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65 \$\$ 1247T ENTERED 4.0\*1X AT 09.314 ON 12/27/79 T/S 0-08-05

45  
95 0001 \$ SNUMB 1247T  
96 0002 \$ COMMENT TSSUNIT TSS CARDIN  
97 0003 \$\$ USERID TSSUNIT\$  
98 0004 \$ IDENT P20ABJ12,HAUGH ,STATION-T 00000000  
99 0005 A\$ PROGRAM SALT,ON4 00001004  
100 0006 \$\$ PRMFL \*\*,R,R,TOOLS/SALT/STARSTAR 00001005  
101 0007 \$ NOTE G\*,COPY,ENDFC 00001006  
102 0008 \$\$ PRMFL G\*,R,S,4VX/VSP/SRC/FALT 00001007  
103 0009 \$ NOTE G\* 00001008  
104 0010 \$ DATA A\*,COPY,ENDFC 00001009  
105 0011 \$ ENDCOPY A\* 00001011  
106 0012 \$ FILE AB,A1S 00001012  
107 0013 \$ LIMITS 10,40K,,50K 00001013  
108 0014 \$ IF ABORT,ENDJOB 00001014  
109 0015 \$ IF 18,00PS 00001015  
110 0016 A\$ GMAP NDECK,NSAF,ON4 00001016  
111 0017 \$ LIMITS 10,40K,,50K 00001017  
112 0018 \$\$ PRMFL \*\*,R,R,4VX/MACROS/STARSTAR 00001018  
113 0019 \$ FILE \*1,,99L 00001019  
114 0020 \$\$ PRMFL G\*,R,S,4VX/VSP/SRC/FALT 00001020  
115 0021 \$ FILE A\*,A1R 00001021  
116 0022 \$ OOPS. 00001022  
117 0023 \$ ENDJOB 00001023  
118 TOTAL CARD COUNT THIS JOB = 000024

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121  
122 \* ACTY-01 \$CARD #0005 SALT 12/27/79 REAL MODE SW=000400000000

123 \* NORMAL TERMINATION AT 000113 BA=000000200000 I=0502 SW=000400000000

124  
125 START 9.315 LINES 2 PROC 0.0000 I/O 0.000 IU 5 MAXWST 41K  
126 STOP 9.316 LNLMT 51200 TMLMT 0.1000 IOLMT CU 5 MINWST 41K  
127 SWAP 0.000 RUPGIN 0 BSPGIN 0 PGFLT 0 PGIOTM 0.000 PGOT 0  
128 LAPSF 0.000 A/PSTK 8 SSSTK 7 M\*T 191

129  
130 FC D TYPE BUSY IP/AT FP/RT IS/#C MS/#E ADDRESS T#/PK#  
131 \*\* R MSU450 P 114 0 0 36 36R 0-08-06  
132 G\* R MSU450 X 0 0 0 116 116  
133 G\* R MSU450 0-08-08 C418 ONL  
134 A\* R MSU450 \* 68 0 0 1 12 0-08-02  
135 AB S MSU450 \* 39 0 1 12 12 0-08-04  
136 P\* SYOUT  
137 \*A R MSU450 \* 14 0 0 \* 300R 0-08-02

138 RC-77 2 LINES

139  
140 \* ACTY-02 \$CARD #0016 GMAP 12/27/79 REAL MODE SW=201400000000

141 \* NORMAL TERMINATION AT 006536 BA=000000200000 I=0500 SW=201400000000

142  
143 START 9.317 LINES 7087 PROC 0.0066 I/O 0.005 IU 5 MAXWST 41K  
144 STOP 9.349 LNLMT 51200 TMLMT 0.1000 IOLMT CU 5 MINWST 41K  
145 SWAP 0.000 RUPGIN 0 BSPGIN 0 PGFLT 0 PGIOTM 0.000 PGOT 0  
146 LAPSF 0.031 A/PSTK 8 SSSTK 7 M\*T 10201

FC D	TYPE	BUSY	IP/AT	FP/RT	IS/MS/MS/RT	MS/MS/RT	ADDRESS	T#/PK#
A* R	MSU450 *	88	1	1	12	12	0-08-05	
D* R	MSU450 *	51	0	1	1	1	0-08-03	
** R	MSU450 X	1635	0	0	4000	4000R		
** R	MSU450						0-08-08 C418	ONL
*I R	MSU450 *	8579	0	0	1188	1188	0-08-03	
G* R	MSU450 X	3299	0	116	116	116		
G* R	MSU450						0-08-08 C418	ONL
P*	SYOUT							
K*	SYOUT							
C*	SYOUT							
*A R	MSU450 *	29	0	0	*	24R	0-08-04	

RC-77 2 LINES  
LIST 7084 LINES  
RC-73 1 LINES

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SNUMB = 12471, ACTIVITY # = 01, , REPORT CODE = 77, RECORD COUNT = 000002



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SNUMB = 12471, ACTIVITY # = 02, , REPORT CODE = 77, RECORD COUNT = 000002

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SNUMB = 12471, ACTIVITY # = 02, , REPORT CODE = 74, RECORD COUNT = 007084

```

*****
* (C) COPYRIGHT 1977 BY TOKYO SHIBAURA ELECTRIC COMPANY LIMITED *
*****

```

PRFFACE

THIS PROGRAM WILL BE LOADED MOD 8.

```

PROGRAM BREAK 12473
COMMON LENGTH 0
V COUNT BITS 5

```

PRIMARY SYMDEF ENTRY

```

..FAIT 0
.IFAIT 116

```

			1	LBL	FALT,H6600J7.065	FALT0035
			2	TTL	H6600J7.065 F A U L T H A N D L E R SR 4VX 791219FALT	EL9.
			3	CPR	T,1977	FALT0050
			4	INHIB	ON	
			5	LODM	.A6MAC	
	000000		6	.ENTRY	FALT,(FLTEP,MSCAN,BOOTP,SYSDN,HISDP,INTSOV,	
	000000		7	ETC	ILMME,UNDF,BACKF),	
	000000		8	ETC	SHCM,(PRIVTY,INIT),,0	EL8.
				INHIB	SAVE,ON	
	000000	004065011604	000	..FALT	VFD 3/0,1/0,3/.F,11/.MFALT,12/.IFALT.4/1,2/0	
	000001	000127 7102 04	130	TRA	FLTEP,\$ 1	
	000002	001777 7102 04	2001	TRA	MSCAN,\$ 2	
	000003	002434 7102 04	2437	TRA	BOOTP,\$ 3	
	000004	002436 7102 04	2442	TRA	SYSDN,\$ 4	
	000005	003334 7102 04	3341	TRA	HISDP,\$ 5	
	000006	000325 7102 04	333	TRA	INTSOV,\$ 6	
	000007	001131 7102 04	1140	TRA	ILMME,\$ 7	
	000010	000551 7102 04	561	TRA	UNDF,\$ 8	
	000011	000572 7102 04	603	TRA	BACKF,\$ 9	
	000012	071101020102	000	BCI	1,791212	
	000013	071101020111	000	TTLDAT		
	000014	010202070711	000	DATE		
		006132		9 SD.IVC EQU	SD.132	EL9.

\*\*\*\*\* TEMP \*\*\*\*\*

11 \*

12 \*

THIS MODULE PROCESSES ALL PROCESSOR FAULTS

13 \*

14 \*

THE FOLLOWING ENTRIES TO FALT ARE DEFINED

15 \*

16 \*

STOP EP1

STOP A PROCESSOR

08FW1990

17 \*

MSCAN EP2

MEMORY SCAN ROUTINE

18 \*

BOOTP EP3

SYSTEM DUMP

19 \*

SYSDN EP4

STOP SYSTEM

20 \*

HISDP EP5

DUMP HISTORY REGISTERS

21 \*

INTSOV EP6

S/S OVERFLOW ON INTERRUPT

22 \*

ILMME EP7

ILLEGAL MME

23 \*

UNDF EP8

S/S UNDERFLOW

24 \*

BACKF EP9

BACK-UP FAULT

25 \*

FUNCTION TABLES

				27	MME FUNCTION TABLE. . . MODULE #, Ep OR -1,ROUTINE						FALT0090
000015	777777	001140	001	28	MMET	ZERO	-1,ILMME	MME 0	0	(ILLEGAL)	FALT0100
000016	777777	001064	001	29		ZERO	-1,INOS	GEINOS	1	(.MIOS,5)	FALT0110
000017	777777	001074	001	30		ZERO	-1,ROAD	GEROAD	2	(.MDISP,2)	FALT0120
000020	000021	000001	000	31		ZERO	.MALCE,1	GEFADD	3		FALT0130
000021	000524	000001	000	32		ZERO	.MRELS,1	GERELS	4		FALT0140
000022	000544	000001	000	33		ZERO	.MSNP1,1	GFSNAP	5		FALT0150
000023	000432	000004	000	34		ZERO	.MPMME,4	GELAPS	6		FALT0160
000024	000036	000002	000	35		ZERO	.MBRT1,2	GEFINT	7		FALT0170
000025	000036	000004	000	36		ZERO	.MBRT1,4	GEBORT	8		FALT0180
000026	000432	000003	000	37		ZERO	.MPMME,3	GEMORE	9		FALT0190
000027	000021	000002	000	38		ZERO	.MALCE,2	GEFCON	10		FALT0200
000030	000021	000003	000	39		ZERO	.MALCE,3	GEFELS	11		FALT0210
000031	000432	000006	000	40		ZERO	.MPMME,6	GESETS	12		FALT0220
000032	000432	000005	000	41		ZERO	.MPMME,5	GERETS	13		FALT0230
000033	777777	001104	001	42		ZERO	-1,ENDC	GEENDC	14	(.MDISP,5)	FALT0240
000034	777777	001102	001	43		ZERO	-1,RELC	GERELC	15	(.MDISP,4)	FALT0250
000035	000320	000001	000	44		ZERO	.MIOS1,1	GESPEC	16		FALT0260
000036	000432	000007	000	45		ZERO	.MPMME,7	GETIME	17		FALT0270
000037	000046	000001	000	46		ZERO	.MCAL1,1	GECALL	18		FALT0280
000040	000535	000001	000	47		ZERO	.MSAV1,1	GESAVE	19		FALT0290
000041	000525	000001	000	48		ZERO	.MRES1,1	GERSTR	20		FALT0300
000042	000021	000005	000	49		ZERO	.MALCE,5	GEMREL	21		FALT0310
000043	000556	000001	000	50		ZERO	.MSYOT,1	GESYOT	22		FALT0320
000044	000050	000001	000	51		ZERO	.MCHK1,1	GECHEK	23		FALT0330
000045	777777	001106	001	52	REP1	ZERO	-1,ROUT	GEROUT	24	(.MROUT,1)	FALT0340
000046	000527	000001	000	53		ZERO	.MROL1,1	GEROLL	25		FALT0350
000047	777777	001110	001	54	REP2	ZERO	-1,USER	GEUSER	26	(.MUMME,1)	FALT0360
000050	000432	000010	000	55		ZERO	.MPMME,8	GELoop	27		FALT0370
000051	000057	000014	000	56		ZERO	.MDISP,12	GEWAKE	28		FALT0380
000052	000315	000001	000	57		ZERO	.MIDSC,1	GEIDSC	29		FALT0390
000053	000432	000011	000	58		ZERO	.MPMME,9	.EMM	30		FALT0400
000054	000432	000013	000	59		ZERO	.MPMME,11	GELBAR	31		FALT0410
000055	777777	001112	001	60	REP3	ZERO	-1,FRCE	GEFRCE	32		FALT0420
000056	000100	000001	000	61		ZERO	.MFS09,1	GEFSYE	33		FALT0430
000057	777777	000717	001	62		ZERO	-1,RETOU	GEPRIO	34		FALT0440
000060	000211	000001	000	63		ZERO	.MGNEW,1	GENEWS	35		FALT0450
000061	000432	000014	000	64		ZERO	.MPMME,12	GESNUM	36		FALT0460
000062	000432	000015	000	65		ZERO	.MPMME,13	GEINFO	37		FALT0470
000063	777777	001114	001	66		ZERO	-1,SECR	GESECR	38		EL8.
000064	000432	000020	000	67		ZERO	.MPMME,16	GEXLIT	39		FALT0490
000065	000432	000012	000	68		ZERO	.MPMME,10	.EMMS	40		FALT0500
000066	777777	001140	001	69		ZERO	-1,ILMME	MME 41	41	(ILLEGAL)	EL7.
000067	777777	001140	001	70		ZERO	-1,ILMME	MME 42	42	(ILLEGAL)	EL7.
000070	000432	000030	000	71		ZERO	.MPMME,24	GMODES	43		EL7.
000071	000432	000031	000	72		ZERO	.MPMME,25	GMODER	44		EL7.
		000072		73	MMETF	NULL		END OF TABLE			FALT0510
				74	*						FALT0520
000072	071101010001	000		75		BCI	1,791101				EL9.
				77		ERLK					EL7.



FUNCTION TABLES

000073 000000000000 000  
000074 333326214363 000

78 FOUR MACRO  
79 PMC SAVE,OFF  
80 #1 EQU \*  
81 EIGHT  
82 IFG \*-#1,3,1  
83 ORG \*-4  
84 PMC RESTORE  
85 ENDM FOUR

14FW0220  
14FW0230  
14FW0240  
14FW0250  
14FW0260  
14FW0270  
14FW0280  
14FW0290

## FUNCTION TABLES

87 *	OPTION	
88 *		
89 *	BY CONVENTION THE OCTAL 100 LOCATIONS OF THIS MODULE ARE UTILIZED TO	
90 *	CONVEY TO THE MODULE THE USERS REQUEST FOR OPTIONS.	
91 *	WHEN THE MODULE INITIALIZES ITSELF IT EXAMINES THESE LOCATIONS.	
92 *	IN EXECUTION, THESE LOCATIONS ARE USED FOR ANOTHER PURPOSE.	
93 *		
94 *	OPT = 100	
95 *	OPT+0 IF /=0, CAUSE A SYSTEM CRASH ON WSR#0 FAULTS	
96 *	EXCEPT OVFW., DVD. CHK., TIMER RUN OUT, CONNECT AND MME.	
97 *		
98 *	OPT+1 IF /=0, NO INSTRUCTION RETRY	FALT3880
99 *		FALT3890
100 *	OPT+2 IF /=0, CRASH SYSTEM ON .PNDPN FAULTS AS IN OPT+0.	FALT3900
101 *		
102 *	OPT+3 IF /=0, USE VALUE IN 18-35 AS NUMBER OF PROCESSOR ERROR	
103 *	RECORD BUFFERS	
104 *		
105 *	OPT+4 IF /=0, USE GATING MODE	
106 *		
107 *	OPT+5 IF /=0, SET CACHE "ON" WITHOUT USE OF HEALS PROGRAM.	
108 *	IF =1, HEALS IF LOADED WILL IGNORE CACHE	
109 *	IF =2, HEALS IF LOADED WILL ASSUME CACHE CONTRL.	
110 *		
111 *	OPT+6 IF /=0, USE VALUE IN 34-35 FOR LOCKUP FAULT SET VALUE,	
112 *	OTHERWISE USE "3" AS SET VALUE.	
113 *		
114 *	OPT+7 IF /=0, OUTPUT HISTORY REG OF MISSING PAGE FAULT	
115 *	ON EXECUTION REPORT	
116 *		
117 *	OPT+10 IF /=0, USE CONTENT TO SET .CRPAC PACT COMMUNICATION	
118 *		
119 *	OPT+11 IF /=0, USE CONTENT SET .CRCMM HEALS CACHE/MOS COMM.	
120 *		
121 *	OPT+12 IF /=0, USE CONTENT TO SET .CRCMM+1 HEALS COMMUNICATION	
122 *		
123 *	OPT+13 IF /=0, USE CONTENT TO SET .CRCMM+2 HEALS COMMUNICATION	
124 *		

FUNCTION TABLES

126 \*  
127 \* DEFINITION OF CONSTANT  
128 \*

000100	129	ORG	64	
000076	130	.WPFR EQU	62	
002000	131	IK EQU	1024	
000007	132	D.PRF EQU	7	08FW1535
000013	133	D.CPU EQU	11	08FW1540
000001	134	KLS EQU 1		
000002	135	SP EQU	2	P1 ... KL SEGMENT
000005	136	EPD EQU	5	SLAVE PREFIX
000020	137	CON.F BOOL	20	EPEDS
000036	138	EXC.F BOOL	36	CONNECT FAULT CODE
000022	139	PAR.F BOOL	22	EXECUTE FAULT CODE
000030	140	SUP.F BOOL	30	PARITY FAULT CODE
000100	141	INB.F BOOL	100	START UP FAULT CODE
000010	142	TRO.F BOOL	10	INTERRUPT BIT
200000	143	FFG.F BOOL	200000	TIMER RUNOUT FAULT CODE
000200	144	SOV.F BOOL	200	FAULT FLAG ... SPA WORD 18
000024	145	IPR.F BOOL	24	S/S OVERFLOW FAULT BIT
440000	146	PRIV.F BOOL	440000	IPR FAULT CODE
000004	147	MME.F BOOL	04	WIRE AND PRIVILEGED BIT FOR PAGE LOAD
000050	148	MPG.F BOOL	50	MMEFAULT CODE
000010	149	CFG BOOL	10	MISSING PAGE FAULT CODE
000100	150	OPT NULL		FALT0680
000100	151	SREGS NULL		
000100	152	RGSV0 OCT	0	OPTION 0
000101	153	OCT	0	OPTION 1
000102	154	OCT	0	OPTION 2
000103	155	OCT	0	OPTION 3
000104	156	OCT	0	OPTION 4
000105	157	OCT	2	OPTION 5
000106	158	OCT	0	OPTION 6
000107	159	OCT	0	OPTION 7
000110	160	RGSV1 OCT	0	OPTION 10
000111	161	OCT	0	OPTION 11
000112	162	OCT	0	OPTION 12
000113	163	OCT	0	OPTION 13
000114	164	OCT	0	OPTION 14
000115	165	OCT	0	OPTION 15
000116	166	.IFALT TRA	IFALT	
000117	167	RGSV2 8BSS	8	
000120	168	RGSV3 BSS	8	
000130	169	RSWA1 BSS	4	
000140	170	RSWA2 BSS	4	
000144	171	POINT ZERO	0,0	
000150	172	ZERO	8,2	
000151	173	ZERO	16,4	
000152	174	ZERO	24,6	
000153				FALT1770

FUNCTION TABLES

			177	FVC	MACRO	FLTCODE,BCICODE,ABTMSG,PROC,PREFIX,EPEDS	EL8.
			178		VFD	06/#1,H12/#2,18/.AC#3,18/#4,9/.X#5,9/.E#6	EL8.
			179		ENDM	FVC	EL8.
			180	FVC1	MACRO	FLTCODE	EL8.
			181		VFD	06/#1,30/0,36/0	EL8.
			182		ENDM	FVC1	EL8.
		000000	183	.ENULL	EQU	0	EL8.
		000013	184	.XXFV	EQU	.XLKIC+1	EL8.
		000154	185	FVEC	NULL		EL8.
		000154	186		FVC1	74	0 - SHUTDOWN FAULT
	000154	740000000000			VFD	06/74,30/0,36/0	EL8.
	000155	000000000000					
		000156	187		FVC	01,F0,022,MEMF,MFFV,MEMF	2 - MEMORY FAULT
	000156	012600000022			VFD	06/01,H12/F0,18/.AC022,18/MEMF,9/.XMFFV,9/.EMEMF	EL8.
	000157	001333003004					
		000160	188		FVC1	00	4 - MME
	000160	000000000000			VFD	06/00,30/0,36/0	EL8.
	000161	000000000000					
		000162	189		FVC	02,F1,024,MTFTG,FTFV,FTAG	6 - FAULT TAG
	000162	022601000024			VFD	06/02,H12/F1,18/.AC024,18/MTFTG,9/.XFTFV,9/.EFTAG	EL8.
	000163	001347005006					
		000164	190		FVC1	12	10 - TIMER RUNOUT
	000164	120000000000			VFD	06/12,30/0,36/0	EL8.
	000165	000000000000					
		000166	191		FVC	03,F2,025,MTCF,ZPFV,CMDF	12 - COMMAND FAULT
	000166	032602000025			VFD	06/03,H12/F2,18/.AC025,18/MTCF,9/.XZPFV,9/.ECMDF	EL8.
	000167	001352001002					
		000170	192		FVC	04,F3,026,DRL,DRFV,DRLF	14 - DERATL
	000170	042603000026			VFD	06/04,H12/F3,18/.AC026,18/DRL,9/.XDRLF,9/.EDRLF	EL8.
	000171	001377015022					
		000172	193		FVC	05,F4,027,POLF,XFV,LKUP	16 - LOCKUP FAULT
	000172	052604000027			VFD	06/05,H12/F4,18/.AC027,18/POLF,9/.XXFV,9/.ELKUP	EL8.
	000173	001210013014					
		000174	194		FVC1	76	20 - CONNECT FAULT
	000174	760000000000			VFD	06/76,30/0,36/0	EL8.
	000175	000000000000					
		000176	195		FVC	13,F6,030,POLF,XFV,PARI	22 - PARITY FAULT
	000176	132606000030			VFD	06/13,H12/F6,18/.AC030,18/POLF,9/.XXFV,9/.EPARI	EL8.
	000177	001210013016					
		000200	196		FVC	06,F7,031,IPRF,ZPFV,IPRF	24 - ILLEGAL PROCEDURE
	000200	062607000031			VFD	06/06,H12/F7,18/.AC031,18/IPRF,9/.XZPFV,9/.EIPRF	EL8.
	000201	001301001000					
		000202	197		FVC	07,F8,034,POLF,XFV,ONCF	26 - OP NOT COMPLETE
	000202	072610000034			VFD	06/07,H12/F8,18/.AC034,18/POLF,9/.XXFV,9/.EONCF	EL8.
	000203	001210013020					
		000204	198		FVC1	75	30 - STARTUP FAULT
	000204	750000000000			VFD	06/75,30/0,36/0	EL8.
	000205	000000000000					
		000206	199		FVC	10,F9,032,OVF,OFFV,OVFL	32 - OVERFLOW FAULT
	000206	102611000032			VFD	06/10,H12/F9,18/.AC032,18/OVF,9/.XOFFV,9/.EOVFL	EL8.



FAULT COMMON ENTRY

					227 *						
					228 *	EPI	FAULT ENTRY POINT				
					229 *						
				000230	230	FALT	NULL				
	000230	006130	4776	07 000	231	LDP	P.CR,SD.CR,DL	GET CR SEGMENT		FALT0710	
	000231	000002	2312	00 000	232	RSW	2			08FW1560	
	000232	000003	3752	07 000	233	ANA	3,DL	PROC #		08FW1570	
	000233	006133	4716	07 000	234	LDP	KLS,SD,KL,DL			08FW1580	
	000234	000144	1526	05 010	235	STO	RSWA2,AL	SAVE OPTION REGISTER		EL9.	
	000235	700100	2343	05 000	236	SZN	.CRCMC,AL,P.CR	IS PROCESSOR AVATLABLE		08FW1590	
	000236	002342	6046	00 010	237	TMOZ	PINIT	NO		08FW1600	
	000237	000144	7202	05 010	238	LXLO	RSWA2,AL	GET OPTION REGISTER		EL9.	
	000240	200000	3002	03 000	239	CANX0	.FBT19,DU	IS S/S IN USE		EL9.	
	000241	002572	6002	00 010	240	TZE	DIS	NO, PARK IT		EL9.	
	000242	001764	4736	07 000	241	LDP	P.SSR,,SSR,DL	YES, GET S/S FRAME		08FW1610	
	000243	300010	6747	00 000	242	LDD	P.USER,,WISR,,P.SSR	GET USER SEGMENT		FALT0750	
	000244	001761	4736	07 000	243	LDP	P.SSR,,CTYP,DL	SET S/S TYPE=0		FALT0760	
	000245	000000	6272	05 000	244	EAX7	0,AL	PROC# TO XR7		FALT0770	
	000246	300005	2213	00 000	245	LDX1	.WFTYP,,P.SSR	GET FAULT TYPE		FALT0780	
	000247	000200	3012	03 000	246	CANX1	SOV.F,DU	TEST S/S OVERFLOW		EL9.	
	000250	000300	6012	00 010	247	TNZ	SOVER	YES		EL9.	
					000251	248	NOSF	NULL		EL9.	
	000251	000077	3612	03 000	249	ANX1	=077,DU	ISOLATE IT		FALT0790	
	000252	004200	6342	07 000	250	LDI	=04200,DL	MASK OVERFLOWS		FALT0810	
	000253	100044	7203	17 000	251	LXLO	.KLPRG,7,KLS	IS A SUBDISPATCH ACTIVE		FALT0830	
	000254	000003	6012	04 000	252	TNZ	3,IC	YES		FALT0060	
	000255	000004	1012	03 000	253	CMPX1	MME.F,DU	IS IT MME		FALT0850	
	000256	000765	6002	00 010	254	TZE	MMEPR	YES, GET TO IT		FALT0860	
	000257	000020	1012	03 000	255	CMPX1	CON.F,DU	IS IT CONNECT FAULT		FALT0080	
	000260	000625	6002	00 010	256	TZE	CIOCP	YES, DO CLEARS		FALT0090	
	000261	000036	1012	03 000	257	CMPX1	EXC.F,DU	IF EXECUTE FAULT.			
	000262	002445	6002	00 010	258	TZE	STPSE	SYSTEM ABORT			
	000263	006150	2352	17 010	259	LDA	INDOP,7				
	000264	006270	6012	00 010	260	IFGT	TNZ	GERROR	IF PRODUCTION MODE, NOP		
	000265	000024	1012	03 000	261	CMPX1	IPR.F,DU				
	000266	001704	6002	00 010	262	TZF	SIMOP	IPR FAULT ... OP SIMUTATE			
					000267	263	HIST	NULL			
	000267	002646	7042	00 010	264	TSX4	HSTR				
	000270	100044	2263	17 000	265	LDX6	.KLPRG,7,KLS	PROG #		EL9.	
	000271	006145	4766	07 000	266	LDP	P.SSA,SD.SSA,DL	LOAD SSA DATA SEGMENT DESCRIPTOR			
	000272	100044	7203	17 000	267	LXLO	.KLPRG,7,KLS	TEST SUBDISPATCH		FALT0110	
	000273	000327	6012	00 010	268	TNZ	SURD	YES		FALT0120	
	000274	040000	2352	07 000	269	LDA	.TLBAR,DL				
	000275	600017	3153	00 000	270	CANA	.STATE,,P.SSA	GELBAR INEFFECT			
	000276	000632	6012	00 010	271	TNZ	GLFFF	YES			
	000277	000457	7102	00 010	272	TRA	EHFLT			EL9.	
					273 *					EL9.	
					274 *		SAFESTORE STACK OVERFLOW HAS OCCURRED			EL9.	
					275 *					EL9.	
	000300	000077	3612	03 000	276	SOVER	ANX1	=077,DU	FAULT CODE	EL9.	

FAULT COMMON ENTRY

000301	000036	1012	03	000	277	CMPX1	EXC.F,DU	TEST EXECUTE FAULT	EL9.
000302	002445	6002	00	010	278	TZF	STPSE	YES, DROP SYSTEM.	EL9.
000303	100044	2263	17	000	279	LDX6	.KLPRG,7,KLS	GET KPX	EL9.
000304	000000	6262	16	000	280	EAX6	0,6	IS ANYTHING IN EXEC	EL9.
000305	002447	6002	00	010	281	TZF	STPS2	NO, TILT	EL9.
000306	100000	2352	03	000	282	LDA	.TSOVF,DU		
000307	600017	3153	00	000	283	CANA	.STATE,,P.SSA		
000310	001275	6012	00	010	284	TNZ	CRTABT	SLAVE ABORT	
000311	600017	2553	00	000	285	ORSA	.STATE,,P.SSA	TURN ON .TOVF BIT	
000312	600174	7537	00	000	286	STSS	.SSSR,,P.SSA		
000313	000300	6352	00	000	287	EAA	192	EXPAND 3 FRAMS	
000314	600174	0553	00	000	288	ASA	.SSSR,,P.SSA		
000315	600174	7737	00	000	289	LDSS	.SSSR,,P.SSA		
000316	000000	2232	03	000	290	LDX3	0,DU		
000317	700336	7203	17	000	291	LXLO	.CRTLY,7,P.CR	IS A GATE SHUT	EL9.
000320	000345	6002	00	010	292	TZE	SSTRC	NO	EL9.
000321	000020	1012	03	000	293	CMPX1	CON.F,DU	YES, IT THIS CONNECT FAULT	EL9.
000322	001275	6012	00	010	294	TNZ	CRTABT	NO, ABORT USER	EL9.
000323	006145	4766	07	000	295	LDP	P.SSA,SD,SSA,DL	YES	EL9.
000324	100000	2352	03	000	296	LDA	.RCFLT,DU	SET CRITICAL FAULT FLAG	EL9.
000325	600117	2553	00	000	297	ORSA	.SRQST,,P.SSA		EL9.
000326	000625	7102	00	010	298	TRA	CIOCP	DO CLEARS	EL9.
					299 *				FALT1870
					300 *		SUBDISPATCH WAS ACTIVE		FALT1880
000327	000154	2352	11	010	301	SUBD	LDA	FVEC,1	GET FAULT CODES
000330	000014	7312	00	000	302	ARS	12	TO AU	EL8.
000331	300005	7513	70	000	303	STCA	.WFTYP,70,P.SSR	SET IT IN S/S FRAME	EL8.
000332	000736	7102	00	010	304	TRA	TRDSP	GOTO .MDISP,1	FALT1960
					305 *EP6				
					000333	306	INTSOV	NULL	
000333	001764	4736	07	000	307	LDP	P.SSR,,SSR,DL	*** RESTORE ODR AND GENERAL REGISTER	
000334	001761	4736	07	000	308	LDP	P.SSR,,CTYP,DL	SSR	
000335	006145	4766	07	000	309	LDP	P.SSA,SD,SSA,DL	SSA DATA SEGMENT	
000336	006133	4716	07	000	310	LDP	KLS,SD,KL,DL	KL SEGMENT	
000337	300005	2213	00	000	311	LDX1	.WFTYP,,P.SSR	X1 = FAULT CODE	
000340	000077	3612	03	000	312	ANX1	=077,DU	***	
000341	100000	2352	03	000	313	LDA	=0100000,DU		
000342	600120	3153	00	000	314	CANA	.SPDSR,,P.SSA	IS STATE IN MEMORY SCAN	
000343	002167	6012	00	010	315	TNZ	MSCNC	YES	
000344	400000	2232	03	000	316	LDX3	=0400000,DU		
					000345	317	SSTRC	NULL	
					318 *				
					319 *		TRACE OF S/S OVERFLOW		
					320 *				
					000345	321	.TROPN	SOVTE,GREG	TRACE OPEN
000345	700044	7173	00	000		XFD	.CRTRV+2,,P.CR		
000346	000011	7102	04	357		TRA	SOVTE,\$		
000347	000744	7042	00	010	322	TSX4	YFLT		
000350	000022	2352	07	000	323	LDA	18,DL	S/S OVERFLOW TRACE CODE	
000351	700002	0353	12	000	324	ADLA	2,2,P.CR		



FAULT COMMON ENTRY

000352	000022	7352 00 000	325	ALS	18		
000353	700001	7553 12 000	326	STA	1,2,P,CR	STORE WSR#, EWSQ# AND FAULT CODE	
000354	700002	7563 12 000	327	STQ	2,2,P,CR	STORE RELATIVE VIRTUAL ADDRESS	
		000355	328		.TRPUT PNO		
000355	000000	6202 00 000		EAX0	0		
000356	700052	7173 00 000		XED	.CRTRV+8,,P,CR		
		000357	329	SOVTF	NULL		
000357	006204	4706 07 000	330	LDP	P0,SD,PSH,DL	COPY PUSH SEGMENT DESCRIPTORTO P0	
000360	001761	4706 07 000	331	LDP	P0,,CTYP,DL	CHANGE PUSH DESCRIPTOR TYPE	
000361	600174	7537 00 000	332	STSS	.SSSR,,P,SSA	SAVE SSR	
000362	600175	2353 00 000	333	LDA	.SSSR+1,,P,SSA	SSR BASE	
000363	010000	0752 07 000	334	ADA	1K*4,DL	+ 1K WORDS	
000364	007777	2752 07 000	335	ORA	=07777,DL	ADJUST PAGE BOUND	
000365	600222	7553 00 000	336	STA	.SVFLT+1,,P,SSA	SAVE IT	FALT4790
000366	001400	1752 07 000	337	SBA	192*4,DL		
000367	000001	6222 13 000	338	EAX2	1,3		
000370	000014	2363 00 000	339	LDO	PH.SS,,P0	ORIGINAL SSR BOUND + BASE	
000371	000020	7722 00 000	340	ORL	16		
000372	000015	0763 00 000	341	ADQ	PH.SS+1,,P0	GET MAX VERTUAL ADDRESS FOR S/S	
000373	600222	1163 00 000	342	CMPQ	.SVFLT+1,,P,SSA		FALT4810
000374	001275	6022 00 010	343	TNC	CRTABT	DISASTER ... SLAVE ABORT	
000375	000002	6012 04 000	344	TNZ	2,IC		
000376	000000	6222 00 000	345	EAX2	0		
000377	600175	1753 00 000	346	SBA	.SSSR+1,,P,SSA	GET NEW BOUND	
000400	000020	7352 00 000	347	ALS	16		
000401	600222	7553 00 000	348	STA	.SVFLT+1,,P,SSA	SAVE NEW BOUND	FALT4830
000402	006022	4716 07 000	349	LDP	P1,SD,DGS,DL	LOAD DGS SEGMENT DESCRIPTOR	
000403	006022	4706 07 000	350	LDP	P0,SD,DGS,DL		
000404	001761	4706 07 000	351	LDP	P0,,CTYP,DL	CHANGE TYPE GDS DESCRIPTOR	
000405	000150	7202 17 010	352	LXL0	POINT,7		
000406	000000	2373 10 000	353	LDAQ	0,0,P0		
000407	600174	7573 00 000	354	STAQ	.SSSR,,P,SSA	SAVE CURRENT CONTENTS	
000410	000000	7537 10 000	355	STSS	0,0,P0	SAVE SSR TO GENERATE PAGE LOAD SEGMENT	
000411	000000	2353 10 000	356	LDA	0,0,P0		
000412	177777	3752 07 000	357	ANA	=0177777,DL		
000413	600222	2753 00 000	358	ORA	.SVFLT+1,,P,SSA	SET NEW BOUND	FALT4850
000414	000000	7553 10 000	359	STA	0,0,P0		
000415	100000	6727 10 000	360	LDD	P2,0,0,P1	LOAD NEW S/S DESCRIPTOR	
000416	600174	2373 00 000	361	LDAQ	.SSSR,,P,SSA		
000417	000000	7573 10 000	362	STAQ	0,0,P0	RESTORE CONTENTS OF SD,DGS	
000420	600174	0527 00 000	363	STD	P2,,SSSR,,P,SSA	SAVE NEW S/S DESCRIPTOR	
000421	600222	7423 00 000	364	STX2	.SVFLT+1,,P,SSA		
000422	600222	4453 00 000	365	SXL5	.SVFLT+1,,P,SSA		
000423	000000	2362 03 000	366	LDO	0,DU	PAGE LOAD REQUEST	
000424	440000	2762 07 000	367	ORQ	PRIV.F,DL	PRIVILEGED PAGE LOAD	
			368 *		CALL DYNAMIC MEMORY MANAGER		FALT4220
000425	000430	6306 00 010	369	EPPR	P0,*+3		FALT4230
000426	700002	7103 00 000	370	TRA	.CRCAL,,P,CR	.CALL .MDMM1,3	FALT4240
000427	000060	000003 000	371	ZERO	.MDMM1,3		FALT4250
			372 *				FALT4260



FAULT COMMON ENTRY

000430	000000	1152 07	000	373	CMPA	0,DL	WAS PAGE FOUND	EL9.
000431	001275	6012 00	010	374	TNZ	CRTABT	NO, ABORT USER	EL9.
000432	600222	2223 00	000	375	LDX2	.SVFLT+1,,P,SSA		
000433	600222	7253 00	000	376	LXL5	.SVFLT+1,,P,SSA		
				377 *				
000434	001764	4736 07	000	378	LDP	P,SSR,,SSR,DL	*** RESTORE ODRS	
000435	001761	4736 07	000	379	LDP	P,SSR,,CTYP,DL	*** SSR	
000436	006133	4716 07	000	380	LDP	KLS,SD,KL,DL	*** KL	
000437	300004	7213 00	000	381	LXL1	.WICI,,P,SSR	GET IC INDICATORS	EL9.
000440	000200	3012 03	000	382	CANX1	.FBT28,DU	WAS MODE MASTER	EL9.
000441	000002	6002 04	000	383	TZE	2,IC	NO	EL9.
000442	300053	4473 00	000	384	SXL7	.WREGS+3,,P,SSR	YES, UPDATE XR7	EL9.
000443	300005	2213 00	000	385	LDX1	.WFTYP,,P,SSR		
000444	000077	3612 03	000	386	ANX1	=077,DU		
				387 *				
000445	600174	7737 00	000	388	LDSS	.SSSR,,P,SSA		
000446	100000	2352 03	000	389	LDA	.TSOVF,DU		
000447	600017	6553 00	000	390	ERSA	.STATE,,P,SSA	TURN OFF.TSOVF	
000450	000000	6222 12	000	391	EAX2	0,2		
000451	001277	6002 00	010	392	TZF	QSFT	GO ABORT	
000452	003350	6042 00	010	393	TMT	EXIT	CALLED FROM EP6	
000453	000041	3352 07	000	394	LCA	=041,DL		FALT3560
000454	300004	3553 00	000	395	ANSA	.WICI,,P,SSR		FALT3570
000455	000000	1012 03	000	396	CMPX1	0,DU	IS FAULT S/S OVFLOW ONLY	EL9.
000456	000717	6002 00	010	397	TZE	RETOUT	YES, EXIT	EL9.
				398 *	TRA	EHFLT		EL8.

FAULT COMMON ENTRY

						000457	400	FHFLT	NULL				
000457	000050	1012	03	000	401			CMPX1	MPG.F,DU	MISSING PAGE		FALT4280	
000460	001166	6002	00	010	402			TZE	MISPG	YES		FALT4290	
000461	000010	1012	03	000	403			CMPX1	TR0.F,DU	TIMER RUNOUT FAULT			
000462	000721	6002	00	010	404			TZE	TROF	YES			
000463	000000	6252	15	000	405			EAX5	0,5	TEST RETRYABLE		EL8.	
000464	000530	6002	00	010	406			TZE	RETO1	YES, RETURN		EL8.	
					407	*							
					408	*			FAULT TRACF ENTRY				
					409	*							
							000465	410	FTRCF	NULL		FALT4340	
							000465	411		.TROPN ECHF,GREG	TRACE OPEN		
000465	700044	7173	00	000				XED	.CRTRV+2,,P,CR				
000466	000012	7102	04	500				TRA	ECHF,\$				
000467	000744	7042	00	010	412			TSX4	YFLT				
000470	000154	2352	11	010	413			LDA	FVEC,1			EL8.	
000471	000036	7712	00	000	414			ARL	30	FAULT CODE TO AL		EL8.	
000472	700002	0353	12	000	415			ADLA	2,2,P,CR				
000473	000022	7352	00	000	416			ALS	18				
000474	700001	7553	12	000	417			STA	1,2,P,CR	STORE WSR#, EWSQ# AND FAULT CODE			
000475	700002	7563	12	000	418			STQ	2,2,P,CR	STORE RELATIVE VIRTUAL ADDRESS			
							000476	419		.TRPUT PNO			
000476	000000	6202	00	000				EAX0	0				
000477	700052	7173	00	000				XED	.CRTRV+8,,P,CR				
							000500	420	ECHF	NULL			
000500	000022	1012	03	000	421			CMPX1	PAR.F,DU				
000501	000507	6012	00	010	422			TNZ	FPRO1				
000502	002634	2362	00	010	423			LDQ	=02605000166	CACHE PARITY CODE			
000503	300076	2353	00	000	424			LDA	.WPFR,,P,SSR				
000504	000014	3152	07	000	425			CANA	=014,DL				
000505	000507	6012	00	010	426			TNZ	FPRO1			EL8.	
000506	002005	7042	00	010	427			TSX4	MSCN	MEMORY SCAN			
000507	000000	6232	11	000	428	FPRO1		EAX3	0,1	FAULT INDEX		EL8.	
000510	000155	2242	11	010	429			LDX4	FVEC+1,1			EL8.	
000511	000154	2362	11	010	430			LDQ	FVEC,1			EL8.	
000512	002635	3762	00	010	431			ANQ	=07777777777	ABT FAULT CODES		EL8.	
							000513	432	CAPR	NULL			
000513	000000	1062	03	000	433			CMPX6	0,DU	IS ANYTHING EXECUTING		EL8.	
000514	000546	6002	00	010	434			TZE	NOEXC	NO		EL8.	
000515	006204	4746	07	000	435			LDP	P4,SD,PSH,DL	PUSH DESCRIPTOR			
000516	400006	6727	00	000	436			LDD	SP,PH,SPX,,P4				
000517	300010	2353	00	000	437			LDA	.WISR,,P,SSR				
000520	000140	3752	07	000	438			ANA	=0140,DL	TEST WSN 0,1		EL8.	
000521	000002	6012	14	000	439			TNZ	2,4	NO, TREAT AS SLAVE		EL8.	
000522	000001	6202	00	000	440			EAX0	1	IN CASE OF MEM/SEC FLT		FALT4910	
000523	100063	2353	00	000	441			LDA	.KLSSL,,KLS			FALT4920	
000524	000020	7712	00	000	442			ARL	16			FALT4930	
000525	300011	1153	00	000	443			CMPA	.WISR+1,,P,SSR	TEST SSA/HCM		FALT4940	
000526	000000	6056	14	000	444			TPNZ	0,4	HCM		FALT4950	
000527	000001	7102	14	000	445			TRA	1,4	SSA		14FW1210	

FAULT COMMON ENTRY

FALT4970

					446 *						
					447	RETO1	NULL				
					448	LCA	=041,DL		A = 77777777737		
	000530	000041	3352	07	000						
	000531	300004	3553	00	000	449	ANSA	.WICI,,P,SSR	TURN OFF MULTI-WORD INDICATOR		
	000532	000717	7102	00	010	450	TRA	RETOU			
					451 *						
					452	INHCK	NULL				
					453	LDA	.WICI,,P,SSR				
	000533	300004	2353	00	000						
	000534	300010	7203	00	000	454	LXLO	.WISR,,P,SSR			
	000535	000160	3002	03	000	455	CANXO	=0160,DU			
	000536	000544	6012	00	010	456	TNZ	MGPRN			
	000537	001764	4706	07	000	457	LDP	PO,,SSR,DL			
	000540	000010	6707	00	000	458	LDD	PO,,WISR,,PO			
	000541	000000	7203	01	000	459	LXLO	0,AU,PO			
	000542	000200	3002	03	000	460	CANXO	=0200,DU	INHIBIT BIT		
	000543	002446	6012	00	010	461	TNZ	STPS1			
					462	MGPRN	NULL				
					463	LDA	=040,DL				
	000544	000040	2352	07	000						
	000545	001173	7102	00	010	464	TRA	OPTN2			
					465 *						
					466	NOEXC	CMPX4	MEMF,DU	IS THIS MEMF CLASS FAULT	EL8.	
	000546	001333	1042	03	010					EL8.	
	000547	001333	6002	00	010	467	TZE	MEMF	YES, CHECK IT OUT	EL8.	
	000550	300005	2353	00	000	468	LDA	.WFTYP,,P,SSR	GET FAULT TYPE	EL8.	
	000551	000200	3152	03	000	469	CANA	SOV,F,DU			
	000552	002447	6012	00	010	470	TNZ	STPS2	SYSTEM STOP		
	000553	000010	1012	03	000	471	CMPX1	TR0,F,DU	WAS FAULT TIMER RUNOUT		
	000554	000717	6002	00	010	472	TZE	RETOU	YES		
	000555	000022	1012	03	000	473	CMPX1	PAR,F,DU	WAS FAULT PARTTY FAULT		
	000556	002450	6012	00	010	474	TNZ	STPS3	SYSTEM STOP		
	000557	002005	7042	00	010	475	TSX4	MSCN			
	000560	002451	7102	00	010	476	TRA	STPS4	SYSTEM STOP		



SPECIAL FAULT PROCEDURES

000626	100147	2143	17	000	528	SZNC	.KLCAM,7,KLS	IS THERE AM CLEAR REQUEST	
000627	000002	6002	04	000	529	TZF	2,IC	NO	04FW1170
000630	000000	5326	00	000	530	CAMP		CLEAR ASSOC MEM	04FW1180
000631	000717	7102	00	010	531	CIOCX	TRA	RETOUT	RETURN
					532	*			EL8.
					533	*		GELBAR IN EFFECT	
					534	*			
000632	000050	1012	03	000	535	GLEFF	CMPX1	MPG.F,DU	MISSING TAGE
000633	000636	6002	00	010	536	TZF	GLBR		YES
000634	000000	6252	15	000	537	EAX5	0,5		INSTRUCTION RETRYABLE
000635	000530	6002	00	010	538	TZF	RETO1		
000636	040000	2352	07	000	539	GLBR	LDA	.TLBAR,DL	
000637	600017	6553	00	000	540	ERSA	.STATE,,P,SSA	TURN OFF .TLBAR	
000640	600174	2373	00	000	541	LDAQ	.SSSR,,P,SSA		
000641	600174	7537	00	000	542	STSS	.SSSR,,P,SSA		
000642	600174	1173	00	000	543	CMPAQ	.SSSR,,P,SSA		
000643	000653	6002	00	010	544	TZF	NORML		
000644	600174	7573	00	000	545	STAQ	.SSSR,,P,SSA		
000645	600174	7737	00	000	546	LDSS	.SSSR,,P,SSA		
000646	001764	4706	07	000	547	LDP	PO,,SSR,DL		
000647	001761	4706	07	000	548	LDP	PO,,CTYP,DL		
000650	000100	1007	00	000	549	MLR	(1),(1)		
000651	300016	0003	00	000	550	ADSC9	.WPSR,0,48*4,P,SSR		
000652	000016	0003	00	000	551	ADSC9	.WPSR,0,48*4,PO		
		000653			552	NORML	NULL		
000653	000154	2362	11	010	553	LDO	FVFC,1	FAULT CODE	EL8.
000654	000014	7322	00	000	554	QRS	12	EXTENDED	EL8.
000655	000002	6052	04	000	555	TPL	2,IC		
000656	000031	0362	03	000	556	ADLQ	=031,DU	MAP IT 25-30 OCTAL	
000657	000022	7722	00	000	557	QRL	18		
000660	200000	2762	07	000	558	ORQ	=0200000,DL	SET FAULT FLAG	
000661	006204	4706	07	000	559	LDP	PO,SD,PSH,DL	LOAD PUSH DESCRIPTOR	
000662	000006	6727	00	000	560	LDD	SP,PH,SPX,,PO	LOAD SPX SEGMENT DESCRIPTOR	
000663	200031	2563	00	000	561	ORSQ	.XLDL6,,SP	GELBAR FAULT STATUS	
000664	200022	3353	00	000	562	LCA	.XGBIC,,SP	GET GELBAR TIME	
000665	300057	0353	00	000	563	ADLA	.WREGS+7,,P,SSR	CURRENT TIMER	
000666	000014	7312	00	000	564	ARS	12	SCALE DIFFERENCE	
000667	200021	0553	00	000	565	ASA	.XGBAR,,SP	AJUST TIME	
000670	300004	2353	00	000	566	LDA	.WICI,,P,SSR	RETRIEVE IC&I	
000671	200022	7553	00	000	567	STA	.XGBIC,,SP	SAVE IC I IN PREFIX	
000672	001764	4706	07	000	568	LDP	PO,,SSR,DL		
000673	001761	4706	07	000	569	LDP	PO,,CTYP,DL	CHANGE TYPE	
000674	000000	6252	06	000	570	EAX5	0,QL		
000675	600236	2373	00	000	571	LDAQ	.SISR,,P,SSA	ORIGINAL ISR	
000676	000000	6242	00	000	572	EAX4	0		
000677	020200	5202	02	000	573	RPT	8,2		
000700	000030	7573	14	000	574	STAQ	.WDRO,4,PO		
000701	777737	2352	07	000	575	LDA	=0777737,DL	DROP MULTI WORD INDICATOR	
000702	300004	3753	00	000	576	ANA	.WICI,,P,SSR		
000703	000023	2752	03	000	577	ORA	.XGBFV,DU	RETURN ADDRESS	

SPECIAL FAULT PROCEDURES

					000704	578 SAVI	NULL						
	000704	000004	7553	00	000	579	STA	.WICI,,PO					
	000705	600236	2373	00	000	580	LDAQ	.SISR,,P.SSA	ISR				
	000706	000010	7573	00	000	581	STAO	.WISR,,PO					
	000707	600240	2373	00	000	582	LDAQ	.SASR,,P.SSA	ASR				
	000710	000012	7573	00	000	583	STAO	.WASR,,PO					
	000711	600242	2373	00	000	584	LDAQ	.SLSR,,P.SSA	LSR				
	000712	000014	7573	00	000	585	STAO	.WLSR,,PO					
	000713	600235	2353	00	000	586	LDA	.SDSAR,,P.SSA					
	000714	000006	7553	00	000	587	STA	.WDSAR,,PO					
	000715	200005	1052	03	000	588	CMPX5	=0200005,DU	LOCKUP FAULT				
	000716	000725	6002	00	010	589	TZE	TROMP					
						590							FALT4750
						591	RETOUT	OCLIMB	RETURN TO USER				FALT4760
	000717	000000713400			000		VFD	18/0,09/713,1/1,1/0,1/0,6/0					
	000720	000000010000			000		VFD	170,970,870,17N,170,270,271,1270					
						592							
						593							
						594			TIMER RUNOUT FAULT HANDLER				
						595							
	000721	300057	2343	00	000	596	TRDF	SZN	.WREGS+7,,P.SSR	WAS TIMER REMEMBERED			
	000722	000717	6056	00	010	597	TPNZ	RETOUT	YES,RETURN TO SLAVE				
	000723	000000	1062	03	000	598	CMPX6	0,DU	WAS A PROGRAM IN EXECUTION				FALT4990
	000724	000717	6002	00	010	599	TZE	RETOUT	NO, RETURN				FALT5000
						600							
						601			FORCE RELINQUISH & REDISPATCH				
	000725	000740	7042	00	010	602	TROMP	TSX4	ESTDDS	ESTABLISH DDS SEGMENT			
	000726	600232	0543	00	000	603	AOS	.STTRO,,P.SSA					
	000727	001000	2352	07	000	604	LDA	.RTRO,DL					
						605		.SHUT	.CRDSP,,P.CR				
								INHIB	SAVE,ON				
	000730	700012	7173	00	000		XED	.CRMPG,,P.CR					
	000731	700077	2143	00	000		SZNC	.CRDSP+1,,P.CR					
	000732	700014	7173	00	000		XED	.CRMPG+2,,P.CR					
								INHIB	RESTORE				
	000733	600117	2553	00	000	606	ORSA	.SRQST,,P.SSA	ENABLE REQUEST				
						607		.OPEN	.CRDSP,,P.CR				
								INHIB	SAVE,ON				
	000734	700077	7503	00	000		STC2	.CRDSP+1,,P.CR					
	000735	700032	7173	00	000		XFD	.CROGT,,P.CR					
								INHIB	RESTORE				
	000736	000000	4706	07	000	608	TRDSP	LDP	PO,**,DL	DISP SEGID			FALT1980
	000737	000001	7103	00	000	609	TRA		1,,PO	GOTO .MDISP,1			FALT1990
						610	*						
						611	*						
						612							
						613			ESTABLISH DDS SEGMENT				
						614							
						615	FSTDDS	NULL					
	000740	600043	2353	00	000	616	LDA	.SELVL,,P.SSA					

SPECIAL FAULT PROCEDURES

000741	010000	2752	07	000	617	ORA	=0010000,DL	
000742	600012	7553	56	000	618	STA	.SSA, ID, P, SSA	
000743	000000	7102	14	000	619	TRA	0,4	
					620	*		
					621	*	SUBROUTINE FOR TRACE TYPE .YFLT	
					622	*		
000744	700312	2223	17	000	623	YFLT LDX2	.CRTEP,7,P,CR	LOAD TRACE ENTRY POINTER
000745	000200	3352	07	000	624	LCA	=0200,DL	
000746	300004	3753	00	000	625	ANA	.WICI,,P,SSR	RESET BIT 29-35
000747	000010	2752	07	000	626	ORA	.YFLT,DL	
000750	700000	7553	12	000	627	STA	0,2,P,CR	STORE IC&I IN ENTRY WORD
000751	300010	2373	00	000	628	LDAQ	.WISR,,P,SSR	
000752	700003	7563	12	000	629	STQ	3,2,P,CR	STORE BASE OF ISR
000753	300007	2363	00	000	630	LDQ	.WRVA,,P,SSR	RELATIVE VIRTUAL ADDRESS
000754	000160	3752	07	000	631	ANA	=0160,DL	ISORATE WSR#
000755	000005	7352	00	000	632	ALS	5	
000756	700002	7553	12	000	633	STA	2,2,P,CR	SAVE WSR#
000757	300006	2353	00	000	634	LDA	.WDSAR,,P,SSR	
000760	000777	3752	07	000	635	ANA	=0777,DL	ISORATE EWSQ#
000761	700002	0353	12	000	636	ADLA	2,2,P,CR	
000762	000006	7352	00	000	637	ALS	6	
000763	700002	7553	12	000	638	STA	2,2,P,CR	SAVE WSR# AND EWSQ#
000764	000000	7102	14	000	639	TRA	0,4	RETURN

EL9.

MME PROCESSOR

					641 *						
					642 *	PROCESS A MME					
					643 *						
				000765	644	MMFPR	NULL				
19	000765	300004	2353	00 000	645	LDA	.WICI,,P.SSR	GET IC+I		FALT0880	
05	000766	006145	4766	07 000	646	LDP	P.SSA,SD.SSA,DL	ESTABLISH SSA SEGMENT		FALT0890	
67	000767	477777	2363	01 000	647	LDQ	-1,AU,P.USER	GET MME INSTRUCTION		FALT0900	
87	000770	000000	6232	01 000	648	EAX3	0,AU	SAVE MME LOC		FALT0910	
47	000771	000077	3162	07 000	649	CANQ	=077,DL	TEST ADDRESS MODIFIER		FALT0930	
97	000772	001056	6012	00 010	650	TNZ	LOCK	YES, UNLOCK HREGS		FALT0940	
57	000773	100044	2263	17 000	651	LDX6	.KLPRG,7,KLS	GET PROGRAM #		FALT0945	
77	000774	000000	6252	02 000	652	KEY	EAX5	0,QU	GET MME TYPE	FALT0950	
37	000775	600017	7203	00 000	653	LXLO	.STATE,,P.SSA	GET PROGRAM STATE		FALT0960	
27	000776	040000	3002	03 000	654	CANX0	.TLBAR,DU	IS GELBAR ACTIVE		FALT0970	
17	000777	000636	6012	00 010	655	TNZ	GLBR	YES		FALT0980	
07	001000	000056	1162	03 000	656	CMPQ	MMETE-MMET+1,DU	NO, IS MME VALID		FALT0990	
66	001001	001132	6032	00 010	657	TRC	MMEER	NO, TILT		FALT1000	
86	001002	600005	2203	00 000	658	LDX0	.SATR,,P.SSA	GET ATTRIBUTE WORD		DPSE1590	
46	001003	020000	3002	03 000	659	CANX0	.FBT4,DU	IS IT TSS EXEC		DPSE1600	
96	001004	001142	6012	00 010	660	TNZ	METSS	YES		DPSE1610	
56					661 *						
76					662 *	TRACE OF MME					
36					663 *						
26				001005	664	EXTM	NULL				
16				001005	665	.TROPN	METRE,NONE				
06	001005	700046	7173	00 000		XED	.CRTRV+4,,P.CR				
62	001006	000015	7102	04 1023		TRA	METRE,\$				
82	001007	700312	2223	17 000	666	LDX2	.CRTEP,7,P.CR	LOAD TRACE ENTRY POINTER			
42	001010	000200	3352	07 000	667	LCA	=0200,DL				
92	001011	300004	3753	00 000	668	ANA	.WICI,,P.SSR	STORE IC & I IN ENTRY			
52	001012	000013	2752	07 000	669	ORA	.YMME,DL				
72	001013	700000	7553	12 000	670	STA	0,2,P.CR	STORE MME TYPE			
32	001014	700001	7453	12 000	671	STX5	1,2,P.CR				
22	001015	300010	2373	00 000	672	LDAQ	.WISR,,P.SSR				
12	001016	700002	7573	12 000	673	STAQ	2,2,P.CR	STORE BASE OF ISR AND WSR##			
02	001017	300006	7243	00 000	674	LXL4	.WDSAR,,P.SSR				
61	001020	700002	7443	12 000	675	STX4	2,2,P.CR	STORE EWSQ#			
81				001021	676	.TRPUT	PNO				
41	001021	000000	6202	00 000		EAX0	0				
91	001022	700052	7173	00 000		XED	.CRTRV+8,,P.CR				
51				001023	677	METRF	NULL				
71	001023	300004	2233	00 000	678	LDX3	.WICI,,P.SSR	RESTORE IC+I		FALT	
31	001024	000015	2352	15 010	679	LDA	MMET,5	GET MME DIRECTORY ENTRY		FALT1020	
21	001025	000000	6042	05 000	680	TMT	0,AL	PROCEDURE IN IN .MFALT		FALT1030	
11	001026	006134	4706	07 000	681	LDP	PO,SD.MDD,DL	GET MODULE DIRECTORY		FALT1050	
01	001027	600043	2363	00 000	682	METOK	LDO	.SELVL,,P.SSA	ESTABLISH DDS	EL8,	
6	001030	010000	2762	07 000	683	ORQ	.FBT23,DL			FALT1070	
8	001031	600012	7563	56 000	684	STQ	.SSA,ID,P.SSA	PUT IN STACK		FALT1080	
4	001032	000000	2363	01 000	685	LDO	0,AU,PO	TEST MODULE TYPE		FALT1090	
9	001033	001040	6052	00 010	686	TPL	THCM	SHCM/GHCM		FALT1100	



M M E P R O C E S S O R

001034	000015	6306	15	010	687	EPPR	PO,MMET,5		
					688 *				
					689 *	.GOTO	.MXXX,EP#		
					690 *				
001035	300004	2253	00	000	691	LDX5	.WICI,,P,SSR		
001036	300054	2373	00	000	692	LDAQ	.WREGS+4,,P,SSR		
001037	700010	7103	00	000	693	TRA	.CRGT0,,P,CR		
					694 *				
001040	300004	2253	00	000	695	THCM LDX5	.WICI,,P,SSR		FALT1125
001041	000002	3162	03	000	696	CANQ	2,DU	TEST SHCM/GHCM	FALT1130
001042	001051	6002	00	010	697	TZE	SHCM	SHCM	FALT1140
001043	006021	4706	07	000	698	LDP	PO,SD,HCM,DL	NO, GHCM	FALT1150
001044	000000	5076	06	000	699	AWDX	0,QL,PO	MODULE BASE	FALT1160
001045	000000	5077	05	000	700	AWD	0,AL,PO	EP#	FALT1170
001046	300054	2373	00	000	701	LDAQ	.WREGS+4,,P,SSR		FALT1180
001047	600214	7573	00	000	702	STAQ	.STMPA,,P,SSA	SAVE AQ	FALT1185
001050	000000	7103	00	000	703	TRA	0,,PO	GOTO MODULE	FALT1190
					704 *				FALT1200
001051	000000	4707	01	000	705	SHCM LDP	PO,0,AU,PO	PUT TARGET SEGMENT SEGID IN PO	FALT1210
001052	000000	5076	05	000	706	AWDX	0,AL,PO	ARO = EP#	
001053	300054	2373	00	000	707	LDAQ	.WREGS+4,,P,SSR		
001054	600214	7573	00	000	708	STAQ	.STMPA,,P,SSA	SAVE AQ REGISTERS	
001055	000000	7103	00	000	709	TRA	0,,PO	GO TO TARGET SEGMENT	
					710 *				FALT1230
001056	002646	7042	00	010	711	LOCK TSX4	HSTR	UNLOCK HREGS	FALT
001057	001764	4706	07	000	712	LDP	PO,,SSR,DL		28FW0060
001060	000010	6747	00	000	713	LDD	P.USER,,WISR,,PO	RESTORE P.USER	28FW0070
001061	300004	2353	00	000	714	LDA	.WICI,,P,SSR	RESTORE AR	FALT
001062	477777	2363	01	000	715	LDQ	-1,AU,P,USER	RESTORE QR	FALT
001063	000773	7102	00	010	716	TRA	KEY-1		EL7.
					717 *				FALT1280
					718 *	MMF	GETNOS 1		FALT1290
					719 *				FALT1300
001064	000000	4706	07	000	720	INOS LDP	PO,**,DL		FALT1310
001065	600005	2203	00	000	721	LDXO	.SATTR,,P,SSA	GET ATTRIBUTE WORD	DPSE1510
001066	000005	6043	00	000	722	TMI	5,,PO	ACCOMMODATION MODE	DPSE1530
001067	300004	7203	00	000	723	LXLO	.WICI,,P,SSR	GET INDICATORS	28FW0320
001070	000200	3002	03	000	724	CANXO	.FRT28,DU	IS MODE MASTER	28FW0330
001071	000005	6013	00	000	725	TNZ	5,,PO	YES, .GOTO .MIOS.5	28FW0340
001072	000201	2362	07	000	726	LDQ	129,DL	NATIVE, ILLEGAL MME	DPSE1540
001073	001271	7102	00	010	727	TRA	NSGOK	ABORT CALLER	DPSE1550
					728 *				FALT1330
					729 *	MME	GEROAD 2		FALT1340
					730 *				FALT1350
001074	000002	6202	00	000	731	ROAD EAXO	2	SET EP2	FALT1360
					732 *				FALT1370
001075	000000	4706	07	000	733	CDSP LDP	PO,**,DL	GET .MDISP SEGMENT	FALT1380
001076	600043	2353	00	000	734	LDA	.SELVL,,P,SSA	GET DISP LEVEL	FALT1390
001077	010000	2752	07	000	735	ORA	.FRT23,DL		FALT1400
001100	600012	7553	56	000	736	STA	.SSA,ID,P,SSA	PUT IN STACK	FALT1410

M M E P R O C E S S O R

001101	000000	7103	10	000	737	TRA	0,0,PO	GOTO .MDISP,X	FALT1420
					738 *				FALT1430
					739 *	MME	GERELC 15		FALT1440
					740 *				FALT1450
001102	000004	6202	00	000	741	RELC	EAX0 4	SET EP4	FALT1460
001103	001075	7102	00	010	742	TRA	CDSP		FALT1470
					743 *				FALT1480
					744 *	MME	GEFDC 14		FALT1490
					745 *				FALT1500
001104	000005	6202	00	000	746	ENDC	EAX0 5	SET EP5	FALT1510
001105	001075	7102	00	010	747	TRA	CDSP		FALT1520
					748 *				
					749 *	MME	GEROUT 24		
					750 *				
001106	000533	6242	00	000	751	ROUT	EAX4 .MROUT		EL8.
001107	001115	7102	00	010	752	TRA	MMETST		
					753 *				
					754 *	MME	GEUSER 26		
					755 *				
001110	000567	6242	00	000	756	USER	EAX4 .MUMME		EL8.
001111	001115	7102	00	010	757	TRA	MMETST		
					758 *				
					759 *	MME	GEFRCE 32		
					760 *				
001112	000330	6242	00	000	761	FRCE	EAX4 .MLEM1		EL8.
001113	001115	7102	00	010	762	TRA	MMETST		EL8.
					763 *				EL8.
					764 *	MME	GESECR 38		EL8.
					765 *				EL8.
001114	000715	6242	00	000	766	SECR	EAX4 .MSECR		EL8.
					767 *	TRA	MMETST		EL8.
					768				EL8.
					769	MMETST	NULL		EL8.
001115	006134	4706	07	000	770	LDP	PO,SD,MDD,DL		
001116	000000	2353	14	000	771	LDA	0,4,PO		
001117	040001	3752	03	000	772	ANA	=0040001,DU		
001120	000001	1152	03	000	773	CMPA	1,DU		
001121	001136	6002	00	010	774	TZE	SETIL	HCM, BUT NOT LOADED	
001122	000000	7203	14	000	775	LXLO	0,4,PO	IS MODULE EDITED	EL8.
001123	001136	6002	00	010	776	TZE	SETIL	NO	EL8.
001124	000000	6352	14	000	777	EAA	0,4	YES, MODULE #	EL8.
001125	000001	2752	07	000	778	ORA	1,DL	EPI	EL8.
001126	000641	1042	03	000	779	CMPX4	.MDEBG,DU	IS THIS MME DEBUG	EL8.
001127	001027	6002	00	010	780	TZE	METOK	YES	EL8.
001130	000015	7552	15	010	781	STA	MMET,5	SET IN MME TABLE	EL8.
001131	001027	7102	00	010	782	TRA	METOK		EL8.
					783 *				EL8.
					784		INVALID MME		
001132	400000	3162	03	000	785	MMEER	CANQ .FBTO,DU	IS IT DEBUG	EL7.
001133	001140	6002	00	010	786	TZE	ILMME	NO	EL7.

M M E P R O C E S S O R

001134	000641	6242	00	000	787	EAX4	.MDEBG	YES, CHECK .MDEBG PRESENCE	EL8.
001135	001115	7102	00	010	788	TRA	MMFTST		EL7.
					789 *				EL7.
001136	000015	2352	00	010	790	SETIL LDA	MMFT	SET ILLEGAL MME	EL8.
001137	000015	7552	15	010	791	STA	MMFT,5		
001140	000023	2362	07	000	792	ILMMF LDQ	.AC023,DL	ILLEGAL MME TYPE	EL8.
001141	001240	7102	00	010	793	TRA	NSGCHK		
					794 *				FALT5140
					795		TSS-EXEC MME REQUEST		FALT5150
					001142				FALT5155
001142	000050	1052	03	000	796	EVEN			FALT5160
001143	001023	6012	00	010	797	METSS CMPX5	.EMMS,DU	IS IT .EMMS	FALT5170
001144	000200	2752	07	000	798	TNZ	METRE (EXTM IF OPT 0)	NO	FALT5180
001145	300004	7553	00	000	799	ORA	.FBT28,DL	YES, SET MASTER MODE	FALT5190
001146	200000	2352	07	000	800	STA	.WICI,,P.SSR		04FW1100
001147	600005	2553	00	000	801	LDA	.A.EMS,DL		04FW1110
001150	006204	4706	07	000	802	ORSA	.SATR,,P.SSA	SET .EMMS DONE BIT	FALT5200
001151	100052	6757	00	000	803	LDP	PO,SD,PSH,DL	GET PUSH DESCR	FALT5210
001152	300046	0577	00	000	804	LDD	P.SSL,.KLSLV,.KLS	GET SUBSYSTEM LKG	FALT5220
001153	300044	0567	00	000	805	STD	P.CR,.WDR7,,P.SSR		FALT5230
001154	300042	0557	00	000	806	STD	P.SSA,.WDR6,,P.SSR		FALT5240
001155	300036	0507	00	000	807	STD	P.SSL,.WDR5,,P.SSR		FALT5250
001156	300027	4577	00	000	808	STD	PO,.WDR3,,P.SSR		FALT5260
001157	300026	4567	00	000	809	STP	P.CR,.WPTR7,,P.SSR		FALT5270
001160	300025	4557	00	000	810	STP	P.SSA,.WPTR6,,P.SSR		FALT5280
001161	300023	4507	00	000	811	STP	P.SSL,.WPTR5,,P.SSR		FALT5290
001162	300053	7463	00	000	812	STP	PO,.WPTR3,,P.SSR		FALT5295
001163	300053	4473	00	000	813	STX6	.WREGS+3,,P.SSR		FALT5297
					814	SXL7	.WREGS+3,,P.SSR		FALT5300
					001164			RETURN IN MASTER MODE	
001164	000000713400			000	815	OCLIMB			
001165	000000010000			000		VFD	18/0,09/713,1/1,1/0,1/0,6/0		
						VFD	1/0,9/0,8/0,1/N,1/0,2/0,2/1,12/0		
					816				FALT5310

MISSING PAGE

818 \*

819 \* PROCESS A MISSING PAGE FAULT

820 \*

					001166	821	MISPG	NULL				
1S	001166	000000	6252	15	000	822	EAX5	0,5				
0S	001167	000465	6012	00	010	823	TNZ	FTRCE	NOT RETRYABLE			FALT4370
6V	001170	000000	6262	16	000	824	EAX6	0,6	IS ANY PROCESS IN EXECUTION			FALT4372
8V	001171	000465	6002	00	010	825	TZE	FTRCE	NO			FALT4374
7V					001172	826	OPTN1	NULL	IF OPT0 IS SPECIFIED, NEXT INSTRUCTION IS TRA INHCK			
9V	001172	000040	2352	07	000	827	LDA	=040,DL				
5V					001173	828	OPTN2	NULL				
4V	001173	300004	3153	00	000	829	CANA	.WICI,,P.SSR	MULTIWORD INDICATOR			
3V	001174	000002	6002	04	000	830	SI1	TZE	2,IC	(TRA 2,IC IF 600S)		6S.09880
2V	001175	300004	6553	00	000	831	ERSA	.WICI,,P.SSR	TURN OFF MULTIWORD INDICATOR			
1V	001176	000740	7042	00	010	832	TSX4	ESTDDS	ESTABLISH DDS SEGMENT			
0V					001177	833	.GOTO	.MDMM1,1				
6E							INHIB	SAVE,ON				
8E	001177	000002	6306	04	1201		EPPRO	**2,\$				
7E	001200	700010	7103	00	000		TRA	.CRGTO,,P.CR				
9E	001201	000060	000001		000		ZERO	.MDMM1,1				
5E							INHIB	RESTORE				

834 \*

DPSE1380

835 \*

DPSE1390

836 \*

PROCESS DYNAMIC LINKING FAULT

DPSE1400

837 \*

DPSE1410

					001202	838	DYLN	NULL				FALT0019
6Z	001202	000002	7102	04	000	839	TRA	2,IC	HCM			FALT0019
8Z	001203	000000	0112	07	000	840	NOP	0,DL	SSA			FALT0019
7Z	001204	006134	4706	07	000	841	LDP	PO,SD,MDD,DL	SLAVE, .GOTO .MMI NK,1			23FW1230
9Z	001205	000630	4707	00	000	842	LDP	PO,,MMLNK,,PO				DPSE1430
5Z	001206	000000	5076	00	000	843	AWDX	0,,PO				DPSE1440
4Z	001207	000001	7103	00	000	844	TRA	1,,PO	TO EP#1			DPSE1450

SPECIFIC FAULT HANDLING

					846 *				PARITY, ONC, LOCKUP FAULTS UNCONDITIONAL ABORTS		
					847 *						
	001210	001217	7102	00	010	848	POLF	TRA	ABTP	HCM, ABORT SLAVE	
	001211	001217	7102	00	010	849		TRA	ABTP	SSA, ABORT SLAVE	
	001212	001456	7042	00	010	850		TSX4	CHKMD	CHECK PROCESS MODE	EL8.
	001213	001503	0000	00	010	851		ARG	NEPR	NATIVE EXIT	EL9.
	001214	020000	3002	03	000	852		CANX0	.FRT4,DU	IS PROCESS TSS EXEC	EL8.
	001215	001356	6012	00	010	853		TNZ	AEPR	YES	EL8.
	001216	001225	7102	00	010	854		TRA	ABTPO	NO	EL8.
						855 *					
						856 *			ABORT PROCESSING		
						857 *					
			001217			858	ABTP		NULL		
	001217	000000	6262	16	000	859		EAX6	0,6	IS ANYTHING EXECUTING	EL9.
	001220	002450	6002	00	010	860		TZE	STPS3	NO, DROP THE SYSTEM	EL9.
	001221	000155	2352	13	010	861		LDA	FVEC+1,3		EL8.
	001222	000011	7352	00	000	862		ALS	9		EL8.
	001223	000777	3752	03	000	863		ANA	=0777,DU		EL8.
	001224	000000	6202	01	000	864		EAX0	0,AU	VECTOR INDEX	EL8.
	001225	300004	2353	00	000	865	ABTPO	LDA	.WICI,,P,SSR		
	001226	277777	7553	10	000	866		STA	-1,0,SP	STORE IC&I	
	001227	300004	2353	00	000	867	ABTP1	LDA	.WICI,,P,SSR		
	001230	200034	7553	00	000	868		STA	.XMME3,,SP		
	001231	000000	2352	03	000	869		LDA	0,DU		
	001232	000022	7372	00	000	870		LLS	18		
	001233	200035	7553	00	000	871		STA	.XMME4,,SP	STORE OLD ABORT CODE	FALT5470
	001234	000022	7722	00	000	872		QRL	18	GET NEW CODE TO QL	FALT5480
	001235	001764	4706	07	000	873		LDP	P0,,SSR,DL		
	001236	000010	6707	00	000	874		LDD	P0,,WISR,,P0		
	001237	200046	0507	00	000	875		STD	P0,,XFLT,,SP		
	001240	700064	7173	00	000	876	NSGCHK	XED	.CRNSG,,P,CR	TEST SHUT GATES	
	001241	001271	6002	00	010	877		TZE	NSGOK	NO	14FW0870
	001242	700114	2353	37	000	878		LDA	.CRGID,7*,P,CR	GET SHUT PTR	28FW0090
	001243	003000	3152	07	000	879		CANA	=03000,DL	IS IT SYSTEM	28FW0100
	001244	001251	6012	00	010	880		TNZ	SHSYS	YES	28FW0110
	001245	001764	4706	07	000	881		LDP	P0,,SSR,DL	NO, USER	28FW0120
	001246	000010	6707	00	000	882		LDD	P0,,WISR,,P0		28FW0130
	001247	000000	6307	01	000	883		EPPR	P0,0,AU,P0	GET GATE PTR	28FW0140
	001250	001253	7102	00	010	884		TRA	SHSYS+2		28FW0150
	001251	600222	7553	00	000	885	SHSYS	STA	.SVFLT+1,,P,SSA		28FW0160
	001252	600222	4707	00	000	886		LDP	P0,,SVFLT+1,,P,SSA		28FW0170
	001253	000000	2353	00	000	887		LDA	0,,P0	GET .SHUT INSTR	14FW0890
	001254	000000	5076	00	000	888		AWDX	0,,P0	CLEAR ARO	EL9.
	001255	000000	6202	01	000	889		EAX0	0,AU		14FW0900
	001256	000100	3152	07	000	890		CANA	.FRT29,DL	IS AN ODR USED	14FW0910
	001257	001265	6002	00	010	891		TZE	TOPE	NO	14FW0920
	001260	700000	3752	03	000	892		ANA	=0700000,DU	YES, GET ODR #	14FW0930
	001261	077777	3602	03	000	893		ANX0	=077777,DU	SEG OFFSET	14FW0940
	001262	000016	7712	00	000	894		ARL	14	S/S OFFSET	14FW0950
	001263	001764	4706	07	000	895		LDP	P0,,SSR,DL		14FW0960

SPECIFIC FAULT HANDLING

001264	000030	6707	01	000	896	LDD	PO.,WDRO,AU,PO	GET GATE SEGMENT	14FW0970	
001265	000000	2343	10	000	897	TOPE	SZN	0,0,PO	IS GATE REALLY SHUT	14FW0980
001266	002454	6012	00	010	898	TNZ	STPS7		NO, PUNT	14FW0990
001267	000000	7503	10	000	899	STC2	0,0,PO		YES, FORCE GATE OPEN	14FW1000
001270	001240	7102	00	010	900	TRA	NSGCHK		& CHECK AGAIN	14FW1010
					901	*				14FW1020
	001271				902	NSGOK	NULL			14FW1030
001271	006134	4706	07	000	903	LDP	PO,SD,MDD,DL	.GOTO	.MBRT1,3	
001272	000036	4707	00	000	904	LDP	PO.,MBRT1.,PO			
001273	000003	5076	00	000	905	AWDX	3.,PO			
001274	000000	7103	00	000	906	TRA	0.,PO			
					907	*				EL8.
001275	400000	2352	07	000	908	CRTART	LDA	=040000,DL	TURN ON DISASTER ABORT BIT	
001276	600120	2553	00	000	909	ORSA	.SPDSR.,P.SSA			
001277	000202	2362	07	000	910	QSET	LDQ	=0202,DL	S/S OVERFLOW FAULT	
001300	001240	7102	00	010	911	TRA	NSGCHK			
					912	*				
					913	*	IPR FAULT			
					914	*				
001301	002455	7102	00	010	915	IPRF	TRA	STPS8	ABORT SYSTEM	
001302	000000	6202	00	000	916	EAX0	0		SSA	EL8.
001303	300004	2353	00	000	917	LDA	.WICI.,P.SSR		SLAVE, GET IC&I	EL8.
001304	000200	3152	07	000	918	CANA	.FBT28,DL		IS IT MASTER MODE	EL8.
001305	001317	6002	00	010	919	TZF	NOZOP		NO	EL8.
001306	000040	3152	07	000	920	CANA	.FBT30,DL		YES, TEST MID-INSTR	EL8.
001307	001315	6012	00	010	921	TNZ	NOZ		YES	EL8.
001310	777777	6242	01	000	922	EAX4	-1,AU		IC	EL8.
001311	000001	3642	03	000	923	ANX4	1,DU		MOD 2	EL8.
001312	300002	2243	14	000	924	LDX4	.WFINS,4,P.SSR		GET ADDRESS OF IPR	EL8.
001313	714647	1042	03	000	925	CMPX4	=3HZOP,DU		IS IT 'ZOP'	EL8.
001314	002453	6002	00	010	926	TZF	STPS6		YES	EL8.
001315	000000	1002	03	000	927	NOZ	CMPX0	0,DU	NO, WAS ISR SSA	EL8.
001316	001354	6012	00	010	928	TNZ	TEPR		NO	EL8.
001317	004001	3352	07	000	929	NOZOP	LCA	.FRT24+1,DL		EL8.
001320	200031	3553	00	000	930	ANSA	.XLDR6.,SP		RESET BIT 24 IN ACC. FAULT WORD	
001321	300076	2353	00	000	931	LDA	.WPFR.,P.SSR		FAULT REGISTER	
001322	004000	3752	03	000	932	ANA	=04000,DU		BIT 6 IS ILLEGAL DATA BIT	
001323	001354	6002	00	010	933	TZE	TEPR		NOPE	EL8.
001324	002636	2362	00	010	934	LDQ	=02607000163		CHANGE FAULT CODE	
001325	000022	7312	00	000	935	ARS	18			
001326	200031	2553	00	000	936	ORSA	.XIDR6.,SP		SET FAULT STATUS WORD	
001327	001354	7102	00	010	937	TRA	TEPR			EL8.
					938	*				EL8.
					939	*	MISSING WORK SPACE PROCEDURE			EL8.
					940	*				EL8.
001330	002455	7102	00	010	941	MWSF	TRA	STPS8	HCM, DROP SYSTEM	EL8.
001331	001336	7102	00	010	942	TRA	MEMF+3		SSA, TREAT AS MEMORY FLT	EL8.
001332	001354	7102	00	010	943	TRA	TEPR		USER	EL8.
					944	*				
					945	*	MEMORY, SECURITY#1, SECURITY#2			FALT4570

SPECIFIC FAULT HANDLING

					946 *	MISSING SEGMENT PROCEDURE			EL8.
					947 *				FALT4580
				001333	948 MMD	NULL			EL8.
	001333	000000	6202 00	000	949 MEMF	EAX0	0	HCM	FALT4590
	001334	000002	7102 04	000	950	TRA	2,IC	SSA	FALT4600
	001335	001354	7102 00	010	951	TRA	TEPR	SLAVE	EL8.
	001336	600221	2343 00	000	952	SZN	.SVFLT,,P,SSA	IS VICARIOUS FLAG SET	FALT4620
	001337	001352	6002 10	010	953	TZE	MTCF,0	NO, USE STD PROCEDURE	FALT4630
	001340	600221	4707 00	000	954	LDP	PO,,SVFLT,,P,SSA	YES, GET PROC SEGMENT	FALT4640
	001341	600221	0343 00	000	955	LDAC	.SVFLT,,P,SSA	GET & CLEAR FLAG	EL8.
	001342	776010	6202 05	000	956	EAX0	-DR,AL	IS SEGID ODR0	EL8.
	001343	000000	6013 00	000	957	TNZ	0,,PO	NO, GO TO ERROR PROC	FALT4643
	001344	001764	4706 07	000	958	LDP	PO,,SSR,DL	GET S/S DESCR T=1	FALT4644
	001345	000010	6707 00	000	959	LDD	PO,,WISR,,PO	GET FAULTING SEGMENT	FALT4645
	001346	000000	7103 01	000	960	TRA	0,AU,PO	GO TO ERROR PROC	EL8.
					961 *				28FW0390
					962 *	FAULT TAG FAULT			28FW0400
					963 *				28FW0410
	001347	002455	7102 00	010	964 MTFTG	TRA	STPS8	HCM	EL8.
	001350	002453	7102 00	010	965	TRA	STPS6	SSA	EL8.
	001351	001354	7102 00	010	966	TRA	TEPR	SLAVE	EL8.
					967 *				28FW0450
					968 *	COMMAND FAULT			28FW0460
					969 *				FALT4660
	001352	001217	7102 00	010	970 MTCF	TRA	ABTP	IN HCM, SLAVE ABORT	
	001353	001217	7102 00	010	971	TRA	ABTP	SSA	EL8.
					972 *	TRA	TEPR	SLAVE	EL8.
					973				EL8.
					974				EL8.
	001354	001456	7042 00	010	975 TEPR	TSX4	CHKMD	CHECK PROCESS MODE	EL8.
	001355	001503	0000 00	010	976	ARG	NEPR	NATIVE EXIT	EL9.
					977 *	TRA	AEPR	ACCOMMODATION	EL8.
					978				EL8.
					979 *	ACCOMMODATION MODE EXCEPTION PROCEDURE			EL8.
					980 *				EL8.
	001356	000012	1062 03	000	981 AEPR	CMPX6	.PNDPN,DU	IS THIS A SYSTEM PROGRAM	FALT3920
	001357	002446	0112 00	010	982	NOP	STPS1	(TMOZ IF OPT+2 SET >0)	EL8.
	001360	000160	2352 07	000	983	LDA	=0160,DL	WSR MASK	EL7.
	001361	300010	2153 00	000	984	CNAAL	.WISR,,P,SSR	IS WSR 7	EL8.
	001362	001227	6012 00	010	985	TNZ	ABTPI	NO	EL7.
	001363	400000	2352 03	000	986	LDA	=0400000,DU		
	001364	600120	2553 00	000	987	ORSA	.SPDSR,,P,SSA	DISASTER FAULT FLAG	EL8.
	001365	277777	2353 10	000	988	LDA	-1,0,SP	IS IC SLOT ZERO	EL8.
	001366	001225	6012 00	010	989	TNZ	ABTPO	NO	EL8.
	001367	200000	2243 10	000	990 AEPR1	LDX4	0,0,SP	YES, WILL USER PROCESS FAULT	EL8.
	001370	001225	6002 00	010	991	TZE	ABTPO	NO, GO ABORT	
	001371	300004	2353 00	000	992 AEPR2	LDA	.WICI,,P,SSR		
	001372	277777	7553 10	000	993	STA	-1,0,SP	STORE IC&I	
	001373	777537	3752 07	000	994	ANA	=0777537,DL	DROP M/M & MULTI INDICATOR	
	001374	300004	7553 00	000	995	STA	.WICI,,P,SSR		



## SPECIFIC FAULT HANDLING

001375	300004	7403	00	000	996	STX0	.WICI,,P.SSR	IC = FAULT VECTOR	
001376	000721	7102	00	010	997	TRA	TROF		
					998 *				
					999 *	DERAIL			
					1000 *				
001377	001217	7102	00	010	1001	DRL	TRA	ABTP	IN HCM, ABORT SLAVE
001400	001217	7102	00	010	1002		TRA	ABTP	IN SSA, ABORT SLAVE
001401	001456	7042	00	010	1003		TSX4	CHKMD	CHECK PROCESS MODE
001402	001217	0000	00	010	1004		ARG	ABTP	NATIVE EXIT
001403	001367	7102	00	010	1005		TRA	AEPRI	
					1006 *				
					1007 *	DIVIDE CHECK			
					1008 *				
001404	002456	7102	00	010	1009	DVDC	TRA	STPS9	IN HCM, ABORT SYSTEM
001405	001217	7102	00	010	1010		TRA	ABTP	IN SSA, ABORT SLAVE
001406	001456	7042	00	010	1011		TSX4	CHKMD	CHECK PROCESS MODE
001407	001412	0000	00	010	1012		ARG	CHKPN	NATIVE EXIT
001410	200000	2243	10	000	1013		LDX4	0,0,SP	WILL USER PROCESS FAULT
001411	001371	6012	00	010	1014		TNZ	AEPRI	YES
001412	000013	1062	03	000	1015	CHKPN	CMPX6	.PNDPN+1,DU	PROGRAM NUMBER
001413	001217	6032	00	010	1016		TRC	ABTP	ABORT IF GRATER THAN .PNDPN
001414	000100	2352	07	000	1017		LDA	=0100,DL	PUT BIT 29 (DIVID) ON IN SPA WORD .XLDR6
001415	200031	2553	00	000	1018		ORSA	.XLDR6,,SP	SET FAULT STATUS WORD
001416	000000	4312	03	000	1019		FLD	0,DU	LOAD ZERO
001417	300054	7573	00	000	1020	RTNS	STAQ	.WREGS+4,,P.SSR	SET EQ
001420	300056	4563	00	000	1021		STE	.WREGS+6,,P.SSR	
001421	000721	7102	00	010	1022		TRA	TROF	
					1023 *				
					1024 *	OVERFLOW			
					1025 *				
001422	000717	7102	00	010	1026	OVF	TRA	RETOUT	IN HCM, IGNORE
001423	000717	7102	00	010	1027		TRA	RETOUT	IN SSA, IGNORE
001424	001456	7042	00	010	1028		TSX4	CHKMD	CHECK PROCESS MODE
001425	001430	0000	00	010	1029		ARG	CPNUM	NATIVE EXIT
001426	200000	2353	10	000	1030		LDA	0,0,SP	WILL USER PROCESS FAULT
001427	001371	6012	00	010	1031		TNZ	AEPRI	YES
001430	000013	1062	03	000	1032	CPNUM	CMPX6	.PNDPN+1,DU	PROCESS NUMBER
001431	001217	6032	00	010	1033		TRC	ABTP	ABORT IF GRATER THAN .PNDPN
001432	300004	2353	00	000	1034		LDA	.WICI,,P.SSR	
001433	070000	3752	07	000	1035		ANA	=070000,DL	ISORATE OVERFLOW BIT
001434	300004	6553	00	000	1036		ERSA	.WICI,,P.SSR	TURN OFF OVERFLOW INDICATOR
001435	200031	2553	00	000	1037		ORSA	.XLDR6,,SP	SET FAULT STATUS WORD
001436	020000	3152	07	000	1038		CANA	=020000,DL	TEST IF EXPONENT OVERFLOW
001437	001445	6002	00	010	1039		TZF	TEXUN	NO
001440	001452	4332	00	010	1040		DFLD	INFTY	YES, PICK UP PLUS INFINITY
001441	300054	2343	00	000	1041		SZN	.WREGS+4,,P.SSR	WAS AR PLUS
001442	001417	6052	00	010	1042		TPL	RTNS	YES
001443	001454	4332	00	010	1043		DFLD	INFTY+2	NO, PICK UP MINUS INFINITY
001444	001417	7102	00	010	1044		TRA	RTNS	
001445	010000	3152	07	000	1045	TEXUN	CANA	=010000,DL	TEST EXPONENT UNDERFLOW

EL8.  
EL9.EL8.  
EL9.EL8.  
EL9.



SPECIFIC FAULT HANDLING

001446	000721	6002 00	010	1046	TZE	TROF	RETURN TO SLAVE		
001447	000000	4312 03	000	1047	FLD	0,DU	YES, PICK UP PLUS ZERO		
001450	001417	7102 00	010	1048	TRA	RTNS			
001451	000000011207		000						
001452	376777777777		000	1049	INFTY	EOCT	376777777777	PLUS INFINITY	
001453	777777777777		000	1050	OCT	777777777777			
001454	377000000000		000	1051	OCT	377000000000	MINUS INFINITY		
001455	000000000000		000	1052	OCT	000000000000			
				1053					
				1054					
001456	600005	2203 00	000	1055	CHKMD	ELDX0	.SATTR,,P.SSA	GET ATTRIBUTE WORD	EL8.
001457	200000	3002 03	000	1056	CANX0	.ADBG,DU	IS DEBUG ACTIVE	EL8.	
001460	001471	6002 00	010	1057	TZE	CHKNO	NO	EL8.	
001461	300010	2353 00	000	1058	LDA	.WISR,,P.SSR	YES, GET ISR	EL8.	
001462	000140	3152 07	000	1059	CANA	=0140,DL	IS WSR 0,1	EL8.	
001463	001471	6002 00	010	1060	TZE	CHKNO	YES, NO DEBUG	EL8.	
	001464			1061	.CALLX	.MDEBG,2	NO, LET DEBG DO ITS THING	EL9.	
					INHIB	SAVE,ON			
001464	600220	7403 00	000		STX0	.STMPX,,P.SSA			
		001465			ICLIMB	SD.SVX,,.MDEBG*64+2,EAX0			
001465	064102713400		000		VFD	18/.MDEBG*64+2,09/713,1/1,1/0,1/0,6/M.			
001466	000000606122		000		VFD	170,970,870,17.N,17.0,270,270,127SD.SVX			
					INHIB	RESTORE			
001467	000000	1162 07	000	1062	CMPQ	0,DL	TEST RESULT	EL9.	
001470	000717	6002 00	010	1063	TZE	RETOU	OK, EXIT	EL8.	
001471	400000	3002 03	000	1064	CHKNO	CANX0	.ACOM,DU	TEST PROCESS MODE	EL8.
001472	001500	6002 00	010	1065	TZE	NATIV		EL9.	
001473	000155	2352 13	010	1066	LDA	FVEC+1,3	ACCOMMODATION	EL8.	
001474	777000	3752 07	000	1067	ANA	=0777000,DL		EL8.	
001475	000011	7712 00	000	1068	ARL	9		EL8.	
001476	000000	6202 05	000	1069	EAX0	0,AL	PREFIX INDEX	EL8.	
001477	000001	7102 14	000	1070	TRA	1,4	ACCOMMODATION EXIT	EL9.	
				1071	*			EL8.	
001500	000000	2222 11	000	1072	NATIV	LDX2	0,1	GET ARG	EL9.
001501	001503	1022 03	010	1073	CMPX2	NEPR,DU	IS IT CARTE BLANCHE	EL9.	
001502	001602	6012 00	010	1074	TNZ	NEPRA	NO	EL9.	
				1075	*				
				1076	*	NATIVE PROCESS EXCEPTION PROCEDURE			
				1077	*				
001503	001563	6306 00	010	1078	NEPR	EPPR	PO,FANY	ERROR HANDLER	23FW0060
001504	600221	4507 00	000	1079	STP	PO,.SVFLT,,P.SSA			23FW0070
001505	300012	2213 00	000	1080	LDX1	.WASR,,P.SSR	IS ARG SEG NULL	EL8.	
001506	001563	6002 00	010	1081	TZF	FANY	YES, NO EPPA	EL8.	
001507	001764	4716 07	000	1082	LDP	P1,.SSR,DL	S/S T=1	EL8.	
001510	100012	6707 00	000	1083	LDD	PO,.WASR,,P1	GET ARG SEG REGISTER	EL8.	
001511	000000	6707 00	000	1084	LDD	PO,0,.PO	GET ARG 0	23FW0100	
001512	001761	4706 07	000	1085	LDP	PO,.CTYP,DL	T=0	EL9.	
001513	100014	6717 00	000	1086	LDD	P1,.WLSR,,P1	GET ORIGINAL LKG SEG	23FW0110	
001514	000002	2353 00	000	1087	LDA	2,.PO	GET EPPA DESCRIPTOR	EL9.	
001515	020160	2152 07	000	1088	CNA	=020160,DL	TEST NULL DESCR	28FW0260	

SPECIFIC FAULT HANDLING

001516	001563	6002	00	010	1089	TZE	FANY	YES	28FW0270
001517	001553	7012	00	010	1090	TSX1	CHEK	TEST & CONVERT TO P2	23FW0140
001520	200000	2353	13	000	1091	LDA	0,3,P2	GET EPPA ENTRY	EL8.
001521	020160	2152	07	000	1092	CNAA	=020160,DL	TEST NULL DESCR	28FW0290
001522	001563	6002	00	010	1093	TZE	FANY	YES	28FW0300
001523	001553	7012	00	010	1094	TSX1	CHEK	CHECK & CONVERT TO P2	23FW0190
001524	600204	0527	00	000	1095	STD	P2,..STEMP,..P.SSA		23FW0200
001525	600204	2363	00	000	1096	LDQ	.STEMP,..P.SSA	GET DESCR WORD 1	23FW0220
001526	000017	3162	07	000	1097	CANQ	=017,DL	IS T=0	23FW0230
001527	001563	6012	00	010	1098	TNZ	FANY	NO, INVALID	23FW0240
001530	000150	7212	17	010	1099	LXL1	POINT,7	GET PROCESSOR INDEX	EL8.
001531	006022	4706	07	000	1100	LDP	P0,SD,DGS,DL	GET DESCRIPTOR SEGMENT	23FW0260
001532	001761	4706	07	000	1101	LDP	P0,..CTYP,DL	T=0	23FW0270
					1102	INHIB	ON		23FW0280
001533	000000	0517	11	000	1103	STD	P1,0,1,P0	SAVE LKG DESCRIPTOR	23FW0290
001534	000000	2363	11	000	1104	LDQ	0,1,P0		23FW0300
001535	003776	3762	03	000	1105	ANQ	=03776,DU	LKG BOUND	23FW0310
001536	000007	7362	00	000	1106	QLS	7		23FW0320
001537	000001	2563	11	000	1107	ORSQ	1,1,P0		23FW0330
001540	000160	2362	07	000	1108	LDQ	=0160,DL		23FW0340
001541	000000	3563	11	000	1109	ANSQ	0,1,P0	KEEP WSR #	23FW0350
001542	200000	6203	00	000	1110	EAX0	0,..P2	GET OFFSET FOR ENTRY	23FW0360
001543	000000	7403	11	000	1111	STX0	0,1,P0		23FW0370
001544	001777	3752	03	000	1112	ANA	=01777,DU		23FW0380
001545	000007	7352	00	000	1113	ALS	7	ISEG. NO.	23FW0390
001546	000013	2752	07	000	1114	ORA	11,DL	T=11	23FW0400
001547	000000	2553	11	000	1115	ORSA	0,1,P0	COMPLETE ENTRY DFSCRIPTOR	23FW0410
001550	006022	4706	07	000	1116	LDP	P0,SD,DGS,DL		23FW0420
001551	000000	6747	11	000	1117	LDD	P4,0,1,P0	LOAD ENTRY DESCRIPTOR	23FW0430
001552	001627	7102	00	010	1118	TRA	ODDF	BUILD PARAMETERS & ENTER CODE	EL8.
					1119	INHIB	OFF		23FW0450
					1120				23FW0510
					1121			VALIDATE AND CONVERT POINTER IN AR TO DESCR IN P2.	23FW0520
001553	006000	6750	07	000	1122	CHEK	ERA	=06000,DL	23FW0530
001554	006000	3150	07	000	1123	CANA	=06000,DL	WAS SEGID LKG	23FW0540
001555	001563	6010	00	010	1124	TNZ	FANY	NO	23FW0550
001556	600214	7551	00	000	1125	STA	.STMPA,..P.SSA	YES, SAVE AR VALUE, OFFSET	23FW0560
001557	000001	7350	00	000	1126	ALS	1	GET INDEX	23FW0570
001560	100000	6725	05	000	1127	LDD	P2,0,AL,P1	GET DESCR BASE & BOUND	EL9.
001561	600214	7625	00	000	1128	LAR	P2,..STMPA,..P.SSA	ADD IN OFFSET	23FW0590
001562	000000	7100	11	000	1129	TRA	0,1		23FW0600
					1130				23FW0610
001563	600221	4501	00	000	1131	FANY	STZ	.SVFLT,..P.SSA	23FW0630
001564	600261	2201	00	000	1132	LDX0	.ST2C5,..P.SSA		23FW0640
001565	001602	6000	00	010	1133	TZE	NEPRA	NOT TYPE 2 CRITICAL	23FW0650
001566	600212	7535	00	000	1134	STSS	.STEMP+6,..P.SSA		23FW0660
001567	001702	2370	00	010	1135	LDAQ	SSRXX		23FW0670
001570	600212	0371	00	000	1136	ADLAQ	.STEMP+6,..P.SSA	BACKUP S/S TO PRIOR FRAME	23FW0680
001571	600212	7571	00	000	1137	STAQ	.STEMP+6,..P.SSA		23FW0690
001572	600212	7735	00	000	1138	LDSS	.STEMP+6,..P.SSA		23FW0700

SPECIFIC FAULT HANDLING

001573	001764	4704	07	000	1139	LDP	PO..SSR,DL		23FW0710
001574	000000	6200	00	000	1140	EAX0	0		EL8.
001575	600261	7401	00	000	1141	STX0	.ST2CS,,P.SSA	CLEAR TYPE 2 CRIT FLAG	EL8.
001576	001761	4704	07	000	1142	LDP	PO..CTYP,DL	T=0	EL8.
001577	377001	2200	03	000	1143	LDX0	=0377001,DU		23FW0720
001600	000050	7401	00	000	1144	STX0	.WREGS,,PO		23FW0730
001601	000717	7100	00	010	1145	TRA	RETOUT		23FW0740
					1146				23FW0750
001602	006063	4704	07	000	1147	NEPRA LDP	PO.SD,RMS,DL		EL9.
001603	000155	7220	13	010	1148	LXL2	FVEC+1,3		EL9.
001604	000777	3620	03	000	1149	ANX2	=0777,DU	GET EPEDS VECTOR INDEX	EL9.
001605	000324	2211	00	000	1150	LDX1	SD.EPD*2=SD.SLS*2,,PO	IS SD.EPD VALID	EL9.
001606	001666	6000	00	010	1151	TZE	NEPDS	NO	EL9.
001607	006152	4754	07	000	1152	LDP	EPD,SD,EPD,DL	YES, GET DESCRIPTOR	EL9.
001610	006152	4704	07	000	1153	LDP	PO.SD,EPD,DL	GET IT AGAIN	EL9.
001611	001761	4704	07	000	1154	LDP	PO..CTYP,DL	T=0	EL9.
001612	000000	2351	12	000	1155	LDA	0,2,PO	GET VECTOR	EL9.
001613	000010	3150	07	000	1156	CANA	=010,DL	IS T=8,9,11	EL9.
001614	001666	6000	00	010	1157	TZE	NEPDS	NO EPEDS	EL9.
001615	000004	3150	07	000	1158	CANA	4,DL	IS T<12	EL9.
001616	001666	6010	00	010	1159	TNZ	NEPDS	NO EPEDS	EL9.
001617	000013	2750	07	000	1160	ORA	=013,DL	FORCE T=11	EL9.
001620	000000	7551	12	000	1161	STA	0,2,PO	SAVE IT BACK	EL9.
001621	500000	6745	12	000	1162	LDD	P4,0,2,EPD	GET ENTRY DESCRIPTOR	EL9.
001622	000000	1144	00	000	1163	SDR	P4	SAVE IT IN STACK	EL9.
001623	000000	2200	14	000	1164	LDX0	0,4	GET ARG	EL9.
001624	001503	1000	03	010	1165	CMPX0	NEPR,DU	WAS IT CARTE BLANCHE	EL9.
001625	001627	6010	00	010	1166	TNZ	ODDF	NO	EL9.
001626	000000	4501	12	000	1167	STZ	0,2,PO	YES, CLEAR VECTOR	EL9.
					1168	INHIB	OFF		
					001627	1169	ODDF	NULL	23FW0790
001627	001217	6304	00	010	1170	EPPR	PO,ABTP	SET FLAG TO ABORT PROCES	EL8.
001630	600221	4505	00	000	1171	STP	PO..SVFLT,,P.SSA		EL8.
001631	001672	6704	00	010	1172	LDD	PO,DSTKS	SHRINK DATA STACK... 64 WORDS	EL8.
001632	000000	1104	00	000	1173	SDR	PO		
001633	600012	4505	56	000	1174	STP	PO..SSA,ID,P.SSA	SAVE SEGID	EL8.
001634	001674	6714	00	010	1175	LDD	P1,ODRSH	ODRS ... SHRINK S/S	
001635	000000	1114	00	000	1176	SDR	P1		
001636	001676	6714	00	010	1177	LDD	P1,IALPS	ISR,ASR, LSR, PSR (R)	23FW0830
001637	000000	1114	00	000	1178	SDR	P1		23FW0840
001640	001700	6714	00	010	1179	LDD	P1,ISRS	ISR (R,W)	23FW0850
001641	000100	1005	00	000	1180	MLR	(1),(1)	COPY S/S FRAME TO DATA STACK	23FW0860
001642	300000	0004	00	000	1181	ADSC9	0,0,256,P.SSR		23FW0870
001643	000000	0004	00	000	1182	ADSC9	0,0,256,PO		23FW0880
001644	600221	4501	00	000	1183	STZ	.SVFLT,,P.SSA	CLEAR VICARIOUS FALT FLAG	EL8.
001645	001766	4704	07	000	1184	LDP	PO..ASR,DL	COPY ASR TO PO	
					001646	1185	ICLIMB	.DR+4,3,,SLAVE	CLIMB EXCEPTION PROCEDURE
001646	000000	713400		000		VFD	18/,09/713,1/1,1/0,1/0,6/M.		
001647	40100000	1774		000		VFD	1/1,9/3-1,8/0,1/.N,1/.0,2/0,2/0,12/.DR+4		
001650	700002	2311	00	000	1186	RSW	2,,P.CR		EL9.

S P E C I F I C F A U L T H A N D L I N G

001651	000003	3750	07	000	1187	ANA	3,DL	PROC#	EL9.	
001652	000000	6270	05	000	1188	EAX7	0,AL	RESET PROCESSOR NO. IN XR7	EL9.	
001653	600012	4705	54	000	1189	LDP	PO,.SSA,DI,P.SSA	RESTORE DATA STACK SEG	EL8.	
001654	000100	1005	00	000	1190	MLR	(1),(1)	SET AR & SEGID'S	23FW0930	
001655	000030	0000	40	000	1191	ADSC9	.WDR0,0,32,PO		23FW0940	
001656	300030	0000	40	000	1192	ADSC9	.WDR0,0,32,P.SSR		23FW0950	
001657	000100	1005	00	000	1193	MLR	(1),(1)	SET XR0-7, AGE, P&L	23FW0960	
001660	000050	0001	00	000	1194	ADSC9	.WREGS,0,64,PO		23FW0970	
001661	300050	0001	00	000	1195	ADSC9	.WREGS,0,64,P.SSR		23FW0980	
001662	000004	2371	00	000	1196	LDAQ	.WICI,,PO	IC&I, SEGID(IS)	23FW0990	
001663	300004	7551	00	000	1197	STA	.WICI,,P.SSR		23FW1000	
001664	300005	7521	03	000	1198	STCQ	.WICI+1,03,P.SSR		23FW1010	
001665	000717	7100	00	010	1199	TRA	RETOUT	RETURN	23FW1020	
					1200				23FW1030	
001666	000000	2200	14	000	1201	NEPDS	LDX0	0,4	GET ARG	EL9.
001667	001503	1000	03	010	1202		CMPX0	NEPR,DU	IS IT CARTE BLANCHE	EL9.
001670	000000	6010	10	000	1203		TNZ	0,0	NO, USE EXIT	EL9.
001671	001217	7100	00	010	1204		TRA	ABTP	YES, WE DID IT ALL	EL9.
					1205					EL9.
001672	000077750740			000	1206	DSTKS	FVEC	64,(R,W)		23FW1040
001673	000000011007			000						
001674	000017750640			000	1207	ODRSH	VEC	.SSR,.WDR0,16,(R,W)		23FW1050
001675	000030001764			000						
001676	000007710640			000	1208	IALPS	VEC	.SSR,.WISR,8,(R)		23FW1060
001677	000010001764			000						
001700	000001750640			000	1209	ISRS	VEC	.SSR,.WISR,2,(R,W)		23FW1070
001701	000010001764			000						
001702	000077777777			000	1210	SSRXX	EOCT	77777777,77777777400		23FW1080
001703	777777777400			000						

SIMULATE 'SBAR' INSTRUCTION

		000004	1212 US	EQU	4				
			1213	INHIB	ON				04FW1060
		001704	1214 SIMOP	NULL					
	001704	100044	2263 17	000	1215	LDX6	.KLPRG,7,KLS	IS A PROGRAM IN EXECUTION	FALT2160
	001705	000267	6002 00	010	1216	TZE	HIST	NO	
	001706	006145	4766 07	000	1217	LDP	P.SSA,SD,SSA,DL		
	001707	300004	2353 00	000	1218	LDA	.WICI,,P,SSR	ACCOMMODATION	
	001710	000040	3152 07	000	1219	CANA	=040,DL	MULTIWORD INDICATOR	
	001711	000267	6012 00	010	1220	TNZ	HIST	ON	
	001712	001764	4706 07	000	1221	LDP	P0,,SSR,DL		
	001713	000000	6202 01	000	1222	EAX0	0,AU		FALT1790
	001714	000010	6747 00	000	1223	LDD	US,,WISR,,P0	INSTRUCTION SEGMENT DESCRIPTOR	
	001715	000010	6757 00	000	1224	LDD	P5,,WISR,,P0	TO CALCULATE EFFECTIVE ADDRESS	
	001716	477777	2353 10	000	1225	SUM0	LDA	-1,0,US	PICK UP FAULTED INSTRUCTION
	001717	777400	3752 07	000	1226	ANA	=0777400,DL	ISORATE OP-CODE	23FW1290
	001720	550000	1152 07	000	1227	CMPA	=0550000,DL	IS INSTRUCTION SBAR	
	001721	001766	6012 00	010	1228	TNZ	OTHR2	NO	23FW1310
	001722	300070	4503 00	000	1229	STZ	.WTEMP,,P,SSR	YES, SET FLAG	23FW1320
		001723	1230 SBART	NULL					23FW1330
	001723	477777	2353 10	000	1231	LDA	-1,0,US		
	001724	000100	3152 07	000	1232	CANA	=0100,DL	ADR MODIFY	
	001725	001733	6002 00	010	1233	TZE	SADR	NO ADR MODIFY	
	001726	000017	7712 00	000	1234	ARL	15	EXTRACT ADR#	
	001727	300020	7657 01	000	1235	LAR5	.WPTR0,AU,P,SSR		
	001730	477777	2353 10	000	1236	LDA	-1,0,US		
	001731	000003	7352 00	000	1237	ALS	3	EXTEND BIT 3	EL9.
	001732	000003	7312 00	000	1238	ARS	3		EL9.
	001733	500000	5077 01	000	1239	SADR	AWD	0,AU,P5	
	001734	477777	2353 10	000	1240	LDA	-1,0,US		
	001735	000377	3752 07	000	1241	ANA	=0377,DL	EXTRACT MODIFY CODE	
	001736	002637	2752 00	010	1242	ORA	=0500000620300	BUILD "EAX0 0,--,P5" ;ROM THE SBAR TO	
	001737	001775	7552 17	010	1243	STA	EXCOP,7	FIND PLACE USER WANTS IT STORED	
	001740	006145	4766 07	000	1244	LDP	P.SSA,SD,SSA,DL	SSA SEGMENT DESCRIPTOR	
	001741	000077	3752 07	000	1245	ANA	=077,DL		
	001742	000004	1152 07	000	1246	CMPA	4,DL	IC MODIFY	
	001743	001751	6012 00	010	1247	TNZ	NOICM	NO	
	001744	000010	2352 07	000	1248	LDA	=010,DL	CHANGE ADDRESS MODIFY TO X4	
	001745	001775	2552 17	010	1249	ORSA	EXCOP,7		
	001746	777777	6242 10	000	1250	EAX4	-1,0	PUT USER IC IN X4	
	001747	001775	6306 17	010	1251	EPPR	P0,EXCOP,7		
	001750	000003	7102 04	000	1252	TRA	3,IC		
		001751	1253 NOTCM	NULL					
	001751	001775	6306 17	010	1254	EPPR	P0,EXCOP,7		
	001752	300050	0733 00	000	1255	LREG	.WREGS,,P,SSR	RECOVER GENERAL REGISTERS	
	001753	000000	7163 00	000	1256	XEC	0,,P0	X0 = EFF-ADDR OF SBAR + AR	
	001754	300070	2343 00	000	1257	SZN	.WTEMP,,P,SSR	TEST SBAR/XEC	23FW1450
	001755	001772	6012 00	010	1258	TNZ	XECT	XEC	23FW1460
	001756	300010	2353 00	000	1259	LDA	.WISR,,P,SSR	SIMULATE RESULT OF SBAR	
	001757	000011	7712 00	000	1260	ARL	9		
	001760	000777	3752 03	000	1261	ANA	=0777,DU		

SIMULATE 'SBAR' INSTRUCTION

001761	000001	0352	03	000	1262	ADLA	1,DU			
001762	000000	6222	01	000	1263	EAX2	0,AU	X2 = RESULT OF SBAR		
001763	400000	7423	10	000	1264	STX2	0,0,US	MOVE BAR EQUIVALENT TO USER SPECIFIED LOC		
001764	600303	6743	04	000	1265	LCPR	.SMRSV,04,P.SSA	UNLOCK HREGS	EL8.	
001765	000717	7102	00	010	1266	TRA	RETOUT		EL8.	
					1267				23FW1350	
001766	716000	1152	07	000	1268	OTHR2	CMPA	=0716000,DL	IS IT XEC	23FW1360
001767	000267	6012	00	010	1269	TNZ	HIST		NO	23FW1370
001770	300070	7503	00	000	1270	STC2	.WTEMP,,P.SSR	YES, SET FLAG		23FW1380
001771	001723	7102	00	010	1271	TRA	SBART			23FW1390
					1272					23FW1400
001772	777777	6202	10	000	1273	XECT	FAX0	-1.0	ADJUST X0 TO LOC+1	23FW1410
001773	001716	7102	00	010	1274	TRA	SUMO			23FW1420
					1275					23FW1430
					1276	INHIB	OFF			04FW1080
001774	777777	000377		000	1277	OPMSK	OCT	777777	000377	
001775	000000	6200	00	000	1278	FXCOP	EAX0	**		
001776	000000	6200	00	000	1279		EAX0	**		
001777	000000	6200	00	000	1280		EAX0	**		
002000	000000	6200	00	000	1281		EAX0	**		

MEMORY PARITY SCAN

					1283	*EP2					
002001	000001	6230	00	000	1284	MSCAN	EAX3	1	.MFALT EP2		
002002	006133	4714	07	000	1285		LDP	KLS,SD,KL,DL	KL SEGMENT DESCRIPTOR		
002003	006130	4774	07	000	1286		LDP	P.CR,SD,CR,DL	CR		
002004	000002	7100	04	000	1287		TRA	2,IC			
					1288	*					
002005	000000	6230	00	000	1289	MSCN	EAX3	0	SET FLAG FOR ENTRY FROM PARITY FAULT		
002006	002301	7430	00	010	1290		STX3	INDEP		EL8.	
002007	002273	2140	00	010	1291		SZNC	SCNFL	IS PROCEDURE OPENED		
002010	002016	6010	00	010	1292		TNZ	OPNSN	YES		
002011	002272	1070	00	010	1293		CMPX7	SVPN	IS SHUTED PROCESSOR ITSELF		
002012	002241	6000	00	010	1294		TZE	STPM	YES, STOP SYSTEM		
002013	002301	2340	00	010	1295	RETM	SZN	INDEP			
002014	000000	6000	14	000	1296		TZE	0,4	RETURN TO FAULT MAIN		
002015	003350	7100	00	010	1297		TRA	EXIT			
					1298	*					
002016	002272	7470	00	010	1299	OPNSN	STX7	SVPN	SAVE PROCESSOR #		
002017	002303	7440	00	010	1300		STX4	RETSV	SAVE RETURN ADDRESS		
002020	100155	2341	00	000	1301		SZN	.KLDMT, .KLS	IS DMT TABLE EMPTY		
002021	002024	6000	00	010	1302		TZE	MSCN1	YES EMPTY		
002022	002273	7500	00	010	1303		STC2	SCNFL			
002023	002013	7100	00	010	1304		TRA	RETM			
					1305	*					
002024	100044	2261	17	000	1306	MSCN1	LDX6	.KLPRG,7,KLS	GET KPX	FALT2180	
002025	002060	6010	00	010	1307		TNZ	CGPRO	CHANGE PROCESSOR PROCESS		
002026	002302	7500	00	010	1308		STC2	SYSD		EL8.	
		002027			1309	MSCN10	NULL				
002027	002274	4500	00	010	1310		STZ	SYSAF	*** ROUTINE INITIALIZE		
002030	002275	4500	00	010	1311		STZ	ADDRS	*** PAGE NUMBER		
002031	002277	4500	00	010	1312		STZ	SUPAD	***		
002032	000000	6220	00	000	1313		EAX2	0	*** OFFSET DEFECTIVE MEMORY TABLE ENTRY		
		000004			1314	RMS	EQU	4			
002033	006063	4744	07	000	1315		LDP	RMS,SD,RMS,DL	LOAD REAL MEMORY SEGMENT DESCRIPTOR		
					1316	*					
		002034			1317	MSCN7	NULL				
002034	002275	2360	00	010	1318		LDD	ADDRS	PAGE # TO BE SCANNED		
002035	006034	4704	07	000	1319		LDP	PO,SD,MUT,DL			
002036	000001	7360	00	000	1320		QLS	1	AJUST 3 WORD ENTRY		
002037	002275	0360	00	010	1321		ADLQ	ADDRS			
002040	000000	2351	06	000	1322		LDA	0,QL,PO			
002041	002000	3150	07	000	1323		CANA	=02000,DL			
002042	002145	6010	00	010	1324		TNZ	MSCN6	THIS PAGE IS RELEASED		
					1325	*					
					1326	*		CHECK PARITY ERROR 1K WORD BLOCK			
					1327	*					
002043	000000	6250	00	000	1328	NXTPG	EAX5	0	INITIALIZE MEMORY ADDRESS OFFSET		
002044	001000	2350	07	000	1329		LDA	=01000,DL	LOAD CONSTANT FOR PARITY TEST		
		002045			1330	MSCN3	NULL				
002045	000600	6340	07	000	1331		LDI	=0600,DL	MASK PARITY FAULTS		
002046	400000	2361	15	000	1332		LDD	0,5,RMS	FETCH WORD FROM ABSORUTE ADDRESS		



MEMORY PARITY SCAN

002047	002300	7540	00	010	1333	STI	ICT	SAVE INDICATORS	
002050	004200	6340	07	000	1334	LDT	=04200,DL	RESET PARITY MASK	
					1335	INHIB	OFF		
002051	002300	3150	00	010	1336	CANA	ICT	TRANSFER IF	
002052	002107	6010	00	010	1337	TNZ	MSCN4	PARITY ERROR	
002053	000000	0110	07	000	1338	NOP	0,DL		
002054	000001	6250	15	000	1339	EAX5	1,5	ADVANCE MEMORY SCAN INDEX	
002055	001777	1050	03	000	1340	CMPX5	1K-1,DU		
002056	002045	6010	00	010	1341	TNZ	MSCN3	1K WORDS NOT YET EXAMINED	
002057	002145	7100	00	010	1342	TRA	MSCN6	NO PARITY ERROR IN 15 WORD BLOCK	
					1343 *				
					1344	INHIB	ON		
	002060				1345	CGPRN	NULL		
002060	002260	7532	00	010	1346	SREG	MREGS	SAVE REGISTERS	EL8.
002061	700040	4133	00	000	1347	RSCR	32,,P.CR	READCLOCK	EL8.
002062	700072	7563	17	000	1348	STQ	.CRCK,7,P.CR		
002063	006145	4766	07	000	1349	LDP	P.SSA,SD.SSA,DL		
002064	100000	2352	03	000	1350	LDA	.RCFLT,DU		
002065	600117	2553	00	000	1351	ORSA	.SRQST,,P.SSA	TURN ON CRITICAL FAULT BIT	
002066	700002	2313	00	000	1352	RSW	2,,P.CR	GET CONFIG	EL8.
002067	100000	3152	07	000	1353	CANA	.FBT20,DL	TEST 8K CACHE	EL8.
002070	001217	6012	00	010	1354	TNZ	ABTP	YES, ABORT PROCESS	EL8.
002071	100000	2352	03	000	1355	LDA	=0100000,DU		
002072	600120	2553	00	000	1356	ORSA	.SPDSR,,P.SSA	INDICATOR OF MEMORY SCAN WITH PROGRAM #	
	002073				1357	.SHUT	.CRDSP,,P.CR	*	
						INHIB	SAVE,ON		
002073	700012	7173	00	000		XED	.CRMPG,,P.CR		
002074	700077	2143	00	000		SZNC	.CRDSP+1,,P.CR		
002075	700014	7173	00	000		XED	.CRMPG+2,,P.CR		
						INHIB	RESTORE		
002076	000003	6306	04	2101	1358	EPPR	P0,**3,\$	CHANGE PROCESSOR PROCESS	
002077	700002	7163	00	000	1359	XEC	.CRCAL,,P.CR		
002100	700011	7103	00	000	1360	TRA	9,,P.CR		
	002101				1361	.OPEN	.CRDSP,,P.CR	*	
						INHIB	SAVE,ON		
002101	700077	7503	00	000		STC2	.CRDSP+1,,P.CR		
002102	700032	7173	00	000		XED	.CROGT,,P.CR		
						INHIB	RESTORE		
002103	006133	4716	07	000	1362	LDP	KLS,SD.KL,DL	LOAD KL DESCRIPTOR	
002104	002260	0732	00	010	1363	LREG	MREGS		
002105	002302	4502	00	010	1364	STZ	SYSD		
002106	002027	7102	00	010	1365	TRA	MSCN10		
					1366 *				
002107	002275	2362	00	010	1367	MSCN4	LDQ	ADDRS	CHECK IF THIS PAGE IS IN HCM
002110	000001	7362	00	000	1368	QLS	1		
002111	002275	0362	00	010	1369	ADLQ	ADDRS		
002112	000001	2353	06	000	1370	LDA	1,QL,P0		
002113	777000	3752	03	000	1371	ANA	=0777000,DU		
002114	001000	1152	03	000	1372	CMPA	=01000,DU		
002115	000002	6012	04	000	1373	TNZ	2,TC		



MEMORY PARITY SCAN

002116	002274	0542	00	010	1374	AOS	SYSAF	IN HCM ... STOP SYSTEM	
002117	002276	2342	00	010	1375	SZN	EILBF		
002120	002125	6012	00	010	1376	TNZ	MSCN5		
002121	002275	2362	00	010	1377	LDO	ADDRS		
002122	000022	7362	00	000	1378	QLS	18	PAGE #	
002123	002276	0542	00	010	1379	AOS	EILBF		
002124	100155	7563	12	000	1380	STQ	.KLDMT,2,KLS	SET DEFECTIVE PAGE #	
002125	100155	0543	12	000	1381	MSCN5	AOS	.KLDMT,2,KLS	SET THE NUMBER OF BLOCK
					1382	*			
					1383	*		TRACE FOR PARITY ERROR	
					1384	*			
002126	002143	6306	00	010	1385	EPPR	PO,RETTR		
002127	002260	7532	00	010	1386	SRFG	MRFGS	SAVE REGISTERS	
002130	100155	2353	12	000	1387	LDA	.KLDMT,2,KLS		
002131	700312	2223	17	000	1388	LDX2	.CRTEP,7,P.CR		
002132	700003	7553	12	000	1389	STA	3,2,P.CR		
002133	000022	7352	00	000	1390	ALS	18		
002134	000001	1352	03	000	1391	SBLA	1,DU		
002135	700003	0553	12	000	1392	ASA	3,2,P.CR	STORE PAGE #	
002136	700003	4453	12	000	1393	SXL5	3,2,P.CR	STORE OFFSET FROM PAGE	
002137	000014	2352	07	000	1394	LDA	.YPAR,DL		
002140	700000	7553	12	000	1395	STA	0,2,P.CR	STORE TRACE TYPE	
	002141				1396	.TRPUT	ASIS	PUT ENTRY	
002141	000003	6202	00	000		EAX0	3		
002142	700052	7173	00	000		XED	.CRTRV+8,,P.CR		
002143	002260	0732	00	010	1397	RETTR	LRFG	MRFGS	RESTORE REGISTERS
002144	002147	7102	00	010	1398	TRA	MSCN7		
					1399	INHTB	OFF		
	002145				1400	MSCN6	NULL		
002145	002276	4500	00	010	1401	STZ	EILBF		
002146	002150	7100	00	010	1402	TRA	MSCN7+1		
	002147				1403	MSCN7	NULL		
002147	000001	6220	12	000	1404	EAX2	1,2		
002150	000004	1020	03	000	1405	CMPX2	4,DU	IS DEFECTIVE MEMORY TABLE FULL	
002151	002163	6000	00	010	1406	TZE	ESCN	YES	
002152	100137	2351	00	000	1407	LDA	.KLMSZ,,KLS	NO	
002153	777777	3750	07	000	1408	ANA	=07777777,DL	ISORATE REAL MEMORT SIZE	
002154	002275	0540	00	010	1409	AOS	ADDRS	ADVANCE PAGE #	
002155	002275	1150	00	010	1410	CMPA	ADDRS	IS THIS PAGE THE LAST	
002156	002163	6000	00	010	1411	TZE	ESCN	YES	
002157	002277	6144	00	010	1412	LDEA	RMS,SUPAD	LOADING THE LOCATION FIELD OF SUPER DESCR	
002160	010000	2350	07	000	1413	LDA	1K*4,DL	AJUST BYTE	
002161	002277	0550	00	010	1414	ASA	SUPAD		
002162	002034	7100	00	010	1415	TRA	MSCN2	NEXT PAGE SCAN	
					1416	INHTB	ON		
	002163				1417	FSCN	NULL		
002163	002302	2342	00	010	1418	SZN	SYS	IS A PROGRAM IN EXECUTION	
002164	002241	6012	00	010	1419	TNZ	STPM	NO	
	002165				1420	OCLIMB		CHANGE TO ORIGINAL PROCESS	
002165	000000713400			000		VFD	18/0,09/713,1/1,1/0,1/0,6/0		

MEMORY PARITY SCAN

002166	000000010000	000		VFD	1/0,9/0,8/0,1/N,1/0,2/0,2/1,12/0	
		002167	1421	MSCNC	NULL	RETURN
002167	600120	6553 00	000	1422	ERSA	.SPDSR,,P.SSA TURN OFF MEMORY SCAN INDICATOR
002170	002301	2342 00	010	1423	SZN	INDEP
002171	002174	6012 00	010	1424	TNZ	MSCN8 FROM EP2 ... IOS
002172	400000	2362 03	000	1425	LDQ	=0400000,DU SET .SWIT FOR SLAVE DUMP
002173	600016	2553 00	000	1426	ORSA	.SWIT,,P.SSA
		002174	1427	MSCN8	NULL	
002174	002274	2342 00	010	1428	SZN	SYSAF
002175	002241	6012 00	010	1429	TNZ	STPM
			1430	*		
			1431	*	SUBROUTINE TO OUTPUT "MEMORY PARITY" CONSOLE MESSAGE	
			1432	*		
002176	100155	2363 00	000	1433	LDQ	.KLDMT,,KLS
002177	002236	6002 00	010	1434	TZE	MSCNOP
002200	002260	7532 00	010	1435	SREG	MREGS
002201	000000	2202 03	000	1436	LDX0	0,DU OFFSET TO BCI SPACE
002202	000000	2212 03	000	1437	LDX1	0,DU OFFSET TO DMT ENTRY
		002203	1438	RTPRT	NULL	
002203	000002	0202 03	000	1439	ADLX0	2,DU ADVANCE OFFSET TO NEXT BCI SPACE
002204	000006	7362 00	000	1440	QLS	6 CONVERT & STORE XXXX PART
002205	002020	2352 07	000	1441	LDA	=3H0 ,DL
002206	002220	7172 00	010	1442	XED	CNBCI
002207	002220	7172 00	010	1443	XED	CNBCI
002210	002220	7172 00	010	1444	XED	CNBCI
002211	002220	7172 00	010	1445	XED	CNBCI
002212	002246	7552 10	010	1446	STA	MESG,0
002213	000006	7362 00	000	1447	QLS	6 CONVERT & STORE YYYY PART
002214	005220	2352 07	000	1448	LDA	=3H0= ,DL
002215	002220	7172 00	010	1449	XED	CNBCI
002216	002220	7172 00	010	1450	XED	CNBCI
002217	002220	7172 00	010	1451	XED	CNBCI
002220	000003	7352 00	000	1452	CNBCI	FALS 3
002221	000003	7372 00	000	1453	LLS	3
002222	002247	7552 10	010	1454	STA	MESG+1,0
002223	000001	0212 03	000	1455	ADLX1	1,DU ADVANCE OFFSET TO NEXT DMT ENTRY
002224	000004	1012 03	000	1456	CMPX1	4,DU
002225	100155	2363 11	000	1457	LDQ	.KLDMT,1,KLS
002226	002203	6012 00	010	1458	TNZ	RTPRT
			1459	*		
002227	002270	6726 00	010	1460	EDMT	LDD P2,CSLMG
002230	000002	0202 03	000	1461	ADLX0	2,DU WORD #
002231	000015	2212 03	000	1462	LDX1	13,DU MASTER CONSOLE #
		002232	1463		.CALL	.MPOPM,1 OUTPUT MESSAGE TO CONSOLE
					INHIB	SAVE,ON
002232	000003	6306 04	2235		EPPRO	*+3,\$
002233	700002	7103 00	000		TRA	.CRCAL,,P.CR
002234	000460	000001	000		ZERO	.MPOPM,1
					INHIB	RESTORE
002235	002260	0732 00	010	1464	LREG	MREGS RESTORE GENERAL REGISTERS

MEMORY PARITY SCAN

002236	002303	2242 00	010	1465	MSCNOP	LDX4	RETSV	RESTORE RET ADDRFS
002237	002273	7502 00	010	1466		STC2	SCNFL	OPEN MEMORY SCAN ROUTINE
002240	002013	7102 00	010	1467		TRA	RETM	
002241	000022	6202 00	000	1468	STPM	EAX0	PAR.F	
002242	001764	4706 07	000	1469		LDP	PO..SSR.DL	
002243	001761	4706 07	000	1470		LDP	PO..CTYP.DL	CHANGE TYPE
002244	000005	7403 00	000	1471		STX0	.WFTYP..PO	
002245	002457	7102 00	010	1472		TRA	STPS10	STOP SYSTEM
002246	442544204721		000	1473	MESG	BCI	4, MEM PARITY	XXXX-YYYY
002247	513163702020		000					
002250	202067676767		000					
002251	527070707020		000					
002252	202067676767		000	1474		BCI	6, XXXX-YYYY XXXX-YYYY XXXX-YYYY	
002253	527070707020		000					
002254	206767676752		000					
002255	707070702020		000					
002256	676767675270		000					
002257	707070202020		000					
		002260		1475	MREGS	8BSS	8	
002270	000011710640		000	1476	CSLMG	VEC	.ISR, MESG, 10, R	
002271	002246001762		010					
002272	000000000000		000	1477	SVPN	DEC	0	
002273	002273 002273		011	1478	SCNFL	ZERO	*,*	MEMORY SCAN PROCEDURE GATE WORD
002274	000000000000		000	1479	SYSAF	DEC	0	SYSTEM ABORT FLAG
002275	000000000000		000	1480	ADDRS	DEC	0	PAGE # BEING SCANNED
002276	000000000000		000	1481	EILBF	DEC	0	ERROR IN THE LAST BLOCK FLAG
002277	000000000000		000	1482	SUPAD	DEC	0	
002300	000000000000		000	1483	ICI	DEC	0	
002301	000000000000		000	1484	INDEP	DEC	0	
002302	000000000000		000	1485	SYSD	DEC	0	
002303	000000000000		000	1486	RETSV	DEC	0	

RECONFIGURATION

					1488							08FW1640
					1489						UNCONFIGURED OR OUT-OF-SERVICE PROCESSOR LOGIC	08FW1650
					1490							08FW1660
002304	006130	4776	07	000	1491	STOP	LDP	P,CR,SD,CR,DL				14FW0500
002305	000002	2312	00	000	1492		RSW	2				14FW0510
002306	000003	3752	07	000	1493		ANA	3,DL		PROC #		14FW0520
002307	006133	4716	07	000	1494		LDP	KLS,SD,KL,DL				14FW0530
002310	000000	6272	05	000	1495		EAX7	0,AL				14FW0540
002311	100107	2343	17	000	1496	WHOA	SZN	.KLINT,7,KLS		WAS IHLR INTERRUPTED		14FW0550
002312	002315	6002	00	010	1497		TZE	DAMP		NO		14FW0560
		002313			1498		OCLIMB			YES, LET IT FINISH		14FW0570
002313	000000713400			000			VFD	18/0,09/713,1/1,1/0,1/0,6/0				
002314	000000010000			000			VFD	1/0,9/0,8/0,1/N,1/0,2/0,2/1,12/0				
					1499 *							14FW0580
					1500		INHIB	OFF				14FW0590
002315	006063	4744	07	000	1501	DAMP	LDP	P4,SD,RMS,DL				14FW0600
002316	700100	2201	17	000	1502		LDX0	.CRCMC,7,P,CR				14FW0610
002317	040000	3000	03	000	1503		CANX0	.FRT3,DU		IS PROCESSOR DYING		14FW0620
002320	002572	6000	00	010	1504		TZE	DIS		NO, IT'S DEAD		14FW0630
002321	417777	3600	03	000	1505		ANX0	=0417777,DU		YES, KILL IT		14FW0640
002322	700100	7401	17	000	1506		STX0	.CRCMC,7,P,CR				14FW0650
002323	006042	4704	07	000	1507		LDP	P0,SD,PRQ,DL				14FW0660
002324	462626	2360	03	000	1508		LDQ	=3HOFF,DU				14FW0670
002325	000013	7561	17	000	1509		STQ	D,CPU,7,P0		SET DSPQ WORD		14FW0680
					1510		INHIB	ON				14FW0690
		002326			1511		.SHUT	.CRXPC,,P,CR				14FW0700
							INHIB	SAVE,ON				
002326	700012	7173	00	000			XED	.CRMPG,,P,CR				
002327	700204	2143	00	000			SZNC	.CRXPC+1,,P,CR				
002330	700014	7173	00	000			XED	.CRMPG+2,,P,CR				
							INHIB	RESTORE				
002331	400001	3352	07	000	1512		LCA	.FRT18+1,DL				14FW0710
002332	700203	3553	00	000	1513		ANSA	.CRXPC,,P,CR		RESET RECONFIG FLAG		14FW0720
		002333			1514		.OPEN	.CRXPC,,P,CR				14FW0730
							INHIB	SAVE,ON				
002333	700204	7503	00	000			STC2	.CRXPC+1,,P,CR				
002334	700032	7173	00	000			XFD	.CROGT,,P,CR				
							INHIB	RESTORE				
					1515		INHIB	OFF				14FW0740
002335	100042	2371	00	000	1516		LDAQ	.KLM5K,,KLS				23FW1270
002336	100032	7571	00	000	1517		STAQ	.KLMCM,,KLS		SET MASKS		14FW0760
002337	100014	2371	00	000	1518		LDAQ	.KLINH,,KLS				EL9.
002340	400000	5531	00	000	1519		SMCM	0,,P4		MASK INTERRUPTS		EL9.
002341	002570	7100	00	010	1520		TRA	PARK				EL9.
					1521 *							14FW0810
					1522		INHIB	ON				14FW0820
					1523 *							14FW0830
002342	002572	6002	00	010	1524	PINIT	TZE	DIS		NOT CONFIGURED, PARK IT		14FW0100
002343	700100	2363	05	000	1525		LDQ	.CRCMC,AL,P,CR		IS RLSEP ACTIVE		14FW0110
002344	040000	3162	03	000	1526		CANQ	.FRT3,DU		AT THIS TIME		14FW0120

## R E C O N F I G U R A T I O N

002345	002311	6012	00	010	1527	TNZ	WHO A	YES, PARK PROCESSOR	14FW0130
002346	020000	3162	03	000	1528	CANQ	.FBT4,DU	IS IT RETURNING TO SERVICE	14FW0140
002347	002572	6002	00	010	1529	TZE	DIS	NO, STOP PROCESSING	14FW0150
002350	000000	6272	05	000	1530	EAX7	0,AL	YES, SET PROCESSOR #	08FW1720
002351	014001	3202	03	000	1531	LCX0	.FBT5+,.FBT6+1,DU		EL7.
002352	700100	3403	17	000	1532	ANSX0	.CRCMC,7,P,CR	CLEAR PROCESSOR TYPE	EL7.
002353	700521	2363	00	000	1533	LDO	.CRFIG,,P,CR	GET CONFIG WORD	EL7.
002354	700002	2313	00	000	1534	RSW	2,,P,CR	READ PROCESSOR CONFIG	EL7.
002355	030000	3752	03	000	1535	ANA	.FBT4+,.FBT5,DU	GET PROCESSOR TYPE	EL7.
002356	000001	7712	00	000	1536	ARL	1		EL7.
002357	700100	2553	17	000	1537	ORSA	.CRCMC,7,P,CR	UPDATE PROCESSOR TYPE	EL7.
002360	004000	1152	03	000	1538	CMPA	.FBT6,DU	IS IT DPS-E	EL7.
002361	002365	6012	00	010	1539	TNZ	NOTE	NO	EL7.
002362	200000	3162	07	000	1540	CANQ	.FDPSE,DL	YES, IS DPS-E ALLOWED	EL7.
002363	002372	6012	00	010	1541	TNZ	PTOK	YES	EL7.
002364	002367	7102	00	010	1542	TRA	NOTE+2	NO	EL7.
					1543				EL7.
002365	000200	3162	07	000	1544	NOTE	CANQ	.FHEX,DL	IS HEX MODE SET
002366	002372	6002	00	010	1545	TZE	PTOK	NO	EL7.
002367	020001	3202	03	000	1546	LCX0	.FBT4+1,DU	YES, CAN'T ASSIGN PROCESSOR	EL7.
002370	700100	3403	17	000	1547	ANSX0	.CRCMC,7,P,CR	RESET ASSIGN FLAG	EL7.
002371	002572	7102	00	010	1548	TRA	DIS	& PARK PROCESSOR	EL7.
	002372				1549	PTOK	NULL		EL7.
					1550			INITIALIZE CACHE	08FW1730
002372	006063	4706	07	000	1551	LDP	PO,SD,RMS,DL		14FW1080
002373	000005	2363	00	000	1552	LDO	SD.PTD*2-SD.SLS*2+1,,PO		14FW1090
002374	000012	7362	00	000	1553	QLS	10		14FW1100
002375	005052	7562	00	010	1554	STQ	AQSAV		14FW1110
002376	005052	1716	00	010	1555	LPDBR	AQSAV		14FW1120
002377	003330	6742	04	010	1556	LCPR	NMODE,04		08FW1740
002400	700546	7163	17	000	1557	XEC	.CRCSH,7,P,CR		08FW1750
002401	700566	6743	02	000	1558	LCPR	.CRLUF,02,P,CR		08FW1760
002402	000100	4522	01	010	1559	SCPR	RGSV0,01		08FW1770
002403	700546	7163	17	000	1560	XFC	.CRCSH,7,P,CR		08FW1780
002404	000000	5326	00	000	1561	CAMP		CLEAR ASSOCIATIVE MEMORY	08FW1790
002405	000000	0116	00	000	1562	CCAC		AND CACHE	08FW1800
002406	006024	4706	07	000	1563	LDP	PO,SD,PID,DL		08FW1810
002407	204000	1726	07	000	1564	LDO	=0204000,DL	ENABLE S/S & CACHE	08FW1820
002410	100016	7737	37	000	1565	LDSS	.KIKPS,7*,KLS	SET S/S FOR PROCESSOR PROCESS	08FW1830
002411	000004	7727	00	000	1566	LDWS	4,,PO	LOAD WSR 0-3	08FW1840
002412	000005	7727	00	000	1567	LDWS	5,,PO	& 4-7	08FW1850
002413	700271	7213	00	000	1568	LXL1	.CRNPC,,P,CR		08FW1880
002414	000003	6046	04	000	1569	TMOZ	3,IC	WOOPS	08FW1890
002415	000001	1212	03	000	1570	SRLX1	1,DU	REDUCE UNAVAILABLE PROCESSOR CT	08FW1910
002416	700271	4413	00	000	1571	SXL1	.CRNPC,,P,CR		08FW1920
	002417				1572	.SHUT	.CRXPC,,P,CR		10FW0080
						INHIB	SAVE,ON		
002417	700012	7173	00	000		XED	.CRMPG,,P,CR		
002420	700204	2143	00	000		SZNC	.CRXPC+1,,P,CR		
002421	700014	7173	00	000		XED	.CRMPG+2,,P,CR		

RECONFIGURATION

							INHIB	RESTORE	
002422	700100	2203	17	000	1573		LDX0	.CRCMC,7,P.CR	08FW1922
002423	017777	3602	03	000	1574		ANX0	=017777,DU	14FW1140
002424	000000	6352	17	000	1575		EAA	0,7	08FW1930
002425	616000	2752	07	000	1576		ORA	=0616000,DL	08FW1940
002426	100013	7553	17	000	1577		STA	D.CPU,7,PI	08FW1950
002427	700100	7403	17	000	1578		STX0	.CRCMC,7,P.CR	10FW0100
		002430			1579		.OPEN	.CRXPC,,P.CR	08FW1957
							INHIB	SAVE,ON	
002430	700204	7503	00	000			STC2	.CRXPC+1,,P.CR	
002431	700032	7173	00	000			XED	.CROGT,,P.CR	
		002432			1580		INHIB	RESTORE	
							OCLIMB	AND AWAY WE GO	08FW1960
002432	000000	713400		000			VFD	18/0,09/713,1/1,1/0,1/0,6/0	
002433	000000	010000		000			VFD	1/0,9/0,8/0,1/N,1/0,2/0,2/1,12/0	
					1581 *				08FW1970

SYSTEM DISASTER - DUMP

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1583 *
1584 * ROUTINE TO STOP ALL PROCESSOR AND TAKE A DUMP
1585 * WHEN A SYSTEM DISASTER OCCURS. THE PROCESSORS
1586 * EXCEPT FOR CONTROL PROCESSOR PUT INTO DIS STATE.
1587 * A CONTROL PROCESSOR GOES TO .MDUMP TO TAKE A DUMP.
1588 * THIS ROUTINE PAASES THE INFORMATIONS AT DISASTER TO
1589 * .MDUMP MODULE
1590 *
1591 * P4 = ***** SSR
1592 * ** DSDR
1593 * ** WSRs
1594 * ** OPTION REGISTER
1595 * **
1596 *
1597 * X1 = FAULTED PROCESSOR #
1598 *
002434 7777777777 000 1599 DNGAT DEC -1 GATE WORD
002435 011610000000 000 1600 DLYTM VFD 24/64*5*1000.12/0 TIMER VALUE OF 5 SECONDS
002436 000000000000 000 1601 DEC 0 TIMER STORAGE
1602
002437 000002 6202 00 000 1603 ROOTP EAX0 2
002440 002626 7402 00 010 1604 STX0 IF2+1 SET UP FOR ENTRY POINT 2
002441 002463 7102 00 010 1605 TRA STPSTM+1
1606 *
002442 777777 6202 00 000 1607 SYSDN EAX0 -1
002443 002463 7102 00 010 1608 TRA STPSTM+1
1609 *
002444 000000000000 000 1610 INDCA DEC 0
1611 ***
002445 002460 7022 00 010 1612 STPSF TSX2 INDIF EXECUTE FAULT
002446 002460 7022 00 010 1613 STPS1 TSX2 INDIF BY DOUBLE SHUT OR OPTION 0 SPECIFIED
002447 002460 7022 00 010 1614 STPS2 TSX2 INDIF S/S OVERFLOW NOT IN EXECUTION
002450 002460 7022 00 010 1615 STPS3 TSX2 INDIF FAULT OCCURS EXCEPT FOR TRO, CON, OR PAR
1616 NOT IN EXECUTION
002451 002460 7022 00 010 1617 STPS4 TSX2 INDIF PARITY FAULT NOT IN EXECUTION
002452 002460 7022 00 010 1618 STPS5 TSX2 INDIF ONE MORE INITIAL CONNECT IS ISSUED
002453 002460 7022 00 010 1619 STPS6 TSX2 INDIF ZOP OCCURS IN SSA
002454 002460 7022 00 010 1620 STPS7 TSX2 INDIF WHEN A FAULT OCCURS AND THAT PROCESS IS
1621 ABORTED, GATES ARE SHUTED
002455 002460 7022 00 010 1622 STPS8 TSX2 INDIF IPR OCCURS IN HCM SPACE
002456 002460 7022 00 010 1623 STPS9 TSX2 INDIF DIVIDE CHECK OCCURS IN HCM SPACE
002457 002460 7022 00 010 1624 STPS10 TSX2 INDIF DISASTER IN PARITY SCAN ROUTINE
1625 ***
002460 777777 6222 12 000 1626 INDIF EAX2 -1,2
002461 002444 7422 00 010 1627 STX2 INDCA
1628 *
002462 000000 6202 00 000 1629 STPSTM EAX0 0
002463 002434 2142 00 010 1630 SZNC DNGAT SHUT PROCEDURE GATE
002464 000003 6012 04 000 1631 TNZ 3,IC
002465 070707 6162 03 000 1632 DIS =070707,DU ONLY ONE AT A TIME

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SYSTEM DISASTER - DUMP

002466	777777	7102	04	000	1633	TRA	-1,IC			
002467	002633	7472	00	010	1634	STX7	PRON	PROCESSOR #		
002470	000150	7242	17	010	1635	LXL4	POINT,7			
002471	001764	4706	07	000	1636	LDP	P0,,SSR,DL		EL8.	
002472	001761	4706	07	000	1637	LDP	P0,,CTYP,DL		EL8.	
002473	000004	2223	00	000	1638	LDX2	.WICI,,PO	GET FAULTING IC	EL8.	
002474	002444	4422	00	010	1639	SXL2	INDCA	SAVE IT	EL8.	
002475	006014	4756	07	000	1640	LDP	P5,SD,INT,DL	PASS INTERRUPT VECTOR TO .MDUMP		
002476	006063	4706	07	000	1641	LDP	P0,SD,RMS,DL		14FW1170	
002477	000016	6232	00	000	1642	EAX3	14	.MIOS,14	DPSE1570	
002500	000030	7433	00	000	1643	STX3	24,,PO	MAKE INTERRUPT VECTOR OCLIMB	14FW1190	
002501	000264	0557	00	000	1644	STD	P5,SD,IVC*2-SD,SLS*2,,PO	SAVE INTERRUPT VECTOR	EL9.	
002502	000000	6352	17	000	1645	EAA	0,7	PROCESSOR #		
002503	000000	6232	10	000	1646	EAX3	0,0	TRANSFER IF		
002504	000002	6052	04	000	1647	TPL	2,IC	FAULT		
002505	400000	2752	03	000	1648	ORA	=0400000,DU			
002506	000000	6212	01	000	1649	EAX1	0,AU			
002507	002633	4412	00	010	1650	SXL1	PRON	FAULTED PROCESSOR #		
					1651					
002510	002530	6352	00	010	1652	EAA	SNDPR	MAKE CONNECT FAULTS		
002511	710200	2752	07	000	1653	ORA	=0710200,DL	GO TO SNDPR		
002512	777777	2362	07	000	1654	LDQ	-1,DL		EL8.	
002513	006133	4716	07	000	1655	LDP	KLS,SD,KL,DL	KL SEGMENT	EL8.	
002514	100000	7573	00	000	1656	STAQ	.KLCAC,,KLS		EL8.	
002515	100002	7573	00	000	1657	STAQ	.KLCAC+2,,KLS	SET CACHE CLEAR	EL8.	
002516	000631	7552	00	010	1658	STA	CIOCX		EL8.	
002517	000000	6232	00	000	1659	EAX3	0			
		002520			1660	CIOC	NULL			
002520	002633	1032	00	010	1661	CMPX3	PRON	IS THIS THE FAULTING PROCESSOR		
002521	000004	6002	04	000	1662	TZF	4,IC	YES, NO CIOC	14FW0170	
002522	700100	2343	13	000	1663	SZN	.CRCMC,3,P.CR	IS PROCESSOR ACTIVE	14FW0180	
002523	000002	6046	04	000	1664	TMOZ	2,IC	NO, NO CIOC	14FW0190	
002524	700100	0153	13	000	1665	CIOC	.CRCMC,3,P.CR	FORCE CONNECT FAULT		
002525	000001	0232	03	000	1666	ADLX3	1,DU			
002526	700271	1033	00	000	1667	CMPX3	.CRNPC,,P.CR	HAVE ALL PROCESSORS FAULT VECTORS		
002527	002520	6012	00	010	1668	TNZ	CIOC	NO		
					1669	*				
					1670	*	CONNECT FAULT SENDS ALL PROCESSORS HERE			
					1671	*				
					1672		INHIB OFF		14FW1050	
		002530			1673	SNDPR	NULL			
002530	006063	4744	07	000	1674	LDP	P4,SD,RMS,DL			
002531	000002	2310	00	000	1675	RSW	2	READ PROCESSOR #	09FW2600	
002532	000000	6270	05	000	1676	EAX7	0,AL			
002533	000003	3670	03	000	1677	ANX7	3,DU	EXTRACT PROCESSOR #		
002534	000144	7550	17	010	1678	STA	RSWA2,7	SAVE RSW 2		
002535	000001	2310	00	000	1679	RSW	1			
002536	000140	7550	17	010	1680	STA	RSWA1,7	SAVE RSW 1		
002537	006151	4704	07	000	1681	LDP	P0,SD,HDP,DL			
002540	000000	4521	06	000	1682	SCPR	0,06,PO	SAVE CACHE CONTROL	EL8.	



SYSTEM DISASTER - DUMP

002541	000150	2230	17	010	1683	LDX3	POINT,7		
002542	000100	7534	13	010	1684	STSS	SREGS,3	SAVE SSR	
002543	000102	5514	13	010	1685	STDS	SREGS+2,3	SAVE DSDR	
002544	000104	7524	13	010	1686	STWS	SREGS+4,3		FALT2200
002545	000105	7524	13	010	1687	STWS	SREGS+5,3		FALT2210
002546	000106	1524	13	010	1688	STO	SREGS+6,3	SAVE OPTION REGISTER	
002547	000107	1514	13	010	1689	SPDBR	SREGS+7,3	SAVE PAGE TABLE DIRECTORY BASE REGISTER	
002550	006130	4774	07	000	1690	LDP	P,CR,SD,CR,DL		
002551	006133	4714	07	000	1691	LDP	KLS,SD,KL,DL		FALT0200
002552	700566	6741	02	000	1692	LCPR	.CRLUF,02,P,CR	RESET CONTROL BITS TO LOCK CACHE	
002553	100014	2371	00	000	1693	LDAQ	.KLINH,,KLS		EL9.
002554	400000	5531	00	000	1694	SMCM	0,,P4	MASK INTERRUPTS	EL9.
002555	000000	1070	03	000	1695	CMPX7	0,DU	IS THIS PROC 0	14FW0310
002556	002564	6000	00	010	1696	TZE	PZERO	YES	14FW0320
002557	000000	6210	00	000	1697	EAX1	0	NO	14FW0330
002560	000000011007			000					
002561	051600	5602	00	000	1698	RPD	20,0	LET PROC 0 PASS	14FW0340
002562	000000	7740	11	000	1699	GTB	0,1		14FW0350
002563	000000	7740	11	000	1700	GTB	0,1		14FW0360
002564	002574	2140	00	010	1701	PZERO SZNC	DGATE	ARE WE FIRST	14FW0370
002565	002570	6000	00	010	1702	TZE	PARK	NO	14FW0380
002566	002626	2200	00	010	1703	LDX0	IF2+1	GET DUMP EP#	EL9.
002567	002575	7100	00	010	1704	TRA	TLOOP	YES	14FW0390
					1705	INHIB	ON		14FW0410
	002570				1706	FOUR			14FW0420
002570	004000	1726	07	000	1707	PARK LDO	=04000,DL	NO S/S USE	EL9.
002571	002632	7726	00	010	1708	LDWS	ZEROE	CLEAR WSR 0-3	EL9.
002572	716161	6162	07	000	1709	DIS	=0716161,DL	PARK IT	EL9.
002573	002572	7102	00	010	1710	TRA	DIS		EL9.
					1711	INHIB	OFF		14FW0460
002574	777777777777			000	1712	DGATE DEC	-1		14FW0470
					1713	*			FALT0249
					1714	*			
002575	002435	6370	00	010	1715	TLOOP LDT	DLYTM	NOW WAIT FOR 5 SECONDS	
002576	002436	4540	00	010	1716	STT	DLYTM+1	HAS 5 SECONDS GONE BY	
002577	002436	2340	00	010	1717	SZN	DLYTM+1	IF TIMER STILL PLUS IT HASNT	
002600	002576	6050	00	010	1718	TPL	TLOOP+1	BACK TO WAIT SOME MORE	
002601	000002	6600	03	000	1719	ERX0	2,DU	IS THIS DUMP EP2	EL9.
002602	002575	6000	00	010	1720	TZE	TLOOP	YES, WAIT AGAIN	EL9.
002603	100032	2371	00	000	1721	LDAQ	.KLMCM,,KLS		14FW1240
002604	400000	5531	00	000	1722	SMCM	0,,P4	ALLOW INTERRUPTS	04FW1040
					1723	***			
002605	400010	4131	00	000	1724	RSCR	CFG,,P4	READ CONFIG	FALT0410
002606	002640	3750	00	010	1725	ANA	=0777777777	MASK PROCESSORS	04FW1130
002607	002436	7550	00	010	1726	STA	DLYTM+1		FALT0430
002610	700100	7231	17	000	1727	LXL3	.CRCMC,7,P,CR	PROCESSOR PORT #	04FW1150
002611	000077	3630	03	000	1728	ANX3	=077,DU		14FW1260
002612	400000	2350	03	000	1729	LDA	.FRTO,DU	BIT 0	FALT0450
002613	000000	7710	13	000	1730	ARL	0,3	ALIGN IT	FALT0460
002614	002436	2750	00	010	1731	ORA	DLYTM+1		FALT0470

SYSTEM DISASTER - DUMP

002615	400010	0571	00	000	1732	SSCR	CFG,,P4	INTERRUPT ONLY CTL PROC	FALT0480
002616	006132	4754	07	000	1733	LDP	P5,SD,IVC,DL	GET INTERRUPT VECTOR FOR DUMP	EL9.
002617	006134	4724	07	000	1734	LDP	P2,SD,MDD,DL		04FW0890
002620	200001	7211	00	000	1735	LXL1	.MDUMP,,P2	.MDUMP SEGID	04FW0900
002621	002625	7410	00	010	1736	STX1	IF2		04FW0910
002622	002630	6724	00	010	1737	LDD	P2,DISVC	GET DESCRIPTOR OF DATA FOR .MDUMP	
002623	002633	7210	00	010	1738	LXL1	PRON	FAULTING PROCESSOR #	
002624	002444	7220	00	010	1739	LXL2	INDCA	FAULTING IC	EL8.
002625	000000	4704	07	000	1740	IF2	LDP	P0,**,DL	ENTRY FOR .MDUMP
002626	000003	7101	00	000	1741	TRA	3,,P0	ENTRY POINT 3	
002627	000000011007			000					
002630	000047710640			000	1742	DISVC	EVEC	.ISR,SREG5,40,R	
002631	000100001762			010					
002632	000000	000000		000	1743	ZEROF	EZERO	WSR 0-3 REAL	FALT2270
002633	0000000000000			000	1744	PRON	DEC	0	
					1745	LIT			
002634	002605000166			000					
002635	007777777777			000					
002636	002607000163			000					
002637	500000620300			000					
002640	000777777777			000					

HISTORY REGISTER DUMP

1747 \*  
 1748 \* ROUTINE TO DUMP AND WRITE HISTORY REGISTERS  
 1749 \*  
 1750 \* THE FOLLOWING FAULTS ARE DUMPED  
 1751 \*  
 1752 \* COMMAND, LOCKUP, PARITY, IPR, ONC, STORE(MEMORY),  
 1753 \* AND NEW FAULTS  
 1754 \*  
 1755 \*  
 1756 \* MODE REGISTER BITS USED BY .MFALT  
 1757 \*  
 1758 \* 30 = 1 = STORBE BY HARDWARE  
 1759 \* 30 = 0 = HISTORY REGISTERS LOCKED  
 1760 \*  
 1761 \* 31 = 1 = ALL SERIOUS FAULTS LOCK HISTORY REGISTERS  
 1762 \* 31 = 0 = ONLY ONC FAULT LOCKS HISTORY REGISTERS  
 1763 \*  
 1764 \* 35 = 1 USE MODE REGISTER  
 1765 \* 35 = 0 = HARDWARE IS IGNORING MODE REGISTER  
 1766 \*  
 1767 \*

	000000	1768	HBO	EQU	0			
	000002	1769	INST	EQU	2	FAULTED INSTRUCTION		
	000001	1770	FLAG	EQU	1	PROG#, BUFF STAT. & FLT CODE	FALT	
	000003	1771	SEQ	EQU	3	SEQUENCE NUMBER		
	000004	1772	HTIME	EQU	4	TIME OF DAY		
	000005	1773	PFLAG	EQU	5	PARITY FLAG WORD		
	000006	1774	PDLOG	EQU	6	PARITY DATA WORDS		
	000010	1775	MODE	EQU	8	MODE REGISTER		
	000012	1776	SNUMR	EQU	10	SNUMB		
	000013	1777	RSW1	EQU	11	CONFIG. SWITCHES		
	000014	1778	RSW2	EQU	12	PROCESSOR TYPE SWITCHES.ETC.		
	000015	1779	DATE	EQU	13	DATE		
	000016	1780	FAULT	EQU	14	FAULT REGISTER		
	000020	1781	SSFRM	EQU	16	START OF S/S FRAM		
	000024	1782	HICI	EQU	20	IC AND INDICATOR		
	000040	1783	ADREG	EQU	32	ADDRESS REGISTERS		
	000100	1784	PAL	EQU	64	POINTER AND LENGTH		
	000120	1785	CUHR	EQU	80	C.U. HISTORY REGISTERS		
	000160	1786	OUHR	EQU	112	O.U. HISTORY REGISTERS		
	000220	1787	DUHR	EQU	144	D.U. HISTORY REGISTERS		
	000260	1788	VUHR	EQU	176	V.U. HISTORY REGISTERS	FALT	
	000320	1789	HRBSZ	EQU	208		DPSE0060	
002641	000320	000000	000	1790	HRBSZ	STANDARD BUFFER SIZE	DPSE0070	
	000730	1791	LBFSZ	EQU	472	DPSE BUFFER SIZE	DPSE0080	
	000420	1792	EAULT	EQU	208+64	DPSE SCPR ORG	DPSE0090	
	000220	1793	SBUFSZ	EQU	144	600S BUFFER SIZE	28FW0190	
		1794	INHIB	ON			DPSE1480	
		1795					EL8.	
002642	003337	6232	00 010	1796	DLY	EAX3 HSHUTG		

HISTORY REGISTER DUMP

002643	024240	5202	00	000	1797	RPT	10,0,TNZ		
002644	000000	1072	13	000	1798	CMPX7	0,3	WHO SHUT GATE WITH DELAY	
002645	002651	6002	00	010	1799	TZE	HSR	WE DID, SO GO ON	
002646	003340	2142	00	010	1800	HSTR	SZNC	HSTGT	SHUT GATE
002647	002642	6002	00	010	1801	TZE	DLY	GATE IS ALREADY SHUT	
002650	003337	7472	00	010	1802	STX7	HSHTG		
002651	003330	0342	00	010	1803	HSR	LDAC	NMODE	CLEAR BLOCK
002652	003330	4522	06	010	1804	SCPR	NMODE,06	PRESENT MODE REGISTER	09FW2620
002653	300076	4523	01	000	1805	SCPR	.WPFR,01,P,SSR	STORE FAULT REGISTER	09FW2630
002654	003330	7222	00	010	1806	LXL2	NMODE	BIT 30 = 1 MEANS STROBE REGISTERS	
002655	000040	3022	03	000	1807	CANX2	=040,DU	ARE HISTORY REGISTERS LOCKUP	
002656	003006	6012	00	010	1808	TNZ	HOGRT	(0, RETURN	
002657	000001	3022	03	000	1809	CANX2	1,DU	IF BIT 35 IS ZERO THEN MODE	
002660	003006	6002	00	010	1810	TZE	HOGRT	* REGISTER IS NOT BEING USED	
002661	000050	1012	03	000	1811	CMPX1	MPG,F,DU	MISSING PAGE FAULT	
002662	002674	6002	00	010	1812	TZE	HAB2	YES	
002663	000077	3012	03	000	1813	CANX1	=077,DU	TEST VALID FAULT CODE	EL8.
002664	003002	6002	00	010	1814	TZE	HUNH	NO, SKIP HREGS	EL8.
002665	700565	2353	00	000	1815	LDA	.CRLGR,,P,CR	FETCH HEALS ENABLE REQUEST	
002666	100175	7553	00	000	1816	STA	.KILOG,,KLS	PASS IT TO DISPATCHER	
002667	700354	2353	17	000	1817	LDA	.CRCSC,7,P,CR	DONT CACHE ENABLE IF HEALS IS IN EXEC	
002670	700546	7553	17	000	1818	STA	.CRCSH,7,P,CR		
002671	006151	4706	07	000	1819	LDP	PO,SD,HDP,DL		
002672	000000	4523	06	000	1820	SCPR	0,06,PO	SAVE CACHE CONTROL	EL8.
		002673			1821	SI3	NULL	IF 600S, NEXT INSTRUCTION IS SCPR EFTRG,03	
002673	000000	0112	00	000	1822	NOF			EL9.
		002674			1823	HAB2	NULL		
002674	100044	7263	17	000	1824	LXL6	.KLPRG,7,KLS	IS SUBDISPATCH ACTIVE	FALT0150
002675	003002	6012	00	010	1825	TNZ	HUNH	YES, NO HREGS	FALT0160
002676	100044	2263	17	000	1826	LDX6	.KLPRG,7,KLS	IS A PROCESS RUNNING	FALT2290
002677	002751	6002	00	010	1827	TZE	HRNP	NO	
002700	006204	4706	07	000	1828	LDP	PO,SD,PSH,DL		
002701	000006	6727	00	000	1829	LDD	SP,PH,SPX,,PO		
002702	006145	4766	07	000	1830	LDP	P,SSA,SD,SSA,DL		
002703	000050	1012	03	000	1831	CMPX1	MPG,F,DU	MISSING PAGE FAULT	
002704	002751	6002	00	010	1832	TZE	HRNP	YES	
002705	300010	7203	00	000	1833	LXL0	.WISR,,P,SSR		
002706	000160	3002	03	000	1834	CANX0	=0160,DU		
002707	002751	6002	00	010	1835	TZE	HRNP	HCM WORKING SPACE	
002710	001456	7172	00	010	1836	XED	CHKMD		
002711	002730	6002	00	010	1837	TZE	NCHK	NATIVE PROCESS	
002712	200026	2203	00	000	1838	LDX0	.XLDR3,,SP		
002713	000001	1002	03	000	1839	CMPX0	1,DU	IF = 1, THEN USER EXCEPT FAULT	
002714	003002	6002	00	010	1840	TZE	HUNH	RETURN	
002715	000000	6202	10	000	1841	EAX0	0,0		
002716	002751	6012	00	010	1842	TNZ	HRNP	USER WANTS HISTORY REGISTERS	
002717	600120	2203	00	000	1843	LDX0	.SPDSR,,P,SSA	IF FAULT GIT ON, THEN	
002720	400000	3002	03	000	1844	CANX0	=0400000,DU	MANY FAULTS, SO GET OUT OF HERE QUICK	
002721	003002	6012	00	010	1845	TNZ	HUNH	MANY FAULTS, RETURN	
002722	200001	2353	00	000	1846	LDA	.XZPFV,,SP	IPR VECTOR	

HISTORY REGISTER DUMP

002723	000200	3152	07	000	1847	CANA	=0200,DL		
002724	002751	6002	00	010	1848	TZE	HRNP	XFER IF IPR VECTOR INHIBIT BIT NOT SET	
002725	000024	1012	03	000	1849	CMPX1	IPR,F,DU		
002726	003002	6002	00	010	1850	TZE	HUNH	XFER IF INHIBIT BIT ON AND IPR FAULT	
002727	002751	7102	00	010	1851	TRA	HRNP	USER DOES NOT WANT HISTORY REGISTERS	
					1852 *		NATIVE PROCESS		
002730	200026	2253	00	000	1853	NCHK	LDX5	.XLDR3,,SP	
002731	000001	3052	03	000	1854	CANX5	1,DU	IF = 1, THEN USER EXPECTS FAULT	
002732	003002	6012	00	010	1855	TNZ	HUNH	NOT RETRY, RETURN	
002733	400000	2202	03	000	1856	LDX0	.FBT0,DU		EL8.
002734	600120	3003	00	000	1857	CANX0	.SPDSR,,P.SSA	TEST MULTI-FAULTS	EL8.
002735	003002	6012	00	010	1858	TNZ	HUNH	YES	EL8.
002736	006063	4756	07	000	1859	LDP	EPD,SD,RMS,DL		EL8.
002737	500324	2353	00	000	1860	LDA	SD.EPD*2-SD.SLS*2,,EPD	TEST SD.EPD SEGMENT	EL8.
002740	003002	6002	00	010	1861	TZE	HUNH	INVALID	EL8.
002741	006152	4756	07	000	1862	LDP	EPD,SD,EPD,DL	EPEDS DESCRIPTOR	
002742	001761	4756	07	000	1863	LDP	EPD,.CTYP,DL	CHANGE TYPE	
002743	500036	2353	00	000	1864	LDA	.EHRDS,,EPD		
002744	002751	6012	00	010	1865	TNZ	HRNP	USER WANTS HISTORY REGISTERS	
002745	000002	3052	03	000	1866	CANX5	2,DU		
002746	002751	6002	00	010	1867	TZE	HRNP		
002747	000024	1012	03	000	1868	CMPX1	IPR,F,DU		
002750	003002	6002	00	010	1869	TZE	HUNH	TRANSFER IF .SPDSR BIT 18 ON AND IPR FLT	
					1870 *				
		002751			1871	HRNP	NULL		
002751	006151	4746	07	000	1872	LDP	P4,SD,HDP,DL	HISTORY REGISTERS DUNP SEGMENT	
002752	000010	6232	00	000	1873	EAX3	8	OFFSET	
002753	000001	3352	07	000	1874	LCA	1,DL	ALL ONES	
002754	400001	3153	13	000	1875	HLP	CANA	FLAG,3,P4	
002755	003013	6002	00	010	1876	TZE	HAB	USE THIS BUFFER	
002756	002641	0232	00	010	1877	ADLX3	HBFSZ	NEXT BUFFER	DPSE0110
002757	000000	1032	03	000	1878	IF4	CMPX3	**DU	END OF BUFFER
002760	002754	6012	00	010	1879	TNZ	HLP	LOOP SOME MORE	
002761	000010	6232	00	000	1880	LOKFR	EAX3	8	
002762	003417	2352	00	010	1881	LDA	=0777000107400	ELIGIBLE , RETRY COUNT, RETRY OVERFLOW	
002763	400001	3153	13	000	1882	HLP1	CANA	FLAG,3,P4	
002764	003011	6012	00	010	1883	TNZ	MHAB	TAKE THIS BUFFER UNLESS RETRY ACTIVE	
002765	002641	0232	00	010	1884	ADLX3	HBFSZ	NEXT BUFFER	DPSE0130
002766	000000	1032	03	000	1885	IF5	CMPX3	**DU	END OF BUFFERS
002767	002763	6012	00	010	1886	TNZ	HLP1	LOOK SOME MORE	
002770	000010	6232	00	000	1887	EAX3	8	MARK ALL NON RETRY BUFFERS AS ELIGIGLE	
002771	400001	7203	13	000	1888	HLP2	LXL0	FLAG,3,P4	
002772	000003	6042	04	000	1889	TMI	3,IC	RETRY ACTIVE ON THIS ONE	
002773	100000	2352	07	000	1890	LDA	=0100000,DL	ELIGIBLE BIT	
002774	400001	2553	13	000	1891	ORSA	FLAG,3,P4		
002775	002641	0232	00	010	1892	ADLX3	HBFSZ	NEXT BUFFER	DPSE0150
002776	000000	1032	03	000	1893	IF6	CMPX3	**DU	END OF BUFFER
002777	002771	6012	00	010	1894	TNZ	HLP2		
003000	100000	1152	07	000	1895	CMPA	=0100000,DL	DID WE FIND A BUFFER TO USE	
003001	002761	6002	00	010	1896	TZE	LOKFR	YES,GO GET IT	

HISTORY REGISTER DUMP

003002	000040	2352	07	000	1897	HUNH	LDA	=040,DL		
003003	003330	2552	00	010	1898		ORSA	NMODE		
003004	700546	7163	17	000	1899		XEC	.CRCSH,7,P.CR	ENABLE CACHE IF ACTIVE	
003005	003330	6742	04	010	1900		LCPR	NMODE,04	TURN ON STROBE	
003006	003340	7502	00	010	1901	HOGRT	STC2	HSTGT	OPEN GATE	
003007	000001	6252	00	000	1902		EAX5	1	NOT RETRYABLE INDICATOR	
003010	000000	7102	14	000	1903		TRA	0,4	RETURN	FALT2090
003011	400001	7203	13	000	1904	MHAB	LXL0	FLAG,3,P4	IS RETRY ACTIVE	
003012	002765	6042	00	010	1905		TMI	HLP1+2	YES, SO DONT TOUCH IT	
003013	000000	6352	16	000	1906	HAB	EAA	0,6	FOUND BUFFER USE IT	
003014	600000	2752	07	000	1907		ORA	=0600000,DL	MARK IT BUSY AND RETRY	
003015	400001	7553	13	000	1908		STA	FLAG,3,P4	WITH PROGRAM NUMBER IN UPPER	
003016	000154	2362	11	010	1909		LDQ	FVEC,1		EL8.
003017	000036	7722	00	000	1910		QRL	30	FAULT CODE	EL8.
003020	400001	2563	13	000	1911		ORSQ	FLAG,3,P4		
003021	000000	6362	17	000	1912		EAQ	0,7	PROCESSOR NUMBRE	
003022	000014	7722	00	000	1913		QRL	12		
003023	400001	2563	13	000	1914		ORSQ	FLAG,3,P4	TO BITS 28,29	
003024	000000	0112	07	000	1915	S15	NOP	0,DL	(XED SEXTF IF 600S)	6S.09790
003025	003330	2372	00	010	1916		LDAQ	NMODE	ORIGINAL MODE REGISTER	
003026	003340	7432	00	010	1917		STX3	HSTGT	OPEN GATE	
003027	000040	2752	07	000	1918		ORA	=040,DL	UNLOCK HREGS	FALT0360
003030	400010	7573	13	000	1919		STAQ	MODE,3,P4	PUT MODE REGISTER IN BUFFER	
003031	000116	6362	13	000	1920		EAQ	CUHR-2,3		EL7.
003032	452220	2762	07	000	1921		ORQ	=0452220,DL	SCPR INSTRUCTION	EL7.
003033	003336	6222	00	010	1922		EAX2	H2		EL7.
003034	000016	6252	13	000	1923		EAX5	FAULT,3	PREP X5	EL7.
003035	700002	2313	00	000	1924		RSW	2,,P.CR	READ CONFIG	EL7.
003036	030000	3752	03	000	1925		ANA	.FBT4+ .FBT5,DU	PROCESSOR ID	EL7.
003037	003071	6002	00	010	1926		TZF	HSCPS	6600 STD	EL7.
003040	010000	1152	03	000	1927		CMPA	.FBT5,DU	TEST DPS-E	EL7.
003041	003051	6002	00	010	1928		TZE	HRDPS	YES	EL7.
					1929					EL7.
					1930			600S PROCESSOR		EL7.
003042	000220	6202	00	000	1931		EAX0	SBUFSZ	BUFFER SIZE	EL7.
003043	400000	7403	13	000	1932		STX0	HBO,3,P4		EL8.
003044	000000	6352	15	000	1933		EAA	0,5	MARK START	EL7.
003045	100600	5602	01	000	1934		RPDB	32,1	SET STORE HREGS	EL7.
003046	000000	0362	12	000	1935		ADLQ	0,2		EL7.
003047	400000	7563	15	000	1936		STQ	0,5,P4		EL7.
003050	003114	7102	00	010	1937		TRA	SK700		EL7.
					1938					EL7.
					1939			DPS-E PROCESSOR		EL7.
003051	000730	6202	00	000	1940	HRDPS	EAX0	LBFSZ	BUFFER SIZE	EL7.
003052	400000	7403	13	000	1941		STX0	HBO,3,P4		EL8.
003053	000420	6252	13	000	1942		EAX5	EAULT,3		EL7.
003054	000000	6352	15	000	1943		EAA	0,5	MARK START	EL7.
003055	200600	5602	01	000	1944		RPDB	64,1	STORE CU REGS CODE	EL7.
003056	000000	0362	12	000	1945		ADLQ	0,2		EL7.
003057	400000	7563	15	000	1946		STQ	0,5,P4		EL7.

HISTORY REGISTER DUMP

003060	000020	0362	07	000	1947	ADLQ	16,DL	MAKE STORE DU	EL7.
003061	200600	5602	01	000	1948	RPDB	64,1	STORE DU REGS CODE	EL7.
003062	000000	0362	12	000	1949	ADLQ	0,2		EL7.
003063	400000	7563	15	000	1950	STQ	0,5,P4		EL7.
003064	000040	1362	07	000	1951	SBLQ	32,DL	MAKE STORE VU	EL7.
003065	200600	5602	01	000	1952	RPDB	64,1	STORE VU REGS CODE	EL7.
003066	000000	0362	12	000	1953	ADLQ	0,2		EL7.
003067	400000	7563	15	000	1954	STQ	0,5,P4		EL7.
003070	003114	7102	00	010	1955	TRA	SK700		EL7.
					1956				EL7.
					1957		6600 STANDARD PROCESSOR		EL7.
003071	000320	6202	00	000	1958	HSCPS EAX0	HRBSZ	BUFFER SIZE	EL7.
003072	400000	7403	13	000	1959	STX0	HB0,3,P4		EL8.
003073	000000	6352	15	000	1960	EAA	0,5		EL7.
003074	000000011207			000					
003075	040600	5602	01	000	1961	RPDB	16,1	STORE CU CMDS	EL7.
003076	000000	0362	12	000	1962	ADLQ	0,2		EL7.
003077	400000	7563	15	000	1963	STQ	0,5,P4		EL7.
003100	000020	0362	07	000	1964	ADLQ	16,DL	MAKE STORE OU	EL7.
003101	040600	5602	01	000	1965	RPDB	16,1	STORE OU CMDS	EL7.
003102	000000	0362	12	000	1966	ADLQ	0,2		EL7.
003103	400000	7563	15	000	1967	STQ	0,5,P4		EL7.
003104	000030	1362	07	000	1968	SBLQ	24,DL	MAKE STORE DU	EL7.
003105	040600	5602	01	000	1969	RPDB	16,1	STORE DU CMDS	EL7.
003106	000000	0362	12	000	1970	ADLQ	0,2		EL7.
003107	400000	7563	15	000	1971	STQ	0,5,P4		EL7.
003110	000010	1362	07	000	1972	SBLQ	8,DL	MAKE STORE VU	EL7.
003111	040600	5602	01	000	1973	RPDB	16,1	STORE VU CMDS	EL7.
003112	000000	0362	12	000	1974	ADLQ	0,2		EL7.
003113	400000	7563	15	000	1975	STQ	0,5,P4		EL7.
003114	000010	6362	13	000	1976	SK700 EAQ	MODE,3		EL7.
003115	674204	2762	07	000	1977	ORQ	=0674204,DL	LCPR,04	EL7.
003116	400000	7563	15	000	1978	STQ	0,5,P4		EL7.
003117	003123	2362	00	010	1979	LDQ	TRAP0		EL7.
003120	400001	7563	15	000	1980	STQ	1,5,P4		EL7.
003121	003124	6306	00	010	1981	EPPR	P0,HRFB	FOR RETURN	
003122	400000	7103	01	000	1982	TRA	0,AU,P4	ENTER SCPR CODE	EL7.
003123	000000	7103	00	000	1983	TRAP0 TRA	0,,P0		
		003124			1984	HRFB	NULL		
003124	400020	6307	13	000	1985	EPPR	P0,SSFRM,3,P4		
003125	000100	1007	00	000	1986	MLR	(1),(1)	MOVE REGISTERS TO BUFFER	
003126	300000	0004	00	000	1987	ADSC9	0,0,64*4,P,SSR		
003127	000000	0004	00	000	1988	ADSC9	0,0,64*4,P0		
003130	300076	2353	00	000	1989	LDA	.WPFR,,P,SSR		
003131	400016	7553	13	000	1990	STA	FAULT,3,P4		
003132	000000	6252	13	000	1991	EAX5	0,3		
003133	014200	5202	01	000	1992	RPT	6,1		
003134	400002	4503	15	000	1993	STZ	INST,5,P4		
003135	400012	4503	13	000	1994	STZ	SNUMB,3,P4	CLEAR SNUMB	
003136	006063	4706	07	000	1995	LDP	P0,SD,RMS,DL		



HISTORY REGISTER DUMP

003137	000040	4133	00	000	1996	RSCR	32,,P0	READ CLOCK	
003140	000004	7732	00	000	1997	LRL	4		
003141	700105	0363	00	000	1998	ADLQ	.CRDAT+1,,P.CR	TIME OF DAY	FALT2310
003142	700104	2353	00	000	1999	LDA	.CRDAT,,P.CR	DATE	
003143	400015	7553	13	000	2000	STA	DATE,3,P4		
003144	400004	7563	13	000	2001	STQ	HTIME,3,P4		
003145	000001	2313	00	000	2002	RSW	1,,P0		
003146	400013	7553	13	000	2003	STA	RSW1,3,P4		
003147	000002	2313	00	000	2004	RSW	2,,P0		
003150	400014	7553	13	000	2005	STA	RSW2,3,P4		
003151	300010	7203	00	000	2006	LXL0	.WISR,,P.SSR		
003152	000160	3002	03	000	2007	CANX0	=0160,DU		
003153	003160	6012	00	010	2008	TNZ	NHCM	NOT HCM SPACE	
003154	001764	4706	07	000	2009	LDP	P0,,SSR,DL		
003155	000010	6707	00	000	2010	LDD	P0,,WISR,,P0		
003156	000000	2353	00	000	2011	LDA	0,,P0	GET MODULE #	
003157	400020	7553	13	000	2012	STA	SSFRM,3,P4	STORE SSA MODULE #	
		003160			2013	NHCM	NULL		
003160	000050	1012	03	000	2014	CMPX1	MPG,F,DU	MISSING PAGE	
003161	003430	6002	00	010	2015	TZE	RSTRT	YES, DO RETRY STUFF	FALT2330
003162	100044	2263	17	000	2016	LDX6	.KLPRG,7,KLS	IS A PROGRAM RUNNING	FALT2340
003163	003212	6002	00	010	2017	TZF	HRFTRY	NO	
003164	006144	4706	07	000	2018	LDP	P0,SD,SNB,DL		EL9.
003165	000000	2353	16	000	2019	LDA	0,6,P0	GET SNUMB	EL9.
003166	400012	7553	13	000	2020	STA	SNUMB,3,P4	PUT IN HREG FRAME	EL9.
003167	300010	7203	00	000	2021	LXL0	.WISR,,P.SSR	WORKING SPACE REGISTER #	
003170	000160	3002	03	000	2022	CANX0	=0160,DU		
003171	003212	6002	00	010	2023	TZF	HRFTRY	IF = 0, TRANSFER	
003172	000002	1012	03	000	2024	CMPX1	2,DU	MEMORY FAULT	
003173	003204	6012	00	010	2025	TNZ	COPR	XFER IF NOT MEM FAULT	
003174	001456	7172	00	010	2026	XED	CHKMD		
003175	003201	6002	00	010	2027	TZE	NP1	NATIVE PROCESS	
003176	200003	2343	00	000	2028	SZN	.XMFFV,,SP	USER VECTOR	
003177	003323	6012	00	010	2029	TNZ	HAB9	XFER IF USER IS HANDLING	
003200	003204	7102	00	010	2030	TRA	COPR		
					2031	*	NATIVE		
003201	000004	6222	00	000	2032	NP1	EAX2	.EMEMF	USER VECTOR POINTER
003202	500000	2353	12	000	2033	LDA	0,2,EPD		
003203	003323	6012	00	010	2034	TNZ	HAB9	USER HANDLING	
					2035	*			
003204	200026	2223	00	000	2036	COPR	LDX2	.XLDR3,,SP	
003205	000001	3022	03	000	2037	CANX2	1,DU		
003206	003323	6012	00	010	2038	TNZ	HAB9	XFER IF USER SPECIFIES NO RETRY	
003207	600120	2203	00	000	2039	LDX0	.SPDSR,,P.SSA	IF AN UNRECOVERABLE FAULT	
003210	400000	3002	03	000	2040	CANX0	=0400000,DU	HAS ALREADY OCCURED	
003211	003213	6012	00	010	2041	TNZ	HSRC	THE SKIP RETRY	
		003212			2042	HRETRY	NULL		
003212	003430	7102	00	010	2043	TRA	RSTRT	GO TO RETRY	
003213	003447	0112	07	010	2044	HSRC	NOP	SOPT7,DL	6S.09700
003214	000000	6252	15	000	2045	EAX5	0,5		



HISTORY REGISTER DUMP

003215	003307	6002	00	010	2046	TZE	HSSIF	RETRY OK	
					003216	2047	SRET1	NULL	
003216	100044	2263	17	000	2048	LDX6	.KLPRG,7,KLS	IS PROGRAM IN EXEC	FALT3840
003217	003307	6002	00	010	2049	TZE	HSSIF	NO	
003220	001456	7172	00	010	2050	XFD	CHKMD		
003221	003261	6002	00	010	2051	TZF	NP2	NATIVE PROCESS	
003222	200026	2223	00	000	2052	LDX2	.XLDR3,,SP	ACCOMMODATION	
003223	777776	3622	03	000	2053	ANX2	=0777776,DU		
003224	003307	6002	00	010	2054	TZE	HSSIF	THERE IS NOT A BUFFER	
003225	007400	2352	07	000	2055	LDA	=07400,DL	RETRY COUNT AND RETRY OVERFLOW	
003226	400001	3153	13	000	2056	CANA	FLAG,3,P4	DONT GIVE RETRY BUFFER TO SLAVE	
003227	003307	6012	00	010	2057	TNZ	HSSIF		
003230	006204	4706	07	000	2058	LDP	P0,SD,PSH,DL	PUSH	
003231	000012	6757	00	000	2059	LDD	P5,PH,USL,,P0	USERS LINKAGE SEGMENT	
003232	500000	6707	00	000	2060	LDD	P0,0,,P5	USERS CODE/DATA SEGMENT	
003233	001761	4756	07	000	2061	LDP	P5,,CTYP,DL	CHANGE TYPE	
003234	000000	6362	12	000	2062	EAQ	0,2	ISR OFFSET	
003235	400000	0763	13	000	2063	ADQ	HBO,3,P4	+ HREG SIZE	EL7.
003236	003307	6032	00	010	2064	TRC	HSSIF	OUT OF BOUND	
003237	600222	7423	00	000	2065	STX2	.SVFLT+1,,P,SSA		FALT4870
003240	000000	6352	00	000	2066	EAA	0		
003241	500000	2363	00	000	2067	LDQ	0,,P5		
003242	777777	3762	03	000	2068	ANQ	-1,DU		
003243	400000	1763	13	000	2069	SBQ	HBO,3,P4	- HREG SIZE	EL7.
003244	600222	1113	00	000	2070	CWL	.SVFLT+1,,P,SSA		FALT4890
003245	003307	6012	00	010	2071	TNZ	HSSIF	OUT OF BOUND	
003246	000000	6362	12	000	2072	EAQ	0,2		
003247	400000	2353	13	000	2073	LDA	HBO,3,P4	BUFFER SIZE	EL7.
003250	000002	7352	00	000	2074	ALS	2	TO BYTES	EL7.
003251	000000	6202	01	000	2075	EAX0	0,AU		EL7.
003252	000000	6352	13	000	2076	EAA	0,3	SOURCE	EL7.
003253	000020	7732	00	000	2077	LRL	16	TO BYTES	EL7.
003254	000146	1007	45	000	2078	MLR	(1,1,,AL),(1,1,,QL)	MOVE DATA	EL7.
003255	400000	0000	10	000	2079	ADSC9	0,0,X0,P4	FROM BUFFER	EL7.
003256	000000	0000	10	000	2080	ADSC9	0,0,X0,P0	TO SLAVE	EL7.
003257	400001	4503	13	000	2081	STZ	FLAG,3,P4	FREE BUFFER	FALT
003260	000000	7102	14	000	2082	TRA	0,4	& RETURN	FALT
					2083	*	NATIVE		
					003261	2084	NP2	NULL	
003261	006063	4706	07	000	2085	LDP	P0,SD,RMS,DL		EL8.
003262	000324	2353	00	000	2086	LDA	SD,EPD*2-SD,SLS*2,,P0	TEST SD,EPD SEGMENT	EL8.
003263	003307	6002	00	010	2087	TZE	HSSIF	INVALID	EL8.
003264	006152	4756	07	000	2088	LDP	EPD,SD,EPD,DL		
003265	001761	4756	07	000	2089	LDP	EPD,,CTYP,DL		
003266	500036	2363	00	000	2090	LDQ	.EHRDS,,EPD		
003267	003307	6002	00	010	2091	TZE	HSSIF		
003270	400001	7223	13	000	2092	LXL2	FLAG,3,P4		
003271	007400	3022	03	000	2093	CANX2	=07400,DU		
003272	003307	6012	00	010	2094	TNZ	HSSIF		
003273	040600	3762	07	000	2095	ANQ	=0040600,DL	WRITE, NOT NULL, SEG MISSING	

HISTORY REGISTER DUMP

003274	040600	1162	07	000	2096	CMPQ	=0040600,DL		
003275	003307	6012	00	010	2097	TNZ	HSSIF	HAS NOT ABOVE PERMMISSION	
003276	500036	2353	00	000	2098	LDA	.EHRDS,,EPD		
003277	200000	0352	07	000	2099	ADLA	=0200000,DL	ADD ONE BYTE	
003300	000000	6222	01	000	2100	EAX2	0,AU	USER BUFFER SIZE	
003301	400000	1023	13	000	2101	CMPX2	HBO,3,P4	HREG SIZE	EL7.
003302	003307	6022	00	010	2102	TNC	HSSIF		
003303	006152	4706	07	000	2103	LDP	PO,SD,EPD,DL		
003304	000036	6707	00	000	2104	LDD	PO,,EHRDS,,PO	LOAD DUMP AREA DESCRIPTER	
003305	000000	6362	00	000	2105	EAQ	0		
					2106	*			
003306	003247	7102	00	010	2107	TRA	HRT2		
003307	400001	3352	07	000	2108	HSSIF LCA	=0400001,DL		FALT
003310	400001	3553	13	000	2109	ANSA	FLAG,3,P4	RESET RETRY STATUS	FALT
003311	000050	1012	03	000	2110	CMPX1	MPG,F,DU	YES. MISSING PAGE KA	
003312	000000	6012	14	000	2111	TNZ	0,4	NO	
003313	700546	7163	17	000	2112	XEC	.CRCSH,7,P.CR	CACHE ENABLE IF ACTIVE	
003314	000000	6252	15	000	2113	EAX5	0,5	IS RETRY OK	
003315	000000	6012	14	000	2114	TNZ	0,4	NO	
003316	000001	2352	03	000	2115	LDA	1,DU		
003317	400005	2553	13	000	2116	ORSA	PFLOG,3,P4	SET LOGGING COMPLETED FLAG	
		003320			2117	S07S	NULL	IF OPT7 IS SPECIFIED, NEXT INSTRUCTION IS TRA 0,4	
003320	400000	2352	03	000	2118	LDA	=0400000,DU	YES	
003321	400001	2553	13	000	2119	ORSA	FLAG,3,P4	SET HIST REG. DUMP COMPLETE FLAG	
003322	000000	7102	14	000	2120	HRET TRA	0,4	RETURN	
		003323			2121	HAB9	NULL		
003323	000001	6252	00	000	2122	EAX5	1	NOT RETRYABLE INDICATOR	
003324	000001	2352	03	000	2123	LDA	1,DU	SET LOGGING COMPLETE FLAG	
003325	400005	2553	13	000	2124	ORSA	PFLOG,3,P4	TO INHIBIT HEALS LOGGING	
003326	003213	7102	00	010	2125	TRA	HSRC		
		003327			2126	FOUR			14FW1280
003330	000000000000			000	2127	NMODF	DEC	0,0	14FW1290
003331	000000000000			000					
003332	000000000000			000	2128	FFTRG	DEC	0,0	EXTEND FAULT REG.
003333	000000000000			000					
003334	003332	2352	00	010	2129	SEXTF	LDA	EFTRG	
003335	400017	7553	13	000	2130	STA	FAULT+1,3,P4		
003336	000002	000000		000	2131	H2	ZERO	2	COUNT OF 2 FOR RPD
003337	000012	000000		000	2132	HSHUTG	ZERO	10	PROC WHICH LAST SHUT GATE
003340	0000000000001			000	2133	HSTGT	DEC	1	HISTORY REGISTER PROCEDURE GATE
					2134	*			
					2135	*	WRITE HISTORY REGISTERS		
					2136	*			
					2137	*EP5			
		003341			2138	HISDP	NULL		
003341	006151	4706	07	000	2139	LDP	PO,SD,HDP,DL	LOAD HISTORY REGISTERS DUMP SEGMENT	
003342	000010	6212	00	000	2140	EAX1	8	START OF HISTORY REGISTER BUFFERS	
003343	000001	1063	11	000	2141	CMPX6	FLAG,1,PO	COMPARE WITH KPX	
003344	003353	6002	00	010	2142	TZE	MATCH	A MATCH	
003345	002641	0212	00	010	2143	ADLX1	HBFSZ		DPSE0390



HISTORY REGISTER DUMP

003410	003337	7472	00	010	2179	STX7	HSHTG	SAY WE SHUT THE GATE
003411	000001	1063	11	000	2180	CMPX6	FLAG,1,PO	IS IT STILL OUR BUFFER
003412	000003	6012	04	000	2181	TNZ	3,IC	NO
003413	400000	2202	03	000	2182	LDX0	=0400000,DU	
003414	000001	2403	11	000	2183	ORSX0	FLAG,1,PO	MAKE BUFFER AS HAS BEEN DUMPED
003415	003340	7502	00	010	2184	STC2	HSTGT	
003416	003341	7102	00	010	2185	TRA	HISDP	
					2186	LIT		EL8.
003417	777000107400			000				
003420	302020202020			000	2187	HMES	BCI	1,H
003421	303162634651			000	2188	HDMES	BCI	3,HISTORY REGISTERS
003422	702051252731			000				
003423	626325516220			000				
003424	000002710640			000	2189	HDVEC	EVEC	.ISR,HDMES,3,R
003425	003421001762			010				
003426	000317710640			000	2190	HSVEC	VEC	.DR+PO,**,HRBSZ,R
003427	000000001770			000				DPSEI160

INSTRUCTION RETRY

2193	*****						
2194	*	X0	=	WORK			
2195	*	X1	=	FAULT CODE (0000??)			
2196	*	X2	=	WORK			
2197	*	X3	=	OFF SET OF BUFFER (HB0)			
2198	*	X4	=	RETURN ADDRESS			
2199	*	X5	=	WORK, FORCE RETRY --- "0" AT EXIT THIS ROUTINE			
2200	*	X6	=	KPX (PROCESS #)			
2201	*	X7	=	CPU#			
2202	*	ODR0	=	WORK			
2203	*	ODR1	=	-----NOT USED THIS ROUTINE			
2204	*	ODR2	=	-----NOT USED THIS ROUTINE			
2205	*	ODR3	=	P.SSR			
2206	*	ODR4	=	SD.HDP HISTORY REG DUMP SEGMENT			
2207	*	ODR5	=	WORK			
2208	*	ODR6	=	P.SSA			
2209	*	ODR7	=	P.CR			
2210	*****						
000030	2211	ISR	EQU	24			
000030	2212	WODRO	EQU	24			
000050	2213	SXRO	EQU	40			
000020	2214	ARO	BOOL	20		POINTOR ARO IN P.SSR	
000000	2215	NTRY	EQU	0			
000003	2216	STRY	EQU	3			
000006	2217	UTRY8	EQU	6			
000011	2218	UTRY0	EQU	9			
000014	2219	TSNB	EQU	12			
000027	2220	RELVA	BOOL	27		OFF SET OF REL.VA	
2221	*****						
003430	2222	*					
	2223	RSTRT	ENULL				
003430	2224	CMPX1	=022,DU	TEST	PARITY		EL8.
003431	2225	TNZ	RGATE		NO		EL8.
003432	2226	EAX5	0		YES		EL8.
003433	2227	RSW	2,,P.CR		READ	CONFIG	EL8.
003434	2228	CANA	.FBT20,DL		TEST	8K CACHE	EL8.
003435	2229	TNZ	HSRC		YES,	CAN'T RETRY	EL8.
003436	2230	RGATE	CMPX7	LGATEW		LAST RETRY CPU # MATCH ?	
003437	2231	TZE	MEIMEI			YES, CONTINUE PROCESS	
003440	2232	SZNC	RGATEW			RETRY GATE SHUT ?	
003441	2233	TZE	RGATE			YES, WAIT A SECOND	
003442	2234	STX7	LGATEW			SET CPU #	
003443	2235	MEIMEI	NULL				
003443	2236	SXL6	KPXNO			PROCESS NO SAVE	
003444	2237	SXL4	X4SAV				
003445	2238	STZ	TGT,7			INITIALIZE TAG GATE	
003446	2239	LDA	=04400,DL				
003447	2240	STA	INREG,7			INITIALIZE INREG	
003450	2241	LDA	HICI,3,P4			LOAD IC & IR	
003451	2242	CANA	=040,DL			MULTI WORD INSTRUCTION ?	

## I N S T R U C T I O N R E T R Y

003452	000002	6012 04	000	2243	TNZ	2,IC	YES
003453	000001	1752 03	000	2244	SBA	1,DU	ADJUST IC
003454	777777	3752 03	000	2245	ANA	-1,DU	MASK INDICATORS
003455	004760	7552 17	010	2246	STA	INSTA,7	SAVE ADDRESS OF FAULTED INSTRUCTION
003456	001762	4706 07	000	2247	LDP	PO,,ISR,DL	ODRO = FAULT MODULE ISR
003457	005004	0506 00	010	2248	STD	PO,TEMP	
003460	005004	2372 00	010	2249	LDAQ	TEMP	
003461	400030	1173 13	000	2250	CMPAQ	ISR,3,P4	IN FAULT MODULE ?
003462	003471	6012 00	010	2251	TNZ	CODE1+1	NO
003463	400024	2223 13	000	2252	LDX2	HICI,3,P4	*
003464	001704	1022 03	010	2253	CMPX2	SIMOP,DU	
003465	003470	6032 00	010	2254	TRC	CODE1	NOT RETRY
003466	001005	1022 03	010	2255	CMPX2	EXTM,DU	
003467	003471	6032 00	010	2256	TRC	CODE1+1	RETRY OK
		003470		2257	CODFI	NULL	
003470	004714	7172 00	010	2258	XED	CTG	* FAULT IN FALT
003471	001764	4736 07	000	2259	LDP	P,SSR,,SSR,DL	ODR3 = SSR (TYPE 1)
003472	300010	6707 00	000	2260	LDD	PO,,WISR,,P,SSR	PO = FAULT OCCURE,S ISR
003473	004760	2222 17	010	2261	LDX2	INSTA,7	X2 = FAULT OCCURE ADDRESS
003474	000050	1012 03	000	2262	CMPX1	=050,DU	PAGE MISSING ?
003475	003500	6002 00	010	2263	TZE	CLBCK	YES, CHECK CLIMB INSTRUCTION
003476	000002	1012 03	000	2264	CMPX1	=02,DU	STORE FAULT ?
003477	003532	6012 00	010	2265	TNZ	FETCHI	NO, GO FETCH INSTRUCTION
		003500		2266	CLBCK	NULL	
003500	000000	6252 13	000	2267	EAX5	0,3	COPY X3 TO X5
003501	400156	2373 15	000	2268	LDAQ	CUHR+30,5,P4	
003502	000002	3152 03	000	2269	CANA	2,DU	LOOK BIT 16 (FLT ADDR NONE) ?
003503	004566	6012 00	010	2270	TNZ	MM15	BRANCH IF INVALID H-REG
003504	777401	3362 07	000	2271	LCQ	=0777401,DL	Q= 777777 000377 MASK BITS
003505	710000	2352 07	000	2272	LDA	=0710000,DL	
003506	400156	2113 15	000	2273	CMK	CUHR+30,5,P4	TRA ?
003507	003540	6012 00	010	2274	TNZ	READ	
003510	400154	2113 15	000	2275	CMK	CUHR+28,5,P4	TRA ?
003511	003540	6012 00	010	2276	TNZ	READ	
003512	713400	2352 07	000	2277	LDA	=0713400,DL	
003513	400142	2113 15	000	2278	CMK	CUHR+18,5,P4	CLIMB ?
003514	003527	6002 00	010	2279	TZE	M,OR,S	YES CHECK MISSING PAGE
003515	400152	2113 15	000	2280	CMK	CUHR+26,5,P4	CLIMB WITHOUT REG SAVE (LATERAL XFR) ?
003516	003527	6002 00	010	2281	TZE	M,OR,S	YES GO CHECK MISSING PAGE
003517	400122	2113 15	000	2282	CMK	CUHR+2,5,P4	*
003520	003540	6012 00	010	2283	TNZ	READ	*
003521	447400	2352 07	000	2284	LDA	=0447400,DL	*
003522	400152	2113 15	000	2285	CMK	CUHR+26,5,P4	* CHECK OUTWARD CLIMB
003523	003540	6012 00	010	2286	TNZ	READ	
003524	400136	2113 15	000	2287	CMK	CUHR+14,5,P4	*
003525	003527	6002 00	010	2288	TZE	M,OR,S	*
003526	003540	7102 00	010	2289	TRA	READ	NOT CLIMB INST. SO CAN FETCH INST.
003527	000050	1012 03	000	2290	M,OR,S	CMPX1	=050,DU
003530	004571	6002 00	010	2291	TZE	MM8	YES, IT CLIMB MISSING PAGE AT TRANSFER
003531	004573	7102 00	010	2292	TRA	R,EXT	CLIMB,STR FAULT NOT RETRY





INSTRUCTION RETRY

003604	004730	2362	17	010	2343	LDQ	RTCTR,7		
003605	000010	7362	00	000	2344	QLS	8		
003606	400001	2563	13	000	2345	ORSQ	FLAG,3,P4	STORE RETRY COUNTER IN "FLAG" BIT 25-27	
003607	004730	1152	17	010	2346	CMPA	RTCTR,7	LIMIT ?	
003610	000002	6002	04	000	2347	TZF	2,IC	YES	
003611	000004	6032	04	000	2348	TRC	4,IC	NO	
003612	004000	2352	07	000	2349	LDA	=04000,DL		
003613	400001	2553	13	000	2350	ORSA	FLAG,3,P4	SET RETRY COUNTER OVERFLOW FLAG	
		003614			2351	CODF4	NULL		
003614	004714	7172	00	010	2352	XED	CTG	CLOSE TAG GATE	
003615	400156	2373	13	000	2353	LDAQ	CUHR+30,3,P4	LAST CU-REG	
003616	000002	3152	03	000	2354	CANA	2,DU	LOOK BIT 16 (FLT ADDR NONE)	
003617	004566	6012	00	010	2355	TNZ	MM15	BRANCH IF INVALID HISTORY REG	
003620	042640	3152	03	000	2356	CANA	=042640,DU	SIW,SAW,XDE,XDO,RPTS ?	
		003621			2357	CODF5	NULL		
003621	004706	7172	00	010	2358	XED	TGZ	IF ANY BIT ON, THEN COLSE TAG GATE	
003622	000400	3162	07	000	2359	CANQ	=0400,DL	XEC-INT ? (BIT 63)	
		003623			2360	CODF6	NULL		
003623	004706	7172	00	010	2361	XED	TGZ	IF YES CLOSE TAG GATE	
					2362 *				
003624	400016	2353	13	000	2363	LDA	FAULT,3,P4	A= FAULT REG	
003625	000024	1012	03	000	2364	CMPX1	=024,DU		
003626	003653	6002	00	010	2365	TZF	R,IPR	IPR FAULT	
003627	000026	1012	03	000	2366	CMPX1	=026,DU		FALT3970
003630	003633	6002	00	010	2367	TZF	R,ONC	ONC FAULT	
003631	000022	1012	03	000	2368	CMPX1	=022,DU		
003632	004573	6012	00	010	2369	TNZ	R,EXT		
		003633			2370	R,ONC	NULL		
		003633			2371	R,PAR	NULL		
003633	000004	7712	00	000	2372	ARL	4		
003634	177777	3752	07	000	2373	ANA	=0177777,DL	A=20/0,4/PT-A,4/PT-B,4/PT-C,4/PT-D	
003635	000017	3362	07	000	2374	LCQ	=017,DL	Q=777761	
003636	000000	6222	00	000	2375	EAX2	0	CLEARE CP AND PS FLAGS	
003637	000006	2112	07	000	2376	CMK	6,DL	IA = 06 OR 07 ?	
003640	000002	6012	04	000	2377	TNZ	2,IC	NO	
003641	400000	2222	03	000	2378	LDX2	=0400000,DU	SET CP FLAG	
003642	000015	3362	07	000	2379	LCQ	=015,DL		FALT3990
003643	000014	2112	07	000	2380	CMK	=014,DL	IA= 14, 16, OR 17	FALT4000
003644	000002	6012	04	000	2381	TNZ	2,IC	NO	FALT4010
003645	200000	2222	03	000	2382	LDX2	=0200000,DU	SET PS FLAG	FALT4020
003646	400005	2423	13	000	2383	ORSX2	PFLOG,3,P4	SET CP OR/AND PS FLAG IN ERROR RECORD	
003647	000000	6222	12	000	2384	EAX2	0,2	CP OR PS ERROR ?	
		003650			2385	CODE7	NULL		
003650	004706	7172	00	010	2386	XED	TGZ	IF EITHER FLAG SET, THEN TAG GATE CLOSE	
003651	000000	6222	05	000	2387	EAX2	0,AL	ALL 4 PORT CHECKED ?	
003652	003633	6012	00	010	2388	TNZ	R,PAR	NO, EXIT	
					2389 *				
		003653			2390	R,IPR	NULL		
		003653			2391	R,MIS	NULL		
003653	000120	6202	13	000	2392	EAX0	CUHR,3	X0=ECFR + CUHR ADDRESS	



I N S T R U C T I O N R E T R Y

003654	004764	7402	17	010	2393	STX0	LLIM,7	SAVE LOWER LIMIT (CU-HREG PTR)
003655	000040	0602	03	000	2394	ADX0	32,DU	
003656	004770	7402	17	010	2395	STX0	ULIM,7	SAVE UPPER LIMIT (CU-HREG PTR)
003657	000002	1602	03	000	2396	SBX0	2,DU	X0 = CU-REG LAST ENTRY
003660	000000	6252	10	000	2397	EAX5	0,0	
003661	004760	2352	17	010	2398	LDA	INSTA,7	FAULT ADDRESS
003662	777774	3752	03	000	2399	ANA	-4,DU	BECAUSE 4 WORD FETCH AT A TIME
003663	005004	7552	00	010	2400	STA	TEMP	TEMP 0-15 BIT = FAULT ADDRESS
					2401	*		
					003664	2402	SCAN	NULL
003664	400001	2223	10	000	2403	LDX2	1,0,P4	LOAD ADDRESS OF CU-HREG 36-53 BITS
003665	777774	3622	03	000	2404	ANX2	-4,DU	
003666	005004	1022	00	010	2405	CMPX2	TEMP	ADDRESS IS MATCH ?
003667	003712	6002	00	010	2406	TZE	SCAN1	YES, CHECK FETCH BIT
003670	000002	1602	03	000	2407	SCAN2	SBX0	PERVIOUS POINTER
003671	004764	1002	17	010	2408	CMPX0	LLIM,7	ALL 16 CU-HREG CHECKED ?
003672	003664	6032	00	010	2409	TRC	SCAN	NO, LOOP UNTIL HIT OR INVALID CU-HREG
003673	000050	1012	03	000	2410	CMPX1	=050,DU	MISSING PAGE ?
003674	004566	6012	00	010	2411	TNZ	MM15	NO, INVALID CU-REG
003675	000154	6202	13	000	2412	EAX0	CUHR+28,3	THIS CASE IS CU-REG OVER (PRIVIOUS INST. IS LONG, SO CAN.T FIND FETCH PTR)
					2413	*		
003676	400000	2373	10	000	2414	LDAQ	0,0,P4	READ A CU
003677	000640	3152	03	000	2415	CANA	=0000640,DU	XDE OR XDO OR RPTS ?
003700	004566	6012	00	010	2416	TNZ	MM15	NITHER ON NOT RRTRY
003701	006131	2362	00	010	2417	LDO	=0777677000377	Q=MASK
003702	477776	2113	10	000	2418	ICINS	CMK	-2,0,P4
003703	003710	6012	00	010	2419	TNZ	FIND	MATCH ? (IC & OP CODE )
003704	000002	1602	03	000	2420	SBX0	2,DU	NO
003705	004764	1002	17	010	2421	CMPX0	LLIM,7	PRIVIOUS PTR
003706	004566	6002	00	010	2422	TZE	MM15	LOWER LIMIS ?
003707	003702	7102	00	010	2423	TRA	ICINS	YES, NOT RETRY
003710	005000	7402	17	010	2424	FIND	STX0	FCIP,7
003711	004043	7102	00	010	2425	TRA	SCAN5+1	SAVE 1ST. CU PTR OF THE FAULT INST.
003712	400000	2373	10	000	2426	SCAN1	LDAQ	0,0,P4
003713	401000	3152	03	000	2427	CANA	=0401000,DU	LOAD CURRENT CU-HREG
003714	003670	6002	00	010	2428	TZE	SCAN2	PIA+TRGO ?
003715	004750	7402	17	010	2429	STX0	INSF,7	NO, EITHER OFF
					2430	*		SAVE CU-HREG BUF ADDRESS (ADDR.FETCH)
					003716	2431	SCAN3	NULL
003716	001000	3152	03	000	2432	CANA	=01000,DU	TRGO ?
003717	003732	6012	00	010	2433	TNZ	SCAN4	YES
003720	000100	3752	03	000	2434	ANA	=0100,DU	IC MASK
003721	004734	7552	17	010	2435	STA	BUFR,7	AND SAVE LAST IC
					003722	2436	SCAN31	NULL
003722	000002	0602	03	000	2437	ADX0	2,DU	NEXT CU-REG
003723	004770	1002	17	010	2438	CMPX0	ULYM,7	UPPER LIMIT ?
003724	004214	6002	00	010	2439	TZE	SCAND	
003725	400000	2353	10	000	2440	LDA	0,0,P4	
003726	000100	3752	03	000	2441	ANA	=0100,DU	IC MASK
003727	004734	1152	17	010	2442	CMPA	BUFR,7	IC MATCH ?

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003730	003722	6002	00	010	2443	TZF	SCAN31	YES, LOP UNTIL THIS INST. GROUP
003731	003741	7102	00	010	2444	TRA	SCAN43	
					2445	*		
					003732			
					2446	SCAN4	NULL	
003732	000002	0602	03	000	2447	ADX0	2,DU	FOR NEST POINTER
003733	004770	1002	17	010	2448	CMPX0	ULIM,7	UPPER LIMIT ?
003734	004214	6002	00	010	2449	TZE	SCAND	YES
003735	100000	3152	03	000	2450	CANA	=0100000,DU	RIW ?
003736	003741	6002	00	010	2451	TZE	SCAN43	NO
003737	400000	2353	10	000	2452	LDA	0,0,P4	FETCH NEW EVEN ENTRY
003740	003732	7102	00	010	2453	TRA	SCAN4	
003741	004774	7402	17	010	2454	SCAN43	STX0	SAVE 1ST CU PTR OF THE GROUP
003742	000024	1012	03	000	2455	CMPX1	=024,DU	IPR ?
003743	003745	6002	00	010	2456	TZE	*+?	YES
003744	000002	1652	03	000	2457	SBX5	2,DU	CU H-REG PTR = LAST-1 ENTRY
003745	400000	2353	15	000	2458	LDA	0,5,P4	READ CU-LAST OR LAST-1 ENTRY EVEN
003746	000100	3752	03	000	2459	ANA	=0100,DU	
003747	004734	7552	17	010	2460	STA	BUFR,7	AND SAVE "IC" BIT
					003750			
					2461	SCAN41	NULL	
003750	000002	1652	03	000	2462	SBX5	2,DU	FOR PRVIOUSLY CU-PTR
003751	004774	1052	17	010	2463	CMPX5	FGINP,7	TILL 4 WORD GROUP
003752	003757	6042	00	010	2464	TMT	SCAN42	YES, IT,S MUST BE 1ST INST,S FAULT
003753	400000	2353	15	000	2465	LDA	0,5,P4	READ NEW CU-PTR
003754	000100	3752	03	000	2466	ANA	=0100,DU	
003755	004734	1152	17	010	2467	CMPA	BUFR,7	IS "IC" BIT BATCH ?
003756	003750	6002	00	010	2468	TZE	SCAN41	NO, LOOP
					003757			
					2469	SCAN42	NULL	
003757	000050	1012	03	000	2470	CMPX1	=050,DU	MISSING PAGE ?
003760	004040	6012	00	010	2471	TNZ	SCAN44	NO
003761	000002	0652	03	000	2472	ADX5	2,DU	1ST CU POINTER
003762	400000	2373	15	000	2473	LDAQ	0,5,P4	READ CU-REG
003763	000100	3752	03	000	2474	ANA	=0100,DU	EXTRACT "IC" BIT
003764	004734	7552	17	010	2475	STA	BUFR,7	
003765	005120	2362	00	010	2476	LDQ	ICMASK	Q=777677 77777
003766	005004	7452	00	010	2477	STX5	TEMP	SAVE X5
003767	000002	0652	03	000	2478	LOOP	ADX5	2,DU
003770	004770	1052	17	010	2479	CMPX5	ULIM,7	*
003771	004003	6002	00	010	2480	TZE	NOPIA	*
003772	400000	2353	15	000	2481	LDA	0,5,P4	*
003773	004734	2112	17	010	2482	CMK	BUFR,7	* FIND "PIA" BIT IN SAME IC
003774	004003	6012	00	010	2483	TNZ	NOPIA	*
003775	400000	3152	03	000	2484	CANA	=0400000,DU	* PIA ?
003776	003767	6002	00	010	2485	TZF	LOOP	*
003777	005124	7452	17	010	2486	STX5	PIAPTR,7	
004000	005004	2252	00	010	2487	LDX5	TEMP	X5 RESTORE
004001	005000	7452	17	010	2488	STX5	FCIP,7	SAVE 1ST. CU PTR
004002	004051	7102	00	010	2489	TRA	4N3	INST. FETCH OR OPERAND FETCH
004003	005004	2252	00	010	2490	NOPIA	LDX5	TEMP
004004	400000	2373	15	000	2491	LDAQ	0,5,P4	
004005	005040	7502	00	010	2492	STC2	OUCHKR	RETURN ADDRESS SAVE

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004006	005021	7102	00	010	2493	TRA	OUCHK	GO, CHECK OU INST OR NOT
004007	004033	7102	00	010	2494	TRA	VU	NOT OU INSTRUCTION RETURN
004010	000077	3752	07	000	2495	DU.DL ANA	=0000077,DL	EXTRACT MODIFY BITS
004011	000003	1152	07	000	2496	CMPA	=003,DL	DIRECT UPPER ?
004012	004016	6002	00	010	2497	TZE	LOUDUL	YES
004013	000007	1152	07	000	2498	CMPA	=007,DL	DIRECT LOWER ?
004014	004016	6002	00	010	2499	TZE	LOUDUL	YES
004015	004031	7102	00	010	2500	TRA	ADX52+1	
004016	400000	2353	15	000	2501	LOUDUL LDA	0,5,P4	READ CU REG AN ENTRY
004017	005120	2362	00	010	2502	LDO	ICMASK	MASK BIT SET TO 0
004020	000100	3752	03	000	2503	ANA	=0100,DU	EXTRACT "IC" BIT
004021	004734	7552	17	010	2504	STA	BUFR,7	AND SAVE IT
004022	000002	1652	03	000	2505	LOOP1 SBX5	2,DU	PREVIOUS PTR
004023	004774	1052	17	010	2506	CMPX5	FGINP,7	LIMIT ?
004024	004030	6042	00	010	2507	TMI	ADX52	YES
004025	400000	2353	15	000	2508	LDA	0,5,P4	READ NEW CU REG
004026	004734	2112	17	010	2509	CMK	BUFR,7	
004027	004022	6002	00	010	2510	TZE	LOOP1	MUCH
004030	000002	0652	03	000	2511	ADX52 ADX5	2,DU	SAVE 1ST POINTER AS TO FALT OCCURE INST.
004031	005000	7452	17	010	2512	STX5	FCIP,7	SAVE
004032	004042	7102	00	010	2513	TRA	SCAN5	
004033	000400	3152	07	000	2514	VU CANA	=0000400,DL	NSA OR EIS INSTRUCTION ?
004034	004031	6002	00	010	2515	TZE	ADX52+1	NO
004035	005040	7502	00	010	2516	STC2	OUCHKR	SET RETURN ADDRESS
004036	005045	7102	00	010	2517	TRA	VUCHK	CHECK NSA INST
004037	004031	7102	00	010	2518	TRA	ADX52+1	NOT NSA INST. RETURN
	004040				2519	SCAN44	NULL	
004040	000002	0652	03	000	2520	ADX5	2,DU	
004041	005000	7452	17	010	2521	STX5	FCIP,7	SAVE 2ST. CU PRT OF THE FAUL INST.
					2522	*		
	004042				2523	SCAN5	NULL	
004042	000000	6202	15	000	2524	EAX0	0,5	COPY X5 TO X0
004043	004740	4502	17	010	2525	STZ	BUFR1,7	INITIALIZE
004044	400000	2373	10	000	2526	LDAQ	0,0,P4	
004045	001000	3152	03	000	2527	CANA	=01000,DU	TRGO ?
004046	004136	6012	00	010	2528	TN7	4N012	YES
004047	400000	3152	03	000	2529	CANA	=0400000,DU	PIA ?
004050	004136	6002	00	010	2530	TZE	4N012	NO
	004051				2531	4N3	NULL	
004051	005124	7402	17	010	2532	STX0	PIAPTR,7	SAVE PIA PTR
004052	005040	7502	00	010	2533	STC2	OUCHKR	RETURN ADDRESS SAVE
004053	005021	7102	00	010	2534	TRA	OUCHK	GO, CHECK OU INST OR NOT
004054	004136	7102	00	010	2535	TRA	4N012	NOT OU RETURN
					2536	*		OU RETURN
	004055				2537	4N3.2	NULL	
004055	000050	1012	03	000	2538	CMPX1	=050,DU	MISSING PAGE ?
004056	004133	6012	00	010	2539	TNZ	4N3.3	NO
004057	400024	7253	13	000	2540	LXL5	HICI,3,P4	LOAD IC & IR
004060	000040	3052	03	000	2541	CANX5	=040,DU	MULTI WORD INSTRUCTION ?
004061	004133	6012	00	010	2542	TNZ	4N3.3	YES, CANT, T DISTINCION INST. OR OPE FETCH

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004062	006124	2352	00	010	2543	LDA	FLTOP	FAULT INSTRUCTION	
004063	777401	3362	07	000	2544	LCQ	=0777401,DL	Q = 777777000377	EL8.
004064	716000	2112	07	000	2545	CMK	=0716000,DL	XEC ?	
004065	004133	6002	00	010	2546	TZE	4N3.3	YES	
004066	717000	2112	07	000	2547	CMK	=0717000,DL	XED ?	
004067	004133	6002	00	010	2548	TZE	4N3.3	YES	
004070	520000	2112	07	000	2549	CMK	=0520000,DL	RPT ?	
004071	004571	6002	00	010	2550	TZF	MM8		
004072	560000	2112	07	000	2551	CMK	=0560000,DL	RPD ?	
004073	004571	6002	00	010	2552	TZE	MM8		
004074	550000	2112	07	000	2553	CMK	=0550000,DL	RPL ?	
004075	004571	6002	00	010	2554	TZF	MM8		
004076	400217	7253	13	000	2555	LXL5	OUHR+31,3,P4	FETCH OU-HREG LAST ENTRY	
004077	004760	1052	17	010	2556	CMPX5	INSTA,7	INST COUNTER IS MATCH ?	
004100	004105	6012	00	010	2557	TNZ	4N3.4	NO	
004101	400217	2353	13	000	2558	LDA	OUHR+31,3,P4	FETCH AGAIN	
004102	100000	3152	03	000	2559	CANA	=0100000,DU	GOF ?	
004103	004113	6012	00	010	2560	TNZ	4N3.5	YES	
004104	004136	7102	00	010	2561	TRA	4N012		
004105	400215	7253	13	000	2562	4N3.4	LXL5	OUHR+29,3,P4	FETCH OU LAST-1 ENTRY ODD
004106	004760	1052	17	010	2563	CMPX5	INSTA,7	ICT MATCH ?	
004107	004136	6012	00	010	2564	TNZ	4N012		
004110	400215	2353	13	000	2565	LDA	OUHR+29,3,P4	READ AGAIN	
004111	100000	3152	03	000	2566	CANA	=0100000,DU	GOF ?	
004112	004136	6002	00	010	2567	TZF	4N012	NO	
004113	005124	2252	17	010	2568	4N3.5	NULL		
004113	005124	2252	17	010	2569	LDX5	PIAPTR,7	PIA POINTER IN CU	
004114	400001	2363	15	000	2570	LDQ	1,5,P4	READ CU REG ODD ENTRY	
004115	004117	7522	70	010	2571	STCQ	*+2,70	SAVE CU,S COMMAND ADDRESS	
004116	000001	6252	05	000	2572	EAX5	1,AL	X5= ICT TRAKER +1	
004117	000000	1052	03	000	2573	CMPX5	** ,DU	MATCH ? ICT TRAKER : CU ADDRESS	
004120	004133	6012	00	010	2574	TNZ	4N3.3		
004121	004760	2352	17	010	2575	LDA	INSTA,7		
004122	000001	0752	03	000	2576	ADA	1,DU	ADJUST IC +1	
004123	000020	7712	00	000	2577	ARL	18-2	BYTE ADDRESS	
004124	400031	0753	13	000	2578	ADA	ISR+1,3,P4	ADD ISR BASE	
004125	400027	1153	13	000	2579	CMPA	RELVA,3,P4	IS EQUAL TO REL.VA ?	
004126	004133	6012	00	010	2580	TNZ	4N3.3	NO	
004127	004760	2252	17	010	2581	LDX5	INSTA,7	*	
004130	000001	0252	03	000	2582	ADLX5	1,DU	* CHANGE "IC" FOR INST. FETCH	
004131	004760	7452	17	010	2583	STX5	INSTA,7	* MOSSING PAGE RECOVERLY	
004132	004571	7102	00	010	2584	TRA	MM8	RETRY OK	
004133	004133	2585	4N3.3	NULL					
004133	400217	2363	13	000	2586	LDQ	OUHR+31,3,P4	OU-HREG LAST ENTRY	
004134	100000	3162	03	000	2587	CANQ	=0100000,DU	GOF ?	
004135	004571	6012	00	010	2588	TNZ	MM8		
004136	004136	2589	4N012	NULL					
004136	400000	2373	10	000	2590	LDAQ	0,0,P4		
004137	000002	0602	03	000	2591	ADX0	2,DU		
004140	004770	1002	17	010	2592	CMPX0	ULIM,7	UPPER LIMIT ?	

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004141	004153	6002	00	010	2593	TZF	SCANE	YES
					2594			
004142	100000	3152	03	000	2595	SCANB	CANA	=0100000,DU RIW ?
004143	004211	6002	00	010	2596	TZF	SCANG	NO
004144	400000	2253	10	000	2597	LDX5	0,0,P4	READ JUST +2
004145	040000	3052	03	000	2598	CANX5	=040000,DU	SIW ?
004146	004517	6012	00	010	2599	TNZ	TAGRB	YES, GO ROLLBACK INDIRECTION
004147	400000	2373	10	000	2600	SCANC	LDAQ	0,0,P4 READ NEW CU=HREG
004150	000002	0602	03	000	2601	ADX0	2,DU	
004151	004770	1002	17	010	2602	CMPX0	ULTM,7	UPPER LIMIT ?
004152	004142	6012	00	010	2603	TNZ	SCANB	NO, NEXT CHECK
004153	000024	1012	03	000	2604	SCANF	CMPX1	=024,DU IPR ?
004154	000002	6002	04	000	2605	TZF	2,IC	YES
004155	000002	1602	03	000	2606	SBX0	2,DU	X0 = CU-LAST -4
004156	000002	1602	03	000	2607	SBX0	2,DU	X0 = CU-LAST -2
004157	000050	1012	03	000	2608	CMPX1	=050,DU	MISSING PADE ?
004160	004216	6012	00	010	2609	TNZ	LOGH2	NO
004161	006132	2352	00	010	2610	LDA	=0201000700000	POA. NOT RIW . TRGO. TSX N ?
004162	006133	2362	00	010	2611	LDO	=0476777007377	MASK BITS
004163	400000	2113	10	000	2612	CMK	0,0,P4	MATCH ?
004164	004216	6012	00	010	2613	TNZ	LOGH2	NO
004165	400000	2373	10	000	2614	LDAQ	0,0,P4	
004166	007017	3752	07	000	2615	ANA	=0007017,DL	EXTRACT XR# AND XR# (MODIFY)
004167	000011	7352	00	000	2616	ALS	9	A= 00000X 0MM000
004170	000000	6252	01	000	2617	EAX5	0,AU	X5 = XR#
004171	000010	0652	03	000	2618	ADX5	=010,DU	X5 = XR# (10,11,12,13,14,15,16, OR 17)
004172	000011	7352	00	000	2619	ALS	9	A= 0000MM 000000
004173	004174	7512	10	010	2620	STCA	*+1,10	SAVE MODIFY REG #
004174	000000	1052	03	000	2621	CMPX5	** ,DU	TSX-N XX, N N= MATCH ?
004175	004216	6012	00	010	2622	TNZ	LOGH2	NO, NORMAL ROUTINE
004176	400000	2373	10	000	2623	LDAQ	0,0,P4	YES, THIS CASE IS SPECIAL EX. TSX0 0,0
004177	000100	3152	07	000	2624	CANA	=0100,DL	ODR MODIFY ?
		004200			2625	CODE8	NULL	
004200	004706	7172	00	010	2626	XED	TG7	IF YES, CANT, I RETRY
004201	000000	6362	02	000	2627	EAQ	0,QU	*
004202	000020	7722	00	000	2628	QRL	16	*
004203	400031	0363	13	000	2629	ADLQ	ISR+1,3,P4	* CU ADDR + ISR BASE = REL. VA ?
004204	400027	1163	13	000	2630	CMPQ	RELVA,3,P4	*
		004205			2631	CODF9	NULL	
004205	004706	7172	00	010	2632	XED	TG7	IF NOT EQUAL I HAVE ANY QUESTION TO RETRY
004206	400001	2253	10	000	2633	LDX5	1,0,P4	
004207	004760	7452	17	010	2634	STX5	INSTA,7	MODIFY RETRY "IC"
004210	004571	7102	00	010	2635	TRA	MM8	RETRY OK
004211	040000	3152	03	000	2636	SCANG	CANA	=040000,DU SIW? (WITHOUT RIW)
		004212			2637	CODFA	NULL	
004212	004706	7172	00	010	2638	XED	TGZ	IF, YES CLOSE TAG GATE
004213	004147	7102	00	010	2639	TRA	SCANC	
		004214			2640	SCAND	NULL	
004214	004750	2202	17	010	2641	LDX0	INSF,7	X0= ADDR.FETCH
004215	004216	7102	00	010	2642	TRA	LOGH2	

INSTRUCTION RETRY

						2643 *				
			004216			2644	LOGH2	NULL		
	004216	400000	2373	10	000	2645	LDAQ	0,0,P4		
	004217	777400	3752	07	000	2646	ANA	=0777400,DL	EXTRACT OP CODE	
	004220	073000	1152	07	000	2647	CMPA	=0073000,DL	LREG ?	
						2648 *	TNZ	LOGH3	NO	
						2649 *	LXL2	TGT,7		
	004221	004270	6012	00	010	2650	TNZ	LOGH3	BRANCH IF NO RETRY	
	004222	000050	1012	03	000	2651	CMPX1	=050,DU	MISSING PAGE ?	
	004223	004270	6002	00	010	2652	TZE	LOGH3	YES, CAN'T SIMULATE	
	004224	000010	3162	07	000	2653	CANQ	=010,DL	OU-LOAD ?	
	004225	004270	6002	00	010	2654	TZE	LOGH3	BRANCH IF NOT OU LOAD	
	004226	001764	4736	07	000	2655	LDP	P,SSR,,SSR,DL	ODR3 = SAFE STORF STACK (TYPE 1)	
	004227	400002	2353	13	000	2656	LDA	INST,3,P4	FETCH INSTUUNCTION "	
	004230	000100	3152	07	000	2657	CANA	=0100,DL	29 BIT ON ?	
	004231	004243	6002	00	010	2658	TZF	SETISR	NO, FROM ISR	
	004232	000041	7712	00	000	2659	ARL	33	YES, FROM ODR-N. SO EXTRACT ODR #	
	004233	000001	7352	00	000	2660	ALS	1	MULTIPLE 2	
	004234	000000	6252	05	000	2661	EAX5	0,AL	X5= ODR# * 2	
	004235	300030	6707	15	000	2662	LDD	P0,,WODR0,5,P,SSR	ODR0= ODR (	
	004236	001761	4736	07	000	2663	LDP	P,SSR,,CTYP,DL	CHANGE DESCRIPTOR TYPE TO =0"	
	004237	000001	7712	00	000	2664	ARL	1		
	004240	000000	6252	05	000	2665	EAX5	0,AL	X5 = ADDRESS REG. # (0-7)	
	004241	300020	7607	15	000	2666	LAR0	AR0,5,P,SSR	SET AR-0 TO AR-0	
	004242	000004	7102	04	000	2667	TRA	4,IC		
			004243			2668	SETISR	NULL		
	004243	300010	6707	00	000	2669	LDD	P0,,WISR,,P,SSR		
	004244	001761	4736	07	000	2670	LDP	P,SSR,,CTYP,DL	CHANGE DESCRIPTOR TYPE TO "0"	
	004245	005074	7606	00	010	2671	LAR0	ZERO	SET AR-0 TO "ZERO"	
	004246	000006	2762	03	000	2672	ORQ	6,DU	POINT Q TO LAST REG	
	004247	000000	6252	02	000	2673	EAX5	0,QU	POINT X5 TO LAST REG	
	004250	000006	2222	03	000	2674	LDX2	6,DU	X2= WORK COUNTER	
	004251	004744	6342	17	010	2675	LDT	INREG,7	SET PARITY MASK	
	004252	000000	2353	15	000	2676	LDA	0,5,P0	READ LAST WORD	
	004253	776000	3752	03	000	2677	ANA	=0776000,DU	EXTRACT "E"	
	004254	300056	2553	00	000	2678	ORSA	SXR0+6,,P,SSR	AND SET IT	
	004255	000001	1652	03	000	2679	LOGHA	SBX5	1,DU	DECREMENT 1 ADDRESS
	004256	000001	1622	03	000	2680	SBX2	1,DU	DECREMENT 1 ADDRESS	
	004257	000000	2353	15	000	2681	LDA	0,5,P0	READ REG-X	
	004260	300050	7553	12	000	2682	STA	SXR0,2,P,SSR	AND SET IT IN SSR WORD # 50-55	
	004261	000000	1022	03	000	2683	CMPX2	0,DU	ALL 7 WORD MOVED ?	
	004262	004255	6012	00	010	2684	TNZ	LOGHA	NO	
	004263	004710	7172	00	010	2685	XED	IM51	SAVE PARITY ERROR BIT	
	004264	004542	7172	00	010	2686	XED	IM25A	TEST PARITY ERROR	
	004265	004270	6012	00	010	2687	TNZ	LOGH3	BRANCH IF P.E.	
	004266	000001	2222	03	000	2688	LDX2	1,DU		
	004267	004760	0422	17	010	2689	ASX2	INSTA,7	MODIFY RETURN ADDRESS	
						2690 *				
			004270			2691	LOGH3	NULL		
	004270	000050	1012	03	000	2692	CMPX1	=050,DU	PAGE MISSING FAULT ?	



INSTRUCTION RETRY

004271	004336	6002	00	010	2693	TZF	MM24	YES	
004272	000022	7722	00	000	2694	QRL	18		
004273	400005	2563	13	000	2695	ORSQ	PFI 0G,3,P4	SAVE OPERAND ADDRESS	
004274	000024	1012	03	000	2696	CMPX1	=024,DU	IPR FALT ?	
004275	004336	6002	00	010	2697	TZF	MM24	YES, NOT LOG OPERAND Y-PAIR	
					2698			BECAUSE MISSING PAGE MAY BE OCCURE	
004276	000400	3152	07	000	2699	CANA	=0000400,DL	EIS OR NSA INSTRUCTION ?	
004277	004336	6012	00	010	2700	TNZ	MM24	YES, CAN'T FETCH OPERAND Y-PAIR	
004300	400000	2353	10	000	2701	LDA	0,0,P4		FALT4040
004301	005053	7562	00	010	2702	STQ	AQSAV+1		FALT4050
004302	000100	3152	07	000	2703	CANA	=0100,DL	DIRECT CYCLE	FALT4060
004303	004452	6012	00	010	2704	TNZ	MM24A	YES	FALT4070
004304	000077	3752	07	000	2705	ANA	=077,DL	GET MOD	FALT4080
004305	000003	1152	07	000	2706	CMPA	3,DL	IS IT DU	FALT4090
004306	004452	6002	00	010	2707	TZF	MM24A	YES	FALT4100
004307	000007	1152	07	000	2708	CMPA	7,DL	IS IT DL	FALT4110
004310	004452	6002	00	010	2709	TZF	MM24A	YES	FALT4120
004311	400000	2353	10	000	2710	LDA	0,0,P4	RETRIEVE INSTRUCTION	FALT4130
004312	730001	3362	07	000	2711	LCQ	=0730001,DL		FALT4140
004313	730000	2112	07	000	2712	CMK	=0730000,DL	IS IT A SHIFT	FALT4150
004314	004452	6002	00	010	2713	TZF	MM24A	YES	FALT4160
004315	760001	3362	07	000	2714	LCQ	=0760001,DL		FALT4170
004316	760000	2112	07	000	2715	CMK	=0760000,DL	IS IT EA-	FALT4180
004317	004452	6002	00	010	2716	TZF	MM24A	YES	FALT4190
004320	005053	2222	00	010	2717	LDX2	AQSAV+1	NO	EL8.
004321	300010	1023	00	000	2718	CMPX2	.WISR,,P,SSR	IS EFFECTIVE ADDRESS OK	EL8.
004322	004573	6056	00	010	2719	TPNZ	R,EXT	NO, CAN'T RETRY	EL8.
004323	777776	3622	03	000	2720	ANX2	-2,DU	YES	EL8.
004324	237312	2362	07	000	2721	LDO	=0237312,DL	<<< LDAQ 0,2,P0 >>>	
004325	005010	7562	17	010	2722	STQ	RBIT1,7		
004326	004744	6342	17	010	2723	LDI	INREG,7		
004327	005010	7162	17	010	2724	XEC	RBIT1,7	READ DATA	
004330	004710	7172	00	010	2725	XED	IM51	SAVE PARITY ERROR BIT	
004331	400006	7573	13	000	2726	STAQ	PDI 0G,3,P4	SAVE OPERAND DATA	
004332	004542	7172	00	010	2727	XED	IM25A	TEST PARITY ERROR	
004333	000012	7352	00	000	2728	ALS	10	ALIGN PARITY BIT	
004334	400005	2553	13	000	2729	ORSA	PFI 0G,3,P4	LOG PARITY ERROR	
004335	004452	7102	00	010	2730	TRA	MM24A		
		004336			2731	MM24	NULL		
004336	005000	2252	17	010	2732	LDX5	FCIP,7	X5 = 1ST CU-POINTER AS TO THAT INST.	
004337	400000	2373	15	000	2733	LDAQ	0,5,P4	READ CU-REG	
004340	777001	3362	07	000	2734	LCQ	=0777001,DL	Q= 777777 000777 (MASK WORD)	
004341	717000	2112	07	000	2735	CMK	=0717000,DL	XED ?	
004342	004350	6002	00	010	2736	TZF	M,XED		
004343	716000	2112	07	000	2737	CMK	=0716000,DL	XEC ?	
004344	004402	6002	00	010	2738	TZF	M,XEC		
004345	000040	3152	03	000	2739	CANA	=0000040,DU	REPEATS ?	
004346	004424	6012	00	010	2740	TNZ	M,RPTS	YES	
004347	004414	7102	00	010	2741	TRA	M,RP		
		004350			2742	M,XED	NULL		

INSTRUCTION RETRY

004350	400000	2373	15	000	2743	LDAQ	0,5,P4	READ CU-REG AGAIN
004351	005132	3772	00	010	2744	ANAO	OXDF	
004352	005134	1172	00	010	2745	CMPAQ	OXF	POA.XED.FETCH ?
004353	004356	6012	00	010	2746	TNZ	M.XED1	NO
004354	004716	7022	00	010	2747	TSX2	CKCUE	IF CU-LAST IT,S INDIRECT SYCLE. CAN RETRY
004355	004351	7102	00	010	2748	TRA	M.XED+1	
		004356			2749	M.XED1	NULL	
004356	000000	0112	00	000	2750	NOP		
		004357			2751	M.XED2	NULL	
004357	400154	2373	13	000	2752	LDAQ	CUHR+28,3,P4	
004360	200000	3152	03	000	2753	CANA	=0200000,DU	POA ?
004361	004401	6002	00	010	2754	TZE	M.XED4	NO
004362	400000	3152	03	000	2755	CANA	=0400000,DU	PIA ?
004363	004373	6002	00	010	2756	TZE	M.XED3	NO
004364	004760	2262	17	010	2757	LDX6	INSTA,7	
004365	000001	0262	03	000	2758	ADLX6	1,DU	
004366	004367	7522	70	010	2759	STCQ	**1,70	SAVE Q (U)
004367	000000	1062	03	000	2760	CMPX6	**DU	X6 = Q(U) ?
004370	004401	6012	00	010	2761	TNZ	M.XED4	
004371	004760	7462	17	010	2762	STX6	INSTA,7	YES, XED IS COMPLETE. CAN RETRY
004372	004571	7102	00	010	2763	TRA	MM8	
004373	001000	3152	03	000	2764	M.XED3	CANA =0001000,DU	TRGO ?
004374	004401	6002	00	010	2765	TZE	M.XED4	NO
004375	000100	3152	07	000	2766	CANA	=0000100,DL	ODR MODIFY ?
004376	004401	6012	00	010	2767	TNZ	M.XED4	YES, IT CAN,T RETRY
004377	004760	7562	17	010	2768	STQ	INSTA,7	"IC" MODIFY
004400	004571	7102	00	010	2769	TRA	MM8	RETRY OK
		004401			2770	CODFB	NULL	
004401	004714	7172	00	010	2771	M.XED4	XED CTG	CAN,T RETRY
		004402			2772	M.XEC	NULL	
004402	400154	2373	13	000	2773	LDAQ	CUHR+28,3,P4	
004403	400000	3152	03	000	2774	CANA	=0400000,DU	PIA ?
004404	004571	6002	00	010	2775	TZE	MM8	NO, OPERAND FETCH MIS
004405	004760	2262	17	010	2776	LDX6	INSTA,7	
004406	000001	0262	03	000	2777	ADLX6	1,DU	
004407	004410	7522	70	010	2778	STCQ	**1,70	SAVE Q(U)
004410	000000	1062	03	000	2779	CMPX6	**DU	X6 = Q(U)
		004411			2780	CODFC	NULL	
004411	004706	7172	00	010	2781	XED	TGZ	IF NOT EQUAL CLOSE TAG GATE
004412	004760	7462	17	010	2782	STX6	INSTA,7	I THINK XEC IS COMPLETE.
004413	004571	7102	00	010	2783	TRA	MM8	IT,S XEC+1 INSTRUCTION FETCH MIS
004414	550000	2112	07	000	2784	M.RP	CMK =0550000,DL	RPL ?
004415	004423	6002	00	010	2785	TZE	M.RPL	YES, NOT RETRY
004416	520000	2112	07	000	2786	CMK	=0520000,DL	RPT ?
004417	004423	6002	00	010	2787	TZE	M.RPT	YES
004420	560000	2112	07	000	2788	CMK	=0560000,DL	RPD ?
004421	004423	6002	00	010	2789	TZE	M.RPD	YES
004422	004571	7102	00	010	2790	TRA	MM8	RETRY OK
		004423			2791	M.RPT	NULL	
		004423			2792	M.RPD	NULL	



INSTRUCTION RETRY

			004423		2793	M.RPL	NULL		
004423	004571	7102	00	010	2794	TRA	MM8		
			004424		2795	M.RPTS	NULL		
004424	400002	2353	15	000	2796	LDA	2,5,P4		
004425	600040	3752	03	000	2797	ANA	=0600040,DU	EXTRACT PIA, POA, RPTS FLAG	
004426	600000	1152	03	000	2798	CMPA	=0600000,DU	PIA,POA,NOT REPEATS ?	
004427	004434	6012	00	010	2799	TNZ	M,RPT1	NO	
004430	004760	2262	17	010	2800	LDX6	INSTA,7	*	
004431	000001	0262	03	000	2801	ADLX6	1,DU	* RPTS INSTRUCTION IS COMPLETE	
004432	004760	7552	17	010	2802	STA	INSTA,7	* THIS CASE IS NEXT INST. FETCH MIS	
004433	004571	7102	00	010	2803	TRA	MM8	* FAULT. SO CAN RETRY AT NEXT INST.	
			004434		2804	M.RPT1	NULL		
004434	000002	1252	03	000	2805	SBLX5	2,DU		
004435	400000	2353	15	000	2806	LDA	0,5,P4		
004436	200000	3152	03	000	2807	CANA	=0200000,DU	POA ?	
			004437		2808	CODFD	NULL		
004437	004712	7172	00	010	2809	XED	TGN	NO	
004440	550000	2112	07	000	2810	CMK	=0550000,DL	RPL ?	
004441	004446	6002	00	010	2811	TZE	M,RPT2	YES	
004442	520000	2112	07	000	2812	CMK	=0520000,DL	RPT ?	
004443	004446	6002	00	010	2813	TZE	M,RPT2	YES	
004444	560000	2112	07	000	2814	CMK	=0560000,DL	RPD ?	
			004445		2815	CODFE	NULL		
004445	004706	7172	00	010	2816	XED	TGZ	NO	
			004446		2817	M.RPT2	NULL		
004446	004760	2262	17	010	2818	LDX6	INSTA,7	*	
004447	000001	1262	03	000	2819	SBLX6	1,DU	* THIS CASE IS 1ST INST,S	
004450	004760	7462	17	010	2820	STX6	INSTA,7	* 1ST MEMORY ACCESS MIS FALT	
004451	004571	7102	00	010	2821	TRA	MM8	* SO. IT CAN RETRY AT RPTS INSTRUCTIN	
			004452		2822	MM24A	NULL		
004452	400000	2373	10	000	2823	LDAQ	0,0,P4		
004453	002640	3152	03	000	2824	CANA	=02640,DU	SAW,XDE,XDO,RPTS SYCLE ?	
			004454		2825	CODFF	NULL		
004454	004706	7172	00	010	2826	XED	TG7	IF YES, GO CLOSE TAG GATE	
004455	760000	3762	07	000	2827	ANQ	=0760000,DL		
004456	100000	1162	07	000	2828	CMPQ	=0100000,DL	READ CLEAR COMMAND ?	
			004457		2829	CODFG	NULL		
004457	004712	7172	00	010	2830	XED	TGN	IF YES, GO CLOSE TAG GATE	
			004460		2831	MM24B	NULL		
004460	400000	2373	10	000	2832	LDAQ	0,0,P4	LOAD CURRENT HIT CU=HREG	
004461	005040	7502	00	010	2833	STC2	OUCHKR	RETURN ADDRESS SAVE	
004462	005021	7102	00	010	2834	TRA	OUCHK	GO, CHECK OU INST OR NOT	
004463	004571	7102	00	010	2835	TRA	MM8	NOT OU RETURN	
					2836	*		OU RETURN	
004464	400216	2373	13	000	2837	LDAQ	OUHR+30,3,P4	LOAD LAST OU=HREG	
004465	000040	3152	07	000	2838	CANA	=040,DL	* FGIN (FIRST SYCLE IN ALL OU OP ) ?	
004466	000002	6002	04	000	2839	TZF	2,IC	* NO, CHECK SND OU REG (RS) OP CODE	
004467	000022	7712	00	000	2840	ARL	18	* YES, CHECK RP OP CODE	
004470	777001	3362	07	000	2841	LCQ	=0777001,DL	* Q=777777000777 --- MASK BIT SET	
004471	400000	2113	10	000	2842	CMK	0,0,P4	* COMPARE CU=HREG OP CODE TO RP OR RS	

I N S T R U C T I O N R E T R Y

004472	004566	6012	00	010	2843	TNZ	MM15	* IF NOT EQUAL H.R. INVALID
004473	400217	2363	13	000	2844	LDQ	OUHR+31,3,P4	
004474	100000	3162	03	000	2845	CANQ	=010000,DU	LAST SYCLE (FGOF = 38 BIT)
004475	004500	6002	00	010	2846	TZE	MM24C	NO
004476	040000	3162	03	000	2847	CANQ	=040000,DU	STORE DATA ALREADY(FSTR-OP-AV = BIT 39)?
		004477			2848	CODFH	NULL	
004477	004706	7172	00	010	2849	XED	TGZ	IF YES,, CLOSE TAG GATE
004500	775000	3752	07	000	2850	MM24C ANA	=0775000,DL	
004501	425000	1152	07	000	2851	CMPA	=0425000,DL	FCMG OR DFCMG ?
004502	004571	6002	00	010	2852	TZE	MM8	YES, NO PROBLEM GO, RETRY
004503	625000	3752	07	000	2853	ANA	=0625000,DL	DROP DON,T CARE BITS
004504	425000	1152	07	000	2854	CMPA	=0425000,DL	FLOATING POINT ADD GROUP ?
		004505			2855	CODFI	NULL	
004505	004712	7172	00	010	2856	XED	TGN	IF YES, GO CLOSE TAG GATE
004506	400000	2353	10	000	2857	MM24D LDA	0,0,P4	
004507	735000	3752	07	000	2858	ANA	=0735000,DL	MASK DON,T CARE BITS
004510	421000	1152	07	000	2859	CMPA	=0421000,DL	FLOATING MULTIPLY ?
		004511			2860	CODFJ	NULL	
004511	004712	7172	00	010	2861	XED	TGN	IF YES, GO CLOSE TAG GATE
004512	400000	2353	10	000	2862	MM24F LDA	0,0,P4	
004513	776000	3752	07	000	2863	ANA	=0776000,DL	MASK DON,T CARE BITS
004514	506000	1152	07	000	2864	CMPA	=0506000,DL	DIVIDE INSTRUCTION ?
		004515			2865	CODFK	NULL	
004515	004712	7172	00	010	2866	XED	TGN	IF YES, GO CLOSE TAG GATE
004516	004571	7102	00	010	2867	MM24F TRA	MM8	GO, DETERMINE RETRY OR NOT
					2868	*		
		004517			2869	TAGRB	NULL	
004517	000002	0602	03	000	2870	ADX0	2,DU	ADJUST X0
004520	477774	2353	10	000	2871	LDA	-4,0,P4	LOOK PREVIOUS CU-HREG (BEFORE SIW)
004521	000060	3752	07	000	2872	ANA	=060,DL	EXTRACT "TM" FIELD
004522	000040	1152	07	000	2873	CMPA	=040,DL	"IT" MODIFY ?
		004523			2874	CODFL	NULL	
004523	004706	7172	00	010	2875	XED	TGZ	IF NOT CLOSE TAG GATE
004524	477774	2353	10	000	2876	TG11 LDA	-4,0,P4	
004525	000017	3752	07	000	2877	ANA	=017,DL	EXTRACT "TD" FIELD
004526	004546	2352	05	010	2878	LDA	RBIT2,AL	FETCH ROLLBACK CONSTANT
		004527			2879	CODFW	NULL	
004527	004712	7172	00	010	2880	XFD	TGN	CLOSE TAG GATE IF ILLEGAL TAG
004530	000000	6252	02	000	2881	EAX5	0,QU	X5=OPERAND ADDRESS
004531	005010	7552	17	010	2882	STA	RBIT1,7	SET UP CODE
004532	001764	4736	07	000	2883	LDP	P,SSR,,SSR,DL	P.SSR = TYPE 1 DESCRIPTER
004533	300010	6707	00	000	2884	LDD	PO,,WISR,,P,SSR	DROV FAULT OCCURE,S ISR
004534	005004	7452	00	010	2885	STX5	TEMP	
004535	005004	7606	00	010	2886	LAR0	TEMP	ARO = POSITION ADDRESS
004536	004744	6342	17	010	2887	LDI	INREG,7	LOAD PARITY MASK
004537	005010	7162	17	010	2888	XFC	RBIT1,7	EXECUTE ROLLBACK CONSTANT
004540	004744	7542	17	010	2889	ESTI	INREG,7	SAVE PARITY ERROR BIT
004541	004000	6342	07	000	2890	LDI	=04000,DL	RESET PARITY MASK
004542	004744	2352	17	010	2891	IM25A ELDA	INREG,7	
004543	001000	3752	07	000	2892	ANA	=01000,DL	PARITY ERROR

INSTRUCTION RETRY

					004544	2893	CODFM	NULL			
	004544	004706	7172	00	010	2894	XED	TGZ		IF YES, GO CLOSE TAG GATE	
	004545	004147	7102	00	010	2895	TRA	SCANC		RETURN	
						2896	*				
					004546	2897	RBIT?	NULL			
	004546	000000	000000	000	000	2898	ZERO			"ID" FILED=00 FAULT TAG	
	004547	000000	000000	000	000	2899	ZERO			01 UNDEFINED	
	004550	000000	000000	000	000	2900	ZERO			02 UNDEFINED	
	004551	000000	000000	000	000	2901	ZERO			03 UNDEFINED	
	004552	000000	0113	53	000	2902	NOP	0,AD,PO		04 SD	
	004553	000000	0113	52	000	2903	NOP	0,SC,PO		05 SCR	
	004554	000000	000000	000	000	2904	ZERO			06 UNDEFINED	
	004555	000000	000000	000	000	2905	ZERO			07 UNDEFINED	
	004556	000000	000000	000	000	2906	ZERO			10 CI	
	004557	000000	000000	000	000	2907	ZERO			11 I	
	004560	000000	0113	45	000	2908	NOP	0,SCR,PO		12 SC	
	004561	000000	0113	44	000	2909	NOP	0,SD,PO		13 AD	
	004562	000000	0113	56	000	2910	NOP	0,ID,PO		14 DI	
	004563	000000	0113	56	000	2911	NOP	0,ID,PO		15 DIC	
	004564	000000	0113	54	000	2912	NOP	0,DI,PO		16 ID	
	004565	000000	0113	54	000	2913	NOP	0,DI,PO		17 IDC	
						2914	*				
					004566	2915	MM15	NULL			
	004566	020000	2352	07	000	2916	LDA	=020000,DL			
	004567	400001	2553	13	000	2917	ORSA	FLAG,3,P4		SET INVALID CU-HREG FLAG	
					004570	2918	CODFN	NULL			
	004570	004714	7172	00	010	2919	XED	CTG			
						2920	*				
					004571	2921	RTYOK	NULL			
					004571	2922	MM8	NULL			
						2923	*	SZN	TGT,7	WAS TAG GATE CLOSED ?	
						2924	*	TNZ	MM9	YES, CANNOT RETRY	
	004571	010000	2352	07	000	2925	LDA	=010000,DL			
	004572	400001	2553	13	000	2926	ORSA	FLAG,3,P4		SET RETRY FLAG	
					004573	2927	MM9	NULL			
					004573	2928	R.EXT	NULL			
	004573	000000	2202	03	000	2929	LDXO	0,DU		X0=000000	
	004574	000026	1012	03	000	2930	CMPX1	=026,DU		ONC ?	
	004575	004604	6002	00	010	2931	TZF	MM32		YES	
	004576	000022	1012	03	000	2932	CMPX1	=022,DU		PARITY ?	
	004577	004603	6002	00	010	2933	TZF	MM31		YES	
	004600	000024	1012	03	000	2934	CMPX1	=024,DU		IPR ?	
	004601	004644	6012	00	010	2935	TNZ	MM10		N/	
	004602	000001	0202	03	000	2936	ADLXO	1,DU		YES	
	004603	000001	0202	03	000	2937	MM31	ADLXO	1,DU		
	004604	400001	2353	13	000	2938	MM32	LDA	FLAG,3,P4		
	004605	010000	3152	07	000	2939	CANA	=010000,DL		FORCE RETRY AT THIS TIME ?	
	004606	004614	6002	00	010	2940	TZF	MM33		NO	
	004607	000000	2352	03	000	2941	LDA	0,DU			
	004610	004730	1152	17	010	2942	CMPA	RTCTR,7		IST. TIME ?	

I N S T R U C T I O N R E T R Y

004611	004644	6012	00	010	2943		TNZ	MM10	NO
004612	000003	0202	03	000	2944		ADLX0	STRY=NTRY,DU	YES, X0=SUCCESSFUL RETRY CTR PTR
004613	004633	7102	00	010	2945		TRA	MM11	
004614	004000	3152	07	000	2946	MM33	CANA	=04000,DL	RETRY COUNTER OVRFLOW ?
004615	004624	6002	00	010	2947		TZF	MM34	NO
004616	700572	7223	10	000	2948		LXL2	.CRSTR,0,P.CR	READ SUCCESSFUL RETRY COUNTER
004617	000003	6002	04	000	2949		TZF	3,IC	BRANCH IF NO SUCCESSFUL RETRYS
004620	000001	1222	03	000	2950		SBLX2	1,DU	DECREMENT SUCCESSFUL RETRY COUNTER
004621	700572	4423	10	000	2951		SXL2	.CRSTR,0,P.CR	SAVE UPDATE COUNTER
004622	000006	0202	03	000	2952		ADLX0	UTRY8=NTRY,DU	POINT X1 TO UNSUCCESSFUL RETRY COUNTER
004623	004633	7102	00	010	2953		TRA	MM11	
004624	004730	2352	17	010	2954	MM34	LDA	RTCTR,7	1ST TIME ?
004625	004633	6002	00	010	2955		TZF	MM11	YES
004626	700572	7223	10	000	2956		LXL2	.CRSTR,0,P.CR	READ SUCCESSFUL RETRY COUNTER
004627	004632	6002	00	010	2957		TZF	MM11-1	
004630	000001	1222	03	000	2958		SBLX2	1,DU	DECREMENT SUCCESSFUL RETRYS
004631	700572	4423	10	000	2959		SXL2	.CRSTR,0,P.CR	SAVE UPDATE COUNTER
004632	000011	0202	03	000	2960		ADLX0	UTRYQ=NTRY,DU	POINT X1 TO UNSUC AFT LESS THAN 8 CTR
004633	700567	0543	10	000	2961	MM11	AOS	.CRNTR,0,P.CR	INCREMENT RETRY STATISTIC COUNTER
004634	006107	7262	00	010	2962		LXL6	KPXNO	RESTORE KPXNO TO X6
004635	700567	7463	10	000	2963		STX6	.CRNTR,0,P.CR	STORE KPXNO FOR CONSOLE TYPE OUT
004636	000000	6352	17	000	2964		EAA	0,7	
004637	000006	7352	00	000	2965		ALS	6	
004640	700567	2553	10	000	2966		ORSA	.CRNTR,0,P.CR	STORE CPU #
004641	006144	4706	07	000	2967		LDP	PO,SD,SNB,DL	
004642	000000	2353	16	000	2968		LDA	0,6,PO	
004643	700603	7553	10	000	2969		STA	.CRSNT,0,P.CR	STORE SNUMB
004644	005016	2352	00	010	2970	MM10	LDA	SEGU	SEQ #
004645	777777	1152	07	000	2971		CMPA	=077777,DL	SEQ # IS FULL ?
004646	000002	6012	04	000	2972		TNZ	2,IC	NO
004647	005016	4502	00	010	2973		STZ	SEGU	YES, CLEAR COUNTER
004650	005016	0542	00	010	2974		AOS	SEGU	INCREMENT COUNTER
004651	006144	4706	07	000	2975		LDP	PO,SD,SNB,DL	
004652	006107	7262	00	010	2976		LXL6	KPXNO	RESTOR KPXNO TO X6
004653	000000	2353	16	000	2977		LDA	0,6,PO	FETCH SNUMB
004654	400012	7553	13	000	2978		STA	SNUMB,3,P4	STOE SNUMB
004655	001761	4736	07	000	2979	MMX	LDP	P,SSR,.CTYP,DL	CHANGE S/S DESCRIPTOR TYPE
004656	005014	7242	00	010	2980		LXL4	X4SAV RESTORE	X4
004657	004754	6352	37	010	2981		EAA	TGT,7*	TAG GATE CLOSE ?
004660	000002	6002	04	000	2982		TZE	2,IC	NO
004661	003431	1352	03	010	2983		SBLA	RSTRT+1,DU	ABSOLUTE REASON CODE
004662	005016	2752	00	010	2984		ORA	SEGU	
004663	400003	7553	13	000	2985		STA	SEQ,3,P4	LOG SEQUENCE #
004664	000001	6252	00	000	2986		EAX5	1	
004665	010000	2352	07	000	2987		LDA	=010000,DL	
004666	400001	3153	13	000	2988		CANA	FLAG,3,P4	FORCE RETRY ?
004667	004703	6002	00	010	2989		TZE	OPNGT	GO, OPEN GATE & EXIT
004670	000050	1012	03	000	2990		CMPX1	=050,DU	MISSING PAGE ?
004671	004677	6002	00	010	2991		TZE	MM7	SKIP RETRY COUNTER UPDATE
004672	000040	2352	07	000	2992		LDA	=040,DL	

INSTRUCTION RETRY

004673	300004	3153	00	000	2993	CANA	.WICI,,P.SSR	MULTI WORD ?
004674	004676	6002	00	010	2994	TZE	MMY	NO
004675	300004	6553	00	000	2995	ERSA	.WICI,,P.SSR	YES, ERASE MULTI WORD ID
		004676			2996	MMY	NULL	
004676	004730	0542	17	010	2997	AOS	RTCTR,7	ADD 1 RETRY COUNTER (INTERNAL FLAG )
		004677			2998	MMZ	NULL	
004677	004760	2252	17	010	2999	LDX5	INSTA,7	*
004700	300004	7453	00	000	3000	STX5	.WICI,,P.SSR	* MODIFY "IC" IN SAFE STORE STACK
004701	400021	7453	13	000	3001	STX5	SSFRM+1,3,P4	SAVE RETRY ADDRESS
004702	000000	6252	00	000	3002	EAX5	0	
004703	005020	5542	00	010	3003	OPNGT	STC1	RGATEW
004704	003213	7102	00	010	3004	TRA	HSRC	EXIT ---- RETRY OK
004705	000000011207			000				
004706	004754	5542	17	010	3005	TGZ	ESTC1	TGT,7
004707	004573	6012	00	010	3006		TNZ	MM9
								GO, EXIT RETRY ROUTINE
004710	004744	7542	17	010	3007	IM51	FSTI	INREG,7
								SANE PARITY ERROR BIT
004711	004000	6342	07	000	3008		LDI	=04000,DL
								RESET PARITY MASK
004712	004754	5542	17	010	3009	TGN	ESTC1	TGT,7
004713	004573	6002	00	010	3010		TZE	MM9
								GO, EXIT RETRY ROUTINE
004714	004754	5542	17	010	3011	CTG	ESTC1	TGT,7
004715	004573	7102	00	010	3012		TRA	MM9
								GO, EXIT RETRY ROUTINE
					3013	*		
	004716				3014	CKCUF	NULL	
004716	000002	0652	03	000	3015		ADX5	2,DU
								POINT NEXT CU-HREG
004717	004770	1052	17	010	3016		CMPX5	ULIM,7
								ALL CU-HREG CHECKED ?
004720	004571	6002	00	010	3017		TZE	RTYOK
								YES, RETRY OK
004721	400000	2373	15	000	3018		LDAQ	0,5,P4
								READ NEXT CU-HREG
004722	000000	7102	12	000	3019		TRA	0,2
								RETURN
					3020	*		
004723	000000000000			000	3021	LOGRO	DEC	0
								HEALS LOGGING ENABLE REQUEST CONTENTS
	004724				3022	RTL0D	BSS	4
								SIGNATURE
	004730				3023	RTCTR	BSS	4
								WORKING RETRY COUNTER
	004734				3024	BUFR	BSS	4
								"IC" BIT SAVE FROM CU-HREG
	004740				3025	BUFR1	BSS	4
								NO-FETCH FLAG
	004744				3026	INREG	BSS	4
								FAULT,S INDICATER SAVE
	004750				3027	INSF	BSS	4
								PTR CU-HREG (FETCH)
	004754				3028	TGT	BSS	4
								TAG GATE IF "0" IT,S CAN RETRY
	004760				3029	INSTA	BSS	4
								FAULT,S EFFECTIVE ADDRESS SAVE
	004764				3030	LLIM	BSS	4
								CU-HREG SAVE BUFFER,S LOWER LIMIT ADDRESS
	004770				3031	ULIM	BSS	4
								CU-HREG SAVE BUFFER,S UPPER LIMIT ADDRESS
	004774				3032	FGINP	BSS	4
	005000				3033	FCIP	BSS	4
	005004				3034	TEMP	FBSS	4
								TEMP STORAGE
	005010				3035	RBIT1	BSS	4
	005014				3036	X4SAV	BSS	1
	005015				3037	DUMMY	BSS	1
	005016				3038	SEQU	BSS	1
005017	000000000000			000	3039	LGATFW	OCT	0
								RETRY LAST OR PROCESSING CPU# SAVE
005020	400000000001			000	3040	RGATFW	OCT	-1
								RETRY GATE WORD (INITIAL OPEN)
					3041	*		THIS ROUTINE IS SPECIAL CHECK AS TO OU-LOAD/STORE

INSTRUCTION RETRY

					3042 *	AND THIS ROUTINE CALLING SEQUENCE IS FOLIOING		
					3043 *	LDAQ	----	(CURRENT CU REG SET TO A,Q )
					3044 *	STC2	OUCHKR	
					3045 *	TRA	OUCHK	
					3046 *	TRA	-----	NOT OU INST. RETURN HERE
					3047 *	---	-----	OU INST. RETURN HERE
			005021		3048	OUCHK	NULL	
	005021	005052	7572 00 010		3049	STAQ	AQSAV	A, Q REG SAVE
	005022	005037	7422 00 010		3050	STX2	X2SAV	X2 SAVE
	005023	005054	6222 00 010		3051	EAX2	OUVEC	
	005024	005033	7422 00 010		3052	STX2	INSTAC	SET INSTRUCTION --- LDQ OUVEC.2
			005025		3053	OUVU	NULL	
	005025	000400	3152 07 000		3054	CANA	=0400,DL	EIS OR NSA INST. ?
	005026	005040	6012 00 010		3055	TNZ	OUCHKR	YES, NOT CHECK OU=LOAD / STORE
	005027	000055	7732 00 000		3056	LRL	36+9	Q RIGHT ADJUST OP CODE
	005030	000777	3762 07 000		3057	ANQ	=0777,DL	EXTRACT OP CODE. Q= 000 TO 777
	005031	000040	5062 07 000		3058	DIV	32,DL	TO FIND A TABLE WORD NO.
	005032	000000	6222 06 000		3059	EAX2	0,QL	Q = 0 TO 15 (DECIMAL)
			005033		3060	INSTAC	NULL	
	005033	005054	2362 12 010		3061	LDQ	OUVEC.2	FETCH A TABLE WORD
	005034	000000	7362 05 000		3062	QLS	0,AL	POSITION
	005035	005041	6042 00 010		3063	TMT	OUINS	IF Q 0 BIT =1 IT,S MEEN OU INST.
	005036	005052	2372 00 010		3064	LDAQ	AQSAV	A, Q REG RETURN
	005037	000000	2222 03 000		3065	X2SAV	LDX2	**DU
	005040	000000	7102 00 000		3066	OUCHKR	TRA	**
	005041	005040	2222 00 010		3067	OUINS	LDX2	OUCHKR
	005042	000001	0622 03 000		3068	ADX2	1,DU	MODIFY RETURN ADDRESS
	005043	005040	7422 00 010		3069	STX2	OUCHKR	
	005044	005036	7102 00 010		3070	TRA	OUCHKR-2	
			005045		3071	VUCHK	NULL	
	005045	005052	7572 00 010		3072	STAQ	AQSAV	A, Q REG SAVE
	005046	005037	7422 00 010		3073	STX2	X2SAV	X2 SAVE
	005047	005076	6222 00 010		3074	EAX2	NSAVEC	NSA INST. VECTOR
	005050	005033	7422 00 010		3075	STX2	INSTAC	SET INSTRUCTION --- LDQ VUVEC.2
	005051	005025	7102 00 010		3076	TRA	OUVU	
			005052		3077	AQSAV	FBSS	2
	005054	000003	771760 000		3078	OUVEC	FVFD	08/000,08/000,08/377,08/077,04/0 000-037
	005055	7760777	73560 000		3079	VFD		08/377,08/017,08/377,08/167,04/0 040-077
	005056	7764377	70160 000		3080	VFD		08/377,08/107,08/377,08/007,04/0 100-137
	005057	7760337	73160 000		3081	VFD		08/377,08/006,08/377,08/147,04/0 140-177
	005060	7764377	72760 000		3082	VFD		08/377,08/107,08/377,08/137,04/0 200-237
	005061	7760337	70160 000		3083	VFD		08/377,08/006,08/377,08/007,04/0 240-277
	005062	7760377	70160 000		3084	VFD		08/377,08/007,08/377,08/007,04/0 300-337
	005063	7760337	70160 000		3085	VFD		08/377,08/006,08/377,08/007,04/0 340-377
	005064	310521	252520 000		3086	VFD		08/144,08/124,08/125,08/125,04/0 400-433
	005065	7776352	207520 000		3087	VFD		08/377,08/347,08/120,08/365,04/0 440-477
	005066	0161240	52520 000		3088	VFD		08/007,08/025,08/005,08/125,04/0 500-537
	005067	0007300	50520 000		3089	VFD		08/000,08/166,08/005,08/025,04/0 540-577
	005070	000003	770140 000		3090	VFD		08/000,08/000,08/377,08/006,04/0 600-637
	005071	7760337	70360 000		3091	VFD		08/377,08/006,08/377,08/017,04/0 640-677



I N S T R U C T I O N R E T R Y

005072	000003773560	000	3092	VFD	08/000,08/000,08/377,08/167,04/0	700-737
005073	776734003760	000	3093	VFD	08/377,08/167,08/000,08/177,04/0	740-777
005074	000000000000	000	3094	ZERO OCT	0	INDICATE END OF TABLE
005075	000000011207	000				
005076	000400000000	000	3095	NSAVECEVFD	08/000,08/100,08/000,08/000,04/0	1000-1037
005077	001774000000	000	3096	VFD	08/000,08/377,08/000,08/000,04/0	1040-1077
005100	001774000000	000	3097	VFD	08/000,08/377,08/000,08/000,04/0	1100-1137
005101	001624007040	000	3098	VFD	08/000,08/345,08/000,08/342,04/0	1140-1177
005102	000000000000	000	3099	VFD	08/000,08/000,08/000,08/000,04/0	1200-1237
005103	000000000000	000	3100	VFD	08/000,08/000,08/000,08/000,04/0	1240-1277
005104	000000000000	000	3101	VFD	08/000,08/000,08/000,08/000,04/0	1300-1337
005105	000000000000	000	3102	VFD	08/000,08/000,08/000,08/000,04/0	1340-1377
005106	000200000000	000	3103	VFD	08/000,08/040,08/000,08/000,04/0	1400-1437
005107	001774007760	000	3104	VFD	08/000,08/377,08/000,08/377,04/0	1440-1477
005110	000000001000	000	3105	VFD	08/000,08/000,08/000,08/040,04/0	1500-1537
005111	001500002000	000	3106	VFD	08/000,08/320,08/000,08/100,04/0	1540-1577
005112	001774007760	000	3107	VFD	08/000,08/377,08/000,08/377,04/0	1600-1637
005113	000000007760	000	3108	VFD	08/000,08/000,08/000,08/377,04/0	1640-1677
005114	000100000000	000	3109	VFD	08/000,08/020,08/000,08/000,04/0	1700-1737
005115	001700007400	000	3110	VFD	08/000,08/360,08/000,08/360,04/0	1740-1777
005116	000000000000	000	3111	WSNO1 OCT	0	
005117	000000000000	000	3112	WSNO2 OCT	0	
005120	777677777777	000	3113	ICMASK OCT	777677777777	
005121	000000011207	000				
	005122		3114	WSR EBSS	2	WORKING SPECE REG SAVE
	005124		3115	PIAPTR BSS	4	
	005130		3116	WSRX BSS	1	WORKING SPEACE REG # SAVE
005131	000000011207	000				
005132	600000777400	000	3117	OXEDF EOCT	600000777400,000000000200	EXTRACT PIA, POA,OP CD, FET
005133	000000000200	000				
005134	200000717000	000	3118	OXF EOCT	200000717000,000000000200	POA, XED, FETCH
005135	000000000200	000				
	005136		3119	FENTRY NULL		
005136	005323 7062 00 010	010	3120	TSX6	EISDCD	EIS DECODE
005137	000005 1052 03 000	000	3121	CMPX5	EISIL,DU	ILLEGAL EIS OP CODE ?
005140	005142 6012 00 010	010	3122	TNZ	EISTRY	NO
005141	005260 7062 00 010	010	3123	TSX6	NSADCD	NSA DECODE
			3124	*		
005142	000050 1012 03 000	000	3125	FISTRY CMPX1	=050,DU	MISSING PAGE ?
005143	005147 6002 00 010	010	3126	TZE	CODE0+1	YES, NOT CHECK EIS ILLEGAL DATA
005144	400016 2353 13 000	000	3127	LDA	FAULT,3,P4	READ FAULT REG
005145	004000 3152 03 000	000	3128	CANA	=04000,DU	DATA ERROR ?
	005146		3129	CODFO NULL		
005146	004706 7172 00 010	010	3130	XED	TGZ	IF YES, GO CLOSE TAG GATE
			3131	*		
005147	000050 1012 03 000	000	3132	CMPX1	=050,DU	MISSING PAGE ?
005150	005347 6012 00 010	010	3133	TNZ	CKOVR	NO, GO, CHECK OVER-LAP
005151	006130 2262 00 010	010	3134	LDX6	NODES1	SINGLE WORD EIS ?
005152	005165 6012 00 010	010	3135	TNZ	MULWD	NO
005153	004760 2352 17 010	010	3136	LDA	INSTA,7	INST. ADDRESS

INSTRUCTION RETRY

005154	000001	0752	03	000	3137	ADA	1,DU	ADJUST IC + 1
005155	000020	7712	00	000	3138	ARL	18-2	BYTE ADDRESS
005156	400031	0353	13	000	3139	ADLA	ISR+1,3,P4	ADD ISR BASE
005157	400027	1153	13	000	3140	CMPA	RELVA,3,P4	NEXT INST. FETCH MISSING FAULT ?
005160	004571	6012	00	010	3141	TNZ	MM8	NO, OPERAND FETCH GO, RETRY
005161	004760	2352	17	010	3142	LDA	INSTA,7	*
005162	000001	0752	03	000	3143	ADA	1,DU	*
005163	004760	7552	17	010	3144	STA	INSTA,7	* ADJUST RETURN "IC" & RETRY
005164	004571	7102	00	010	3145	TRA	MM8	*
		005165			3146	MULWD	NULL	
005165	006124	2352	00	010	3147	LDA	FLTOP	FAULTED OP
005166	777777	3752	07	000	3148	ANA	=0777777,DL	
005167	600000	2752	03	000	3149	ORA	=0600000,DU	A= PIA,POA, FLT OP CODE
005170	600001	3362	03	000	3150	LCQ	=0600001,DU	Q= MASK = 177777 000000
005171	400152	2113	13	000	3151	CMK	CUHR+26,3,P4	CU LAST-2 IS PIA,POA,EIS INST ?
005172	004571	6002	00	010	3152	TZF	MM8	YES, EIS, S DESCRIPTOR FETCH MIS CAN RETRY
					3153	*		
005173	006134	3752	00	010	3154	ANA	=0400000777777	EXTRACT PIA, EIS INSTRUCTION
005174	400154	2113	13	000	3155	CMK	CUHR+28,3,P4	CU LAST-1 IS PIA,NOT POA, EIS INST ?
005175	005227	6012	00	010	3156	TNZ	1AF	1ST ADDRESS OPERAND OR DURING EXECUTE
005176	777777	3752	07	000	3157	ANA	=0777777,DL	ERASE PIA BIT
005177	200000	2752	03	000	3158	ORA	=0200000,DU	A= NOT PIA, POA, EIS INST
005200	400150	2113	13	000	3159	CMK	CUHR+24,3,P4	CU LAST-3 IS NOT PIA,POA,EIS INST ?
005201	004571	6002	00	010	3160	TZF	MM8	YES, DES #2 FETCH MISS
005202	006130	2262	00	010	3161	LDX6	NODES1	
005203	000002	1062	03	000	3162	CMPX6	2,DU	2 DESCRIPTOR ?
005204	005207	6002	00	010	3163	TZE	*+3	YES
005205	400146	2113	13	000	3164	CMK	CUHR+22,3,P4	CU LAST-4 IS NOT PIA,POA,EIS INST ?
005206	004571	6002	00	010	3165	TZE	MM8	YES, DES #3 FETCH MISSING FAULT
005207	004760	0262	17	010	3166	ADLX6	INSTA,7	*
005210	000001	0262	03	000	3167	ADLX6	1,DU	*
005211	000000	6352	16	000	3168	EAA	0,6	*
005212	000022	7712	00	000	3169	ARL	18	*
005213	005052	7552	00	010	3170	STA	AQSAV	*
005214	400027	2363	13	000	3171	LDQ	RELVA,3,P4	* CHECK EIS INST FET MIS
005215	000002	7722	00	000	3172	QRL	2	* IC + DES# + 1 + ISR = RELVA ?
005216	400031	2353	13	000	3173	LDA	ISR+1,3,P4	* IF YES SO RETRY OK
005217	000002	7712	00	000	3174	ARL	2	*
005220	005052	0552	00	010	3175	ASA	AQSAV	*
005221	005052	1162	00	010	3176	CMPQ	AQSAV	*
005222	004571	6012	00	010	3177	TNZ	MM8	DES#2 OR DES#3 FETCH MISSING FALT
005223	006130	2262	00	010	3178	LDX6	NODES1	YES, EIS INST. IS COMPLETE
005224	000001	0662	03	000	3179	ADX6	1,DU	AND NEXT INST. FETCH MIS
005225	004760	0462	17	010	3180	ASX6	INSTA,7	
005226	004571	7102	00	010	3181	TRA	MM8	
					3182	*		
005227	777777	3752	07	000	3183	1AF	ANA	=0777777,DL
005230	200000	2752	03	000	3184	ORA	=0200000,DU	A= 200000XXXXXX
005231	004760	2262	17	010	3185	LDX6	INSTA,7	
005232	000003	3662	03	000	3186	ANX6	=03,DU	EIS INST ADDRESS IS 0 ?

EL9.  
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EL9.



INSTRUCTION RETRY

005233	005347	6002 00	010	3187	TZE	CKOVR	EIS INST ADDR=0 ALL DESCRIPTOR FETCHED
005234	000003	1062 03	000	3188	CMPX6	=03,DU	
005235	005347	6002 00	010	3189	TZE	CKOVR	EIS INST ADD=3 ALL DESCRIPTOR FETCHE
005236	000154	6242 13	000	3190	EAX4	CUHR+28,3	X4= CUHR LAST=1 FNTRY
005237	000120	6262 13	000	3191	EAX6	CUHR,3	X6= CUHR 1ST FNTRY
005240	004770	7442 17	010	3192	STX4	ULIM,7	SAVE
005241	004764	7462 17	010	3193	STX6	LLIM,7	FALT3730
				3194 *			
005242	400000	2113 14	000	3195	CMK	0,4,P4	NOT PIA . POA ?
005243	005250	6002 00	010	3196	TZE	POA.P	YES
005244	004764	1042 17	010	3197	CMPX4	LLIM,7	ALL CUHR CHECD ?
005245	005347	6002 00	010	3198	TZE	CKOVR	YES, DURING EXECUTE
005246	000002	1242 03	000	3199	SBLX4	2,DU	
005247	005242	7102 00	010	3200	TRA	*-5	
				3201 *			
005250	777777	3752 07	000	3202	POA.P ANA	=0777777,DL	
005251	400000	2752 03	000	3203	ORA	=0400000,DU	A= 400000 XXXXXX
005252	004770	1042 17	010	3204	CMPX4	ULIM,7	UPPER LIMIT ?
005253	004571	6002 00	010	3205	TZE	MM8	YES, ALL DESCRIPTOR NOT FETCHD
005254	400000	2113 14	000	3206	CMK	0,4,P4	PIA . NOT POA ?
005255	005347	6002 00	010	3207	TZE	CKOVR	ALL DESCRIPTOR FFTHED GO, CKOVR=LAP
005256	000002	0242 03	000	3208	ADLX4	2,DU	
005257	005252	7102 00	010	3209	TRA	*-5	
				3210 *			
				3211 *			
	005260			3212	NSADCD	NULL	
005260	000050	1012 03	000	3213	CMPX1	=050,DU	MISSING PAGE ?
005261	005300	6012 00	010	3214	TNZ	NSA.ER	NO
005262	006124	2352 00	010	3215	LDA	FLTOP	
005263	777400	3752 07	000	3216	ANA	=0777400,DL	EXTRACT OP CODE
005264	713400	1152 07	000	3217	CMPA	=0713400,DL	CLIMB ?
005265	004571	6002 00	010	3218	TZE	MM8	YES, RETRY OK
005266	004760	2352 17	010	3219	LDA	INSTA,7	
005267	000001	0752 03	000	3220	ADA	1,DU	ADJUST IC +1
005270	000020	7712 00	000	3221	ARL	18-2	BYTE ADDRESS
005271	400031	0753 13	000	3222	ADA	ISR+1,3,P4	ADD ISR BASE
005272	400027	1153 13	000	3223	CMPA	RELVA,3,P4	IS EQUAL TO REL.VA ?
005273	005300	6012 00	010	3224	TNZ	NSA.OM	NO, IT,S OPERAND FETCH MISSING FALT
005274	004760	2352 17	010	3225	LDA	INSTA,7	NEXT INSTRUCTION (NSA+1) FETCH MIS
005275	000001	0752 03	000	3226	ADA	1,DU	RETRY IC = NSA +1
005276	004760	7552 17	010	3227	STA	INSTA,7	SAVE FOR
005277	004571	7102 00	010	3228	TRA	MM8	
	005300			3229	NSA.OM	NULL	
	005300			3230	NSA.FR	NULL	
005300	000050	1012 03	000	3231	CMPX1	=050,DU	MISSING PAGE ?
005301	004571	6002 00	010	3232	TZE	MM8	YES RETRY OK
005302	006124	2352 00	010	3233	LDA	FLTOP	A= FAULT OCCURE,S OP
005303	777401	3362 07	000	3234	LCQ	=0777401,DL	Q=MASK = 777777 000377
005304	753400	2112 07	000	3235	CMK	=0753400,DL	STSS ?
005305	005317	6002 00	010	3236	TZE	NSANG	

I N S T R U C T I O N R E T R Y

005306	155400	2112	07	000	3237	CMK	=0155400,DL	STPDW ?
005307	005317	6002	00	010	3238	TZE	NSANG	
005310	157400	2112	07	000	3239	CMK	=0157400,DL	STPTW ?
005311	005317	6002	00	010	3240	TZE	NSANG	
005312	152400	2112	07	000	3241	CMK	=0152400,DL	STO ?
005313	005317	6002	00	010	3242	TZE	NSANG	
005314	713400	2112	07	000	3243	CMK	=0713400,DL	CLIMB ?
005315	005317	6002	00	010	3244	TZE	NSANG	
005316	003561	7102	00	010	3245	TRA	INLB	
		005317			3246	CODFP	NULL	
005317	004714	7172	00	010	3247	NSANG	XED	CTG
		005320			3248	FNRET	NULL	
005320	000050	1012	03	000	3249	CMPX1	=050,DU	MISSING PAGE ?
005321	004571	6002	00	010	3250	TZE	MM8	YES, EXIT WITH RETRY OK
005322	003561	7102	00	010	3251	TRA	INLB	
		005323			3252	EISDCD	NULL	
005323	006022	6252	00	010	3253	EAX5	EISTBL	X5= EIS OP CODE DECODE TABLE
005324	006124	6242	00	010	3254	EAX4	FLTOP	
005325	041300	5602	02	000	3255	ORPDA	16,2,TZE	
005326	000000	2372	15	000	3256	LDAQ	0,5	
005327	000000	2112	14	000	3257	CMK	0,4	
005330	000003	6002	04	000	3258	TZE	3,IC	
005331	000000	2352	15	000	3259	LDA	0,5	
005332	000002	7102	04	000	3260	TRA	2,IC	
005333	777776	2352	15	000	3261	LDA	-2,5	
005334	006125	7552	00	010	3262	STA	REISD	SAVE RESULT
005335	000000	6252	05	000	3263	EAX5	0,AL	
005336	700000	3752	03	000	3264	ANA	=0700000,DU	
005337	006126	7552	00	010	3265	STA	EISTY	SAVE EIS INST. TYPE IN BITS 0-2
005340	000000	6352	15	000	3266	EAA	0,5	
005341	000014	7352	00	000	3267	ALS	12	
005342	000017	7712	00	000	3268	ARL	15	
005343	006130	7552	00	010	3269	STA	NODES1	SAVE # OF DESCRIPTOR FOR RETURN
005344	000007	3652	03	000	3270	ANX5	=0000007,DU	
005345	006127	7452	00	010	3271	STX5	NODES	SAVE # OF DESCRIPTOR IN BITS 15-17
005346	000000	7102	16	000	3272	TRA	0,6	RETURN
		005347			3273	CKOVR	NULL	
005347	000050	1012	03	000	3274	CMPX1	=050,DU	MISSING PAGE ?
005350	005354	6012	00	010	3275	TNZ	*+4	NO
005351	006126	2242	00	010	3276	LDX4	EISTY	FETCH EIS INST. TYPE
005352	200000	1042	03	000	3277	CMPX4	EISD,DU	DECIMAL EIS ?
005353	005320	6002	00	010	3278	TZE	ENRET	YES, RETRY OK
005354	000000	1052	03	000	3279	CMPX5	EISOD,DU	NO-DESCRIPTOR ?
005355	005320	6002	00	010	3280	TZE	ENRET	YES
005356	000001	1052	03	000	3281	CMPX5	EISNO,DU	NOT CHECK OVER=LAP ?
005357	005320	6002	00	010	3282	TZF	ENRET	YES
005360	000004	1052	03	000	3283	CMPX5	EISOR,DU	OVER=LAP INST ?
005361	005401	6012	00	010	3284	TNZ	MF1	
005362	000050	1012	03	000	3285	CMPX1	=050,DU	MISSING PAGE ?
005363	005373	6012	00	010	3286	TNZ	CKISTS	NO

INSTRUCTION RETRY

005364	006125	2352	00	010	3287	LDA	REISD	RESULT EIS DECODE
005365	006036	1152	00	010	3288	CMPA	EISTBL+12	CSL OR CSR ?
005366	005373	6012	00	010	3289	TNZ	CK1STS	NO
005367	006124	2352	00	010	3290	LDA	FLTOP	FALT INSTRUCTION
005370	017000	3752	03	000	3291	ANA	=0017000,DU	EXTRACT "BOLR"
005371	003000	1152	03	000	3292	CMPA	=0003000,DU	MOVE ?
005372	005401	6002	00	010	3293	TZF	MF1	YES, IF NOT OVER LAP RETRY OK
		005373			3294	CK1STS	NULL	
005373	400256	2373	13	000	3295	LDAQ	DUHR+30,3,P4	
005374	400000	3162	03	000	3296	CANQ	=0400000,DU	FDUD ? (DU IDLE)
		005375			3297	CODFO	NULL	
005375	004706	7172	00	010	3298	XED	TG7	IF NO GO, CLOSE TAG GATE
005376	000020	3152	07	000	3299	CANA	=020,DL	DFRST-CT ?
		005377			3300	CODFR	NULL	
005377	004706	7172	00	010	3301	XED	TGZ	
005400	004573	7102	00	010	3302	TRA	MM9	
					3303	*		
					3304	*		
005401	400002	2363	13	000	3305	MF1	LDQ	INST,3,P4
005402	000000	6242	06	000	3306	EAX4	0,QL	LOAD EIS INSTRUCTION
005403	000001	2363	12	000	3307	LDQ	1,2,P0	X4= MF1
005404	006114	7562	00	010	3308	STQ	TAISV	Q= 1ST. DESCRIPTOR
005405	005410	6352	00	010	3309	EAA	CY1	RETURN ADDRESS SET
005406	005755	7512	70	010	3310	STCA	OVRMR,70	
005407	005476	7102	00	010	3311	TRA	OVRM	MAKE LAST ADDRESS
005410	006100	7572	00	010	3312	CY1	STAQ	SAVE VA
005411	005130	2352	00	010	3313	LDA	WSRX	
005412	005116	7552	00	010	3314	STA	WSNO1	SAVE WS# AS TO 1ST DESCRIPTOR
					3315	*		
					3316	*		
005413	006125	2352	00	010	3317	MF2	LDA	REISD
005414	040000	3152	03	000	3318	CANA	MF2D,DU	MF2 IS FROM DESCRIPTOR ?
005415	005424	6012	00	010	3319	TNZ	MF2.2	YES
005416	400002	2363	13	000	3320	LDQ	INST,3,P4	LOAD EID INSTRUCTION
005417	000000	6242	02	000	3321	MF2.1	EAX4	X4= MF2
005420	000002	2363	12	000	3322	LDQ	2,2,P0	Q= 2ND DESCRIPTOR
005421	005427	6352	00	010	3323	EAA	CY2	RETURN ADDRESS SET
005422	005755	7512	70	010	3324	STCA	OVRMR,70	
005423	005476	7102	00	010	3325	TRA	OVRM	MAKE LAST ADDRESS
005424	000002	2363	12	000	3326	MF2.2	LDQ	Q = 2ND. DESCRIPTOR
005425	000000	6242	06	000	3327	EAX4	0,QL	X4= MF2
005426	005420	7102	00	010	3328	TRA	MF2.1+1	
005427	006102	7572	00	010	3329	CY2	STAQ	SAVE VA AS TO DESCRIPTOR #2
005430	005130	2242	00	010	3330	LDX4	WSRX	
005431	005117	7442	00	010	3331	STX4	WSNO2	SAVE WS# AS TO 2ND. DESCRIPTOR
005432	005116	1042	00	010	3332	CMPX4	WSNO1	WS # IS MATCH ?
005433	005440	6012	00	010	3333	TNZ	MF3	NO, NEXT CHECK
005434	006100	6242	00	010	3334	EAX4	ULD1	*
005435	004300	5202	01	000	3335	RPT	2,1,TZE	* TEST OVER=LAP DESCRIPTOR 1&2
005436	000000	1112	14	000	3336	CWL	0,4	* IF OVER=LAP CLOSE TAG GATE

## I N S T R U C T I O N R E T R Y

					005437	3337	CODFS	NULL			
	005437	004712	7172	00	010	3338	XED	TGN	*		
						3339	*				
						3340	*				
	005440	006127	2252	00	010	3341	MF3	LDX5	NODES		
	005441	000003	1052	00	000	3342		CMPX5	EIS3D	3 DESCRIPTOR ?	
	005442	005320	6012	00	010	3343		TNZ	ENRET	EXIT	
	005443	006125	2352	00	010	3344		LDA	REISD		
	005444	020000	3152	03	000	3345		CANA	MF3D,DU	MF3 IS FROM DESCRIPTOR	
	005445	005455	6012	00	010	3346		TNZ	MF3.2	YES	
	005446	400002	2363	13	000	3347		LDQ	INST,3,P4	Q= EIS INSTRUCTION	
	005447	000033	7722	00	000	3348		QRL	27		
	005450	000000	6242	06	000	3349	MF3.1	EAX4	0,QL	X4= MF3	
	005451	000003	2363	12	000	3350		LDQ	3,2,P0		
	005452	005457	6352	00	010	3351		EAA	CY3	RETURN ADDRESS SET	
	005453	005755	7512	70	010	3352		STCA	OVRMR,70		
	005454	005476	7102	00	010	3353		TRA	OVRM	MAKE LAST ADDRESS	
	005455	000003	2363	12	000	3354	MF3.2	LDQ	3,2,P0		
	005456	005450	7102	00	010	3355		TRA	MF3.1		
	005457	005130	2242	00	010	3356	CY3	LDX4	WSRX		
	005460	005116	1042	00	010	3357		CMPX4	WSNO1	WS # MATCH ?	
	005461	005466	6012	00	010	3358		TNZ	CY4	NO, OK	
	005462	006100	6242	00	010	3359		EAX4	ULD1	*	
	005463	004300	5202	01	000	3360		RPT	2,1,TZE	* CHECK OVER LAP	
	005464	000000	1112	14	000	3361		CWL	0,4	* DESCRIPTOR 3 : 1	
	005465	004712	7172	00	010	3362		XED	TGN	*	
	005466	005130	2242	00	010	3363	CY4	LDX4	WSRX		
	005467	005117	1042	00	010	3364		CMPX4	WSNO2	SANE WS # ?	
	005470	005320	6012	00	010	3365		TNZ	ENRET	NO, OK	
	005471	006102	6242	00	010	3366		EAX4	ULD2	*	
	005472	004300	5202	01	000	3367		RPT	2,1,TZE	* CHECK OVER-LAP	
	005473	000000	1112	14	000	3368		CWL	0,4	* IF OVER-LAP CLOSE TAG GATE	
						005474	3369	CODFT	NULL		
	005474	004712	7172	00	010	3370		XED	TGN	*	
	005475	005320	7102	00	010	3371		TRA	ENRET	RETRY OK	
						005476	3372	OVRM	NULL		
						005476	3373	NFLD	NULL		
	005476	006105	4502	00	010	3374		STZ	RLFLG		
	005477	000020	3042	03	000	3375		CANX4	=020,DU	ID ?	
	005500	005320	6012	00	010	3376		TNZ	ENRET	RETRY OK (I BELIVE NOT OVER-LAP)	
	005501	006106	7562	00	010	3377		STQ	DES.N		
	005502	006104	7442	00	010	3378		STX4	RL.REG	X4 = MF-N SAVE	
	005503	006115	4502	00	010	3379		STZ	REG.N	CLEAR "REG SELECT"	
	005504	000017	3642	03	000	3380		ANX4	=017,DU	REG SELECT ?	
	005505	005542	6002	00	010	3381		TZF	CK.RL	NO	
	005506	000004	1042	03	000	3382		CMPX4	=04,DU	"IC" SELECT ?	
	005507	005512	6012	00	010	3383		TNZ	*+3	NO ANOTHER REG	
	005510	300004	2363	00	000	3384		LDQ	4,,P,SSR	FETCH "IC & IR"	
	005511	005534	7102	00	010	3385		TRA	QRI.18.		
	005512	006116	4442	00	010	3386		SXL4	REGSEL	SAVE REG SELECT	

INSTRUCTION RETRY

005513	006064	6242	00	010	3387	EAX4	RL.DEC	X4 = TABLE
005514	006123	2362	00	010	3388	LDQ	QMASK	Q= 777777 777760
005515	006116	6252	00	010	3389	EAX5	REGSEL	X5 REG SELECT POINTOR
005516	000000011207			000				
005517	031300	5602	01	000	3390	ORPDA	12,1,TZE	*
005520	000000	2352	14	000	3391	LDA	0,4	* COMPARE REG
005521	000000	2112	15	000	3392	CMK	0,5	*
				005522	3393	CODFY	NULL	
005522	004706	7172	00	010	3394	XED	TGZ	IF REG SELECT ILLEGAL . CLOSE TAG GATE
005523	006122	2352	00	010	3395	LDA	AMASK	A= 700000 777700
005524	005527	3552	00	010	3396	ANSA	FX	FX = 300000 236300 = LDQ 0,,P.SSR
005525	777777	2252	14	000	3397	LDX5	-1,4	X5 =OFFSET VALUE FROM SSR
005526	005527	2452	00	010	3398	ORSX5	FX	
005527	300000	2363	00	000	3399	FX	LDQ 0,,P.SSR	FETCH A,Q, OR XR=N FROM P.SSR
005530	777777	2352	14	000	3400	LDA	-1,4	
005531	004000	3152	07	000	3401	CANA	=0004000,DL	LOWER ?
005532	005537	6002	00	010	3402	TZE	UORA.	NO, UPPER OR ALL BITS
005533	000022	7362	00	000	3403	QLS	18	
005534	000022	7722	00	000	3404	QRL18.	QRL 18	
005535	006115	7562	00	010	3405	STQ	REG.N	SAVE REG VALUE
005536	005542	7102	00	010	3406	TRA	CK.RL	
005537	001000	3152	07	000	3407	UORA.	CANA =0001000,DL	UPPER ?
005540	005534	6012	00	010	3408	TNZ	QRL18.	YES
005541	004571	7102	00	010	3409	TRA	MMB	A OR Q REG IT,S MAY BE MINUS
					3410	*		SO, OVR=LAP COMPUTE IS DIFFICALT
005542	006104	2242	00	010	3411	CK.RL	LDX4 RL.REG	RESTOR MF=N
005543	000040	3042	03	000	3412	CANX4	=040,DU	RL ?
005544	005573	6002	00	010	3413	TZE	NORL	NO
005545	006064	6242	00	010	3414	EAX4	RL.DEC	X4 = TABLE
005546	006123	2362	00	010	3415	LDQ	QMASK	Q= 777777 777760
005547	006106	6252	00	010	3416	EAX5	DES.N	X5= REG SELECT
005550	000000011207			000				
005551	031300	5602	01	000	3417	ORPDA	12,1,TZE	
005552	000000	2352	14	000	3418	LDA	0,4	
005553	000000	2112	15	000	3419	CMK	0,5	
				005554	3420	CODFU	NULL	
005554	004706	7172	00	010	3421	XED	TGZ	IF "RL" MODIFY ILLEGAL CIOSE TAG GATE
005555	006105	0542	00	010	3422	AOS	RLFLG	SET "RL" MODIFY FLAG
005556	006122	2352	00	010	3423	LDA	AMASK	A = 700000777700
005557	005562	3552	00	010	3424	ANSA	FAQX	FAQX =300000236300 = LDQ 0,,P.SSR
005560	777777	2252	14	000	3425	LDX5	-1,4	X5= OFFSET VALUE FROM SSR
005561	005562	2452	00	010	3426	ORSX5	FAQX	FAQX = 3000XX236300 = LDQ XX,,P.SSR
005562	300000	2363	00	000	3427	FAQX	LDQ 0,,P.SSR	FETCH A,Q, OR XR N FROM P.SSR
005563	777777	2352	14	000	3428	LDA	-1,4	
005564	004000	3152	07	000	3429	CANA	=0004000,DL	LOWER ?
005565	005571	6002	00	010	3430	TZE	UORA	NO, UPPER OR ALL BITS
005566	000022	7362	00	000	3431	QLS	18	
005567	000022	7722	00	000	3432	QRL18	QRL 18	Q(L) = CHARACTER COUNT
005570	005573	7102	00	010	3433	TRA	NORL	
005571	001000	3152	07	000	3434	UORA	CANA =0001000,DL	UPPWR ?

INSTRUCTION RETRY

005572	005567	6012 00	010	3435	TNZ	QRL18	YES
		005573		3436	NORL	NULL	
005573	006126	2352 00	010	3437	LDA	EISTY	A= EIS INST. TYPE
005574	200000	1152 03	000	3438	CMPA	EISD,DU	DECIMAL INSTRUCTION ?
005575	005644	6002 00	010	3439	TZE	DECEIS	YES
		005576		3440	ALPETS	NULL	
005576	006125	2202 00	010	3441	LDX0	REISD	LOAD RESULT EIS DECODE
005577	005427	6242 00	010	3442	EAX4	CY2	
005600	005755	1042 00	010	3443	CMPX4	OVRMR	
005601	005764	6002 00	010	3444	TZE	2ND.D	2ND DESCRIPTOR
005602	005756	6042 00	010	3445	TMI	3RD.D	3RD DESCRIPTOR
005603	006106	2352 00	010	3446	1ST.D	LDA	DES.N
005604	067777	3752 07	000	3447	ANA	=067777,DL	A= DESCRIPTOR =N= EXTRACT "TAN" AND TALLY
005605	040000	3152 07	000	3448	CANA	=040000,DL	4 BIT ?
005606	005650	6012 00	010	3449	TNZ	4BC	YES
005607	020000	3152 07	000	3450	CANA	=020000,DL	6 BIT ?
005610	005626	6012 00	010	3451	TNZ	6BC	YES
005611	005052	7572 00	010	3452	9BC	STAQ	AQ REG SAVE
005612	006115	2362 00	010	3453	LDQ	REG.N	REG SELECT ?
005613	005616	6002 00	010	3454	TZE	9BC.1	NO
005614	000004	5062 07	000	3455	DIV	4,DL	
005615	006115	7562 00	010	3456	STQ	REG.N	WORD ADDRESS BASE SET
005616	005052	2372 00	010	3457	9BC.1	LDAQ	AQSAV
005617	006105	2342 00	010	3458	SZN	RLFLG	"RL" MODIFY ?
005620	000003	6012 04	000	3459	TNZ	3,IC	YES
005621	000000	6362 05	000	3460	EAQ	0,AL	
005622	000022	7722 00	000	3461	QRL	18	
005623	006113	7562 00	010	3462	STQ	N1	SAVE TALLU
005624	000004	5062 07	000	3463	DIV	4,DL	Q/4
005625	005665	7102 00	010	3464	TRA	AREGC	GO, ADDRESS REG CHECK
				3465	*		
		005626		3466	6BC	NULL	
005626	005052	7572 00	010	3467	STAQ	AQSAV	
005627	006115	2362 00	010	3468	LDQ	REG.N	REG SELECT ?
005630	005633	6002 00	010	3469	TZE	6BC.1	NO
005631	000006	5062 07	000	3470	DIV	6,DL	
005632	006115	7562 00	010	3471	STQ	REG.N	WORD ADDRESS BASE SAVE
005633	005052	2372 00	010	3472	6BC.1	LDAQ	AQSAV
005634	006105	2342 00	010	3473	SZN	RLFLG	"RL" MODIFY ?
005635	000004	6012 04	000	3474	TNZ	4,IC	YES
005636	007777	3752 07	000	3475	ANA	=07777,DL	
005637	000000	6362 05	000	3476	EAQ	0,AL	
005640	000022	7722 00	000	3477	QRL	18	
005641	006113	7562 00	010	3478	STQ	N1	SAVE TALLY
005642	000006	5062 07	000	3479	DIV	6,DL	Q/6
005643	005665	7102 00	010	3480	TRA	AREGC	GO, CHECK ADDRESS REG
		005644		3481	DECEIS	NULL	
005644	006106	2352 00	010	3482	LDA	DES.N	
005645	040077	3752 07	000	3483	ANA	=040077,DL	ASCII ?
005646	040000	3152 07	000	3484	CANA	=040000,DL	ASCII ?



I N S T R U C T I O N R E T R Y

005647	005611	6002 00	010	3485		TZE	9BC	YES
		005650		3486	4BC	NULL		
005650	005052	7572 00	010	3487		STAQ	AQSAV	
005651	006115	2362 00	010	3488		LDO	REG.N	REG SELECT ?
005652	005655	6002 00	010	3489		TZE	4BC.1	NO
005653	000011	5062 07	000	3490		DIV	9.DL	
005654	006115	7562 00	010	3491		STQ	REG.N	WORD ADDRESS BASE SAVE
005655	005052	2372 00	010	3492	4BC.1	LDAQ	AQSAV	
005656	006105	2342 00	010	3493		SZN	RLFLG	"RL" MODIFY ?
005657	000004	6012 04	000	3494		TNZ	4.IC	YES
005660	007777	3752 07	000	3495		ANA	=07777.DL	
005661	000000	6362 05	000	3496		EAQ	0.AL	
005662	000022	7722 00	000	3497		QRL	18	
005663	006113	7562 00	010	3498		STQ	N1	SAVE TALLY
005664	000011	5062 07	000	3499		DIV	9.DL	Q/9
		005665		3500	AREGC	NULL		
005665	005006	7562 00	010	3501		STQ	TEMP+2	SAVE TALLY
005666	006104	2352 00	010	3502		LDA	RL.REG	
005667	000100	3152 03	000	3503		CANA	=0100.DU	ADDRESS REG & ODR VALUE
005670	005714	6002 00	010	3504		TZE	NOAR	NO
005671	000000	6362 00	000	3505		EAQ	0	ZERO CLEAR Q REG
005672	006106	2352 00	010	3506		LDA	DES.N	
005673	000003	7772 00	000	3507		LLR	3	
005674	000000	6242 06	000	3508		EAX4	0.QL	X4= ADDRESS REG # 0-7
005675	000025	7712 00	000	3509		ARL	21	A(L) = ADDRESS OXXXXX
005676	006112	7552 00	010	3510		STA	Y	AND SAVE IT
005677	300020	2353 14	000	3511		LDA	ARO,4.P.SSR	READ ADDRESS REG FROM SAFE STOR
005700	000022	7712 00	000	3512		ARL	18	
005701	006111	7552 00	010	3513		STA	CARN	SAVE ADDRESS
005702	000000	6352 14	000	3514		EAA	0.4	*
005703	000001	7352 00	000	3515		ALS	1	*(X4)*2
005704	000000	6242 01	000	3516		EAX4	0.AU	
005705	000020	0242 03	000	3517		ADLX4	16.DU	X4= ODR # (.S
005706	300010	2373 14	000	3518	RODR	LDAQ	.WISR,4.P.SSR	READ ISR OR ODR #N
005707	000017	3152 07	000	3519		CANA	=017.DL	TYPE 0 DESCRIPTOR ?
005710	005730	6002 00	010	3520		TZE	TODES	YES
005711	000015	3152 07	000	3521		CANA	=015.DL	TYPE 2 DESCRIPTOR ?
005712	005722	6002 00	010	3522		TZE	T2DES	YES
		005713		3523	CODFV	NULL		
005713	004714	7172 00	010	3524		XED	CTG	CLOSE TAG GATE
		005714		3525	NOAR	NULL		
005714	006106	2352 00	010	3526		LDA	DES.N	
005715	000022	7712 00	000	3527		ARL	18	
005716	006111	4502 00	010	3528		STZ	CARN	CONTENTS ADDRESS REG IS ZERO
005717	006112	7552 00	010	3529		STA	Y	SAVE "Y" FILED Y=000000XXXXXX
005720	000000	6242 00	000	3530		EAX4	0	X4 = 0
005721	005706	7102 00	010	3531		TRA	RODR	HO, READ ISR
		005722		3532	T2DES	NULL		
005722	000016	7352 00	000	3533		ALS	14	
005723	000777	3752 03	000	3534		ANA	=0777.DU	EXTRACT WSN

INSTRUCTION RETRY

005724	005130	7552	00	010	3535	STA	WSRX	SAVE WSR 000XXX 000000
005725	300010	2373	14	000	3536	LDAQ	.WISR,4,P.SSR	READ ISR OR ODR=N AGAIN
005726	005746	7102	00	010	3537	TRA	ADDADD	
005727	000002	7352	00	000	3538	ALS	2	
		005730			3539	TODES	NULL	
005730	005122	7526	00	010	3540	STWS	WSR	STORE WSR 0-7
005731	005123	7526	00	010	3541	STWS	WSR+1	STORE WSR 4-7,S CONTENTS
005732	000016	7352	00	000	3542	ALS	18-4	
005733	000007	3752	03	000	3543	ANA	=07,DU	EXTRACT WSR# (0-7)
005734	005736	7512	10	010	3544	STCA	*+2,10	
005735	000007	2362	03	000	3545	LDQ	=07,DU	
005736	000000	1362	03	000	3546	SBLQ	**DU	NOW Q= CHAR . POSITION
005737	000011	4022	07	000	3547	MPY	9,DL	
005740	005742	7522	70	010	3548	STCQ	*+2,70	
005741	005122	2372	00	010	3549	LDAQ	WSR	
005742	000000	7732	00	000	3550	LRL	**	Q= CURRENT WRS
005743	000033	7362	00	000	3551	QLS	27	
005744	005130	7562	00	010	3552	STQ	WSRX	WSRX = 000XXX 000000 XXX= WS#
005745	300010	2373	14	000	3553	LDAQ	.WISR,4,P.SSR	READ ISR OR ODR #N AGAIN
		005746			3554	ADDADD	NULL	
005746	000042	7372	00	000	3555	LLS	36-2	
005747	006111	0752	00	010	3556	ADA	CARN	A= ODR + AREG
005750	006112	0752	00	010	3557	ADA	Y	A= ODR + AREG + Y
005751	006115	0752	00	010	3558	ADA	REG.N	A= ODR + AREG + Y + REG
005752	006112	7552	00	010	3559	STA	Y	A= ODR + AREG + Y
005753	006112	2362	00	010	3560	LDQ	Y	A= ODR + AREG + Y
005754	005006	0762	00	010	3561	ADQ	TEMP+2	Q= ODR + AREG + Y + TALI.Y
005755	000000	7102	00	000	3562	OVRMR	TRA	0
					3563	*		
005756	004000	3002	03	000	3564	3RD.D	CANXO	N3NO,DU
005757	000002	6002	04	000	3565		TZE	2,IC
005760	000006	2352	07	000	3566		LDA	=06,DL
005761	000400	3002	03	000	3567		CANXO	TA3NO,DU
005762	005603	6002	00	010	3568		TZE	1ST.D
005763	005626	7102	00	010	3569		TRA	6BC
005764	010000	3002	03	000	3570	2ND.D	CANXO	N2NO,DU
005765	005773	6002	00	010	3571		TZE	TCTR
005766	006125	7202	00	010	3572		LXLO	REISD
005767	164003	1002	03	000	3573		CMPXO	=0164003,DU
005770	005773	6002	00	010	3574		TZE	TCTR
005771	006113	2352	00	010	3575		LDA	N1
005772	006005	7102	00	010	3576		TRA	BCD+1
005773	006114	7202	00	010	3577	TCTR	LXLO	TA1SV
005774	060000	3602	03	000	3578		ANXO	=0060000,DU
005775	006002	6002	00	010	3579		TZE	ASCII
005776	020000	1002	03	000	3580		CMPXO	=0020000,DU
005777	006004	6002	00	010	3581		TZE	BCD
006000	000020	2352	07	000	3582		LDA	16,DL
006001	006005	7102	00	010	3583		TRA	BCD+1
006002	001000	2352	07	000	3584	ASCIT	LDA	512,DL

MAX TALLY 16 SET

MAX TALLY 512 SET



INSTRUCTION RETRY

006003	006005	7102 00	010	3585	TRA	BCD+1	
006004	000100	2352 07	000	3586	LDA	64,DL	MAX TALLY 64 SET
006005	006125	2202 00	010	3587	LDXO	REISD	
006006	001000	3002 03	000	3588	CANXO	TA2NO,DU	TA2 IS NINE ?
006007	005603	6002 00	010	3589	TZE	1ST.D	NO
006010	006125	2202 00	010	3590	LDXO	REISD	
006011	164003	1002 03	000	3591	CMPXO	=0164003,DU	"TCT" OR "TCTR" ?
006012	005611	6002 00	010	3592	TZE	9BC	YES
006013	006114	7202 00	010	3593	LXLO	TA15V	
006014	060000	3602 03	000	3594	ANXO	=0060000,DU	
006015	005611	6002 00	010	3595	TZE	9BC	
006016	020000	1002 03	000	3596	CMPXO	=0020000,DU	BCD ?
006017	005626	6002 00	010	3597	TZE	6BC	YES
006020	005650	7102 00	010	3598	TRA	4BC	

3599 *	BIT 0-2	INSTRUCTION TYPE
3600 *	0	ETC.
3601 *	1	ALPHA
3602 *	2	DECIMAL
3603 *	3	BIT
3604 *	4	CONVERT
3605 *	BIT 3	MF2 IS FROM DESCRIPTOR
3606 *	BIT 4	MF3 IS FROM DESCRIPTOR
3607 *	BIT 5	N2 NONE
3608 *	BIT 6	N3 NONE
3609 *	BIT 7	
3610 *	BIT 8	TA2 NONE
3611 *	BIT 9	TA3 NONE
3612 *	BIT 10-17	
3613 *	BIT 18-26	OP CODE
3614 *	BIT 27-29	
3615 *	BIT 30-32	
3616 *	0	NO DESCRIPTOR
3617 *	2	2 DESCRIPTOR
3618 *	3	3 DESCRIPTOR
3619 *	BIT 33-35	
3620 *	0	NO DESCRIPTOR
3621 *	1	NOT CHECK OVER=LAP
3622 *	2	2 DESCRIPTOR
3623 *	3	3 DESCRIPTOR
3624 *	4	OVER=LAP INSTRUCTION
3625 *	5	ILLEGAL EIS OP CODE

006021	000000011207	000	3626	FISTBLENUL		
	006022		3627 *			
006022	000000440000	000	3628	VFD	3/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/440,3/0,3/0,3/0	
006023	777777327777	000	3629	VFD	18/-1,09/327,9/-1	
			3630 *		NO DESCRIPTOR	
006024	000000600000	000	3631	VFD	3/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/600,3/0,3/0,3/0	
006025	777777007777	000	3632	VFD	18/-1,09/007,9/-1	
			3633 *		NOT CHECK OVER=LAP ----- CMPC	

I N S T R U C T I O N R E T R Y

006026	100000106021	000	3634	VFD	3/1,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/106,3/0.3/2,3/1
006027	777777000777	000	3635	VFD	18/-1,09/000,9/-1
			3636 *		NOT CHECK OVER=LAP ----- CMPN
006030	200000303021	000	3637	VFD	3/2,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/303,3/0.3/2,3/1
006031	777777000777	000	3638	VFD	18/-1,09/000,9/-1
			3639 *		NOT CHECK OVER=LAP ----- SZTL, SZTR, CMPB
006032	300000064021	000	3640	VFD	3/3,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/064,3/0.3/2,3/1
006033	777777003777	000	3641	VFD	18/-1,09/003,9/-1
			3642 *		OVER=LAP INSTRUCTION ---- AD2D, SR2D, MP2D, DV2D
006034	200000202024	000	3643	VFD	3/2,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/202,3/0.3/2,3/4
006035	777777005777	000	3644	VFD	18/-1,09/005,9/-1
			3645 *		OVER=LAP INSTRUCTION ---- CSL, CSR
006036	300000060024	000	3646	VFD	3/3,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/060,3/0.3/2,3/4
006037	777777001777	000	3647	VFD	18/-1,09/001,9/-1
			3648 *		2 DESCRIPTOR (ALPHA) ---- MLR, MRL
006040	100000100022	000	3649	VFD	3/1,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/100,3/0.3/2,3/2
006041	777777001777	000	3650	VFD	18/-1,09/001,9/-1
			3651 *		2 DESCRIPTOR (DEC) ----- MVN
006042	200000300022	000	3652	VFD	3/2,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/300,3/0.3/2,3/2
006043	777777000777	000	3653	VFD	18/-1,09/000,9/-1
			3654 *		2 DESCRIPTOR (CONVERT --- DTB, BTD
006044	400000301022	000	3655	VFD	3/4,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/301,3/0.3/2,3/2
006045	777777004777	000	3656	VFD	18/-1,09/004,9/-1
			3657 *		3 DESCRIPTOR ----- MVT
006046	122400160033	000	3658	VFD	3/1,1/0,1/1,1/0,1/0,1/1,1/0,1/1,8/0,09/160,3/0.3/3,3/3
006047	777777000777	000	3659	VFD	18/-1,09/000,9/-1
			3660 *		3 DESCRIPTOR ----- MVE
006050	100000020033	000	3661	VFD	3/1,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/020,3/0.3/3,3/3
006051	777777000777	000	3662	VFD	18/-1,09/000,9/-1
			3663 *		3 DESCRIPTOR ----- SCD, SCDR, SCM, SCMR
006052	135400120033	000	3664	VFD	3/1,1/0,1/1,1/1,1/1,1/0,1/1,1/1,8/0,09/120,3/0.3/3,3/3
006053	777777005777	000	3665	VFD	18/-1,09/005,9/-1
			3666 *		3 DESCRIPTOR ----- TCT, TCTR
006054	174000164033	000	3667	VFD	3/1,1/1,1/1,1/1,1/1,1/0,1/0,1/0,1/0,8/0,09/164,3/0.3/3,3/3
006055	777777001777	000	3668	VFD	18/-1,09/001,9/-1
			3669 *		3 DESCRIPTOR ----- MVNE
006056	200000024033	000	3670	VFD	3/2,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/024,3/0.3/3,3/3
006057	777777000777	000	3671	VFD	18/-1,09/000,9/-1
			3672 *		3 DESCRIPTOR ----- AD3D, SB3D, MP3D, DV3D
006060	200000222033	000	3673	VFD	3/2,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/222,3/0.3/3,3/3
006061	777777005777	000	3674	VFD	18/-1,09/005,9/-1
	006062		3675	ILLEIS NULL	
006062	000000000005	000	3676	VFD	3/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,1/0,8/0,09/000,9/5
006063	777777000777	000	3677	VFD	18/-1,09/000,9/-1
	006064		3678	RL.DFC NULL	
006064	000054003001	000	3679	VFD	018/54,09/03,09/01 AU - DU
006065	000055003002	000	3680	VFD	018/55,09/03,09/02 QU - DU
006066	000054000005	000	3681	VFD	018/54,09/00,09/05 A - A
006067	000055000006	000	3682	VFD	018/55,09/00,09/06 Q - Q
006070	000050003010	000	3683	VFD	018/50,09/03,09/10 XO - DU

INSTRUCTION RETRY

006071	000050007011	000	3684	VFD	018/50,09/07,09/11	X1 - DL
006072	000051003012	000	3685	VFD	018/51,09/03,09/12	X2 - DU
006073	000051007013	000	3686	VFD	018/51,09/07,09/13	X3 - DL
006074	000052003014	000	3687	VFD	018/52,09/03,09/14	X4 - DU
006075	000052007015	000	3688	VFD	018/52,09/07,09/15	X5 - DL
006076	000053003016	000	3689	VFD	018/53,09/03,09/16	X6 - DU
006077	000053007017	000	3690	VFD	018/53,09/07,09/17	X7 - DL
	000040		3691	SA EQU	ILLEIS-EISTBL	
	000020		3692	TALLY EQU	SA/2	
	006100		3693	ULDI FBSS	2	
	006102		3694	ULD2 BSS	2	
	006104		3695	RL.RFG BSS	1	
	006105		3696	RLFLG BSS	1 RL MODOFY FALG	
	006106		3697	DES.N BSS	1 TEMP STORAGE ( DESCRIPTOR # ( SAVE )	
	006107		3698	KPXNO BSS	1 PROCESS NO SAVE	
	006110		3699	MF.N BSS	1	
	006111		3700	CARN BSS	1	
	006112		3701	Y BSS	1	
	006113		3702	N1 BSS	1 TALLY SAVE	
	006114		3703	TA1SV BSS	1 TA1 SAVE FOR "TCT" , "TCTR"	
	006115		3704	REG.N BSS	1 RES BASE SAVE	
	006116		3705	REGSFL BSS	1 REG SAVE	
006117	000000011207	000				
	006120		3706	LD1 FBSS	2	
006122	700000777700	000	3707	AMASK OCT	700000777700	
006123	777777777760	000	3708	QMASK OCT	777777777760	
	006124		3709	FLTOP BSS	1 FAULTED INSTRUCTION SAVE	
	006125		3710	REISD BSS	1 SAVE EIS DECODE RESULT HERE	
	006126		3711	EISTY BSS	1 SAVE EIS INSTRUCTION TYPE	
	006127		3712	NODES BSS	1 SAVE EIS # OF DESCRIPTOR	
	006130		3713	NODES1 BSS	1 SAVE # OF DESCRIPTOR HERE	
	000000		3714	EIS1 EQU	0 EIS INSTRUCTION SINGLE	
	100000		3715	EISA BOOL	100000 EIS INSTRUCTION ALPHA	
	200000		3716	EISD BOOL	200000 EIS INSTRUCTION DECIMAL	
	300000		3717	EISB BOOL	300000 EIS INSTRUCTION BIT	
	400000		3718	FISC BOOL	400000 EIS INSTRUCTION CONVERT	
	000000		3719	EIS0D EQU	0 EIS INSTRUCTION 0 DESCRIPTOR	
	000001		3720	EISNO EQU	1 EIS INSTRUCTION NOT CHECK OVER=LAP	
	000002		3721	EIS2D EQU	2 EIS INSTRUCTION 2 DESCRIPTOR	
	000003		3722	EIS3D EQU	3 EIS INSTRUCTION 3 DESCRIPTOR	
	000004		3723	FISOR EQU	4 EIS INSTRUCTION OVER=LAP INSTRUCTION	
	000005		3724	FISIL EQU	5 EIS INSTRUCTION ILLEGAL OP CODE	
	040000		3725	MF2D BOOL	40000 MF2 IS FROM DESCRIPTOR	
	020000		3726	MF3D BOOL	20000 MF3 IS FROM DESCRIPTOR	
	010000		3727	N2NO BOOL	10000 N2 NONE	
	004000		3728	N3NO BOOL	04000 N3 NONE	
	001000		3729	TA2NO BOOL	01000 TA2 NONE	
	000400		3730	TA3NO BOOL	00400 TA3 NONE	
			3731	LIT		
006131	777677000377	000				

INSTRUCTION RETRY

006132	201000700000	000
006133	476777007377	000
006134	400000777777	000

006135	000000	000000	000	3732	PATCH	NULL			EL9.
006135	000000	000000	000	3733	DUP	1,8			EL9.
006135	000000	000000	000	3734	ZERO		PATCH WORD		EL9.
006136	000000	000000	000		ZERO		PATCH WORD		
006137	000000	000000	000		ZERO		PATCH WORD		
006140	000000	000000	000		ZERO		PATCH WORD		
006141	000000	000000	000		ZERO		PATCH WORD		
006142	000000	000000	000		ZERO		PATCH WORD		
006143	000000	000000	000		ZERO		PATCH WORD		
006144	000000	000000	000		ZERO		PATCH WORD		
006145	000010	000000	000	3735	ZERO	*-PATCH	FOR XREF LIST		EL9.
	000040			3736	RCODF1	EQU	CODE1-RSTRT	FAULT IN FALT MODULE	
	000135			3737	RCODF2	EQU	CODE2-RSTRT	LREG&NOT OU LOAD OR PE ON LREG SIM	
	000153			3738	RCODF3	EQU	CODE3-RSTRT	RETRY LIMUT EXCEEDED	
	000164			3739	RCODF4	EQU	CODE4-RSTRT	RETRY LIMIT MET	
	000171			3740	RCODF5	EQU	CODE5-RSTRT	SIW,XED,SAW OR RPT DURING FALT CYCLE	
	000173			3741	RCODF6	EQU	CODE6-RSTRT	XEC INTERRUPT CYCLE FAULTED	
	000220			3742	RCODF7	EQU	CODE7-RSTRT	MEMORY PARITY OR PE ON STORE OP	
	000550			3743	RCODF8	EQU	CODE8-RSTRT	MPG TSXN XX,N WITH ODR MODIFY	
	000555			3744	RCODF9	EQU	CODE9-RSTRT	MPG RERTY ADDRESS CAN,T FIND	
	000562			3745	RCODFA	EQU	CODEA-RSTRT	SIW NOT PRECEFDED BY AN RIW	
	000751			3746	RCODFB	EQU	CODEB-RSTRT	MPG IN XED INST CYCLE	
	000761			3747	RCODFC	EQU	CODEC-RSTRT	MPG IN XEC INST CYCLE	
	001007			3748	RCODFD	EQU	CODED-RSTRT	MPG IN RPTS INST CYCLE	
	001015			3749	RCODFE	EQU	CODEE-RSTRT	MPG IN RPTS INST CYCLE	
	001024			3750	RCODFF	EQU	CODEF-RSTRT	RPTS, XED, OR SAW CYCLE EXECUTED	
	001027			3751	RCODFG	EQU	CODEG-RSTRT	READ CLEAR COMMAND EXECUTED	
	001047			3752	RCODFH	EQU	CODEH-RSTRT	GOF AND STORE DATA ALREADY AVAIL	
	001055			3753	RCODFI	EQU	CODEI-RSTRT	FLOATING POINT ADD GROUP	
	001061			3754	RCODFJ	EQU	CODEJ-RSTRT	FLOATING MULTIPLY	
	001065			3755	RCODFK	EQU	CODEK-RSTRT	DIVIDE INSTRUCTION	
	001073			3756	RCODFL	EQU	CODEL-RSTRT	SIW CYCLE ILLFGAI FOR REG. MOD.	
	001114			3757	RCODFM	EQU	CODEM-RSTRT	PE WHEN RESTORING TALLY WORD	
	001140			3758	RCODFN	EQU	CODEN-RSTRT	INVALID CU-HREG FOR RETRY	
	001516			3759	RCODFO	EQU	CODEO-RSTRT	EIS INST. DATA ERROR	
	001667			3760	RCODFP	EQU	CODEP-RSTRT	NSA STSS,STPDW,STPTW,STO, OR CLIMB	
	001745			3761	RCODFQ	EQU	CODEQ-RSTRT	EIS DU IDLE (FDUD)	
	001747			3762	RCODFR	EQU	CODER-RSTRT	EIS DFRST-CT	
	002007			3763	RCODFS	EQU	CODES-RSTRT	EIS INST-DESCRIPTOR 1 AND 2 OVERLAP	
	002044			3764	RCODFT	EQU	CODET-RSTRT	EIS INST-DESCRIPTOR 3 OVERLAPS 1OR2	
	002124			3765	RCODFU	EQU	CODEU-RSTRT	EIS "RL" MODIFY ILLEGAL	
	002263			3766	RCODFV	EQU	CODEV-RSTRT	EIS INST- ODR TYPE NOT 0 OR 2	
	001077			3767	RCODFW	EQU	CODEW-RSTRT	SIW CYCLE ILLEGAL FOR THUS TAG	
	000137			3768	RCODFX	EQU	CODEX-RSTRT	ZOP	
	002072			3769	RCODFY	EQU	CODEY-RSTRT	EIS ILLEGAL REG SELECT	

GATE CHECK ROUTINE

```

3772 * * * * *
3773 *
3774 * ONE OR MULTI-PROCESSOR GATE CHECK ROUTINE
3775 *
3776 * INLINE .CRNSG
3777 * XED .CRNSG,,P.CR LXLO .CRTLY.7,P.CR
3778 * RETURN CMPX0 0,DU
3779 * IF NO GATE IS SHUTED, SET ZERO INDICATOR
3780 *
3781 * XED .CRNSG+2,,P.CR LXLO .CRTLY.7,P.CR
3782 * RETURN CMPX0 1*64,DU
3783 * IF ONLY ONE GATE IS SHUTED, SET ZERO INDICATOR
3784 *
3785 *
3786 * PRODUCTION MODE GATE CHECK ROUTINE
3787 *
3788 * INLINE .CRNSG
3789 * XED .CRNSG,,P.CR LXLO 0,DL
3790 * RETURN, SET ZERO INDICATOR CMPX0 0,DU
3791 *
3792 * XED .CRNSG+2,,P.CR LXL 0,DL
3793 * RETURN, SET ZERO INDICATOR CMPX0 0,DU
3794 *
3795 * * * * *

```



ONE OR MULTI-PROCESSOR GATING

3828

3829 \* \* \* \* \*

3830 \* .SHUT Y,X,P Y = GATE WORD

3831 \* X = GENERAL REGISTER MODIFICATION EXCEPT XO MODIFICATION

3832 \* P = POINTER REGISTER EXCEPT PO MODIFICATION

3833 \*

3834 \*

3835 \*

3836 \* INLINE .CRMPG

3837 \* XED .CRMPG,,P.CR EPPR PO,1,IC FALT

3838 \* SZNC Y+1,X,P STP PO,,CRGDI,7\*,P.CR FALT

3839 \* XED .CRMPG+2,,P.CR +2 LDO .CRORS,7,P.CR FALT

3840 \* TZE .CRMPG+6,,P.CR FALT

3841 \*

3842 \* +6 LDP P.CR,SD.GTW,DL FALT

3843 \* TRA GWAIT,,P.CR FALT

3844 \*

3845 \* .SHUTX Y,X,P

3846 \*

3847 \* INLINE .CRMPG

3848 \* XED .CRMPG,,P.CR EPPR PO,1,IC FALT

3849 \* SZNC Y+1,X,P STP PO,,CRGDI,7\*,P.CR FALT

3850 \* XED .CRMPG+4,,P.CR +4 LDO .CRORS,7,P.CR FALT

3851 \* TZE .CRMPG+8,,P.CR FALT

3852 \*

3853 \* +8 LDD P.CR,DP.GTW,,P.SSL FALT

3854 \* TRA GWAITX,,P.CR FALT

3855 \*

3856 \* \* \* \* \*

3857 \*

3858 \* .OPEN Y,X,P

3859 \*

3860 \* INLINE .CROGT

3861 \* STCZ Y+1,X,P FALT

3862 \* XED .CROGT,,P.CR NOP .CRGID,7\*,P.CR FALT

3863 \* XED .CROGT+2,,P.CR FALT

3864 \*

3865 \* +2 TTF 1,IC FALT

3866 \* LDO .CRORR,7,P.CR FALT

3867 \*

3868 \* \* \* \* \*

G A T E R O U T I N E

3870 \*

3871 \* G A T E W A I T R O U T I N E

3872 \*

006146 000002710204 000

006150

3873

EIGHT

FALT2360

006150

3874 XX

NULL

FALT2362

006150 000000000000 000

3875 INDOP

OCT 0,0,0,0

ABORT FLAGS

FALT2363

006151 000000000000 000

006152 000000000000 000

006153 000000000000 000

006154

3876 GMCM

NULL

04FW0180

006154 000010 0000 00 000

3877 GSREG

ARG

GSAQ-XX

04FW0190

006155 000012 0000 00 000

3878

ARG

GSAQ+2-XX

04FW0200

006156 000014 0000 00 000

3879

ARG

GSAQ+4-XX

04FW0210

006157 000016 0000 00 000

3880

ARG

GSAQ+6-XX

04FW0220

006160

3881 GSAQ

BSS

8

AQ STORAGE

04FW0230

006170

3882 GWTIM

BSS

4

TIMER STORAGE

04FW0240

3883

04FW0250

006174 500016 6777 00 000

3884 GWAITX

LDD

P.CR,DP.CR,,P.SSL RESTORE P.CR

04FW0260

006175 000002 7102 04 6177

3885

TRA

GWAIT+1,\$

04FW0270

3886 \*

04FW0280

006176 006130 4776 07 000

3887 GWAIT

LDP

P.CR,SD.CR,DL

RESTORE P.CR

04FW0290

006177 000004 7572 37 000

3888

STAQ

GSREG-XX,7\*

SAVE AQ

04FW0300

006200 700040 4133 00 000

3889

RSCR

32,,P.CR

04FW0310

006201 000020 7562 17 000

3890

STQ

GWTIM-XX,7

04FW0320

3891

INHIB

OFF

04FW0330

006202 000000 7740 00 000

3892 GWAT3

GTR

DELAY 7-24 MICROSEC

EL9.

006203 000000 7161 00 000

3893

XEC

0,,PO

RETRY GATE

04FW0370

006204 000010 6010 04 6214

3894

TNZ

GOPEN,\$

ITS OPEN

04FW0380

006205 700040 4131 00 000

3895

RSCR

32,,P.CR

STILL SHUT

04FW0390

006206 000020 1360 17 000

3896

SBLQ

GWTIM-XX,7

GET DELTA TIME

04FW0400

006207 777770 6040 04 6177

3897

TMT

GWAIT+1,\$

WOOPS, ROLLOVER

04FW0410

006210 000002 1160 03 000

3898

CMPQ

2,DU

TEST 1/2 SEC WAIT

EL9.

006211 777771 6020 04 6202

3899

TNC

GWAT3,\$

NOT YET

04FW0430

006212 000000 0540 17 000

3900

AOS

INDOP-XX,7

YES, TILT

04FW0440

006213 000000 000000 000

3901

ZERO

04FW0450

3902

INHIB

ON

04FW0460

006214 000004 2372 37 000

3903 GOPEN

LDAQ

GSREG-XX,7\*

RESTORE AQ

04FW0470

006215 000002 7103 00 000

3904

TRA

2,,PO

RETURN FOLLOWING .SHUT

04FW0480

3905

04FW0490

3906

04FW0500

006216 000000 5326 00 000

3907 ICAMP

CAMP

04FW0510

006217 000020 4412 17 000

3908

SXL1

GWTIM-XX,7

EL8.

006220 000147 6212 17 000

3909

EAX1

.KLCAM,7

04FW0530

006221 000004 7102 04 6225

3910

TRA

ICOM,\$

DPSE0850

3911

04FW0550

006222 000000 0116 00 000

3912 ICCAC

CCAC

04FW0560

006223 000020 4412 17 000

3913

SXL1

GWTIM-XX,7

EL8.

006224 000000 6212 17 000

3914

EAX1

.KLCAC,7

04FW0580

3915 \*

TRA

ICOM

04FW0590



G A T E R O U T I N E

3916										04FW0600
006225	000020	7402	17	000	3917	ICOM	STX0	GWTIM=XX,7	SAVE X0	EL8.
006226	006130	4776	07	000	3918		LDP	P.CR,SD.CR,DL	RESTORE CR DESCRIPTOR	04FW0620
006227	000000	1007	00	000	3919		MLR	(1)		04FW0630
006230	700100	0000	20	000	3920		ADSC9	.CRCMC,0,16,P.CR	CAPTURE PROCESSOR PORT TABLE	04FW0640
006231	000105	0000	20	000	3921		ADSC9	CRCMC=XX,0,16		DPSE0910
006232	700271	2203	00	000	3922		LDX0	.CRNPC,,P.CR	GET # PROCESSORS	04FW0660
006233	006133	4776	07	000	3923		LDP	P7,SD,KL,DL		04FW0670
006234	777777	6202	10	000	3924	ICAM2	EAX0	-1,0		04FW0680
006235	000010	6046	04	6245	3925		TMOZ	ICAM3,\$	NO MORE PROCESSORS	DPSE0930
006236	000105	2342	10	000	3926		SZN	CRCMC=XX,0	IS PROCESSOR ACTIVE	DPSE0940
006237	777775	6046	04	6234	3927		TMOZ	ICAM2,\$	NO	DPSE0950
006240	000101	1002	17	000	3928		CMPX0	IPRC=XX,7	IS IT THIS PROCESSOR	EL8.
006241	777773	6002	04	6234	3929		TZE	ICAM2,\$	YES	DPSE0970
006242	700000	7503	11	000	3930		STC2	0,1,P7	SET CAMP/CCAC FLAG	04FW0750
006243	000105	0152	10	000	3931		CIOC	CRCMC=XX,0		DPSE0990
006244	777770	7102	04	6234	3932		TRA	ICAM2,\$		DPSE1000
					3933					04FW0780
006245	006130	4776	07	000	3934	ICAM3	LDP	P.CR,SD.CR,DL	RESTORE REGISTERS	04FW0790
006246	000020	2202	17	000	3935		LDX0	GWTIM=XX,7		EL8.
006247	000020	7212	17	000	3936		LXL1	GWTIM=XX,7		EL8.
006250	000000	7103	00	000	3937		TRA	0,,P0	RETURN	04FW0820
					3938	*				04FW0830
006251	000000	000000	000	000	3939	IPRC	ZERO	0	PROCESSOR NO. TABLE	EL8.
006252	000001	000000	000	000	3940		ZERO	1		EL8.
006253	000002	000000	000	000	3941		ZERO	2		EL8.
006254	000003	000000	000	000	3942		ZERO	3		EL8.
		006255			3943	CRCMC	BSS	4	PROCESSOR=PORT TABLE	04FW0850
					3944	*				FALT2750
					3945	*	G A T E E R R O R			
					3946	*				
					3947		INHIB	ON		FALT5530
006261	000007710204		000							FALT5540
		006270			3948		EIGHT			
		006270			3949	GERROR	NULL			
006270	300030	2373	00	000	3950		LDAQ	.WDRO,,P.SSR	.SHUT SEGMENT	
006271	300010	7573	00	000	3951		STAQ	.WISR,,P.SSR		
006272	000014	2372	04	6306	3952		LDAQ	DSHUT,\$		
006273	300000	7573	00	000	3953		STAQ	.WSS,,P.SSR	DUBLE SHUT INDICATOR	
006274	300020	2203	00	000	3954		LDX0	.WPTR0,,P.SSR		
006275	300004	7403	00	000	3955		STX0	.WICI,,P.SSR		
006276	770000	2352	03	000	3956		LDA	=0770000,DU		
006277	300005	0553	00	000	3957		ASA	.WFTYP,,P.SSR	EXTRACT SCR	
006300	300020	2353	00	000	3958		LDA	.WPTR0,,P.SSR		
006301	007777	3752	07	000	3959		ANA	=07777,DL	EXTRACT DUBLE SHUT SEGMENT ID	
006302	777777	2752	03	000	3960		ORA	=0777777,DU	DUBLE SHUT CODE	
006303	300005	2553	00	000	3961		ORSA	.WFTYP,,P.SSR	SET SCR AND DUBLE SHUT ID AND CODE	
006304	774142	7102	04	2446	3962		TRA	STPS1,\$		DPSE1050
006305	000000011207		000							
006306	246422432520		000	000	3963	DSHUT	EBCI	2,DUBLE SHUT		

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H6600J7.065 FAULT HANDLER SR 4VX 791219FALT

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G A T E R O U T I N E

006307 623064632020 000

		3964	LIT		
	006310	3965	BSS	8	
	006320	3966	FGTR	ENULL	

PATCH AREA

65.00060

6 0 0 S I N S T R U C T I O N R E T R Y

					003430	3968	LOC	RSTRT		6S.00080
	003430	400000	2202 03	000	3969	CKRTY	ELDX0	=0400000,DU	RETRY OK INDICATOR	6S.00090
	003431	000001	6252 00	000	3970		EAX5	1		6S.00100
	003432	300005	3003 00	000	3971		CANX0	.WFTYP,,P.SSR		6S.00110
	003433	002751	6012 00	010	3972		TNZ	HRNP	NOT RETRY	6S.00120
	003434	000040	2352 07	000	3973		LDA	=040,DL		6S.00130
	003435	003330	2552 00	010	3974		ORSA	NMODE		6S.00140
	003436	003330	6742 04	010	3975		LCPR	NMODE,04	UNLOCK HISTORY REGISTER	6S.00150
	003437	003340	7502 00	010	3976		STC2	HSTGT	OPEN GATE	6S.00160
	003440	000000	6252 00	000	3977	AJTIC	EAX5	0		6S.00170
	003441	300004	2353 00	000	3978		LDA	.WICI,,P.SSR	GET IC&I	6S.00180
	003442	000040	3152 07	000	3979		CANA	=040,DL	MULTI-WORD INDICATOR	6S.00190
					003443	3980	S071	NULL	IF OPT7 IS SPECIFIED, NEXT INSTRUCTION TNZ HSSIF	6S.00200
	003443	000000	6012 14	000	3981		TNZ	0,4	TRANSFER IF ON	6S.00210
	003444	000001	1352 03	000	3982		SBLA	1,DU		6S.00220
	003445	300004	7553 00	000	3983		STA	.WICI,,P.SSR	ADJUST IC VALUE	6S.00230
					003446	3984	SI7	NULL	IF OPT7 IS SPESIFIED, NEXT INSTRUCTION IS TRA HSSIF	6S.00240
	003446	000000	7102 14	000	3985		TRA	0,4		6S.00250
					003447	3986	SOPT7	NULL		6S.00260
	003447	000050	1012 03	000	3987		CMPX1	MPG.F,DU	MISSING PAGE FAULT	6S.00270
	003450	003214	6012 00	010	3988		TNZ	HSRC+1	NO	6S.00280
	003451	400000	2352 03	000	3989		LDA	=0400000,DU		6S.00290
	003452	300005	3153 00	000	3990		CANA	.WFTYP,,P.SSR		6S.00300
	003453	777765	6002 04	3440	3991		TZE	AJTIC,\$	RETRY IS OK	6S.00310
	003454	000001	6252 00	000	3992		EAX5	1		6S.00320
	003455	003216	7102 00	010	3993		TRA	SRET1	RETRY NO	6S.00330

600S INSTRUCTION RETRY

3996	*****					6S.00360
3997	*	X0 =	WORK		6S.00370	
3998	*	X1 =	FAULT CODE (0000)		6S.00380	
3999	*	X2 =	WORK		6S.00390	
4000	*	X3 =	OFFSET OF BUFFER HBO		6S.00400	
4001	*	X4 =	RETURN ADDRESS		6S.00410	
4002	*	X5 =	WORK RETRY FLAG ON RETURN. IF = 0, RETRIABLE		6S.00420	
4003	*	X6 =	KPX (PROCESS #)		6S.00430	
4004	*	X7 =	CPU #		6S.00440	
4005	*	ODR0 =	WORK (FAULTED USER'S ISR)		6S.00450	
4006	*	ODR1 =	SD.KL		6S.00460	
4007	*	ODR2 =	WORK		6S.00470	
4008	*	ODR3 =	P.SSR		6S.00480	
4009	*	ODR4 =	SD.HDP HISTORY REG DUMP SEGMENT		6S.00490	
4010	*	ODR5 =	WORK (SD.RMS)		6S.00500	
4011	*	ODR6 =	P.SSA		6S.00510	
4012	*	ODR7 =	P.CR		6S.00520	
4013	*****					6S.00530
4014	*				6S.00540	
4015	*	NOTE	IF RETRY IS ABORTED, RETRY REASON CODES INDICATE 1ST		6S.00550	
4016	*	CONDITION OF	ABORTION.		6S.00560	
4017	*				6S.00570	
4018	*	IF CODE BETWEEN	"SABS" AND "SCOD2" IS ALTERED, RETRY		6S.00580	
4019	*	REASON CODES SHOULD	BE REVIEWED TO SEE IF THEY HAVE		6S.00590	
4020	*	CHANGED.			6S.00600	
4021	*				6S.00610	
4022	*	IF RETRY REASON CODES	IS CHANGED, THEN "HRANS" ROUTINE		6S.00620	
4023	*	AND MANUAL MUST	BE UPDATED TO INCORPORATE THE CHANGES.		6S.00630	
4024	*				6S.00640	
		003456				
4025	SSTRT	NULL			6S.00650	
003456	004656	4502	17 010	4026 ABS00 STZ STGT,7 INITIALIZE TAG GATE	6S.00660	
003457	004670	4502	17 010	4027 ABS01 STZ COLMA,7	6S.00670	
003460	004700	4502	17 010	4028 ABS02 STZ CSHON,7	6S.00680	
003461	004716	7442	17 010	4029 ABS03 STX4 SVX4,7 SAVE H-REG DUMP ROUTINE RETURN ADRS.	6S.00690	
003462	000150	7242	17 010	4030 LXL4 POINT,7 CPU# X 2	6S.00700	
003463	003457	1352	03 010	4031 SBLA SSTRT+1,DU RELATIVIZE REASON CODE	6S.00710	
003464	000000	6252	11 000	4032 EAX5 0,1 SAVE FAULT CODE TO X5	6S.00720	
4033	*				6S.00730	
4034	*	HISTORY REGISTER	POINTER SAVING		6S.00740	
4035	*				6S.00750	
003465	000116	6212	13 000	4036 EAX1 CUHR-2,3	6S.00760	
003466	004730	7412	17 010	4037 ABS04 STX1 SRLIM5,7 CUHR-2	6S.00770	
003467	000001	0212	03 000	4038 ADLX1 1,DU	6S.00780	
003470	004732	7412	17 010	4039 ABS05 STX1 SRLIM6,7 CUHR-1	6S.00790	
003471	000001	0212	03 000	4040 ADLX1 1,DU	6S.00800	
003472	004720	7412	17 010	4041 ABS06 STX1 SRLIM1,7 CUHR+0	6S.00810	
003473	000001	0212	03 000	4042 ADLX1 1,DU	6S.00820	
003474	004722	7412	17 010	4043 ABS07 STX1 SRLIM2,7 CUHR+1	6S.00830	
003475	000035	0212	03 000	4044 ADLX1 =29,DU	6S.00840	
003476	004724	7412	17 010	4045 ABS08 STX1 SRLIM3,7 CUHR+30	6S.00850	

6 0 0 S I N S T R U C T I O N R E T R Y

003477	000001	0212	03	000	4046	ADLX1	1,DU		65.00860
003500	004726	7412	17	010	4047	ABS09	STX1	SRLIM4,7 CUHR+31	65.00870
					4048	*			65.00880
					4049	*	RETURN ADDRESS MAKING 1 - SAVE IC		65.00890
					4050	*			65.00900
003501	400024	2353	13	000	4051	LDA	HICI,3,P4	IC & IR ON FAULT	65.00910
003502	004660	7552	17	010	4052	ABS10	STA	SINSTA,7 STORE EA OF FAULTED INSTRUCTION & IR	65.00920
					4053	*			65.00930
					4054	*	FAULT CHECKING		65.00940
					4055	*			65.00950
003503	000000011207			000					
003504	400001	7223	13	000	4056	CORIC	FLXL2	FLAG,3,P4 LOAD FLAG WORD	65.00960
003505	000077	3622	03	000	4057		ANX2	=077,DU EXTRACT FAULT CODE	65.00970
003506	000006	1022	03	000	4058		CMPX2	6,DU	65.00980
003507	000031	6002	04	3540	4059		TZE	IPRS,\$ BRANCH IF IPR FAULT	65.00990
003510	000007	1022	03	000	4060		CMPX2	7,DU	65.01000
003511	000003	6002	04	3514	4061		TZE	SCAN0,\$ BRANCH IF ONC FAULT	65.01010
003512	000013	1022	03	000	4062		CMPX2	11,DU	65.01020
003513	001043	6012	04	4556	4063		TNZ	ERRUF,\$ BRANCH IF NOT PAR FAULT	65.01030
					4064	*	ILLEGAL ACTION CHECKING		65.01040
003514	400016	2353	13	000	4065	SCAN0	FLDA	FAULT,3,P4 FAULT REGISTER	65.01050
003515	000014	7712	00	000	4066		ARL	12	65.01060
003516	000377	3752	07	000	4067		ANA	=0377,DL EXTRACT IA CODE	65.01070
003517	000017	3362	07	000	4068		LCQ	=017,DL	65.01080
003520	000006	2112	07	000	4069		CMK	6,DL TEST FOR IA = 06 OR 07	65.01090
003521	000004	6012	04	3525	4070		TNZ	RC0,\$ BRANCH IF NOT	65.01100
003522	400000	2212	03	000	4071		LDX1	=0400000,DU	65.01110
003523	400005	2413	13	000	4072		ORSX1	PFLOG,3,P4 SET CORE PARITY FLAG (CP)	65.01120
					4073	*			65.01130
003524	001112	7172	04	4636	4074	ABT01	XED	SART,\$ ** CORE PARITY **	65.01140
003525	000014	3152	07	000	4075	RC0	CANA	=014,DL TEST FOR IA = 14,15,16,17	65.01150
003526	000004	6002	04	3532	4076		TZF	SSCAN1,\$ BRANCH IF NOT	65.01160
003527	200000	2212	03	000	4077		LDX1	=0200000,DU	65.01170
003530	400005	2413	13	000	4078		ORSX1	PFLOG,3,P4 SET STORE INTERFACE PARITY FLAG (SP)	65.01180
003531	000013	7102	04	3544	4079		TRA	SSCAN2,\$	65.01190
					003532		4080	SSCAN1 NULL	65.01200
003532	000000	1152	07	000	4081		CMPA	0,DL EXIST IA, YET	65.01210
003533	000003	6002	04	3536	4082		TZE	*+3,\$	65.01220
003534	000004	7712	00	000	4083		ARL	4	65.01230
003535	777762	7102	04	3517	4084		TRA	SCAN0+3,\$ GO TO CHECK FOR NEXT PORT	65.01240
003536	000007	1022	03	000	4085		CMPX2	7,DU	65.01250
003537	000005	6002	04	3544	4086		TZF	SSCAN2,\$ BRANCH IF ONC FAULT	65.01260
003540	000040	2362	07	000	4087	IPRS	LDO	=040,DL	65.01270
003541	400024	3163	13	000	4088		CANQ	HICI,3,P4 TEST IR30	65.01280
003542	000072	6002	04	3634	4089		TZF	CRADRS,\$ IF NO, IC=IC-1	65.01290
003543	000074	7102	04	3637	4090		TRA	ADRCK,\$ BRANCH IF MULTI WORD INST. IC=IC	65.01300
					4091	*			65.01310
					4092	*	RETURN ADDRESS MAKING 2 - ADDRESS CORRECTION BY CONDITION		65.01320
					4093	*			65.01330
	003544				4094	SSCAN2	NULL		65.01340

6005 INSTRUCTION RETRY

003544	004724	2212	17	010	4095	ABS11	LDX1	SRLIM3,7	CUHR+30	6S.01350
003545	400000	2353	11	000	4096		LDA	0,1,P4	LOAD H-REG DATA	6S.01360
003546	200000	3152	03	000	4097		CANA	=0200000,DU	TEST END FLAG	6S.01370
003547	000006	6012	04	3555	4098		TNZ	SCAN2A,\$	BRANCH IF END	6S.01380
003550	400000	3152	03	000	4099		CANA	=0400000,DU	TEST DIDL FLAG	6S.01390
003551	777767	6002	04	3540	4100		TZE	IPRS,\$	IF NO	6S.01400
003552	000002	1212	03	000	4101		SBLX1	2,DU		6S.01410
003553	004730	1012	17	010	4102	ABS12	CMPX1	SRLIM5,7	CUHR-2	6S.01420
003554	777771	6012	04	3545	4103		TNZ	SSCAN2+1,\$		6S.01430
		003555		4104		SCAN2A	NULL			6S.01440
003555	004724	2212	17	010	4105	ABS13	LDX1	SRLIM3,7	CUHR+30	6S.01450
003556	400000	2353	11	000	4106		LDA	0,1,P4		6S.01460
003557	200000	3752	03	000	4107		ANA	=0200000,DU	TEST END FLAG LAST	6S.01470
003560	000004	6012	04	3564	4108		TNZ	SCAN2B,\$	BRANCH IF SO	6S.01480
003561	477772	2353	11	000	4109		LDA	-6,1,P4	CUHR+24	6S.01490
003562	000001	3752	03	000	4110		ANA	=01,DU	TEST WHETHER LAST DIDL DEPEND UPON FPIA	6S.01500
003563	777755	6012	04	3540	4111		TNZ	IPRS,\$		6S.01510
003564	477772	2353	11	000	4112	SCAN2B	LDA	-6,1,P4	LAST OP CODE	6S.01520
003565	770400	3752	07	000	4113		ANA	=0770400,DL	EXTRACT OP CODE	6S.01530
003566	600400	1152	07	000	4114		CMPA	=0600400,DL	TEST EIS TRANS INSTRUCTION	6S.01540
003567	000045	6002	04	3634	4115		TZF	CRADRS,\$	YES-	6S.01550
003570	700000	1152	07	000	4116		CMPA	=0700000,DL	TEST TSXN INST.	6S.01560
003571	000043	6002	04	3634	4117		TZF	CRADRS,\$	YES-	6S.01570
003572	760400	3752	07	000	4118		ANA	=0760400,DL		6S.01580
003573	600000	1152	07	000	4119		CMPA	=0600000,DL	TEST NEIS TRANS INSTRUCTION	6S.01590
003574	000040	6002	04	3634	4120		TZF	CRADRS,\$	YES-	6S.01600
003575	400150	2353	13	000	4121		LDA	CUHR+24,3,P4		6S.01610
003576	777400	3752	07	000	4122		ANA	=0777400,DL		6S.01620
003577	710000	1152	07	000	4123		CMPA	=0710000,DL	TEST NEIS "TRA" INSTRUCTION	6S.01630
003600	000034	6002	04	3634	4124		TZF	CRADRS,\$	YES-	6S.01640
003601	715000	1152	07	000	4125		CMPA	=0715000,DL	TEST NEIS "TSS" INSTRUCTION	6S.01650
003602	000032	6002	04	3634	4126		TZE	CRADRS,\$	YES-	6S.01660
003603	000040	2362	07	000	4127		LDQ	=040,DL		6S.01670
003604	400024	3163	13	000	4128		CANQ	HICI,3,P4	TEST IR30	6S.01680
003605	000032	6002	04	3637	4129		TZE	ADRCK,\$		6S.01690
				4130	*					6S.01700
				4131	*					6S.01710
								CORRECT IC - MULTI WORD		
003606	400150	2353	13	000	4132		LDA	CUHR+24,3,P4		6S.01720
003607	740000	3152	07	000	4133		CANA	=0740000,DL		6S.01730
003610	000020	6002	04	3630	4134		TZF	3DINS,\$	MVNEX,MVE,MVNE	6S.01740
003611	770000	3752	07	000	4135		ANA	=0770000,DL		6S.01750
003612	120000	1152	07	000	4136		CMPA	=0120000,DL		6S.01760
003613	000015	6002	04	3630	4137		TZF	3DINS,\$	SCD,SCDR,SCM,SCMR	6S.01770
003614	160000	1152	07	000	4138		CMPA	=0160000,DL		6S.01780
003615	000013	6002	04	3630	4139		TZF	3DINS,\$	MVT,TCT,TCTR,CMPCT	6S.01790
003616	220000	1152	07	000	4140		CMPA	=0220000,DL		6S.01800
003617	000011	6002	04	3630	4141		TZF	3DINS,\$	AD3D,SB3D,MP3D,DV3D	6S.01810
003620	260000	1152	07	000	4142		CMPA	=0260000,DL		6S.01820
003621	000007	6002	04	3630	4143		TZF	3DINS,\$	AD3DX,SB3DX,MP3DX,DV3DX	6S.01830
003622	360000	1152	07	000	4144		CMPA	=0360000,DL	MTR,MTM	6S.01840

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003623	000003	6002 04	3626	4145	TZF	1DINS,\$			6S.01850
				4146 *	2-DESCRIPTOR INST				6S.01860
003624	000003	2352 03	000	4147	2DINS LDA	3,DU	NEXT INST IC (IC=IC+3)		6S.01870
003625	000004	7102 04	3631	4148	TRA	3DINS+1,\$			6S.01880
				4149 *	1-DESCRIPTOR INST				6S.01890
003626	000002	2352 03	000	4150	1DINS LDA	2,DU	NEXT INST IC (IC=IC+2)		6S.01900
003627	000002	7102 04	3631	4151	TRA	3DINS+1,\$			6S.01910
				4152 *	3-DESCRIPTOR INST				6S.01920
003630	000004	2352 03	000	4153	3DINS LDA	4,DU	NEXT INST IC (IC=IC+4)		6S.01930
003631	004660	0552 17	010	4154	ABS14	ASA	SINSTA,7	INCREMENT IC	6S.01940
003632	001137	0542 04	4771	4155	AOS	SDBG1,\$	DEBUG ***		6S.01950
003633	000004	7102 04	3637	4156	TRA	ADRCK,\$			6S.01960
				4157 *					6S.01970
				4158 *	CORRECT ADDRESS				6S.01980
003634	000001	3352 03	000	4159	CRADRS LCA	1,DU			6S.01990
003635	004660	0552 17	010	4160	ABS15	ASA	SINSTA,7	DECREMENT EA BY 1	6S.02000
003636	001134	0542 04	4772	4161	AOS	SDBG2,\$	DEBUG ***		6S.02010
				4162 *					6S.02020
				4163 *	ADDRESS ERROR CHECKING (ERROR OR RIGHT) & RETRY LIMITS CHECKING				6S.02030
				4164 *					6S.02040
				4165 *					6S.02050
				003637	4166	ADRCK	NULL		6S.02060
003637	001764	4736 07	000	4167	LDP	P,SSR,SSR,DL	ODR3 = SSR (TYPE=1)		6S.02070
003640	300010	6707 00	000	4168	LDD	P0,WISR,P,SSR	P0 = FAULTED PRG'S ISR		6S.02080
003641	004734	0506 14	010	4169	ABS16	STD	P0,STEMP,4		6S.02090
003642	006063	4756 07	000	4170	LDP	P5,SD,RMS,DL	REAL MEMORY SEG. DESC.		6S.02100
003643	004660	2352 17	010	4171	ABS17	LDA	SINSTA,7 *		6S.02110
003644	000000	4127 01	000	4172	EPAT	0,AU,P0	* MAKE		6S.02120
003645	004744	5536 14	010	4173	ABS18	STTA	TSTREG,4 * ABS-ADRS		6S.02130
003646	004744	2352 14	010	4174	ABS19	LDA	TSTREG,4 * FROM IC (REL ADRS)		6S.02140
003647	000011	7712 00	000	4175	ARL	9 *			6S.02150
003650	004662	7552 17	010	4176	ABS20	STA	SINSTB,7 * SINSTB = ABSOLUTE ADDRESS		6S.02160
003651	000012	7712 00	000	4177	ARL	10			6S.02170
003652	100137	1153 00	000	4178	CMPA	.KLMSZ,KLS	LOWER IK BLOCK		6S.02180
003653	000002	6042 04	3655	4179	TMT	RTYLIM,\$	BLANCH IF EXISTENT ADDRESS		6S.02190
				4180 *					6S.02200
003654	000762	7172 04	4636	4181	ABT02	XFD	SART,\$ ** NON EXISTENT ADDRESS **		6S.02210
				4182 *					6S.02220
				003655	4183	RTYLIM	NULL		6S.02230
003655	001762	4756 07	000	4184	LDP	P5,ISR,DL			6S.02240
003656	004740	0556 14	010	4185	ABS21	STD	P5,TEMP2,4	ISR OF .MFALT	6S.02250
003657	004740	2372 14	010	4186	ABS22	LDAQ	TEMP2,4		6S.02260
003660	400030	1173 13	000	4187	CMPAQ	ISR,3,P4	EQUAL TO FAULTED PRG'S ISR		6S.02270
003661	000010	6012 04	3671	4188	TNZ	SSCAN4,\$	NO-		6S.02280
003662	004660	2222 17	010	4189	ABS23	LDX2	SINSTA,7	FAULTED IC	6S.02290
003663	001005	1022 03	010	4190	CMPX2	EXTM,DU			6S.02300
003664	000002	6032 04	3666	4191	TRC	SSCAN3,\$			6S.02310
				4192 *					6S.02320
003665	000751	7172 04	4636	4193	ABT03	XFD	SART,\$ ** CRITICAL AREA FAULT - IC <EXTM **		6S.02330
				003666	4194	SSCAN3	NULL		6S.02340



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003666	001704	1022	03	010	4195		CMPX2	SIMOP,DU		65.02350
003667	000002	6042	04	3671	4196		TMI	SSCAN4,\$		65.02360
					4197	*				65.02370
003670	000746	7172	04	4636	4198	ABT04	XED	SART,\$	** CRITICAL AREA FAULT - IC > SIMOP **	65.02380
003671	004400	6342	07	000	4199	SSCAN4	LDI	=04400,DL	PARITY MASK & IN7 PARITY BIT	65.02390
003672	006022	4756	07	000	4200		LDP	P5,SD,DGS,DL	* FAULTED PRG'S SEG DEC.	65.02400
003673	001761	4756	07	000	4201		LDP	P5,,CTYP,DL	*	65.02410
003674	500000	2373	14	000	4202		LDAQ	,4,P5		65.02420
003675	004750	7572	14	010	4203	ABS24	STAQ	SV,DGS,4	*	65.02430
003676	500000	0507	14	000	4204		STD	P0,,4,P5	* CHANGE TO WRITE & READ PERMIT	65.02440
003677	140000	2352	07	000	4205		LDA	=0140000,DL	*	65.02450
003700	500000	2553	14	000	4206		ORSA	,4,P5	* P5 = SD,DGS (WORKING SEG. TYPE=1)	65.02460
003701	006022	4756	07	000	4207		LDP	P5,SD,DGS,DL	*	65.02470
003702	500000	6707	14	000	4208		LDD	P0,,4,P5	* P0 = FAULTED PRG'S DESC. W,R PERMIT	65.02480
003703	004740	0506	14	010	4209	ABS25	STD	P0,TEMP2,4	*	65.02490
003704	001761	4756	07	000	4210		LDP	P5,,CTYP,DL	*	65.02500
003705	004750	2372	14	010	4211	ABS26	LDAQ	SV,DGS,4	*	65.02510
003706	500000	7573	14	000	4212		STAQ	,4,P5	*	65.02520
003707	001064	0542	04	4773	4213		AOS	SDRG3,\$		65.02530
003710	004660	2202	17	010	4214	ABS27	LDX0	SINSTA,7		65.02540
003711	000000	2353	10	000	4215		LDA	0,0,P0	READ INSTRUCTION WORD	65.02550
003712	000732	7172	04	4644	4216		XED	RI,\$	LOAD IR	65.02560
003713	004000	6342	07	000	4217		LDI	=04000,DL	INZ IR	65.02570
003714	001000	3602	03	000	4218		ANX0	=01000,DU	TEST PARITY BIT	65.02580
003715	000003	6002	04	3720	4219		TZE	SSCAN5,\$	BRANCH IF NOT PARITY	65.02590
003716	100000	2212	03	000	4220		LDX1	=0100000,DU		65.02600
003717	400005	2413	13	000	4221		ORSX1	PFLOG,3,P4	SET INST WORD PARITY FLAG	65.02610
003720	400002	7553	13	000	4222	SSCAN5	STA	INST,3,P4	SET FAULTED INSTRUCTION	65.02620
003721	777401	3352	07	000	4223		LCA	=0777401,DL	LOAD CURRENT IAL,CPU,#,FLT CODE	65.02630
003722	400001	3753	13	000	4224		ANA	FLAG,3,P4	CPU #,FAULT CODE	65.02640
003723	400024	0353	13	000	4225		ADLA	HICI,3,P4	IC & IR	65.02650
003724	004734	0352	14	010	4226	ABS28	ADLA	STEMP,4	ISR -- BOUND,FLAGS,WSR#,TYPE	65.02660
003725	004734	0352	14	010	4227	ABS29	ADLA	STFMP,4	ISR -- BASE	65.02670
003726	700105	0353	00	000	4228		ADLA	.CRDAT+1,,P,CR		65.02680
003727	004652	1152	17	010	4229	ABS30	CMPA	SRTL0D,7	IS SIGNATURE SAME AS LAST	65.02690
003730	000003	6002	04	3733	4230		TZE	SSCAN6,\$	BRANCH IF YES - FIT INST IS SAME AS LAST	65.02700
003731	004652	7552	17	010	4231	ABS31	STA	SRTL0D,7	SET NEW SIGNATURE	65.02710
003732	004654	4502	17	010	4232	ABS32	STZ	SRTCTR,7	CLEAR RETRY COUNTER	65.02720
					003733		4233	SSCAN6	NULL	65.02730
003733	700561	2353	17	000	4234		LDA	.CRLIM,7,P,CR	RETRY LIMITS = DFFAULT VALUE = 7	65.02740
003734	000001	3152	03	000	4235		CANA	=01,DU	BIT 17 = 1 -- "HEALS RTYOFF"	65.02750
003735	000004	6012	04	3741	4236		TNZ	ABT05,\$		65.02760
003736	000000	0112	03	000	4237		NOP	0,DU		65.02770
003737	700561	2353	17	000	4238		LDA	.CRLIM,7,P,CR		65.02780
003740	000002	6012	04	000	4239		TNZ	2,IC		65.02790
					4240	*				65.02800
003741	000675	7172	04	4636	4241	ABT05	XED	SART,\$	** RETRY LIMITS IS ZERO **	65.02810
003742	004654	2362	17	010	4242	ABS33	LDQ	SRTCTR,7	LOAD RETRY COUNTER	65.02820
003743	000010	7362	00	000	4243		QLS	8		65.02830
003744	400001	2563	13	000	4244		ORSQ	FLAG,3,P4	SET RETRY COUNTER	65.02840

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003745	004654	1152	17	010	4245	ABS34	CMPA	SRTCTR,7	TEST RETRY LIMIT	6S.02850
003746	000002	6002	04	000	4246		TZF	2,IC		6S.02860
003747	000004	6032	04	3753	4247		TRC	HRLCK,\$		6S.02870
003750	004000	2352	07	000	4248		LDA	=04000,DL		6S.02880
003751	400001	2553	13	000	4249		ORSA	FLAG,3,P4	SET RETRY OVERFLOW FLAG (UR)	6S.02890
					4250	*				6S.02900
003752	000664	7172	04	4636	4251	ABT06	XED	SABT,\$	** RETRY OVERFLOW **	6S.02910
					4252	*				6S.02920
					4253	*			HISTORY REGISTER LOWER CHECKING - POINT OUT FAULT INST C-CYCLE	6S.02930
					4254	*				6S.02940
	003753				4255	HRLCK	NULL			6S.02950
					4256	*				6S.02960
					4257	*			SEARCH FETCH CYCLE OF FAULTED INSTRUCTION	6S.02970
003753	004726	2212	17	010	4258	ABS35	LDX1	SRLIM4,7	CUHR+31	6S.02980
003754	004662	6222	17	010	4259	ABS36	EAX2	SINSTB,7	FAULTED ABSOLUTE ADRS. POINTER	6S.02990
003755	400000	2353	11	000	4260	SCAN7	LDA	0,1,P4	CUHR+31	6S.03000
003756	000670	7172	04	4646	4261		XFD	HRAA,\$		6S.03010
003757	001002	3752	04	4761	4262		ANA	MASKIC,\$	MASK ADDRESS BIT 23	6S.03020
003760	000000	1152	12	000	4263		CMPA	0,2	TEST ZMA = AA (AA = EVEN)	6S.03030
003761	000011	6002	04	3772	4264		TZE	SCAN8,\$	BRANCH IF EQUAL, ADDRESS MATCH	6S.03040
003762	001012	0542	04	4774	4265		AOS	SDRG4,\$	DEBUG ***	6S.03050
003763	000001	2752	07	000	4266		ORA	1,DL		6S.03060
003764	000000	1152	12	000	4267		CMPA	0,2	TEST ZMA+1 = AA (AA = ODD)	6S.03070
003765	000005	6002	04	3772	4268		TZE	SCAN8,\$	BRANCH IF EQUAL, ADDRESS MATCH	6S.03080
003766	000002	1212	03	000	4269	RC1	SRLX1	2,DU		6S.03090
003767	004732	1012	17	010	4270	ABS37	CMPX1	SRLIM6,7	TEST TO CUHR-1	6S.03100
003770	777765	6012	04	3755	4271		TNZ	SCAN7,\$	REPEAT IF NOT END,YET	6S.03110
					4272	*				6S.03120
003771	000645	7172	04	4636	4273	ABT07	XED	SABT,\$	** NO FETCH CYCLE OF FLT'D INST. **	6S.03130
					4274	*			ADDRESS MATCHED. BUT...	6S.03140
003772	400000	2353	11	000	4275	SCAN8	LDA	0,1,P4		6S.03150
003773	040000	3152	07	000	4276		CANA	=040000,DL	TEST 1ST DPIAC FLAG	6S.03160
003774	777772	6002	04	3766	4277		TZE	RC1,\$	ONE MORE TRY IF NO	6S.03170
003775	004000	3152	07	000	4278		CANA	=04000,DL	TEST "DPGF" FLAG	6S.03180
003776	777770	6012	04	3766	4279		TNZ	RC1,\$	IF SO, IGNORE "DPIAC" FLAG	6S.03190
003777	000002	0212	03	000	4280	RC2	ADLX1	2,DU		6S.03200
004000	004726	1012	17	010	4281	ABS38	CMPX1	SRLIM4,7	TEST TO CUHR+31	6S.03210
004001	000006	6002	04	4007	4282		TZF	SCAN9,\$	BRANCH IF NO 2ND INST=FFETCH	6S.03220
004002	400000	2353	11	000	4283		LDA	0,1,P4		6S.03230
004003	040000	3152	07	000	4284		CANA	=040000,DL	TEST 2ND DPIAC FLAG	6S.03240
004004	777773	6002	04	3777	4285		TZF	RC2,\$	REPEAT IF NO	6S.03250
004005	004000	3152	07	000	4286		CANA	=04000,DL	TEST "DPGF" FLAG	6S.03260
004006	777771	6012	04	3777	4287		TNZ	RC2,\$	IF SO, IGNORE "DPIAC" FLAG	6S.03270
					4288	SCAN9	NULL			6S.03280
004007	004726	1012	17	010	4289	ABS39	CMPX1	SRLIM4,7	TEST WHETHER IT IS LAST WORD	6S.03290
004010	000015	6002	04	4025	4290		TZF	SCAN10,\$	FLT INST IS NO C-CYCLE IF SO	6S.03300
004011	000002	0212	03	000	4291		ADLX1	2,DU		6S.03310
004012	400000	2353	11	000	4292		LDA	0,1,P4		6S.03320
004013	004000	3152	07	000	4293		CANA	=04000,DL	TEST "DPGF" FLAG	6S.03330
004014	777773	6012	04	4007	4294		TNZ	SCAN9,\$	IF SO, IGNORE FLAG	6S.03340

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004015	010000	3152	07	000	4295		CANA	=010000,DL	TEST DPOAC FLAG	6S.03350
004016	777771	6002	04	4007	4296		TZF	SCAN9,\$	REPEAT IF NO	6S.03360
004017	000002	3362	07	000	4297		LCO	2,DL	77777777776	6S.03370
004020	000015	7712	00	000	4298		ARL	13 MOVE FIC117C	FLAG TO LSB	6S.03380
004021	000000	2112	12	000	4299		CMK	0,2	COMPARE ADRS BIT23	6S.03390
004022	777765	6012	04	4007	4300		TNZ	SCAN9,\$	REPEAT IF NOT EQUAL	6S.03400
004023	004666	7412	17	010	4301	ABS40	STX1	HRPTL,7	HR=L POINTER OF FLT INST. C=CYCLE	6S.03410
004024	000004	7102	04	4030	4302		TRA	CKFRTY,\$	GO TO CHECK FRTRY FLAG	6S.03420
				004025	4303	SCAN10	NULL			6S.03430
004025	004666	4502	17	010	4304	ABS41	STZ	HRPTL,7	POINTER ZERO IF NO C=CYCLE	6S.03440
004026	000747	0542	04	4775	4305		AOS	SDBG5,\$	DEGBUG ***	6S.03450
004027	000011	7102	04	4040	4306		TRA	HRUCK,\$		6S.03460
					4307	*				6S.03470
					4308	*		HISTORY REGISTER LOWER CHECKING	= TEST FRTRY FLAG	6S.03480
					4309	*				6S.03490
004030	400000	2353	11	000	4310	CKFRTY	LDA	0,1,P4	XI = HRPTL	6S.03500
004031	000400	3152	07	000	4311		CANA	=0400,DL	TEST FRTRY FLAG	6S.03510
004032	000002	6002	04	4034	4312		TZE	RC3,\$	BRANCH IF NO	6S.03520
					4313	*				6S.03530
004033	000603	7172	04	4636	4314	ABT08	XFD	SART,\$	** FRTRY FLAG = 1 **	6S.03540
				004034	4315	RC3	NULL			6S.03550
004034	004726	1012	17	010	4316	ABS42	CMPX1	SRLIM4,7	TEST TO HR=L LAST	6S.03560
004035	000003	6002	04	4040	4317		TZE	HRUCK,\$	GO TO CHECK UPPER	6S.03570
004036	000002	0212	03	000	4318		ADLX1	2,DU		6S.03580
004037	777771	7102	04	4030	4319		TRA	CKFRTY,\$	REPEAT	6S.03590
					4320	*				6S.03600
					4321	*		HISTORY REGISTER UPPER CHECKING	= POINT OUT LAST END FLAG CYCLE	6S.03610
					4322	*				6S.03620
				004040	4323	HRUCK	NULL			6S.03630
004040	004724	2212	17	010	4324	ABS43	LDX1	SRLIM3,7	HR=U LAST WORD CUHR+30	6S.03640
004041	400000	2353	11	000	4325		LDA	0,1,P4		6S.03650
004042	200000	3152	03	000	4326		CANA	=0200000,DU	TEST END FLAG	6S.03660
004043	000010	6012	04	4053	4327		TNZ	SCAN11,\$	BRANCH IF YES	6S.03670
004044	000004	3152	03	000	4328		CANA	=04,DU	TEST HEALS FLAG	6S.03680
004045	000002	6002	04	000	4329		TZF	2,IC	IF NO	6S.03690
					4330	*				6S.03700
004046	000570	7172	04	4636	4331	ABT09	XFD	SART,\$	** HEALS FLAG = 1 **	6S.03710
004047	000002	1212	03	000	4332		RC4	SBLX1	2,DU	6S.03720
004050	004730	1012	17	010	4333	ABS44	CMPX1	SRLIM5,7	TEST TO CUHR=2	6S.03730
004051	777770	6012	04	4041	4334		TNZ	HRUCK+1,\$	REPEAT IF NO	6S.03740
004052	000000	0112	03	000	4335		NOP	0,DU	POINTER = SCUHR=2 IF NO END FLAG	6S.03750
				004053	4336	SCAN11	NULL			6S.03760
004053	004664	7412	17	010	4337	ABS45	STX1	HRPTU,7	POINTER OF END FLAG	6S.03770
004054	004724	1012	17	010	4338	ABS46	CMPX1	SRLIM3,7	IS END FLAG LAST HR=U CUHR+30	6S.03780
004055	000162	6002	04	4237	4339		TZF	SCAN14,\$	BRANCH IF LAST	6S.03790
004056	000002	0212	03	000	4340	RC4A	ADLX1	2,DU		6S.03800
004057	400000	2353	11	000	4341		LDA	0,1,P4		6S.03810
004060	400000	3152	03	000	4342		CANA	=0400000,DU	TEST DIDL FLAG	6S.03820
004061	000004	6002	04	4065	4343		TZF	SCAN12,\$	IF NO	6S.03830
004062	004724	1012	17	010	4344	ABS47	CMPX1	SRLIM3,7	TEST TO HR=U LAST	6S.03840

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004063	000154	6002 04	4237 4345	TZF	SCAN14,\$	BRANCH IF DIDL FLAG IS LAST	65.03850
004064	777772	7102 04	4056 4346	TRA	RC4A,\$	REPEAT	65.03860
			4347 *				65.03870
			4348 *			OP-CODE CHECKING = "SINST" WORD & HR=UPPER, DIS INSTRUCTION	65.03880
			4349 *				65.03890
	004065		4350	SCAN12	NULL		65.03900
004065	004664	7412 17	010 4351	ABS48	STX1	HRPTU,7 CHANGE POINTER TO DIDL	65.03910
004066	000710	0542 04	4776 4352	AOS	SDBG6,\$	DEBUG ***	65.03920
004067	000006	1212 03	000 4353	SBLX1	6,DU	A-CYCLE OF ITSELF	65.03930
004070	400002	2353 13	000 4354	LDA	INST,3,P4	LOAD INSTRUCTION WORD	65.03940
004071	777401	3362 07	000 4355	LCQ	-255,DL	777777000377 = OP-CODE MASK	65.03950
004072	004720	1012 17	010 4356	ABS49	CMPX1	SRLIMI,7 TEST CUHR*0	65.03960
004073	000002	6052 04	000 4357	TPL	2,IC		65.03970
004074	004720	2212 17	010 4358	ABS50	LDX1	SRLIMI,7 SET CUHR*0 TO POINTER IF NEGATIVE	65.03980
004075	400000	2113 11	000 4359	CMK	0,1,P4	TEST OP CODE	65.03990
004076	000002	6002 04	4100 4360	TZF	OPDC,\$	GO TO CHECK OF PARTICULAR INST. IF RIGHT	65.04000
			4361 *				65.04010
004077	000537	7172 04	4636 4362	ABT10	XED	SABT,\$ ** INVALID H-REG OP CODE **	65.04020
			4363 *				65.04030
			4364 *			PARTICULAR INSTRUCTION CHECKING - READ/CLEAR, LREG, LAREG & ZOP	65.04040
			4365 *				65.04050
004100	000000	2112 07	000 4366	OPDC	CMK	=0000000,DL TEST ZERO OP-CODE	65.04060
004101	000002	6012 04	000 4367	TNZ	2,IC	IF NO	65.04070
004102	000534	7172 04	4636 4368	ABT11	XED	SABT,\$ ** ZERO OP CODE **	65.04080
004103	032000	2112 07	000 4369	CMK	=0032000,DL	TEST "LDQC" INSTRUCTION	65.04090
004104	000005	6002 04	4111 4370	TZF	RDCLR,\$	ABORT IF SO	65.04100
004105	034000	2112 07	000 4371	CMK	=0034000,DL	TEST "LDAC" INSTRUCTION	65.04110
004106	000003	6002 04	4111 4372	TZF	RDCLR,\$	ABORT IF SO	65.04120
004107	214000	2112 07	000 4373	CMK	=0214000,DL	TEST "SZNC" INSTRUCTION	65.04130
004110	000002	6012 04	000 4374	TNZ	2,IC	IF NO	65.04140
			4375 *				65.04150
	004111		4376	RDCLR	NULL		65.04160
004111	000525	7172 04	4636 4377	ABT12	XED	SABT,\$ ** READ CLEAR INSTRUCTION **	65.04170
004112	753400	2112 07	000 4378	CMK	=0753400,DL	TEST "STSS" INSTRUCTION	65.04180
004113	000011	6002 04	4124 4379	TZF	URNSA,\$	YES-CAN'T RETRY	65.04190
004114	155400	2112 07	000 4380	CMK	=0155400,DL	TEST "STPDW" INSTRUCTION	65.04200
004115	000007	6002 04	4124 4381	TZF	URNSA,\$	YES-CAN'T RETRY	65.04210
004116	157400	2112 07	000 4382	CMK	=0157400,DL	TEST "STPTW" INSTRUCTION	65.04220
004117	000005	6002 04	4124 4383	TZF	URNSA,\$	YES-CAN'T RETRY	65.04230
004120	152400	2112 07	000 4384	CMK	=0152400,DL	TEST "STO" INSTRUCTION	65.04240
004121	000003	6002 04	4124 4385	TZF	URNSA,\$	YES-CAN'T RETRY	65.04250
004122	713400	2112 07	000 4386	CMK	=0713400,DL	TEST "CLIMB" INSTRUCTION	65.04260
004123	000002	6012 04	000 4387	TNZ	2,IC	NO-	65.04270
			4388 *				65.04280
	004124		4389	URNSA	NULL		65.04290
004124	000512	7172 04	4636 4390	ABT13	XED	SABT,\$ ** UN-RETRIABLE NSA INSTRUCTION **	65.04300
004125	073000	2112 07	000 4391	CMK	=0073000,DL	TEST "LREG" INSTRUCTION	65.04310
004126	000003	6002 04	4131 4392	TZF	LXREG1,\$	IF SO	65.04320
004127	463400	2112 07	000 4393	CMK	=0463400,DL	TEST "LAREG" INSTRUCTION	65.04330
004130	000103	6012 04	4233 4394	TNZ	EISCK,\$	ILLEGAL EIS DATA CHECK IF OTHER INST.	65.04340

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						4395 *	LREG & LAREG SIMULATION		6S.04350
			004131			4396 LXREG1	NULL		6S.04360
	004131	004666	2342 17	010	4397 ABS51	SZN	HRPTL,7	NO MEMORY CYCLE	6S.04370
	004132	000105	6002 04	4237	4398	TZE	SCAN14,\$	RETRY THAT INST. ITSELF IF SO	6S.04380
	004133	004666	2212 17	010	4399 ABS52	LDX1	HRPTL,7	MEMORY CYCLE POINTER	6S.04390
	004134	400000	2353 11	000	4400 RC5	LDA	0,1,P4		6S.04400
	004135	004000	3152 07	000	4401	CANA	=04000,DL	TEST "DPGF"FLAG	6S.04410
	004136	000003	6012 04	4141	4402	TNZ	RC6,\$	YS-	6S.04420
	004137	200000	3152 07	000	4403	CANA	=0200000,DL	TEST FDBLC FLAG	6S.04430
	004140	000005	6012 04	4145	4404	TNZ	LXREG2,\$	BRANCH IF READ=DOUBLE	6S.04440
			004141			4405 RC6	NULL		6S.04450
	004141	004726	1012 17	010	4406 ABS53	CMPX1	SRI,IM4,7	TEST TO HR=L LAST WORD	6S.04460
	004142	000075	6052 04	4237	4407	TPL	SCAN14,\$	REG DID NOT CHANGED. RETRY ITSELF	6S.04470
	004143	000002	0212 03	000	4408	ADLX1	2,DU		6S.04480
	004144	777770	7102 04	4134	4409	TRA	RC5,\$	REPEAT TO LAST	6S.04490
	004145	040000	3152 07	000	4410 LXREG2	CANA	=040000,DL	TEST DPIAC FLAG	6S.04500
	004146	777773	6012 04	4141	4411	TNZ	RC6,\$	GO TO NEXT IF INST=FETCH	6S.04510
			004147			4412 LXREG3	NULL		6S.04520
	004147	000630	0542 04	4777	4413	AOS	SDRG7,\$	DEBUG ***	6S.04530
	004150	400002	2353 13	000	4414	LDA	INST,3,P4	LOAD INSTRUVTION WORD	6S.04540
	004151	777400	3752 07	000	4415	ANA	=0777400,DL		6S.04550
	004152	073000	1152 07	000	4416	CMPA	=0073000,DL	TEST LREG INST.	6S.04560
	004153	000003	6012 04	4156	4417	TNZ	LAREG1,\$	IF LAREG INST.	6S.04570
	004154	000050	6222 00	000	4418	EAX2	.WREGS	ADDRESS OF REGS STACK (LREG)	6S.04580
	004155	000002	7102 04	000	4419	TRA	2,IC		6S.04590
	004156	000020	6222 00	000	4420 LXREG1	EAX2	.WPTR0	ADDRESS OF REGS STACK (LAREG)	6S.04600
	004157	004400	6342 07	000	4421	LDT	=04400,DL	INZ PARITY BIT & SET PARITY MASK	6S.04610
	004160	001761	4736 07	000	4422	LDP	P.SSR,.CTYP,DL	CHANGE SAFE STORF STACK REG. DESC TO TYPE	6S.04620
	004161	400000	2353 11	000	4423	LDA	0,1,P4		6S.04630
	004162	000464	7172 04	4646	4424	XED	HRAA,\$		6S.04640
	004163	000577	3752 04	4762	4425	ANA	MASKOC,\$	MASK ADDRESS BIT 23 0-037777770	6S.04650
	004164	000000	6212 05	000	4426	EAX1	0,AL	EFFECTIVE ADDRESS	6S.04660
	004165	777777	3752 03	000	4427	ANA	-1,DU	MASK EXTEND ADDRESS	6S.04670
	004166	000002	7352 00	000	4428	ALS	2 SHIFT TO MAKE BYTE ADRS		6S.04680
	004167	006063	4756 07	000	4429	LDP	P5,SD,RMS,DL		6S.04690
	004170	004702	7552 14	010	4430 ABS54	STA	EXTADR,4	SAVE EXT.ADRS.	6S.04700
	004171	004702	6156 14	010	4431 ABS55	LDFA	P5,EXTADR,4	-- CHANGE LOCATION FIELD OF RMS DESC.	6S.04710
	004172	000050	1022 03	000	4432	CMPX2	.WREGS,DU		6S.04720
	004173	000014	6012 04	4207	4433	TNZ	LAREG2,\$	TRA IF LAREG	6S.04730
	004174	500000	2353 11	000	4434 RC7	LDA	0,1,P5	READ DATA FROM REAL MEMORY	6S.04740
	004175	300000	7553 12	000	4435	STA	0,2,P.SSR	STORE S/S REGS LOCATION	6S.04750
	004176	000001	0212 03	000	4436	ADLX1	1,DU		6S.04760
	004177	000001	0222 03	000	4437	ADLX2	1,DU		6S.04770
	004200	000007	3012 03	000	4438	CANX1	=07,DU	MOVE TO 8 WORD	6S.04780
	004201	777773	6012 04	4174	4439	TNZ	RC7,\$	REPEAT IF YET	6S.04790
	004202	000442	7172 04	4644	4440	XED	RI,\$	MOVE IR TO XU	6S.04800
	004203	004000	6342 07	000	4441	LDT	=04000,DL	RESET PARITY MASK	6S.04810
	004204	001000	3602 03	000	4442	ANX0	=01000,DU	TEST PARITY BIT	6S.04820
	004205	000021	6002 04	4226	4443	TZF	LXREG4,\$		6S.04830
						4444 *			6S.04840



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004206	000430	7172	04	4636	4445	ABT14	XED	SABT,\$	** PARITY ON OPERAND OF LREG **	6S.04850
					4446	*				6S.04860
004207	500000	2353	11	000	4447	LAREG2	LDA	0,1,P5	READ DATA FROM REAL MEMORY	6S.04870
004210	000553	3752	04	4763	4448		ANA	MASKAR,\$	MASK AR	6S.04880
004211	300000	2363	12	000	4449		LDQ	0,2,P,SSR	READ REGS STACK OF S/S	6S.04890
004212	007777	3762	07	000	4450		ANQ	=07777,DL	MASK SEGID	6S.04900
004213	000000	0752	06	000	4451		ADA	0,QL	ADD AR & SEGID	6S.04910
004214	300000	7553	12	000	4452		STA	0,2,P,SSR	RESTORE TO S/S REGS STACK (AR & SEGID)	6S.04920
004215	000001	0212	03	000	4453		ADLX1	1,DU		6S.04930
004216	000001	0222	03	000	4454		ADLX2	1,DU		6S.04940
004217	000007	3012	03	000	4455		CANX1	=07,DU	MOVE TO 8 WORDS	6S.04950
004220	777767	6012	04	4207	4456		TNZ	LAREG2,\$	REPEAT IF YET	6S.04960
004221	000423	7172	04	4644	4457		XED	RI,\$	MOVE IR TO XO	6S.04970
004222	004000	6342	07	000	4458		LDI	=04000,DL	RESET PARITY BIT	6S.04980
004223	001000	3602	03	000	4459		ANX0	=01000,DU	TEST PARITY BIT	6S.04990
004224	000002	6002	04	4226	4460		TZE	LXREG4,\$	NO-	6S.05000
					4461	*				6S.05010
004225	000411	7172	04	4636	4462	ABT15	XED	SABT,\$	** PARITY ON OPERAND OF LAREG **	6S.05020
004226	000000	0112	00	000	4463	LXREG4	NOP			6S.05030
004227	000001	2222	03	000	4464		LDX2	1,DU		6S.05040
004230	004660	0422	17	010	4465	ABS56	ASX2	SINSTA,7	IC=IC+1	6S.05050
004231	004662	0422	17	010	4466	ABS57	ASX2	SINSTB,7	IC=IC+1	6S.05060
004232	000005	7102	04	4237	4467		TRA	SCAN14,\$	GO TO MEMORY CORRECTION	6S.05070
					4468	*				6S.05080
					4469	*		ILLEGAL EIS DATA CHEKING		6S.05090
					4470	*				6S.05100
004233	400016	2353	13	000	4471	FISCK	LDA	FAULT,3,P4	FAULT REG.	6S.05110
004234	004000	3152	03	000	4472		CANA	=04000,DU	TEST FOR ILL-EIS=DATA	6S.05120
004235	000002	6002	04	4237	4473		TZE	SCAN14,\$	BRANCH IF NO	6S.05130
004236	000400	7172	04	4636	4474	ABT15S	XED	SABT,\$	** ILLEGAL EIS DATA **	6S.05140
					4475	*				6S.05150
					4476	*				6S.05160
	004237				4477	SCAN14	NULL			6S.05170
					4478	*				6S.05180
					4479	*		LAST OPERAND CHECKING		6S.05190
					4480	*				6S.05200
	004237				4481	CKSTR	NULL			6S.05210
004237	004666	2342	17	010	4482	ABS58	SZN	HRPTL,7	IS MEMORY CYCLE	6S.05220
004240	000036	6002	04	4276	4483		TZE	RSCNO,\$	BYPASS IF NO C-CYCLE	6S.05230
004241	004726	2212	17	010	4484	ABS59	LDX1	SRLIM4,7	CUHR+31	6S.05240
004242	400000	2353	11	000	4485		LDA	0,1,P4		6S.05250
004243	004000	3152	07	000	4486		CANA	=04000,DL	TEST "DPGF" FLAG	6S.05260
004244	000032	6012	04	4276	4487		TNZ	RSCNO,\$	IF SO, NO OPERAND	6S.05270
004245	010000	3152	07	000	4488		CANA	=010000,DL	TEST FDIRC FLAG	6S.05280
004246	000030	6012	04	4276	4489		TNZ	RSCNO,\$	IF LAST CYCLE WAS DIRECT	6S.05290
004247	000022	7712	00	000	4490		ARL	18		6S.05300
004250	400005	2553	13	000	4491		ORSA	PFLOG,3,P4	STORE OPERAND ADRS 6-23	6S.05310
004251	000527	0542	04	5000	4492		AOS	SDRG8,\$	DEBUG ***	6S.05320
004252	400000	2353	11	000	4493		LDA	0,1,P4		6S.05330
004253	000037	3752	07	000	4494		ANA	=037,DL	MASK ZMA 1-5	6S.05340

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004254	000030	7352	00	000	4495		ALS	24		6S.05350
004255	400005	2553	13	000	4496		ORSA	PFLOG,3,P4	STORE OPERAND ADRS. 0-5	6S.05360
004256	000002	7352	00	000	4497		ALS	2	SHIFT TO MAKE BYTE ADRS	6S.05370
004257	000006	7712	00	000	4498		ARL	6		6S.05380
004260	004702	7552	14	010	4499	ABS60	STA	EXTADR,4	SAVE EXT.ADRS.	6S.05390
004261	400000	2223	11	000	4500		LDX2	0,1,P4	LOAD ZMA 6-23	6S.05400
004262	006063	4756	07	000	4501		LDP	P5,SD,RMS,DL		6S.05410
004263	004702	6156	14	010	4502	ABS61	LDEA	P5,EXTADR,4	CHANGE LOCATION FIELD OF RMS DESC.	6S.05420
004264	004400	6342	07	000	4503		LDI	=04400,DL	PARITY MASK	6S.05430
004265	500000	2373	12	000	4504		LDAQ	0,2,P5	READ OPERAND PAIR FROM REAL MEMORY	6S.05440
004266	400006	7573	13	000	4505		STAQ	PDLOG,3,P4	STORE INTO E.R.B	6S.05450
004267	000355	7172	04	4644	4506		XED	RI,\$		6S.05460
004270	004000	6342	07	000	4507		LDT	=04000,DL	INZ IR	6S.05470
004271	001000	3602	03	000	4508		ANX0	=01000,DU	TEST PARITY BIT	6S.05480
004272	000007	6002	04	4301	4509		TZF	RSCNS,\$		6S.05490
004273	000002	2212	03	000	4510		LDX1	2,DU		6S.05500
004274	400005	2413	13	000	4511		ORSX1	PFLOG,3,P4	SET PARITY FLAG (PR)	6S.05510
004275	000004	7102	04	4301	4512		TRA	RSCNS,\$		6S.05520
					4513	*		CLFAR	OPERAND - NO C-CYCLE, DIRECT	6S.05530
004276	400006	4503	13	000	4514	RSCNO	STZ	PDLOG,3,P4	CLEAR OPERAND PAIR	6S.05540
004277	000502	0542	04	5001	4515		AOS	SDRG9,\$	DEBUG ***	6S.05550
004300	400007	4503	13	000	4516		STZ	PDLOG+1,3,P4		6S.05560
					4517	*				6S.05570
					4518	*		MFMORY	CHECKING & CORRECTION	6S.05580
					4519	*				6S.05590
					4520	*		CHECK	CONDITION OF MEMORY - NOT FDIRC,DPTBSY,FSTRC,CACHE MATCH	6S.05600
					4521	*				6S.05610
004301	777203	7172	04	3504	4522	RSCNS	XFD	CORIC,\$		6S.05620
004302	000006	1022	03	000	4523		CMPX2	6,DU		6S.05630
004303	000176	6002	04	4501	4524		TZE	STATIS,\$	SKIP IF IPR FAULT	6S.05640
004304	000013	1022	03	000	4525		CMPX2	11,DU		6S.05650
004305	000004	6012	04	4311	4526		TNZ	CKCSH,\$	BRANCH IF NOT PARITY	6S.05660
004306	400005	2353	13	000	4527		LDA	PFLOG,3,P4		6S.05670
004307	200000	3152	03	000	4528		CANA	=0200000,DU	IS IT INTERFACE PARITY ON STORE CYCLE	6S.05680
004310	000171	6002	04	4501	4529		TZE	STATIS,\$	SKIP IF NO	6S.05690
004311	000157	6212	13	000	4530	CKCSH	EAX1	CUHR+31,3		6S.05700
004312	400000	2353	11	000	4531		LDA	0,1,P4		6S.05710
004313	004000	3152	07	000	4532		CANA	=04000,DL	TEST "DPGF" FLAG	6S.05720
004314	000003	6012	04	4317	4533		TNZ	CKCSH1,\$	IF SO,	6S.05730
004315	040000	3152	07	000	4534		CANA	=040000,DL	TEST "DPIAC" FLAG	6S.05740
004316	000006	6012	04	4324	4535		TNZ	CKCSH2,\$		6S.05750
004317	000002	1212	03	000	4536	CKCSH1	SBLX1	2,DU		6S.05760
004320	004732	1012	17	010	4537	ABS62	CMPX1	SRLIM6,7	CUHR-2	6S.05770
004321	777771	6012	04	4312	4538		TNZ	CKCSH+1,\$		6S.05780
004322	004700	0542	17	010	4539	ABS63	AOS	CSHON,7	SET CACHE ENABLE FLAG	6S.05790
004323	000005	7102	04	4330	4540		TRA	RSCN1,\$		6S.05800
004324	000040	3152	07	000	4541	CKCSH2	CANA	=040,DL	TEST DRQBYP FLAG	6S.05810
004325	777772	6002	04	4317	4542		TZF	CKCSH1,\$		6S.05820
004326	000100	3152	07	000	4543		CANA	=0100,DL	TEST DRQBLD	6S.05830
004327	777770	6012	04	4317	4544		TNZ	CKCSH1,\$	YES-CACHE ENABLE	6S.05840



6 0 0 S I N S T R U C T I O N R E T R Y

004330	000161	6212	13	000	4545	RSCN1	EAX1	CUHR+33,3		6S.05850
004331	004706	4502	17	010	4546	ABS64	STZ	RDBL,7		6S.05860
004332	000002	1212	03	000	4547		SRLX1	2,DU		6S.05870
004333	004732	1012	17	010	4548	ABS65	CMPX1	SRLIM6,7 CUHR=1		6S.05880
004334	000002	6012	04	4336	4549		TNZ	RC8,\$		6S.05890
					4550	*				6S.05900
004335	000301	7172	04	4636	4551	ABT16	XED	SABT,\$	** H-REG IS ALL PORT-BUSY **	6S.05910
					004336					6S.05920
004336	004706	2342	17	010	4553	ABS66	SZN	RDBL,7		6S.05930
004337	000142	6012	04	4501	4554		TNZ	STATIS,\$		6S.05940
004340	400000	2353	11	000	4555		LDA	0,1,P4		6S.05950
004341	004000	3152	07	000	4556		CANA	=04000,DL	TEST "DPGF" FLAG	6S.05960
004342	000003	6002	04	000	4557		TZF	3,IC		6S.05970
004343	004706	0542	17	010	4558	ABS67	AOS	RDBL,7		6S.05980
004344	777766	7102	04	4332	4559		TRA	RSCN1+2,\$		6S.05990
004345	000200	3152	07	000	4560		CANA	=0200,DL	TEST DPTBSY FLAG	6S.06000
004346	000002	6012	04	000	4561		TNZ	2,IC	GO TO CORRECTION IF SO	6S.06010
004347	004706	0542	17	010	4562	ABS68	AOS	RDBL,7		6S.06020
004350	400000	3152	07	000	4563		CANA	=0400000,DL	TEST FSTRC FLAG	6S.06030
004351	777761	6002	04	4332	4564		TZF	RSCN1+2,\$		6S.06040
					004352					6S.06050
004352	004700	2342	17	010	4566	ABS69	SZN	CSHON,7	TEST CACHE ENABLE	6S.06060
004353	000002	6012	04	000	4567		TNZ	2,IC	CORRECTION IF ENABLE	6S.06070
004354	000262	7172	04	4636	4568	ABT17	XED	SABT,\$	** CAN'T MEM-CORRECT,CACHE OFF **	6S.06080
004355	000425	0542	04	5002	4569		AOS	SDRG10,\$	DEBUG ***	6S.06090
004356	400000	2353	11	000	4570		LDA	0,1,P4		6S.06100
004357	000777	3752	03	000	4571		ANA	=0777,DU		6S.06110
004360	004670	7552	17	010	4572	ABS70	STA	COLMA,7	COLUMN ADDRESS BIT 9-17	6S.06120
004361	400000	2353	11	000	4573		LDA	0,1,P4		6S.06130
004362	100000	3152	07	000	4574		CANA	=0100000,DL	TEST FDIRC FLAG	6S.06140
004363	777747	6012	04	4332	4575		TNZ	RSCN1+2,\$	GO TO NEXT CHECK IF DIRECT CYCLE	6S.06150
004364	400000	2363	11	000	4576	RSCN4	LDQ	0,1,P4		6S.06160
004365	000011	7762	00	000	4577		QLR	9		6S.06170
004366	037777	3762	07	000	4578		ANQ	=037777,DL		6S.06180
004367	000025	7362	00	000	4579		QLS	21		6S.06190
004370	004674	7562	17	010	4580	ABS71	STQ	CHSAD,7	DIRECTORY ADDRESS BIT 0-14	6S.06200
004371	000000	2222	03	000	4581		LDX2	0,DU	CLEAR CACHE LEVEL	6S.06210
004372	000000	6352	12	000	4582	CKLVL	EAA	0,2		6S.06220
004373	000011	7352	00	000	4583		ALS	9		6S.06230
004374	004670	2752	17	010	4584	ABS72	ORA	COLMA,7	ADD COLUMN ADRS.	6S.06240
004375	000000	1072	03	000	4585		CMPX7	0,DU	TEST CPU #	6S.06250
004376	000004	6012	04	4402	4586		TNZ	CPU1,\$	IF #1	6S.06260
					004377					6S.06270
004377	004400	7512	70	010	4588	ABS73	STCA	RCSDR,70	SET LEVEL & COLUMN ADDRESS	6S.06280
					4589	*				6S.06290
004400	000000	4522	15	000	4590	RCSDR	SCPR	** ,15	READ CACHE DIRECTORY	6S.06300
004401	000003	7102	04	4404	4591		TRA	STRMR,\$		6S.06310
					004402					6S.06320
004402	004403	7512	70	010	4593	ABS74	STCA	CSDRR,70	SET LEVEL & COLUMN ADDRESS	6S.06330
004403	000000	4522	15	000	4594	CSDRR	SCPR	** ,15	READ CACHE DIRECTORY	6S.06340



6 0 0 5 I N S T R U C T I O N R E T R Y

004455	004702	6156	14	010	4645	ABS88	LDEA	P5,EXTADR,4	-- CHANGE LOCATION FIELD OF RMS DESC.	6S.06850
004456	400000	2203	11	000	4646		LDXO	0,1,P4		6S.06860
004457	000000	1072	03	000	4647		CMPX7	0,DU	TEST CPU#	6S.06870
004460	000006	6012	04	4466	4648		TNZ	BCPU1,\$	IF CPU#1	6S.06880
					004461	4649	BCPU0	NULL		6S.06890
004461	004400	6342	07	000	4650		LDT	=04400,DL	PARITY MASK	6S.06900
004462	004676	6742	02	010	4651	ABS89	LCPR	CSTRG,02	SET CHS-TO-REG INTO MODE T REG.	6S.06910
004463	500000	2373	00	000	4652	RDCHS	LDAQ	**,,P5	READ CACHE MEMORY	6S.06920
004464	004672	6742	02	010	4653	ABS90	LCPR	CHSMR,02	RESTORE MODE REG.	6S.06930
004465	000005	7102	04	4472	4654		TRA	WTMEM,\$		6S.06940
					004466	4655	BCPU1	NULL		6S.06950
004466	004400	6342	07	000	4656		LDT	=04400,DL	PARITY MASK	6S.06960
004467	004677	6742	02	010	4657	ABS91	LCPR	CSTRG+1,02	SET CHS-TO-REG INTO MODE REG.	6S.06970
004470	500000	2373	00	000	4658	CHSRD	LDAQ	**,,P5	READ CACHE MEMORY	6S.06980
004471	004673	6742	02	010	4659	ABS92	LCPR	CHSMR+1,02	RESTORE MODE REG.	6S.06990
					4660	*				6S.07000
004472	500000	7573	10	000	4661	WTMEM	STAQ	0,0,P5	CORRECTION MEMORY	6S.07010
004473	000151	7172	04	4644	4662		XED	RI,\$		6S.07020
004474	004000	6342	07	000	4663		LDT	=04000,DL		6S.07030
004475	000306	0542	04	5003	4664		AOS	SDRG11,\$	DEBUG ***	6S.07040
004476	001000	3602	03	000	4665		ANXO	=01000,DU	TEST PARITY BIT	6S.07050
004477	777633	6002	04	4332	4666		TZF	RSCN1+2,\$	REPEAT IF NOT PARITY	6S.07060
					4667	*				6S.07070
004500	000136	7172	04	4636	4668	ART20	XED	SART,\$	** PARITY ON CACHE READ CYCLE **	6S.07080
					4669	*				6S.07090
					4670	*			ERROR STATISTIC COUNTER MAKING	6S.07100
					4671	*				6S.07110
004501	010000	2352	07	000	4672	STATTS	LDA	=010000,DL		6S.07120
004502	400001	2553	13	000	4673		ORSA	FLAG,3,P4		6S.07130
004503	000000	6212	00	000	4674		EAX1	0 ZERO		6S.07140
004504	777000	7172	04	3504	4675		XED	CORIC,\$		6S.07150
004505	000007	1022	03	000	4676		CMPX2	7,DU	TEST ONC FAULT	6S.07160
004506	000005	6002	04	4513	4677		TZE	SMM1,\$	IF ONC	6S.07170
004507	000013	1022	03	000	4678		CMPX2	11,DU	TEST PAR FAULT	6S.07180
004510	000002	6002	04	4512	4679		TZE	SMM0,\$	IF PAR	6S.07190
004511	000001	0212	03	000	4680		ADLX1	1,DU	IPR FAULT	6S.07200
004512	000001	0212	03	000	4681	SMM0	ADLX1	1,DU		6S.07210
004513	400001	2353	13	000	4682	SMM1	LDA	FLAG,3,P4		6S.07220
004514	010000	3152	07	000	4683		CANA	=010000,DL	TEST RETRY FLAG	6S.07230
004515	000006	6002	04	4523	4684		TZE	SMM2,\$	BRANCH IF NO RETRY	6S.07240
004516	000000	0112	03	000	4685		NOP	0,DU		6S.07250
004517	004654	2342	17	010	4686	ABS93	SZN	SRTCTR,7		6S.07260
004520	000036	6012	04	4556	4687		TNZ	ERRUF,\$	BRANCH IF RETRY COUNTER NOT ZERO	6S.07270
004521	000572	6212	11	000	4688		EAX1	.CRSTR,1	POINT X1 TO SUCCESSFUL COUNTER	6S.07280
004522	000022	7102	04	4544	4689		TRA	SMM4,\$		6S.07290
004523	004000	3152	07	000	4690	SMM2	CANA	=04000,DL	TEST RETRY OVERFLOW FLAG	6S.07300
004524	000007	6002	04	4533	4691		TZF	SMM3,\$	BRANCH IF NOT OVERFLOW	6S.07310
004525	700572	7203	11	000	4692		LXLO	.CRSTR,1,P.CR		6S.07320
004526	000002	6002	04	000	4693		TZF	2,IC		6S.07330
004527	000001	1202	03	000	4694		SRLX0	1,DU		6S.07340

6 0 0 S I N S T R U C T I O N R E T R Y

004530	700572	4403	11	000	4695		SXLO	.CRSTR,1,P.CR		6S.07350
004531	000575	6212	11	000	4696		EAX1	.CRUT8,1	POINT X1 TO UNSUCCESSFUL COUNTER X > 8	6S.07360
004532	000012	7102	04	4544	4697		TRA	SMM4,\$		6S.07370
					004533					6S.07380
004533	004654	2352	17	010	4699	ABS94	LDA	SRTCTR,7	LOAD E RETRY COUNTER	6S.07390
004534	000007	6002	04	4543	4700		TZF	SMM3A,\$		6S.07400
004535	700572	7203	11	000	4701		LXLO	.CRSTR,1,P.CR		6S.07410
004536	000002	6002	04	000	4702		TZF	2,IC		6S.07420
004537	000001	1202	03	000	4703		SBLX0	1,DU		6S.07430
004540	700572	4403	11	000	4704		SXLO	.CRSTR,1,P.CR		6S.07440
004541	000600	6212	11	000	4705		EAX1	.CRUTQ,1	POINT X1 TO UNSUCCESSFUL COUNTER X 8	<6S.07450
004542	000002	7102	04	4544	4706		TRA	SMM4,\$		6S.07460
004543	700567	6213	11	000	4707	SMM3A	FAX1	.CRNTR,1,P.CR	POINT X1 YO NOT RETRY COUNTER	6S.07470
004544	700000	0543	11	000	4708	SMM4	AOS	0,1,P.CR	INCREMENT STATISTIC COUNTER	6S.07480
004545	700000	7463	11	000	4709		STX6	0,1,P.CR	STORE PROGRAM # FOR CONSOL TYPEOUT	6S.07490
004546	000236	0542	04	5004	4710		AOS	SDRG12,\$	DEBUG ***	6S.07500
004547	000000	6352	17	000	4711		EAA	0,7		6S.07510
004550	000006	7352	00	000	4712		ALS	6		6S.07520
004551	700000	2553	11	000	4713		ORSA	0,1,P.CR	STORE PROCESSOR #	6S.07530
					4714	*				6S.07540
					4715	*		ERROR RECORD BUFFER MAKING		6S.07550
					4716	*				6S.07560
004552	006144	4706	07	000	4717		LDP	PO,SD,SNB,DL		6S.07570
004553	000000	2353	16	000	4718		LDA	0,6,P0	X6 = KPX	6S.07580
004554	000567	1212	03	000	4719		SBLX1	.CRNTR,DU	GET OFFSET FROM .CRNTR	6S.07590
004555	700603	7553	11	000	4720		STA	.CRSNT,1,P.CR	STORE SNUMB	6S.07600
					004556					6S.07610
004556	004712	0542	17	010	4722	ABS95	AOS	SSFQU,7	INCREMENT SEQUENCER NUMBER	6S.07620
004557	006144	4706	07	000	4723		LDP	PO,SD,SNB,DL		6S.07630
004560	000000	2353	16	000	4724		LDA	0,6,P0	X6 = KPX	6S.07640
004561	400012	7553	13	000	4725		STA	SNUMB,3,P4	STORE SNUMB TO E.R.B	6S.07650
004562	001761	4736	07	000	4726		LDP	P,SSR,.CTYP,DL	CHANGE S/S DESC TYPE TO 0	6S.07660
004563	000000	6212	15	000	4727		EAX1	0,5	BACK FAULT CODE = X1	6S.07670
004564	004656	2352	17	010	4728	ABS96	LDA	STGT,7	LOAD TAG GATE	6S.07680
004565	777777	3752	03	000	4729		ANA	-1,DU		6S.07690
004566	000002	6002	04	000	4730		TZF	2,IC		6S.07700
004567	000000	1352	03	000	4731	SMM5	SBLA	**DU	ABSOLUTIZE REASON CODE	6S.07710
004570	004712	2752	17	010	4732	ABS97	ORA	SSFQU,7		6S.07720
004571	400003	7553	13	000	4733		STA	SEQ,3,P4	STORE SEQUENCE NUMBER	6S.07730
004572	010000	2352	07	000	4734		LDA	=010000,DL		6S.07740
004573	000001	6252	00	000	4735		EAX5	1 NOT RETRIED		6S.07750
004574	010000	2352	07	000	4736		LDA	=010000,DL		6S.07760
004575	400001	3153	13	000	4737		CANA	FLAG,3,P4	TEST RETRY FLAG (WR)	6S.07770
004576	000011	6002	04	4607	4738		TZF	REXIT,\$		6S.07780
004577	004660	2352	17	010	4739	ABS98	LDA	SINSTA,7		6S.07790
004600	000040	3152	07	000	4740		CANA	=040,DL	TEST IR30	6S.07800
004601	000002	6002	04	000	4741		TZF	2,IC		6S.07810
004602	000040	6752	07	000	4742		ERA	=040,DL	RESET IR30	6S.07820
004603	300004	7553	00	000	4743		STA	.WICI,,P,SSR	STORE IC & IR INTO S/S	6S.07830
004604	400117	7553	13	000	4744		STA	CUHR-1,3,P4	SAVE RETRY ADRS & IR IN TO E.B	6S.07840

6 0 0 S I N S T R U C T I O N R E T R Y

004605	004654	0542	17	010	4745	ABS99	AOS	SRTCTR,7	INCREMENT	RETRY COUNTER	6S.07850
004606	000000	6252	00	000	4746		FAX5	0	RETRIABLE		6S.07860
		004607			4747	REXIT	NULL				6S.07870
004607	004716	2242	17	010	4748	ABS100	LDX4	SVX4,7	RESTORE	X4	6S.07880
004610	003213	7102	00	010	4749		TRA	HSRC	EXIT	----	6S.07890
					4750	*					6S.07900
		004611			4751	SATOP	BSS	20			6S.07910
					4752	*					6S.07920
					4753	*					6S.07930
					4754	*		XFD INST.	SUBROUTINE	= ABORT PROCESS & IR & MASK	6S.07940
					4755	*					6S.07950
004635	000000011207			000							
		004636			4756	SABT	ENULL				6S.07960
004636	004656	5542	17	010	4757	ABS101	STC1	STGT,7	CLOSE	TAG GATE	6S.07970
004637	004640	7102	00	010	4758	ABS102	TRA	RRTYF			6S.07980
004640	010001	3362	07	000	4759	RRTYF	LCQ	=010001,DL	TTTTTTT6TTTT		6S.07990
004641	400001	3563	13	000	4760		ANSQ	FLAG,3,P4	RESET	RETRY FLAG (WR)	6S.08000
004642	777641	7102	04	4503	4761		TRA	STATIS+2,\$	TRANSFER	TO MAKE STATISTIC COUNTER	6S.08010
004643	000000011207			000							
		004644			4762	RT	ENULL				6S.08020
004644	004710	7542	17	010	4763	ABS103	STI	SWORK,7	STORE	IR	6S.08030
004645	004710	7202	17	010	4764	ABS104	LXLO	SWORK,7			6S.08040
004646	000022	7752	00	000	4765	HRAA	EALR	18			6S.08050
004647	004760	3752	00	010	4766	ABS105	ANA	MASKAA	000037777777		6S.08060

600S INSTRUCTION RETRY

4768	*****	6S.08080	
4769	* REASON CODE *	6S.08090	
4770	*****	6S.08100	
4771	*	6S.08110	
4772	*	6S.08120	
4773	* NOTE IF CODE BETWEEN SABS AND SCOD2 IS ALTERED	6S.08130	
4774	*	6S.08140	
4775	* THE RETRY REASON CODES (SCOD2-SCODN) SHOULD	6S.08150	
4776	* BE REVIEWED TO SEE IF THEY HAVE CHANGED.	6S.08160	
4777	*	6S.08170	
4778	* IF RETRY REASON CODES CHANGE,	6S.08180	
4779	* THEN THE HRANS ROUTINE AND 600S HEALS MANUAL	6S.08190	
4780	* MUST BE UPDATED TO INCORPORATE THE CHANGES.	6S.08200	
4781	*	6S.08210	
4782	*	6S.08220	
000046	4783 SCOD2 EQU ABT01-SSTR	CORE PARITY	6S.08230
000176	4784 SCOD3 EQU ABT02-SSTR	NON EXISTENT ADDRESS	6S.08240
000207	4785 SCOD4 EQU ABT03-SSTR	CRITICAL AREA FAULT - IC <EXTM	6S.08250
000212	4786 SCOD5 EQU ABT04-SSTR	CRITICAL AREA FAULT - IC > SIMOP	6S.08260
000263	4787 SCOD6 EQU ABT05-SSTR	RETRY LIMITS MET	6S.08270
000274	4788 SCOD7 EQU ABT06-SSTR	RETRY LIMITS EXCFEDED	6S.08280
000313	4789 SCOD8 EQU ABT07-SSTR	NO FETCH CYCLE OF FAULT INSTRUCTION	6S.08290
000355	4790 SCOD9 EQU ABT08-SSTR	FRTRY = 1	6S.08300
000370	4791 SCOD10 EQU ABT09-SSTR	HEALS FLAG = 1	6S.08310
000421	4792 SCOD11 EQU ABT10-SSTR	INVALID H-REG OP-CODE ERROR	6S.08320
000424	4793 SCOD12 EQU ABT11-SSTR	ZERO OP CODE	6S.08330
000433	4794 SCOD13 EQU ABT12-SSTR	READ CLEAR INSTRUCTION	6S.08340
000446	4795 SCOD14 EQU ABT13-SSTR	UN-RETRIABLE NSA INSTRUCTION	6S.08350
000530	4796 SCOD15 EQU ABT14-SSTR	PARITY ON OPERAND OF LREG	6S.08360
000547	4797 SCOD16 EQU ABT15-SSTR	PARITY ON OPERAND OF LAREG	6S.08370
000560	4798 SCODS EQU ABT15S-SSTR	ILLEGAL EIS DATA	6S.08380
000657	4799 SCOD17 EQU ABT16-SSTR	H-REG IS ALL PORT-BUSY	6S.08390
000676	4800 SCOD18 EQU ABT17-SSTR	CAN'T MEMORY CORRECT,CACHE OFF	6S.08400
000747	4801 SCOD19 EQU ABT18-SSTR	CACHE DIRECTORY PARITY	6S.08410
000756	4802 SCOD20 EQU ABT19-SSTR	NOT MATCHED TO CACHE	6S.08420
001022	4803 SCODN EQU ABT20-SSTR	PARITY ON CACHE READ CYCLE	6S.08430



6 0 0 S I N S T R U C T I O N R E T R Y

			4805 *			6S.08450	
			4806 *	*THE FOLLOWING BUFFERS WILL OCCUPY 1 OR 2 LOCATIONS EACH DEPENDING		6S.08460	
			4807 *	*ON THE NUMBER OF PROCESSOR THAT ARE CONFIGURED		6S.08470	
			4808 *			6S.08480	
004650	000000000007	000	4809	SRLIM EDEC	7,7	RETRY LIMITS - NOT USED - DUMMY WORD	6S.08490
004651	000000000007	000					
	004652		4810	SRTL0D BSS	2	SIGNATURE	6S.08500
	004654		4811	SRTCTR BSS	2	RETRY COUNTER	6S.08510
	004656		4812	STGT BSS	2	REASON CODE (BEFORE REVISE)	6S.08520
	004660		4813	SINSTA BSS	2	EFFECTIVE ADDRESS OF FAULTED INST. ON UPR	6S.08530
	004662		4814	SINSTB BSS	2	ABSOLUTE ADDRESS OF FAULTED INST. ON I.WR	6S.08540
	004664		4815	HRPTU BSS	2	POINTER OF INST. IN LAST (HR=U)	6S.08550
	004666		4816	HRPTL BSS	2	POINTER ON C-CYCLE OF LAST INST. (HR=L)	6S.08560
	004670		4817	COLMA BSS	2	COLUMN ADRS.	6S.08570
	004672		4818	CHSMR BSS	2	CACHE MODE REG.	6S.08580
	004674		4819	CHSAD BSS	2	CACHE DIRECTORY ADRS.	6S.08590
	004676		4820	CSTRG BSS	2	CACHE M-REG. + CHS-TO-REG BIT	6S.08600
	004700		4821	CSHON BSS	2	CACHE ENABLE FLAG	6S.08610
	004702		4822	FXTADR BSS	4	FXTEND ADRS.	6S.08620
	004706		4823	RDBL BSS	2		6S.08630
	004710		4824	SWORK BSS	2		6S.08640
	004712		4825	SSEQU BSS	2	SEQUENCE NUMBER	6S.08650
	004714		4826	ENDLVL BSS	2	CACHE LEVEL	6S.08660
	004716		4827	SVX4 BSS	2	SAVE X4	6S.08670
	004720		4828	SRLIM1 BSS	2	CUHR+0	6S.08680
	004722		4829	SRLIM2 BSS	2	CUHR+1	6S.08690
	004724		4830	SRLIM3 BSS	2	CUHR+30	6S.08700
	004726		4831	SRLIM4 BSS	2	CUHR+31	6S.08710
	004730		4832	SRLIM5 BSS	2	CUHR-2	6S.08720
	004732		4833	SRLIM6 BSS	2	CUHR-1	6S.08730
			4834 *				6S.08740
	004734		4835	STEMP BSS	4	FAULTED PRG'S ISR	6S.08750
	004740		4836	TEMP2 BSS	4	ODR WORKING	6S.08760
	004744		4837	TSTRFG BSS	4	SAVE TEST REG.	6S.08770
	004750		4838	SV.DGS BSS	4	SAVE ORIGINAL SD.DGS DATA	6S.08780
	004754		4839	BSS	4		6S.08790
			4840 *				6S.08800
			4841 *	*OTHR CONSTANT			6S.08810
			4842 *				6S.08820
004760	000037777777	000	4843	MASKAA OCT	000037777777		6S.08830
004761	000037777776	000	4844	MASKIC OCT	000037777776		6S.08840
004762	000037777770	000	4845	MASKOC OCT	000037777770		6S.08850
004763	777777770000	000	4846	MASKAR OCT	777777770000		6S.08860
004764	000000000200	000	4847	LVLOFF OCT	200	CACHE LEVEL OFF FLAG	6S.08870
004765	000000000100	000	4848	OCT	100		6S.08880
004766	000000000040	000	4849	OCT	040		6S.08890
004767	000000000020	000	4850	OCT	020		6S.08900
004770	000007777777	000	4851	CAMASK OCT	000007777777	DIRECTORY ADDRESS MASK	6S.08910
004771	000000000000	000	4852	SDBG1 OCT	0		6S.08920
004772	000000000000	000	4853	SDBG2 OCT	0		6S.08930



600S INSTRUCTION RETRY

004773	000000000000	000	4854	SDBG3	OCT	0	6S.08940
004774	000000000000	000	4855	SDBG4	OCT	0	6S.08950
004775	000000000000	000	4856	SDBG5	OCT	0	6S.08960
004776	000000000000	000	4857	SDBG6	OCT	0	6S.08970
004777	000000000000	000	4858	SDBG7	OCT	0	6S.08980
005000	000000000000	000	4859	SDBG8	OCT	0	6S.08990
005001	000000000000	000	4860	SDBG9	OCT	0	6S.09000
005002	000000000000	000	4861	SDBG10	OCT	0	6S.09010
005003	000000000000	000	4862	SDBG11	OCT	0	6S.09020
005004	000000000000	000	4863	SDBG12	OCT	0	6S.09030
005005	000000000000	000	4864	SDBG13	OCT	0	6S.09040
005006	000000000000	000	4865	SDBG14	OCT	0	6S.09050
			4866	*			6S.09060
005007	000000011207	000					
	005010		4867	SIEND ENULL		END OF 600S RETRY	6S.09070
	001360		4868	.LOC	SFT	*-CKRTY	6S.09080
	007700		4869		LOC	EGTR+.LOC	6S.09090
	007700		4870	BSS		1024 LEAVE ROOM FOR HREG BUFFERS	6S.09100

INITIALIZATION OF .MFALT

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4872 *** ROUTINE IS ENTERED BY STARTUP AFTER MODULE IS LOADED
4873 *** CALLING SEQUENCE
4874 *L    TSX1    .IFALT,,P4    P4 = FAULT MAIN + INITIALIZE DESCRIPTOR
4875 *L+1  RETURN    P7 = CR SEGMENT DESCRIPTOR
4876 *                                P6 = SYSTEM LINKAGE SEGMENT DESCRIPTOR
4877 *                                P5 = ENTIRE REAL MEMORY SPACE
4878 *                                P3 = P4 (DESCRIPTOR SEGMENT)
4879 *
4880                                INHIB  OFF
011700 004000 6340 07 000 4881 IFALT LDT    =04000,DL    SET OVERFLOW MASK
4882 *
4883 *                                .MFALT INITIALIZE
4884 *
4885 *
4886 *                                TEST TO SEE IF ALL HCM SPACE FAULTS SHOULD CRASH US
4887 *
011701 700204 7501 00 000 4888    STC2    .CRXPC+1,,P.CR    SET .CRXPC GATE                                14FW0850
011702 000100 2340 00 010 4889    SZN     OPT+0
011703 011722 6000 00 010 4890    TZE     NOSET                                TRANSFER IF OPTION 0 NOT SET
011704 002446 6200 00 010 4891    EAXO    STPS1                                TRA STPS1
011705 001210 7400 00 010 4892    STXO    POLF                                PARITY, ONC, LOCKUP IN HCM
011706 001211 7400 00 010 4893    STXO    POLF+1                                PARITY, ONC, LOCKUP INSSA
011707 001302 7400 00 010 4894    STXO    IPRF+1                                ZOP INSSA
011710 001352 7400 00 010 4895    STXO    MTCF                                MEM, FT, COMMAND IN HCM
011711 001353 7400 00 010 4896    STXO    MTCF+1                                MEM, FT, COMMAND INSSA
011712 001377 7400 00 010 4897    STXO    DRL                                DERAİL IN HCM
011713 001400 7400 00 010 4898    STXO    DRL+1                                DERAİL IN SSA
011714 001005 6200 00 010 4899    EAXO    EXTM                                TRACE TSS MMES                                FALT5110
011715 001143 7400 00 010 4900    STXO    METSS+1                                FALT5120
011716 000100 2340 00 010 4901    SZN     OPT+0
011717 011722 6050 00 010 4902    TPL     NOSET
011720 012330 2350 00 010 4903    LDA     DINCK                                TRA INHCK
011721 001172 7550 00 010 4904    STA     OPTN1
                                011722
011722 000101 2340 00 010 4905 NOSET NULL
011723 000003 6000 04 000 4906    SZN     OPT+1                                IS RETRY WANTED                                FALT1650
011724 011203 2350 07 000 4907    TZF     3,IC                                YES                                FALT1660
011725 003212 7550 00 010 4908    LDA     =0011203,DL                            NO                                FALT1670
011726 000102 2340 00 010 4909    STA     HRFTRY                                BYPASS IT                                FALT1680
011727 000003 6000 04 000 4910    SZN     OPT+2                                SYS PROG TEST                                FALT1720
011730 604600 2200 03 000 4911    TZF     3,IC                                NO                                FALT1730
011731 001357 4400 00 010 4912    LDXO    =0604600,DU                            YES, SET TMOZ                                FALT1740
011732 700271 2201 00 000 4913    SXLO    AEPR+1                                FALT1750
011733 000002 6010 04 000 4914    LDXO    .CRNPC,,P.CR
011734 0000000000000000 000 4915    TNZ     2,IC
011735 000001 1000 03 000 4916    DEC     0                                START UP ABORT
011736 000002 6000 04 000 4917    CMPXO   1,DU
011737 000104 7400 00 010 4918    TZF     2,IC
                                4919    STXO    OPT+4                                GET GATING MODE FOR MULTI CPU
                                4920 *
                                4921 *                                MOVE NON-ZERO OPTIONS 10,11,12,13 TO HEAL'S COMMUNICATION AREA

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I N I T I A L I Z A T I O N O F . M F A L T

					4922 *							
15	011740	000110	2350	00	010	4923	LDA	OPT+8	OPTION 10			
16	011741	000002	6010	04	000	4924	TNZ	2,IC				
17	011742	012332	2350	00	010	4925	LDA	CRCMM				
18	011743	700617	7551	00	000	4926	STA	.CRPAC,,P.CR	PACT COMMUNICATION WORD			
19	011744	000111	2350	00	010	4927	LDA	OPT+9	OPTION 11			
20	011745	000002	6010	04	000	4928	TNZ	2,IC				
21	011746	012333	2350	00	010	4929	LDA	CRCMM+1	DEFAULT VALUE			
22	011747	700542	7551	00	000	4930	STA	.CRCMM,,P.CR	HEALS COMMUNICATION WORD 1			
23	011750	000112	2350	00	010	4931	LDA	OPT+10	OPTION 12			
24	011751	000002	6010	04	000	4932	TNZ	2,IC				
25	011752	012334	2350	00	010	4933	LDA	CRCMM+2	DEFAULT VALUE			
26	011753	700543	7551	00	000	4934	STA	.CRCMM+1,,P.CR	HEALS COMMUNICATION WORD 2			
27	011754	000113	2350	00	010	4935	LDA	OPT+11	OPTION 13			
28	011755	000002	6010	04	000	4936	TNZ	2,IC				
29	011756	012335	2350	00	010	4937	LDA	CRCMM+3	DEFAULT VALUE			
30	011757	700544	7551	00	000	4938	STA	.CRCMM+2,,P.CR	HEALS COMMUNICATION WORD 3			
31						4939 *						
32						4940 *		SET MASK FOR DISASTER AND GATE WAIT ROUTINE				
33						4941 *						
34	011760	006133	4724	07	000	4942	LDP	P2,SD,KL,DL				
35	011761	200032	2371	00	000	4943	LDAQ	.KLMCM,,P2				
36	011762	012336	3770	00	010	4944	ANAO	GMASK	INHIBIT INTERRUPTS		FALT0330	
37	011763	200014	7571	00	000	4945	STAO	.KLINH,,P2				
38						4946 *						
39						4947 *		GFNERATE HISTORY REGISTER DUMP AREA				
40						4948 *						
41	011764	000103	7250	00	010	4949	LXL5	OPT+3	PATCH CAN MAKE MORE BUFFERS			
42	011765	700271	1051	00	000	4950	CMPX5	.CRNPC,,P.CR	CANNOT BE MORE PROCESSORS THAN BUFFERS			
43	011766	000002	6030	04	000	4951	TRC	2,IC				
44	011767	700271	2251	00	000	4952	LDX5	.CRNPC,,P.CR				
45	011770	000002	1050	03	000	4953	CMPX5	2,DU	MINIMUM			
46	011771	000002	6030	04	000	4954	TRC	2,IC				
47	011772	000002	2250	03	000	4955	LDX5	2,DU				
48	011773	000005	1050	03	000	4956	CMPX5	5,DU	MAXIMUM NUMBER OF BUFFERS			
49	011774	000002	6020	04	000	4957	TNC	2,IC				
50	011775	000005	2250	03	000	4958	LDX5	5,DU				
51	011776	012327	7450	00	010	4959	STX5	BUFCT	SAVE HIST BUF COUNT			
52	011777	001600	6350	15	000	4960	EAA	.FRT26+ .FRT27+ .FRT28,5			DPSE0410	
53	012000	000022	7710	00	000	4961	ARL	18			DPSE0420	
54	012001	700560	7551	00	000	4962	STA	.CRHB0,,P.CR			DPSE0430	
55	012002	012145	7450	00	010	4963	STX5	INT1			DPSE0440	
56						4964 *					DPSE0450	
57	012003	700521	2351	00	000	4965	LDA	.CRFIG,,P.CR	GET CONFIG		EL7.	
58	012004	200000	3150	03	000	4966	CANA	.FDPSE,DU	TEST DPS-E PRESENT		EL7.	
59	012005	012046	6010	00	010	4967	TNZ	DPSE	YES		EL7.	
60	012006	002000	3150	03	000	4968	CANA	.FRT7,DU	NO, TEST 600S		EL7.	
61	012007	012053	6000	00	010	4969	TZE	S700	NO		EL7.	
62	012010	012326	2350	00	010	4970	LDA	IHRS			DPSE0530	
63	012011	012342	7550	00	010	4971	STA	IHB0			DPSE0540	

INITIALIZATION OF .MFALT

						4972 *				6S.09200
						4973 *	600S INITIALIZE			6S.09210
						4974 *				6S.09220
	012012	000107	2340	00	010	4975	SZN	OPT+7		6S.09230
	012013	012024	6000	00	010	4976	TZE	SKP07		6S.09240
	012014	710200	2200	03	000	4977	LDX0	=0710200,DU	TRA INSTRUCTION	6S.09250
	012015	003213	4400	00	010	4978	SXLO	HSRC		6S.09260
	012016	003307	6350	00	010	4979	EAA	HSSIF		6S.09270
	012017	710200	2750	07	000	4980	ORA	=0710200,DL		6S.09280
	012020	003446	7550	00	010	4981	STA	SI7		6S.09290
	012021	003443	7550	00	010	4982	STA	S071		6S.09300
	012022	601200	2200	03	000	4983	LDX0	=0601200,DU		6S.09310
	012023	003443	4400	00	010	4984	SXLO	S071		6S.09320
		012024				4985	SKP07	NULL		6S.09330
	012024	000220	6200	00	000	4986	EAX0	SBUFSZ		6S.09340
	012025	002641	7400	00	010	4987	STX0	HBFSZ		DPSE0760
	012026	777777	6200	10	000	4988	EAX0	-1,0		DPSE0770
	012027	003426	7400	00	010	4989	STX0	HSVEC		6S.09450
	012030	710204	2200	03	000	4990	LDX0	=0710204,DU	TRA *,IC	6S.09490
	012031	001174	4400	00	010	4991	SXLO	SI1		6S.09500
	012032	012323	2350	00	010	4992	LDA	SEFTR		6S.09530
	012033	002673	7550	00	010	4993	STA	SI3		6S.09540
	012034	012324	2350	00	010	4994	LDA	XEXTF		6S.09550
	012035	003024	7550	00	010	4995	STA	SI5		6S.09560
						4996 *	REPLACE STANDARD INSTRUCTION RETRY WITH 600S RETRY			6S.09590
	012036	001360	6360	00	000	4997	EAQ	SIFND-CKRTY	WORD COUNT	6S.09600
	012037	000002	7360	00	000	4998	QLS	2	BYTE COUNT	6S.09610
	012040	000040	1004	40	000	4999	MLR	(,1),(,1)	MAKE THE MOVE	6S.09620
	012041	006320	0000	02	010	5000	ADSC9	EGTR,0,QU		6S.09630
	012042	003430	0000	02	010	5001	ADSC9	RSTRT,0,QU		6S.09640
	012043	005010	6260	00	010	5002	EAX6	SIEND		6S.09650
	012044	012056	7100	00	010	5003	TRA	S700+3		6S.09660
						5004 *	DPSE PROCESSOR HREG INITIALIZATION			DPSE0560
	012045	000003	7100	04	000	5005	T3IC	TRA	3,IC	DPSE0570
						5006 *				DPSE0580
	012046	000730	6200	00	000	5007	DPSE	EAX0	LBFSZ	DPSE0590
	012047	002641	7400	00	010	5008	STX0	HBFSZ	USE LARGE BUFFER SIZE	DPSE0600
	012050	012342	7400	00	010	5009	STX0	IHR0		DPSE0610
	012051	777777	6200	10	000	5010	EAX0	-1,0		DPSE0620
	012052	003426	7400	00	010	5011	STX0	HSVEC		DPSE0630
						5012 *				6S.09670
	012053	006154	6260	00	010	5013	S700	EAX6	GMCM	6S.09680
						5014 *				
	012054	020000	2350	07	000	5015	LDA	.FRT22,DL		FALT3070
	012055	012342	2550	00	010	5016	ORSA	IHR0		FALT3080
	012056	002641	2350	00	010	5017	LDA	HBFSZ		DPSE0790
	012057	000011	7710	00	000	5018	ARL	9		DPSE0800
	012060	700560	2551	00	000	5019	ORSA	.CRHB0,,P.CR		DPSE0810
	012061	000104	2350	00	010	5020	LDA	OPT+4	TEST GATING OPTION	FALT3090
	012062	012076	6010	00	010	5021	TNZ	MGATE	MULTIPROCESSOR	FALT3100



INITIALIZATION OF .MFALT

012133	700271	2201	00	000	5072	LDX0	.CRNPC,,P.CR	# PROCESSORS	09FW2230
012134	000001	1000	03	000	5073	CMPX0	1,DU		09FW2240
012135	000003	6010	04	000	5074	TNZ	3,IC	MULTIPLE	09FW2250
012136	012350	6304	00	010	5075	EPPR	P0,CRACP	SINGLE	09FW2260
012137	000002	7100	04	000	5076	TRA	2,IC		09FW2270
012140	012362	6304	00	010	5077	EPPR	P0,CRACM		09FW2280
012141	000100	1005	00	000	5078	MLR	(1),(1)	MOVE CRACC IMAGE TO .CRACC	09FW2290
012142	000000	0000	50	000	5079	ADSC9	0,0,10*4,P0		09FW2300
012143	700160	0000	50	000	5080	ADSC9	.CRACC,0,10*4,P.CR		10FW0060
					5081	*			
012144	002641	2360	00	010	5082	SINI2	LDO	HBFSZ	DPSE1180
012145	000000	4020	07	000	5083	INT1	MPY	**DL	
012146	000010	6240	02	000	5084	EAX4	8,QU	TIMES NUMBER OF BUFFERS = TOTAL SIZE + 8 WORDS	DPSE1200
012147	003346	7440	00	010	5085	STX4	IF3		
012150	002757	7440	00	010	5086	STX4	IF4	END OF BUFFERS	
012151	002766	7440	00	010	5087	STX4	IF5		
012152	002776	7440	00	010	5088	STX4	IF6		
012153	000020	6250	14	000	5089	EAX5	16,4	+ 16 WORDS (HIE & DGS SEGMENTS)	DPSE1220
012154	000000	4500	16	000	5090	CLRLP	STZ	CLEAR SEGMENTS	DPSE1230
012155	000001	6260	16	000	5091	EAX6	1,6		DPSE1240
012156	777777	6250	15	000	5092	EAX5	-1,5		DPSE1250
012157	012154	6054	00	010	5093	TPNZ	CLRLP		DPSE1260
012160	012327	2250	00	010	5094	LDX5	BUFCT		
012161	000020	6260	00	000	5095	EAX6	16		
012162	012342	2370	00	010	5096	ILP	LDAQ	IHBO	
012163	000010	7570	16	000	5097	HIA	STA	**+8,6	
012164	000001	2350	03	000	5098	LDA	1,DU	POINTS HDP SEG AREA LOGGING COMPLETED FLAG	
012165	000015	7550	16	000	5099	HII	STA	**+8+PFLOG,6	
012166	002641	0260	00	010	5100	SINI1	ADLX6	HBFSZ	DPSE1280
012167	000001	1250	03	000	5101	SBLX5	1,DU		
012170	012162	6010	00	010	5102	TNZ	ILP		
					5103	*			
					5104	*		INITIALIZE .CRCSH	
					5105	*			
012171	000105	2350	00	010	5106	LDA	OPT+5		
012172	012203	6010	00	010	5107	TNZ	NHFAL	CACHE ENABLE EVEN IF HEALS IS ABSENT	
012173	012460	2370	00	010	5108	LDAQ	CROGTP		FALT3860
012174	700546	7571	00	000	5109	STAQ	.CRCSH,,P.CR	NOP **	
012175	700550	7571	00	000	5110	STAQ	.CRCSH+2,,P.CR	NOP **	
012176	700354	7551	00	000	5111	STA	.CRCSC+0,,P.CR		
012177	700355	7551	00	000	5112	STA	.CRCSC+1,,P.CR		
012200	700356	7551	00	000	5113	STA	.CRCSC+2,,P.CR		
012201	700357	7551	00	000	5114	STA	.CRCSC+3,,P.CR		
012202	012213	7100	00	010	5115	TRA	ILUF		
		012203			5116	NHEAL	NULL		
012203	012344	2370	00	010	5117	LDAQ	CACHL	SET CACHE & LOCKUP CONTROL	
012204	700546	7571	00	000	5118	STAQ	.CRCSH,,P.CR		
012205	700354	7551	00	000	5119	STA	.CRCSC+0,,P.CR		
012206	700355	7561	00	000	5120	STQ	.CRCSC+1,,P.CR		
012207	012346	2370	00	010	5121	LDAQ	CACHL+2		

INITIALIZATION OF .MFALT

012210	700550	7571	00	000	5122	STAQ	.CRCSH+2,,P.CR	
012211	700356	7551	00	000	5123	STA	.CRCSC+2,,P.CR	
012212	700357	7561	00	000	5124	STQ	.CRCSC+3,,P.CR	
					5125 *			
					5126 *	INITIALIZE	.CRLUF	
					5127 *			
	012213				5128	ILUF	NULL	
012213	000106	2350	00	010	5129	LDA	OPT+6	CHECK FOR SPECIFIED VALUE
012214	000002	6010	04	000	5130	TNZ	2,IC	
012215	000003	2350	07	000	5131	LDA	3,DL	DEFAULT VALUE
012216	000003	3750	07	000	5132	ANA	3,DL	
012217	700566	7551	00	000	5133	STA	.CRLUF,,P.CR	USE ONLY LUF SET BITS
012220	000105	2360	00	010	5134	LDQ	OPT+5	IF OPT CACHE IS ARBITRARILY SET ON
012221	012226	6000	00	010	5135	TZE	SKIP5	
012222	740000	2750	07	000	5136	ORA	=0740000,DL	
012223	000002	1160	07	000	5137	CMPQ	2,DL	IF VALUE IS 2 SET FLAG
012224	000002	6010	04	000	5138	TNZ	2,IC	SO HEAL MAY ALSO SERVICE
012225	004000	2750	07	000	5139	ORA	=04000,DL	
	012226				5140	SKIP5	NULL	
012226	000000	2270	03	000	5141	LDX7	0,DU	
012227	010200	5202	01	000	5142	RPT	4,1	
012230	700552	7551	17	000	5143	STA	.CRCSH+4,7,P.CR	SET CACHE CONTROL & LUF VALUE
					5144 *	.CRACK	GATF WORD INITIALIZE	
012231	700071	5541	00	000	5145	STC1	.CRACK+1,,P.CR	
					5146 *			FALT3760
					5147 *	INITIALIZE	.CRORS	FALT3770
					5148 *			FALT3780
012232	000000	2270	03	000	5149	LDX7	0,DU	FALT3790
012233	200000	2350	07	000	5150	LDA	=0200000,DL	FALT3800
012234	010200	5202	01	000	5151	RPT	4,1	FALT3810
012235	700276	7551	17	000	5152	STA	.CRORS,7,P.CR	FALT3820
					5153 *			
					5154 *	INITIALIZE	.CRORR	
					5155 *			
012236	000000	2270	03	000	5156	LDX7	0,DU	
012237	204000	2350	07	000	5157	LDA	=0204000,DL	WHEN BIT 19=1, PERFORM SAFESTORE
012240	010200	5202	01	000	5158	RPT	4,1	WHEN BIT 24=1, OPERAND READS FROM CACHE
012241	700272	7551	17	000	5159	STA	.CRORR,7,P.CR	TURN ON SSBF AND CRCF
					5160 *			
					5161 *	INITIALIZE	.CRLIM	
					5162 *			
012242	000000	2270	03	000	5163	LDX7	0,DU	
012243	000007	2350	07	000	5164	LDA	=07,DL	THE NUMBER OF RETRY
012244	010200	5202	01	000	5165	RPT	4,1	
012245	700561	7551	17	000	5166	STA	.CRLIM,7,P.CR	
					5167 *			
					5168 *	GFNERATE	SFGMENT	
					5169 *			
012246	012402	0544	00	010	5170	STD	P4,WK	
012247	000020	6350	00	000	5171	HIB	EAA ***16	HDP SEG



INITIALIZATION OF MFALT

012250	000020	7710	00	000	5172	ARL	16		
012251	012403	0350	00	010	5173	ADLA	WK+1	SEGMENT BASE	
012252	012375	7550	00	010	5174	STA	HSFG+1		
012253	777777	6200	14	000	5175	EAXO	-1.4		
012254	012374	7400	00	010	5176	STXO	HSFG		
012255	600000	2350	07	000	5177	LDA	=0600000,DL	* SET BOUND OF HDP BUFFER DESCRIPTOR	
012256	012374	2550	00	010	5178	ORSA	HSFG	*	
					5179 *				
012257	000000	6350	00	000	5180	HIC	EAA	**	
012260	000020	7710	00	000	5181	ARL	16		
012261	012403	0350	00	010	5182	ADLA	WK+1		
012262	012377	7550	00	010	5183	STA	GSEFG+1	SEGMENT BASE	
					5184 *				
012263	000010	6350	00	000	5185	HID	EAA	**+8	
012264	000020	7710	00	000	5186	ARL	16		
012265	012403	0350	00	010	5187	ADLA	WK+1		
012266	012401	7550	00	010	5188	STA	ESEFG+1	SEGMENT BASE	
					5189 *				
012267	312374	6705	00	000	5190	LDD	PO,HSEG-.,FALT.,P3	FALT2020	
					5191	.STD	SD,HDP	STORE HDP SEG. DFS. IN SYSTEM LINKAGE	
012270	006151	6350	00	000		FAA	SD,HDP		
012271	001777	3750	03	000		ANA	=0001777,DU		
012272	000001	7350	00	000		ALS	1		
012273	600000	0505	01	000		STD	PO,0,AU,P6		
012274	312376	6705	00	000	5192	LDD	PO,GSEG-.,FALT.,P3	FALT2040	
					5193	.STD	SD,DGS	STORE DGS SEG. DFS.	
012275	006022	6350	00	000		FAA	SD,DGS		
012276	001777	3750	03	000		ANA	=0001777,DU		
012277	000001	7350	00	000		ALS	1		
012300	600000	0505	01	000		STD	PO,0,AU,P6		
012301	312400	6705	00	000	5194	LDD	PO,ESEG-.,FALT.,P3	FALT2060	
					5195	.STD	SD,PIE	STORE PIE SEG. DFS.	
012302	006037	6350	00	000		EAA	SD,PIE		
012303	001777	3750	03	000		ANA	=0001777,DU		
012304	000001	7350	00	000		ALS	1		
012305	600000	0505	01	000		STD	PO,0,AU,P6		
					5196 *				
					5197 *	INITIALIZE	SD,PIE	SEGMENT	
					5198 *				
012306	012430	2370	00	010	5199	LDAQ	PIFS		
012307	000010	7570	00	000	5200	HIG	STAQ	**+8	
012310	012432	2370	00	010	5201	LDAQ	PIFS+2		
012311	000012	7570	00	000	5202	H1H	STAQ	**+8+2	
					5203 *				
012312	000020	6360	14	000	5204	HIF	EAQ	**+16.4	QU = NEXT MODULE LOADING ADDRESS
012313	012402	7560	00	010	5205	STQ	WK		
012314	777777	6360	00	000	5206	HIF	FAQ	**+1	QL = MODULE SIZE
012315	000022	7720	00	000	5207	QRL	18		
012316	012402	0360	00	010	5208	ADLQ	WK		
012317	000000	2350	07	000	5209	LDA	0,DL		

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12471 02 12-27-79 09.333 H6600J7.065 FAULT HANDLER SR 4VX 791219FALT PAGE 122

INITIALIZATION OF M F A L T

012320 500000 7101 11 000 5210 TRA 0.1.P5 RETURN TO START UP

INITIALIZATION OF MFALT

					5212	INHIB	ON		
012321	000000000000	000	5213	S600	OCT	0		6S.09720	
012322	000267 7102 00	010	5214	IHIST	TRA	HIST		6S.09730	
012323	003332 4522 03	010	5215	SEFTR	SCPR	EFTRG,03		6S.09740	
012324	003334 7172 00	010	5216	XEXTF	XED	SEXTF		6S.09750	
012325	003114 7102 00	010	5217	TSK70	TRA	SK700		6S.09760	
012326	000220016201	000	5218	IHBS	VFD	18/SBUFSZ,6/1,H12/S1		DPSE1090	
012327	000000000000	000	5219	BUFCT	OCT	0			
012330	000533 7102 00	010	5220	DINCK	TRA	INHCK			
012331	000000011207	000							
012332	000000000012	000	5221	CRCMM	FVFD	36/10	PACT PERIOD = 1 HOUR		
012333	000012000031	000	5222		VFD	4/0,14/10,9/0,9/25			
012334	014400015500	000	5223		VFD	12/100,12/1,7/90,5/0			
012335	000000621200	000	5224		VFD	18/**,6/50,6/10,6/0			
012336	000000000017	000	5225	GMASK	EOCT	17,17		EL9.	
012337	000000000017	000							
012340	036074000017	000	5226	MASK	OCT	036074000017			
012341	036074000017	000	5227		OCT	036074000017			
012342	000320006501	000	5228	IHBO	VFD	18/HRBSZ,6/**,H12/V1		DPSE1300	
012343	000000000000	000	5229		VFD	36/0			
			5230		INHIB	ON			
012344	700552 6743 02	000	5231	CACHL	LCPR	.CRCSH+4,02,P.CR	CACHE ENABLE CONTROL		
012345	700553 6743 02	000	5232		LCPR	.CRCSH+5,02,P.CR			
012346	700554 6743 02	000	5233		LCPR	.CRCSH+6,02,P.CR			
012347	700555 6743 02	000	5234		LCPR	.CRCSH+7,02,P.CR			
			5235	*				09FW2330	
			5236	*	IMAGE OF UNIPROCESSOR	.CRACC		09FW2340	
			5237	*				09FW2350	
012350	000000 5326 00	000	5238	CRACP	CAMP			09FW2360	
012351	000000 0112 03	000	5239		NOP	0,DU		09FW2370	
	012352		5240		BSS	2		09FW2380	
012354	000000 0116 00	000	5241		CCAC			09FW2390	
012355	000000 0112 03	000	5242		NOP	0,DU		09FW2400	
	012356		5243		BSS	2		09FW2410	
012360	000007 7102 04	000	5244		TRA	7,IC		09FW2420	
012361	000004 7102 04	000	5245		TRA	4,IC		09FW2430	
			5246	*				09FW2440	
			5247	*	IMAGE OF MULTIPROCESSOR	.CRACC		09FW2450	
			5248	*				09FW2460	
012362	000001 6306 04	000	5249	CRACM	EPPR	P0,1,IC	SET RETURN	09FW2470	
012363	700162 7173 00	000	5250		XED	.CRACC+2,,P.CR		09FW2480	
012364	006121 4776 07	000	5251		LDP	P.CR,SD,GTW,DL	GET PROCEDURE SEGMENT	09FW2490	
012365	700046 7103 00	000	5252		TRA	ICAMP=XX,,P.CR	GO TO SEGMENT	09FW2500	
012366	000001 6306 04	000	5253		EPPR	P0,1,IC	SET RETURN	09FW2510	
012367	700166 7173 00	000	5254		XED	.CRACC+6,,P.CR		09FW2520	
012370	006121 4776 07	000	5255		LDP	P.CR,SD,GTW,DL	GET PROCEDURE SEGMENT	09FW2530	
012371	700052 7103 00	000	5256		TRA	ICCAC=XX,,P.CR	GO TO SEGMENT	09FW2540	
012372	000000 0112 03	000	5257		NOP	0,DU		09FW2550	
012373	000000 0112 03	000	5258		NOP	0,DU		09FW2560	
			5259	*				09FW2570	



INITIALIZATION OF .MFALT

012434	000001	6306	04	000	5302	CRMPG	EPPR	PO,1,IC	FORM IC POINTER	FALT2800
012435	700110	4507	37	000	5303		STP	PO,.CRGDI,7*,P.CR	STACK IT	FALT2810
					5304	*		.CRMPG+2		FALT2820
012436	700276	1727	17	000	5305		LDO	.CRORS,7,P.CR	SET CACHE OPERAND BYPASS	FALT2830
012437	700020	6003	00	000	5306		TZE	.CRMPG+6,,P.CR	WOOPS, GATE WAS SHUT	FALT2840
					5307	*		.CRMPG+4	(.SHUTX ONLY)	FALT2850
012440	700276	1727	17	000	5308		LDO	.CRORS,7,P.CR		FALT2860
012441	700022	6003	00	000	5309		TZE	.CRMPG+8,,P.CR	GATE WAS SHUT	FALT2870
					5310	*		.CRMPG+6	(.SHUT ONLY)	FALT2880
012442	006121	4776	07	000	5311		LDP	P.CR,SD,GTW,DL	GET WAIT SEGMENT	FALT2890
012443	700026	7103	00	000	5312		TRA	GWAIT=XX,,P.CR	& GOTO IT	FALT2900
					5313	*		.CRMPG+8	(.SHUTX ONLY)	FALT2910
012444	500000	6777	00	000	5314		LDD	P.CR,DP,GTW,,P.SSL	GET WAIT SEGMENT	FALT2920
012445	700024	7103	00	000	5315		TRA	GWAITX=XX,,P.CR	& GOTO IT	FALT2930
					5316	*		.CRMPG+10	(.SHUTC ONLY)	04FW0070
012446	700026	6003	00	000	5317		TZE	.CRMPG+12,,P.CR	GATE WAS SHUT	04FW0080
012447	700276	1727	17	000	5318		LDO	.CRORS,7,P.CR	TWAS OPEN, BYPASS CACHF	04FW0090
					5319	*		.CRMPG+12		04FW0100
012450	700114	0113	37	000	5320		NOP	.CRGID,7*,P.CR	POP GATING STACK	04FW0110
012451	000002	7103	20	000	5321		TRA	2,*,PO	TAKE ALTERNATE EXIT	04FW0120
					5322	*				FALT2950
					5323	*		.OPEN ROUTINE		FALT2960
					5324	*				FALT2970
012452	700114	0113	37	000	5325	CROGT	NOP	.CRGID,7*,P.CR	POP STACK	FALT2980
012453	700034	7173	00	000	5326		XED	.CROGT+2,,P.CR	HOLD IC	FALT2990
					5327	*		.CROGT+2		FALT3000
012454	000001	6072	04	000	5328		TTF	1,IC	NOT LAST GATE	FALT3010
012455	700272	1727	17	000	5329		LDO	.CRORR,7,P.CR	LAST GATE, RESUMF CACHE USE	FALT3020
					5330	*		.CROGT+4,+5	ARE RESERVED	23FW1190
					5331	*				
					5332	*			IMAGE OF PRODUCTION GATING MECHANISM	
					5333	*				
012456	000003	7102	04	000	5334	CRMPGP	TRA	3,IC		FALT1630
					5335	*			OPEN ROUTINE	
012457	000000011207			000						
012460	000000	0112	03	000	5336	CROGTPENOP		0,DU		FALT
012461	000000	0112	03	000	5337		NOP	0,DU		FALT
					5338		END			

GMAP VERSION/ASSEMBLY DATES JMPA 790514/052579 JMPB 791026/102679 JMPC 790511/052579

12473 IS THE NEXT AVAILABLE LOCATION.  
THERE WERE NO WARNING FLAGS IN THE ABOVE ASSEMBLY



OCTAL SYMBOL REFERENCES BY SEQUENCE NO.

OCTAL	SYMBOL	REFERENCES BY SEQUENCE NO.
3545	AGNES	2306 2297 2299 2306
3440	AJTIC	3977 3977 3991
6122	AMASK	3707 3395 3423 3707
5052	AQSAV	3077 1554 1555 2702 2717 3049 3064 3072 3077 3170 3175 3176 3452 3457 3467 3472
		3487 3492
20	ARO	2214 2214 2666 3511
5665	AREGC	3500 3464 3480 3500
6002	ASCII	3584 3579 3584
603	BACKF	503 8 503
6004	BCD	3586 3576 3581 3583 3585 3586
4466	BCPU1	4655 4648 4655
2437	BOOTP	1603 8 1603
12327	BUFCT	5219 4959 5094 5219
4740	BUFR1	3025 2525 3025
4734	BUFR	3024 2435 2442 2460 2467 2475 2482 2504 2509 3024
12344	CACHL	5231 5117 5121 5231
4770	CAMASK	4851 4616 4851
6111	CARN	3700 3513 3528 3556 3700
12120	CRUFP	5057 5035 5057
1075	CNSP	733 215 733 742 747
10	CFG	149 149 1724 1732
2060	CGPRO	1345 1307 1345
1553	CHEK	1122 1090 1094 1122
1456	CHKMD	1055 850 975 1003 1011 1028 1055 1836 2026 2050
1471	CHKNO	1064 1057 1060 1064
1412	CHKPN	1015 1012 1015
4674	CHSAD	4819 4580 4617 4819
4672	CHSMR	4818 4596 4609 4626 4653 4659 4818
4470	CHSRD	4658 4638 4658
2520	CIOC	1660 1660 1668
625	CIOCP	526 256 298 526
631	CIOCX	531 531 1658
5373	CK1STS	3294 3286 3289 3294
4317	CKCSH1	4536 4533 4536 4542 4544
4324	CKCSH2	4541 4535 4541
4311	CKCSH	4530 4526 4530 4538
4716	CKCUE	3014 2747 3014
4030	CKFRTY	4310 4302 4310 4319
5542	CK.RL	3411 3381 3406 3411
4372	CKLVL	4582 4582 4621
4420	CKLVOF	4608 4603 4608
5347	CKOVR	3273 3133 3187 3189 3198 3207 3273
3430	CKRTY	3969 3969 4868 4997
3500	CLBCK	2266 2263 2266
12154	CLRLP	5090 5090 5093
2220	CNBCI	1452 1442 1443 1444 1445 1449 1450 1451 1452
3470	CNDE1	2257 2251 2254 2256 2257 3736
3565	CNDE2	2323 2323 3737
3603	CNDE3	2341 2341 3738
3614	CNDE4	2351 2351 3739



OCTAL SYMBOL REFERENCES BY SEQUENCE NO.

OCTAL	SYMBOL	REFERENCES BY SEQUENCE NO.
3621	CODE5	2357 2357 3740
3623	CODE6	2360 2360 3741
3650	CODE7	2385 2385 3742
4200	CODE8	2625 2625 3743
4205	CODE9	2631 2631 3744
4212	CODEA	2637 2637 3745
4401	CODEB	2770 2770 3746
4411	CODEC	2780 2780 3747
4437	CODED	2808 2808 3748
4445	CODEE	2815 2815 3749
4454	CODEF	2825 2825 3750
4457	CODEG	2829 2829 3751
4477	CODEH	2848 2848 3752
4505	CODEI	2855 2855 3753
4511	CODEJ	2860 2860 3754
4515	CODEK	2865 2865 3755
4523	CODEL	2874 2874 3756
4544	CODEM	2893 2893 3757
4570	CODEN	2918 2918 3758
5146	CODEO	3129 3126 3129 3759
5317	CODEP	3246 3246 3760
5375	CODEQ	3297 3297 3761
5377	CODER	3300 3300 3762
5437	CODES	3337 3337 3763
5474	CODET	3369 3369 3764
5554	CODEU	3420 3420 3765
5713	CODEV	3523 3523 3766
4527	CODEW	2879 2879 3767
3567	CODEX	2326 2326 3768
5522	CODEY	3393 3393 3769
4670	COLMA	4817 4027 4572 4584 4631 4817
20	CON.F	137 137 255 293
3204	CONPR	2036 2025 2030 2036
3504	CORIC	4056 4056 4522 4675
1430	CPNUM	1032 1029 1032
4402	CPU1	4592 4586 4592
12362	CRACM	5249 5077 5249
12350	CRACP	5238 5075 5238
3634	CRADRS	4159 4089 4115 4117 4120 4124 4126 4159
6255	CRCMC	3943 3921 3926 3931 3943
12332	CRCMM	5221 4925 4929 4933 4937 5221
12404	CRGDI	5265 5048 5265
12434	CRMPG	5302 5042 5302
12456	CRMPGP	5334 5025 5334
12422	CRNSGM	5282 5054 5282
12426	CRNSGP	5287 5029 5287
12452	CROGT	5325 5045 5325
12460	CROGTP	5336 5027 5108 5336
1275	CRTABT	908 284 294 343 374 908
12414	CRTLY	5273 5051 5273









NOTAL SYMBOL REFERENCES BY SEQUFNCE NO.

NOTAL	SYMBOL	REFERENCES BY SEQUFNCE NO.
33	.AC033	200
34	.AC034	197
170	.AC170	202
171	.AC171	203
172	.AC172	204
173	.AC173	205
176	.AC176	207
177	.AC177	206
400000	.ACOM	1064
200000	.ADBG	1056
200000	.A.EMS	801
1766	.ASR	1184
0	.B	5263 5261 5262 5263
160	.CRACC	5080 5250 5254
70	.CRACK	5145
2	.CRCAL	370 1359 1463 2169 2170
72	.CRCCK	1348
100	.CRCMC	236 1502 1506 1525 1532 1537 1547 1573 1578 1663 1665 1727 3920
542	.CRCMM	4930 4934 4938
354	.CRCSC	1817 5111 5112 5113 5114 5119 5120 5123 5124
546	.CRCSH	1557 1560 1818 1899 2112 5109 5110 5118 5122 5143 5231 5232 5233 5234
104	.CRDAT	1998 1999 2333 4228
76	.CRDSP	605 607 1357 1361
521	.CRFIG	1533 4965
110	.CRGDI	5049 5303
114	.CRGID	878 5320 5325
10	.CRGTO	693 833
560	.CRHBO	4962 5019
120	.CRICO	5273
130	.CRIC1	5274
140	.CRIC2	5275
150	.CRIC3	5276
565	.CRLGR	1815
561	.CRLIM	2340 4234 4238 5166
566	.CRLUF	1558 1692 5133
12	.CRMPG	605 1357 1511 1572 5026 5043 5306 5309 5317
271	.CRNPC	1568 1571 1667 3922 4914 4950 4952 5072
64	.CRNSG	876 5030 5031 5055
567	.CRNTR	2961 2963 2966 4707 4719
32	.CROGT	607 1361 1514 1579 5028 5046 5326
272	.CRORR	5159 5329
276	.CRORS	5152 5305 5308 5318
617	.CRPAC	4926
603	.CRSNT	2969 4720
572	.CRSTR	2948 2951 2956 2959 4688 4692 4695 4701 4704
312	.CRTEP	623 666 1388
336	.CRTLY	291 5052 5265 5266 5267 5268 5269 5270 5271 5272 5282 5284
42	.CRTRV	321 328 411 419 665 676 1396
575	.CRUT8	4696
600	.CRUTQ	4705





OCTAL SYMBOL REFERENCES BY SEQUENCE NO.

OCTAL	SYMBOL	REFERENCES BY SEQUENCE NO.
137	.KLMSZ	1407 4178
44	.KLPRG	251 265 267 279 515 651 1215 1306 1824 1826 2016 2048
52	.KLSLV	804
63	.KLSSL	441
1360	.LOC	4868 4868 4869
21	.MALCE	31 38 39 49
36	.MBRT1	35 36 904
46	.MCAL1	46
50	.MCHK1	51
641	.MDEBG	779 787 1061
57	.MDISP	56 214
60	.MDMM1	371 833
1	.MDUMP	1735
100	.MFS09	61
211	.MGNEW	63
602	.MHRT1	2170
315	.MIDSC	57
320	.MIOS1	44
2	.MIOS	217
330	.MLEM1	761
630	.MMLNK	842
432	.MPMME	34 37 40 41 45 55 58 59 64 65 67 68 71 72
460	.MPOPM	1463
524	.MRELS	32
525	.MRES1	48
527	.MROL1	53
533	.MROUT	751
535	.MSAV1	47
715	.MSECR	766
544	.MSNPI	33 2169
556	.MSYOT	50
567	.MUMME	756
12	.PNDPN	981 1015 1032
100000	.RCFLT	296 1350
1000	.RTRO	604
240	.SASR	582
5	.SATTR	658 721 802 1055
235	.SDSAR	586
43	.SFLVL	616 682 734
236	.SISR	571 580
242	.SLSR	584
65	.SMODN	1463 2169 2170
2	.SMODT	328 419 605 676 1357 1396 1511 1572
303	.SMRSV	1265
120	.SPDSR	314 909 987 1356 1422 1843 1857 2039
117	.SRQST	297 606 1351
12	.SSA	482 618 684 736 1174 1189 2156 2157 2164 2165 2173 2174
1764	.SSR	241 307 378 457 489 547 568 712 873 881 895 958 1082 1139 1207
		1208 1209 1221 1469 1636 2009 2259 2655 2883 4167
174	.SSSR	286 288 289 332 333 346 354 361 363 388 487 541 542 543 545

OCTAL SYMBOL REFERENCES BY SEQUENCE NO.

OCTAL	SYMBOL	REFERENCES BY SEQUENCE NO.
		546
261	.ST2CS	1132 1141
17	.STATE	270 283 285 390 485 488 540 653
204	.STEMP	1095 1096 1134 1136 1137 1138
214	.STMPA	702 708 1125 1128
220	.STMPX	1061
232	.STTRO	603
221	.SVFLT	336 342 348 358 364 365 375 376 885 886 952 954 955 1079 1131
		1171 1183 2065 2070
16	.SWIT	1426
40000	.TLBAR	269 484 539 654
100000	.TSOVF	282 389
12	.WASR	583 1080 1083
30	.WDR0	574 896 1191 1192 1207 3950
36	.WDR3	808
42	.WDR5	807
44	.WDR6	806
46	.WDR7	805
6	.WDSAR	587 634 674
2	.WFINS	924
5	.WFTYP	245 303 311 385 468 492 1471 3957 3961 3971 3990
4	.WICI	381 395 449 453 566 576 579 625 645 668 678 691 695 714 723
		800 829 831 865 867 917 992 995 996 1034 1036 1196 1197 1198 1218
10	.WISR	1638 2993 2995 3000 3955 3978 3983 4743
		242 437 443 454 458 581 628 672 713 874 882 959 984 1058 1208
		1209 1223 1224 1259 1833 2006 2010 2021 2260 2669 2718 2884 3518 3536 3553
		3951 4168
14	.WLSR	585 1086
30	.WODRO	2212 2212 2662
76	.WPFR	130 130 424 931 1805 1989
16	.WPSR	550 551
20	.WPTR0	1235 3954 3958 4420
23	.WPTR3	812
25	.WPTR5	811
26	.WPTR6	810
27	.WPTR7	809
50	.WREGS	384 563 596 692 701 707 813 814 1020 1021 1041 1144 1194 1195 1255
		4418 4432
7	.WRVA	630
0	.WSS	3953
70	.WTEMP	1229 1257 1270
7	.XDCFV	200
15	.XDRFV	192
46	.XFLT	875
5	.XFTFV	189
21	.XGBAR	565
23	.XGBFV	498 577
22	.XGBIC	562 567
26	.XLDR3	1838 1853 2036 2052
31	.XLDR6	496 561 930 936 1018 1037







OCTAL SYMBOL REFERENCES BY SEQUENCE NO.

5134

1172	OPTN1	826	826	4904													
1173	OPTN2	828	464	828													
1766	OTHR2	1268	1228	1268													
5021	OUCHK	3048	2493	2534	2834	3048											
5040	OUCHKR	3066	2492	2516	2533	2833	3055	3066	3067	3069	3070						
4016	ODUL	2501	2497	2499	2501												
160	OUHR	1786	1786	2555	2558	2562	2565	2586	2837	2844							
5041	OUIJS	3067	3063	3067													
5054	OUEC	3078	3051	3061	3078												
5025	OUVU	3053	3053	3076													
1422	OVF	1026	199	1026													
5476	OVRM	3372	3311	3325	3353	3372											
5755	OVRMR	3562	3310	3324	3352	3443	3562										
5132	OXFDF	3117	2744	3117													
5134	OXF	3118	2745	3118													
0	P0		213	214	217	219	221	330	331	339	341	350	351	353	355	356	359
			362	369	457	458	459	489	490	492	504	505	508	511	547	548	551
			559	560	568	569	574	579	581	583	585	587	608	609	681	685	687
			698	699	700	703	705	706	709	712	713	720	722	725	733	737	770
			771	775	803	808	812	841	842	843	844	873	874	875	881	882	883
			886	887	888	895	896	897	899	903	904	905	906	954	957	958	959
			960	1078	1079	1083	1084	1085	1087	1100	1101	1103	1104	1107	1109	1111	1115
			1116	1117	1139	1142	1144	1147	1150	1153	1154	1155	1161	1167	1170	1171	1172
			1173	1174	1182	1184	1189	1191	1194	1196	1221	1223	1224	1251	1254	1256	1319
			1322	1358	1370	1385	1469	1470	1471	1507	1509	1551	1552	1563	1566	1567	1636
			1637	1638	1641	1643	1644	1681	1682	1740	1741	1819	1820	1828	1829	1981	1983
			1985	1988	1995	1996	2002	2004	2009	2010	2011	2018	2019	2058	2059	2060	2080
			2085	2086	2103	2104	2139	2141	2152	2172	2180	2183	2190	2247	2248	2260	2302
			2662	2669	2676	2681	2884	2902	2903	2908	2909	2910	2911	2912	2913	2967	2968
			2975	2977	3307	3322	3326	3350	3354	3893	3904	3937	4168	4169	4172	4204	4208
			4209	4215	4717	4718	4723	4724	5075	5077	5079	5190	5191	5192	5193	5194	5195
			5249	5253	5292	5293	5294	5295	5302	5303	5321						
1	P1		349	360	1082	1083	1086	1103	1127	1175	1176	1177	1178	1179	1577	2151	2153
			2161	5039	5040												
2	P2		360	363	1091	1095	1110	1127	1128	1460	1734	1735	1737	2162	4942	4943	4945
3	P3		5190	5192	5194												
4	P4		435	436	1117	1162	1163	1501	1519	1674	1694	1722	1724	1732	1872	1875	1882
			1888	1891	1904	1908	1911	1914	1919	1932	1936	1941	1946	1950	1954	1959	1963
			1967	1971	1975	1978	1980	1982	1985	1990	1993	1994	2000	2001	2003	2005	2012
			2020	2056	2063	2069	2073	2079	2081	2092	2101	2109	2116	2119	2124	2130	2241
			2250	2252	2268	2273	2275	2278	2280	2282	2285	2287	2304	2329	2330	2345	2350
			2353	2363	2383	2403	2414	2418	2426	2440	2452	2458	2465	2473	2481	2491	2501
			2508	2526	2540	2555	2558	2562	2565	2570	2578	2579	2586	2590	2597	2600	2612
			2614	2623	2629	2630	2633	2645	2656	2695	2701	2710	2726	2729	2733	2743	2752
			2773	2796	2806	2823	2832	2837	2842	2844	2857	2862	2871	2876	2917	2926	2938
			2978	2985	2988	3001	3018	3127	3139	3140	3151	3155	3159	3164	3171	3173	3195
			3206	3222	3223	3295	3305	3320	3347	4051	4056	4065	4072	4078	4088	4096	4106
			4109	4112	4121	4128	4132	4187	4221	4222	4224	4225	4244	4249	4260	4275	4283
			4292	4310	4325	4341	4354	4359	4400	4414	4423	4471	4485	4491	4493	4496	4500













TOTAL SYMBOL REFERENCES BY SEQUENCE NO.

TOTAL	SYMBOL	REFERENCES BY SEQUENCE NO.
4656	STGT	4812 4026 4728 4757 4812
2304	STOP	1491 222 1491
2241	STPM	1468 1294 1419 1429 1468
2457	STPS10	1624 1472 1624
2446	STPS1	1613 461 982 1613 3962 4891
2447	STPS2	1614 281 470 1614
2450	STPS3	1615 474 860 1615
2451	STPS4	1617 476 1617
2453	STPS6	1619 926 965 1619
2454	STPS7	1620 898 1620
2455	STPS8	1622 915 941 964 1622
2456	STPS9	1623 1009 1623
2445	STPSE	1612 258 278 1612
2462	STPSTM	1629 516 1605 1608 1629
4404	STRMR	4595 4591 4595
3	STRY	2216 2216 2944
327	SUBD	301 268 301
1716	SUMO	1225 1225 1274
2277	SUPAD	1482 1312 1412 1414 1482
4750	SV.DGS	4838 4203 4211 4838
2272	SVPN	1477 1293 1299 1477
4716	SVX4	4827 4029 4748 4827
4710	SWORK	4824 4763 4764 4824
50	SXRO	2213 2213 2678 2682
2274	SYSAF	1479 1310 1374 1428 1479
2302	SYSD	1485 1308 1364 1418 1485
2442	SYSDN	1607 8 1607
5730	TODES	3539 3520 3539
5722	T2DES	3532 3522 3532
6114	TA1SV	3703 3308 3577 3593 3703
1000	TA2NO	3729 3588 3729
400	TA3NO	3730 3567 3730
4517	TAGRB	2869 2599 2869
5773	TCTR	3577 3571 3574 3577
4740	TFMP2	4836 4185 4186 4209 4836
5004	TFMP	3034 2248 2249 2331 2332 2400 2405 2477 2487 2490 2885 2886 3034 3501 3561
1354	TFPR	975 928 933 937 943 951 966 975
1445	TFXUN	1045 1039 1045
4712	TGN	3009 2324 2327 2342 2809 2830 2856 2861 2866 2880 3009 3338 3362 3370
4754	TGT	3028 2238 2981 3005 3009 3011 3028
4706	TGZ	3005 2358 2361 2386 2626 2632 2638 2781 2816 2826 2849 2875 2894 3005 3130 3298
		3301 3394 3421
1040	THCM	695 686 695
2575	TLOOP	1715 1704 1715 1718 1720
1265	TOPE	897 891 897
3123	TRAPO	1983 1979 1983
736	TRDSP	608 216 304 608
721	TROF	596 404 596 997 1022 1046
10	TRO.F	142 142 403 471
725	TROMP	602 589 602

TOTAL SYMBOL REFERENCES BY SEQUENCE NO.

4744	TSTREG	4837	4173	4174	4837															
6100	ULD1	3693	3312	3334	3359	3693														
6102	ULD2	3694	3329	3366	3694															
4770	ULIM	3031	2395	2438	2448	2479	2592	2602	3016	3031	3192	3204								
561	UNDF	481	8	481																
5571	UNRA	3434	3430	3434																
5537	UNRA.	3407	3402	3407																
4124	URNSA	4389	4379	4381	4383	4385	4389													
4	US	1212	1212	1223	1225	1231	1236	1240	1264											
1110	USFR	756	54	756																
6	UTRY8	2217	2217	2952																
11	UTRYQ	2218	2218	2960																
4033	VU	2514	2494	2514																
5045	VUCHK	3071	2517	3071																
2311	WHOA	1496	1496	1527																
12402	WK	5264	5170	5173	5182	5187	5205	5208	5264											
5116	WSN01	3111	3111	3314	3332	3357														
5117	WSN02	3112	3112	3331	3364															
5122	WSR	3114	3114	3540	3541	3549														
5130	WSRX	3116	3116	3313	3330	3356	3363	3535	3552											
4472	WTMEM	4661	4654	4661																
12420	WVFC	5277	5039	5277																
5037	X2SAV	3065	3050	3065	3073															
5014	X4SAV	3036	2237	2980	3036															
1772	XFACT	1273	1258	1273																
12324	XFTF	5216	4994	5216																
6150	XX	3874	3874	3877	3878	3879	3880	3888	3890	3896	3900	3903	3908	3913	3917	3921	3926			
			3928	3931	3935	3936	5252	5256	5277	5312	5315									
6112	Y	3701	3510	3529	3557	3559	3560	3701												
744	YFLT	623	322	412	623															
5074	ZFRO	3094	2671	3094																
2632	ZFROE	1743	1708	1743																
** 40K LIMITS NEEDED FOR THIS ASSEMBLY.																				
**GFRC READ 1275 AND PUNCHED NONE COMDK CARDS																				

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SNUMB = 12471, ACTIVITY # = 02, REPORT CODE = 73, RECORD COUNT = 00001



