307
03070	BTM	DIMMER,+12	04934	17	04718	-4946
03080	TFM	MAP+8,4,9	04946	16	05315	00-04
03090	TFM	MAP+13,READIN	04958	16	05320	-5936
03100	TDM	MAP+14,,	04970	15	05321	00000
03110	DSC	1,1,,	04981		1	
	*					
03120	TFM	IORT,+23	04982	16	00565	-5005
03130	B	IOGT,MAPDDA,7	04994	49	00566	-5270
03140	TFM	+47,READIN+11	05006	16	05053	-5947

1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE	
03150	CM	BNR+11,READIN+411		05018	14 05053 -6347
03160	BE	RD		05030	46 05118 01200
03170	BNR	BNR ++32,READIN+11		05042	45 05074 05947
03180	TFM	DIMERR+22,7577,8		05054	16 05875 05777
03190	B	UPI		05066	49 05198 00000
03200	DORG	--3		05074	
03210	C	MCS+35,BNR+11,11		05074	24 17813 0505L
03220	RE	ERREPL		05086	46 05138 01200
03230	AM	BNR+11,16,10		05098	11 05053 000J6
03240	B	BNR-24		05110	49 05018 00000
03250	DORG	--3		05118	
03260	RD	AM MAP+5,4,10		05118	11 05312 000-4
03270	B	BNR-60		05130	49 04982 00000
03280	DORG	--3		05138	
03290	ERREPL	AM BNR+11,4,10		05138	11 05053 000-4
03300	C	MCS+39,BNR+11,11		05150	24 17817 0505L
03310	BE	EQUIV-1,,6		05162	46 0490R 01200
03320	TFM	DIMERR+22,7576,8		05174	16 05875 05776
03330	TF	MCS+35,ZERO12		05186	26 17813 05924
03340	UPI	TFM MCS+39,0,8		05198	16 17817 0-000
03350	RCTY			05210	34 00000 00102
03360	WATY	DIMERR		05222	39 05853 00100
03370	TFM	IORT,++23		05234	16 00565 -5257
03380	B	IDPT,DDA1,7		05246	49 00532 -5280
03390	B	CALLD		05258	49 02734 00000
03400	HOLD5	DC 5,0,*		05269	5
		-0000			
03410	IORT	DS ,565		00565	0
03420	IUPT	DS ,532		00532	0
03430	MAPDDA	DSC 2,22		05270	2
		22			
03440	DSA	MAP		05276	5 X 1
				05276	-5307
03450	DSC	1,'		05277	1
03460	IDGT	DS ,566		00566	0
03470	HOLD2	DC 2,0		05279	2
		-0			
03480	SYSICAL	DS ,475		00475	0
03490	DDA1	DSC 2,22		05280	2
		22			
03500	DSA	DCF1		05286	5 X 1
				05286	-5288
03510	DSC	1,'		05287	1
03520	DCF1	DSC 1,1,,	MONITOR COMM. SECTOR	05288	1
		1			
03530	DC	5,19663		05293	5
		J9663			
03540	DC	3,001		05296	3
		-01			
03550	DSA	MCS		05301	5 X 1
				05301	J7778

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1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE	
03560	DSC	1,'		05302	1
03570	MCS	DS ,17778		17778	0
03580	NEWDIM	DC 4,0		05306	4
		-000			
03590	MAP	DSC 20,0		05307	20
		00000000000000000000			
03600	DDA2	DSC 2,22		05327	2
		22			
03610	DSA	DCF2		05333	5 X 1
				05333	-5335
03620	DSC	1,'		05334	1
03630	DCF2	DSC 1,1,,	DLOAD	05335	1
		1			
03640	DC	5,18369		05340	5
		J8369			
03650	DC	3,027		05343	3
		-27			
03660	DC	5,05800		05348	5
		-5800			
03670	DSC	1,'		05349	1
03680	DDA4	DSC 2,22		05350	2
		22			
03690	DSA	DCF4		05356	5 X 1
				05356	-5358
03700	DSC	1,'		05357	1
03710	DCF4	DSC 1,1,,	COMMON	05358	1
		1			
03720	DC	5,18480		05363	5
		J8480			
03730	DC	3,040		05366	3
		-40			
03740	DC	5,08600		05371	5
		-8600			
03750	DSC	1,'		05372	1
03760	COM2	DSC 2,22		05373	2
		22			
03770	DSA	COM22		05379	5 X 1
				05379	-5381
03780	DSC	1,'		05380	1
03790	COM22	DSC 1,1		05381	1
		1			
03800	DC	5,18520		05386	5
		J8520			
03810	DC	3,029		05389	3
		-29			
03820	DC	5,10600		05394	5
		J0600			

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1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE	10
03830	DSC	1,1		05395	1
03840	DDA5	DSC	2,22	05396	2
03850	DSA	DCF5		05402	5 X 1
				05402	-5404
03860	DSC	1,1		05403	1
03870	DCF5	DSC	1,1,1	05404	1
			SP LIST SUBROUTINES	05409	5
03880	DC	5,18298		05412	3
	J8298			05417	5
03890	DC	3,033		05418	1
	-33			05419	2
03900	DC	5,02458		05425	5 X 1
	-2458			05425	-5427
03910	DSC	1,1		05426	1
03920	DDA3	DSC	2,22	05427	1
03930	DSA	DCF3		05432	5
				05435	3
03940	DSC	1,1		05440	5
03950	DCF3	DSC	1,1,1	05441	1
			DREPL	00796	0
03960	DC	5,18400		13613	81 X 2
	J8400			05442	2
03970	DC	3,028		05448	5 X 1
	-28			05448	-5450
03980	DC	5,05800		05449	1
	-5800			05450	1
03990	DSC	1,1		05455	5
04000	MONCAL	DS	,796	05458	3
04010	INPUT	DAS	81,13613	05459	5
04020	DDA6	DSC	2,22	05464	1
				05476	12
04030	DSA	DCF6			
04040	DSC	1,1			
04050	DCF6	DSC	1,1,1		
			DDUMP		
04060	DC	5,18430			
	J8430				
04070	DC	3,050			
	-50				
04080	DSC	5,02500			
	02500				
04090	DSC	1,1			
04100	WRAD	DC	12,144466594144		
			J44466594144		

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1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE	11
04110	DDAP1	DSC	2,22	05477	2
04120	DSA	DCF1		05483	5 X 1
				05483	-5485
04130	DSC	1,1		05484	1
04140	DCF1	DSC	1,1	05485	1
				05490	5
04150	DC	5,18220		05493	3
	J8220			05494	5
04160	DC	3,027		05499	1
	-27			05511	12
04170	DSC	5,02502		05512	2
	02502			05518	5 X 1
04180	DSC	1,1		05518	-5520
				05519	1
04190	ALTR	DC	12,144441536359	05520	1
			J44441536359	05525	5
04200	DDAP2	DSC	2,22	05528	3
				05529	5
04210	DSA	DCF2		05534	1
				05546	12
04220	DSC	1,1		05558	12
04230	DCF2	DSC	1,1	05570	12
				05582	12
04240	DC	5,19300		05583	2
	J9300			05589	5 X 1
04250	DC	3,038		05589	-5591
	-38			05590	1
04260	DSC	5,03000		05591	1
	03000			05596	5
04270	DSC	1,1		05599	3
04280	DUMP	DC	12,14444665457		
			J4444665457		
04290	LOAD	DC	12,144453564144		
			J44453564144		
04300	REPL	DC	12,144459455753		
			J44459455753		
04310	COPY	DC	12,144443565768		
			J44443565768		
04320	DDAP5	DSC	2,22		
04330	DSA	DCF5			
04340	DSC	1,1			
04350	DCF5	DSC	1,1		
04360	DC	5,19363			
	J9363				
04370	DC	3,037			
	-37				

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1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE	12
04380	DC 5,02700			05604	5
	-2700				
04390	DSC 1,1			05605	1
	*				
04400 DELET	DC 12,144445534563			05617	12
	J44445534563				
04410 DDAP6	DSC 2,22			05618	2
	22				
04420	DSA DCFP6			05624	5 X 1
	*				
				05624	-5626
04430	DSC 1,1			05625	1
	*				
04440 DCFP6	DSC 1,1			05626	1
	1				
04450	DC 5,18247			05631	5
	J8247				
04460	DC 3,013			05634	3
	-13				
04470	DC 5,05800			05639	5
	-9800				
04480	DSC 1,1			05640	1
	*				
04490 EQUDDA	DSC 2,22			05641	2
	22				
04500	DSA EQUDCF			05647	5 X 1
	*				
				05647	-5649
04510	DSC 1,1			05648	1
	*				
04520 EQUDCF	DSC 1,1			05649	1
	1				
04530	DC 5,18278			05654	5
	J8278				
04540	DC 3,020			05657	3
	-20				
04550	DC 5,08600			05662	5
	-8600				
04560	DSC 1,1			05663	1
	*				
04570 FINE	DC 12,144446495545			05675	12
	J44446495545				
04580 DDAP7	DSC 2,22			05676	2
	22				
04590	DSA DCFP7			05682	5 X 1
	*				
				05682	-5684
04600	DSC 1,1			05683	1
	*				
04610 DCFP7	DSC 1,1			05684	1
	1				
04620	DC 5,18139			05689	5
	J8139				
04630	DC 3,038			05692	3
	-38				
04640	DSC 5,05000			05693	5
	05000				

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1620 MONITOR 1		DUP ROUTINE	*SELECTION ROUTINE	PAGE	13
04650	DSC 1,1			05698	1
	*				
04660 LABL	DC 12,144453414253			05710	12
	J44453414253				
04670 DDAP8	DSC 2,22			05711	2
	22				
04680	DSA DCFP8			05717	5 X 1
	*				
				05717	-5719
04690	DSC 1,1			05718	1
	*				
04700 DCFP8	DSC 1,1			05719	1
	1				
04710	DC 5,18200			05724	5
	J8200				
04720	DC 3,020			05727	3
	-20				
04730	DSC 5,02502			05728	5
	02502				
04740	DSC 1,1			05733	1
	*				
04750 FLIB	DC 12,144446534942			05745	12
	J44446534942				
04760 DDAP9	DSC 2,22			05746	2
	22				
04770	DSA DCFP9			05752	5 X 1
	*				
				05752	-5754
04780	DSC 1,1			05753	1
	*				
04790 DCFP9	DSC 1,1			05754	1
	1				
04800	DC 5,18261			05759	5
	J8261				
04810	DC 3,017			05762	3
	-17				
04820	DC 5,03000			05767	5
	-3000				
04830	DSC 1,1			05768	1
	*				
04840	DSC 1,1,13775			13775	1
	*				
04850 ENTMES	DSA ENTER			05773	5 X 1
				05773	-5779
04860	DC 3,061			05776	3
	-61				
04870 ENTER	DAC 21,ENTER DUP CNTRL REC.'			05779	21 X 2
	ENTER DUP CNTRL REC.'				
04880 ERCD	DSA ERRCD			05824	5 X 1
				05824	-5829
04890	DC 3,061			05827	3
	-61				
04900 ERRCD	DAC 12,ERR CONTRL'			05829	12 X 2
	ERR CONTROL'				

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04910	DIMERR	DAC	13,DUP*ERROR 00*	05853	13 X	2
			DUP*ERROR 00*			
04920	HOLD6	DC	6,0	05883	6	
			-00000			
04930	ZERO6	DC	6,0	05880	6	
			-00000			
04940	DDREAD	DSC	2,22	05890	2	
			22			
04950		DSA	DMREAD	05896	5 X	1
04960		DSC	1,*	05896	-5898	
				05897	1	
04970	DMREAD	DSC	1,1	05898	1	
			1			
04980		DC	5,04800	05903	5	
			-4800			
04990		DC	3,001	05906	3	
			-01			
05000		DSA	READIN	05911	5 X	1
05010		DSC	1,*	05911	-5936	
				05912	1	
05020	ZERO12	DC	12,0	05924	12	
			-00000000000			
05030	CARDIU	DSA	INPUT	05929	5 X	1
05040		DC	3,10*	05929	J3613	
				05932	3	
05050		JO*	1,0			
			0	05935	1 X	2
05060	READIN	DSS	400	05936	400	
05070	SEL	TFM	10RT,++23	06336	16 00565	-6359
05080		B	10PT,SEL1,7	06348	49 00532	-6384
05090		TRA		06360	36 00000	00500
				06372	49 00000	00000
05100	SEL1	DSC	2,22	06384	2	
			22			
05110		DSA	SEL2	06390	5 X	1
05120		DC	1,*	06390	-6392	
				06391	1	
05130	SEL2	DSC	1,1	06392	1	
			1			
05140		DC	5,18550	06397	5	
			J8550			
05150		DC	3,036	06400	3	
			-36			
05160		DC	5,02402	06405	5	
			-2402			
05170		DC	1,*	06406	1	
05180		TCD	SEL	06336		

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05190	DEND			00000		
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BDTEST 03242	BMR 05042	DCFP8 05719	EQUIV 04910	REPL 05570
CALCOM 02770	CALLD 02734	DCFP9 05754	ERCD 05824	SEC22 04544
CALRPL 02862	CCD2 04692	DCF 02442	ERRCD 05829	SEC2 04536
CARDIO 05929	CCD 04684	DDA1 05280	FINE 05675	SEL1 06384
CONTCO 03050	COM22 05381	DDA2 05327	FL18 05745	SEL2 06392
DDRREAD 05890	COM2 05373	DDA3 05419	HOLD2 05279	SELEC 02402
DIMERR 05853	COPY 05582	DDA4 05350	HOLD5 05269	SEL 06336
DIMMER 04718	COR1 02348	DDA5 05396	HOLD6 05883	SL1 02272
DMREAD 05898	COR2 02356	DDA6 05442	INPUT 13613	SL2 02280
ENTMES 05773	COR 02300	DDAP1 05477	LOCAL 00716	TREC 04886
EQUDDCF 05649	DCF1 05288	DDAP2 05512	IOGT 00566	UP1 05198
EQUDDA 05641	DCF2 05335	DDAP5 05583	IOPT 00532	WR2 02257
ERREPL 05138	DCF3 05427	DDAP6 05618	IORT 00565	WRAD 05476
MAPDDA 05270	DCF4 05358	DDAP7 05676	LABL 05710	WR 02249
MONCAL 00796	DCF5 05404	DDAP8 05711	LOAD 05558	ZERO6 05889
NEWDIM 05306	DCF6 05450	DDAP9 05746	MAP 05307	SELECT 02458
NOCOMP 04146	DCFP1 05485	DDA 02434	MCS 17778	SELERR 02974
READIN 05936	DCFP2 05520	DELET 05617	RD1 04513	SOLDON 04560
REPLAC 02200	DCFP5 05591	DMP 02994	RD2 04521	SYSCAL 00475
RTURNL 04170	DCFP6 05626	DUMP 05546	RD 05118	ZERO12 05924
ALTR 05511	DCFP7 05684	ENTER 05779	RDWR 02205	

END OF ONE ASSEMBLY.

00010	DORG 2502	02502			
00020 DWRAD	SF CARD+31	02502 32	13644	00000	
00030	SF CARD+33	02514 32	13646	00000	
00040	TFM CNT,0,10	02526 16	05132	000-0	
00050	CM CARD+32,57,10	02538 14	13645	000N7	
00060	BNE Z5	02550 47	02582	01200	
00070	SF RDONLY	02562 32	05135	00000	
00080	B **20	02574 49	02594	00000	
00090	DORG *-3	02582			
00100 Z5	CF RDONLY	02582 33	05135	00000	
00110	CM CARD+34,69,10	02594 14	13647	00009	
00120	BNE NOZ	02606 47	02638	01200	
00130	SF ZERO	02618 32	05138	00000	
00140	B **20	02630 49	02650	00000	
00150	DORG *-3	02638			
00160 NOZ	CF ZERO	02638 33	05138	00000	
00170	TFM AN+6,NUMER	02650 16	02680	-5091	
00180	TFM AN+11,CARD+12	02662 16	02685	J3625	
00190 AN	TD NUMER,CARD+12	02674 25	05091	13625	
00200	AM AN+6,1,10	02686 11	02680	000-1	
00210	AM AN+11,2,10	02698 11	02685	000-2	
00220	CM AN+6,NUMER+26	02710 14	02680	-5117	
00230	BNE AN	02722 47	02674	01200	
00240	SF NUMER	02734 32	05091	00000	
00250	SF NUMER+14	02746 32	05105	00000	
00260	SF NUMER+20	02758 32	05111	00000	
00270	TFM SETFLG+11,CARD+11	02770 16	04555	J3624	
00280	TFM COMFLG+11,CARD+23	02782 16	04615	J3636	
00290	BTM SETFLG,**12	02794 17	04544	-2806	
00300	TFM SETFLG+11,CARD+39	02806 16	04555	J3652	
00310	TFM COMFLG+11,CARD+63	02818 16	04615	J3676	
00320	BTM SETFLG,**12	02830 17	04544	-2842	
00330	TF HOLDS,ENDAD	02842 26	05123	05116	
00340	S HOLDS,STARTA	02854 22	05123	05110	
00350	BL ERADDR	02866 47	04482	01300	
00360 INIT	RCTY	02878 34	00000	00102	
00370	SF BUTTOM	02890 32	00455	00000	
00380	SF ADDRS-4	02902 32	05092	00000	
00390	SF STARTA-4	02914 32	05106	00000	
00400	SF ENDAD-4	02926 32	05112	00000	
00410	RCTY	02938 34	00000	00102	
00420	WATY MES1	02950 39	04767	00100	
00430	BNF **32,ZERO	02962 44	02994	05138	
00440	WATY MES3	02974 39	04799	00100	
00450	B **20	02986 49	03006	00000	
00460	DORG *-3	02994			
00470	WATY MES2	02994 39	04789	00100	
00480	RCTY	03006 34	00000	00102	
00490	WATY MES4	03018 39	04809	00100	
00500	RCTY	03030 34	00000	00102	
00510	TDM ADDRS+1,...	03042 15	05097	00000	
00520	DSC 1,*,*	03053	1		
00530	TDM ENDAD+1,...	03054 15	05117	00000	
00540	DSC 1,*,*	03065	1		

1620 MONITOR 1				DUP ROUTINE	*DWRAD	PAGE		2
00550	TF	HOLDA,ENDAD+1		03066	26	05130	05117	
00560	TD	HOLDA-6,ENDAD-5		03078	25	05124	05111	
00570	TDM	STARTA+1,,,		03090	15	05111	00000	
00580	DSC	1,,,*		03101		1		
00590	WNTY	ADDRS-5		03102	38	05091	00100	
00600	SPTY			03114	34	00000	00101	
00610	WNTY	STARTA-5		03126	38	05105	00100	
00620	SPTY			03138	34	00000	00101	
00630	WNTY	HOLDA-6		03150	38	05124	00100	
00640	TF	ENDAD+1,HOLDA		03162	26	05117	05130	
00650	RCTY			03174	34	00000	00102	
00660	BTM	KYMESS,**12		03186	17	04662	-3198	
00670	RCTY			03198	34	00000	00102	
00680	TDM	INIT+2,0		03210	15	02880	00000	
00690	TF	NEW+11,STARTA		03222	26	03645	05110	
00700	SM	NEW+11,1,10		03234	12	03645	000-1	
00710	SEEKTR	DCF+5,ADDRS		03246	26	04981	05096	
00720	TD	DCF,ADDRS-5		03258	25	04976	05091	
00730	CF	DCF		03270	33	04976	00000	
00740	TFM	HOLD2,0,10		03282	16	05118	000-0	
00750	TD	HOLD2,ADDRS-1		03294	25	05118	05095	
00760	MM	HOLD2,5,10		03306	13	05118	000-5	
00770	BD	**20,99		03318	43	03338	00099	
00780	B	**20		03330	49	03350	00000	
00790	DORG	*-3		03338				
00800	SM	HOLD2,1,10		03338	12	05118	000-1	
00810	TD	DCF+4,HOLD2		03350	25	04980	05118	
00820	TDM	DCF+5,0		03362	15	04981	00000	
00830	TFM	DCF+3,TRACK		03374	16	04989	J3776	
00840	TF	WORKAD,ADDRS		03386	26	05145	05096	
00850	RDTRAK	DIO+35,TEST,67		03398	16	0085J	-4006	
00860	TFM	IORI,**23		03410	16	00565	-3433	
00870	B	IOPT,DATA,7		03422	49	00566	-5153	
00880	BD	WTNOFD,INIT+2		03434	43	03586	02880	
00890	TF	PUTNEW,INIT+2		03446	26	05152	05096	
00900	TD	TEMPY,ADDRS		03458	25	03481	05151	
00910	TD	**23,TEMPY-1		03470	25	03493	04529	
00920	SM	TEMPY-1,0,10		03482	12	05151	000-0	
00930	TDM	TEMPY,0		03494	15	05152	00000	
00940	S	WORKAD,TEMPY		03506	22	05145	05152	
00950	MM	WORKAD,105,9		03518	13	05145	00J05	
00960	SF	95		03530	32	00095	00000	
00970	AM	99,TRACK-101		03542	11	00099	J3675	
00980	TF	NEW+6,99		03554	26	03640	00099	
00990	TDM	INIT+2,1		03566	15	02880	00001	
01000	B	PUTNEW+12		03578	49	03598	00000	
01010	DORG	*-3		03586				
01020	PUTNEW	TFM NEW+6,TRACK-101		03586	16	03640	J3675	
01030	AM	NEW+11,1,10		03598	11	03645	000-1	
01040	CF	NEW+11		03610	33	03645	00000	
01050	AM	NEW+6,105,9		03622	11	03640	00J05	
01060	NEW	TFM		03634	16	00000	-0000	
01070	BNF	**20,ROONLY		03646	44	03666	05135	
01080	B	CKZERO		03658	49	03702	00000	
01090	DORG	*-3		03666				

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1620 MONITOR 1				DUP ROUTINE	*DWRAD	PAGE		3
01100	TF	**30,NEW+6		03666	26	03696	03640	
01110	SM	**18,4,10		03678	12	03696	000-4	
01120	CF			03690	33	00000	00000	
01130	CKZERO	BNF CKEND,ZERO		03702	44	03786	05138	
01140	TF	**30,NEW+6		03714	26	03744	03640	
01150	AM	**18,1,10		03726	11	03744	000-1	
01160	TR	,HUN		03738	31	00000	04991	
01170	TF	**30,*-6		03750	26	03780	03744	
01180	AM	**18,99,10		03762	11	03780	000R9	
01190	TDM			03774	15	00000	00000	
01200	CKEND	TFM NEW+11,ENDAD		03786	24	03645	05116	
01210	BNE	**92		03798	47	03890	01200	
01220	TFM	DIO+35,TEST,67		03810	16	0085J	-4006	
01230	TDM	WAGAIN,0		03822	15	04435	00000	
01240	TFM	IORI,**23		03834	16	00565	-3857	
01250	B	IOPT,DATA,7		03846	49	00532	-5153	
01260	BD	WTNOFD,THRU		03858	43	04098	04433	
01270	BD	*-60,WAGAIN		03870	43	03810	04435	
01280	B	EXIT2		03882	49	04426	00000	
01290	DORG	*-3		03890				
01300	CM	NEW+6,TRACK+1999		03890	14	03640	J5775	
01310	BNE	PUTNEW+12		03902	47	03598	01200	
01320	RITEBK	TFM DIO+35,TEST,67		03914	16	0085J	-4006	
01330	TDM	WAGAIN,0		03926	15	04435	00000	
01340	TFM	IORI,**23		03938	16	00565	-3961	
01350	B	IOPT,DATA,7		03950	49	00532	-5153	
01360	BD	WTNOFD,THRU		03962	43	04098	04433	
01370	BD	*-60,WAGAIN		03974	43	03914	04435	
01380	AM	ADDRS-1,02,10		03986	11	05095	000-2	
01390	B	SEEKTR		03998	49	03246	00000	
01400	DORG	*-3		04006				
01410	TEST	BI **12,3600		04006	46	04018	03600	
01420	BI	ERROR,1900		04018	46	00624	01900	
01430	AM	DCF+5,1,10		04030	11	04981	000-1	
01440	TDM	THRU,0		04042	15	04433	00000	
01450	AM	CNT,1,10		04054	11	05132	000-1	
01460	CM	CNT,20,10		04066	14	05132	000K0	
01470	BL	EXIT-12		04078	47	04406	01300	
01480	B	EXIT-24		04090	49	04394	00000	
01490	DORG	*-3		04098				
01500	WTNOFD	SM DCF+5,1,10		04098	12	04981	000-1	
01510	TD	NOFINO+12,DCF		04110	25	04885	04976	
01520	TD	NOFINO+14,DCF+1		04122	25	04887	04977	
01530	TD	NOFINO+16,DCF+2		04134	25	04889	04978	
01540	TD	NOFINO+18,DCF+3		04146	25	04891	04979	
01550	TD	NOFINO+20,DCF+4		04158	25	04893	04980	
01560	TD	NOFINO+22,DCF+5		04170	25	04895	04981	
01570	RCTY			04182	34	00000	00102	
01580	TFM	IORI,**23		04194	16	00565	-4217	
01590	B	IOPT,NOF-4,7		04206	49	00532	-5177	
01600	TFM	IORI,**23		04218	16	00565	-4241	
01610	B	IOPT,DATA,7		04230	49	00566	-5153	
01620	RCTY			04242	34	00000	00102	
01630	TFM	TRK,TRACK		04254	16	05173	J3776	
01640	TFM	**18,TRACK+5		04266	16	04284	J3781	
01650	TDM	TRACK+5,,2,		04278	15	J3781	00000	

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02490	DSA DCF			05159	5 X	1
02500	DC 1, *			05159	-4976	
02510 DATA	DS ,DDAA			05160	1	
02520 THRU	DSC 1,0,EXIT2+7			05153	0	
02530 WAGAIN	DSC 1,0,EXIT2+9			04433	1	
02540 IORT	DS ,565			04435	1	
02550 IOSK	DS ,554			00565	0	
02560 IOCT	DS ,566			00554	0	
02570 ERROR	DS ,624			00566	0	
02580 ERRET	DS ,602			00624	0	
02590 DIO	DS ,816			00602	0	
02600 IOPT	DS ,532			00816	0	
02610 IORBC	DS ,520			00532	0	
02620 MONCAL	DS ,796			00520	0	
02630 MESS	DSA KEYMES			00796	0	
				05165	5 X	1
02640	DC 3,06'			05165	-4899	
	-6'			05168	3	
02650 TRK	DSA TRACK			05173	5 X	1
02660	DC 3,00'			05173	J3776	
	-0'			05176	3	
02670 NOF	DSA NOFIND			05181	5 X	1
02680	DC 3,06'			05181	-4873	
	-6'			05184	3	
02690 SYSCAL	DS ,475			00475	0	
02700 WRAD	TFM IORT,**23			05186	16 00565	-5209
02710	B IOPT,WRAD1,7			05198	49 00532	-5234
02720	TRA			05210	36 00000	00500
02730 WRAD1	DSC 2,22			05222	49 00000	00000
	22			05234	2	
02740	DSA WRAD2			05240	5 X	1
02750	DC 1, *			05240	-5242	
	*			05241	1	
02760 WRAD2	DSC 1,1			05242	1	
02770	DC 5,18220			05247	5	
	J8220			05250	3	
02780	DC 3,027			05255	5	
	-27			05256	1	
02790	DC 5,02502					
	-2502					
02800	DC 1, *					
	*					

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02810	TCO WRAD			05186		
02820	DEND DWRAD			02502		

1620 MONITOR 1				DUP ROUTINE		*DNRAD		PAGE		8	
BUTTON	00455	AJUST	04529	EXIT2	04424	MES2	04789	WRAD2	05242		
CKZERO	03702	AM	02674	EXIT	04418	MES3	04799	WRAD	05186		
COMFLG	04604	CARD	13613	HOLD2	05118	MES4	04809	ZERO	05138		
DINERR	04847	CKEND	03786	HOLD5	05123	MES5	05165	ZS	02582		
ERADDR	04482	CNT	05132	HOLDA	05130	NEW	03634	SEEKTR	03246		
KEYMES	04899	DATA	05153	HUM	04991	NOF	05181	SETFLG	04544		
KYMES5	04662	DCF	04976	INIT	02878	NOZ	02638	STARTA	05110		
MONCAL	00796	DDAA	05153	INPUT	13613	NUMER	05091	SYSCAL	00475		
NOFIND	04873	DIO	00816	IOGT	00566	TEMPY	05152	WAGAIN	04435		
PUTNEW	03586	DWRAD	02502	IOPT	00532	TEST	04006	WOKKAD	05145		
RDDONLY	05135	ENDAD	05116	IORBC	00520	THRU	04433	WTNOFD	04098		
RDRTRK	03398	ERI	04636	IORT	00565	TRACK	13776				
RITERK	03914	ERRET	00602	IOSK	00554	TRK	05173				
ADDRS	05096	ERROR	00624	MES1	04767	WRAD1	05234				

END OF ONE ASSEMBLY.

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1620 MONITOR 1				DUP ROUTINE		*DALTR		PAGE		1	
00010	DORG	3000		03000							
00020	IOGT	DS	,566	00566		0					
00030	IORT	DS	,565	00565		0					
00040	IOPT	DS	,532	00532		0					
00050	DDAST	DS	,19800	19800		0					
00060	TFM	6,	SNEEZY	03000	16	00006	-3268				
00070	TFM	1,49,	10	03012	16	00001	000M9				
00080	B	FUR2		03024	49	03048	00000				
00090	DORG	4-3		03032							
00100	BOTCH	DC	5,0	03036		5					
		-0000									
00110	COUNT	DC	2,0	03038		2					
		-0									
00120	P	DS	,6	00006		0					
00130	Q	DS	,11	00011		0					
00140	L	DS	,12	00012		0					
00150	FILL	DS	,99999	99999		0					
00160	TEMP	DS	3	03041		3					
00170	SAVADD	DS	5	03046		5					
00180	FUR2	RCTY		03048	34	00000	00102				
00190	SF	**21		03060	32	03081	00000				
00200	TFM	SECTAD+2,		03072	16	05484	-0000				
00210	DC	1,',*-2		03081		1					
		,									
00220	DC	1,',*-1		03082		1					
		,									
00230	DC	1,',*		03083		1					
		,									
00240	WATY	ADRMES		03084	39	05439	00100				
00250	RCTY			03096	34	00000	00102				
00260	A100	TFM	IORT,**23	03108	16	00565	-3131				
00270	B	IOGT,BRC1-4,7		03120	49	00566	-6678				
00280	BC4	A100-L		03132	46	03096	00400				
00290	BNR	PROD1,SECTAD+1		03144	45	03220	05483				
00300	BNR	PROD1,SECTAD+2		03156	45	03220	05484				
00310	BNR	A200,SECTAD-5		03168	45	03422	05477				
00320	TDM	475,3		03180	15	00475	00003				
00330	49	796		03192	49	00796	00000				
00340	DORG	*-3		03200							
00350	BNR	**20,SECTAD		03200	45	03220	05482				
00360	B	PROD1		03212	49	03220	00000				
00370	DORG	*-3		03220							
00380	PROD1	RCTY		03220	34	00000	00102				
00390	WATY	BADTYP		03232	39	03301	00100				
00400	RCTY			03244	34	00000	00102				
00410	48	,,,FOR AIR		03256	48	00000	00000				
00420	SNEEZY	TFM	IORT,**23	03268	16	00565	-3291				
00430	B	IOGT,TRWADR,7		03280	49	00566	-3398				
00440	B	03000		03292	49	03000	00000				
00450	DORG	*-3		03300							
00460	BADTYP	DAC	49,SECTOR ADDRESS ILLEGAL, START TO RE-ENTER *DALTR'	03301		49 X	2				
		SECTOR ADDRESS ILLEGAL, START TO RE-ENTER *DALTR'									
00470	TRWADR	DSC	2,22	03398		2					
		22									
00480	DSA	SKUNK		03404		5 X	1				

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00490	DC	1,'		03404	-3406		
				03405	1		
00500	SKUNK	DSC	1,0	03406	1		
		0					
00510	DC	5,19300		03411	5		
		J9300					
00520	DC	3,050		03414	3		
		-50					
00530	DC	5,03000		03419	5		
		-3000					
00540	DC	1,'		03420	1		
00550	A200	RCTY		03422	34	00000	00102
00560		BNF	**20,SECTAD	03434	44	03454	05482
00570		B	PROD1	03446	49	03220	00000
00580		DORG	*-3	03454			
00590		BNF	**20,SECTAD-1	03454	44	03474	05481
00600		B	PROD1	03466	49	03220	00000
00610		DORG	*-3	03474			
00620		BNF	**20,SECTAD-2	03474	44	03494	05480
00630		B	PROD1	03486	49	03220	00000
00640		DORG	*-3	03494			
00650		BNF	**20,SECTAD-3	03494	44	03514	05479
00660		B	PROD1	03506	49	03220	00000
00670		DORG	*-3	03514			
00680		BNF	**20,SECTAD-4	03514	44	03534	05478
00690		B	PROD1	03526	49	03220	00000
00700		DORG	*-3	03534			
00710		BNF	**20,SECTAD-5	03534	44	03554	05477
00720		B	PROD1	03546	49	03220	00000
00730		DORG	*-3	03554			
00740		TF	A110*L+5,SECTAD	03554	26	03607	05482
00750		TFM	A110*L+13,SECTRI	03566	16	03615	-5504
00760		SF	A110*13	03578	32	03603	00000
00770	A110	B	A110PL,,, NO DORG	03590	49	03618	00000
00780		DSC	6,0	03602			6
		000000					
00790		DC	3,001	03610			3
		-01					
00800		DC	5,0	03615			5
		-0000					
00810		DC	1,'	03616			1
00820	A110PL	TFM	IORT,**23	03618	16	00565	-3641
00830		B	IOGT,BRC2,7	03630	49	00566	-6686
00840		RCTY		03642	34	00000	00102
00850		WATY	FRSTHF	03654	39	06287	00100
00860		TFM	LOOP9*P,**2*L	03666	16	05432	-3690
00870		BTM	LOOP,SECTRI-11	03678	17	05246	-5493
00880		WATY	ORIG	03690	39	06307	00100
00890		RCTY		03702	34	00000	00102
00900		WATY	SECHF	03714	39	06327	00100
00910		TFM	LOOP9*P,**2*L	03726	16	05432	-3750
00920		BTM	LOOP,SECTRI+39	03738	17	05246	-5543
00930		WATY	ORIG	03750	39	06307	00100

00940	TRWFIX	RCTY		03762	34	00000	00102
00950		RCTY		03774	34	00000	00102
00960		WATY	SECMES	03786	39	05607	00100
00970		RCTY		03798	34	00000	00102
00980		TFM	SECTION,0	03810	16	05626	-0000
00990		DC	5,00000,*	03821			5
		-0000					
01000	A130	TFM	IORT,**23	03822	16	00565	-3845
01010		B	IOGT,BRC3-4,7	03834	49	00566	-6694
01020		BC4	A130-4*L	03846	46	03774	00400
01030		BNR	PROD2,SECTION+1	03858	45	06346	05627
01040		BNR	PROD2,SECTION+2	03870	45	06346	05628
01050		BNR	**20,SECTION-1	03882	45	03902	05625
01060		B	WRFILE	03894	49	05126	00000
01070		DORG	*-3	03902			
01080		BNF	**20,SECTION	03902	44	03922	05626
01090		B	PROD2	03914	49	06346	00000
01100		DORG	*-3	03922			
01110		BNF	**20,SECTION-1	03922	44	03942	05625
01120		B	PROD2	03934	49	06346	00000
01130		DORG	*-3	03942			
01140		SF	SECTION-1	03942	32	05625	00000
01150		CM	SECTION,10,10	03954	14	05626	000J0
01160		BH	PROD2	03966	46	06346	01100
01170		SM	SECTION,1,9	03978	12	05626	00-01
01180		TFM	LOOP2+11,SECTRI-1	03990	16	05293	-5503
01190		A	LOOP2+10,SECTION	04002	21	05292	05626
01200		TF	SAVADD,LOOP2+11	04014	26	03046	05293
01210		RCTY		04026	34	00000	00102
01220		TFM	COUNT,4,10	04038	16	03038	000-4
01230		TFM	LOOP9*P,**2*L	04050	16	05432	-4074
01240		BT	LOOP2,LOOP2-1	04062	27	05282	05281
01250		TFM	TRDIG+11,SECTRI-1	04074	16	04133	-5503
01260		TFM	TRDIG+6,SECTRI-1	04086	16	04128	-6183
01270		AM	TRDIG+6,1,10	04098	11	04128	000-1
01280		AM	TRDIG+11,1,10	04110	11	04133	000-1
01290	TRDIG	TD		04122	25	00000	00000
01300		CM	TRDIG+11,SECTRI+100	04134	14	04133	-5604
01310		BNE	**48	04146	47	04098	01200
01320		SPTY		04158	34	00000	00101
01330		WATY	MESX	04170	39	05453	00100
01340		RCTY		04182	34	00000	00102
01350		TR	AREA,CLEAR	04194	31	05630	05849
01360	A140	TFM	IORT,**23	04206	16	00565	-4229
01370		B	IOGT,BRC4-4,7	04218	49	00566	-6702
01380		BC4	A140	04230	46	04206	00400
01390	*		TO PLACE AN INDICATION AFTER LAST CHARACTER ENTERED FROM THE				
01400	*		TYPEWRITER				
01410	SCAN	TFM	**35,AREA+219	04242	16	04277	-5849
01420		SM	**23,2,10	04254	12	04277	000-2
01430		TF	TEMP	04266	26	03041	00000
01440		BD	SCAN1,TEMP	04278	43	04370	03041
01450		BD	SCAN1,TEMP-1	04290	43	04370	03040
01460		CM	SCAN+35,AREA+1	04302	14	04277	-5631
01470		BNE	SCAN+12	04314	47	04254	01200
01480		RCTY		04326	34	00000	00102

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01490	WATY	NOTHNG	04338	39	04069	00100
01500	RCTY		04350	34	00000	00102
01510	B	A140	04362	49	04206	00000
01520	DORG	--3	04370			
01530	SCAN1	TF BOTCH,SCAN+35	04370	26	03036	04277
01540	SM	BOTCH,AREA-1	04382	12	03036	-5629
01550	MM	BOTCH,05,10	04394	13	03036	000-5
01560	A	97,SECTON	04406	21	00097	05626
01570	SF	96	04418	32	00096	00000
01580	CM	99,1000,8	04430	14	00099	0J000
01590	BH	PROD3	04442	46	06524	01100
01600	TF	++30,SCAN+35	04454	26	04484	04277
01610	AM	++18,2,10	04466	11	04484	000-2
01620	TFM	,99,10	04478	16	00000	000R9
01630	HEART	TFM ++59,AREA-1	04490	16	04549	-5629
01640	TF	MOVE+6,SAVADD	04502	26	04788	03046
01650	AM	MOVE+6,1,10	04514	11	04788	000-1
01660	AM	++23,2,10	04526	11	04549	000-2
01670	TF	TEMP	04538	26	03041	00000
01680	BNR	++20,TEMP	04550	45	04570	03041
01690	B	MOVE	04562	49	04782	00000
01700	DORG	--3	04570			
01710	CM	TEMP,99,10	04570	14	03041	000R9
01720	RE	COREND,,,SENSED LAST DIGIT OF CORRECTION MADE TO SECTOR	04582	46	04866	01200
01730	CM	TEMP,0,10	04594	14	03041	000-0
01740	BE	HEART+36,,,SENSED A SPACE BETWEEN SECTIONS	04606	46	04526	01200
01750	CM	TEMP,34,10,CHECK FOR NUMERIC BLANK	04618	14	03041	000L4
01760	BNE	++32	04630	47	04662	01200
01770	TDM	TEMP	04642	15	03041	00000
01780	DNB	1,*	04653			
01790	H	MOVE	04654	49	04782	00000
01800	DORG	--3	04662			
01810	CM	TEMP,20,10, CHECK FOR FLAGGED ZERO (HYPHEN)	04662	14	03041	000K0
01820	BE	MOVE-12	04674	46	04770	01200
01830	CM	TEMP,67,10,CHK.FOR NO CHANGE	04686	14	03041	00007
01840	BE	HEART+24	04698	46	04514	01200
01850	CM	TEMP,47,10	04710	14	03041	000M7
01860	BE	FLGM	04722	46	04834	01200
01870	CM	TEMP,66,10	04734	14	03041	00006
01880	BE	FLRM	04746	46	04802	01200
01890	BH	MOVE	04758	46	04782	01100
01900	SF	TEMP	04770	32	03041	00000
01910	MOVE	TD ,TEMP	04782	25	00000	03041
01920	B	HEART+24	04794	49	04514	00000
01930	DORG	--3	04802			
01940	FLRM	TDM TEMP,	04802	15	03041	00000
01950	DC	1,*,*	04813			
01960	SF	TEMP	04814	32	03041	00000
01970	B	MOVE	04826	49	04782	00000
01980	DORG	--3	04834			
01990	FLGM	TDM TEMP,0	04834	15	03041	00000
02000	DGM	*	04845			
02010	SF	TEMP	04846	32	03041	00000
02020	B	MOVE	04858	49	04782	00000
02030	DORG	--3	04866			

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02040	COREND	RCTY	04866	34	00000	00102
02050	WATY	FRSTHF	04878	39	06287	00100
02060	TFM	LOOP9+P,++2*L	04890	16	05432	-4914
02070	BTM	LOOP,SECTR2-11	04902	17	05246	-6173
02080	WATY	ORIG	04914	39	06307	00100
02090	RCTY		04926	34	00000	00102
02100	WATY	FRSTHF	04938	39	06287	00100
02110	TFM	LOOP9+P,++2*L	04950	16	05432	-4974
02120	BTM	LOOP,SECTR1-11	04962	17	05246	-5493
02130	WATY	CORRTD	04974	39	06163	00100
02140	RCTY		04986	34	00000	00102
02150	RCTY		04998	34	00000	00102
02160	WATY	SECHF	05010	39	06327	00100
02170	TFM	LOOP9+P,++2*L	05022	16	05432	-5046
02180	BTM	LOOP,SECTR2+39	05034	17	05246	-6223
02190	WATY	ORIG	05046	39	06307	00100
02200	RCTY		05058	34	00000	00102
02210	WATY	SECHF	05070	39	06327	00100
02220	TFM	LOOP9+P,++2*L	05082	16	05432	-5106
02230	BTM	LOOP,SECTR1+39	05094	17	05246	-5543
02240	WATY	CORRTD	05106	39	06163	00100
02250	B	TRWFIX	05118	49	03762	00000
02260	DORG	--3	05126			
02270	WRFILE	TFM IORT,++23	05126	16	00565	-5149
02280	B	IOPT,BRC2,7	05138	49	00532	-6686
02290	RCTY		05150	34	00000	00102
02300	WATY	FLSEC	05162	39	06137	00100
02310	TFM	IORT,++23	05174	16	00565	-5197
02320	B	IOPT,BRC1-4,7	05186	49	00532	-6678
02330	WATY	CORRTD	05198	39	06163	00100
02340	HALT	NOP	05210	41	00000	00000
02350	B	FUR2	05222	49	03048	00000
02360	NOP		05234	41	00000	00000
02370	LOOP	TF LOOP2+11,+-1	05246	26	05293	05245
02380	TFM	COUNT,0,10	05258	16	03038	000-0
02390	AM	LOOP2+11,10,10	05270	11	05293	000J0
02400	LOOP2	TFM TR+11	05282	16	05341	-0000
02410	TFM	TR+6,19989	05294	16	05336	J9989
02420	AM	TR+6,1,10	05306	11	05336	000-1
02430	AM	TR+11,1,10	05318	11	05341	000-1
02440	TR	TD 19990,	05330	25	19990	00000
02450	CM	TR+6,19999	05342	14	05336	J9999
02460	BNE	TR-24	05354	47	05306	01200
02470	A120	35 19990,00100	05366	35	19990	00100
02480	SPTY		05378	34	00000	00101
02490	AM	COUNT,1,10	05390	11	03038	000-1
02500	CM	COUNT,5,10	05402	14	03038	000-5
02510	BNE	LOOP+24	05414	47	05270	01200
02520	LOUP9	B FILL	05426	49	99999	00000
02530	ADRMS	DAC 7,SECTOR'	05439			7 X 2
		SECTOR'				
02540	MESX	DAC 12,TYPE CHANGE'	05453		12 X	2
		TYPE CHANGE'				
02550	SECTAD	DC 7,0	05482		7	
		-000000				
02560	DS	6,,BUFFER AREA IN CASE OF MISTAKES ENTERING FILE ADDRESS	05488		6	

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1620 MONITOR 1			DUP ROUTINE	*DALTR	PAGE	8
03250	TABB	DSC 1,1			06766	1
		1				
03260		DC 5,19300			06771	5
		J9300				
03270		DC 3,038			06774	3
		-38				
03280		DC 6,03000'			06780	6
		-3000'				
03290		TCD TABC			06710	
03300		DEND 0			00000	

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1620 MONITOR 1			DUP ROUTINE	*DALTR	PAGE	9			
ALLOPL	03618	AREA	05630	HALT	05210	PROD3	06524	SAVADD	03046
ADMES	05439	BOTCH	03036	HEART	04490	P	00006	SECME	05607
BADTYP	03301	BRC1	06682	IOGT	00566	Q	00011	SECTAD	05482
COREND	04866	BRC2	06686	IOPT	00532	SCAN1	04370	SECTON	05626
CORRTD	06163	BRC3	06698	IORT	00565	SCAN	04242	SECTR1	05504
FRSTHF	06287	BRC4	06706	LDDP2	05282	SECHF	06327	SECTR2	06184
NOTHNG	06069	CLEAR	05849	LDDP9	05426	SFLAG	06068	SNEEZY	03268
PROD31	06605	COUNT	03038	LOOP	05246	SKUNK	03406	SUBINS	05489
A100	03108	DDAST	19800	L	00012	TABA	06758	TRWADR	03398
A110	03590	FILL	99999	MESX	05453	TABB	06766	TRWFIX	03762
A120	05366	FLGM	04834	MOVE	04782	TABC	06710	UGDOFD	06427
A130	03822	FLRM	04802	ORIG	06307	TEMP	03041	WRFILE	05126
A140	04206	FLSEC	06137	PROD1	03220	TRDIG	04122		
A200	03422	FUR2	03048	PROD2	06346	TR	05330		

END OF ONE ASSEMBLY.

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00010 ***** DISK UTILITY PROGRAM FOR 1620 *DLABL
00020 *****
00030 *****
00040
00050 DLABL DDRC 2502
SF INPUT+21,,10 02502 32 13634 000-0
00060 CM INPUT+22,0,10 02514 14 13635 000-0
00070 BE ERR1 02526 46 03822 01200
00080 CM INPUT+22,73,10 02538 14 13635 000P3
00090 BH ERR10 02550 46 03842 01100
00100 CM INPUT+22,70,10 02562 14 13635 000P0
00110 BL ERR10 02574 47 03842 01300
00120 SF INPUT+11 02586 32 13624 00000
00130 L INPUT+20,ZERO10 02598 24 13633 04225
00140 BE ERR1 02610 46 03822 01200
00150 TD PACK,INPUT+20 02622 25 04230 13633
00160 TD PACK-1,INPUT+18 02634 25 04229 13631
00170 TD PACK-2,INPUT+16 02646 25 04228 13629
00180 TD PACK-3,INPUT+14 02658 25 04227 13627
00190 TD PACK-4,INPUT+12 02670 25 04226 13625
00200 SF PACK-4 02682 32 04226 00000
00210 M PACK,0,8 02694 14 04230 0-000
00220 BT ERR10 02706 46 03842 01200
00230 TFM SETFLG+11,INPUT+11 02718 16 02741 J3624
00240 SETFLG SF +*11,INPUT+11,6 02730 32 0274J 13624
00250 AM SETFLG+11,1,10 02742 11 02741 000-1
00260 CM SETFLG+11,70,610 02754 14 0274J 000P0
00270 BL ERR10 02766 47 03842 01300
00280 AM SETFLG+11,1,10 02778 11 02741 000-1
00290 CM SETFLG+11,INPUT+21 02790 14 02741 J3634
00300 BL SETFLG 02802 47 02730 01300
00310 TD MOD,INPUT+22 02814 25 02513 13635
00320 TD +*47,INPUT+22 02826 25 02873 13635
00330 A +*35,,*35 02838 21 02873 02873
00340 AM +*23,1,10 02850 11 02873 000-1
00350 TDM INPUT+22,0,8 02862 15 13635 0-000
00360 TFM ADDR5,RDAREA+71,, DETERMINE ADDRESS 02874 16 04280 J3847
00370 TDM DDAL2+1,0,11 02886 15 04202 0000-
00380 TDM DDAL2,0 02898 15 04201 00000
00390 TFM IORT,++23 02910 16 00565 -4193
00400 B IOGT,DDAL1,7 02922 49 00566 -4193
00410 TD +*22,INPUT+22 02934 25 02956 13635
00420 AM ADDR5,0,9 02946 11 04280 00-00
00430 TD DDAL2+1,ADDR5,11 02958 25 04202 0428-
00440 TD DDAL4+1,ADDR5,11 02970 25 04133 0428-
00450 TD DDAL6+1,ADDR5,11 02982 25 04156 0428-
00460 TD DDAL8+1,ADDR5,11 02994 25 04179 0428-
00470 TD DDAL2,INPUT+22 03006 25 04201 13635
00480 SM DDAL2+5,10000,7 03018 12 04206 J0000
00490 TFM IORT,++23 03030 16 00565 -3053
00500 B IOGT,DDAL1,7 03042 49 00566 -4193
00510 TFM TEST48+11,RDAREA+61 03054 16 03089 J3837
00520 BNF RSPT,RDAREA+61 03066 44 03178 13837
00530 TEST48 BNR +*20,RDAREA+61 03078 45 03098 13837
00540 B RSPT 03090 49 03178 00000
00550 DDRC +*3 03098
00560 AM TEST48+11,1,10 03098 11 03089 000-1
    
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00570 CM TEST48+11,RDAREA+65,7 03110 14 03089 J3841
00580 BH +*32 03122 46 03154 01100
00590 BNF TEST48,TEST48+11,11 03134 44 03078 0308R
00600 B RSPT 03146 49 03178 00000
00610 DDRC +*3 03154
00620 CM RDAREA+65,04800,7 03154 14 13841 -4800
00630 BE LAB 03166 46 03574 01200
00640 *****
00650 * REINITIALIZE SEQUENTIAL PROGRAM TABLE
00660 *****
00670 RSPT TD DDAL8,INPUT+22 03178 25 04178 13635
00680 TFM SEV+11,7000,8 03190 16 03249 0P000
00690 TF SEV+23,*-1 03202 26 03261 03201
00700 TFM IORT,++23 03214 16 00565 -3237
00710 B IOGT,DDAL7,7 03226 49 00566 -4170
00720 SEV TFM RDAREA+3,7000,8 03238 16 13779 0P000
00730 CM SEV+11,7000,8 03250 14 03249 0P000
00740 BE +*48 03262 46 03310 01200
00750 SM SEV+6,3,10 03274 12 03244 000-3
00760 CF SEV+6,,6 03286 33 0324M 00000
00770 AM SEV+6,3,10 03298 11 03244 000-3
00780 AM SEV+6,4,10 03310 11 03244 000-4
00790 TFM SEV+6,9200,68 03322 16 0324M 0R200
00800 SM SEV+6,3,10 03334 12 03244 000-3
00810 CF SEV+6,,6 03346 33 0324M 00000
00820 AM SEV+6,7,10 03358 11 03244 000-7
00830 AM SEV+11,1,10 03370 11 03249 000-1
00840 CM SEV+11,7099,8 03382 14 03249 0P099
00850 BL SEV 03394 47 03238 01300
00860 AM SEV+6,24,10 03406 11 03244 00GK4
00870 TF SEV+6,LSTFNT+3,6 03418 26 0324M 04259
00880 SM SEV+6,4,10 03430 12 03244 000-4
00890 A SEV+6,MOD,6 03442 21 0324M 02513
00900 SM SEV+6,4,10 03454 12 03244 000-4
00910 A SEV+6,MOD,6 03466 21 0324M 02513
00920 SM SEV+6,8,10 03478 12 03244 000-8
00930 A SEV+6,MOD,6 03490 21 0324M 02513
00940 SM SEV+6,4,10 03502 12 03244 000-4
00950 A SEV+6,MOD,6 03514 21 0324M 02513
00960 SM SEV+6,7,10 03526 12 03244 000-7
00970 CF SEV+6,,6 03538 33 0324M 00000
00980 TFM IORT,++23 03550 16 00565 -3573
00990 B IOPT,DDAL7,7 03562 49 00532 -4170
01000 *****
01010 ***** LABEL DISK PACK
01020 *****
01030 LAB TD DDAL4,INPUT+22 03574 25 04132 13635
01040 SF BUTON 03586 32 00455 00000
01050 BTM KYMESS,++12 03598 17 03916 -3610
01060 TFM IORT,++23 03610 16 00565 -3633
01070 B IOGT,DDAL3,7 03622 49 00566 -4124
01080 SF RDAREA 03634 32 13776 00000
01090 TF RDAREA+9,PACK 03646 26 13785 04230
01100 TFM IORT,++23 03658 16 00565 -3681
01110 B IOPT,DDAL3,7 03670 49 00532 -4124
01120 TD DDAL6,INPUT+22 03682 25 04155 13635
    
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01130	TFM	IORT,++23	03694	16	00565	-3717
01140	B	IOGT,DDAL5,7	03706	49	00566	-4147
01150	TFM	RDAREA+1999,00199,7	03718	16	15775	-0199
01160	CF	RDAREA+1995	03730	33	15771	00000
01170	TF	RDAREA+2034,PACK	03742	26	15810	04230
01180	TFM	IORT,++23	03754	16	00565	-3777
01190	B	IOPT,DDAL5,7	03766	49	00532	-4147
01200	CF	BUTTON	03778	33	00455	00000
01210	BTM	KYMESS,++12	03790	17	03916	-3802
01220	TDM	SYSCAL,3	03802	15	00475	00003
01230	B	MONCAL	03814	49	00796	00000
01240	DORG	*-3	03822			
01250	ERR1	TFM DIMERR+22,0071,8	03822	16	04121	0-071
01260	B	ERR10+12	03834	49	03854	00000
01270	DORG	*-3	03842			
01280	ERR10	TFM DIMERR+22,7170,8	03842	16	04121	0P170
01290	RCTY		03854	34	00000	00102
01300	TFM	IORT,++23	03866	16	00565	-3889
01310	B	IOPT,ERRMES-4,7	03878	49	00532	-4260
01320	H		03890	48	00000	00000
01330	B	ERR1-20	03902	49	03802	00000
01340	DORG	*-3	03910			
01350	DC	5,0	03914		5	
		-0000				
01360	KYMESS	BNF ++32,BUTTON	03916	44	03948	00455
01370	TFM	KEYMES+24,5500,8	03928	16	04045	0N500
01380	B	*+20	03940	49	03960	00000
01390	DORG	*-3	03948			
01400	TFM	KEYMES+24,4646,8	03948	16	04045	0M646
01410	RCTY		03960	34	00000	00102
01420	TFM	IORT,++23	03972	16	00565	-3995
01430	B	IOPT,MESS-4,7	03984	49	00532	-4268
01440	H		03996	48	00000	00000
01450	B	KYMESS-1,,6	04008	49	0391N	00000
01460	RDAREA	DSS 2100,13776	13776		2100	
01470	KEYMES	DAC 39,DUP* TURN OFF WRITE ADDRESS KEY, START'	04021		39 X	2
		DUP* TURN OFF WRITE ADDRESS KEY, START'				
01480	DIMERR	DAC 13,DUP*ERROR 00'	04099		13 X	2
		DIIP*ERROR 00'				
01490	DDAL3	DSC 2,26	04124		2	
		26				
01500	DSA	DDAL4	04130		5 X	1
01510	DSC	1,'	04130		-4132	
		'	04131		1	
01520	DDAL4	DSC 1,0	04132		1	
		U				
01530	DC	5,19800	04137		5	
		J9800				
01540	DC	3,020	04140		3	
		-20				
01550	USA	RDAREA	04145		5 X	1
01560	DSC	1,'	04145		J3776	
		'	04146		1	

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01570	DDAL5	DSC 2,26	04147		2	
		26				
01580	DSA	DDAL6	04153		5 X	1
01590	DSC	1,'	04153		-4155	
		'	04154		1	
01600	DDAL6	DSC 1,0	04155		1	
		O				
01610	DC	5,19980	04160		5	
		J9980				
01620	DC	3,020	04163		3	
		-20				
01630	DSA	RDAREA	04168		5 X	1
01640	DSC	1,'	04168		J3776	
		'	04169		1	
01650	DDAL7	DSC 2,22	04170		2	
		22				
01660	DSA	DDAL8	04176		5 X	1
01670	DSC	1,'	04176		-4178	
		'	04177		1	
01680	DDAL8	DSC 1,0	04178		1	
		O				
01690	DC	5,19801	04183		5	
		J9801				
01700	DC	3,010	04186		3	
		-10				
01710	DSA	RDAREA	04191		5 X	1
01720	DSC	1,'	04191		J3776	
		'	04192		1	
01730	DDAL1	DSC 2,22	04193		2	
		22				
01740	DSA	DDAL2	04199		5 X	1
01750	DSC	1,'	04199		-4201	
		'	04200		1	
01760	DDAL2	DSC 1,0	04201		1	
		O				
01770	DC	5,04800	04206		5	
		-4800				
01780	DC	3,002	04209		3	
		-02				
01790	DSA	RDAREA	04214		5 X	1
01800	DSC	1,'	04214		J3776	
		'	04215		1	
01810	IORT	DS ,565	00565		0	
01820	IOGT	DS ,566	00566		0	

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1620 MONITOR 1 DUP ROUTINE *DLABL				PAGE	5
01030	INPUT	DAS	81,13613	13613	81 X 2
01040	ZERO10	DC	10,0	04225	10
			-000000000		
01050	PACK	UC	5,0	04230	5
			-0000		
01060	MONPK	DSC	1,0	04231	1
			0		
01070	MONCAL	DS	,796	00796	0
01080	BUTTON	DSC	1,0,455	00455	1
			0		
01090	IOPT	DS	,532	00532	0
01900	LSTENT	DC	25,709901580004909901660162'	04256	25
			P09901580004909901660162'		
01910		DSC	3,000	04257	3
			000		
01920	ERRMES	DSA	DIMERR	04264	5 X 1
				04264	-4099
01930		DC	3,06'	04267	3
			-6'		
01940	MESS	DSA	KEYMES	04272	5 X 1
				04272	-4021
01950		DC	3,06'	04275	3
			-6'		
01960	ADDRS	DSA	RDAREA+71	04280	5 X 1
				04280	J3847
01970	MOD	DS	,DLABL+11	02513	0
01980	SYSCAL	DS	,475	00475	0
01990	LABL	TFM	IORT,++23	04282	16 00565 -4305
02000		B	IOPT,LABL1,7	04294	49 00532 -4330
02010		TRA		04306	36 00000 00500
				04318	49 00000 00000
02020	LABL1	DSC	2,22	04330	2
			22		
02030		DSA	LABL2	04336	5 X 1
				04336	-4338
02040		DC	1,1'	04337	1
			'		
02050	LABL2	DSC	1,1	04338	1
			1		
02060		DC	5,18200	04343	5
			J8200		
02070		DC	3,020	04346	3
			-20		
02080		DC	5,02502	04351	5
			-2502		
02090		DC	1,1'	04352	1
			'		
02100		TCD	LABL	04282	
02110		DEND	02502	02502	

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1620 MONITOR 1 DUP ROUTINE *DLABL				PAGE	6				
BUTTON	00455	ADDRS	04280	DDAL8	04178	LABL1	04330	RSPT	03178
DIMERR	04099	DDAL1	04193	DLABL	02502	LABL2	04338	SEV	03238
ERRMES	04264	DDAL2	04201	ERR10	03842	LABL	04282	SETFLG	02730
KEYMES	04021	DDAL3	04124	ERR1	03822	LAB	03574	SYSCAL	00475
KEYMESS	03916	DDAL4	04132	INPUT	13613	MESS	04272	TEST48	03078
LSTENT	04256	DDAL5	04147	IOGT	00566	MOD	02513	ZERO10	04225
MONCAL	00796	DDAL6	04155	IOPT	00532	MONPK	04231		
RDAREA	13776	DDAL7	04170	IORT	00565	PACK	04230		

END OF ONE ASSEMBLY.

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Address	Label	Operation	Value	Address	Value	Address	Value
00010	*	DUP ROUTINE	DFLIB				
00020		DORG	3000	03000			
00030	IORT	DS	,565	00565	0		
00040	MONCAL	DS	,796	00796	0		
00050	IOGT	DS	,566	00566	0		
00060	IOPT	DS	,532	00532	0		
00070	D4800	DSC	2,22	03000	2		
00080		DSA	DIMDDA	03006	5 X	1	
00090		DC	1,'	03006	-3008		
				03007	1		
00100	DIMDDA	DSC	1,1	03008	1		
00110		DSA	4800	03013	5 X	1	
00120		DC	3,1	03013	-4800		
				03016	3		
00130		DSA	DSEC	03021	5 X	1	
00140		DC	1,'	03021	-9900		
				03022	1		
00150	DEQU	DSC	2,22	03023	2		
00160		DSA	EQUIV	03029	5 X	1	
00170		DC	1,'	03029	-9940		
				03030	1		
00180	LIBEF	DSC	2,22	03031	2		
00190		DSA	DSEC	03037	5 X	1	
00200		DC	1,'	03037	-9900		
				03038	1		
00210	*						
00220	INEQU	DS	,10000	10000	0		
00230	DSEC	DS	,9900	09900	0		
00240	CC	DS	,13613	13613	0		
00250	DFLIB	SF	CC+25,,, SET FLAG ON NUMBER	03040	32	13638	00000
00260		SF	CC+11,,, SET FLAG ON NAME	03052	32	13624	00000
00270	BD	ERTEN,CC+23		03064	43	03740	13636
00280	BD	ERTEN,CC+24		03076	43	03740	13637
00290	BD	**20,CC+25		03088	43	03108	13638
00300	B7	ERTEN		03100	49	03740	
00310	BD	**20,CC+27		03108	43	03128	13640
00320	B7	ERTEN		03120	49	03740	
00330	TFM	BM+11,CC-2		03128	16	03187	J3611
00340	AM	BM+11,1		03140	11	03187	-0001
00350	CM	BM+11,CC+29,7		03152	14	03187	J3642
00360	BE	RMDK		03164	46	03196	01200
00370	BM	BNR	AM,0=0	03176	45	03140	00000

00380	B7	ERTEN		03188	49	03740	
00390	*						
00400	RMDK	BTM	CKZRO,00,10	03196	17	03552	000-0
00410		TFM	IORT,**23,, READ EQU TABLE DIM	03208	16	00565	-3231
00420	B	IOGT,D4800,7		03220	49	00566	-3000
00430	TF	CNT,EQUIV+8,, SAVE NUMB SECTORS IN DIM		03232	26	03051	09948
00440	TFM	EQUIV+13,INEQU		03244	16	09953	J0000
00450	TFM	EQUIV+8,8,9, SET NUM SECTOR TO 8		03256	16	09948	00-08
00460	TR	DSEC,EQUIV		03268	31	09900	09940
00470	SM	CNT,8,9		03280	12	03051	00-08
00480	RDEQU	TFM	IORT,**23,, READ EIGHT SECTORS OF TABLE	03292	16	00565	-3315
00490	B	IOGT,DEQU,7		03304	49	00566	-3023
00500	TFM	COMP+11,INEQU-5		03316	16	03395	-9995
00510	ADEQU	AM	COMP+11,16	03328	11	03395	-0016
00520	BNR	**20 ,COMP+11,11		03340	45	03360	0339N
00530	B7	OKALL		03352	49	04162	
00540	CM	COMP+11,INEQU+800		03360	14	03395	J0800
00550	BH	TESTL		03372	46	03506	01100
00560	COMP+11	C	CC+22,0=0	03384	24	13635	00000
00570	BNE	ADEQU		03396	47	03328	01200
00580	RCTY			03408	34	00000	00102
00590	TFM	STERR+24,7571,8		03420	16	03501	0P571
00600	WATY	STERR		03432	39	03477	00100
00610	NAMER	TDM	CC+24,0	03444	15	13637	00000
00620	DC	1,'*		03455		1	
00630	WATY	CC+12		03456	39	13625	00100
00640	B7	EXITE		03468	49	03636	
00650	STERR	DAC	15,DUP* ERROR 51 *	03477		15 X	2
00660	TESTL	CM	CNT,0,9	03506	14	03051	00-00
00670	EQUIV	DS	,DSEC+40	09940		0	
00680	BNH	OKALL		03518	47	04162	01100
00690	A	EQUIV+5,EQUIV+8		03530	21	09945	09948
00700	B7	RDEQU-12		03542	49	03280	
00710	CNT	DS	,DFLIB+11	03051		0	
00720	DS	2		03550		2	
00730	CKZRO	C	CC+22,ZERD,, TEST FOR INVALID OPERAND OR OPERAND MISSING	03552	24	13635	03794
00740	BE	ERONE		03564	46	03600	01200
00750	C	CC+28,ZERD-8		03576	24	13641	03786
00760	BNE	OVERR		03588	47	03656	01200
00770	ERONE	RCTY		03600	34	00000	00102
00780	TFM	STERR+24,0071,8		03612	16	03501	0-071
00790	WATY	STERR		03624	39	03477	00100
00800	SYSICAL	DS	,475	00475		0	
00810	EXITE	H		03636	48	00000	00000
00820	B7	MONCAL		03648	49	00796	
00830	OVERR	TD	DIG,CC+25	03656	25	03688	13638
00840	CF	DIG		03668	33	03688	00000
00850	CM	DIG,7,710		03680	14	03688	-00-7
00860	BNE	ERTEN		03692	47	03740	01200
00870	TD	DIG,CC+27		03704	25	03688	13640
00880	CM	DIG,7,10		03716	14	03688	000-7
00890	BE	OVTEN		03728	46	03796	01200
00900	ERTEN	RCTY		03740	34	00000	00102
00910	TFM	STERR+24,7170,8		03752	16	03501	0P170

00920	WATY STERR	03764	39	03477	00100
00930	B7 EXITE	03776	49	03636	
00940	DIG DS ,OVERR+32	03688		0	
00950	ZERD DC 12,0	03794		12	
	-00000000000				
00960	* MORE VALID OPERAND CHECKS				
00970	OVTEN TFM SFVAL+6 , CC+11	03796	16	03838	J3624
00980	TFM CVAL , CC+12	03808	16	03843	J3625
00990	TDM SFVAL+13,9	03820	15	03845	00009
01000	SFVAL SF 0=0	03832	32	00000	00000
01010	CVAL DS ,SFVAL+11	03843		0	
01020	49 CKIST	03844	49	03984	00000
01030	CKSP CM CVAL , 41,610	03856	14	0384L	000M1
01040	BL ERTEN	03868	47	03740	01300
01050	AM CVAL ,2	03880	11	03843	-0002
01060	CF SFVAL+6,,6	03892	33	03830	00000
01070	AM SFVAL+6,2,10	03904	11	03838	000-2
01080	SF SFVAL+6,,6	03916	32	03830	00000
01090	CM CVAL ,00,610	03928	14	0384L	000-0
01100	BE CKBLK	03940	46	04052	01200
01110	CM CVAL ,CC+22	03952	14	03843	J3635
01120	BNN RNGECK	03964	46	04088	01300
01130	B7 SFVAL	03976	49	03832	
01140	CKIST TDM SFVAL+13,1	03984	15	03845	00001
01150	CM CVAL,79,610	03996	14	0384L	000P9
01160	BH ERTEN	04008	46	03740	01100
01170	CM CVAL ,70,610	04020	14	0384L	000P0
01180	BL CKSP	04032	47	03856	01300
01190	B7 ERTEN	04044	49	03740	
01200	*				
01210	CKBLK C CC+22,ZERD	04052	24	13635	03794
01220	BI **12,1400	04064	46	04076	01400
01230	BNE ERTEN	04076	47	03740	01200
01240	*				
01250	* CHECK RANGE OF DIM NUMB				
01260	RNGECK CF SFVAL+6,,6	04088	33	03830	00000
01270	CM CC+28,7170,8	04100	14	13641	0P170
01280	BL ERTEN	04112	47	03740	01300
01290	CM CC+28,7379,8	04124	14	13641	0P379
01300	BH ERTEN	04136	46	03740	01100
01310	SF CC+11	04148	32	13624	00000
01320	B82	04160	42		
01330	* END OF VALIDITY CHECKS				
01340	DKALL TFM IORT,**23	04162	16	00565	-4185
01350	B IOGT,LIBEF,7, RD LIBRARY NAMES	04174	49	00566	-3031
01360	CO DS ,RNGECK	04088		0	
01370	TFM CO+11,INEQU-5,	04186	16	04099	-9995
01380	A2EQU AM CO+11,16	04198	11	04099	-0016
01390	C CO+11,NINES,67	04210	24	0409R	-4312
01400	BE PUT	04222	46	04314	01200
01410	CM CO+11,INEQU+779	04234	14	04099	J0779
01420	BNH A2EQU	04246	47	04198	01100
01430	RCTY	04258	34	00000	00102
01440	TFM STERR+24,7574,8	04270	16	03501	0P574
01450	WATY STERR	04282	39	03477	00100
01460	B7 NAMER	04294	49	03444	

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01470	NINES DC 12,999999999999	04312		12	
	R999999999999				
01480	PUT TF CO+11,CC+22,6	04314	26	0409R	13635
01490	AM CO+11,4	04326	11	04099	-0004
01500	TFM CO+11,0,68	04338	16	0409R	0-000
01510	TD CO+11,CC+28,6	04350	25	0409R	13641
01520	SM CO+11,1	04362	12	04099	-0001
01530	TD CO+11,CC+26,6	04374	25	0409R	13639
01540	TFM IORT,**23	04386	16	00565	-4409
01550	B IOPT,LIBEF,7, WR LIBRARY NAMES	04398	49	00532	-3031
01560	* WRITE CONFIRM MESSAGE				
01570	RCTY	04410	34	00000	00102
01580	WATY PLACE	04422	39	04575	00100
01590	SM CO+11,1	04434	12	04099	-0001
01600	TDM CO+11,0,6	04446	15	0409R	00000
01610	DC 1,*,*	04457		1	
	*				
01620	SM CO+11,12	04458	12	04099	-0012
01630	WATY CO+11,,6	04470	39	0409R	00100
01640	AM CO+11,12	04482	11	04099	-0012
01650	TFM CO+11,0,610	04494	14	0409R	000-0
01660	AM CO+11,3	04506	11	04099	-0003
01670	TDM CO+11,0,6	04518	15	0409R	00000
01680	DC 1,*,*	04529		1	
	*				
01690	SM CO+11,4	04530	12	04099	-0004
01700	WNTY CO+11,,6	04542	38	0409R	00100
01710	TDM SYSCAL,3	04554	15	00475	00003
01720	B7 EXITE+12	04566	49	03648	
01730	PLACE DAC 26,FORTRAN LIB NAME ENTERED *	04575		26 X	2
	FORTRAN LIB NAME ENTERED *				
01740	*				
01750	DEND	00000			

DIMDDA	03008	CKBLK	04052	DFLIB	03040	IOPT	00532	PUT	04314
MONCAL	00796	CKSP	03856	DIG	03688	IORT	00565	RDEQU	02292
RNGECK	04088	CKZRO	03552	DSEC	09900	LIBEF	03031	RMOK	03196
A2EQU	04198	CNT	03051	EQUIV	09940	NAMER	03444	SFVAL	03832
ADEQU	03328	COMPN	03384	ERONE	03600	NINES	04312	STERR	03477
AM	03140	CO	04088	ERTEN	03740	OKALL	04162	TESTL	03506
BM	03176	CVAL	03843	EXITE	03636	OVERR	03656	ZERD	03794
CC	13613	D4800	03000	INEQU	10000	QVTEN	03796	SYSVAL	00475
CK1ST	03984	DEQU	03023	IOGT	00566	PLACE	04575		

END OF ONE ASSEMBLY.

00010	DORG	2700				02700			
00020	DC	2,-11,6301				06301		2	
	JJ								
00030	DC	2,-33,6303				06303		2	
	LL								
00040	DC	2,-55,6305				06305		2	
	NN								
00050	DC	2,-77,6307				06307		2	
	PP								
00060	DC	2,-99,6309				06309		2	
	RR								
00070	POINT	DS	,6300			06300		0	
00080	LASTNU	DC	5,9,6314			06314		5	
00090	NUMSEC	DC	3,100,6317			06317		3	
	J00								
00100	*	DCOPY	DUP	ROUTINE					
00110	INEQU	DS	,10000			10000		0	
00120	CC	DS	,13613, ALPHA INPUT FOR CONTROL STATEMENT			13613		0	
00130	IOPT	DS	,532			00532		0	
00140	IOGT	DS	,566			00566		0	
00150	IORT	DS	,565			00565		0	
00160	IDRBC	DS	,520			00520		0	
00170	MONCAL	DS	,796			00796		0	
00180	SYSVAL	DS	,475			00475		0	
00190	*	CK	FOR RK MK IN CONTROL RECORD						
00200	DCOPY	TFM	TRM+11,CC-2			02700	16	02759	J3611
00210	BAKT	AM	TRM+11,2			02712	11	02759	-0002
00220	CM	TRM+11,CC+51*2				02724	14	02759	J3715
00230	BH	GOONT				02736	46	02780	01100
00240	TRM	BNR	BAKT,0*0			02748	45	02712	00000
00250	TFM	STERR+24,7170,8				02760	16	03633	0P170
00260	B7	ERONE+12				02772	49	03552	
00270	*								
00280	*								
00290	GOONT	B0	**20,CC+73,, BR IF TO SECTOR GIVEN			02780	43	02800	13686
00300	B7	ERONE,,, OPERAND MISSING				02792	49	03540	
00310	SF	CC+99,,, SET UP AND CHECK FOR FILE PROTECTION DESIRED				02800	32	13712	00000
00320	CM	CC+100,57,10				02812	14	13713	000N7
00330	BNE	*+24				02824	47	02848	01200
00340	SF	STCHG+1,,, SET IND IF FILE PROTECTION DESIRED				02836	32	02861	00000
00350	RD	SFSECL,CC+61,,BR IF SECTOR LIMITS GIVEN				02848	43	03176	13674
00360	*	ROUTINE TO CONVERT ALPHA TO NUMERIC							
00370	STCHG	TFM	ST1+6,CC+23			02860	16	02890	J3636
00380	TFM	ST1+11,CC+24				02872	16	02895	J3637
00390	ST1	TD	CC+23,CC+24			02884	25	13636	13637
00400	AM	ST1+6,1				02896	11	02890	-0001
00410	*	CK	FOR NON-NUMERIC SECTOR ADDRESS						
00420	CM	ST1+11,CC+40				02908	14	02895	J3653
00430	BL	ON				02920	47	03036	01300
00440	SM	ST1+11,1				02932	12	02895	-0001
00450	TD	*+35,ST1+11,11				02944	25	02979	0289N
00460	AM	ST1+11,1				02956	11	02895	-0001
00470	CM	*+8,07000,710				02968	14	02976	-70-0
00480	BE	ON				02980	46	03036	01200
00490	CM	*-13,0,10				02992	14	02979	000-0

1620 MONITOR 1 DUP ROUTINE		*DCOPY	PAGE		2
00500	BE	ON	03004	46	03036 01200
00510	TFM	STERR+24,7175,8	03016	16	03633 0P175
00520	B7	ERONE+12	03028	49	03552
00530	ON	AM	03036	11	02895 -0002
00540	CM	STI+11,CC+76	03048	14	02895 J3689
00550	BL	STI	03060	47	02884 01300
00560	BTM	BAK,CKLIM+11,, GET SYSTEM DIMS	03072	17	03268 -3207
00570	MM	DCOPY+68,5,10	03084	13	02768 000-5
00580	TF	LASTNO,99,, PUT LARGEST LEGAL DIM NUMB+1 IN LASTNO	03096	26	06314 00099
00590	*	SAVE SCRATCH AREA DIM			
00600	COPY	DS ,DCOPY	02700		0
00610	TR	COPY+100,COPY+20	03108	31	02800 02720
00620	TDM	COPY+110,0	03120	15	02810 00000
00630	TDM	COPY+109,0	03132	15	02809 00000
00640	A	COPY+108,COPY+108	03144	21	02808 02808
00650	LENC	DS ,COPY+110	02810		0
00660	LENC	DS ,COPY+110	02810		0
00670	*				
00680	BNF	GOAGIN,STCHG+13,, BR IF NO SECTOR LIMITS	03156	44	03452 02873
00690	B7	CKLIM,,, LIMITS GIVEN - GO CHECK LIMITS	03168	49	03196
00700	SFSECL	SF STCHG+13,,, PRESERVE INDICATION THAT SECTOR LIMITS GIVEN	03176	32	02873 00000
00710	DIMNO	DS ,CC+26	13639		0
00720	B7	STCHG	03188	49	02860
00730	CKLIM	SF CC+31,2,8, CHECK FOR VALID LIMITS Q HAS NUM EQU DIM	03196	32	13644 0-002
00740	SF	CC+37	03208	32	13650 00000
00750	C	CC+36,CC+42	03220	24	13649 13655
00760	BNH	GOON	03232	47	03968 01100
00770	TFM	STERR+24,7177,8, END ADDRESS GREATER THAN BEGINNING ADDRESS	03244	16	03633 0P177
00780	B7	ERONE+12	03256	49	03552
00790	*	GET DIM ROUTINE - ENTER USING BTM BAK,DIMADR			
00800	*	GET DIM ROUTINE - UPON EXIT DIM IS IN ADDR AT RMCK+11			
00810	DS	5	03267		5
00820	BAK	C *-1, LASTNO,6, CK FOR DIM IN RANGE	03268	24	0326P 06314
00830	BL	**+32,,, BR IF DIM OK	03280	47	03312 01300
00840	TFM	STERR+24,0076,8, DIM TOO LARGE	03292	16	03633 0-076
00850	B7	ERONE+12,	03304	49	03552
00860	TFM	CALCI,4800,, CALCULATE THE FROM ADDRESS DIM ADDRESS	03312	16	03642 -4800
00870	TDM	CALCI+1,0	03324	15	03643 00000
00880	A	CALCI+1,BAK-1,11	03336	21	03643 0326P
00890	A	CALCI+1,BAK-1,11	03348	21	03643 0326P
00900	IF	DDADIM,CALCI,, PUT SECTOR ADDRESS IN DDA	03360	26	03657 03642
00910	TFM	IORT,**+23	03372	16	00565 -3395
00920	B	IOGT,DEF1,7, GET DIM	03384	49	00566 -3644
00930	TD	**+22,CALCI+1	03396	25	03418 03643
00940	RMCK	BNR BBDIM ,RDDIM,7,BR IF DIM IS OK	03408	45	03440 -2700
00950	TFM	STERR+24,0074,8, ERROR-DIM NOT IN USE	03420	16	03633 0-074
00960	B7	ERONE+12	03432	49	03552
00970	BBDIM	BB	03440	42	00000 00000
00980	*				
00990	GOAGIN	SF DIMNO-3	03452	32	13636 00000
01000	CM	CC+26,0,8	03464	14	13639 0-000
01010	BNE	BTMD	03476	47	03496 01200
01020	B7	EQUATLU,,, GO GET DIM NUMBER	03488	49	03676
01030	BTMD	TFM DDADIM+8,DCOPY-100,, ALTER THE LINKAGE TO RD DIMS	03496	16	03665 -2600
01040	TFM	RMCK+11,DCOPY-100,, ALTER THE DIM GET ROUTINE	03508	16	03419 -2600
01050	BTM	BAK,DIMNO,, GET DIM	03520	17	03268 J3639

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1620 MONITOR 1 DUP ROUTINE		*DCOPY	PAGE		3
01060	B7	OKGOON	03532	49	04084
01070	*				
01080	ERONE	TFM STERR+24,0071,8, ERROR-TO SECTOR NOT GIVEN	03540	16	03633 0-071
01090	RCTY		03552	34	00000 00102
01100	WATY	STERR	03564	39	03609 00100
01110	EXIT	H	03576	48	00000 00000
01120	OKEXIT	BI **+12,1400	03588	46	03600 01400
01130	B7	MONCAL,,, ONLY EXIT FROM ROUTINE	03600	49	00796
01140	STERR	DAC 15,DUP+ ERROR XX '	03609		15 X 2
		DUP+ ERROR XX '			
01150	*				
01160	CALCI	DC 5,0	03642		5
		-0000			
01170	DS	1	03643		1
01180	DEF1	DSC 2,22	03644		2
		22			
01190	DSA	DDADIM-5	03650		5 X 1
01200	DC	1,1	03650		-3652
			03651		1
01210	DSC	1,1	03652		1
		1			
01220	RDDIM	DS ,DCOPY	02700		0
01230	DDADIM	UC 5,0	03657		5
		-0000			
01240	DC	3,1	03660		3
		-01			
01250	DSA	RDDIM	03665		5 X 1
01260	DC	1,1	03665		-2700
			03666		1
01270	*				
01280	DEQU	DSC 2,22	03667		2
		22			
01290	DSA	DCOPY+40	03673		5 X 1
01300	DC	1,1	03673		-2740
			03674		1
01310	*				
01320	*	TLU EQUIVALENCE TABLE			
01330	EQUATLU	BD **+20,CC+11	03676	43	03696 13624
01340	B7	ERONE,,, ERROR - ESSENTIAL OPERAND BLANK	03688	49	03540
01350	CNT	DS ,ERONE+10	03558		0
01360	TF	CNT,DCOPY+48,,SAVE NUM SECTORS IN EQU TABLE	03696	26	03558 02748
01370	TFM	DCOPY+53,INEQU,7, FILL IN CORE ADDRESS	03708	16	02753 J0000
01380	TFM	DCOPY+48,16,9, SET NUM SECTORS TO 16	03720	16	02748 00-16
01390	SF	CC+11	03732	32	13624 00000
01400	SM	CNT,16,9	03744	12	03558 00-16
01410	RDEQU	TFM IORT,**+23,, RD 16 SECTORS EQ TAB	03756	16	00565 -3779
01420	B	IOGT,DEQU,7	03768	49	00566 -3667
01430	TFM	COMP+11,INEQU-5	03780	16	03859 -9995
01440	ADEQU	AM COMP+11,16	03792	11	03859 -0016
01450	BNR	**+20,COMP+11,11	03804	45	03824 03859

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1620 MONITOR 1 DUP ROUTINE *DCOPY				PAGE	4
01460	B7	ERR20,,	ERROR - NAME NOT IN EQU TAB	03816	49 03948
01470	CM	COMP+11,INEQU+1600		03824	14 03859 J1600
01480	BH	TESTL,,	BR IF END OF 16 SECTORS	03836	46 03904 01100
01490	*				
01500	COMP	C CC+22,0=0		03848	24 13635 00000
01510	BNE	ADEQU,,	BR NOT FOUND, TRY AGAIN	03860	47 03792 01200
01520	FOUND	AM COMP+11,4		03872	11 03859 -0004
01530	TF	DIMNO,COMP+11,11,	NAME FOUND - MOVE NUMBER	03884	26 13639 0385R
01540	B7	BTMD,,	TAKE SAME PATH AS IF DIM NUM GIVEN	03896	49 03496
01550	*				
01560	TESTL	CM CNT,0,9		03904	14 03558 00-00
01570	BNH	ERR20,,	ERROR - NAME NOT IN EQ TAB	03916	47 03948 01100
01580	A	DCOPY+45,DCOPY+48		03928	21 02745 02748
01590	B7	RDEQU-12		03940	49 03744
01600	ERR20	TFM STERR+24,7270 ,8,	NOT IN EQ TAB	03948	16 03633 0P270
01610	B7	ERONE+12		03960	49 03552
01620	*				
01630	*				
01640	GOON	S CC+42,CC+36,,	CHANGE SECTOR LIMITS TO SECTOR COUNT	03968	22 13655 13649
01650	AM	CC+42,1		03980	11 13655 -0001
01660	TF	SAVSCT,CC+42,,	SAVE THE SECTOR COUNT	03992	26 04312 13655
01670	SF	CC+40		04004	32 13653 00000
01680	TF	CC+39,CC+42		04016	26 13652 13655
01690	BAK3	CF CC+31,,,	MOVE	04028	33 13644 00000
01700	SF	CC+32,,,	FLAG	04040	32 13645 00000
01710	TDM	CC+40,0		04052	15 13653 00000
01720	DC	1,,*		04063	1
01730	TR	RDDIM,CC+31		04064	31 02700 13644
01740	B7	LOK		04076	49 04120
01750	DKGOON	TR RDDIM,RMCK+11,11,	MOVE FROM DIM	04084	31 02700 0341R
01760	TF	SAVSCT, RDDIM+8,,	SAVE SECTOR COUNT	04096	26 04312 02708
01770	CF	SAVSCT-2		04108	33 04310 00000
01780	SAV2	DS ,*		04119	0
01790	LOK	TFM RDDIM+13,INEQU		04120	16 02713 J0000
01800	*		THE NUMB SECTORS NEEDED IS IN SAVSCT		
01810	*				
01820	SF	CC+44		04132	32 13657 00000
01830	TF	RDDIM+60+5,CC+48,,	MOVE THE	04144	26 02765 13661
01840	TD	RDDIM+60,CC+43 ,,	TO SECTOR	04156	25 02760 13656
01850	TDM	RDDIM+14,0		04168	15 02714 00000
01860	DC	1,,*		04179	1
01870	TR	RDDIM+60+6,RDDIM+6,,	PUT SECTOR COUNT + CORE ADDR IN TO DDA	04180	31 02766 02706
01880	*		GET SP LIST		
01890	TD	DDASPL,RDDIM+60,,	GET CORRECT MODULE AND	04192	25 04327 02760
01900	TD	+35 ,RDDIM+61,,	ADDRESS SCHEME FOR SP LIST	04204	25 04239 02761
01910	CF	+23		04216	33 04239 00000
01920	TD	DDASPL+1,POINT		04228	25 04328 04300
01930	TFM	IORT,+23 ,,	READ THE	04240	16 00565 -4263
01940	B	IOGT,DEFSPL,7,	SP LIST	04252	49 00566 -4319
01950	*		SEARCH FOR CYLINDER		
01960	CYLCMP	MM RDDIM+65,5		04264	13 02765 -0005
01970	TFM	94,70,10,	SET UP THE SP LIST CYL ENTRY	04276	16 00094 000P0
01980	TF	CYLCMP+3,96		04288	26 04267 00096
01990	*		CYLINDER DESIRED IS AT CYLCMP+3 IN 70XX FORMAT		

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1620 MONITOR 1 DUP ROUTINE *DCOPY				PAGE	5
02000	B7	CKSPL		04300	49 04342
02010	SAVSCT	DC 6,0		04312	6
		-00000			
02020	SAVCPY	DC 6,0		04318	6
		-00000			
02030	DEFSPL	DSC 2,22		04319	2
02040	DSA	DDASPL		04325	5 X 1
				04325	-4327
02050	DC	1,1		04326	1
02060	DDASPL	DS 1		04327	1
02070	DSA	19801		04332	5 X 1
				04332	J9801
02080	DC	3,100		04335	3
02090	J00				
	DSA	INEQU		04340	5 X 1
				04340	J0000
02100	DC	1,1		04341	1
02110	*		LOOK FOR CYLINDER ENTRY OF TO CYLINDER		
02120	CKSPL	SF INEQU ,+2		04342	32 J0000 00000
02130	AM	CKSPL+6,4		04354	11 04348 -0004
02140	AM	CKSPL+42,4		04366	11 04384 -0004
02150	C	INEQU-1,CYLCMP+3,2		04378	24 -9999 04267
02160	BNE	CKSPL		04390	47 04342 01200
02170	*		SP POINTER IN CKSPL+42 HAS ADDR OF CYL ENTRY FOR THE		
02180	*		CYLINDER CONTAINING THE TO SECTOR		
02190	TF	WK1,CKSPL+42,11,	MOVE THE 70XX	04402	26 04556 0438M
02200	TDM	WK1-2,0,11,	MAKE FIELD OXX	04414	15 04554 000-0
02210	A	WK1,WK1,,	FIVE DIGIT SECTOR ADDR OF CYL IS AT WK2	04426	21 04556 04556
02220	*		WK2 CONTAINS THE 5 DIGIT SECTOR ADDRESS OF THE TO CYL		
02230	*		RDDIM+65 CONTAINS THE 5 DIGIT TO SECTOR ADDRESS		
02240	*		CKSPL+42 CONTAINS THE ADDRESS OR THE TO CYL ENTRY IN SP LIST		
02250	*				
02260	LAB	SF CKSPL+6,,6		04438	32 04340 00000
02270	AM	CKSPL+6,4		04450	11 04348 -0004
02280	AM	CKSPL+42,4		04462	11 04384 -0004
02290	CM	CKSPL+42,9000,68		04474	14 0438M 0R000
02300	BH	AVLENT		04486	46 04560 01100
02310	CM	CKSPL+42,7000,68		04498	14 0438M 0P000
02320	BH	ERUNA		04510	46 04648 01100
02330	CM	CKSPL+42,0001,68		04522	14 0438M 0-001
02340	BE	SCRENT		04534	46 04668 01200
02350	B7	DIMENT		04546	49 04728
02360	WK1	DC 4,0		04556	4
		-000			
02370	DSC	1,0		04557	1
		0			
02380	WK2	DSC 1,0		04558	1
		0			
02390	*		SAVSCT CONTAINS THE SECTOR COUNT TO BE COPIED		
02400	*		SENSC CONTAINS THE SECTOR COUNT OF SCRATCH AREA		

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02410	*						
02420	AVLENT	TF	WKA,CKSPL+42,11	04560	26	06227	0438M
02430		SF	WKA-2	04572	32	06225	00000
02440	A		WK2,WKA,, ADD THE AVAIL SECTORS TO START OF CYLINDER	04584	21	04558	06227
02450	OUTF1	C	WK2,RDDIM+65	04596	24	04558	02765
02460	BH		**20	04608	46	04628	01100
02470	R7		LAB	04620	49	04438	
02480	OUTF	SM	WK2,1	04628	12	04558	-0001
02490	B7		FOUND5	04640	49	04808	
02500	ERUNA	TFM	STERR+24,0078,8	04648	16	03633	0-078
02510	B7		ERONE+12	04660	49	03552	
02520	SCRENT	TF	WK2,COPY+25	04668	26	04558	02725
02530	A		WK2,LENSC	04680	21	04558	02810
02540	CF		STCHG+1	04692	33	02861	00000
02550	TFM		STERR+24,7176,8	04704	16	03633	0P176
02560	B		OUTF	04716	49	04628	00000
02570	*						
02580	*						
02590	DIMENT	TF	WKA,CKSPL+42,11	04728	26	06227	0438M
02600	RTM		BA,WKA	04740	17	03268	-6227
02610	TR		WKDIM, RMCK+11,11	04752	31	06228	0341R
02620	A		WK2,WKDIM+8,, ADD SECTOR COUNT TO BEGIN OF CYL	04764	21	04558	06236
02630	C		WK2,RDDIM+65	04776	24	04558	02765
02640	BH		ERUNA	04788	46	04648	01100
02650	B7		LAB	04800	49	04438	
02660	*						
02670	*		WHEN FOUND5 IS ENTERED WK2 CONTAINS ADDR OF LAST SECT AVAIL				
02680	FOUND5	TF	WKHICP,RDDIM+65	04808	26	06223	02765
02690	A		WKHICP,RDDIM+68,, ADD SECTOR COUNT TO THE TO SECTOR ADDR	04820	21	06223	02768
02700	SM		WKHICP,1,, OBTAIN THE LAST SECTOR TO BE COPIED	04832	12	06223	-0001
02710	CKIT	C	WK2,WKHICP	04844	24	04558	06223
02720	BNL		COPYIT	04856	46	05064	01300
02730	CM		CKSPL+42,0001,68	04868	14	0438M	0-001
02740	BE		ERONE+12	04880	46	03552	01200
02750	*						
02760	LABZ	AM	CKSPL+42,1,10	04892	11	04384	000-1
02770	SF		CKSPL+42,,6	04904	32	0438M	00000
02780	AM		CKSPL+6,4	04916	11	04348	-0004
02790	AM		CKSPL+42,3	04928	11	04384	-0003
02800	CM		CKSPL+42,9000,68	04940	14	0438M	0R000
02810	BH		AVL	04952	46	04996	01100
02820	CM		CKSPL+42,7000,68	04964	14	0438M	0P000
02830	BH		LABZ	04976	46	04892	01100
02840	R7		ERUNA	04988	49	04648	
02850	AVL	TF	WKA,CKSPL+42,11	04996	26	06227	0438M
02860	SF		WKA-2	05008	32	06225	00000
02870	A		WK2,WKA	05020	21	04558	06227
02880	C		WK2,WKHICP,, WKHICP IS LAST SECTOR TO BE COPIED	05032	24	04558	06223
02890	BH		COPYIT	05044	46	05064	01100
02900	B7		LARZ	05056	49	04892	
02910	*						
02920	*		COPY SUBROUTINE				
02930	COPYIT	TF	SAVCPY,SAVSCT,, SAVE THE NUM OF SECTORS	05064	26	04318	04312
02940	TFM		RDDIM+33,INEQU	05076	16	02733	J0000
02950	TF		RDDIM+25,RDDIM+65	05088	26	02725	02765
02960	TD		RDDIM+20,RDDIM+60	05100	25	02720	02760

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02970	SAVRD	DS	,FOUND5	04808		0	
02980	SAVWR	DS	,RDEQU	03756		0	
02990	TR		SAVRD,RDDIM	05112	31	04808	02700
03000	TR		SAVWR,RDDIM+20	05124	31	03756	02720
03010	REPEAT	S	SAVCPY,NUMSEC	05136	22	04318	06317
03020	CHGP	BL	ADJUST	05148	47	05192	01300
03030	TF		RDDIM+8,NUMSEC	05160	26	02708	06317
03040	TF		RDDIM+28,NUMSEC	05172	26	02728	06317
03050	B7		RDRH	05184	49	05252	
03060	ADJUST	A	SAVCPY,NUMSEC	05192	21	04318	06317
03070	SF		SAVCPY-2	05204	32	04316	00000
03080	TF		RDDIM+8,SAVCPY	05216	26	02708	04318
03090	TF		RDDIM+28,SAVCPY	05228	26	02728	04318
03100	S		SAVCPY,SAVCPY	05240	22	04318	04318
03110	RDRH	TFM	IORT,**23	05252	16	00565	-5275
03120	B		IORT,DEFIN,7, READ IN NUMSEC - OR LAST REMAINDER RECORD	05264	49	00566	-5379
03130	BD		SETFPR,CHGP+7,, BR WHILE FLIP PROTECTION IS OCCURRING	05276	43	06036	05155
03140	WRDSKF	TFM	IORT,**23	05288	16	00565	-5311
03150	B		IORT,DEFOUT,7, WRITE COPY	05300	49	00532	-5387
03160	A		RDDIM+5,RDDIM+8	05312	21	02705	02708
03170	A		RDDIM+25,RDDIM+28	05324	21	02725	02728
03180	CFINS	CF	SAVCPY-2	05336	33	04316	00000
03190	CM		SAVCPY,0,, IS RD-WR FINISHED	05348	14	04318	-0000
03200	BNZ		REPEAT	05360	47	05136	01200
03210	*		TRANSFER OF DATA IS COMPLETE				
03220	B7		LCOPY-12	05372	49	05396	
03230	DEFIN	DSC	2,22	05379		2	
03240	DSA		RDDIM	05385		5 X	1
03250	DC		1,1	05385		-2700	
03260	DEFOUT	DSC	2,22	05387		2	
03270	DSA		RDDIM+20	05393		5 X	1
03280	DC		1,1	05393		-2720	
03290	*		CHECK FOR FILE PROTECTION DESIRED				
03300	BNF		**20,STCHG+1	05396	44	05416	02861
03310	LCOPY	B7	FILPRO	05408	49	05714	
03320	*		END ROUTINE				
03330	ENDC	TDM	SAVRD+6,0	05416	15	04814	00000
03340	DC		1,1,1	05427		1	
03350	TDM		SAVWR+6,0	05428	15	03762	00000
03360	DC		1,1,1	05439		1	
03370	TDM		SAVSCT+1	05440	15	04313	00000
03380	DC		1,1,1	05451		1	
03390	RCTY			05452	34	00000	00102
03400	WNTY		SAVSCT-4	05464	38	04308	00100
03410	WATY		FINNES	05476	39	05605	00100

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03420	BNF	**36,STCHG+1	05488	44	05524	02861
03430	WNTY	SAVRD+5	05500	38	05743	00100
03440	R	**24	05512	49	05536	00000
03450	WNTY	SAVRD	05524	38	04808	00100
03460	WATY	FINMS2	05536	39	05665	00100
03470	WNTY	SAVWR	05548	38	03756	00100
03480	BNF	**24,STCHG+1	05560	44	05584	02861
03490	WATY	FL	05572	39	05675	00100
03500	TDM	SYSCAL,3	05584	15	00475	00003
03510	B7	OKEKIT	05596	49	03588	
03520	*					
03530	FINMES	DAC 30, SECTORS OF DATA COPIED FROM '	05605		30 X	2
		SECTORS OF DATA COPIED FROM '				
03540	FINMS2	DAC 5, TO '	05665		5 X	2
		TO '				
03550	FL	DAC 20, AND FILE PROTECTED'	05675		20 X	2
		AND FILE PROTECTED'				
		FILE PROTECTION ROUTINE				
03560	*					
03570	FILPRO	RCTY	05714	34	00000	00102
03580	WATY	KEYMES	05726	39	05915	00100
03590	SAVRD	H 0,0,7	05738	48	00000	-0000
03600	DC	1,*,*	05749		1	
		'				
03610	TFM	KEYMES+24,4646,8	05750	16	05939	0M646
03620	TDM	DEFIN+1,6	05762	15	05380	00006
03630	TDM	DEFOUT+1,6	05774	15	05388	00006
03640	TDM	CHGP+7,1,, SET IND FOR FILE PROTECTION BRANCH	05786	15	05155	00001
03650	TF	CFINS+11,DUM1+11	05798	26	05347	05913
03660	TF	CFINS+18,DUM+6	05810	26	05354	05900
03670	TR	RDDIM,SAVWR	05822	31	02700	03756
03680	TR	RDDIM+20,SAVWR	05834	31	02720	03756
03690	TFM	RDDIM+8,20,9	05846	16	02708	00-20
03700	TFM	RDDIM+28,20,9	05858	16	02728	00-20
03710	TF	SAVRD+10,SAVRD+5	05870	26	05748	04813
03720	TD	SAVRD+5,SAVRD	05882	25	05743	04808
03730	DUM	B7 RDWR,,0	05894	M9	05252	
03740	DUM1	BD ENDMES,SETX+10,0	05902	M3	05992	06210
03750	*					
03760	KEYMES	DAC 39,DUP* TURN ON WRITE ADDRESS KEY, START'	05915		39 X	2
		DUP* TURN ON WRITE ADDRESS KEY, START'				
03770	*					
03780	ENDMES	RCTY	05992	34	00000	00102
03790	WATY	KEYMES	06004	39	05915	00100
03800	H		06016	48	00000	00000
03810	B7	ENDC	06028	49	05416	
03820	*					
03830	*	SELECT AND FILE PROTECT THE SECTORS COPIED				
03840	SETFPR	TFM SFFL+11,INEQU,7	06036	16	06083	J0000
03850	AM	SFFL+11,4	06048	11	06083	-0004
03860	CFH	TFM FLAG+1,41,10	06060	16	06145	000M1
03870	SFFL	C SAVWR+5,INEQU,7	06072	24	03761	J0000
03880	BH	FLAG-12	06084	46	06132	01100
03890	PNT	DS ,SFFL+11	06083		0	
03900	C	WKHICP,PNT,11	06096	24	06223	0608L
03910	BL	SETX	06108	47	06200	01300
03920	TFM	FLAG+1,32,10	06120	16	06145	000L2

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03930	SM	PNT,4	06132	12	06083	-0004
03940	FLAG	SF PNT,,6, THIS IS THE SET OR CLEAR FLAG INSTRUCTION	06144	32	0608L	00000
03950	AM	PNT,105	06156	11	06083	-0105
03960	CM	PNT,105+20+INEQU	06168	14	06083	J2100
03970	BNH	SETFPR+12	06180	47	06048	01100
03980	B7	WRDSKF	06192	49	05288	
03990	*					
04000	SETX	TDM SETX+10,9	06200	15	06210	00009
04010	B7	WRDSKF	06212	49	05288	
04020	WKHICP	DS 5	06223		5	
04030	WKA	DS 4	06227		4	
04040	WKDIM	DSS 20	06228		20	
04050	DEND		00000			

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ADJUST	05192	OKGOON	04084	DEF1	03644	LAB	04438	ST1	02884
AVLENT	04560	REPEAT	05136	DEFIN	05379	LABZ	04892	STCHG	02860
COPYIT	05064	ADEQU	03792	DEQU	03667	LCOPY	05408	STERR	03609
CYLCMP	04264	AVL	04996	DIMNO	13639	LEMCS	02810	TESTL	03904
DDADIM	03657	BAK3	04028	DUM1	05902	LEMSC	02810	TRM	02748
DDASPL	04327	BAK	03268	DUM	05894	LOK	04120	WK1	04556
DEFOUT	05387	BAKT	02712	ENDC	05416	ON	03036	WK2	04558
DEFSP	04319	BBDIM	03440	ERONE	03540	OUTF1	04596	WKA	06227
DIMENT	04728	BTMD	03496	ERR20	07948	OUTF	04628	WKDIM	06228
ENDMES	05992	CALC1	03642	ERUNA	04648	PNT	06083	SAVCPY	04318
EQUOTLU	03676	CC	13613	EXIT	03576	POINT	06300	SAVSCT	04312
FILPRO	05714	CFH	04060	FLAG	06144	RDDIM	02700	SCRENT	04668
FINMES	05605	CFINS	05336	FL	05675	RDEQU	03756	SETFPR	06036
FINMS2	05665	CHGP	05148	FOUND	03872	RDWR	05252	SFSECL	03176
FOUNDOS	04808	CKIT	04844	GOON	03968	RMCK	03408	SYSCAL	00475
GUAGIN	03452	CKLIM	03196	GOONT	02780	SAV2	04119	WKHICP	06223
KEYMES	05915	CKSPL	04342	INEQU	10000	SAVRD	04808	WRDSKF	05288
LASTNO	06314	CNT	03558	IOGT	00566	SAVRD	05738		
MONCAL	00796	COMP	03848	IOPT	00532	SAVNR	03756		
NUMSEC	04317	CPY	02700	IORBC	00520	SETX	06200		
UKEXIT	04588	DCOPY	02700	IORT	00565	SFFL	06072		

END OF ONE ASSEMBLY.

00010	***								
00020	***								
00030	***	SUBROUTINES-DIMMER,GETR,GETL,INSERT,REMOVE,FIND							
00040	***								
00050	***								
00060		DORG	2458			02458			
00070	IOPT	DS	,532			00532		0	
00080	IOGT	DS	,566			00566		0	
00090	IORT	DS	,565			00565		0	
00100	KING	DSC	2,02,,	DDA TO FLIP CORE WHEN MOVING PROGRAMS		02458		2	
		O2							
00110		DSA	QUEEN			02464		5 X	1
						02464		-2466	
00120		DC	1,'			02465		1	
00130	QUEEN	DSC	1,1			02466		1	
00140		DC	5,02000			02471		5	
00150		UC	3,140			02474		3	
00160		DC	6,05800'			02480		6	
00170	CORSIZ	DC	3,080,,	THE CURRENT SIZE OF THE SPL		02483		3	
00180	DIMERR	DAC	14,DUP*ERROR 00 '			02485		14 X	2
00190		TFM	DIMERR+22,0071,8			02512	16	02507	0-071
00200	ERRD	KCTY				02524	34	00000	00102
00210		WATY	DIMERR			02536	39	02485	00100
00220		H				02548	48	00000	00000
00230		B	MONCAL			02560	49	00796	00000
00240		DORG	*-3			02568			
00250	DMDDA	DSC	2,22,,	DDA USED BY DIMMER TO READ IN ONE SECTOR		02568		2	
00260		DSA	DMREAD			02574		5 X	1
						02574		-2576	
00270		DSC	1,'			02575		1	
00280	DMREAD	DSC	1,0			02576		1	
00290		DC	5,0			02581		5	
00300		DC	3,1			02584		3	
00310		DC	5,19900			02589		5	
00320		DSC	1,'			02590		1	
00330	RDMDA	DSC	2,22,,	DDA USED BY THE MOVER TO MOVE PROGRAMS		02591		2	
00340		DSA	RDMOVE			02597		5 X	1
						02597		-2599	

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1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	2
00350	DSC	1,0		02598	1
00360	RDMOVE	DSC	1,0	02599	1
		0			
00370	DC	5,0		02604	5
		-0000			
00380	DC	3,140		02607	3
		J40			
00390	DC	5,05800		02612	5
		-5800			
00400	DSC	1,0		02613	1
00410	WRMDDA	DSC	2,22,, DDA USED BY THE MOVER TO TRANSFER PROGRAMS	02614	2
		22			
00420	DSA	WRMOVE		02620	5 X 1
00430	DSC	1,0		02620	-2622
				02621	1
00440	WRMOVE	DSC	1,0	02622	1
		0			
00450	DC	5,0		02627	5
		-0000			
00460	DC	3,140		02630	3
		J40			
00470	DC	5,05800		02635	5
		-5800			
00480	DSC	1,0		02636	1
00490	PKODDA	DSC	2,22,, DDA FOR HANDLING THE SPL ON MODULE ZERO	02637	2
		22			
00500	DSA	SPLPK0		02643	5 X 1
00510	DSC	1,0		02643	-2645
				02644	1
00520	SPLPK0	DSC	1,1	02645	1
		1			
00530	DC	5,19801		02650	5
		J9801			
00540	DC	3,080		02653	3
		-80			
00550	DC	5,05800		02658	5
		-5800			
00560	DSC	1,0		02659	1
00570	PK1DDA	DSC	2,22,, DDA FOR HANDLING THE SPL ON MODULE ONE	02660	2
		22			
00580	DSA	SPLPK1		02666	5 X 1
00590	DSC	1,0		02666	-2668
				02667	1
00600	SPLPK1	DSC	1,3	02668	1
		3			
00610	DC	5,39801		02673	5
		L9801			

1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	3
00620	DC	3,080		02676	3
		-80			
00630	DC	5,05800		02681	5
		-5800			
00640	DSC	1,0		02682	1
00650	PK2DDA	DSC	2,22,, DDA FOR HANDLING THE SPL ON MODULE TWO	02683	2
		22			
00660	DSA	SPLPK2		02689	5 X 1
00670	DSC	1,0		02689	-2691
				02690	1
00680	SPLPK2	DSC	1,5	02691	1
		5			
00690	DC	5,59801		02696	5
		N9801			
00700	DC	3,080		02699	3
		-80			
00710	DC	5,05800		02704	5
		-5800			
00720	DSC	1,0		02705	1
00730	PK3DDA	DSC	2,22,, DDA FOR HANDLING THE SPL ON MODULE THREE	02706	2
		22			
00740	DSA	SPLPK3		02712	5 X 1
00750	DSC	1,0		02712	-2714
				02713	1
00760	SPLPK3	DSC	1,7	02714	1
		7			
00770	DC	5,79801		02719	5
		P9801			
00780	DC	3,080		02722	3
		-80			
00790	DC	5,05800		02727	5
		-5800			
00800	DSC	1,0		02728	1
00810	THRDDA	DSC	2,22,, DDA TO EXCHANGE CORE WHEN USING THE SPL	02729	2
		22			
00820	DSA	THROWS		02735	5 X 1
00830	DSC	1,0		02735	-2737
				02736	1
00840	THROWS	DSC	1,1	02737	1
		1			
00850	DC	5,19881		02742	5
		J9881			
00860	DC	3,080		02745	3
		-80			
00870	DC	5,05800		02750	5
		-5800			
00880	DSC	1,0		02751	1

1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	4
00890	BAVAIL	DC 3,0,, -00	ACCUMULATES AVAILABLE BLANK SECTORS FOUND IN MOVE	02754	3
00900	CALC2	DC 5,0 -0000		02759	5
00910	GOLDEN	DC 1,0,,LISTER-4		02760	1
00920	LISTER	DC 4,0,,HOLDS PRESENT SPL POSITION -000		02764	4
00930	N48000	DC 6,0+8000,,FIRST SECTOR OF DIM MAP -48000		02770	6
00940		DC 1,0,,PACK CONTINUED		02771	1
00950	PACK	DC 1,0,,PACK NUM FOR SPLIST		02772	1
00960		DC 1,,'		02773	1
00970	CALC3	DC 6,0 -00000		02779	6
00980	CALC4	DC 4,0,, CALCULATION AREA -000		02783	4
00990		DC 1,0,,SET UP THE OVERRIDE CODE FOR COMPARISON		02784	1
01000	LISTES	DC 6,0,,DESIRED SECTOR ADDRESS FIND -00000		02790	6
01010	LISTET	DC 4,0,,NUMBER TO BE INSERTED SPL INSERT -000		02794	4
01020	HEX	USC 1,0 0		02795	1
01030	CONST1	DC 6,0,,WORK AREAS -00000		02801	6
01040	CONST2	DC 6,0,, -00000		02807	6
01050	QCARRY	DC 6,0,,WHERE TO LOAD NEXT MOVED SECTORS -00000		02813	6
01060	QHOLD	DC 6,0 -00000		02819	6
01070	CONST5	DC 6,0 -00000		02825	6
01080	CONST6	DC 6,0 -00000		02831	6
01090	CONST7	DC 6,0 -00000		02837	6
01100	RACKET	DC 4,0 -000		02841	4
01110	STEAL	DC 4,0 -000		02845	4
01120	CALC7	DC 3,0 -00		02848	3
01130	FAKSEV	DC 4,0,, HAS SEVEN FROM LISTER -000		02852	4
01140	COMMON	DC 1,0		02853	1
01150	NOMMON	DC 2,0 -0		02855	2
01160	NOSECA	DC 1,0		02856	1

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1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	5
01170	MOVESA	DC 6,0,,FOR SECTOR ADDRESS -00000		02862	6
01180	MOVESC	DC 3,0,,FOR SECTOR COUNT -00		02865	3
01190	CONST8	DC 5,0 -0000		02870	5
01200	***				
01210	***	SUBROUTINE-GETR			
01220	***	SUBROUTINE FOR SHIFTING ONE TO RIGHT IN THE SPL			
01230	***				
01240	GETR	TDM NOMMON,1,, INITIALIZE TO SAVE CORE FOR EXCHANGE OF SPL	02872 15 02855 00001		
01250	CLIPPP	TF 94,PACK	02884 26 00094 02772		
01260	TFM	IORT,++23	02896 16 00565 -2919		
01270	B	IOP,THRODA,7	02908 49 00532 -2729		
01280	B	REDSPL	02920 49 04696 00000		
01290	DORG	*-3	02928		
01300	GETRTR	TF CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	02928 26 02759 03151		
01310	AM	SPLCOR,04,10, LEFT END NEW ENTRY	02940 11 03151 000-4		
01320	SF	SPLCOR,,6,NEW FLAG	02952 32 0315J 00000		
01330	NEWDIM	DC 4,0,,DESIRED DIM ENTRY -000	02963 4		
01340	AM	CALC2,07,10,RIGHT END OF NEW ENTRY	02964 11 02759 000-7		
01350	TF	LISTER,CALC2,11	02976 26 02764 0275R		
01360	B	WHYNOT	02988 49 03388 00000		
01370	DORG	*-3	02996		
01380	***				
01390	***	SUBROUTINE-GETL			
01400	***	SUBROUTINE FOR SHIFTING ONE TO LEFT IN SPL			
01410	***				
01420	GETL	TDM NOMMON,2,	02996 15 02855 00002		
01430	B	CLIPPP	03008 49 02884 00000		
01440	DORG	*-3	03016		
01450	GETLTR	TF CALC2,SPLCOR	03016 26 02759 03151		
01460	SM	SPLCOR,04,10,LEFT END OF NEW ENTRY	03028 12 03151 000-4		
01470	SF	SPLCOR,,6,	03040 32 0315J 00000		
01480	SM	CALC2,01,10,RIGHT END NEW ENTRY	03052 12 02759 000-1		
01490	TF	LISTER,CALC2,11	03064 26 02764 0275R		
01500	B	WHYNOT	03076 49 03388 00000		
01510	DORG	*-3	03084		
01520	***				
01530	***	SUBROUTINE-REMOVE			
01540	***	REMOVES THE PRESENT ENTRY IN LISTER AND CLOSES THE LIST			
01550	***				
01560	REMOVE	TDM NOMMON,3,,	03084 15 02855 00003		
01570	B	CLIPPP	03096 49 02884 00000		
01580	DORG	*-3	03104		
01590	REMOTr	TF CALC2,SPLCOR	03104 26 02759 03151		
01600	AM	CALC2,04,10,	03116 11 02759 000-4		
01610	TR	SPLCOR,CALC2,611,CLOSES HOLE	03128 31 0315J 0275R		
01620	SF	SPLCOR,,6	03140 32 0315J 00000		
01630	SPLCOR	DC 5,0,,DIM ADDRESS SPL -0000	03151 5		
01640	SM	CALC2,01,10	03152 12 02759 000-1		
01650	TF	LISTER,CALC2,11	03164 26 02764 0275R		
01660	CF	SPLCOR,,6	03176 33 0315J 00000		
01670	SPLCYL	DC 5,0,,CYLINDER SPL -0000	03187 5		

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01680	STOMP	CM	PACK,00,1011, PACK ZERO	03188	14	02772	000--
01690		BE	WRTSPO	03200	46	03268	01200
01700		CM	PACK,01,1011,PACK ONE	03212	14	02772	000-J
01710		BE	WRTSP1	03224	46	03300	01200
01720		CM	PACK,02,1011, PACK TWO	03236	14	02772	000-K
01730		BE	WRTSP2	03248	46	03332	01200
01740		B	WRTSP3,,, PACK THREE	03260	49	03364	00000
01750		DORG	--3	03268			
01760	**		ROUTINE FOR RETURNING APPROPRIATE SPL TO DISK				
01770	WRTSPO	TFM	IORT,++23	03268	16	00565	-3291
01780		B	IOPT,PKODDA,7	03280	49	00532	-2637
01790		B	WHYNOT	03292	49	03388	00000
01800		DORG	--3	03300			
01810	WRTSP1	TFM	IORT,++23	03300	16	00565	-3323
01820		B	IOPT,PK1DDA,7	03312	49	00532	-2660
01830		B	WHYNOT	03324	49	03388	00000
01840		DORG	--3	03332			
01850	WRTSP2	TFM	IORT,++23	03332	16	00565	-3355
01860		B	IOPT,PK2DDA,7	03344	49	00532	-2683
01870		B	WHYNOT	03356	49	03388	00000
01880		DORG	--3	03364			
01890	WRTSP3	TFM	IORT,++23	03364	16	00565	-3387
01900		B	IOPT,PK3DDA,7	03376	49	00532	-2706
01910	WHYNOT	TFM	IORT,++23,,RESTORES CORE BEFORE RETURNING TO MAINLINE	03388	16	00565	-3411
01920	***						
01930	***		SUBROUTINE-INSERT				
01940	***		INSERTS TO THE LEFT OF THE PRESENT ENTRYAND OPENS LIST				
01950		B	IOGT,THRDDA,7	03400	49	00566	-2729
01960		RR		03412	42	00000	00000
01970		DORG	--9	03414			
01980	INSERT	TDM	NOMMON,4,,	03414	15	02855	00004
01990		B	CLIPPP	03426	49	02884	00000
02000		DORG	--3	03434			
02010	INSETR	SF	SPLCOR,,6	03434	32	0315J	00000
02020	FOUND	DC	5,0,,FIND SECTOR TOTAL	03445		5	
			-0000				
02030	**		ROUTINE TO SEE IF LIST IS ALREADY FULL				
02040		TFM	++35,05800,7	03446	16	03481	-5800
02050		AM	++23,04,10	03458	11	03481	000-4
02060	TIPSY	HNR	--12,99999,,FINDS RECORD MARK AT END OF LIST	03470	45	03458	99999
02070		TF	CONST2,TIPSY+11	03482	26	02807	03481
02080		AM	CONST2,04,10	03494	11	02807	000-4
02090		TF	CONST3,CONST2,,	03506	26	08815	02807
02100		SM	CONST3,05800,7	03518	12	08815	-5800
02110		C	CONST3-2,CORSIZ,,COMPARES PRESENT SIZE TO DEFINED LIMIT	03530	24	08813	02483
02120		RL	NERR	03542	47	03574	01300
02130		TFM	DIMERR+22,7178,8	03554	16	02507	0P178
02140		B	ERRD	03566	49	02524	00000
02150		DORG	--3	03574			
02160	NERR	TF	CONST2,TIPSY+11,611,OPENS THE LIST	03574	26	0280P	0348J
02170		TF	CALC2,SPLCOR	03586	26	02759	03151
02180		AM	CALC2,03,10	03598	11	02759	000-3
02190		TF	CALC2,LISTET,6, INSERTS THE ENTRY FROM LISTET	03610	26	0275R	02794
02200		CF	SPLCOR,,6,	03622	33	0315J	00000
02210	DRESTR	DC	5,19880,,	03633		5	
			J9880				

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02220		AM	SPLCOR,4,10,	03634	11	03151	000-4
02230		CF	SPLCOR,,6	03646	33	0315J	00000
02240		B	STOMP,,,	03658	49	03188	00000
02250		DORG	--3	03666			
02260	***						
02270	***		THE DIMMER SUBROUTINE FOR BRINGING IN A DIM ENTRY				
02280	***		SPECIFIED IN -NEWDIM- TO BEGIN AT CORE POSITION 19880				
02290	***						
02300	DIMMER	C	NEWDIM,MAXDIM	03666	24	02963	03843
02310		BNH	++32	03678	47	03710	01100
02320		TFM	DIMERR+22,0076,8	03690	16	02507	0-076
02330		B7	ERRD	03702	49	02524	
02340		TF	CALC2,NEWDIM	03710	26	02759	02963
02350		A	CALC2,CALC2	03722	21	02759	02759
02360		TF	CALC3,N48000	03734	26	02779	02770
02370		A	CALC3,CALC2,,NEW DIM SECTOR ADDRESS	03746	21	02779	02759
02380		TF	DMREAD+13,DRESTR	03758	26	02589	03633
02390		TD	++23,CALC3	03770	25	03793	02779
02400		SM	DMREAD+12,0,10,ADJUST DIM READER S A	03782	12	02588	000-0
02410		TF	DMREAD+5,CALC3-1	03794	26	02581	02778
02420		TFM	IORT,++23	03806	16	00565	-3829
02430		B	IOGT,DMDDA,7	03818	49	00566	-2568
02440		BR		03830	42	00000	00000
02450		DORG	--9	03832			
02460	***						
02470	***		THE FIND SUBROUTINE FOR LOCATING A POINT ON A PARTICULAR				
02480	***		SPL FROM AN ADDRESS GIVEN IN -LISTES-				
02490	***						
02500	FIND	SF	LISTES-5,,8	03832	32	02785	0-000
02510		CF	LISTES-4	03844	33	02786	00000
02520		TF	19885,LISTES,,ACCEPTS SECTOR ARGUMENT	03856	26	19885	02790
02530		BT	SPLIST,SPLIST-1,,FINDSTART OF CYLINDER	03868	27	04324	04323
02540		TDM	NOMMON,5	03880	15	02855	00005
02550		B	CLIPPP	03892	49	02884	00000
02560		DORG	--3	03900			
02570	FINDTR	TF	CALC2-1,NEWDIM	03900	26	02758	02963
02580		TDM	CALC2-4,,11,FLAG ZERO	03912	15	02755	0000-
02590		HM	CALC2-1,02,10,FIND SECTOR	03924	13	02758	000-2
02600		TFM	ADRSP,,7, ZERO THE FIELD	03936	16	04514	-0000
02610		SF	97,,PICK UP COUNT	03948	32	00097	00000
02620		TF	ADRSP-2,99,, MOVE SECTOR CYL ADDRESS	03960	26	04512	00099
02630		TD	ADRSP-4,LISTES-4	03972	25	04510	02786
02640		SF	ADRSP-4	03984	32	04510	00000
02650	TRYAGN	TF	CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	03996	26	02759	03151
02660		AM	SPLCOR,04,10, LEFT END NEW ENTRY	04008	11	03151	000-4
02670		SF	SPLCOR,,6,NEW FLAG	04020	32	0315J	00000
02680		AM	CALC2,07,10,RIGHT END OF NEW ENTRY	04032	11	02759	000-7
02690		TF	LISTER,CALC2,11	04044	26	02764	0275R
02700		TD	CALC4,SPLCOR,11,	04056	25	02783	0315J
02710		CM	CALC4,09,1011, BLANK SECTORS	04068	14	02783	000-R
02720		BE	ADDRBK	04080	46	04280	01200
02730		TF	NEWDIM,LISTER	04092	26	02963	02764
02740		BT	DIMMER,DIMMER-1	04104	27	03866	03665
02750		C	19885,ADRSP,,DOES THIS PROGRAM BEGIN ON THIS CYLINDER	04116	24	19885	04514
02760		BNL	++48	04128	46	04176	01300
02770		S	19885,ADRSP	04140	22	19885	04514

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02780	SF	19803		04152	32	19803	00000
02790	A	19808,19805		04164	21	19808	19805
02800	A	ADRSPL,19808,, ADD SECTOR TOTAL,ADJUSTED IF NECESSARY		04176	21	04514	19808
02810	PLUSSR	SF LISTES-4		04188	32	02786	00000
02820	CF	ADRSPL,LISTES,,HAS THE CORRECT ENTRY BEEN REACHED		04200	24	04514	02790
02830	C	LISTES-4		04212	33	02786	00000
02840	BNM	TRYAGN		04224	47	03996	01100
02850	TF	FOUND,ADRSPL		04236	26	03445	04514
02860	RLGONE	TFM IORT,++23		04248	16	00565	-4271
02870	B	IOGT,THRDDA,7		04260	49	00566	-2729
02880	B	*,2, EXIT TO BE FILLED		04272	49	-4272	00000
02890	DORG	*-3		04280			
02900	ADDBLK	SF LISTER-2		04280	32	02762	00000
02910	A	ADRSPL,LISTER,,ADD IN THE COUNT FOR BLANK SECTORS		04292	21	04514	02764
02920	CF	LISTER-2		04304	33	02762	00000
02930	H	PLUSSR		04316	49	04188	00000
02940	DORG	*-3		04324			
02950	NEVER	DC 2,0,ADDBLK+11		04291		2	
	-0						
02960	CLEVER	DC 1,0,ADDBLK+35		04315		1	
	-						
02970	***	ROUTINE FOR BRINGING IN THE PROPER LIST AND					
02980	***	SCANNING TO THE CORRECT CYLINDER ENTRY					
02990	SPLIST	TFM IORT,++23	04324	16	00565	-4347	
03000	B	IOPT,THRDDA,7	04336	49	00532	-2729	
03010	TDM	19880,,11,FLAG ZERO	04348	15	19880	0000-	
03020	MM	19885,05,10	04360	13	19885	000-5	
03030	CF	COMMON	04372	33	02853	00000	
03040	SF	94,,DESIRE CYLINDER	04384	32	00094	00000	
03050	SF	93	04396	32	00093	00000	
03060	TD	STARDT+10,95,,SET-UP SEARCH FOR THE CORRECT CYLINDER	04408	25	05026	00095	
03070	TD	STARDT+11,96	04420	25	05027	00096	
03080	MM	LISTES-5,50000,7,USE OVERRIDE CODE TO DETERMINE MODULE	04432	13	02785	N0000	
03090	SF	94	04444	32	00094	00000	
03100	B	RDSPL	04456	49	04588	00000	
03110	DORG	*-3	04464				
03120	SPLINI	BNF **20,COMMON	04464	44	04484	02853	
03130	B	GETBAK	04476	49	05164	00000	
03140	DORG	*-3	04484				
03150	TDM	CALC4-1,0,11,SET-UP CALC4	04484	15	02782	0000-	
03160	TFM	ADRSPL,05800	04496	16	04514	-5800	
03170	LPSRDA	NOP ,,, HOLDS COUNT POSITION FOR SPL LIST	04508	41	00000	00000	
03180	TD	CALC4,ADRSPL ,11, PREPARE TO COMPARE	04520	25	02783	0451M	
03190	CF	CALC4	04532	33	02783	00000	
03200	CM	CALC4,7,10	04544	14	02783	000-7	
03210	HE	COMCYL	04556	46	04980	01200	
03220	SPLADD	AM ADRSPL ,04,10,,NEXT ENTRY	04568	11	04514	000-4	
03230	B	ADRSPL+6	04580	49	04520	00000	
03240	DORG	*-3	04588				
03250	RDSPL	TF KEVE,94	04588	26	05003	00094	
03260	TF	NEVER,LISTES-4,,CORRECT TENTHOUSANDS POSITION	04600	26	04291	02786	
03270	TDM	NEVER-1,,11	04612	15	04290	0000-	
03280	MM	NEVER,05,10	04624	13	04291	000-5	
03290	BD	++24,99	04636	43	04660	00399	
03300	AM	NEVER,1,10	04648	11	04291	000-1	
03310	TD	CLEVER,NEVER	04660	25	04315	04291	

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				1620 MONITOR 1	DUP ROUTINE	*DLOAD,	*DREPL,	*DELET	PAGE	9
03320	SF	CLEVER		04672	32	04315	00000			
03330	***	ROUTINE TO READ IN CORRECT SPL								
03340	TF	94,KEVE		04684	26	00094	05003			
03350	REDSPL	CM 94,0,1011, PACK ZERO		04696	14	00094	0000-			
03360	TF	PACK,94,,SAVE PACK NUM		04708	26	02772	00094			
03370	BE	REDSPO		04720	46	04804	01200			
03380	CM	94,1,1011, PACK ONE		04732	14	00094	000-J			
03390	BE	REDSPO		04744	46	04848	01200			
03400	CM	94,2,1011, PACK TWO		04756	14	00094	000-K			
03410	BE	REDSPO		04768	46	04892	01200			
03420	CM	94,3,1011, PACK THREE		04780	14	00094	000-L			
03430	BE	REDSPO		04792	46	04936	01200			
03440	REDSPO	TD SPLPK0+1,CLEVER		04804	25	02646	04315			
03450	TFM	IORT,++23		04816	16	00565	-4839			
03460	B	IOGT,PKODDA,7		04828	49	00566	-2637			
03470	B	SPLINI		04840	49	04464	00000			
03480	DORG	*-3		04848						
03490	REDSPO	TD SPLPK1+1,CLEVER		04848	25	02669	04315			
03500	TFM	IORT,++23		04860	16	00565	-4883			
03510	B	IOGT,PK1DDA,7		04872	49	00566	-2660			
03520	B	SPLINI		04884	49	04464	00000			
03530	DORG	*-3		04892						
03540	REDSPO	TD SPLPK2+1,CLEVER		04892	25	02692	04315			
03550	TFM	IORT,++23		04904	16	00565	-4927			
03560	B	IOGT,PK2DDA,7		04916	49	00566	-2683			
03570	B	SPLINI		04928	49	04464	00000			
03580	DORG	*-3		04936						
03590	REDSPO	TD SPLPK3+1,CLEVER		04936	25	02715	04315			
03600	TFM	IORT,++23		04948	16	00565	-4971			
03610	B	IOGT,PK3DDA,7		04960	49	00566	-2706			
03620	B	SPLINI		04972	49	04464	00000			
03630	DORG	*-3		04980						
03640	COMCYL	TF SPLCYL,ADRSPL ,CYLCORE POSITION		04980	26	03187	04514			
03650	SF	ADRSPL,,6		04992	32	0451M	00000			
03660	KEVE	DS ,COMCYL+23		05003		0				
03670	AM	SPLCYL,03,10		05004	11	03187	000-3			
03680	STARDT	CM SPLCYL,7000,68,IS THIS THE RIGHT CYLINDER		05016	14	0318P	0P000			
03690	BE	SPLCYL		05028	46	05060	01200			
03700	CF	ADRSPL,,6		05040	33	0451M	00000			
03710	B	SPLADD		05052	49	04568	00000			
03720	DORG	*-3		05060						
03730	SPLCYL	TF SPLCOR,SPLCYL,,FIND DIM NUM LOCATION		05060	26	03151	03187			
03740	SM	SPLCYL,03,10,BACK TO HIGH ORDER POSITION		05072	12	03187	000-3			
03750	SF	SPLCYL,,6		05084	32	0318P	00000			
03760	TF	NEWDIM,SPLCOR, 11,CYLINDER DESIRED		05096	26	02963	0315J			
03770	TF	LISTER,SPLCOR,11,		05108	26	02764	0315J			
03780	TF	SPLCOR,SPLCYL		05120	26	03151	03187			
03790	TF	SPLCYL,ADRSPL		05132	26	03187	04514			
03800	SF	COMMON		05144	32	02853	00000			
03810	B	WHYNOT		05156	49	03388	00000			
03820	DORG	*-3		05164						
03830	***	LINKAGE TO RETURN TO PROPER SUBROUTINE AFTER SAVING CORE								
03840	GETBAK	CM NOMMON,01,10		05164	14	02855	000-1			
03850	BE	GETRTR		05176	46	02928	01200			
03860	CM	NOMMON,02,10		05188	14	02855	000-2			
03870	BE	GETLTR		05200	46	03016	01200			

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1620 MONITOR 1				DUP ROUTINE *DLOAD, *DREPL, *DELET			PAGE	10
03880	CM	NOMMON,03,10	05212	14	02855	000-3		
03890	BE	REMOFR	05224	46	03104	01200		
03900	CM	NOMMON,04,10	05236	14	02855	000-4		
03910	BE	INSETR	05248	46	03434	01200		
03920	B	FINDTR	05260	49	03900	00000		
03930	DORG	*-3	05268					
03940	ADRSPL	DS ,LPSRDA+6	04514		0			
03950	***	PORTION OF THE MOVER SUBROUTINE WHICH MOVES THE DATA						
03960	CUMPR	TFM IORT,++23	05268	16	00565	-5291		
03970	B	IOPT,KING,7,SAVE THE INFORMATION IN CORE	05280	49	00532	-2458		
03980	CM	CALC7,140,9,REGULAR READ	05292	14	02848	00J40		
03990	BL	SPCRED	05304	47	05456	01300		
04000	SM	RDMOVE+5,140,9	05316	12	02604	00J40		
04010	SM	WRMOVE+5,140,9	05328	12	02627	00J40		
04020	WHIPIT	TFM IORT,++23	05340	16	00565	-5363		
04030	B	IOGT,RDMDA,7	05352	49	00566	-2591		
04040	TFM	IORT,++23	05364	16	00565	-5387		
04050	B	IOPT,WRMDA,7	05376	49	00532	-2614		
04060	SM	CALC7,140,9	05388	12	02848	00J40		
04070	CM	CALC7,140,9	05400	14	02848	00J40		
04080	BNH	SPCRED	05412	47	05456	01100		
04090	SM	WRMOVE+5,140,9,ADJUST COUNT AND DDA AFTER TRANSFERING 140 SE	05424	12	02627	00J40		
04100	SM	RDMOVE+5,140,9	05436	12	02604	00J40		
04110	B	WHIPIT	05448	49	05340	00000		
04120	DORG	*-3	05456					
04130	SPCRED	TF RDMOVE+8,CALC7,,TRANSFER LAST PORTION OF PROGRAM	05456	26	02607	02848		
04140	TF	WRMOVE+8,CALC7	05468	26	02630	02848		
04150	S	WRMOVE+5,CALC7	05480	22	02627	02848		
04160	S	RDMOVE+5,CALC7	05492	22	02604	02848		
04170	TFM	IORT,++23	05504	16	00565	-5527		
04180	B	IOGT,RDMDA,7	05516	49	00566	-2591		
04190	TFM	IORT,++23	05528	16	00565	-5551		
04200	B	IOPT,WRMDA,7	05540	49	00532	-2614		
04210	TFM	WRMOVE+8,140,9, RESTORE CONSTANTS TO 140	05552	16	02630	00J40		
04220	TFM	RDMOVE+8,140,9	05564	16	02607	00J40		
04230	TF	MPT,19885,, SAVE ADDRESS OF LAST PROGRAMS ORIGINAL SECTOR A	05576	26	08636	19885		
04240	TF	19885,WRMOVE+5,,CORRECT SECTOR ADDRESS IN DIM ENTRY	05588	26	19885	02627		
04250	TFM	IORT,++23	05600	16	00565	-5623		
04260	B	IOPT,DMDDA,7	05612	49	00532	-2568		
04270	TFM	IORT,++23	05624	16	00565	-5647		
04280	B	IOGT,KING,7	05636	49	00566	-2458		
04290	B	MARVEL	05648	49	10892	00000		
04300	DORG	*-3	05656					
04310	ERR	BNF **68,FORT,,CHECK FOR ERROR 60 IN DLOAD	05656	44	05724	13062		
04320	TFM	DIMERR+22,7670,8	05668	16	02507	0P670		
04330	RCTY		05680	34	00000	00102		
04340	WATY	DIMERR	05692	39	02485	00100		
04350	UNF	ERRD+24,DUMP	05704	44	02548	13388		
04360	B	LOADRE-36	05716	49	07188	00000		
04370	DORG	*-3	05724					
04380	TFM	DIMERR+22,0078,8	05724	16	02507	0-078		
04390	B	ERRD	05736	49	02524	00000		
04400	DORG	*-3	05744					
04410	SPLFL	TFM IORT,++23,, LINKAGE FOR THROWING SACRED SIX TO DISK WHEN LOA	05744	16	00565	-5767		
04420	B	IOPT,SPLR2,7	05756	49	00532	-5807		
04430	TRA		05768	36	00000	00500		

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1620 MONITOR 1				DUP ROUTINE *DLOAD, *DREPL, *DELET			PAGE	11
04440	SPLR1	DSC 1,1	05780	49	00000	00000		
		1	05792			1		
04450		DC 5,18298	05797		5			
		J8298						
04460		DC 3,033	05800		3			
		-33						
04470		DC 5,02458	05805		5			
		-2458						
04480		DSC 1,1	05806		1			
		'						
04490	SPLR2	DSC 2,22	05807		2			
		27						
04500		DSA SPLR1	05813		5 X	1		
04510		DSC 1,1	05813		-5792			
		'	05814		1			
04520		TCO SPLFL	05744					
04530		DORG 8500	08500					
04540	MOVFL	TFM IORT,++23,, LINKAGE FOR THROWING MOVER TO DISK WHEN LOADING	08500	16	00565	-8523		
04550	B	IOPT,MOVFL1,7	08512	49	00532	-8548		
04560	TRA		08524	36	00000	00500		
			08536	49	00000	00000		
			08548		2			
04570	MOVFL1	DSC 2,22						
		22						
04580		DSA MOVFL2	08554		5 X	1		
04590		DSC 1,1	08554		-8556			
		'	08555		1			
04600	MOVFL2	DSC 1,1	08556		1			
		1						
04610		DC 5,18331	08561		5			
		J8331						
04620		DC 3,038	08564		3			
		-38						
04630		DC 5,08600	08569		5			
		-8600						
04640		DSC 1,1	08570		1			
		'						
04650	***							
04660	***							
04670	***	THE MOVER SUBROUTINE FOR PREPARING A PLACE TO PUT A PROGRAM GIVE						
04680	***	A STARTING SECTOR ADDRESS -MOVESA- AND A SECTOR COUNT -MOVESC-						
04690	***							
04700	***							
04710		DORG 8600	08600					
04720	SFSUCE	SF SUCESS	08600	32	13066	00000		
04721	TF	MOVESC,SFSUCE+11,, RESTORE MOVE SECTOR COUNT.	08612	26	02865	08611		
04730	EXITMR	B **,TO BE TFM BY CALLING PROGRAM	08624	49	08624	00000		
04740	DORG	*-3	08632					
04750	MPT	DC 5,0	08636		5			
		-0000						
04760	PRE7	TFM IORT,++23	08638	16	00565	-8661		

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1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	12
04770	B	IOGT,NOMA,7,	LINKAGE FOR BRINGING IN THE SECOND HALF OF MOV	08650	49 00566 -8670
04780	B	PRE7A		08662	49 09000 00000
04790	DORG	*-3		08670	
04800	NOMA	DSC 2,22		08670	2
		22			
04810	DSA	NOMB		08676	5 X 1
				08676	-8678
04820	DC	1,'		08677	1
04830	NOMB	DSC 1,1		08678	1
		1			
04840	DC	5,17106		08683	5
		J7106			
04850	DC	3,022		08686	3
		-22			
04860	DC	6,09000'		08692	6
		-9000'			
04870	TRWCAR	DSC 2,22,,	DDA FOR MOVING DATA	08693	2
		22			
04880	DSA	MOVCAR		08699	5 X 1
				08699	-8701
04890	DC	1,'		08700	1
04900	MOVCAR	DSC 1,0		08701	1
		0			
04910	DC	5,0		08706	5
		-0000			
04920	DC	3,060		08709	3
		-60			
04930	DC	5,13776		08714	5
		J3776			
04940	DC	1,'		08715	1
04950	TRWBUS	DSC 2,22,,	DDA FOR MOVING DATA	08716	2
		22			
04960	DSA	MOVBUS		08722	5 X 1
				08722	-8724
04970	DC	1,'		08723	1
04980	MOVBUS	DSC 1,0		08724	1
		0			
04990	DC	5,0		08729	5
		-0000			
05000	DC	3,060		08732	3
		-60			
05010	DC	5,13776		08737	5
		J3776			
05020	DC	1,'		08738	1
05030	TRWA	DSC 2,22,,	DDA FOR MOVINGDATA	08739	2
		22			
05040	DSA	LOPEZA		08745	5 X 1

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1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	13
				08745	-8747
05050	DC	1,'		08746	1
05060	LOPEZA	DSC 1,0		08747	1
		0			
05070	DC	5,0		08752	5
		-0000			
05080	DC	3,060		08755	3
		-60			
05090	DC	5,13776		08760	5
		J3776			
05100	DC	1,'		08761	1
05110	TRWB	DSC 2,22,,	DDA FOR MOVING DATA	08762	2
		22			
05120	DSA	LOPEZB		08768	5 X 1
				08768	-8770
05130	DC	1,'		08769	1
05140	LOPEZB	DSC 1,0		08770	1
		0			
05150	DC	5,0		08775	5
		-0000			
05160	DC	3,060		08778	3
		-60			
05170	DC	5,13776		08783	5
		J3776			
05180	DC	1,'		08784	1
05190	MONITR	DS ,796		00796	0
05200	KEY5	DSC 1,0		08785	1
		0			
05210	CALC6	DC 5,0		08790	5
		-0000			
05220	CALC5	DC 6,0		08796	6
		-00000			
05230	ZERDES	DC 10,0		08806	10
		-000000000			
05240	CONST4	DC 6,0		08812	6
		-00000			
05250	CUNST3	DC 3,0,,		08815	3
		-00			
05260	CURREN	DC 3,0		08818	3
		-00			
05270	LIMIT	DC 3,099		08821	3
		-99			
05280	KEY1	DSC 1,0		08822	1
		0			
05290	DIMMLD	DC 9,0		08831	9
		-00000000			
05300	DIMENT	DS ,19880,	CONTROL FIELD FOR NOWDIN	19880	0
05310	MOVER	SF MOVESA-5		08832	32 02857 00000
05320	CF	MOVESA-4		08844	33 02858 00000
05321	TF	SFSUCE+11,MOVESC,,	STORE MOVE SECTOR COUNT.	08856	26 08611 02865
05330	TF	LISTES,MOVESA,,	FIND POINT IN LIST WHERE PROGRAM IS TO BEGI	08868	26 02790 02862

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1620 MONITOR 1		DUP ROUTINE	*DLOAD, *DREPL, *DELET	PAGE	14
05340	TFM	RLGONE+30,++20		08880	16 04278 -8900
05350	B	FIND		08892	49 03832 00000
05360	DORG	*-3		08900	
05370	CM	LISTER-3,09,1011,LOOK FOR BLANK ENTRY		08900	14 02761 000-R
05380	BE	MIDNIT		08912	46 09380 01200
05390	TF	NEWDIM,LISTER,, MOVESA IS IN THE MIDDLE OF A PROGRAM		08924	26 02963 02764
05400	BT	DIMMER,DIMMER-1		08936	27 03666 03665
05410	SF	MOVESA-4		08948	32 02858 00000
05420	TF	CONST5,19885		08960	26 02825 19885
05430	S	CONST5,MOVESA		08972	22 02825 02862
05440	CF	MOVESA-4		08984	33 02858 00000
05450	SF	CONST5-2		08996	32 02823 00000
05460	TF	BAVAIL,CONST5,, ADJUST BLANK AVAIL TO MINUS TO ALLOW FOR DIM		09008	26 02754 02825
05470	BNF	FILTST,19899,, IS THE PROGRAM FILE PROTECTED		09020	44 10212 19899
05480	MSTAKE	CF	SUCCESS,,ERROR EXIT	09032	33 13066 00000
05481	TF	MOVESC,SFSUCE+11,, RESTORE MOVE SECTOR COUNT.		09044	26 02865 08611
05490	B	EXITMR		09056	49 08624 00000
05500	DORG	*-3		09064	
05510	DSEVEN	SF	LISTES-4	09064	32 02786 00000
05520	S	FOUND,LISTES		09076	22 03445 02790
05530	SF	FOUND-2		09088	32 03443 00000
05540	TF	CONST2, FOUND		09100	26 02807 03445
05550	ACTAJ	C	CONST2,MOVESC,, ENOUGH SECTORS AVAILABLE	09112	24 02807 02865
05560	BNL	ACTAG		09124	46 09268 01300
05570	ACTAH	BT	GETR,GETR-1,, LOOK FOR MORE ROOM	09136	27 02872 02871
05580	CM	LISTER-3,7,1011		09148	14 02761 000-P
05590	BE	ACTAH		09160	46 09136 01200
05600	CM	LISTER-3,9,1011		09172	14 02761 000-R
05610	BNE	ACTAK		09184	47 09228 01200
05620	SF	LISTER-2		09196	32 02762 00000
05630	A	CONST2,LISTER		09208	21 02807 02764
05640	B	ACTAJ		09220	49 09112 00000
05650	DORG	*-3		09228	
05660	ACTAK	TF	LISTES,MOVESA,, REPOSITION LISTER TO MOVESA	09228	26 02790 02862
05670	TFM	RLGONE+30,++20		09240	16 04278 -9260
05680	B	FIND		09252	49 03832 00000
05690	DORG	*-3		09260	
05700	B	BLANKT,, PROGRAMS MUST BE MOVED		09260	49 10356 00000
05710	DORG	*-3		09268	
05720	ACTAG	TF	LISTES,MOVESA,, REPOSITION FIND TO MOVESA	09268	26 02790 02862
05730	TFM	RLGONE+30,++20		09280	16 04278 -9300
05740	B	FIND		09292	49 03832 00000
05750	DORG	*-3		09300	
05760	BT	GETR,GETR-1		09300	27 02872 02871
05770	SF	LISTER-2		09312	32 02762 00000
05780	MM	LISTER,200,9		09324	13 02764 00K00
05790	TF	CONST1,99		09336	26 02801 00099
05800	BT	GETL,GETL-1		09348	27 02996 02995
05810	SF	LISTER-2		09360	32 02762 00000
05820	B	ACTAA		09372	49 09560 00000
05830	DORG	*-3		09380	
05840	MIDNIT	SF	MOVESA-4,, MOVESA IS AT AN AREA COVERED BY BLANK SECTORS	09380	32 02858 00000
05850	SF	LISTER-2		09392	32 02762 00000
05860	BT	GETR,GETR-1		09404	27 02872 02871
05870	CM	LISTER-3,7,1011		09416	14 02761 000-P
05880	BF	DSEVEN		09428	46 09064 01200

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1620 MONITOR 1		DUP ROUTINE	*DLOAD, *DREPL, *DELET	PAGE	15
05890	TF	NEWDIM,LISTER,, POSITION END OF BLANKS FROM THIS DIMS SECTOR		09440	26 02963 02764
05900	HT	DIMMER,DIMMER-1		09452	27 03666 03665
05910	TF	CONST1,19885		09464	26 02801 19885
05920	ZSEVEN	TF	CONST6,MOVESA	09476	26 02831 02862
05930	TF	CONST3,CONST1		09488	26 08815 02801
05940	BT	GETL,GETL-1		09500	27 02996 02995
05950	SF	LISTER-2		09512	32 02762 00000
05960	A	CONST6,MOVESC		09524	21 02831 02865
05970	C	CONST6,CONST1,,IS THERE ENOUGH ROOM TO LOAD THE MOVESC		09536	24 02831 02801
05980	BH	BLANKT		09548	46 10356 01100
05990	ACTAA	S	CONST1,LISTER,,ENOUGH ROOM HAS BEEN FOUND WITHOUT MOVING PRO	09560	22 02801 02764
06000	TF	CONST2,MOVESA		09572	26 02807 02862
06010	S	CONST2,CONST1		09584	22 02807 02801
06020	SF	CONST2-2		09596	32 02805 00000
06030	TF	**35,CONST2,, PREPARE THE TRAILING NINES ENTRY		09608	26 09643 02807
06040	CF	**21		09620	33 09641 00000
06050	TFM	LISTET,9000,8		09632	16 02794 0R000
06060	CM	LISTET,9000,8		09644	14 02794 0R000
06070	BE	**24		09656	46 09680 01200
06080	BT	INSERT,INSERT-1		09668	27 03414 03413
06090	NONAME	BT	REMOVE,REMOVE-1	09680	27 03084 03083
06100	CM	LISTER-3,7,1011		09692	14 02761 000-P
06110	BNE	ACTAD		09704	47 09904 01200
06120	SF	LISTER-2		09716	32 02762 00000
06130	MM	LISTER,200,9		09728	13 02764 00K00
06140	TFM	95,99,10,, TO COMPENSATE FOR PACK ADDRESSING		09740	16 00095 000R9
06150	TF	CONST3,99		09752	26 08815 00099
06160	S	99,MOVESA		09764	22 00099 02862
06170	SF	97		09776	32 00097 00000
06180	C	99,MOVESC		09788	24 00099 02865
06190	BNL	ACTAC		09800	46 09976 01300
06200	A	MOVESA,99		09812	21 02862 00099
06210	S	MOVESC,99		09824	22 02865 00099
06220	TF	**35,99,, PREPARE EIGHTS ENTRY OF MOVESC		09836	26 09871 00099
06230	CF	**21		09848	33 09869 00000
06240	TFM	LISTET,8999,8		09860	16 02794 00999
06250	BT	INSERT,INSERT-1		09872	27 03414 03413
06260	BT	GETR,GETR-1		09884	27 02872 02871
06270	B	NONAME		09896	49 09680 00000
06280	DURG	*-3		09904	
06290	ACTAD	TF	NEWDIM,LISTER,,USE DIM ENTRY TO FIND SECTOR ADDRESS	09904	26 02963 02764
06300	BT	DIMMER,DIMMER-1		09916	27 03666 03665
06310	TF	CONST3,19885		09928	26 08815 19885
06320	TD	CONST3-5,19880		09940	25 08810 19880
06330	CF	CONST3-4		09952	33 08811 00000
06340	SF	CONST3-5		09964	32 08810 00000
06350	ACTAC	TF	**35,MOVESC,,PREPARE AN EIGHTS ENTRY OF MOVESC	09976	26 10011 02865
06360	CF	**21		09988	33 10009 00000
06370	TFM	LISTET,8000,8		10000	16 02794 00000
06380	BT	INSERT,INSERT-1		10012	27 03414 03413
06390	TF	CONST2,MOVESA		10024	26 02807 02862
06400	A	CONST2,MOVESC		10036	21 02807 02865
06410	S	CONST3,CONST2		10048	22 08815 02807
06420	SF	CONST3-2		10060	32 08813 00000
06430	TF	**35,CONST3,,PREPARE THE LEADING NINES ENTRY		10072	26 10107 08815
06440	CF	**21		10084	33 10105 00000

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06450	TFM	LISTET,9000,8	10096	16	02794	00000
06460	CM	LISTET,9000,8	10108	14	02794	00000
06470	BE	**24	10120	46	10144	01200
06480	BT	INSERT,INSERT-1	10132	27	03414	03413
06490	REMSIL CF	MOVESA-4,,,POSITION LISTER FOR EXIT	10144	33	02858	00000
06500	BT	GETL,GETL-1	10156	27	02996	02995
06510	CM	LISTER-3,08,1011	10168	14	02761	000-0
06520	BNE	*-24	10180	47	10156	01200
06530	BT	GETR,GETR-1	10192	27	02872	02871
06540	B	SFSUCE	10204	49	08600	00000
06550	DORG	*-3	10212			
06560	FILTST BNG	GORT,19899,, CHECK FOR FILE PROTECTION	10212	55	10232	19899
06570	B	MSTAKE	10224	49	09032	00000
06580	DORG	*-3	10232			
06590	GORT BT	GETR,GETR-1,, SEARCH FOR MORE BLANK SECTORS	10232	27	02872	02871
06600	CM	LISTER-3,07,1011, CYL REPRESENTED	10244	14	02761	000-P
06610	HE	GORT	10256	46	10232	01200
06620	CM	LISTER-3,09,1011,BLANKS	10268	14	02761	000-R
06630	BE	BAVADD	10280	46	10472	01200
06640	TF	NEWDIM,LISTER	10292	26	02963	02764
06650	BT	DIMMER,DIMMER-1	10304	27	03666	03665
06660	BNG	**20,19899,, FILE PROTECTED PROGRAM	10316	55	10336	19899
06670	B	FILTST+12	10328	49	10224	00000
06680	DORG	*-3	10336			
06690	BNF	GORT,19899,,IMMOVABLE PROGRAM	10336	44	10232	19899
06700	B	MSTAKE	10348	49	09032	00000
06710	DORG	*-3	10356			
06720	BLANKT SF	LISTES-3	10356	32	02787	00000
06730	TF	CONST5,FOUND	10368	26	02825	03445
06740	S	FOUND,LISTES	10380	22	03445	02790
06750	CF	LISTES-3	10392	33	02787	00000
06760	SF	FOUND-2	10404	32	03443	00000
06770	TF	BAVAIL,FOUND	10416	26	02754	03445
06780	CF	FOUND-2	10428	33	03443	00000
06790	BAVCOM C	MOVESC,BAVAIL,,IS HOLE BIG ENOUGH	10440	24	02865	02754
06800	BNH	MOVNOW	10452	47	10504	01100
06810	B	GORT	10464	49	10232	00000
06820	DORG	*-3	10472			
06830	BAVADD SF	LISTER-2,,, ADD IN COUNT OF BLANK SECTORS FOUND	10472	32	02762	00000
06840	A	BAVAIL,LISTER	10484	21	02754	02764
06850	B	BAVCOM	10496	49	10440	00000
06860	DORG	*-3	10504			
06870	MOVNOW S	BAVAIL,MOVESC,, ADJUST LAST NINES ENTRY FOR FINAL OUTPUT	10504	22	02754	02865
06880	CM	BAVAIL,000,9,	10516	14	02754	00-00
06890	BE	REMBLK	10528	46	10636	01200
06900	SF	LISTER-2	10540	32	02762	00000
06910	TF	**35,BAVAIL	10552	26	10587	02754
06920	CF	**21	10564	33	10585	00000
06930	TFM	LISTET,9000,8	10576	16	02794	00000
06940	BT	INSERT,INSERT-1	10588	27	03414	03413
06950	TFM	WRMOVE+5,,,ZERO FIELD	10600	16	02627	-0000
06960	S	WRMOVE+5,BAVAIL	10612	22	02627	02754
06970	TDM	HEX,,,RECORD MARK	10624	15	02795	00000
06980	DC	1,*,*	10635		1	
06990	REMBLK BT	REMOVE,REMOVE-1,,REMOVE LAST NINES ENTRY IF IT IS A PERFECT	10636	27	03084	03083

07000	CM	LISTER-3,07,1011	10648	14	02761	000-P
07010	BE	KSEVEN	10660	46	10716	01200
07020	TF	NEWDIM,LISTER,,SET MOVER DDA FROM DIM ENTRY	10672	26	02963	02764
07030	BT	DIMMER,DIMMER-1	10684	27	03666	03665
07040	A	WRMOVE+5,19885	10696	21	02627	19885
07050	B	TOPPRO	10708	49	10820	00000
07060	DORG	*-3	10716			
07070	KSEVEN SF	LISTER-1,,,SET MOVER DDA FROM CYLINDER ENTRY	10716	32	02763	00000
07080	MM	LISTER,200,9	10728	13	02764	00K00
07090	A	WRMOVE+5,99	10740	21	02627	00099
07100	SF	WRMOVE	10752	32	02622	00000
07110	S	WRMOVE+1,NEVER	10764	22	02623	04291
07120	AM	WRMOVE+1,01,10	10776	11	02623	000-1
07130	CF	WRMOVE	10788	33	02622	00000
07140	B	TOPPRO	10800	49	10820	00000
07150	DORG	*-3	10808			
07160	RSEVEN BT	REMOVE,REMOVE-1	10808	27	03084	03083
07170	TOPPRO BNR	**24,HEX	10820	45	10844	02795
07180	BT	GETL,GETL-1,,ADJUST THE LISTER FOR NO EXACT FIT	10832	27	02996	02995
07190	TF	CONST5,MOVESA	10844	26	02825	02862
07200	A	CONST5,MOVESC	10856	21	02825	02865
07210	SF	CONST5-4,,,SECTOR ADDRES OF LAST SECTOR TO BE MOVED TOWARD	10868	32	02821	00000
07220	TFM	NEWDIM,9999,8	10880	16	02963	00999
07230	MARVEL BT	GETL,GETL-1	10892	27	02996	02995
07240	C	WRMOVE+5,CONST5,,HAS THE LAST PROGRAM JUST BEEN MOVED	10904	24	02627	02825
07250	BNH	PRE7	10916	47	08638	01100
07260	CM	LISTER-3,6,1011,FLAGGED ABOVE SIX	10928	14	02761	000-0
07270	BH	**32,,,BOTH NUMBERS ARE MINUS	10940	46	10972	01100
07280	WASH BT	REMOVE,REMOVE-1	10952	27	03084	03083
07290	B	MARVEL	10964	49	10892	00000
07300	DORG	*-3	10972			
07310	C	LISTER,NEWDIM	10972	24	02764	02963
07320	BF	WASH	10984	46	10952	01200
07330	TF	NEWDIM,LISTER,,BEGIN-MOVE PROGRAMS DOWN	10996	26	02963	02764
07340	BT	DIMMER,DIMMER-1	11008	27	03666	03665
07350	TF	CALC7,19888,,SECTOR COUNT	11020	26	02848	19888
07360	TF	CALC3,19885,,INIT READ AND WRITE	11032	26	02779	19885
07370	TD	RDMOVE,19880	11044	25	02599	19880
07380	A	CALC3,CALC7	11056	21	02779	02848
07390	TF	RDMOVE+5,CALC3	11068	26	02604	02779
07400	TD	WRMOVE,RDMOVE	11080	25	02622	02599
07410	B	COMPFR	11092	49	05268	00000
07420	DORG	*-3	11100			
07430	TCD	MOVFL	08500			
07440	DORG	09000	09000			
07450	***	ROUTINE TO COMPLETE THE REMOVAL OF NON-PROGRAM ENTRIES				
07460	PRE7A BT	GETR,GETR-1	09000	27	02872	02871
07470	TF	CONST5,LISTER	09012	26	02825	02764
07480	LOOPSY BT	GETL,GETL-1,, SEARCH TOWARD THE LEFT FOR NEW DIM NUMBER	09024	27	02996	02995
07490	CM	LISTER-3,7,1011	09036	14	02761	000-P
07500	BE	SEVENT	09048	46	09108	01200
07510	CM	LISTER-3,9,1011	09060	14	02761	000-R
07520	BE	NINENT	09072	46	09132	01200
07530	C	LISTER,CONST5	09084	24	02764	02825
07540	BNE	CHOICE	09096	47	09196	01200

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1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	18
07550	SEVENT	CM	LISTER,7000,8,CHECK FOR SPECIAL CASE OF CYLINDER ZERO	09108	14 02764 0P000
07560		BF	SPECAS	09120	46 09152 01200
07570	NINENT	BT	REMOVE,REMOVE-1	09132	27 03004 03083
07580		B	LODPSY	09144	49 09024 00000
07590		DORG	*-3	09152	
07600	SPECAS	TFM	19885,,	09152	16 19885 -0000
07610		BT	REMOVE,REMOVE-1	09164	27 03004 03083
07620		TFM	MAMY+1,41,10,NOP THE GETR IN THIS SPECIAL CASE	09176	16 09497 000M1
07630		B	MEAT	09188	49 09292 00000
07640		DORG	*-3	09196	
07650	CHOICE	TF	NEWDIM,LISTER	09196	26 02963 02764
07660		BT	DIMMER,DIMMER-1	09208	27 03666 03665
07670		CM	LISTER,0001,8, CHECK FOR WORK REPRESENTED BY CYLINDER COUNT	09220	14 02764 0-001
07680		BNE	*+48	09232	47 09280 01200
07690		HM	19888,200,9	09244	13 19888 00K00
07700		SF	95	09256	32 00095 00000
07710		A	19885,99	09268	21 19885 00099
07720		A	19885,19888	09280	21 19885 19888
07730	***	SET-UP	FAKSEV AND RACKET		
07740	MEAT	HM	MOVESA-4,05,10	09292	13 02858 000-5
07750		TDM	MOVESA-4,1,11	09304	15 02858 0000J
07760		BD	*+24,99	09316	43 09340 00099
07770		TDM	MOVESA-4,0,11	09328	15 02858 0000-
07780		TD	19881,MOVESA-4	09340	25 19881 02858
07790		TFM	FAKSEV,7000,8	09352	16 02852 0P000
07800		SF	19883	09364	32 19883 00000
07810	DELTA	DC	5,00200,*	09375	5
		-0200			
07820		TFM	RACKET,,8	09376	16 02841 0-000
07830		TF	RACKET,19885,,ESTABLISH THE NUMBER OF SECTORS USED ON THIS C	09388	26 02841 19885
07840		CF	19883	09400	33 19883 00000
07850		TDM	RACKET-2,1	09412	15 02839 00001
07860		HM	19883,05,10	09424	13 19883 000-5
07870		BD	*+24,99	09436	43 09460 00099
07880		TDM	RACKET-2,0	09448	15 02839 00000
07890		TD	FAKSEV,98	09460	25 02852 00098
07900		TD	FAKSEV-1,97	09472	25 02851 00097
07910		S	DELTA,RACKET,, INIT TO 200 MINUS RACKET	09484	22 09375 02841
07920	MAMY	BT	GETR,GETR-1,, SHIFT OFF OF ANCHOR PROGRAM	09496	27 02872 02871
07930		TF	CONST5,MOVESA	09508	26 02825 02862
07940		S	CONST5,19885	09520	22 02825 19885
07950		CM	RACKET,0000,8	09532	14 02841 0-000
07960		BNE	CONCUD	09544	47 09952 01200
07970		TF	LISTER,FAKSEV,, REPLACE THE CYLINDER MARKER	09556	26 02794 02852
07980		BT	INSERT,INSERT-1	09568	27 03414 03413
07990		CM	CONST5,,7,	09580	14 02825 -0000
08000		BE	EIGHTS	09592	46 09984 01200
08010	DELNT5	C	DELTA,CONST5,, IS THERE ENOUGH ROOM FOR REMAINING NINES ENT	09604	24 09375 02852
08020		BL	TAC	09616	47 09812 01300
08030		BH	TIC	09628	46 09744 01100
08040		SF	CONST5-2,,, A PERFECT FIT,INSERT THE NINES ENTRY	09640	32 02823 00000
08050		TF	*+35,CONST5	09652	26 09687 02825
08060		CF	*+21	09664	33 09685 00000
08070		TFM	LISTER,9000,8	09676	16 02794 0R000
08080		BT	INSERT,INSERT-1	09688	27 03414 03413
08090		AM	FAKSEV,01,10	09700	11 02852 000-1

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1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET				PAGE	19
08100		TF	LISTER,FAKSEV,, RESTORE THE CYLINDER MARKER	09712	26 02794 02852
08110		BT	INSERT,INSERT-1	09724	27 03414 03413
08120		B	EIGHTS	09736	49 09984 00000
08130		DORG	*-3	09744	
08140	TIC	SF	CONST5-2,,, INSERT THE NINES ENTRY	09744	32 02823 00000
08150		TF	*+35,CONST5	09756	26 09791 02825
08160		CF	*+21	09768	33 09789 00000
08170		TFM	LISTER,9000,8	09780	16 02794 0R000
08180		BT	INSERT,INSERT-1	09792	27 03414 03413
08190		B	EIGHTS	09804	49 09984 00000
08200		DORG	*-3	09812	
08210	TAC	SF	DELTA-2,, FILL THE REST OF THE CYLINDER WITH NINES ENTRY	09812	32 09373 00000
08220		TF	*+35,DELTA	09824	26 09859 09375
08230		CF	*+21	09836	33 09857 00000
08240		TFM	LISTER,9000,8	09848	16 02794 0R000
08250		CF	DELTA-2	09860	33 09373 00000
08260		BT	INSERT,INSERT-1	09872	27 03414 03413
08270		S	CONST5,DELTA	09884	22 02825 09375
08280		AM	FAKSEV,01,10	09896	11 02852 000-1
08290		TF	LISTER,FAKSEV,, RESTORE THE CYLINDER MARKER	09908	26 02794 02852
08300		BT	INSERT,INSERT-1	09920	27 03414 03413
08310		TFM	DELTA,00200,7,	09932	16 09375 -0200
08320		B	DELNT5	09944	49 09604 00000
08330		DORG	*-3	09952	
08340	CONCUD	CM	CONST5,00000,7, SECTOR ADDRESS FITS ON END OF PREVIOUS PROGR	09952	14 02825 -0000
08350		BE	EIGHTS	09964	46 09984 01200
08360		B	DELNT5	09976	49 09604 00000
08370		DORG	*-3	09984	
08380	EIGHTS	TF	*+35,MOVESC,, INSERT AN EIGHTS ENTRY FOR MOVESC	09984	26 10019 02865
08390		CF	*+21	09996	33 10017 00000
08400		TFM	LISTER,8000,8	10008	16 02794 0Q000
08410		BT	INSERT,INSERT-1	10020	27 03414 03413
08420		BT	GETL,GETL-1	10032	27 02996 02995
08430		SF	MOVESA-3	10044	32 02859 00000
08440		TF	RACKET,MOVESA	10056	26 02841 02862
08450		CF	MOVESA-3	10068	33 02859 00000
08460		SM	RACKET,200,9	10080	12 02841 00K00
08470		BNF	*-12,RACKET	10092	44 10080 02841
08480		AM	RACKET,200,9	10104	11 02841 00K00
08490		BT	GETL,GETL-1	10116	27 02996 02995
08500	***	ROUTINE	TO RESTORE THE SPL TO ITS PROPER FORM		
08510	ALLRIT	BT	GETR,GETR-1,, SHIFT TO PICK UP NEXT ENTRY TO ANALYZE	10128	27 02872 02871
08520		CM	LISTER-3,7,1011	10140	14 02761 000-P
08530		BE	BEAUTY	10152	46 10592 01200
08540		CM	LISTER-3,9,1011	10164	14 02761 000-R
08550		BE	ADDRAC	10176	46 10656 01200
08560		CM	LISTER-3,8,1011	10188	14 02761 000-Q
08570		BE	ADDRAC	10200	46 10656 01200
08580		TF	NEWDIM,LISTER,, BRING IN NEW DIM ENTRY TO FIND LENGTH	10212	26 02963 02764
08590		BT	DIMMER,DIMMER-1	10224	27 03666 03665
08600		SF	FAKSEV-1	10236	32 02851 00000
08610		HM	FAKSEV,200,9	10248	13 02852 00K00
08620		SF	94	10260	32 00094 00000
08630		S	95,NEVER	10272	22 00095 04291
08640		AM	95,01,10	10284	11 00095 000-1
08650		CF	FAKSEV-1	10296	33 02851 00000

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08660	C	19885,99,,DOES THIS PROGRAM START ON A CYLINDER PREVIOUS TO	10308	24	19885	00099
08670	BML	***8	10320	46	10360	01300
08680	S	19885,99	10332	22	19885	00099
08690	SF	19883	10344	32	19883	00000
08700	A	19888,19885	10356	21	19888	19885
08710	A	RACKET,19888	10368	21	02841	19888
08720	NOISY CM	RACKET,200,9, HAVE 200 SECTORS BEEN ACCOUNTED FOR THIS CYL	10380	14	02841	00K00
08730	BE	EZEST	10392	46	10700	01200
08740	BNH	ALLRIT	10404	47	10128	01100
08750	CM	LISTER-3,8,1011	10416	14	02761	000-Q
08760	BNH	TELAST	10428	47	10756	01100
08770	TF	STEAL,LISTER	10440	26	02845	02764
08780	BT	GETR,GETR-1	10452	27	02872	02871
08790	AM	FAKSEV,1,10	10464	11	02852	000-1
08800	TF	LISTET,FAKSEV,, RESTORE SEVENS MARKER	10476	26	02794	02852
08810	BT	INSERT,INSERT-1	10488	27	03414	03413
08820	TF	LISTET,STEAL,, REPEAT THE DIM NUMBER	10500	26	02794	02845
08830	BT	INSERT,INSERT-1	10512	27	03414	03413
08840	RAKES SM	RACKET,200,9,	10524	12	02841	00K00
08850	C	LISTER,FAKSEV	10536	24	02764	02852
08860	HF	***32	10548	46	10580	01200
08870	BT	GETL,GETL-1	10560	27	02996	02995
08880	B	NOISY	10572	49	10380	00000
08890	DORG	--3	10580			
08900	BT	REMOVE,REMOVE-1	10580	27	03084	03083
08910	BEAUTY BT	GETL,GETL-1,, POSITION LISTER FOR EXIT	10592	27	02996	02995
08920	CM	LISTER-3,08,1011	10604	14	02761	000-Q
08930	BE	***20	10616	46	10636	01200
08940	B	BEAUTY	10628	49	10592	00000
08950	DORG	--3	10636			
08960	BT	GETR,GETR-1	10636	27	02872	02871
08970	B	SFSUCE	10648	49	08600	00000
08980	DORG	--3	10656			
08990	ADDRAC SF	LISTER-2,,, ADD THE BLANK OR EIGHTS SECTOR COUNT TO TOTAL	10656	32	02762	00000
09000	A	RACKET,LISTER	10668	21	02841	02764
09010	CF	LISTER-2	10680	33	02762	00000
09020	B	NOISY	10692	49	10380	00000
09030	DORG	--3	10700			
09040	EZEST AM	FAKSEV,1,10, INSERT CYL MARKER FOR A PERFECT FIT	10700	11	02852	000-1
09050	TF	LISTER,FAKSEV	10712	26	02794	02852
09060	BT	GETR,GETR-1	10724	27	02872	02871
09070	BT	INSERT,INSERT-1	10736	27	03414	03413
09080	B	RAKES	10748	49	10524	00000
09090	DORG	--3	10756			
09100	TELAST SF	LISTER-2	10756	32	02762	00000
09110	S	RACKET,LISTER,, PREPARE THE SIZE OF THE EIGHTS ENTRY	10768	22	02841	02764
09120	CF	LISTER-2	10780	33	02762	00000
09130	TFM	CONST8,200,8	10792	16	02870	0-200
09140	S	CONST8,RACKET	10804	22	02870	02841
09150	SF	CONST8-2	10816	32	02868	00000
09160	S	LISTER,CONST8	10828	22	02764	02870
09170	TF	STEAL,LISTER	10840	26	02845	02764
09180	TF	***35,CONST8	10852	26	10887	02870
09190	CF	***21	10864	33	10885	00000
09200	TFM	LISTET,8000,8, INSERT THE EIGHTS ENTRY	10876	16	02794	00000
09210	BT	REMOVE,REMOVE-1,, REMOVE THE INDICATOR FROM THE LIST	10888	27	03084	03083

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09220	BT	INSERT,INSERT-1	10900	27	03414	03413
09230	AM	FAKSEV,1,10	10912	11	02852	000-1
09240	TF	LISTER,FAKSEV	10924	26	02794	02852
09250	BT	INSERT,INSERT-1,, INSERT THE SEVENS MARKER	10936	27	03414	03413
09260	TF	LISTER,STEAL	10948	26	02794	02845
09270	BT	INSERT,INSERT-1,, REPLACE THE REDUCED INDICATOR	10960	27	03414	03413
09280	BT	GETL,GETL-1	10972	27	02996	02995
09290	TF	RACKET,LISTET	10984	26	02841	02794
09300	TDM	RACKET-3,0,11	10996	15	02838	0000-
09310	B	NOISY	11008	49	10380	00000
09320	DORG	--3	11016			
09330	***	LINKAGE FOR PLACING THIS LAST PORTION OF MOVER ON DISK				
09340	NOMC TFM	IORT,***23	11016	16	00565	J1039
09350	B	IOPT,NOMD,7	11028	49	00532	J1064
09360	TRA		11040	36	00000	00500
			11052	49	00000	00000
09370	NOMD DSC	2,22	11064			2
09380	DSA	NOME	11070		5 X	1
			11070		J1072	
09390	DC	1,'	11071		1	
09400	NOME DSC	1,1	11072		1	
09410	DC	5,17106	11077		5	
09420	J7106 DC	3,022	11080		3	
09430	DC	6,09000'	11086		6	
09440	TCD	NOMC	11016			
09450	DORG	5600	05600			
09460	DELFL TFM	IORT,***23	05600	16	00565	-5623
09470	B	IOPT,DEL1,7	05612	49	00532	-5648
09480	TRA		05624	36	00000	00500
			05636	49	00000	00000
09490	DEL1 DSC	2,22	05648		2	
09500	DSA	DEL2	05654		5 X	1
			05656		-5656	
09510	DSC	1,'	05655		1	
09520	DEL2 DSC	1,1	05656		1	
09530	DC	5,18247	05661		5	
09540	J8247 DC	3,013	05664		3	
09550	DC	5,05800	05669		5	
09560	DSC	1,'	05670		1	
09570	*	DELETE PROGRAM ROUTINE				

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09580 *							
09590 *							
09600	DORG	5800		05800			
09610 DELET	SF	DELETE		05800	32	13086	00000
09620 ***		DETERMINE MAX.NO. OF DIM ENTRIES					
09630	TFM	MAXDIM,9999,8		05812	16	03843	08999
09640	TFM	NEWDIM,3,8		05824	16	02963	0-003
09650	BT	DIMMER,DIMMER-1		05836	27	03666	03665
09660	BNR	**20,MAP		05848	45	05868	19880
09670	B	MONCAL		05860	49	00796	00000
09680	DORG	**3		05868			
09690	MM	MAP*8,5,10		05868	13	19888	000-5
09700	SF	96		05880	32	00096	00000
09710	SM	99,1,10		05892	12	00099	000-1
09720	TF	MAXDIM,99		05904	26	03843	00099
09730	SF	INPUT+11		05916	32	13624	00000
09740	TF	PNAME,INPUT+22		05928	26	13189	13635
09750	TD	DIMNUM,INPUT+30		05940	25	13150	13643
09760	TD	DIMNUM-1,INPUT+28		05952	25	13149	13641
09770	TD	DIMNUM-2,INPUT+26		05964	25	13148	13639
09780	TD	DIMNUM-3,INPUT+24		05976	25	13147	13637
09790	SF	DIMNUM-3		05988	32	13147	00000
09800	CM	DIMNUM,0,8		06000	14	13150	0-000
09810	BE	OKDEL-24		06012	46	06124	01200
09820 ***		IS DIM NO. IN RANGE					
09830	C	DIMNUM,MAXDIM		06024	24	13150	03843
09840	BNH	**32		06036	47	06068	01100
09850	TFM	DIMERR+22,0076,8		06048	16	02507	0-076
09860	B	ERRD		06060	49	02524	00000
09870	DORG	**3		06068			
09880 ***		IS DIM NO. IN USE					
09890	TF	NEWDIM,DIMNUM		06068	26	02963	13150
09900	BT	DIMMER,DIMMER-1		06080	27	03666	03665
09910	BNR	OKDEL,MAP		06092	45	06148	19880
09920	TFM	DIMERR+22,7271,8		06104	16	02507	0P271
09930	B	ERRD		06116	49	02524	00000
09940	DORG	**3		06124			
09950	C	PNAME,ZERO12		06124	24	13189	13123
09960	BE	ERRD-12		06136	46	02512	01200
09970 OKDEL	BTM	EQUIV,**12		06148	17	08606	-6160
09980	CM	DIMNUM,0,8		06160	14	13150	0-000
09990	BNE	**32		06172	47	06204	01200
10000	TFM	DIMERR+22,7270,8		06184	16	02507	0P270
10010	B	ERRD		06196	49	02524	00000
10020	DORG	**3		06204			
10030 *		DELETE ENTRY FROM SP LIST					
10040	BTM	SPLDEL,**12		06204	17	12090	-6216
10050	TF	NEWDIM,DIMNUM		06216	26	02963	13150
10060	BT	DIMMER,DIMMER-1		06228	27	03666	03665
10070	TF	FWRIT+5,MAP+5		06240	26	13232	19885
10080	TD	FWRIT,MAP		06252	25	13227	19880
10090	TF	HOLD3,MAP+8		06264	26	13153	19888
10100	TF	LOADSC,MAP+8		06276	26	13140	19888
10110	TFM	FLAG+11,TRACK2		06288	16	06479	J7778
10120	TF	LOADSA,MAP+5		06300	26	13050	19885
10130	TD	LOADSA-5,MAP		06312	25	13045	19880

10140	SF	MAP+4		06324	32	19884	00000
10150	SM	MAP+5,20,10		06336	12	19885	00000
10160	BH	**12		06348	46	06336	01100
10170	BZ	**48		06360	46	06408	01200
10180	AM	MAP+5,20,10		06372	11	19885	00000
10190	MM	MAP+5,105,9		06384	13	19885	00J05
10200	A	FLAG+11,99		06396	21	06479	00099
10210	TF	CLFP+6,FLAG+11		06408	26	06658	06479
10220	TFM	FWRIT+8,20,9		06420	16	13235	00-20
10230	TFM	FWRIT+13,TRACK2		06432	16	13240	J7778
10240	TFM	IORT,**23		06444	16	00565	-6467
10250	B	IOGT,FPDDA,7		06456	49	00566	J3413
10260 FLAG	BNF	**20,TRACK2,,	SEARCH FOR FILE PROTECTION	06468	44	06488	17778
10270	B	CLEAR		06480	49	06580	00000
10280	DORG	**3		06488			
10290	SM	HOLD3,1,10		06488	12	13153	000-1
10300	BZ	FPOK		06500	46	06820	01200
10310	AM	FLAG+11,105,9		06512	11	06479	00J05
10320	CM	FLAG+11,TRACK2+2100		06524	14	06479	J9878
10330	BL	FLAG		06536	47	06468	01300
10340	TFM	FLAG+11,TRACK2		06548	16	06479	J7778
10350	AM	FWRIT+5,20,10		06560	11	13232	00000
10360	AM	FLAG-24		06572	49	06444	00000
10370	DORG	**3		06580			
10380 CLEAR	TF	FWRIT+5,LOADSA		06580	26	13232	13050
10390	TD	FWRIT,LOADSA-5		06592	25	13227	13045
10400	SF	BUTTON		06604	32	00455	00000
10410	BTM	KYMESS,**12		06616	17	11998	-6628
10420	TFM	IORT,**23		06628	16	00565	-6651
10430	B	IOGT,FPDDA,7		06640	49	00566	J3413
10440 CLFP	CF	TRACK2,,	CLEAR FILE PROTECTION	06652	33	17778	00000
10450	SM	LOADSC,1,10		06664	12	13140	000-1
10460	BZ	WROK		06676	46	06724	01200
10470	AM	CLFP+6,105,9		06688	11	06658	00J05
10480	CM	CLFP+6,TRACK2+2100		06700	14	06658	J9878
10490	BL	CLFP		06712	47	06652	01300
10500 WROK	TFM	IORT,**23		06724	16	00565	-6747
10510	B	IOPT,FPDDA,7		06736	49	00532	J3413
10520	AM	FWRIT+5,20,10		06748	11	13232	00000
10530	TFM	CLFP+6,TRACK2		06760	16	06658	J7778
10540	CM	LOADSC,0,9		06772	14	13140	00-00
10550	BNE	CLFP-24		06784	47	06628	01200
10560	CF	BUTTON		06796	33	00455	00000
10570	BTM	KYMESS,**12		06808	17	11998	-6820
10580 FPOK	TF	NEWDIM,DIMNUM		06820	26	02963	13150
10590	BT	DIMMER,DIMMER-1		06832	27	03666	03665
10600	TDM	MAP,,	REMOVE DIM ENTRY	06844	15	19880	00000
10610	DSC	1,,*		06856		1	
10620	TF	MAP+19,ZERO19		06856	26	19899	13130
10630	TFM	IORT,**23		06868	16	00565	-6891
10640	B	IOPT,DMDDA,7		06880	49	00532	-2568
10650	TDM	SYSVAL,3		06892	15	00475	00003
10660	B	MONCAL		06904	49	00796	00000
10670	DORG	**3		06912			
10680	TCD	DELFL		05600			

10690	****								
10700	*****	*DLOAD	INDEPENDENT ROUTINES						
10710	****								
10720		DORG	4400		04400				
10730	LOADFL	TFM	IORT,++23		04400	16	00565	-4423	
10740		B	IOPT,LOAD2,7		04412	49	00532	-4463	
10750		TRA			04424	36	00000	00500	
					04436	49	00000	00000	
10760	LOAD1	DSC	1,1		04448			1	
		1							
10770		DC	5,18369		04453			5	
		J8369							
10780		DC	3,027		04456			3	
		-27							
10790		DC	5,05800		04461			5	
		-5800							
10800		DSC	1,'		04462			1	
		'							
10810	LOAD2	DSC	2,22		04463			2	
		22							
10820		OSA	LOAD1		04469			5 X 1	
10830		DSC	1,'		04469			-4448	
		'			04470			1	
10840		DORG	5800		05800				
10850	DLOAD	BTM	SCRAD,++12		05800	17	09298	-5812	
10860		TD	NOSA+57,MCS+49		05812	25	10943	17827	
10870		SF	NOSA+57		05824	32	10943	00000	
10880		SM	NOSA+59,100,9		05836	12	10945	00J00	
10890		TFM	HOLD2,0,10		05848	16	13052	000-0	
10900		TD	HOLD2,SYSCAL		05860	25	13052	00475	
10910	**	IS	CALL FROM CONTROL CARD						
10920		CM	HOLD2,4,10		05872	14	13052	000-4	
10930		BNE	SPS		05884	47	07424	01200	
10940		TFM	ATN+11,INPUT+32		05896	16	09053	J3645	
10950	**	I	CONVERT CONTROL CARD TO NUMERIC						
10960		BTM	ATNR,++12		05908	17	08606	-5920	
10970		SF	INPUT+75		05920	32	13688	00000	
10980		C	INPUT+84,ZER012-2		05932	24	13697	13121	
10990		RNE	++24		05944	47	05968	01200	
11000		TFM	HOLD0D+26,02402,7		05956	16	13016	-2402	
11010	DC2	SF	HOLD0D+10		05968	32	13000	00000	
11020		SF	HOLD0D+17		05980	32	13007	00000	
11030		SF	HOLD0D+22		05992	32	13012	00000	
11040		SF	HOLD0D+27		06004	32	13017	00000	
11050		BD	++32,NTEST		06016	43	06048	13084	
11060		TF	MAPMA,HOLD0D+26		06028	26	13106	13016	
11070		B	++20		06040	49	06060	00000	
11080		DORG	+3		06048				
11090		TFM	MAPMA,99999,7		06048	16	13106	R9999	
11100		TF	MAPEA,HOLD0D+31		06060	26	13111	13021	
11110		BD	DISKN,PHI,,	IF NOT ON DISK GOTO NODISK	06072	43	06328	13082	
11120	DC22	SF	INPUT+31		06084	32	13644	00000	
11130		C	INPUT+50,ZER012		06096	24	13663	13123	

11140	BE	ERRD-12		06108	46	02512	01200	
11150	TF	HOLD6,HOLD0D+15		06120	26	13175	13005	
11160	S	HOLD6,HOLD0D+9		06132	22	13175	12999	
11170	BNL	++32		06144	46	06176	01300	
11180	TFM	DIMERR+22,7177,8		06156	16	02507	0P177	
11190	B	ERRD		06168	49	02524	00000	
11200	DORG	+3		06176				
11210	C	HOLD0D+9,SCR1		06176	24	12999	13163	
11220	BL	SCERR		06188	47	12798	01300	
11230	C	HOLD0D+15,SCR2		06200	24	13005	13169	
11240	BH	SCERR		06212	46	12798	01100	
11250	TF	LOADSC,HOLD0D+15,,	COMPUTE SECTOR COUNT	06224	26	13140	13005	
11260	S	LOADSC,HOLD0D+9		06236	22	13140	12999	
11270	AM	LOADSC,1,10		06248	11	13140	000-1	
11280	TF	SCRACH,HOLD0D+9		06260	26	13146	12999	
11290	SF	LOADSC-2		06272	32	13138	00000	
11300	SF	SCRACH-4		06284	32	13142	00000	
11310	CF	SCRACH-5		06296	33	13141	00000	
11320	BD	MODD1,RTEST		06308	43	10682	13083	
11330	B	MAINB1		06320	49	06352	00000	
11340	DORG	+3		06328				
11350	DISKN	BD	MODND1,RTEST	06328	43	10482	13083	
11360	BTM	NODISK,++12		06340	17	09866	-6352	
11370	MAINB1	BD	++32,PTEST	06352	43	06384	13085	
11380	TDM	MAPRM,,,	NO FILE PROTECTION	06364	15	13063	00000	
11390	DSC	1,',,		06375			1	
		'						
11400	B	++20		06376	49	06396	00000	
11410	DORG	+3		06384				
11420	TD	MAPRM,GPMARK,,	FILE PROTECTION	06384	25	13063	13064	
11430	SF	INPUT+65		06396	32	13678	00000	
11440	C	INPUT+74,ZER012		06408	24	13687	13123	
11450	BE	NOSA	IMMOVABLE PROGRAM	06420	46	10886	01200	
11460	SF	MAPRM,,,		06432	32	13063	00000	
11470	TF	LOADSA,HOLD0D+21		06444	26	13050	13011	
11480	TD	LOADSA-5,HOLD0D+16		06456	25	13045	13006	
11490	C	LOADSA,SCR2		06468	24	13050	13169	
11500	BH	SCROK		06480	46	06552	01100	
11510	TF	HOLD6,LOADSA		06492	26	13175	13050	
11520	A	HOLD6,LOADSC		06504	21	13175	13140	
11530	SM	HOLD6,1,10		06516	12	13175	000-1	
11540	C	HOLD6,SCR1		06528	24	13175	13163	
11550	RNL	SCERR		06540	46	12798	01300	
11560	SCROK	SF	INPUT+11	06552	32	13624	00000	
11570	TF	PNAME,INPUT+22		06564	26	13189	13635	
11580	CM	HOLD0D+3,0,8		06576	14	12993	0-000	
11590	BE	FIND0N		06588	46	06680	01200	
11600	TF	NEWDIM,HOLD0D+3		06600	26	02963	12993	
11610	BT	DIMMER,DIMMER-1		06612	27	03666	03665	
11620	BNR	++20,MAP		06624	45	06644	19880	
11630	B	CALLMV		06636	49	06976	00000	
11640	DORG	+3		06644				
11650	RCTY			06644	34	00000	00102	
11660	TFM	DIMERR+22,7572,8		06656	16	02507	0P572	
11670	WATY	DIMERR		06668	39	02485	00100	
11680	FIND0N	TFM	NEWDIM,131,8,	06680	16	02963	0-131	

11690	TF	HOLD6,ZERO6	06692	26	13175	13117
11700	TF	HOLD6,NEWDIM	06704	26	13175	02963
11710	A	HOLD6,HOLD6	06716	21	13175	13175
11720	CF	HOLD6-3	06728	33	13172	00000
11730	AM	HOLD6-1,4800,8	06740	11	13174	0M800
11740	TF	DZREAD+5,HOLD6-1	06752	26	13466	13174
11750	TFM	IORT,**23	06764	16	00565	-6787
11760	B	IOGT,DIREAD,7	06776	49	00566	J3453
11770	TFM	TREC+11,TRACK	06788	16	06835	J3776
11780	TD	**23,HOLD6	06800	25	06823	13175
11790	AM	TREC+10,0,10	06812	11	06834	000-0
11800	TREC	BNR **20,TRACK	06824	45	06844	13776
11810	B	CALLMV	06836	49	06976	00000
11820	DORG	*-3	06844			
11830	AM	NEWDIM,1,10	06844	11	02963	000-1
11840	C	NEWDIM,MAXDIM	06856	24	02963	03843
11850	BH	EXITFL	06868	46	06924	01100
11860	AM	TREC+11,20,10	06880	11	06835	000K0
11870	CM	TREC+11,TRACK+2100	06892	14	06835	J5876
11880	BL	TREC	06904	47	06824	01300
11890	B	FINDON+12	06916	49	06692	00000
11900	DORG	*-3	06924			
11910	EXITFL	BNF **32,FORT	06924	44	06956	13062
11920	TFM	DIMERR+22,7671,8	06936	16	02507	0P671
11930	B	ERR+24	06948	49	05680	00000
11940	DORG	*-3	06956			
11950	TFM	DIMERR+22,0079,8	06956	16	02507	0-079
11960	B	ERRD	06968	49	02524	00000
11970	DORG	*-3	06976			
11980	CALLMV	TF DIMNUM,NEWDIM	06976	26	13150	02963
11990	TF	MOVESC,LOADSC	06988	26	02865	13140
12000	TF	MOVESA,LOADSA	07000	26	02862	13050
12010	TD	MOVESA-5,LOADSA-5	07012	25	02857	13045
12020	TFM	IORT,**23	07024	16	00565	-7047
12030	B	IOGT,MOVDDA,7	07036	49	00566	J3204
12040	TFM	EXITMR+6,**20	07048	16	08630	-7068
12050	B	MOVER	07060	49	08832	00000
12060	DORG	*-3	07068			
12070	BNF	ERR,SUCCESS	07068	44	05656	13066
12080	TFM	IORT,**23	07080	16	00565	-7103
12090	B	IOGT,EQUDDA,7	07092	49	00566	J3272
12100	TFM	IORT,**23	07104	16	00565	-7127
12110	B	IOGT,COM2,7	07116	49	00566	J3297
12120	TF	NEWDIM,DIMNUM	07128	26	02963	13150
12130	BT	DIMMER,DIMMER-1	07140	27	03666	03665
12140	RTM	SEYMAP,**12	07152	17	10738	-7164
12150	BTM	WRLAST,**12	07164	17	11842	-7176
12160	BNF	MONCAL,DUMP	07176	44	00796	13388
12170	TD	MCS+23,DUMP	07188	25	17801	13388
12180	TFM	IORT,**23	07200	16	00565	-7223
12190	B	IOGT,DMPDIM,7	07212	49	00566	J3365
12200	WR2	DS ,2257	07224			
12210	LOADRE	TFM ATN+11,INPUT+32	07224	16	09053	J3645
12220	SF	LOADRE	07236	32	07224	00000
12230	BTM	ATNR,**12	07248	17	08606	-7260
12240	TFM	INPUT+49,7070,8	07260	16	13662	0P070

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12250	A	WR2+3,425	07272	21	02260	00425
12260	TD	WR2,422	07284	25	02257	00422
12270	SF	WR2	07296	32	02257	00000
12280	CF	WR2+1	07308	33	02258	00000
12290	TF	HOLD6CD+9,WR2+5	07320	26	12999	02262
12300	TF	HOLD6CD+15,WR2+5	07332	26	13005	02262
12310	A	HOLD6CD+15,WR2+8	07344	21	13005	02265
12320	SM	HOLD6CD+15,1,10	07356	12	13005	000-1
12330	TF	HOLD6CD+26,WR2+13	07368	26	13016	02270
12340	TF	MAPMA,WR2+13	07380	26	13106	02270
12350	BNF	DC2,MCS+22	07392	44	05968	17800
12360	SF	FORT	07404	32	13062	00000
12370	B	NORE1	07416	49	07540	00000
12380	DORG	*-3	07424			
12390	SPS	TFM PHI,0,9,	07424	16	13082	00-00
12400	CM	HOLD2,6,10	07436	14	13052	000-6
12410	BNE	LOADRE	07448	47	07224	01200
12420	TDM	FREDDA,0	07460	15	13429	00000
12430	SF	FORT	07472	32	13062	00000
12440	TF	MAPMA,MCS+12	07484	26	13106	17790
12450	BD	NORE1,MCS+22	07496	43	07540	17800
12460	TFM	SCRACH,0,7	07508	16	13146	-0000
12470	TDM	SCRACH-5,0	07520	15	13141	00000
12480	B	MODDK1	07532	49	10682	00000
12490	DORG	*-3	07540			
12500	NORE1	TF INPUT+22,MCS+35	07540	26	13635	17813
12510	TF	MAPEA,MCS+17	07552	26	13111	17795
12520	TD	DUMP,MCS+23	07564	25	13388	17801
12530	NEGATE	TDM PTEST,0,,	07576	15	13085	00000
12540	TF	INPUT+74,ZERU12	07588	26	13687	13123
12550	TF	HOLD6CD+40,ZERU6,,	07600	26	13030	13117
12560	TF	HOLD6CD+3,MCS+39	07612	26	12993	17817
12570	BNF	**20,LOADRE	07624	44	07644	07224
12580	B	DC22	07636	49	06084	00000
12590	DORG	*-3	07644			
12600	TFM	LOADSC,0,9	07644	16	13140	00-00
12610	TFM	DCFSCR+8,3,9	07656	16	13343	00-03
12620	TFM	DCFSCR+5,0,7	07668	16	13340	-0000
12630	INIT1	TFM LOOP,4,10	07680	16	13072	000-4
12640	TFM	SCAN1+6,READIN	07692	16	07734	J7778
12650	TFM	IORT,**23	07704	16	00565	-7727
12660	B	IOGT,DDASCR,7	07716	49	00566	J3445
12670	SCAN1	NOP READIN,0	07728	41	17778	00000
12680	TF	BNR+11,SCAN1+6	07740	24	09661	07734
12690	TFM	NODISK-1,MAINB1	07752	16	09865	-6352
12700	BTM	LCTEST,**12	07764	17	09614	-7776
12710	SM	LOOP,1,10	07776	12	13072	000-1
12720	BD	UPSCA,LOOP	07788	43	07832	13072
12730	AM	LOADSC,3,10	07800	11	13140	000-3
12740	AM	DCFSCR+5,3,10	07812	11	13340	000-3
12750	B	INIT1	07824	49	07680	00000
12760	DORG	*-3	07832			
12770	UPSCA	AM SCAN1+6,75,9	07832	11	07734	00-75
12780	B	SCAN1	07844	49	07728	00000
12790	DORG	*-3	07852			
12800	TCD	LOADPL	04400			

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12810	*****							
12820	*****	*DREPL	INDEPENDENT	ROUTINES				
12830	*****							
12840		DORG	4400		04400			
12850	REPLFL	TFM	IORT,**23		04400	16	00565	-4423
12860		B	IOPT,REPL2,7		04412	49	00532	-4463
12870		TRA			04424	36	00000	00500
					04436	49	00000	00000
12880	REPL1	DSC	1,1		04448			1
		I						
12890		DC	5,18400		04453			5
		J8400						
12900		DC	3,028		04456			3
		-28						
12910		DC	5,05800		04461			5
		-5800						
12920		DSC	1,'		04462			1
		,						
12930	REPL2	DSC	2,22		04463			2
		22						
12940		DSA	REPL1		04469		5 X	1
12950		DSC	1,'		04469		-4448	
		,			04470			1
12960		DORG	5800		05800			
12970	DREPL	TFM	HOLD2,0,10		05800	16	13052	000-0
12980		BTM	SCRAD,**12		05812	17	09298	-5824
12990		TD	HOLD2,SYSCAL		05824	25	13052	00475
13000		CM	HOLD2,4,10		05836	14	13052	000-4
13010		BNE	RELD		05848	47	08172	01200
13020		SF	INPUT+11		05860	32	13624	00000
13030		TFM	ATN+11,INPUT+24		05872	16	09053	J3637
13040		BTM	ATNR,**12,,	CARD TO NUMERIC	05884	17	08606	-5896
13050		SF	HOLD2,0,8		05896	32	12998	00000
13060		SF	HOLD2,0,14		05908	32	13004	00000
13070		SF	HOLD2,0,26		05920	32	13016	00000
13080		SF	HOLD2,0,31		05932	32	13021	00000
13090		TF	PNAME,INPUT+22		05944	26	13189	13635
13100	ISTD	CM	HOLD2,0,8,8	ERROR IF NO TO DIM	05956	14	12997	0-000
13110		BF	ERRD-12		05968	46	02512	01200
13120		TF	NEWDIM,HOLD2,0,8		05980	26	02963	12997
13130		BT	DIMMER,DIMMER-1		05992	27	03666	03665
13140		BNR	**32,MAP		06004	45	06036	19880
13150		TFM	DIMERR+22,0072,8		06016	16	02507	0-072
13160		B	ERRD,,,	ERROR IF TO DIM NOT IN USE	06028	49	02524	00000
13170		DORG	**3		06036			
13180		BNF	**32,MAP+19		06036	44	06068	19899
13190	****			ERROR IF TO DIM IS IMMOVABLE				
13200		TFM	DIMERR+22,0073,8		06048	16	02507	0-073
13210		B	ERRD		06060	49	02524	00000
13220		DORG	**3		06068			
13230		TF	LOADSA,MAP+5		06068	26	13050	19885
13240		TD	LOADSA-5,MAP		06080	25	13045	19880
13250	**			ENTRY AND CORE ADDRESSES FROM CARD				

13260		TF	MAPEA,HOLD2,0,35		06092	26	13111	13025
13270		BD	**32,NTEST		06104	43	06136	13084
13280		TF	MAPMA,HOLD2,0,30		06116	26	13106	13020
13290		B	**20		06128	49	06148	00000
13300		DORG	**3		06136			
13310		TFM	MAPMA,99999,7		06136	16	13106	R9999
13320		BD	**32,PTEST		06148	43	06180	13085
13330	**			NO FILE PROTECTION				
13340		TDM	MAPRM,,,		06160	15	13063	00000
13350		DSC	1,'*		06171			1
		,						
13360		B	**20		06172	49	06192	00000
13370		DORG	**3		06180			
13380	**			FILE PROTECTION				
13390		TD	MAPRM,GPMARK		06180	25	13063	13064
13400	**			PROGRAM IS MOVABLE				
13410		BD	NDISK,PHI		06192	43	06848	13082
13420	**			IS THERE A FROM DIM				
13430		CM	HOLD2,0,8		06204	14	12993	0-000
13440		BNE	NTZ		06216	47	06380	01200
13450	**			PROGRAM IS IN WORK AREA				
13460		SF	INPUT+39		06228	32	13652	00000
13470		C	INPUT+50,ZERO12		06240	24	13663	13123
13480		BE	ERRD-12		06252	46	02512	01200
13490		C	HOLD2,0,19,SCR2		06264	24	13009	13169
13500		BH	SCERR		06276	46	12798	01100
13510		C	HOLD2,0,13,SCR1		06288	24	13003	13163
13520		BL	SCERR		06300	47	12798	01300
13530	**			COMPUTE SECTOR COUNT				
13540		TF	LOADSC,HOLD2,0,19		06312	26	13140	13009
13550		S	LOADSC,HOLD2,0,13		06324	22	13140	13003
13560		AM	LOADSC,1,10		06336	11	13140	000-1
13570		SF	LOADSC-2		06348	32	13138	00000
13580		TF	SCRACH,HOLD2,0,13		06360	26	13146	13003
13590		B	MAINB2		06372	49	06884	00000
13600		DORG	**3		06380			
13610	NTZ	TF	NEWDIM,HOLD2,0,3		06380	26	02963	12993
13620		BNF	**20,LOADER		06392	44	06412	12234
13630		B	NTZ-68		06404	49	06312	00000
13640		DORG	**3		06412			
13650	**			ERROR IF FROM DIM NOT IN USE				
13660		BNR	**32,MAP		06424	45	06456	19880
13670		TFM	DIMERR+22,0074,8		06436	16	02507	0-074
13680		B	ERRD		06448	49	02524	00000
13690		DORG	**3		06456			
13700	**			ERROR IF FROM DIM IS IMMOVABLE				
13710		BNF	**32,MAP+19		06456	44	06488	19899
13720		TFM	DIMERR+22,0077,8		06468	16	02507	0-077
13730		B	ERRD		06480	49	02524	00000
13740		DORG	**3		06488			
13750		TF	LOADSC,MAP+8		06488	26	13140	19888
13760	***			PUT FROM DIM PROG. ON SCRATCH				
13770		TDM	FWRDDA,0		06500	15	13421	00000
13780		TFM	FWRIT+5,0,7		06512	16	13232	-0000
13800		TDM	FWRIT,0		06524	15	13227	00000

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13810	TFM	FWRIT+13,TRACK	06536	16	13240	J3776	
13820	TF	FREAD+5,MAP+5	06548	26	13247	19885	
13830	TD	FREAD,MAP	06560	25	13242	19880	
13840	TFM	FREAD+13,TRACK	06572	16	13255	J3776	
13850	MORERD	CM	MAP+8,040,9	06584	14	19888	00-40
13860	BNH	**44		06596	47	06640	01100
13870	SM	MAP+8,040,9		06608	12	19888	00-40
13880	TFM	FREAD+8,040,9		06620	16	13250	00-40
13890	B	**32		06632	49	06664	00000
13900	DORG	*-3		06640			
13910	TF	FREAD+8,MAP+8	06640	26	13250	19888	
13920	S	MAP+8,MAP+8	06652	22	19888	19888	
13930	TF	FWRIT+8,FREAD+8	06664	26	13235	13250	
13940	TFM	IORT,**23	06676	16	00565	-6699	
13950	B	IOGT,FREDDA,7	06688	49	00566	J3429	
13960	TFM	IORT,**23	06700	16	00565	-6723	
13970	B	IOGT,FWRDDA,7	06712	49	00532	J3421	
13980	CM	MAP+8,0,9	06724	14	19888	00-00	
13990	BE	**44	06736	46	06780	01200	
14000	A	FREAD+5,FREAD+8	06748	21	13247	13250	
14010	A	FWRIT+5,FREAD+8	06760	21	13232	13250	
14020	B	MORERD	06772	49	06584	00000	
14030	DORG	*-3	06780				
14040	TDM	FWRDDA,2	06780	15	13421	00002	
14050	TFM	SCRACH,0,7	06792	16	13146	-0000	
14060	TDM	FREDDA,0	06804	15	13429	00000	
14070	**	ENTRY AND CORE ADDRESSES FROM FROM DIM MAP					
14080	TF	MAPMA,MAP+13	06816	26	13106	19893	
14090	TF	MAPEA,MAP+18	06828	26	13111	19898	
14100	B	MAINB2	06840	49	06884	00000	
14110	DORG	*-3	06848				
14120	NOISK	BD	MDDND1,RTEST	06848	43	10482	13083
14130	BTM	NODISK,**12	06860	17	09866	-6872	
14140	TFM	HOLDCD+3,0,8	06872	16	12993	0-000	
14150	MAINB2	BD	MDDDK1,RTEST	06884	43	10682	13083
14160	TFM	IORT,**23	06896	16	00565	-6919	
14170	B	IOGT,COM2,7	06908	49	00566	J3297	
14180	CM	HOLDCD+3,0,8	06920	14	12993	0-000	
14190	BE	**36	06932	46	06968	01200	
14200	***	DELETE FROM DIM FROM S.P-LIST					
14210	TF	DIMNUM,HOLDCD+3	06944	26	13150	12993	
14220	BTM	SPLDEL,**12	06956	17	12090	-6968	
14230	*	DELETE TO DIM FROM SP LIST					
14240	TF	DIMNUM,HOLDCD+7	06968	26	13150	12997	
14250	BTM	SPLDEL,**12	06980	17	12090	-6992	
14260	TF	MOVESA,LOADSA	06992	26	02862	13050	
14270	TD	MOVESA-5,LOADSA-5	07004	25	02857	13045	
14280	TF	MOVESC,LOADSC	07016	26	02865	13140	
14290	TFM	IORT,**23	07028	16	00565	-7051	
14300	B	IOGT,MOVDDA,7	07040	49	00566	J3204	
14310	TFM	EXITMR+6,**20	07052	16	08630	-7072	
14320	B	MOVER	07064	49	08832	00000	
14330	DORG	*-3	07072				
14340	BNF	**20,AOK	07072	44	07092	13066	
14350	B	UPDIM	07084	49	07312	00000	
14360	DORG	*-3	07092				

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14370	***	INSERT TO AND FROM DIMS INTO S.P-LIST					
14380	NOSPAC	TF	NEWDIM,HOLDCD+7,7	07092	26	02963	J2997
14390	BT	DIMMER,DIMMER-1	07104	27	03666	03665	
14400	TF	MOVESC,MAP+8	07116	26	02865	19888	
14410	TF	MOVESA,MAP+5	07128	26	02862	19885	
14420	TD	MOVESA-5,MAP	07140	25	02857	19880	
14430	TFM	EXITMR+6,**20	07152	16	08630	-7172	
14440	B	MOVER	07164	49	08832	00000	
14450	DORG	*-3	07172				
14460	TF	DIMNUM,NOSPAC+11,11	07172	26	13150	0710L	
14470	TFM	IORT,**23	07184	16	00565	-7207	
14480	B	IOGT,COM2,7	07196	49	00566	J3297	
14490	BTM	SPLINS,**12	07208	17	10606	-7220	
14500	CM	NOSPAC+11,HOLDCD+3	07220	14	07103	J2993	
14510	BE	ERR	07232	46	05656	01200	
14520	CM	HOLDCD+3,0,8	07244	14	12993	0-000	
14530	BE	ERR	07256	46	05656	01200	
14540	TFM	NOSPAC+11,HOLDCD+3	07268	16	07103	J2993	
14550	TFM	IORT,**23	07280	16	00565	-7303	
14560	B	IOGT,MOVDDA,7	07292	49	00566	J3204	
14570	B	NOSPAC	07304	49	07092	00000	
14580	DORG	*-3	07312				
14590	UPDIM	TFM	IORT,**23	07312	16	00565	-7335
14600	B	IOGT,EQUDDA,7	07324	49	00566	J3272	
14610	TFM	IORT,**23	07336	16	00565	-7359	
14620	B	IOGT,COM2,7	07348	49	00566	J3297	
14630	***	CLEAR ANY FILE PROTECTION IN TO AND FROM DIM					
14640	SEARFP	TF	NEWDIM,HOLDCD+7,7	07360	26	02963	J2997
14650	BT	DIMMER,DIMMER-1	07372	27	03666	03665	
14660	TF	FWRIT+5,MAP+5	07384	26	13232	19885	
14670	TD	FWRIT,MAP	07396	25	13227	19880	
14680	TF	HOLD3,MAP+8	07408	26	13153	19888	
14690	TFM	TESTFP+11,TRACK	07420	16	07587	J3776	
14700	TF	HOLD5,MAP+5	07432	26	13091	19885	
14710	SF	HOLD5-1	07444	32	13090	00000	
14720	SM	HOLD5,20,10	07456	12	13091	000K0	
14730	BH	*-12	07468	46	07456	01100	
14740	BZ	**48	07480	46	07528	01200	
14750	AM	HOLD5,20,10	07492	11	13091	000K0	
14760	MM	HOLD5,105,9	07504	13	13091	00J05	
14770	A	TESTFP+11,99	07516	21	07587	00099	
14780	TFM	FWRIT+8,020,9	07528	16	13235	00-20	
14790	TFM	FWRIT+13,TRACK	07540	16	13240	J3776	
14800	TFM	IORT,**23	07552	16	00565	-7575	
14810	B	IOGT,FPDDA,7	07564	49	00566	J3413	
14820	TESTFP	BNF	**20,TRACK	07576	44	07596	13776
14830	B	CLRFP	07588	49	07688	00000	
14840	DORG	*-3	07596				
14850	SM	HOLD3,1,10	07596	12	13153	000-1	
14860	BZ	NDFLGS	07608	46	07748	01200	
14870	AM	TESTFP+11,105,9	07620	11	07587	00J05	
14880	CM	TESTFP+11,TRACK+2100	07632	14	07587	J5876	
14890	BL	TESTFP	07644	47	07576	01300	
14900	AM	FWRIT+5,20,10	07656	11	13232	000K0	
14910	TFM	TESTFP+11,TRACK	07668	16	07587	J3776	
14920	B	TESTFP-24	07680	49	07552	00000	

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14930	DORG	*-3	07688		
14940	CLRFP	TF	07688	26	13153
14950		TF	07700	26	13232
14960		TF	07712	25	13227
14970		TFM	07724	16	11643
14980		BTM	07736	17	11462
14990	NOFLGS	CM	07748	14	07371
15000		BE	07760	46	07816
15010		CM	07772	14	12993
15020		BE	07784	46	07816
15030		TFM	07796	16	07371
15040		B	07808	49	07360
15050	DORG	*-3	07816		
15060	***	REMOVE NAMES			
15070	ALLCLR	C	07816	24	12993
15080		BE	07828	46	07936
15090		CM	07840	14	12993
15100		BE	07852	46	07900
15110		SF	07864	32	13086
15120		TF	07876	26	13150
15130		BTM	07888	17	08606
15140		SF	07900	32	13086
15150		TF	07912	26	13150
15160		BTM	07924	17	08606
15170		TF	07936	26	02963
15180		BT	07948	27	03666
15190		BTM	07960	17	10738
15200		C	07972	24	12993
15210		BE	07984	46	08112
15220		CM	07996	14	12993
15230		BE	08008	46	08112
15240	*	DELETE FROM DIM REFERENCES			
15250		TF	08020	26	02963
15260		BT	08032	27	03666
15270		BNR	08044	45	08064
15280		B	08056	49	00796
15290	DORG	*-3	08064		
15300	TDM	MAP,*,*	08064	15	19880
15310	DSC	1,*,*	08075		1
15320		TF	08076	26	19899
15330		TFM	08088	16	00565
15340		B	08100	49	00532
15350	VOILA	BTM	08112	17	11842
15360		BNF	08124	44	00796
15370		TD	08136	25	17801
15380		TFM	08148	16	00565
15390		B	08160	49	00566
15400	RELD	TFM	08172	16	13082
15410		CM	08184	14	13052
15420		BNE	08196	47	12234
15430		SF	08208	32	13062
15440		TD	08220	25	13388
15450		TF	08232	26	13189
15460		TF	08244	26	12997
15470		TFM	08256	16	13146

15480	TDM	FREDDA,0	08268	15	13429
15490	BD	**20,MCS+22	08280	43	08300
15500	B	MODDK1	08292	49	10682
15510	DORG	*-3	08300		
15520	NORE2	TF	08300	26	13020
15530		TF	08312	26	13025
15540		TFM	08324	16	13140
15550		TFM	08336	16	13343
15560		TFM	08348	16	13340
15570	INIT2	TFM	08360	16	13072
15580		TFM	08372	16	08414
15590		TFM	08384	16	00565
15600		B	08396	49	00566
15610	SCAN2	NOP	08408	41	17778
15620		TF	08420	26	09661
15630		TFM	08432	16	09865
15640		BTM	08444	17	09614
15650		SM	08456	12	13072
15660		BD	08468	43	08512
15670		AM	08480	11	13140
15680		AM	08492	11	13340
15690		B	08504	49	08360
15700		DORG	08512		
15710	UPSCAN	AM	08512	11	08414
15720		B	08524	49	08408
15730		DORG	08532		
15740	RELD2	TF	08532	26	13003
15750		TF	08544	26	13009
15760		A	08556	21	13009
15770		SM	08568	12	13009
15780		TFM	08580	16	13655
15790		B	08592	49	05956
15800		DORG	08600		
15810		TCD	04400		
15820	****				
15830	*****	COMMON ROUTINES FOR *DLOAD AND *DREPL			
15840	****				
15850		DORG	07200		
15860	COMMFL	TFM	07200	16	00565
15870		B	07212	49	00532
15880		TRA	07224	36	00000
15890	COMM1	DSC	07236	49	00000
15900		DC	07248		1
15910		DC	07253		5
15920		DC	07256		3
15930		DC	07261		5
15940	COMM2	DSC	07262		1
15950		DSA	07263		2
			07269		5 X 1

SDI

15960	DSC	1,'		07269	-7248		
				07270	1		
15970	DORG	8100		08100			
15980	EQUFL	TFM IORT,**23		08100	16	00565	-8123
15990	B	IOPT,EQU1,7		08112	49	00532	-8148
16000	TRA			08124	36	00000	00500
				08136	49	00000	00000
				08148		2	
16010	EQU1	DSC 2,22					
		22					
16020	DSA	EQU2		08154		5 X	1
				08154		-8156	
				08155		1	
16030	DSC	1,'					
16040	EQU2	DSC 1,1		08156		1	
		1					
16050	DC	5,18278		08161		5	
		J8278					
16060	DC	3,020		08164		3	
		-20					
16070	DC	5,08600		08169		5	
		-8600					
16080	DSC	1,'		08170		1	
16090	DORG	8600		08600			
16100	*						
16110	*	EQUIVALENCE TABLE SUBROUTINE					
16120	DC	5,0		08604		5	
		-0000					
16130	EQUIV	TFM NEWDIM,0002,8		08606	16	02963	0-002
16140	BT	DIMMER,DIMMER-1		08618	27	03666	03665
16150	BNF	SKNAME,DELETE		08630	44	09678	13086
16160	CM	DIMNUM,0,8,	START DELETE OPERATION	08642	14	13150	0-000
16170	BE	ANAME		08654	46	10478	01200
16180	LIMITS	CM DIMNUM,SUBLO,8		08666	14	13150	0-010
16190	BL	B2READ		08678	47	09054	01300
16200	CM	DIMNUM,SUBH1,8		08690	14	13150	0-039
16210	BH	B2READ		08702	46	09054	01100
16220	TFM	CNINE+6,DIMNUM		08714	16	08816	J3150
16230	TFM	CNINE+11,TRACK+15		08726	16	08821	J3791
16240	WITHIN	TFM HOLD4,0,10	WITHIN SUBROUTINE DIM LIMITS	08738	16	13157	000-0
16250	FF	DISKF+5,EQUDIM+5,,		08750	26	13355	19885
16260	TD	DISKF,EQUDIM		08762	25	13350	19880
16270	TFM	IORT,**23		08774	16	00565	-8797
16280	B	IOGT,DDAKF,7		08786	49	00566	J3405
16290	AM	HOLD4,1,10		08798	11	13157	000-1
16300	CNINE	C		08810	24	00000	00000
16310	BE	TFLG		08822	46	08878	01200
16320	CM	HOLD4,50,10		08834	14	13157	000N0
16330	BH	WRT2		08846	46	08946	01100
16340	AM	CNINE+11,16,10		08858	11	08821	000J6
16350	B	CNINE-12		08870	49	08798	00000
16360	DORG	*-3		08878			
16370	TFLG	BNF NOF,DELETE		08878	44	08986	13086
16380	TFM	CNINE+11,9999,6		08890	16	0882J	09999

16390	SM	CNINE+11,4,10		08902	12	08821	000-4
16400	TF	CNINE+11,NINE12,6		08914	26	0882J	13203
16410	AM	CNINE+11,20,10		08926	11	08821	000K0
16420	B	CNINE-12		08938	49	08798	00000
16430	DORG	*-3		08946			
16440	WRT2	BNF **20,DELETE		08946	44	08966	13086
16450	B	WRT		08958	49	09022	00000
16460	DORG	*-3		08966			
16470	TFM	DIMERR+22,7574,8		08966	16	02507	0P574
16480	B	MULT2		08978	49	09962	00000
16490	DORG	*-3		08986			
16500	NOF	TF CNINE+11,PNAME,6		08986	26	0882J	13189
16510	AM	CNINE+11,4,10		08998	11	08821	000-4
16520	TF	CNINE+11,DIMNUM,6		09010	26	0882J	13150
16530	WRT	TFM IORT,**23		09022	16	00565	-9045
16540	B	IOPT,DDAKF,7		09034	49	00532	J3405
16550	B	EXIT		09046	49	10542	00000
16560	DORG	*-3		09054			
16570	B2READ	TF DISKF+5,EQUDIM+5,,	NOT WITHIN LIMITS	09054	26	13355	19885
16580	AM	DISKF+5,8,10		09066	11	13355	000-8
16590	TD	DISKF,EQUDIM		09078	25	13350	19880
16600	INITSC	TFM RECD+11,TRACK		09090	16	09173	J3776
16610	TFM	CMPAR+11,TRACK+15		09102	16	09193	J3791
16620	TFM	CLOS+8,20,9		09114	16	13265	00-20
16630	TFM	IORT,**23		09126	16	00565	-9149
16640	B	IOGT,DDAKF,7		09138	49	00566	J3405
16650	AM	**23,11,10		09150	11	09173	000J1
16660	RECD	BNR **20,,,	TEST FOR LAST ENTRY	09162	45	09182	00000
16670	B	EXIT		09174	49	10542	00000
16680	DORG	*-3		09182			
16690	CMPAR	C DIMNUM,,,	LOOK FOR DIM NUMBER	09182	24	13150	00000
16700	BE	CLOSE		09194	46	09282	01200
16710	CM	CMPAR+11,TRACK+1999,,	TEST FOR END OF 20 SECTORS	09206	14	09193	J5775
16720	BE	INCRD		09218	46	09262	01200
16730	AM	RECD+11,16,10		09230	11	09173	000J6
16740	AM	CMPAR+11,16,10		09242	11	09193	000J6
16750	B	RECD		09254	49	09162	00000
16760	DORG	*-3		09262			
16770	INCRD	AM DISKF+5,20,9		09262	11	13355	00-20
16780	B	INITSC		09274	49	09090	00000
16790	DORG	*-3		09282			
16800	CLOSE	TDN CLOSUP+2000,,,	ROUTINE TO CLOSE IN LIST	09282	15	15776	00000
16810	DSC	1,'		09293		1	
16820	TF	TRREC+6,CMPAR+11		09294	26	09408	09193
16830	SM	TRREC+6,15,10		09306	12	09408	000J5
16840	TF	TRREC+11,CMPAR+11		09318	26	09413	09193
16850	AM	TRREC+11,1,10		09330	11	09413	000-1
16860	TFM	CLOS+13,CLOSUP		09342	16	13270	J3776
16870	TFM	CLOS+13,CLOSUP+1984		09354	16	13333	J5760
16880	TF	CLOS+5,DISKF+5		09366	26	13262	13355
16890	TF	CLOS+5,DISKF+5		09378	26	13325	13355
16900	AM	CLOS+5,20,10		09390	11	13325	000K0
16910	TRREC	TR 0,0,,	DELETE ENTRY	09402	31	00000	00000
16920	BNR	DOMC,CLOSUP+1984,,	TEST FOR END OF TABLE	09414	45	09530	15760
16930	TFM	IORT,**23		09426	16	00565	-9449

1620 MONITOR 1		DUP ROUTINE *DLOAD, *DREPL, *DELETE		PAGE	36
16940	B	IOGT,CLODDA,7	09438	49	00566 J3389
16950	TFM	IORT,**23	09450	16	00565 -9473
16960	B	IOPT,CLWDDA,7	09462	49	00532 J3397
16970	TDM	CLOSUP*3984,...	09474	15	17760 00000
16980	DSC	1,*,*	09485		1
16990	TR	CLOSUP,CLOSUP*2000	09486	31	13776 15776
17000	AM	CLOSUR*5,20,10	09498	11	13325 000K0
17010	AM	CLOSM*5,20,10	09510	11	13262 000K0
17020	B	TRREC*12	09522	49	09414 00000
17030	DORG	*-3	09530		
17040	DONE	TF HOLDS,CLOSM*5,...	09530	26	13091 13262
17050	S	HOLDS,EQUDIM*5	09542	22	13091 19885
17060	SF	HOLDS-2	09554	32	13089 00000
17070	C	HOLDS,EQUDIM*8	09566	24	13091 19888
17080	BH	NOTOK	09578	46	09622 01100
17090	TFM	IORT,**23	09590	16	00565 -9613
17100	B	IOPT,CLWDDA,7	09602	49	00532 J3397
17110	B	INITSC	09614	49	09090 00000
17120	DORG	*-3	09622		
17130	NOTOK	SM HOLDS,20,10,...	09622	12	13091 000K0
17140	TF	HOLD3,EQUDIM*8	09634	26	13153 19888
17150	S	HOLD3,HOLD5	09646	22	13153 13091
17160	TF	CLOSM*8,HOLD3	09658	26	13265 13153
17170	B	NOTOK-32	09670	49	09590 00000
17180	DORG	*-3	09678		
17190	SKNAME	CM DIMNUM,0,8,...	09678	14	13150 0-000
17200	BE	EXIT	09690	46	10542 01200
17210	TF	DISKF*5,EQUDIM*5	09702	26	13355 19885
17220	TD	DISKF,EQUDIM	09714	25	13350 19880
17230	TFM	DISKF*8,20,9	09726	16	13358 00-20
17240	TFM	DISKF*13,TRACK	09738	16	13363 J3776
17250	SCANN	TFM CNAMES*11,TRACK*11	09750	16	09817 J3787
17260	TFM	IORT,**23	09762	16	00565 -9785
17270	B	IOGT,DDAKF,7	09774	49	00566 J3405
17280	BNR	**20,CNAMES*11,11,...	09786	45	09806 0981P
17290	B	NOMULT	09798	49	10018 00000
17300	DORG	*-3	09806		
17310	CNAMES	C PNAME,**7,...	09806	24	13189 -0000
17320	BE	MULT	09818	46	09894 01200
17330	CM	CNAMES*11,TRACK*1995,7	09830	14	09817 J5771
17340	BE	**32	09842	46	09874 01200
17350	AM	CNAMES*11,16,10	09854	11	09817 000J6
17360	B	CNAMES-20	09866	49	09786 00000
17370	DORG	*-3	09874		
17380	AM	DISKF*5,20,10	09874	11	13355 000K0
17390	B	SCANN	09886	49	09750 00000
17400	DORG	*-3	09894		
17410	MULT	BNF **20,DELETE,,...	09894	44	09914 13086
17420	B	HOLDIM	09906	49	10510 00000
17430	DORG	*-3	09914		
17440	AM	CNAMES*11,4,10	09914	11	09817 000-4
17450	C	DIMNUM,CNAMES*11,11	09926	24	13150 0981P
17460	BE	EXIT	09938	46	10542 01200
17470	TFM	DIMERR*22,7571,8	09950	16	02507 0P571
17480	MULT2	RCTY	09962	34	00000 00102

1620 MONITOR 1		DUP ROUTINE *DLOAD, *DREPL, *DELETE		PAGE	37
17490	WATY	DIMERR	09974	39	02485 00100
17500	WATY	PNAME-10	09986	39	13179 00100
17510	TF	PNAME,ZERO12	09998	26	13189 13123
17520	B	EXIT	10010	49	10542 00000
17530	DORG	*-3	10018		
17540	NOMULT	BNF **20,DELETE	10018	44	10038 13086
17550	B	EXIT	10030	49	10542 00000
17560	DORG	*-3	10038		
17570	CM	DIMNUM,SUBLO,8,...	10038	14	13150 0-010
17580	BL	OLIMIT	10050	47	10118 01300
17590	CM	DIMNUM,SUBHI,8	10062	14	13150 0-039
17600	BH	OLIMIT	10074	46	10118 01100
17610	TFM	CNINE*6,NINE12	10086	16	08816 J3203
17620	TFM	CNINE*11,TRACK*11	10098	16	08821 J3787
17630	B	WITHIN	10110	49	08738 00000
17640	DORG	*-3	10118		
17650	OLIMIT	TFM CNT,1,10,...	10118	16	13094 000-1
17660	TFM	**23,TRACK*95	10130	16	10153 J3871
17670	CM	CNAMES*11,TRACK*95	10142	14	09817 J3871
17680	BE	SECT	10154	46	10222 01200
17690	AM	**13,100,9	10166	11	10153 00J00
17700	AM	CNT,1,10	10178	11	13094 000-1
17710	CM	CNT,20,10	10190	14	13094 000K0
17720	BNE	*-60	10202	47	10142 01200
17730	B	ENTOK	10214	49	10362 00000
17740	DORG	*-3	10222		
17750	SECT	TF HOLDS,DISKF*5	10222	26	13091 13355
17760	A	HOLDS,CNT	10234	21	13091 13094
17770	S	HOLDS,EQUDIM*5	10246	22	13091 19885
17780	SF	HOLDS-2	10258	32	13089 00000
17790	C	HOLDS,EQUDIM*8	10270	24	13091 19888
17800	BL	**32	10282	47	10314 01300
17810	TFM	DIMERR*22,7573,8	10294	16	02507 0P573
17820	B	MULT2	10306	49	09962 00000
17830	DORG	*-3	10314		
17840	CM	CNAMES*11,TRACK*1995	10314	14	09817 J5771
17850	BNE	ENTOK	10326	47	10362 01200
17860	AM	DISKF*8,1,10	10338	11	13358 000-1
17870	YF	TRACK*2011,ZERO12	10350	26	15787 13123
17880	ENTOK	YF CNAMES*11,PNAME*6,...	10362	26	0981P 13189
17890	AM	CNAMES*11,4,10	10374	11	09817 000-4
17900	YF	CNAMES*11,DIMNUM*6	10386	26	0981P 13150
17910	AM	CNAMES*11,2,10	10398	11	09817 000-2
17920	YFM	CNAMES*11,0,610	10410	16	0981P 000-0
17930	AM	CNAMES*11,10,10	10422	11	09817 000J0
17940	TDM	CNAMES*11,,6	10434	15	0981P 00000
17950	DSC	1,*,*	10445		1
17960	TFM	IORT,**23	10446	16	00565 J0469
17970	B	IOPT,DDAKF,7	10458	49	00532 J3405
17980	B	EXIT	10470	49	10542 00000
17990	DORG	*-3	10478		
18000	ANAME	C PNAME,ZERO12,,...	10478	24	13189 13123
18010	BE	EXIT	10490	46	10542 01200
18020	B	SKNAME*24	10502	49	09702 00000
18030	DORG	*-3	10510		

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18040	HOLDIM	AM	CNAMES+11,4,10	10510	11	09817	000-4
18050	TF	DIMNUM,CNAMES+11,11		10522	26	13150	0981P
18060	B	LIMITS		10534	49	08666	00000
18070	DORG	+3		10542			
18080	EXIT	CF	DELETE	10542	33	13086	00000
18090	B	EQUIV-1,,6		10554	49	0860N	00000
18100	DORG	+3		10562			
18110	TCD	EQUFL		08100			
18120	****	COMMON1					
18130	DORG	8600		08600			
18140	DC	5,0		08604		5	
18150	ATNR	CF	FORT	08606	33	13062	00000
18160	SF	INPUT+95		08618	32	13708	00000
18170	CM	INPUT+96,43,10,	DETERMINE INPUT DEVICE	08630	14	13709	000M3
18180	BNE	+32		08642	47	08674	01200
18190	TFM	PHI,05,10		08654	16	13082	000-5
18200	B	R		08666	49	08754	00000
18210	DORG	+3		08674			
18220	CM	INPUT+96,57,10		08674	14	13709	000N7
18230	BNE	+32		08686	47	08718	01200
18240	TFM	PHI,03,10		08698	16	13082	000-3
18250	B	R		08710	49	08754	00000
18260	DORG	+3		08718			
18270	CM	INPUT+96,44,10		08718	14	13709	000M4
18280	BNE	ERRD-12		08730	47	02512	01200
18290	TFM	PHI,0,10		08742	16	13082	000-0
18300	R	SF	INPUT+97	08754	32	13710	00000
18301	SF	INPUT+117,,,	TEST FOR SUBROUTINES	08766	32	13730	00000
18302	CM	INPUT+118,00,10		08778	14	13731	000-0
18303	BE	+24		08790	46	08814	01200
18304	SF	STFLAG		08802	32	13499	00000
18310	CM	INPUT+98,54,10,	TEST FOR RELOCATION	08814	14	13711	000M4
18320	BNE	+32		08826	47	08858	01200
18330	TDM	RTEST,1,,	BRANCH ON DIGIT TO RELOCATE	08838	15	13083	00001
18340	H	R2		08850	49	08950	00000
18350	DORG	+3		08858			
18360	TDM	RTEST,0		08858	15	13083	00000
18370	CM	INPUT+98,62,10		08870	14	13711	00002
18380	BNE	+32		08882	47	08914	01200
18390	TDM	NTEST,1		08894	15	13084	00001
18400	B	R2		08906	49	08950	00000
18410	DORG	+3		08914			
18420	TDM	NTEST,0		08914	15	13084	00000
18430	CM	INPUT+98,49,10		08926	14	13711	000M9
18440	BNE	ERRD-12		08938	47	02512	01200
18450	R2	SF	INPUT+99	08950	32	13712	00000
18460	CM	INPUT+100,57,10,	TEST FOR FILE PROTECTION	08962	14	13713	000N7
18470	BNE	+32		08974	47	09006	01200
18480	TDM	PTEST,1,,	BRANCH ON DIGIT TO PROTECT	08986	15	13085	00001
18490	B	+20		08998	49	09018	00000
18500	DORG	+3		09006			
18510	TDM	PTEST,0		09006	15	13085	00000
18520	TFM	+47,INPUT+112,,	CARD FROM	09018	16	09065	J3725
18530	TFM	ATN+6,HOLDCCD		09030	16	09048	J2990

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18540	ATN	TD	HOLDCCD,0,7,	ALPHA TO NUMERIC	09042	25	12990	-0000
18550	CM	+1,0			09054	14	09053	-0000
18560	BE	EXIT2			09066	46	09110	01200
18570	AM	ATN+6,01,10			09078	11	09048	000-1
18580	AM	ATN+11,02,10			09090	11	09053	000-2
18590	B	ATN			09102	49	09042	00000
18600	DORG	+3			09110			
18610	EXIT2	TFM	SETFLG+6,INPUT+31		09110	16	09128	J3644
18620	SETFLG	SF	INPUT+31,,	TEST FOR ALPHA CHARACTERS	09122	32	13644	00000
18630	AM	SETFLG+6,1,10			09134	11	09128	000-1
18640	CM	SETFLG+6,70,610			09146	14	09120	000P0
18650	BNE	+36			09158	46	09194	01300
18660	CM	SETFLG+6,00,610			09170	14	09120	000-0
18670	BNE	ERRD-12			09182	47	02512	01200
18680	SM	SETFLG+6,1,10			09194	12	09128	000-1
18690	CF	SETFLG+6,,6			09206	33	09120	00000
18700	CM	SETFLG+6,INPUT+93			09218	14	09128	J3706
18710	BE	+32			09230	46	09262	01200
18720	AM	SETFLG+6,2,10			09242	11	09128	000-2
18730	B	SETFLG			09254	49	09122	00000
18740	DORG	+3			09262			
18750	SF	HOLDCCD,,	DEFINE CONTROL CARD FIELDS	09262	32	12990	00000	
18760	SF	HOLDCCD+,		09274	32	12994	00000	
18770	B	ATNR-1,,6		09286	49	0860N	00000	
18780	**							
18790	SCRAD	TFM	MAXDIM,9999,8	DETERMINE MAX. NO. OF DIM ENTRIES	09298	16	03843	08999
18800	TFM	NEWDIM,3,8			09310	16	02963	0-003
18810	BT	DIMMER,DIMMER-1			09322	27	03666	03665
18820	BNR	+20,MAP			09334	45	09354	19880
18830	B	MONCAL			09346	49	00796	00000
18840	DORG	+3			09354			
18850	MM	MAP+8,5,10			09354	13	19888	000-5
18860	SF	96			09366	32	00096	00000
18870	SM	99,1,10			09378	12	00099	000-1
18880	TF	MAXDIM,99			09390	26	03843	00099
18890	TFM	NEWDIM,1,8			09402	16	02963	0-001
18900	BT	DIMMER,DIMMER-1			09414	27	03666	03665
18910	BNR	+20,MAP			09426	45	09446	19880
18920	B	MONCAL			09438	49	00796	00000
18930	DORG	+3			09446			
18940	CM	MAP+13,88888,7			09446	14	19893	08888
18950	BNE	MONCAL			09458	47	00796	01200
18960	TF	SCR1,MAP+5			09470	26	13163	19885
18970	TD	SCR1-5,MAP			09482	25	13158	19880
18980	MM	MAP+8,200,9			09494	13	19888	00K00
18990	SF	95			09506	32	00095	00000
19000	A	MAP+5,99			09518	21	19885	00099
19010	TF	SCR2,MAP+5			09530	26	13169	19885
19020	TD	SCR2-5,MAP			09542	25	13164	19880
19030	DC1	SF	SCR1-5		09554	32	13158	00000
19040	SF	SCR2-5			09566	32	13164	00000
19050	CF	SCR1-4			09578	33	13159	00000
19060	CF	SCR2-4			09590	33	13165	00000
19070	B	SCRAD-1,,6			09602	49	0929P	00000
19080	LCTEST	TFM	COUNT,0,10,	LAST RECORD TEST	09614	16	13101	000-0
19090	BV	+12			09626	46	09638	01400

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1620 MONITOR 1		DUP ROUTINE *DLOAD, *DREPL, *DELET		PAGE	40
19100	BNF	NOALF,8NR+11,11		09638	44 09854 0966J
19110	BNR	**20,0		09650	45 09670 00000
19120	B	NOALF		09662	49 09854 00000
19130	DORG	=-3		09670	
19140	AM	COUNT,1,10		09670	11 13101 000-1
19150	CM	COUNT,5,10		09682	14 13101 000-5
19160	BE	**32		09694	46 09726 01200
19170	AM	BNR+11,1,10		09706	11 09661 000-1
19180	B	BNR		09718	49 09650 00000
19190	DORG	=-3		09726	
19200	CM	BNR+11,99999,67		09726	14 0966J R9999
19210	BV	NOALF		09738	46 09854 01400
19220	BNE	NOALF		09750	47 09854 01200
19230	AM	BNR+11,1,10		09762	11 09661 000-1
19240	BNR	NOALF,8NR+11,11		09774	45 09854 0966J
19250	AM	BNR+11,1,10		09786	11 09661 000-1
19260	BD	NOALF,8NR+11,11		09798	43 09854 0966J
19270	AM	COUNT,1,10		09810	11 13101 000-1
19280	CM	COUNT,65,10		09822	14 13101 00005
19290	RNE	=-48		09834	47 09786 01200
19300	B	ALPHAS		09846	49 10266 00000
19310	DORG	=-3		09854	
19320	NOALF	R LCTEST-1,,6		09854	49 09611 00000
19330	NODISK	TD READ+2,PHI,,	SETUP READ DEVICE	09866	25 13443 13082
19340	SM	READ+2,1,10		09878	12 13443 000-1
19350	TFM	SCRACH,0,7		09890	16 13146 -0000
19360	TDM	FREDDA,0		09902	15 13429 00000
19370	TFM	LOADSC,0,9		09914	16 13140 00-00
19380	TFM	SEQ,1		09926	16 13080 -0001
19390	TFM	DCFSCR+8,003,9		09938	16 13343 00-03
19400	TFM	DCFSCR+5,0,7		09950	16 13340 -0000
19410	TDM	DCFSCR,0		09962	15 13335 00000
19420	INITRD	TFM READ,READIN,,	INIT. READ LOOP	09974	16 13441 J7778
19430	TFM	LOOP,04,10		09986	16 13072 000-4
19440	TFM	COMP+11,READIN+79		09998	16 10117 J7857
19450	TFM	SF+11,READIN+75		10010	16 10105 J7853
19460	READC	TFM IORT,**23		10022	16 00565 J0045
19470	B	IORT,READ-4,7		10034	49 00566 J3437
19480	TF	BNR+11,READ		10046	26 09661 J3441
19490	BTM	LCTEST,**12		10058	17 09614 J0070
19500	CM	PHI,05,10		10070	14 13082 000-5
19510	BNE	COMP+60		10082	47 10166 01200
19520	SF	BNF COMP+34,READIN+75		10094	44 10142 17853
19530	COMP	C SEQ,READIN+79,,	CHECK FOR PROPER SEQUENCE	10106	24 13080 17857
19540	BNE	SEQERR		10118	47 10378 01200
19550	AM	SEQ,1,10		10130	11 13080 000-1
19560	AM	SF+11,075,9		10142	11 10105 00-75
19570	AM	COMP+11,075,9		10154	11 10117 00-75
19580	SM	LOOP,1,10		10166	12 13072 000-1
19590	BD	INCR,LOOP		10178	43 10246 13072
19600	TFM	IORT,**23		10190	16 00565 J0213
19610	B	IORT,DDASCR,7		10202	49 00532 J3445
19620	AM	LOADSC,03,10		10214	11 13140 000-3
19630	AM	DCFSCR+5,03,10		10226	11 13340 000-3
19640	B	INITRD		10238	49 09974 00000
19650	DORG	=-3		10246	

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1620 MONITOR 1		DUP ROUTINE *DLOAD, *DREPL, *DELET		PAGE	41
19660	INCR	AM READ,075,9		10246	11 13441 00-75
19670	B	READC		10258	49 10022 00000
19680	DORG	=-3		10266	
19690	ALPHAS	TFM SCREM,04,9,	COMPUTE SECTORS REMAINING	10266	16 13075 00-04
19700	S	SCREM,LOOP		10278	22 13075 13072
19710	BD	**20,SCREM		10290	43 10310 13075
19720	B	MAINB		10302	49 10370 00000
19730	DORG	=-3		10310	
19740	NOP	SCREM,1,10, CHANGE TO SUBTRACT FOR NEW DUMP		10310	41 13075 000-1
19750	TF	DCFSCR+8,SCREM		10322	26 13343 13075
19760	TFM	IORT,**23		10334	16 00565 J0357
19770	B	IORT,DDASCR,7		10346	49 00532 J3445
19780	A	LOADSC,SCREM		10358	21 13140 13075
19790	MAINB	B NODISK-1,,6		10370	49 0986N 00000
19800	DORG	=-3		10378	
19810	SEQERR	RCTY		10378	34 00000 00102
19820	TDM	READIN+305,,		10390	15 18083 00000
19830	DSC	1,,'*		10401	1
19840	WATY	ERRSEQ		10402	39 12857 00100
19850	TF	READIN+304,COMP+11,11		10414	26 18082 1011P
19860	WNTY	READIN+300		10426	38 18078 00100
19870	H			10438	48 00000 00000
19880	B	READC		10450	49 10022 00000
19890	DORG	=-3		10458	
19900	***		SYSTEM LOADER NON-DISK		
19910	CCD	DSC 2,02		10458	2
19920	DSA	CCD2		10464	5 X 1
19930	DSC	1,,'*		10464	J0466
19940	CCD2	DSC 1,1		10466	1
19950	DC	5,00798		10471	5
19960	DC	3,2		10474	3
19970	DSA	INPUT-1		10479	5 X 1
19980	DSC	1,,'*		10479	J3612
19990	MODND1	TDM SYSCAL,1,11		10480	1
20000	TFM	IORT,**23		10482	15 00475 0000J
20010	B	IORT,CCD,7		10494	16 00565 J0517
20020	CM	MAPEA,0,7		10506	49 00532 J0458
20030	BE	**32		10518	14 13111 -0000
20040	TF	420,MAPEA		10530	46 10562 01200
20050	B	**20		10542	26 00420 13111
20060	DORG	=-3		10554	49 10574 00000
20070	TDM	416,,		10562	
20080	DSC	1,,'*		10562	15 00416 00000
20090	TD	428,PHI		10573	1
				10574	25 00428 13082

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1620 MONITOR 1		DUP ROUTINE		*DLOAD, *DREPL, *DELET	PAGE	42
20100	SF	428			10586	32 00428 00000
20110	TF	434,MAPMA			10598	26 00434 13106
20120	SF	489			10610	32 00489 00000
20130	CF	429			10622	33 00429 00000
20140	TFM	IOPT,**23			10634	16 00565 J0657
20150	B	IOGT,SOL,7			10646	49 00566 J0658
20160	SOL	DSC	2,-22		10658	2
		2K				
20170	DSA	SDL2			10664	5 X 1
					10664	J0666
20180	DSC	1,'			10665	1
					10666	1
20190	SOL2	DSC	1,1		10666	1
		1			10671	5 X 1
20200	DSA	19783			10671	J9783
					10674	3
20210	DC	3,3			10680	6
		-03				
20220	DC	6,0'				
		-0000'				
20230	MODDK1	TDM	SYSCAL,1,11		10682	15 00475 0000J
20240	TFM	IOPT,**23			10694	16 00565 J0717
20250	B	IOPT,CCD,7			10706	49 00532 J0458
20260	TF	DLDCF+5,SCRACH			10718	26 10876 13146
20270	TD	DLDCF,SCRACH-5			10730	25 10871 13141
20280	SF	DLDCF+1			10742	32 10872 00000
20290	CF	DLDCF			10754	33 10871 00000
20300	TDM	428,0,11			10766	15 00428 0000-
20310	CM	MAPMA,0,7			10778	14 13106 -0000
20320	BE	**32			10790	46 10822 01200
20330	TF	DLD+11,MAPMA			10802	26 10869 13106
20340	B	**20			10814	49 10834 00000
20350	DORG	**3			10822	
20360	TDM	DLD+7,,,			10822	15 10865 00000
20370	DSC	1,'*			10833	1
					10834	16 00565 J0857
20380	TFM	IOPT,**23			10846	49 00566 J0858
20390	B	IOGT,DL,7			10858	2
20400	DLD	DSC	2,02			
		02			10864	5 X 2
20410	DSA	DLDCF,0			10864	J0871
					10869	-0000
					10870	1
20420	DSC	1,'			10871	1
					10876	5
20430	DLDCF	DSC	1,0		10879	3
		0			10884	5
20440	DC	5,0				
		-0000				
20450	DC	3,999				
		R99				
20460	DC	5,99999				
		R9999				

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1620 MONITOR 1		DUP ROUTINE		*DLOAD, *DREPL, *DELET	PAGE	43
20470	DSC	1,'			10885	1
					10886	33 13063 00000
20480	NOSA	CF	MAPRM,,,	NOT IMMOVABLE	10898	32 13025 00000
20490	SF	HOLDCC+35			10910	24 13030 13117
20500	C	HOLDCC+40,ZERO6			10922	47 10946 01200
20510	BNE	**24			10934	16 13030 00L99
20520	TFM	HOLDCC+40,399,9			10946	32 13028 00000
20530	SF	HOLDCC+38			10958	26 13070 13030
20540	TF	HILIM,HOLDCC+40			10970	26 13098 13027
20550	TF	LOLIM,HOLDCC+37			10982	24 10945 13070
20560	C	NOSA+59,HILIM			10994	47 11362 01300
20570	BL	ERRCYL			11006	24 10945 13098
20580	C	NOSA+59,LOLIM			11018	47 11362 01300
20590	BL	ERRCYL			11030	33 13068 00000
20600	CF	HILIM-2			11042	33 13096 00000
20610	CF	LOLIM-2			11054	32 13026 00000
20620	SF	HOLDCC+36			11066	13 13027 00K00
20630	MM	HOLDCC+37,200,9			11078	32 00095 00000
20640	SF	95			11090	26 02790 00099
20650	TF	LISTES,99			11102	33 13025 00000
20660	CF	HOLDCC+35			11114	25 11161 13025
20670	TD	**47,HOLDCC+35,,	SET UP DRIVE CODE		11126	21 11161 11161
20680	A	**35,**35			11138	11 11161 000-1
20690	AM	**23,1,10			11150	15 02785 000-0
20700	TDM	LISTES-5,0,10			11162	16 00565 J1185
20710	TFM	IOPT,**23			11174	49 00566 J2210
20720	B	IOGT,D3READ,7,	DETERMINE ADDRESS SCHEME		11186	16 13174 J7849
20730	TFM	HOLD6-1,READIN+71			11198	25 11220 02785
20740	TD	**22,LISTES-5			11210	11 13174 00-00
20750	AM	HOLD6-1,0,9			11222	43 11246 02786
20760	BD	**24,LISTES-4			11234	16 11259 000J2
20770	TFM	**25,12,10			11258	41 02786 13174
20780	TD	LISTES-4,HOLD6-1,11			11270	26 13038 13140
20790	NOP	LISTES,1000,7			11282	16 13296 000-0
20800	TF	NINESC,LOADSC,,	DETERMINE NUMBER OF CYLINDERS		11294	33 13036 00000
20810	TFM	CNTCYL,0,10			11306	14 13038 0R200
20820	CF	NINESC-2			11318	47 11382 01100
20830	CM	NINESC,9200,8			11330	12 13038 0-200
20840	BNH	SMALL			11342	11 13296 000-1
20850	SM	NINESC,200,8			11354	49 11306 00000
20860	AM	CNTCYL,1,10			11362	
20870	B	**48			11362	16 02507 0P274
20880	DORG	**3			11374	49 02524 00000
20890	ERRCYL	TFM	DIMERR+22,7274,8		11382	
20900	B	ERRD			11382	14 13296 000-0
20910	DORG	**3			11394	46 11430 01200
20920	SMALL	CM	CNTCYL,0,10		11406	26 13134 13038
20930	BE	**36			11418	16 13038 0R200
20940	TF	SCOLD,NINESC			11430	16 11789 000-0
20950	TFM	NINESC,9200,8			11442	16 04278 J1462
20960	TFM	LGE+23,0,10			11494	49 03832 00000
20970	TFM	RLGONE+30,**20			11462	
20980	B	FIND			11462	
20990	DORG	**3			11462	24 02764 13038
21000	RGE	C	LISTER,NINESC		11474	46 11766 01300
21010	BML	LGE				

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1620 MONITOR 1		DUP ROUTINE	*DLOAD, *DREPL, *DELET	PAGE	44
21020	CM	LISTER-3,7,1011		11486 14	02761 000-P
21030	BE	++60		11498 46	11558 01200
21040	TFM	LGE+23,0,10		11510 16	11789 000-0
21050	CM	CNTCYL,0,10		11522 14	13296 000-0
21060	BE	++24		11534 46	11558 01200
21070	TFM	NINESC,9200,8		11546 16	13038 0R200
21080	BT	GETR,GETR-1		11558 27	02872 02871
21090	BNR	CHIL,LISTER-3		11570 45	11650 02761
21100	AM	LOLIM,100,9		11582 11	13098 00J00
21110	C	LOLIM-2,HILIM-2		11594 24	13096 13068
21120	BH	ERR		11606 46	05656 01100
21130	TFM	HOLDCCD+37,0,9		11618 16	13027 00-00
21140	TD	HOLDCCD+35,LOLIM-2		11630 25	13025 13096
21150	B	NOSA		11642 49	10886 00000
21160	DORG	+3		11650	
21170	CHIL	CM LISTER-3,7,1011		11650 14	02761 000-P
21180	BNE	RGE		11662 47	11462 01200
21190	TD	++47,HILIM-2		11674 25	11721 13068
21200	TDM	HILIM-2,0		11686 15	13068 00000
21210	C	LISTER,HILIM		11698 24	02764 13070
21220	TDM	HILIM-2,0		11710 15	13068 00000
21230	BNE	RGE		11722 47	11462 01200
21240	C	LOLIM-2,HILIM-2		11734 24	13096 13068
21250	BNE	RGE		11746 47	11462 01200
21260	B	ERR		11758 49	05656 00000
21270	DORG	+3		11766	
21280	LGE	AM ++23,1,10		11766 11	11789 000-1
21290	CM	CNTCYL,0,10		11778 14	13296 000-0
21300	BH	RGE+96		11790 46	11558 01100
21310	BL	++32		11802 47	11834 01300
21320	TF	NINESC,SCOLD		11814 26	13038 13134
21330	B	RGE+96		11826 49	11558 00000
21340	DORG	+3		11834	
21350	SF	NINESC-2		11834 32	13036 00000
21360	BT	GETL,GETL-1		11846 27	02996 02995
21370	CM	LISTER-3,7,1011		11858 14	02761 000-P
21380	BNE	HERE		11870 47	12118 01200
21390	SF	LISTER-1		11882 32	02763 00000
21400	MM	LISTER,200,9		11894 13	02764 00K00
21410	TF	LOADSA,99		11906 26	13050 00099
21420	TD	LOADSA-5,PACK		11918 25	13045 02772
21430	CF	LOADSA-5		11930 33	13045 00000
21440	TD	++47,LOADSA-5		11942 25	11989 13045
21450	A	++35,++35		11954 21	11989 11989
21460	AM	++23,1,10		11966 11	11989 000-1
21470	TDM	LOADSA-5,0,10		11978 15	13045 000-0
21480	TFM	IGRT,++23		11990 16	00565 J2013
21490	B	IGRT,D3READ,7		12002 49	00566 J2210
21500	TFM	HOLD6-1,READIN*71		12014 16	13174 J7849
21510	TD	++22,LOADSA-5		12026 25	12048 13045
21520	AM	HOLD6-1,0,9		12038 11	13174 00-00
21530	BD	++24,LOADSA-4		12050 43	12074 13046
21540	TFM	++25,12,10		12062 16	12087 000J2
21550	TD	LOADSA-4,HOLD6-1,11		12074 25	13046 1317M
21560	NOP	LOADSA,10000,7		12086 41	13050 J0000
21570	CF	LISTER-1		12098 33	02763 00000

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1620 MONITOR 1		DUP ROUTINE	*DLOAD, *DREPL, *DELET	PAGE	45
21580	B	SCRKO		12110 49	12178 00000
21590	DORG	+3		12118	
21600	HERE	TF NEWDIM,LISTER		12118 26	02963 02764
21610	BT	DIMMER,DIMMER-1		12130 27	03666 03665
21620	A	MAP+5,MAP+8		12142 21	19885 19888
21630	TF	LOADSA,MAP+5		12154 26	13050 19885
21640	TD	LOADSA-5,MAP		12166 25	13045 19880
21650	SCRKO	A LOADSA,NINESC		12178 21	13050 13038
21660	S	LOADSA,LOADSC		12190 22	13050 13140
21670	B	SCRKOK		12202 49	06552 00000
21680	DORG	+3		12210	
21690	D3READ	DSC 2,22		12210	2
21700	DSA	D4READ		12216	5 X 1
21710	DSC	1,1		12216	J2218
21720	D4READ	DSC 1,1		12217	1
21730	DC	5,04800		12218	1
21740	DC	-4800		12223	5
21750	DC	3,2		12226	3
21760	DSA	READIN		12226	5 X 1
21770	DSC	1,1		12231	J7778
21780	LOADER	TFM ATN+11,INPUT+24		12232	1
21790	SF	LOADER		12234 16	09053 J3637
21800	BTM	ATNR,++12		12246 32	12234 00000
21810	YFM	INPUT+49,7070,8		12258 17	08606 J2270
21820	A	WR2+3,425		12270 16	13662 0P070
21830	TD	WR2,422		12282 21	02260 00425
21840	SF	WR2		12294 25	02257 00422
21850	CF	WR2+1		12306 32	02257 00000
21860	TF	HOLDCCD+13,WR2+5		12318 33	02258 00000
21870	TF	HOLDCCD+19,WR2+5		12330 26	13003 02262
21880	A	HOLDCCD+19,WR2+8		12342 26	13009 02262
21890	SM	HOLDCCD+19,1,10		12354 21	13009 02265
21900	TFM	HOLDCCD+30,WR2+13		12366 12	13009 000-1
21910	BNF	ISTO-24,MCS+22		12378 26	13020 02270
21920	SF	FORT		12390 15	13083 00000
21930	TDM	PTEST,0		12402 44	05932 17800
21940	TF	HOLDCCD+7,MCS+39		12414 32	13062 00000
21950	TF	PNAME,MCS+35		12426 15	13085 00000
21960	TD	DUMP,MCS+23		12438 26	12997 17817
21970	TFM	HOLDCCD+35,MCS+17		12450 26	13189 17813
21980	B	ISTO		12462 25	13388 17801
21990	DORG	+3		12474 26	13025 17795
22000	TCD	COMMFL		12486 16	12993 0-000
22010	DORG	10100		12498 49	05956 00000
22020	DORG	10100		12506	
				07200	

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1620 MONITOR 1		DUP ROUTINE		*DLOAD, *DREPL, *DELETE	PAGE	46
22030	COMPL	TFM	IORT,++23		10100	16 00565 J0123
22040	B		IOPT,COMPL1,7		10112	49 00532 J0148
22050	TRA				10124	36 00000 00500
					10136	49 00000 00000
					10148	2
22060	COMPL1	DSC	2,22			
			22			
22070	DSA	COMPL2			10154	5 X 1
22080	DSC	1,1			10154	J0156
					10155	1
22090	COMPL2	DSC	1,1		10156	1
22100	DC	5,18520			10161	5
		J8520				
22110	DC	3,029			10164	3
		-29				
22120	DC	5,10600			10169	5
		J0600				
22130	DSC	1,1			10170	1
22140	DORG	10600			10600	
22150	DC	5,0			10604	5
		-0000				
22160	SPLINS	TFM	HOLD3,0,9		10606	16 13153 00-00
22170	CM		LISTER-3,8,1011		10618	14 02761 000-Q
22180	BNE	LOOK			10630	47 10690 01200
22190	A		HOLD3,LISTER		10642	21 13153 02764
22200	BT		REMOVE,REMOVE-1		10654	27 03084 03083
22210	TF		LISTET,DIMNUM		10666	26 02794 13150
22220	BT		INSERT,INSERT-1		10678	27 03414 03413
22240	LOOK	C	HOLD3,MOVESC		10690	24 13153 02865
22250	BE		SPLINS-1,,6		10702	46 10600 01200
22260	BT		GETL,GETL-1		10714	27 02996 02995
22270	B		SPLINS+12		10726	49 10618 00000
22280	SETMAP	TF	MAP+5,LOADSA,,	SET UP DIM ENTRY	10738	26 19885 13050
22290	TD		MAP,LOADSA-5		10750	25 19880 13045
22300	CF		MAP		10762	31 19880 00000
22310	SF		MAP+1		10774	32 19881 00000
22320	TF		MAP+8,LOADSC		10786	26 19888 13140
22321	BNF		++24,STFLAG		10798	44 10822 13499
22322	SF		MAPMA		10810	32 13106 00000
22330	TF		MAP+13,MAPMA		10822	26 19893 13106
22340	TF		MAP+18,MAPEA		10834	26 19898 13111
22350	TD		MAP+19,MAPRM		10846	25 19899 13063
22360	TF		DIMNUM,NEWDIM		10858	26 13150 02963
22370	TFM		IORT,++23		10870	16 00565 J0893
22380	B		IOPT,DMDDA,7		10882	49 00532 -2568
22390	TFM		IORT,++23		10894	16 00565 J0917
22400	B		IOGT,MCS1,7		10906	49 00566 J3476
22410	TF		MCS+39,DIMNUM		10918	26 17817 13150
22420	TFM		IORT,++23		10930	16 00565 J0953
22430	B		IOPT,MCS1,7		10942	49 00532 J3476
22440	INSERT		DIMNUM IN SPLIST			
22450	BTM		SPLINS,++12		10954	17 10606 J0966
22460	C		PNAME,ZERO12,,	WAS PROGRAM NAME GIVEN	10966	24 13189 13123

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1620 MONITOR 1		DUP ROUTINE		*DLOAD, *DREPL, *DELETE	PAGE	47
22470	BE		NONAM		10978	46 11002 01200
22490	BTM		EQUIV,++12,,	PUT NAME IN EQUIVALENCE TABLE	10990	17 08606 J1002
22500	NONAM	TF	FREAD+5,SCRACH,,	LOAD PROGRAM TO DISK	11002	26 13247 13146
22510	TD		FREAD,SCRACH-5		11014	25 13242 13141
22520	SF		FREAD+1		11026	32 13243 00000
22530	CF		FREAD		11038	33 13242 00000
22540	TF		FWRIT+5,LOADSA		11050	26 13232 13050
22550	TD		FWRIT,LOADSA-5		11062	25 13227 13045
22560	TFM		FREAD+13,FAREA		11074	16 13255 J3776
22570	TFM		FWRIT+13,FAREA		11086	16 13240 J3776
22580	C		MAXSC,LOADSC		11098	24 13055 13140
22590	BL		ALTER		11110	47 11282 01300
22600	TF		FREAD+8,LOADSC		11122	26 13250 13140
22610	TF		FWRIT+8,LOADSC		11134	26 13235 13140
22620	LSK	TFM	IORT,++23		11146	16 00565 J1169
22630	B		IOGT,FREDDA,7		11158	49 00566 J3429
22640	TFM		IORT,++23		11170	16 00565 J1193
22650	B		IOPT,FWRDDA,7		11182	49 00532 J3421
22660	BD		++20,PTEST		11194	43 11214 13085
22670	ENDWRT	B	SETMAP-1,,6		11206	49 1073P 00000
22680	DORG		+3		11214	
22690	TFM		FPSF+1,32,10		11214	16 11643 000L2
22700	TF		HOLD3,LOADSC		11226	26 13153 13140
22710	TF		FWRIT+5,LOADSA		11238	26 13232 13050
22720	TD		FWRIT,LOADSA-5		11250	25 13227 13045
22730	BTM		FP,++12		11262	17 11462 J1274
22740	B		ENDWRT		11274	49 11206 00000
22750	DORG		+3		11282	
22760	ALTER	TF	HOLD3,LOADSC		11282	26 13153 13140
22770	S		HOLD3,MAXSC		11294	22 13153 13055
22780	TF		FREAD+8,MAXSC		11306	26 13250 13055
22790	TF		FWRIT+8,MAXSC		11318	26 13235 13055
22800	TFM		IORT,++23		11330	16 00565 J1353
22810	B		IOGT,FREDDA,7		11342	49 00566 J3429
22820	TFM		IORT,++23		11354	16 00565 J1377
22830	B		IOPT,FWRDDA,7		11366	49 00532 J3421
22840	A		FREAD+5,MAXSC		11378	21 13247 13055
22850	A		FWRIT+5,MAXSC		11390	21 13232 13055
22860	C		MAXSC,HOLD3		11402	24 13055 13153
22870	BL		ALTER+12		11414	47 11294 01300
22880	TF		FREAD+8,HOLD3		11426	26 13250 13153
22890	TF		FWRIT+8,HOLD3		11438	26 13235 13153
22900	B		LSK		11450	49 11146 00000
22910	FP	SF	BUTTON,,,	FILE PROTECT AND LOAD PROGRAM	11462	32 00455 00000
22920	BTM		KYNESS,++12		11474	17 11998 J1486
22930	TF		HOLD3,FWRIT+5		11486	26 13091 13232
22940	SF		HOLD3-1		11498	32 13090 00000
22950	TFM		FPSF+6,TRACK2		11510	16 11648 J7778
22960	SM		HOLD3,20,10		11522	12 13091 000K0
22970	BH		+12		11534	46 11522 01100
22980	BZ		++48		11546	46 11594 01200
22990	AM		HOLD3,20,10		11558	11 13091 000K0
23000	MM		HOLD3,105,9		11570	13 13091 00J05
23010	A		FPSF+6,99		11582	21 11648 00099
23020	TFM		FWRIT+8,20,9		11594	16 13235 00-20
23030	TFM		FWRIT+13,TRACK2		11606	16 13240 J7778

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1620 MONITOR 1		DUP ROUTINE	*DLOAD, *DREPL, *DELET	PAGE	48
23040	TFM	IORT,++23		11618	16 00565 J1641
23050	B	IOGT,FPDDA,7		11630	49 00566 J3413
23060	FPSF	SF TRACK2		11642	32 17778 00000
23070	SM	HOLD3,1,10		11654	12 13153 000-1
23080	CM	HOLD3,0,9		11666	14 13153 00-00
23090	BE	DONESF		11678	46 11782 01200
23100	AM	FPSF+6,105,9		11690	11 11648 00J05
23110	CM	FPSF+6,TRACK2+2100		11702	14 11648 J9878
23120	BNE	FPSF		11714	47 11642 01200
23130	TFM	IORT,++23		11726	16 00565 J1749
23140	B	IOPT,FPDDA,7		11738	49 00532 J3413
23150	AM	FWRIT+5,20,10		11750	11 13232 000K0
23160	TFM	FPSF+6,TRACK2		11762	16 11648 J7778
23170	B	FPSF-36		11774	49 11606 00000
23180	DORG	*-3		11782	
23190	DONESF	TFM IORT,++23		11782	16 00565 J1805
23200	B	IOPT,FPDDA,7		11794	49 00532 J3413
23210	CF	BUTTON		11806	33 00455 00000
23220	BTM	KYMESS,++12		11818	17 11998 J1830
23230	B	FP-1,,6		11830	49 1146J 00000
23240	WRLAST	TF FINALM+30,PNAME,,	WRITE FINAL MESSAGE	11842	26 12849 13189
23250	TF	NEWDIM,DIMNUM		11854	26 02963 13150
23260	BT	DIMMER,DIMMER-1		11866	27 03666 03665
23270	RCTY			11878	34 00000 00102
23280	WATY	FINALM		11890	39 12819 00100
23290	TD	19999,MAP+19		11902	25 19999 19899
23300	TF	19998,DIMNUM		11914	26 19998 13150
23310	WNTY	19995		11926	38 19995 00100
23320	SPTY			11938	34 00000 00101
23330	WNTY	MAP		11950	38 19880 00100
23340	DNTY	19999		11962	35 19999 00100
23350	TDM	SYSCAL,3		11974	15 00475 00003
23360	B	WRLAST-1,,6		11986	49 1184J 00000
23370	*	ADDRESS KEY MESSAGE SUBROUTINE			
23380	KYMESS	BNF ++32,BUTTON		11998	44 12030 00455
23390	TFM	KEYMES+24,5500,8		12010	16 12935 0N500
23400	B	*+20		12022	49 12042 00000
23410	DORG	*-3		12030	
23420	TFM	KEYMES+24,4646,8		12030	16 12935 0M646
23430	RCTY			12042	34 00000 00102
23440	WATY	KEYMES		12054	39 12911 00100
23450	H			12066	48 00000 00000
23460	B	KYMESS-1,,6		12078	49 1199P 00000
23470	***	DELETE DIM NO, FROM S.P. LIST			
23480	SPLDEL	TF NEWDIM,DIMNUM		12090	26 02963 13150
23490	BT	DIMMER,DIMMER-1		12102	27 03666 03665
23500	TF	LISTES,MAP+5		12114	26 02790 19885
23510	TD	LISTES-5,MAP		12126	25 02785 19880
23520	TF	NINESC,MAP+8		12138	26 13038 19888
23530	TF	HOLDS,MAP+5		12150	26 13091 19885
23540	CF	NINESC-2		12162	33 13036 00000
23550	TFM	RLGONE+30,++20		12174	16 04278 J2194
23560	B	FIND		12186	49 03832 00000
23570	DORG	*-3		12194	
23580	REMDL	C LISTER,DIMNUM		12194	24 02764 13150
23590	BNE	SPLDEL-1,,6		12206	47 1208R 01200

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1620 MONITOR 1		DUP ROUTINE	*DLOAD, *DREPL, *DELET	PAGE	49
23600	BT	REMOVE,REMOVE-1		12218	27 03084 03083
23610	CM	LISTER-3,7,1011		12230	14 02761 000-P
23620	BE	CYLDEL		12242	46 12462 01200
23630	CM	LISTER-3,9,1011		12254	14 02761 000-R
23640	BE	COMPRS		12266	46 12406 01200
23650	INSDEL	TF LISTET,NINESC		12278	26 02794 13038
23660	BT	INSERT,INSERT-1		12290	27 03414 03413
23670	BT	GETL,GETL-1		12302	27 02996 02995
23680	BT	GETL,GETL-1		12314	27 02996 02995
23690	CM	LISTER-3,9,1011		12326	14 02761 000-R
23700	BNE	SPLDEL-1,,6		12338	47 1208R 01200
23710	SF	LISTER-2		12350	32 02762 00000
23720	A	NINESC,LISTER		12362	21 13038 02764
23730	CF	LISTER-2		12374	33 02762 00000
23740	BT	REMOVE,REMOVE-1		12386	27 03084 03083
23750	B	COMPRS+36		12398	49 12442 00000
23760	DORG	*-3		12406	
23770	COMPRS	SF LISTER-2		12406	32 02762 00000
23780	A	NINESC,LISTER		12418	21 13038 02764
23790	CF	LISTER-2		12430	33 02762 00000
23800	BT	REMOVE,REMOVE-1		12442	27 03084 03083
23810	B	INSDEL		12454	49 12278 00000
23820	DORG	*-3		12462	
23830	CYLDEL	BT GETL,GETL-1		12462	27 02996 02995
23840	CM	LISTER-3,7,1011		12474	14 02761 000-P
23850	BNE	NO200		12486	47 12566 01200
23860	BT	GETR,GETR-1		12498	27 02872 02871
23870	TFM	LISTET,9200,8		12510	16 02794 0R200
23880	SM	NINESC,200,9		12522	12 13038 00K00
23890	BT	INSERT,INSERT-1		12534	27 03414 03413
23900	BT	GETR,GETR-1		12546	27 02872 02871
23910	B	REMDL		12558	49 12194 00000
23920	DORG	*-3		12566	
23930	NO200	CM LISTER-3,9,1011		12566	14 02761 000-R
23940	BE	YES9		12578	46 12730 01200
23950	SF	HOLDS-2		12590	32 13089 00000
23960	SM	HOLDS,200,9		12602	12 13091 00K00
23970	BNF	*-12,HOLDS		12614	44 12602 13091
23980	A	NINESC,HOLDS		12626	21 13038 13091
23990	TDM	HOLDS-3,9,11		12638	15 13088 0000R
24000	CF	HOLDS		12650	33 13091 00000
24010	CF	HOLDS-2		12662	33 13089 00000
24020	TF	LISTET,HOLDS		12674	26 02794 13091
24030	BT	GETR,GETR-1		12686	27 02872 02871
24040	BT	INSERT,INSERT-1		12698	27 03414 03413
24050	BT	GETR,GETR-1		12710	27 02872 02871
24060	B	REMDL		12722	49 12194 00000
24070	DORG	*-3		12730	
24080	YES9	SF LISTER-2		12730	32 02762 00000
24090	A	NINESC,LISTER		12742	21 13038 02764
24100	S	HOLDS,LISTER		12754	22 13091 02764
24110	CF	LISTER-2		12766	33 02762 00000
24120	BT	REMOVE,REMOVE-1		12778	27 03084 03083
24130	B	CYLDEL		12790	49 12462 00000
24140	DORG	*-3		12798	
24150	SCERR	TFM DINERR+22,0075,8		12798	16 02507 0-075

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1620 MONITOR 1		DUP ROUTINE *DLOAD, *DREPL, *DELET		PAGE	52
24760	DC 5,18331			13217	5
	J8331				
24770	DC 3,038			13220	3
	-38				
24780	DC 5,08600			13225	5
	-8600				
24790	DSC 1,1			13226	1
	.				
24800	FWRIT DSC 1,1			13227	1
	1				
24810	DC 5,0			13232	5
	-0000				
24820	DC 3,0			13235	3
	-00				
24830	DC 5,0			13240	5
	-0000				
24840	DSC 1,1			13241	1
	.				
24850	FREAD DSC 1,1			13242	1
	1				
24860	DC 5,0			13247	5
	-0000				
24870	DC 3,0			13250	3
	-00				
24880	DC 5,0			13255	5
	-0000				
24890	DSC 1,1			13256	1
	.				
24900	CLOSW DSC 1,1			13257	1
	1				
24910	DC 5,0			13262	5
	-0000				
24920	DC 3,0			13265	3
	-00				
24930	DC 5,0			13270	5
	-0000				
24940	DSC 1,1			13271	1
	.				
24950	EQUDDA DSC 2,22			13272	2
	22				
24960	DSA EQUDCF			13278	5 X 1
				13278	J3280
				13279	1
24970	DSC 1,1			13280	1
	.				
24980	EQUDCF DSC 1,1			13280	1
	1				
24990	DC 5,18278			13285	5
	J8278				
25000	DC 3,020			13288	3
	-20				
25010	DC 5,08600			13293	5
	-8600				
25020	DSC 1,1			13294	1
	.				
25030	CNTCYL DC 2,0			13296	2
	-0				

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1620 MONITOR 1		DUP ROUTINE *DLOAD, *DREPL, *DELET		PAGE	53
25040	COM2 DSC 2,22			13297	2
	22				
25050	DSA COM22			13303	5 X 1
				13303	J3305
				13304	1
25060	DSC 1,1			13305	1
	.				
25070	COM22 DSC 1,1			13310	5
	1				
25080	DC 5,18520			13313	3
	J8520				
25090	DC 3,020			13318	5
	-20				
25100	DC 5,10600			13319	1
	J0600				
25110	DSC 1,1			13320	1
	.				
25120	CLOSR DSC 1,1			13325	5
	1				
25130	DC 5,0			13328	3
	-0000				
25140	DC 3,0			13333	5
	-00				
25150	DC 5,0			13334	1
	-0000				
25160	DSC 1,1			19880	20
	.				
25170	MAP DSC 20,0,19880			13335	1
	00000000000000000000			13340	5
25180	DCFSCR DSC 1,0			13343	3
	0				
25190	DC 5,0			13348	5 X 1
	-0000			13348	J7778
25200	DC 3,0			13349	1
	-00				
25210	DSA READIN			19880	20
				13350	1
25220	DSC 1,1			13355	5
	.			13358	3
25230	EQUDIM DSC 20,0,19880			13363	5 X 1
	00000000000000000000			13363	J3776
25240	DISKF DSC 1,0			13364	1
	0				
25250	DC 5,0			13776	0
	-0000			00475	0
25260	DC 3,020			00010	0
	-20				
25270	DSA TRACK				
25280	DSC 1,1				
	.				
25290	FAREA DS ,CLOSUP				
25300	SYSCAL DS ,475				
25310	SUBLO DS ,10				

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25320	SUBHI	DS	,39	00039	0
25330	TRACK	DS	,CLOSUP	13776	0
25340	BASIC	DS	,796	00796	0
25350	MONCAL	DS	,BASICM	00796	0
25360	TRACK3	DS	,CLOSUP	13776	0
25370	DUPCRD	DS	,INPUT	13613	0
25380	SUCCESS	DS	,ADK	13066	0
25390	DMPDIM	DSC	2,-22	13365	2
		2K			
25400		DSA	DMPDM	13371	5 X 1
				13371	J3373
25410		DSC	1,'	13372	1
25420	DMPDM	DSC	1,1	13373	1
25430		DC	5,18430	13378	5
			J8430		
25440		DC	3,050	13381	3
			-50		
25450		DC	5,02500	13386	5
			-2500		
25460		DSC	1,'	13387	1
25470	DUMP	DSC	1,0	13388	1
			0		
25480	CLODDA	DSC	2,22	13389	2
			22		
25490		DSA	CLOSR	13395	5 X 1
				13395	J3320
25500		DSC	1,'	13396	1
25510	CLWDDA	DSC	2,22	13397	2
			22		
25520		DSA	CLOSW	13403	5 X 1
				13403	J3257
25530		DSC	1,'	13404	1
25540	DDAKF	DSC	2,22	13405	2
			22		
25550		DSA	DISKF	13411	5 X 1
				13411	J3350
25560		DSC	1,'	13412	1
25570	FPDDA	DSC	2,26	13413	2
			26		
25580		DSA	FWRIT	13419	5 X 1
				13419	J3227
25590		DSC	1,'	13420	1
25600	FWRDDA	DSC	2,22	13421	2
			22		

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25610		DSA	FWRIT	13427	5 X 1
				13427	J3227
25620		DSC	1,'	13428	1
25630	FREDDA	DSC	2,22	13429	2
			22		
25640		DSA	FREAD	13435	5 X 1
				13435	J3242
25650		DSC	1,'	13436	1
25660	READ	DSA	READIN	13441	5 X 1
				13441	J7778
25670		DC	3,00'	13444	3
			-0'		
25680	DDASCR	DSC	2,02	13445	2
			02		
25690		DSA	DCFSCR	13451	5 X 1
				13451	J3335
25700		DSC	1,'	13452	1
25710	DIREAD	DSC	2,22	13453	2
			22		
25720		DSA	D2READ	13459	5 X 1
				13459	J3461
25730		DSC	1,'	13460	1
25740	D2READ	DSC	1,1	13461	1
			1		
25750		DC	5,0	13466	5
			-0000		
25760		DC	3,021	13469	3
			-21		
25770		DSA	TRACK	13474	5 X 1
				13474	J3776
25780		DSC	1,'	13475	1
25790	MCS1	DSC	2,22	13476	2
			22		
25800		DSA	MCS2	13482	5 X 1
				13482	J3484
25810		DSC	1,'	13483	1
25820	MCS2	DSC	1,1	13484	1
			1		
25830		DC	5,19663	13489	5
			J9663		
25840		DC	3,1	13492	3
			-01		
25850		DSA	MCS	13497	5 X 1

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25860	DSC 1,0	13497	J7778
		13498	1
25861	STFLAG DSC 1,0	13499	1
	0		
25870	TRACK2 DSS 2100,17778,, READ WRITE AREA FOR TRACK	17778	2100
25880	TCD COMFL	10100	
25890	DEND	00000	

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ADDBLK 04280	DMREAD 02576	MODDK1 10682	ACTAH 09136	EQU2 08156
ADDRAC 10656	DOMESF 11782	MODND1 10482	ACTAJ 09112	EQUFL 08100
ADRSPL 04514	DRESTR 03633	MONCAL 00796	ACTAK 09228	EQUIV 08606
ALLCLR 07816	DSEVEN 09064	MONITR 00796	ALTER 11282	ERRD 02524
ALLRIT 10128	DUPCRD 13613	MORERD 06584	ANAME 10478	ERR 05656
ALPHAS 10266	EIGHTS 09984	MOVBUS 08724	AOK 13066	EXIT2 09110
B2READ 09054	ENDWRT 11206	MOVCAR 08701	ATNR 08606	EXIT 10542
BASICM 00796	EQUUDCF 13280	MOVDCF 13212	ATN 09042	EZEST 10700
BAVADD 10472	EQUDDA 13272	MOVDDA 13204	BNR 09650	FAREA 13776
BAVAIL 02754	EQUDIM 19880	MOVESA 02862	CALC2 02759	FIND 03832
BAVCOM 10440	ERRCYL 11362	MOVESC 02865	CALC3 02779	FLAG 06468
BEAUTY 10592	ERRSEQ 12857	MOVFL1 08548	CALC4 02783	FORT 13062
BLANKT 10356	EXITFL 06924	MOVFL2 08556	CALC5 08796	FOUND 03445
BUTTON 00455	EXITMR 08624	MOVNOW 10504	CALC6 08790	FPDDA 13413
CALLMV 06976	FAKSFV 02852	MSTAKE 09032	CALC7 02848	FPOK 06820
CHOICE 09196	FILTST 10212	N48000 02770	CARD 13034	FP 11462
CLEVER 04315	FINALM 12819	NEGATE 07576	CCD2 10466	FPSF 11642
CLIPPP 02884	FINDIM 13065	NEWDIM 02963	CCD 10458	FREAD 13242
CLODDA 13389	FINDON 06680	NINE12 13203	CHIL 11650	FWRIT 13227
CLOSUP 13776	FINDTR 03900	NINENT 09132	CLEAR 06580	GETL 02996
CLNDDA 13397	FREDDA 13429	NINESC 13038	CLFP 06652	GETR 02872
CNAME5 09806	FWRDDA 13421	NODISG 09866	CLOSE 09282	GORT 10232
CNTCYL 13296	GETBAK 05164	NOFLGS 07748	CLOS2 13320	HERE 12118
COMCYL 04980	GETLTR 03016	NOMMON 02855	CLOS3 13257	HEX 02795
COMFL1 10148	GETRTR 02928	NOMULT 10018	CLRFP 07688	HILIM 13070
COMFL2 10156	GOLDEN 02760	NONAME 09680	CMPAR 09182	HOLD2 13052
COMFL 07200	GPMARK 13064	NOSECA 02856	CNINE 08810	HOLD3 13153
COMMON 02853	HOLDGD 12990	NOSPAC 07092	CNT 13094	HOLD4 13157
COMPFR 05268	HOLDIM 10510	OLIMIT 10118	COM22 13305	HOLD5 13091
COMPRS 12406	INITRD 09974	PKODDA 02637	COM2 13297	HOLD6 13175
CONCUD 09952	INSDEL 12278	PK1DDA 02660	COMFL 10100	INCRD 09262
CONST1 02801	INSERT 03414	PK2DDA 02683	COMH1 07248	INCR 10246
CONST2 02807	INSETR 03434	PK3DDA 02706	COMH2 07263	INIT1 07680
CONST3 08815	KEYVES 12911	PLUSSR 04188	COMP 10106	INIT2 08360
CONST4 08812	KYMESS 10716	QCARRY 02813	COUNT 13101	INPUT 13613
CONST5 02825	LCTEST 09614	RACKET 02841	DC1 09554	IOGT 00566
CONST6 02831	LIMITS 08666	RDMDDA 02591	DC22 06084	IOP2 00532
CONST7 02837	LISTER 02764	RDMQVE 02599	DC2 05968	IORT 10545
CONST8 02870	LISTES 02790	READIM 17778	DDAKF 13405	ISTO 05956
CORSIZ 02483	LISTET 02794	REDSPO 04804	DEL1 05448	KEVE 05003
CURREN 08818	LOADER 12234	REDSP1 04848	DEL2 05456	KEY1 08822
CYDEL 12462	LOADFL 04400	REDSP2 04892	DELET 05800	KEY5 08785
D1READ 13453	LOADKE 07224	REDSP3 04936	DELFL 05600	KING 02458
D2READ 13461	LOADSA 13050	REDSPL 04696	LGE 11766	DELTA 09375
D3READ 12210	LOADSC 13140	REMBLK 10636	DISK1 13350	DISK2 13350
D4READ 12218	LOADSZ 09024	REMDL 12194	DISK 06328	DLDCF 10871
DCFSR 13335	LOPEZA 08747	REMODR 03104	DLD 10858	DLOAD 05800
DDASCR 13445	LOPEZB 08770	REMOVE 03084	DMDA 02548	DMDM 13373
DELETE 13086	LPSRDA 04508	REMSIL 10144	DOME 09530	DREPL 05800
DELNT5 09604	HAINB1 06352	RLGONE 04248	DUMP 13388	ENTOK 10362
DIMENT 19880	HAINB2 06884	RSEVEN 10808	EQUI 08148	
DIMERR 02485	HAINB3 06884	ACTAA 09560		
DIMHLD 08831	HAINB4 10892	ACTAC 09976		
DIMMER 03666	HAINB5 03843	ACTAD 09904		
DIMNUM 13150	HIDNIT 09380	ACTAG 09268		
DMPDIM 13365				

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MAP	19880	NTZ	06380	SCR2	13169	UPSCA	07832	SPLPK3	02714
MAXSC	13055	ORDEL	06148	SCRAD	09298	VOILA	08112	STARDT	05016
MCAS	13061	PACK	02772	SCREM	13075	WASH	10992	STFLAG	13499
MCSI	13476	PHI	13002	SCRKO	12178	WR2	02287	SUCCESS	13066
MCS2	13484	PHAME	13189	SCROK	06552	WRCK	06724	SYSICAL	00475
MCS	17778	PRE7A	09000	SECT	10222	WRT2	08966	TELAST	10756
HEAT	09292	PRE7	08638	SEQ	13080	WRT	09022	TESTFP	07576
NOVER	08832	PTEST	13085	SF	10094	YES9	12730	THRDDA	02729
NOVFL	08500	QHOLD	02819	SMALL	11382	ZER06	13117	THROWS	02737
NPT	08636	QUEEN	02466	SOL2	10666	SCRACH	13146	TOPROD	10820
MULT2	09962	R2	08950	SOL	10658	SEARFP	07360	TRACK2	17778
MULT	09894	RAKES	10524	SPLPL	05744	SEQERR	10378	TRACK3	13776
NDISK	06848	RDSPL	04588	SPLR1	05792	SETFLG	09122	TAMBUS	08716
NERR	03574	READC	10022	SPLR2	05807	SETHAP	10738	TRWCAR	08693
NEVER	04291	READ	13441	SPS	07424	SEVENT	09108	TRYAGN	03996
NO200	12566	RECD	09162	STEAL	02845	SFSUCE	08600	UPSCAN	08512
NOALF	09854	RELD2	08532	STOMP	03188	SKNAME	09678	WHYPI1	05340
NDF	08986	RELD	08172	SUBHI	00039	SPCRED	05456	WHYNDT	03388
NOISY	10380	REPL1	04448	SUBLO	00010	SPECAS	09152	WITHIN	08738
NOMA	08670	REPL2	04463	TAC	09812	SPLADD	04568	WRLAST	11842
NOMB	08678	RGE	11462	TFLG	08878	SPLCOR	03151	WRMDDA	02614
NOMC	11016	RMARK	12855	THOU	13044	SPLCYL	03187	WRMOVE	02622
NOMD	11064	R	08754	TIC	09744	SPLDEL	12090	WRTSP0	03268
NOME	11072	RTEST	13083	TIPSY	03470	SPLXET	05060	WRTSP1	03300
NONAM	11002	SCAN1	07728	TRACK	13776	SPLINI	04444	WRTSP2	03332
NORE1	07540	SCAN2	08408	TREC	06824	SPLINS	10606	WRTSP3	03364
NORE2	08300	SCANN	09750	TRER	09402	SPLIST	04324	ZERD12	13123
NOSA	10886	SCERR	12798	TRWA	08739	SPLPK0	02645	ZERD19	13130
NOTOK	09622	SCOLD	13134	TRWB	08762	SPLPK1	02668	ZERDES	08806
NTEST	13084	SCR1	13163	UPDIM	07312	SPLPK2	02691	ZSEVEN	09476

END OF ONE ASSEMBLY.

00010	DDRG	2500		02500					
00020	DUMP	BNF	DUMPCC,MCS+23,,	IS CALL FROM SPS,FORTRAN	02500	44	02604	17801	
00030		CF	CONTR0-2		02512	33	13611	00000	
00040		TR	FILAD,402		02524	31	05474	00402	
00050		TFM	FILAD+5,0,9		02536	16	05479	00-00	
00060		TF	FILAD+3,425		02548	26	05477	00425	
00061		TD	FILAD,422		02560	25	05474	00422	
00070		TF	SC,FILAD+8		02572	26	13643	05482	
00080		BD	PAPST,MCS+23		02584	43	03246	17801	
00090		B	CA		02596	49	03190	00000	
00100		DDRG	*-4		02603				
00110	DUMPCC	SF	CONTR0-2,,	CALL FROM CONTROL RECORD	02604	32	13611	00000	
00120		SF	TYPE-1		02616	32	13646	00000	
00130	*			DETERMINE TYPE					
00140		CM	TYPE,50,10		02628	14	13647	00000	
00150		BH	LDRM		02640	46	02906	01100	
00160		CM	TYPE,45,10		02652	14	13647	000M5	
00170		BE	E		02664	46	02738	01200	
00180		CM	TYPE,49,10		02676	14	13647	000M9	
00190		BE	I		02688	46	02758	01200	
00200		CM	TYPE,41,10		02700	14	13647	000M1	
00210		BE	TYPA		02712	46	06518	01200	
00220		B	ERRD-12		02724	49	06104	00000	
00230		DDRG	**3		02738				
00240	E	TFM	NUMB,EENT		02738	16	13643	-0002	
00250		B	B1		02750	49	03026	00000	
00260		DDRG	*-4		02757				
00270	I	TFM	NUMB,MENT		02758	16	13643	-0003	
00280		B	B1		02770	49	03026	00000	
00290		DDRG	*-4		02777				
00300	SPL	CM	TYPE,62,10		02778	14	13647	00002	
00310		BNE	ERRD-12		02790	47	06104	01200	
00320		SF	TYPE+1		02802	32	13648	00000	
00330		CM	TYPE+2,73,10		02814	14	13649	000P3	
00340		RH	ERRD-12		02826	46	06104	01100	
00350		CM	TYPE+2,70,10		02838	14	13649	000P0	
00360		BL	ERRD-12		02850	47	06104	01300	
00370		TFM	NUMB,SENT		02862	16	13643	-0004	
00380		TD	**23,TYPE+2		02874	25	02897	13649	
00390		AM	NUMB,0,10		02886	11	13643	000-0	
00400		B	B1		02898	49	03026	00000	
00410		DDRG	*-3		02906				
00420	LDRM	CM	TYPE,53,10		02906	14	13647	000N3	
00430		BE	L		02918	46	04634	01200	
00440		CM	TYPE,54,10		02930	14	13647	000N4	
00450		BNE	SPL		02942	47	02778	01200	
00460		SF	NUMB-7		02954	32	13636	00000	
00470		CM	NUMB,0,10		02966	14	13643	000-0	
00480		BE	NAME		02978	46	04278	01200	
00490		TFM	TD+6,NUMB-1,,	CONV MAP NO TO NUMERIC	02990	16	05196	J3642	
00500		TFM	AN-1,**23		03002	16	05165	-3025	
00510		B	AN,NUMB-7,7		03014	49	05166	J3636	
00520	B1	TF	FIND+23,NUMB,,	FIND MAP ENTRY	03026	26	05045	13643	
00530		TFM	TR+23,**23,711		03038	16	05129	-306J	
00540		B	TEMAP,FILAD		03050	49	04974	05474	
00550		BNR	CONT,FILAD		03062	45	03094	05474	

		ERROR MAP NO NOT IN USE					
00560 *							
00570	TFM	DIMERR+22,0074,8		03074	16	06343	0-074
00580	B	ERRD		03086	49	06116	00000
00590	DORG	*-3		03094			
00600	CONT	TF SC,FILAD+8,,	SAVE SC FROM FILAD	03094	26	13643	05482
00610	B2	SF IOD-1		03106	32	13644	00000
00620	CM	IOD,57,10,	OUTPUT DEVICE TEST	03118	14	13645	00007
00630	BE	PAPST		03130	46	03246	01200
00640	CM	IOD,63,10		03142	14	13645	00003
00650	BF	TYPMRT		03194	46	05510	01200
00660	CM	IOD,43,10		03166	14	13645	00003
00670	BNE	ERRD-12		03178	47	06104	01200
00680	CA	CF OI,,,	OUTPUT DEVICE IS CARDS	03190	33	02647	00000
00690	TFM	SEQUEN,0		03202	16	02627	-0000
00700	TFM	ENDTES+11,TSXC+35		03214	16	05325	-3621
00710	TFM	RELLT-6,FINISC		03226	16	03560	-7162
00720	B	SETUP		03238	49	03282	00000
00730	DORG	*-4		03245			
00740	PAPST	SF OI,,,	OUTPUT DEVICE IS PAPER TAPE	03246	32	02647	00000
00750	TFM	ENDTES+11,A10+11		03258	16	05325	-3457
00760	TFM	RELLT-6,FINISP		03270	16	03560	-7218
00770	SETUP	FILAD+13,SECTOR,,	SET UP MAD OF FILAD	03282	16	05487	J8000
00780	TFM	FILAD+8,3,9,	SET UP SECTOR CNT OF FILAD	03294	16	05482	00-03
00790	TFM	FILAD+14,,,		03306	15	05488	00000
00800	OSC	1,*,*		03317		1	
00810	READ	TFM IORT,++23		03318	16	00565	-3341
00820	B	IOGT,FILDDA,7		03330	49	00566	-5466
00830	*		INITIALIZE ADDRESSES				
00840	INIT	TFM A10+11,SECTOR		03342	16	03457	J8000
00850	TFM	TSXC+11,SECTOR+79		03354	16	03597	J8079
00860	TFM	TSXC+35,SECTOR		03366	16	03621	J8000
00870	*		SET LOOP COUNTER				
00880	SCTEST	CM SC,3,10		03378	14	13643	000-3
00890	BNE	FOUR		03390	46	03422	01300
00900	TF	LOOP,SC		03402	26	02736	13643
00910	B	FOUR+12		03414	49	03434	00000
00920	DORG	*-4		03421			
00930	FOUR	TFM LOOP,4,10		03422	16	02736	000-4
00940	L1	BNF TSXC,01		03434	44	03586	02647
00950	A10	TFM PAPER+35,XX,7,	CALL PAPER TAPE	03446	16	03965	-0000
00960	BTM	PAPER,++12		03458	17	03930	-3470
00970	AM	A10+11,75,10		03470	11	03457	000P5
00980	TYPEND	BNF ENDTES,CONTRD-2		03482	44	05314	13611
00990	SM	LOOP,1,10		03494	12	02736	000-1
01000	BNE	L1	LITTLE LOOP FINISHED	03506	47	03434	01200
01010	*						
01020	CM	SC,3,10		03518	14	13643	000-3
01030	BL	A1		03530	47	03654	01300
01040	SM	SC,3,10		03542	12	13643	000-3
01050	BE	XX		03554	46	00000	01200
01060	RELLT	AM FILAD+5,3,10		03566	11	05479	000-3
01070	B	READ		03578	49	03318	00000
01080	DORG	*-4		03585			
01090	*		CALL CARD ROUTINE				
01100	TSXC	TFM AB1+11,XX		03586	16	04093	-0000

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01110	TFM	PUN,++23,711		03598	16	07278	-362J
01120	B	CARD,SECTOR,7		03610	49	04034	J8000
01130	AM	TSXC+11,75		03622	11	03597	-0075
01140	AM	TSXC+35,75		03634	11	03621	-0075
01150	B	TYPEND		03646	49	03482	00000
01160	DORG	*-4		03653			
01170	A1	CM SC,1,10,	REMAINING SC LESS THAN THREE	03654	14	13643	000-1
01180	BNE	A3		03666	47	03814	01200
01190	TF	SECTOR+1+9,ZERO		03678	26	18149	07312
01200	TF	SECTOR+124,ZERO		03690	26	18124	07312
01210	CF	SECTOR+125		03702	33	18125	00000
01220	CF	SECTOR+100		03714	33	18100	00000
01230	BNF	A2,01		03726	44	03770	02647
01240	TFM	PAPER+35,SECTOR+75,,	SC=1-SPECIAL PAPER TAPE OUTPUT	03738	16	03965	J8075
01250	BTM	PAPER,++12		03750	17	03930	-3762
01260	B	FINISP		03762	49	07218	00000
01270	DORG	*-4		03769			
01280	A2	TFM AB1+11,SECTOR+154,,	SC=1 SRECIAL CARD OUTPUT	03770	16	04093	J8154
01290	TFM	PUN,++23,711		03782	16	07278	-380N
01300	B	CARD,SECTOR+75		03794	49	04034	18075
01310	B	FINISC		03806	49	07162	00000
01320	DORG	*-4		03813			
01330	A3	TF SECTOR+224,ZERO		03814	26	18224	07312
01340	CF	SECTOR+200		03826	33	18200	00000
01350	BNF	A4,01		03838	44	03882	02647
01360	TFM	PAPER+35,SECTOR+150,,	SC=2 SPECIAL PAPER TAPE OUTPUT	03850	16	03965	J8150
01370	BTM	PAPER,++12		03862	17	03930	-3874
01380	B	FINISP		03874	49	07218	00000
01390	DORG	*-4		03881			
01400	A4	TFM AB1+11,SECTOR+229,,	SC=2 SPECIAL CARD OUTPUT	03882	16	04093	J8229
01410	TFM	PUN,++23,711		03894	16	07278	-391P
01420	B	CARD,SECTOR+150		03906	49	04034	18150
01430	B	FINISC		03918	49	07162	00000
01440	PAPER	TFM TD3+6,19925		03930	16	03960	J9925
01450	CF	TD3+7		03942	33	03961	00000
01460	TD3	TD XX,XX,2		03954	25	-0000	00000
01470	A	TD3+11,COM1		03966	21	03965	07408
01480	CM	TD3+6,20000		03978	14	03960	K0000
01490	BNE	TD3		03990	47	03954	01200
01500	DNPT	19925		04002	35	19925	00200
01510	BTM	ERRDMP,++12		04014	17	06176	-4026
01520	B	PAPER-1,,6		04026	49	0392R	00000
01530	DORG	*-4		04033			
01540	CARD	TF FINI+18,AB1+11		04034	26	04156	04093
01550	TFM	AB1+6,SAV		04046	16	04088	-2965
01560	TFM	CNT5,5,10		04058	16	02651	000-5
01570	CF	AB1+7		04070	33	04089	00000
01580	AB1	TD SAV,XX,2		04082	25	-2965	00000
01590	SM	CNT5,1,10		04094	12	02651	000-1
01600	BE	FINI		04106	46	04138	01200
01610	S	AB1+11,COM1		04118	22	04093	07408
01620	B	AB1		04130	49	04082	00000
01630	DORG	*-4		04137			
01640	FINI	AM SEQUEN,1,10		04138	11	02627	000-1
01650	TF	XX,SEQUEN		04150	26	00000	02627
01660	TFM	IORT,++23		04162	16	00565	-4185

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1620 MONITOR 1		DUP ROUTINE	DDUMP	PAGE			
01670	B	IOPT,PUN-4,7		04174	49	00532	-7274
01680	TD	AB1+11,AB1+6,611		04186	25	0409L	04080
01690	A	AB1+11,COM1		04198	21	04093	07408
01700	AM	CNT5,1,10		04210	11	02651	000-1
01710	CM	CNT5,5,10		04222	14	02651	000-5
01720	BNE	FIN1+48		04234	47	04186	01200
01730	CF	PUN		04246	33	07278	00000
01740	AM	PUN,1,10		04258	11	07278	000-1
01750	B	PUN,,6,	BRANCH BACKS	04270	49	07270	00000
01760	DORG	=-4		04277			
01770	NAME	TF	FIND+23,E+11	04278	26	05045	02749
01780	TFM	TR+23,+23,711		04290	16	05129	-431L
01790	B	FIND,FILAD,,	OBTAIN EQUIVALENCE TABLE DIM	04302	49	05022	05474
01800	SF	NAM-11		04314	32	13624	00000
01810	C	NAM,ZERO12		04326	24	13635	07299
01820	BE	ERRD-12		04338	46	06104	01200
01830	TFM	FILAD+13,EQUIV		04350	16	05487	J6000
01840	COMPE	CM	FILAD+8,40,9	04362	14	05482	00-40
01850	BNH	RD		04374	47	04410	01100
01860	TF	SAV,FILAD+8		04386	26	02965	05482
01870	TFM	FILAD+8,40,9		04398	16	05482	00-40
01880	RD	TFM	IORT,+23	04410	16	00565	-4433
01890	B	IOGT,FILDDA,7		04422	49	00566	-5466
01900	TFM	LOOP3+6,EQUIV+11,,	SEARCH EQUIVALENCE TABLE	04434	16	04484	J6011
01910	TF	+23,LOOP3+6		04446	26	04469	04484
01920	BNR	LOOP3,XX		04458	45	04478	00000
01930	B	ERNF		04470	49	04582	00000
01940	DORG	=-3		04478			
01950	LOOP3	C	XX,NAM	04478	24	00000	13635
01960	BE	FOUND		04490	46	04602	01200
01970	AM	LOOP3+6,16,10		04502	11	04484	000J6
01980	CM	LOOP3+6,EQUIV+4011		04514	14	04484	K0011
01990	BL	LOOP3-32		04526	47	04446	01300
02000	SM	SAV,40,10		04538	12	C2965	00UM0
02010	TF	FILAD+8,SAV		04550	26	05482	02965
02020	AM	FILAD+5,40,10		04562	11	05479	00M00
02030	B	COMPE		04574	49	04362	00000
02040	DORG	=-4		04581			
02050	*		ERROR - NAME NOT IN EQUIV				
02060	ERNF	TFM	DIMERR+22,7270,8	04582	16	06343	0P270
02070	B	ERRD		04594	49	06116	00000
02080	DORG	=-3		04602			
02090	FOUND	AM	LOOP3+6,4,10	04602	11	04484	000-4
02100	TF	FIND+23,LOOP3+6,11		04614	26	05045	0448M
02110	B	B1+12,,	FIND MAP ENTRY CORRESPONDING TO NAME	04626	49	03038	00000
02120	*						
02130	DORG	=-4		04633			
02140	L	TFM	TD+6,SA1-1	04634	16	05196	J3662
02150	TFM	STFLG+6,SA1-11		04646	16	04676	J3652
02160	TFM	STFLG+18,SA1-10		04658	16	04688	J3653
02170	STFLG	SF	SA1-11	04670	32	13652	00000
02180	CM	SA1-10,70,10		04682	14	13653	000P0
02190	BNL	+32		04694	46	04726	01300
02200	TFM	DIMERR+22,7175,8		04706	16	06343	0P175
02210	B	ERRD		04718	49	06116	00000
02220	DORG	=-3		04726			

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1620 MONITOR 1		DUP ROUTINE	DDUMP	PAGE			
02230	CF	STFLG+6,,6		04726	33	04670	00000
02240	AM	STFLG+6,2,10		04738	11	04676	000-2
02250	AM	STFLG+18,2,10		04750	11	04688	000-2
02260	CM	STFLG+6,SA2+1		04762	14	04676	J3676
02270	BL	STFLG		04774	47	04670	01300
02280	TFM	AN-1,+23		04786	16	05165	-4809
02290	B	AN,SA1-11,7		04798	49	05166	J3652
02300	TFM	TD+6,SA2-1		04810	16	05196	J3674
02310	TFM	AN-1,+23		04822	16	05165	-4845
02320	B	AN,SA2-11,7		04834	49	05166	J3664
02330	SF	SA1-4		04846	32	13659	00000
02340	SF	SA2-4		04858	32	13671	00000
02350	CF	SA1-5		04870	33	13658	00000
02360	TD	FILAD,SA1-5		04882	25	05474	13658
02370	TF	FILAD+5,SA1		04894	26	05479	13663
02380	TF	SC,SA2		04906	26	13643	13675
02390	S	SC,SA1		04918	22	13643	13663
02400	AM	SC,1,10		04930	11	13643	000-1
02410	BH	B2		04942	46	03106	01100
02420	TFM	DIMERR+22,7177,8		04954	16	06343	0P177
02430	B	ERRD		04966	49	06116	00000
02440	DORG	=-4		04973			
02450	TEMAP	CM	FIND+23,0,10,	04974	14	05045	000-0
02460	BNH	ERMAP	IS MAP NO. WITHIN LIMITS	04986	47	05234	01100
02470	CM	FIND+23,4994,8		04998	14	05045	0M994
02480	BH	ERMAP		05010	46	05234	01100
02490	FIND	TFM	SAFCF+5,MAPTAB,,	05022	16	05499	-4800
02500	AM	SAFCF+6,XX	GIVEN DIM, READ ENTRY TO CORE	05034	11	05500	-0000
02510	A	SAFCF+6,FIND+23		05046	21	05500	05045
02520	TD	TR+10,SAFCF+6		05058	25	05116	05500
02530	TFM	SAFCF+6,0		05070	15	05500	00000
02540	TFM	IORT,+23		05082	16	00565	-5105
02550	B	IOGT,SAFDDA,7		05094	49	00566	-5458
02560	TR	TR	+23,SECTOR,6	05106	31	0512R	18000
02570	TFM	FILAD+14,,,		05118	15	05488	00000
02580	DSC	1,,,		05129		1	
02590	CF	TR+23		05130	33	05129	00000
02600	AM	TR+23,1		05142	11	05129	-0001
02610	B	TR+23,,6		05154	49	0512R	00000
02620	AN	TF	TD+11,TD+6,,	05166	26	05201	05196
02630	SM	TD+11,1	ALPHA TO NUMERIC CONVERSION	05178	12	05201	-0001
02640	TD	TD	XX,XX,27	05190	25	-0000	-0000
02650	SM	TD+6,1		05202	12	05196	-0001
02660	SM	TD+11,2		05214	12	05201	-0002
02670	C	TD+11,AN-1,11		05226	24	05201	0516N
02680	BH	TD		05238	46	05190	01100
02690	AM	TD+6,1,10		05250	11	05196	000-1
02700	SF	TD+6,,6		05262	32	05190	00000
02710	AM	AN-1,1,10		05274	11	05165	000-1
02720	B	AN-1,,6		05286	49	0516N	00000
02730	DORG	=-4		05293			
02740	ERMAP	TFM	DIMERR+22,0076,8	05294	16	06343	0-076
02750	B	ERRD		05306	49	06116	00000
02760	DORG	=-3		05314			
02770	ENDTES	TF	LAST,XX,,	05314	26	02615	00000

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1620 MONITOR 1		DUP ROUTINE	*DDUMP	PAGE		6
02780	SM	LAST,75,10		05326	12	02615 000P5
02790	BNF	TYPEND+12, LAST,11		05338	44	03494 0261M
02800	TFM	CNT5,5,10		05350	16	02651 000-5
02810	BNR	IN0, LAST,11		05362	45	05382 0261M
02820	B	TYPEND+12		05374	49	03494 00000
02830	DORG	*-4		05381		
02840	IN8	SM CNT5,1,10		05382	12	02651 000-1
02850	BE	COM		05394	46	05426 01200
02860	AM	LAST,1,10		05406	11	02615 000-1
02870	B	BNR		05418	49	05362 00000
02880	DORG	*-4		05425		
02890	COM	C TRAIL+4, LAST,11		05426	24	07286 0261M
02900	RE	FINISP+36		05438	46	07254 01200
02910	B	TYPEND+12		05450	49	03494 00000
02920	DORG	*-3		05458		
02930	SAFDDA	DSC 2,22		05458		2
		22				
02940	DSA	SAFCF		05464		5 X 1
				05464		-5494
				05465		1
02950	DSC	1,1				
02960	FILDDA	DSC 2,22		05466		2
		22				
02970	DSA	FILAD		05472		5 X 1
				05472		-5474
				05473		1
02980	DSC	1,1				
				00004		0
02990	SENT	DS 1,4		05474		1
03000	FILAD	DSC 1,0				
		0				
03010	DC	5,0		05479		5
		-0000				
03020	DC	3,0		05482		3
		-00				
03030	DC	5,0		05487		5
		-0000				
03040	DSC	6,000000		05488		6
		000000				
03050	SAFCF	DSC 6,0		05494		6
		000000				
03060	DSC	3,1		05500		3
		001				
03070	DSA	SECTOR		05507		5 X 1
				05507		J8000
				05508		1
03080	DC	1,1				
				05510	14	13647 000M5
03090	TYPWRT	CM TYPE,45,10		05522	47	05686 01100
03100	BNH	SPECIAL		05534	16	06102 00-00
03110	TFM	COUNT,0,9		05546	16	05482 00-01
03120	TFM	FILAD+8,1,9		05558	16	05487 J9900
03130	TFM	FILAD+13,19900		05570	16	00565 -5593
03140	TFM	IORT,++23		05582	49	00566 -5466
03150	B	IOGT,FILDDA,7				

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1620 MONITOR 1		DUP ROUTINE	*DDUMP	PAGE		7
03160	RCTY			05594	34	00000 00102
03170	DNTY	19900		05606	35	19900 00100
03180	BTM	ERRDMP,++12		05618	17	06176 -5630
03190	AM	FILAD+5,1,10		05630	11	05479 000-1
03200	AM	COUNT,1,10		05642	11	06102 000-1
03210	C	COUNT,5C		05654	24	06102 13643
03220	BL	*-96		05666	47	05570 01300
03230	B	FINISP+36		05678	49	07254 00000
03240	DORG	*-3		05686		
03250	SPECIAL	CM TYPE,41,10		05686	14	13647 000M1
03260	RE	TYPA		05698	46	06518 01200
03270	RCTY			05710	34	00000 00102
03280	TFM	FILAD+8,32,9		05722	16	05482 00-32
03290	TFM	FILAD+13,EQUIV		05734	16	05487 J6000
03300	TFM	CNT2,0,9		05746	16	06100 00-00
03310	TFM	TFWRIT+11,EQUIV+11		05758	16	05841 J6011
03320	TFM	TFWRIT+62,EQUIV+12		05770	16	05892 J6012
03330	TFM	TFWRIT+79,EQUIV+15		05782	16	05909 J6015
03340	TFM	IORT,++23		05794	16	00565 -5817
03350	B	IOGT,FILDDA,7		05806	49	00566 -5466
03360	TFM	COUNT,0,10		05818	16	06102 000-0
03370	TFWRIT	TF NAMOUT+10,EQUIV+11		05830	26	06095 16011
03380	BNR	++20,TFWRIT+11,11		05842	45	05862 0584J
03390	B	FINISP+36		05854	49	07254 00000
03400	DORG	*-3		05862		
03410	WNTY	NAMOUT		05862	39	06085 00100
03420	SPTY			05874	34	00000 00101
03430	SF	EQUIV+12		05886	32	16012 00000
03440	TF	NUMOUT-1,EQUIV+15		05898	26	06082 16015
03450	WNTY	NUMOUT-4		05910	38	06079 00100
03460	SPTY			05922	34	00000 00101
03470	SPTY			05934	34	00000 00101
03480	AM	TFWRIT+11,16,10		05946	11	05841 000J6
03490	AM	TFWRIT+62,16,10		05958	11	05892 000J6
03500	AM	TFWRIT+79,16,10		05970	11	05909 000J6
03510	AM	COUNT,1,10		05982	11	06102 000-1
03520	CM	COUNT,5,10		05994	14	06102 000-5
03530	BL	TFWRIT		06006	47	05830 01300
03540	RCTY			06018	34	00000 00102
03550	A	CNT2,COUNT		06030	21	06100 06102
03560	CM	CNT2,200,9		06042	14	06100 00K00
03570	BL	TFWRIT-12		06054	47	05818 01300
03580	B	TFWRIT-72		06066	49	05758 00000
03590	NUMOUT	DC 6,000000		06083		6
		-00000				
03600	NAMOUT	DAC 7,000000		06085		7 X 2
		000000				
03610	CNT2	DC 3,0		06100		3
		-00				
03620	COUNT	DC 2,0		06102		2
		-0				
03630	TFM	DIMERR+22,0071,8		06104	16	06343 0-071
03640	ERRD	RCTY		06116	34	00000 00102
03650	TFM	IORT,++23		06128	16	00565 -6151
03660	B	IOPT,DATAT-4,7		06140	49	00532 -6312
03670	H			06152	48	00000 00000

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03680	B	MONCAL	06164	49	00796	00000
03690	ERRDMP	B1 **12,3600	06176	46	06188	03600
03700	B1	**12,3700	06188	46	06200	03700
03710	B1	**12,3800	06200	46	06212	03800
03720	B1	**20,1900	06212	46	06232	01900
03730	B	ERRDMP-1,,6	06224	49	0617N	00000
03740	DORG	**3	06232			
03750	RCTY		06232	34	00000	00102
03760	WATY	ERDUMP	06244	39	06277	00100
03770	H		06256	48	00000	00000
03780	B	ERRDMP-1,,6	06268	49	0617N	00000
03790	DORG	**3	06276			
03800	ERDUMP	DAC 18,DUP=ERROR IN DUMP*	06277		18 X	2
		DUP=ERROR IN DUMP*				
03810	DATAT	DSA DIMERR	06316		5 X	1
			06316		-6321	
03820	DC	3,06'	06319		3	
		-6'				
03830	DIMERR	DAC 13,DUP=ERROR 00*	06321		13 X	2
		DUP=ERROR 00*				
03840	IORT	DS ,565	00565		0	
03850	IOPT	DS ,532	00532		0	
03860	IOGT	DS ,566	00566		0	
03870	MONCAL	DS ,796	00796		0	
03880	CONTRU	DS 81,13613	13613		81 X	2
03890	DIMMER	TF CALC2,NEWDIM	06346	26	06501	07161
03900	A	CALC2,CALC2	06358	21	06501	06501
03910	TF	CALC3,N48000	06370	26	06496	06516
03920	A	CALC3,CALC2,,NEW DIM SECTOR ADDRESS	06382	21	06496	06501
03930	TF	DMREAD+13,DRESTR	06394	26	06489	06506
03940	TD	**23,CALC3	06406	25	06429	06496
03950	SM	DMREAD+12,0,10,ADJUST DIM READER S A	06418	12	06488	000-0
03960	TF	DMREAD+5,CALC3-1	06430	26	06481	06495
03970	TFM	IORT,**23	06442	16	00565	-6465
03980	B	IOGT,DMDDA,7	06454	49	00566	-6468
03990	BB		06466	42	00000	00000
04000	DORG	**9	06468			
04010	DMDDA	DSC 2,22	06468		2	
		22				
04020	DSA	DMREAD	06474		5 X	1
			06474		-6476	
04030	DSC	1,'	06475		1	
		'				
04040	DMREAD	DSC 1,0	06476		1	
		0				
04050	DC	5,0	06481		5	
		-0000				
04060	DC	3,1	06484		3	
		-01				
04070	DC	5,19900	06489		5	
		J9900				
04080	DSC	1,'	06490		1	
		'				
04090	CALC3	DC 6,0	06496		6	
		-00000				

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04100	CALC2	DC 5,0	06501		5	
		-0000				
04110	DRESTR	DC 5,19880	06506		5	
		J9880				
04120	TWICE	DC 4,0	06510		4	
		-000				
04130	N48000	DC 6,048000,,FIRST SECTOR OF DIM MAP	06516		6	
		-48000				
04140	TYPA	TFM NEWDIM,0004,8	06518	16	07161	0-004
04150	IDM	CONTRD+35,,11	06530	15	13648	0000-
04160	A	NEWDIM,CONTRD+36,,	06542	21	07161	13649
04170	BT	DIMMER,DIMMER-1	06554	27	06346	06345
04180	TD	DUMSY,19880	06566	25	07122	19880
04190	TD	DUMSY+1,19881	06578	25	07123	19881
04200	TFM	IORT,**23	06590	16	00565	-6613
04210	B	IOGT,DUMSW,7	06602	49	00566	-7114
04220	TFM	TYPSEC,,ZERO FIELD	06614	16	07141	-0000
04230	TFM	UPPER,10803	06626	16	07147	J0803
04240	TFM	LOWER,10800	06638	16	07152	J0800
04250	RCTY		06650	34	00000	00102
04260	CF	10700	06662	33	10700	00000
04270	TDM	10705,	06674	15	10705	00000
04280	DC	1,',*	06685		1	
		'				
04290	WNTY	10700	06686	38	10700	00100
04300	RCTY		06698	34	00000	00102
04310	UREAL	BNR **32,LOWER,11	06710	45	06742	0715K
04320	TDM	SYSCAL,3,,	06722	15	00475	00003
04330	B	MONCAL	06734	49	00796	00000
04340	DORG	**3	06742			
04350	SF	LOWER,,6	06742	32	0715K	00000
04360	TF	EXAMIN,UPPER,11	06754	26	07157	0714P
04370	CM	EXAMIN-3,7,1011	06766	14	07154	000-P
04380	BE	FORWAR	06778	46	07082	01200
04390	CM	EXAMIN-3,9,1011	06790	14	07154	000-R
04400	BE	NINIT	06802	46	06938	01200
04410	CM	EXAMIN,0001,8	06814	14	07157	0-001
04420	BE	TONY	06826	46	06918	01200
04430	C	EXAMIN,TWICE	06838	24	07157	06510
04440	BE	FORWAR	06850	46	07082	01200
04450	TF	TWICE,EXAMIN	06862	26	06510	07157
04460	TF	NEWDIM,EXAMIN	06874	26	07161	07157
04470	BT	DIMMER,DIMMER-1	06886	27	06346	06345
04480	A	TYPSEC,19888	06898	21	07141	19888
04490	B	FORWAR	06910	49	07082	00000
04500	DORG	**3	06918			
04510	TONY	AM TYPSEC,200,9	06918	11	07141	00K00
04520	B	FORWAR	06930	49	07082	00000
04530	DORG	**3	06938			
04540	NINIT	RCTY	06938	34	00000	00102
04550	CF	TYPSEC-4	06950	33	07137	00000
04560	WNTY	TYPSEC-4	06962	38	07137	00100
04570	SF	TYPSEC-4	06974	32	07137	00000
04580	SF	EXAMIN-2	06986	32	07155	00000
04590	A	TYPSEC,EXAMIN	06998	21	07141	07157
04600	SPTY		07010	34	00000	00101

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	1620 MONITOR 1	DUP ROUTINE	•DDUMP	PAGE	12
05370	DC 5,18430			07473	5
	J8430				
05380	DC 3,050			07476	3
	-30				
05390	DC 6,02500*			07482	6
	-2500*				
05400	TCD JACK			07412	
05410	DEND DUMP			02500	

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	1620 MONITOR 1	DUP ROUTINE	•DDUMP		PAGE	13
CONTRD	13613	ABI 04082	ERNF 04582	NAM 13635	TONY	06918
DIMERR	06321	AENT 00004	ERRD 06116	NINE 07468	TRAIL	07282
DIMMER	06346	AN 05166	E 02738	NINIT 06938	TR	05106
DMREAD	06476	B1 03026	FILAD 05474	NUMB 13643	TSXC	03586
DMRESTR	06506	B2 03106	FIN1 04138	OI 02647	TWICE	06510
DUMPCC	02604	BEGS 04894	FIND 05022	PAPER 03930	TYPA	06518
ENDTES	05314	BNR 05362	FOUND 04602	PAPST 03246	TYPE	13647
EQUINO	05482	CALC2 06501	FOUR 03422	PUN 07278	UPPER	07147
ERDUMP	06277	CALC3 06496	IN8 05382	RAIL 07287	UREAL	06710
ERRDMP	06176	CARD 04034	INIT 03342	RD 04410	XX	00000
EXAMIN	07157	CA 03190	IOD 13645	READ 03318	ZERO	07312
FILDDA	05466	CNT2 06100	IOGT 00566	RELLT 03566	SAFDDA	05458
FINISC	07162	CNT5 02651	IOPT 00532	RM 02737	SCTEST	03378
FINISP	07218	COMPE 04362	IORT 00565	SAL 13643	SECTOR	18000
FORWAR	07082	COR 05426	I 02758	SA2 13675	SEQUEN	02627
MARTAB	04800	CON1 07408	JACK 07412	SAFCF 05494	SPECAL	05686
MONCAL	00796	CONT 03094	L1 03434	SAV 02965	SYSICAL	00475
N48000	06516	COUNT 06102	LAST 02615	SC 13643	TFWRIT	05830
NAROUT	06085	DATAT 06316	LODP3 04478	SENT 00004	TYPEND	03482
NEWDIR	07161	DMDDA 06468	LOOP 02736	SETUP 03282	TYPSEC	07141
NUMOUT	06083	DUMP 02500	LORH 02906	SPL 02778	TYPWRT	05510
A10	03446	DUMSW 07114	LOWER 07152	STFLG 04670	ZERO12	07299
A1	03654	DUMSY 07122	L 04634	TD3 03954		
A2	03770	EENT 00002	MCS 17778	TD 05190		
A3	03814	EQUIV 16000	MENT 00003	TEMAP 04974		
A4	03882	ERNAP 05294	NAME 04278	TEN 07460		

END OF ONE ASSEMBLY.

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00010 ***
00020 ***
00030 *** SUBROUTINES- DIMMER,GETR,GETL,REMOVE,INSERT,FIND
00040 *** THIS VERSION OPERATES WITH THE SPL ALWAYS IN CORE TIL JUST
00050 *** BEFORE THE RETURN TO THE MONITOR
00060 ***
00070 ***
00080 DORG 2458
00090 IOPT DS ,532
00100 IOGT DS ,566
00110 IORT DS ,565
00120 DIMMTR TF CALC2,NEWDIM
00130 A CALC2,CALC2
00140 TF CALC3,N48000
00150 A CALC3,CALC2,,NEW DIM SECTOR ADDRESS
00160 TF DMREAD*13,DRESTR
00170 TD **23,CALC3
00180 SM DMREAD*12,0,10,ADJUST DIM READER S A
00190 TF DMREAD*5,CALC3-1
00200 TFM IORT,**23
00210 B IOGT,DMDDA,7
00220 BB
00230 DORG 0-9
00240 DMDDA DSC 2,22,,DDA FOR DIMMER-READS ONE SECTOR
22
00250 DSA DMREAD
02458
00532 0
00566 0
00565 0
02458 26 02613 09649
02470 21 02613 02613
02482 26 02608 02624
02494 21 02608 02613
02506 26 02601 02618
02518 25 02541 02608
02530 12 02600 000-0
02542 26 02593 02607
02554 16 00565 -2577
02566 49 00566 -2580
02578 42 00000 00000
02580
02580 2
02586 5 X 1
02586 -2588
02587 1
02588 1
02593 5
02596 3
02601 5
02602 1
02608 6
02613 5
02618 5
02624 6
02627 3
02628 2
02634 5 X 1
02634 -2636
02635 1
00260 DSC 1,'
00270 DMREAD DSC 1,0
0
00280 DC 5,0
-0000
00290 DC 3,1
-01
00300 DC 5,19900
J9900
00310 DSC 1,'
00320 CALC3 DC 6,0
-00000
00330 CALC2 DC 5,0
-0000
00340 DRESTR DC 5,19880,,RESTORES CORE ADDRESS FOR DIM DDA
J9880
00350 N48000 DC 6,048000,,FIRST SECTOR OF DIM MAP
-48000
00360 CORSIZ DC 3,080,, THE PRESENT LENGTH OF THE SPL
-80
00370 THRDDA DSC 2,02,, DDA FOR SAVING CORE WHEN MOVING THE EQV. TABLE
02
00380 DSA THROWS
00390 DSC 1,'

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00400 THROWS DSC 1,0
0
00410 DC 5,02000
-2000
00420 DC 3,100
J00
00430 DC 5,09800
-9800
00440 DSC 1,'
00450 DIMERR DAC 13,DUP*ERROR 00'
DUP*ERROR 00'
00460 TFM DIMERR*22,0071,8
00470 ERRO RCTY
00480 MATY DIMERR
00490 H
00500 B 796,,MONCAL
00510 DORG 0-3
00520 PKODDA DSC 2,22,, DDA FOR SPL ON MODULE ZERO
22
00530 DSA SPLPKO
02636 1
02641 5
02644 3
02649 5
02650 1
02653 13 X 2
02678 16 02675 0-071
02690 34 00000 00102
02702 39 02653 00100
02714 48 00000 00000
02726 49 00796 00000
02734
02734 2
02740 5 X 1
02740 -2742
02741 1
02742 1
02747 5
02750 3
02755 5
02756 1
02757 2
02763 5 X 1
02763 -2765
02764 1
02765 1
02770 5
02773 3
02778 5
02779 1
02780 2
02786 5 X 1
00540 DSC 1,'
00550 SPLPKO DSC 1,1
1
00560 DC 5,19801
J9801
00570 DC 3,100
J00
00580 DC 5,09800
-9800
00590 DSC 1,'
00600 PKIDDA DSC 2,22,, DDA FOR SPL ON MODULE ONE
22
00610 DSA SPLPK1
00620 DSC 1,'
00630 SPLPK1 DSC 1,3
3
00640 DC 5,39801
L9801
00650 DC 3,100
J00
00660 DC 5,09800
-9800
00670 DSC 1,'
00680 PK2DDA DSC 2,22,, DDA FOR SPL ON MODULE TWO
22
00690 DSA SPLPK2

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00700	DSC 1,'	02786	-2788
	'	02787	1
00710 SPLPK2	DSC 1,5	02788	1
	'		
00720	DC 5,59801	02793	5
	M9801		
00730	DC 3,100	02796	3
	J00		
00740	DC 5,09800	02801	5
	-9800		
00750	DSC 1,'	02802	1
	'		
00760 PK3DDA	DSC 2,22,, DDA FOR SPL ON MODULE THREE	02803	2
	Z2		
00770	DSA SPLPK3	02809	5 X 1
00780	DSC 1,'	02809	-2811
	'	02810	1
00790 SPLPK3	DSC 1,7	02811	1
	'		
00800	DC 5,79801	02816	5
	P9801		
00810	DC 3,100	02819	3
	J00		
00820	DC 5,09800	02824	5
	-9800		
00830	DSC 1,'	02825	1
	'		
00840 CLEVER	DC 2,0	02827	2
	-0		
00850 BAVAIL	DC 3,0,,OTAL BLANKS FOUND IN MOVE	02830	3
	-00		
00860 FOUND	DC 5,0,,FINDS SECTOR TOTAL	02835	5
	-0000		
00870 ADRSPL	DC 5,0 ,, ADDRESS OF THE SPLIST CORE SEARCH POINT	02840	5
	-0000		
00880 SPLCYL	DC 5,0,,CYLINDER SPL	02845	5
	-0000		
00890 SPLCOR	DC 5,0,,DIM ADDRESS SPL	02850	5
	-0000		
00900 REPACK	DC 2,0	02852	2
	-0		
00910 UNPACK	DC 2,0	02854	2
	-0		
00920	DC 1,0,,PACK CONTINUED	02855	1
	-		
00930 PACK	DC 1,9,,PACK NUM FOR SPLIST	02856	1
	R		
00940	DC 1,'	02857	1
	'		
00950 CALC9	DC 6,0	02863	6
	-00000		
00960 CALC4	DC 4,0,, CALCULATION AREA	02867	4
	-000		

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00970 HEX	DSC 1,0	02868	1
	0		
00980 CONST1	DC 6,0,,WORK AREAS	02874	6
	-00000		
00990 CONST2	DC 6,0,,	02880	6
	-00000		
01000 QCARRY	DC 6,0,,WHERE TO LOAD NEXT MOVED SECTORS	02886	6
	-00000		
01010 QHOLD	DC 6,0	02892	6
	-00000		
01020 CONST5	DC 6,0	02898	6
	-00000		
01030 CONST6	DC 6,0	02904	6
	-00000		
01040 CONST7	DC 6,0	02910	6
	-00000		
01050 RACKET	DC 4,0,, ACCUMULATES 200 SECTORS FOR A CYLINDER	02914	4
	-000		
01060 STEAL	DC 4,0	02918	4
	-000		
01070 CALC7	DC 3,0	02921	3
	-00		
01080 FAKSEV	DC 4,0,, HAS SEVEN FROM LISTER	02925	4
	-000		
01090 COMMON	DC 1,0	02926	1
	-		
01100 NOMMON	DC 2,0	02928	2
	-0		
01110 NOSECA	DC 1,0	02929	1
	-		
01120 CONST8	DC 5,0	02934	5
	-0000		
01130 ERRRIIT	TFM DIMERR+22,7179,8	02936	16 02675 0P179
01140	B ERRO	02948	49 02690 00000
01150	DORG *-3	02956	
01160	***		
01170	*** SUBROUTINE-GETR SHIFTS ONE TO RIGHT IN SPL		
01180	***		
01190	GETRTR TF CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	02956	26 02613 02850
01200	AM SPLCOR,04,10, LEFT END NEW ENTRY	02968	11 02850 000-4
01210	SF SPLCOR,,6,NEW FLAG	02980	32 0285- 00000
01220	AM CALC2,07,10,RIGHT END OF NEW ENTRY	02992	11 02613 000-7
01230	TF LISTER,CALC2,11	03004	26 09654 0261L
01240	CF SPLCOR,,6	03016	33 0285- 00000
01250	BB	03028	42 00000 00000
01260	DORG *-9	03030	
01270	***		
01280	*** SUBROUTINE-GETL SHIFTS ONE TO LEFT IN THE SPL		
01290	***		
01300	GETLTR TF CALC2,SPLCOR	03030	26 02613 02850
01310	SM SPLCOR,04,10,FELT END OF NEW ENTRY	03042	12 02850 000-4
01320	SF SPLCOR,,6,	03054	32 0285- 00000
01330	SM CALC2,01,10,RIGHT END NEW ENTRY	03066	12 02613 000-1
01340	TF LISTER,CALC2,11	03078	26 09654 0261L
01350	CF SPLCOR,,6	03090	33 0285- 00000
01360	BB	03102	42 00000 00000

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01370	DORG --9		03104			
01380	***					
01390	*** SUBROUTINE-REMOVE	REMOVES AN ENTRY FROM SPL				
01400	***					
01410	REMOTR TF	CALC2,SPLCOR	03104	26	02613	02850
01420	AM	CALC2,04,10,	03116	11	02613	000-4
01430	TR	SPLCOR,CALC2,611,CLOSES HOLE	03128	31	0285-	0261L
01440	SF	SPLCOR,,6	03140	32	0285-	00000
01450	SM	CALC2,01,10	03152	12	02613	000-1
01460	TF	LISTER,CALC2,11	03164	26	09654	0261L
01470	CF	SPLCOR,,6	03176	33	0285-	00000
01480	BR		03188	42	00000	00000
01490	DORG --9		03190			
01500	***					
01510	*** SUBROUTINE-INSERT	INSERTS AN ENTRY IN THE SPL				
01520	***					
01530	INSETR SF	SPLCOR,,6	03190	32	0285-	00000
01540	TFM	**35,09800,7	03202	16	03237	-9800
01550	AM	**23,04,10	03214	11	03237	000-4
01560	TIPSY RNR	**12,99999,, FINDS RECORD MARK IN SPL	03226	45	03214	99999
01570	TF	CONST2,TIPSY*11	03238	26	02880	03237
01580	AM	CONST2,04,10	03250	11	02880	000-4
01590	TF	CONST3,CONST2,,	03262	26	05130	02880
01600	SM	CONST3,09800,7	03274	12	05130	-9800
01610	C	CONST3-2,CORSIZ,, IS THERE ROOM FOR ANOTHER ENTRY	03286	24	05128	02627
01620	BI	NERR	03298	47	03354	01300
01630	RCTY		03310	34	00000	00102
01640	WNTY	PACK	03322	38	02854	00100
01650	TFM	DIMERR+22,7178,8, THE SPL IS FULL MESSAGE	03334	16	02675	0P178
01660	B	ERRD	03346	49	02690	00000
01670	DORG --3		03354			
01680	NERR TF	CONST2,TIPSY*11,611, OPENS A HOLE IN THE LIST	03354	26	0288-	0323P
01690	TF	CALC2,SPLCOR	03366	26	02613	02850
01700	AM	CALC2,03,10	03378	11	02613	000-3
01710	TF	CALC2,LISTER,6	03390	26	0261L	09665
01720	CF	SPLCOR,,6,	03402	33	0285-	00000
01730	AM	SPLCOR,4,10,	03414	11	02850	000-4
01740	CF	SPLCOR,,6	03426	33	0285-	00000
01750	BR		03438	42	00000	00000
01760	DORG --9		03440			
01770	***					
01780	*** SUBROUTINE-FIND	GIVEN A SECTOR ADDRESS THE LISTER				
01790	***	IS INITIALIZED TO COVER THAT ADDRESS				
01800	***					
01810	FINDTR CF	LISTES-4	03440	33	09657	00000
01820	SF	LISTES-5	03452	32	09656	00000
01830	TF	19885,LISTES,,ACCEPTS SECTOR ARGUMENT	03464	26	19885	09661
01840	B	SPLIST	03476	49	03956	00000
01850	DORG --3		03484			
01860	SPLXTR MM	SPLCOR,200,69, RETURNS WITH CYLINDER IN LISTER	03484	13	0285-	00K00
01870	SF	95	03496	32	00095	00000
01880	TF	ADRSP,99	03508	26	02840	00099
01890	SM	ADRSP,01,10	03520	12	02840	000-1
01900	MM	LISTES-4,05,10	03532	13	09657	000-5
01910	TDM	LISTES-4,1,11	03544	15	09657	0000J
01920	BD	**24,99	03556	43	03580	00099

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01930	TDM	LISTES-4,0,11	03568	15	09657	0000-
01940	SM	SPLCOR,03,10,SET AT HIGH ORDER OF LIST IN CORE	03580	12	02850	000-3
01950	CF	SPLCOR,,6	03592	33	0285-	00000
01960	TRYAGN TF	CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	03604	26	02613	02850
01970	AM	SPLCOR,04,10, LEFT END NEW ENTRY	03616	11	02850	000-4
01980	SF	SPLCOR,,6,NEW FLAG	03628	32	0285-	00000
01990	AM	CALC2,07,10,RIGHT END OF NEW ENTRY	03640	11	02613	000-7
02000	TF	LISTER,CALC2,11	03652	26	09654	0261L
02010	CF	SPLCOR,,6	03664	33	0285-	00000
02020	CM	LISTER-3,9,1011	03676	14	09651	000-R
02030	BE	ADDBLK	03688	46	03912	01200
02040	CM	LISTER,0001,8, IF WORK AREA EXIT	03700	14	09654	0-001
02050	BE	PLUSSR+24	03712	46	03892	01200
02060	TF	NEWDIM,LISTER	03724	26	09649	09654
02070	BT	DIMMER,DIMMER-1	03736	27	09600	09599
02080	TDM	19880,0,11	03748	15	19880	0000-
02090	MM	19881,05,1011	03760	13	19881	000-N
02100	TDM	19881,1,11	03772	15	19881	0000J
02110	BD	**24,99,, MATCH-UP THE TENTHUSANDS POSITION	03784	43	03808	00099
02120	TDM	19881,0,11	03796	15	19881	0000-
02130	SM	19885,01,10	03808	12	19885	000-1
02140	S	19885,ADRSP	03820	22	19885	02840
02150	BE	**24	03832	46	03856	01200
02160	A	ADRSP,19885,,SUBTRACTS THE BACKFLOW	03844	21	02840	19885
02170	A	ADRSP,19888,,ADD THE SECTOR COUNT TO SECTOR POSITION	03856	21	02840	19888
02180	PLUSSR C	ADRSP,LISTES	03868	24	02840	09661
02190	BL	TRYAGN	03880	47	03604	01300
02200	TF	FOUND,ADRSP	03892	26	02835	02840
02210	B	GOONY	03904	49	09638	00000
02220	DORG --3		03912			
02230	ADDBLK SF	LISTER-2,, ADD THE BLANK SECTOR COUNT	03912	32	09652	00000
02240	***					
02250	***	ROUTINE FOR LOCATING THE CORRECT SPL IN CORE AND				
02260	***	DIRECTING THE LISTER TO THE CORRECT CYLINDER ENTRY				
02270	***					
02280	A	ADRSP,LISTER	03924	21	02840	09654
02290	CF	LISTER-2	03936	33	09652	00000
02300	B	PLUSSR	03948	49	03868	00000
02310	DORG --3		03956			
02320	SPLIST TDM	19880,,11,FLAG ZERO	03956	15	19880	0000-
02330	MM	19885,05,10	03968	13	19885	000-5
02340	SF	94,,DESIRED CYLINDER	03980	32	00094	00000
02350	SF	93	03992	32	00093	00000
02360	TD	STARDY+10,95	04004	25	04174	00095
02370	TU	STARDY+11,96	04016	25	04175	00096
02380	TF	REPACK,94	04028	26	02852	00094
02390	MM	LISTES-5,05,10	04040	13	09656	000-5
02400	BD	**32,99,,SIGNIFICANT OVERRIDE CODE	04052	43	04084	00099
02410	TF	94,REPACK	04064	26	00094	02852
02420	B	REDSPL	04076	49	04220	00000
02430	DORG --3		04084			
02440	MM	LISTES-5,50000,7, GENERATE PROPER MODULE FROM OVERRIDE CODE	04084	13	09656	00000
02450	SF	94	04096	32	00094	00000
02460	B	REDSPL	04108	49	04220	00000
02470	DORG --3		04116			
02480	SPLINI TFM	ADRSP,09800	04116	16	02840	-9800

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02490	CLUCK	SF	ADRSPL,,6	04128	32	0284-	00000
02500		TF	SPLCOR,ADRSPL	04140	24	02850	02840
02510		AM	SPLCOR,03,10	04152	11	02850	000-3
02520	STARDT	CM	SPLCOR,7000,68, FIND THE CORRECT CYLINDER ENTRY	04164	14	0285-	0P000
02530		BE	SPLXLT	04176	46	03484	01200
02540		CF	ADRSPL,,6	04188	33	0284-	00000
02550		AM	ADRSPL,04,10	04200	11	02840	000-4
02560		B	CLUCK	04212	49	04128	00000
02570		DDRG	*-3	04220			
02580	***		ROUTINE TO WRITE BACK LIST ALREADY IN CORE IF NECESSARY				
02590	REDSPL	C	94,PACK	04220	24	00094	02856
02600		BE	SPLINI	04232	46	04116	01200
02610		CM	PACK,09,1011,FIRST TRIP	04244	14	02856	000-R
02620		TF	UNPACK,94	04256	26	02854	00094
02630		BE	SPORT	04268	46	04480	01200
02640		CM	PACK,00,1011, PACK ZERO	04280	14	02856	000--
02650		BE	WRTSPO	04292	46	04360	01200
02660		CM	PACK,01,1011,PACK ONE	04304	14	02856	000-J
02670		BE	WRTSP1	04316	46	04392	01200
02680		CM	PACK,02,1011, PACK TWO	04328	14	02856	000-K
02690		BE	WRTSP2	04340	46	04424	01200
02700		B	WRTSP3,,, PACK THREE	04352	49	04456	00000
02710		DDRG	*-3	04360			
02720	WRTSPO	TFM	IDRT,**23	04360	16	00565	-4383
02730		B	IDPT,PKODDA,7	04372	49	00532	-2734
02740		B	SPORT	04384	49	04480	00000
02750		DDRG	*-3	04392			
02760	WRTSP1	TFM	IDRT,**23	04392	16	00565	-4415
02770		B	IDPT,PKIDDA,7	04404	49	00532	-2757
02780		B	SPORT	04416	49	04480	00000
02790		DDRG	*-3	04424			
02800	WRTSP2	TFM	IDRT,**23	04424	16	00565	-4447
02810		B	IDPT,PKZDDA,7	04436	49	00532	-2780
02820		B	SPORT	04448	49	04480	00000
02830		DDRG	*-3	04456			
02840	WRTSP3	TFM	IDRT,**23	04456	16	00565	-4479
02850		B	IDPT,PK3DDA,7	04468	49	00532	-2803
02860	***		ROUTINE TO BRING IN DESIRED SPL IF NOT ALREADY IN CORE				
02870	SPORT	TF	PACK,UNPACK,,SAVE PACK NUM	04480	26	02856	02854
02880		TD	CLEVER,LISTES-4	04492	25	02827	09657
02890		SF	CLEVER	04504	32	02827	00000
02900		MM	LISTES-4,05,10	04516	13	09657	000-5
02910		BD	**24,99	04528	43	04552	00099
02920		SM	CLEVER,01,10	04540	12	02827	000-1
02930		CM	PACK,0,1011, PACK ZERO	04552	14	02856	000--
02940		BE	REDSPO	04564	46	04668	01200
02950		CM	PACK,1,1011, PACK ONE	04576	14	02856	000-J
02960		BE	REDSPI	04588	46	04712	01200
02970		CM	PACK,2,1011, PACK TWO	04600	14	02856	000-K
02980		BE	REDSPI2	04612	46	04756	01200
02990	REDSPI3	TD	SPLPK3+1,CLEVER	04624	25	02812	02827
03000		TFM	IDRT,**23	04636	16	00565	-4459
03010		B	IDGT,PK3DDA,7	04648	49	00566	-2803
03020		B	SPLINI	04660	49	04116	00000
03030		DDRG	*-3	04668			
03040	REDSPO	TD	SPLPK0+1,CLEVER	04668	25	02743	02827

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03050		TFM	IDRT,**23	04680	16	00565	-4703
03060		B	IDGT,PKODDA,7	04692	49	00566	-2734
03070		B	SPLINI	04704	49	04116	00000
03080		DDRG	*-3	04712			
03090	REDSPI	TD	SPLPK1+1,CLEVER	04712	25	02766	02827
03100		TFM	IDRT,**23	04724	16	00565	-4747
03110		B	IDGT,PKIDDA,7	04736	49	00566	-2757
03120		B	SPLINI	04748	49	04116	00000
03130		DDRG	*-3	04756			
03140	REDSPI2	TD	SPLPK2+1,CLEVER	04756	25	02789	02827
03150		TFM	IDRT,**23	04768	16	00565	-4791
03160		B	IDGT,PKZDDA,7	04780	49	00566	-2780
03170		B	SPLINI	04792	49	04116	00000
03180		DDRG	*-3	04800			
03190	***		ROUTINE TO LOAD THE SACRED SIX TO DISK WHEN LOADING FROM CARDS				
03200	SPLFL	TFM	IDRT,**23	04800	16	00565	-4823
03210		B	IDPT,SPLR2,7	04812	49	00532	-4863
03220		TRA		04824	36	00000	00500
				04836	49	00000	00000
03230	SPLR1	DSC	1,1	04848			1
03240		DC	5,19338	04853			5
			J9338				
03250		DC	3,025	04856			3
			-25				
03260		DC	5,02458	04861			5
			-2458				
03270		DSC	1,1	04862			1
03280	SPLR2	DSC	2,22	04863			2
			22				
03290		DSA	SPLR1	04869			5 X 1
03300		DSC	1,1	04869			-4848
				04870			1
03310		TCD	SPLFL	04800			
03320	***						
03330	*		DDDD EEEEE FFFF III N N EEEEE				
03340	*		D DD E F I NN N E				
03350	*		D D EEEE FFFF I NN N EEEE				
03360	*		D DD E F I NN N E				
03370	*		DDDD EEEEE F III N N EEEEE				
03380	***						
03390	***		THE DEFINE PROGRAM FOR REDEFINING THE SYSTEM PARAMETERS				
03400	***						
03410		DDRG	5000	05000			
03420		TDM	13775,00000	05000	15	13775	00000
03430		DC	1,1,1	05011			1
03440		TR	9336,13612,, TRANSMIT THE DEFINE CONTROL CARD	05012	31	09336	13612
03450		TFM	IDRT,**23	05024	16	00565	-5047
03460		B	IDGT,SLIPRY,7, BRING IN THE SECONDARY LINKAGE	05036	49	00566	-5056
03470		B	DFINE	05048	49	05174	00000
03480		DDRG	*-3	05056			

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03490	SLIPRY	DSC 2,22,,	DDA FOR THE SACRED SIX SECONDARY LINKAGE	05056	2
03500	DSA	TABC		05062	5 X 1
03510	DC	1,'		05062	-5064
				05063	1
03520	TABC	DSC 1,1		05064	1
03530	DC	5,18197		05069	5
		J8197			
03540	DC	3,003		05072	3
		-03			
03550	DC	6,09500'		05078	6
		-9500'			
03560	TRWSLD	DSC 2,22,,	DDA FOR SHIFTING THE EQUIVALENCE LIST	05079	2
03570	DSA	SLDEQV		05085	5 X 1
03580	DC	1,'		05085	-5087
				05086	1
03590	SLDEQV	DSC 1,0		05087	1
03600	DC	5,0		05092	5
		-0000			
03610	DC	3,060		05095	3
		-60			
03620	DC	5,09800		05100	5
		-9800			
03630	DC	1,'		05101	1
03640	TRWLD	DSC 2,02,,	DDA FOR SHIFTING THE EQUIVALENCE LIST	05102	2
03650	DSA	TLDEQV		05108	5 X 1
03660	DC	1,'		05108	-5110
				05109	1
03670	TLDEQV	DSC 1,0		05110	1
03680	DC	5,0		05115	5
		-0000			
03690	DC	3,060		05118	3
		-60			
03700	DC	5,09800		05123	5
		-9800			
03710	DC	1,'		05124	1
03720	CONST3	DC 6,0		05130	6
		-00000			
03730	ZEROES	DC 10,0		05140	10
		-000000000			
03740	DSC	2,0,,	EXTENSION OF ZEROES	05141	2
		00			
03750	CURREN	DC 3,0		05145	3
		-00			

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	10
03760	LIMIT	DC 3,099		05148	3
		-99			
03770	KEYS	DSC 1,0		05149	1
		0			
03780	DUPCRD	DSS 162,9337		09337	162
03790	SARB	DSC 2,22,,	DDA FOR COMMUNICATION SECTOR ON DISK	05150	2
		22			
03800	DSA	SARC		05156	5 X 1
03810	DC	1,'		05156	-5158
				05157	1
03820	SARC	DSC 1,1		05158	1
03830	DC	5,19639		05163	5
		J9639			
03840	DC	3,001		05166	3
		-01			
03850	DSA	DFINE		05171	5 X 1
03860	DC	1,'		05171	-5174
				05172	1
03870	DFINE	TFM NEWDIM,0004,8		05174	16 09649 0-004
03880	BT	DIMMER,DIMMER-1		05186	27 09600 09599
03890	TF	CORSIZ,19888		05198	26 02627 19888
03900	TD	CALC9,DUPCRD+22,,	STARTING SECTOR FOR WORK AREA	05210	25 02863 09359
03910	TD	CALC9-1,DUPCRD+20		05222	25 02862 09357
03920	TD	CALC9-2,DUPCRD+18		05234	25 02861 09355
03930	TD	CALC9-3,DUPCRD+16		05246	25 02860 09353
03940	TD	CALC9-4,DUPCRD+14		05258	25 02859 09351
03950	TD	CALC9-5,DUPCRD+12		05270	25 02858 09349
03960	SF	CALC9-5		05282	32 02858 00000
03970	SF	DUPCRD+11		05294	32 09348 00000
03980	C	DUPCRD+22,ZEROES+2,,	WAS THIS FIELD BLANK	05306	24 09359 05142
03990	BNE	SANDOR		05318	47 05402 01200
04000	TFM	NEWDIM,0001,8		05330	16 09649 0-001
04010	BT	DIMMER,DIMMER-1,,	BRING IN WORK AREA DIM	05342	27 09600 09599
04020	TF	CALC9,19885		05354	26 02863 19885
04030	CF	CALC9-4		05366	33 02859 00000
04040	TD	CALC9-5,19880		05378	25 02858 19880
04050	SF	CALC9-5		05390	32 02858 00000
04060	SANDOR	MM CALC9,05,9,USED FOR CYLINDER NUMBER ALSO		05402	13 02863 00-05
04070	BD	ERROR1,97,,	IS START OF SCRATCH AT BEGINNING OF CYLINDER	05414	43 05698 00097
04080	BD	ERROR1,98,,		05426	43 05698 00098
04090	BD	ERROR1,99,,		05438	43 05698 00099
04100	LENSCT	TD CALC4-1,DUPCRD+30,,	NUMBER OF CYLINDERS REQUESTED	05450	25 02866 09367
04110	TD	CALC4-2,DUPCRD+28		05462	25 02865 09365
04120	TD	CALC4-3,DUPCRD+26		05474	25 02864 09363
04130	SF	CALC4-2		05486	32 02865 00000
04140	SF	DUPCRD+25		05498	32 09362 00000
04150	C	DUPCRD+30,ZEROES+4,,	WAS THIS FIELD BLANK	05510	24 09367 05136
04160	BNE	ENUFF		05522	47 06026 01200
04170	C	DUPCRD+22,ZEROES+2		05534	24 09359 05142
04180	BE	ESOR		05546	46 06930 01200
04190	TFM	NEWDIM,0001,8		05558	16 09649 0-001

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04200	BT	DIMMER,DIMMER-1	05570	27	09600	09599
04210	TF	CALC4-1,19880,, SAVE OLD CYLINDER COUNT	05582	26	02866	19888
04220	SF	CALC4-2	05594	32	02865	00000
04230	PKROOM	TF CURREN,LIMIT	05606	26	05145	05148
04240	SF	CURREN-1	05618	32	05144	00000
04250	SF	95	05630	32	00095	00000
04260	S	CURREN,96,, TO FIND ALLOWABLE CYLINDERS LEFT	05642	22	05145	00096
04270	C	CALC4-1,CURREN	05654	24	02866	05145
04280	BNH	ROMENF	05666	47	05718	01100
04290	TFM	DIMERR+22,7173,8	05678	16	02675	0P173
04300	B	ERRD	05690	49	02690	00000
04310	DORG	*-3	05698			
04320	ERROR1	TFM DIMERR+22,7172,8	05698	16	02675	0P172
04330	B	ERRD	05710	49	02690	00000
04340	DORG	*-3	05718			
04350	**	WILL THERE BE ENOUGH ROOM TO MOVE THE WORKING AREA				
04360	ROMENF	TF LISTES,CALC9	05718	26	09661	02863
04370	TFM	RLGONE+30,**+20	05730	16	09644	-5750
04380	B	FIND	05742	49	09540	00000
04390	DORG	*-3	05750			
04400	TFM	ADRSPL,00,10	05750	16	02840	000-0
04410	SCRASN	CM LISTER,9200,8, IS THIS AREA AVAILABLE	05762	14	09654	0R200
04420	BE	*+36	05774	46	05810	01200
04430	CM	LISTER,0001,8	05786	14	09654	0-001
04440	BNE	ERR23	05798	47	06282	01200
04450	AM	ADRSPL,01,10	05810	11	02840	000-1
04460	C	ADRSPL,CALC4-1,, HAVE ENOUGH CYLINDERS BEEN FOUND	05822	24	02840	02866
04470	BE	FIXEQV	05834	46	05878	01200
04480	BT	GETR,GETR-1	05846	27	09520	09519
04490	BT	GETR,GETR-1	05858	27	09520	09519
04500	H	SCRASN	05870	49	05762	00000
04510	DORG	*-3	05878			
04520	FIXEQV	TFM NEWDIM,1,8,SCRATCH ENTRY	05878	16	09649	0-001
04530	BT	DIMMER,DIMMER-1	05890	27	09600	09599
04540	TF	LISTES,19885	05902	26	09661	19885
04550	TD	LISTES-5,19880	05914	25	0656	19880
04560	TFM	RLGONE+30,**+20	05926	16	09644	-5946
04570	B	FIND	05938	49	09540	00000
04580	DORG	*-3	05946			
04590	TFM	LISTET,9200,8	05946	16	09665	0R200
04600	DOC	CM LISTER,0001,8, IS THERE MORE WORK AREA TO ERASE	05958	14	09654	0-001
04610	BNE	SLEPPY	05970	47	06074	01200
04620	BT	REMOVE,REMOVE-1	05982	27	09560	09559
04630	BT	INSERT,INSERT-1	05994	27	09580	09579
04640	BT	GETR,GETR-1	06006	27	09520	09519
04650	B	DOC	06018	49	05958	00000
04660	DORG	*-3	06026			
04670	ENUFF	CM CALC4-1,11,10, ARE THERE LESS THAN ELEVEN CYLINDERS DESIRED	06026	14	02866	000J1
04680	RNL	PKROOM	06038	46	05606	01300
04690	TFM	DIMERR+22,7078,8	06050	16	02675	0P078
04700	B	ERRD	06062	49	02690	00000
04710	SLEPPY	TFM LISTET,0001,8	06074	16	09665	0-001
04720	TF	LISTES,CALC9	06086	26	09661	02863
04730	TFM	RLGONE+30,**+20	06098	16	09644	-6118
04740	B	FIND,, WHERE THE NEW WORK AREA WILL BEGIN	06110	49	09540	00000
04750	DORG	*-3	06118			

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04760	TF	ADRSPL,CALC4-1	06118	26	02840	02866
04770	CM	LISTER,9200,8	06130	14	09654	0R200
04780	BNE	ERR23	06142	47	06282	01200
04790	LUCKY	BT REMOVE,REMOVE-1	06154	27	09580	09579
04800	BT	INSERT,INSERT-1,, STUFF IN THE NEW WORK AREA	06166	27	09580	09579
04810	SM	ADRSPL,01,10	06178	12	02840	000-1
04820	CM	ADRSPL,00,10	06190	14	02840	000-0
04830	BNH	FIXSUP	06202	47	06302	01100
04840	LOUNGE	CM LISTER,9200,8	06214	14	09654	0R200
04850	BE	LUCKY	06226	46	06154	01200
04860	CM	LISTER-3,7,1011	06238	14	09651	000-P
04870	BNE	ERR23	06250	47	06282	01200
04880	BT	GETR,GETR-1	06262	27	09520	09519
04890	B	LOUNGE	06274	49	06214	00000
04900	DORG	*-3	06282			
04910	ERR23	TFM DIMERR+22,7173,8	06282	16	02675	0P173
04920	B	ERRD	06294	49	02690	00000
04930	DORG	*-3	06302			
04940	FIXSUP	TFM IORT,**+23,, LET IORT IN ON THE SECRET	06302	16	00565	-6325
04950	B	IOGT,SARB,7	06314	49	00566	-5150
04960	TF	00425,CALC9-2,, WORK AREA CHANGED IN COMMUNICATION AREA	06326	26	00425	02861
04970	SF	00423	06338	32	00423	00000
04980	CF	00422	06350	33	00422	00000
04990	TF	DFINE+23,CALC9-2	06362	26	05197	02861
05000	SF	DFINE+21	06374	32	05195	00000
05010	CF	DFINE+20	06386	33	05194	00000
05020	TFM	IORT,**+23	06398	16	00565	-6421
05030	B	IOPT,SARB,7	06410	49	00532	-5150
05040	NUMMOD	TFM NEWDIM,0001,8, LET THE DIM TABLE IN ON OUR SECRET	06422	16	09649	0-001
05050	BT	DIMMER,DIMMER-1	06434	27	09600	09599
05060	TF	19885,CALC9	06446	26	19885	02863
05070	SF	19881	06458	32	19881	00000
05080	CF	19880	06470	33	19880	00000
05090	TF	19888,CALC4-1	06482	26	19888	02866
05100	CF	19887	06494	33	19887	00000
05110	TFM	IORT,**+23	06506	16	00565	-6529
05120	B	IOPT,DMDDA,7	06518	49	00532	-2580
05130	ESOR	SF DUPCRD+33,, HOW ARE WE FIXED FOR NUMBER OF MODULES	06530	32	09370	00000
05140	CM	DUPCRD+34,00,10	06542	14	09371	000-0
05150	BE	AAA	06554	46	06660	01200
05160	TD	CURREN-1,DUPCRD+34,, THERE WAS SOMETHING THERE	06566	25	05144	09371
05170	CM	CURREN-1,04,10, IS MODULE NUM 4 OR LESS	06578	14	05144	000-4
05180	BH	*+36	06590	46	06626	01100
05190	CM	CURREN-1,01,10	06602	14	05144	000-1
05200	BNL	AAA	06614	46	06660	01300
05210	TFM	DIMERR+22,7171,8	06626	16	02675	0P171
05220	B	ERRD	06638	49	02690	00000
05230	DORG	*-3	06646			
05240	NEWTOT	DC 4,0	06649			
	-000					
05250	OLDTOT	DC 4,0	06653			
	-000					
05260	ODIM	DC 3,0	06656			
	-00					
05270	OEQV	DC 3,0	06659			
	-00					

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05280	AAA	TD	CALC4-1,DUPCRD+42,, BRING IN DIM SECTOR COUNT	06660	25	02866	09379
05290		TD	CALC4-2,DUPCRD+40	06672	25	02865	09377
05300		TD	CALC4-3,DUPCRD+38	06684	25	02864	09375
05310		SF	CALC4-3	06696	32	02864	00000
05320		TD	CALC7,DUPCRD+50,, BRING IN THE EQV TABLE SECTOR COUNT	06708	25	02921	09387
05330		TD	CALC7-1,DUPCRD+48	06720	25	02920	09385
05340		TD	CALC7-2,DUPCRD+46	06732	25	02919	09383
05350		SF	CALC7-2	06744	32	02919	00000
05360	**	BRING	IN OLD DIM AND EQV ENTRIES				
05370		TFM	NEWDIM,0002,8	06756	16	09649	0-002
05380		BT	DIMMER,DIMMER-1	06768	27	09600	09599
05390		TF	DEQV,19888	06780	26	06659	19888
05400		TDM	NEWDIM,3	06792	15	09649	00003
05410		BT	DIMMER,DIMMER-1	06804	27	09600	09599
05420		TF	ODIM,19888	06816	26	06656	19888
05430	***	A	LITTLE MATHEMATICS TO SEE IF THE DIM PLUS THE EQV				
05440	***	TABLE	TOTAL HAS INCREASED OR AT LEAST TRYED				
05450		SF	DUPCRD+45	06828	32	09382	00000
05460		C	DUPCRD+50,ZEROES-4,, SHOULD OLD EQV LENGTH BE USED	06840	24	09387	05136
05470		BNE	**24	06852	47	06876	01200
05480		TF	CALC7,DEQV	06864	26	02921	06659
05490		SF	DUPCRD+37	06876	32	09374	00000
05500		C	DUPCRD+42,ZEROES-4,, SHOULD OLD DIM LENGTH BE USED	06888	24	09379	05136
05510		BNE	**24	06900	47	06924	01200
05520		TF	CALC4-1,ODIM	06912	26	02866	06656
05530		TF	NEWTOT,CALC7	06924	26	06649	02921
05540		CF	NEWTOT-2	06936	33	06647	00000
05550		A	NEWTOT,CALC4-1	06948	21	06649	02866
05560		TF	OLDTOT,ODIM	06960	26	06653	06656
05570		CF	OLDTOT-2	06972	33	06651	00000
05580		A	OLDTOT,DEQV	06984	21	06653	06659
05590		C	OLDTOT,NEWTOT,, IS THE TOTAL LENGTH OF THE TWO TABLES LONGE	06996	24	06653	06649
05600		BNL	CONTIN	07008	46	07236	01300
05610		S	NEWTOT,OLDTOT	07020	22	06649	06653
05620		TFM	LISTES,04800	07032	16	09661	-4800
05630		TDM	LISTES-5,1	07044	15	09656	00001
05640		A	LISTES,OLDTOT	07056	21	09661	06653
05650		TFM	RLGONE+30,**20	07068	16	09644	-7088
05660		B	FIND,,, FIND THE END OF THE OLD EQV TABLE	07080	49	09540	00000
05670		DORG	*-3	07088			
05680		TFM	CONSTS,000,8	07088	16	02898	0-000
05690	SARJ	CM	LISTER-3,9,1011	07100	14	09651	000-R
05700		BNE	ERRR8	07112	47	07216	01200
05710		SF	LISTER-2	07124	32	09652	00000
05720		A	CONSTS,LISTER	07136	21	02898	09654
05730		C	CONSTS,NEWTOT,, HAVE ENOUGH BLANK SECTORS BEEN FOUND	07148	24	02898	06649
05740		BNL	CONTIN	07160	46	07236	01300
05750		BT	GETR,GETR-1	07172	27	09520	09519
05760		CM	LISTER-3,7,1011	07184	14	09651	000-P
05770		BE	*-24	07196	46	07172	01200
05780		B	SARJ	07208	49	07100	00000
05790		DORG	*-3	07216			
05800	ERRR8	TFM	DIMERR+22,7078,8, NOT ENOUGH ROOM AT SPECIED LOCATION	07216	16	02675	09078
05810		B	ERRD	07228	49	02690	00000
05820		DORG	*-3	07236			
05830	CONTIN	SF	DUPCRD+37	07236	32	09374	00000

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05840		C	DUPCRD+42,ZEROES-4,, WAS THERE ANEW DIM TABLE LENGTH	07248	24	09379	05136
05850		BE	EQVLEN	07260	46	08400	01200
05860		CM	CALC4-1,035,9	07272	14	02866	00-35
05870		BNL	**32	07284	46	07316	01300
05880		TFM	DIMERR+22,7078,8	07296	16	02675	09078
05890		B	ERRD	07308	49	02690	00000
05900		DORG	*-3	07316			
05910		TFM	NEWDIM,0003,8,NEW DIM LENGTH SPECIFIED	07316	16	09649	0-003
05920		BT	DIMMER,DIMMER-1	07328	27	09600	09599
05930		TF	CONST3,19888	07340	26	05130	19888
05940		C	CONST3,CALC4-1	07352	24	05130	02866
05950		BE	EQVLEN	07364	46	08400	01200
05960		TF	19888,CALC4-1,,SET NEW DIM LENGTH	07376	26	19888	02866
05970		TFM	IOPT,**23	07388	16	05565	-7411
05980		B	IOPT,DMDDA,7	07400	49	05532	-2580
05990		TFM	TLDEQV+5,01000,7	07412	16	05115	-1000
06000		TFM	NEWDIM,2,8, EQV TABLE	07424	16	09649	0-002
06010		BT	DIMMER,DIMMER-1	07436	27	09600	09599
06020		TF	CALC7,19888	07448	26	02921	19888
06030		TF	CONST2,19888	07460	26	02880	19888
06040		TF	SLDEQV+5,19885	07472	26	05092	19885
06050		TD	SLDEQV,19880	07484	25	05087	19880
06060		TFM	IOPT,**23	07496	16	05565	-7519
06070		B	IOPT,THRDDA,7	07508	49	05532	-2628
06080	HERO	TFM	IOPT,**23,, PREPARE TO SHIFT THE EQUIVALENC TABLE	07520	16	05565	-7543
06090		B	IOGT,TRNSLD,7	07532	49	05566	-5079
06100		TFM	IOPT,**23	07544	16	05565	-7567
06110		B	IOPT,TRNTLD,7	07556	49	05532	-5102
06120		AM	SLDEQV+5,60,10	07568	11	05092	00000
06130		AM	TLDEQV+5,60,10	07580	11	05115	00000
06140		SM	CONST2,60,10	07592	12	02880	00000
06150		BNF	HERO, CONST2	07604	44	07520	02880
06160		TDM	TRNSLD,0	07616	15	05079	00000
06170		TDM	TRNTLD,2	07628	15	05102	00002
06180		TFM	SLDEQV+5,01000,7	07640	16	05092	-1000
06190		TFM	TLDEQV+5,04800	07652	16	05115	-4800
06200		A	TLDEQV+5,CALC4-1	07664	21	05115	02866
06210	JANITO	CM	CALC7,060,9, MAJOR SHIFT OF EQUIVALENC TABLE	07676	14	02921	00-60
06220		BNH	MELANC	07688	47	07792	01100
06230		TFM	IOPT,**23	07700	16	05565	-7723
06240		B	IOGT,TRNSLD,7	07712	49	05566	-5079
06250		TFM	IOPT,**23	07724	16	05565	-7747
06260		B	IOPT,TRNTLD,7	07736	49	05532	-5102
06270		AM	SLDEQV+5,060,9	07748	11	05092	00-60
06280		AM	TLDEQV+5,060,9	07760	11	05115	00-60
06290		SM	CALC7,060,9	07772	12	02921	00-60
06300		B	JANITO	07784	49	07676	00000
06310		DORG	*-3	07792			
06320	MELANC	TF	TLDEQV+8,CALC7,, MINOR SHIPT OF EQUIVALENC TABLE	07792	26	05118	02921
06330		TFM	IOPT,**23	07804	16	05565	-7827
06340		B	IOGT,TRNSLD,7	07816	49	05566	-5079
06350		TFM	IOPT,**23	07828	16	05565	-7851
06360		B	IOPT,TRNTLD,7	07840	49	05532	-5102
06370		TFM	TLDEQV+8,60,9	07852	16	05118	00-60
06380		TFM	IOPT,**23	07864	16	05565	-7887
06390		B	IOGT,THRDDA,7, REFRESH THE CORE FROM DISK	07876	49	05566	-2628

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06400	NURSES	SF	KEYS	07888	32	05149	08000
06410		C	CONST3,CALC4-1	07900	24	05130	02866
06420		BNL	EQVLEN	07912	46	08400	01300
06430		TF	CONST5,CALC4-1	07924	26	02898	02866
06440		S	CONST5,CONST3,,	07936	22	02898	05130
06450		TFM	NEWDM,0002,8	07948	16	09649	0-002
06460		BT	DIMMER,DIMMER-1	07960	27	09600	09599
06470		TF	SARH+5,19885	07972	26	08189	19885
06480		TD	SARH,19880	07984	25	08184	19880
06490	SARI	TFM	IOPT,++23	07996	16	00565	-8019
06500		B	IOPT,SARF,7	08008	49	00532	-8176
06510		SM	CONST5,01,10	08020	12	02898	000-1
06520		CM	CONST5,000,9	08032	14	02898	00-00
06530		BE	EQVLEN	08044	46	08400	01200
06540		AM	SARH+5,01,10	08056	11	08189	000-1
06550		B	SARI	08068	49	07996	00000
06560		DORG	=-3	08076			
06570	DUMDIM	DC	1,,',, DUMMY SECTOR FILL	08076			1
06580		DC	1,0	08077			1
06590		DSC	18,0	08078			18
06600		DC	1,,'	08096			1
06610		DC	1,0	08097			1
06620		DSC	18,0	08098			18
06630		DC	1,,'	08116			1
06640		DC	1,0	08117			1
06650		DSC	18,0	08118			18
06660		DC	1,,'	08136			1
06670		DC	1,0	08137			1
06680		DSC	18,0	08138			18
06690		DC	1,,'	08156			1
06700		DC	1,0	08157			1
06710		DSC	18,0	08158			18
06720	SARF	DSC	2,22,, DDA FOR FILLING IN BLANK DIM SECTORS	08176			2
06730		DSA	SARH	08182		5 X	1
06740		DC	1,,'	08182		-8184	
06750	SARH	DSC	1,1	08183		1	
		1		08184		1	

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06760		DC	5,99999	08189		5	
06770		DC	3,001	08192		3	
06780		DSA	DUMDIM	08197		5 X	1
06790		DC	1,,'	08197		-8076	
06800		DORG	08400	08198		1	
06810	***	LINKAGE	TO CALL IN PHASE TWO AND EXECUTE IT	08400			
06820	EQVLEN	TFM	IOPT,++23	08400	16	00565	-8423
06830		B	IOPT,SARF,7	08412	49	00566	-8424
06840	SARK	DSC	2,-22	08424		2	
06850		DSA	SARL	08430		5 X	1
06860		DC	1,,'	08430		-8432	
06870	SARL	DSC	1,1	08431		1	
06880		DC	5,18174	08432		1	
06890		DC	3,023	08437		5	
06900		DSA	PHASE2	08440		3	
06910		DC	1,,'	08445		5 X	1
06920	***	LINKAGE	FOR THROWING PHASE1 TO DISK WHEN LOADING PROGRAM	08445		-5600	
06930	DDFIN4	TFM	IOPT,++23	08446		1	
06940		B	IOPT,DDFIN5,7	08448	16	00565	-8471
06950		TRA		08460	49	00532	-8496
06960	DDFIN5	DSC	2,22	08472	36	00000	00500
06970		DSA	DDFIN6	08484	49	00000	00000
06980		DC	1,,'	08496		2	
06990	DDFIN6	DSC	1,1	08502		5 X	1
07000		DC	5,18139	08502		-8504	
07010		DC	3,038	08503		1	
07020		DC	5,05000	08504		1	
07030		DC	1,,'	08509		5	
07040		TCD	DDFIN4	08512		3	
07050		DORG	05600	08517		5	
				08518		1	
				08448			
				05600			

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	17
07060	PHASE2	TD	CALC7,DUPCRD+50,, READ IN EQV ENTRY DATA	05400	25 02921 09387
07070		TD	CALC7-1,DUPCRD+48	05612	25 02920 09385
07080		TD	CALC7-2,DUPCRD+46	05624	25 02919 09383
07090		SF	CALC7-2	05636	32 02919 00000
07100		CF	DUPCRD+45	05648	32 09382 00000
07110		C	DUPCRD+50,ZERODES-4,, WAS THERE A EQV TABLE ENTRY	05660	24 09387 05136
07120		BNE	LNGNFF	05672	47 06872 01200
07130		BNF	OUTSYD,KEYS	05684	44 06922 05149
07140	TABA	TFM	NEWDIM,2,8, EQV ENTRY	05696	16 09649 0-002
07150		BT	DIMMER,DIMMER-1	05708	27 09600 09599
07160		TF	CALC9,19888	05720	26 02863 19888
07170		BNF	888,KEYS	05732	44 05804 05149
07180		TFM	CALC3,04800	05744	16 02608 -4800
07190		A	CALC3,CALC4-1	05756	21 02608 02866
07200		TF	19885,CALC3	05768	26 19885 02608
07210		CM	CALC7,000,9	05780	14 02921 00-00
07220		BE	TABB	05792	46 05816 01200
07230	BBB	TF	19888,CALC7,,SET NEW EQV LENGTH	05804	26 19888 02921
07240	TABB	TFM	IOPT,++23	05816	16 00565 -5839
07250		B	IOPT,DMDDA,7	05828	49 00532 -2580
07260	LENLIS	TF	EL,19888	05840	26 05887 19888
07270		CF	EL-2	05852	33 05885 00000
07280	ACCUM	DC	4,0,*	05863	4
		-000			
07290		TF	DL,CALC4-1	05864	26 06715 02866
07300		CF	DL-2	05876	33 06713 00000
07310	EL	DC	4,0,*	05887	4
		-000			
07320	* SET POINTER TO END OF CYL 23				
07330	LOOPA	TF	LISTES,END23	05888	26 09661 06921
07340	LOOPB	TFM	RLGONE+30,++20	05900	16 09644 -5920
07350		B	FIND	05912	49 09540 00000
07360		DORG	--3	05920	
07370		TFM	LISTET,9200,8	05920	16 09665 0R200
07380		BT	GETR,GETR-1	05932	27 09520 09519
07390	LOOP1	CM	LISTER-3,7,1011	05944	14 09651 000-P
07400		BE	--24	05956	46 05932 01200
07410		CM	LISTER,0003,8	05968	14 09654 0-003
07420		BNE	LOOP2	05980	47 06024 01200
07430	LOOP3	BT	REMOVE,REMOVE-1,, REMOVE DIM TABLE ENTRIES	05992	27 09560 09559
07440		BT	INSERT,INSERT-1	06004	27 09580 09579
07450		B	LOOP1	06016	49 09544 00000
07460		DORG	--3	06024	
07470	LOOP2	CM	LISTER,0002,8	06024	14 09654 0-002
07480		BE	LOOP5	06036	46 06164 01200
07490		CM	LISTER-3,9,1011	06048	14 09651 000-R
07500		BNE	LOUP4	06060	47 06240 01200
07510		CM	LISTER,9200,8, HAVE WE ERASED ALL PROGRAMS	06072	14 09654 0R200
07520		BE	SETKEY	06084	46 06456 01200
07530		BT	GETR,GETR-1	06096	27 09520 09519
07540		CM	LISTER-3,7,1011	06108	14 09651 000-P
07550		BNE	LOUP4	06120	47 06240 01200
07560		BT	GETL,GETL-1	06132	27 09500 09499
07570		BT	REMOVE,REMOVE-1	06144	27 09560 09559
07580		B	SETKEY	06156	49 06456 00000
07590		DORG	--3	06164	

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	18
07600	LOOP5	BT	GETL,GETL-1	06164	27 09500 09499
07610		CM	LISTER-3,9,1011, IS THIS A NININES INDICATOR	06176	14 09651 000-R
07620		BNE	LOOP6	06188	47 06220 01200
07630		BT	REMOVE,REMOVE-1	06200	27 09560 09559
07640		B	LOOP5	06212	49 06164 00000
07650		DORG	--3	06220	
07660	LOOP6	BT	GETR,GETR-1	06220	27 09520 09519
07670		B	LOOP3	06232	49 05992 00000
07680		DORG	--3	06240	
07690	LOOP4	TF	NEWDIM,LISTER	06240	26 09649 09654
07700		BT	DIMMER,DIMMER-1	06252	27 09600 09599
07710		MM	19883,05,10, CALCULATE SIZE OF ODD NINES ENTRY	06264	13 19883 000-5
07720		TDM	19883,1,11	06276	15 19883 0000J
07730		BD	++24,99	06288	43 06312 00099
07740		TDM	19883,0,11	06300	15 19883 0000-
07750		TF	LOOP7+11,19885	06312	26 06347 19885
07760		CF	++21	06324	33 06345 00000
07770	KEY1	DS	,*	06335	0
07780	LOOP7	TFM	LISTET,9000,8	06336	16 09665 0R000
07790		BT	GETL,GETL-1	06348	27 09500 09499
07800		CM	LISTER-3,9,1011	06360	14 09651 000-R
07810		BNE	++36	06372	47 06408 01200
07820		BT	REMOVE,REMOVE-1,, REMOVE THE NINES RECORD	06384	27 09560 09559
07830		B	--48	06396	49 06348 00000
07840		BT	GETR,GETR-1	06408	27 09520 09519
07850		CM	LISTER,9000,8	06420	14 09665 0R000
07860		BE	++24	06432	46 06456 01200
07870		BT	INSERT,INSERT-1	06444	27 09580 09579
07880	SETKEY	SF	KEY1	06456	32 06335 00000
07890	NWTOT	DC	5,0,*	06467	5
		-0000			
07900		TF	NWTOT,DL	06468	26 06467 06715
07910		A	NWTOT,EL	06480	21 06467 05887
07920		TFM	LOOPB+11,RETURN,, PREPARE TO REPOSITION THE LISTER THROUGH	06492	16 05911 -6512
07930		B	LOOPA	06504	49 05888 00000
07940		DORG	--3	06512	
07950	RETURN	BT	GETR,GETR-1	06512	27 09520 09519
07960		CM	LISTER-3,7,1011	06524	14 09651 000-P
07970		BE	RETURN	06536	46 06512 01200
07980		SF	LISTER-2	06548	32 09652 00000
07990		A	ACCUM,LISTER,, ACCUMULATE THE NUMBER OF SECTORS FILLED	06560	21 05863 09654
08000		CF	LISTER-2	06572	33 09652 00000
08010		BT	REMOVE,REMOVE-1	06584	27 09560 09559
08020		BNF	ELCHK,KEY1	06596	44 06756 06335
08030		TFM	LISTET,0003,8	06608	16 09665 0-003
08040		BT	INSERT,INSERT-1	06620	27 09580 09579
08050		SM	DL,200,9	06632	12 06715 00K00
08060		BH	RETURN,, RETURN TO FILL IN MORE DIM TABLE ENTRIES	06644	46 06512 01100
08070		BE	CLFLAG	06656	44 06736 01200
08080		A	EL,DL	06668	21 05887 06715
08090		TFM	LISTET,0002,8	06680	16 09665 0-002
08100		BT	INSERT,INSERT-1	06692	27 09580 09579
08110		CF	KEY1	06704	33 06335 00000
08120	DL	DC	4,0,*	06715	4
		-000			
08130		BNF	RETURN,EL	06716	44 06512 05887

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08140	B	COMPEL+24	06728	49	06804	00000
08150	DORG	+3	06736			
08160	CLFLAG	CF KEY1	06736	33	06335	00000
08170	B	RETURN	06748	49	06512	00000
08180	DORG	+3	06756			
08190	ELCHECK	TFM LISTET,0002,8, PREPARE TO INSERT THE EQV TABLE ENTRIES	06756	16	09665	0-002
08200	BT	INSERT,INSERT-1	06768	27	09580	09579
08210	COMPEL	SM EL,200,9	06780	12	05887	00K00
08220	BM	RETURN	06792	46	06512	01100
08230	S	ACCUM,MWTD	06804	22	05863	06467
08240	BE	OUTSYD	06816	46	06922	01200
08250	TDM	ACCUM-3,9,11	06828	15	05860	0000R
08260	TF	LISTET,ACCUM	06840	26	09665	05863
08270	BT	INSERT,INSERT-1	06852	27	09580	09579
08280	B	OUTSYD	06864	49	06922	00000
08290	DORG	+3	06872			
08300	LNGNFF	CM CALCT,009,9, DOES THE EQUIVALENC TABLE MEET MINIMUM STAND	06872	14	02921	00-09
08310	BNL	TABA	06884	46	05696	01300
08320	TFM	DIMERR+22,7078,8	06896	16	02675	0P078
08330	B	ERRD	06908	49	02690	00000
08340	DORG	+3	06916			
08350	END23	DC 6,104799	06921		6	
		J04799				
08360	OUTSYD	TFM IORT,+23,, BRING IN AND EXECUTE PHASE3	06922	16	00565	-6945
08370	B	IOGT,TRWAA,7	06934	49	00566	-6946
08380	TRWAA	DSC 2,-22	06946		2	
		2K				
08390	DSA	TRWBB	06952		5 X	1
			06952		-6954	
08400	DC	1,1	06953		1	
08410	TRWBB	DSC 1,1	06954		1	
08420	DC	5,17084	06959		5	
		J7084				
08430	DC	3,022	06962		3	
		-22				
08440	DSA	PHASE3	06967		5 X	1
			06967		-5200	
08450	DC	1,1	06968		1	
08460	SARN	TFM IORT,+23,, TRA-TCD TO THROW PHASE2 TO DISK WHILE LOADING	06970	16	00565	-6993
08470	B	IOPT,SARD,7	06982	49	00532	-7018
08480	TRA		06994	36	00000	00500
			07006	49	00000	00000
08490	SARO	DSC 2,22	07018		2	
		22				
08500	DSA	SARP	07024		5 X	1
			07024		-7026	
08510	DC	1,1	07025		1	
08520	SARP	DSC 1,1	07026		1	
		1				

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08530	DC	5,18174	07031		5	
		J8174				
08540	DC	3,023	07034		3	
		-23				
08550	DC	5,05600	07039		5	
		-5600				
08560	DC	1,1	07040		1	
08570	TCD	SARN	06970			
08580	DORG	05200	05200			
08590	PHASE3	TD PATCH,DUPCRD+58,,LENGTH OF SPL LIST	05200	25	05459	09395
08600	TD	PATCH-1,DUPCRD+56	05212	25	05458	09393
08610	TD	PATCH-2,DUPCRD+54	05224	25	05457	09391
08620	SF	PATCH-2	05236	32	05457	00000
08630	CM	PATCH,000,9	05248	14	05459	00-00
08640	BE	ACTP	05260	46	06280	01200
08650	TFM	LISTES,,,	05272	16	09661	-0000
08660	TDM	LISTES-3,1,,	05284	15	09656	00001
08670	TFM	RLGONE+30,+20	05296	16	09644	-5316
08680	B	FIND,, BRING IN THE SPL FOR SOME OBSERVATION	05308	49	09540	00000
08690	DORG	+3	05316			
08700	SF	DUPCRD+33	05316	32	09370	00000
08710	CM	DUPCRD+34,00,10	05328	14	09371	000-0
08720	BNE	+48	05340	47	05388	01200
08730	TFM	IORT,+23	05352	16	00565	-5375
08740	B	IOGT,LDX,7	05364	49	00566	-6936
08750	TD	DUPCRD+34,CS+49	05376	25	09371	05249
08760	TFM	+35,09800,7	05388	16	05423	-9800
08770	AM	+23,04,10	05400	11	05423	000-4
08780	BNR	+12,99999,, FIND THE END OF THE SPL	05412	45	05400	99999
08790	AM	+1,04,10	05424	11	05423	000-4
08800	SM	+13,9800,7	05436	12	05423	-9800
08810	CM	+27,PATCH	05448	14	05421	-5459
08820	PATCH	DC 3,0,,	05459		3	
		-00				
08830	BNM	+32	05460	47	05492	01100
08840	TFM	DIMERR+22,7178,8, SPL LIST IS REDEFINED LESS THAN NEEDED	05472	16	02675	0P178
08850	B	ERRD	05484	49	02690	00000
08860	DORG	+3	05492			
08870	TF	CONSTS,PATCH	05492	26	02898	05459
08880	TF	CALC9,PATCH	05504	26	02863	05459
08890	CM	PATCH,80,9	05516	14	05459	00-80
08900	BNM	ACTN	05528	47	05560	01100
08910	TFM	DIMERR+22,7174,8	05540	16	02675	0P174
08920	B	ERRD	05552	49	02690	00000
08930	DORG	+3	05560			
08940	***	ROUTINE TO UPDATE THE SPL ENTRY FOR ITSELF				
08950	ACTN	TFM LISTES,19801	05560	16	09661	J9801
08960	TDM	LISTES-5,1,11	05572	15	09656	0000J
08970	TDM	DUPCRD+35,11, FLAG ZERO	05584	15	09370	0000-
08980	TF	CURREN-1,DUPCRD+34	05596	26	05144	09371
08990	TFM	NEWDIM,0004,8	05608	16	09649	0-004
09000	BT	DIMMER,DIMMER-1	05620	27	09600	09599
09010	C	CONSTS,19888	05632	24	02898	19888
09020	BE	ACTP	05644	46	06280	01200

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	21		
09030	ACTT	TF	CONST6,19888	05656	26	02904	19888
09040		TF	19888,CALC9	05660	26	19888	02863
09050		TFM	IORT,++23	05680	16	00565	-5703
09060		B	IORT,DMDDA,7, CORRECT SPL ENTRY ON DISK	05692	49	00532	-2580
09070		TF	CONST5,CALC9	05704	26	02898	02863
09080		TFM	GOONY+6,++20	05716	16	09644	-5736
09090		B	FIND	05728	49	09540	00000
09100		DORG	+3	05736			
09110		BT	GETR,GETR-1	05736	27	09520	09519
09120		C	CONST5,CONST6,, IS THE NEW LIST LONGER OR SHORTER	05748	24	02898	02904
09130		BL	ACTO	05760	47	05864	01300
09140		S	CONST5,CONST6	05772	22	02898	02904
09150		S	LISTER,CONST5	05784	22	09654	02898
09160		TF	LISTER,LISTER	05796	26	09665	09654
09170		BT	REMOVE,REMOVE-1	05808	27	09560	09559
09180		CM	LISTET,9000,8	05820	14	09665	09000
09190		BE	++24	05832	46	05856	01200
09200		BT	INSERT,INSERT-1,, PLACE THE CORRECT BLANK SECTOR IN THE LIS	05844	27	09580	09579
09210		B	MODS2	05856	49	06004	00000
09220		DORG	+3	05864			
09230	ACTQ	S	CONST6,CONST5	05864	22	02904	02898
09240		CM	LISTER-3,7,1011	05876	14	09651	000-P
09250		BNH	ACTR	05888	47	05956	01100
09260		TF	++35,CONST6	05900	26	05935	02904
09270		CF	++21	05912	33	05933	00000
09280		TFM	LISTET,9000,8	05924	16	09665	09000
09290		BT	INSERT,INSERT-1	05936	27	09580	09579
09300		B	MODS2	05948	49	06004	00000
09310		DORG	+3	05956			
09320	ACTR	A	LISTER,CONST6,, INCREASE THE BLANK SECTOR COUNT	05956	21	09654	02904
09330		TF	LISTER,LISTER	05968	26	09665	09654
09340		BT	REMOVE,REMOVE-1	05980	27	09560	09559
09350		BT	INSERT,INSERT-1	05992	27	09580	09579
09360	MODS2	CM	CURREN-1,01,10	06004	14	05144	000-1
09370		BE	ACTP	06016	46	06280	01200
09380		CM	CURREN-1,02,10	06028	14	05144	000-2
09390		BE	ACT2	06040	46	06212	01200
09400		CM	CURREN-1,03,10	06052	14	05144	000-3
09410		BE	ACT3	06064	46	06144	01200
09420		TFM	NEWDIM,0007,8, SET UP ON MODULE THREE	06076	16	09649	0-007
09430		BT	DIMMER,DIMMER-1	06088	27	09600	09599
09440		TF	LISTES,19885	06100	26	09661	19885
09450		TD	LISTES-5,19880	06112	25	09656	19880
09460		TDM	CURREN-1,3,,	06124	15	05144	00003
09470		B	ACTT	06136	49	05656	00000
09480		DORG	+3	06144			
09490	ACT3	TFM	NEWDIM,0006,8	06144	16	09649	0-006
09500		BT	DIMMER,DIMMER-1	06156	27	09600	09599
09510		TF	LISTES,19885,, FIND END OF OLD LISTS	06168	26	09661	19885
09520		TD	LISTES-5,19880	06180	25	09656	19880
09530		TDM	CURREN-1,2,,	06192	15	05144	00002
09540		B	ACTT	06204	49	05656	00000
09550		DORG	+3	06212			
09560	ACT2	TFM	NEWDIM,0005,8	06212	16	09649	0-005
09570		BT	DIMMER,DIMMER-1	06224	27	09600	09599
09580		TF	LISTES,19885	06236	26	09661	19885

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	22		
09590		TD	LISTES-5,19880	06248	25	09656	19880
09600		TDM	CURREN-1,1,,	06260	15	05144	00001
09610		B	ACTT	06272	49	05656	00000
09620		DORG	+3	06280			
09630	ACTP	TFM	IORT,++23,, BRING IN THE COMMUNICATION SECTOR	06280	16	00565	-6303
09640		B	IORT,LDX,7	06292	49	00566	-6936
09650	***		ROUTINE FOR TRANSFERING THE CONTROL CHARACTERS IF PRESENT				
09660	***		TO THE COMMUNICATION SECTOR AND SETTING FLAGS IF NECESSARY				
09670		SF	DUPCRD+71	06304	32	09408	00000
09680		CM	DUPCRD+74,0000,8,	06316	14	09411	0-000
09690		BE	++48	06328	46	06376	01200
09700		TD	CS+40,DUPCRD+72	06340	25	05240	09409
09710		TD	CS+41,DUPCRD+74	06352	25	05241	09411
09720		SF	CS+40	06364	32	05240	00000
09721		SF	DUPCRD+77	06376	32	09414	00000
09722		CM	DUPCRD+80,0000,8	06388	14	09417	0-000
09723		BE	++48	06400	46	06448	01200
09724		TD	CS+42,DUPCRD+78	06412	25	05242	09415
09725		TD	CS+43,DUPCRD+80	06424	25	05243	09417
09726		SF	CS+42	06436	32	05242	00000
09730		SF	DUPCRD+83	06448	32	09420	00000
09740		CM	DUPCRD+84,00,10	06460	14	09421	000-0
09750		BE	++24	06472	46	06496	01200
09760		TD	CS+44,DUPCRD+84	06484	25	05244	09421
09770		SF	DUPCRD+87	06496	32	09424	00000
09780		CM	DUPCRD+90,0000,8	06508	14	09427	0-000
09790		BE	++48	06520	46	06568	01200
09800		TD	CS+45,DUPCRD+88	06532	25	05245	09425
09810		TD	CS+46,DUPCRD+90	06544	25	05246	09427
09820		SF	CS+45	06556	32	05245	00000
09830		SF	DUPCRD+93	06568	32	09430	00000
09840		CM	DUPCRD+96,0000,8	06580	14	09433	0-000
09850		BE	++48	06592	46	06640	01200
09860		TD	CS+47,DUPCRD+94	06604	25	05247	09431
09870		TD	CS+48,DUPCRD+96	06616	25	05248	09433
09880		SF	CS+47	06628	32	05247	00000
09890		SF	DUPCRD+33	06640	32	09370	00000
09900		CM	DUPCRD+34,00,10	06652	14	09371	000-0
09910		BE	++24	06664	46	06688	01200
09920		TD	CS+49,DUPCRD+34	06676	25	05249	09371
09930		SF	DUPCRD+99	06688	32	09436	00000
09940		CM	DUPCRD+100,00,10	06700	14	09437	000-0
09950		BE	++24	06712	46	06736	01200
09960		TD	CS+73,DUPCRD+100	06724	25	05273	09437
09970		SF	DUPCRD+103	06736	32	09440	00000
09980		CM	DUPCRD+104,00,10	06748	14	09441	000-0
09990		BE	++36	06760	46	06796	01200
10000		TD	CS+76,DUPCRD+104	06772	25	05276	09441
10010		SF	CS+76	06784	32	05276	00000
10020		SF	DUPCRD+107	06796	32	09444	00000
10030		CM	DUPCRD+108,00,10	06808	14	09445	000-0
10040		BE	++36	06820	46	06856	01200
10050		TD	CS+72,DUPCRD+108	06832	25	05272	09445
10060		SF	CS+72	06844	32	05272	00000
10070		SF	DUPCRD+111	06856	32	09448	00000
10080		CM	DUPCRD+112,00,10	06868	14	09449	000-0

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	23
10090	BE	++24		06880	46 06904 01200
10100	TD	C5+83,DUPCRD+112		06892	29 05283 09449
10110	TFM	IORT,++23		06904	16 00565 -6927
10120	B	IOPT,LDX,7,, PLACE THE COMMUNICATION SECTOR BACK ON DISK		06916	49 00532 -6936
10130	B	MONITR		06928	49 06960 00000
10140	DORG	-3		06936	
10150	LDX	DSC 2,22,, DDA FOR THE COMMUNICATION SECTOR		06936	2
10160	DSA	FIELDX		06942	5 X 1
10170	DC	1,'		06942	-6944
				06943	1
10180	CS	DSS 100,05200		05200	100
10190	FIELDX	DSC 1,0		06944	1
10200	DC	5,19663		06949	5
		J9663			
10210	DC	3,001		06952	3
		-01			
10220	DSA	CS		06957	5 X 1
10230	DC	1,'		06957	-5200
				06958	1
10240	***	ROUTINE FOR WRITING BACK THE SPL TO THE PROPER PACK BEFORE			
10250	***	EXITING TO MONITOR			
10260	MONITR	CM PACK,00,1011, PACK ZERO		06960	14 02856 000--
10270	BE	RITSP0		06972	46 07064 01200
10280	CM	PACK,01,1011,PACK ONE		06984	14 02856 000-J
10290	BE	RITSP1		06996	46 07096 01200
10300	CM	PACK,02,1011, PACK TWO		07008	14 02856 000-K
10310	BE	RITSP2		07020	46 07128 01200
10320	CM	PACK,03,1011		07032	14 02856 000-L
10330	BE	RITSP3		07044	46 07160 01200
10340	B	WHYNOT		07056	49 07184 00000
10350	DORG	-3		07064	
10360	RITSP0	TFM IORT,++23		07064	16 00565 -7087
10370	B	IOPT,PKODDA,7		07076	49 00532 -2734
10380	B	WHYNOT		07088	49 07184 00000
10390	DORG	-3		07096	
10400	RITSP1	TFM IORT,++23		07096	16 00565 -7119
10410	B	IOPT,PK1DDA,7		07108	49 00532 -2757
10420	B	WHYNOT		07120	49 07184 00000
10430	DORG	-3		07128	
10440	RITSP2	TFM IORT,++23		07128	16 00565 -7151
10450	B	IOPT,PK2DDA,7		07140	49 00532 -2780
10460	B	WHYNOT		07152	49 07184 00000
10470	DORG	-3		07160	
10480	RITSP3	TFM IORT,++23		07160	16 00565 -7183
10490	B	IOPT,PK3DDA,7		07172	49 00532 -2803
10500	WHYNOT	TDM 475,3		07184	15 00475 00003
10510	B	796,,,MONCAL		07196	49 00796 00000
10520	DORG	-3		07204	
10530	DDFIN1	TFM IORT,++23,, LINKAGE FOR THROWING PHASE3 TO DISK		07204	16 00565 -7227
10540	B	IOPT,DDFIN2,7		07216	49 00532 -7252

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	24
10550	TRA			07228	36 00000 00500
10560	DDFIN2	DSC 2,22		07240	49 00000 00000
		22		07252	2
10570	DSA	DDFIN3		07258	5 X 1
10580	DC	1,'		07258	-7260
				07259	1
10590	DDFIN3	DSC 1,1		07260	1
10600	DC	5,17084		07265	5
		J7084			
10610	DC	3,022		07268	3
		-22			
10620	DC	5,05200		07273	5
		-5200			
10630	DC	1,'		07274	1
10640	TCD	DDFIN1		07204	
10650	***	SECONDARY LINKAGE FOR THE FIND,GETL,GETR,REMOVE,INSERT			
10660	***	PROGRAMS TO SEE IF THE ROUTINES ARE PRESENTLY IN CORE			
10670	DORG	9500		09500	
10680	GETL	TFM CHEX+6,GETLTR		09500	16 09722 -3030
10690	B	INCORE		09512	49 09668 00000
10700	DORG	-3		09520	
10710	GETR	TFM CHEX+6,GETRTR		09520	16 09722 -2956
10720	B	INCORE		09532	49 09668 00000
10730	DORG	-3		09540	
10740	FIND	TFM CHEX+6,FINDTR		09540	16 09722 -3440
10750	B	INCORE		09552	49 09668 00000
10760	DORG	-3		09560	
10770	REMOVE	TFM CHEX+6,REMOVR		09560	16 09722 -3104
10780	B	INCORE		09572	49 09668 00000
10790	DORG	-3		09580	
10800	INSERT	TFM CHEX+6,INSETR		09580	16 09722 -3190
10810	B	INCORE		09592	49 09668 00000
10820	DORG	-3		09600	
10830	DIMMER	TFM CHEX+6,DIMMTR		09600	16 09722 -2458
10840	B	INCORE		09612	49 09668 00000
10850	DORG	-3		09620	
10860	MOVESA	DC 6,0,,FOR SECTOR ADDRESS		09625	6
		-00000			
10870	MOVESC	DC 3,0,,FOR SECTOR COUNT		09628	3
		-00			
10880	EXITR	B 99999		09630	49 99999 00000
10890	DORG	-3		09638	
10900	GOONY	B 99999		09638	49 99999 00000
10910	DORG	-3		09646	
10920	NEWDIM	DC 4,0		09649	4
		-000			
10930	DC	1,0,, FOR COMPARING AT LISTER-3		09650	1
		-			
10940	LISTER	DC 4,0		09654	4
		-000			

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	25
10950	DC	1,0,, TO SET-UP LISTES OVERRIDE CODE	09655	1	
10960	LISTES	DC 4,0 -00000	09661	6	
10970	LISTET	DC 4,0 -000	09665	4	
10980	LAYSPL	DC 1,0 -	09666	1	
10990	INCORE	BNF CHEX,LAYSPL,, IS THE ROUTINE ALREADY IN CORE	09668	44	09716 09666
11000	TFM	IORT,++23	09680	16	00565 -9703
11010	B	IOGT,SPL1,7	09692	49	00566 -9724
11020	CF	LAYSPL	09704	33	09666 00000
11030	CHEX	B 99999	09716	49	99999 00000
11040	DORG	+3	09724		
11050	RLGONE	DS ,GOONY-24	09614		0
11060	SPL1	DSC 2,22,, DDA FOR BRINGING IN THE SACRED SIX	09724		2
11070	DSA	SPL2	09730		5 X 1
			09730		-9732
11080	DC	1,*	09731		1
11090	SPL2	DSC 1,1	09732		1
11100	DC	5,19338	09737		5
		J9338			
11110	DC	3,025	09740		3
		-25			
11120	DC	6,02458*	09746		6
		-2458			
11130	GREAT1	TFM IORT,++23,, TRA-TCD FOR THROWING THE SECONDARY LINKAGE TO D	09748	16	00565 -9771
11140	B	IOPT,GREAT2,7	09760	49	00532 -9796
11150	TRA		09772	36	00000 00500
			09784	49	00000 00000
11160	GREAT2	DSC 2,22	09796		2
		Z2			
11170	DSA	GREAT3	09802		5 X 1
			09802		-9804
11180	DC	1,*	09803		1
11190	GREAT3	DSC 1,1	09804		1
		L			
11200	DC	5,18197	09809		5
		J8197			
11210	DC	3,003	09812		3
		-03			
11220	DC	6,09500*	09818		6
		-9500			
11230	TCD	GREAT1	09748		
11240	DEND	0	00000		

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1620 MONITOR 1 DUP ROUTINE *DEFIN				PAGE	26				
ADDBLK	03912	GETRTR	02956	REDSPL	04220	GETL	09500	SPL2	09732
ADRSPL	02840	GREAT1	09748	REDSPL	04220	GETR	09520	SPLFL	04800
BAVAIL	02830	GREAT2	09796	REMOVR	03104	GOONY	09638	SPLR1	04848
CLEVER	02827	GREAT3	09804	REMOVE	09560	HERO	07520	SPLR2	04863
CLFLAG	06736	INCORE	09668	REPACK	02852	HGX	02868	SPORT	04480
COMMON	02926	INSERT	09580	RETURN	06512	IOGT	00566	STEAL	02918
COMPEL	06780	INSETR	03190	RITSP0	07064	IOPT	00532	TABA	05696
CONST1	02874	JANITO	07676	RITSP1	07096	IORT	00565	TABB	05816
CONST2	02880	LAYSPL	09666	RITSP2	07128	KEY1	06335	TABC	05064
CONST3	05130	LENLIS	05840	RITSP3	07160	KEY5	05149	TIPSY	03226
CONST5	02898	LENSCT	05450	RLGONE	09614	LDX	06936	TRWAA	06946
CONST6	02904	LISTER	09654	ROMENF	05718	LIMIT	05148	TRWBB	06954
CONST7	02910	LISTES	09661	AAA	06660	LOOP1	05944	SANDOR	05402
CONST8	02934	LISTET	09665	ACCUM	05863	LOOP2	06024	SCRASN	05762
CONTIN	07236	LNGNFF	06872	ACT2	06212	LOOP3	05992	SETKEY	06456
CORSIZ	02627	LOUNGE	06214	ACT3	06144	LOOP4	06240	SLDEQV	05087
CURREN	05145	MELANC	07792	ACTN	05560	LOOP5	06164	SLEEPY	06074
DDFIN1	07204	MONITR	04960	ACTP	06280	LOOP6	06220	SLIPRY	05056
DDFIN2	07252	MOVESA	09625	ACTQ	05864	LOOP7	06336	SPLCOR	02850
DDFIN3	07260	MOVESC	09628	ACTR	05956	LOOPA	05888	SPLCYL	02845
DDFIN4	08448	N48000	02624	ACTT	05656	LOOPB	05900	SPLXET	03484
DDFIN5	08496	NEWDIM	09649	BBB	05804	LUCKY	06154	SPLINI	04116
DDFIN6	08504	NEWTOT	06649	CALC2	02613	MODS2	06004	SPLIST	03956
DIMERR	02653	NOMMON	02928	CALC3	02608	NERR	03354	SPLPK0	02742
DIMMER	09600	NOSECA	02929	CALC4	02867	NWTOT	06467	SPLPK1	02765
DIMMTR	02458	NUMMOD	06422	CALC7	02921	ODIM	06656	SPLPK2	02788
DMREAD	02588	NURSES	07888	CALC9	02863	OEQV	06659	SPLPK3	02811
DRESTR	02618	OLDTOT	06653	CHEX	09716	PACK	02856	STAROT	04164
DUMDIM	08076	OUTSYD	06922	CLUCK	04128	PATCH	05459	THRDDA	02628
DUPCRD	09337	PHASE2	05600	CS	05200	QHOLD	02892	THROWS	02636
ELCHEK	06756	PHASE3	05200	DFINE	05174	SARB	05150	TLDEQV	05110
EQVLEN	08400	PKODDA	02734	DL	06715	SARC	05158	TRMSLD	05079
ERRDR1	05698	PK1DDA	02757	DMDDA	02580	SARF	08176	TRMTLD	05102
ERRDR8	07216	PK2DDA	02780	DOC	05958	SARH	08184	TRYAGN	03604
ERRRIT	02936	PK3DDA	02803	EL	05887	SARI	07996	UNPACK	02854
EXITMR	09630	PKROOM	05606	END23	06921	SARJ	07100	WHYNOT	07184
FAKSEV	02925	PLUSR	03868	ENUFF	06026	SARK	08424	WRTSPO	04360
FIELDX	06944	QCARRY	02886	ERR23	06282	SARL	08432	WRTSP1	04392
FINDTR	03440	RACKET	02914	ERRD	02690	SARN	06970	WRTSP2	04424
FIXEQV	05878	REDSPO	04668	ESOR	06530	SARO	07018	WRTSP3	04456
FIXSUP	06302	REDSPI	04712	FIND	09540	SARP	07026	ZEROES	05140
GETLTR	03030	REDSPI2	04756	FOUND	02835	SPL1	09724		

END OF ONE ASSEMBLY.

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00010	*	THIS PROGRAM WILL LOAD MONITOR I SYSTEM TO DISK			
00020	*	FORMAT FOR CNTR CD IS *LDCNTR NAMEPR SSSSSS EEEEE NN NNS			
00030		DORG 7404	07404		
00040	STAR	TR 3972,NAM-1	07404	31	03972 09866
00050		RACD 3973,,, RAPT IF PAPER TP *****	07416	37	03973 00500
00060		TFM TDI+6,4000	07428	16	07526 -4000
00070		TFM TDI+11,4003	07440	16	07531 -4003
00080		SF 3972	07452	32	03972 00000
00090		SF 3988	07464	32	03988 00000
00100		BNR **20,3983	07476	45	07496 03983
00110		B7 ERHI	07488	49	08042
00120		C 3985,LDCTR+12	07496	24	03985 08041
00130		BNE ERHI	07508	47	08042 01200
00140	TDI	TD 4000,4003,27	07520	25	-4000 -4003
00150		AM TDI+6,1	07532	11	07526 -0001
00160		AM TDI+11,2	07544	11	07531 -0002
00170		CM TDI+6,4067	07556	14	07526 -4067
00180		BNE TDI,,, CONVERT CNTRL CD TO NUMERIC	07568	47	07520 01200
00190	SF1	SF 4001,,, SET FIELD FLAG ON SECTOR ADDR	07580	32	04001 00000
00200		SF 4008,,, AND ON SECTOR COUNT	07592	32	04008 00000
00210	TEMPSC	DS ,SF1+11	07591		0
00220		SF 4014	07604	32	04014 00000
00230		S 4012,4005	07616	22	04012 04005
00240		BL ERHI	07628	47	08042 01300
00250	TDM	4006,0,, PLACE REC MK FOR TR	07640	15	04006 00000
00260	DC	1,','*	07651		1
00270		TR DSKOUT,4000	07652	31	09028 04000
00280		AM 4012,1	07664	11	04012 -0001
00290		TF TOTSEC,4012,, SAVE TOTAL SECTOR COUNT	07676	26	08511 04012
00300		TFM TEMPSC,0	07688	16	07591 -0000
00310		SF 4060	07700	32	04060 00000
00320		TF CM+11,4064	07712	26	07879 04064
00330		TF CM+9,4016	07724	26	07877 04016
00340		AM CM+11,1	07736	11	07879 -0001
00350	INITZ	TFM DSKOUT+8,0,9, MAKE SECTOR CNT ZERO	07748	16	09036 00-00
00360		TFM DSKOUT+13,5000	07760	16	09041 -5000
00370		TD NUP+1,1,, MAKE WLRC SW INTO NOP	07772	25	09287 00001
00380	*				
00390	*	READ INPUT FOR DISK LOAD			
00400	*				
00410	CDINI	TFM RC+6,5000	07784	16	07814 -5000
00420		TFM CM+6,5079	07796	16	07874 -5079
00430	RC	RNCD 5000,,2, RNPT IF PAPER TAPE INPUT *****	07808	36	-5000 00500
00440		BI HALTRD,0600	07820	46	07996 00600
00450		TF BF+11,CM+6,, NOP IF P. T.	07832	26	07867 07874
00460		SM BF+11,4,, NOP IF P. T.	07844	12	07867 -0004
00470	BF	BNF CD1, 0,, NOP IF PAPER TP *****	07856	44	08466 00000
00480	CM	CM 5079,1,27, COMPARE CD SEQ NOP IF TP*****	07868	14	-5079 -0001
00490		BNE ERSEQ-12,,, NOP IF TP*****	07880	47	08250 01200
00500		AM CM+11,1	07892	11	07879 -0001
00510		BD RCTRL,ERSEQ+10,, BR TO READ TRAILER	07904	43	08488 08272
00520		CM RC+6,5000,,CK FOR FIRST CD OF SET	07916	14	07814 -5000
00530		BE ADJUST	07928	46	08158 01200
00540		CM RC+6,5075,,2ND CD CK	07940	14	07814 -5075
00550		BE ADJUST	07952	46	08158 01200

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00560	CM	RC+6,5150,,3RD CD CK	07964	14	07814	-5150
00570	BE	ADJUST	07976	46	09158	01200
00580	B7	WRDSK,,, 4TH CD WAS READ, WRITE 3 SECTORS	07988	49	09042	
00590 *						
00600	HALTRD	WATY **15	07996	39	08011	00100
00610	DAC	6,HRDER'	08009		6 X	2
		HRDEK'				
00620	B7	RC	08020	49	07808	
00630 *						
00640	LDCTR	DAC 7,*LDCNTR	08029		7 X	2
		*LDCNTR				
00650	ERHI	RCTY	08042	34	00000	00102
00660		WATY ERHIGH	08054	39	08087	00100
00670		H	08066	48	00000	00000
00680	B7	STAR	08078	49	07404	
00690	ERHIGH	DAC 36,CONTROL STATEMENT INVALID, RE-ENTER'	08087		36 X	2
		CONTROL STATEMENT INVALID, RE-ENTER'				
00700	ADJUST	AM DSKOUT+8,1,9, INCREMENTSECTOR COUNT	08158	11	09036	00-01
00710		AM RC+6,75,, INCREMENT READ-IN POINTER	08170	11	07814	-0075
00720		AM CM+6,75,, INCREMENT SEQ NUM ADDRESS	08182	11	07974	-0075
00730		AM TEMPSC,1,, ADD TO COUNT OF SECTORS USED	08194	11	07591	-0001
00740	C	TOTSEC,TEMPSC,, ALL SECTORS PREPARED FOR LOAD	08206	24	09511	07591
00750	BNE	RC,,, READ ANOTHER RECORD	08218	47	07808	01200
00760	TDM	ERSEQ+10,1,, SET TERMINAL INDICATOR	08230	15	08272	00001
00770	B7	RC	08242	49	07808	
00780 *						
00790 *		SEQUENCE ERROR ROUTINE				
00800 *						
00810	TFM	SAVMS1+18,RC	08250	16	08352	-7808
00820	ERSEQ	RCTY	08262	34	00000	00102
00830	BD	TRSEQ,ERSEQ+10	08274	43	08354	08272
00840	TF	WOUT+4,CM+6,11, TRANSFER WRONG SEQ NO. FOR PRINTING	08286	26	08464	0787M
00850		WNTY WOUT	08298	38	08460	00100
00860		WATY ERR	08310	39	08391	00100
00870	BI	**12,0700	08322	46	08334	00700
00880	SAVMS1	H	08334	48	00000	00000
00890	B7	RC	08346	49	07808	
00900	TRSEQ	WATY TC	08354	39	08375	00100
00910	B7	SAVMS1-12	08366	49	08322	
00920	TC	DAC 8,TRAILER ,	08375		8 X	2
		TRAILER				
00930	ERR	DAC 35, CARD SEQ ERROR, CORRECT AND START'	08391		35 X	2
		CARD SEQ ERROR, CORRECT AND START'				
00940	WOUT	DSC 6,00000'	08460		6	
		00000'				
00950 *						
00960 *						
00970 *		TRAILER CARD EARLY DETECTION ROUTINE				
00980 *						
00990	CD1	TFM CM+6,0,67, SPECIAL SEQ NUM IF NON-SEQ AND NOT TRAILER	08466	16	0787M	-0000
01000	B7	CM	08478	49	07868	
01010 *						
01020 *						
01030	SKADR	DC 3,999	08487		3	
		R99				
01040 *						

01050 *	LAST CD READ AND CK				
01060 *					
01070 RDTRL	RNCD 5311,,, READ TRAILER	RNPT IF PAPER TAPE *****	08488	36	05311 00500
01080 TOTSEC	DS ,RDTRL+23		08511		0
01090	SF 5311		08500	32	05311 00000
01100	TFM SAVMS1+18,RDTRL		08512	16	08352 -8488
01110	C 5390,CM+11,,, NOP IF P. T. *****		08524	24	05390 07879
01120	BNE ERSEQ,,, NOP IF P. T. *****		08536	47	08262 01200
01130	BD **60,5318		08548	43	08608 05318
01140	BD **48,5317		08560	43	08608 05317
01150	BNR **36,5316		08572	45	08608 05316
01160	CM 5315,99999		08584	14	05315 R9999
01170	BE WRDSK,,, BR IF TRAILER OK		08596	46	09042 01200
01180 *	ERROR NO TRAILER REC				
01190 *					
01200 ERTR	RCTY		08608	34	00000 00102
01210	WATY NOTRL		08620	39	08713 00100
01220	RCTY		08632	34	00000 00102
01230	WATY NOTRL2		08644	39	08807 00100
01240	RCTY		08656	34	00000 00102
01250	BI **12,0700		08668	46	08680 00700
01260	TDM ERSEQ+10,0		08680	15	08272 00000
01270	H		08692	48	00000 00000
01280	B7 ERTR		08704	49	08608
01290 NOTRL	DAC 47,NO TRAILER REC. CORRECT, RE-LOAD COMPLETE DECK'		08713		47 X 2
	NO TRAILER REC. CORRECT, RE-LOAD COMPLETE DECK'				
01300 NOTRL2	DAC 30,WITH CNTR REC, AND BR TO 7404'		08807		30 X 2
	WITH CNTR REC, AND BR TO 7404'				
01310 *					
01320 NAM	DAC 50,		08867		50 X 2
01330	DAC 31,		08967		31 X 2
01340 DSKOUT	DSS 6		09028		6
01350	DC 3,0		09036		3
	-00				
01360	DSA 5000		09041		5 X 1
			09041		-5000
01370 *	WRITE DISK ROUTINE				
01380 WRDSK	C DSKOUT+3,SKADR,,, CK FOR SEEK NEEDED		09042	24	09031 08487
01390	BE **36		09054	46	09090 01200
01400 SKI	SK DSKOUT		09066	34	09028 00701
01410	TF SKADR, DSKOUT+3,,, SAVE SEEK ADDRESS		09078	26	08487 03031
01420	WDM DSKOUT		09090	38	09028 00702
01430	CDN DSKOUT		09102	36	09028 00703
01440	BI ASC,3800,,, BR OVERFLOW		09114	46	09452 03800
01450	BI TEST,1900,,, BR ANY OTHER ERROR		09126	46	09214 01900
01460	BNI SM2,1900,,, BR NO ERRORS		09138	47	09182 01900
01470 H2	H		09150	48	00000 00000
01480	BI **12,0700		09162	46	09174 00700
01490	B7 SKI		09174	49	09066
01500 SM2	A DSKOUT+5,DSKOUT+8,,,ADD NUMB SECT WRITTEN TO SECTOR ADDR		09182	21	09033 09036
01510	BD END,ERSEQ+10,,, BRANCH IF LAST WRITE		09194	43	09508 08272
01520	B7 INITZ,,, BRANCH IF NOT LAST WRITE		09206	49	07748
01530 *					

MONITOR SYSTEM LOADER

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01540 TEST	BI	++12,0600		09214	46	09226	00600
01550	RI	++12,0700		09226	46	09238	00700
01560	BI	++12,1600		09238	46	09250	01600
01570	BI	++12,1700		09250	46	09262	01700
01580	BI	++12,3600		09262	46	09274	03600
01590	BI	++12,3700		09274	46	09286	03700
01600 *		WRUNG LEN REC CK ROUTINE					
01610 NOP	NOP	ONESEC,,, NOP 1ST TIME, BRANCH 2ND TIME		09286	41	09318	00000
01620	TD	NOP+1,9		09298	25	09287	00009
01630	B7	SKI		09310	49	09066	
01640 ONESEC	TDM	NOP+1,1		09318	15	09287	00001
01650	RCTY			09330	34	00000	00102
01660	WATY	DERR		09342	39	09387	00100
01670	BI	++12,0700		09354	46	09366	00700
01680	H			09366	48	00000	00000
01690	B7	SKI		09378	49	09066	
01700 DERR	DAC	33,DISK RD WR ERROR, START TO RETRY'		09387		33 X	2
		DISK RD WR ERROR, START TO RETRY'					
01710 *							
01720 *		OVERFLOW ROUTINE					
01730 ASC	BI	H2,1900,, BR IF OTHER ERROR ALSO		09452	46	09150	01900
01740	AM	DSKOUT+13,100,, INCREMENT CORE WRITE-OUT ADDRESS		09464	11	09041	-0100
01750	AM	DSKOUT+5,1,, INCREMENT SECTOR ADDR		09476	11	09033	-0001
01760	SM	DSKOUT+8,1,9		09488	12	09036	00-01
01770	B7	SKI		09500	49	09066	
01780 *							
01790 *		END ROUTINE					
01800 *							
01810 END	TDM	ERSEQ+10,0		09508	15	08272	00000
01820	TF	LDMESS+10,3999,, GET NAME INTO MESSAGE		09520	26	09717	03999
01830	RCTY			09532	34	00000	00102
01840	WATY	LDMESS		09544	39	09707	00100
01850	BI	++12,0700		09556	46	09568	00700
01860	TDM	4006,0		09568	15	04006	00000
01870	DC	1,*,*		09579		1	
01880	WNTY	4000		09580	38	04000	00100
01890	BI	++12,0700		09592	46	09604	00700
01900	A	4005,TOTSEC,, PREPARE FINAL		09604	21	04005	08511
01910	SM	4005,1,, SECTOR TYPEOUT		09616	12	04005	-0001
01920	WATY	LDMES2		09628	39	09697	00100
01930	WNTY	4000		09640	38	04000	00100
01940	BI	++12,0700		09652	46	09664	00700
01950	BC1	++24		09664	46	09688	00100
01960 SAVMES	H			09676	48	00000	00000
01970	B7	STAR		09688	49	07404	
01980 *							
01990 LDMES2	DAC	5, TO '		09697		5 X	2
		TO '					
02000 LDMES2	DAC	20,AAAAAA LOADED FROM '		09707		20 X	2
		AAAAAA LOADED FROM '					
02010	DEND	STAR		07404			

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ADJUST 08158	BF 07856	ERTR 08608	SF1 07580	WOUT 08460
DSKOUT 09028	CD1 08466	H2 09150	SKADR 08487	WRDSK 09042
ERHIGH 08087	CDINI 07784	INITZ 07748	SKI 09066	SAVMES 09676
HALTRD 07996	CM 07868	LDCTR 08029	SM2 09182	SAVMS1 08334
LDMES2 09697	DERR 09387	NAM 08867	STAR 07404	TEMPSC 07591
LDMESS 09707	END 09508	NOP 09286	TC 08375	TOTSEC 08511
NOTRL2 08807	ERHI 08042	NOTRL 08713	TDI 07520	
ONESEC 09318	ERR 08391	RC 07808	TEST 09214	
ASC 09452	ERSEQ 08262	RTRL 08488	TRSEQ 08354	

END OF ONE ASSEMBLY.

ZZJ0R	FORTRAN II-D SAMPLE PROGRAMZ	0001
ZZFORX51 Z		0002
	DIMENSION F(10),F(10),G(10),H(5,5),FUNCT(50),H1(5,5),VALUE(50)	0003
	DIMENSION ARG(10)	0004
	DEFINITE DISK (10,200)	0005
	EQUIVALENCE (F,ARG),(VALUE,G,H),(FUNCT,F,H1)	0006
	SCSFCT(X)=SINF(X)**2+COSF(X)**2	0007
20	READ 999,XZERO,XMAX,DELX	0008
50	READ 987,A,B,C,D	0009
	READ 992,(ARG(J),J=1,10)	0010
	READ 991,(VALUE(L),L=1,50)	0011
	READ 991,(FUNCT(L),L=1,50)	0012
	IND=1	0013
	RECORD(IND) ARG,VALUE,FUNCT	0014
	READ 988,((H(M,N),N=1,5),M=1,5)	0015
	RECORD(IND) H	0016
	READ 984,(F(I),I=1,10)	0017
	READ 984,(G(J),J=1,10)	0018
	PRINT 983	0019
200	X=XZERO	0020
30	X1=SINF(X)	0021
	X2=COSF(X)	0022
	X3=SINF(X)/COSF(X)	0023
	X4=EXPF(X)	0024
	X5=FXPF(-X)	0025
	X6=LOGF(X)	0026
	X7=LOGF(X)/2.3058509	0027
	X8=SQRTF(X)	0028
	X9=ATANF(X)	0029
	X10=LOGF(X3)/2.3058509	0030
	PRINT 998,X,X1,X2,X3	0031
	PRINT 998,X,X4,X5	0032
	PRINT 998,X,X6,X7	0033
	PRINT 998,X,X8	0034
	PRINT 998,X,X9,X10	0035
	PRINT 988	0036
	IF(X-XMAX) 40,51,51	0037
40	X=X+DELX	0038
	GO TO 30	0039
51	DO 61 I=1,10,5	0040
	E(I)=SCSFCT(F(I))	0041
	DO 55 J=1,10,5	0042
	F(I)=J	0043
	PRINT 999, F(I)	0044
	K=G(J)	0045
	PRINT 998,E(I)	0046
	PRINT 993,J,G(J),K	0047
55	CONTINUE	0048
61	CONTINUE	0049

IND=1	0050
FFTC(IND) ARG,VALUF,FUNCT	0051
DO 63 J=1,10	0052
DO 70 L=1,50	0053
IF(ARG(J)-VALUE(L))70,65,70	0054
65 PRINT 990,ARG(J),FUNCT(L)	0055
70 CONTINUE	0056
63 CONTINUE	0057
FETCH(IND) H	0058
DO 130 M=1,2	0059
DO 80 N=1,3	0060
H1(M,N)=H(M,N)*1.0E+2	0061
PRINT 990,H1(M,N)	0062
80 CONTINUE	0063
130 CONTINUE	0064
PAUSE	0065
GO TO 20	0066
983 FORMAT(11X 1HX 13X 6HSIN(X) 10X 6HCOS(X) 10X 6HTAN(X) /11X1HX 13X	0067
1 6HEXP(X) 10X 7HEXP(-X)/ 11X 1HX 13X 6HLOG(X) 9X 8HLOG10(X)/ 11X	0068
2 1HX 13X 7HSQRT(X)/ 11X 1HX 13X 7HATAN(X) 7X 13HLOG10(TAN(X))//)	0069
998 FORMAT(4F16.8)	0070
991 FORMAT(10F5.2)	0071
992 FORMAT(F4.2,9F5.2)	0072
993 FORMAT(I3,5X,F10.7,5X,I3)	0073
984 FORMAT(10F4.2)	0074
987 FORMAT(F5.3,1X,F5.3,1X,F5.3,1X,F5.3)	0075
999 FORMAT(3F4.0)	0076
990 FORMAT(2F20.7)	0077
988 FORMAT(10F4.3)	0078
END	0079
*DATA	
.40 .60 .10	0080
1.111 2.222 3.333 4.444	0081
5.0 10.0 24.0 11.0 39.0 17.0 44.0 41.0 50.0 1.0	0082
1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0	0083
11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0	0084
21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0	0085
31.0 32.0 33.0 34.0 35.0 36.0 37.0 38.0 39.0 40.0	0086
41.0 42.0 43.0 44.0 45.0 46.0 47.0 48.0 49.0 50.0	0087
1.10 2.10 3.10 4.10 5.10 6.10 7.10 8.10 9.10 10.1	0088
11.1 12.1 13.1 14.1 15.1 16.1 17.1 18.1 19.1 20.1	0089
21.1 22.1 23.1 24.1 25.1 26.1 27.1 28.1 29.1 30.1	0090
31.1 32.1 33.1 34.1 35.1 36.1 37.1 38.1 39.1 40.1	0091
41.1 42.1 43.1 44.1 45.1 46.1 47.1 48.1 49.1 50.1	0092
.11 .22 .33 .44 .55 .66 .77 .88 .99 .10	0093
.11 .12 .13 .14 .15 .16 .17 .18 .19 .20	0094
.21 .22 .23 .24 .25	0095
1.1 2.2 3.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0	0096
2.1 2.2 3.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0	0097

*THIS PROGRAM COMPUTES THE AREA UNDER THE CURVE
 *SORT(3X**2)ARCSINEX,WHERE X LIES BETWEEN 0 AND 1. THE AREA IS
 *COMPUTED BY SIMPSONS RULE
 * FOR NUMERICAL INTEGRATION. THE AREA IS EVALUATED USING THREE
 * DIFFERENT VALUES FOR DELTAX. THEY ARE 0.100, 0.050, AND 0.025.
 START TF DELTAX,X,7,TRANSMIT VALUE OF INCREMENT

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    TF AREA,Z-3
    TF XSUBN,UNIT
    TDM SW3+1,1,,SET SW3 OFF
    TDM SW2+1,1,,SET SW2 OFF
    TDM SW1+1,1,,SET SW1 OFF
    TR ASUBN-9,CONST-9,,TRANSMIT ASUB5 TO ASUB0
    TF PSIX,ASUBN
  ASINE M PSIX,XSUBN
        SF #4
        BNF **2*L,99
        SF 93
        TF PSIX,93
        TR ASUBN-9,ASUBN+1
        A PSIX,ASUBN
        BNR ASINE,ASUBN+1
        RNC1CONTA
        TD POLY+48,PSIX-9
        TD POLY+52,PSIX-8
        TD POLY+54,PSIX-7
        TD POLY+56,PSIX-6
        TD POLY+58,PSIX-5
        TD POLY+60,PSIX-4
        TD POLY+62,PSIX-3
        TD POLY+64,PSIX-2
        TD POLY+66,PSIX-1
        TD POLY+68,PSIX
        TD POLY+12,XSUBN-6
        TD POLY+16,XSUBN-5
        TD POLY+18,XSUBN-4
        TD POLY+20,XSUBN-3
        RCTY
        WATYPOLY
  CONTA TF RADCND,UNIT
        S RADCND,XSUBN,,RADICAND = 1-X
        TR RADCND,ZNINES-13,
        BNC1CONTB
        TD ARG+42,RADCND-6
        TD ARG+46,RADCND-5
        TD ARG+48,RADCND-4
        TD ARG+50,RADCND-3
        TD ARG+52,RADCND-2
        TD ARG+54,RADCND-1
        TD ARG+56,RADCND
  
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RCTY
WATYARG
CONTB TF NINE,TWO9
      TF ODDINT,ONEONE
      B **2*L
ROOT  A ODDINT-8,TWO
      S RADCND+7,ODDINT
      BNN ROOT
      A RADCND+7,ODDINT
      TR RADCND-7,RADCND-6
      SF RADCND-7
      S ODDINT-8,NINE
      TF NINE,NINE-1
      BNF ROOT+1*L,TWO+1
      TF SQRT,NINF5
      SF RADCND+1
      S SQRT,RADCND+6
      BNC1CONTC
      TD GENRT+24,SQRT-5
      TD GENRT+28,SQRT-4
      TD GENRT+30,SQRT-3
      TD GENRT+32,SQRT-2
      TD GENRT+34,SQRT-1
      TD GENRT+36,SQRT
RCTY
WATYGENRT
CONTC M SQRT,PSIX
      SF 85
      TF TEMP1,94
      RNC1SW1
      TD FUNCT+10,TEMP1-9
      TD FUNCT+14,TEMP1-8
      TD FUNCT+16,TEMP1-7
      TD FUNCT+18,TEMP1-6
      TD FUNCT+20,TEMP1-5
      TD FUNCT+22,TEMP1-4
      TD FUNCT+24,TEMP1-3
      TD FUNCT+26,TEMP1-2
      TD FUNCT+28,TEMP1-1
      TD FUNCT+30,TEMP1
RCTY
WATYFUNCT
SW1  B SW2
      M XSUBN,XSUBN
      SF 87
      TF TEMP2,96
      MM TEMP2,3,10
      SF 90
      TF RADCND,96

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      TF PSIX,CONST+50
      S  PSIX,TFMP1
      TDM SW1+1,9
      B  ROOT-14*L
SW2   B  ODDVN
      A  AREA,TEMP1-4,,FO+FN
*  INITIALIZATION FOR FSUBODD
      TF XSUBN,DELTA
      TFM MULT+11,4,10
      TDM SW2+1,9
      TF ACCUM,2
      TF TEMP3,DELTA
      A  TEMP3,TEMP3
      B  ASINE-3*L
ODDVN A  ACCUM,TEMP1
      A  XSUBN,TEMP3
      C  XSURN,NINES
      BNM ASINE-3*L
MULT  MM ACCUM
      SF  88
      A  AREA,95
SW3   B  **6*L
*  INITIALIZATION FOR FSUBEVEN
      TFM MULT+11,2,10
      TF  ACCUM,2
      TF  XSUBN,TEMP3
      TDM SW3+1,9
      R  ASINF-3*L
      M  AREA,DELTA
      SF  88
      TF  TEMP1,97
      M  TFMP1,THREES
      TD  OUTPUT+26,DELTA-5
      TD  OUTPUT+28,DELTA-4
      TD  OUTPUT+30,DELTA-3
      TD  OUTPUT+46,83
      TD  OUTPUT+50,84
      TD  OUTPUT+52,85
      TD  OUTPUT+54,86
      TD  OUTPUT+56,87
      TD  OUTPUT+58,88
      RCTY
      WATYOUTPUT
      AM  START+11,7,10
      CM  START+11,X+21
      BNE START
CALXITCALLEXIT
*  ARFA DEFINITIONS
DELTA XDS 7

```

```
X      DC 7,100000
      DC 7,50000
      DC 7,25000
ARFA   DS 8
Z      DC 11,0
XSUBN  DS 7
UNIT   DC 7,1000000
ASUBN  DSB 10,6
      DS 1
CONST  DC 10,-4337769
      DC 10,19349939
      DC 10,-44958884
      DC 10,87876311
      DC 10,-214512362
      DC 11,1570795207
L      DS ,12
PSIX   DS 10
      DS 1
RADCND DS 7
      DS 13
7NINFS DC 15,9999999
TWO    DS 6
NINF   DS 6
TWO9   DC 12,200000090000
ODDINT DS 14
ONEONEDC 14,10000000000001
SQRT   DS 6
NINFS  DC 6,999999
TEMP1  DS 10
TEMP2  DS 10
ACCUM  DS 11
TEMP3  DS 7
THRFESDC 7,3333333
POLY   DAC 36, FOR X=0.000, POLYNOMIAL=0.000000000
ARG    DAC 30, SQUARE ROOT ARGUMENT=0.000000
GENRT  DAC 20, SQUARE ROOT=0.000000
FUNCT  DAC 17, F(X)=0.000000000
OUTPUTDAC 31, FOR DELTAX=0.000, AREA=0.000000
      DENDSTART
```

##JOB

##SPSX5

END OF ASSEMBLY.
U4660 CORE POSITIONS REQUIRED
U0186 STATEMENTS PROCESSED

EXECUTION

FOR DELTAX=0.100, AREA=0.68656
FOR DELTAX=0.050, AREA=0.68241
FOR DELTAX=0.025, AREA=0.68096
END OF JOB

##JOB

FORTRAN II-D SAMPLE PROGRAM

##FORX51

```
DIMENSION E(10),F(10),G(10),H(5,5),FUNCT(50),H1(5,5),VALUE(50)
DIMENSION ARG(10)
DEFINE DISK (10,200)
EQUIVALENCE (F,ARG),(VALUE,G,H),(FUNCT,E,H1)
SCSFCT(X)=SINF(X)**2+COSF(X)**2
20 READ 999,XZERO,XMAX,DELX
50 READ 987,A,B,C,D
   READ 992,(ARG(J),J=1,10)
   READ 991,(VALUE(L),L=1,50)
   READ 991,(FUNCT(L),L=1,50)
   IND=1
   RECORD(IND) ARG,VALUE,FUNCT
   READ 988,((H(M,N),N=1,5),M=1,5)
   RECORD(IND) H
   READ 984,(F(I),I=1,10)
   READ 984,(G(J),J=1,10)
   PRINT 983
200 X=XZERO
   30 X1=SINF(X)
     X2=COSF(X)
     X3=SINF(X)/COSF(X)
     X4=EXPF(X)
     X5=EXPF(-X)
     X6=LOGF(X)
     X7=LOGF(X)/2.3058509
     X8=SQRTF(X)
     X9=ATANF(X)
     X10=LOGF(X3)/2.3058509
     PRINT 998,X,X1,X2,X3
     PRINT 998,X,X4,X5
     PRINT 998,X,X6,X7
     PRINT 998,X,X8
     PRINT 998,X,X9,X10
     PRINT 988
     IF(X-XMAX) 40,51,51
40 X=X+DELX
   GO TO 30
51 DO 61 I=1,10,5
   E(I)=SCSFCT(F(I))
   DO 55 J=1,10,5
   F(I)=J
   PRINT 999, F(I)
   K=G(J)
   PRINT 998,E(I)
   PRINT 993,J,G(J),K
55 CONTINUE
61 CONTINUE
   IND=1
   FETCH(IND) ARG,VALUE,FUNCT
   DO 63 J=1,10
   DO 70 L=1,50
   IF(ARG(J)-VALUE(L))70,65,70
```

Output
Page 2

```

65 PRINT 990,ARG(J),FUNCT(L)
70 CONTINUE
63 CONTINUE
  FETCH(IND) H
  DO 130 M=1,2
  DO 80 N=1,3
  H1(M,N)=H(M,N)*1.0E+2
  PRINT 990,H1(M,N)
  80 CONTINUE
130 CONTINUE
  PAUSE
  GO TO 20
983 FORMAT(11X 1HX 13X 6HSIN(X) 10X 6HCOS(X) 10X 6HTAN(X) /11X1HX 13X
  1 6HEXP(X) 10X 7HEXP(-X)/ 11X 1HX 13X 6HLOG(X) 9X 8HLOG10(X)/ 11X
  2 1HX 13X 7HSQRT(X)/ 11X 1HX 13X 7HATAN(X) 7X 13HLOG10(TAN(X))// )
998 FORMAT(4F16.8)
991 FORMAT(10F5.2)
992 FORMAT(F4.2,9F5.2)
993 FORMAT(13,5X,F10.7,5X,13)
984 FORMAT(10F4.2)
987 FORMAT(F5.3,1X,F5.3,1X,F5.3,1X,F5.3)
999 FORMAT(3F4.0)
990 FORMAT(2F20.7)
988 FORMAT(10F4.3)
  END
00003 0002
00007 0001
00011 0010
00015 0050
00019 0005
00029 2305850901
00033 0003
00043 1000000003
00053  FUNCT 00543
00053  E 00143
00053  H1 00293
00553  F 00643
00553  ARG 00643
00653  VALUE 01143
00653  G 00743
00653  H 00893
01153  X*
01163  XZERO
01173  XMAX
01183  DELX
01193  A
01203  B
01213  C
01223  D
01227  J
01231  L
01235  IND
01239  M
01243  N
01247  I
01257  X

```

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01267 X1
01277 X2
01287 X3
01297 X4
01307 X5
01317 X6
01327 X7
01337 X8
01347 X9
01357 X10
01361 K

0020 01520
0050 01580
0200 02620
0030 02644
0040 03374
0051 03418
0055 04018
0061 04054
0065 04394
0070 04514
0063 04550
0080 04886
0130 04922
0983 04984
0998 05426
0991 05466
0992 05506
0993 05556
0984 05616
0987 05656
0999 05738
0990 05778
0988 05818

05872 CORES USED
59999 NEXT COMMON
END OF COMPILATION
EXECUTION

MAIN 07500 05872 LOADED
15 I3372 00526 LOADED
14 I3898 01234 LOADED
12 I5132 00880 LOADED
06 I6012 01228 LOADED
03 I7240 00510 LOADED
02 I7750 01062 LOADED
01 I8812 00802 LOADED

X	SIN(X)	COS(X)	TAN(X)
X	EXP(X)	EXP(-X)	
X	LOG(X)	LOG10(X)	
X	SQRT(X)		
X	ATAN(X)	LOG10(TAN(X))	
.40000000	.38941834	.92106099	.42279321
.40000000	1.49182460	.67032004	
.40000000	-.91629073	-.39737640	
.40000000	.63245553		
.40000000	.38050637	-.37334247	
.50000000	.47942553	.87758256	.54630248
.50000000	1.64872120	.60653065	
.50000000	-.69314717	-.30060363	
.50000000	.70710678		
.50000000	.46364761	-.26219494	
.60000000	.56464247	.82533561	.68413680
.60000000	1.82211870	.54881163	
.60000000	-.51082562	-.22153454	
.60000000	.77459666		
.60000000	.54041950	-.16462355	
1.			
1	.99999998		
6.	2.10000000	2	
6.	.99999998		
6	2.60000000	2	
1.			
1	.99999999		
6.	2.10000000	2	
6.			
6	.99999999		
	2.60000000	2	
	5.00000000		5.10000000
	10.00000000		10.10000000
	24.00000000		24.10000000
	11.00000000		11.10000000
	39.00000000		39.10000000
	17.00000000		17.10000000
	44.00000000		44.10000000
	41.00000000		41.10000000
	50.00000000		50.10000000
	1.00000000		1.10000000
	11.00000000		
	22.00000000		
	33.00000000		
	66.00000000		
	77.00000000		
	88.00000000		

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IBM

40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

DR. JOHN MANIOTES
COMPUTER TECHNOLOGY DEPT.
PURDUE UNIVERSITY
CALUMET CAMPUS
HAMMOND, IN 46323
August 12, 1963

International Business Machines Corporation

MEMORANDUM TO: Users of the "IBM 1620 Data Processing System"
IBM 1620 Monitor I Program

SUBJECT: 1620-1311 Monitor I System
#1620-PR-025 (Card System)

We are forwarding the subject system to you with this memorandum and are providing the following abstract which summarizes its capabilities.

Abstract for 1620-1311 Monitor I System

A. Purpose

Monitor I, a disk-oriented system, allows the user to execute several programs without operator intervention. Jobs to be performed are stacked and separated by control records that identify the jobs. Jobs may be processed in any order; i. e., FORTRAN compiling jobs, user jobs, SPS assembly jobs, and DISK UTILITY PROGRAMS (DUP) may be entered as input. Input may be from cards, paper tape or typewriter.

Use of the Monitor I System reduces the amount of operator supervision time required of the programmer. Substantial savings in set-up time are achieved when jobs are performed using the Monitor I System. The IBM 1620 Monitor I System is comprised of:

Supervisor Program
Disk Utility Program
SPS II-D
FORTRAN II-D

The Monitor I Supervisor Program consists of the following three routines.

IBM

40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

SEPTEMBER, 1965

ADDRESS CHANGE:

ANY DISCREPANCY BETWEEN MATERIAL RECEIVED AND THE
MATERIAL ORDERED SHOULD BE FORWARDED TO THE PROGRAM
INFORMATION DEPARTMENT, NOW LOCATED AT 40 SAW MILL RIVER
ROAD, HAWTHORNE, NEW YORK - 10532

PROGRAM INFORMATION DEPARTMENT

The Monitor I Control Record Analyzer determines the type of Monitor I Control Record entered into the system, tests for Monitor I control record validity, tests for the correct disk pack on each drive, and takes appropriate action to load and execute the job specified.

The Input-Output Routine (IORT) provided in the Supervisor performs input-output functions and tests all error indicators. It attempts to correct and re-execute the input or output function where possible. In the event of cylinder overflow, feasibility is tested and adjustments are made in disk address, sector count and core address. A seek is made and the file operation is executed for the adjusted disk control field.

The System Output Format Loader is used by the Supervisor as necessary to load SPS II-D assembled or FORTRAN II-D compiled programs from card, paper tape, or disk to core storage.

SPS II-D is designed to operate with the Monitor I System and cannot be operated independently. Card, typewriter, paper tape, and disk storage input/output routines, contained in the Supervisor program, are used by the SPS II-D macro-instructions to perform their assigned tasks.

SPS control records are provided to control the assembly of SPS II-D programs. These records may be in card, paper tape, or typewriter form.

FORTRAN II-D is an integral part of the Monitor I System and cannot be operated independently. Card, typewriter, paper tape, and disk storage input/output routines, contained in the Supervisor program, are used by the FORTRAN II-D statements.

In contrast to the basic FORTRAN II compiler, the disk-oriented compiler requires only 20,000 positions of core storage. Another feature of FORTRAN II-D is its ability to accept source statements from the 1621 Paper Tape Reader.

FORTRAN control records are provided to control the compilation of FORTRAN II-D programs. These records may be in card, paper tape, or typewriter form.

The Disk Utility Program (DUP) is a group of routines designed to assist the User in the day-to-day operation of his installation. By means of

these routines, certain frequently required operations, such as loading or unloading disk storage (data or programs) from cards or paper tape, etc., can be performed with minimum programming effort by the user.

DUP is an essential part of the Monitor I System and cannot be operated independently.

A DUP control record is required each time a Disk Utility routine is to be executed.

B. Use

The complete Monitor I System resides in 1311 disk storage. The Supervisor (Monitor I Control Record Analyzer and IORT) is called into core storage and it requests the entry of a Monitor I control record from typewriter, card reader, or paper tape reader. The control record may set up the system for a new job. Following may be Monitor I control records that specify programs to be compiled or assembled by the use of FORTRAN II-D or SPS II-D, a Disk Utility Program or data records.

When a Monitor control record specifying SPS II-D or FORTRAN II-D is encountered by the Supervisor, the appropriate program is brought into core storage from disk and given control. The system program assembles or compiles and stores the object program on disk. If execution of the currently assembled or compiled program is desired, it is loaded to core storage and given control.

An object program may also be stored on disk or punched in paper tape or cards after assembly or compilation. It may then be loaded to core storage at a later time and executed.

If DUP is specified by a Monitor I control record, the supervisor brings DUP into core storage and executes it. The Disk Utility Program will take control and select the appropriate Disk Utility routine as identified by the next record in sequence which should be a Disk Utility Program control record.

Machine Configuration

1. IBM 1620 Model I System with a minimum of 20,000 positions of core storage.
2. IBM 1311 Disk Storage Drive, Model 3.
3. Indirect Addressing Feature.
4. IBM 1622 Card Read-Punch.

According to the Program Request Form you submitted, the material being forwarded includes:

1. IBM 1620 Monitor I System (C26-5739)
2. IBM 1620 Monitor I System composed of:

<u>Label</u>	<u>Numbered in 76-80</u>
Monitor I System Loader, Deck #1	00001-00040
System Tables, Deck #2	02001-02108
	03001-03268
	04001-04108
Disk Utility Program, Deck #3	10000-10616
	11000-11135
	12000-12060
SPS II-D Subroutine Supervisor, Deck #4	20000-20069
SPS II-D Subroutines, Deck #5	22000-22535
SPS II-D Processor, Deck #6	23000-23924
Supervisor, Deck #7	80000-80268
FORTRAN II-D Processor, Deck #8	50000-50188
	51000-51987
FORTRAN Loader, Deck #9	63000-63268
	64000-64035
FORTRAN Subroutines with Auto Divide, Deck #10	52000-52268
	53000-53188
	54000-54009
	55000-55017
	56000-56023
	57000-57011
	58000-58045
	59000-59019
	60000-60025
	61000-61012
	62000-62004
FORTRAN Subroutines with Auto Floating Point, Deck #11	65000-65268
	66000-66188
	67000-67009
	68000-68016
	69000-69021
	70000-70011
	71000-71044
	72000-72017
	73000-73024
	74000-74012
	75000-75004

2. IBM 1620 Monitor I System composed of: (continued)

<u>Label</u>	<u>Numbered in 75-80</u>
Monitor I SPS II-D Sample Program	0001-0186
Monitor I FORTRAN II-D Sample Program	0001-0098

The following optional material is being forwarded, if requested:

1. Listings:

<u>Label</u>	<u>Pages</u>
<u>SPS II-D</u>	
SPS II-D, Phase A	1-57
SPS II-D, Phase B	1-56
SPS II-D, Subroutine Supervisor	1-12
SPS LIB - The SPS II-D Modification Program	1-5
SPS II-D Monitor I Subroutine Set 00	1-2
SPS II-D Monitor I Subroutine Set 01	1-18
SPS II-D Monitor I Subroutine Set 02	1-20
SPS II-D Monitor I Subroutine Set 03	1-16
<u>Supervisor</u>	
1620-1311 Supervisor and IORT	1-51
1620-1311 Monitor Loader (System Output Format)	1-13
<u>FORTRAN II-D</u>	
FORTRAN II-D, Phase 1-A	1-10
FORTRAN II-D, Phase 1-B	1-62
FORTRAN II-D, Phase 1-C	1-23
FORTRAN II-D, Phase 2	1-89
FORTRAN II-D Subroutines Set 1, Automatic Divide	1-55
FORTRAN II-D Subroutines Set 2, Automatic Divide	1-26
FORTRAN II-D Subroutines Set 3, Automatic Floating Pt.	1-48
FORTRAN II-D Subroutines Set 4, Automatic Floating Pt.	1-25
FORTRAN II-D Loader, Block 1	1-10
FORTRAN II-D Loader, Block 2	1-9
FORTRAN II-D Loader, Block 3	1-11
FORTRAN II-D Loader, Block 4	1-7
FORTRAN II-D Loader, Block 5	1-12
FORTRAN II-D Loader, Block 6	1-6
FORTRAN II-D Relocatable LN Routine	1-3
FORTRAN II-D Relocatable Floating Exponential Routine	1-4

1. Listings: (continued)

<u>Label</u>	<u>Pages</u>
<u>FORTRAN II-D</u>	
Subscripting Subroutine - Relocatable	1-2
FORTRAN Disk I/O without Floating Point	1-7
FORTRAN Relocatable Sine and Cosine Routine	1-4
FORTRAN Relocatable Arctangent Routine	1-4
FORTRAN Relocatable Square Root Routine	1-2
FORTRAN Relocatable Absolute Value Routine	1-2
FORTRAN Relocatable LN Routine with Floating Point	1-3
FORTRAN Relocatable Floating Exponential Routine with Floating Point	1-3
FORTRAN Relocatable Subscripting Subroutine with Floating Point	1-2
FORTRAN Relocatable Absolute Value Routine	1-1
FORTRAN Relocatable Disk I/O with Floating Point	1-7
FORTRAN Relocatable Sine and Cosine Routine with Floating Point	1-4
FORTRAN Relocatable Arctangent Routine with Floating Point	1-4
FORTRAN Relocatable Square Root Routine with Floating Point	1-2
FORTRAN Relocatable Absolute Value Routine with Floating Point	1-1
<u>Disk Utility Program</u>	
SELECTION ROUTINE	1-16
DWRAD	1-8
DALTR	1-9
DLABL	1-6
DFLIB	1-5
DCOPY	1-10
DLOAD-DREPL-DELET	1-58
DDUMP	1-13
DFINE	1-26
<u>Monitor System Loader</u>	1-5
<u>Monitor I SPS II-D Sample Program</u>	1-4
<u>Monitor I FORTRAN II-D Sample Program</u>	1-2
<u>Output from SPS II-D Sample Program</u>	1-1
<u>Output from FORTRAN II-D Sample Program</u>	2-5

2. Flow Charts

<u>Label</u>	<u>Pages</u>
<u>SPS II-D</u>	
SPS II-D, Phase A, Section A1	1-27
SPS II-D, Phases B1 and B2	1-27
SPS LIB, SPS II-D Modification Program, Entry and CTL STM Process	1-5
SPS II-D, Phase C	1-4
Subroutine Supervisor SPS II-D, XEQ Reading from Scratch to Core	1-8
<u>Supervisor</u>	
Monitor I IORT	1-7
Monitor Relocating Loader	1-4
Monitor Input Record Analyzer	1-5
<u>FORTRAN II-D</u>	
FORTRAN II-D, Phase 1	1-3 1-38 1-3
FORTRAN II-D, Phase 2	1-9
FORTRAN II I/O Subroutines	1-11 1-3
FORTRAN II-D Loader	1-4 1-3 1-2 1-2 1-1
FLIP Routine for LOCAL Subprograms	1-1
<u>Disk Utility Program</u>	
SELECTION ROUTINE	1-2
DWRAD	1-1
DLABL	1-2
DALTR	1-1
DELET	1-1
DCOPY	1-3
DFINE	1-1
DFLIB	1-1
DDUMP	1-6
SEQSUB	1-6
DLOAD	1-4
DREPL	5-6
Common Routines for DLOAD and DREPL	7-11

Note: The Monitor I System should be loaded in the sequence specified by Deck Numbers.

Deck Number 11 should not be loaded if FORTRAN Subroutines for Automatic Divide Feature only are required.

The sample programs provided with the system do not have monitor control records. These records should be entered via the typewriter, as shown on the sample program output pages.

After the Monitor I System has been loaded, a Cold Start Procedure must be executed. See the 1620 Monitor I System (C26-5739) for further explanation.

Reference

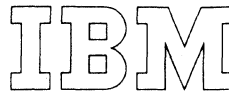
The following reference material will be useful in implementing Monitor I.
IBM 1620 Monitor I System (Form C26-5739)
IBM 1311 Disk Storage Drive, Model 3 (Form G26-5650)

The 1620 Monitor I System will be maintained through the use of modification letters. Whenever modifications are made to this system, a serially numbered letter, starting with 1, will be mailed to all users. The initial availability of this system is considered to be at modification level 0, and each letter increases this level by one. When this system is requested at a modification level other than 0, all modification letters will be supplied with the package, but only the latest deck will be forwarded since the system will always reflect the latest changes. Should the nature or quantity of changes make a reassembly necessary, a new version will be announced, and should be ordered through the IBM Branch Office. Modification letters to this version will begin at 1.

Any discrepancies between the material you receive and the items listed above (as well as any error in card reproduction) should be brought to the attention of the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

An Authorized Program Analysis Report should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose 14, California.

cc: Branch Offices, without encl.



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

September 9, 1963

MEMORANDUM TO: Users of 1620-1311 Monitor I System

SUBJECT: 1620-PR-025 (Card System)
Modification No. 1

This letter transmits Modification No. 1 of the 1620-1311 Monitor I System.

Twenty-eight new cards are provided. They should replace the correspondingly numbered cards in your Monitor I Card System as indicated below:

<u>Card Number</u>	<u>Deck Number</u>
03038	2
04013	2
20006	4
20012	4
20013	4
20048	4
20062	4
20063	4
23058	6
23840	6
23297	6
23851	6
23748	6
23871	6
51392	8
51246	8
51253	8
51710	8
51711	8
51712	8
51915	8
51922	8
51923	8
51928	8
51929	8
63007	9
63037	9
63261	9

Memo to Users of 1620-1311 Monitor I System
Program #1620-PR-025 (Card System)
Modification No. 1
Page 2

After replacing the above cards, the entire Monitor I System should be reloaded to the 1311 Disk Unit.

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

Continued use of the Authorized Programming Analysis Report form for reporting difficulties will be appreciated.

cc: Branch Offices without enclosures

SYSTEM TABLES - Deck #2

DIM Tables - The following changes should be made to Card No. 03038:

Change columns 28 through 34 from 8078078 to 7084116
change columns 72 through 74 from 272 to 350

SEQ PROG. LIST - Card No. 04013 should be changed as follows:

Change columns 21-24 from 9116 to 0140.

Two (2) new cards are provided, remove the present Card No. 03038 and 04013 and insert the new in Deck #2.

SPS II-D - Subroutine Supervisor, Deck #4

1. ERROR: During an assembly in which subroutines are used, the subroutines are written in system output format to cylinder 08 without reference to the Scratch cylinder.

CORRECTION: On page 3 of the listing, the statement at address 02803 should be changed as follows:

From: 00850 DDAW DSC 2,22 02803 00002
To: 00850 DDAW DSC 2,02 02803 00002

Remove Card No. 20006 from Deck #4 and insert the new card provided.

2. ERROR: An SPS Assembly requiring subroutines and having a * STORE CORE IMAGE control card will not load correctly.

CORRECTION: The following changes are necessary to correct the problem:

Page 4 of the listing (SPS Subroutine Supervisor) should be changed:

From: 01420 BE RDCTL, ,,BR IF CORE IMAGE etc. 03294 46 03346 01200
To: 01420 BE CORIM, ,,BR IF CORE IMAGE etc. 03294 46 07000 01200

Page 9 of the listing should be changed:

From: 04090 BNR *+36, ISTAT-30, ,,BR IF CARD IMAGE 05970 45 06006 07444
To: 04090 BNR *+36, CORIM ,,BR IF CARD IMAGE 05970 45 06006 07000

In addition, the following instructions must be inserted in page 10 of the listing between source statement numbers 04530 and 04540.

04531		DORG	7000	07000
04532	CORIM	TR	WA2, WA	07000 31 02934 07400
04533		TF	WA+70, RMS	07012 26 07470 06456
04534		TR	WA+8, WA2	07024 31 07408 02934
04535		TD	CORIM, RMS	07036 25 07000 06456
04536		AM	DDAR+11, 1, 10	07048 11 02576 00001
04537		B7	RDCTL	07060 49 03346

Five (5) new cards are furnished, they are cards numbers 20012, 20013, 20048, 20062, and 20063. Please remove the correspondingly numbered cards from Deck #4 and insert the new ones provided.

SPS II-D Processor, Deck #6

1. ERROR: If the \$ sign is improperly placed in a symbol, invalid characters are typed out in the error message.

CORRECTION: Page 12 of the Phase A listing is changed as follows:

From:	05640	BNE	ERCHAR	06628 47 06708 01200
To:	05640	BNE	DOLLAR-20	06628 47 06564 01200

Page 14 of the Phase B listing is changed as follows:

From:	06100	BNE	CHKND	07152 47 07750 01200
To:	06100	BNE	DOLLAR-20	07152 47 07076 01200

Two new cards are furnished: Card numbers 23058 and 23840. Remove the correspondingly numbered cards from Deck #6 and insert the new ones furnished.

2. ERROR: If a DNB statement specifies a length greater than 99 and the error is ignored, Phase A of the processor sets the length to 50 instead of 99.

CORRECTION: Page 33 of the Phase A portion of the SPS II-D listing is changed:

From:	16290	TFM	LNTH, 00050	12744 16 02387 00050
To:	16290	TFM	LNTH, 00099	12744 16 02387 00099

Card No. 23297 provided should replace the card by the same number in Deck #6.

3. ERROR: When assembling under the *ERROR STOP option, a spurious control card trap error may result in IORT under certain conditions.

CORRECTION: Page 15 of the Phase B listing of SPS II-D should be changed as follows:

From:	06830	B	IOGT, TYPIN 2-4,7	07934 49 00566 04154
To:	06830	RATY	INPUT+20	07934 37 02809 00100

Remove Card No. 23851 from Deck #6 and replace it with the new Card No. 23851 furnished.

4. ERROR: When assembling a long form DD or DDW declarative, the address counter is not incremented correctly.

CORRECTION: Page 42 of the Phase B listing of SPS II-D should be changed as follows:

From:	20670	BD	*+36, OP3SW	13662 43 13698 13035
To:	20670	BNF	*+36, OP3SW	13662 44 13698 13035

Remove Card No. 23748 from Deck #6 and replace it with the new Card No. 23748 furnished.

5. ERROR: An SPS Program using subroutines will not load correctly if an * STORE CORE IMAGE control card is used.

CORRECTION: Page 50 of the Phase B listing of SPS II-D should be altered as follows:

From:	24790	DO NOP	415, BUF+105	,, MOVE FIRST ADR.	10072 41 00415 12430
To:	24790	DO TDM	CDIM, -1	,, ELIMINATE RM	10072 15 02529 00001

A new Card No. 23871 is furnished, remove the correspondingly numbered card from Deck #6 and insert the new.

FORTRAN II-D Processor, Deck #8

1. ERROR: Erroneous error messages.

CORRECTION: Phase 1-B, Page 55 of listing, change:

From:	27700	BE	*+24	14560	46	14584	01200
To:	27700	BE	*+20	14560	46	14580	01200

Phase 1-B, Page 59 of listing, change:

From:	30020	BNE	IF+36	13612	47	10332	01200
To:	30020	BNE	ERR02	13612	47	13468	01200

Phase 1-B, Page 60 of listing, change:

From:	30520	GOTOEN	BNE	SPERR	14120	47	09230	01200
To:	30520	GOTOEN	BNE	ERR01	14120	47	04282	01200

Phase 2, Page 80 of listing, change:

From:	29290	M	D4,L	14458	23	07017	07025
To:	29290	B	PAT1	14458	49	15490	00000

New Cards No. 51392, 51246, 51253, and 51915 are provided, these should replace the correspondingly numbered cards in Deck #8.

2. ERROR: Fixed array names in an Input-Output list are not properly relocated if they appear in a subscript calculation.

CORRECTION: Page 47 of the Phase 2 listing of FORTRAN II-D should be changed as follows:

From:	17000	SF	D4	15598	32	07017	00000
To:	17000	NOP	D4	15598	41	07017	00000

On the same page change:

From:	17040	TDM	SS2,1	15650	15	07477	00001
To:	17040	B	PAT3	15650	49	15730	00001

On Page 48 of Phase 2, following Line No. 17110, the instructions listed below should be inserted as a "patch":

17111	PAT3	BD	*+20, RXFLAG	15730 43 15750 04735
		B7	*+32	15742 49 15774 0
		BNF	*+24, IO1	15750 44 15774 09327
		TDM	SS4, 1	15762 15 07479 00001
		TDM	SS2, 1	15774 15 07477 00001
		B	15662	15786 49 15662

Three (3) new cards are provided to cover the above change, Cards No. 51710, 51711, and 51712 should replace the cards presently in Deck #8.

Page 81 of the Phase 2 listing should be changed as follows:

From:	29780	CM	D4, 0	15022 14 07017 00000
	29790	BNL	CDSABZ	15034 46 15066 01300
	29800	S	D4, SX	15046 22 07017 02377
	29810	B7	*+20	15058 49 15078
To:	29780	BNF	CDSABZ	15022 44 15066 07017
	29790	S	D4, SX	15034 22 07017 02377
	29800	CF	D4	15046 33 07017 00000
	29810	B7	*+20	15058 49 15078

In addition, the following instructions should be inserted after line number 30120, Page 82, Phase 2, as "patches":

30121	PAT1	CF	D4	15490 33 07017 00000
30122		M	D4, L	15502 23 07017 07025
30123		B7	14470	15514 49 14470 0
30124	PAT2	TDM	SS4, 1	15522 15 07479 00001
30125		B	15078	15534 49 15078

Seven (7) new cards are provided to make the above correction. They are Cards No. 51922, 51923, 51928, 51929, 51710, 51711, and 51712. These cards should replace the correspondingly numbered seven cards in Deck #8.

FORTRAN LOADER, Deck #9

1. ERROR: If, when specifying the subroutine set, an incorrect digit (5 or greater) is placed in the FORX or XEQS control record an ERROR L8 is typed out and is followed by the statement JOB ABANDONED. The second statement should not be typed out.

CORRECTION: Page 2 of the Block 1 listing is altered as follows:

From:	00850 TD	FLGRMK, FLOD+99	08000 25 02445 12903
To:	00850 TFM	EPRINT+49, 39, 10	08000 16 10245 00039

In addition, Page 6 of the Block 1 listing should be changed:

From:	03060 WATY	JOBOUT	10244 39 10451 00100
To:	03060 NOP	JOBOUT	10244 41 10451 00100

Two new cards are provided 33007 and 33037. These should replace the correspondingly numbered cards in Deck #9.

2. ERROR: During execution, two successive calls to the same out-of core subprogram will cause a check-stop.

CORRECTION: The following correction should be made to the Flip Routine for Load On Call Routines ("Flipper"):

The instructions at relative addresses 00034 and 00046 should be reversed:

Change From:	00034 46	00142 01200
	00046 26	00184 00244
To:	00034 26	00184 00244
	00046 46	00142 01200

Card No. 33261 replaces the correspondingly numbered card in Deck #9.

IBM

40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

October 24, 1963

MEMORANDUM TO: Users of 1620-1311 Monitor I System

SUBJECT: 1620-PR-025 (Card System)
Modification No. 2

This letter transmits Modification No. 2 of the 1620-1311 Monitor I System. One Hundred Thirty-Two (132) new cards are provided. They should replace the correspondingly numbered cards in your Monitor I Card System.

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

Continued use of the Authorized Programming Analysis Report form for reporting difficulties will be appreciated.

DP PROGRAM INFORMATION

cc: Branch Offices without enclosures

DISK UTILITY PROGRAM, Deck #3

1. ERROR: If the Equivalence Table is more than 32 sectors, the disk-to-typewriter dump of DDUMP routine loops.

CORRECTION: The following changes are necessary to correct the program:

Page 7 of the listing (DDUMP) should be changed:

From:	03580	B	TFWRIT-72	06066	49	05758
To:	03580	B	Patch 1	06066	49	07412

Page 11 of the listing (DDUMP) should be changed:

From:	05300	TFM	IORT, *+23	07412	16	00565	07435	
To:		Patch 1	AM	FILAD+5, 32, 10	07412	11	05479	00032
		B	TFWRIT-84	07424	49	05746		

2. ERROR: If Equivalence Table contains more than 75 entries, then a DLOAD, DREPL or DELET function destroys the table.

CORRECTION: The following changes are necessary to correct the program:

Page 53 of the listing (*DLOAD, *DREPL, *DELET) should be changed:

From:	25140	DC 3,0	13326	000
To:	25140	DC 3,020	13326	020

and on page 37 of the same listing:

From:	17650	OLIMIT	TFM	CNT, 1, 10	10118	16	13094	00001
	17910		AM	CNAMES+11, 2, 10	10398	11	09817	00002
	17920		TFM	CNAMES+11, 0, 610	10410	16	09817	00000
	17930		AM	CNAMES+11, 10, 10	10422	11	09817	00010

To:	17650	OLIMIT	TFM	CNT,0,10	10118	16	13094	00000
	17910		AM	CNAMES+11,12,10	10398	11	09817	00012
	17920		TF	CNAMES+11,ZERO12,6	10410	26	09817	13123
	17930		NOP		10422	41		

3. ERROR: When loading a Fortran Library Subroutine in a DLOAD or DREPL the program length was omitted from the DIM entry.

CORRECTION: The following changes are necessary to correct the problem:

Page 24 of the listing (*DLOAD, *DREPL, *DELET) should be changed:

From:	10970	SF	INPUT+75	05920	32	13688	
	10980	C	INPUT+85,ZERO12-2	05932	24	13697	13121
	10990	BNE	*+24	05944	47	05968	01200
	11800	TFM	HOLD CD+26,02402,7	05956	16	13016	02402
	11050	BD	*+32,NTEST	06016	43	06048	13084

To:	10970	NOP		05920	41		
	10980	NOP		05932	41		
	10990	NOP		05944	41		
	11800	NOP		05956	41		
	11050	B	PATCH 2	06016	49	07852	

Page 27 - same listing

From:	12800	TCD	LOADFL					
To:	12800	PATCH 2	BD	*+68,NTEST	07852	43	07924	13084
	12801		CM	HOLD CD+26,07		14	13016	00000
	12802		BNE	*+24	07876	47	07900	01200
	12803		TFM	HOLD CD+26,02402	07888	16	13016	02402
	12804		TF	MAPMA,HOLD CD+26	07900	26	13106	13016
	12805		B7	DC 22-24	07912	49	06060	00000
	12806		CM	HOLD CD+26,0,7	07924	14	13016	00000
	12807		BNE	*-32	07936	47	07900	01200
	12808		B7	DC 22-36	07948	49	06048	00000
	12809		TCD	LOADFL				

Page 29 - same listing

From:	13270	BD	*+32, NTEST	06104 43 06136 13084
To:	13270	BD	PATCH 3+52, NTEST	06104 43 12558 13084
	13271	CM	HOLDCD+30, 0, 7	06116 14 13020 00000
	13272	B7	PATCH 3	06128 49 12506

Page 45 - same listing

From:	22010	TCD	COMMFL	
To:	22010	BE	*+32	12506 46 12538 01200
	22011	TF	MAPMA, HOLDCD+30	12518 26 13106 13020
	22012	B7	PAT3+12	12530 49 06148 0
	22013	TFM	MAPMA, 2402, 7	12538 16 13106 02402
	22014	B7	PAT3+12	12550 49 06148 0
	22015	CM	HOLDCD+30, 0, 7	12558 14 13020 00000
	22016	BNE	*-52	12570 47 12518 01200
	22017	B7	PAT3	12582 49 06136 0
	22018	TCD	COMMFL	

Page 29 - same listing

From:	13310	TFM	MAPMA, 99999, 7	06136 16 13106 99999
To:	13310	TFM	MAPMA, 99999, 7	06136 16 13106 99999

Page 30 - same listing

From:	14080	TF	MAPMA, MAP+13	06816 26 13106 19893
To:	14080	CM	HOLDCD+35, 0, 7	06816 14 13025 00000
	14081	BNE	PATCH4+12	06828 47 13512 01200
	14082	B7	PATCH 4	06840 49 13500 0

Page 56 - same listing

From:	25880	TCD	COMFL	
-------	-------	-----	-------	--

To:	25880	PATCH 4	TF	MAPEA, MAP+18	13500	26	13111	19898
	25881		CM	HOLDCD+30,0,7	13512	14	13020	00000
	25882		BNE	*+24	13524	47	06884	01200
	25883		TF	MAPMA, MAP+13	13536	26	13106	19893
	25884		B7	MAINB2	13548	49	06884	0
	25885		TCD	COMFL				

Page 9 of the Selection Routine should be changed:

From:	03810	DC	3,029	05387	029
To:	03810	DC	3,030	05387	030

Seventeen (17) new cards are furnished; they are cards numbered:

10206
10209
10210
10309
10310
10335
10336
10353
10362
10436
10454
10507
10508
10545
10547
10548
10588

Please remove the correspondingly numbered cards from Deck # 3 and insert the new cards furnished.

SPS II-D SUBROUTINE SUPERVISOR, Deck #4

1. ERROR: When loading a program from a satellite, the indicator record is read from the corresponding location of the working cylinders.

CORRECTION: The following changes are necessary to correct the problem:

Page 4 of the listing (SPS-II-D Subroutine Supervisor) should be changed:

From: 01120 BH RDFRST 03030 46 03114 01100
To: 01120 BH DRCODE 03030 46 02914 01100

Also, on Page 4, insert the Following:

01016 DRCODE TD DDA,402 02914 25 02734 00402
01018 B7 RDFRST 02926 49 03114 0

Three (3) new cards are furnished; they are cards numbered 20007, 20008 and 20009. Please remove the correspondingly numbered cards from Deck #4 and insert the new ones provided.

FORTRAN II-D PROCESSOR

1. ERROR: The end of statement symbol in the intermediate output is not unique and may be the same as a subscript constant. When this condition occurs, a check stop results terminating compilation.

CORRECTION: The following changes are necessary to correct the problem:

Page 2 of the listing (PHASE 1-B) should be changed:

From: 00830 BEGIN BTM PUT,132,8 02638 17 09036 00132
00830 BEGIN BTM PUT,132,811 02638 17 09036 00132

Page 17 - same listing

From: 08310 BTM PUT,132,8 09646 17 09036 00132
To: 08310 BTM PUT, 132,811 09646 17 09036 00132

Page 2 of the listing (PHASE 2) should be changed:

From:	00650	BTM	ADSL, SX	02712 17 05312	0̄2377
	00660	CM	SX, 132, 8, SEMICOLON	02724 14 02377	0̄0132
	00670	BNE	L1	02736 47 02700	01200
To:	00650	CM	SX, 132, 811	02712 14 02377	0̄0132̄
	00660	BNE	PAT4	02724 47 09780	01200
	00670	BTM	ADSL, PAT4+23	02736 17 05312	0̄9803

On Page 31, same listing, insert the following:

11161	PAT4	BTM	ADSL, SX	09780 17 05312	0̄2377
11162	B		L1, 132, 8	09792 49 02700	0̄0132

Five (5) new cards are furnished; they are cards numbered 50003, 50097, 51538, 51632 and 51633. Please remove the correspondingly numbered cards from Deck #8 and insert the new ones provided.

2. ERROR: Record Marks not eliminated in the operands of a *LDISK control record.

CORRECTION: The following changes are necessary to correct this problem.

Page 6 of the listing (PHASE 1-A) should be changed:

From:	02620	WATY	CHI	04530 39 15139	00100
To:	02620	B	PATCH 1	04530 49 05478	00000

Page 8 - same listing, insert the following:

03611	WATY	CHI		05478 39 15139	00100
03612	BNR	*+24, CHI+12, 7		05490 45 05514	1̄5151
03613	TFM	*-1, 00, 610		05502 16 05501	00000
03614	AM	*-13, 2, 10		05514 11 05501	00002
03615	CM	*-25, CHI+30		05526 14 05501	1̄5169
03616	BNH	*-48		05538 47 05490	01100
03617	B7	WADK+60		05550 49 04542	

Three (3) new cards are furnished; they are cards numbered 50151, 50164 and 50165. Please remove the correspondingly numbered cards from Deck #8 and insert the new cards provided.

3. ERROR: The input/output routine fails to reset a switch upon returning from the absolute subscript routine. This failure could cause looping at compile time.

CORRECTION: The following changes are necessary to correct this problem:

Page 81 of the listing (PHASE 2) should be changed:

From:	29670	B7	CD14A	14894 49 11214
To:	29670	B7	CD14RS	14894 49 13510

Page 71 - same listing, insert the following

25881	CD14RS	TDM	IO1,0	13510 15 09327 00000
25882		B7	CD14A	13522 49 11214

Four (4) new cards are furnished; they are cards numbered 51847, 51848, 51920 and 51921. Please remove the correspondingly numbered cards from Deck #8 and insert the new cards provided.

FORTRAN II-D LOADER

1. ERROR: Check stop occurs when attempting to load a Fortran core image program.

CORRECTION: The following changes are necessary to correct this problem:

Page 3 of the listing (1620 Fortran II-D Loader, Block 2) should be changed:

From:	01460	TF	INDR+11,ADDSVE	04410 26 05942 02472
To:	01460	TF	DDAR+13,ADDSVE	04410 26 07293 02472

Page 3 of the listing (1620 Fortran II-D Loader, Block 3) should be changed:

From:	01310	TF	INDR+11,ADDSVE	04242 26 07056 02472
To:	01310	TF	DDAR+13,ADDSVE	04242 26 07293 02472

Page 4 of the listing (1620 Fortran II-D Loader, Block 5) should be changed:

From:	01610	TF	INDR+11,ADDSVE	04508 26 06934 02472
To:	01610	TF	DDAR+13,ADDSVE	04508 26 07293 02472

Three (3) new cards are furnished; they are cards numbered 63107, 63151 and 63204. Please remove the correspondingly numbered cards from Deck #9 and insert the new cards provided.

2. ERROR: If the Fortran subroutine set is not specified in a * * FORX or * * XEQS control record or it is incorrectly specified, the standard set as defined in the communications area is ignored and it is assumed to be set 1.

CORRECTION: The following changes are necessary to correct this problem:

Page 2 of the listing (1620 Fortran II-D Loader, Block 1) should be changed:

From:	00510	BNH	SUBSET	07608 47 07644 01100
	00530	TDM	SUBSET+11,1	07632 15 07655 00001
To:	00510	BNH	PATCH+12	07608 47 13026 01100
	00530	B	PATCH	07632 49 13014 00000

Page 9 - same listing, insert the following:

03891	PATCH	TD	SUBSET+11,COMSEC+83	13014 25 07655 07383
03892		BD	SUBSET,SUBSET+11	13026 43 07644 07655
03893		B	PATCH	13038 49 13014

Two (2) new cards are furnished; they are numbered 63002 and 63074. Please remove the correspondingly numbered cards from Deck #9 and insert the new cards provided.

FORTRAN DKIO LIBRARY SUBROUTINES

1. ERROR: A MAR check occurs when attempting disk I/O with an Array List, and one of the arrays is the first item specified in COMMON.
2. ERROR: An erroneous error D2 is indicated if N2 is specified as 1 in a DEFINE DISK statement.

CORRECTION: Two (2) new DKIO subroutines and corresponding listings are supplied (DKIOFS for machines without floating point hardware - cards numbered 58000 - 58047 and DKIOFH for machines with floating point hardware - cards numbered 71000 - 71045).

The Disk Utility Program is to be used to load the appropriate subroutine. A DREPL control card is included to direct DUP in this operation. Since the DREPL loader will not check the sequencing the deck should be sight checked for correct sequencing prior to loading.

NOTE: It will be necessary to make all other modifications as outlined in this modification letter before attempting the replacement of the DKIO subroutine.

ERRATA TO MODIFICATION LETTER 1

On Page 5 of Modification Letter 1, there is an error in the listing change for source card 29810. It should read as follows:

29810 B7 PAT2 15058 49 15522

The correction cards which accompanied modification letter 1 were correct; however, the change to the listing was erroneously given.

Clarification to Monitor I System loading procedure:

Two (2) sets of subroutine packages are available with FORTRAN II-D, one for Floating-point hardware and one for systems without this feature. Only the package desired by the user is stored on the disk at any one time. This necessitates two sets of DIM entries; one for each package. Depending on which set of subroutines is being used, the appropriate set of DIM entries must also be on the Disk file.

The DIM deck included as part of the Monitor system contains DIM entries for the Floating-point software subroutines. Each deck of subroutines contains a unique set of DIM entries which is recorded on the disk when the deck is loaded.

Occasionally it is desired by the user to reload the DIM deck to initialize the DIM table. If the floating point hardware subroutines are being used, and the Monitor DIM deck is loaded, the correct subroutine DIM entries are covered up by software subroutine DIM entries in the DIM deck. It is necessary, therefore, to reload the DIM portion of the hardware subroutines. Failure to follow this procedure will result in a check stop when loading the subroutines for object program execution.

0001C* FORTRAN DISK I/O WITHOUT FLOATING PCINT HARDWARE

0002C*							
0003C	ADR	DSA	FIND	,RECORD,FETCH,SWD,DRAY,DICEND		00004	00005 -072
						00009	00005 -0334
						00014	00005 -0298
						00019	00005 -0216
						00024	00005 -0024
						00029	00005 -0270
0004C		DORG	ADR-4			00000	
00050	IOCAL	DS	,716			00716	00000
00060	IORBC	DS	,520			00520	00000
00070	IORT	DS	,565			00565	00000
00080	DIO	DS	,816			00816	00000
00090	IOSK	DS	,554			00554	00000
00100	INDS	DS	,610			00610	00000
00110	ERRET	DS	,602			00602	00000
00120	IDERR	DS	,624			00624	00000
00130	IOGT	DS	,566			00566	00000
00140	IOPT	DS	,532			00532	00000
00150	FAC	DS	,2492			02492	00000
00160	CIODDA	DS	,3387			03387	00000
00170	FINDIN	DS	,3583			03583	00000
00180	FP2	DS	,3605			03605	00000
00190	FKODD	DS	,3427			03427	00000
00200	PAR	CS	,3378			03378	00000
00210	ERROR	CS	,3676			03676	00000
00220	EI	DS	,2615			02615	00000
00230	FIXEND	DS	,3760			03760	00000
00240	FLTEND	DS	,3810			03810	00000
00250	FLOAT	DS	,4042			04042	00000
00260	DKDATA	DS	,3379			03379	00000
00270	ZERO	CS	,2700			02700	00000
00280	FIX	DS	,3854			03854	00000
00290	RECLG	DS	,2243			02243	00000
00300	W	DS	,2240			02240	00000
00310	N2	DS	,2238			02238	00000
00320	N1	DS	,2233			02233	00000
00330	K	DS	,2221			02221	00000
00340	F	DS	,2219			02219	00000
00350	CORSIZ	DS	,7376			07376	00000
00360*							
0037C		TF	NITEMP,N1			00000	K6 00143 02233
00380	TOBB	B	DRAY1,,0			00012	M9 01004 CC000
00390	DRAY	TDM	TOBB+1,9,,	SET TOBB TO BRANCH		00024	J5 00013 CC009
00400		BD	EVEN,FKODD,,	TEST FOR EVEN ADDRESS		00036	M3 00536 03427
00410		TFM	DSABLK+5,AGAIN			00048	J0 00265 -C698
00420		B	SWD+12			00060	M9 00228 CC000
00430	FIND	TDM	FINDIN,0,,	SET FIND INDICATOR CN		00072	I5 03583 CC000
00440		TFM	RETD2+6,SET1,,	BRANCH TO COMPUTE ADDRESS AND TESTI		00084	J0 00150 -0370
00450*	N2		ERROR ROUTINE (I GRT N2)				
00460	N2CK	C	FIND-1,ZERO,6, IS I ZERO OR NEG			00096	K4 0007J 02700
00470		BNH	BE2			00108	M7 00156 01100
00480		C	FIND-1,N2,6,	COMPARE I AND N2		00120	K4 0007J 02238
00490		BH	BE2			00132	M6 00156 01100
00500	RETD2	B	*-*			00144	49 00000 CC000
00510	BLFFAR	DS	,*			00155	00000

00520	BE2	BI	**12,1400		00156	M6	00168	01400
00530		TFM	EI,472,9,	I GRT N2	00168	16	02615	00M72
00540		BD	ERROR,DDABLK,,	BR IF CK WAS ENTERED FROM				
					00180	4L	03676	0C247
00550		TFM	DSAOTR+5,ERROR		00192	J6	00403	-3676
00560		B	SETRMK		00204	M9	00354	0C000
00570*								
00580*****			SWD SUBROUTINE					
00590	SWDA	TDM	SWD+900,0		00216	J5	01116	0C000
00600		TFM	*-11,41,10		00228	J6	00217	0C0M1
00610		A	BUFFAR,W,,	INCREMENT BUFFAR ARROW				
					00240	K1	00155	02240
00620		B	SWD1		00252	M9	00406	0C000
00630		DORG	*-4		00259			
00640	ICON8	DC	1,9		00259	00001		
00650		DSA	RETFLT		00264	00005	-0896	
00660		DORG	**5		00269			
00670	IOEND	TFM	DSAOTR+5,DIOEND		00270	JO	00403	-0270
00680		BD	SETRMK,FRIND,,	BRANCH IF FETCH	00282	ML	00354	00163
00690		C	NITEMP,N1		00294	K4	00143	02233
00700		BE	SETRMK,,,	BRANCH IF BUFFER EMPTY				
					00306	M6	00354	01200
00710		TFM	IORT,**23,,	WRITE BUFFER TO FILE				
					00318	IO	00565	-0341
00720		B	IOPT ,DKDATA,7		00330	49	00532	-3379
00730		AM	FIND-1,1,610		00342	J1	0007J	0C0-1
00740	SETRMK	TD	SWD+900,DKBUFF+200		00354	KN	01116	01270
00750		TFM	IORT,IORF2+11		00366	IO	00565	-0429
00760		B	IOGT		00378	49	00566	0C000
00770		DORG	*-4		00385			
00780	DDB	DSC	1,1		00385	00001		
00790		DSA	200		00390	00005	-0200	
00800		DC	3,9		00393	00003		
00810	DSAOTR	DSA	SWD,DIOEND		00398	00005	-0216	
					00403	00005	-0270	
00820		DC	1,1		00404	00001		
00830	SWD1	BD	FETCH1,FRIND,,	BRANCH IF FETCH				
					00406	ML	00718	00163
00840**			RECORD					
00850	IOREF2	CF	SWD-1,DATB,7,	CLEAR FLAG ON ADDRESS OF DATA				
					00418	LL	00215	-1061
00860		SM	NITEMP,1,10 ,	DECREMENT WORD COUNT				
					00430	J2	00143	0C0-1
00870		TF	BUFFAR,SWD-1,611 ,	SEND WORD TO BUFFER				
					00442	K0	0015N	0C21N
00880		SM	BUFFAR,2		00454	J2	00155	-0002
00890		SM	SWD-1,2		00466	J2	00215	-0002
00900		TF	BUFFAR,SWD-1,611		00478	K0	0015N	0C21N
00910		AM	BUFFAR,2		00490	J1	00155	-0002
00920	CK	CM	NITEMP,0,10,	CHECK FOR FULL BUFFER				
					00502	J4	00143	0C0-0
00930		BNZ	TOBB		00514	M7	00012	01200
00940		BD	TOBB-12,FRIND,,	BR IF FETCH	00526	ML	00000	00163
00950		TFM	LINKB+18,IOPT		00538	J6	00588	-0532
00960	CKI	TFM	RETD2+6,LINKB		00550	JO	00150	-0570
00970		B	N2CK		00562	M9	00096	0C000
00980		DORG	*-4		00569			
00990	LINKB	TFM	IORT,**23,,	CALL CORRECT ICRT ROUTINE				
					00570	IO	00565	-0593
01000		B	,DKDATA,7		00582	49	00000	-3379
01010		TFM	BUFFAR,DKBUFF+199,,	INITIALIZE BUFFER ARROW				

0102C	S	BUFFAR-2,RECLG	00594	J0	00155	-1269
01030	BNF	++24,FRIND	00606	K2	00153	02243
01040	A	BLFFAR,W	00618	MM	00642	00163
01050	ACDIOI	AM FIND-1,1,610,	00630	K1	00155	02240
01060	A	DIONDA+5,DIONDA+8,,	INCREMENT I	00642	J1	0007J 000-1
			INCREMENT	SECTCR	ADDRESS	
01070	BD	FETCH2,FRIND	00654	21	03392	03395
0108C	B	TOBB-12	00666	ML	00762	00163
0109C	DORG	*-4	00678	M9	00000	00000
0110C	A	DRAY-1,FP2	00685			
0111C	AGAIN	TF SWD-1,DRAY-1	00686	K1	00023	03605
01120	B	SWD	00698	K0	00215	00023
01130	DORG	*-4	00710	M9	00216	00000
01140	FETCH1	C N1TEMP,N1	00717			
01150	BNE	FETCH2,,,	00718	K4	00143	02233
			BRANCH IF	BUFFER	NCT	EMPTY
01160	TFM	LINKB+18,IOGT	00730	M7	00762	01200
0117C	B	CKI	00742	J6	00588	-0566
01180	DORG	*-4	00754	M9	00550	00000
01190	FETCH2	SM N1TEMP,1,10	00761			
01200*		SEND THE WORD TO FAC	00762	J2	00143	000-1
01210	TF	FAC,BUFFAR,11	00774	20	02492	0015N
01220	SM	BUFFAR,2	00786	J2	00155	-0002
01230	TF	FAC-2,BUFFAR,11	00798	20	02490	0015N
01240	AM	BUFFAR,2	00810	J1	00155	-0002
01250	BI	++12,1400	00822	M6	00834	01400
01260*		TEST FOR FLOATING ADDRESS AT SWD-1				
01270	BNF	FETCH3,SWD-1	00834	MM	00928	00215
01280*		IT IS A FIXED ADDRESS				
01290	CF	SWD-1	00846	L3	00215	00000
01300*		TEST FOR FLOATING WORD IN FAC				
01310	BNF	FETCH4,FAC-1	00858	M4	00940	02491
01320*		THE WORD IS FLOATING SET UP LINKAGE FOR FIX				
01330	TF	FIXEND+6,ICON7+6	00870	20	03766	00895
01340	B	FIX	00882	49	03854	00000
01350	DORG	*-4	00889			
01360	ICON7	DC 1,4	00889	00001		
01370	DSC	1,9	00890	00001		
01380	DSA	RETFLT	00895	00005	-0896	
01390	RETFLT	TDM FIXEND+1,2	00896	15	03761	00002
01400	TDM	FLTEND-5,2	00908	15	03805	00002
01410*		BRANCH TO STORE NUMBER				
01420	CKLD	B FETCH4	00920	M9	00940	00000
01430	DORG	*-4	00927			
01440	FETCH3	BNF FETCH5,FAC-1,,	BRANCH IF	FIXED		
			00928	M4	00984	02491
01450*		STORE THE WORD IN MEMORY				
01460	FETCH4	TF SWD-1,FAC,6	00940	K6	0021N	02492
01470	SM	SWD-1,2	00952	J2	00215	-0002
01480	TF	SWD-1,FAC-2,6	00964	K6	0021N	02490
01490*		CHECK FOR EMPTY BUFFER				
01500	B	CK	00976	M9	00502	00000
01510	DORG	*-4	00983			
01520*		SET UP LINKAGE FOR FLOAT				
01530	FETCH5	TF FLTEND,ICCN8+5	00984	20	03810	00264
01540	B	FLOAT	00996	49	04042	00000
01550	DORG	*-4	01003			
01560	DRAY1	SM PAR,1,10,,	DECREMENT	WORD	COUNT	
			01004	12	03378	000-1
01570	BNZ	++14	01016	M7	01030	01200

01580	BB			01028	42	00000	00000
01590	DORG	*-9		01030			
01600	BNF	AGAIN-12,DRAY-1		01030	MM	00686	00023
01610	S	DRAY-1,K		01042	K2	00023	02221
01620	B	AGAIN		01054	M9	00698	00000
01630	DORG	*-4		01061			
01640	DATB	DSC	2,-00	01061		00002	
01650	DSA	DDB		01067		00005	-0385
01660	DC	1,'		01068		00001	
01670	DKBUFF	DS	,DATB+9	01070		00000	
01680*							
01690*							
01700*		WRITE 2ND BLOCK					
01710*							
01720	LDIRD	DSC	2,00	01069		00002	
01730	DSA	DIM1		01075		00005	-1077
01740	DC	1,'		01076		00001	
01750	DIM1	DSC	1,1	01077		00001	
01760	DSA	209		01082		00005	-0209
01770	DC	3,9		01085		00003	
01780	DSA	SWD		01090		00005	-0216
01790	DC	1,'		01091		00001	
01800	DORG	SWDA+902		01118			
01810	STLD1	TDM	DKBUFF+200,0	01118	J5	01270	00000
01820	DGM	*		01129		00001	
01830	TD	SWD+900,DKBUFF+200		01130	KN	01116	01270
01840	CF	ICON7+2		01142	L3	00891	00000
01850	CF	ICON8+1		01154	L3	00260	00000
01860	TFM	IORT,**+23		01166	10	00565	-1189
01870	B	IOPT,LDIRD,7		01178	4R	00532	-1069
01880	TRA			01190	10	00565	-1209
				01202	49	00716	00000
				01209		00002	2K
				01211		00005	-1217
				01216		00001	'
				01217		00006	1J9783
				01223		00003	-03
				01226		00006	-0000'
				01118			
01890	TCD	STLD1					
01900*							
01910*		BLOCK 1 OF FETCH FIND RECORD					
01920	DORG	SWDA		00216			
01930	SWD	TFM	DSABLK+5,SWD	00216	J0	00265	-0216
01940	TFM	IORT,IREF+11		00228	10	00565	-0571
01950	B	IOGT		00240	49	00566	00000
01960	DORG	*-4		00247			
01970	DDABLK	DSC	1,1	00247		00001	
01980	DSA	209		00252		00005	-0209
01990	DC	3,9		00255		00003	
02000	DSABLK	DSA	SWD,SWD	00260		00005	-0216
				00265		00005	-0216
				00266		00001	
02010	DC	1,'		00270			
02020	DORG	IOEND		00270	M6	00282	01400
02030	DIOEND	BI	**+12,1400	00282	42	00000	00000
02040	BB			00284			
02050	DORG	*-9		00284		00002	
02060	DAT1	DSC	2,-00	00290		00005	-0247
02070	DSA	DDABLK		00291		00001	
02080	DC	1,'		00296		00005	
02090	DS	5		00298	K0	00071	00297
02100	FETCH	TF	FIND-1,FETCH-1,,				
				TRANSFER I			

02110	TDM	FRIND,1,11,	SET FETCH-RECORD INDICATOR TO FETCH	
				00310 J5 00163 0000J
02120	B	AITEST,,,	BRANCH TO SET FIND INDICATOR OFF ,	
				00322 M9 00358 00000
02130*			COMPUTE ADDRESS , TEST I , AND TEST	
02140*			FOR DEFINE STATEMENT .	
02150	RECORD TF	FIND-1,RECORD-1,,	TRANSFER I	00334 KO 00071 00333
02160	TDM	FRIND,0,,	SET FETCH-RECORD INDICATOR TO RECRD	
				00346 J5 00163 00000
02170	AITEST TDM	FINDIN,1,,	SET FIND INDICATOR OFF	
				00358 15 03583 00001
02180	SET1 TFM	DIODDA+5,217,,	SET SECTOR ADDRESS IN DDA	
				00370 16 03392 -0217
02190	M	FIND-1,RECLG,6,	COMPUTE ADDRESS OF FILE RECORD	
				00382 K3 0007J 02243
02200	A	DIODDA+5,99		00394 21 03392 00099
02210	BD	++44,FINDIN,,	BRANCH IF NOT FIND	00406 M3 00450 03583
02220	SSEEK TFM	IORT,++23		00418 10 00565 -0441
02230	B	IOSK,DKDATA,7,	TRANSFER TO IORT TO SEEK	
				00430 49 00554 -3379
02240	B	DIOEND		00442 M9 00270 00000
02250	DORG	*-3		00450
02260	TFM	BUFFAR,DKBUFF+199,,	INITIALIZE BUFFER ARROW	
				00450 J0 00155 -1269
02270	S	BUFFAR-2,RECLG		00462 K2 00153 02243
02280	TF	NI TEMP,N1,,		00474 K6 00143 02233
02290	TF	DIODDA+8,RECLG,,	STORE RECORD LENGTH IN DDA	
				00486 26 03395 02243
02300	TFM	DIODDA+13,DKBUFF+200,,	STORE ADDRESS OF BUFFER	
				00498 10 03400 -1270
02310	S	DIODDA+11,RECLG,,	SUB LENGTH OF RECORD TO GET FIRST COR	
				00510 22 03398 02243
02320	OVER TDM	TOBB+1,2,,	INITIALIZE BRANCH BACK	
				00522 J5 00013 00002
02330	BB			00534 42 00000 00000
02340	DORG	*-9		00536
02350	EVEN TF	TEMPA,FP2,,	STORE FLOATING LENGTH IN TEMPA	
				00536 K6 00119 03605
02360	BNF	++36,DRAY-1,,	BRANCH IF FLOATING ARRAY	
				00548 MM 00584 00023
02370	IREF CF	DRAY-1,DAT1,7		00560 LL 00023 -0284
02380	TF	TEMPA,K,,	STORE FIXED LENGTH IN TEMPA	
				00572 K6 00119 02221
02390	TF	DIODDA+13,DRAY-1,,	STORE ADDRESS OF FIRST ELEMENT	
				00584 20 03400 00023
02400	AM	DIODDA+13,1		00596 11 03400 -0001
02410	S	DIODDA+13,TEMPA,,	HIGH ORDER POSITION OF ARRAY	
				00608 2K 03400 00119
02420	TF	EVEN1+11,DIODDA+13		00620 K6 00703 03400
02430	M	TEMPA,PAR		00632 K3 00119 03378
02440	A	EVEN1+11,99		00644 K1 00703 00099
02450*			EVALUATE AND STORE LOW ORDER	
02460*			POSITION + 1 OF ARRAY	
02470	CARRY CM	EVEN1+11,0		00656 J4 00703 -0000
02480	BNE	++24		00668 M7 00692 01200
02490	TFM	EVEN1+11,0		00680 J6 00703 -0000
02500	EVEN1 TD	EVEN2+11		00692 K5 00951 00000
02510*			EVALUATE SECTOR COUNT	
02520	SF	95		00704 32 00095 00000
02530	AM	99,1,10, ADD ONE FOR GROUP MARK		00716 11 00099 000-1
02540	TF	DIODDA+8,97,,	SET UP SECTOR COUNT	00728 26 03395 00097

02550	C	**8,99,7		00740 K4 00748 -C099
02560	BE	**24		00752 M6 00776 01200
02570	AM	DIODDA+8,1,9,	ADD TO SECTOR CNT IF NOT EVEN HUNDREDS	
				00764 11 03395 00-01
02580	D	95,RECLG		00776 29 00095 02243
02590	A	FIND-1,94,6,	ADD NUMBER OF RECCRDS TC I	00788 K1 0007J 00094
02600	BD	**36,96		00800 M3 00836 00096
02610	BD	**24,95		00812 M3 00836 C0095
02620	SM	FIND-1,1,610		00824 J2 0007J 0C0-1
02630	TFM	RETD2+6,**20		00836 J0 00150 -0856
02640	B	N2CK		00848 M9 00096 00000
02650	DORG	*-4		00855
02660	AM	FIND-1,1,610		00856 J1 0007J 0C0-1
02670	TFM	DIO+35,YTURN,67,	INSERT ADDRESS FOR ERROR ENTRY	
				00868 10 0085J -1048
02680	BD	FETCH8,FRIND,,	BRANCH IF FETCH	
				00880 ML 00966 00163
02690*		RECORD		
02700	TD	EVEN1+11,DKBUFF+200,6,	SET GROUP MARK AT END OF ARRAY	
				00892 KN 0070L 01270
02710*			WRITE ARRAY ONTO FILE	
02720	TFM	IORT,**23		00904 10 00565 -0927
02730	B	IORBC,NOWLC ,7		00916 4R 00520 -1091
02740	TDM	FLTEND-5,2		00928 15 03805 00002
02750	EVEN2	TDM	EVEN1+11,,6,	RESTORE DIGIT
				00940 J5 0070L 0C000
02760	A	DIODDA+5,DIODDA+8,,	INCREMENT SECTOR ADDRESS	
				00952 21 03392 03395
02770	BB			00964 42 00000 0C000
02780	DORG	*-9		00966
02790	FETCH8	TFM	IORT,**23,,	READ ARRAY FROM FILE
				00966 10 00565 -C989
02800	B	IOGT,DKDATA,7		00978 49 00566 -3379
02810*			TEST FOR NO GROUP MARK	
02820	BNG	**20,EVEN1+11,11		00990 NN 01010 0070L
02830	B	EVEN2		01002 M9 00940 0C000
02840	DORG	*-4		01009
02850	TF	FLTEND,EVENSP+6		01010 20 03810 01047
02860	TFM	EI,475,9		01022 16 02615 00M75
02870	B	ERROR		01034 49 03676 0C000
02880	DORG	*-4		01041
02890	EVENSP	DC	1,4	01041 00001
02900	DSC	1,9		01042 00001
02910	DSA	EVEN2-12		01047 00005 -0928
02920	YTURN	BI	**12,3700	01048 M6 01060 03700
02930	BNI	ERRET,1900		01060 47 00602 01900
02940	TDM	INDS+10,6		01072 15 00620 0C006
02950	B	IOERR		01084 49 00624 0C000
02960	DORG	*-4		01091
02970	NOWLC	DSC	2,02	01091 00002
02980	DSA	DIODDA		01097 00005 -3387
02990	DC	1,'		01098 00001
03000	TEMPA	DS	2,N2CK+23	00119 00002
03010	NITEMP	DS	2,RETD2-1	00143 00002
03020	FRIND	DS	1,BE2+7	00163 00001
03030*			WRITE FIRST BLOCK	
03040*				
03050	DIM2	DSC	1,1	01099 00001
03060	DSA	200		01104 00005 -0200
03070	DC	3,9		01107 00003
03080	DSA	SWD		01112 00005 -0216

0309C	DC	1,0		01113	00001
03100	DORG	SWD+902		01118	
0311C	LD2ND	DSC	2,00	01118	00002
03120		DSA	DIM2	01124	00005 -1099
03130		DC	1,0	01125	00001
03140	STLD2	CF	EVENSF+2	01126	L3 01043 0C000
03150		TD	CARRY+7,CORSIZ	01138	K5 00663 07376
0316C		AM	CARRY+8,1C	01150	J1 00664 -C010
03170		TFM	IORT,**+23	01162	10 00565 -1185
03180		B	IOPT ,LD2ND,7,	01174	4R 00532 -1118
03190	TRA			01186	10 00565 -1205
			WRITE OUT 2ND PART BLK 1	01198	49 00716 0C000
				01205	00002 2K
				01207	00005 -1213
				01212	00001 *
				01213	C0006 1J9783
				01219	00003 -03
				01222	00006 -0000*
				01126	
				00006	
0320C	TCD	STLD2			
03210	DEND	6			

SYMBOL TABLE

SETRMK 00354R	RETFLT 00896R	RECCRD 00334R	NITEMP 00143R	IREF2 00418R
FLTEND 03810	FIXEND 03760	FINDIN 03583	FETCH8 00966R	FETCH5 00984R
FETCH4 00940R	FETCH3 00928R	FETCH2 00762R	FETCH1 00718R	EVENSP 01041R
DSAOTR 00398R	DSABLK 00260R	DKDATA 03379	DKBUFF 01070R	DIGEND 00270R
DIODDA 03387	DDABLK 00247R	CORSIZ 07376	BUFFAR 00155R	AITEST 00358R
ADDDOI 00642R	ADR 00004R	AGAIN 00698R	BE2 00156R	CARRY 00656R
CK 00502R	CKI 00550R	CKLD 00920R	DATB 01061R	DAT1 00284R
DCB 00385R	DIM1 01077R	DIM2 01099R	DIO 00816	DRAY 00024R
DRAY1 01004R	EI 02615	ERRET 00602	ERROR 03676	EVEN 00536R
EVEN1 00692R	EVEN2 00940R	F 02219	FAC 02492	FETCH 00298R
FINC 00072R	FIX 03854	FKCDD 03427	FLOAT 04042	FP2 03605
FRIND 00163R	ICON7 00889R	ICCN8 00259R	INDS 00610	IOCAL 00716
IOEND 00270R	IOERR 00624	IOGT 00566	ICPT 00532	IORBC 00520
IREF 00560R	IORT 00565	IGSK 00554	K 02221	LC1RD 01069R
LD2ND 01118R	LINKB 00570R	NCWLC 01091R	N1 02233	N2 02238
NZCK 00096R	OVER 00522R	PAR 03378	RECLG 02243	RETD2 00144R
SET1 00370R	SSEEK 00418R	STLD1 01118R	STLD2 01126R	SWD 00216R
SWDA 00216R	SWD1 00406R	TEMPA 00119R	TOBB 00012R	W 02240
YTURN 01048R	ZERO 02700			

00010* FORTRAN II-D DK IO WITH FLT HARDWARE

00020*

00030 ADR DSA FIND ,RECORD,FETCH,SWD,DRAY,DICEND

00004 00005 -0072

00009 00005 -0334

00014 00005 -0298

00019 00005 -0216

00024 00005 -0024

00029 00005 -0270

00000

00716 00000

00520 00000

00565 00000

00816 00000

00554 00000

00610 00000

00602 00000

00624 00000

00566 00000

00532 00000

02492 00000

03387 00000

03527 00000

03664 00000

03579 00000

03378 00000

03596 00000

02615 00000

03680 00000

03730 00000

04042 00000

03379 00000

02700 00000

03854 00000

02243 00000

02240 00000

02238 00000

02233 00000

02221 00000

02219 00000

07376 00000

00040 DORG ADR-4

00050 IOCAL DS ,716

00060 IORBC DS ,520

00070 IORT DS ,565

00080 DIO DS ,816

00090 IOSK DS ,554

00100 INDS DS ,610

00110 ERRET DS ,602

00120 IOERR DS ,624

00130 IOGT DS ,566

00140 IOPT DS ,532

00150 FAC DS ,2492

00160 DIODDA DS ,3387

00170 FINDIN DS ,3527

00180 FP2 DS ,3664

00190 FKODD DS ,3579

00200 PAR DS ,3378

00210 ERROR DS ,3596

00220 EI DS ,2615

00230 FIXEND DS ,3680

00240 FLTEND DS ,3730

00250 FLOAT DS ,4042

00260 DKDATA DS ,3379

00270 ZERO DS ,2700

00280 FIX DS ,3854

00290 RECLG DS ,2243

00300 W DS ,2240

00310 N2 DS ,2238

00320 N1 DS ,2233

00330 K DS ,2221

00340 F DS ,2219

00350 CORSIZ DS ,7376

00360*

00370 TF NITEMP,N1

00380 TOBB B DRAY1,,0

00390 DRAY TDM TOBB+1,9,,

SET TOBB TO BRANCH

00000 K6 00143 02233

00012 M9 00896 00000

00024 J5 00013 00009

00400 BD EVEN,FKODD,,

TEST FOR EVEN ADDRESS

00036 M3 00536 03579

00048 J0 00265 -0650

00060 M9 00228 00000

00410 TFM DSABLK+5,AGAIN

00420 B SWD+12

00430 FIND TDM FINDIN,0,,

SET FIND INDICATOR CN

00072 15 03527 00000

00084 J0 00150 -0370

00440 TFM RETD2+6,SET1,,

BRANCH TO COMPUTE ADDRESS AND TESTI

00450* N2 ERROR ROUTINE (I GRT N2)

00460 N2CK C FIND-1,ZERO,6, IS I ZERO OR NEG

00470 BNH BE2

00480 C FIND-1,N2,6,

COMPARE I AND N2

00096 K4 0007J 02700

00108 M7 00156 01100

00120 K4 0007J 02238

00132 M6 00156 01100

00144 49 00000 00000

00490 BH BE2

00500 RETD2 B *-*

00510 BLFFAR DS ,*

00155 00000

00520	BE2	BI	**12,1400		00156	M6	00168	01400
00530		TFM	EI,472,9,	I GRT N2	00168	16	02615	OCM72
00540		BD	ERROR,DDABLK,,	BR IF CK WAS ENTERED FROM				BUFFER ROUTINE
					00180	4L	03596	CC247
00550		TFM	DSAOTR+5,ERROR		00192	J6	00403	-3596
00560		B	SETRMK		00204	M9	00354	CCOCO
00570*								
00580*****			SWD SUBROUTINE					
00590	SWDA	TDM	SWD+900,0		00216	J5	01116	CCOCO
00600		TFM	*-11,41,10		00228	J6	00217	OCOM1
00610		A	BUFFAR,W,,	INCREMENT BUFFAR ARROW				
					00240	K1	00155	0224C
00620		B	SWD1		00252	M9	00406	CCOCO
00630		DORG	*-4		00259			
00640	ICON8	CC	1,9		00259	00001		
00650		DSA	RETFLT		00264	00005	-0812	
00660		DORG	**5		00269			
00670	IOEND	TFM	DSAOTR+5,DIOEND		00270	J0	00403	-C270
00680		BD	SETRMK,FRIND,,	BRANCH IF FETCH	00282	ML	00354	OC163
00690		C	NITEMP,N1		00294	K4	00143	02233
00700		BE	SETRMK,,,	BRANCH IF BUFFER EMPTY				
					00306	M6	00354	01200
00710		TFM	IORT,**23,,	WRITE BUFFER TO FILE				
					00318	10	00565	-0341
00720		B	IOPT ,DKDATA,7		00330	49	00532	-3379
00730		AM	FIND-1,1,610		00342	J1	0007J	OC0-1
00740	SETRMK	TD	SWD+900,DKBUFF+200		00354	KN	01116	01162
00750		TFM	IORT,IREF2+11		00366	10	00565	-0429
00760		B	IOGT		00378	49	00566	0C000
00770		DORG	*-4		00385			
00780	DDB	DSC	1,1		00385	00001		
00790		DSA	200		00390	00005	-0200	
00800		DC	3,9		00393	00003		
00810	DSAOTR	DSA	SWD,DIOEND		00398	00005	-0216	
					00403	00005	-0270	
00820		DC	1,0		00404	00001		
00830	SWD1	BD	FETCH1,FRIND,,	BRANCH IF FETCH				
					00406	ML	00670	OC163
00840**			RECORD					
00850	IREF2	CF	SWD-1,DATB,7,	CLEAR FLAG ON ADDRESS OF DATA				
					00418	LL	00215	-0953
00860		SM	NITEMP,1,10 ,	DECREMENT WORD COUNT				
					00430	J2	00143	OC0-1
00870		TFL	BLFFAR,SWD-1,611		00442	-0	0015N	OC21N
00880	CK	CM	NITEMP,0,10,	CHECK FOR FULL BUFFER				
					00454	J4	00143	OC0-0
00890		BNZ	TOBB		00466	M7	00012	01200
00900		BD	TOBB-12,FRIND,,	BR IF FETCH	00478	ML	00C00	00163
00910		TFM	LINKB+18,IOPT		00490	J6	00540	-0532
00920	CKI	TFM	RETD2+6,LINKB		00502	J0	00150	-0522
00930		B	N2CK		00514	M9	00096	0C000
00940		DORG	*-4		00521			
00950	LINKB	TFM	IORT,**23,,	CALL CORRECT ICRT ROUTINE				
					00522	10	00565	-0545
00960		B	,DKDATA,7		00534	49	CCOCO	-3379
00970		TFM	BLFFAR,DKBUFF+199,,	INITIALIZE BUFFER ARROW				
					00546	J0	00155	-1161
00980		S	BLFFAR-2,RECLG		00558	K2	00153	02243
00990		BNF	**24,FRIND		00570	MM	00594	OC163
01000		A	BUFFAR,W		00582	K1	00155	02240
01010	ADDT01	AM	FIND-1,1,610,	INCREMENT I	00594	J1	0007J	OC0-1

0102C	A	DIODDA+5,DIODDA+8,,	INCREMENT SECTCR ADDRESS			
				00606	21	03392 03395
0103C	BD	FETCH2,FRIND		00618	ML	00714 00163
0104C	B	TOBB-12		00630	M9	00000 00000
01050	DORG	*-4		00637		
01060	A	DRAY-1,FP2		00638	K1	00023 03664
01070	AGAIN	TF SWD-1,DRAY-1		00650	K0	00215 00023
01080	B	SWD		00662	M9	00216 00000
01090	DORG	*-4		00669		
01100	FETCH1	C NITEMP,N1		00670	K4	00143 02233
01110	BNE	FETCH2,,,	BRANCH IF BUFFER NCT EMPTY			
				00682	M7	00714 01200
0112C	TFM	LINKB+18,IOGT		00694	J6	0054C -C566
01130	B	CKI		00706	M9	00502 00000
01140	DORG	*-4		00713		
01150	FETCH2	SM NITEMP,1,10		00714	J2	00143 000-1
01160*		SEND THE WORD TO FAC				
01170	TFL	FAC,BUFFAR,11		00726	00	02492 0015N
01180	BI	*+12,1400		00738	M6	00750 01400
01190*		TEST FOR FLOATING ADDRESS AT SWD-1				
01200	BNF	FETCH3,SWD-1		00750	MM	00844 00215
01210*		IT IS A FIXED ADDRESS				
01220	CF	SWD-1		00762	L3	00215 00000
01230*		TEST FOR FLOATING WORD IN FAC				
01240	BNF	FETCH4,FAC-1		00774	M4	00856 02491
01250*		THE WORD IS FLOATING SET UP LINKAGE FOR FIX				
01260	TF	FIXEND+6,ICON7+6		00786	20	03686 00811
01270	B	FIX		00798	49	03854 00000
01280	DORG	*-4		00805		
01290	ICON7	DC 1,4		00805	00001	
01300	DSC	1,9		00806	00001	
01310	DSA	RETFLT		00811	00005	-0812
01320	RETFLT	TDM FIXEND+1,2		00812	15	03681 00002
01330	TDM	FLTEND-5,2		00824	15	03725 00002
01340*		BRANCH TO STORE NUMBER				
01350	CKLD	B FETCH4		00836	M9	00856 00000
01360	DORG	*-4		00843		
01370	FETCH3	BNF FETCH5,FAC-1,,	BRANCH IF FIXED			
				00844	M4	00876 02491
01380*		STORE THE WORD IN MEMORY				
01390	FETCH4	TFL SWD-1,FAC,6		00856	-6	0021N 02492
01400*		CHECK FOR EMPTY BUFFER				
01410	B	CK		00868	M9	00454 00000
01420	DORG	*-4		00875		
01430*		SET UP LINKAGE FOR FLOAT				
01440	FETCH5	TF FLTEND,ICON8+5		00876	20	03730 00264
01450	B	FLOAT		00888	49	04042 00000
01460	DORG	*-4		00895		
01470	DRAY1	SM PAR,1,10,,	DECREMENT WORD COUNT			
				00896	12	03378 000-1
01480	BNZ	*+14		00908	M7	00922 01200
01490	BB			00920	42	00000 00000
01500	DORG	*-9		00922		
01510	BNF	AGAIN-12,DRAY-1		00922	MM	00638 00023
01520	S	DRAY-1,K		00934	K2	00023 02221
01530	B	AGAIN		00946	M9	00650 00000
01540	DORG	*-4		00953		
01550	DATB	DSC 2,-00		00953	00002	
01560	DSA	DDB		00959	00005	-0385
01570	DC	1,1		00960	00001	
01580	DKBUFF	DS ,DATB+9		00962	00000	

01590*					
01600*					
01610*		WRITE 2ND BLOCK			
01620*					
01630	LD1RD	DSC	2,00	00961	00002
01640		DSA	DIM1	00967	00005 -0965
01650		DC	1,'	00968	00001
01660	DIM1	DSC	1,1	00969	00001
01670		DSA	209	00974	00005 -0209
01680		DC	3,9	00977	00003
01690		DSA	SWD	00982	00005 -0216
01700		DC	1,'	00983	00001
01710	STLD1	CF	ICON7+2	00984	L3 00807 00000
01720		DGM	DATB+9+200	01162	00001
01730		CF	ICON8+1	00996	L3 00260 00000
01740		TFM	IORT,HERE+11	01008	10 00565 -1043
01750		TD	SWD+900,DKBUFF+200	01020	KN 01116 01162
01760	HERE	B	IOPT,LD1RD,7	01032	4R 00532 -0961
01770		TRA		01044	10 00565 -1063
				01056	49 00716 00000
				01063	00002 2K
				01065	00005 -1071
				01070	00001 '
				01071	00006 1J9783
				01077	00003 -03
				01080	00006 -0000'
				00984	
01780		TCD	STLD1		
01790*					
01800*		BLOCK 1 OF FETCH FIND RECORD			
01810		DORG	SWDA	00216	
01820	SWD	TFM	DSABLK+5,SWD	00216	J0 00265 -0216
01830		TFM	IORT,IREF+11	00228	10 00565 -0571
01840		B	IOGT	00240	49 00566 00000
01850		DORG	*-4	00247	
01860	DDABLK	DSC	1,1	00247	00001
01870		DSA	209	00252	00005 -0209
01880		DC	3,9	00255	00003
01890	DSABLK	DSA	SWD,SWD	00260	00005 -0216
				00265	00005 -0216
				00266	00001
				00270	
01900		DC	1,'	00270	M6 00282 01400
01910		DORG	ICEND	00282	42 00000 00000
01920	DIOEND	BI	**+12,1400	00284	
01930		BB		00284	00002
01940		DORG	*-9	00290	00005 -0247
01950	DAT1	DSC	2,-00	00291	00001
01960		DSA	DDABLK	00296	00005
01970		DC	1,'	00298	K0 00071 00297
01980		DS	5	00310	J5 00163 0000J
01990	FETCH	TF	FIND-1,FETCH-1,,	00322	M9 00358 00000
02000		TDM	FRIND,1,11,	00334	K0 00071 00333
				00346	J5 00163 00000
				00358	15 03527 00001
02010		B	AITEST,,,	00358	15 03527 00001
02020*					
02030*					
02040	RECORD	TF	FIND-1,RECORD-1,,		
02050		TDM	FRIND,0,,		
02060	AITEST	TDM	FINDIN,1,,		
02070	SET1	TFM	DIODDA+5,217,,		

02080	M	FIND-1,RECLG,6,	COMPUTE ADDRESS OF FILE RECORD	00370 16 03392 -C217
02090	A	DIODDA+5,99		00382 K3 0007J 02243
02100	BD	**44,FINDIN,,	BRANCH IF NOT FIND	00394 21 03392 0C099
02110	SSEEK	TFM ICRT,**23		00406 M3 00450 03527
02120	B	ICSK,DKDATA,7,	TRANSFER TO IORT TC SEEK	00418 10 00565 -C441
02130	B	DIOEND		00430 49 00554 -3379
02140	DORG	*-3		00442 M9 00270 0C000
02150	TFM	BUFFAR,DKBUFF+199,,	INITIALIZE BUFFER ARROW	00450
02160	S	BLFFAR-2,RECLG		00450 J0 00155 -1161
02170	TF	NITEMP,N1,,		00462 K2 00153 02243
02180	TF	DIODDA+8,RECLG,,	STORE RECORD LENGTH IN CDA	00474 K6 00143 02233
02190	TFM	DIODDA+13,DKBLFF+200,,	STORE ADDRESS OF BUFFER	00486 26 03395 02243
02200	S	DIODDA+11,RECLG,,	SUB LENGTH OF RECORD TO GET FIRST CCR	00498 10 03400 -1162
02210	OVER	TDM IC98+1,2,,	INITIALIZE BRANCH BACK	00510 22 03398 02243
02220	BB			00522 J5 00013 0C002
02230	DORG	*-9		00534 42 0C000 0C000
02240	EVEN	TF TEMPA,FP2,,	STORE FLOATING LENGTH IN TEMPA	00536
02250	BNF	**36,DRAY-1,,	BRANCH IF FLOATING ARRAY	00536 K6 00119 03664
02260	IREF	CF DRAY-1,DAT1,7		00548 MM 00584 0C023
02270	TF	TEMPA,K,,	STORE FIXED LENGTH IN TEMPA	00560 LL 00023 -C284
02280	TF	DIODDA+13,DRAY-1,,	STORE ADDRESS OF FIRST ELEMENT	00572 K6 00119 02221
02290	AM	DIODDA+13,1		00584 20 03400 0C023
02300	S	DIODDA+13,TEMPA,,	HIGH ORDER POSITION OF ARRAY	00596 11 03400 -C001
02310	TF	EVEN1+11,DIODDA+13		00608 2K 03400 00119
02320	M	TEMPA,PAR		00620 K6 00703 03400
02330	A	EVEN1+11,99		00632 K3 00119 03378
02340	CARRY	CM EVEN1+11,0		00644 K1 00703 0C099
02350	BNE	**24		00656 J4 00703 -C000
02360	TFM	EVEN1+11,0		00668 M7 00692 01200
02370*			EVALUATE AND STORE LOW ORDER	00680 J6 00703 -C000
02380*			POSITION + 1 OF ARRAY	
02390	EVEN1	TD EVEN2+11		00692 K5 00939 0C000
02400*			EVALUATE SECTOR COUNT	
02410	SF	95		00704 32 00095 0C000
02420	AM	99,1,10, ADD ONE FOR GROUP MARK		00716 11 00099 0C0-1
02430	TF	DIODDA+8,97,, SET UP SECTOR COUNT		00728 26 03395 0C097
02440	C	**8,99,7		00740 K4 00748 -C099
02450	BE	**24		00752 M6 00776 01200
02460	AM	DIODDA+8,1,9, ADD TO SECTOR CNT IF NOT EVEN HUNDREDS		00764 11 03395 00-01
02470	D	95,RECLG		00776 29 00095 02243
02480	A	FIND-1,94,6, ADD NUMBER OF RECORDS TO I		00788 K1 0007J 0C094
02490	BD	**36,96		00800 M3 00836 0C096
02500	BD	**24,95		00812 M3 00836 0C095
02510	SM	FIND-1,1,610		00824 J2 0007J 0C0-1
02520	TFM	RETD2+6,**20		00836 J0 00150 -C856
02530	B	N2CK		00848 M9 00096 0C000
02540	DORG	*-4		00855

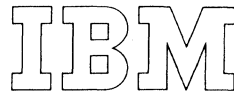
02550	AM	FIND-1,1,610		00856 J1 0007J 0C0-1
02560	BD	FETCH8,FRIND,,	BRANCH IF FETCH	00868 ML 00954 0C163
02570*		RECORD		
02580	TD	EVEN1+11,DKBUFF+200,6,	SET GROUP MARK AT END OF ARRAY	00880 KN 0070L 01162
02590*			WRITE ARRAY CNTO FILE	
02600	TFM	IORT,++23		00892 10 00565 -C915
02610	B	ICRBC,NOWLC ,7		00904 4R 00520 -1091
02620	TDM	FLTEND-5,2		00916 15 03725 0C002
02630	EVEN2	TDM EVEN1+11,,6,	RESTCRE DIGIT	
				00928 J5 0070L 0C000
02640	A	DIODDA+5,DIODDA+8,,	INCREMENT SECTOR ADDRESS	
				00940 21 03392 03395
02650	BB			00952 42 00000 0C000
02660	DORG	*-9		00954
02670	FETCH8	TFM DIO+35,YTURN,67,	INSERT ADDRESS FOR ERROR ENTRY	
				00954 10 0085J -1048
02680	TFM	IORT,++23,,	READ ARRAY FROM FILE	
				00966 10 00565 -0989
02690	B	IOGT,DKDATA,7		00978 49 00566 -3379
02700*			TEST FOR NO GROUP MARK	
02710	BNG	*+20,EVEN1+11,11		00990 NN 01010 0070L
02720	B	EVEN2		01002 M9 00928 0C000
02730	DORG	*-4		01009
02740	TF	FLTEND,EVENSP+6		01010 20 03730 01047
02750	TFM	EI,473,9		01022 16 02615 00M73
02760	B	ERROR		01034 49 03596 0C000
02770	DORG	*-4		01041
02780	EVENSP	DC 1,4		01041 00001
02790	DSC	1,9		01042 00001
02800	DSA	EVEN2-12		01047 00005 -0916
02810	YTURN	BI *+12,3700		01048 M6 01060 03700
02820	BNI	ERRET,1900		01060 47 00602 01900
02830	TDM	INDS+10,6		01072 15 00620 0C006
02840	B	IOERR		01084 49 00624 0C000
02850	DORG	*-4		01091
02860	NOWLC	DSC 2,02		01091 00002
02870	DSA	DIODDA		01097 00005 -3387
02880	DC	1,'		01098 00001
02890	TEMPA	DS 2,N2CK+23		00119 00002
02900	NITEMP	DS 2,RETD2-1		00143 00002
02910	FRIND	CS 1,8E2+7		00163 00001
02920*		WRITE FIRST BLOCK		
02930*				
02940	DIM2	DSC 1,1		01099 00001
02950	DSA	200		01104 00005 -0200
02960	DC	3,9		01107 00003
02970	DSA	SWD		01112 00005 -0216
02980	DC	1,'		01113 0C001
02990	DORG	SWD+902		01118
03000	STLD2	TD CARRY+7,CORSIZ		01118 K5 00663 07376
03010	AM	CARRY+8,10		01130 J1 00664 -C010
03020	TFM	IORT,NIO+11		01142 10 00565 -1177
03030	GM	CF EVENSP+2		01154 L3 01043 0C000
03040	DGM	GM+8		01167 00001
03050	NIO	B IOPT,LD2ND,7		01166 4R 00532 -1220
03060	TRA			01178 10 00565 -1197
				01190 49 00716 0C000
				01197 00002 2K
				01199 00005 -1205

03070 LD2ND DSC 2,00
03080 DSA DIM2
03090 DC 1,
03100 TCD STLD2
03110 CEND 6

01204 C0001 '
01205 00006 1J9783
01211 C0003 -03
01214 00006 -00CC'
01220 C0002
01226 00005 -1099
01227 C0001
01118
00C06

SYMBOL TABLE

SETRMK 00354R	RETFLT 00812R	RECCRD 00334R	NITEMP 00143R	IREF2 00418R
FLTEND 03730	FIXEND 03680	FINCIN 03527	FETCH8 00954R	FETCH5 00876R
FETCH4 00856R	FETCH3 00844R	FETCH2 00714R	FETCH1 00670R	EVENSP 01041R
CSAOTR 00398R	DSABLK 00260R	DKDATA 03379	CKBUFF 00962R	DIOENC 00270R
CIOCCA 03387	DDABLK 00247R	CORSIZ 07376	BUFFAR 00155R	AITEST 00358R
ADCTCI 00594R	ADR 00004R	AGAIN 00650R	BE2 00156R	CARRY 00656R
CK 00454R	CKI 00502R	CKLD 00836R	DATB 00953R	DAT1 00284R
DCB 00385R	DIM1 00969R	DIM2 01099R	DIC 00816	DRAY 0024R
DRAY1 00896R	EI 02615	ERRET 00602	ERROR 03596	EVEN 00536R
EVEN1 00692R	EVEN2 00928R	F 02219	FAC 02492	FETCH 00298R
FINC 00072R	FIX 03854	FKCDD 03579	FLCAT 04042	FP2 03664
FRIND 00163R	GM 01154R	HERE 01032R	ICCN7 00805R	ICON8 00259R
INDS 00610	ICCAL 00716	ICEND 00270R	ICERR 00624	ICGT 00566
IOPT 00532	ICRBC 00520	IREF 00560R	ICRT 00565	IOSK 00554
K 02221	LC1RD 00961R	LC2ND 01220R	LINKB 00522R	NIO 01166R
NOWLC 01091R	NI 02233	N2 02238	N2CK 00096R	OVER 00522R
PAR 03378	RECLG 02243	RET2D 00144R	SET1 00370R	SSEEK 00418R
STLD1 00984R	STLD2 01118R	SWC 00216R	SWCA 00216R	SWD1 00406R
TEMPA 00119R	TOBB 00012R	W 02240	YTURN 01048R	ZERO 02700



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

November 25, 1963

MEMORANDUM TO: Users of the 1620-1311 Monitor I System

SUBJECT: 1620-PR-025 (Card System)
Modification No. 3

This letter transmits Modification No. 3 of the 1620-1311 Monitor I System. Forty-four (44) new cards are provided. They should replace the correspondingly numbered cards in your Monitor I Card System.

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

Continued use of the Authorized Programming Analysis Report form for reporting difficulties will be appreciated.

cc: Branch Offices without enclosures

Monitor I System Loader, Deck #1

1. Error: Write disk instruction involved with write disk error routine was not reconstructed properly.

Correction: The following changes are necessary to correct the problem.

Page 1 of listing should be changed:

From: 00370 TD NOP+1,1,, 07772 25 09287 00001

To: 00370 TDM NOP+1,1,, 07772 15 09287 00001

Page 4 of same listing:

From: 01620 TD NOP+1,9 09298 25 09287 00009

To: 01620 TDM NOP+1,9 09298 15 09287 00009

Two (2) new cards are furnished; they are cards numbered 00009 and 00030. Please remove the correspondingly numbered cards from Deck #1 and insert the new cards provided.

Disk Utility Program, Deck #3

1. Error: * Store Core Image. Core Image Program contains record mark between 13612 and 13772. This causes DUP to get a MAR check or creates a DUP * ERROR 1.

Correction: The following changes are necessary to correct the program:

Page 1 of listing (DUP routine) should be changed:

From: 00240 DSA SOLDON 02298 04560

To: 00240 DSA CLRIN 02298 05934

Page 14 of the listing should be changed:

From:	05050		DAC	1,0		05935	1x2
To:	05050	CLRIN	TFM	*+18, INPUT-1		05934	16 05952 13612
	05051		TDM	INPUT-1,0		05946	15 13612 00000
	05052		AM	*-6,1,10		05958	11 05952 00001
	05053		CM	*-18, INPUT+161		05970	14 05952 13774
	05054		BL	*-36		05982	47 05946 01300
	05055		B7	SOLDON		05994	49 04560 0

Two (2) new cards are furnished; they are cards numbered 10163 and 10596. Please remove the correspondingly numbered cards from Deck #3 and insert the new cards provided.

Supervisor, Deck #7

1. Error: The FORTRAN Arithmetic and I/O subroutine set identification number has not been placed in disk sector position 83 of the Communications Area.

Correction: The following change is necessary to correct this problem.

Page 25 of the listing insert the following:

10322 DSC 1,1, COMM+83 FORTRAN Subroutine Set Number.

2. Error: FORTRAN reading disk storage with wrong length record check to terminate read from disk storage gives check stop. This error also requires correction in FORTRAN Loader, Deck #9. These changes are incorporated in this modification.

Correction: The following changes are necessary to correct the program.

Page 6 of the listing requires the following insertion.

Add:	02381		DORG		02094
	02382	INOUT	DSA		CHECK-12

Page 13 of the same listing should be changed:

From:	05580		B		CHECK-12
To:	05580		B		INOUT, , 6,

Three (3) new cards are furnished; they are cards numbered 80075, 80086, and 80222. Please remove the correspondingly numbered cards from Deck #7 and insert the new ones furnished.

FORTRAN II-D Processor, Deck #8

1. Error: Single subscripting calculations previously done by subroutine because of array names being formal parameters, will now be done in-line, where possible, to effect a faster execution of the object program.

Correction: The following changes are necessary to correct this problem.

Page 47 of the listing (Phase 2) should be changed:

From:	16820	CDS1FP	BNF	CDS1Z, SX	15430	44	15450	02377
	16830		B7	XX4	15442	49	14660	
To:	16820	CDS1FP	TDM	FXIOSW, 0	15430	15	15772	00000
	16830		B7	PATSB1	15442	49	15730	
From:	16950		A	D4, SX	15542	21	07017	02377
	16960		BD	*+20, RXFLAG	15554	43	15574	04735
	16970		B7	*+44	15566	49	15610	
	16980		BNF	*+36	15574	44	15610	09327
	16990		SF	L	15586	32	07025	00000
	17000		NOP	D4	15598	41	07017	00000
	17010		TDM	SS1, 1	15610	15	07476	00001
	17020		BTM	PUTX, *+16	15622	17	07032	15638
	17030		DSA	MM, DI, L	15638	09349	06992	07025
To:	16950		BD	*+24, FPSW	15542	43	15566	09659
	16960		A	D4, SX	15554	21	07017	02377
	16970		BNF	*+24, FXIOSW	15566	44	15590	15772
	16980		SF	L, 21, 10	15578	32	07025	00021
	16990	OPJ	DS	, *	15589			
	17000		TDM	SS1, 1	15590	15	07476	00001
	17010		BTM	PUTX, *+16	15602	17	07032	15618
	17020		DSA	MM, DI, L	15618	09349	06992	07025
	17030		BNF	PATSB4, FPSW	15630	44	15878	09659
	17031		B7	PATSB3	15642	49	15830	

Page 48 of same listing should be changed:

From: 17111	BD	*+20, RXFLAG	15730 43 15750 04735
	B7	*+32	15742 49 15774
	BNF	*+24, IO1	15750 44 15774 09327
	TDM	SS4, 1	15762 15 07479 00001
	TDM	SS2, 1	15774 15 07477 00001
	B	15662	15786 49 15662
To: 17111 PATSB1	BD	*+20, RXFLAG	15730 43 15750 04735
	B7	PATSB2	15742 49 15774
	BNF	*+24, IO1	15750 44 15774 09327
	TDM	FXIOSW, 1, 11	15762 15 15772 00001
FXIOSW	DS	, *-1	15772
PATSB2	BNF	CDS1Z, SX	15774 44 15450 02377
	BD	XX4, FXIOSW	15786 43 14660 15772
	TDM	FPSW, 1, 11	15798 15 09659 00001
	CF	SX	15810 33 02377 00000
	B7	CDS1Z	15822 49 15450
PATSB3	TDM	SS2, 1	15830 15 07477 00001
	BTM	PUTX, *+16	15842 17 07032 15858
	DSA	OPJ, N13092, SX	15858 15589 09369 02377
	B7	15662	15870 49 15662
PATSB4	BNF	*+24, FXIOSW	15878 44 15902 15772
	TDM	SS4, 1	15890 15 07479 00001
	TDM	SS2, 1	15902 15 07477 00001
	B7	15662	15914 49 15662

Seven (7) new cards are furnished. They are cards numbered 51708, 51709, 51710, 51711, 51712, 51713, and 51714. Please remove the correspondingly numbered cards from Deck #8 and insert the new cards provided.

FORTTRAN II-D, Loader, Deck #9

1. Error: This error refers to Error 2 of Supervisor Deck #7, which was corrected earlier in this current modification.

Correction: The following changes are necessary to correct the program.

Page 4 of the listing (Block 4) should be changed:

From: 01730 FLPCOW	DC	5, 256, *-5	05150	5
To: 01730 FLPCOW	DC	5, 300, *-5	05150	5

2. Error: When FORTRAN mainline is loaded from cards, subprograms from disk will not load.

Correction: The following changes are necessary to correct the program.

Page 5 of the listing (Block 2) should be changed:

From: 02210 B CALL 2

To: 02210 B PATCH

Page 8 of the same listing should be changed:

Add: 03491 PATCH TDM EXTIND, 0
 03492 B CALL 2

3. Error: During the loading of LOCAL's it is possible to introduce an extraneous group mark into the area occupied by the LOCAL. If this occurs, the LOCAL is not read in completely resulting in a MAR check at execution time.

Correction: The following changes are necessary to correct the program.

Page 7 of the listing (Block 5) should be changed:

From: 03430 TF LNKPTR, SCHDDA+5, 6

To: 03430 B PATCH

Page 9 of the same listing should be changed:

From: 04330 TAB DSC 2, 22
 04340 DSA TABDDA
 04350 DC 1, @
 04360 TABDDA DDA , 1, 0, 1, INRK
 04370 DC 1, @
 04380 TBL DSC 2, 22
 04390 DSA TBLDDA
 04400 DC 1, @

To: 04330 PATCH TDM SETGM+6, 0
 04340 TF LNKPTR, SCHDDA+5, 6
 04350 B MVESCT+84

4. Error: When a LOCAL subprogram is called from the disk and the LOCAL resides in the scratch area of the disk in a manner that part of it is on one cylinder and the remainder is on the next cylinder a check stop will occur.

Correction: Replace FLIPPER listing with the one supplied.

Fourteen (14) new cards are furnished; they are numbered:

63107
63117
63136
63228
63237
63238
63261
63262
63263
63264
63265
63266
63267
64022

Please remove the correspondingly numbered cards from Deck #9 and insert the new cards furnished.

FORTTRAN Subroutines with Auto Floating Point, Deck #11

1. Error: Incorrect zeroing constant when floating word length is less than eight.

Correction: The following changes are necessary to correct the problem.

Page 9 of the listing (Set 3) should be changed:

From:	03740	BV	*+12	05542 46 05554 01400
To:	03740	B	PATCH1	05542 49 05654 00000

Page 10 of the same listing should be changed:

Add:	03931	PATCH1	CM	F, 7, 10	05654	14	02219	00007
	03932		BH	*+24	05666	46	05690	01100
	03933		AM	ZERO M, 12, 10	05678	11	03445	00012
	03934		BV	*+12	05690	46	05702	01400
	03935		B7	ODDSET+60	05702	49	05554	

2. Error: I/O subroutines fail when the number of items to be read from a data paper tape is less than the number of items specified in the FORTRAN statement.

Correction: The following changes are necessary to correct the problem.

Page 19 of the listing (Set 3) should be changed:

From:	08670		CM	INPLUS, 70, 610	04766	14	05945	00070
	08680		BH	IRDIG	04778	46	04882	01100
	08700		CM	INPLUS, 00, 610	04802	14	05945	00000
	08720		CM	INPLUS, 20, 610	04826	14	05945	00020
To:	08670		C	*+69, INPLUS, 11	04766	24	04835	05945
	08680		BNH	IRDIG	04778	47	04882	01100
	08700		C	FLOAT+11, INPLUS, 11	04802	24	04053	05945
	08720		CM	INPLUS, 7020, 6810	04826	14	05945	07020

Page 31 of the same listing should be changed:

From:	14640	RDFCH	CM	INPLUS, 00, 610	04828	14	05945	00000
To:	14640	RDFCH	C	*-37, INPLUS, 11	04828	24	04791	05945

Page 12 of the listing (Set 4) should be changed:

From:	05760	RDFCH	CM	INPLUS, 00, 610	07378	14	05945	00000
To:	05760	RDFCH	C	*-49, INPLUS, 11	07378	24	07329	05945

Page 17 of the same listing should be changed:

From: 08270	CM	INPLUS, 70, 610	09814 14 05945 00070
08280	BH	IRDIG	09826 46 09930 01100
08300	CM	INPLUS, 00, 610	09850 14 05945 00000
To: 08270	C	EFTYPE+47, INPLUS, 11	09814 24 07749 05945
08280	BNH	IRDIG	09826 47 09930 01100
08300	C	FLOAT+11, INPLUS, 11	09850 24 04053 05945

Ten (10) new cards are furnished; they are cards numbered 65057, 65058, 65123, 66042, 66043, 66044, 66045, 66101, 66133, and 66134. Please remove the correspondingly numbered cards from Deck #11 and insert the new ones provided.

FORTTRAN Subroutines with Auto Divide, Deck #10

1. Error: I/O subroutines fail when the number of items to be read from a data paper tape is less than the number of items specified in the FORMAT statement.

Correction: The following changes are necessary to correct the problem.

Page 26 of the listing (Set 1) should be changed:

From: 12550	CM	INPLUS, 70, 610	04766 14 05945 00070
12560	BH	IRDIG	04778 46 04882 01100
12580	CM	INPLUS, 00, 610	04802 14 05945 00000
12600	CM	INPLUS, 20, 610	04826 14 05945 00020
To: 12550	C	*+69, INPLUS, 11	04766 24 04835 05945
12560	BNH	IRDIG	04778 47 04882 01100
12580	C	FLOAT+11, INPLUS, 11	04802 24 04053 05945
12600	CM	INPLUS, 7020, 6810	04826 14 05945 07020

Page 38 of the same listing should be changed:

From: 18560	RDFCH	CM	INPLUS, 00, 610	04828 14 05945 00000
To: 18560	RDFCH	C	*-37, INPLUS, 11	04828 24 04791 05945

Page 12 of the listing (Set 2) should be changed:

From:	05730	RDFCH	CM	INPLUS,00,610	07378	14	05945	00000
To:	05730	RDFCH	C	*-49,INPLUS,11	07378	24	07329	05945

Page 17 of the same listing should be changed:

From:	08280		CM	INPLUS,70,610	09862	14	05945	00070
	08290		BH	IRDIG	09874	46	09978	01100
	08310		CM	INPLUS,00,610	09898	14	05945	00000
To:	08280		C	EFTYPE+47,INPLUS,11	09862	24	07749	05945
	08290		BNH	IRDIG	09874	47	09978	01100
	08310		C	FLOAT+11,INPLUS,11	09898	24	04053	05945

Six (6) new cards are furnished; they are cards numbered 52101, 52102, 52167, 53101, 53134, and 53135. Please remove the correspondingly numbered cards from Deck #10 and insert the new cards provided.

ERRATA TO MODIFICATION LETTER NO. 2

FORTRAN II-D, Loader

On Page 8 Of Modification Letter No. 2 (Card System), a correction to FORTRAN II-D Loader requires the replacement of one card numbered 63107. The change to the listing was correct; however, the correction was misspelled. Please replace the previously issued card with the one provided with this Modification Letter.

STCORE 1'S 5
 C2C3C CS 5
 FLIP TR SWK, *-1,11
 C SWK+5,WK
 TF EXIT+6,SWK+10
 C2C5C BE SMI
 TFM SWK+8,999,9
 TF SWK+13,STCORE
 TFM DIO+35,MYER,67
 TF WK,SWK+5
 TDM SWK+14
 DC 1,*,*
 O2C7C TFM ICRT,**+23
 O2C8C B IOGT,LABEL,7
 TFM INOUT,CHECK-12
 SMI SM FLIP-1,13
 TF **+30,FLIP-1,611
 AM **+18,1,10
 EXIT B
 CORG *-3
 MYER BI **+12,3700
 BNI ERRET,1900
 TFM INOUT,MYER2
 B7 ERROR
 MYER2 BI **+12,3700
 BI CHECK-12,1900
 B7 EEXIT
 WK CC 5,99999
 SWK CSS 15
 LABEL DSC 2,20
 DSA SWK
 O214C DC 1,*,*
 INDS DS ,610
 DIO DS ,816
 ERROR DS ,624
 ERRET DS ,602
 ICRT DS ,565
 IOGT DS ,566
 INOUT DS ,2098
 CHECK DS ,1262
 EEXIT DS ,1630
 DEND

CCC04 CCC05
 00C09 00005
 00C10 LJ 00278 CCOGR
 00C22 KM 00263 CC277
 00C34 KC 00196 OC288
 00C46 M6 00154 01200
 00C58 J6 00286 CCR99
 00C70 KO 00251 0C004
 00C82 IO 0085J -C198
 00C94 KO C0277 CC283
 00106 J5 C0292 0C000
 00117 C0001
 00118 IO 00565 -C141
 00130 4R 00566 -C293
 00142 16 02098 -1250
 00154 J2 00009 -C013
 00166 KO 0019C 0C00R
 00178 J1 00196 0C0-1
 00190 49 00000 0C000
 00198
 00198 M6 0021C 03700
 00210 47 00602 01900
 00222 IO 02098 -C242
 00234 49 00624 C0000
 00242 M6 00254 03700
 00254 46 01250 01900
 00266 49 01630 C0000
 00277 C0005
 00278 C0015
 00293 00002
 00299 C0005 -0278
 00300 C0001
 00610 C0000
 00816 00000
 00624 C0000
 00602 C0000
 00565 00000
 00566 00000
 02098 C0000
 01262 00000
 01630 00000
 00C00

STCORE 00004R
 ERROR 00624
 IOGT 00566
 SMI 00154R
 CHECK 01262
 EXIT 0019CR
 ICRT 00565
 SWK 00278R

SYMBOL TABLE

DIC	00816	EEXIT	01630	ERRET	0C602
FLIP	00010R	INCS	00610	INOUT	02098
LABEL	00293R	MYER	00198R	MYER2	0C242R
WK	00277R				



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International Business Machines Corporation

February 3, 1964

MEMORANDUM TO: Users of the 1620-1311 Monitor I System

SUBJECT: 1620-PR-025 (Card System)
Modification No. 4.

This letter transmits Modification No. 4 of the 1620-1311 Monitor I System. Nine hundred and thirty-eight (938) new cards are provided. They should replace the correspondingly numbered cards in your Monitor I Card System.

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Programming Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

Continued use of the Authorized Programming Analysis Report (APAR) form for reporting difficulties will be appreciated.

cc: Branch Offices without enclosures

Disk Utility Program, Deck #3

DUP Improvements and Corrections

1. The *DLOAD routine has been modified to obtain faster load times. In order to run this faster version of *DLOAD, it is necessary to have flagged zeros in the remainder of the Sequential Program List, following the record mark. These flagged zeros will be placed in the S. P. List by executing the programs provided with this modification. (See pages 17-20).
2. The Define Disk Pack Label functions has been modified to place the five digit sector address of the communication sector (19663) into the last five positions of sector 19800 (cylinder 99). The SPS mantissa length is now being copied into positions 93-94 of the same sector.

Three new listings are provided covering the above changes and these are:

- A. Selection Routine, Pgs. 1-17.
- B. DLOAD, DREPL, DELET, Pgs. 1-59.
- C. DLABL, Pgs. 1-7.

The portion of Deck #3 which contains the previous mentioned changes is provided in this modification and are numbered 10000 to 10616. Please replace the correspondingly numbered cards with the new ones provided.

3. In addition, the following DUP ERROR was corrected:

Error: *DEFIN Program evaluates Column 55 of the control card unnecessarily.

Correction: The following changes are necessary to correct the problem:

Page 22 of listing (DUP ROUTINE *DEFIN) should be changed:

FROM:	10020	SF	DUPCRD+107	06796	32	09444	00000
TO:	10020	B7	*+60	06796	49	06856	

One new card, numbered 12022, is provided. Please replace the corresponding card of Deck #3 with the new one provided.

SPS II-D, Processor, Deck #6

1. Error: DSA will not generate a relocatable 10th operand.

Correction: The following change is necessary to correct this problem:

Page 18 of the listing (SPS II-D, Phase B) should be changed:

FROM: 08320 DFADD1 DDA ,0,B3DAD,B3SCT,B3MAD 09288 01900006909100
TO: 08320 DFADD1 DDA ,0,B3DAD,67,9300 09288 01900206709300

2. Error: *NO SUBROUTINES control record not effective.

Correction: The following change is necessary to correct this problem:

Page 52 of the listing (SPS II-D, Phase A) should be changed:

FROM: 24320 BNL **44 11529 46 11636 01300
TO: 24320 BNH **44 11529 47 11636 01100

3. Error: DESIRED Specifications change: non-disk IORT "definer" declaratives should generate group marks instead of the record marks now generated for purposes of compatibility with Monitor II.

Correction: The following changes are necessary to correct this problem:

Page 23 of the listing (SPS II-D, Phase B) should be changed:

FROM: 11420 BNR *+24,FCHBUF 12306 45 12330 12459
TO: 11420 FILL1 B FILL2 12306 49 15954

FROM: Previously vacant area--Phase B3

TO: FILL2 BNG *+24,FCHBUF 15954 55 15978 12459
TFM FCHBUF,47,10 15966 16 12459 00047
BNR FILL1+24,FCHBUF 15978 45 12330 12459
B7 FILL1+12 15990 49 12318

Page 42 of the same listing:

```
FROM:  20440          BTM    LINKCR, **12    13426 17 12808 13428
TO:    20440  ND1    B      ND2          13426 49 15540

FROM:  Previously vacant area--Phase B6

TO:    ND2    TD      LNTH+1,SPSGM 15540 25 02388 02560
        TD      OUT+4,SPSGM 15552 25 02222 02560
        BTM     LINKCR, **12    15564 17 12808 15576
        TD      LNTH+1, RM     15576 25 02388 14106
        B7      ND1+12        15588 49 13438
```

Seven (7) new cards are furnished; they are cards numbered 23197, 23577, 23625, 23626, 23744, 23773 and 23869. Please remove the correspondingly numbered cards from Deck #6 and insert the new ones provided.

Supervisor, Deck #7

Supervisor Improvement

This modification will cause programs which are loaded with relocation to maintain the same flags in the high order P and Q address portions of instructions after loading to core as were present in these positions before loading.

Page 9 of the listing Monitor I Relocating Loader should be changed:

```
FROM:  03800  SF      SF      P1,,6          02128 32 0220P 00000
TO:    03800  SF      NOP     P1,,6          02128 41 0220P 00000
```

Five cards are required to make this change. These five cards (numbered 80028-80032) must be loaded using the system loader. (Deck #1) After the loading has taken place the cards may be placed behind the Supervisor Deck (Deck #7) to update that deck.

FORTRAN II-D Processor, Deck #8

1. Error: In implied DO loops within disk I/O statements if M3 is stated a check stop occurs during compilation.

Correction: The following changes are necessary to correct the problem:

Page 49 of the listing (Phase 1-B) should be changed:

```
FROM: 24330      BD IOF,IOSW,,      13086 43 14236 10091
TO:    24330 DOEE BD IOF,IOSW      13086 43 14236 10091
```

Page 52 of the same listing, insert the following:

```
26241      DORG DOEE      13086
26242      BD   DKF,IOSW   13086 43 14352 10091
```

2. Error: Storage allocated incorrectly to variables that have been equivalenced in some cases.

Correction: The following change is necessary to correct the problem:

Page 13 of the listing (Phase 1-C) should be changed:

```
FROM: 06010  AM  SAVAD,14,10      07624 11 07359 00014
TO:    06010  SM  SAVAD,6,10      07624 12 07359 00006
```

3. Error: An extra record containing no data to be loaded is compiled in some cases.

Correction: The following changes are necessary to correct the problem:

Page 17 of the listing (Phase 1-C) should be changed:

```
FROM: 08200  OUTK C   LADD,CADD      09692 24 10865 10855
TO:    08200  OUTK B7  *+48          09692 49 09740

FROM: 08330      C   WK1,CEND      09824 24 10880 10860
      08340      BNL TD          09836 46 09892 01300
TO:    08330      C   CADD,LADD      09824 24 10855 10865
      08340      B7   DJS          09836 49 11520
```

Page 21 of the same listing, insert the following:

10031	DJS	BE	OUTK2	11520	46	10140	01200
10032		C	CADD,CEND	11532	24	10855	10860
10033		BE	ITNC	11544	46	10000	01200
10034		C	WK1,CEND	11556	24	10880	10860
10035		BH	TD	11568	46	09892	01100
10036		B7	OUTK1	11580	49	09848	

4. Error: If a program has no variables or constants and the first statement is numbered, a branch to that statement is not correctly executed.

Correction: The following change is necessary to correct this problem:

Page 1 of the listing (Phase 2) should be changed:

FROM:	00420	JWG	TFM	TMAX,0,9	02460	16	06972	00000
TO:	00420	JWG	CF	ADCOW	02460	33	06977	00000

5. Error: The area reserved for intermediate output in Phase 2 is not large enough for some statements with 4 continuation cards.

Correction: The following modifications change the origin of the intermediate string memory and the DO table.

Page 2 of the listing (Phase 2) should be changed:

FROM:	00590	TFM	BGNST+1,0,7	02652	16	17000	00000
	00610	TFM	BGNST,0,10	02664	16	16995	00000
	00620	TFM	ENDST,BGNSY-1	02676	16	03970	16994
TO:	00590	TFM	BGNST+1,0,7	02652	16	17600	00000
	00610	TFM	BGNST,0,10	02664	16	17595	00000
	00620	TFM	ENDST,BGNSY-1	02676	16	03970	17594

Page 5 of the same listing:

FROM:	01900	DOREF	DC	5, 17000	03750
	02020	DOBASE	DC	5, 17000	03810
TO:	01900	DOREF	DC	5, 17600	03750
	02020	DOBASE	DC	5, 17600	03810

1620-1311 Monitor I
Program #1620-PR-025 (Card System)
Modification No. 4
Page 6

Page 6 of the same listing:

FROM:	02340	BGNST DC	3,0,16999	16999
	02350	BGNSY DC	2,0,16995	16995
	02360	ENDST DC	5,16994	03970
TO:	02340	BGNST DC	3,0,17599	17599
	02350	BGNSY DC	2,0,17595	17595
	02360	ENDST DC	5,17594	03970

Page 7 of the same listing:

FROM:	02370	DC	1,@,17000	17000
TO:	02370	DC	1,@,17600	17600

Page 16 of the same listing:

FROM:	05410	TD	BGNSY+1,BGNSY-3	05348 25 16996 16992
	05420	TF	BGNSY,ADSL-1,11	05360 26 16995 05311
	05430	CF	BGNSY-3	05372 33 16992 00000
	05440	AM	BGNST,1,10	05384 11 16999 00001
TO:	05410	TD	BGNSY+1,BGNSY-3	05348 25 17596 17592
	05420	TF	BGNSY,ADSL-1,11	05360 26 17595 05311
	05430	CF	BGNSY-3	05372 33 17592 00000
	05440	AM	BGNST,1,10	05384 11 17599 00001

Page 17 of the same listing:

FROM:	05620	CM	BGNST,0,8	05554 14 16999 00000
	05670	C	RGRI,BGNST,6	05602 24 05584 16999
	05690	TF	RGRA,BGNST	05626 26 05685 16999
	05750	AM	99,BGNST	05686 11 00099 16999
	05920	SM	BGNST,1,10	05862 12 16999 00001
TO:	05620	CM	BGNST,0,8	05554 14 17599 00000
	05670	C	RGRI,BGNST,6	05602 24 05584 17599
	05690	TF	RGRA,BGNST	05626 26 05685 17599
	05750	AM	99,BGNST	05686 11 00099 17599
	05920	SM	BGNST,1,10	05862 12 17599 00001

6. Error: When the index of a Find, Fetch, or Record statement is a formal parameter in a subprogram, the linkage to the disk input-output routine is not correctly generated.

Correction: Page 63 of the listing (FORTRAN II-D, Phase 2) should be changed:

```
FROM: 23121 BD CD14NR,FFRSW 11058 43 11174 04765
      23160 TFM OPY,27,10 11106 16 12857 00027

TO: 23121 BD CD14NR+12,FFRSW 11058 43 11186 04765
     23160 TFM OPX,27,10 11106 16 04193 00027
```

Page 64 of the same listing:

```
FROM: 23220 CD14NR TFM OPY,17,10 11174 16 12857 00017
      23240 DSA OPY,LVP,N40004 11202 12857

TO: 23220 CD14NR TFM OPX,17,10 11174 16 04193 00017
     23240 DSA OPX,LVP,N40004 11202 04193
```

7. Error: If the expression to the right of the equal sign in an arithmetic statement function consists of a single variable that must be fixed or floated to conform to the mode of the function name, a check stop occurs at compile time.

Correction: The following changes are necessary to correct this problem:

Page 73 of the listing (FORTRAN II-D, Phase 2) should be changed:

```
FROM: 26520 BTM PUTX,*+16 10648 17 07032 10664
TO: 26520 B FCTPT1 10648 49 13320
```

Page 79 of the same listing:

```
ADD: 28891 FCTPT1 TDM RSW,1,11 13320 15 09337 00001
      28892 BTM PUTX,10664 13332 17 07032 10664
```

8. Error: When more than one list element of an input-output list is an implied DO LOOP, an erroneous error message may be given indicating that the DO table is full.

Correction: The following changes are necessary to correct this problem:

Page 85 of the listing (FORTRAN II-D, Phase 2) should be changed:

FROM:	31210	TF	GBASE,DOREF	14222 26 09637 03750
TO:	31210	TF	DOER+6,DOREF	14222 26 14882 03750

Page 86 of the same listing:

FROM:	31790	TF	DOREF,GBASE	14832 26 03750 09637
TO:	31790	TF	DOREF,DOER+6	14832 26 03750 14882

Twenty-five (25) new cards are furnished. They are cards numbered:

<u>51372</u>	<u>51523</u>	<u>51553</u>	<u>51578</u>	<u>51864</u>
<u>51470</u>	<u>51535</u>	<u>51573</u>	<u>51580</u>	<u>51899</u>
<u>51497</u>	<u>51537</u>	<u>51574</u>	<u>51815</u>	<u>51900</u>
<u>51499</u>	<u>51538</u>	<u>51576</u>	<u>51816</u>	<u>51962</u>
<u>51522</u>	<u>51552</u>	<u>51577</u>	<u>51817</u>	<u>51970</u>

Please remove the correspondingly numbered cards from Deck #8 and insert the new ones provided.

FORTRAN II-D, Loader, Deck #9

1. Error: When working storage is defined on a drive other than drive 0, a check stop occurs when attempting to load a FORTRAN program.

Correction: The following changes are necessary to correct this problem:

Page 2 of the listing (1620 FORTRAN II-D Loader, Block 1) should be changed:

FROM:	00680	TF	FLOD+13,CCIN+24	07796 26 12817 10523
	00690	A	CCIN+22,CCIN+27	07808 21 10521 10526
	00700	A	CCIN+22,CCIN+27	07820 21 10521 10526
	00720	SM	CCIN+24,21,10	07844 12 10523 00021
	00730	TF	FLOD+18,CCIN+24	07856 26 12822 10523
	00740	SM	CCIN+24,1,10	07868 12 10523 00001
	00750	TF	FLSDDA+5,CCIN+24	07880 26 12917 10523
	00760	TF	SUBDDA+5,CCIN+24	07892 26 12731 10523
	00770	TF	FLOD+7,CCIN+24	07904 26 12811 10523
	00810	TF	SCADDR,FLOD+13	07952 26 02460 12817

TO:	00680	TFM	FLOD+18,0	07796	16	12822	00000
	00690	A	FLOD+16,CCIN+27	07808	21	12820	10526
	00700	A	FLOD+16,CCIN+27	07820	21	12820	10526
	00720	SM	FLOD+18,21,10	07844	12	12822	00021
	00730	TF	FLSDDA+5,FLOD+18	07856	26	12917	12822
	00740	SM	FLSDDA+5,1,10	07868	12	12917	00001
	00750	NOP	FLSDDA+5,CCIN+24	07880	41	12917	12822
	00760	TF	SUBDDA+5,FLSDDA+5	07892	26	12731	12917
	00770	TF	FLOD+7,FLSDDA+5	07904	26	12811	12917
	00810	TFM	SCADDR,0	07952	16	02460	00000

On Page 7 of the same listing:

FROM:	03470	SUB	DSC	2,22	12718	2
TO:	03470	SUB	DSC	2,02	12718	2

And on Page 8 of the same listing:

FROM:	03690	FLS	DSC	2,22	12904	2
	03790	INC	DSC	2,22	12951	2
TO:	03690	FLS	DSC	2,02	12904	2
	03790	INC	DSC	2,02	12951	2

Page 2 of the listing (1620 FORTRAN II-D Loader, Block 2) should be changed:

FROM:	00740	TF	SCADDR,INRK+13	03654	26	02460	07413
TO:	00740	TDM	DME,2	03654	15	05820	00002

On Page 6 of the same listing:

FROM:	02880	DME	DSC	2,22	05820	2
TO:	02880	DME	DSC	2,02	05820	2

And on Page 7 of the same listing:

FROM:	03030	INC	DSC	2,22	05891	2
	03110	SVE	DSC	2,20	05923	2

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TO:	03030	INC	DSC	2,02	05891	2
	03110	SVE	DSC	2,00	05923	2

Page 5 of the listing (1620 FORTRAN II-D Loader, Block 4) should be changed:

FROM:	02140	LD	DSC	2,22	05496	2
TO:	02140	LD	DSC	2,02	05496	2

And on Page 6 of the same listing:

FROM:	02400	FLP	DSC	2,22	05670	2
TO:	02400	FLP	DSC	2,02	05670	2

Page 2 of the listing (1620 FORTRAN II-D Loader, Block 5) should be changed:

FROM:	00660	TF	SPRST,SCADDR	03556 26 06773 02460
TO:	00660	NOP	SPRST,SCADDR	03556 41 06773 02460

On Page 8 of the same listing:

FROM:	03980	SCH	DSC	2,22	06843	2
	04080	INC	DSC	2,22	06891	2
TO:	03980	SCH	DSC	2,02	06843	2
	04080	INC	DSC	2,02	06891	2

And on Page 10 of the same listing:

FROM:	04550	FLP	DSC	2,22	07171	2
TO:	04550	FLP	DSC	2,02	07171	2

Page 3 of the listing (1620 FORTRAN II-D Loader, Block 6) should be changed:

FROM:	01180	TF	IODDA+5,SCADDR	03074 26 03251 02460
	01360	IODSC	2,22	03238 2
TO:	01180	NOP	IODDA+5,SCADDR	03074 41 03251 02460
	01360	IODSC	2,02	03238 2

And on Page 5 of the same listing:

```
FROM: 01770 SVE DSC 2,20 03838 2
TO: 01770 SVE DSC 2,00 03838 2
```

Page 1 of the listing (Flip Routine for Load on Call Subroutines) should be changed:

```
FROM: LABEL DSC 2,20 00293 00002
TO: LABEL DSC 2,00 00293 00002
```

2. Error: When the mainline name table exceeds 51 entries, the *LOCAL Control record analyzer loops through the error print routine.

Correction: The following change is necessary to correct the program:

Page 4 of the listing (Block 1) should be changed:

```
FROM: 02050 B LOAD1+24 09216 49 09308 00000
TO: 02050 B MONCAL 09216 49 00796 00000
```

3. Error: Multiple subprogram names in *LOCAL Control records are not detected.

Correction: The following changes are necessary to correct the program:

Page 4 of the listing (Block 1) should be changed:

```
FROM: 01950 AM SEARCH+11,11,10 09112 11 09103 00011
      02010 AM SEARCH+11,9,10 09168 11 09103 00009
TO: 01950 NOP SEARCH+11,11,10 09112 41 09103 00011
      02010 AM SEARCH+11,20,10 09168 11 09103 00020
```

4. Error: The *DATA Control Record previously required by all FORTRAN jobs will now be required on a selective basis.

The rules for the inclusion of the *DATA control record will now be as follows:

1. If the mainline or link, of a FORTRAN job, and its associated sub-programs are loaded from the disk a *DATA Control record must not be included in the input.

2. If the mainline or link, of a FORTRAN job, or any of its associated subprograms are loaded from the card reader or tape reader a *DATA control record must be included whether or not any data is read by the program being executed.

If any subprograms are not available on the disk and the loader encounters a *DATA control record while searching for these subprograms the message

LOAD SUBNAM

is typed. When the names of all the missing subprograms have been typed, the machine will halt. The operator must load these programs into the input unit and depress start.

Correction: The following changes are necessary to add this feature:

Page 2 of the listing (1620 FORTRAN II-D Loader, Block 2) should be changed:

FROM:	00600	DS	1	02521	1
TO:	00600	NODATA DSC	1,1	02521	1

And on Page 8 of the same listing:

FROM:	03492	B	CALL2	06602 49 05014 00000
TO:	03492	TDM	NODATA,0	06602 15 02521 00000
And Add:	03493	B	CALL2	06614 49 05014 00000

Replace the listing (1620 FORTRAN II-D Loader, Block 3) with the one supplied.

Page 2 of the listing (1620 FORTRAN II-D Loader, Block 5) should be changed:

FROM:	00590	DS	1	02521	1
TO:	00590	NODATA DS	1	02521	1

On Page 3 of the same listing:

FROM:	01050	B	INC13	03924 49 03808 00000
TO:	01050	B	PATCH1	03924 49 07232 00000

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On Page 7 of the same listing:

FROM:	03570	BD	PHASEC, MORE	06424 43 04740 06537
TO:	03570	BD	PATCH2, MORE	06424 43 07060 06537

On Page 10 of the same listing:

FROM:	04410	TBLDDA	DDA ,1,0,1, INRK	07060	14
	04420		DC 1,@	07074	1
	04430	ONETWO	DSC 5,00101	07075	5
TO:	04410	PATCH2	H	07060 48 00000 00000	
	04420	B	PHASEC	07072 49 04740	

And on Page 11 of the same listing:

ADD:	04681	PATCH1	TDM NODATA,0	07232 15 02521 00000
	04682	B	INC13	07244 49 03808

Page 2 of the listing (1620 FORTRAN II-D Loader, Block 6) should be changed:

FROM:	00630	DS	1	02521	1
TO:	00630	NODATA	DS 1	02521	1

On Page 3 of the same listing:

FROM:	01070	B	READ-24	02986 49 03274 00000
TO:	01070	B	PATCH	02986 49 03890 00000

And on Page 5 of the same listing:

ADD:	01881	PATCH	BD LDFIX1, NODATA	03890 43 02994 02521
	01882	B	READ-24	03902 49 03274 00000

5. Error: A LOCAL subprogram which is an exact multiple of 100 digits in length fails to load properly during execution.

Correction: The following changes are necessary to correct the program:

Page 7 of the listing (Block 5) should be changed:

FROM:	03350	BD	ROUND, INRK+22	06204 43 06356 07422
	03360	BD	ROUND, INRK+21	06216 43 06356 07421
TO:	03350	AM	INRK+20, 1, 10	06204 11 07420 00001
	03360	NOP	ROUND, INRK+21	06216 41 06356 07421

Eighty-two (82) new cards are furnished; they are numbered as follows:

<u>63004</u>	<u>63127</u>	<u>63239</u>
<u>63005</u>	<u>63136</u>	<u>63240</u>
<u>63006</u>	<u>63141 to 63192 inclusive</u>	<u>63247</u>
<u>63007</u>	<u>63196</u>	<u>63248</u>
<u>63022</u>	<u>63226</u>	<u>63250</u>
<u>63023</u>	<u>63227</u>	<u>63258</u>
<u>63070</u>	<u>63229</u>	<u>63259</u>
<u>63073</u>	<u>63235</u>	<u>63266</u>
<u>63082</u>	<u>63236</u>	<u>64027</u>
<u>63097</u>	<u>63238</u>	<u>64029</u>
<u>63126</u>		

Please replace the correspondingly numbered cards in your Deck #9 with the new cards provided.

FORTRAN Subroutines with Auto Divide, Deck #10

1. Error: When writing lists consisting of whole arrays, if the FORTRAN variables are not all of even length, the first variable of each array after the first in the list is not properly recorded.
2. Error: When writing arrays, if the FORTRAN variables are all of even length and the fixed word length is four; and if the array that is recorded immediately precedes the fixed word that contains the record number for the RECORD operation, then the record number will not be indexed over one thousand.
3. Error: When writing arrays, if the FORTRAN variables are all of even length and the record length is two sectors; and if an array that is 200,400, 600, etc. digits is written, the record number will not be properly incremented.
4. Error: The Monitor I IORT (which is used for all disk operations initiated by the FORTRAN Disk I/O) does not properly handle 1311 cylinder overflow when it occurs while writing whole arrays.

5. Error: When reading whole arrays from disk to core, an error message is printed if the size of the array is not the same as the size of the array area specified. This error message should be ER D3, not ER D5.

Correction: Replace your present listing (FORTRAN Disk I/O without Floating Point Hardware) with the one supplied.

A new DKIO subroutine set is supplied (DKIOFS) consisting of fifty-three (53) cards. The first card of this set is an unnumbered DUP control card; the balance are numbered 58000 through 58051.

The Disk Utility Program is to be used to load this subroutine. A DREPL control card is included to direct DUP in this operation. Since the DREPL loader will not check the sequencing, the deck should be sight checked for correct sequencing prior to loading.

NOTE: It will be necessary to make all other modifications as outlined in this modification letter before attempting the replacement of the DKIO subroutine.

FORTRAN Subroutines with Auto Floating Point, Deck #11

1. Error: When writing lists consisting of whole arrays, if the FORTRAN variables are not all of even length, the first variable of each array after the first in the list is not properly recorded.
2. Error: When writing arrays, if the FORTRAN variables are all of even length and the fixed word length is four; and if the array that is recorded immediately precedes the fixed word that contains the record number for the RECORD operation, then the record number will not be indexed over one thousand.
3. Error: When writing arrays, if the FORTRAN variables are all of even length and the record length is two sectors; and if an array that is 200,400,600, etc. digits is written, the record number will not be properly incremented.
4. Error: The Monitor I IORT (which is used for all disk operations initiated by the FORTRAN Disk I/O) does not properly handle 1311 cylinder overflow when it occurs while writing whole arrays.

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Correction: Replace your present listing (FORTRAN II-D DKIO with FLT Hardware) with the one supplied.

A new DKIO subroutine set is supplied (DKIOFH) consisting of fifty-one (51) cards. The first card of this set is an unnumbered DUP control card; the balance are numbered 71000 through 71049.

The Disk Utility Program is to be used to load this subroutine. A DREPL control card is included to direct DUP in this operation. Since the DREPL loader will not check the sequencing the deck should be sight checked for correct sequencing prior to loading.

NOTE: It will be necessary to make all other modifications as outlined in this modification letter before attempting the replacement of the DKIO subroutine.

FORTRAN II-D Sample Program, Deck #13

Correction: Please remove the *DATA card, which is unnumbered and is located between card #0079 and card #0080.

ERRATA TO MODIFICATION LETTER 3

FORTRAN II-D, Loader

On Page 5 of Modification Letter 3, lines 6, 8, and 9, machine language code reads:

05170	49	06570	00000
06570	15	02463	00000
06582	49	05014	00000

Lines 6, 8, and 9 should have read:

05170	49	06590	00000
06590	15	02463	00000
06602	49	05014	00000

No correction is required to the cards since they were punched correctly.

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Execute Program No. 1

This program will modify the system tables for the accommodation of the Modification No. 4 DUP expansion.

The program should be entered and executed with the Monitor stacked input. It must be executed before Execute Program No. 2.

This program consists of six (6) cards which are numbered 90000 to 90005.

Execute Program No. 2

Maintenance of System Tables Modification

The Disk Identification Map (DIM) and the Sequential Program List (S. P. List) are changed whenever a user adds or deletes a program in his system. All installed systems will contain different entries in these tables. The maintenance of such system is not possible in every users installation by loading change cards over the original tables--instead correction procedures must consider the variability of the tables. The program described here was designed to correct and reconstruct these tables if they should be altered incorrectly for any reason.

Purpose:

This maintenance program will examine the users DIM entries for correct format. After typing any incorrect entry along with the entry number and an error message, the incorrect entry is deleted. A new Sequential Program List is created using the DIM entries. If this new list is different from the former list, the user can print the old list before the new list is substituted.

When the new list is created, it is possible that two different DIM entries specify the same area on disk. This error is handled by deleting any DIM entry that conflicts with any previously examined entry. The first of the entries encountered, under these conditions, will be the one that is retained.

After the new list has been constructed, a list of DIM entry numbers may be printed. This list will contain the entry numbers of any DIMs deleted because they specified disk sectors already specified by other DIM entries. Thus the user may wish to dump the DIMs using a *DDUMP control record before running this modification program.

The program will also place flagged zeros in the remainder of the new S. P. List area on disk. These flagged zeros are used to identify the end of the actual list. The DUP routines which deal with the S. P. List will operate more quickly because only the portion of the list that is in use need be read and written on disk during the DUP operations.

Operation:

Place the deck supplied in the input unit as a normal monitor job. Retain the program for use in the event that any new problems arise.

Results:

1. DIM Table Edit

If a DIM entry is in error, the message "DIM FORMAT ERROR" the DIM number, and the DIM entry are typed. This entry will be deleted from the DIM Table and any names which refer to that DIM number will be replaced, in the Equivalence Table, with an entry of all eights (8's).

2. Sequential Program List Creation

If the new Sequential Program List, which is built up from the DIM entries, compares equally with the one on the disk, the message, "S. P. LIST IS CORRECT" is typed. If the Lists do not compare equally, the message, "S. P. LIST IS INCORRECT" is typed and the program halts. Turning Console Switch one (1) on and pressing Start will dump the incorrect list (the one that was on the disk) onto the typewriter. In either case, the new list will be written on the disk when the Start Key is depressed.

Any DIM numbers which are typed, after the S. P. List message has been typed, have been deleted from the DIM Table and replaced by eights (8's) in the Equivalence Table.

3. Flagged Zeros Added to S. P. List Area

The remainder of the new Sequential Program List, after record mark, is filled with flagged zeros, which are used by Modification Level 4 of the Disk Utility Program.

This program consists of eighty-two (82) which are numbered 91000 to 91081.

Execute Program No. 3

Update Sequential Program List Areas for Use with Modification No. 4 DUP

This program is designed to fill Sequential Program List areas on disk with flagged zeros beyond the last entry in the lists.

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The program need only be executed once and so need not be retained on disk by the user. Only users who are sent the Modification No. 4 DUP program changes need this program. All new Monitor I users will receive updated S. P. Lists with the system they receive.

The program need not be executed to use the new DUP routines but additional execution time will be saved when using the DUP load routines if the program is executed. The amount of additional saving will be approximately ten seconds per load-to-disk operation.

The control cards are included with the cards. These are a JOB and an XEQ control card. Run this program with the stacked jobs using the normal Monitor I procedure. It will be necessary to run the program once with every disk pack that contains a previously initialized S. P. List. All packs that are labeled using the Modification No. 4 DUP DLABL routine will be initialized with flagged zeros to permit faster disk loading.

This routine will update the packs on all the modules of the system as it was defined by the user. (DFINE routine) (i.e. If there are three modules defined for the system, all three must contain packs which contain S. P. List areas to be updated.)

This program consists of ten (10) cards which are numbered 92000 to 92009.

00010* FORTRAN DISK I/O WITHOUT FLOATING POINT HARDWARE

```

00020*
00030 INOUT DS ,2098
00040 IOERR DS ,624
00050 CHECK DS ,1262
00060 DIO DS ,816
00070 EEXIT DS ,1630
00080 ERRET DS ,602
00090 ADR DSA FIND ,RECORD, FETCH, SWD, DRAY, DIOEND

00100 DORG ADR-4
00110 IOCAL DS ,716
00120 IORBC DS ,520
00130 IORT DS ,565
00140 IOSK DS ,554
00150 IOGT DS ,566
00160 IOPT DS ,532
00170 FAC OS ,2492
00180 DIODDA DS ,3387
00190 FINDIN DS ,3583
00200 FP2 DS ,3605
00210 FKODD DS ,3427
00220 PAR DS ,3378
00230 ERROR DS ,3676
00240 EI DS ,2615
00250 FIXEND DS ,3760
00260 FLTEND DS ,3810
00270 FLOAT DS ,4042
00280 DKDATA DS ,3379
00290 ZERO DS ,2700
00300 FIX DS ,3854
00310 RECLG DS ,2243
00320 W DS ,2240
00330 N2 DS ,2238
00340 N1 DS ,2233
00350 K DS ,2221
00360 F DS ,2219
00370 CORSIZ DS ,7376
00380*
00390 NOWLC DSC 2,02
00400 DSA DIODDA
00410 DC 1,2
00420 MYER BI **12,3700,, TURN OFF WLRC IND
00430 BI CHECK-12,1900,, LET IORT HANDLE DISK OVERFLOW
00440 B7 EEXIT,,WLRC WAS ONLY ERROR
00450 TF NITEMP,N1
00460 TOBB B DRAY1,,0
00470 DRAY TDM TOBB+1,9,, SET TOBB TO BRANCH
00480 BD EVEN,FKODD,, TEST FOR EVEN ADDRESS

```

```

00490 BD AGAIN,DDABLK+1,, BRANCH IF BUFFER PROG IN CORE
00500 TFM DSABLK+5,AGAIN
00510 B SWD+12
00520 FIND TDM FINDIN,0,, SET FIND INDICATOR ON .
00530 TFM RETD2+6,SET1,, BRANCH TO COMPUTE ADDRESS AND TESTI
00540* N2 ERROR ROUTINE %I GRT N2#
00550 N2CK C FIND-1,ZERO,6, IS I ZERO OR NEG
00560 BNH BE2
00570 C FIND-1,N2,6, COMPARE I AND N2
00580 BH BE2
00590 RETD2 B
00600 BUFFAR DS ,*
00610 BE2 TFM EI,472,9, I GRT N2
00620 TF NITEMP,N1
00630 BD ERROR,DDABLK,,BR IF CK MADE FROM EVEN ARRAY PROGRAM
00640 TFM DSAOTR+5,ERROR
00650 B SETRMK
00660*
00670***** SWD SUBROUTINE
00680 SWDA TDM SWD+900,0
00690 TFM **-1,+1,10
00700 B SWD1
00710 DORG **3
00720* B SET UP LINKAGE FOR FLOAT
00730 FETCH5 TF FLTEND,ICONB+5
00740 B FLOAT
00750 DORG **4
00760 DORG **4
00770 IOEND TFM DSAOTR+5,DIOEND
00780 BD SETRMK,FRIND,, BRANCH IF FETCH
00790 C NITEMP,N1
00800 BE SETRMK,,, BRANCH IF BUFFER EMPTY
00810 TFM RETD2+6,**20
00820 BT N2CK
00830 TFM IORT,**23,, WRITE BUFFER TO FILE
00840 B IOPT ,DKDATA,7
00850 AN FIND-1,1,610
00860 SETRMK TD SWD+900,DKBUFF+200
00870 TFM IORT,IREF2+11
00880 B IOGT
00890 DORG **4
00900 DDB DSC 1,1
00910 DSA 200
00920 DC 3,9
00930 DSAOTR DSA SWD,DIOEND

00940 DC 1,2
00950 SWD1 A BUFFAR,W,, INCREMENT BUFFER ARROW
00960 BD FETCH1,FRIND,, BRANCH IF FETCH
00970** RECORD
00980 IOREF2 CF SWD-1,DATB,7, CLEAR FLAG ON ADDRESS OF DATA
00990 SM NITEMP,1,10, DECREMENT WORD COUNT
01000 TF BUFFAR,SWD-1,611 , SEND WORD TO BUFFER

```

01010	SM	BUFFAR,2		00538	J2	00207	-0002
01020	SM	SWD-1,2		00550	J2	00267	-0002
01030	TF	BUFFAR,SWD-1,611		00562	KD	0020P	0026P
01040	AM	BUFFAR,2		00574	J1	00207	-0002
01050	CK	CM	NITEMP,0,10,				
01060	BNZ	TOBB		00586	J4	00195	000-0
01070	BD	TOBB-12,FRIND,,	BR IF FETCH	00598	M7	00052	01200
01080	TFM	LINKB+18,IOPT		00610	ML	00040	00215
01090	CKI	TFM	RETD2+6,LINKB	00622	J6	00672	-0532
01100	B	NZCK		00634	JO	00202	-0654
01110	DORG	*-4		00646	M9	00148	00000
01120	LINKB	TFM	IORT,**23,,	00654	10	00565	-0677
01130	B	,DKDATA,7		00666	49	00000	-3379
01140	TFM	BUFFAR,DKBUFF+199,,		00678	JO	00207	-1339
01150	S	BUFFAR-2,RECLG		00690	K2	00205	02243
01160	BNF	**24,FRIND		00702	MM	00726	00215
01170	A	BUFFAR,W		00714	K1	00207	02240
01180	ADDTOT	AM	FIND-1,1,610,	00726	J1	0012L	000-1
01190	A	DIODDA+5,DIODDA+8,,	INCREMENT I	00738	21	03392	03395
01200	BD	FETCH2,FRIND	INCREMENT SECTOR ADDRESS	00750	ML	00846	00215
01210	B	TOBB-12		00762	M9	00040	00000
01220	DORG	*-4		00769			
01230	A	DRAY-1,FP2		00770	K1	00063	03605
01240	AGAIN	TF	SWD-1,DRAY-1	00782	KD	00267	00063
01250	B	SWD		00794	M9	00268	00000
01260	DORG	*-4		00801			
01270	FETCH1	C	NITEMP,N1	00802	K4	00195	02233
01280	BNE	FETCH2,,	BRANCH IF BUFFER NOT EMPTY	00814	M7	00846	01200
01290	TFM	LINKB+18,IQGT		00826	J6	00672	-0566
01300	B	CKI		00838	M9	00634	00000
01310	DORG	*-4		00845			
01320	FETCH2	SM	NITEMP,1,10	00846	J2	00195	000-1
01330*			SEND THE WORD TO FAC				
01340	TF	FAC,BUFFAR,11		00858	20	02492	0020P
01350	SM	BUFFAR,2		00870	J2	00207	-0002
01360	TF	FAC-2,BUFFAR,11		00882	20	02490	0020P
01370	AM	BUFFAR,2		00894	J1	00207	-0002
01380	BI	**12,1400		00906	M6	00918	01400
01390*			TEST FOR FLOATING ADDRESS AT SWD-1				
01400	BNF	FETCH3,SWD-1		00918	MM	01012	00267
01410*			IT IS A FIXED ADDRESS				
01420	CF	SWD-1		00930	L3	00267	00000
01430*			TEST FOR FLOATING WORD IN FAC				
01440	BNF	FETCH4,FAC-1		00942	M4	01024	02491
01450*			THE WORD IS FLOATING SET UP LINKAGE FOR FIX				
01460	TF	FIXEND+6,ICON7+6		00954	20	03766	00979
01470	B	FIX		00966	49	03854	00000
01480	DORG	*-4		00973			
01490	ICON7	DC	1,4	00973	00001		
01500	DSC	1,9		00974	00001		
01510	DSA	RETFLT		00979	00005	-0980	
01520	RETFLT	TDM	FIXEND+1,2	00980	15	03761	00002
01530	TDM	FLTEND-5,2		00992	15	03805	00002

01540*			BRANCH TO STORE NUMBER				
01550	CKLD	B	FETCH4	01004	M9	01024	00000
01560	DORG	*-4		01011			
01570	FETCH3	BNF	FETCH5,FAC-1,,	01012	M4	00300	02491
01580*			STORE THE WORD IN MEMORY				
01590	FETCH4	TF	SWD-1,FAC,6	01024	K6	0026P	02492
01600	SM	SWD-1,2		01036	J2	00267	-0002
01610	TF	SWD-1,FAC-2,6		01048	K6	0026P	02490
01620*			CHECK FOR EMPTY BUFFER				
01630	B	CK		01060	M9	00586	00000
01640	DORG	*-4		01067			
01650	ICON8	DC	1,9	01067	00001		
01660	DSA	RETFLT		01072	00005	-0980	
01670	DRAY1	SM	PAR,1,10,,	01074	12	03378	000-1
01680	BNZ	**14		01086	M7	01100	01200
01690	BB			01098	42	00000	00000
01700	DORG	*-9		01100			
01710	BNF	AGAIN-12,DRAY-1		01100	MM	00770	00063
01720	S	DRAY-1,K		01112	K2	00063	02221
01730	B	AGAIN		01124	M9	00782	00000
01740	DORG	*-4		01131			
01750	DATB	DSC	2,-00	01131	00002		
01760	DSA	DSB		01137	00005	-0457	
01770	DC	1,@		01138	00001		
01780	DKBUFF	DS	,DATB+9	01140	00000		
01790*							
01800*							
01810*			WRITE 2ND BLOCK				
01820*							
01830	LD1RD	DSC	2,00	01139	00002		
01840	DSA	DIM1		01145	00005	-1147	
01850	DC	1,@		01146	00001		
01860	DIM1	DSC	1,1	01147	00001		
01870	DSA	209		01152	00005	-0209	
01880	DC	3,9		01155	00003		
01890	DSA	SWD		01160	00005	-0268	
01900	DC	1,@		01161	00001		
01910	DORG	SWDA+902		01170			
01920	STLD1	TDM	DKBUFF+200,0	01170	J5	01340	00000
01930	DGM	*		01181	00001		
01940	TD	SWD+900,DKBUFF+200		01182	KN	01168	01340
01950	CF	ICON7+2		01194	L3	00975	00000
01960	CF	ICON8+1		01206	L3	01068	00000
01970	TFM	IORT,**23		01218	10	00565	-1241
01980	B	IOPT,LD1RD,7		01230	4R	00532	-1139
01990	TRA			01242	10	00565	-1261
				01254	49	00716	00000
				01261	00002	2K	
				01263	00005	-1269	
				01268	00001	@	
				01269	00006	1J9783	
				01275	00003	-03	
				01278	00006	-0000@	

02000	TCD	STLD1		01170
02010*				
02020*		BLOCK 1 OF FETCH FIND RECORD		
02030	DORG	SWDA		00268
02040	SWD	TFM DSABLK+5,SWD		00268 J0 00317 -0268
02050	TFM	IORT,IORF+11		00280 10 00565 -0623
02060	B	IOGT		00292 49 00566 00000
02070	DORG	*-4		00299
02080	DDABLK	DSC 1,1		00299 00001
02090	DSA	209		00304 00005 -0209
02100	DC	3,9		00307 00003
02110	DSABLK	SWD,SWD		00312 00005 -0268
				00317 00005 -0268
				00318 00001
				00322
02120	DC	1,@		00322 M6 00334 01400
02130	DORG	IOEND		00334 42 00000 00000
02140	DIOEND	BI **12,1400		00336
02150	BB			00336 00002
02160	DORG	*-9		00342 00005 -0299
02170	DAT1	DSC 2,-00		00343 00001
02180	DSA	DDABLK		00348 00005
02190	DC	1,@		00350 K0 00123 00349
02200	DS	5		00362 J5 00215 0000J
02210	FETCH	TF FIND-1,FETCH-1,,	TRANSFER I	00374 M9 00410 00000
02220	TDM	FRIND,1,11,	SET FETCH-RECORD INDICATOR TO FETCH	
02230	B	AITEST,,,	BRANCH TO SET FIND INDICATOR OFF ,	
02240*			COMPUTE ADDRESS , TEST I , AND TEST	
02250*			FOR DEFINE STATEMENT .	
02260	RECORD	TF FIND-1,RECORD-1,,	TRANSFER I	00386 K0 00123 00385
02270	TDM	FRIND,0,,	SET FETCH-RECORD INDICATOR TO RECDR	00398 J5 00215 00000
02280	AITEST	TDM FINDIN,1,,	SET FIND INDICATOR OFF	00410 15 03583 00001
02290	SET1	TFM DIODDA+5,218,,	SET SECTOR ADDRESS IN DDA	00422 16 03392 -0218
02300	M	FIND-1,RECLG,6,	COMPUTE ADDRESS OF FILE RECORD	00434 K3 0012L 02243
02310	A	DIODDA+5,99		00446 21 03392 00099
02320	BD	**44,FINDIN,,	BRANCH IF NOT FIND	00458 M3 00502 03583
02330	SSEEK	TFM IORT,**23		00470 10 00565 -0493
02340	B	IOSK,DKDATA,7,	TRANSFER TO IORT TO SEEK	00482 49 00554 -3379
02350	B	DIOEND		00494 M9 00322 00000
02360	DORG	*-3		00502
02370	TFM	BUFFAR,DKBUFF+199,,	INITIALIZE BUFFER ARROW	00502 J0 00207 -1339
02380	S	BUFFAR-2,RECLG		00514 K2 00205 02243
02390	TF	NITEMP,N1,,		00526 K6 00195 02233
02400	TF	DIODDA+8,RECLG,,	STORE RECORD LENGTH IN DDA	00538 26 03395 02243
02410	TFM	DIODDA+13,DKBUFF+200,,	STORE ADDRESS OF BUFFER	00550 10 03400 -1340
02420	S	DIODDA+11,RECLG,,	SUB LENGTH OF RECORD TO GET FIRST COR	00562 22 03398 02243
02430	OVER	TDM TOBB+1,2,,	INITIALIZE BRANCH BACK	00574 J5 00053 00002
02440	BB			00586 42 00000 00000
02450	DORG	*-9		00588
02460	EVEN	TF TEMPA,FP2,,	STORE FLOATING LENGTH IN TEMPA	00588 K6 00171 03605
02470	BNF	**36,DRAY-1,,	BRANCH IF FLOATING ARRAY	00600 MM 00636 00063
02480	IOREF	CF DRAY-1,DAT1,7		00612 LL 00063 -0336
02490	TF	TEMPA,K,,	STORE FIXED LENGTH IN TEMPA	00624 K6 00171 02221
02500	TF	DIODDA+13,DRAY-1,,	STORE ADDRESS OF FIRST ELEMENT	00636 20 03400 00063
02510	AM	DIODDA+13,1		00648 11 03400 -0001

02520	S	DIODDA+13,TEMPA,,	HIGH ORDER POSITION OF ARRAY	00660 2K 03400 00171
02530	TF	EVEN1+11,DIODDA+13		00672 K6 00919 03400
02540	M	TEMPA,PAR		00684 K3 00171 03378
02550	SF	95		00696 32 00095 00000
02560	A	EVEN1+11,99		00708 K1 00919 00099
02570*			EVALUATE AND STORE LOW ORDER	
02580*			POSITION + 1 OF ARRAY	
02590	CARRY	CM EVEN1+11,0		00720 J4 00919 -0000
02600	BNE	*+24		00732 M7 00756 01200
02610	TFM	EVEN1+11,0		00744 J6 00919 -0000
02620*			EVALUATE SECTOR COUNT	
02630	AM	97,1 ,9, ADD ONE FOR GROUP MARK		00756 11 00097 00-01
02640	TD	**23,RECLG		00768 K5 00791 02243
02650	BDI2*	BD OVER3,251,,	BRANCH IF RECLG IS 1	00780 M3 00828 00251
02660	TD	**23,97		00792 K5 00815 00097
02670	BD	**24,210,,	BRANCH IF EVEN NUMB OF SECTORS	00804 M3 00828 00210
02680	AM	97,1,10		00816 11 00097 000-1
02690	OVER3	TF DIODDA+8,97,,	SET UP SECTOR COUNT	00828 26 03395 00097
02700	BD	OVER2,BDI2+11,11		00840 ML 00864 0079J
02710	HM	DIODDA+8,50,10		00852 13 03395 00000
02720	OVER2	A FIND-1,97,6,	ADD NUMBER OF RECORDS TO I	00864 K1 0012L 00097
02730	SM	FIND-1,1,610		00876 J2 0012L 000-1
02740	TFM	RET02+6,**20		00888 J0 00202 -0908
02750	B	NZCK		00900 M9 00148 00000
02760	DORG	*-4		00907
02770	EVEN1	TD EVEN2+11		00908 K5 00991 00000
02780	BD	FETCH8,FRIND,,	BRANCH IF FETCH	00920 ML 01018 00215
02790*		RECORD		
02800	TD	EVEN1+11,DKBUFF+200,6,	SET GROUP MARK AT END OF ARRAY	00932 KN 0091R 01340
02810*			WRITE ARRAY ONTO FILE	
02820	TFM	IORT,**23		00944 10 00565 -0967
02830	B	IORBC,NOWLC ,7		00956 4R 00520 -0000
02840	TDM	FLTEND-5,2		00968 15 03805 00002
02850	EVEN2	TDM EVEN1+11,6,	RESTORE DIGIT	00980 J5 0091R 00000
02860	AM	FIND-1,1,610		00992 J1 0012L 000-1
02870	A	DIODDA+5,DIODDA+8,,	INCREMENT SECTOR ADDRESS	01004 21 03392 03395
02880	BB			01016 42 00000 00000
02890	DORG	*-9		01018
02900	FETCH8	TFM DIO+35,YTURN,67,	INSERT ADDRESS FOR ERROR ENTRY	01018 10 0085J -1124
02910	TFM	IORT,**23,,	READ ARRAY FROM FILE	01030 10 00565 -1053
02920	B	IOGT,DKDATA,7		01042 49 00566 -3379
02930	TFM	INOUT,CHECK-12,,	RESTORE SPECIAL IORT ERROR EXIT	01054 16 02098 -1250
02940*			TEST FOR NO GROUP MARK	
02950	BNG	**20,EVEN1+11,11		01066 NN 01086 0091R
02960	B	EVEN2		01078 M9 00980 00000
02970	DORG	*-4		01085
02980	TF	FLTEND,EVENSP+6		01086 20 03810 01123
02990	TFM	EI,473,9		01098 16 02615 00M73
03000	B	ERROR		01110 49 03676 00000
03010	DORG	*-4		01117
03020	EVENSP	DC 1,4		01117 00001
03030	DSC	1,9		01118 00001
03040	DSA	EVEN2-12		01123 00005 -0968

03050	YTURN	BI	++12,3700,,	TURN OFF WLRC IND	01124	M6	01136	03700
03060		BNI	ERRET,1900,,	GO ON IF NO OTHER ERROR	01136	47	00602	01900
03070		TFM	INOUT,MYER,,	SET UP SECOND IORT ERROR EXIT	01148	10	02098	-0008
03080		B	IOERR,,,	LET IORT CHECK ANY OTHER ERRORS	01160	49	00624	00000
03090		DORG	ADR-4		01167			
03100		DORG	SWD+902		01170			
03110	TEMPA	DS	2,N2CK+23		00171		00002	
03120	NITEMP	DS	2,RET02-1		00195		00002	
03130	FRIND	DS	1,BE2+7		00215		00001	
03140*			WRITE FIRST BLOCK					
03150*								
03160	DIM2	DSC	1,1		01170		00001	
03170		DSA	200		01175		00005	-0200
03180		DC	3,9		01178		00003	
03190		DSA	SWD		01183		00005	-0268
03200		DC	1,0		01184		00001	
03210	LD2ND	DSC	2,00		01185		00002	
03220		DSA	DIM2		01191		00005	-1170
03230		DC	1,0		01192		00001	
03240	STLD2	CF	EVENSP+2		01194	L3	01119	00000
03250		DGM	SWD+900		01168		00001	
03260		TD	CARRY+7,CORSIZ		01206	K5	00727	07376
03270		AM	CARRY+8,10,10		01218	J1	00728	000J0
03280		TFM	IORT,++23		01230	10	00565	-1253
03290		B	IOPT ,LD2ND,7,	WRITE OUT 2ND PART BLK 1	01242	4R	00532	-1185
03300		TRA			01254	10	00565	-1273
					01266	49	00716	00000
					01273		00002	2K
					01275		00005	-1281
					01280		00001	0
					01281		00006	1J9783
					01287		00003	-03
					01290		00006	-00002
					01194			
					00006			
03310		TGD	STLD2					
03320		DEND	6					
01296	CORE POSITIONS REQUIRED							
	PLUS RELOCATION INCREMENT							
00332	STATEMENTS PROCESSED							

00010*	FORTRAN II-D DK IO WITH FLT HARDWARE							
00020*								
00070	INOUT	DS	,2098		02098		00000	
00150	IOERR	DS	,624		00624		00000	
00060	CHECK	DS	,1262		01262		00000	
00110	DIO	DS	,816		00816		00000	
00050	EEXIT	DS	,1630		01630		00000	
00140	ERRET	DS	,602		00602		00000	
00030	ADR	DSA	FIND ,RECORD, FETCH, SWD, DRAY, DIOEND		00004		00005	-0124
					00009		00005	-0386
					00014		00005	-0350
					00019		00005	-0268
					00024		00005	-0064
					00029		00005	-0322
					00000			
00040		DORG	ADR-4		00716		00000	
00080	IOCAL	DS	,716		00520		00000	
00090	IORBC	DS	,520		00565		00000	
00100	IORT	DS	,565		00554		00000	
00120	IOSK	DS	,554		00566		00000	
00160	IOGT	DS	,566		00532		00000	
00170	IOPT	DS	,532		02492		00000	
00180	FAC	DS	,2492		03387		00000	
00190	DIODDA	DS	,3387		03527		00000	
00200	FINDIN	DS	,3527		03664		00000	
00210	FP2	DS	,3664		03579		00000	
00220	FKOOD	DS	,3579		03378		00000	
00230	PAR	DS	,3378		03596		00000	
00240	ERROR	DS	,3596		02615		00000	
00250	EI	DS	,2615		03680		00000	
00260	FIXEND	DS	,3680		03730		00000	
00270	FLTEND	DS	,3730		04042		00000	
00280	FLOAT	DS	,4042		03379		00000	
00290	DKDATA	DS	,3379		02700		00000	
00300	ZERO	DS	,2700		03854		00000	
00310	FIX	DS	,3854		02243		00000	
00320	RECLG	DS	,2243		02240		00000	
00330	W	DS	,2240		02238		00000	
00340	N2	DS	,2238		02233		00000	
00350	N1	DS	,2233		02221		00000	
00360	K	DS	,2221		02219		00000	
00370	F	DS	,2219		07376		00000	
00380	CORSIZ	DS	,7376					
00390*								
02910	NOWLC	DSC	2,02		00000		00002	
02920		DSA	DIODDA		00006		00005	-3387
02930		DC	1,0		00007		00001	
02940	MYER	BI	++12,3700,,	TURN OFF WLRC IND	00008	M6	00020	03700
02950		BI	CHECK-12,1900,,	LET IORT HANDLE DISK OVERFLOW	00020	46	01250	01900
02960		B7	EEXIT,,	NLRC HAS ONLY ERROR	00032	49	01630	00000
00400		TF	NITEMP,N1		00040	K6	00195	02233
00410	TOBB	B	DRAY1,,0		00052	M9	00966	00000
00420	DRAY	TDM	TOBB+1,9,,	SET TOBB TO BRANCH	00064	J5	00053	00009
00430		BD	EVEN,FKOOD,,	TEST FOR EVEN ADDRESS	00076	M3	00588	03579

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00440 BD AGAIN,DDABLK+1,, BRANCH IF BUFFER PROG IN CORE
00450 TFM DSABLK+5,AGAIN
00460 B SWD+12
00470 FIND TDM FINDIN,0,, SET FIND INDICATOR ON
00480 TFM RETD2+6,SET1,, BRANCH TO COMPUTE ADDRESS AND TESTI
00490+ N2 ERROR ROUTINE %I GRT N2
00500 N2CK C FIND-1,ZERO,6, IS I ZERO OR NEG
00510 BNH BE2
00520 C FIND-1,N2,6, COMPARE I AND N2
00530 BH BE2
00540 RETD2 B *-
00550 BUFFAR DS *,
00570 BE2 TFM EI,472,9, I GRT N2
TF NITEMP,N1
BD ERROR,DDABLK,,BR IF CK MADE FROM EVEN ARRAY PROGRAM
00590 TFM DSAOTR+5,ERROR
00600 B SETRMK
00610+
00620+***** SWD SUBROUTINE
00630 SWDA TDM SWD+900,0
00640 TFM *-11,41,10
00650 B SWD1
00660 DORG *-3
00670+ SET UP LINKAGE FOR FLOAT
00680 FETCH5 TF FLTEND,ICON8+5
00690 B FLOAT
00700 DORG *-4
00710 DORG *-4
00720 IOEND TFM DSAOTR+5,DIEND
00730 BD SETRMK,FRIND,, BRANCH IF FETCH
00740 C NITEMP,N1
00750 BE SETRMK,, BRANCH IF BUFFER EMPTY
TFM RETD2+6,++20
B7 N2CK
00760 TFM IORT,++23,, WRITE BUFFER TO FILE
00770 B IOPT ,DKDATA,7
00780 AM FIND-1,1,610
00790 SETRMK TD SWD+900,DKBUFF+200
00800 TFM IORT,IOREF2+11
00810 B IOGT
00820 DORG *-4
00830 DDB DSC 1,1
00840 DSA 200
00850 DC 3,9
00860 DSAOTR DSA SWD,DIEND
DC 1,2
00880 SWD1 A BUFFAR,W,, INCREMENT BUFFER ARROW
00890 BD FETCH1,FRIND,, BRANCH IF FETCH
00900+ RECORD
00910 IOREF2 CF SWD-1,DATB,7, CLEAR FLAG ON ADDRESS OF DATA
00920 SM NITEMP,1,10, DECREMENT WORD COUNT
00930 TFL BUFFAR,SWD-1,611

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00940 CK CM NITEMP,0,10, CHECK FOR FULL BUFFER
00950 BNZ TOBB
00960 BD TOBB-12,FRIND,, BR IF FETCH
00970 TFM LINKB+18,IOPT
00980 CKI TFM RETD2+6,LINKB
00990 B N2CK
01000 DORG *-4
01010 LINKB TFM IORT,++23,, CALL CORRECT IORT ROUTINE
01020 B ,DKDATA,7
01030 TFM BUFFAR,DKBUFF+199,, INITIALIZE BUFFER ARROW
01040 S BUFFAR-2,RECLG
01050 BNF *-24,FRIND
01060 A BUFFAR,W
01070 ADDTOI AM FIND-1,1,610, INCREMENT I
01080 A DIODDA+5,DIODDA+8,, INCREMENT SECTOR ADDRESS
01090 BD FETCH2,FRIND
01100 B TOBB-12
01110 DORG *-4
01120 A DRAY-1,FP2
01130 AGAIN TF SWD-1,DRAY-1
01140 B SWD
01150 DORG *-4
01160 FETCH1 C NITEMP,N1
01170 BNE FETCH2,, BRANCH IF BUFFER NOT EMPTY
01180 TFM LINKB+18,IOGT
01190 B CK1
01200 DORG *-4
01210 FETCH2 SM NITEMP,1,10
01220+ SEND THE WORD TO FAC
01230 TFL FAC,BUFFAR,11
01240 BI +-12,1400
01250+ TEST FOR FLOATING ADDRESS AT SWD-1
01260 BNF FETCH3,SWD-1
01270+ IT IS A FIXED ADDRESS
01280 CF SWD-1
01290+ TEST FOR FLOATING WORD IN FAC
01300 BNF FETCH4,FAC-1
01310+ THE WORD IS FLOATING SET UP LINKAGE FOR FIX
01320 TF FIXEND+6,ICON7+6
01330 B FIX
01340 DORG *-4
01350 ICON7 DC 1,4
01360 DSC 1,9
01370 DSA RETFLT
01380 RETFLT TDM FIXEND+1,2
01390 TDM FLTEND-5,2
01400+ BRANCH TO STORE NUMBER
01410 CKLD B FETCH4
01420 DORG *-4
01430 FETCH3 BNF FETCH5,FAC-1,, BRANCH IF FIXED
01440+ STORE THE WORD IN MEMORY
01450 FETCH4 TFL SWD-1,FAC,6
01460+ CHECK FOR EMPTY BUFFER

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01470	B	CK		00952 M9 00538 00000
01480	DORG	*-4		00959
01490	ICON8	DC	1,9	00959 00001
01500	SM	RETFLT		00964 00005 -0896
01510	DRAY1	PAR,1,10,,	DECREMENT WORD COUNT	00966 12 03378 000-1
01520	BNZ	**14		00978 M7 00992 01200
01530	BB			00990 42 00000 00000
01540	DORG	*-9		00992
01550	BNF	AGAIN-12,DRAY-1		00992 MM 00722 00063
01560	S	DRAY-1,K		01004 K2 00063 02221
01570	B	AGAIN		01016 M9 00734 00000
01580	DORG	*-4		01023
01590	DATB	DSC	2,-00	01023 00002
01600	DSA	DDB		01029 00005 -0457
01610	DC	1,2		01030 00001
01620	DKBUFF	DS	,DATB+9	01032 00000
01630*				
01640*				
01650*		WRITE 2ND BLOCK		
01660*				
01670	LDIRD	DSC	2,00	01031 00002
01680	DSA	DIM1		01037 00005 -1039
01690	DC	1,2		01038 00001
01700	DIM1	DSC	1,1	01039 00001
01710	DSA	209		01044 00005 -0209
01720	DC	3,9		01047 00003
01730	DSA	SWD		01052 00005 -0268
01740	DC	1,2		01053 00001
01750	STLD1	CF	ICON7+2	01054 L3 00891 00000
01760	DGM	DATB+9+200		01232 00001
01770	CF	ICON8+1		01066 L3 00960 00000
01780	TFM	IORT,HERE+11		01078 10 00565 -1113
01790	ID	SWD+900,DKBUFF+200		01090 KN 01168 01232
01800	HERE	B	IOPT,LDIRD,7	01102 4R 00532 -1031
01810	TRA			01114 10 00565 -1133
				01126 49 00716 00000
				01133 00002 2K
				01135 00005 -1141
				01140 00001 2
				01141 00006 1J9783
				01147 00003 -03
				01150 00006 -00002
				01054
01820	TCD	STLD1		
01830*				
01840*		BLOCK 1 OF FETCH FIND RECORD		
01850	DORG	SWDA		00268
01860	SWD	TFM	DSABLK+5,SWD	00268 JO 00317 -0268
01870	TFM	IORT,IOREF+11		00280 10 00565 -0623
01880	B	IOGT		00292 49 00566 00000
01890	DORG	*-4		00299
01900	DDABLK	DSC	1,1	00299 00001
01910	DSA	209		00304 00005 -0209
01920	DC	3,9		00307 00003

01930	DSABLK	DSA	SWD,SWD	00312 00005 -0268
01940	DC	1,2		00317 00005 -0268
01950	DORG	IOEND		00318 00001
01960	DIOEND	BI	**12,1400	00322
01970	BB			00322 M6 00334 01400
01980	DORG	*-9		00334 42 00000 00000
01990	DAT1	DSC	2,-00	00336
02000	DSA	DDABLK		00336 00002
02010	DC	1,2		00342 00005 -0299
02020	DS	5		00343 00001
02030	FETCH	TF	FIND-1,FETCH-1,,	00348 00005
02040	TDM	FRIND,1,11,	TRANSFER I	00350 KO 00123 00349
02050	B	AITEST,,	SET FETCH-RECORD INDICATOR TO FETCH	00362 J5 00215 0000J
02060*			BRANCH TO SET FIND INDICATOR OFF ,	00374 M9 00410 00000
02070*			COMPUTE ADDRESS , TEST I , AND TEST	
02080	RECORD	TF	FIND-1,RECORD-1,,	FOR DEFINE STATEMENT .
02090	TDM	FRIND,0,,	TRANSFER I	00386 KO 00123 00385
02100	AITEST	TDM	FINDIN,1,,	SET FETCH-RECORD INDICATOR TO RECRD
02110	SET1	TFM	DIODDA+5,218,,	SET FIND INDICATOR OFF
02120	M	FIND-1,RECLG,6,		00422 16 03392 -0218
02130	A	DIODDA+5,99		00434 K3 0012L 02243
02140	BD	**44,FINDIN,,	COMPUTE ADDRESS OF FILE RECORD	00446 21 03392 00099
02150	SSEEK	TFM	IORT,**23	00458 M3 00502 03527
02160	B	IOSK,DKDATA,7,	BRANCH IF NOT FIND	00470 10 00565 -0493
02170	B	DIOEND	TRANSFER TO IORT TO SEEK	00482 49 00554 -3379
02180	DORG	*-3		00494 M9 00322 00000
02190	TFM	BUFFAR,DKBUFF+199,,	INITIALIZE BUFFER ARROW	00502
02200	S	BUFFAR-2,RECLG		00502 JO 00207 -1231
02210	TF	NITEMP,N1,,		00514 K2 00205 02243
02220	TF	DIODDA+8,RECLG,,		00526 K6 00195 02233
02230	TFM	DIODDA+13,DKBUFF+200,,	STORE RECORD LENGTH IN DDA	00538 26 03395 02243
02240	S	DIODDA+11,RECLG,,	STORE ADDRESS OF BUFFER	00550 10 03400 -1232
02250	OVER	TDM	SUB LENGTH OF RECORD TO GET FIRST COR	00562 22 03398 02243
02260	BB		INITIALIZE BRANCH BACK	00574 J5 00053 00002
02270	DORG	*-9		00586 42 00000 00000
02280	EVEN	TF	TEMPA,FP2,,	00588
02290	BNF	**36,DRAY-1,,	STORE FLOATING LENGTH IN TEMPA	00588 K6 00171 03664
02300	IOREF	CF	DRAY-1,DAT1,7	BRANCH IF FLOATING ARRAY
02310	TF	TEMPA,K,,		00612 LL 00063 -0336
02320	TF	DIODDA+13,DRAY-1,,	STORE FIXED LENGTH IN TEMPA	00624 K6 00171 02221
02330	AM	DIODDA+13,1	STORE ADDRESS OF FIRST ELEMENT	00636 20 03400 00063
02340	S	DIODDA+13,TEMPA,,		00648 11 03400 -0001
02350	TF	EVEN1+11,DIODDA+13	HIGH ORDER POSITION OF ARRAY	00660 2K 03400 00171
02360	M	TEMPA,PAR		00672 K6 00919 03400
02450	SF	95		00684 K3 00171 03378
02370	A	EVEN1+11,99		00696 32 00095 00000
02380	CARRY	CM	EVEN1+11,0	00708 K1 00919 00099
02390	BNE	**24		00720 J4 00919 -0000
02400	TFM	EVEN1+11,0		00732 M7 00756 01200
02410*			EVALUATE AND STORE LOW ORDER	00744 J6 00919 -0000
02420*			POSITION + 1 OF ARRAY	
02440*			EVALUATE SECTOR COUNT	

02610	AM	97,1 ,9, ADD ONE FOR GROUP MARK	00756	11	00097	00-01
02471	TD	++23,RECLG	00768	K5	00791	02243
02472	BDI2	BD OVER3,251,, BRANCH IF RECLG IS 1	00780	M3	00828	00251
02473	TD	++23,97	00792	K5	00815	00097
02474	BD	++24,210,, BRANCH IF EVEN NUMB OF SECTORS	00804	M3	00828	00210
02475	AM	97,1,10	00816	11	00097	000-1
02470	OVER3	TF DIODDA+8,97,, SET UP SECTOR COUNT	00828	26	03395	00097
02648	BD	OVER2,BDI2+11,11	00840	ML	00864	0079J
02444	MM	DIODDA+8,50,10	00852	13	03395	000N0
02520	OVER2	A FIND-1,97,6, ADD NUMBER OF RECORDS TO I	00864	K1	0012L	00097
02550	SM	FIND-1,1,610	00876	J2	0012L	000-1
02560	TFM	RETD2+6,++20	00888	J0	00202	-0908
02570	B	N2CK	00900	M9	00148	00000
02580	DORG	*-4	00907			
02430	EVEN1	TD EVEN2+11	00908	K5	00991	00000
02600	BD	FETCH8,FRIND,, BRANCH IF FETCH	00920	ML	01018	00215
02610*		RECORD				
02620	TD	EVEN1+11,DKBUFF+200,6, SET GROUP MARK AT END OF ARRAY	00932	KN	0091R	01232
02630*		WRITE ARRAY ONTO FILE				
02640	TFM	IORT,++23	00944	10	00565	-0967
02650	B	IORBC,NOMLC ,7	00956	4R	00520	-0000
02660	TDM	FLTEND-5,2	00968	15	03725	00002
02670	EVEN2	TDM EVEN1+11,,6, RESTORE DIGIT	00980	J5	0091R	00000
02590	AM	FIND-1,1,610	00992	J1	0012L	000-1
02680	A	DIODDA+5,DIODDA+8,, INCREMENT SECTOR ADDRESS	01004	21	03392	03395
02690	BB		01016	42	00000	00000
02700	DORG	*-9	01018	10	0085J	-1124
02710	FETCH8	TFM DID+35,YTURN,67, INSERT ADDRESS FOR ERROR ENTRY	01030	10	00565	-1053
02720	TFM	IORT,++23,, READ ARRAY FROM FILE	01042	49	00566	-3379
02730	B	IOGT,OKDATA,7	01054	16	02098	-1250
02740	TFM	INOUT,CHECK-12,,RESTORE SPECIAL IORT ERROR EXIT				
02750*		TEST FOR NO GROUP MARK				
02760	BNG	++20,EVEN1+11,11	01066	NN	01086	0091R
02770	B	EVEN2	01078	M9	00980	00000
02780	DORG	*-4	01085			
02790	TF	FLTEND,EVENSP+6	01086	20	03730	01123
02800	TFM	EI,473,9	01098	16	02615	00M73
02810	B	ERROR	01110	49	03596	00000
02820	DORG	*-4	01117			
02830	EVENSP	DC 1,4	01117	00001		
02840	DSC	1,9	01118	00001		
02850	DSA	EVEN2-12	01123	00005	-0968	
02860	YTURN	BI ++12,3700,, TURN OFF WLRG IND	01124	M6	01136	03700
02870	BNI	ERKET,1900,, GO ON IF NO OTHER ERROR	01136	47	00602	01900
02880	TFM	INOUT,MYER,, SET UP SECOND IORT ERROR EXIT	01148	10	02098	-0008
02890	B	IDERR,, LET IORT CHECK ANY OTHER ERRORS	01160	49	00624	00000
02900	DORG	*-4	01167			
	DORG	SWD+906	01174			
02970	TEMPA	DS 2,N2CK+23	00171	00002		
02980	NITEMP	DS 2,RETD2-1	00195	00002		
02990	FRIND	DS 1,BE2+7	00215	00001		
03000*		WRITE FIRST BLOCK				
03010*						

03030	DIM2	DSC 1,1	01174	00001		
03040	DSA	200	01179	00005	-0200	
03050	DC	3,9	01182	00003		
03060	DSA	SWD	01187	00005	-0268	
03070	DC	1,0	01188	00001		
03080	LD2ND	DSC 2,00	01189	00002		
03090	DSA	DIM2	01195	00005	-1174	
03100	DC	1,0	01196	00001		
03110	STLD2	TD CARRY+7,CORSIZ	01198	K5	00727	07376
03120	AM	CARRY+8,10,10	01210	J1	00728	000J0
03130	GM	CF EVENSP+2	01222	L3	01119	00000
03140	DGM	DKBUFF+200	01232	00001		
	DGM	SWD+900	01168	00001		
03150	TFM	IORT,NIO+11	01234	10	00565	-1257
03160	NIO	B IOPT,LD2ND,7	01246	4R	00532	-1189
03170	TRA		01258	10	00565	-1277
			01270	49	00716	00000
			01277	00002	2K	
			01279	00005	-1285	
			01284	00001	0	
			01285	00006	1J9783	
			01291	00003	-03	
			01294	00006	-00000	
03180	TCD	STLD2	01198			
03190	DEND	6	00006			

01300 CORE POSITIONS REQUIRED
PLUS RELOCATION INCREMENT
00322 STATEMENTS PROCESSED

00010	*							
00020	*							
00030	IOPT	DS	,532		00532		0	
00040	IOGT	DS	,566		00566		0	
00050	IORT	DS	,565		00565		0	
00060	MONCAL	DS	,796		00796		0	
00070	***		COMMUNICATION AREA					
00080	DDRG		2218		02218			
00090	F	DS	2,, FLOATING POINT WORD LENGTH		02219		2	
00100	K	DS	2,, FIXED POINT WORD LENGTH		02221		2	
00110	PROGST	DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM		02226		5	
00120	COMADD	DS	5,, STARTING ADDRESS OF COMMON AREA		02231		5	
00130	N1	DS	2,, NUMBER OF WORDS IN LOGICAL RECORD		02233		2	
00140	N2	DS	5,, NUMBER OF LOGICAL RECORDS		02238		5	
00150	W	DS	2,, WORD LENGTH		02240		2	
00160	RECLG	DS	3,, RECORD LENGTH		02243		3	
00170	ENTLN	DS	5,, ENTRY ADDRESS TO LOG SUBROUTINE		02248		5	
00180	ENTEXP	DS	5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE		02253		5	
00190	ENTSC1	DS	5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE		02258		5	
00200	ENTSC2	DS	5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE		02263		5	
00210	ENTSC3	DS	5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE		02268		5	
00220	ENTFID	DS	5,, ENTRY ADDRESS TO FIND SUBROUTINE		02273		5	
00230	ENTREC	DS	5,, ENTRY ADDRESS TO RECORD SUBROUTINE		02278		5	
00240	ENTFET	DS	5,, ENTRY ADDRESS TO FETCH SUBROUTINE		02283		5	
00250	ENTSWD	DS	5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE		02288		5	
00260	ENTDRR	DS	5,, ENTRY ADDRESS TO ARRAY SUBROUTINE		02293		5	
00270	ENTDED	DS	5,, ENTRY ADDRESS TO DISK END SUBROUTINE		02298		5	
00280	ENTCOS	DS	5,, ENTRY ADDRESS TO COSINE SUBROUTINE		02303		5	
00290	ENTSIN	DS	5,, ENTRY ADDRESS TO SINE SUBROUTINE		02308		5	
00300	ENTATN	DS	5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE		02313		5	
00310	ENTSQT	DS	5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE		02318		5	
00320	ENTABS	DS	5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE		02323		5	
00330	DS	70,,	RESERVED FOR ENTRIES TO ADDED SUBROUTINES		02393		70	
00340	LIBSUB	DSS	30,, LIBRARY SUBROUTINE INDICATORS		02394		30	
00350	DC	1,,			02424		1	
00360	*****		MAINLINE TABLE SEARCH					
00370	DDRG		2426		02426			
00380	NAMBUF	DC	16,0		02441		16	
			-0000000000000000					
00390	DC	2,,			02443		2	
00400	OVRLAP	DS	1		02444		1	
00410	FLGRMK	DS	1		02445		1	
00420	ADDCOM	DS	5		02450		5	
00430	EQADDR	DS	5		02455		5	
00440	SCADDR	DS	5		02460		5	
00450	IOIND	DS	1		02461		1	
00460	MLIND	DS	1		02462		1	
00470	EXTIND	DS	1		02463		1	
00480	SECT	DS	3		02466		3	
00490	ZROTST	DS	1		02467		1	
00500	ADDSVE	DS	5		02472		5	
00510	DC	1,,			02473		1	
00520	LDDA	DDA	,1,0,0,SUBTBL		02474		14	
			1-0000-00-2522					

00530	DC	1,,			02488		1	
00540	SVEDDA	DDA	,1,0,21,0		02490		14	
			1-0000-21-0000					
00550	DC	1,,			02504		1	
00560	DATA	DC	1,0		02505		1	
00570	INCDDA	DDA	,1,0,10,SUBTBL		02506		14	
			1-0000-10-2522					
00580	DC	1,,			02520		1	
	NODATA	DS	1		02521		1	
00600	SUBTBL	DSS	1000		02522		1000	
00610	DC	12,,			03533		12	
			-000000000000					
00620	RMTBL	CM	COMSEC+75,,10, BRANCH IF NO LOCAL CARDS		03534	14	07375	000-0
00630	BE	LODINC			03546	46	05098	01200
00640	TFM	IORT,++23			03558	16	00565	-3581
00650	B	IOGT,LD,7			03570	49	00566	-7245
00660	TFM	++23,SUBTBL+11			03582	16	03605	-2533
00670	SRCH	BNR	++32,, TEST FOR END OF TABLE		03594	45	03626	00000
00680	TDM	TBLIND,1			03606	15	03615	00001
00690	TBLIND	B	,-2		03615		0	
00700	B	LODINC			03618	49	05098	00000
00710	DDRG	++3			03626			
00720	C	COMSEC+35,SRCH+11,11, COMPARE NAMES			03626	24	07335	0360N
00730	BE	TBLLD			03638	46	04930	01200
00740	AM	SRCH+11,20,10, INCREMENT TO NEXT ENTRY			03650	11	03605	000K0
00750	B	SRCH			03662	49	03594	00000
00760	EQSRCH	TF	EQUDDA+5,EQADDR		03674	26	07035	02455
00770	TF	INRK+8,SECT			03686	26	07448	02466
00780	TFM	IORT,++23,, READ IN FOUR SECTORS OF EQUIV. TABLE			03698	16	00565	-3721
00790	B	IOGT,EQU,7			03710	49	00566	-7021
00800	COMPER	TFM	COMP+11,SUBTBL+11,, SEARCH EQUIV. TABLE		03722	16	03765	-2533
00810	BNR	++20,COMP+11,11			03734	45	03754	0376N
00820	B	EQSRCH-1,,6			03746	49	0367L	00000
00830	DDRG	++3			03754			
00840	COMP	C	NAMBUF		03754	24	02441	00000
00850	BE	FOUND			03766	46	03874	01200
00860	AM	COMP+11,16,10, INCREMENT TO NEXT NAME			03778	11	03765	000J6
00870	CM	COMP+11,SUBTBL+11,, TEST FOR END OF TABLE			03790	14	03765	-2933
00880	BNE	COMPER+12			03804	47	03734	01200
00890	NXTRD	CM	INRK+8,0,9, TEST FOR END OF EQUIV. TABLE		03814	14	07448	00-00
00910	BE	EQSRCH-1,,6			03826	46	0367L	01200
00930	SM	INRK+8,4,10, DECREMENT SECTOR COUNT			03838	12	07448	000-4
00940	AM	EQUDDA+5,4,10			03850	11	07035	000-4
00950	B	COMPER-24			03862	49	03698	00000
00960	FOUND	AM	COMP+11,4,10, INCREMENT TO GET DIM NUMBER		03874	11	0765	000-4
00970	TFM	DIMDDA+5,4800			03886	16	07095	-4800
00980	S	DIMDDA+6,COMP+11,11			03898	22	07096	0376N
00990	S	DIMDDA+6,COMP+11,11			03910	22	07096	0376N
01000	TDM	DIMDDA+6,,11			03922	15	07096	0000-
01010	*****		READ IN DIM SECTOR					
01020	TD	SECCT,COMP+11,11			03934	25	07156	0376N
01030	BTM	INCGET,++12			03946	17	06846	-3958

01040	SF	ENDTST+11,,6,	SET -LOADED- INDICATOR	03958	32	0568J	00000
01050	BTM	INCPUT,++12		03970	17	06810	-3982
01060	FOUND1	TFM	IORT,++23	03982	16	00565	-4005
01070	B	IOGT,DIM,7		03994	49	00566	-7082
01080	CM	SECCT,5,10		04006	14	07156	000-5
01090	BL	++24		04018	47	04042	01300
01100	SM	SECCT,5,10,	CALCULATE DIM ENTRY ADDRESS	04030	12	07156	000-5
01110	MM	SECCT,20,9		04042	13	07156	00-20
01120	AM	99,INRK		04054	11	00099	-7400
01130	TR	DIMSVE,99,11		04066	31	07126	0009R
01140	TD	DMEDDA,DIMSVE		04078	25	06998	07126
01150	TF	DMEDDA+5,DIMSVE+5		04090	26	07003	07131
01160	TR	DDAR,DMEDDA,,	MOVE SECTOR DDA TO PROGRAM DDA AREA	04102	31	07280	06998
01170	TFM	IORT,++23,,	READ IN INDICATOR RECORD	04114	16	00565	-4137
01180	B	IOGT,DME,7		04126	49	00566	-6990
01190	TF	DDAR+8,DIMSVE+8,,	MOVE SECTOR COUNT	04138	26	07288	07134
01200	*****	INDICATOR RECORD CHECK					
01210	TSTVLD	C	INRK+13,INDCON,, CHECK FOR VALID INDICATOR RECORD	04150	24	07413	04217
01220	BE	RELFM		04162	46	06550	01200
01230	C	INRK+5,INDCON,,	CHECK FOR VALIDITY IN CORE IMAGE	04174	24	07405	04217
01240	BE	++56		04186	46	04242	01200
01250	BTM	EPRINT,75,8		04198	17	06882	0-075
01260	RCTY			04210	34	00000	00102
01270	INDCON	DC	6,987898,+-4	04217		6	
		R87898					
01280	WATY	JOBOUT		04222	39	06963	00100
01290	B	MONCAL		04234	49	00796	00000
01300	DORG	=-3		04242			
	TF	DDAR+13,ADDSVE		04242	26	07293	02472
01320	TDM	INDR+7,,,	CONVERT DEFINER TO CORE IMAGE	04254	15	07076	00000
01330	DC	1,*,*		04265		1	
		*					
01340	AM	DDAR+5,1,10,	INCREMENT DISK ADDRESS BY ONE	04266	11	07285	000-1
01350	SM	DDAR+8,1,10,	DECREMENT SECTOR COUNT BY ONE	04278	12	07288	000-1
01360	B	SUBPRO-24		04290	49	06610	00000
01370	DORG	=-3		04298			
01380	TRYSZE	TF	ADDSVE,ADDCOW	04298	26	02472	02450
01390	AM	ADDSVE,1,10		04310	11	02472	000-1
01400	A	SPROST,ADDSVE		04322	21	06192	02472
01410	A	ADDCOW,INRK+22		04334	21	02450	07422
01420	TDM	INRK+23		04346	15	07423	00000
01430	DC	1,*,*		04357		1	
		*					
01440	C	ADDCOW,COMADD		04358	24	02450	02231
01450	BL	SIZEOK		04370	47	06162	01300
01460	S	ADDCOW,INRK+22		04382	22	02450	07422
01470	*****	OVERLAP INDICATION					
01480	TDM	OVRLAP,1,,	TURN ON OVERLAP INDICATOR	04394	15	02444	00001
01490	RCTY			04406	34	00000	00102
01500	DNETWO	DSC	5,00101,+-9	04408		5	
		00101					
01510	WATY	NAMBUF-10,,,	TYPE PROGRAM NAME	04418	39	02431	00100
01520	WNTY	INRK+18,,,	TYPE LENGTH	04430	38	07418	00100
01530	WATY	OVRMES,,,	TYPE OVERLAP	04442	39	06945	00100
01540	BD	++20,EXTIND,,	BRANCH IF PROGRAM ON CARDS OR TAPE	04454	43	04474	02463
01550	B	COMP+24,,,	BRANCH TO GET NEXT NAME	04466	49	03778	00000

01560	DORG	=-3		04474			
01570	**	ROUTINE TO READ INDICATOR RECORD FROM CARDS OR TAPE					
01580	*****	LOAD CARD OR TAPE STORED PROGRAMS					
	H						
01590	PHASEC	BTM	INCGET,++12	04474	48	00000	00000
01600	TD	CDTP+2,COMSEC+73		04486	17	06846	-4498
01610	SM	CDTP+2,1,10		04498	25	07153	07373
01620	READ	TFM	IORT,++23,, GET INDICATOR RECORD	04510	12	07153	000-1
01630	B	IOGT,CDTP-4,7		04522	16	00565	-4545
01640	TDM	EXTIND,1		04534	49	00566	-7147
01650	TFM	++35,SUBTBL-9		04546	15	02463	00001
01651	GONXT	AM	ENTST+11,20,10	04558	16	04593	-2513
01660	ENTST	BNR	++20,, TEST FOR END OF TABLE	04570	11	04593	000K0
01670	B	READ		04582	45	04602	00000
01680	DORG	=-3		04594	49	04522	00000
01690	TFM	++23,INRK		04602	16	04625	-7400
01700	RMCHK	BNR	++20	04614	45	04634	00000
01710	B	READ		04626	49	04522	00000
01720	DORG	=-3		04634			
01730	AM	RMCHK+11,1,10		04634	11	04625	000-1
01740	CM	RMCHK+11,INRK+80		04646	14	04625	-7480
01750	BNE	RMCHK		04658	47	04614	01200
01760	SF	INRK+1		04670	32	07401	00000
01770	CF	INRK+2		04682	33	07402	00000
01780	CF	INRK+3		04694	33	07403	00000
01790	CF	INRK+4		04706	31	07404	00000
01800	CM	INRK+4,4131,8		04718	14	07404	0M131
01810	BNE	HEADER		04730	47	04774	01200
01820	RCTY			04742	34	00000	00102
01830	WATY	DATA1		04754	39	07255	00100
01840	B	PHASED		04766	49	05954	00000
01850	DORG	=-3		04774			
01860	HEADER	C	INRK+13,INDCON,, TEST FOR INDICATOR RECORD	04774	24	07413	04217
01870	BNE	READ		04786	47	04522	01200
01880	BNF	++20,INRK+16		04798	44	04818	07416
01890	B	READ		04810	49	04522	00000
01900	DORG	=-3		04818			
01910	C	INRK+25,ENTST+11,11,	COMPARE NAMES	04818	24	07425	0459L
01920	BNE	GONXT		04830	47	04570	01200
01930	TF	NAMBUF,ENTST+11,11		04842	26	02441	0459L
01940	AM	ENTST+11,6,10		04854	11	04593	000-6
01950	BNF	++32,ENTST+11,11		04866	44	04898	0459L
01951	AM	ENTST+11,14,10		04878	11	04593	000J4
01960	B	ENTST		04890	49	04582	00000
01970	DORG	=-3		04898			
01980	SF	ENTST+11,,6,	SET -LOADED- INDICATOR	04898	32	0459L	00000
01990	BTM	INCPUT,++12		04910	17	06810	-4922
02000	B	RELFM		04922	49	06550	00000
02010	DORG	=-3		04930			
02050	*****	FLIP SUBPROGRAM TABLE SEARCH					
02060	TBLLD	AM	SRCH+11,3,10	04930	11	03605	000-3
02070	TF	FLPDDA+8,SRCH+11,11		04942	26	07062	0360N
02080	AM	SRCH+11,5,10		04954	11	03605	000-5
02090	TF	FLPDDA+5,SRCH+11,11		04966	26	07059	0360N
02100	TFM	IORT,++23		04978	16	00565	-5001
02110	B	IOGT,FLP,7		04990	49	00566	-7045

02120	SF	COMPAR	05002	32	05050	00000
02130	TFM	COMPAR+11,SUBTBL+11,, INITIALIZE POINTER	05014	16	05061	-2533
02140	TF	COMPRES+11,ADDCOW	05026	26	05141	02450
02150	AM	COMPRES+11,1,10	05038	11	05141	000-1
02160	COMPAR	BNR COMPRES	05050	45	05130	00000
02170	BNF	COMPRES,COMPAR	05062	44	05130	05050
02180	TFM	IOPT,**23	05074	16	05065	-5097
02190	B	IOPT,FLP,7	05086	49	05032	-7045
02200	*****	IN-CORE SUBPROGRAM TABLE SEARCH AND LOAD				
02210	LODINC	BTM INCGET,**12	05098	17	06846	-5110
02220	CF	COMPAR	05110	33	05050	00000
02230	B	COMPAR-36	05122	49	05014	00000
02240	DORG	*-3	05130			
02250	COMPRE	BNR SERCH	05130	45	05150	00000
02260	B	SERCH3	05142	49	05582	00000
02270	DORG	*-3	05150			
02280	SERCH	BD **32,COMPRES+11,11	05150	43	05182	0514J
02290	AM	COMPRES+11,18,10	05162	11	05141	000J8
02300	B	COMPRE	05174	49	05130	00000
02310	DORG	*-3	05182			
02320	AM	COMPRES+11,11,10	05182	11	05141	000J1
02330	BNF	SERCH2,COMPAR	05194	44	05434	05050
02340	C	COMPRES+11,COMPRES+11,611, CHECK FOR SAME NAME	05206	24	0506J	0514J
02350	BE	SERCH1	05218	46	05250	01200
02360	AM	COMPRES+11,7,10	05230	11	05141	000-7
02370	B	COMPRE	05242	49	05130	00000
02380	DORG	*-3	05250			
02390	SERCH1	SM COMPRES+11,11,10	05250	12	05141	000J1
02400	TDM	COMPRES+11,0,6	05262	15	0514J	00000
02410	AM	COMPRES+11,5,10	05274	11	05061	000-5
02420	AM	COMPRES+11,16,10	05286	11	05141	000J6
02430	A	COMPRES+11,ADDSVE,6	05298	21	0514J	02472
02440	BNF	**56,COMPAR	05310	44	05366	05050
02450	CM	COMPRES+11,**67	05322	14	0506J	-0000
02460	BNE	**32	05334	47	05366	01200
02470	TF	COMPRES+11,COMPRES+11,611, MOVE ADDRESS IN	05346	26	0506J	0514J
02480	B	SERCH2-20	05358	49	05414	00000
02490	DDRG	*-3	05366			
02500	*****	ROUTINE TO PLACE INDIRECT ENTRY ADDRESSES INTO SUBPROGRAMS				
02510	TF	**35,COMPRES+11,11	05366	26	05401	0506J
02520	TF	**18,COMPRES+11,11	05378	26	05396	0514J
02530	TFM	*** MOVE ADDRESS INTO PROGRAM	05390	16	00000	-0000
02540	SF	**6,**6	05402	32	05390	00000
02550	AM	COMPRES+11,15,10	05414	11	05061	000J5
02560	B	COMPAR-24	05426	49	05026	00000
02570	DORG	*-3	05434			
02580	*****	ROUTINE TO LOAD ENTRIES IN IN-CORE SUBPROGRAM TABLE				
02590	SERCH2	CM COMPRES+11,SUBTBL+1011	05434	14	05061	-3533
02600	BNE	**32	05446	47	05478	01200
02610	BTM	EPRINT,79,8	05458	17	06882	0-079
02620	B	MVADD+24	05470	49	05550	00000
02630	DDRG	*-3	05478			
02640	BNR	SERCH+56,COMPRES+11,11	05478	45	05206	0506J
02650	TF	COMPRES+11,COMPRES+11,611	05490	26	0506J	0514J
02660	AM	COMPRES+11,5,10	05502	11	05061	000-5
02670	AM	COMPRES+11,5,10	05514	11	05141	000-5

02680	MVADD	TF COMPRES+11,COMPRES+11,611	05526	26	0506J	0514J
02690	A	COMPRES+11,ADDSVE,6	05538	21	0506J	02472
02700	AM	COMPRES+11,15,10	05550	11	05061	000J5
02710	AM	COMPRES+11,2,10	05562	11	05141	000-2
02720	B	COMPAR	05574	49	05050	00000
02730	DDRG	*-3	05582			
02740	SERCH3	BNR **44,COMPRES+11,11	05582	45	05626	0506J
02750	TDM	COMPRES+11,**6	05594	15	0514J	00000
02760	BTM	INCPUT,**12	05606	17	06810	-5618
02770	B	PHASEB	05618	49	05646	00000
02780	DDRG	*-3	05626			
02790	AM	COMPRES+11,20,10	05626	11	05061	000K0
02800	B	COMPAR-24	05638	49	05026	00000
02810	DDRG	*-3	05646			
02820	*****	LOAD DISK-STORED SUBPROGRAMS				
02830	PHASEB	BTM INCGET,**12	05646	17	06846	-5658
02840	TFM	**23,SUBTBL+11	05658	16	05681	-2533
02850	ENDTST	BNR **44,,, TEST FOR END OF TABLE	05670	45	05714	00000
02860	CM	PROCCOW,,9	05682	14	05856	00-00
02870	BNE	PHASEC	05694	47	04486	01200
02880	B	CALL3	05706	49	06014	00000
02890	DDRG	*-3	05714			
02900	TF	NAMBUF,ENDTST+11,11	05714	26	02441	0568J
02910	AM	ENDTST+11,6,10	05726	11	05681	000-6
02920	BNF	INCL3-60,ENDTST+11,11	05738	44	05770	0568J
02930	AM	ENDTST+11,14,10	05750	11	05681	000J4
02940	B	ENDTST	05762	49	05670	00000
02950	DDRG	*-3	05770			
02960	BTM	INCPUT,**12	05770	17	06810	-5782
02970	BTM	EQSRCH,**12,, SEARCH EQUIVALENCE TABLE	05782	17	03674	-5794
02980	*****	RETURN IF ENTRY NOT FOUND IN EQUIV. TABLE				
02990	AM	ENDTST+11,1,10	05794	11	05681	000-1
03000	BTM	INCGET,**12	05806	17	06846	-5818
03010	BNF	**32,ENDTST+11,11	05818	44	05850	0568J
03020	INCL3	AM ENDTST+11,13,10	05830	11	05681	000J3
03030	B	ENDTST	05842	49	05670	00000
03040	DDRG	*-3	05850			
03050	*****	TYPE -LOAD NAME-				
03060	RCTY		05850	34	00000	00102
03070	PROCCOW	DC 3,0,**5	05856		3	
03080	WATY	LDMES	05862	39	07177	00100
03090	WATY	NAMBUF-10	05874	39	02431	00100
03100	BTM	INCGET,**12	05886	17	06846	-5898
03110	SF	ENDTST+11,**6, SET -TYPED- INDICATOR	05898	32	0568J	00000
03120	AM	PROCCOW,1,10	05910	11	05856	000-1
03130	BTM	INCPUT,**12	05922	17	06810	-5934
03140	TDM	NODATA,0	05934	15	02521	00000
03150	B	INCL3	05946	49	05830	00000
03160	DDRG	*-3	05954			
03160	*****	CHECK AND TYPE OUT NAMES OF UNLOADED SUBPROGRAMS				
03170	PHASED	TDM DATA,1	05954	15	02505	00001
03180	TFM	**35,SUBTBL+11	05966	16	06001	-2533
03190	TDM	MORE	05978	15	06103	00000
03200	BNR	**48	05990	45	06038	00000
03200	BD	PHASEC-12,MORE	06002	43	04474	06103

03220	CALL3	TFM	IORT,**23	06014	16	00565	-6037
03230		B	IOGT,BL3,7	06026	49	00566	-7190
03240		TF	NAMBUF,PHASED+47,11	06038	26	02441	0600J
03250		AM	PHASED+47,6,10	06050	11	06001	000-6
03260		BNF	**32,PHASED+47,11	06062	44	06094	0600J
03270		AM	PHASED+47,14,10	06074	11	06001	000J4
03280		B	PHASED+36	06086	49	05990	00000
03290		DORG	*-3	06094			
03300		TDM	MORE,1	06103	15	06103	00001
03310	MORE	DS	,-2	06103		0	
03320		RCTY		06106	34	00000	00102
03330		TDM	DATA,0	06118	15	02505	00000
03340		WATY	LDMES	06130	39	07177	00100
03350		WATY	NAMBUF-10	06142	39	02431	00100
03360		B	*-80	06154	49	06074	00000
03370		DORG	*-3	06162			
03380	SIZEOK	BD	**24,DVRLAP	06162	43	06186	02444
03390		BNC1	**96	06174	47	06270	00100
03400		RCTY		06186	34	00000	00102
03410	SPROST	DS	,-5	06192		0	
03420		WATY	NAMBUF-10,,, TYPE OUT NAME	06198	39	02431	00100
03421		SPTY		06210	34	00000	00101
03430		WNTY	ADDSVE-4	06222	38	02468	00100
03440		SPTY		06234	34	00000	00101
03450	SPRST	DS	,-5	06240		0	
03460		WNTY	INRK+18,,, TYPE OUT LENGTH	06246	38	07418	00100
03470		WATY	LDED	06258	39	07159	00100
03480	*****		LOAD PROGRAMS ROUTINE				
03490		TF	INDR+11,ADDSVE	06270	26	07080	02472
03500		BD	**24,EXTIND	06282	43	06306	02463
03510		TF	ENTST+11,ENDTST+11	06294	26	04593	05681
03520		SM	ENTST+11,1,10	06306	12	04593	000-1
03530		TF	**18,ENTST+11,11	06318	26	06336	0459L
03540		TF	ENTST+11,SPROST,6	06330	26	0459L	06192
03550	RDPROG	BD	CDTPLD,EXTIND,, BRANCH IF PROGRAM IN CARD OR TAPE	06342	43	06386	02463
03560	SCHLD	TFM	IORT,**23,, GET PROGRAM FROM DISK	06354	16	00565	-6377
03570		B	IOGT,INDR,7	06366	49	00566	-7069
03580		B	RMTBL	06378	49	03534	00000
03590		DORG	*-3	06386			
03600	*****		ROUTINE TO LOAD PROGRAM FROM CARD OR TAPE				
03610	CDTPLD	TDM	416	06386	15	00416	00000
03620		DC	1,*,*	06397		1	
03630		TD	428,COMSEC+73	06398	25	00428	07373
03640		SF	428	06410	32	00428	00000
03650	MLLGTH	DS	*,*	06421		0	
03660		CF	429	06422	33	00429	00000
03670		TF	434,ADDSVE	06434	26	00434	02472
03680		SF	489	06446	32	00489	00000
03690		TF	COMSEC+98,INRK+79	06458	26	07398	07479
03700		TFM	IORT,**23,, PUT BACK COMMUNICATION SECTOR	06470	16	00565	-6493
03710		B	IOPT,COM,7	06482	49	00532	-7221
03720		TFM	IORT,**23,, GET PROGRAM	06494	16	00565	-6517
03730		B	IOGT,EXT,7	06506	49	00566	-7198
03740		SM	PROCDW,1,10	06518	12	05856	000-1
03750		TDM	EXTIND	06530	15	02463	00000

03760		B	RMTBL	06542	49	03534	00000
03770		DORG	*-3	06550			
03780	RELFM	TDM	INRK+80	06550	15	07480	00000
03790		DC	1,*,*	06561		1	
03800		TR	INRK,INRK+8,, MOVE INDICATOR RECORD TO CONFORM TO CARD IMAGE	06562	31	07400	07408
03810		CF	427	06574	33	00427	00000
03820		TFM	439,75	06586	16	00439	-0075
03830		TFM	DDAR+13,99999	06598	16	07293	R9999
03840		TF	SPROST,INRK+31	06610	26	06192	07431
03850		AM	SPROST,6,10	06622	11	06192	000-6
03860	SUBPRO	C	INRK+24,F,, TEST FOR EQUAL F	06634	24	07424	02219
03870		BNE	*+36	06646	47	06682	01200
03880		C	INRK+26,K,, TEST FOR EQUAL K	06658	24	07426	02221
03890		BE	*+24	06670	46	06694	01200
03900		BTM	EPRINT,76,8	06682	17	06882	0-076
03910		TFM	MOVE+11,INRK+37,, UPDATE SUBROUTINE TABLE	06694	16	06761	-7437
03920		TFM	MOVE+6,LIBSUB	06706	16	06756	-2394
03930		CF	MOVE+7	06718	33	06757	00000
03940	SUBDIG	BD	MOVE,MOVE+11,11	06730	43	06750	0676J
03950		B	MOVE+12	06742	49	06762	00000
03960		DORG	*-3	06750			
03970	MOVE	TD		06750	25	00000	00000
03980		A	MOVE+11,ZERONE	06762	21	06761	06901
03990		CM	MOVE+6,LIBSUB+30	06774	14	06756	-2424
04000		BE	TRYSZE	06786	46	04298	01200
04010		B	SUBDIG	06798	49	06730	00000
04020	INCPUT	TFM	IORT,**23	06810	16	00565	-6833
04030		B	IOPT,INC,7	06822	49	00532	-7013
04040		B	INCPUT-1,,6	06834	49	0680R	00000
04050	INCGET	TFM	IORT,**23	06846	16	00565	-6869
04060		B	IOGT,INC,7	06858	49	00566	-7013
04070		B	INCGET-1,,6	06870	49	0684N	00000
04090	*****		ERRDR MESSAGE SUBROUTINE				
04100	EPRINT	TF	ERMESS+16,EPRINT-1	06882	26	07123	06881
04110		RCTY		06894	34	00000	00102
04120	ZERONE	DC	6,100001,*-4	06901		6	
04130		J00001					
04140		WATY	NAMBUF-10	06906	39	02431	00100
04150		WATY	ERMESS	06918	39	07107	00100
04160		TDM	SVEDDA-1,1	06930	15	02489	00001
04170		BB		06942	42	00000	00000
04180	OVRMES	DAC	9, OVERLAP*	06944			
			OVERLAP*	06945		9 X	2
04190	JOBOUT	DAC	14, JOB ABANDONED*	06963		14 X	2
			JOB ABANDONED*				
04200	DME	DSC	2,22	06990		2	
			22				
04210		DSA	DMEDDA	06996		5 X	1
04220		DC	1,*	06996		-6998	
			*	06997		1	
04230	DMEDDA	DDA	,1,0,1,INRK	06998		14	
			1-0000-01-7400				

04240	DC	1,'	07012	1
04250	INC	DSC 2,02	07013	2
04260	DSA	INCDDA	07019	5 X 1
04270	DC	1,'	07019	-2506
04280	EQU	DSC 2,22	07020	1
04290	DSA	EQUDDA	07021	2
04300	DC	1,'	07027	5 X 1
04310	EQUDDA	DDA ,1,0,4,SUBTBL	07027	-7030
04320	DC	1,'	07028	1
04330	FLP	DSC 2,02	07030	14
04340	DSA	FLPDDA	07044	1
04350	DC	1,'	07045	2
04360	FLPDDA	DDA ,1,0,0,SUBTBL	07051	5 X 1
04370	DC	1,'	07051	-7054
04380	INDR	DSC 2,22	07052	1
04390	DSA	DDAR,0	07054	14
04400	DC	1,'	07068	1
04410	DIM	DSC 2,22	07069	2
04420	DSA	DIMDDA	07075	5 X 2
04430	DC	1,'	07075	-7280
04440	DIMDDA	DDA ,1,4800,1,INRK	07080	-0000
04450	DC	1,'	07081	1
04460	ERMES	DAC 10,ERROR L	07082	2
04470	DIMSVE	DSS 20,, RESERVES CURRENT DIM ENTRY	07088	5 X 1
04480	CDINP	DS 1	07088	-7090
04490	CDTP	DSA INRK	07089	1
			07090	14
			07104	1
			07107	10 X 2
			07126	20
			07146	1
			07151	5 X 1

04500	DC	3,'	07151	-7400
04510	SECCT	DC 2,0	07154	3
04620	LDED	DAC 9, LOADED'	07156	2
04630	LDMES	DAC 7,LOAD	07159	9 X 2
04640	BL3	DSC 2,-22	07177	7 X 2
04650	DSC	1,0	07190	2
04660	DC	5,150'	07192	1
04670	EXT	DSC 2,-22	07197	5
04680	DSA	EXTDDA	07198	2
04690	DC	1,'	07204	5 X 1
04700	EXTDDA	DDA ,1,19783,3,0	07204	-7206
04710	DC	1,'	07205	1
04720	COM	DSC 2,22	07206	14
04730	DSA	COMDDA	07220	1
04740	DC	1,'	07221	2
04750	COMDDA	DDA ,1,19663,1,COMSEC	07227	5 X 1
04760	DC	1,'	07227	-7230
04770	LD	DSC 2,02	07228	1
04780	DSA	LDDDA	07230	14
04790	DC	1,'	07244	1
04800	DATAL	DAC 6,*DATA'	07245	2
04810	DDRG	7280	07251	5 X 1
04820	DDAR	DSS 20	07251	-2474
04830	COMSEC	DSS 100,, SYSTEM COMMUNICATION SECTOR	07252	1
04840	INRK	DSS 100,, READ IN AREA FOR INDICATOR RECORD	07255	6 X 2
04850	DEND		07280	20
			07280	100
			07300	100
			07400	100
			00000	

ADDCOM	02450	ENTSQT	02318	OVRMES	06945	GONXT	04570	SECTT	07156
ADDSVE	02472	ENTSWD	02288	PHASEB	05646	INCL3	05830	SECT	02466
CDTPLD	06386	EPRINT	06882	PHASEC	04486	INC	07013	SERCH	05150
COMADD	02231	EQADDR	02455	PHASED	05954	INDR	07069	SPRST	06240
COMDDA	07230	EQRCH	03674	PROCOM	05856	INRK	07400	SRCH	03594
COMPAR	05050	EQUDDA	07030	PROGST	02226	IOGT	00566	TBLLO	04930
COMPER	03722	ERMESS	07107	RDPORG	06342	IOIND	02461	W	02240
COMPRES	05130	EXTDDA	07206	RELFM	06550	IOPT	00532	SCADDR	02460
COMSEC	07300	EXTIND	02463	BL3	07190	IORT	00565	SERCH1	05250
DIMDDA	07090	FLGRMK	02445	CALL3	06014	K	02221	SERCH2	05434
DIMSVE	07126	FLPDDA	07054	CDINP	07146	LDDDA	02474	SERCH3	05582
DMEDDA	06998	FOUND1	03982	CDTP	07151	LDED	07159	SIZEOK	06162
ENDTST	05670	HEADER	04774	COMP	03754	LDMES	07177	SPRST	06192
ENTABS	02323	INCDDA	02506	COM	07221	LD	07245	SUBDIG	06730
ENTATN	02313	INCGET	06846	DATA1	07255	MLIND	02462	SUBPRO	06634
ENTCDS	02303	INCPUT	06810	DATA	02505	MORE	06103	SUBTBL	02522
ENTDED	02298	INDCON	04217	DDAR	07280	MOVE	06750	SVEDDA	02490
ENTDRR	02293	JOBOUT	06963	DIM	07082	MVADD	05526	TBLIND	03615
ENTEXP	02253	LIBSUB	02394	DME	06990	N1	02233	TRYSZE	04298
ENTFET	02283	LODINC	05098	ENTLN	02248	N2	02238	TSTVLD	04150
ENTFID	02273	MLLTH	06421	ENTST	04582	NXTRD	03814	ZERONE	06901
ENTREC	02278	MGNAL	00796	EQU	07021	READ	04522	ZRODST	02467
ENTSC1	02258	NAMBUF	02441	EXT	07198	RECLG	02243		
ENTSC2	02263	NODATA	02521	FLP	07045	RMCHK	04614		
ENTSC3	02268	ONETWO	04408	FOUND	03874	RMTBL	03534		
ENTSIN	02308	OVRLAP	02444	F	02219	SCHLD	06354		

END OF ONE ASSEMBLY.

00010 ***	READ/WRITE FOR CORE IMAGE LOAD								
00020	DORG 2201					02201			
00030 IOCAL	DS *716					00716	0		
00040 RDWR	DSA RD1					02205	5 X	1	
00050	TFM IORT,**23,,	PUT CORE IMAGE PROGRAM				02205	-5059		
00060	B IOPT,WR,7					02206	16 00565	-2229	
00070	TFM IORT,SL1,7					02218	49 00532	-2249	
00080	B7 IOCAL					02230	16 00565	-2272	
00090 WR	DSC 2,02					02242	49 00716		
	O2					02249	2		
00100	DSA WR2								
						02255	5 X	1	
00110	DSC 1,1					02255	-2257		
	.					02256	1		
00120 WR2	DSC 1,0								
	O					02257	1		
00130	DC 5,0								
	-0000					02262	5		
00140	DC 3,0								
	-00					02265	3		
00150	DC 5,0								
	-0000					02270	5		
00160	DSC 1,1								
	.					02271	1		
00170 SL1	DSC 2,-22								
	2K					02272	2		
00180	DSA SL2								
						02278	5 X	1	
00190	DSC 1,1					02278	-2280		
	.					02279	1		
00200 SL2	DSC 1,1								
	1					02280	1		
00210	DC 5,18554								
	J8554					02285	5		
00220	DC 3,041								
	-41					02288	3		
00230	DC 5,2402								
	-2402					02293	5		
00240	DSA SOLDON								
						02298	5 X	1	
00250	DSC 1,1					02298	-5106		
	.					02299	1		
00260 COR	TFM IORT,**23								
00270	B IOPT,COR1,7					02300	16 00565	-2323	
00280	TRA					02312	49 00532	-2348	
						02324	36 00000	00500	
00290 COR1	DSC 2,22					02336	49 00000	00000	
	22					02348	2		
00300	DSA COR2								
						02354	5 X	1	
						02354	-2356		

00310	DC	1,'		02355	1		
00320	COR2	DSC	1,1	02356	1		
00330		I		02361	5		
00340		J8260		02364	3		
00350		DC	5,18260	02369	5		
00360		-01		02370	1		
00370		-2200		02300			
00380	****		1620 DISK UTILITY PROGRAM SELECTION ROUTINE				
00390		DDRG	2402	02402			
00400	SELEC	TFM	IORT,**23	02402	16	00565	-2425
00410		B	IOGT,DDA,7	02414	49	00566	-2434
00420		B	00000	02426	49	00000	00000
00430		DDRG	*-3	02434			
00440	DDA	DSC	2,22	02434			
00450		22					
		DSA	DCF	02440		5 X	1
00460		DSC	1,'	02440		-2442	
				02441		1	
00470	DCF	DSC	1,1	02442		1	
		I					
00480		DC	5,0	02447		5	
		-0000					
00490		DC	3,0	02450		3	
		-00					
00500		DC	5,0	02455		5	
		-0000					
00510		DSC	1,'	02456		1	
00520	SELECT	TFM	HOLD2,0,10	02458	16	05907	000-0
00530		TFM	IORT,**23	02470	16	00565	-2493
00540		B	IOGT,DDA1,7	02482	49	00566	-5908
00550		TFM	MCS+98,0,7	02494	16	17876	-0000
00560		TFM	IORT,**23	02506	16	00565	-2529
00570		B	IOPT,DDA1,7	02518	49	00532	-5908
00580		TD	HOLD2,MCS+49	02530	25	05907	17827
00590		TFM	IORT,**23	02542	16	00565	-2565
00600		B	IOGT,DI1,7	02554	49	00566	-6399
00610	LIS	TFM	DIM4+13,READ,27	02566	16	J7993	-9778
00620		SM	HOLD2,1,10	02578	12	05907	000-1
00630		TFM	IORT,**23	02590	16	00565	-2613
00640		B	IOGT,LIS1,7	02602	49	00566	-6422
00650		TFM	BFLG+11,READ+100	02614	16	02649	-9878
00660	CT	TFM	CNT1,002,29	02626	16	-6432	00-02
00670	BFLG	BNF	**20,READ+100,7	02638	44	02658	-9878
00680		B7	NEXT	02650	49	02706	
00690		AM	CT+6,1,610	02658	11	0263K	000-1
00700		AM	BFLG+11,100,9	02670	11	02649	00J00

00710	CM	BFLG+11,READ+8000		02682	14	02649	J7778
00720	BL	BFLG		02694	47	02638	01300
00730	NEXT	CM	HOLD2,0,10	02706	14	05907	000-0
00740		BE	DN	02718	46	02774	01200
00750		AM	CT+6,3,10	02730	11	02632	000-3
00760		AM	LIS+6,20,10	02742	11	02572	000K0
00770		AM	LIS1+6,20,10	02754	11	06428	000K0
00780		B7	LIS	02766	49	02566	
00790	DN	TFM	IORT,**23	02774	16	00565	-2797
00800		B	IOGT,SPLSUB,7	02786	49	00566	-6443
00810		TF	SPLPK0+8,CNT1	02798	26	12653	06432
00820		TF	SPLPK1+8,CNT1+3	02810	26	12676	06435
00830		TF	SPLPK2+8,CNT1+6	02822	26	12699	06438
00840		TF	SPLPK3+8,CNT1+9	02834	26	12722	06441
00850	COMPAR	C	CNT1,CNT1+3	02846	24	06432	06435
00860		BH	**32	02858	46	02890	01100
00870		TR	CNT1-2,CNT1+1	02870	31	06430	06433
00880		B7	**20	02882	49	02902	
00890		TR	CNT1+1,CNT1+4	02890	31	06433	06436
00900		BNR	COMPAR,CNT1+1	02902	45	02846	06433
00910		TF	THROWS+8,CNT1	02914	26	12745	06432
00920		TF	CORSIZ,CNT1	02926	26	12483	06432
00930		TFM	IORT,**23	02938	16	00565	-2961
00940		B	IOPT,SPLSUB,7	02950	49	00532	-6443
00950		BTM	CLRIN,**12	02962	17	05246	-2974
00960		TD	HOLD2,SYSCAL	02974	25	05907	00475
00970		CM	HOLD2,4,10	02986	14	05907	000-4
00980		BE	CONTC	02998	46	03596	01200
00990		CM	HOLD2,6,10	03010	14	05907	000-6
01000		BNE	NOCOMP	03022	47	04692	01200
01010		BNF	DMP,MCS+22	03034	44	03378	17800
01020		CM	MCS+39,0,8	03046	14	17817	0-000
01030		BE	CALLD	03058	46	03118	01200
01040		TF	NEWDIM,MCS+39	03070	26	05934	17817
01050		TFM	DIMMER-6,MAP	03082	16	05340	-5935
01060		BTM	DIMMER,**12	03094	17	05346	-3106
01070		BNR	CALRPL,MAP	03106	45	03246	05935
01080	CALLD	TFM	IORT,**23,,	03118	16	00565	-3141
01090		B	IOGT,DDA2,7	03130	49	00566	-3434
01100		TFM	REPLAC,0,10	03142	15	02200	000-0
01110	CALCOM	TFM	IORT,**23,,	03154	16	00565	-3177
01120		B	IOGT,COM2,7	03166	49	00566	-3480
01130		TFM	IORT,**23	03178	16	00565	-3201
01140		B	IOGT,DDA4,7	03190	49	00566	-3457
01150		TFM	SELEC+30,05800	03202	16	02432	-5800
01160		TR	DDA,DDA5,,	03214	31	02434	03503
01170		TR	DCF,DCF5,,	03226	31	02442	03511
01180		B	SELEC	03238	49	02402	00000
01190		DDRG	*-3	03246			
01200	CALRPL	BNF	**32,MAP+19	03246	44	03278	05954
01210		TFM	DIMERR+22,7578,8	03258	16	06341	0P578
01220		B	UPI	03270	49	05826	00000
01230		DDRG	*-3	03278			
01240		C	MCS+35,ZERD12	03278	24	17813	06390
01250		BE	**24	03290	46	03314	01200
01260		BTM	EQUIV,**12	03302	17	05538	-3314

01270	TFM	IORT,++23,,	CALL IN REPLACE ROUTINE	03314	16	00565	-3337
01280	B	IOGT,DDA3,7		03326	49	00566	-3526
01290	TDM	REPLAC,1		03338	15	02200	00001
01300	B	CALCOM		03350	49	03154	00000
01310	DDRG	=-3		03358			
01320	SELERR	TFM DIMERR+22,7579,8		03358	16	06341	0P579
01330	B	UP1		03370	49	05826	00000
01340	DDRG	=-3		03378			
01350	DMP	BNF MONCAL,MCS+23		03378	44	00796	17801
01360	TR	DDA,DDA6,,	SET UP CALL FOR DUMP ROUTINE	03390	31	02434	05955
01370	TR	DCF,DCF6		03402	31	02442	05963
01380	TFM	SELEC+30,02500		03414	16	02432	-2500
01390	B	SELEC		03426	49	02402	00000
01400	DDRG	=-3		03434			
01410	DDA2	DSC 2,22		03434			2
		22					
01420	DSA	DCF2		03440		5 X	1
				03440		-3442	
01430	DSC	1,'		03441		1	
01440	DCF2	DSC 1,1,,	DLOAD	03442		1	
		1					
01450	DC	5,18369		03447		5	
		J8369					
01460	DC	3,027		03450		3	
		-27					
01470	DC	5,05800		03455		5	
		-5800					
01480	DSC	1,'		03456		1	
01490	DDA4	DSC 2,22		03457		2	
		22					
01500	DSA	DCF4		03463		5 X	1
				03463		-3465	
01510	DSC	1,'		03464		1	
01520	DCF4	DSC 1,1,,	COMMON	03465		1	
		1					
01530	DC	5,18480		03470		5	
		J8480					
01540	DC	3,031		03473		3	
		-31					
01550	DC	5,08600		03478		5	
		-8600					
01560	DSC	1,'		03479		1	
01570	COM2	DSC 2,22		03480		2	
		22					
01580	OSA	COM22		03486		5 X	1
				03486		-3488	
01590	DSC	1,'		03487		1	
01600	COM22	DSC 1,1		03488		1	
		1					

01610	DC	5,18512		03493		5	
		J8512					
01620	DC	3,030		03496		3	
		-30					
01630	DC	5,10600		03501		5	
		J0600					
01640	DSC	1,'		03502		1	
01650	DDA5	DSC 2,22		03503		2	
		22					
01660	DSA	DCF5		03509		5 X	1
				03509		-3511	
01670	DSC	1,'		03510		1	
01680	DCF5	DSC 1,1,,	SP LIST SUBROUTINES	03511		1	
		1					
01690	DC	5,18298		03516		5	
		J8298					
01700	DC	3,033		03519		3	
		-33					
01710	DC	5,02458		03524		5	
		-2458					
01720	DSC	1,'		03525		1	
01730	DDA3	DSC 2,22		03526		2	
		22					
01740	OSA	DCF3		03532		5 X	1
				03532		-3534	
01750	DSC	1,'		03533		1	
01760	DCF3	DSC 1,1,,	DREPL	03534		1	
		1					
01770	DC	5,18400		03539		5	
		J8400					
01780	DC	3,028		03542		3	
		-28					
01790	DC	5,05800		03547		5	
		-5800					
01800	DSC	1,'		03548		1	
01810	DDAP6	DSC 2,22		03549		2	
		22					
01820	OSA	DCF6		03555		5 X	1
				03555		-3557	
01830	DSC	1,'		03556		1	
01840	DCF6	DSC 1,1		03557		1	
		1					
01850	DC	5,18247		03562		5	
		J8247					
01860	DC	3,013		03565		3	
		-13					
01870	DC	5,05800		03570		5	
		-5800					

01880	DSC	1,*	03571	1
01890	EQUDDA	DSC 2,22	03572	2
01900	DSA	EQUDCF	03578	5 X 1
01910	DSC	1,*	03578	-3580
01920	EQUDCF	DSC 1,1	03579	1
01930	DC	5,18278	03580	1
01940	DC	3,020	03585	5
01950	DC	5,08600	03588	3
01960	DSC	1,*	03593	5
01970	CONTC	TFM CARDIO+2,0,10	03594	1
01980	TO	CARDIO+2,426	03596	16 06397 000-0
01990	CF	CARDIO+2	03608	25 06397 00426
02000	AM	CARDIO+2,5,10	03620	33 06397 00000
02010	CM	CARDIO+2,06,10	03632	11 06397 000-5
02020	BNE	**60	03644	14 06397 000-6
02030	RCTY		03656	47 03716 01200
02040	TFM	IOPT,**23	03668	34 00000 00102
02050	B	IOPT,ENTMES-4,7	03680	16 00565 -3703
02060	RCTY		03692	49 00532 -6236
02070	TFM	IOPT,**23	03704	34 00000 00102
02080	B	IOGT,CARDIO-4,7	03716	16 00565 -3739
02090	CM	CARDIO+2,06,10	03728	49 00566 -6391
02100	BNE	**24	03740	14 06397 000-6
02110	BC4	CONTC+72	03752	47 03776 01200
02120	TFM	**23,INPUT+159	03764	46 03668 00400
02130	BDTEST	BD **32,INPUT	03776	16 03799 J3772
02140	SM	*-1,2,10	03788	43 03820 13613
02150	B	**24	03800	12 03799 000-2
02160	DORG	**3	03812	49 03788 00000
02170	AM	BDTEST+11,3,10	03820	
02180	CM	BDTEST+11,INPUT+10	03820	11 03799 000-3
02190	BH	**32	03832	14 03799 J3623
02200	TDM	INPUT+12,,,	03844	46 03876 01100
02210	DSC	1,*,*	03856	15 13625 00000
02220	B	**20	03867	1
02230	DORG	**3	03868	49 03888 00000
02240	TDM	BDTEST+11,,6	03876	15 03799 00000
02250	DSC	1,*,*	03887	1
02260	CM	CARDIO+2,06,10	03888	14 06397 000-6
02270	BE	**72	03900	46 03972 01200
02280	TFM	CARDIO+2,06,10	03912	16 06397 000-6
02290	RCTY		03924	34 00000 00102
02300	TFM	IOPT,**23	03936	16 00565 -3959
02310	B	IOPT,CARDIO-4,7	03948	49 00532 -6391

02320	RCTY		03960	34 00000 00102
02330	CM	BDTEST+11,INPUT+10	03972	14 03799 J3623
02340	BH	**32	03984	46 04016 01100
02350	TDM	INPUT+12,0	03996	15 13625 00000
02360	B	**20	04008	49 04028 00000
02370	DORG	**3	04016	
02380	TDM	BDTEST+11,0,6	04016	15 03799 00000
02390	TDM	MCS+23,0,10	04028	15 17801 000-0
02400	SF	INPUT-1	04040	32 13612 00000
02410	C	INPUT+10,WRAD	04052	24 13623 05989
02420	BNE	**56	04064	47 04120 01200
02430	TR	DDA,DDAP1	04076	31 02434 05990
02440	TR	DCF,DCFP1	04088	31 02442 05998
02450	TFM	SELEC+30,02502	04100	16 02432 -2502
02460	B	SELEC	04112	49 02402 00000
02470	DORG	**3	04120	
02480	C	INPUT+10,ALTR	04120	24 13623 06024
02490	BNE	**56	04132	47 04188 01200
02500	TR	DDA,DDAP2	04144	31 02434 06025
02510	TR	DCF,DCFP2	04156	31 02442 06033
02520	TFM	SELEC+30,3000	04168	16 02432 -3000
02530	B	SELEC	04180	49 02402 00000
02540	DORG	**3	04188	
02550	C	INPUT+10,DUMP	04188	24 13623 06059
02560	BE	DMP+12	04200	46 03390 01200
02570	C	INPUT+10,LOAD	04212	24 13623 06071
02580	BE	CALLD	04224	46 03118 01200
02590	C	INPUT+10,REPL	04236	24 13623 06083
02600	BE	CALRPL+68	04248	46 03314 01200
02610	C	INPUT+10,COPY	04260	24 13623 06095
02620	BNE	**56	04272	47 04328 01200
02630	TR	DDA,DDAP5	04284	31 02434 06096
02640	TR	DCF,DCFP5	04296	31 02442 06104
02650	TFM	SELEC+30,02700	04308	16 02432 -2700
02660	B	SELEC	04320	49 02402 00000
02670	DORG	**3	04328	
02680	C	INPUT+10,DELET	04328	24 13623 06130
02690	BNE	**92	04340	47 04432 01200
02700	TFM	IOPT,**23	04352	16 00565 -4375
02710	B	IOGT,DDAP6,7	04364	49 00566 -3549
02720	TFM	IOPT,**23	04376	16 00565 -4399
02730	B	IOGT,EQUDDA,7	04388	49 00566 -3572
02740	TFM	IOPT,**23	04400	16 00565 -4425
02750	B	IOGT,COM2,7	04412	49 00566 -3480
02760	B	CALCOM+48	04424	49 03202 00000
02770	DORG	**3	04432	
02780	C	INPUT+10,FINE	04432	24 13623 06142
02790	BNE	**56	04444	47 04500 01200
02800	TR	DDA,DDAP7	04456	31 02434 06143
02810	TR	DCF,DCFP7	04468	31 02442 06151
02820	TFM	SELEC+30,05000	04480	16 02432 -5000
02830	B	SELEC	04492	49 02402 00000
02840	DORG	**3	04500	
02850	C	INPUT+10,LABL	04500	24 13623 06177
02860	BNE	**56	04512	47 04568 01200
02870	TR	DDA,DDAP8	04524	31 02434 06178

02880	TR	DCF,DCFP8	04536	31	02442	06186
02890	TFM	SELEC*30,02502	04548	16	02432	-2502
02900	B	SELEC	04560	49	02402	00000
02910	DORG	*-3	04568			
02920	C	INPUT*10,FLIB	04568	24	13623	06212
02930	BNE	*+56	04580	47	04636	01200
02940	TR	DDA,DDAP9	04592	31	02434	06213
02950	TR	DCF,DCFP9	04604	31	02442	06221
02960	TFM	SELEC*30,03040	04616	16	02432	-3040
02970	B	SELEC	04628	49	02402	00000
02980	DORG	*-3	04636			
02990	RCTY		04636	34	00000	00102
03000	TFM	IORT,**23	04648	16	00565	-4671
03010	B	IOPT,ERCD-4,7	04660	49	00532	-6286
03020	H		04672	48	00000	00000
03030	B	MONCAL	04684	49	00796	00000
03040	DORG	*-3	04692			
03050	NOCOMP	CM HOLD2,5,10	04692	14	05907	000-5
03060	BNE	NOCOMP-56	04704	47	04636	01200
03070	RTURNL	BNF MONCAL,428,,	04716	44	00796	00428
03080	TD	UP1+14,REPLAC	04728	25	05840	02200
03090	TFM	IORT,**23,,	04740	16	00565	-4763
03100	B	IOGT,SEC2,7	04752	49	00566	-5082
03110	TD	REPLAC,UP1+14	04764	25	02200	05840
03120	TFM	HOLD2,0,10	04776	16	05907	000-0
03130	TD	HOLD2,MCS+88	04788	25	05907	17866
03140	MM	HOLD2,5,10	04800	13	05907	000-5
03150	BD	*+20,99	04812	43	04832	00099
03160	B	*+20	04824	49	04844	00000
03170	DORG	*-3	04832			
03180	SM	MCS+88,1,10	04832	12	17866	000-1
03190	TF	HOLD5,434,,	04844	26	05897	00434
03200	S	HOLD5,MCS+88	04856	22	05897	17866
03210	BD	*+32,HOLD5	04868	43	04900	05897
03220	BD	*+20,HOLD5-1	04880	43	04900	05896
03230	B	*+20	04892	49	04912	00000
03240	DORG	*-3	04900			
03250	AM	HOLD5-2,1,10	04900	11	05895	000-1
03260	TF	WR2+8,HOLD5-2	04912	26	02265	05895
03270	CM	MCS+88,02302	04924	14	17866	-2302
03280	BNL	*+56	04936	46	04992	01300
03290	TFM	DIMERR+22,7179,8	04948	16	06341	09179
03300	RCTY		04960	34	00000	00102
03310	WATY	DIMERR	04972	39	06319	00100
03320	B	NOCOMP-20	04984	49	04672	00000
03330	DORG	*-3	04992			
03340	TF	WR2+13,MCS+88	04992	26	02270	17866
03350	BNF	*+24,MCS+12	05004	44	05028	17790
03360	SF	WR2+13	05016	32	02270	00000
03370	TFM	WR2+5,00800	05028	16	02262	-0800
03380	TFM	IORT,RDWR	05040	16	00565	-2205
03390	B7	IOGT	05052	49	00566	
03400	KDI	DSC 2,02	05059		2	
03410	OSA	RD2	05065		5 X	1

CHANGE TO ERROR MESS. LATER

GET TWO SECTORS RD , WR

COMPUTE SECTOR COUNT

03470	DSC	1, *	05065		-5067	
03480	DSC	1,1	05066		1	
03490	RD2		05067		1	
03440	DC	5,01400	05072		5	
03450	DC	3,177	05075		3	
03460	DC	5,02302	05080		5	
03470	DSC	1, *	05081		1	
03480	SFC2	DSC 2,22	05082		2	
03490	OSA	SEC22	05088		5 X	1
03500	DSC	1, *	05088		-5090	
03510	SEC22	DSC 1,1	05089		1	
03520	DC	5,18260	05090		1	
03530	DC	3,1	05095		5	
03540	DC	5,02200	05098		3	
03550	DSC	1, *	05103		5	
03560	SOLDON	BTM CLRIN,**12	05104		1	
03570	TFM	IORT,**23	05106	17	05246	-5118
03580	B	IOGT,DDA1,7	05118	16	00565	-5141
03590	TF	INPUT+74,ZER012	05130	49	00566	-5908
03600	BNF	*+20,MCS+22	05142	26	13687	06390
03610	B	*+32	05154	44	05174	17800
03620	DORG	*-3	05166	49	05198	00000
03630	TFM	IORT,**23	05174			
03640	B	IOGT,CCD,7	05174	16	00565	-5197
03650	TFM	INPUT+96,44,10	05186	49	00566	-5313
03660	TFM	INPUT+98,49,10	05198	16	13709	000M4
03670	BD	CALRPL+68,REPLAC	05210	16	13711	000M9
03680	B	CALLD	05222	43	03314	02200
03690	CLRIN	TFM **18,INPUT-1	05234	49	03118	00000
03700	TDM	INPUT-1,0	05246	16	05264	J3612
03710	AM	*-6,1,10	05258	15	13612	00000
03720	CM	*-18,INPUT+161	05270	11	05264	000-1
03730	BL	*-36	05282	14	05264	J3774
03740	B7	CLRIN-1,,6	05294	47	05258	01300
03750	CCD	DSC 2,02	05306	49	0524N	
03760	OSA	CCD2	05313		2	
03770	DSC	1, *	05319		5 X	1
			05319		-5321	
			05320		1	

03780	CCD2	DSC	1,1	05321	1		
03790		DC	5,00798	05326	5		
03800		DC	3,2	05329	3		
03810		DSA	INPUT-1	05334	5 X	1	
03820		DSC	1,*	05334	J3612		
03830	REPLAC	DSC	1,0,2200	05335	1		
03840		DC	5,0	02200	1		
03850		DC	5,0	05340	5		
03860	DIMMER	CM	NEWDIM,4994	05345	5		
03870		BM	SELERR	05346	14	05934	-4994
03880		TF	HOLD6,ZER06	05358	46	03358	01100
03890		TF	HOLD6,NEWDIM	05370	26	06349	06355
03900		A	HOLD6,HOLD6	05382	26	06349	05934
03910		CF	HOLD6-3	05394	21	06349	06349
03920		SF	HOLD6-4	05406	33	06346	00000
03930		AM	HOLD6,48000,7	05418	32	06345	00000
03940		TF	DMREAD+5,HOLD6-1	05430	11	06349	M8000
03950		TFM	IORT,++23	05442	26	06369	06348
03960		B	IOGT,DDREAD,7	05454	16	00565	-5477
03970		TFM	TREC+11,READIN	05466	49	00566	-6356
03980		TD	**23,HOLD6	05478	16	05525	-6468
03990		AM	TREC+10,0,10	05490	25	05513	06349
04000	TREC	TR	DIMMER-6,,6	05502	11	05524	000-0
04010		B	DIMMER-1,,6	05514	31	0534-	00000
04020	EQUIV	TFM	NEWDIM,0002,8	05526	49	0534N	00000
04030		TFM	DIMMER-6,MAP	05538	16	05934	0-002
04040		BTM	DIMMER,++12	05550	16	05340	-5935
04050		TFM	MAP+8,4,9	05562	17	05346	-5574
04060		TFM	MAP+13,READIN	05574	16	05943	00-04
04070		TDM	MAP+14,,	05586	16	05948	-6468
04080		DSC	1,*,*	05598	15	05949	00000
04090		TFM	IORT,++23	05609	1		
04100		B	IOGT,MAPDDA,7	05610	16	00565	-5633
04110		TFM	**47,READIN+11	05622	49	00566	-5898
04120		CM	BNR+11,READIN+411	05634	16	05681	-6479
04130		BE	RD	05646	14	05681	-6879
04140	HNR	BNR	**32,READIN+11	05658	46	05746	01200
04150		TFM	DIMERR+22,7577,8	05670	45	05702	06479
04160		B	UPI	05682	16	06341	0P577
04170		DORG	*-3	05694	49	05826	00000
04180		C	MCS+35,BNR+11,11	05702			
04190		BE	ERREPL	05702	24	17813	0568J
04200		AM	BNR+11,16,10	05714	46	05766	01200
04210		B	BNR-24	05726	11	05681	000J6
04220		DORG	*-3	05738	49	05646	00000
04230	RD	AM	MAP+5,4,10	05746			
				05746	11	05940	000-4

04240		B	BNR-60	05758	49	05610	00000
04250		DORG	*-3	05766			
04260	ERREPL	AM	BNR+11,4,10	05766	11	05681	000-4
04270		C	MCS+39,BNR+11,11	05778	24	17817	0568J
04280		BE	EQUIV-1,,6	05790	46	0553P	01200
04290		TFM	DIMERR+22,7576,8	05802	16	06341	0P576
04300		TF	MCS+35,ZER012	05814	26	17813	06390
04310	UPI	TFM	MCS+39,0,8	05826	16	17817	0-000
04320		RCTY		05838	34	00000	00102
04330		WATY	DIMERR	05850	39	06319	00100
04340		TFM	IORT,++23	05862	16	00565	-5885
04350		B	IOPT,DDA1,7	05874	49	00532	-5908
04360		B	CALLD	05886	49	03118	00000
04370	HOLD5	DC	5,0,*	05897	5		
04380		IORT	DS	00565	0		
04390		IOPT	DS	00532	0		
04400	MAPDDA	DSC	2,22	05898	2		
04410		DSA	MAP	05904	5 X	1	
04420		DSC	1,*	05904			
04430		IOGT	DS	05905			
04440	HOLD2	DC	2,0	00566	0		
04450		SYSCAL	DS	05907	2		
04460	DDA1	DSC	2,22	00475	0		
04470		DSA	DCF1	05908	2		
04480		DSC	1,*	05914	5 X	1	
04490	DCF1	DSC	1,1,,	05914			
04500		DC	5,19663	05915			
04510		DC	3,001	05916	1		
04520		DSA	MCS	05916	1		
04530		DSC	1,*	05921	5		
04540	MCS	DS	,17778	05924	3		
04550	NEWDIM	DC	4,0	05929	5 X	1	
04560	MAP	DSC	20,0	05929			
04570	MONCAL	DS	,796	05930	J7778	1	
04580	INPUT	DAS	81,13613	17778	0		
04590	DDA6	DSC	2,22	05934	4		
04600		DSA	DCF6	05935	20		
				00000000000000000000			
				00796	0		
				13613	81 X	2	
				05955	2		
				05961	5 X	1	

MONITOR COMM. SECTOR

04610	DSC 1,*		05961	-5963	
	*		05962	1	
04620	DC F6 DSC 1,1,,	DDUMP	05963	1	
	1				
04630	DC 5,18430		05968	5	
	J8430				
04640	DC 3,050		05971	3	
	-50				
04650	DSC 5,02500		05972	5	
	02500				
04660	DSC 1,*		05977	1	
	*				
04670	WRAD DC 12,144466594144		05989	12	
	J44466594144				
04680	DDAP1 DSC 2,22		05990	2	
	22				
04690	DSA DCFP1		05996	5 X 1	
			05996	-5998	
04700	DSC 1,*		05997	1	
	*				
04710	DC F1 DSC 1,1		05998	1	
	1				
04720	DC 5,18220		06003	5	
	J8220				
04730	DC 3,027		06006	3	
	-27				
04740	DSC 5,02502		06007	5	
	02502				
04750	DSC 1,*		06012	1	
	*				
04760	ALTR DC 12,144441536359		06024	12	
	J44441536359				
04770	DDAP2 DSC 2,22		06025	2	
	22				
04780	DSA DCFP2		06031	5 X 1	
			06031	-6033	
04790	DSC 1,*		06032	1	
	*				
04800	DC F2 DSC 1,1		06033	1	
	1				
04810	DC 5,19300		06038	5	
	J9300				
04820	DC 3,038		06041	3	
	-38				
04830	DSC 5,03000		06042	5	
	03000				
04840	DSC 1,*		06047	1	
	*				
04850	DUMP DC 12,14444645457		06059	12	
	J4444645457				
04860	LOAD DC 12,144453564144		06071	12	
	J44453564144				
04870	REPL DC 12,144459455753		06083	12	
	J44459455753				

04880	COPY DC 12,144443565768		06095	12	
	J44443565768				
04890	DDAP5 DSC 2,22		06096	2	
	22				
04900	DSA DCFP5		06102	5 X 1	
			06102	-6104	
04910	DSC 1,*		06103	1	
	*				
04920	DC F5 DSC 1,1		06104	1	
	1				
04930	DC 5,19363		06109	5	
	J9363				
04940	DC 3,037		06112	3	
	-37				
04950	DC 5,02700		06117	5	
	-2700				
04960	DSC 1,*		06118	1	
	*				
04970	DELET DC 12,144445534563		06130	12	
	J44445534563				
04980	FINE DC 12,144446495545		06142	12	
	J44446495545				
04990	DDAP7 DSC 2,22		06143	2	
	22				
05000	DSA DCFP7		06149	5 X 1	
			06149	-6151	
05010	DSC 1,*		06150	1	
	*				
05020	DC F7 DSC 1,1		06151	1	
	1				
05030	DC 5,18139		06156	5	
	J8139				
05040	DC 3,038		06159	3	
	-38				
05050	DSC 5,05000		06160	5	
	05000				
05060	DSC 1,*		06165	1	
	*				
05070	LABL DC 12,144453414253		06177	12	
	J44453414253				
05080	DDAP8 DSC 2,22		06178	2	
	22				
05090	DSA DCFP8		06184	5 X 1	
			06184	-6186	
05100	DSC 1,*		06185	1	
	*				
05110	DC F8 DSC 1,1		06186	1	
	1				
05120	DC 5,18200		06191	5	
	J8200				
05130	DC 3,020		06194	3	
	-20				
05140	DSC 5,02502		06195	5	
	02502				

05150	DSC 1,'	06200	1
05160 FLIB	DC 12,144446534942 J44446534942	06212	12
05170 DDAP9	DSC 2,22 22	06213	2
05180	DSA DCFP9	06219	5 X 1
05190	DSC 1,'	06219	-6221
05200 DCFP9	DSC 1,1 1	06220	1
05210	DC 5,18261 J8261	06221	1
05220	DC 3,017 -17	06226	5
05230	DC 5,03000 -3000	06229	3
05240	DSC 1,'	06234	5
05250	DSC 1,',13775	06235	1
05260 ENTMES	DSA ENTER	13775	1
05270	DC 3,06' -6'	06240	5 X 1
05280 ENTER	DAC 21,ENTER DUP CNTRL REC.' ENTER DUP CNTRL REC.'	06240	-6245
05290 ERCD	DSA ERRCD	06243	3
05300	DC 3,06' -6'	06245	21 X 2
05310 ERRCD	DAC 12,ERR CONTROL' ERR CONTROL'	06290	5 X 1
05320 DIMERR	DAC 13,DUP*ERROR 00' DUP*ERROR 00'	06290	-6295
05330 HOLD6	DC 6,0 -0000	06293	3
05340 ZER06	DC 6,0 -0000	06295	12 X 2
05350 DDREAD	DSC 2,22 22	06319	13 X 2
05360	DSA DMREAD	06349	6
05370	DSC 1,'	06355	6
05380 DMREAD	DSC 1,1 1	06356	2
05390	DC 5,04800 -4800	06362	5 X 1
05400	DC 3,001 -01	06362	-6364
		06363	1
		06364	1
		06369	5
		06372	3

05410	DSA READIN	06377	5 X 1
05420	DSC 1,'	06377	-6468
05430 ZER012	DC 12,0 -000000000000	06378	1
05440 CARDIO	DSA INPUT	06390	12
05450	DC 3,10' J0'	06395	5 X 1
05460 DIM1	DSC 2,22 22	06395	J3613
05470	DSA DIM2	06398	3
05480	DSC 1,'	06399	2
05490 DIM2	DSC 1,1 1	06405	5 X 1
05500	DC 5,04800 -4800	06405	-6407
05510	DC 3,002 -02	06406	1
05520	DC 5,17900 J7900	06407	1
05530	DSC 1,'	06412	5
05540 DIM4	DS 1,17980	06415	3
05550 LIST1	DSC 2,22 22	06420	5
05560	DSA DIM4	06421	1
05570	DSC 1,'	06428	5 X 1
05580 READ	DS 0,09778	06428	J7980
05590 CNT1	DC 3,0 -00	06429	1
05600	DC 3,0 -00	09778	0
05610	DC 3,0 -00	06432	3
05620	DC 3,0 -00	06435	3
05630	DSC 1,'	06438	3
05640 SPLPK0	DS 1,12645	06441	3
05650 SPLPK1	DS 1,12668	06442	1
05660 SPLPK2	DS 1,12691	06443	3
05670 SPLPK3	DS 1,12714	06435	3
05680 THROWS	DS 1,12737	06438	3
05690 CORSIZ	DS 1,12483	06441	3
05700 SPLSUB	DSC 2,22 22	06442	1
		12645	0
		12668	0
		12691	0
		12714	0
		12737	0
		12483	0
		06443	2

05710	DSA	SUBSPL		06449	5 X	1
				06449	-6451	
05720	DSC	1,'		06450	1	
05730	SUBSPL	DSC 1,1		06451	1	
05740	DC	5,18298		06456	5	
		J8298				
05750	DC	3,033		06459	3	
		-33				
05760	DC	5,12458		06464	5	
		J2458				
05770	DSC	1,'		06465	1	
		'				
05780	DAC	1,0		06467	1 X	2
		0				
05790	READIN	DSS 400		06468	400	
05800	SEL	TFM IORT,++23		06868	16 00565	-6891
05810		8 IOPT,SEL1,7		06880	49 00532	-6916
05820		TRA		06892	36 00000	00500
				06904	49 00000	00000
				06916	2	
05830	SEL1	DSC 2,22				
		22				
05840	DSA	SEL2		06922	5 X	1
				06922	-6924	
				06923	1	
05850	DC	1,'				
		'				
05860	SEL2	DSC 1,1		06924	1	
		1				
05870	DC	5,18554		06929	5	
		J8554				
05880	DC	3,041		06932	3	
		-41				
05890	DC	5,02402		06937	5	
		-2402				
05900	DC	1,'		06938	1	
		'				
05910	TCD	SEL		06868		
05920	DEND			00000		

BDFEST	03788	CALLD	03118	DCF	02442	ERRCD	06295	SEC2	05082
CALCOM	03154	CCD2	05321	DDA1	05908	FINE	06142	SEL1	06916
CALRPL	03246	CCD	05313	DDA2	03434	FLIB	06212	SEL2	06924
CARDIO	06395	CLRIN	05246	DDA3	03526	HOLD2	05907	SELEC	02402
COMPAR	02846	CNT1	06432	DDA4	03457	HOLD5	05897	SEL	06868
CONTCO	03596	COM22	03488	DDA5	03503	HOLD6	06349	SL1	02272
CORDSZ	12483	COM2	03480	DDA6	05955	INPUT	13613	SL2	02280
DDREAD	06356	COPY	06095	DDAP1	05990	IOCAL	00716	TREC	05514
DIMERR	06319	COR1	02348	DDAP2	06025	IOGT	00566	UP1	05826
DIMMER	05346	COR2	02356	DDAP5	06096	IOPT	00532	WR2	02257
DMREAD	06364	COR	02300	DDAP6	03549	IORT	00565	WRAD	05989
ENTMES	06240	CT	02626	DDAP7	06143	LABL	06177	WR	02249
EQUDDC	03580	DCF1	05916	DDAP8	06178	LIS	02566	ZERO6	06355
ERQUDDA	03572	DCF2	03442	DDAP9	06213	LIST1	06422	SELECT	02458
ERREPL	05766	DCF3	03534	DDA	02434	LOAD	06071	SELERR	03358
MAPODA	05898	DCF4	03465	DELET	06130	MAP	05935	SOLDON	05106
MONCAL	00796	DCF5	03511	DIM1	06399	MCS	17778	SPLPK0	12645
NEWDIM	05934	DCF6	05963	DIM2	06407	NEXT	02706	SPLPK1	12668
NOCOMP	04692	DCFP1	05998	DIM4	17980	RD1	05059	SPLPK2	12691
READIN	06468	DCFP2	06033	DMP	03378	RD2	05067	SPLPK3	12714
REPLAC	02200	DCFP5	06104	DN	02774	RD	05746	SPLSUB	06443
RTURNL	04716	DCFP6	03557	DUMP	06059	RDWR	02205	SUBSPL	06451
ALTR	06024	DCFP7	06151	ENTER	06245	READ	09778	SYSAL	00475
BFLG	02638	DCFP8	06186	EQUIV	05538	REPL	06083	THROWS	12737
BNR	05670	DCFP9	06221	ERCD	06290	SEC22	05090	ZERO12	06390

END OF ONE ASSEMBLY.


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00010 ***
00020 ***
00030 *** SUBROUTINES-DIMMER,GETR,GETL,INSERT,REMOVE,FIND
00040 ***
00050 ***
00060 DORG 2458 02458
00070 IOPT DS ,532 00532 0
00080 IOGT DS ,566 00566 0
00090 IORT DS ,565 00565 0
00100 KING DSC 2,02,, DDA TO FLIP CORE WHEN MOVING PROGRAMS 02458 2
02
00110 DSA QUEEN 02464 5 X 1
02464 -2466
00120 DC 1,' 02465 1
00130 QUEEN DSC 1,1 02466 1
1
00140 DC 5,02000 02471 5
-2000
00150 DC 3,140 02474 3
J40
00160 DC 6,05800' 02480 6
-5800'
00170 CORSIZ DC 3,080,, THE CURRENT SIZE OF THE SPL 02483 3
-80
00180 DIMERR DAC 14,DUP*ERROR 00 ' 02485 14 X 2
DUP*ERROR 00 '
00190 TFM DIMERR+22,0071,8 02512 16 02507 0-071
00200 ERRD RCTY 02524 34 00000 00102
00210 WATY DIMERR 02536 39 02485 00100
00220 H 02548 48 00000 00000
00230 8 MONCAL 02560 49 00796 00000
00240 DORG *-3 02568
00250 DMDDA DSC 2,22,,DDA USED BY DIMMER TO READ IN ONE SECTOR 02568 2
22
00260 DSA DMREAD 02574 5 X 1
02574 -2576
00270 DSC 1,' 02575 1
00280 DMREAD DSC 1,0 02576 1
0
00290 DC 5,0 02581 5
-0000
00300 DC 3,1 02584 3
-01
00310 DC 5,19900 02589 5
J9900
00320 DSC 1,' 02590 1
00330 RDMDDA DSC 2,22,,DDA USED BY THE MOVER TO MOVE PROGRAMS 02591 2
22
00340 DSA RDMOVE 02597 5 X 1
02597 -2599

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00350 DSC 1,' 02598 1
00360 RDMOVE DSC 1,0 02599 1
0
00370 DC 5,0 02604 5
-0000
00380 DC 3,140 02607 3
J40
00390 DC 5,05800 02612 5
-5800
00400 DSC 1,' 02613 1
00410 WRMDDA DSC 2,22,, DDA USED BY THE MOVER TO TRANSFER PROGRAMS 02614 2
22
00420 DSA WRMOVE 02620 5 X 1
02620 -2622
00430 DSC 1,' 02621 1
00440 WRMOVE DSC 1,0 02622 1
0
00450 DC 5,0 02627 5
-0000
00460 DC 3,140 02630 3
J40
00470 DC 5,05800 02635 5
-5800
00480 DSC 1,' 02636 1
00490 PKODDA DSC 2,22,, DDA FOR HANDLING THE SPL ON MODULE ZERO 02637 2
22
00500 DSA SPLPKO 02643 5 X 1
02643 -2645
00510 DSC 1,' 02644 1
00520 SPLPKO DSC 1,1 02645 1
1
00530 DC 5,19801 02650 5
J9801
00540 DC 3,080 02653 3
-80
00550 DC 5,05800 02658 5
-5800
00560 DSC 1,' 02659 1
00570 PK1DDA DSC 2,22,, DDA FOR HANDLING THE SPL ON MODULE ONE 02660 2
22
00580 DSA SPLPK1 02666 5 X 1
02666 -2668
00590 DSC 1,' 02667 1
00600 SPLPK1 DSC 1,3 02668 1
3
00610 DC 5,39801 02673 5
L9801

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00620	DC	3,080		02676	3
	-80				
00630	DC	5,05800		02681	5
	-5800				
00640	DSC	1,'		02682	1
	*				
00650	PK2DDA	DSC 2,22,, DDA FOR HANDLING THE SPL ON MODULE TWO		02683	2
	22				
00660	DSA	SPLPK2		02689	5 X 1
				02689	
				02690	-2691
00670	DSC	1,'		02691	1
	*				
00680	SPLPK2	DSC 1,5		02696	5
	5				
00690	DC	5,59801		02699	3
	N9801				
00700	DC	3,080		02704	5
	-80				
00710	DC	5,05800		02705	1
	-5800				
00720	DSC	1,'		02706	2
	*				
00730	PK3DDA	DSC 2,22,, DDA FOR HANDLING THE SPL ON MODULE THREE		02712	5 X 1
	22				
00740	DSA	SPLPK3		02712	
				02713	-2714
				02713	1
00750	DSC	1,'		02714	1
	*				
00760	SPLPK3	DSC 1,7		02719	5
	7				
00770	DC	5,79801		02722	3
	P9801				
00780	DC	3,080		02727	5
	-80				
00790	DC	5,05800		02728	1
	-5800				
00800	DSC	1,'		02729	2
	*				
00810	THRDDA	DSC 2,22,,DDA TO EXCHANGE CORE WHEN USING THE SPL		02735	5 X 1
	22				
00820	DSA	THROWS		02735	
				02736	-2737
				02736	1
00830	DSC	1,'		02737	1
	*				
00840	THROWS	DSC 1,1		02742	5
	1				
00850	DC	5,19881		02745	3
	J9881				
00860	DC	3,080		02750	5
	-80				
00870	DC	5,05800		02751	1
	-5800				
00880	DSC	1,'			
	*				

00890	BAVAIL	DC 3,0,, ACCUMULATES AVAILABLE BLANK SECTORS FOUND IN MOVE		02754	3
	-00				
00900	CALC2	DC 5,0		02759	5
	-0000				
00910	GOLDEN	DC 1,0,,LISTER-4		02760	1
	-				
00920	LISTER	DC 4,0,,HOLDS PRESENT SPL POSITION		02770	6
	-000				
00930	N48000	DC 6,048000,,FIRST SECTOR OF DIM MAP		02771	1
	-48000				
00940	DC	1,0,,PACK CONTINUED		02772	1
	-				
00950	PACK	DC 1,0,,PACK NUM FOR SPLIST		02773	1
	-				
00960	DC	1,'		02779	6
	*				
00970	CALC3	DC 6,0		02783	4
	-00000				
00980	CALC4	DC 4,0,, CALCULATION AREA		02784	1
	-000				
00990	DC	1,0,,SET UP THE OVERRIDE CODE FOR COMPARISON		02790	6
	-				
01000	LISTES	DC 6,0,,DESIRED SECTOR ADDRESS FIND		02794	4
	-00000				
01010	LISTET	DC 4,0,,NUMBER TO BE INSERTED SPL INSERT		02795	1
	-000				
01020	HEX	DSC 1,0		02801	6
	0				
01030	CONST1	DC 6,0,,WRK AREAS		02807	6
	-00000				
01040	CONST2	DC 6,0,,		02813	6
	-00000				
01050	QCARRY	DC 6,0,,WHERE TO LOAD NEXT MOVED SECTORS		02819	6
	-00000				
01060	QHOLD	DC 6,0		02825	6
	-00000				
01070	CONST5	DC 6,0		02831	6
	-00000				
01080	CONST6	DC 6,0		02837	6
	-00000				
01090	CONST7	DC 6,0		02841	4
	-00000				
01100	RACKET	DC 4,0		02845	4
	-000				
01110	STEAL	DC 4,0		02848	3
	-000				
01120	CALC7	DC 3,0		02852	4
	-00				
01130	FAKSEV	DC 4,0,, HAS SEVEN FROM LISTER		02853	1
	-000				
01140	COMMON	DC 1,0		02855	2
	-0				
01150	NOMMON	DC 2,0		02856	1
	-0				
01160	NOSECA	DC 1,0			
	-				

1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET MOD. LEVEL 4 PAGE 5

01170	MOVESA	DC	6,0,,FOR SECTOR ADDRESS	02862	6		
			-00000				
01180	MOVESC	DC	3,0,,FOR SECTOR COUNT	02865	3		
			-00				
01190	CONST8	DC	5,0	02870	5		
			-0000				
01200	***						
01210	***	SUBROUTINE-GETR					
01220	***	SUBROUTINE FOR SHIFTING ONE TO RIGHT IN THE SPL					
01230	***						
01240	GETR	TF	NOMMON,1,, INITIALIZE TO SAVE CORE FOR EXCHANGE OF SPL	02872	15	02855	00001
01250	CLIPPP	TF	94,PACK	02884	26	00094	02772
01260	TFM		IORT,**23	02896	16	00565	-2919
01270	B		IOPT,THRDDA,7	02908	49	00532	-2729
01280	B		REDSPL	02920	49	04702	00000
01290	DORG		*-3	02928			
01300	GETRTR	TF	CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	02928	26	02759	03151
01310	AM		SPLCOR,04,10, LEFT END NEW ENTRY	02960	11	03151	000-4
01320	SF		SPLCOR,,6,NEW FLAG	02952	32	0315J	00000
01330	NEWDIM	DC	4,0,,DESIRED DIM ENTRY	02963		4	
			-000				
01340	AM		CALC2,07,10,RIGHT END OF NEW ENTRY	02964	11	02759	000-7
01350	TF		LISTER,CALC2,11	02976	26	02764	0275R
01360	B		WHYNOT	02988	49	03388	00000
01370	DORG		*-3	02996			
01380	***						
01390	***	SUBROUTINE-GETL					
01400	***	SUBROUTINE FOR SHIFTING ONE TO LEFT IN SPL					
01410	***						
01420	GETL	TDM	NOMMON,2,	02996	15	02855	00002
01430	B		CLIPPP	03008	49	02884	00000
01440	DORG		*-3	03016			
01450	GETLTR	TF	CALC2,SPLCOR	03016	26	02759	03151
01460	SM		SPLCOR,04,10,LEFT END OF NEW ENTRY	03028	12	03151	000-4
01470	SF		SPLCOR,,6,	03040	32	0315J	00000
01480	SM		CALC2,01,10,RIGHT END NEW ENTRY	03052	12	02759	000-1
01490	TF		LISTER,CALC2,11	03064	26	02764	0275R
01500	B		WHYNOT	03076	49	03388	00000
01510	DORG		*-3	03084			
01520	***						
01530	***	SUBROUTINE-REMOVE					
01540	***	REMOVES THE PRESENT ENTRY IN LISTER AND CLOSSES THE LIST					
01550	***						
01560	REMOVE	TDM	NOMMON,3,,	03084	15	02855	00003
01570	B		CLIPPP	03096	49	02884	00000
01580	DORG		*-3	03104			
01590	REMOTr	TF	CALC2,SPLCOR	03104	26	02759	03151
01600	AM		CALC2,04,10,	03116	11	02759	000-4
01610	TR		SPLCOR,CALC2,611,CLOSES HOLE	03128	31	0315J	0275R
01620	SF		SPLCOR,,6	03140	32	0315J	00000
01630	SPLCOR	DC	5,0,,DIM ADDRESS SPL	03151		5	
			-0000				
01640	SM		CALC2,01,10	03152	12	02759	000-1
01650	TF		LISTER,CALC2,11	03164	26	02764	0275R
01660	CF		SPLCOR,,6	03176	33	0315J	00000
01670	SPLCYL	DC	5,0,,CYLINDER SPL	03187		5	
			-0000				

1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET MOD. LEVEL 4 PAGE 6

01680	STOMP	CM	PACK,00,1011, PACK ZERO	03188	14	02772	000--
01690	BE		WRTP0	03200	46	03268	01200
01700	CM		PACK,01,1011,PACK ONE	03212	14	02772	000-J
01710	BE		WRTP1	03224	46	03300	01200
01720	CM		PACK,02,1011, PACK TWO	03236	14	02772	000-K
01730	BE		WRTP2	03248	46	03332	01200
01740	B		WRTP3,, , PACK THREE	03260	49	03364	00000
01750	DORG		*-3	03268			
01760	**		ROUTINE FOR RETURNING APPROPRIATE SPL TO DISK				
01770	WRTP0	TFM	IORT,**23	03268	16	00565	-3291
01780	B		IOPT,PKODDA,7	03280	49	00532	-2637
01790	B		WHYNOT	03292	49	03388	00000
01800	DORG		*-3	03300			
01810	WRTP1	TFM	IORT,**23	03300	16	00565	-3323
01820	B		IOPT,PKIDDA,7	03312	49	00532	-2660
01830	B		WHYNOT	03324	49	03388	00000
01840	DORG		*-3	03332			
01850	WRTP2	TFM	IORT,**23	03332	16	00565	-3355
01860	B		IOPT,PK2DDA,7	03344	49	00532	-2683
01870	B		WHYNOT	03356	49	03388	00000
01880	DORG		*-3	03364			
01890	WRTP3	TFM	IORT,**23	03364	16	00565	-3387
01900	B		IOPT,PK3DDA,7	03376	49	00532	-2706
01910	WHYNOT	TFM	IORT,**23,,RESTORES CORE BEFORE RETURNING TO MAINLINE	03388	16	00565	-3411
01920	***						
01930	***	SUBROUTINE-INSERT					
01940	***	INSERTS TO THE LEFT OF THE PRESENT ENTRY AND OPENS LIST					
01950	B		IOGT,THRDDA,7	03400	49	00566	-2729
01960	BB			03412	42	00000	00000
01970	DORG		*-9	03414			
01980	INSERT	TDM	NOMMON,4,,	03414	15	02855	00004
01990	B		CLIPPP	03426	49	02884	00000
02000	DORG		*-3	03434			
02010	INSETR	SF	SPLCOR,,6	03434	32	0315J	00000
02020	FOUND	DC	5,0,,FIND SECTOR TOTAL	03445		5	
			-0000				
02030	**		ROUTINE TO SEE IF LIST IS ALREADY FULL				
02040	TFM		**35,05800,7	03446	16	03481	-5800
02050	AM		**23,04,10	03458	11	03481	000-4
02060	TIPSY	BNR	*-12,99999,,FINDS RECORD MARK AT END OF LIST	03470	45	03458	99999
02070	TF		CONST2,TIPSY+11	03482	26	02807	03481
02080	AM		CONST2,04,10	03494	11	02807	000-4
02090	TF		CNST3,CONST2	03506	26	03578	02807
02100	SM		CNST3,05800,7	03518	12	03578	-5800
02110	C		CNST3-2,CORSIZ,,COMPARES PRESENT SIZE TO DEFINED LIMIT	03530	24	03576	02483
02120	BL		NERR	03542	47	03580	01300
02130	TFM		DIMERR+22,7178,8	03554	16	02507	0P178
02140	B		ERRD	03566	49	02524	00000
02150	DORG		*-3	03574			
02160	CNST3	DC	5,0	03578		5	
			-0000				
02170	NERR	TF	CONST2,TIPSY+11,611,OPENS THE LIST	03580	26	0280P	0348J
02180	TF		CALC2,SPLCOR	03592	26	02759	03151
02190	AM		CALC2,03,10	03604	11	02759	000-3
02200	TF		CALC2,LISTET,6, INSERTS THE ENTRY FROM LISTET	03616	26	0275R	02794
02210	CF		SPLCOR,,6,	03628	33	0315J	00000

02220	DRESTR	DC	5,19880,*,	03639		5	
			J9880				
02230	AM	SPLCOR,4,10,		03640	11	03151	000-4
02240	CF	SPLCOR,*,6		03652	33	0315J	00000
02250	B	STOMP,*,,		03664	49	03188	00000
02260	DORG	*-3		03672			
02270	***						
02280	***	THE DIMMER SUBROUTINE FOR BRINGING IN A DIM ENTRY					
02290	***	SPECIFIED IN -NEWDIM- TO BEGIN AT CORE POSITION 19880					
02300	***						
02310	DIMMER	C	NEWDIM,MAXDIM	03672	24	02963	03849
02320		BNH	*+32	03684	47	03716	01100
02330		TFM	DIMERR+22,0076,8	03696	16	02507	0-076
02340		B7	ERRD	03708	49	02524	
02350		TF	CALC2,NEWDIM	03716	26	02759	02963
02360		A	CALC2,CALC2	03728	21	02759	02759
02370		TF	CALC3,N48000	03740	26	02779	02770
02380		A	CALC3,CALC2,,NEW DIM SECTOR ADDRESS	03752	21	02779	02759
02390		TF	DMREAD+13,DRESTR	03764	26	02589	03639
02400		TD	*+23,CALC3	03776	25	03799	02779
02410		SM	DMREAD+12,0,10,ADJUST DIM READER S A	03788	12	02588	000-0
02420		TF	DMREAD+5,CALC3-1	03800	26	02581	02778
02430		TFM	IORT,*,+23	03812	16	00565	-3835
02440		B	IOGT,DMDDA,7	03824	49	00566	-2568
02450		BB		03836	42	00000	00000
02460		DORG	*-9	03838			
02470	***						
02480	***	THE FIND SUBROUTINE FOR LOCATING A POINT ON A PARTICULAR					
02490	***	SPL FROM AN ADDRESS GIVEN IN -LISTES-					
02500	***						
02510	FIND	SF	LISTES-5,*,8	03838	32	02785	0-000
02520		CF	LISTES-4	03850	33	02786	00000
02530		TF	19885,LISTES,,ACCEPTS SECTOR ARGUMENT	03862	26	19885	02790
02540		BT	SPLIST,SPLIST-1,,FINDSTART OF CYLINDER	03874	27	04330	04329
02550		TDM	NOMMON,5	03886	15	02855	00005
02560		B	CLIPPP	03898	49	02884	00000
02570		DORG	*-3	03906			
02580	FINDR	TF	CALC2-1,NEWDIM	03906	26	02758	02963
02590		TDM	CALC2-4,,11,FLAG ZERO	03918	15	02755	0000-
02600		MM	CALC2-1,02,10,FIND SECTOR	03930	13	02758	000-2
02610		TFM	ADRSPL,,7, ZERO THE FIELD	03942	16	04520	-0000
02620		SF	97,,PICK UP COUNT	03954	32	00097	00000
02630		TF	ADRSPL-2,99,, MOVE SECTOR CYL ADDRESS	03966	26	04518	00099
02640		TD	ADRSPL-4,,LISTES-4	03978	25	04516	02786
02650		SF	ADRSPL-4	03990	32	04516	00000
02660	TRYAGN	TF	CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	04002	26	02759	03151
02670		AM	SPLCOR,04,10, LEFT END NEW ENTRY	04014	11	03151	000-4
02680		SF	SPLCOR,*,6,NEW FLAG	04026	32	0315J	00000
02690		AM	CALC2,07,10,RIGHT END OF NEW ENTRY	04038	11	02759	000-7
02700		TF	LISTER,CALC2,11	04050	26	02764	02758
02710		TD	CALC4,SPLCOR,11,	04062	25	02783	0315J
02720		CM	CALC4,09,1011, BLANK SECTORS	04074	14	02783	000-R
02730		BE	ADDBLK	04086	46	04286	01200
02740		TF	NEWDIM,LISTER	04098	26	02963	02764
02750		BT	DIMMER,DIMMER-1	04110	27	03672	03671
02760		C	19885,ADRSPL,,DOES THIS PROGRAM BEGIN ON THIS CYLINDER	04122	24	19885	04520

02770	BNL	*+48		04134	46	04182	01300
02780	S	19885,ADRSPL		04146	22	19885	04520
02790	SF	19883		04158	32	19883	00000
02800	A	19888,19885		04170	21	19888	19885
02810	A	ADRSPL,19888,, ADD SECTOR TOTAL,ADJUSTED IF NECESSARY		04182	21	04520	19888
02820	PLUSR	SF	LISTES-4	04194	32	02786	00000
02830	C	ADRSPL,LISTES,,HAS THE CORRECT ENTRY BEEN REACHED		04206	24	04520	02790
02840	BNH	CF	LISTES-4	04218	33	02786	00000
02850	TFM	TRYAGN		04230	47	04002	01100
02860	TF	FOUND,ADRSPL		04242	26	03445	04520
02870	KLGNONE	TFM	IORT,*,+23	04254	16	00565	-4277
02880	B	IOGT,THRDA,7		04266	49	00566	-2729
02890	B	*+2, EXIT TO BE FILLED		04278	49	-4278	00000
02900	DORG	*-3		04286			
02910	ADDBLK	SF	LISTER-2	04286	32	02762	00000
02920	A	ADRSPL,LISTER,,ADD IN THE COUNT FOR BLANK SECTORS		04298	21	04520	02764
02930	CF	LISTER-2		04310	33	02762	00000
02940	B	PLUSR		04322	49	04194	00000
02950	DORG	*-3		04330			
02960	NEVER	DC	2,0,ADDBLK+11	04297		2	
02970	CLEVER	DC	1,0,ADDBLK+35	04321		1	
02980	***	ROUTINE FOR BRINGING IN THE PROPER LIST AND					
02990	***	SCANNING TO THE CORRECT CYLINDER ENTRY					
03000	SPLIST	TFM	IORT,*,+23	04330	16	00565	-4353
03010	B	IOGT,THRDA,7		04342	49	00532	-2729
03020	TDM	19880,,11,FLAG ZERO		04354	15	19880	0000-
03030	MM	19885,05,10		04366	13	19885	000-5
03040	CF	COMMON		04378	33	02853	00000
03050	SF	94,,DESIRED CYLINDER		04390	32	00094	00000
03060	SF	93		04402	32	00093	00000
03070	TD	STARDT+10,95,,SET-UP SEARCH FOR THE CORRECT CYLINDER		04414	25	05032	00095
03080	TD	STARDT+11,96		04426	25	05033	00096
03090	MM	LISTES-5,50000,7,USE OVERRIDE CODE TO DETERMINE MODULE		04438	13	02785	N0000
03100	SF	94		04450	32	00094	00000
03110	B	RDSPL		04462	49	04594	00000
03120	DORG	*-3		04470			
03130	SPLINI	BNF	*+20,COMMON	04470	44	04490	02853
03140	B	GETRAK		04482	49	05170	00000
03150	DORG	*-3		04490			
03160	TDM	CALC4-1,0,11,SET-UP CALC4		04490	15	02782	0000-
03170	TFM	ADRSPL,05800		04502	16	04520	-5800
03180	LPSRDA	NOP	,,, HOLDS COUNT POSITION FOR SPL LIST	04514	41	00000	00000
03190	TD	CALC4,ADRSPL ,11, PREPARE TO COMPARE		04526	25	02783	0452-
03200	CF	CALC4		04538	33	02783	00000
03210	CM	CALC4,7,10		04550	14	02783	000-7
03220	BE	COMCYL		04562	46	04986	01200
03230	SPLADD	AM	ADRSPL ,04,10,,NEXT ENTRY	04574	11	04520	000-4
03240	B	ADRSPL+6		04586	49	04526	00000
03250	DORG	*-3		04594			
03260	RDSPL	TF	KEVE,94	04594	26	05009	00094
03270	TF	NEVER,LISTES-4,,CORRECT TENTHOUSANDS POSITION		04606	26	04297	02786
03280	TDM	NEVER-1,,11		04618	15	04296	0000-
03290	MM	NEVER,05,10		04630	13	04297	000-5
03300	BD	*+24,99		04642	43	04666	00099

03310	AM	NEVER,1,10	04654	11	04297	000-1
03320	TD	CLEVER,NEVER	04666	25	04321	04297
03330	SF	CLEVER	04678	32	04321	00000
03340	***	ROUTINE TO READ IN CORRECT SPL				
03350	TF	94,KEVE	04690	26	00094	05009
03360	REDSPL	CM 94,0,1011, PACK ZERO	04702	14	00094	000--
03370	TF	PACK,94,,SAVE PACK NUM	04714	26	02772	00094
03380	BE	REDSPO	04726	46	04810	01200
03390	CM	94,1,1011, PACK ONE	04738	14	00094	000-J
03400	BE	REDSPI	04750	46	04854	01200
03410	CM	94,2,1011, PACK TWO	04762	14	00094	000-K
03420	BE	REDSPI	04774	46	04898	01200
03430	CM	94,3,1011, PACK THREE	04786	14	00094	000-L
03440	BE	REDSPI	04798	46	04942	01200
03450	REDSPO	TD SPLPK0+1,CLEVER	04810	25	02646	04321
03460	TFM	IORT,**23	04822	16	00565	-4845
03470	B	IOGT,PKODDA,7	04834	49	00566	-2637
03480	B	SPLINI	04846	49	04470	00000
03490	DORG	*-3	04854			
03500	REDSPI	TD SPLPK1+1,CLEVER	04854	25	02669	04321
03510	TFM	IORT,**23	04866	16	00565	-4889
03520	B	IOGT,PK1DDA,7	04878	49	00566	-2660
03530	B	SPLINI	04890	49	04470	00000
03540	DORG	*-3	04898			
03550	REDSPI	TD SPLPK2+1,CLEVER	04898	25	02692	04321
03560	TFM	IORT,**23	04910	16	00565	-4933
03570	B	IOGT,PK2DDA,7	04922	49	00566	-2683
03580	B	SPLINI	04934	49	04470	00000
03590	DORG	*-3	04942			
03600	REDSPI	TD SPLPK3+1,CLEVER	04942	25	02715	04321
03610	TFM	IORT,**23	04954	16	00565	-4977
03620	B	IOGT,PK3DDA,7	04966	49	00566	-2706
03630	B	SPLINI	04978	49	04470	00000
03640	DORG	*-3	04986			
03650	COMCYL	TF SPLCYL,ADRSPL,,CYLCORE POSITION	04986	26	03187	04520
03660	SF	ADRSPL,,6	04998	32	0452-	00000
03670	KEVE	DS ,COMCYL+23	05009		0	
03680	AM	SPLCYL,03,10	05010	11	03187	000-3
03690	STARDT	CM SPLCYL,7000,68,IS THIS THE RIGHT CYLINDER	05022	14	0318P	0P000
03700	BE	SPLEXT	05034	46	05066	01200
03710	CF	ADRSPL,,6	05046	33	0452-	00000
03720	B	SPLADD	05058	49	04574	00000
03730	DORG	*-3	05066			
03740	SPLEXT	TF SPLCOR,SPLCYL,,FIND DIM NUM LOCATION	05066	26	03151	03187
03750	SM	SPLCYL,03,10,BACK TO HIGH ORDER POSITION	05078	12	03187	000-3
03760	SF	SPLCYL,,6	05090	32	0318P	00000
03770	TF	NEWDIM,SPLCOR, 11,CYLINDER DESIRED	05102	26	02963	0315J
03780	TF	LISTER,SPLCOR,11,	05114	26	02764	0315J
03790	TF	SPLCOR,SPLCYL	05126	26	03151	03187
03800	TF	SPLCYL,ADRSPL	05138	26	03187	04520
03810	SF	COMMON	05150	32	02853	00000
03820	B	WHYNOT	05162	49	03388	00000
03830	DORG	*-3	05170			
03840	***	LINKAGE TO RETURN TO PROPER SUBROUTINE AFTER SAVING CORE				
03850	GETBAK	CM NOMMON,01,10	05170	14	02855	000-1
03860	BE	GETRTR	05182	46	02928	01200

03870	CM	NOMMON,02,10	05194	14	02855	000-2
03880	BE	GETLTR	05206	46	03016	01200
03890	CM	NOMMON,03,10	05218	14	02855	000-3
03900	BE	REMDTR	05230	46	03104	01200
03910	CM	NOMMON,04,10	05242	14	02855	000-4
03920	BE	INSETR	05254	46	03434	01200
03930	B	FINDTR	05266	49	03906	00000
03940	DORG	*-3	05274			
03950	ADRSPL	DS *LPSRDA+6	04520		0	
03960	***	PORTION OF THE MOVER SUBROUTINE WHICH MOVES THE DATA				
03970	COMPER	TFM IORT,**23	05274	16	00565	-5297
03980	B	IOPT,KING,7,SAVE THE INFORMATION IN CORE	05286	49	00532	-2458
03990	CM	CALC7,140,9,REGULAR READ	05298	14	02848	00J40
04000	BL	SPCRED	05310	47	05462	01300
04010	SM	RDMOVE+5,140,9	05322	12	02604	00J40
04020	SM	WRMOVE+5,140,9	05334	12	02627	00J40
04030	WHIPIT	TFM IORT,**23	05346	16	00565	-5369
04040	B	IOGT,RDMDDA,7	05358	49	00566	-2591
04050	TFM	IORT,**23	05370	16	00565	-5393
04060	B	IOPT,WRMDDA,7	05382	49	00532	-2614
04070	SM	CALC7,140,9	05394	12	02848	00J40
04080	CM	CALC7,140,9	05406	14	02848	00J40
04090	BNH	SPCRED	05418	47	05462	01100
04100	SM	WRMOVE+5,140,9,ADJUST COUNT AND DDA AFTER TRANSFERING 140 SE	05430	12	02627	00J40
04110	SM	RDMOVE+5,140,9	05442	12	02604	00J40
04120	B	WHIPIT	05454	49	05346	00000
04130	DORG	*-3	05462			
04140	SPCRED	TF RDMOVE+8,CALC7,,TRANSFER LAST PORTION OF PROGRAM	05462	26	02607	02848
04150	TF	WRMOVE+8,CALC7	05474	26	02630	02848
04160	S	WRMOVE+5,CALC7	05486	22	02627	02848
04170	S	RDMOVE+5,CALC7	05498	22	02604	02848
04180	TFM	IORT,**23	05510	16	00565	-5533
04190	B	IOGT,RDMDDA,7	05522	49	00566	-2591
04200	TFM	IORT,**23	05534	16	00565	-5557
04210	B	IOPT,WRMDDA,7	05546	49	00532	-2614
04220	TFM	WRMOVE+8,140,9, RESTORE CONSTANTS TO 140	05558	16	02630	00J40
04230	TFM	RDMOVE+8,140,9	05570	16	02607	00J40
04240	TF	MPT,19885,, SAVE ADDRESS OF LAST PROGRAMS ORIGINAL SECTOR A	05582	26	08636	19885
04250	TF	19885,WRMOVE+5,,CORRECT SECTOR ADDRESS IN DIM ENTRY	05594	26	19885	02627
04260	TFM	IORT,**23	05606	16	00565	-5629
04270	B	IOPT,DMDDA,7	05618	49	00532	-2568
04280	TFM	IORT,**23	05630	16	00565	-5653
04290	B	IOGT,KING,7	05642	49	00566	-2458
04300	B	MARVEL	05654	49	10884	00000
04310	DORG	*-3	05662			
04320	ERR	BNF **68,FORT,, CHECK FOR ERROR 60 IN DLOAD	05662	44	05730	13114
04330	TFM	DIMERR+22,7670,8	05674	16	02507	0P670
04340	RC TY		05686	34	00000	00102
04341	NINESC	DC 4,9000,-5	05692			
04350	WATY	DIMERR	05698	39	02485	00100
04360	BNF	ERRD+24,DUMP	05710	44	02548	13426
04370	B	PATCH3	05722	49	14936	00000
04380	DORG	*-3	05730			
04390	TFM	DIMERR+22,0078,8	05730	16	02507	0-078
04400	B	ERRD	05742	49	02524	00000

04410	DORG	*-3		05750			
04430	CONST3	DC	6,0	05755		6	
			-00000				
04440	SPLFL	TFM	IORT,**23,, LINKAGE FOR THROWING SACRED SIX TO DISK WHEN LOA	05756	16	00565	-5779
04450		B	IOPT,SPLR2,7	05768	49	00532	-5819
04460		TRA		05780	36	00000	00500
				05792	49	00000	00000
				05804			1
04470	SPLR1	DSC	1,1				
		1					
04480		DC	5,18298	05809		5	
		J8298					
04490		DC	3,033	05812		3	
		-33					
04500		DC	5,02458	05817		5	
		-2458					
04510		DSC	1,*	05818		1	
		*					
04520	SPLR2	DSC	2,22	05819		2	
		22					
04530		DSA	SPLR1	05825		5 X	1
				05825		-5804	
04540		DSC	1,*	05826		1	
		*					
04550		TCD	SPLFL	05756			
04560		DORG	8500	08500			
04570	MOVFL	TFM	IORT,**23,, LINKAGE FOR THROWING MOVER TO DISK WHEN LOADING	08500	16	00565	-8523
04580		B	IOPT,MOVFL1,7	08512	49	00532	-8548
04590		TRA		08524	36	00000	00500
				08536	49	00000	00000
				08548			2
04600	MOVFL1	DSC	2,22				
		22					
04610		DSA	MOVFL2	08554		5 X	1
				08554		-8556	
04620		DSC	1,*	08555		1	
		*					
04630	MOVFL2	DSC	1,1	08556		1	
		1					
04640		DC	5,18331	08561		5	
		J8331					
04650		DC	3,038	08564		3	
		-38					
04660		DC	5,08600	08569		5	
		-8600					
04670		DSC	1,*	08570		1	
		*					
04680	***						
04690	***						
04700	***		THE MOVER SUBROUTINE FOR PREPARING A PLACE TO PUT A PROGRAM GIVE				
04710	***		A STARTING SECTOR ADDRESS -MOVESA- AND A SECTOR COUNT -MOVESC-				
04720	***						
04730	***						
04740		DORG	8600	08600			
04750	SFSUCE	SF	SUCCESS	08600	32	13118	00000

04760	IF	MOVESC,SFSUCE+11,,	RESTORE MOVE SECTOR COUNT.	08612	26	02865	08611
04770	EXITMR	B	*,*,TO BE TFM BY CALLING PROGRAM	08624	49	08624	00000
04780		DORG	*-3	08632			
04790	MPT	DC	5,0	08636		5	
			-0000				
04800	PRE7	TFM	IORT,**23	08638	16	00565	-8661
04810		B	IOGT,NOMA,7, LINKAGE FOR BRINGING IN THE SECOND HALF OF MOV	08650	49	00566	-8670
04820		B	PRE7A	08662	49	09000	00000
04830		DORG	*-3	08670			
04840	NOMA	DSC	2,22	08670		2	
		22					
04850		DSA	NOMB	08676		5 X	1
				08676		-8678	
04860		DC	1,*	08677		1	
		*					
04870	NOMB	DSC	1,1	08678		1	
		1					
04880		DC	5,17106	08683		5	
		J7106					
04890		DC	3,022	08686		3	
		-22					
04900		DC	6,09000*	08692		6	
		-9000*					
04910	TRWCAR	DSC	2,22,, DDA FOR MOVING DATA	08693		2	
		22					
04920		DSA	MOVCAR	08699		5 X	1
				08699		-8701	
04930		DC	1,*	08700		1	
		*					
04940	MOVCAR	DSC	1,0	08701		1	
		0					
04950		DC	5,0	08706		5	
		-0000					
04960		DC	3,060	08709		3	
		-60					
04970		DC	5,13776	08714		5	
		J3776					
04980		DC	1,*	08715		1	
		*					
04990	TRVBUS	DSC	2,22,, DDA FOR MOVING DATA	08716		2	
		22					
05000		DSA	MOVBUS	08722		5 X	1
				08722		-8724	
05010		DC	1,*	08723		1	
		*					
05020	MOVBUS	DSC	1,0	08724		1	
		0					
05030		DC	5,0	08729		5	
		-0000					
05040		DC	3,060	08732		3	
		-60					
05050		DC	5,13776	08737		5	
		J3776					

05060	DC	1,'		08738	1		
05070	TRWA	DSC 2,22,,	DDA FOR MOVINGDATA	08739	2		
05080	DSA	LOPEZA		08745	5 X	1	
05090	DC	1,'		08745	-8747		
				08746	1		
05100	LOPEZA	DSC 1,0		08747	1		
05110	DC	5,0		08752	5		
		-0000					
05120	DC	3,060		08755	3		
		-60					
05130	DC	5,13776		08760	5		
		J3776					
05140	DC	1,'		08761	1		
05150	TRWB	DSC 2,22,,	DDA FOR MOVING DATA	08762	2		
		22					
05160	DSA	LOPEZB		08768	5 X	1	
				08768	-8770		
05170	DC	1,'		08769	1		
05180	LOPEZB	DSC 1,0		08770	1		
05190	DC	5,0		08775	5		
		-0000					
05200	DC	3,060		08778	3		
		-60					
05210	DC	5,13776		08783	5		
		J3776					
05220	DC	1,'		08784	1		
05230	MONITR	DS ,796		00796	0		
05240	KEYS	DSC 1,0		08785	1		
05250	CALC6	DC 5,0		08790	5		
		-0000					
05260	CALC5	DC 6,0		08796	6		
		-00000					
05270	ZEROES	DC 10,0		08806	10		
		-000000000					
05280	CURREN	DC 3,0		08809	3		
		-00					
05290	LIMIT	DC 3,099		08812	3		
		-99					
05300	KEY1	DSC 1,0		08813	1		
		0					
05310	DIMHLD	DC 9,0		08822	9		
		-00000000					
05320	UMENT	DS ,19880, CONTROL FIELD FOR NOWDIM		19880	0		
05330	MOVER	SF MOVESA-5		08824	32	02857	00000
05340	CF	MOVESA-4		08836	33	02858	00000

05350	TF	SFSUCE+11,MOVESC,,	STORE MOVE SECTOR COUNT.	08848	26	08611	02865
05360	TF	LISTES,MOVESA,,	FIND POINT IN LIST WHERE PROGRAM IS TO BEGI	08860	26	02790	02862
05370	TFM	RLGONE+30,++20		08872	16	04284	-8892
05380	B	FIND		08884	49	03838	00000
05390	DDRG	*-3		08892			
05400	CM	LISTER-3,09,1011,LOOK FOR BLANK ENTRY		08892	14	02761	000-R
05410	BE	MIDNIT		08904	46	09372	01200
05420	TF	NEWDIM,LISTER,,	MOVESA IS IN THE MIDDLE OF A PROGRAM	08916	26	02963	02764
05430	BT	DIMMER,DIMMER-1		08928	27	03672	03671
05440	SF	MOVESA-4		08940	32	02858	00000
05450	TF	CONST5,19885		08952	26	02825	19885
05460	S	CONST5,MOVESA		08964	22	02825	02862
05470	CF	MOVESA-4		08976	33	02858	00000
05480	SF	CONST5-2		08988	32	02823	00000
05490	TF	BAVAIL,CONST5,,	ADJUST BLANK AVAIL TO MINUS TO ALLOW FOR DIM	09000	26	02754	02825
05500	BNF	FILTST,19899,,	IS THE PROGRAM FILE PROTECTED	09012	44	10204	19899
05510	MSTAKE	CF	SUCCESS,,ERROR EXIT	09024	33	13118	00000
05520	TF	MOVESC,SFSUCE+11,,	RESTORE MOVE SECTOR COUNT.	09036	26	02865	08611
05530	B	EXITMR		09048	49	08624	00000
05540	DDRG	*-3		09056			
05550	DSEVEN	SF	LISTES-4	09056	32	02786	00000
05560	S	FOUND,LISTES		09068	22	03445	02790
05570	SF	FOUND-2		09080	32	03443	00000
05580	TF	CONST2, FOUND		09092	26	02807	03445
05590	ACTAJ	C	CONST2,MOVESC,, ENOUGH SECTORS AVAILABLE	09104	24	02807	02865
05600	BNL	ACTAC		09116	46	09260	01300
05610	ACTAH	BT	GETR,GETR-1,, LOOK FOR MORE ROOM	09128	27	02872	02871
05620	CM	LISTER-3,7,1011		09140	14	02761	000-P
05630	BE	ACTAH		09152	46	09128	01200
05640	CM	LISTER-3,9,1011		09164	14	02761	000-R
05650	BNE	ACTAK		09176	47	09220	01200
05660	SF	LISTER-2		09188	32	02762	00000
05670	A	CONST2,LISTER		09200	21	02807	02764
05680	B	ACTAJ		09212	49	09104	00000
05690	DDRG	*-3		09220			
05700	ACTAK	TF	LISTES,MOVESA,, REPOSITION LISTER TO MOVESA	09220	26	02790	02862
05710	TFM	RLGONE+30,++20		09232	16	04284	-9252
05720	B	FIND		09244	49	03838	00000
05730	DDRG	*-3		09252			
05740	B	BLANKT,,	PROGRAMS MUST BE MOVED	09252	49	10348	00000
05750	DDRG	*-3		09260			
05760	ACTAG	TF	LISTES,MOVESA,, REPOSITION FIND TO MOVESA	09260	26	02790	02862
05770	TFM	RLGONE+30,++20		09272	16	04284	-9292
05780	B	FIND		09284	49	03838	00000
05790	DDRG	*-3		09292			
05800	BT	GETR,GETR-1		09292	27	02872	02871
05810	SF	LISTER-2		09304	32	02762	00000
05820	MM	LISTER,200,9		09316	13	02764	00000
05830	TF	CONST1,99		09328	26	02801	00099
05840	BT	GETL,GETL-1		09340	27	02996	02995
05850	SF	LISTER-2		09352	32	02762	00000
05860	B	ACTAA		09364	49	09552	00000
05870	DDRG	*-3		09372			
05880	MIDNIT	SF	MOVESA-4,, MOVESA IS AT AN AREA COVERED BY BLANK SECTORS	09372	32	02858	00000
05890	SF	LISTER-2		09384	32	02762	00000
05900	BT	GETR,GETR-1		09396	27	02872	02871

05910	CM	LISTER-3,7,1011	09408	14	02761	000-P
05920	BE	DSEVEN	09420	46	09056	01200
05930	TF	NEWDIM,LISTER,, POSITION END OF BLANKS FROM THIS DIMS SECTOR	09432	26	02963	02764
05940	BT	DIMMER,DIMMER-1	09444	27	03672	03671
05950	TF	CONST1,19885	09456	26	02801	19885
05960	ZSEVEN	TF CONST6,MOVESA	09468	26	02831	02862
05970	TF	CONST3,CONST1	09480	26	05755	02801
05980	BT	GETL,GETL-1	09492	27	02996	02995
05990	SF	LISTER-2	09504	32	02762	00000
06000	A	CONST6,MOVESC	09516	21	02831	02865
06010	C	CONST6,CONST1,,IS THERE ENOUGH ROOM TO LOAD THE MOVESC	09528	24	02831	02801
06020	BH	BLANKT	09540	46	10348	01100
06030	ACTAA	S CONST1,LISTER,,ENOUGH ROOM HAS BEEN FOUND WITHOUT MOVING PRO	09552	22	02801	02764
06040	TF	CONST2,MOVESA	09564	26	02807	02862
06050	S	CONST2,CONST1	09576	22	02807	02801
06060	SF	CONST2-2	09588	32	02805	00000
06070	TF	**35,CONST2,, PREPARE THE TRAILING NINES ENTRY	09600	26	09635	02807
06080	CF	**21	09612	33	09633	00000
06090	TFM	LISTET,9000,8	09624	16	02794	0R000
06100	CM	LISTET,9000,8	09636	14	02794	0R000
06110	BE	**24	09648	46	09672	01200
06120	BT	INSERT,INSERT-1	09660	27	03414	03413
06130	NONAME	BT REMOVE,REMOVE-1	09672	27	03084	03083
06140	CM	LISTER-3,7,1011	09684	14	02761	000-P
06150	BNE	ACTAD	09696	47	09896	01200
06160	SF	LISTER-2	09708	32	02762	00000
06170	MM	LISTER,200,9	09720	13	02764	00K00
06180	TFM	95,99,10, TO COMPENSATE FOR PACK ADDRESSING	09732	16	00095	000R9
06190	TF	CONST3,99	09744	26	05755	00099
06200	S	99,MOVESA	09756	22	00099	02862
06210	SF	97	09768	32	00097	00000
06220	C	99,MOVESC	09780	24	00099	02865
06230	BNL	ACTAC	09792	46	09968	01300
06240	A	MOVESA,99	09804	21	02862	00099
06250	S	MOVESC,99	09816	22	02865	00099
06260	TF	**35,99,, PREPARE EIGHTS ENTRY OF MOVESC	09828	26	09863	00099
06270	CF	**21	09840	33	09861	00000
06280	TFM	LISTET,8999,8	09852	16	02794	00999
06290	BT	INSERT,INSERT-1	09864	27	03414	03413
06300	BT	GETR,GETR-1	09876	27	02872	02871
06310	B	NONAME	09888	49	09672	00000
06320	DDRG	*-3	09896			
06330	ACTAD	TF NEWDIM,LISTER,,USE DIM ENTRY TO FIND SECTOR ADRESS	09908	26	02963	02764
06340	BT	DIMMER,DIMMER-1	09920	27	03672	03671
06350	TF	CONST3,19885	09932	26	05755	19885
06360	TD	CONST3-5,19880	09944	25	05750	19880
06370	CF	CONST3-4	09956	33	05751	00000
06380	SF	CONST3-5	09968	32	05750	00000
06390	ACTAC	TF **35,MOVESC,,PREPARE AN EIGHTS ENTRY OF MOVESC	09980	26	10003	02865
06400	CF	**21	09992	33	10001	00000
06410	TFM	LISTET,9000,8	09992	16	02794	00000
06420	BT	INSERT,INSERT-1	10004	27	03414	03413
06430	TF	CONST2,MOVESA	10016	26	02807	02862
06440	A	CONST2,MOVESC	10028	21	02807	02865
06450	S	CONST3,CONST2	10040	22	05755	02807
06460	SF	CONST3-2	10052	32	05753	00000

06470	TF	**35,CONST3,,PREPARE THE LEADING NINES ENTRY	10064	26	10099	05755
06480	CF	**21	10076	33	10097	00000
06490	TFM	LISTET,9000,8	10088	16	02794	0R000
06500	CM	LISTET,9000,8	10100	14	02794	0R000
06510	BE	**24	10112	46	10136	01200
06520	BT	INSERT,INSERT-1	10124	27	03414	03413
06530	REMSIL	CF MOVESA-4,,POSITION LISTFR FOR EXIT	10136	33	02858	00000
06540	BT	GETL,GETL-1	10148	27	02996	02995
06550	CM	LISTER-3,08,1011	10160	14	02761	000-Q
06560	BNE	*-24	10172	47	10148	01200
06570	BT	GETR,GETR-1	10184	27	02872	02871
06580	B	SFSUCE	10196	49	08600	00000
06590	DDRG	*-3	10204			
06600	FILTST	BNG GORT,19899,, CHECK FOR FILE PROTECTION	10204	55	10224	19899
06610	B	MSTAKE	10216	49	09024	00000
06620	DDRG	*-3	10224			
06630	GORT	BT GETR,GETR-1,, SEARCH FOR MORE BLANK SECTORS	10224	27	02872	02871
06640	CM	LISTER-3,07,1011, CYL REPRESENTED	10236	14	02761	000-P
06650	BE	GORT	10248	46	10224	01200
06660	CM	LISTER-3,09,1011,BLANKS	10260	14	02761	000-R
06670	BE	BAVADD	10272	46	10464	01200
06680	TF	NEWDIM,LISTER	10284	26	02963	02764
06690	BT	DIMMER,DIMMER-1	10296	27	03672	03671
06700	RNG	**20,19899,, FILE PROTECTED PROGRAM	10308	55	10328	19899
06710	B	FILTST+12	10320	49	10216	00000
06720	DDRG	*-3	10328			
06730	BNF	GORT,19899,,IMMOVABLE PROGRAM	10328	44	10224	19899
06740	B	MSTAKE	10340	49	09024	00000
06750	DDRG	*-3	10348			
06760	BLANKT	SF LISTES-3	10348	32	02787	00000
06770	TF	CONST5,FOUND	10360	26	02825	03445
06780	S	FOUND,LISTES	10372	22	03445	02790
06790	CF	LISTES-3	10384	33	02787	00000
06800	SF	FOUND-2	10396	32	03443	00000
06810	TF	BAVAIL,FOUND	10408	26	02754	03445
06820	CF	FOUND-2	10420	33	03443	00000
06830	BAVCOM	C MOVESC,BAVAIL,,IS HOLE BIG ENOUGH	10432	24	02865	02754
06840	BNH	MOVNOW	10444	47	10496	01100
06850	B	GORT	10456	49	10224	00000
06860	DDRG	*-3	10464			
06870	BAVADD	SF LISTER-2,, ADD IN COUNT OF BLANK SECTORS FOUND	10464	32	02762	00000
06880	A	BAVAIL,LISTER	10476	21	02754	02764
06890	B	BAVCOM	10488	49	10432	00000
06900	DDRG	*-3	10496			
06910	MOVNOW	S BAVAIL,MOVESC,, ADJUST LAST NINES ENTRY FOR FINAL OUTPUT	10496	22	02754	02865
06920	CM	BAVAIL,000,9,	10508	14	02754	00-00
06930	BE	REMBLK	10520	46	10628	01200
06940	SF	LISTER-2	10532	32	02762	00000
06950	TF	**35,BAVAIL	10544	26	10579	02754
06960	CF	**21	10556	33	10577	00000
06970	TFM	LISTET,9000,8	10568	16	02794	0R000
06980	BT	INSERT,INSERT-1	10580	27	03414	03413
06990	TFM	WRMOVE+5,,ZERO FIELD	10592	16	02627	-0000
07000	S	WRMOVE+5,BAVAIL	10604	22	02627	02754
07010	TDM	HEX,,RECORD MARK	10616	15	02795	00000
07020	DC	I,*,*	10627			

07030	REMBLK	BT	REMOVE,REMOVE-1,,REMOVE LAST NINES ENTRY IF IT IS A PERFECT	10628	27	03084	03083
07040	CM		LISTER-3,07,1011	10640	14	02761	000-P
07050	BE		KSEVEN	10652	46	10708	01200
07060	TF		NEWDIM,LISTER,,SET MOVER DDA FROM DIM ENTRY	10664	26	02963	02764
07070	BT		DIMMER,DIMMER-1	10676	27	03672	03671
07080	A		WRMOVE+5,19885	10688	21	02627	19885
07090	B		TOPPRO	10700	49	10812	00000
07100	DORG		*-3	10708			
07110	KSEVEN	SF	LISTER-1,,SET MOVER DDA FROM CYLINDER ENTRY	10708	32	02763	00000
07120	MM		LISTER,200,9	10720	13	02764	00K00
07130	A		WRMOVE+5,99	10732	21	02627	00099
07140	SF		WRMOVE	10744	32	02622	00000
07150	S		WRMOVE+1,NEVER	10756	22	02623	04297
07160	AM		WRMOVE+1,01,10	10768	11	02623	000-1
07170	CF		WRMOVE	10780	33	02622	00000
07180	B		TOPPRO	10792	49	10812	00000
07190	DORG		*-3	10800			
07200	RSEVEN	BT	REMOVE,REMOVE-1	10800	27	03084	03083
07210	TOPPRO	BNR	**24,HEX	10812	45	10836	02795
07220	BT		GETL,GETL-1,,ADJUST THE LISTER FOR NO EXACT FIT	10824	27	02996	02995
07230	TF		CONST5,MOVESA	10836	26	02825	02862
07240	A		CONST5,MOVESC	10848	21	02825	02865
07250	SF		CONST5-4,,SECTOR ADDRES OF LAST SECTOR TO BE MOVED TOWARD	10860	32	02821	00000
07260	TFM		NEWDIM,9999,8	10872	16	02963	0R999
07270	MARVEL	BT	GETL,GETL-1	10884	27	02996	02995
07280	C		WRMOVE+5,CONST5,,HAS THE LAST PROGRAM JUST BEEN MOVED	10896	24	02627	02825
07290	BNH		PRE7	10908	47	08638	01100
07300	CM		LISTER-3,6,1011,FLAGGED ABOVE SIX	10920	14	02761	000-0
07310	BH		**32,,BOTH NUMBERS ARE MINUS	10932	46	10964	01100
07320	WASH	BT	REMOVE,REMOVE-1	10944	27	03084	03083
07330	B		MARVEL	10956	49	10884	00000
07340	DORG		*-3	10964			
07350	C		LISTER,NEWDIM	10964	24	02764	02963
07360	BE		WASH	10976	46	10944	01200
07370	TF		NEWDIM,LISTER,,BEGIN-MOVE PROGRAMS DOWN	10988	26	02963	02764
07380	BT		DIMMER,DIMMER-1	11000	27	03672	03671
07390	TF		CALC7,19888,,SECTOR COUNT	11012	26	02848	19888
07400	TF		CALC3,19885,,INIT READ AND WRITE	11024	26	02779	19885
07410	TD		RDMOVE,19880	11036	25	02599	19880
07420	A		CALC3,CALC7	11048	21	02779	02848
07430	TF		RDMOVE+5,CALC3	11060	26	02604	02779
07440	TD		WRMOVE,RDMOVE	11072	25	02622	02599
07450	B		COMPFR	11084	49	05274	00000
07460	DORG		*-3	11092			
07470	TCD		MOVFL	08500			
07480	DORG		09000	09000			
07490	***		ROUTINE TO COMPLETE THE REMOVAL OF NON-PROGRAM ENTRIES	09000	27	02872	02871
07500	PRETA	BT	GETR,GETR-1	09012	26	02825	02764
07510	TF		CONST5,LISTER	09024	27	02996	02995
07520	LOOPSY	BT	GETL,GETL-1,, SEARCH TOWARD THE LEFT FOR NEW DIM NUMBER	09036	14	02761	000-P
07530	CM		LISTER-3,7,1011	09048	46	09108	01200
07540	BE		SEVENT	09060	14	02761	000-R
07550	CM		LISTER-3,9,1011	09072	46	09132	01200
07560	BE		NINENT	09084	24	02764	02825
07570	C		LISTER,CONST5				

07580	BNE		CHOICE	09096	47	09196	01200
07590	SEVENT	CM	LISTER,7000,8,CHECK FOR SPECIAL CASE OF CYLINDER ZERO	09108	14	02764	0P000
07600	BE		SPECAS	09120	46	09152	01200
07610	NINENT	BT	REMOVE,REMOVE-1	09132	27	03084	03083
07620	B		LOOPSY	09144	49	09024	00000
07630	DORG		*-3	09152			
07640	SPECAS	TFM	19885,,	09152	16	19885	-0000
07650	BT		REMOVE,REMOVE-1	09164	27	03084	03083
07660	TFM		MAMY+1,41,10,NOP THE GETR IN THIS SPECIAL CASE	09176	16	09497	000M1
07670	B		MEAT	09188	49	09292	00000
07680	DORG		*-3	09196			
07690	CHOICE	TF	NEWDIM,LISTER	09196	26	02963	02764
07700	BT		DIMMER,DIMMER-1	09208	27	03672	03671
07710	CM		LISTER,0001,8, CHECK FOR WORK REPRESENTED BY CYLINDER COUNT	09220	14	02764	0-001
07720	BNE		**48	09232	47	09280	01200
07730	MM		19888,200,9	09244	13	19888	00K00
07740	SF		95	09256	32	00095	00000
07750	A		19885,99	09268	21	19885	00099
07760	A		19885,19888	09280	21	19885	19888
07770	***		SET-UP FAKSEV AND RACKET	09292	13	02858	000-5
07780	MEAT	MM	MOVESA-4,05,10	09304	15	02858	0000J
07790	TDM		MOVESA-4,1,11	09316	43	09340	00099
07800	BD		**24,99	09328	15	02858	0000-
07810	TDM		MOVESA-4,0,11	09340	25	19881	02858
07820	TD		19881,MOVESA-4	09352	16	02852	0P000
07830	TFM		FAKSEV,7000,8	09364	32	19883	00000
07840	SF		19883	09375			
07850	DELTA	DC	5,00200,*				
			-0200				
07860	TFM		RACKET,,8	09376	16	02841	0-000
07870	TF		RACKET,19885,,ESTABLISH THE NUMBER OF SECTORS USED ON THIS C	09388	26	02841	19885
07880	CF		19883	09400	33	19883	00000
07890	TDM		RACKET-2,1	09412	15	02839	00001
07900	MM		19883,05,10	09424	13	19883	000-5
07910	BD		**24,99	09436	43	09460	00099
07920	TDM		RACKET-2,0	09448	15	02839	00000
07930	TD		FAKSEV,98	09460	25	02852	00098
07940	TD		FAKSEV-1,97	09472	25	02851	00097
07950	S		DELTA,RACKET,, INIT TO 200 MINUS RACKET	09484	22	09375	02841
07960	MAMY	BT	GETR,GETR-1,, SHIFT OFF OF ANCHOR PROGRAM	09496	27	02872	02871
07970	TF		CONST5,MOVESA	09508	26	02825	02862
07980	S		CONST5,19885	09520	22	02825	19885
07990	CM		RACKET,0000,8	09532	14	02841	0-000
08000	BNE		CONCLUD	09544	47	09952	01200
08010	TF		LISTET,FAKSEV,, REPLACE THE CYLINDER MARKER	09556	26	02794	02852
08020	BT		INSERT,INSERT-1	09568	27	03414	03413
08030	CM		CONST5,,7,	09580	14	02825	-0000
08040	BE		EIGHTS	09592	46	09984	01200
08050	DELNT5	C	DELTA,CONST5,, IS THERE ENOUGH ROOM FOR REMAINING NINES ENT	09604	24	09375	02825
08060	BL		TAC	09616	47	09812	01300
08070	BH		TIC	09628	46	09744	01100
08080	SF		CONST5-2,, A PERFECT FIT,INSERT THE NINES ENTRY	09640	32	02823	00000
08090	TF		**35,CONST5	09652	26	09687	02825
08100	CF		**21	09664	33	09685	00000
08110	TFM		LISTET,9000,8	09676	16	02794	0R000
08120	BT		INSERT,INSERT-1	09688	27	03414	03413

08130	AM	FAKSEV,01,10	09700	11	02852	000-1
08140	TF	LISTET,FAKSEV,, RESTORE THE CYLINDER MARKER	09712	26	02794	02852
08150	BT	INSERT,INSERT-1	09724	27	03414	03413
08160	B	EIGHTS	09736	49	09984	00000
08170	DORG	*-3	09744			
08180	TIC	SF CONST5-2,, INSERT THE NINES ENTRY	09744	32	02823	00000
08190	TF	**+35,CONST5	09756	26	09791	02825
08200	CF	**+21	09768	33	09789	00000
08210	TFM	LISTET,9000,8	09780	16	02794	0R000
08220	BT	INSERT,INSERT-1	09792	27	03414	03413
08230	B	EIGHTS	09804	49	09984	00000
08240	DORG	*-3	09812			
08250	TAC	SF DELTA-2,, FILL THE REST OF THE CYLINDER WITH NINES ENTRY	09812	32	09373	00000
08260	TF	**+35,DELTA	09824	26	09859	09375
08270	CF	**+21	09836	33	09857	00000
08280	TFM	LISTET,9000,8	09848	16	02794	0R000
08290	CF	DELTA-2	09860	33	09373	00000
08300	BT	INSERT,INSERT-1	09872	27	03414	03413
08310	S	CONST5,DELTA	09884	22	02825	09375
08320	AM	FAKSEV,01,10	09896	11	02852	000-1
08330	TF	LISTET,FAKSEV,, RESTORE THE CYLINDER MARKER	09908	26	02794	02852
08340	BT	INSERT,INSERT-1	09920	27	03414	03413
08350	TFM	DELTA,00200,7,	09932	16	09375	-0200
08360	B	DELNT5	09944	49	09604	00000
08370	DORG	*-3	09952			
08380	CONCUO	CM CONST5,00000,7, SECTOR ADDRES FITS ON END OF PREVIOUS PROGR	09952	14	02825	-0000
08390	BE	EIGHTS	09964	46	09984	01200
08400	B	DELNT5	09976	49	09604	00000
08410	DORG	*-3	09984			
08420	EIGHTS	TF **+35,MOVESC,, INSERT AN EIGHTS ENTRY FOR MOVESC	09984	26	10019	02865
08430	CF	**+21	09996	33	10017	00000
08440	TFM	LISTET,8000,8	10008	16	02794	0Q000
08450	BT	INSERT,INSERT-1	10020	27	03414	03413
08460	BT	GETL,GETL-1	10032	27	02996	02995
08470	SF	MOVESA-3	10044	32	02859	00000
08480	TF	RACKET,MOVESA	10056	26	02841	02862
08490	CF	MOVESA-3	10068	33	02859	00000
08500	SM	RACKET,200,9	10080	12	02841	00K00
08510	BNF	*-12,RACKET	10092	44	10080	02841
08520	AM	RACKET,200,9	10104	11	02841	00K00
08530	BT	GETL,GETL-1	10116	27	02996	02995
08540	***	ROUTINE TO RESTORE THE SPL TO ITS PROPER FORM				
08550	ALLRIT	BT GETR,GETR-1,, SHIFT TO PICK UP NEXT ENTRY TO ANALYZE	10128	27	02872	02871
08560	CM	LISTER-3,7,1011	10140	14	02761	000-P
08570	BE	BEAUTY	10152	46	10592	01200
08580	CM	LISTER-3,9,1011	10164	14	02761	000-R
08590	BE	ADDRAC	10176	46	10656	01200
08600	CM	LISTER-3,8,1011	10188	14	02761	000-Q
08610	BE	ADDRAC	10200	46	10656	01200
08620	TF	NEWDIM,LISTER,, BRING IN NEW DIM ENTRY TO FIND LENGTH	10212	26	02963	02764
08630	BT	DIMMER,DIMMER-1	10224	27	03672	03671
08640	SF	FAKSEV-1	10236	32	02851	00000
08650	MM	FAKSEV,200,9	10248	13	02852	00K00
08660	SF	94	10260	32	00094	00000
08670	S	95,NEVER	10272	22	00095	04297
08680	AM	95,01,10	10284	11	00095	000-1

08690	CF	FAKSEV-1	10296	33	02851	00000
08700	C	19885,99,,DOES THIS PROGRAM START ON A CYLINDER PREVIOUS TO	10308	24	19885	00099
08710	BNL	**+48	10320	46	10368	01300
08720	S	19885,99	10332	22	19885	00099
08730	SF	19883	10344	32	19883	00000
08740	A	19888,19885	10356	21	19888	19885
08750	A	RACKET,19888	10368	21	02841	19888
08760	NOISY	CM RACKET,200,9, HAVE 200 SECTORS BEEN ACCOUNTED FOR THIS CYLI	10380	14	02841	00K00
08770	BE	EZEST	10392	46	10700	01200
08780	BNH	ALLRIT	10404	47	10128	01100
08790	CM	LISTER-3,8,1011	10416	14	02761	000-Q
08800	BNH	TELAST	10428	47	10756	01100
08810	TF	STEAL,LISTER	10440	26	02845	02764
08820	BT	GETR,GETR-1	10452	27	02872	02871
08830	AM	FAKSEV,1,10	10464	11	02852	000-1
08840	TF	LISTET,FAKSEV,, RESTORE SEVENS MARKER	10476	26	02794	02852
08850	BT	INSERT,INSERT-1	10488	27	03414	03413
08860	TF	LISTET,STEAL,, REPEAT THE DIM NUMBER	10500	26	02794	02845
08870	BT	INSERT,INSERT-1	10512	27	03414	03413
08880	RAKES	SM RACKET,200,9,	10524	12	02841	00K00
08890	C	LISTER,FAKSEV	10536	24	02764	02852
08900	BE	**+32	10548	46	10580	01200
08910	BT	GETL,GETL-1	10560	27	02996	02995
08920	B	NOISY	10572	49	10380	00000
08930	DORG	*-3	10580			
08940	BT	REMOVE,REMOVE-1	10580	27	03084	03083
08950	BEAUTY	BT GETL,GETL-1,, POSITION LISTER FOR EXIT	10592	27	02996	02995
08960	CM	LISTER-3,08,1011	10604	14	02761	000-Q
08970	BE	**+20	10616	46	10636	01200
08980	B	BEAUTY	10628	49	10592	00000
08990	DORG	*-3	10636			
09000	BT	GETR,GETR-1	10636	27	02872	02871
09010	B	SFSUCE	10648	49	08600	00000
09020	DORG	*-3	10656			
09030	ADDRAC	SF LISTER-2,, ADD THE BLANK OR EIGHTS SECTOR COUNT TO TOTAL	10656	32	02762	00000
09040	A	RACKET,LISTER	10668	21	02841	02764
09050	CF	LISTER-2	10680	33	02762	00000
09060	B	NOISY	10692	49	10380	00000
09070	DORG	*-3	10700			
09080	EZEST	AM FAKSEV,1,10, INSERT CYL MARKER FOR A PERFECT FIT	10700	11	02852	000-1
09090	TF	LISTET,FAKSEV	10712	26	02794	02852
09100	BT	GETR,GETR-1	10724	27	02872	02871
09110	BT	INSERT,INSERT-1	10736	27	03414	03413
09120	B	RAKES	10748	49	10524	00000
09130	DORG	*-3	10756			
09140	TELAST	SF LISTER-2	10756	32	02762	00000
09150	S	RACKET,LISTER,, PREPARE THE SIZE OF THE EIGHTS ENTRY	10768	22	02841	02764
09160	CF	LISTER-2	10780	33	02762	00000
09170	TFM	CONST8,200,8	10792	16	02870	0-200
09180	S	CONST8,RACKET	10804	22	02870	02841
09190	SF	CONST8-2	10816	32	02868	00000
09200	S	LISTER,CONST8	10828	22	02764	02870
09210	TF	STEAL,LISTER	10840	26	02845	02764
09220	TF	**+35,CONST8	10852	26	10887	02870
09230	CF	**+21	10864	33	10885	00000
09240	TFM	LISTET,8000,8, INSERT THE EIGHTS ENTRY	10876	16	02794	0Q000

09250	BT	REMOVE,REMOVE-1,,	REMOVE THE INDICATOR FROM THE LIST	10888	27	03084	03083
09260	BT	INSERT,INSERT-1		10900	27	03414	03413
09270	AM	FAKSEV,1,10		10912	11	02852	000-1
09280	TF	LISTET,FAKSEV		10924	26	02794	02852
09290	BT	INSERT,INSERT-1,,	INSERT THE SEVENS MARKER	10936	27	03414	03413
09300	TF	LISTET,STEAL		10948	26	02794	02845
09310	BT	INSERT,INSERT-1,,	REPLACE THE REDUCED INDICATOR	10960	27	03414	03413
09320	BT	GETL,GETL-1		10972	27	02996	02995
09330	TF	RACKET,LISTET		10984	26	02841	02794
09340	TDM	RACKET-3,0,11		10996	15	02838	0000-
09350	B	NOISY		11008	49	10380	00000
09360	DORG	=-3		11016			
09370	***	LINKAGE FOR PLACING THIS LAST PORTION OF MOVER ON DISK					
09380	NOMC	TFM	IORT,**23	11016	16	00565	J1039
09390	B	IOPT,NOMD,7		11028	49	00532	J1064
09400	TRA			11040	36	00000	00500
				11052	49	00000	00000
09410	NOMD	DSC	2,22	11064		2	
		22					
09420	DSA	NOME		11070		5 X	1
09430	DC	1,'		11070		J1072	
		'		11071		1	
09440	NOME	DSC	1,1	11072		1	
		1					
09450	DC	5,17106		11077		5	
		J7106					
09460	DC	3,022		11080		3	
		-22					
09470	DC	6,09000'		11086		6	
		-9000'					
09480	TCD	NOMC		11016			
09490	DORG	5600		05600			
09500	DELFL	TFM	IORT,**23	05600	16	00565	-5623
09510	B	IOPT,DELL,7		05612	49	00532	-5648
09520	TRA			05624	36	00000	00500
				05636	49	00000	00000
09530	DEL1	DSC	2,22	05648		2	
		22					
09540	DSA	DEL2		05654		5 X	1
09550	DSC	1,'		05654		-5656	
		'		05655		1	
09560	DEL2	DSC	1,1	05656		1	
		1					
09570	DC	5,18247		05661		5	
		J8247					
09580	DC	3,013		05664		3	
		-13					
09590	DC	5,05800		05669		5	
		-5800					
09600	DSC	1,'		05670		1	
		'					

09610	*	DELETE PROGRAM ROUTINE					
09620	*						
09630	*						
09640	DORG	5800		05800			
09650	DELET	SF	DELETE	05800	32	13134	00000
09660	***	DETERMINE MAX.NO. OF DIM ENTRIES					
09670	TFM	MAXDIM,9999,8		05812	16	03849	0R999
09680	TFM	NEWDIM,3,8		05824	16	02963	0-003
09690	BT	DIMMER,DIMMER-1		05836	27	03672	03671
09700	BNR	**20,MAP		05848	45	05868	19880
09710	B	MONCAL		05860	49	00796	00000
09720	DORG	=-3		05868			
09730	MM	MAP+8,5,10		05868	13	19888	000-5
09740	SF	96		05880	32	00096	00000
09750	SM	99,1,10		05892	12	00099	000-1
09760	TF	MAXDIM,99		05904	26	03849	00099
09770	SF	INPUT+11		05916	32	13624	00000
09780	TF	PNAME,INPUT+22		05928	26	13229	13635
09790	TD	DIMNUM,INPUT+30		05940	25	13190	13643
09800	TD	DIMNUM-1,INPUT+28		05952	25	13189	13641
09810	TD	DIMNUM-2,INPUT+26		05964	25	13188	13639
09820	TD	DIMNUM-3,INPUT+24		05976	25	13187	13637
09830	SF	DIMNUM-3		05988	32	13187	00000
09840	CM	DIMNUM,0,8		06000	14	13190	0-000
09850	BE	OKDEL-24		06012	46	06124	01200
09860	***	IS DIM NO. IN RANGE					
09870	C	DIMNUM,MAXDIM		06024	24	13190	03849
09880	BNH	**32		06036	47	06068	01100
09890	TFM	DIMERR+22,0076,8		06048	16	02507	0-076
09900	B	ERRD		06060	49	02524	00000
09910	DORG	=-3		06068			
09920	***	IS DIM NO. IN USE					
09930	TF	NEWDIM,DIMNUM		06068	26	02963	13190
09940	BT	DIMMER,DIMMER-1		06080	27	03672	03671
09950	BNR	OKDEL,MAP		06092	45	06148	19880
09960	TFM	DIMERR+22,7271,8		06104	16	02507	0P271
09970	B	ERRD		06116	49	02524	00000
09980	DORG	=-3		06124			
09990	C	PNAME,ZERD12		06124	24	13229	13167
10000	BE	ERRD-12		06136	46	02512	01200
10010	OKDEL	BTM	EQUIV,**12	06148	17	08606	-6160
10020	CM	DIMNUM,0,8		06160	14	13190	0-000
10030	BNE	**32		06172	47	06204	01200
10040	TFM	DIMERR+22,7270,8		06184	16	02507	0P270
10050	B	ERRD		06196	49	02524	00000
10060	DORG	=-3		06204			
10061	TF	NEWDIM,DIMNUM		06204	26	02963	13190
10062	BT	DIMMER,DIMMER-1		06216	27	03672	03671
10063	BNR	**20,MAP		06228	45	06248	19880
10064	B7	EXIT3		06240	49	06936	
10070	*	DELETE ENTRY FROM SP LIST					
10080	BTM	SPLDEL,**12		06248	17	12090	-6260
10090	TF	NEWDIM,DIMNUM		06260	26	02963	13190
10100	BT	DIMMER,DIMMER-1		06272	27	03672	03671
10110	TF	FWRIT+5,MAP+5		06284	26	13272	19885
10120	TD	FWRIT,MAP		06296	25	13267	19880

10130	TF	HOLD3,MAP+8	06308	26	13193	19888
10140	TF	LOADSC,MAP+8	06320	26	13180	19888
10150	TFM	FLAG+11,TRACK2	06332	16	06523	J7778
10160	TF	LOADSA,MAP+5	06344	26	13102	19885
10170	TD	LOADSA-5,MAP	06356	25	13097	19880
10180	SF	MAP+4	06368	32	19884	00000
10190	SM	MAP+5,20,10	06380	12	19885	000K0
10200	BH	*-12	06392	46	06380	01100
10210	BZ	*+48	06404	46	06452	01200
10220	AM	MAP+5,20,10	06416	11	19885	000K0
10230	MM	MAP+5,105,9	06428	13	19885	00J05
10240	A	FLAG+11,99	06440	21	06523	00099
10250	TF	CLFP+6,FLAG+11	06452	26	06702	06523
10260	TFM	FWRIT+8,20,9	06464	16	13275	00-20
10270	TFM	FWRIT+13,TRACK2	06476	16	13280	J7778
10280	TFM	IORT,++23	06488	16	00565	-6511
10290	B	IOGT,FPDDA,7	06500	49	00566	J3451
10300	FLAG	BNF **20,TRACK2,,	06512	44	06532	17778
10310	B	CLEAR	06524	49	06624	00000
10320	DORG	*-3	06532			
10330	SM	HOLD3,1,10	06532	12	13193	000-1
10340	BZ	FPOK	06544	46	06864	01200
10350	AM	FLAG+11,105,9	06556	11	06523	00J05
10360	CM	FLAG+11,TRACK2+2100	06568	14	06523	J9878
10370	BL	FLAG	06580	47	06512	01300
10380	TFM	FLAG+11,TRACK2	06592	16	06523	J7778
10390	AM	FWRIT+5,20,10	06604	11	13272	000K0
10400	B	FLAG-24	06616	49	06488	00000
10410	DORG	*-3	06624			
10420	CLEAR	TF FWRIT+5,LOADSA	06624	26	13272	13102
10430	TD	FWRIT,LOADSA-5	06636	25	13267	13097
10440	SF	BUTTON	06648	32	00455	00000
10450	BTM	KYMESS,++12	06660	17	11998	-6672
10460	TFM	IORT,++23	06672	16	00565	-6695
10470	B	IOGT,FPDDA,7	06684	49	00566	J3451
10480	CLFP	CF TRACK2,,	06696	33	17778	00000
10490	SM	LOADSC,1,10	06708	12	13180	000-1
10500	BZ	WROK	06720	46	06768	01200
10510	AM	CLFP+6,105,9	06732	11	06702	00J05
10520	CM	CLFP+6,TRACK2+2100	06744	14	06702	J9878
10530	BL	CLFP	06756	47	06696	01300
10540	WROK	TFM IORT,++23	06768	16	00565	-6791
10550	B	IOPT,FPDDA,7	06780	49	00532	J3451
10560	AM	FWRIT+5,20,10	06792	11	13272	000K0
10570	TFM	CLFP+6,TRACK2	06804	16	06702	J7778
10580	CM	LOADSC,0,9	06816	14	13180	00-00
10590	BNE	CLFP-24	06828	47	06672	01200
10600	CF	BUTTON	06840	33	00455	00000
10610	BTM	KYMESS,++12	06852	17	11998	-6864
10620	FPOK	TF NEWDIM,DIMNUM	06864	26	02963	13190
10630	BT	DIMMER,DIMMER-1	06876	27	03672	03671
10640	TDM	MAP,,,	06888	15	19880	00000
10650	DSC	1,*,*	06899			1
10660	TF	MAP+19,ZERO19	06900	26	19899	13174
10670	TFM	IORT,++23	06912	16	00565	-6935

SEARCH FOR FILE PROTECTION

CLEAR FILE PROTECTION

REMOVE DIM ENTRY

10680	B	IOPT,DMDDA,7	06924	49	00532	-2568
10690	EXIT3	TDM SYSCAL,3	06936	15	00475	00003
10700	B	MONCAL	06948	49	00796	00000
10710	DORG	*-3	06956			
10720	TCD	DELFL	05600			
10730	****					
10740	*****	*DLOAD INDEPENDENT ROUTINES				
10750	****					
10760	DORG	4400	04400			
10770	LOADFL	TFM IORT,++23	04400	16	00565	-4423
10780	B	IOPT,LOAD2,7	04412	49	00532	-4463
10790	TRA		04424	36	00000	00500
			04436	49	00000	00000
10800	LOAD1	DSC 1,1	04448			1
10810	DC	5,18369	04453			5
		J8369				
10820	DC	3,027	04456			3
		-27				
10830	DC	5,05800	04461			5
		-5800				
10840	DSC	1,1	04462			1
		*				
10850	LOAD2	DSC 2,22	04463			2
		22				
10860	DSA	LOAD1	04469			5 X 1
10870	DSC	1,1	04469			-4448
		*	04470			1
10880	DORG	5800	05800			
10890	DLOAD	BTM SCRAD,++12	05800	17	09298	-5812
10900	TD	MXNOSA-2,MCS+49	05812	25	05833	17827
10910	SF	MXNOSA-2,399,9	05824	32	05833	00L99
10920	SM	MXNOSA,100,9	05836	12	05835	00J00
10930	MXNOSA	DC 3,399,DLOAD+35	05835			3
		L99				
10940	TFM	HOLD2,0,10	05848	16	13104	000-0
10950	TD	HOLD2,SYSCAL	05860	25	13104	00475
10960	**	IS CALL FROM CONTROL CARD				
10970	CM	HOLD2,4,10	05872	14	13104	000-4
10980	BNE	SPS	05884	47	07484	01200
10990	TFM	ATN+11,INPUT+32	05896	16	09053	J3645
11000	**	I CONVERT CONTROL CARD TO NUMERIC				
11010	BTM	ATNR,++12	05908	17	08606	-5920
11020	DC2	SF HOLDCD+10	05920	32	13056	00000
11030	SF	HOLDCD+17	05932	32	13063	00000
11040	SF	HOLDCD+22	05944	32	13068	00000
11050	SF	HOLDCD+27	05956	32	13073	00000
11060	BD	*+68,NTEST	05968	43	06036	13132
11070	CM	HOLDCD+26,0,7	05980	14	13072	-0000
11080	BNE	*+24	05992	47	06016	01200
11090	TFM	HOLDCD+26,02402,7	06004	16	13072	-2402
11100	TF	MAPNA,HOLDCD+26	06016	26	13150	13072
11110	B7	*+44	06028	49	06072	

11120	CM	HOLDCD+26,0,7	06036	14	13072	-0000
11130	BNE	**32	06048	47	06016	01200
11140	TFM	MAPMA,99999,7	06060	16	13150	R9999
11150	TF	MAPEA,HOLDCD+31	06072	26	13155	13077
11160	BD	DISKN,PHI,,	06084	43	06340	13130
11170	DC22	SF	06096	32	13652	00000
11180	C	INPUT+50,ZERO12	06108	24	13663	13167
11190	BE	ERRD-12	06120	46	02512	01200
11200	TF	HOLD6,HOLDCD+15	06132	26	13215	13061
11210	S	HOLD6,HOLDCD+9	06144	22	13215	13055
11220	BNL	**32	06156	46	06188	01300
11230	TFM	DIMERR+22,7177,8	06168	16	02507	0P177
11240	B	ERRD	06180	49	02524	00000
11250	DORG	**3	06188			
11260	C	HOLDCD+9,SCR1	06188	24	13055	13203
11270	BL	SCERR	06200	47	12854	01300
11280	C	HOLDCD+15,SCR2	06212	24	13061	13209
11290	BH	SCERR	06224	46	12854	01100
11300	TF	LOADSC,HOLDCD+15,,	06236	26	13180	13061
11310	S	LOADSC,HOLDCD+9	06248	22	13180	13055
11320	AM	LOADSC,1,10	06260	11	13180	000-1
11330	TF	SCRACH,HOLDCD+9	06272	26	13186	13055
11340	SF	LOADSC-2	06284	32	13178	00000
11350	SF	SCRACH-4	06296	32	13182	00000
11360	CF	SCRACH-5	06308	33	13181	00000
11370	BD	MODDK1,RTEST	06320	43	10682	13131
11380	B	MAINB1	06332	49	06364	00000
11390	DORG	**3	06340			
11400	DISKN	BD	06340	43	10482	13131
11410	BTM	NODISK,**12	06352	17	09866	-6364
11420	MAINB1	BD	06364	43	06396	13133
11430	TDM	MAPRM,,,	06376	15	13115	00000
11440	DSC	1,*,*	06387		1	
11450	B	**20	06388	49	06408	00000
11460	DORG	**3	06396			
11470	TD	MAPRM,GPMARK,,	06396	25	13115	13116
11480	SF	INPUT+63	06408	32	13676	00000
11490	C	INPUT+74,ZERO12	06420	24	13687	13167
11500	BE	NOSAC	06432	46	10886	01200
11510	SF	MAPRM,,,	06444	32	13115	00000
11520	TF	LOADSA,HOLDCD+21	06456	26	13102	13067
11530	TD	LOADSA-5,HOLDCD+16	06468	25	13097	13062
11540	CF	LOADSA-4	06480	33	13098	00000
11550	SF	LOADSA-5	06492	32	13097	00000
11560	C	LOADSA,SCR2	06504	24	13102	13209
11570	BH	SCROK	06516	46	06588	01100
11580	TF	HOLD6,LOADSA	06528	26	13215	13102
11590	A	HOLD6,LOADSC	06540	21	13215	13180
11600	SM	HOLD6,1,10	06552	12	13215	000-1
11610	C	HOLD6,SCR1	06564	24	13215	13203
11620	BNL	SCERR	06576	46	12854	01300
11630	SCROK	SF	06588	32	13624	00000
11640	SF	LOADSA-4	06600	32	13098	00000
11650	CF	LOADSA-5	06612	33	13097	00000
11660	TF	PNAME,INPUT+22	06624	26	13229	13635

11670	CM	HOLDCD+3,0,8	06636	14	13049	0-000
11680	BE	FINDON	06648	46	06740	01200
11690	TF	NEWDIM,HOLDCD+3	06660	26	02963	13049
11700	BT	DIMMER,DIMMER-1	06672	27	03672	03671
11710	BNR	**20,MAP	06684	45	06704	19880
11720	B	CALLMV	06696	49	07036	00000
11730	DORG	**3	06704			
11740	RCY		06704	34	00000	00102
11750	TFM	DIMERR+22,7572,8	06716	16	02507	0P572
11760	WATY	DIMERR	06728	39	02485	00100
11770	FINDON	TFM	06740	16	02963	0-131
11780	TF	HOLD6,ZERO6	06752	26	13215	13161
11790	TF	HOLD6,NEWDIM	06764	26	13215	02963
11800	A	HOLD6,HOLD6	06776	21	13215	13215
11810	CF	HOLD6-3	06788	33	13212	00000
11820	AM	HOLD6-1,4800,8	06800	11	13214	0M800
11830	TF	DZREAD+5,HOLD6-1	06812	26	13504	13214
11840	TFM	IORT,**23	06824	16	00565	-6847
11850	B	IOGT,DIREAD,7	06836	49	00566	J3491
11860	TFM	TREC+11,TRACK	06848	16	06895	J3776
11870	TD	**23,HOLD6	06860	25	06883	13215
11880	AM	TREC+10,0,10	06872	11	06894	000-0
11890	TREC	BNR	06884	45	06904	13776
11900	B	CALLMV	06896	49	07036	00000
11910	DORG	**3	06904			
11920	AM	NEWDIM,1,10	06904	11	02963	000-1
11930	C	NEWDIM,MAXDIM	06916	24	02963	03849
11940	BH	EXITFL	06928	46	06984	01100
11950	AM	TREC+11,20,10	06940	11	06895	000K0
11960	CM	TREC+11,TRACK+2100	06952	14	06895	J5876
11970	BL	TREC	06964	47	06884	01300
11980	B	FINDON+12	06976	49	06752	00000
11990	DORG	**3	06984			
12000	EXITFL	BNF	06984	44	07016	13114
12010	TFM	DIMERR+22,7671,8	06996	16	02507	0P671
12020	B	ERR+24	07008	49	05686	00000
12030	DORG	**3	07016			
12040	TFM	DIMERR+22,0079,8	07016	16	02507	0-079
12050	B	ERRD	07028	49	02524	00000
12060	DORG	**3	07036			
12070	CALLMV	TF	07036	26	13190	02963
12080	TF	MOVESC,LOADSC	07048	26	02865	13180
12090	TF	MOVESA,LOADSA	07060	26	02862	13102
12100	TD	MOVESA-5,LOADSA-5	07072	25	02857	13097
12110	B	IORT,**23	07084	16	00565	-7107
12120	B	IOGT,MOVDDA,7	07096	49	00566	J3244
12130	TFM	EXITMR+6,**20	07108	16	08630	-7128
12140	B	MOVPR	07120	49	08824	00000
12150	DORG	**3	07128			
12160	BNF	ERR,SUCCESS	07128	44	05662	13118
12170	TFM	IORT,**23	07140	16	00565	-7163
12180	B	IOGT,EOUDDA,7	07152	49	00566	J3312
12190	TFM	IORT,**23	07164	16	00565	-7187
12200	B	IOGT,COM2,7	07176	49	00566	J3335
12210	TF	NEWDIM,DIMNUM	07188	26	02963	13190
12220	BT	DIMMER,DIMMER-1	07200	27	03672	03671

12230	BTM	SETMAP,++12	07212	17	10738	-7224
12240	BTM	WRLAST,++12	07224	17	11842	-7236
12250	BNF	MONCAL,DUMP	07236	44	00796	13426
12260	TD	MCS+23,DUMP	07248	25	17801	13426
12270	TFM	IORT,++23	07260	16	00565	-7283
12280	B	IOGT,DMPDIM,7	07272	49	00566	J3403
12290	WR2	DS	02257		0	
12300	LOADRE	TFM ATN+11,INPUT+32	07284	16	09053	J3645
12310	SF	LOADRE	07296	32	07284	00000
12320	BTM	ATNR,++12	07308	17	08606	-7320
12330	TFM	INPUT+49,7070,8	07320	16	13662	0P070
12340	A	WR2+3,425	07332	21	02260	00425
12350	TD	WR2,422	07344	25	02257	00422
12360	SF	WR2	07356	32	02257	00000
12370	CF	WR2+1	07368	33	02258	00000
12380	TF	HOLDCCD+9,WR2+5	07380	26	13055	02262
12390	TF	HOLDCCD+15,WR2+5	07392	26	13061	02262
12400	A	HOLDCCD+15,WR2+8	07404	21	13061	02265
12410	SM	HOLDCCD+15,1,10	07416	12	13061	000-1
12420	TF	HOLDCCD+26,WR2+13	07428	26	13072	02270
12430	TF	MAPMA,WR2+13	07440	26	13150	02270
12440	BNF	DC2,MCS+22	07452	44	05920	17800
12450	SF	FORT	07464	32	13114	00000
12460	B	NORE1	07476	49	07600	00000
12470	DORG	*-3	07484			
12480	SPS	TFM PHI,0,9,	LOAD AFTER COMPILATION	16	13130	00-00
12490	CM	HOLD2,6,10	07496	14	13104	000-6
12500	BNE	LOADRE	07508	47	07284	01200
12510	TDM	FREDDA,0	07520	15	13467	00000
12520	SF	FORT	07532	32	13114	00000
12530	TF	MAPMA,MCS+12	07544	26	13150	17790
12540	BD	NORE1,MCS+22	07556	43	07600	17800
12550	TFM	SCRACH,0,7	07568	16	13186	-0000
12560	TDM	SCRACH-5,0	07580	15	13181	00000
12570	B	MODDK1	07592	49	10682	00000
12580	DORG	*-3	07600			
12590	NORE1	TF INPUT+22,MCS+35	07600	26	13635	17813
12600	TF	MAPEA,MCS+17	07612	26	13155	17795
12610	TD	DUMP,MCS+23	07624	25	13426	17801
12620	NEGATE	TDM PTEST,0,7	NEGATE FILE PROTECTION	15	13133	00000
12630	TF	INPUT+74,ZERO12	07648	26	13687	13167
12640	TF	HOLDCCD+40,ZERO6,,	CYLINDER SPEC.	26	13086	13161
12650	TF	HOLDCCD+3,MCS+39	07672	26	13049	17817
12660	BNF	++20,LOADRE	07684	44	07704	07284
12670	B	DC22	07696	49	06096	00000
12680	DORG	*-3	07704			
12690	TFM	LOADSC,0,9	07704	16	13180	00-00
12700	TFM	DCFSR+8,3,9	07716	16	13381	00-03
12710	TFM	DCFSR+5,0,7	07728	16	13378	-0000
12720	INITI	TFM LOOP,4,10	07740	16	13120	000-4
12730	TFM	SCAN1+6,READIN	07752	16	07794	J7778
12740	TFM	IORT,++23	07764	16	00565	-7787
12750	B	IOGT,DDASCR,7	07776	49	00566	J3483
12760	SCAN1	NOP READIN,0	07788	41	17778	00000
12770	TF	BNR+11,SCAN1+6	07800	26	09661	07794
12780	TFM	NODISK-1,MAINR1	07812	16	09865	-6364

12790	BTM	LCTEST,++12	07824	17	09614	-7836
12800	SM	LOOP,1,10	07836	12	13120	000-1
12810	BD	UPSCA,LOOP	07848	43	07892	13120
12820	AM	LOADSC,3,10	07860	11	13180	000-3
12830	AM	DCFSR+5,3,10	07872	11	13378	000-3
12840	B	INITI	07884	49	07740	00000
12850	DORG	*-3	07892			
12860	UPSCA	AM SCAN1+6,75,9	07892	11	07794	00-75
12870	B	SCAN1	07904	49	07788	00000
12880	DORG	*-3	07912			
12890	TCD	LOADFL	04400			
12900	*****					
12910	*****	*DREPL INDEPENDENT ROUTINES				
12920	*****					
12930	DORG	4400	04400			
12940	REPLFL	TFM IORT,++23	04400	16	00565	-4423
12950	B	IOPT,REPL2,7	04412	49	00532	-4463
12960	TRA		04424	36	00000	00500
			04436	49	00000	00000
12970	REPL1	DSC 1,1	04448			1
		1				
12980	DC	5,18400	04453			5
		J8400				
12990	DC	3,028	04456			3
		-28				
13000	DC	5,05800	04461			5
		-5800				
13010	DSC	1,1	04462			1
		'				
13020	REPL2	DSC 2,22	04463			2
		22				
13030	DSA	REPL1	04469			5 X 1
13040	DSC	1,1	04469			-4448
		'	04470			1
13050	DORG	5800	05800			
13060	DREPL	TFM HOLD2,0,10	05800	16	13104	000-0
13070	BTM	SCRAD,++12	05812	17	09298	-5824
13080	TD	HOLD2,SYSCAL	05824	25	13104	00475
13090	CM	HOLD2,4,10	05836	14	13104	000-4
13100	BNE	RELD	05848	47	08172	01200
13110	SF	INPUT+11	05860	32	13624	00000
13120	TFM	ATN+11,INPUT+24	05872	16	09053	J3637
13130	BTM	ATNR,++12,,	05884	17	08606	-5896
13140	SF	HOLDCCD+8	05896	32	13054	00000
13150	SF	HOLDCCD+14	05908	32	13060	00000
13160	SF	HOLDCCD+26	05920	32	13072	00000
13170	SF	HOLDCCD+31	05932	32	13077	00000
13180	TF	PNAME,INPUT+22	05944	26	13229	13635
13190	ISTO	CM HOLDCCD+7,0,8,	05956	14	13053	0-000
13200	BE	ERRD-12	05968	46	02512	01200
13210	TF	NEWDIM,HOLDCCD+7	05980	26	02963	13053
13220	BT	DIMMER,DIMMER-1	05992	27	03672	03671
13230	BNR	++32,MAP	06004	45	06036	19880

13240	TFM	DIMERR+22,0072,8	06016	16	02507	0-072
13250	B	ERRD,,,	06028	49	02524	00000
13260	DORG	=-3	06036			
13270	BNF	**+32,MAP+19	06036	44	06068	19899
13280	****	ERROR IF TO DIM IS IMMOVABLE				
13290	TFM	DIMERR+22,0073,8	06048	16	02507	0-073
13300	B	ERRD	06060	49	02524	00000
13310	DORG	=-3	06068			
13320	TF	LOADSA,MAP+5	06068	26	13102	19885
13330	TD	LOADSA-5,MAP	06080	25	13097	19880
13340	**	ENTRY AND CORE ADDRESSES FROM CARD				
13350	TF	MAPEA,HOLDCCD+35	06092	26	13155	13081
13360	BD	PATCH2+52,NTST	06104	43	11634	13132
13370	CM	HOLDCCD+30,0,7	06116	14	13076	-0000
13380	B7	PATCH2	06128	49	11582	
13390	PAT2	TFM MAPMA,99999,7	06136	16	13150	R9999
13400	BD	**+32,PTEST	06148	43	06180	13133
13410	**	NO FILE PROTECTION				
13420	TDM	MAPRM,,,	06160	15	13115	00000
13430	DSC	1,*,*	06171		1	
13440	B	**+20	06172	49	06192	00000
13450	DORG	=-3	06180			
13460	**	FILE PROTECTION				
13470	TD	MAPRM,GPMARK	06180	25	13115	13116
13480	**	PROGRAM IS MOVABLE				
13490	BD	NDISK,PHI	06192	43	06848	13130
13500	**	IS THERE A FROM DIM				
13510	CM	HOLDCCD+3,0,8	06204	14	13049	0-000
13520	BNE	NTZ	06216	47	06380	01200
13530	**	PROGRAM IS IN WORK AREA				
13540	SF	INPUT+39	06228	32	13652	00000
13550	C	INPUT+50,ZERO12	06240	24	13663	13167
13560	BE	ERRD-12	06252	46	02512	01200
13570	C	HOLDCCD+19,SCR2	06264	24	13065	13209
13580	BH	SCERR	06276	46	12854	01100
13590	C	HOLDCCD+13,SCR1	06288	24	13059	13203
13600	BL	SCERR	06300	47	12854	01300
13610	**	COMPUTE SECTOR COUNT				
13620	TF	LOADSC,HOLDCCD+19	06312	26	13180	13065
13630	S	LOADSC,HOLDCCD+13	06324	22	13180	13059
13640	AM	LOADSC,1,10	06336	11	13180	000-1
13650	SF	LOADSC-2	06348	32	13178	00000
13660	TF	SCRACH,HOLDCCD+13	06360	26	13186	13059
13670	B	MAINB2	06372	49	06884	00000
13680	DORG	**+3	06380			
13690	NTZ	TF NEWDIM,HOLDCCD+3	06380	26	02963	13049
13700	BNF	**+20,LOADER	06392	44	06412	11310
13710	B	NTZ-68	06404	49	06312	00000
13720	DORG	**+3	06412			
13730	BT	DIMMER,DIMMER-1	06412	27	03672	03671
13740	**	ERROR IF FROM DIM NOT IN USE				
13750	BNR	**+32,MAP	06424	45	06456	19880
13760	TFM	DIMERR+22,0074,8	06436	16	02507	0-074
13770	B	ERRD	06448	49	02524	00000
13780	DORG	=-3	06456			

13790	**	ERROR IF FROM DIM IS IMMOVABLE				
13800	BNF	**+32,MAP+19	06456	44	06488	19899
13810	TFM	DIMERR+22,0077,8	06468	16	02507	0-077
13820	B	ERRD	06480	49	02524	00000
13830	DORG	=-3	06488			
13840	TF	LOADSC,MAP+8	06488	26	13180	19888
13850	***	PUT FROM DIM PROG. ON SCRATCH				
13860	TDM	FWRDDA,0	06500	15	13459	00000
13870	TFM	FWRIT+5,0,7	06512	16	13272	-0000
13880	TDM	FWRIT,0	06524	15	13267	00000
13890	TFM	FWRIT+13,TRACK	06536	16	13280	J3776
13900	TF	FREAD+5,MAP+5	06548	26	13287	19885
13910	TD	FREAD,MAP	06560	25	13282	19880
13920	TFM	FREAD+13,TRACK	06572	16	13295	J3776
13930	MORERD	CM MAP+8,040,9	06584	14	19888	00-40
13940	BNH	**+44	06596	47	06640	01100
13950	SM	MAP+8,040,9	06608	12	19888	00-40
13960	TFM	FREAD+8,040,9	06620	16	13290	00-40
13970	B	**+32	06632	49	06664	00000
13980	DORG	**+3	06640			
13990	TF	FREAD+8,MAP+8	06640	26	13290	19888
14000	S	MAP+8,MAP+8	06652	22	19888	19888
14010	TF	FWRIT+8,FREAD+8	06664	26	13275	13290
14020	TFM	IORT,**+23	06676	16	00565	-6699
14030	B	IORT,FREDDA,7	06688	49	00566	J3467
14040	TFM	IORT,**+23	06700	16	00565	-6723
14050	B	IORT,FWRDDA,7	06712	49	00532	J3459
14060	CM	MAP+8,0,9	06724	14	19888	00-00
14070	BE	**+44	06736	46	06780	01200
14080	A	FREAD+5,FREAD+8	06748	21	13287	13290
14090	A	FWRIT+5,FREAD+8	06760	21	13272	13290
14100	B	MORERD	06772	49	06584	00000
14110	DORG	**+3	06780			
14120	TDM	FWRDDA,2	06780	15	13459	00002
14130	TFM	SCRACH,0,7	06792	16	13186	-0000
14140	TDM	FREDDA,0	06804	15	13467	00000
14150	**	ENTRY AND CORE ADDRESSES FROM FROM DIM MAP				
14160	CM	HOLDCCD+35,0,7	06816	14	13081	-0000
14170	BNE	PATCH1+12	06828	47	12810	01200
14180	B7	PATCH1	06840	49	12798	
14190	NDISK	BD MDDND1,RTEST	06848	43	10482	13131
14200	BTM	MDDISK,**+12	06860	17	09866	-6872
14210	TFM	HOLDCCD+3,0,8	06872	16	13049	0-000
14220	MAINB2	BD MDDDK1,RTEST	06884	43	10682	13131
14230	TFM	IORT,**+23	06896	16	00565	-6919
14240	B	IORT,COM2,7	06908	49	00566	J3335
14250	CM	HOLDCCD+3,0,8	06920	14	13049	0-000
14260	BE	**+36	06932	46	06968	01200
14270	***	DELETE FROM DIM FROM S.P.LIST				
14280	TF	DIMNUM,HOLDCCD+3	06944	26	13190	13049
14290	BTM	SPLDEL,**+12	06956	17	12090	-6968
14300	*	DELETE TO DIM FROM SP LIST				
14310	TF	DIMNUM,HOLDCCD+7	06968	26	13190	13053
14320	BTM	SPLDEL,**+12	06980	17	12090	-6992
14330	TF	MOVESA,LOADSA	06992	26	02862	13102
14340	TD	MOVESA-5,LOADSA-5	07004	25	02857	13097

14350	TF	MOVESC,LOADSC	07016	26	02865	13180
14360	TFM	IORT,++23	07028	16	00565	-7051
14370	B	IOGT,MOVDDA,7	07040	49	00566	J3244
14380	TFM	EXITMR+6,++20	07052	16	08630	-7072
14390	B	MOVER	07064	49	08824	00000
14400	DORG	*-3	07072			
14410	BNF	*+20,AOK	07072	44	07092	13118
14420	B	UPDIM	07084	49	07312	00000
14430	DORG	*-3	07092			
14440	***	INSERT TO AND FROM DIMS INTO S.P.LIST				
14450	NOSPAC	TF NEWDIM,HOLD CD+7,7	07092	26	02963	J3053
14460	BT	DIMMER,DIMMER-1	07104	27	03672	03671
14470	TF	MOVESC,MAP+8	07116	26	02865	19888
14480	TF	MOVESA,MAP+5	07128	26	02862	19885
14490	TD	MOVESA-5,MAP	07140	25	02857	19880
14500	TFM	EXITMR+6,++20	07152	16	08630	-7172
14510	B	MOVER	07164	49	08824	00000
14520	DORG	*-3	07172			
14530	TF	DIMNUM,NOSPAC+11,11	07172	26	13190	07101
14540	TFM	IORT,++23	07184	16	00565	-7207
14550	B	IOGT,COM2,7	07196	49	00566	J3335
14560	BTM	SPLINS,++12	07208	17	10606	-7220
14570	CM	NOSPAC+11,HOLD CD+3	07220	14	07103	J3049
14580	BE	ERR	07232	46	05662	01200
14590	CM	HOLD CD+3,0,8	07244	14	13049	0-000
14600	BE	ERR	07256	46	05662	01200
14610	TFM	NOSPAC+11,HOLD CD+3	07268	16	07103	J3049
14620	TFM	IORT,++23	07280	16	00565	-7303
14630	B	IOGT,MOVDDA,7	07292	49	00566	J3244
14640	B	NOSPAC	07304	49	07092	00000
14650	DORG	*-3	07312			
14660	UPDIM	TFM IORT,++23	07312	16	00565	-7335
14670	B	IOGT,EQUDDA,7	07324	49	00566	J3312
14680	TFM	IORT,++23	07336	16	00565	-7359
14690	B	IOGT,COM2,7	07348	49	00566	J3335
14700	***	CLEAR ANY FILE PROTECTION IN TO AND FROM DIM				
14710	SEARFP	TF NEWDIM,HOLD CD+7,7	07360	26	02963	J3053
14720	BT	DIMMER,DIMMER-1	07372	27	03672	03671
14730	TF	FWRIT+5,MAP+5	07384	26	13272	19885
14740	TD	FWRIT,MAP	07396	25	13267	19880
14750	TF	HOLD3,MAP+8	07408	26	13193	19888
14760	TFM	TESTFP+11,TRACK	07420	16	07587	J3776
14770	TF	HOLD5,MAP+5	07432	26	13139	19885
14780	SF	HOLD5-1	07444	32	13138	00000
14790	SM	HOLD5,20,10	07456	12	13139	000K0
14800	BH	*-12	07468	46	07456	01100
14810	BZ	*+48	07480	46	07528	01200
14820	AM	HOLD5,20,10	07492	11	13139	000K0
14830	MM	HOLD5,105,9	07504	13	13139	00J05
14840	A	TESTFP+11,99	07516	21	07587	00099
14850	TFM	FWRIT+8,020,9	07528	16	13275	00-20
14860	TFM	FWRIT+13,TRACK	07540	16	13280	J3776
14870	TFM	IORT,++23	07552	16	00565	-7575
14880	B	IOGT,FPDDA,7	07564	49	00566	J3451
14890	TESTFP	BNF *+20,TRACK	07576	44	07596	13776
14900	B	CLRFP	07588	49	07688	00000

14910	DORG	*-3	07596			
14920	SM	HOLD3,1,10	07596	12	13193	000-1
14930	BZ	NOFLGS	07608	46	07748	01200
14940	AM	TESTFP+11,105,9	07620	11	07587	00J05
14950	CM	TESTFP+11,TRACK+2100	07632	14	07587	J5876
14960	BL	TESTFP	07644	47	07576	01300
14970	AM	FWRIT+5,20,10	07656	11	13272	000K0
14980	TFM	TESTFP+11,TRACK	07668	16	07587	J3776
14990	B	TESTFP-24	07680	49	07552	00000
15000	DORG	*-3	07688			
15010	CLRFP	TF HOLD3,MAP+8	07688	26	13193	19888
15020	TF	FWRIT+5,MAP+5	07700	26	13272	19885
15030	TD	FWRIT,MAP	07712	25	13267	19880
15040	TFM	FPSF+1,33,10	07724	16	11643	000L3
15050	BTM	FP,++12	07736	17	11462	-7748
15060	NOFLGS	CM SEARFP+11,HOLD CD+3	07748	14	07371	J3049
15070	BE	ALLCLR	07760	46	07816	01200
15080	CM	HOLD CD+3,0,8	07772	14	13049	0-000
15090	BE	ALLCLR	07784	46	07816	01200
15100	TFM	SEARFP+11,HOLD CD+3	07796	16	07371	J3049
15110	B	SEARFP	07808	49	07360	00000
15120	DORG	*-3	07816			
15130	***	REMOVE NAMES				
15140	ALLCLR	C HOLD CD+3,HOLD CD+7	07816	24	13049	13053
15150	BE	*+108	07828	46	07936	01200
15160	CM	HOLD CD+3,0,8	07840	14	13049	0-000
15170	BE	*+48	07852	46	07900	01200
15180	SF	DELETE	07864	32	13134	00000
15190	TF	DIMNUM,HOLD CD+3	07876	26	13190	13049
15200	BTM	EQUIV,++12	07888	17	08606	-7900
15210	SF	DELETE	07900	32	13134	00000
15220	TF	DIMNUM,HOLD CD+7	07912	26	13190	13053
15230	BTM	EQUIV,++12	07924	17	08606	-7936
15240	TF	NEWDIM,HOLD CD+7	07936	26	02963	13053
15250	BT	DIMMER,DIMMER-1	07948	27	03672	03671
15260	BTM	SETMAP,++12	07960	17	10738	-7972
15270	C	HOLD CD+3,HOLD CD+7	07972	24	13049	13053
15280	BE	VOILA	07984	46	08112	01200
15290	CM	HOLD CD+3,0,8	07996	14	13049	0-000
15300	BE	VOILA	08008	46	08112	01200
15310	*	DELETE FROM DIM REFERENCES				
15320	TF	NEWDIM,HOLD CD+3	08020	26	02963	13049
15330	BT	DIMMER,DIMMER-1	08032	27	03672	03671
15340	BNR	*+20,MAP	08044	45	08064	19880
15350	B	MONCAL	08056	49	00796	00000
15360	DORG	*-3	08064			
15370	TDM	MAP,,,	08064	15	19880	00000
15380	DSC	1,*,*	08075			1
15390	TF	MAP+19,ZERO19	08076	26	19899	13174
15400	TFM	IORT,++23	08088	16	00565	-8111
15410	B	IOPT,DDDDA,7	08100	49	00532	-2568
15420	VOILA	BTM WRLAST,++12	08112	17	11842	-8124
15430	BNF	MONCAL,DUMP	08124	44	00796	13426
15440	TD	MCS+23,DUMP	08136	25	17801	13426
15450	TFM	IORT,++23	08148	16	00565	-8171

15460	B	IOGT,DMPDIM,7	08160	49	00566	J3403
15470	RELD	TFM PHI,0,10	08172	16	13130	000-0
15480	CM	HOLD2,6,10	08184	14	13104	000-6
15490	BNE	LOADER	08196	47	11310	01200
15500	SF	FORT	08208	32	13114	00000
15510	TD	DUMP,MCS+23	08220	25	13426	17801
15520	TF	PNAME,MCS+35	08232	26	13229	17813
15530	TF	HOLD2,7,MCS+39	08244	26	13053	17817
15540	TFM	SCRACH,0,7	08256	16	13186	-0000
15550	TDM	FREDDA,0	08268	15	13467	00000
15560	BD	**20,MCS+22	08280	43	08300	17800
15570	B	MODDK1	08292	49	10682	00000
15580	DORG	*-3	08300			
15590	NORE2	TF HOLD2,30,MCS+12	08300	26	13076	17790
15600	TF	HOLD2,35,MCS+17	08312	26	13081	17795
15610	TFM	LOADSC,0,9	08324	16	13180	00-00
15620	TFM	DCFSCR+8,3,9	08336	16	13381	00-03
15630	TFM	DCFSCR+5,0,7	08348	16	13378	-0000
15640	INIT2	TFM LOOP,4,10	08360	16	13120	000-4
15650	TFM	SCAN2+6,READIN	08372	16	08414	J7778
15660	TFM	IORT,**23	08384	16	00565	-8407
15670	B	IOGT,DDASCR,7	08396	49	00566	J3483
15680	SCAN2	NOP READIN,0	08408	41	17778	00000
15690	TF	BNR+11,SCAN2+6	08420	26	09661	08414
15700	TFM	NODISK-1,RELD2	08432	16	09865	-8532
15710	BTM	LCTEST,**12	08444	17	09614	-8456
15720	SM	LOOP,1,10	08456	12	13120	000-1
15730	BD	UPSCAN,LOOP	08468	43	08512	13120
15740	AM	LOADSC,3,10	08480	11	13180	000-3
15750	AM	DCFSCR+5,3,10	08492	11	13378	000-3
15760	B	INIT2	08504	49	08360	00000
15770	DORG	*-3	08512			
15780	UPSCAN	AM SCAN2+6,75,9	08512	11	08414	00-75
15790	B	SCAN2	08524	49	08408	00000
15800	DORG	*-3	08532			
15810	RELD2	TF HOLD2,13,THOU	08532	26	13059	13096
15820	TF	HOLD2,19,THOU	08544	26	13065	13096
15830	A	HOLD2,19,LOADSC	08556	21	13065	13180
15840	SM	HOLD2,19,1,10	08568	12	13065	000-1
15850	TFM	INPUT+42,7070,8	08580	16	13655	0P070
15860	B	ISTO	08592	49	05956	00000
15870	DORG	*-3	08600			
15880	TCD	REPLFL	04400			

15890 *****
15900 ***** COMMON ROUTINES FOR *DLOAD AND *DREPL
15910 *****

15920	DORG	7200	07200			
15930	COMMF1	TFM IORT,**23	07200	16	00565	-7223
15940	B	IOPT,COMM2,7	07212	49	00532	-7263
15950	TRA		07224	36	00000	00500
			07236	49	00000	00000
15960	COMM1	DSC 1,1	07248			1
		1				
15970	DC	5,18480	07253			5
		J8480				

15980	DC	3,031	07256			3
		-31				
15990	DC	5,08600	07261			5
		-8600				
16000	DSC	1,1	07262			1
		*				
16010	CUMM2	DSC 2,22	07263			2
		22				
16020	DSA	COMM1	07269			5 X 1
16030	DSC	1,1	07269			-7248
		*	07270			1
16040	DORG	8100	08100			
16050	EQUFL	TFM IORT,**23	08100	16	00565	-8123
16060	B	IOPT,EQU1,7	08112	49	00532	-8148
16070	TRA		08124	36	00000	00500
			08136	49	00000	00000
16080	EQU1	DSC 2,22	08148			2
		22				
16090	DSA	EQU2	08154			5 X 1
16100	DSC	1,1	08154			-8156
		*	08155			1
16110	EQU2	DSC 1,1	08156			1
		1				
16120	DC	5,18278	08161			5
		J8278				
16130	DC	3,020	08164			3
		-20				
16140	DC	5,08600	08169			5
		-8600				
16150	DSC	1,1	08170			1
		*				
16160	DORG	8600	08600			
16170	*					
16180	*	EQUIVALENCE TABLE SUBROUTINE				
16190	DC	5,0	08604			5
		-0000				
16200	EQUIV	TFM NEWDIM,0002,8	08606	16	02963	0-002
16210	BT	DIMMER,DIMMER-1	08618	27	03672	03671
16220	BNF	SKNAME,DELETE	08630	44	09690	13134
16230	CM	DIMNUM,0,8,	08642	14	13190	0-000
16240	BE	ANAME	08654	46	10466	01200
16250	LIMITS	CM DIMNUM,SUBLO,8	08666	14	13190	0-010
16260	BL	B2READ	08678	47	09054	01300
16270	CM	DIMNUM,SUBHI,8	08690	14	13190	0-039
16280	BH	B2READ	08702	46	09054	01100
16290	TFM	CNINE+6,DIMNUM	08714	16	08816	J3190
16300	TFM	CNINE+11,TRACK*15	08726	16	08821	J3791
16310	WITHIN	TFM HOLD,0,10	08738	16	13197	000-0
16320	TD	DISKF+5,EQUIDIM*5,	08750	26	13393	19885
16330	TF	DISKF,EQUIDIM	08762	25	13388	19880
16340	TFM	IORT,**23	08774	16	00565	-8797
16350	B	IOGT,DDAKF,7	08786	49	00566	J3443

START DELETE OPERATION

WITHIN SUBROUTINE DIM LIMITS

16360	AM	HOLD4,1,10	08798	11	13197	000-1
16370	CNINE	C ***	08810	24	00000	00000
16380	BE	TFLG	08822	46	08878	01200
16390	CM	HOLD4,50,10	08834	14	13197	000N0
16400	BH	WRT2	08846	46	08946	01100
16410	AM	CNINE+11,16,10	08858	11	08821	000J6
16420	B	CNINE-12	08870	49	08798	00000
16430	DORG	*-3	08878			
16440	TFLG	BNF NOF,DELETE	08878	44	08986	13134
16450	TFM	CNINE+11,9999,6	08890	16	0882J	09999
16460	SM	CNINE+11,4,10	08902	12	08821	000-4
16470	TF	CNINE+11,NINE12,6	08914	26	0882J	13243
16480	AM	CNINE+11,20,10	08926	11	08821	000K0
16490	B	CNINE-12	08938	49	08798	00000
16500	DORG	*-3	08946			
16510	WRT2	BNF **20,DELETE	08946	44	08966	13134
16520	B	WRT	08958	49	09022	00000
16530	DORG	*-3	08966			
16540	TFM	DIMERR+22,7574,8	08966	16	02507	0P574
16550	B	MULT2	08978	49	09974	00000
16560	DORG	*-3	08986			
16570	NOF	TF CNINE+11,PNAME,6	08986	26	0882J	13229
16580	AM	CNINE+11,4,10	08998	11	08821	000-4
16590	TF	CNINE+11,DIMNUM,6	09010	26	0882J	13190
16600	WRT	TFM IORT,**23	09022	16	00565	-9045
16610	B	IOPT,DDAKF,7	09034	49	00532	J3443
16620	B	EXIT	09046	49	10530	00000
16630	DORG	*-3	09054			
16640	B2READ	TF DISKF+5,EQUIDIM*5,,	09054	26	13393	19885
16650	AM	DISKF+5,8,10	09066	11	13393	000-8
16660	TD	DISKF,EQUIDIM	09078	25	13388	19880
16670	INITSC	TFM RECD+11,TRACK	09090	16	09185	J3776
16680	TFM	CMPAR+11,TRACK+15	09102	16	09205	J3791
16690	TFM	CLOS+8,20,9	09114	16	13366	00-20
16700	TFM	CLOS+8,20,9	09126	16	13305	00-20
16710	TFM	IORT,**23	09138	16	00565	-9161
16720	B	IOGT,DDAKF,7	09150	49	00566	J3443
16730	AM	**23,11,10	09162	11	09185	000J1
16740	RECD	BNR **20,,,	09174	45	09194	00000
16750	B	EXIT	09186	49	10530	00000
16760	DORG	*-3	09194			
16770	CMPAR	C DIMNUM,,,	09194	24	13190	00000
16780	BE	CLOSE	09206	46	09294	01200
16790	CM	CMPAR+11,TRACK+1999,,	09218	14	09205	J5775
16800	BE	INCRD	09230	46	09274	01200
16810	AM	RECD+11,16,10	09242	11	09185	000J6
16820	AM	CMPAR+11,16,10	09254	11	09205	000J6
16830	B	RECD	09266	49	09174	00000
16840	DORG	*-3	09274			
16850	INCRD	AM DISKF+5,20,9	09274	11	13393	00-20
16860	B	INITSC	09286	49	09090	00000
16870	DORG	*-3	09294			
16880	CLOSE	TDM CLOSUP+2000,,,	09294	15	15776	00000
16890	OSC	1,*,*	09305		1	
16900	TF	TRREC+6,CMPAR+11	09306	26	09420	09205

16910	SM	TRREC+6,15,10	09318	12	09420	000J5
16920	TF	TRREC+11,CMPAR+11	09330	26	09425	09205
16930	AM	TRREC+11,1,10	09342	11	09425	000-1
16940	TFM	CLOS+13,CLOSUP	09354	16	13310	J3776
16950	TFM	CLOS+13,CLOSUP+1984	09366	16	13371	J5760
16960	TF	CLOS+5,DISKF+5	09378	26	13302	13393
16970	TF	CLOS+5,DISKF+5	09390	26	13363	13393
16980	AM	CLOS+5,20,10	09402	11	13363	000K0
16990	TRREC	TR 0,0,,	09414	31	00000	00000
17000	BNR	DONE,CLOSUP+1984,,	09426	45	09542	15760
17010	TFM	IORT,**23	09438	16	00565	-9461
17020	B	IOGT,CLODDA,7	09450	49	00566	J3427
17030	TFM	IORT,**23	09462	16	00565	-9485
17040	B	IOPT,CLWDDA,7	09474	49	00532	J3435
17050	TDM	CLOSUP+3984,,,	09486	15	17760	00000
17060	OSC	1,*,*	09497		1	
17070	TR	CLOSUP,CLOSUP+2000	09498	31	13776	15776
17080	AM	CLOS+5,20,10	09510	11	13363	000K0
17090	AM	CLOS+5,20,10	09522	11	13302	000K0
17100	B	TRREC+12	09534	49	09426	00000
17110	DORG	*-3	09542			
17120	DONE	TF HOLD5,CLOS+5,,	09542	26	13139	13302
17130	S	HOLD5,EQUIDIM+5	09554	22	13139	19885
17140	SF	HOLD5-2	09566	32	13137	00000
17150	C	HOLD5,EQUIDIM+8	09578	24	13139	19888
17160	BH	NOTOK	09590	46	09634	01100
17170	TFM	IORT,**23	09602	16	00565	-9625
17180	B	IOPT,CLWDDA,7	09614	49	00532	J3435
17190	B	INITSC	09626	49	09090	00000
17200	DORG	*-3	09634			
17210	NOTOK	SM HOLD5,20,10,	09634	12	13139	000K0
17220	TF	HOLD3,EQUIDIM+8	09646	26	13193	19888
17230	S	HOLD3,HOLD5	09658	22	13193	13139
17240	TF	CLOS+8,HOLD3	09670	26	13305	13193
17250	B	NOTOK-32	09682	49	09602	00000
17260	DORG	*-3	09690			
17270	SKNAME	CM DIMNUM,0,8,	09690	14	13190	0-000
17280	BE	EXIT	09702	46	10530	01200
17290	TF	DISKF+5,EQUIDIM+5	09714	26	13393	19885
17300	TD	DISKF,EQUIDIM	09726	25	13388	19880
17310	TFM	DISKF+8,20,9	09738	16	13396	00-20
17320	TFM	DISKF+13,TRACK	09750	16	13401	J3776
17330	SCANN	TFM CNAMES+11,TRACK+11	09762	16	09829	J3787
17340	TFM	IORT,**23	09774	16	00565	-9797
17350	B	IOGT,DDAKF,7	09786	49	00566	J3443
17360	BNR	**20,CNAMES+11,11,	09798	45	09818	0982R
17370	B	NOMULT	09810	49	10030	00000
17380	DORG	*-3	09818			
17390	CNAMES	C PNAME,,7,	09818	24	13229	-0000
17400	BE	MULT	09830	46	09906	01200
17410	CM	CNAMES+11,TRACK+1995,7	09842	14	09829	J5771
17420	BE	**32	09854	46	09886	01200
17430	AM	CNAMES+11,16,10	09866	11	09829	000J6
17440	B	CNAMES-20	09878	49	09798	00000
17450	DORG	*-3	09886			

17460	AM	DISKF+5,20,10		09886	11	13393	000K0
17470	B	SCANN		09898	49	09762	00000
17480	DORG	*-3		09906			
17490	MULT	BNF **20,DELETE,,	IF MULTIPLE NAME	09906	44	09926	13134
17500	B	HOLDIM		09918	49	10498	00000
17510	DORG	*-3		09926			
17520	AM	CNAMES+11,4,10		09926	11	09829	000-4
17530	C	DIMNUM,CNAMES+11,11		09938	24	13190	0982R
17540	BE	EXIT		09950	46	10530	01200
17550	TFM	DIMERR+22,7571,8		09962	16	02507	0P571
17560	MULT2	RCTY		09974	34	00000	00102
17570	WATY	DIMERR		09986	39	02485	00100
17580	WATY	PNAME-10		09998	39	13219	00100
17590	TF	PNAME,ZEROL2		10010	26	13229	13167
17600	B	EXIT		10022	49	10530	00000
17610	DORG	*-3		10030			
17620	NOMULT	BNF **20,DELETE		10030	44	10050	13134
17630	B	EXIT		10042	49	10530	00000
17640	DORG	*-3		10050			
17650	CM	DIMNUM,SUBLO,8,	TEST DIM NUMBER LIMITS	10050	14	13190	0-010
17660	BL	OLIMIT		10062	47	10130	01300
17670	CM	DIMNUM,SUBHI,8		10074	14	13190	0-039
17680	BH	OLIMIT		10086	46	10130	01100
17690	TFM	CNINE+6,NINE12		10098	16	08816	J3243
17700	TFM	CNINE+11,TRACK+11		10110	16	08821	J3787
17710	B	WITHIN		10122	49	08738	00000
17720	DORG	*-3		10130			
17730	OLIMIT	TFM CNT,0,10,	WILL ENTRY EXCEED MAX SC	10130	16	13142	000-0
17740	TFM	**23,TRACK+95		10142	16	10165	J3871
17750	CM	CNAMES+11,TRACK+95		10154	14	09829	J3871
17760	BE	SECT		10166	46	10234	01200
17770	AM	*-13,100,9		10178	11	10165	00J00
17780	AM	CNT,1,10		10190	11	13142	000-1
17790	CM	CNT,20,10		10202	14	13142	000K0
17800	BNE	*-60		10214	47	10154	01200
17810	B	ENTOK		10226	49	10362	00G00
17820	DORG	*-3		10234			
17830	SECT	TF HOLDS,DISKF+5		10234	26	13139	13393
17840	A	HOLDS,CNT		10246	21	13139	13142
17850	S	HOLDS,EQUDIM+5		10258	22	13139	19885
17860	SF	HOLDS-2		10270	32	13137	00000
17870	C	HOLDS,EQUDIM+8		10282	24	13139	19888
17880	BL	**32		10294	47	10326	01300
17890	TFM	DIMERR+22,7573,8		10306	16	02507	0P573
17900	B	MULT2		10318	49	09974	00000
17910	DORG	*-3		10326			
17920	CM	CNAMES+11,TRACK+1995		10326	14	09829	J5771
17930	BNE	ENTOK		10338	47	10362	01200
17940	AM	DISKF+8,1,10		10350	11	13396	000-1
17950	ENTOK	TF CNAMES+11,PNAME,6,	ADD A NEW ENTRY	10362	26	0982R	13229
17960	AM	CNAMES+11,4,10		10374	11	09829	000-4
17970	TF	CNAMES+11,DIMNUM,6		10386	26	0982R	13190
17980	AM	CNAMES+11,12,10		10398	11	09829	000J2
17990	TF	CNAMES+11,ZEROL2,6		10410	26	0982R	13167
18000	TDM	CNAMES+11,,6		10422	15	0982R	00000
18010	DSC	1,,*		10433		1	

18020	TFM	IORT,**23		10434	16	00565	J0457
18030	B	IOPT,DDAKF,7		10446	49	00532	J3443
18040	B	EXIT		10458	49	10530	00000
18050	DORG	*-3		10466			
18060	ANAME	C PNAME,ZEROL2,,	FIND DIM NUMBER TO BE DELETED	10466	24	13229	13167
18070	BE	EXIT		10478	46	10530	01200
18080	B	SKNAME+24		10490	49	09714	00000
18090	DORG	*-3		10498			
18100	HOLDIM	AM CNAMES+11,4,10		10498	11	09829	000-4
18110	TF	DIMNUM,CNAMES+11,11		10510	26	13190	0982R
18120	B	LIMITS		10522	49	08666	00000
18130	DORG	*-3		10530			
18140	EXIT	CF DELETE		10530	33	13134	00000
18150	B	EQUIV-1,,6		10542	49	0860N	00000
18160	DORG	*-3		10550			
18170	TCD	EQUFL		08100			
18180	****	COMMON1					
18190	DORG	8600		08600			
18200	DC	5,0		08604		5	
		-0000					
18210	ATNR	CF FORT		08606	33	13114	00000
18220	SF	INPUT+95		08618	32	13708	00000
18230	CM	INPUT+96,43,10,	DETERMINE INPUT DEVICE	08630	14	13709	000M3
18240	BNE	**32		08642	47	08674	01200
18250	TFM	PHI,05,10		08654	16	13130	000-5
18260	B	R		08666	49	08754	00000
18270	DORG	*-3		08674			
18280	CM	INPUT+96,57,10		08674	14	13709	000N7
18290	BNE	**32		08686	47	08718	01200
18300	TFM	PHI,03,10		08698	16	13130	000-3
18310	B	R		08710	49	08754	00000
18320	DORG	*-3		08718			
18330	CM	INPUT+96,44,10		08718	14	13709	000M4
18340	BNE	ERRD-12		08730	47	02512	01200
18350	TFM	PHI,0,10		08742	16	13130	000-0
18360	R	SF INPUT+97		08754	32	13710	00000
18370	SF	INPUT+117,,,	TEST FOR SUBROUTINES	08766	32	13730	00000
18380	CM	INPUT+118,00,10		08778	14	13731	000-0
18390	BE	**24		08790	46	08814	01200
18400	SF	STFLAG		08802	32	13537	00000
18410	CM	INPUT+98,54,10,	TEST FOR RELOCATION	08814	14	13711	000M4
18420	BNE	**32		08826	47	08858	01200
18430	TDM	RTEST,1,,	BRANCH ON DIGIT TO RELOCATE	08838	15	13131	00001
18440	B	R2		08850	49	08950	00000
18450	DORG	*-3		08858			
18460	TDM	RTEST,0		08858	15	13131	00000
18470	CM	INPUT+98,62,10		08870	14	13711	00002
18480	BNE	**32		08882	47	08914	01200
18490	TDM	NTEST,1		08894	15	13132	00001
18500	B	R2		08906	49	08950	00000
18510	DORG	*-3		08914			
18520	TDM	NTEST,0		08914	15	13132	00000
18530	CM	INPUT+98,49,10		08926	14	13711	000M9
18540	BNE	ERRD-12		08938	47	02512	01200
18550	R2	SF INPUT+99		08950	32	13712	00000

18560	CM	INPUT+100,57,10,	TEST FOR FILE PROTECTION	08962	14	13713	000N7
18570	BNE	++32		08974	47	09006	01200
18580	TDM	PTEST,1,,	BRANCH ON DIGIT TO PROTECT	08986	15	13133	00001
18590	B	++20		08998	49	09018	00000
18600	DORG	--3		09006			
18610	TDM	PTEST,0		09006	15	13133	00000
18620	TFM	++47,INPUT+112,,	CARD FROM	09018	16	09065	J3725
18630	TFM	ATN+6,HOLD CD		09030	16	09048	J3046
18640	ATN	TD HOLD CD,0,7,	ALPHA TO NUMERIC	09042	25	13046	-0000
18650	CM	--1,0		09054	14	09053	-0000
18660	BE	EXIT2		09066	46	09110	01200
18670	AM	ATN+6,01,10		09078	11	09048	000-1
18680	AM	ATN+11,02,10		09090	11	09053	000-2
18690	B	ATN		09102	49	09042	00000
18700	DORG	--3		09110			
18710	EXIT2	TFM SETFLG+6,INPUT+31		09110	16	09128	J3644
18720	SETFLG	SF INPUT+31,,	TEST FOR ALPHA CHARACTERS	09122	32	13644	00000
18730	AM	SETFLG+6,1,10		09134	11	09128	000-1
18740	CM	SETFLG+6,70,610		09146	14	09120	000P0
18750	BNL	++36		09158	46	09194	01300
18760	CM	SETFLG+6,00,610		09170	14	09120	000-0
18770	BNE	ERRD-12		09182	47	02512	01200
18780	SM	SETFLG+6,1,10		09194	12	09128	000-1
18790	CF	SETFLG+6,,6		09206	33	09120	00000
18800	CM	SETFLG+6,INPUT+93		09218	14	09128	J3706
18810	BE	++32		09230	46	09262	01200
18820	AM	SETFLG+6,2,10		09242	11	09128	000-2
18830	B	SETFLG		09254	49	09122	00000
18840	DORG	--3		09262			
18850	SF	HOLD CD,,	DEFINE CONTROL CARD FIELDS	09262	32	13046	00000
18860	SF	HOLD CD+4		09274	32	13050	00000
18870	B	ATNR-1,,6		09286	49	0860N	00000
18880	**		DETERMINE MAX. NO. OF DIM ENTRIES				
18890	SCRAD	TFM MAXDIM,9999,8		09298	16	03849	0R999
18900	TFM	NEWDIM,3,8		09310	16	02963	0-003
18910	BT	DIMMER,DIMMER-1		09322	27	03672	03671
18920	BNR	++20,MAP		09334	45	09354	19880
18930	B	MONCAL		09346	49	00796	00000
18940	DORG	--3		09354			
18950	MM	MAP+8,5,10		09354	13	19888	000-5
18960	SF	96		09366	32	00096	00000
18970	SM	99,1,10		09378	12	00099	000-1
18980	TF	MAXDIM,99		09390	26	03849	00099
18990	TFM	NEWDIM,1,8		09402	16	02963	0-001
19000	BT	DIMMER,DIMMER-1		09414	27	03672	03671
19010	BNR	++20,MAP		09426	45	09446	19880
19020	B	MONCAL		09438	49	00796	00000
19030	DORG	--3		09446			
19040	CM	MAP+13,88888,7		09446	14	19893	08888
19050	BNE	MONCAL		09458	47	00796	01200
19060	TF	SCR1,MAP+5		09470	26	13203	19885
19070	TD	SCR1-5,MAP		09482	25	13198	19880
19080	MM	MAP+8,200,9		09494	13	19888	00K00
19090	SF	95		09506	32	00095	00000
19100	A	MAP+5,99		09518	21	19885	00099
19110	TF	SCR2,MAP+5		09530	26	13209	19885

19120	TD	SCR2-5,MAP		09542	25	13204	19880
19130	DC1	SF SCR1-5		09554	32	13198	00000
19140	SF	SCR2-5		09566	32	13204	00000
19150	CF	SCR1-4		09578	33	13199	00000
19160	CF	SCR2-4		09590	33	13205	00000
19170	B	SCRAD-1,,6		09602	49	0929P	00000
19180	LCTEST	TFM COUNT,0,10,	LAST RECORDED TEST	09614	16	13145	000-0
19190	BV	++12		09626	46	09638	01400
19200	BNF	NOALF,BNR+11,11		09638	44	09854	0966J
19210	BNR	++20,0		09650	45	09670	00000
19220	B	NOALF		09662	49	09854	00000
19230	DORG	--3		09670			
19240	AM	COUNT,1,10		09670	11	13145	000-1
19250	CM	COUNT,5,10		09682	14	13145	000-5
19260	BE	++32		09694	46	09726	01200
19270	AM	BNR+11,1,10		09706	11	09661	000-1
19280	B	BNR		09718	49	09650	00000
19290	DORG	--3		09726			
19300	CM	BNR+11,99999,67		09726	14	0966J	R9999
19310	BV	NOALF		09738	46	09854	01400
19320	BNE	NOALF		09750	47	09854	01200
19330	AM	BNR+11,1,10		09762	11	09661	000-1
19340	BNR	NOALF,BNR+11,11		09774	45	09854	0966J
19350	AM	BNR+11,1,10		09786	11	09661	000-1
19360	BD	NOALF,BNR+11,11		09798	43	09854	0966J
19370	AM	COUNT,1,10		09810	11	13145	000-1
19380	CM	COUNT,65,10		09822	14	13145	00005
19390	BNE	--48		09834	47	09786	01200
19400	B	ALPHAS		09846	49	10266	00000
19410	DORG	--3		09854			
19420	NOALF	B LCTEST-1,,6		09854	49	0961L	00000
19430	NODISK	TD READ+2,PHI,,	SETUP READ DEVICE	09866	25	13481	13130
19440	SM	READ+2,1,10		09878	12	13481	000-1
19450	TFM	SCRACH,0,7		09890	16	13186	-0000
19460	TDM	FREDDA,0		09902	15	13467	00000
19470	TFM	LOADSC,0,9		09914	16	13180	00-00
19480	TFM	SEQ,1		09926	16	13128	-0001
19490	TFM	DCFSCR+8,003,9		09938	16	13381	00-03
19500	TFM	DCFSCR+5,0,7		09950	16	13378	-0000
19510	TDM	DCFSCR,0		09962	15	13373	00000
19520	INITRD	TFM READ,READIN,,	INIT. READ LOOP	09974	16	13479	J7778
19530	TFM	LOOP,04,10		09986	16	13120	000-4
19540	TFM	COMP+11,READIN+79		09998	16	10117	J7857
19550	TFM	SF+11,READIN+75		10010	16	10105	J7853
19560	READC	TFM IORT,++23		10022	16	00565	J0045
19570	B	IOGT,READ-4,7		10034	49	00566	J3475
19580	TF	BNR+11,READ		10046	26	09661	13479
19590	BTM	LCTEST,++12		10058	17	09614	J0070
19600	CM	PHI,05,10		10070	14	13130	000-5
19610	BNE	COMP+60		10082	47	10166	01200
19620	SF	BNF COMP+36,READIN+75		10094	44	10142	17853
19630	COMP	C SEQ,READIN+79,,	CHECK FOR PROPER SEQUENCE	10106	24	13128	17857
19640	BNE	SEQERR		10118	47	10378	01200
19650	AM	SEQ,1,10		10130	11	13128	000-1
19660	AM	SF+11,075,9		10142	11	10105	00-75
19670	AM	COMP+11,075,9		10154	11	10117	00-75

19680	SM	LOOP,1,10	10166	12	13120	000-1
19690	BD	INCRE,LOOP	10178	43	10246	13120
19700	TFM	IORT,**23	10190	16	00565	J0213
19710	B	IOPT,DDASCR,7	10202	49	00532	J3483
19720	AM	LOADSC,03,10	10214	11	13180	000-3
19730	AM	DCFSCR+5,03,10	10226	11	13378	000-3
19740	B	INITRD	10238	49	09974	00000
19750	DDRG	**3	10246			
19760	INCRE	AM READ,075,9	10246	11	13479	00-75
19770	B	READC	10258	49	10022	00000
19780	DDRG	**3	10266			
19790	ALPHAS	TFM SCREM,04,9,	10266	16	13123	00-04
19800	S	SCREM,LOOP	10278	22	13123	13120
19810	BD	**20,SCREM	10290	43	10310	13123
19820	B	MAINB	10302	49	10370	00000
19830	DDRG	**3	10310			
19840	NOP	SCREM,1,10, CHANGE TO SUBTRACT FOR NEW DUMP	10310	41	13123	000-1
19850	TF	DCFSCR+8,SCREM	10322	26	13381	13123
19860	TFM	IORT,**23	10334	16	00565	J0357
19870	B	IOPT,DDASCR,7	10346	49	00532	J3483
19880	A	LOADSC,SCREM	10358	21	13180	13123
19890	MAINB	B NODISK-1,**6	10370	49	0986N	00000
19900	DDRG	**3	10378			
19910	SEQERR	RCIY	10378	34	00000	00102
19920	TDM	READIN+305,,,	10390	15	18083	00000
19930	DSC	1,*,*	10401		1	
19940	WATY	ERRSEQ	10402	39	12913	00100
19950	TF	READIN+304,COMP+11,11	10414	26	18082	1011P
19960	WNTY	READIN+300	10426	38	18078	00100
19970	H		10438	48	00000	00000
19980	B	READC	10450	49	10022	00000
19990	DDRG	**3	10458			
20000	***					
20010	CCD	DSC 2,02	10458		2	
20020	OSA	CCD2	10464		5 X	1
20030	DSC	1,*,*	10464		J0466	
20040	CCD2	DSC 1,1	10465		1	
20050	DC	5,00798	10466		1	
20060	DC	3,2	10471		5	
20070	OSA	INPUT-1	10474		3	
20080	DSC	1,*,*	10479		5 X	1
20090	MODND1	TDM SYSCAL,1,11	10479		J3612	
20100	TFM	IORT,**23	10480		1	
20110	B	IOPT,CCD,7	10482	15	00475	0000J
20120	CM	MAPEA,0,7	10494	16	00565	J0517
			10506	49	00532	J0458
			10518	14	13155	-0000

20130	BE	**32	10530	46	10562	01200
20140	TF	420,MAPEA	10542	26	00420	13155
20150	B	**20	10554	49	10574	00000
20160	DDRG	**3	10562			
20170	TDM	416,,,	10562	15	00416	00000
20180	DSC	1,*,*	10573		1	
20190	TD	428,PHI	10574	25	00428	13130
20200	SF	428	10586	32	00428	00000
20210	TF	434,MAPMA	10598	26	00434	13150
20220	SF	489	10610	32	00489	00000
20230	CF	429	10622	33	00429	00000
20240	TFM	IORT,**23	10634	16	00565	J0657
20250	B	IOGT,SOL,7	10646	49	00566	J0658
20260	SOL	DSC 2,-22	10658		2	
20270	DSA	SOL2	10664		5 X	1
20280	DSC	1,*,*	10664		J0666	
20290	SOL2	DSC 1,1	10665		1	
20300	DSA	19783	10666		1	
20310	DC	3,3	10671		5 X	1
20320	DC	6,0*	10671		J9783	
20330	MODDK1	TDM SYSCAL,1,11	10674		3	
20340	TFM	IORT,**23	10680		6	
20350	B	IOPT,CCD,7	10682	15	00475	0000J
20360	TF	DLDCF+5,SCRACH	10694	16	00565	J0717
20370	TD	DLDCF,SCRACH-5	10706	49	00532	J0458
20380	SF	DLDCF+1	10718	26	10876	13186
20390	CF	DLDCF	10730	25	10871	13181
20400	TDM	428,0,11	10742	32	10872	00000
20410	CM	MAPMA,0,7	10754	33	10871	00000
20420	BE	**32	10766	15	00428	0000-
20430	TF	DLD+11,MAPMA	10778	14	13150	-0000
20440	B	**20	10790	46	10822	01200
20450	DDRG	**3	10802	26	10869	13150
20460	TDM	DLD+7,,,	10814	49	10834	00000
20470	DSC	1,*,*	10822	15	10865	00000
20480	TFM	IORT,**23	10833		1	
20490	B	IOGT,DLD,7	10834	16	00565	J0857
20500	DL	DSC 2,02	10846	49	00566	J0858
20510	OSA	DLDCF,0	10858		2	
20520	DSC	1,*,*	10864		5 X	2
			10864		J0871	
			10869		-0000	
			10870		1	

20530	DLDCF	DSC	1,0	10871	1		
		0					
20540		DC	5,0	10876	5		
		-0000					
20550		DC	3,999	10879	3		
		R99					
20560		DC	5,99999	10884	5		
		R9999					
20570		DSC	1,'	10885	1		
		'					
20580	NOSAC	TFM	IORT,FINDX,7	10886	16	00565	J0905
20590		B7	IOCAL	10898	49	00716	
20600	FINDX	DSC	2,-22	10905	2		
		2K					
20610		DSA	FINDXX	10911	5	X	1
				10911		J0913	
20620		DSC	1,'	10912	1		
		'					
20630	FINDXX	DSC	1,1	10913	1		
		1					
20640		DC	5,18542	10918	5		
		J8542					
20650		DC	3,012	10921	3		
		-12					
20660		DSA	NOSA	10926	5	X	1
				10926		J3800	
20670		DSA	NOSA	10931	5	X	1
				10931		J3800	
20680		DSC	1,'	10932	1		
		'					
20690	SPD	CM	LISTER-3,7,1011	10934	14	02761	000-P
20700		BNE	HERE	10946	47	11194	01200
20710		SF	LISTER-1	10958	32	02763	00000
20720		MM	LISTER,200,9	10970	13	02764	00K00
20730		TF	LOADSA,99	10982	26	13102	00099
20740		TD	LOADSA-5,PACK	10994	25	13097	02772
20750		CF	LOADSA-5	11006	33	13097	00000
20760		TD	**47,LOADSA-5	11018	25	11065	13097
20770		A	**35,**35	11030	21	11065	11065
20780		AM	**23,1,10	11042	11	11065	000-1
20790		TDM	LOADSA-5,0,10	11054	15	13097	000-0
20800		TFM	IORT,**23	11066	16	00565	J1089
20810		B	IOGT,D3READ,7	11078	49	00566	J1286
20820		TFM	HOLD6-1,READIN+71	11090	16	13214	J7849
20830		TD	**22,LOADSA-5	11102	25	11124	13097
20840		AM	HOLD6-1,0,9	11114	11	13214	00-00
20850		BD	**24,LOADSA-4	11126	43	11150	13098
20860		TFM	**25,12,10	11138	16	11163	000J2
20870		TD	LOADSA-4,HOLD6-1,11	11150	25	13098	1321M
20880		NOP	LOADSA,10000,7	11162	41	13102	J0000
20890		CF	LISTER-1	11174	33	02763	00000
20900		B	SCRKO	11186	49	11254	00000
20910		DORG	*-3	11194			

20920	HERE	TF	NEWDIM,LISTER	11194	26	02963	02764
20930		BT	DIMMER,DIMMER-1	11206	27	03672	03671
20940		A	MAP+5,MAP+8	11218	21	19885	19888
20950		TF	LOADSA,MAP+5	11230	26	13102	19885
20960		TD	LOADSA-5,MAP	11242	25	13097	19880
20970	SCRKO	A	LOADSA,NINESC	11254	21	13102	05692
20980		S	LOADSA,LOADSC	11266	22	13102	13180
20990		B	SCRK	11278	49	06586	00000
21000		DORG	*-3	11286			
21010	D3READ	DSC	2,22	11286	2		
		22					
21020		DSA	D4READ	11292	5	X	1
				11292		J1294	
21030		DSC	1,'	11293	1		
		'					
21040	D4READ	DSC	1,1	11294	1		
		1					
21050		DC	5,04800	11299	5		
		-4800					
21060		DC	3,2	11302	3		
		-02					
21070		DSA	READIN	11307	5	X	1
				11307		J7778	
21080		DSC	1,'	11308	1		
		'					
21090	LOADER	TFM	ATN+11,INPUT+24	11310	16	09053	J3637
21100		SF	LOADER	11322	32	11310	00000
21110		BTM	ATNR,**12	11334	17	08606	J1346
21120		TFM	INPUT+49,7070,8	11346	16	13662	09070
21130		A	WR2+3,425	11358	21	02260	00425
21140		TD	WR2,422	11370	25	02257	00422
21150		SF	WR2	11382	32	02257	00000
21160		CF	WR2+1	11394	33	02258	00000
21170		TF	HOLD6+13,WR2+5	11406	26	13059	02262
21180		TF	HOLD6+19,WR2+5	11418	26	13065	02262
21190		A	HOLD6+19,WR2+8	11430	21	13065	02265
21200		SM	HOLD6+19,1,10	11442	12	13065	000-1
21210		TF	HOLD6+30,WR2+13	11454	26	13076	02270
21220		TDM	RTEST,0	11466	15	13131	00000
21230		BNF	ISTO-24,MCS+22	11478	44	05932	17800
21240		SF	FORT	11490	32	13114	00000
21250		TDM	PTEST,0	11502	15	13133	00000
21260		TF	HOLD6+7,MCS+39	11514	26	13053	17817
21270		TF	PNAME,MCS+35	11526	26	13229	17813
21280		TD	DUMP,MCS+23	11538	25	13426	17801
21290		TF	HOLD6+35,MCS+17	11550	26	13081	17795
21300		TFM	HOLD6+3,0,8	11562	16	13049	0-000
21310		B	ISTO	11574	49	05956	00000
21320		DORG	*-3	11582			
21330	PATCH2	BE	**32	11582	46	11614	01200
21340		TF	MAPMA,HOLD6+30	11594	26	13150	13076
21350		B7	PAT2+12	11606	49	06148	
21360		TFM	MAPMA,02402,7	11614	16	13450	-2402
21370		B7	PAT2+12	11626	49	06148	

21380	CM	HOLD3,0,7	11634	14	13076	-0000
21390	BNE	*-52	11646	47	11594	01200
21400	B7	PAT2	11658	49	06136	
21410	TCO	COMMFL	07200			
21420	DORG	10100	10100			
21430	COMFL	TFM IORT,++23	10100	16	00565	J0123
21440	B	IOPT,COMFL1,7	10112	49	00532	J0148
21450	TRA		10124	36	00000	00500
			10136	49	00000	00000
			10148			2
21460	COMFL1	DSC 2,22				
		22				
21470	DSA	COMFL2	10154		5 X	1
21480	DSC	1,1	10154		J0156	
			10155		1	
21490	COMFL2	DSC 1,1	10156		1	
		1				
21500	DC	5,18512	10161		5	
		J8512				
21510	DC	3,030	10164		3	
		-30				
21520	DC	5,10600	10169		5	
		J0600				
21530	DSC	1,1	10170		1	
21540	DORG	10600	10600			
21550	DC	5,0	10604		5	
		-0000				
21560	SPLINS	TFM HOLD3,0,9	10606	16	13193	00-00
21570	CM	LISTER-3,8,1011	10618	14	02761	000-Q
21580	BNE	LOOK	10630	47	10690	01200
21590	A	HOLD3,LISTER	10642	21	13193	02764
21600	BT	REMOVE,REMOVE-1	10654	27	03084	03083
21610	TF	LISTET,DIMNUM	10666	26	02794	13190
21620	BT	INSERT,INSERT-1	10678	27	03414	03413
21630	LOOK	C HOLD3,MOVESC	10690	24	13193	02865
21640	BE	SPLINS-1,,6	10702	46	1060N	01200
21650	BT	GETL,GFTL-1	10714	27	02996	02995
21660	B	SPLINS+12	10726	49	10618	00000
21670	SETMAP	TF MAP+5,LOADSA,,	10738	26	19885	13102
		TD MAP,LOADSA-5	10750	25	19880	13097
21690	CF	MAP	10762	33	19880	00000
21700	SF	MAP+1	10774	32	19881	00000
21710	TF	MAP+8,LOADSC	10786	26	19888	13180
21720	BNF	**24,STFLAG	10798	44	10822	13537
21730	SF	MAPMA	10810	32	13150	00000
21740	TF	MAP+13,MAPMA	10822	26	19893	13150
21750	TF	MAP+18,MAPEA	10834	26	19898	13155
21760	TD	MAP+19,MAPRM	10846	25	19899	13115
21770	TF	DIMNUM,NEWDIM	10858	26	13190	02963
21780	TFM	IORT,++23	10870	16	00565	J0893
21790	B	IOPT,DMDDA,7	10882	49	00532	-2568
21800	TFM	IORT,++23	10894	16	00565	J0917
21810	B	IOGT,MCS1,7	10906	49	00566	J3514

SET UP DIM ENTRY

21820	TF	MCS+39,DIMNUM	10918	26	17817	13190
21830	TFM	IORT,++23	10930	16	00565	J0953
21840	B	IOPT,MCS1,7	10942	49	00532	J3514
21850	*	INSERT DIMNUM IN SPLIST				
21860	BTM	SPLINS,++12	10954	17	10606	J0966
21870	C	PNAME,ZERD12,,	10966	24	13229	13167
21880	BE	NONAM	10978	46	11002	01200
21890	BTM	EQUIV,++12,,	10990	17	08606	J1002
21900	NONAM	TF FREAD+5,SCRACH,,	11002	26	13287	13186
		TD FREAD,SCRACH-5	11014	25	13282	13181
21920	SF	FREAD+1	11026	32	13283	00000
21930	CF	FREAD	11038	33	13282	00000
21940	TD	FWRIT+5,LOADSA	11050	26	13272	13102
21950	TD	FWRIT,LOADSA-5	11062	25	13267	13097
21960	TFM	FREAD+13,FAREA	11074	16	13295	J3776
21970	TFM	FWRIT+13,FAREA	11086	16	13280	J3776
21980	C	MAXSC,LOADSC	11098	24	13107	13180
21990	BL	ALTER	11110	47	11282	01300
22000	TF	FREAD+8,LOADSC	11122	26	13290	13180
22010	TF	FWRIT+8,LOADSC	11134	26	13275	13180
22020	LSK	TFM IORT,++23	11146	16	00565	J1169
22030	B	IOGT,FREDDA,7	11158	49	00566	J3467
22040	TFM	IORT,++23	11170	16	00565	J1193
22050	B	IOPT,FWRDDA,7	11182	49	00532	J3459
22060	BD	**20,PTEST	11194	43	11214	13133
22070	ENDWRT	B SETMAP-1,,6	11206	49	1073P	00000
22080	DORG	*-3	11214			
22090	TFM	FPSF+1,32,10	11214	16	11643	000L2
22100	TF	HOLD3,LOADSC	11226	26	13193	13180
22110	TF	FWRIT+5,LOADSA	11238	26	13272	13102
22120	TD	FWRIT,LOADSA-5	11250	25	13267	13097
22130	BTM	FP,++12	11262	17	11462	J1274
22140	B	ENDWRT	11274	49	11206	00000
22150	DORG	*-3	11282			
22160	ALTER	TF HOLD3,LOADSC	11282	26	13193	13180
22170	S	HOLD3,MAXSC	11294	22	13193	13107
22180	TF	FREAD+8,MAXSC	11306	26	13290	13107
22190	TF	FWRIT+8,MAXSC	11318	26	13275	13107
22200	TFM	IORT,++23	11330	16	00565	J1353
22210	B	IOGT,FREDDA,7	11342	49	00566	J3467
22220	TFM	IORT,++23	11354	16	00565	J1377
22230	B	IOPT,FWRDDA,7	11366	49	00532	J3459
22240	A	FREAD+5,MAXSC	11378	21	13287	13107
22250	A	FWRIT+5,MAXSC	11390	21	13272	13107
22260	C	MAXSC,HOLD3	11402	24	13107	13193
22270	BL	ALTER+12	11414	47	11294	01300
22280	TF	FREAD+8,HOLD3	11426	26	13290	13193
22290	TF	FWRIT+8,HOLD3	11438	26	13275	13193
22300	B	LSK	11450	49	11146	00000
22310	FP	SF BUTTN,,,	11462	32	00455	00000
22320	BTM	KYMESS,++12	11474	17	11998	J1486
22330	TF	HOLD5,FWRIT+5	11486	26	13139	13272
22340	SF	HOLD5-1	11498	32	13138	00000
22350	TFM	FPSF+6,TRACK2	11510	16	11648	J7778
22360	SM	HOLD5,20,10	11522	12	13139	000K0
22370	BH	*-12	11534	46	11522	01100

FILE PROTECT AND LOAD PROGRAM

22380	BZ	**48	11546	46	11594	01200
22390	AM	HOLD5,20,10	11558	11	13139	000K0
22400	MM	HOLD5,105,9	11570	13	13139	00J05
22410	A	FPSF+6,99	11582	21	11648	00099
22420	TFM	FWRIT+8,20,9	11594	16	13275	00-20
22430	TFM	FWRIT+13,TRACK2	11606	16	13280	J7778
22440	TFM	IDRT,**23	11618	16	00565	J1641
22450	B	IOGT,FPDDA,7	11630	49	00566	J3451
22460	FPSF	SF TRACK2	11642	32	17778	00000
22470	SM	HOLD3,1,10	11654	12	13193	000-1
22480	CM	HOLD3,0,9	11666	14	13193	00-00
22490	BE	DONESF	11678	46	11782	01200
22500	AM	FPSF+6,105,9	11690	11	11648	00J05
22510	CM	FPSF+6,TRACK2+2100	11702	14	11648	J9878
22520	BNE	FPSF	11714	47	11642	01200
22530	TFM	IDRT,**23	11726	16	00565	J1749
22540	B	IOPT,FPDDA,7	11738	49	00532	J3451
22550	AM	FWRIT+5,20,10	11750	11	13272	000K0
22560	TFM	FPSF+6,TRACK2	11762	16	11648	J7778
22570	B	FPSF-36	11774	49	11606	00000
22580	DORG	*-3	11782			
22590	DONESF	TFM IDRT,**23	11782	16	00565	J1805
22600	B	IOPT,FPDDA,7	11794	49	00532	J3451
22610	CF	BUTTON	11806	33	00455	00000
22620	BTM	KYMESS,**12	11818	17	11998	J1830
22630	B	FP-1,,6	11830	49	1146J	00000
22640	WRLAST	TF FINALM+30,PNAME,,	11842	26	12905	13229
22650	TF	NEWDIM,DIMNUM	11854	26	02963	13190
22660	BT	DIMMER,DIMMER-1	11866	27	03672	03671
22670	RCTY		11878	34	00000	00102
22680	WATY	FINALM	11890	39	12875	00100
22690	TD	19999,MAP+19	11902	25	19999	19899
22700	TF	19998,DIMNUM	11914	26	19998	13190
22710	WNTY	19995	11926	38	19995	00100
22720	SPTY		11938	34	00000	00101
22730	WNTY	MAP	11950	38	19880	00100
22740	DNTY	19999	11962	35	19999	00100
22750	TDM	SYSCAL,3	11974	15	00475	00003
22760	B	WRLAST-1,,6	11986	49	1184J	00000
22770	*	ADDRESS KEY MESSAGE SUBROUTINE				
22780	KYMESS	BNF **32,BUTTON	11998	44	12030	00455
22790	TFM	KEYMES+24,5500,8	12010	16	12991	0N500
22800	B	**20	12022	49	12042	00000
22810	DORG	*-3	12030			
22820	TFM	KEYMES+24,4646,8	12030	16	12991	0M646
22830	RCTY		12042	34	00000	00102
22840	WATY	KEYMES	12054	39	12967	00100
22850	H		12066	48	00000	00000
22860	B	KYMESS-1,,6	12078	49	1199P	00000
22870	***	DELETE DIM NO, FROM S.P. LIST				
22880	SPLDEL	TF NEWDIM,DIMNUM	12090	26	02963	13190
22890	BT	DIMMER,DIMMER-1	12102	27	03672	03671
22900	TF	LISTES,MAP+5	12114	26	02790	19885
22910	TD	LISTES-5,MAP	12126	25	02785	19880
22920	TF	NINESC,MAP+8	12138	26	05692	19888
22930	TF	HOLD5,MAP+5	12150	26	13139	19885

22940	CF	NINESC-2	12162	33	05690	00000
22950	TFM	RLGONE+30,**20	12174	16	04284	J2194
22960	B	FIND	12186	49	03838	00000
22970	DORG	*-3	12194			
22980	REMDL	C LISTER,DIMNUM	12194	24	02764	13190
22990	BNE	SPLDEL-1,,6	12206	47	1208R	01200
23000	BT	REMOVE,REMOVE-1	12218	27	03084	03083
23010	CM	LISTER-3,7,1011	12230	14	02761	000-P
23020	BE	CYLDEL	12242	46	12462	01200
23030	CM	LISTER-3,9,1011	12254	14	02761	000-R
23040	BE	COMPRS	12266	46	12406	01200
23050	INSDEL	TF LISTET,NINESC	12278	26	02794	05692
23060	BT	INSERT,INSERT-1	12290	27	03414	03413
23070	BT	GETL,GETL-1	12302	27	02996	02995
23080	BT	GETL,GETL-1	12314	27	02996	02995
23090	CM	LISTER-3,9,1011	12326	14	02761	000-R
23100	BNE	SPLDEL-1,,6	12338	47	1208R	01200
23110	SF	LISTER-2	12350	32	02762	00000
23120	A	NINESC,LISTER	12362	21	05692	02764
23130	CF	LISTER-2	12374	33	02762	00000
23140	BT	REMOVE,REMOVE-1	12386	27	03084	03083
23150	B	COMPRS+36	12398	49	12442	00000
23160	DORG	*-3	12406			
23170	COMPRS	SF LISTER-2	12406	32	02762	00000
23180	A	NINESC,LISTER	12418	21	05692	02764
23190	CF	LISTER-2	12430	33	02762	00000
23200	BT	REMOVE,REMOVE-1	12442	27	03084	03083
23210	B	INSDEL	12454	49	12278	00000
23220	DORG	*-3	12462			
23230	CYLDEL	BT GETL,GETL-1	12462	27	02996	02995
23240	CM	LISTER-3,7,1011	12474	14	02761	000-P
23250	BNE	NO200	12486	47	12566	01200
23260	BT	GETR,GETR-1	12498	27	02872	02871
23270	TFM	LISTET,9200,8	12510	16	02794	0R200
23280	SM	NINESC,200,9	12522	12	05692	00K00
23290	BT	INSERT,INSERT-1	12534	27	03414	03413
23300	BT	GETR,GETR-1	12546	27	02872	02871
23310	B	REMDL	12558	49	12194	00000
23320	DORG	*-3	12566			
23330	NO200	CM LISTER-3,9,1011	12566	14	02761	000-R
23340	BE	YES9	12578	46	12730	01200
23350	SF	HOLD5-2	12590	32	13137	00000
23360	SM	HOLD5,200,9	12602	12	13139	00K00
23370	BNF	*-12,HOLD5	12614	44	12602	13139
23380	A	NINESC,HOLD5	12626	21	05692	13139
23390	TDM	HOLD5-3,9,11	12638	15	13136	0000R
23400	CF	HOLD5	12650	33	13139	00000
23410	CF	HOLD5-2	12662	33	13137	00000
23420	TF	LISTET,HOLD5	12674	26	02794	13139
23430	BT	GETR,GETR-1	12686	27	02872	02871
23440	BT	INSERT,INSERT-1	12698	27	03414	03413
23450	BT	GETR,GETR-1	12710	27	02872	02871
23460	B	REMDL	12722	49	12194	00000
23470	DORG	*-3	12730			
23480	YES9	SF LISTER-2	12730	32	02762	00000
23490	A	NINESC,LISTER	12742	21	05692	02764

1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET MOD. LEVEL 4				PAGE	51
24160	DSC 1, *		13251	1	
24170	MOVDCF DSC 1,1		13252	1	
24180	DC 5,18331		13257	5	
24190	J8331 DC 3,038		13260	3	
24200	-38 DC 5,08600		13265	5	
24210	-8600 DSC 1, *		13266	1	
24220	FWRIT DSC 1,1		13267	1	
24230	DC 5,0		13272	5	
24240	-0000 DC 3,0		13275	3	
24250	-00 DC 5,0		13280	5	
24260	-0000 DSC 1, *		13281	1	
24270	FREAD DSC 1,1		13282	1	
24280	DC 5,0		13287	5	
24290	-0000 DC 3,0		13290	3	
24300	-00 DC 5,0		13295	5	
24310	-0000 DSC 1, *		13296	1	
24320	CLOSW DSC 1,1		13297	1	
24330	DC 5,0		13302	5	
24340	-0000 DC 3,0		13305	3	
24350	-00 DC 5,0		13310	5	
24360	-0000 DSC 1, *		13311	1	
24370	EQUDDA DSC 2,22		13312	2	
24380	22 DSA EQUDCF		13318	5 X	1
24390	DSC 1, *		13318	J3320	
24400	EQUDCF DSC 1,1		13319	1	
24410	DC 5,18278		13320	1	
24420	J8278 DC 3,020		13325	5	
24430	-20 DC 5,08600		13328	3	
	-8600		13333	5	

1620 MONITOR 1 DUP ROUTINE *DLOAD, *DREPL, *DELET MOD. LEVEL 4				PAGE	52
24440	DSC 1, *		13334	1	
24450	COM2 DSC 2,22		13335	2	
24460	22 DSA COM22		13341	5 X	1
24470	DSC 1, *		13341	J3343	
24480	COM22 DSC 1,1		13342	1	
24490	DC 5,18512		13343	1	
24500	J8512 DC 3,020		13348	5	
24510	-20 DC 5,10600		13351	3	
24520	J0600 DSC 1, *		13356	5	
24530	CLOSR DSC 1,1		13357	1	
24540	DC 5,0		13358	1	
24550	-0000 DC 3,0		13363	5	
24560	-00 DC 5,0		13366	3	
24570	-0000 DSC 1, *		13371	5	
24580	MAP DSC 20,0,19880		13372	1	
24590	00000000000000000000 DCFSCR DSC 1,0		19880	20	
24600	0 DC 5,0		13373	1	
24610	-0000 DC 3,0		13378	5	
24620	-00 DSA READIN		13381	3	
24630	DSC 1, *		13386	5 X	1
24640	EQUDIM DSC 20,0,19880		13386	J7778	
24650	00000000000000000000 DISKF DSC 1,0		13387	1	
24660	0 DC 5,0		19880	20	
24670	-0000 DC 3,020		13388	1	
24680	-20 DSA TRACK		13393	5	
			13396	3	
24690	DSC 1, *		13401	5 X	1
24700	FAREA DS ,CLOSUP		13401	J3776	
			13402	1	
			13776	0	

24710	SYSCAL	DS	,475	00475	0	
24720	SUBLO	DS	,10	00010	0	
24730	SUBHI	DS	,39	00039	0	
24740	TRACK	DS	,CLOSUP	13776	0	
24750	BASICM	DS	,796	00796	0	
24760	MONCAL	DS	,BASICM	00796	0	
24770	TRACK3	DS	,CLOSUP	13776	0	
24780	DUPCRD	DS	,INPUT	13613	0	
24790	SUCCESS	DS	,ADK	13118	0	
24800	DMPDIM	DSC	2,-22	13403	2	
		ZK				
24810	DSA	DMPDM		13409	5 X	1
				13409	J3411	
24820	DSC	1,	'	13410	1	
24830	DMPDM	DSC	1,1	13411	1	
24840	DC	5,18430		13416	5	
	J8430					
24850	DC	3,050		13419	3	
	-50					
24860	DC	5,02500		13424	5	
	-2500					
24870	DSC	1,	'	13425	1	
24880	DUMP	DSC	1,0	13426	1	
24890	CLODDA	DSC	2,22	13427	2	
24900	DSA	CLOSR		13433	5 X	1
				13433	J3358	
24910	DSC	1,	'	13434	1	
24920	CLWDDA	DSC	2,22	13435	2	
24930	DSA	CLOSW		13441	5 X	1
				13441	J3297	
24940	DSC	1,	'	13442	1	
24950	DDAKF	DSC	2,22	13443	2	
24960	DSA	DISKF		13449	5 X	1
				13449	J3388	
24970	DSC	1,	'	13450	1	
24980	FPDDA	DSC	2,26	13451	2	
24990	DSA	FWRIT		13457	5 X	1
				13457	J3267	
25000	DSC	1,	'	13458	1	

25010	FWRDDA	DSC	2,22	13459	2	
25020	DSA	FWRIT		13465	5 X	1
				13465	J3267	
25030	DSC	1,	'	13466	1	
25040	FREDDA	DSC	2,22	13467	2	
25050	OSA	FREAD		13473	5 X	1
				13473	J3282	
25060	DSC	1,	'	13474	1	
25070	READ	DSA	READIN	13479	5 X	1
				13479	J7778	
25080	DC	3,00'		13482	3	
	-0'					
25090	DDASCR	DSC	2,02	13483	2	
25100	DSA	DCFSCR		13489	5 X	1
				13489	J3373	
25110	DSC	1,	'	13490	1	
25120	DIREAD	DSC	2,22	13491	2	
25130	OSA	D2READ		13497	5 X	1
				13497	J3499	
25140	DSC	1,	'	13498	1	
25150	D2READ	DSC	1,1	13499	1	
25160	DC	5,0		13504	5	
	-0000					
25170	DC	3,021		13507	3	
	-21					
25180	DSA	TRACK		13512	5 X	1
				13512	J3776	
25190	DSC	1,	'	13513	1	
25200	MCS1	DSC	2,22	13514	2	
25210	OSA	MCS2		13520	5 X	1
				13520	J3522	
25220	DSC	1,	'	13521	1	
25230	MCS2	DSC	1,1	13522	1	
25240	DC	5,19663		13527	5	
	J9663					
25250	DC	3,1		13530	3	
	-01					

25260	DSA	MCS		13535	5	x	1
				13535	J7778		
25270	DSC	1, *		13536	1		
25280	STFLAG	DSC 1,0		13537	1		
25290	TRACK2	DSS 2100,17778,,	READ WRITE AREA FOR TRACK	17778	2100		
25300		TCD COMFL		10100			
25310	***	FIND AVAILABLE AREA					
25320		DORG 13800		13800			
25330	NOSA	CF MAPRM,,,	NOT IMMOVABLE	13800	33	13115	00000
25340		SF HOLDCD+35		13812	32	13081	00000
25350		C HOLDCD+40,ZERD6		13824	24	13086	13161
25360		BNE **24		13836	47	13860	01200
25370		TF HOLDCD+40,MXNOSA		13848	26	13086	05835
25380		SF HOLDCD+38		13860	32	13084	00000
25390		TF HILIM,HOLDCD+40		13872	26	13823	13086
25400		TF LOLIM,HOLDCD+37		13884	26	13955	13083
25410		C MXNOSA,HILIM		13896	24	05835	13823
25420		BL ERRCYL		13908	47	14276	01300
25430		C MXNOSA,LOLIM		13920	24	05835	13955
25440		BL ERRCYL		13932	47	14276	01300
25450		CF HILIM-2		13944	33	13821	00000
25460		CF LOLIM-2		13956	33	13953	00000
25470		SF HOLDCD+36		13968	32	13082	00000
25480		MM HOLDCD+37,200,9		13980	13	13083	00K00
25490		SF 95		13992	32	00095	00000
25500		TF LISTES,99		14004	26	02790	00099
25510		CF HOLDCD+35		14016	33	13081	00000
25520		TD **47,HOLDCD+35,,	SET UP DRIVE CODE	14028	25	14075	13081
25530		A **35,**35		14040	21	14075	14075
25540		AM **23,1,10		14052	11	14075	000-1
25550		TDM LISTES-5,0,10		14064	15	02785	000-0
25560		TFM TORT,**23		14076	16	00565	J4099
25570		B IOGT,D3READ,7,	DETERMINE ADDRESS SCHEME	14088	49	00566	J1286
25580		TFM HOLD6-1,READIN+71		14100	16	13214	J7849
25590		TD **22,LISTES-5		14112	25	14134	02785
25600		AM HOLD6-1,0,9		14124	11	13214	00-00
25610		BD **24,LISTES-4		14136	43	14160	02786
25620		TD **25,12,10		14148	16	14173	000J2
25630		TFM LISTES-4,HOLD6-1,11		14160	25	02786	1321M
25640		NBP LISTES,10000,7		14172	41	02790	J0000
25650		TF NINESC,LOADSC,,	DETERMINE NUMBER OF CYLINDERS	14184	26	05692	13180
25660		TFM CNTCYL,0,10		14196	16	13979	000-0
25670		CF NINESC-2		14208	33	05690	00000
25680		CM NINESC,9200,8		14220	14	05692	0R200
25690		BNH SMALL		14232	47	14296	01100
25700		SM NINESC,200,8		14244	12	05692	0-200
25710		AM CNTCYL,1,10		14256	11	13979	000-1
25720		B *-48		14268	49	14220	00000
25730		DORG *-3		14276	16	02507	0P274
25740	ERRCYL	TFM DIMERR+22,7274,8		14288	49	02524	00000
25750		B ERRO		14296			
25760		DORG *-3					

25770	SMALL	CM CNTCYL,0,10		14296	14	13979	000-0
25780		BE **36		14308	46	14344	01200
25790		TF SCOLD,NINESC		14320	26	13967	05692
25800		TFM NINESC,9200,8		14332	16	05692	0R200
25810		TFM LGE+23,0,10		14344	16	14811	000-0
25820		TDM RLGONE+13,1		14356	15	04267	00001
25830		TDM WHYNOT+13,1		14368	15	03401	00001
25840		TDM CLIPPP+25,1		14380	15	02909	00001
25850		TFM CLIPPP+42,SPLINI		14392	16	02926	-4470
25860		TFM RLGONE+30,**20		14404	16	04284	J4424
25870		B FIND		14416	49	03838	00000
25880		DORG *-3		14424			
25890	RGE	C LISTER,NINESC		14424	24	02764	05692
25900		BNL LGE		14436	46	14788	01300
25910		CM LISTER-3,7,1011		14448	14	02761	000-P
25920		BE **60		14460	46	14520	01200
25930		TFM LGE+23,0,10		14472	16	14811	000-0
25940		CM CNTCYL,0,10		14484	14	13979	000-0
25950		BE **24		14496	46	14520	01200
25960		TFM NINESC,9200,8		14508	16	05692	0R200
25970		BT GETR,GETR-1		14520	27	02872	02871
25980		BNR CHIL,LISTER-3		14532	45	14672	02761
25990		AM LOLIM,100,9		14544	11	13955	00J00
26000		C LOLIM-2,HILIM-2		14556	24	13953	13821
26010		BH ERR		14568	46	05662	01100
26020		TDM WHYNOT+13,9		14580	15	03401	00009
26030		TDM CLIPPP+25,9		14592	15	02909	00009
26040		TFM CLIPPP+42,REDSPL		14604	16	02926	-4702
26050		TDM RLGONE+13,9		14616	15	04267	00009
26060		BT WHYNOT,WHYNOT-1		14628	27	03388	03387
26070		TFM HOLDCD+37,0,9		14640	16	13083	00-00
26080		TD HOLDCD+35,LOLIM-2		14652	25	13081	13953
26090		B NOSA		14664	49	13800	00000
26100		DORG *-3		14672			
26110	CHIL	CM LISTER-3,7,1011		14672	14	02761	000-P
26120		BNE RGE		14684	47	14424	01200
26130		TD **47,HILIM-2		14696	25	14743	13821
26140		TDM HILIM-2,0		14708	15	13821	00000
26150		C LISTER,HILIM		14720	24	02764	13823
26160		TDM HILIM-2,0		14732	15	13821	00000
26170		BNE RGE		14744	47	14424	01200
26180		C LOLIM-2,HILIM-2		14756	24	13953	13821
26190		BNE RGE		14768	47	14424	01200
26200		B ERR		14780	49	05662	00000
26210		DORG *-3		14788			
26220	LGE	AM **23,1,10		14788	11	14811	000-1
26230		CM CNTCYL,0,10		14800	14	13979	000-0
26240		BH RGE+96		14812	46	14520	01100
26250		BL **32		14824	47	14856	01300
26260		TF NINESC,SCOLD		14836	26	05692	13967
26270		B RGE+96		14848	49	14520	00000
26280		DORG *-3		14856			
26290		SF NINESC-2		14856	32	05690	00000
26300		TDM WHYNOT+13,9		14868	15	03401	00009
26310		BT GETL,GETL-1		14880	27	02996	02995
26320		TDM CLIPPP+25,9		14892	15	02909	00009

26330	TFM	CLIPPP+42,REDSPL	14904	16	02926	-4702
26340	TDM	RLGONE+13,9	14916	15	04267	00009
26350	B7	SPD	14928	49	10934	
26360	HILIM	DC 4,7000,NOSA+23	13823		4	
		P000				
26370	LOLIM	DC 4,7000,NOSA+155	13955		4	
		P000				
26380	SCOLD	DC 4,0,NOSA+167	13967		4	
		-000				
26390	CNTCYL	DC 2,0,NOSA+179	13979		2	
		-0				
26391	PATCH3	TFM IORT,**23	14936	16	00565	J4959
26392	B	IOGT,THRDDA,7	14948	49	00566	-2729
26393	B7	LOADRE-36	14960	49	07248	
26400	FINDFL	TFM IORT,**23	14968	16	00565	J4991
26410	B	IOPT,FINDLF,7	14980	49	00532	J5016
26420	TRA		14992	36	00000	00500
			15004	49	00000	00000
			15016		2	
26430	FINDLF	DSC 2,22				
		22				
26440	DSA	FINDDA	15022		5 X	1
			15022		J5024	
26450	DSC	1,'	15023		1	
26460	FINDDA	DSC 1,1	15024		1	
		1				
26470	DC	5,18542	15029		5	
		J8542				
26480	DC	3,012	15032		3	
		-12				
26490	DC	5,13800	15037		5	
		J3800				
26500	DSC	1,'	15038		1	
26510	TCD	FINDFL	14968			
26520	IOCAL	DS ,716	00716		0	
26530	DEND		00000			

ADDBLK	04286	DONESF	11782	MARVEL	10884	REPLFL	04400	DLOAD	05800
ADDRAC	10656	DRESTR	03639	MAXDIM	03849	RLGONE	04254	DMDDA	02568
ADRSP	04520	DSEVEN	09056	MIDNIT	09372	RSEVEN	10800	DMPDM	13411
ALLCLR	07816	DUPCRD	13613	MODDK1	10682	ACTAA	09552	DONE	09542
ALLRIT	10128	EIGHTS	09984	MODND1	10482	ACTAC	09968	DREPL	05800
ALPHAS	10266	ENDWRT	11206	MONCAL	00796	ACTAD	09896	DUMP	13426
B2READ	09054	EQUDCF	13320	MONITR	00796	ACTAG	09260	ENTOK	10362
BASICM	00796	EQUDDA	13312	MORERD	06584	ACTAH	09128	EQU1	08148
HAVADD	10464	EQUDIM	19880	MOVBUS	08724	ACTAJ	09104	EQU2	08156
HAVAIL	02754	ERRCYL	14276	MOVCAR	08701	ACTAK	09220	EQUFL	08100
HAYCOM	10432	ERRSEQ	12913	MOVDCF	13252	ALTER	11282	EQUIV	08606
HEAUTY	10592	EXITFL	06984	MOVDDA	13244	ANAME	10466	ERRD	02524
BLANKT	10348	EXITMR	08624	MOVESA	02862	AOK	13118	ERR	05662
BUTTON	00455	FAKSEV	02852	MOVESC	02865	ATNR	08606	EXIT2	09110
CALLMV	07036	FILTST	10204	MOVFL1	08548	ATN	09042	EXIT3	06936
CHOICE	09196	FINALM	12875	MOVFL2	08556	BNR	09650	EXIT	10530
CLEVER	04321	FINDDA	15024	MOVNGW	10496	CALC2	02759	EZEST	10700
CLIPPP	02884	FINDFL	14968	MSTAKE	09024	CALC3	02779	FAREA	13176
CLODDA	13427	FINDIM	13117	MXNOSA	05835	CALC4	02783	FIND	03838
CLOSUP	13776	FINDLF	15016	N48000	02770	CALC5	08796	FINDX	10905
CLWDDA	13435	FINDON	06740	NEGATE	07636	CALC6	08790	FLAG	06512
CNAMES	09818	FINDTR	03906	NEWDIM	02963	CALC7	02848	FORT	13114
CNTCYL	13979	FINDXX	10913	NINE12	13243	CARD	13090	FOUND	03445
CMCYL	04986	FREDDA	13467	NINENT	09132	CCD2	10466	FPDDA	13451
COMFL1	10148	FWRDDA	13459	NINESC	05692	CCD	10458	FPOK	06864
COMFL2	10156	GETBAK	05170	NODISK	09866	CHIL	14672	FP	11462
COMMFL	07200	GETLTR	03016	NOFLGS	07748	CLEAR	06624	FPSF	11642
COMMON	02853	GETRTR	02928	NOMMON	02855	CLFP	06696	FREAD	13282
COMPFR	05274	GOLDEN	02760	NOMULT	10030	CLOSE	09294	FWRT	13267
COMPRS	12406	GPMARK	13116	NONAME	09672	CLOSR	13358	GETL	02996
CONCUD	09952	HOLOCD	13046	NOSECA	02856	CLOSW	13297	GETR	02872
CONST1	02801	HOLDIM	10498	NOSPAC	07092	CLRFP	07688	GORT	10224
CONST2	02807	INITRD	09974	OLIMIT	10130	CMPAR	09194	HERE	11194
CONST3	05755	INITSC	09090	PATCH1	12798	CNINE	08810	HEX	02795
CONST5	02825	INSDLE	12278	PATCH2	11582	CNST3	03578	HILIM	13823
CONST6	02831	INSERT	03414	PATCH3	14936	CNT	13142	HOLD2	13104
CONST7	02837	INSETR	03434	PK0DDA	02637	COM22	13343	HOLD3	13193
CONST8	02870	KEYMES	12967	PK1DDA	02660	COM2	13335	HOLD4	13197
CORSIZ	02483	KSEVEN	10708	PK2DDA	02683	COMFL	10100	HOLD5	13139
CURREN	08809	KYMESS	11998	PK3DDA	02706	COMM1	07248	HOLD6	13215
CYLDEL	12462	LCTEST	09614	PLUSRR	04194	COMM2	07263	INCRD	09274
D1READ	13491	LIMITS	08666	QCARRY	02813	COMP	10106	INCR	10246
D2READ	13499	LISTER	02764	RACKET	02841	COUNT	13145	INIT1	07740
D3READ	11286	LISTES	02790	RMDDDA	02591	DC1	09554	INIT2	08360
D4READ	11294	LISTEF	02794	RDMQVE	02599	DC22	06096	INPUT	13613
DFSCSR	13373	LOADER	11310	READIN	17778	DC2	05920	IOCAL	00716
DDASCR	13483	LOADFL	04400	REDSPO	04810	DDAKF	13443	IOGT	00566
DELETE	13134	LOADRE	07284	REDSP1	04854	DEL1	05648	IOPT	00532
DELNT5	09604	LOADSA	13102	REDSP2	04898	DEL2	05656	IORT	00565
DIMENT	19880	LOADSC	13180	REDSP3	04942	DELE1	05800	ISTO	05956
DIMERR	02485	LODPSY	09024	REDSPL	04702	DELFL	05600	KEVE	05009
DIMHLD	08822	LOPEZA	08747	REMBLK	10628	DELTA	09375	KEY1	08813
DIMMER	03672	LOPEZB	08770	REMOLE	12194	DISKF	13388	KEY5	08785
DIMNUM	13190	LPSRDA	04514	REMOIR	03104	DISKN	06340	KING	02458
DMPDIM	13403	MAINB1	06364	REMOVE	03084	DLDCF	10871	LGE	14788
DMREAD	02576	MAINB2	06884	REMSIL	10136	DLD	10858	LIMIT	08812

LOAD1	04448	NOMD	11064	RTEST	13131	TREC	06884	SPLPK1	02668
LOAD2	04463	NOME	11072	SCAN1	07788	TRREC	09414	SPLPK2	02691
LOLIM	13955	NONAM	11002	SCAN2	08408	TRWA	08739	SPLPK3	02714
LOOK	10690	NORE1	07600	SCANN	09762	TRWB	08762	STARDT	05022
LOOP	13120	NORE2	08300	SCERR	12854	UPDIM	07312	STFLAG	13537
LSK	11146	NOSAC	10886	SCOLD	13967	UPSCA	07892	SUCCESS	13118
MAINB	10370	NOSA	13800	SCR1	13203	VOILA	08112	SYSCAL	00475
MANY	09496	NOTOK	09634	SCR2	13209	WASH	10944	TELAST	10756
MAPEA	13155	NTEST	13132	SCRAD	09298	WR2	02257	TESTFP	07576
MAPMA	13150	NTZ	06380	SCREM	13123	WR0K	06768	THRDDA	02729
MAPRM	13115	OKDEL	06148	SCRKO	11254	WRT2	08946	THROWS	02737
MAP	19880	PACK	02772	SCRDK	06588	WRT	09022	TOPPRU	10812
MAXSC	13107	PAT2	06136	SECT	10234	YES9	12730	TRACK2	17778
MCAS	13113	PHI	13130	SEQ	13128	ZERD6	13161	TRACK3	13776
MCS1	13514	PNAME	13229	SF	10094	SCRACH	13186	TRWBUS	08716
MCS2	13522	PRE7A	09000	SMALL	14296	SEARFP	07360	TRWCAR	08693
MCS	17778	PRE7	08638	SOL2	10666	SEQRR	10378	TRYAGN	04002
MEAT	09292	PTEST	13133	SOL	10658	SETFLG	09122	UPSCAN	08512
MOVER	08824	QHOLD	02819	SPD	10934	SETMAP	10738	WHIPIT	05346
MOVFL	08500	QUEEN	02466	SPLFL	05756	SEVENT	09108	WHYNOT	03388
MPT	08636	R2	08950	SPLR1	05804	SFSUCE	08600	WITHIN	08738
MULT2	09974	RAKES	10524	SPLR2	05819	SKNAME	09690	WRLAST	11842
MULT	09906	RDSPL	04594	SPS	07484	SPCRED	05462	WRMDDA	02614
NDISK	06848	READC	10022	STEAL	02845	SPECAS	09152	WRMOVE	02622
NERR	03580	READ	13479	STOMP	03188	SPLADD	04574	WRTSP0	03268
NEVER	04297	RECD	09174	SUBHI	00039	SPLCOR	03151	WRTSP1	03300
NO200	12566	RFLD2	08532	SUBLO	00010	SPLCYL	03187	WRTSP2	03332
NOALF	09854	RELD	08172	TAC	09812	SPLDEL	12090	WRTSP3	03364
NOF	08986	REPL1	04448	TFLG	08878	SPLEXT	05066	ZERD12	13167
NOISY	10380	REPL2	04463	THOU	13096	SPLINI	04470	ZERD19	13174
NOMA	08670	RGE	14424	TIC	09744	SPLINS	10606	ZERDES	08806
NOMR	08678	RMARK	12911	TIPSY	03470	SPLIST	04330	ZSEVEN	09468
NOMC	11016	R	08754	TRACK	13776	SPLPK0	02645		

END OF ONE ASSEMBLY.

00010	*****	DISK UTILITY PROGRAM FOR 1620 *DLABL							
00020	****								
00030	****								
00040		DDRG	2502			02502			
00050	DLABL	SF	INPUT+21,,10			02502	32	13634	000-0
00060		CM	INPUT+22,0,10			02514	14	13635	000-0
00070		BE	ERR1			02526	46	03906	01200
00080		CM	INPUT+22,73,10			02538	14	13635	000P3
00090		BH	ERR10			02550	46	03926	01100
00100		CM	INPUT+22,70,10			02562	14	13635	000P0
00110		BL	ERR10			02574	47	03926	01300
00120		SF	INPUT+11			02586	32	13624	00000
00130		C	INPUT+20,ZERD10			02598	24	13633	04307
00140		BE	ERR1			02610	46	03906	01200
00150		TD	PACK,INPUT+20			02622	25	04312	13633
00160		TD	PACK-1,INPUT+18			02634	25	04311	13631
00170		TD	PACK-2,INPUT+16			02646	25	04310	13629
00180		TD	PACK-3,INPUT+14			02658	25	04309	13627
00190		TD	PACK-4,INPUT+12			02670	25	04308	13625
00200		SF	PACK-4			02682	32	04308	00000
00210		CM	PACK,0			02694	14	04312	-0000
00220		BE	ERR10			02706	46	03926	01200
00230		TFM	SETFLG+11,INPUT+11			02718	16	02741	J3624
00240	SETFLG	SF	**+11,INPUT+11,6			02730	32	0274J	13624
00250		AM	SETFLG+11,1,10			02742	11	02741	000-1
00260		CM	SETFLG+11,70,610			02754	14	0274J	000P0
00270		BL	ERR10			02766	47	03926	01300
00280		AM	SETFLG+11,1,10			02778	11	02741	000-1
00290		CM	SETFLG+11,INPUT+21			02790	14	02741	J3634
00300		BL	SETFLG			02802	47	02730	01300
00310		TD	MOD,INPUT+22			02814	25	02513	13635
00320		TD	**+7,INPUT+22			02826	25	02873	13635
00330		A	**+35,**+35			02838	21	02873	02873
00340		AM	**+23,1,10			02850	11	02873	000-1
00350		TDM	INPUT+22,0,8			02862	15	13635	0-000
00360		TFM	ADDRS,RDAREA+71,,	DETERMINE ADDRESS		02874	16	04362	J3847
00370		TDM	DDAL2+1,0,11			02886	15	04284	0000-
00380		TDM	DDAL2,0			02898	15	04283	00000
00390		TFM	IORT,**+23			02910	16	00565	-2933
00400		B	IORT,DDAL1,7			02922	49	00566	-4275
00400		TF	DDAL8+8,RDAREA+88			02934	26	04268	13864
00410		TD	**+22,INPUT+22			02946	25	02968	13635
00420		AM	ADDRS,0,9			02958	11	04362	00-00
00430		TD	DDAL2+1,ADDRS,11			02970	25	04284	0436K
00440		TD	DDAL4+1,ADDRS,11			02982	25	04215	0436K
00450		TD	DDAL6+1,ADDRS,11			02994	25	04238	0436K
00460		TD	DDAL8+1,ADDRS,11			03006	25	04261	0436K
00470		TD	DDAL2,INPUT+22			03018	25	04283	13635
00480		SM	DDAL2+5,10000,7			03030	12	04288	J0000
00490		TFM	IORT,**+23			03042	16	00565	-3065
00500		B	IORT,DDAL1,7			03054	49	00566	-4275
00510		TFM	TEST48+11,RDAREA+61			03066	16	03101	J3837
00520		BNF	RSPT,RDAREA+61			03078	44	03190	13837
00530	TEST48	BNR	**+20,RDAREA+61			03090	45	03110	13837
00540		B	RSPT			03102	49	03190	00000
00550		DDRG	**+3			03110			

00560	AM	TEST48+11,1,10	03110	11	03101	000-1
00570	CM	TEST48+11,RDAREA+65,7	03122	14	03101	J3841
00580	BH	**32	03134	46	03166	01100
00590	BNF	TEST48,TEST48+11,11	03146	44	03090	0310J
00600	B	RSPT	03158	49	03190	00000
00610	DORG	*-3	03166		03166	
00620	CM	RDAREA+65,04800,7	03178	46	03634	-4800
00630	BE	LAB				01200
00640	*****					
00650	*	REINITIALIZE SEQUENTIAL PROGRAM TABLE				
00660	*****					
00670	RSPT	TD DDAL8,INPUT+22	03190	25	04260	13635
00680	TFM	SEV+11,7000,8	03202	16	03261	0P000
00690	TF	SEV+23,*-1	03214	26	03273	03213
00700	TFM	IORT,**23	03226	16	00565	-3249
00710	B	IOGT,DDAL7,7	03238	49	00566	-4252
00720	SEV	TFM RDAREA-1997,7000,8	03250	16	11779	0P000
00730	CM	SEV+11,7000,8	03262	14	03261	0P000
00740	BE	**+8	03274	46	03322	01200
00750	SM	SEV+6,3,10	03286	12	03256	000-3
00760	CF	SEV+6,,6	03298	33	03250	00000
00770	AM	SEV+6,3,10	03310	11	03256	000-3
00780	AM	SEV+6,4,10	03322	11	03256	000-4
00790	TFM	SEV+6,9200,68	03334	16	03250	0R200
00800	SM	SEV+6,3,10	03346	12	03256	000-3
00810	CF	SEV+6,,6	03358	33	03250	00000
00820	AM	SEV+6,7,10	03370	11	03256	000-7
00830	AM	SEV+11,1,10	03382	11	03261	000-1
00840	CM	SEV+11,7099,8	03394	14	03261	0P099
00850	BL	SEV	03406	47	03250	01300
00860	AM	SEV+6,24,10	03418	11	03256	000K4
00870	TF	SEV+6,LSTENT+3,6	03430	26	03250	04341
00880	SM	SEV+6,4,10	03442	12	03256	000-4
00890	A	SEV+6,MOD,6	03454	21	03250	02513
00900	SM	SEV+6,4,10	03466	12	03256	000-4
00910	A	SEV+6,MOD,6	03478	21	03250	02513
00920	SM	SEV+6,8,10	03490	12	03256	000-8
00930	A	SEV+6,MOD,6	03502	21	03250	02513
00940	SM	SEV+6,4,10	03514	12	03256	000-4
00950	A	SEV+6,MOD,6	03526	21	03256	02513
00960	SM	SEV+6,7,10	03538	12	03256	000-7
00970	CF	SEV+6,,6	03550	33	03250	00000
00971	TFM	RDAREA-1179,00,21011	03562	16	J2597	000--
00972	AM	*-6,2,10	03574	11	03568	000-2
00973	CM	*-18,RDAREA+6000	03586	14	03568	J9776
00974	BL	*-36	03598	47	03562	01300
00980	TFM	IORT,**23	03610	16	00565	-3633
00990	B	IOPT,DDAL7,7	03622	49	00532	-4252
01000	****					
01010	*****	LABEL DISK PACK				
01020	****					
01030	LAB	TD DDAL4,DDAL2	03634	25	04214	04283
01040	SF	BUTTON	03646	32	00455	00000
01050	BTM	KYMESS,**12	03658	17	03998	-3670
01060	TFM	IORT,**23	03670	16	00565	-3693
01070	B	IOGT,DDAL3,7	03682	49	00566	-4206

01080	SF	RDAREA	03694	32	13776	00000
01090	TF	RDAREA+9,PACK	03706	26	13785	04312
01091	TFM	RDAREA+99,79,10, MANTISSA LENGTH POSITION	03718	16	13875	000P9
01092	TFM	RDAREA+104,19663,7, IN COM. SECTOR	03730	16	13880	J9663
01100	TFM	IORT,**23	03742	16	00565	-3765
01110	B	IOPT,DDAL3,7	03754	49	00532	-4206
01120	TD	DDAL6,DDAL2	03766	25	04237	04283
01130	TFM	IORT,**23	03778	16	00565	-3801
01140	B	IOGT,DDAL5,7	03790	49	00566	-4229
01150	TFM	RDAREA+1999,00199,7	03802	16	15775	-0199
01160	CF	RDAREA+1995	03814	33	15771	00000
01170	TF	RDAREA+2034,PACK	03826	26	15810	04312
01180	TFM	IORT,**23	03838	16	00565	-3861
01190	B	IOPT,DDAL5,7	03850	49	00532	-4229
01200	CF	BUTTON	03862	33	00455	00000
01210	BTM	KYMESS,**12	03874	17	03998	-3886
01220	TFM	SYSCAL,3	03886	15	00475	00003
01230	B	MONCAL	03898	49	00796	00000
01240	DORG	*-3	03906		03906	
01250	ERR1	TFM DIMERR+22,0071,8	03918	16	04203	0-071
01260	B	ERR10+12	03938	49	03938	00000
01270	DORG	*-3	03926			
01280	ERR10	TFM DIMERR+22,7170,8	03926	16	04203	0P170
01290	RCTY		03938	34	00000	00102
01300	TFM	IORT,**23	03950	16	00565	-3973
01310	B	IOPT,ERRMES-4,7	03962	49	00532	-4342
01320	H		03974	48	00000	00000
01330	B	ERR1-20	03986	49	03886	00000
01360	KYMESS	BNF **32,BUTTON	03998	44	04030	00455
01370	TFM	KEYMES+24,5500,8	04010	16	04127	0N500
01380	B	**20	04022	49	04042	00000
01390	DORG	*-3	04030			
01400	TFM	KEYMES+24,4646,8	04030	16	04127	0M646
01410	RCTY		04042	34	00000	00102
01420	TFM	IORT,**23	04054	16	00565	-4077
01430	B	IOPT,MESS-4,7	04066	49	00532	-4350
01440	H		04078	48	00000	00000
01450	B	KYMESS-1,,6	04090	49	03999	00000
01460	RDAREA	DSS 2100,13776	13776		2100	
01470	KEYMES	DAC 39,DUP* TURN OFF WRITE ADDRESS KEY, START'	04103		39 X	2
01480	DIMERR	DAC 13,DUP*ERROR 00'	04181		13 X	2
01490	DDAL3	DSC 2,26	04206		2	
01500	DSA	DDAL4	04212		5 X	1
01510	DSC	1,1	04212		-4214	
01520	DDAL4	DSC 1,0	04213		1	
01530	DC	5,19800	04219		5	
01540	DC	3,020	04222		3	

01550	DSA	RDAREA	04227	5 X	1
01560	DSC	1,1	04227	J3776	
			04228	1	
01570	DDAL5	DSC 2,26	04229	2	
		26			
01580	DSA	DDAL6	04235	5 X	1
01590	DSC	1,1	04235	-4237	
			04236	1	
01600	DDAL6	DSC 1,0	04237	1	
		0			
01610	DC	5,19980	04242	5	
		J9980			
01620	DC	3,020	04245	3	
		-20			
01630	DSA	RDAREA	04250	5 X	1
01640	DSC	1,1	04250	J3776	
			04251	1	
01650	DDAL7	DSC 2,22	04252	2	
		22			
01660	DSA	DDAL8	04258	5 X	1
01670	DSC	1,1	04258	-4260	
			04259	1	
01680	DDAL8	DSC 1,0	04260	1	
		0			
01690	DC	5,19801	04265	5	
		J9801			
01700	DC	3,010	04268	3	
		-10			
01710	DSA	RDAREA-2000	04273	5 X	1
01720	DSC	1,1	04273	J1776	
			04274	1	
01730	DDAL1	DSC 2,22	04275	2	
		22			
01740	DSA	DDAL2	04281	5 X	1
01750	DSC	1,1	04281	-4283	
			04282	1	
01760	DDAL2	DSC 1,0	04283	1	
		0			
01770	DC	5,04800	04288	5	
		-4800			
01780	DC	3,002	04291	3	
		-02			
01790	DSA	RDAREA	04296	5 X	1

01800	DSC	1,1	04296	J3776	
			04297	1	
01810	IORT	DS ,565	00565	0	
01820	IUGT	DS ,566	00566	0	
01830	INPUT	DAS 81,13613	13613	81 X	2
01840	ZER010	DC 10,0	04307	10	
		-000000000			
01850	PACK	DC 5,0	04312	5	
		-0000			
01860	MONPK	DSC 1,0	04313	1	
		0			
01870	MONCAL	DS ,796	00796	0	
01880	BUTTON	DSC 1,0,455	00455	1	
		0			
01890	IOPT	DS ,532	00532	0	
01900	LSTENT	DC 25,709901580004909901660162*	04338	25	
		P09901580004909901660162*			
01910	DSC	3,000	04339	3	
		000			
01920	ERRMES	DSA DIMERR	04346	5 X	1
01930	DC	3,06*	04346	-4181	
		-6*	04349	3	
01940	MESS	DSA KEYMES	04354	5 X	1
01950	DC	3,06*	04354	-4103	
		-6*	04357	3	
01960	ADDRS	DSA RDAREA*71	04362	5 X	1
01970	MOD	DS ,DLABL+11	04362	J3847	
01980	SYSCAL	DS ,475	02513	0	
01990	LABL	TFM IORT,**23	00475	0	
02000	B	IOPT,LABL1,7	04364	16	00565 -4387
02010	TRA		04376	49	00532 -4412
			04388	36	00000 00500
			04400	49	00000 00000
02020	LABL1	DSC 2,22	04412	2	
		22			
02030	DSA	LABL2	04418	5 X	1
02040	DC	1,1	04418	-4420	
			04419	1	
02050	LABL2	DSC 1,1	04420	1	
		1			
02060	DC	5,18200	04425	5	
		J8200			
02070	DC	3,020	04428	3	
		-20			
02080	DC	5,02502	04433	5	
		-2502			
02090	DC	1,1	04434	1	

02100	TCD LABL	04364
02110	DEND 02502	02502

BUTTON 00455	ADDRS 04362	DDAL8 04260	LABL1 04412	RSP1 03190
DIMERR 04181	DDAL1 04275	DLABL 02502	LABL2 04420	SEV 03250
ERRMES 04346	DDAL2 04283	ERR10 03926	LABL 04364	SETFLG 02730
KEYMES 04103	DDAL3 04206	ERR1 03906	LAB 03634	SYSCAL 00475
KYMESS 03998	DDAL4 04214	INPUT 13613	MESS 04354	TEST48 03090
LSTENT 04338	DDAL5 04229	IOGT 00566	MOD 02513	ZER010 04307
MONCAL 00796	DEAL6 04237	IOPT 00532	MONPK 04313	
RDAREA 13776	DDAL7 04252	IORT 00565	PACK 04312	

END OF ONE ASSEMBLY.



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1311 Monitor I
Program #1620-PR-025 (Card)
Modification No. 5.

This letter transmits Modification No. 5 of the subject program. The material enclosed with this modification consists of the following:

1. Change Cards (44).
2. Program Listing (1).

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Programming Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by system type and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your system type or in your address, or should you no longer need maintenance of this particular program, we would appreciate your notifying your IBM branch office.

An Authorized Program Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems, IBM Corporation, Monterey and Cottle Roads, San Jose 14, California, 95114.

cc: Branch Offices without enclosures

SPS II-D Subroutine Supervisor, Deck #4

1. Error: MAR CHECK STOP occurs during execution of a Main Line SPS Program using Subroutine Set 00. Invalid addresses have been specified for record marks.

Correction: Change Page 5 of the SPS II-D Subroutine Supervisor Listing:

```
FROM: 02080          TFM   CAPCK-2   ,CAPCK+36 04010 16 05932 05970
TO:    02080          TFM   CAPCK-2   ,SOFT   04010 16 05932 07068
```

In addition, the following instructions must be inserted on Page 10 of the listing between Source Statement Numbers 04537 and 04550, replacing 04540.

```
ADD:  04538  SOFT  TFM   SUBVEC-10 ,00000      07068 16 02205 00000
      04539          TFM   SUBVEC-15 ,00000      07080 16 02200 00000
      04540          B7    DISKCK-48             07092 49 05970 00000
      04549          DORG  FOREQ                 07280
```

Two (2) new cards are provided; these cards are numbered 20022 and 20063. Please remove the correspondingly numbered cards from Deck #4 and insert the new ones provided.

SPS II-D Subroutines, Deck #5

1. Error: A Stop with an invalid operation code occurs when executing a divide macro instruction using Subroutine Set 00.

NOTE: This condition occurs after the program has been updated to the level of Modification No. 4.

Correction: No change in the Listing is required.

Three (3) new cards are provided; these cards are numbered 22508, 22509 and 22510. Please remove the correspondingly numbered cards from Deck #5 and insert the new ones provided.

FORTRAN II-D Processor, Deck #8

1. Error: The output buffer is not cleared before the first output from phase 2 is sent to the buffer.

Correction: The following changes are necessary to correct the problem:

Page 2 of the listing (Phase 2) should be changed:

FROM:	00510	TDM	SKIPSW,0	02568	15	09661	00000
	00520	TF	DOMAX,DOBASE	02580	26	09587	03810
	00530	TDM	DOSW,0	02592	15	09333	00000
	00540	TF	DOREF,DOBASE	02604	26	03750	03810
	00550	TFM	SCNT,0	02616	16	09673	00000
	00560	TFM	GLNO,0,8	02628	16	09390	00000
TO:	00510	TF	DOMAX,DOBASE	02568	26	09587	03810
	00520	TF	*+18,PREBUF	02580	26	02598	08765
	00530	TR	BUF1,INPUT+26	02592	31	08460	09704
	00540	AM	*-6,75,10	02604	11	02598	00075
	00550	CM	*-18,BUF4+75	02616	14	02598	08760
	00560	BL	*-36	02628	47	02592	01300

Page 30 - same listing:

FROM:	11120	SCNT	DS	5
TO:	11120	SCNT	DC	5,0

2. Error: Subtraction within a subscript expression causes an improperly relocated adjusted base address of an array if that array is at or near the beginning of the data area or if it is at or near the lowest COMMON address.

Correction: Block 5 of Phase 2 has been reassembled to allow the correction necessary to be included. The enclosed listing of Block 5 should be used in place of that found on Pages 43-48 of the Phase 2 listing. (Listing is included as "Attachment A", Pages 1-4.)

Twenty-nine (29) new cards are provided; they are cards numbered 51536, 51537, 51631 and those numbered 51690 thru 51715. Please remove the correspondingly numbered cards from Deck #8 and insert the new ones provided.

FORTTRAN II-D Loader, Deck #9

1. Error: COMMON is incorrectly restored if the amount of COMMON used is in multiples of 100.

Correction: The following changes are necessary to correct the program:

Page 4 of the listing (Block 2) should be changed:

FROM: 01770	TFM	DIO+35, ENT, 67	04702 16 00851	05404
TO: 01770	NOP		04702 41 00000	00000

Page 7 of the same listing should be changed:

FROM: 03110	SVE	DSC	2,00	05923	2
TO: 03110	SVE	DSC	2,02	05923	2

2. Error: When loading a series of core image subprograms, the first subprogram loaded will overlay the mainline program.

Correction: The following changes are necessary to correct the program:

Page 2 of the listing (Block 3) should be changed:

FROM: 01000	TDM	DIMDDA+6, ,11	03922 15 07096	00000
01020	TD	SECCT, COMP+11, 11	03934 25 07156	03765
TO: 01000	TD	SECCT, DIMDDA+6	03922 25 07156	07096
01020	TDM	DIMDDA+6, ,11	03934 15 07096	00000

And Page 3 of the same listing:

FROM: 01080	CM	SECCT, 5, 10	04006 14 07156	00005
01090	BL	*+24	04018 47 04042	01300
01100	SM	SECCT, 5, 10	04030 12 07156	00005
01110	MM	SECCT, 20, 9	04042 13 07156	00020
01120	AM	99, INRK	04054 11 00099	07400
01130	TR	DIMSVE, 99, 11	04066 31 07126	00099
01140	TD	DMEDDA, DIMSVE	04078 25 06998	07126
01150	TF	DMEDDA+5, DIMSVE+5	04090 26 07003	07131
01160	TR	DDAR, DMEDDA	04102 31 07280	06998
01310	TF	DDAR+13, ADDSVE	04242 26 07293	02472

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Page 5

TO:	01080	NOP	04006 41 00000 00000
	01090	NOP	04018 41 00000 00000
	01100	NOP	04030 41 00000 00000
	01110	TD *+22, SECCT	04042 25 04064 71560
	01120	TR DIMSVE, INRK	04054 31 07126 07400
	01130	TD DMEDDA, DIMSVE	04066 25 06998 07126
	01140	TF DMEDDA+5, DIMSVE+5	04078 26 07003 07131
	01150	TR DDAR, DMEDDA	04090 31 07280 06998
	01160	TFM DDAR+13, 1	04102 16 07293 00001
	01310	A DDAR+13, ADDCOW	04242 21 07293 02450

Seven (7) new cards are provided; they are numbered:

63111
63127
63146
63147
63148
63149
63151

Please remove the correspondingly numbered cards from Deck #9 and insert the new ones provided.

Disk Utility Program, Deck #3

1. Error: The * DREPL function comes to a check stop when attempting to move a program.

Correction: No change to the listing is required.

Three (3) new cards are provided; these cards are numbered 12033, 12046 and 12047. Please remove the correspondingly numbered cards from Deck #3 and insert the new ones provided.

GP PROGRAMMING SYSTEMS

1620-1311 Monitor I, PR-025 (Card)
Modification No. 5

ATTACHMENT A

PAGE 1

14100				15620	DORG	14100		
14101		00002		15630	*****	TERTIARY LINKAGE BLOCK 5		
14102	17	05416	J4202	15640	DC	2,5		
14114	48	00000	00000	15650	SUBCDS	BTM RMNS	,CDSSP	
14126	16	02359	-9248	15660	H			
14138	17	02324	J4126	15670	SUBCAB	TFM FMON+35	,BLK6	
14150	16	02359	-9272	15680	BTM	FMON	,SUBCAB	
14162	17	02324	J4150	15690	SUBC12	TFM FMON+35	,BLK7	
14174	16	02359	-9296	15700	BTM	FMON	,SUBC12	
14186	17	02324	J4174	15710	SUB12B	TFM FMON+35	,BLK8	
14202		-9547		15720	BTM	FMON	,SUB12B	
14207		-2372		15730	CDSSP	DSA I,SR		
14208	17	05416	J4224	15740	BTM	RMNS	,**+16	
14224		-9547		15750	DSA	I,SY		
14229		-2384						
14230	17	05416	J4246	15760	BTM	RMNS	,**+16	
14246		-9547		15770	DSA	I,SY		
14251		-2384						
14252	12	09547	000-1	15780	SM	I	,1	,10
14264	17	05446	J4280	15790	BTM	GTNS	,**+16	
14280		-9547		15800	DSA	I,SX		
14285		-2377						
14286	11	09547	000-1	15810	AM	I	,1	,10
14298	15	09661	00001	15820	TDM	SKIPSW	,1	
14310	17	03976	J4326	15830	BTM	SRFCT	,**+16	
14326		-2377		15840	DSA	SX,SX		
14331		-2377						
14332	25	15577	04151	15841	TD	SPCOM	,COMSW	
14344	25	04735	04373	15850	TD	RXFLAG	,FXORFL	
14356	17	08846	J4372	15860	BTM	CANDS	,**+16	
14372		-6987		15870	DSA	D1,DI		
14377		-6992						
14378	26	03509	06977	15880	TF	N40005	,ADCOW	
14390	11	03509	000J2	15890	AM	N40005	,12	,10
14402	15	07477	00001	15900	TDM	SS2	,1	
14414	43	14434	04735	15910	BD	*+20	,RXFLAG	
14426	49	14446	00000	15920	B7	*+20		
14434	32	03509	00000	15930	SF	N40005		
14446	14	02372	0-150	15940	CM	SR	,150	,8
14458	47	14614	01300	15950	BL	XX1		
14470	46	14548	01200	15960	BE	XX2		
14482	11	09547	000-6	15970	XX3	AM I	,6	,10
14494	26	03514	03800	15980	TF	N40006	,SUB3	
14506	17	08846	J4522	15990	BTM	CANDS	,**+16	
14522		-7017		16000	DSA	D4,SY		
14527		-2384						
14528	12	09547	000-6	16010	SM	I	,6	,10
14540	49	14672	00000	16020	B7	XX4		
14548	11	09547	000-3	16030	XX2	AM I	,3	,10
14560	26	03514	03790	16040	TF	N40006	,SUB2	
14572	17	08846	J4588	16050	BTM	CANDS	,**+16	
14588		-7017		16060	DSA	D4,SY		

1620-1311 Monitor I, PR-025 (Card)
Modification No. 5

ATTACHMENT A

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14593		-2384							
14594	12	09547	000-3	16070		SM	I	,3	,10
14606	49	14672	00000	16080		B7	XX4		
14614	17	08846	J4630	16090	XX1	BTM	CANDS	,**+16	
14630		-7017		16100		DSA	D4,SY		
14635		-2384							
14636	26	03514	03780	16110		TF	N40006	,SUB1	
14648	14	06987	-0001	16120		CM	D1	,1	
14660	46	15394	01200	16130		BE	CDS1FP		
14672	17	07032	J4688	16140	XX4	BTM	PUTX	,**+16	
14688		-6980		16150		DSA	BTM,N40006,N40005		
14693		-3514							
14698		-3509							
14700	17	08152	J4716	16160		BTM	PUTC	,**+16	
14716		-2377		16170		DSA	SX		
14718	17	08236	J4734	16180		BTM	PUTD	,**+16	
14734		-7017		16190		DSA	D4		
14736	44	14760	09327	16200		BNF	**+24	,I01	
14748	32	06987	00000	16210		SF	D1		
14760	17	08236	J4776	16220		BTM	PUTD	,**+16	
14776		-6987		16230		DSA	D1		
14778	17	08152	J4794	16240		BTM	PUTC	,**+16	
14794		-6992		16250		DSA	DI		
14796	14	02372	0-150	16260		CM	SR	,150	,8
14808	47	14948	01300	16270		BL	CDSSS1		
14820	46	14890	01200	16280		BE	XX5		
14832	17	08846	J4848	16300	CDSSS3	BTM	CANDS	,**+16	
14848		-6997		16310		DSA	D2,DJ		
14853		-7002							
14854	17	08236	J4870	16320		BTM	PUTD	,**+16	
14870		-6997		16330		DSA	D2		
14872	17	08152	J4888	16340		BTM	PUTC	,**+16	
14888		-7002		16350		DSA	DJ		
14890	17	08846	J4906	16360	XX5	BTM	CANDS	,**+16	
14906		-7007		16370		DSA	D3,DK		
14911		-7012							
14912	17	08236	J4928	16380		BTM	PUTD	,**+16	
14928		-7007		16390		DSA	D3		
14930	17	08152	J4946	16400		BTM	PUTC	,**+16	
14946		-7012		16410		DSA	DK		
14948	15	02265	00001	16450	CDSSS1	TDM	UFSTR+2	,1	
14960	17	08356	J4976	16460	CDS1V	BTM	PUTRM	,**+16	
14976		J5497		16470		DSA	ZRM		
14978	15	09661	00000	16480		TDM	SKIPSW	,0	
14990	44	15044	09327	16490		BNF	QZP	,I01	
15002	12	09547	000-1	16500		SM	I	,1	,10
15014	17	05416	J5030	16510		BTM	RMNS	,**+16	
15030		-9547		16520		DSA	I,ST		
15035		-9543							
15036	49	11788	00000	16530		B	CD14B		
15044				16540		DORG	*-3		
15044	17	05446	J5060	16550	QZP	BTM	GTNS	,**+16	
15060		-9547		16560		DSA	I,ST		

1620-1311 Monitor I, PR-025 (Card)
Modification No. 5

ATTACHMENT A

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15065		-9543							
15066	12	09547	000-1	16570	SM	I		,1	,10
15078	14	09543	0-133	16580	CM	ST		,133	,8
15090	47	15188	01200	16590	BNE	CDS1T			
15102	25	04725	04735	16600	TD	RFLAG		,RXFLAG	
15114	15	09337	0000J	16610	TDM	RSW		,1	,11
15126	17	07032	J5142	16620	BTM	PUTX		,*+16	
15142		-9345		16630	DSA	TF,FACAD,N13092			
15147		-3940							
15152		-9369							
15154	17	05476	J5170	16640	BTM	RPNS		,*+16	
15170		-9547		16650	DSA	I,FAC			
15175		-9531							
15176	17	05940	-2948	16660	BTM	GMRP		,EXIT	
15188	44	15212	09326	16680	CDS1T	BNF	*+24	,FSW	
15200	17	05940	J5212	16690	BTM	GMRP		,*+12	
15212	43	15244	09332	16700	BD	*+32		,CALLSW	
15224	16	04193	000K7	16710	TFM	OPX		,27	,10
15236	49	15256	00000	16720	B	*+20			
15244				16730	DORG	*-3			
15244	16	04193	000J7	16740	TFM	OPX		,17	,10
15256	17	07032	J5272	16750	BTM	PUTX		,*+16	
15272		-4193		16760	DSA	OPX,TOFAC,N13092			
15277		-3935							
15282		-9369							
15284	17	05476	J5300	16770	BTM	RPNS		,*+16	
15300		-9547		16780	DSA	I,FAC			
15305		-9531							
15306	15	09326	0000J	16790	TDM	FSW		,1	,11
15318	25	04795	04735	16800	TD	FLAGSW		,RXFLAG	
15330	43	15350	09332	16801	BD	*+20		,CALLSW	
15342	49	02948	00000	16802	B7	EXIT			
15350	17	05940	J5362	16803	BTM	GMRP		,*+12	
15362	12	09637	000-1	16804	SM	GBASE		,1	,10
15374	32	0963P	00000	16805	SF	GBASE		,	,6
15386	49	02948	00000	16810	B7	EXIT			
15394	15	15448	00000	16820	CDS1FP	TDM	FXIOSW,0		
15406	43	15426	04735	16821	BD	*+20,RXFLAG			
15418	49	15450	00000	16822	B7	PATSB2			
15426	44	15450	09327	16823	BNF	*+24,I01			
15438	15	15448	0000J	16824	TDM	FXIOSW,-1			
15448		00000		16830	FXIOSW	DS	,*-1		
15450	44	15498	02377	16831	PATSB2	BNF	CDS1Z,SX		
15462	43	14672	15448	16832	BD	XX4,FXIOSW			
15474	15	09659	0000J	16833	TDM	FPSW,-1			
15486	33	02377	00000	16834	CF	SX			
15497		00002		16835	ZRM	DC	2,@,*		
15498	43	15530	04735	16840	CDS1Z	BD	*+32	,RXFLAG	
15510	26	07025	02298	16850	TF	L		,FP2	
15522	49	15542	00000	16860	B7	CDS1S			
15530	26	07025	02252	16880	TF	L		,K	
15542	15	07477	00000	16910	CDS1S	TDM	SS2	,0	
15554	23	07017	07025	16920	M	D4		,L	

1620-1311 Monitor I, PR-025 (Card)
Modification No. 5

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15566	32	00095	00000	16930		SF	95		
15577		00000		16931	SPCOM	DS	,*		
15578	26	07017	00099	16940		TF	D4	,99	
15590	43	15626	09659	16950		BD	**+36,FPSW		
15602	21	07017	02377	16951		A	D4,SX		
15614	26	02384	07017	16952		TF	SY,D4		
15626	44	15650	15448	16953		BNF	**+24,FXIOSW		
15638	32	07025	000K1	16960		SF	L,21,10		
15649		00000		16970	OPJ	DS	,*		
15650	15	07476	00001	17010		TDM	SS1	,1	
15662	17	07032	J5678	17020		BTM	PUTX	,**+16	
15678		-9349		17030		DSA	MM,DI,L		
15683		-6992							
15688		-7025							
15690	44	15786	09659	17031		BNF	PATSBQ,FPSW		
15702	16	15649	000K1	17032		TFM	OPJ	,21	,10
15714	43	15738	15577	17033	ZPT	BD	**+24,SPCOM		
15726	15	07477	00001	17034		TDM	SS2,1		
15738	17	07032	J5754	17035		BTM	PUTX,**+16		
15754		J5649		17036		DSA	OPJ,N13092,SX		
15759		-9369							
15764		-2377							
15766	43	15922	09659	17037		BD	PPJA	,FPSW	
15778	49	15842	00000	17038		B7	JARNDT		
15786	44	15810	15448	17039	PATSBQ	BNF	**+24,FXIOSW		
15798	15	07479	00001	1703A		TDM	SS4,1		
15810	44	15842	02384	1703B		BNF	JARNDT,SY		
15822	16	15649	000J1	17040		TFM	QPJ	,11	,10
15834	49	15714	00000	17041		B7	ZPT		
15842	44	15898	02384	17044	JARNDT	BNF	ITUSO,SY		
15854	22	07017	02377	17045	D4LNEG	S	D4,SX		
15866	44	15922	15448	17046		BNF	PPJA,FXIOSW		
15878	33	07017	00000	1704A		CF	D4		
15890	49	15922	00000	17047		B7	PPJA		
15898	43	15922	15577	17048	ITUSO	BD	**+24,SPCOM		
15910	15	07477	00001	17049		TDM	SS2,1		
15922	17	07032	J5938	17050	PPJA	BTM	PUTX	,**+16	
15938		-9347		17060		DSA	AM,N13092,D4		
15943		-9369							
15948		-7017							
15950	17	07032	J5966	17070		BTM	PUTX	,**+16	
15966		-9341		17080		DSA	SF,N13133,BLANK		
15971		-9376							
15976		-9356							
15978	49	14978	00000	17090		B7	CDS1V+18		
16002				17120		DORG	16002		
16002		00014		17130	X00X	DSC	14,01780013602400		
16016	34	16002	00701	17140	XYYX	34	X00X,701		
16028	38	16002	00702	17150		38	X00X,702		
16040	36	00000	00500	17200		TRA			
16052	49	00000	00000						
16016				17210		TCD	XYYX		



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1311 Monitor I
Program #1620-PR-025 (Card)
Modification No. 6

This letter transmits Modification No. 6 of the subject program.
The material enclosed with this modification consists of the following:

Twenty (20) Change Cards

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Programming Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose 14, California, 95114.

Program Information Department

cc: Branch Offices without enclosures

Disk Utility Program, Deck #3

1. Error DUP*ERROR 5 occurs when replacing a program after the work area has been redefined.

Correction The following changes are necessary to correct this problem:

Page 29 of the Listing (*DLOAD, *DREPL, *DELET MOD. LEVEL 4) should be changed

From	13600	BL	SCERR	06300 47 12854 01300
To	13600 SCR16	BL	SCERR	06300 47 12854 01300

Page 33 of the same listing

From	15860	B	ISTO	08592 49 05956
To	15860	B	PATCH6	08592 49 13538

Page 54 of the same listing

From Previously vacant area

Add	25281 PATCH6	TFM	SCR16+1,41,10	13538 16 06301 00041
	25282	B7	ISTO	13550 49 05956

2. Error DUP*ERROR 8 occurs when trying to load more than 800 sectors to the disk, when there actually is enough room available.

Correction The following changes are necessary to correct this problem:

Page 14 of the Listing (*DLOAD, *DREPL, *DELET MOD. LEVEL 4) should be changed

From	05480	SF	CONST5-2	08988 32 02823 00000
	05490	TF	BAVAIL,CONST5	09000 26 02754 02825
	05570	SF	FOUND-2	09080 32 03443 00000
To	05480	SF	CONST5-3	08988 32 02822 00000
	05490	TF	MSTAKE-25,CONST5	09000 26 08999 02825
	05570	SF	FOUND-3	09080 32 03442 00000

Page 16 of the same listing

From	06800	SF	FOUND-2	10396	32	03443	00000
	06810	TF	BAVAIL, FOUND	10408	26	02754	03445
	06820	CF	FOUND-2	10420	33	03443	00000
	06830	BAVCOM	C MOVESC, BAVAIL	10432	24	02865	02754
	06840		BNH MOVNOW	10444	47	10496	01100
	06880	A	BAVAIL, LISTER	10476	21	02754	02764
	06910	MOVNOW	S BAVAIL, MOVESC	10496	22	02754	02865
	06920	CM	BAVAIL, 000, 9	10508	14	02754	00000
	06940	SF	LISTER-2	10532	32	02762	00000
	06960	CF	*+21	10556	33	10577	00000
	07000	S	WRMOVE+5, BAVAIL	10604	22	02627	02754
To	06800	SF	FOUND-3	10396	32	03442	00000
	06810	TF	MSTAKE-25, FOUND	10408	26	08999	03445
	06820	CF	FOUND-3	10420	33	03442	00000
	06830	BAVCOM	C MSTAKE-25, MOVESC	10432	24	08999	02865
	06840		BNL MOVNOW	10444	46	10496	01300
	06880	A	MSTAKE-25, LISTER	10476	21	08999	02764
	06910	MOVNOW	S MSTAKE-25, MOVESC	10496	22	08999	02865
	06920	CM	MSTAKE-25, 000, 9	10508	14	08999	00000
	06940	B7	PAT6A	10532	49	11092	
	06960	PAT6R	CF *+21	10556	33	10577	00000
	07000	S	WRMOVE+5, MSTAKE- 25	10604	22	02627	08999

Page 17 of the same listing

From Previously vacant area

Add	07461	PAT6A	SF	LISTER-2	11092	32	02762	00000
	07462		SF	MSTAKE-27	11104	32	08997	00000
	07463		TF	PAT6R+23, MSTAKE- 25	11116	26	10579	08999
	07464		CF	MSTAKE-27	11128	33	08997	00000
	07465		B7	PAT6R	11140	49	10556	

Eight(8) replacement cards are provided. They are cards numbered:

10262	10282	10386
10263	10283	10537
10281	10290	

1620-1311 Monitor I
 Program #1620-PR-025 (Card)
 Modification No. 6
 Page 4

Please remove the correspondingly numbered cards from Deck #3
 and insert the new ones provided.

FORTRAN II-D Processor, Deck #8

1. Error Incorrect dummy variables within an arithmetic statement function are not detected in some cases.

Correction The following changes are necessary to correct the problem:

Page 44 of the listing (Phase 1-B) should be changed

From	21740	BD	ASC26, FNTSW	13522 43 13426 10080
To	21740	BD	ASC26, INSW	13522 43 13426 03279

2. Error The message EXECUTION IS INHIBITED is not typed when the compile detects type 2 errors in Phase 1 or some errors in Phase 2.

Correction The following changes are necessary to correct the problem:

Page 2 of the listing (Phase 1-A) should be changed

From	00760	N11	BV	*+12	02502 46 02514 01400
To	00760	N11	B	PATCH2	02502 49 05558 00000

Page 8 of the same listing

Add	03618	PATCH2	BV	*+12	05558 46 05570 01400
	03619		TDM	475,2	05570 15 00475 00002
	0361A		SF	457	05582 32 00457 00000
	0361B		B7	N11+12	05594 49 02514

Page 4 of the listing (Phase 1-C) should be changed

From	01730	BTM	ERROR2,579,9	03552 17 10882 00579
To	01730	B	XIH1	03552 49 11588 00000

Page 8 of the same listing should be changed

From	03780	BTM	ERROR2,575,9	05552 17 10882 00575
To	03780	B	XIH2	05552 49 11620 00000

Page 21 of the same listing should be changed

Add	10037	XIH1	TDM	JAY,4	11588 15 02367 00004
	10038		BTM	ERROR2,579,9	11600 17 10882 00579
	10039		B7	STMNT2	11612 49 03564
	1003A	XIH2	TDM	JAY,4	11620 15 02367 00004
	1003B		BTM	ERROR2,575,9	11632 17 10882 00575
	1003C		B7	E89010+192	11644 49 05564

Page 77 of the listing (Phase 2) should be changed

From	28110	BD	*+24,ERSWT	12532 43 12556 09663
	28130	RCTY		12556 34 00000 00102
To	28110	B	IHPAT	12532 49 13344 00000
	28130	LH1	RCTY	12556 34 00000 00102

Page 79 of the same listing, add the following after card number 28892

28893	IHPAT	TD	*+21,JAY	13344 25 13365 02367
28894		CM	*+9,4,810	13356 14 13365 00004
28895		BE	ARNDT	13368 46 13412 01200
28896		BD	ARNDT,ERSWT	13380 43 13412 09663
28897		CF	457	13392 33 00457 00000
28898		B7	LH1-12	13404 49 12544 0
28899	ARNDT	TDM	SYSCAL,2	13412 15 00475 00002
2889A		B7	LH1	13424 49 12556 0

Eleven (11) replacement cards are provided. These cards are numbered:

50124	51415	51889
50165	51416	51900
50166	51442	51901
51112	51523	

1620-1311 Monitor I
 Program #1620-PR-025 (Card)
 Modification No. 6
 Page 6

Please remove the correspondingly numbered cards from Deck #8
 and insert the new ones provided.

FORTRAN II-D, Loader, Deck #9

Error A LOCAL subprogram whose length is an even multiple of 100 places
 a group mark in core storage. This group mark remains in core and
 terminates the read from disk of any subsequent LOCAL'S which are
 longer.

Correction The following change is necessary to correct this problem:

Change Page 7 of the 1620 FORTRAN II-D Loader, Block 5

From	03320	AM	*+18,1,10	06180 11 06198 0000̄1
To	03320	AM	*+18,2,10	06180 11 06198 0000̄2

One (1) replacement card numbered 6̄3226 is provided. Please remove
 the correspondingly numbered card from Deck #9 and insert the new one
 provided.

After inserting all of the correction cards, only Decks #3, #8, and #9
 should be loaded on the Monitor I disk pack using deck #1 (system loader).

Program Information Department



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

September 8, 1964

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 7

This letter transmits Modification No. 7 of the subject program. The material enclosed with this modification consists of the following:

Twenty-eight (28) Correction Cards

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose, California 95114.

PROGRAM INFORMATION DEPARTMENT

cc: Branch Offices without enclosures

Disk Utility Program, Deck #3

Error If a *DLOAD control card specifies a sector address and that address is the first sector after the scratch area, an erroneous DUP * ERROR 5 is given.

Correction The following change is necessary to correct the problem:

Page 25 of the listing (*DLOAD) should be changed

From	11570	BH	SCROK	06516 46 06588 01100
To	11570	BNL	SCROK	06516 46 06588 01300

One (1) replacement card numbered 10317 is provided. Please remove the correspondingly numbered card from Deck #3 and insert the card provided.

SPS II-D Subroutines, Deck #5

1. Error The Cosine routine introduces a small error in the answer when the argument is in the range $.001 > X \geq .0001$.

Correction The following changes are necessary to correct the problem:

Page 9 of the listing (SPS II-D Subroutine Set 01) should be changed

From	16030	CM	BETA, 03, 1011	00076 J4 00098 000-L
To	16030	CM	BETA, 04, 1011	00076 J4 00098 000-M

One (1) replacement card numbered 22393 is provided. Please remove the correspondingly numbered card from Deck #5 and insert the card provided.

FORTRAN II-D Processor, Deck #8

1. Error Invalid DO statements not detected in some cases.

Correction The following changes are necessary to correct the problem:

Page 47 of the listing (Phase 1-B) should be changed

From	23630	SF	OUTSW	12342 32 07020 00000
	23640	BTM	CSORN, *+12	12354 17 05690 12366
To	23630	BTM	CSORN, *+12	12342 17 05690 12354
	23640	BT	PUT, SMADD-1	12354 27 09036 07193

Page 48 of the same listing

From	24020	SF	OUTSW	12778 32 07020 00000
	24030	BTM	CSORN, *+12	12790 17 05690 12802
To	24020	BTM	CSORN, *+12	12778 17 05690 12790
	24030	BT	PUT, SMADD-1	12790 27 09036 07193

Page 49 of the same listing

From	24280	BD	*+20, FXORFL	13042 43 13062 06405
To	24280	BD	ADDCK, FXORFL	13042 43 14648 06405

Page 51 of the same listing

Add	25826	DORG	SWSET+2	14648
	25827	ADDCK CM	SMCNT, 2219	14648 14 07247 02219
	25828	BE	DO+24	14660 46 12214 01200
	25829	B7	DOEE-24	14672 49 13062

2. Error A function name appearing as an invalid input/output list element not detected in some cases.

Correction The following changes are necessary to correct the problem:

Page 50 of the listing (Phase 1-B) should be changed

From	25340	BTM	CSORN, *+12	14076 17 05690 14088
To	25340	BTM	CSORN, IOG+116	14076 17 05690 14556

Page 51 of the same listing

Add	25821	BNR	IOD+72, SMCNT, 11	14556 45 14088 07247
	25822	B7	IOLER	14568 49 13800

Page 54 of the same listing

From	27270	BTM	CSORN, *+12	14144 17 05690 14156
To	27270	BTM	CSORN, ADDCK+32	14144 17 05690 14680

Page 55 of the same listing

Add	27811	DORG	ADDCK+32	14680
	27812	BNR	DKD+72, SMCNT, 11	14680 45 14156 07247
	27813	B7	DKER	14692 49 13728

3. Error Missing operator not detected after function subprogram calls.

Correction The following change is necessary to correct the problem:

Page 46 of the listing (Phase 1-B) should be changed

From	22740	B	ASC7	14514 49 12598 00000
To	22740	B	RTCALL-44	14514 49 13198 00000

4. Error When a subscript expression in an implied DO Loop of an input-output statement involves a calculation of +105, +125, +134 such as A(I + 125), the compiler will loop in some cases and not complete the compilation.

Correction The following changes are necessary to correct the problem:

Page 66 of the listing (Phase 2) should be changed

From	24080	BNE	*+32	11938 47 11970 01200
To	24080	BNE	KM125	11938 47 13530 01200

1620-1311 Monitor I
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Page 71 of the same listing

Add	25883	KM125	CM	SL, 148, 9	13530	14	02399	00148
	25884		BL	CD14NA+78	13542	47	11970	01300
	25885		CM	SL, 151, 9	13554	14	02399	00151
	25886		BH	CD14NA+78	13566	46	11970	01100
	25887		SM	SL, 146, 9	13578	12	02399	00146
	25888		MM	SL, 3, 10	13590	13	02399	00003
	25889		SF	96	13602	32	00096	00000
	2588A		A	I, 99	13614	21	09547	00099
	2588B		B7	CD14NA+12	13626	49	11904	

Twenty-One (21) correction cards are provided. They are numbered

51125	51169	51193	51368	51393
51162	51172	51194	51369	51394
51163	51186	51362	51372	51826
51168	51192	51363	51387	51848
				51849

Please remove the correspondingly numbered cards from Deck #8 and insert the cards provided.

FORTRAN II-D Loader, Deck #9

1. Error When a CALL LINK operation is performed, COMMON must be saved in order to protect the data which may be used by the link being called.

If the program calling this link uses LOCAL subprograms and the LOCAL's terminating group mark is in core storage in the area reserved by the COMMON statement of the link being called it will be saved, in working storage, as a part of the links COMMON. Since COMMON is restored using a read with wrong length record check command, the read will be terminated by the LOCAL's terminating group mark resulting in the incomplete restoration of COMMON.

Correction The following changes are necessary to correct the problem:

Page 2 of the listing (FORTRAN II-D Loader, Block 6) should be changed

From	00650	ARITH	TFM	DIO+35, ENT, 67	02522 16 00851 03670
To	00650	ARITH	B	PATCH1	02522 49 03670 00000

Page 4 of the same listing

From	01666	ENT	BI	*+12, 3700	03670 46 03682 03700
	01670		BNI	ERRET, 1900	03682 47 00602 01900
	01680		TDM	INDS+10, 6	03694 15 00620 00006
	01690		B	ERROR	03706 49 00624 00000
To	01611	CORSZEDC		5, 0, *-5	03468 5
	01666	PATCH1 TD		CORSZE-4, COMSEC+76	03670 25 03464 07376
	01670		AM	CORSZE-3, 10, 10	03682 11 03465 00010
	01680		S	CORSZE, COMADD	03694 22 03468 02231
	01690		B	PATCH2	03706 49 03914

And on Page 5 of the same listing

From	01770	SVE	DSC	2, 00	03838 2
	01890		DORG	7280	07280
To	01770	SVE	DSC	2, 02	03838 2
	01883	PATCH2 CM		CORSZE, 2099	03914 14 03468 02099
	01884		BH	ARITH+12	03926 46 02534 01100
	01885		BD	AJUST, CORSZE-1	03938 43 03982 03467
	01886		BD	AJUST, CORSZE	03950 43 03982 03468
	01887		TF	SVEDDA+8, CORSZE-2	03962 26 02498 03466
	01888		B7	ARITH+12	03974 49 02534 0
	01889	AJUST	AM	CORSZE-2, 1, 10	03982 11 03466 00001
	01990		B7	*-32	03994 49 03962 0
	01991		DORG	7280	07280

Five (5) replacement cards are provided; they are numbered

03241	03258	03260
03256	03259	

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Please remove the correspondingly numbered cards from Deck #9 and insert the cards provided.

After inserting all of the correction cards, only Decks #3, #5, #8 and #9 should be loaded onto the Monitor I disk pack using Deck #1 (System Loader).

PROGRAM INFORMATION DEPARTMENT



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

October 7, 1964

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems
SUBJECT: IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 8

This letter transmits Modification No. 8 of the subject program. The material enclosed with this modification consists of the following:

- One (1) Program deck (System Table Editor) numbered 99001-99082, Deck #14.
- One (1) Listing for System Table Editor

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose, California 95114.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, CE Managers

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Note: Those users who received Modification No. 4 for the 1620-1311 Monitor I System received an Execute Program. (Execute Program No. 2) The System Table Editor (Deck #14) will replace that Execute Program which may be discarded.

System Table Editor (Deck #14)

This deck is not to be loaded with the system but should be used as described:

The Disk Identification Map (DIM) and the Sequential Program List (S. P. List) are changed whenever a user adds or deletes a program in his system. All installed systems will contain different entries in these tables. The maintenance of such a system is not possible in every users installation by loading change cards over the original tables--instead correction procedures must consider the variability of the tables. The program described here was designed to correct and reconstruct these tables if they should be altered incorrectly for any reason.

Purpose:

This maintenance program will examine the users DIM entries for correct format. After typing any incorrect entry along with the entry number and an error message, the incorrect entry is deleted. A new Sequential Program List is created using the DIM entries. If this new list is different from the former list, the user can print the old list before the new list is substituted.

When the new list is created, it is possible that two different DIM entries specify the same area on disk. This error is handled by deleting any DIM entry that conflicts with any previously examined entry. The first of the entries encountered, under these conditions, will be the one that is retained.

After the new list has been constructed, a list of DIM entry numbers may be printed. This list will contain the entry numbers of any DIMs deleted because they specified disk sectors already specified by other DIM entries. Thus the user may wish to dump the DIMs using a *DDUMP control record before running this modification program.

Operation:

Place the deck supplied in the input unit as a normal monitor job. Retain the program for use in the event that any new problems arise.

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Results:

Sequential Program List Creation

If the new Sequential Program List, which is built up from the DIM entries, compares equally with the one on the disk, the message, "S. P. LIST IS CORRECT" is typed. If the Lists do not compare equally, the message, "S. P. LIST IS INCORRECT" is typed and the program halts. Turning Console Switch One (1) on and pressing Start will dump the incorrect list (the one that was on the disk) onto the typewriter. In either case, the new list will be written on the disk when the Start Key is depressed.

Any DIM numbers which are typed, after the S. P. List message has been typed, have been deleted from the DIM Table and replaced by eights (8's) in the Equivalence Table. These eights will not affect system operations.

PROGRAM INFORMATION DEPARTMENT

00450	BT	DIMMER,DIMNUM,,	GET DIM ENTRY	02866	27	03216	02636
00460	TDM	TREC+11,,6		02878	15	0334P	00000
00470	DSC	1,,*		02889	00001		
00480	AM	TREC+11,19,10		02890	11	03347	000J9
00490	TF	TREC+11,ZERO19,6,	DELETE DIM ENTRY	02902	26	0334P	03395
00500	TFM	IORT,#+23		02914	16	00565	-2937
00510	B	IOPT,DIM1,7		02926	49	00532	-3599
00520	TR	EQU22,EQU2,,	INIT. READ DDA	02938	31	03518	03498
00530	RDEQU	TFM RMK+11,LIST+11		02950	16	03009	J2011
00540	TFM	DIMEQ+11,LIST+15		02962	16	03089	J2015
00550	TFM	IORT,#+23		02974	16	00565	-2997
00560	B	IOGT,EQU1,7,	READ EQUIVALENCE TABLE				
				02986	49	00566	-3490
00570	RMK	BNR DIMEQ,LIST+11,7,	END OF LIST TEST	02998	45	03078	J2011
00580	TFM	IORT,#+23		03010	16	00565	-3033
00590	B	IOPT,EQU1,7		03022	49	00532	-3490
00600	AM	PICK+11,4,10		03034	11	02841	000-4
00610	C	DROPDM,PICK+11		03046	24	03376	02841
00620	BE	MONCAL		03058	46	00796	01200
00630	B7	PICK		03070	49	02830	00000
00640	DIMEQ	C DIMNUM,LIST+15,,	LOOK FOR DIM NUMBER				
				03078	24	02636	12015
00650	BNE	*+24		03090	47	03114	01200
00660	TF	DIMEQ+11,EIGHTS,6,	PUT IN 16 EIGHTS	03102	26	0308R	03489
00670	AM	RMK+11,16,10,	INCREMENT TO NEXT NAME				
				03114	11	03009	000J6
00680	AM	DIMEQ+11,16,10		03126	11	03089	000J6
00690	CM	DIMEQ+11,LIST+4015,,	END OF 40 SECTORS	03138	14	03089	J6015
00700	BL	RMK,,, NO		03150	47	02998	01300
00710	TFM	IORT,#+23		03162	16	00565	-3185
00720	B	IOPT,EQU1,7,	WRITE EQUIV. TABLE				
				03174	49	00532	-3490
00730	AM	EQU22+5,40,10		03186	11	03523	000M0
00740	B7	RDEQU		03198	49	02950	00000
00750	DC	2,0		03206	00002		
00760	SCRSA	DC 5,0		03211	00005		
00770	DC	4,0		03215	00004		
00780	DIMMER	MM DIMMER-1,2,10,	FIND CORRECT DIM ENTRY				
				03216	13	03215	000-2
00790	AM	96,48,10		03228	11	00096	000M8
00800	TF	DIM2+5,98		03240	26	03612	00098
00810	TFM	DIM2+8,1,9		03252	16	03615	00-01
00820	TFM	DIM2+13,LISTDK		03264	16	03620	-3800
00830	TD	TREC-1,99		03276	25	03335	00099
00840	TFM	IORT,#+23		03288	16	00565	-3311
00850	B	IOGT,DIM1,7		03300	49	00566	-3599
00860	TFM	TREC+11,LISTDK		03312	16	03347	-3800
00870	AM	TREC+10,0,10		03324	11	03346	000-0
00880	TREC	TR DMNXT,LISTDK		03336	31	03579	03800
00890	BB2			03348	42	00000	00000
00900	ERR3	H		03350	48	00000	00000
00910	POINT	DC 5,0,		03366	00005		
00920	SA	DC 5,0,		03371	00005		

00930	DROPDM	DC	5,0,		03376	00005
00940	ZERU19	DC	19,0		03395	00019
00950	IORT	DS	,565		00565	00000
00960	IUGT	US	,566		00566	00000
00970	IUPT	US	,562		00532	00000
00980	MAP1	DSC	2,22		03396	00002
00990		DSA	MAP2		03402	00005 -3404
01000		DSC	1,2		03403	00001
01010	MAP2	DSC	1,1		03404	00001
01020		DC	5,04800		03409	00005
01030		DC	3,2		03412	00003
01040		DSA	DIMS		03417	00005 J1800
01050		DSC	1,2		03418	00001
01060	SPL1	DSC	2,22		03419	00002
01070		DSA	SPL2		03425	00005 -3538
01080		DSC	1,2		03426	00001
01090	LISTOK	DAC	23,S.P. LIST IS INCORRECT@		03429	00046
01100	MONCAL	DS	,796		00796	00000
01110	EIGHTS	DC	16,8888888888888888		03489	00016
01120	EQU1	DSC	2,22		03490	00002
01130		DSA	EQU22		03496	00005 -3518
01140		DSC	1,2		03497	00001
01150	EQU2	DSC	20,0		03498	00020
01160	EQU22	DSC	20,0		03518	00020
01170	SPL2	DSC	20,0		03538	00020
01180		DC	1,0		03558	00001
01190	MAP20	DSC	20,0		03559	00020
01200	DMNXT	DSC	20,0		03579	00020
01210	DIM1	DSC	2,22		03599	00002
01220		DSA	DIM2		03605	00005 -3607
01230		DSC	1,2		03606	00001
01240	DIM2	DSC	1,1,,	CONTROL FIELD TO READ DIMS	03607	00001
					03612	00005
01250		DC	5,04800		03615	00003
01260		DC	3,050		03620	00005 J1800
01270		DSA	DIMS		03621	00001
01280		DSC	1,2		03700	
01290		UORG	3700			
01300**			EDIT THE DIM TABLES FOR FLAGS OR RECORD MARKS			
01310	SAVE	MM	DIMS+68,5,10,	MAXIMUM NUMBER OF DIMS	03700	13 11868 000-5
					03712	32 00096 00000
01320		SF	96		03724	26 02632 00099
01330		TF	MAXDIM,99		03736	16 02636 0-001
01340		TFM	DIMNUM,1,8,	START DIM COUNTER		
01350		TFM	MAP,DIMS+20,,	INIT. TO DIM POSITION 1	03748	16 05373 J1820
					03760	31 03498 11840
01360		TR	EQU2,DIMS+40		03772	16 03376 -3703
01370		TFM	DROPDM,LISTCM+3			
01380		TDM	START+25,1,,	NOP BRANCH TO SAVE	03784	15 03829 00001
					03796	49 03852 00000
01390		B7	START+48,,,	RETURN TO MAIN DIM EXIT	03804	16 00565 -3827
01400	START	TFM	IORT,**+23			

01410	B	IOGT,DIM1,7,	READ DIMS	03816 49 00566 -3599
01420	B	SAVE,,,	CHANGE TO NOP AFTER FIRST TIME	
01430	TFM	MAP,DIMS,,	INIT. TO POSITION ZERO	03828 49 03700 00000
				03840 16 05373 J1800
01440	TFM	CNT2,0,10,	MAP+CNT2 IS POINT	03852 16 04270 000-0
01450	TEST	BNR INUSE,MAP,11,	IS DIM IN USE	03864 45 04104 0537L
01460	AM	MAP,1,10,	NO	03876 11 05373 000-1
01470	AM	CNT2,1,10,	TEST FIRST POSITION	
				03888 11 04270 000-1
01480	B7	TEST1		03900 49 03952 00000
01490	TESTR	AM MAP,1,10		03908 11 05373 000-1
01500	AM	CNT2,1,10		03920 11 04270 000-1
01510	BNF	**+20,MAP,11,	TEST REST OF DIM	03932 44 03952 0537L
01520	B7	DIMFOR,,,	FOR UNFLAGGED ZEROS	
				03944 49 04264 00000
01530	TEST1	BD DIMFOR,MAP,11		03952 43 04264 0537L
01540	CM	CNT2,19,10,	HAS LAST ONE BEEN TESTED	
				03964 14 04270 000J9
01550	BL	TESTR		03976 47 03908 01300
01560**		INCREMENT TO NEXT DIM ENTRY		
01570	NEXT	AM DIMNUM,1,10,	NEXT DIM NUMBER	03988 11 02636 000-1
01580	C	DIMNUM,MAXDIM,,	END OF DIM TABLE	04000 24 02636 02632
01590	BE	PUTCYL		04012 46 04622 01200
01600	AM	MAP,1,10		04024 11 05373 000-1
01610	CM	MAP,DIMS+5000,,	END OF 50 SECTORS	04036 14 05373 J6800
01620	BL	TEST-12		04048 47 03852 01300
01630	TFM	IOPT,**+23		04060 16 00565 -4083
01640	B	IOPT,DIM1,7,	WRITE DIM TABLE	04072 49 00532 -3599
01650	AM	DIM2+5,50,10,	YES	04084 11 03612 000N0
01660	B7	START,,,	GO READ NEXT 50	04096 49 03804 00000
01670	INUSE	TFM CA,CFIELD,,	DIM IS IN USE	04104 16 04294 -4534
01680	TF	LP+11,MAP		04116 26 04139 05373
01690	LP	BNR **+20,MAP,,	CHECK FOR VALID DIM	
				04128 45 04148 05373
01700	B7	DIMFOR,,,	ACCORDING TO CFIELD	
				04140 49 04264 00000
01710	BD	ADD1,CA,11		04148 43 04184 0429M
01720	BNF	NF ,CA,11		04160 44 04252 0429M
01730	BNF	DIMFOR,LP+11,11		04172 44 04264 0413R
01740	ADD1	AM CA,1,10		04184 11 04294 000-1
01750	AM	LP+11,1,10		04196 11 04139 000-1
01760	BNR	LP,CA,11		04208 45 04128 0429M
01770	BNR	DIMFOR,LP+11,11		04220 45 04264 0413R
01780	AM	MAP,19,10		04232 11 05373 000J9
01790	B7	NEXT		04244 49 03988 00000
01800	NF	BNF ADD1,LP+11,11		04252 44 04184 0413R
01810	DIMFOR	RCTY ,,,	DIM ENTRY IS IN ERROR	
				04264 34 00000 00102
01820	CNT2	DC 2,0,*-5		04270 00002
01830		WATY FORMD		04276 39 04501 00100
01840		RCTY		04288 34 00000 00102
01850	CA	DC 5,0,*-5		04294 00005

01860	WNTY	DIMNUM-3,,	TYPE DIM NUMBER	04300	38	02633	00100
01870	SPTY			04312	34	00000	00101
01880	DB1	DC 6,100001,*-4		04319	00006		
01890	S	MAP,CNT2		04324	22	05373	04270
01900	TFM	DUMP,19980		04336	16	05397	J9980
01910	TDDUMP	TD DUMP,MAP,611		04348	25	0539P	0537L
01920	AM	MAP,1,10		04360	11	05373	000-1
01930	AM	DUMP,1,10		04372	11	05397	000-1
01940	BD	TDDUMP,DUMP-1		04384	43	04348	05396
01950	DNTY	19980		04396	35	19980	00100
01960	SM	MAP,1,10		04408	12	05373	000-1
01970	TF	MAP,ZERO19,6,	DELETE INVALID DIM ENTRY	04420	26	0537L	03395
01980	SM	MAP,19,10		04432	12	05373	000J9
01990	TDM	MAP,,6		04444	15	0537L	00000
02000	DSC	1,@,*		04455	00001		
02010	AM	MAP,19,10		04456	11	05373	000J9
02020	TF	DROPDM,DIMNUM,6		04468	26	03370	02636
02030	AM	DROPDM,4,10		04480	11	03376	000-4
02040	B7	NEXT		04492	49	03988	00000
02050	FORMD	DAC 17,DIM FORMAT ERROR@		04501	00034		
02060	CFIELD	DSC 1,0		04534	00001		
02070	DC	5,0		04539	00005		
02080	DC	3,0		04542	00003		
02090	DC	5,1		04547	00005		
02100	DC	5,1		04552	00005		
02110	DSC	1,@		04553	00001		
02120	SAVE1	TR SPL2,DIMS+80		04554	31	03538	11880
02130	TF	SCRSC,DIMS+28		04566	26	04845	11828
02140	TF	SCRSA,DIMS+25		04578	26	03211	11825
02150	TD	SCRSA-5,DIMS+20		04590	25	03206	11820
02160	TDM	RDLIST+25,1		04602	15	04835	00001
02170	B7	TRMAP		04614	49	04846	00000
02180**	MAKE A	LIST WITH ONLY CYLINDER ENTRIES IN IT		04622	16	J2003	0P000
02190	PUTCYL	TFM LIST+3,7000,28		04634	33	J2000	00000
02200	CF	LIST,,2		04646	11	04628	000-4
02210	AM	PUTCYL+6,4,10		04658	11	04633	000-1
02220	AM	PUTCYL+11,1,10		04670	11	04640	000-4
02230	AM	PUTCYL+18,4,10					
02240	BD	*+20,PUTCYL+9,,	TEST FOR LAST ENTRY DONE	04682	43	04702	04631
02250	B7	PUTCYL		04694	49	04622	00000
02260	TDM	PUTCYL+18,,6,	ADD FINAL RECORD MARK	04702	15	0464-	00000
02270	DSC	1,@,*		04713	00001		
02280	SF	LIST,,,	FLAG START OF LIST	04714	32	12000	00000
02290	AM	PUTCYL+18,4,10		04726	11	04640	000-4
02300	TFM	PUTCYL+18,0,68		04738	16	0464-	0-000
02310	SM	PUTCYL+18,3,10		04750	12	04640	000-3
02320	CF	PUTCYL+18,,6		04762	33	0464-	00000
02330	AM	PUTCYL+18,3,10		04774	11	04640	000-3
02340	TFM	DIMNUM,0002,8,	START WITH DIM ENTRY TWO				

02350	TFM	TRMAP+11,DIMS+40		04786 16 02636 0-002
02360	RDLIST	TFM IORT,**+23,,	READ TWO SECTORS OF DIMS	04798 16 04857 J1840
02370	B	IOGT,MAP1,7		04810 16 00565 -4833
02380	B	SAVE1		04822 49 00566 -3396
02390	SCRSC	DC 3,0,*		04834 49 04554 00000
02400	TRMAP	TR MAP20,DIMS		04845 00003
02410	BNR	MONPK-24,MAP20		04846 31 03559 11800
02420	NXT	AM DIMNUM,1,10,	NEXT DIM ENTRY	04858 45 04962 03559
02430	C	DIMNUM,MAXDIM,,	LAST DIM TEST	04870 11 02636 000-1
02440	BNL	FILLIN		04882 24 02636 02632
02450	AM	TRMAP+11,20,10,	NEXT ENTRY	04894 46 05438 01300
02460	BD	TRMAP,DIMNUM		04906 11 04857 000K0
02470	AM	MAP2+5,2,10,	READ NEXT TWO SECTORS	04918 43 04846 02636
02480	TFM	TRMAP+11,DIMS		04930 11 03409 000-2
02490	B7	RDLIST		04942 16 04857 J1800
02500**		DIM REFERS TO MONITOR PACK		04954 49 04810 00000
02510	CM	MAP20,1,10		04962 14 03559 000-1
02520	BH	NXT		04974 46 04870 01100
02530	MONPK	MM MAP20+5,5,10,	CALCULATE CYLINDER OF PROGRAM	04986 13 03564 000-5
02540	TD	CYL,96		04998 25 05193 00096
02550	TD	CYL-1,95		05010 25 05192 00095
02560	TFM	LK+11,LIST+3,,	INIT. CYL. SEARCH TO FIRST ENTRY	05022 16 05045 J2003
02570	LK	C CYL,LIST+3,7,	COMPARE FOR CYLINDER OF PROGRAM	05034 24 05193 J2003
02580	BE	GETR		05046 46 05078 01200
02590	AM	LK+11,4,10,	NEXT ENTRY	05058 11 05045 000-4
02600	B7	LK		05070 49 05034 00000
02610	GETR	AM LK+11,1,10,	GET RIGHT HAND ENTRY H.O.	05078 11 05045 000-1
02620	BNR	**+32,LK+11,11		05090 45 05122 0504N
02630	AM	LK+11,3,10		05102 11 05045 000-3
02640	B7	INS,,,	IF RECORD MARK, INSERT DIM	05114 49 05266 00000
02650	AM	LK+11,3,10		05122 11 05045 000-3
02660	C	SEV,LK+11,11		05134 24 05217 0504N
02670	BL	INS,,,	IF CYLINDER, INSERT DIM	05146 47 05266 01300
02680	TF	DMBT+6,LK+11		05158 26 05188 05045
02690	SM	DMBT+6,3,10		05170 12 05188 000-3
02700	DMBT	SF LIST,,,	IT MUST BE A DIM NUMBER	05182 32 12000 00000
02710	CYL	DC 4,7000,*		05193 00004
02720	BT	DIMMER,LK+11,11		05194 27 03216 0504N
02730	CF	DMBT+6,,6		05206 33 0518Q 00000
02740	SEV	DC 4,6999,*		05217 00004
02750	TF	HOLD5,MAP20+5		05218 26 05313 03564
02760	S	HOLD5,DMNXT+5		05230 22 05313 03584
02770	BZ	ERR		05242 46 05406 01200

02780	BP	GETR		05254 46 05078 01100
02790**	INSERT	DIM NUMBER INTO LIST		
02800	INS	TF	TFDIM+11,PUTCYL+18	05266 26 05325 04640
02810	AM		PUTCYL+18,4,10, CONTAINS ADDRS. OF RECORD MARK	
				05278 11 04640 000-4
02820	SM		LK+11,3,10	05290 12 05045 000-3
02830	SF		LK+11,,6	05302 32 0504N 00000
02840	HOLD5	DC	5,0,*	05313 00005
02850	TFDIM	TF	PUTCYL+18,LIST+4,6, OPEN FOR DIM NUMBER	
				05314 26 0464- 12004
02860	AM		LK+11,3,10	05326 11 05045 000-3
02870	TF		LK+11,DIMNUM,6, PUT IN DIM NUMBER	05338 26 0504N 02636
02880	SM		LK+11,3,10	05350 12 05045 000-3
02890	CF		LK+11,,6, CLEAR FLAG OVER DIM	
				05362 33 0504N 00000
02900	MAP	DC	5,0,*	05373 00005
02910	AM		LK+11,4,10	05374 11 05045 000-4
02920	CF		LK+11,,6	05386 33 0504N 00000
02930	DUMP	DC	5,0,*	05397 00005
02940	B7		NXT	05398 49 04870 00000
02950**	TWO PROGRAMS START AT THE SAME SECTOR ADDRESS			
02960	ERR	TF	DROPDM,DIMNUM,6,	05406 26 03370 02636
02970	AM		DROPDM,4,10	05418 11 03376 000-4
02980	B7		NXT	05430 49 04870 00000
02990**	FILL IN LIST WITH 9-ENTRIES AND DUPLICATE DIMS			
03000	FILLIN	TFM	SA,0,7, INIT. TO START OF LIST	
				05438 16 03371 -0000
03010	TFM		POINT,LIST+3	05450 16 03366 J2003
03020	TFM		SC,200,9, INIT. SC TO 200	05462 16 05661 00K00
03030	NX	AM	POINT,1,10, NEXT ENTRY TO RIGHT H.O.	
				05474 11 03366 000-1
03040	BNR		**+32,POINT,11	05486 45 05518 03360
03050	AM		POINT,3,10, REACHED END OF LIST	
				05498 11 03366 000-3
03060	B7		LST	05510 49 06806 00000
03070	AM		POINT,3,10	05518 11 03366 000-3
03080	C		SEV,POINT,11, IS IT A CYLINDER ENTRY	
				05530 24 05217 03360
03090	BNL		NOCYL	05542 46 05766 01300
03100	CM		SC,0,9, IS SC DOWN TO ZERO	
				05554 14 05661 00-00
03110	BE		NX-12	05566 46 05462 01200
03120	TF		PT9+11,END,, YES	05578 26 05637 04640
03130	AM		END,4,10	05590 11 04640 000-4
03140	SM		POINT,3,10	05602 12 03366 000-3
03150	SF		POINT,,6	05614 32 03360 00000
03160	PT9	TF	END,LIST,6, MOVE LIST TO THE RIGHT	
				05626 26 0464- 12000
03170	TF		NINESC,SC	05638 26 05709 05661
03180	CF		NINESC-2	05650 33 05707 00000
03190	SC	DC	3,0,*	05661 00003
03200	AM		POINT,3,10	05662 11 03366 000-3
03210	TF		POINT,NINESC,6, INSERT 9 ENTRY	05674 26 03360 05709

03220	SM	POINT,3,10		05686	12	03366	000-3
03230	CF	POINT,,6,	CLEAR FLAG OVER 9	05698	33	03360	00000
03240	NINESC	DC 4,9000,*		05709	00004		
03250	AM	POINT,4,10		05710	11	03366	000-4
03260	CF	POINT,,6,	CLEAR FLAG SET FOR MOVE	05722	33	03360	00000
03270	A	SA,SC,,	UPDATE SECTOR ADDRS.	05734	21	03371	05661
03280	AM	POINT,3,10,	POINT TO ENTRY ON RIGHT OF 9XXX	05746	11	03366	000-3
03290	B7	NX-12		05758	49	05462	00000
03300	NOCYL	TF NOCYL+30,POINT,,	MUST BE A DIM NUMBER	05766	26	05796	03366
03310	SM	NOCYL+30,3,10		05778	12	05796	000-3
03320	SF	LIST,,2		05790	32	J2000	00000
03330	BT	DIMMER,POINT,11,	GET DIM ENTRY	05802	27	03216	03360
03340	CF	NOCYL+30,,6		05814	33	05790	00000
03350	S	DMNXT+5,SA		05826	22	03584	03371
03360	BN	ERR1,,,	THERE IS AN OVERLAP	05838	47	06382	01300
03370	BZ	FITS,,,	NO 9XXX NEEDED	05850	46	06066	01200
03380	SF	DMNXT+3,,,	PUT A 9 ENTRY IN FRONT OF DIM	05862	32	03582	00000
03390	TF	NINESC,DMNXT+5		05874	26	05709	03584
03400	CF	NINESC-2,,,	PREPARE TO INSERT REMAINDER	05886	33	05707	00000
03410	TF	OP+11,END		05898	26	05957	04640
03420	AM	END,4,10		05910	11	04640	000-4
03430	SM	POINT,3,10		05922	12	03366	000-3
03440	SF	POINT,,6		05934	32	03360	00000
03450	OP	TF END,LIST,6,	MOVE LIST TO MAKE ROOM FOR 9XXX	05946	26	0464-	12000
03460	AM	POINT,3,10		05958	11	03366	000-3
03470	TF	POINT,NINESC,6,	INSERT REMAINDER	05970	26	03360	05709
03480	SM	POINT,3,10		05982	12	03366	000-3
03490	CF	POINT,,6,	CLEAR FLAG OVER 9	05994	33	03360	00000
03500	AM	POINT,4,10		06006	11	03366	000-4
03510	CF	POINT,,6,	CLEAR FLAG SET FOR MOVE	06018	33	03360	00000
03520	A	SA,DMNXT+5,,	UPDATE SECTOR ADDRS.	06030	21	03371	03584
03530	S	SC,DMNXT+5,,	SUBTRACT REMAINDER 9 FROM S.C.	06042	22	05661	03584
03540	AM	POINT,3,10,	MOVE POINTER TO DIM	06054	11	03366	000-3
03550	FITS	A SA,DMNXT+8,,	UPDATE WITH S.C. OF DIM	06066	21	03371	03587
03560	S	SC,DMNXT+8,,	DOES DIM OVERLAP CYLINDER	06078	22	05661	03587
03570	BZ	NX,,,	JUST FITS	06090	46	05474	01200
03580	BP	NX,,,	ROOM FOR MORE	06102	46	05474	01100
03590	AM	POINT,1,10,	OVERLAPS CYLINDER	06114	11	03366	000-1
03600	BNR	*+32,POINT,11,	IS NEXT POSITION A				

03610	AM	POINT,3,10,	CYLINDER ENTRY	06126	45	06158	03360
03620	B7	LST		06138	11	03366	000-3
03630	AM	POINT,3,10		06150	49	06806	00000
03640	C	SEV,POINT,11		06158	11	03366	000-3
03650	BNL	ERR2		06170	24	05217	03360
03660	AM	POINT,1,10,	YES	06182	46	06554	01300
03670	SF	POINT,,6		06194	11	03366	000-1
03680	TF	*+35,END		06206	32	03360	00000
03690	AM	END,4,10		06218	26	06253	04640
03700	TF	END,LIST,6,	OPEN LIST TO RIGHT OF CYLINDER	06230	11	04640	000-4
				06242	26	0464-	12000
03710	AM	POINT,3,10		06254	11	03366	000-3
03720	TF	POINT,DIMMER-1,6,	INSERT DIM NUMBER	06266	26	03360	03215
03730	SM	POINT,3,10		06278	12	03366	000-3
03740	CF	POINT,,6,	CLEAR FLAG OVER DIM				
				06290	33	03360	00000
03750	AM	POINT,4,10		06302	11	03366	000-4
03760	CF	POINT,,6,	CLEAR FLAG FROM MOVE				
				06314	33	03360	00000
				06326	12	03366	000-1
03770	SM	POINT,1,10					
03780	AM	SC,200,9,	ADD 200 FOR NEXT CYLINDER				
				06338	11	05661	00K00
03790	BZ	NX		06350	46	05474	01200
03800	BNF	NX,SC		06362	44	05474	05661
03810	B7	FITS+48,,,	STILL NEGATIVE	06374	49	06114	00000
03820**		PROGRAMS OVERLAP					
03830	ERR1	TF	DROPDM,DIMMER-1,6	06382	26	03370	03215
03840	AM	DROPDM,4,10		06394	11	03376	000-4
03850	AM	POINT,1,10		06406	11	03366	000-1
03860	TR	NOCYL+30,POINT,611,	DROP DIM FROM LIST				
				06418	31	05790	03360
03870	SF	POINT,,6		06430	32	03360	00000
03880	TF	ERR1+42,POINT		06442	26	06424	03366
03890	BNR	*+20,POINT,11		06454	45	06474	03360
03900	B7	*+44		06466	49	06510	00000
03910	AM	POINT,3,10		06474	11	03366	000-3
03920	C	POINT,DIMMER-1,6		06486	24	03360	03215
03930	BE	ERR1+24		06498	46	06406	01200
03940	CF	ERR1+42,,6		06510	33	0642M	00000
03950	TF	POINT,NOCYL+30		06522	26	03366	05796
03960	SM	POINT,1,10		06534	12	03366	000-1
03970	B7	NX		06546	49	05474	00000
03980**		PROGRAM OVERLAPS CYLINDER, BUT NEXT ENTRY IS NOT	CYLINDER				
03990	ERR2	SM	POINT,3,10	06554	12	03366	000-3
04000	BNR	*+20,POINT,11,	IS IT END OF LIST	06566	45	06586	03360
04010	B7	LST		06578	49	06806	00000
04020	SF	POINT,,6		06586	32	03360	00000
04030	TF	ERR2+43,POINT,,	SAVE POINT IN LIST				
				06598	26	06597	03366
04040	AM	POINT,3,10		06610	11	03366	000-3
04050	TF	SAVDM,POINT,11		06622	26	06725	03360
04060	TF	DROPDM,SAVDM,6,	PUT DIM NUMBER IN DROP LIST				

04070	AM	DROPDM,4,10		06634 26 03370 06725
04080	AM	POINT,1,10		06646 11 03376 000-4
04090	TR2	TR	ERR2+43,POINT,611,	DROPDIM NUMBER FROM S.P. LIST
				06670 31 0659P 03360
04100	SM	PGINT,4,10		06682 12 03366 000-4
04110	BNR	*+20,POINT,11		06694 45 06714 03360
04120	B7	FITS+60		06706 49 06126 00000
04130	SF	POINT,,6		06714 32 03360 00000
04140	SAVDM	DC	4,0,*	06725 00004
04150	TF	TR2+6,POINT		06726 26 06676 03366
04160	AM	POINT,3,10		06738 11 03366 000-3
04170	C	POINT,SAVDM,6		06750 24 03360 06725
04180	BE	TR2-12		06762 46 06658 01200
04190	SM	POINT,3,10		06774 12 03366 000-3
04200	CF	POINT,,6		06786 33 03360 00000
04210	B7	FITS+60		06798 49 06126 00000
04220**	RECORD	MARK MARKS END OF THE S.P. LIST		
04230	LST	CM	SCRSA-5,1,10,	IS SCRATCH ON MONITOR PACK
				06806 14 03206 000-1
04240	BH	NOSCR		06818 46 07022 01100
04250	MM	SCRSA,5,10,		WHAT IS THE STARTING CYLINDER
				06830 13 03211 000-5
04260	TD	CYL,96		06842 25 05193 00096
04270	TD	CYL-1,95		06854 25 05192 00095
04280	TFM	PUTSCR+11,LIST-1		06866 16 06901 J1999
04290	AM	PUTSCR+11,4,10		06878 11 06901 000-4
04300	PUTSCR	C	CYL,LIST+3,7,	FIND FIRST CYLINDER
				06890 24 05193 J2003
04310	BNE	PUTSCR-12		06902 47 06878 01200
04320	AM	PUTSCR+11,4,10		06914 11 06901 000-4
04330	C	NINE2,PUTSCR+11,11,		IS THERE A 9200
04340	BNE	ERR3		06926 24 06985 0690J
04350	TFM	PUTSCR+11,0001,68,		REPLACE IT WITH DIM 0001
				06938 47 03350 01200
				06950 16 0690J 0-001
04360	SM	PUTSCR+11,3,10		06962 12 06901 000-3
04370	CF	PUTSCR+11,,6		06974 33 0690J 00000
04380	NINE2	DC	4,9200,*	06985 00004
04390	AM	PUTSCR+11,11,10		06986 11 06901 000J1
04400	SM	SCRSC,1,10,		KEEP TRACK OF NUMBER OF CYLINDERS
				06998 12 04845 000-1
04410	BNZ	PUTSCR+36		07010 47 06926 01200
04420	NOSCR	CM	SC,0,9	07022 14 05661 00-00
04430	BE	WT		07034 46 02402 01200
04440	TFM	NOCYL-2,WT,,		YES
04450	B7	PT9-48		07046 16 05764 -2402
				07058 49 05578 00000
04460	PATCH	DSS	100	07065 00100
04470	LIST	US	,12000	12000 00000
04480	DIMS	US	,11800	11800 00000
04490	LISTDK	US	,3800	03800 00000
04500	LISTCM	US	,3700	03700 00000
04510	END	US	,PUTCYL+18	04640 00000
04520	UEND	START		03804

IBM

40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

December 8, 1964

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 9

This letter transmits Modification No. 9 of the subject program. The material enclosed with this modification consists of the following:

Twelve (12) Correction Cards

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose, California 95114.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, CE Managers

SPS II-D Subroutines, Deck #5

1. Error The Arctangent routine hangs up upon execution.

Correction The following changes are necessary to correct the problem:

Page 12 of the listing (Set 1) should be changed

From	00030	FATN1	TFM	PCK+5, *+20, 1	00000	16	02370	00020
To	00030	FATN1	TFM	PCK+5, *+20, 17	00000	16	02370	00020

One (1) replacement card numbered 22409 is provided. Please remove the correspondingly card from Deck #5 and insert the card provided.

SPS II-D Processor, Deck #6

1. Error The macro-operations SAVE and RSTR do not assemble correctly in a relocatable assembly.

Correction The following changes are necessary to correct the problem:

Page 32 of the listing (SPS II-D, Phase B) should be changed.

From	15780	CF	ZEP0+7	10526	33	02307	00000
	15940	CF	ADDRS-4	10696	33	03490	00000
To	15780	B	PATCH1	10526	49	14378	00000
	15940	B	PATCH2	10696	49	14410	00000

Page 40 of the same listing should be changed

From Previously Vacant Area

To	19621	PATCH1	BNF	*+24, RLOCSW	14378	44	14402	07992
	19622	SF	ZEP0+1	14390	32	02301	00000	
	19623	B7	RSTRF+204	14402	49	10538	00000	
	19624	PATCH2	BNF	*+24, RLOCSW	14410	44	14434	07992
	19625	SF	ZEP0+12	14422	32	02312	00000	
	19626	B7	SAVEF+120	14434	49	10708	00000	

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Four (4) replacement cards numbered 23642, 23644, 23693 and 23694 are provided. Please remove the correspondingly numbered cards from Deck #6 and insert the cards provided.

Supervisor, Deck #7

1. Error Erroneous error message LD3 is typed when loading a relocatable program stored on the disk such that a three sector boundary coincides with a cylinder boundary.

Correction The following changes are necessary to correct the problem:

Page 3 of the listing (Monitor I Relocating Loader) should be changed

From	01200	BI	*+12, 1700	01006 46 01018 01700
To	01200	BNI	PATCH, 1700	01006 46 02264 01700

Page 10 of the same listing

Add	04151	PATCH BNI	ERR-12, 3600	02264 47 01018 03600
	04152	BD	ERR, CNTL+4	02276 43 01030 00924
	04153	B7	DIS	02288 49 00934

Two (2) replacement cards numbered 80007 and 80032 are provided. Please remove the correspondingly numbered cards from Deck #7 and insert the cards provided.

FORTRAN II-D Processor, Deck #8

1. Error Erroneous trailer records are produced when a source program calls 26 or 93 different subprograms. These records prevent the loading of the FORTRAN object program.

Correction The following changes are necessary to correct the problem:

Page 16 of the listing (Phase 1-C) should be changed

From	07730	TDM	CADD, 6, 6	09298 15 10855 00006
To	07730	B	SJ0492	09298 49 11652 00000

1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 9
Page 4

Page 21 of the same listing

Add	1003D	ST0492	C	CADD, CEND	11652	24	10855	10860
	1003E		BNE	*+36	11664	47	11700	01200
	1003F		BTM	OUTADD, 00000	11676	17	10270	00000
	1003G		SM	CADD, 3, 10	11688	12	10855	00003
	1003H		TDM	CADD, 6, 6	11700	15	10855	00006
	1003I		B7	HU+34	11712	49	09310	

2. Error NEXT COMMON not correctly calculated when COMMON area extended by array equivalence.

Correction The following changes are necessary to correct the problem:

Page 8 of the listing (FORTRAN II-D, Phase 1-C) should be changed

From	03720	BNF	*+48, TELSW	05480	44	05528	07104
To	03720	BNF	EXTCOM, TELSW	05480	44	11720	07104

Page 21 of the same listing

Add	1003J	EXTCOM	TF	*+35, TEMP3	11720	26	11755	03422
	1003K		S	*+23, WDLN	11732	22	11755	02962
	1003L		CM	COMADD, *-*	11744	14	02262	00000
	1003M		BNH	E89010+156	11756	47	05528	01100
	1003N		TF	COMADD, *-13	11768	26	02262	11755
	1003O		B7	E89010+156	11780	49	05528	

Five (5) replacement cards numbered 51441, 51492, 51523, 51524 and 51525 are provided. Please remove the correspondingly numbered cards from Deck #8 and insert the cards provided.

After Decks #5, #6, #7, and #8 have been corrected, only these decks should be loaded to the Monitor I disk pack using Deck #1 (System Loader).

PROGRAM INFORMATION DEPARTMENT

IBM

40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

March 5, 1965

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 10

This letter transmits Modification No. 10 of the subject program. The material enclosed with this modification consists of the following:

Thirty-Nine (39) Correction Cards

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose, California 95114.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, CE Managers

Disk Utility Program (DUP), Deck #3

1. Error When an SPS program which uses subroutines is stored Core Image, any constants which are to be stored above 22302 are lost if the program exceeds 20,000 core positions.

Correction The following changes are necessary to correct the problem:

Page 8 of the listing (1620 Monitor I DUP Routine *SELECTION Routine Mod. Level 4) should be changed

From	03360	SF	WR2+13	05016 32 02270 00000
To	03360	SF	WR2+14	05016 32 02271 00000

Page 9 of the same listing should be changed

From	03580	B	IOGT, DDA1, 7	05130 49 00566 05908
To	03580	B	FTAPAR, DDA1, 7	05130 49 06468 05908

Page 16 of the same listing should be changed

From Not used at this point in execution

To	05791	DORG	06468	06468
	05792	FTAPAR BNF	*+24, WR2+14	06468 44 06492 02271
	05793	SF	WR2+13	06480 32 02270 00000
	05794	B7	IOGT	06492 49 00566

2. Error The file protecting ability of the DCOPY routine did not function in some cases and the completion message did not indicate this.

Correction The DCOPY routine has been modified to perform the file protecting function as specified. The changes are combined with those under error 3.

3. Error An erroneous error message printed, indicating that insufficient available storage for the copy was found by the DCOPY routine. This occurred in cases when the starting sector address for the copy was located after a program on a cylinder.

Correction The DCOPY routine was modified to perform the check of available disk area in the specified manner.

Change the DCOPY listing (DUP) as follows:

Page 6 of the listing should be changed

From	02600	BTM	BAK, WKA	04740 17 03268 06227
To	02600	B	NXTDIM	04740 49 06250 00000

Page 7 of the listing should be changed

From	03130	BD	SETFPR, CHGP+7	05276 43 06036 05155
To	03130	NOP		05276 41 00000 00000

Page 8 of the listing should be changed

From	03420	BNF	*+36, STCHG+1	05488 44 05524 02861
	03430	WNTY	SAVRO+5	05500 38 05743 00100
	03440	B	*+24	05512 49 05536 00000
To	03420	B	*+36	05488 49 05524 00000
	03430	FILDEF DSC	2, 26	05500 00002
	03432	DSA	RDDIM	05506 00005 02700
	03435	DC	1, '	05507 00001
	03438	DSC	4 , 0	05508 00004
	03440	NOP		05512 41 00000 00000
From	03620	TDM	DEFIN+1, 6	05762 15 05380 00006
	03630	TDM	DEFOUT+1, 6	05774 15 05388 00006
	03640	TDM	CHGP+7, 1	05786 15 05155 00001
	03650	TF	CFINS+11, DUM1+11	05798 26 05347 05913
	03660	TF	CFINS+18, DUM+6	05810 26 05354 05900
	03670	TR	RDDIM, SAVWR	05822 31 02700 03756
	03680	TR	RDDIM+20, SAVWR	05834 31 02720 03756
	03690	TFM	RDDIM+8, 20, 9	05846 16 02708 00020
	03700	TFM	RDDIM+28, 20, 9	05858 16 02728 00020
	03710	TF	SAVRO+10, SAVRD+5	05870 26 05748 04813
	03720	TD	SAVRO+5, SAVRD	05882 25 05743 04808
	03730	DUM B7	RDWR, , 0	05894 49 05252

From (Cont'd)

03740	DUM1	BD	ENDMES, SETX+10, 0	05902 43 05992 06210
03750	*			
03820	*			
03830	*		SELECT AND FILE PROTECT THE SECTORS COPIED	
03840	SETFPR	TFM	SFFL+11, INEQU, 7	06036 16 06083 10000
03850		AM	SFFL+11, 4	06048 11 06083 00004
03860	CFH	TFM	FLAG+1, 41, 10	06060 16 06145 00041
03870	SFFL	C	SAVWR+5, INEQU, 7	06072 24 03761 10000
03880		BH	FLAG-12	06084 46 06132 01100
03890	PNT	DS	, SFFL+11	06083 0
03900		C	WKHICP, PNT, 11	06096 24 06223 06083
03910		BL	SETX	06108 47 06200 01300
03920		TFM	FLAG+1, 32, 10	06120 16 06145 00032
03930		SM	PNT, 4	06132 12 06083 00004
03940	FLAG	SF	PNT, , 6	06144 32 06083 00000
03950		AM	PNT, 105	06156 11 06083 00105
03960		CM	PNT, 105*20+INEQU	06168 14 06083 12100
03970		BNH	SETFPR+12	06180 47 06048 01100
03980		B7	WRDSKF	06192 49 05288
03990	*			
04000	SETX	TDM	SETX+10, 9	06200 15 06210 00009
04010		B7	WRDSKF	06212 49 05288

To	03635	TR	RDDIM, SAVWR	05762 31 02700 03756
	03640	TFM	RDDIM+8, 20, 9	05774 16 02708 00020
	03650	SH SF	SAVCNT-4	05786 32 04308 00000
	03660	FPADR DS	, SH+11	05797 00000
	03670	TF	CNTDWN, SAVCNT	05798 26 06103 04312
	03680	TFM	RDDIM+13, 10000	05810 16 02713 10000
	03690	SF	BUTTON	05822 32 00455 00000
	03700	BUTTON DS	, 00455	00455 00000
	03710	BREP TFM	IORT, *+23	05834 16 00565 05857
	03720	B	IOGT, FILDEF, 7	05846 49 00566 05500
	03730	TFM	FPADR, 10004	05858 16 05797 10004
	03740	SOMMOR C	SAVWR+5, FPADR, 11	05870 24 03761 05797
	03750	*	NUMBER OF SECTORS TO PROTECT	
	03755	BNH	SFPFLG	05882 47 06080 01100
	03758	B7	CONUE	05894 49 06036 00000

To (Cont'd)

03840	CONUE	AM	FPADR, 105	06036 11 05797	00105
03845		CM	FPADR, 12000	06048 14 05797	12000
03850		BH	WRFPR	06060 46 06152	01100
03860		B7	SOMMOR	06072 49 05870	00000
03870	SFPFLG	SM	FPADR, 4, 10	06080 12 05797	00004
03880		SF	FPADR, , 6	06092 32 05797	00000
03890		AM	FPADR, 4, 10	06104 11 05797	00004
03900		SM	CNTDWN, 1	06116 12 06103	00001
03910		BNZ	CONUE	06128 47 06036	01200
03920		TDM	SFPFLG+7, 1	06140 15 06087	00001
03930	WRFPR	TFM	IORT, *+23	06152 16 00565	06175
03940		B	IOPT, FILDEF, 7	06164 49 00532	05500
03950		CF	BUTTON	06176 33 00455	00000
03960		BD	ENDMES, SFPFLG+7	06188 43 05992	06087
03970		AM	RDDIM+5, 20, 10	06200 11 02705	00020
03980		B7	BREP	06212 49 05834	00000
03990	CNTDWN	DS	, SFPFLG+23	06103	00000
04000		DORG	6250	06250	
04005	NXTDIM	TFM	DDADIM+8 , DCOPY-200	06250 16 03665	02500
04010		TFM	RMCK+11 , DCOPY-200	06262 16 03419	02500
04015		BTM	BAK , WKA	06274 17 03268	06227
04018		B7	DIMENT+24	06286 49 04752	00000

4. Error When deleting an entry from the Equivalence Table and the end of the table is between sectors 05068 and 05079, eight (8) sectors following the area reserved for the Table are destroyed (05080-05087).

Correction The following change is necessary to correct the problem:

Page 36 of 1620 Monitor I DUP Routine *DLOAD, *DREPL, *DELET,
 Modification Level No. 4

From	17120	DONE	TF	HOLD5, CLOSW+5	09542 26 13139 13302
To	17120	DONE	TF	HOLD5, CLOSR+5	09542 26 13139 13363

Twenty-eight (28) replacement cards are provided. These cards are numbered 11109 thru 11132, 10199, 10589, 10590 and 10608. Please remove the correspondingly numbered cards from Deck #3 and insert the cards provided.

Supervisor, Deck #7

ERRATA

Modification No. 9 stated that Page 3 of the Listing (Monitor I Relocating Loader) should be changed

To 01200 BNI PATCH, 1700 01006 46 02264 01700

This should have stated

To 01200 BNI PATCH, 1700 01006 47 02264 01700

1. Error The correction to the Relocating Loader in Modification No. 9 does not function properly when a cylinder overflow occurs on the first three sector group read into core.

Correction The following changes are necessary to correct the problem:

Page 3 of the listing (Monitor I Relocating Loader) should be changed

From 01200 BNI PATCH, 1700 01006 47 02264 01700
01210 BI CIN, 3800, 6 01018 46 01083 03800

To 01200 BI CIN, 3800, 6 01006 46 01083 03800
01210 BNI PATCH, 1700 01018 47 02264 01700

Page 10 of the same listing should be changed

From 04151 PATCH BNI ERR-12, 3600 02264 47 01018 03600

To 04151 PATCH BNI ERR, 3600 02264 47 01030 03600

Three (3) replacement cards numbered 80007, 80008, and 80032 are provided. Please remove the correspondingly numbered cards from Deck #7 and insert the cards provided.

1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 10
Page 7

FORTRAN II-D Loader, Deck #9

1. Error An object FORTRAN subprogram cannot be loaded from paper tape.

Correction The following changes are necessary to correct the problem:

Page 4 of the listing (FORTRAN II-D Loader, Block 3) should be changed

From	01740	CM	RMCHK+11, INRK+80	04646 14 04625 07480
To	01740	CM	RMCHK+11, INRK+75	04646 14 04625 07475

Page 7 of the same listing should be changed

From	03690	TF	COMSEC+98, INRK+79	06458 26 07398 07479
To	03690	TR	COMSEC+94, INRK+75	06458 31 07394 07475

Page 4 of the listing (FORTRAN II-D Loader, Block 5) should be changed

From	02030	CM	RMCHK+11, INRK+80	04900 14 04879 07480
To	02030	CM	RMCHK+11, INRK+75	04900 14 04879 07475

Page 6 of the same listing should be changed

From	02630	TF	COMSEC+98, INRK+79	05500 26 07398 07479
To	02630	TR	COMSEC+94, INRK+75	05500 31 07394 07475

Four (4) replacement cards numbered 63156, 63180, 63209 and 63217 are provided. Please remove the correspondingly numbered cards from Deck #9 and insert the cards provided.

FORTRAN Subroutines with Auto Divide, Deck #10

1. Error I/O subroutines give erroneous error F7 message when reading leading zeros in some fixed point cases.

Correction The following changes are necessary to correct the problem:

Page 26 of the listing (Set 1) should be changed

From	12560	BNH	IRDIG	04778 47 04882 01100
To	12560	BL	IRDIG	04778 47 04882 01300

Page 17 of the listing (Set 2) should be changed

From	08290	BNH	IRDIG	09874 47 09978 01100
To	08290	BL	IRDIG	09874 47 09978 01300

Two (2) replacement cards numbered 52101 and 53134 are provided.
Please remove the correspondingly numbered cards from Deck #10
and insert the cards provided.

FORTRAN Subroutines with Auto Floating Point, Deck #11

1. Error I/O subroutines give erroneous error F7 message when reading leading zeros in some fixed point cases.

Correction The following changes are necessary to correct the problem:

Page 19 of the listing (Set 3) should be changed

From	08680	BNH	IRDIG	04778 47 04882 01100
To	08680	BL	IRDIG	04778 47 04882 01300

Page 17 of the listing (Set 4) should be changed

From	08280	BNH	IRDIG	09826 47 09930 01100
To	08280	BL	IRDIG	09826 47 09930 01300

Two (2) replacement cards numbered 65057 and 66134 are provided.
Please remove the correspondingly numbered cards from Deck #11
and insert the cards provided.

1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 10
Page 9

After Decks #3, #7, #9 and #10 or #11 (Deck #10 for users with Auto Divide; Deck #11 for users with Auto Floating Point) have been corrected, only these decks should be loaded to the Monitor I disk pack using Deck #1 (System Loader). Note: When Deck #7 is loaded, the system communication sector is reinitialized. Any user changes to this area must be made again after loading this deck.

PROGRAM INFORMATION DEPARTMENT



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

FEBRUARY 23, 1966

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 11

This letter transmits Modification No. 11 of the subject program. The conditions corrected and the changes incorporated in this modification level are:

Correction

Correction or Change Made

Deck #5

1. Subroutine Set 00 will sometimes (Fixed Product Area Position dependent) calculate erroneous results for divisors that have at least 2 low order digits smaller than the corresponding number of high order digits of the dividend.

Deck #6

1. A DAC or DSAC with a long comments field may cause erroneous output and/or unpredictable behavior.

2. There was a typographical error on Modification Letter number 7, error 2.

Deck #8

1. When the last instruction generated falls at the very end of memory, a check stop occurs when trying to load the program.

2. Must be able to classify a FORTRAN statement before reading the first continuation card.

3. The correction in Modification No. 9 concerning COMMON extended by array equivalence calculates an incorrect value for NEXT COMMON in some cases of non-COMMON array equivalence.

Deck #9

1. If local subprograms are to be loaded from both card or paper tape and the disk, they will not be loaded properly.

2. If a local subprogram is called from a local subprogram and there are no in-core subprograms used, the error is indicated improperly.

IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 11
Page 2

Deck #9 (Continued)

3. An incorrect check is made for 7 character local names.

A list of materials distributed with this letter follows:

<u>Item No.</u>	<u>Description</u>
1	25 Change Cards
2	Attachment 1 - Listing of Change Cards
3	Attachment 2 - Listing of Symbolic Changes

Initial requests for this system which are filled after the date of this letter will not include the cards mentioned above, as these cards will be included in the object deck.

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 40 Sawmill River Road, Hawthorne, New York 10532.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, FE Managers

IBM 1620-1311 MONITOR 1
PROGRAM NO. 1620-PR-025(CARD)
MODIFICATION NO. 11

ATTACHMENT NO. 1
PAGE NO. 1

LISTING OF CHANGE CARDS (DECK 5)

3100699240053100495460060401300330049500000700000000592160320053I00000I600722516

THE ONE (1) REPLACEMENT CARD LISTED ABOVE IS TO BE
INSERTED INTO DECK 5 REPLACING THE CORRESPONDINGLY
NUMBERED CARD.

LISTING OF CHANGE CARDS (DECK 6)

01491360401705676117002602387032952602571023872102571025711503036000022603023283
42023294912332015030360000016120950000+17056761586426023870329514023870005123284
000+1112019000013102904120194103042023292503040023872503039023864512332170923289
06060660606060606606060606606060606606060606606060606000000000+2603042023294923338
11804007023600000005004900000000000I8800054I0528001610570I0576251057502329223339

THE FIVE (5) REPLACEMENT CARDS LISTED ABOVE ARE TO BE
INSERTED INTO DECK 6 REPLACING THE CORRESPONDINGLY
NUMBERED CARDS.

LISTING OF SYMBOLIC CHANGES (DECK 5)

07070 CF BFLG-25,,6 00580 L3 0049 00000 CHANGE

LISTING OF SYMBOLIC CHANGES (DECK 6)

15250 TF INPUT2+6,ZEPO+29 11748 26 03042 02329 CHANGE
 15330 BTM EVALAD,DAC5,4 11792 17 05076 15864 CHANGE
 15690 DACR NOP INPUT2+6,ZEPO+29 12156 41 03042 02329 CHANGE
 19570 DAC5 TF INPUT2+6,ZEPO+29 15864 26 03042 02329 CHANGE
 19580 B7 DAC+36 15876 49 11804 CHANGE
 25340 BTM CSORN,IOG+136 14076 17 05690 J4556 CHANGE

LISTING OF SYMBOLIC CHANGES (DECK 8)

00860 TF SUBSW+1,ZER13+2 02674 26 10093 10077 CHANGE
 02150 E87420 BNR COMSET,MODAD,11 03948 45 11788 0336R CHANGE
 02171 COMSW DS ,*-1 03967 0 ADD
 02180 BNF NONCOM,MODAD,11 03968 44 11808 0336R CHANGE
 02430 BNF DOCCTU,SUBSW+1 04118 44 10162 10093 CHANGE
 02520 BNF EQONCC,SUBSW+1 04210 44 10094 10093 CHANGE
 03720 BD EXTCOM,COMSW 05480 43 11720 03967 CHANGE
 09321 EQONCC SF SUBSW+1 10094 32 10093 00000 ADD
 09322 SF CHI+1 10106 32 15140 00000 ADD
 09323 SF CHI+3 10118 32 15142 00000 ADD
 09324 BTM CKCNTU,0,10 10130 17 04836 000-0 ADD
 09325 NOP DECODE+35,2,10 10142 41 03837 000-2 ADD
 09326 B7 DECODE 10154 49 03802 ADD
 09327 DOCCTU BTM CKCNTU,0,10 10162 17 04836 000-0 ADD
 09328 B7 ASCAN 10174 49 10440 ADD
 1003P COMSET TDM COMSW,1 11788 15 03967 00001 ADD
 1003Q B7 E87420+20 11800 49 03968 ADD
 1003R NONCOM TDM COMSW,0 11808 15 03967 00000 ADD
 1003S B7 E89820 11820 49 05844 ADD
 26300 B EOPAT 10398 49 13432 00000 CHANGE
 28891 EOPAT SM NEXT,5,10 13432 12 08456 000-5 ADD
 28892 SM LNGAD,5,610 13444 12 0845J 000-5 ADD
 28893 B7 EOJP 13456 49 11964 ADD

IBM 1620-1311 MONITOR I
PROGRAM NO. 1620-PR-025(CARD)
MODIFICATION NO. 11

ATTACHMENT NO. 2
PAGE NO. 2

LISTING OF SYMBOLIC CHANGES (DECK 9)

00930	B	PATCH1	03820	49	07232	00000	CHANGE
01030	TDM	NODATA,0	03900	15	02521	00000	CHANGE
01050	B	INC13	03924	49	03808	00000	CHANGE
01660	B	END1	08840	49	13046	00000	CHANGE
03060	COMPRES	BNR	05932	45	05952	00000	CHANGE
03090	COMPAR	BNR	05952	45	05996	00000	CHANGE
03180	B	COMPRES	06056	49	05932	00000	CHANGE
03891	END1	BNF	13046	44	08644	02426	ADD
03892	B7	RCMKCK	13058	49	08632		ADD
04681	PATCH1	AM	07232	11	06758	000L0	CHANGE
04682	B	ENDTST	07244	49	03640	00000	CHANGE



40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

October, 1966

MEMORANDUM TO: Users of IBM 1620-Data Processing Systems

SUBJECT: IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 12

This letter transmits Modification No. 12 of the subject program. The conditions corrected and the changes incorporated in this modification level are:

Correction

Correction or Change Made

Deck #3

1. The terminal ~~+~~ in the Sequential Program List is not detected properly when attempting to load a program when the monitor pack has insufficient room.
2. The flagged zeros after the ~~+~~ in the S. P. List sometimes interfere with finding the ~~+~~.

Deck #7

1. FORTRAN subroutines assume the arithmetic overflow to be unchanged after return from an IORT call.
2. #XEQ or #XEQS operations are not performed after ~~++~~DUP *DLOAD and spurious message "ERROR IN FIELD" at col. 27 is listed.

1M487

IBM 1620-1311 Monitor I
Program No. 1620-PR-025 (Card)
Modification No. 12
Page 2

A list of materials distributed with this letter follows:

<u>Item No.</u>	<u>Description</u>
1	13 Change Cards
2	Attachment 1 - Listing of Change Cards
3	Attachment 2 - Listing of Symbolic Changes

Initial requests for this system which are filled after the date of this letter will not include the cards mentioned above, as these cards will be included in the object deck.

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 40 Sawmill River Road, Hawthorne, New York 10532.

This program has been registered by type of system and is listed under the name and address shown on your order. Program Modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, FE Managers

LISTING OF CHANGE CARDS (DECK 3)

5T02759320315T00000120275900001260276402759330315T0000014027720000016033310T0222
263746033080120014027720000T16033310266046033080120014027720000216033310268T0223
346033080120016033310270616005650333149005320263749033880110280700001310280T0224
70348T260275903151490360402706160056503411490056602729421502855000044902884T0225
28070348T490334003151110275900003260275902794330315TT9880110315100004330315T0228
40000026027720009416049050263725026460432146048820120014000940000T160490502T0243
660250266904321460488201200140009400002160490502683250269204321460488201200T0244
160490502706250271504321160056504905490056600000490447002604949031511104949T0245
000053304949000001104949000013304949000004904470047002603187045203204520000T0246
000011502909000011602926049141604284T44244903838024027640569246147880130014T0546

THE TEN (10) REPLACEMENT CARDS LISTED ABOVE ARE TO BE
INSERTED INTO DECK 3 REPLACING THE CORRESPONDINGLY
NUMBERED CARDS.

LISTING OF CHANGE CARDS (DECK 7)

44070220285449095500160958607045491124607813430741809730440707809730490948280141
43112260025532002850000031000001124649000000150042800000490913800261160191780197
10063500002110064200002140063500620470062401100250102800440440074000455490080200

THE THREE (3) REPLACEMENT CARDS LISTED ABOVE ARE TO BE
INSERTED INTO DECK 7 REPLACING THE CORRESPONDINGLY
NUMBERED CARDS.

LISTING OF SYMBOLIC CHANGES (DECK 3)

01690	TFM	WRTSPO+23,PKODDA	03200	16	03331	-2637	CHANGE
01700	BE	WRTSPO	03212	46	03308	01200	CHANGE
01710	CM	PACK,01,1011	03224	14	02772	000-J	CHANGE
01720	TFM	WRTSPO+23,PK1DDA	03236	16	03331	-2660	CHANGE
01730	BE	WRTSPO	03248	46	03308	01200	CHANGE
01740	CM	PACK,02,1011	03260	14	02772	000-K	CHANGE
01750	TFM	WRTSPO+23,PK2DDA	03272	16	03331	-2683	CHANGE
01760	BE	WRTSPO	03284	46	03308	01200	CHANGE
01770	TFM	WRTSPO+23,PK3DDA	03296	16	03331	-2706	CHANGE
01780	WRTSPO	TFM IORT,++23	03308	16	00565	-3331	CHANGE
01790	B	IOPT,*-*	03320	49	00532	00000	CHANGE
01800	B7	WHYNOT	03332	49	03388	0	CHANGE
01810	PATXX	AM CONST2,1,10	03340	11	02807	000-1	CHANGE
01820	TR	CONST2,TIPSY+11,611	03352	31	0280P	0348J	CHANGE
01830	TF	CALC2,SPLCOR	03364	26	02759	03151	CHANGE
01840	B7	NERR+24	03376	49	03604		CHANGE
02180	B	PATXX	03592	49	03340		CHANGE
03380	TFM	REDSPO+23,PKODDA	04726	16	04905	-2637	CHANGE
03390	TD	SPLPK0+1,CLEVER	04738	25	02646	04321	CHANGE
03400	BE	REDSPO	04750	46	04882	01200	CHANGE
03410	CM	94,1,1011	04762	14	00094	000-J	CHANGE
03420	TFM	REDSPO+23,PK1DDA	04774	16	04905	-2660	CHANGE
03430	TD	SPLPK1+1,CLEVER	04786	25	02669	04321	CHANGE
03440	BE	REDSPO	04798	46	04882	01200	CHANGE
03450	CM	94,2,1011	04810	14	00094	000-K	CHANGE
03460	TFM	REDSPO+23,PK2DDA	04822	16	04905	-2683	CHANGE
03470	TD	SPLPK2+1,CLEVER	04834	25	02692	04321	CHANGE
03480	BE	REDSPO	04846	46	04882	01200	CHANGE
03490	TFM	REDSPO+23,PK3DDA	04858	16	04905	-2706	CHANGE
03500	TD	SPLPK3+1,CLEVER	04870	25	02715	04321	CHANGE
03510	REDSPO	TFM IORT,++23	04882	16	00565	-4905	CHANGE
03520	B	IDGT,*-*	04894	49	00566	00000	CHANGE
03530	B7	SPLINI	04906	49	04470	0	CHANGE
03540	REM	TF CLFLG,SPLCOR	04914	26	04949	03151	CHANGE
03550	AM	CLFLG,05,10	04926	11	04949	000-5	CHANGE
03560	CF	CLFLG,,6	04938	33	0494R	00000	CHANGE
03570	CLFLG	DC 5,0,*	04949		-0000		CHANGE
03580	AM	CLFLG,01,10	04950	11	04949	000-1	CHANGE
03590	CF	CLFLG,,6	04962	33	0494R	00000	CHANGE
03600	B7	SPLINI	04974	49	04470	0	CHANGE
25850	TFM	CLIPPP+42,REM	14392	16	02926	-4914	CHANGE

LISTING OF SYMBOLIC CHANGES (DECK 7)

03100	CM	TEST+11,INDS+10	00672	14	00635	-0620	CHANGE
15480	B	AB07,MXQ50,7	07034	49	11246	-7813	CHANGE
20320	AB07	TDM LDINPT,0	11246	15	00428	00000	CHANGE
20330	B7	UT10	11258	49	09138		CHANGE