

.TITLE BD15 CONTROL TEST
.EBREL

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/ APRIL 1, 1971
/ BY ROBERT A, WHITTON
/MODIFIED BY ED HILTON FOR SYSTEM EXERCISER 4/5/71
/

00000 R 604031 A
00001 R 000032 A
00002 R 000000 A
00003 R 000000 A
00004 R 000057 R
00005 R 000034 R
00006 R 020461 A
00007 R 654040 A
00010 R 000010 A
00011 R A

00020 R 000000 A
00021 R 000000 A
00022 R 000000 A
00023 R 000000 A
00024 R 000000 A
00025 R 000000 A
00026 R 000000 A
00027 R 000000 A
00030 R 000000 A
00031 R 000000 A

00032 R 777760 A
00033 R 777640 A
00034 R 000000 A
00035 R 707764 A
00036 R 707702 A
00037 R 200034 R
00040 R 040057 R
00041 R 144237 R
00042 R 144241 R
00043 R 144235 R
00044 R 777777 A
00045 R 040032 R
00046 R 200001 R
00047 R 740100 A
00050 R 600053 R
00051 R 777600 A
00052 R 741000 A
00053 R 777640 A
00054 R 040033 R
00055 R 100141 R
00056 R 600246 R

UODSW 604031
000032
0
0
.DSA BDSERV
.DSA BDINIT
.SIXBT 'BD15'

10
.BLOCK 7
/
SYSERR 0
ERWC
ERCODE
0
0
0
0
0
0
0
/
MINCYC -20
MAJCYC -140
BDINIT 0
EBA
EEM
LAC BDINIT
DAC BDSERV
DZM M5IND
DZM FLGCHK
DZM HOLSW
LAW -1
DAC MINCYC
LAC UODSW+1
SMA
JMP ,+3
LAW -200
SKP
LAW -140
DAC MAJCYC
JMS HOLD
JMP S3
.EJECT

/BIT 0 = 1 FOR UDC ONLY

/CHAIN MODE SWITCH

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00057 R 000000 A BDSERV 0
00060 R 707764 A EBA
00061 R 707702 A EEM
00062 R 044236 R DAC SAVAC
/
00063 R 701012 A MRS
00064 R 504241 R AND FLGCHK
00065 R 741200 A SNA
00066 R 600071 R JMP ,+3
00067 R 144241 R DZM FLGCHK
00070 R 620170 R JMP* MONBRK /FLAG WAS PRESENT
00071 R 705512 A RPL
00072 R 740100 A SMA
00073 R 600105 R JMP CHK.1
00074 R 140022 R DZM ERCODE /ERROR 0, API ENTRY AND NO FLAG
00075 R 705512 A RPL
00076 R 040023 R DAC ERCODE+1
00077 R 777776 A LAW =2
00100 R 040021 R DAC ERWC
00101 R 040020 R DAC SYSERR
00102 R 044237 R DAC M5IND
00103 R 100122 R JMS EXIT
00104 R 620170 R JMP* MONBRK
/
00105 R 200020 R CHK.1 LAC SYSERR
00106 R 750201 A SZAI,CLAI,CMA
00107 R 600126 R JMP EXIT.1 /EXIT ON PI INTERROGATION
/
00110 R 204237 R LAC M5IND
00111 R 741200 A SNA
00112 R 600115 R JMP ,+3
00113 R 144237 R DZM M5IND
00114 R 620122 R JMP* EXIT /-5 ENTRY
/
00115 R 204235 R LAC HOLSW
00116 R 751201 A SNA,CLAI,CMA
00117 R 600126 R JMP EXIT.1 /NEITHER FLAG OR -5 ENTRY
00120 R 144235 R DZM HOLSW
00121 R 620122 R JMP* EXIT /HOLD SWITCH
,EJECT

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00122	R	000000	A	EXIT	0	
00123	R	705512	A		RPL	
00124	R	751100	A		SPA,CLA	
00125	R	204236	R		LAC	SAVAC
00126	R	703344	A	EXIT.1	DBR	
00127	R	620057	R		JMP*	BUSERV
					/	
00130	R	000000	A	M5	0	
00131	R	777773	A		LAW	=5
00132	R	044237	R		DAC	M5IND
00133	R	040020	R		DAC	SYSERR
00134	R	140021	R		DZM	ERWC
00135	R	144241	R		DZM	FLGCHK
00136	R	100122	R		JMS	EXIT
00137	R	100141	R		JMS	HOLD
00140	R	620130	R		JMP*	M5
					/	
00141	R	000000	A	HOLD	0	
00142	R	750004	A	HOLD.1	LAS	
00143	R	500010	R		AND	UODSW+10
00144	R	741200	A		SNA	
00145	R	620141	R		JMP*	HOLD
00146	R	777773	A		LAW	=5
00147	R	040020	R		DAC	SYSERR
00150	R	044235	R		DAC	HOLSW
00151	R	140021	R		DZM	ERWC
00152	R	100122	R		JMS	EXIT
00153	R	600142	R		JMP	HOLD.1
					/	
00154	R	777774	A	TERMIN	LAW	=4
00155	R	040020	R		DAC	SYSERR
00156	R	140021	R		DZM	ERWC
00157	R	701022	A		MCM	
00160	R	100170	R		JMS	MONBRK
00161	R	740040	A		HLT	
					/	
00162	R	000000	A	TESTFC	0	
00163	R	200001	R		LAC	UODSW+1
00164	R	741100	A		SPA	
00165	R	620162	R		JMP*	TESTFC
					/	
00166	R	440162	R		ISZ	TESTFC
00167	R	620162	R		JMP*	TESTFC
					.EJECT	

00170	R	000000	A	MONBRK	Ø	
00171	R	705512	A		RPL	
00172	R	751100	A		SPA!CLA	
00173	R	204236	R		LAC	SAVAC
00174	R	703344	A	MON,1	DBR	
00175	R	620057	R		JMP*	BQSERV
					/	
00176	R	000000	A	ERROR	Ø	
00177	R	220176	R		LAC*	ERROR
00200	R	040022	R		DAC	ERCODE
00201	R	440176	R		ISZ	ERROR
00202	R	701012	A		MRS	
00203	R	040023	R		DAC	ERCODE+1
00204	R	701052	A		URAA	
00205	R	040024	R		DAC	ERCODE+2
00206	R	701072	A		URCG	
00207	R	040025	R		DAC	ERCODE+3
00210	R	701001	A		UMOD	
00211	R	702012	A		URA	
00212	R	040026	R		DAC	ERCODE+4
00213	R	702032	A		URD	
00214	R	040027	R		DAC	ERCODE+5
00215	R	200001	R		LAC	UQDSW+1
00216	R	740100	A		SMA	
00217	R	600222	R		JMP	ERR,1
00220	R	777772	A		LAW	=6
00221	R	600230	R		JMP	ERR,2
00222	R	701021	A	ERR,1	FCMOD	
00223	R	702012	A		FCRA	
00224	R	040030	R		DAC	ERCODE+6
00225	R	702032	A		FCRB	
00226	R	040031	R		DAC	ERCODE+7
00227	R	777770	A		LAW	=10
00230	R	040021	R	ERR,2	DAC	ERWC
00231	R	777776	A		LAW	=2
00232	R	040020	R		DAC	SYSERR
00233	R	044237	R		DAC	M5IND
00234	R	777777	A		LAW	=1
00235	R	044243	R		DAC	TSTCNT
00236	R	100122	R		JMS	EXIT
00237	R	200023	R		LAC	ERCODE+1
00240	R	741100	A		SPA	
00241	R	600244	R		JMP	,+3
00242	R	701001	A		UMOD	
00243	R	620176	R		JMP*	ERROR
					/	
00244	R	701021	A		FCMOD	
00245	R	620176	R		JMP*	ERROR
					.EJECT	

701001 A	UMOD=701001	/SET UDC MODE
701072 A	URCG=701072	/CLEAR AC, READ COS GATES
701064 A	ULD=701064	/LOAD DATA OUT
701044 A	ULPS=701044	/LOAD PREVIOUS STATUS
701041 A	USI=701041	/SKIP ON IMMEDIATE FLAG
701061 A	USD=701061	/SKIP ON DEFERRED FLAG
701052 A	URAA=701052	/CLEAR AC, READ AUTO ADDRESS
702004 A	USINT=702004	/SELECT UDC INT MODE AND ENABLE
702024 A	ULA=702024	/LOAD ADDRESS
702032 A	URD=702032	/CLEAR AC, READ DATA IN
702021 A	USCAN=702021	/START INTERRUPT SCAN
702041 A	USNB=702041	/SKIP IF SCAN NOT BUSY
702012 A	URA=702012	/CLEAR AC, READ ADDRESS
702004 A	FCEI=702004	/ENABLE FC INTERRUPT
702012 A	FCRA=702012	/CLEAR AC, READ FC ADDRESS
702024 A	FCLAG=702024	/LOAD FC ADDRESS AND GAIN
701021 A	FCMOD=701021	/SET FC MOD
702032 A	FCRB=702032	/CLEAR AC, READ A/D BUFF
702021 A	FCCV=702021	/A/D CONVERT
702041 A	FCSD=702041	/SKIP ON A/D DONE
702001 A	FCOI=702001	/DISABLE FC INTERRUPT
701004 A	MSM=701004	/ENABLE MAINT LOGIC
701022 A	MCM=701022	/DISABLE MAINT LOGIC
701024 A	MLS=701024	/LOAD STATUS
701012 A	MRS=701012	/CLEAR AC, READ STATUS
702044 A	MCLK=702044	/MAINT CLOCK PULSE
	/	
707702 A	EEM=707702	
707764 A	EBA=707764	
	,EJECT	

/T3 = PRELIMINARY POWER CLEAR TEST

```
00246 R 200033 R S3 / LAC MAJCYC
00247 R 044242 R DAC RUNLEN
00250 R 200032 R LAC MINCYC
00251 R 044243 R DAC TSTCNT
00252 R 701022 A S3,1 MCM
00253 R 702041 A USNB
00254 R 741000 A SKP
00255 R 600260 R JMP ,+3
00256 R 100176 R JMS ERROR /MCM NOT CLEARING BUSY FLOP
00257 R 000001 A 1
00260 R 701041 A USI
00261 R 600264 R JMP ,+3
00262 R 100176 R JMS ERROR /MCM NOT CLEARING INTERMEDIATE FLAG
00263 R 000002 A 2
00264 R 701061 A USD
00265 R 600270 R JMP ,+3
00266 R 100176 R JMS ERROR /MCM NOT CLEARING DEFERRED FLAG
00267 R 000003 A 3
00270 R 701012 A MRS /READ STATUS
00271 R 740100 A SMA /CHECK BIT 0
00272 R 600275 R JMP ,+3
00273 R 100176 R JMS ERROR /MCM NOT SETTING UDC MODE
00274 R 000004 A 4
00275 R 504244 R AND (200000)
00276 R 741200 A SNA
00277 R 600302 R JMP ,+3
00300 R 100176 R JMS ERROR /IMM FLAG NOT CLEARING WITH MCM
00301 R 000005 A 5
,EJECT
```

/T4 = PRELIMINARY POWER CLEAR TEST

```

/
S4      MRS                               /READ STATUS WORD
00302 R 701012 A
00303 R 504245 R AND (100000)
00304 R 741200 A SNA
00305 R 600310 R JMP ,+3
00306 R 100176 R JMS ERROR /DEFERRED FLAG NOT CLEARING WITH MCM
00307 R 000006 A 6
00310 R 701012 A MRS
00311 R 504246 R AND (40000)
00312 R 741200 A SNA
00313 R 600316 R JMP ,+3
00314 R 100176 R JMS ERROR /BUSY FLAG NOT CLEARING WITH MCM
00315 R 000007 A 7
00316 R 701012 A MRS
00317 R 504247 R AND (20000)
00320 R 741200 A SNA
00321 R 600324 R JMP ,+3
00322 R 100176 R JMS ERROR /DEFERRED ADDRESS FAULT FLOPS NOT CLEAR
00323 R 000010 A 10
00324 R 701012 A MRS
00325 R 504250 R AND (10000)
00326 R 741200 A SNA
00327 R 600332 R JMP ,+3
00330 R 100176 R JMS ERROR /IMMEDIATE ADDRESS FAULT FLOPS NOT CLEAR
00331 R 000011 A 11

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/T5 = PRELIMINARY POWER CLEAR TEST

```

/
S5      MRS
00332 R 701012 A
00333 R 504251 R AND (2000)
00334 R 741200 A SNA
00335 R 600340 R JMP ,+3
00336 R 100176 R JMS ERROR /A/D DONE FLOP NOT CLEARING WITH MCM
00337 R 000012 A 12
00340 R 701012 A MRS
00341 R 504252 R AND (1000)
00342 R 741200 A SNA
00343 R 600346 R JMP ,+3
00344 R 100176 R JMS ERROR /P=FLOP NOT CLEARING WITH MCM
00345 R 000013 A 13
00346 R 701012 A MRS
00347 R 504253 R AND (400)
00350 R 741200 A SNA
00351 R 600354 R JMP ,+3
00352 R 100176 R JMS ERROR /SAMPLE FLOP NOT CLEARING WITH MCM
00353 R 000014 A 14
00354 R 444243 R ISZ TSTCNT
00355 R 741000 A SKP
00356 R 600361 R JMP S6
00357 R 100130 R JMS M5
00360 R 600252 R JMP SJ,1
,EJECT

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/T6 = TEST MODE FLOP

00361	R	200032	R	S6	LAC	MINCYC	
00362	R	044243	R		DAC	TSTCNT	
00363	R	701021	A	S6,1	FCMOD		/SET FC MODE
00364	R	701012	A		MRS		
00365	R	741100	A		SPA		
00366	R	600371	R		JMP	,+3	
00367	R	100176	R		JMS	ERROR	/FCMOD NOT SETTING MODE FLOP
00370	R	000015	A		15		
00371	R	701022	A		MCM		
00372	R	701012	A		MRS		
00373	R	740100	A		SMA		
00374	R	600377	R		JMP	,+3	
00375	R	100176	R		JMS	ERROR	/MCM NOT CLEARING MODE FLOP
00376	R	000016	A		16		
00377	R	701021	A		FCMOD		
00400	R	701001	A		UMOD		
00401	R	701012	A		MRS		
00402	R	740100	A		SMA		
00403	R	600406	R		JMP	,+3	
00404	R	100176	R		JMS	ERROR	/UMOD NOT CLEARING MODE FLOP
00405	R	000017	A		17		
00406	R	701021	A		FCMOD		
00407	R	701022	A		MCM		
00410	R	701012	A		MRS		
00411	R	740100	A		SMA		
00412	R	600415	R		JMP	,+3	
00413	R	100176	R		JMS	ERROR	/CLEAR MAINT NOT CLEARING MODE FLOP
00414	R	000020	A		20		
00415	R	204254	R		LAC	(400000)	
00416	R	701024	A		MLS		
00417	R	701012	A		MRS		
00420	R	741100	A		SPA		
00421	R	600424	R		JMP	,+3	
00422	R	100176	R		JMS	ERROR	/CANNOT SET MODE FLOP WITH STATUS BIT
00423	R	000021	A		21		
00424	R	750000	A		CLA		
00425	R	701024	A		MLS		
00426	R	701012	A		MRS		
00427	R	740100	A		SMA		
00430	R	600433	R		JMP	,+3	
00431	R	100176	R		JMS	ERROR	/CANNOT CLEAR MODE FLOP WITH STATUS BIT
00432	R	000022	A		22		
					,EJECT		

/T7 = TEST IMMEDIATE FLAG

00433	R	204244	R	S7	LAC	(200000)	
00434	R	701024	A		MLS		
00435	R	701012	A		MRS		
00436	R	504244	R		AND	(200000)	
00437	R	740200	A		SZA		
00440	R	600443	R		JMP	,+3	
00441	R	100176	R		JMS	ERROR	/CANNOT SET IMM FLAG WITH STATUS
00442	R	000023	A		23		
00443	R	701041	A		USI		
00444	R	741000	A		SKP		
00445	R	600450	R		JMP	,+3	
00446	R	100176	R		JMS	ERROR	/CANNOT SKIP ON IMM FLAG
00447	R	000024	A		24		
00450	R	701061	A		USD		
00451	R	600454	R		JMP	,+3	
00452	R	100176	R		JMS	ERROR	/DEFERRED FLAG SHOULD NOT BE SET
00453	R	000025	A		25		
00454	R	701022	A		MCM		/OR SHOULD NOT SKIP ON DEFERRED
00455	R	701052	A		URAA		
00456	R	701012	A		MRS		
00457	R	504244	R		AND	(200000)	
00460	R	741200	A		SNA		
00461	R	600464	R		JMP	,+3	
00462	R	100176	R		JMS	ERROR	/MCM DID NOT CLEAR IMM FLAG
00463	R	000026	A		26		
00464	R	701041	A		USI		
00465	R	600470	R		JMP	,+3	
00466	R	100176	R		JMS	ERROR	/IMM FLAG CLEARD, SHOULD NOT SKIP
00467	R	000027	A		27		
00470	R	701061	A		USD		
00471	R	600474	R		JMP	,+3	
00472	R	100176	R		JMS	ERROR	/DEFF FLAG CLEARED, SHOULD NOT SKIP
00473	R	000030	A		30		
00474	R	444243	R		ISZ	TSTCNT	
00475	R	741000	A		SKP		
00476	R	600501	R		JMP	S10	
00477	R	100130	R		JMS	M5	
00500	R	600363	R		JMP	S6,1	

,EJECT

/T10 = TEST DEFERRED FLAG

00501	R	200032	R	S10	LAC	HINCYC		
00502	R	044243	R		DAC	TSTCNT		
00503	R	204245	R	S10,1	LAC	(100000)		
00504	R	701024	A		MLS			
00505	R	701012	A		MRS			
00506	R	504245	R		AND	(100000)		
00507	R	740200	A		SZA			
00510	R	600513	R		JMP	,+3		
00511	R	100176	R		JMS	ERROR	/CANNOT SET DEFF FLAG WITH STATUS	
00512	R	000031	A		31			
00513	R	701061	A		USD			
00514	R	741000	A		SKP			
00515	R	600520	R		JMP	,+3		
00516	R	100176	R		JMS	ERROR	/CANNOT SKIP ON DEFER FLAG	
00517	R	000032	A		32			
00520	R	701041	A		USI			
00521	R	600524	R		JMP	,+3		
00522	R	100176	R		JMS	ERROR	/IMM FLAG SHOULD NOT BE SET	
00523	R	000033	A		33			
00524	R	701022	A		MCM			
00525	R	701052	A		URAA			
00526	R	701012	A		MRS			
00527	R	504245	R		AND	(100000)		
00530	R	741200	A		SNA			
00531	R	600534	R		JMP	,+3		
00532	R	100176	R		JMS	ERROR	/MCM DID NOT CLEAR DEFF FLAG	
00533	R	000034	A		34			
00534	R	701061	A		USD			
00535	R	600540	R		JMP	,+3		
00536	R	100176	R		JMS	ERROR	/DEFF FLAG CLEARED, SHOULD NOT SKIP	
00537	R	000035	A		35			
00540	R	701041	A		USI			
00541	R	600544	R		JMP	,+3		
00542	R	100176	R		JMS	ERROR	/IMM FLAG CLEARED, SHOULD NOT SKIP	
00543	R	000036	A		36			

,EJECT

/T11 = TEST MAINT FLOP

00544 R 701012 A
 00545 R 504255 R
 00546 R 741200 A
 00547 R 600552 R
 00550 R 100176 R
 00551 R 000037 A
 00552 R 701004 A
 00553 R 701012 A
 00554 R 504255 R
 00555 R 740200 A
 00556 R 600561 R
 00557 R 100176 R
 00560 R 000040 A
 00561 R 701022 A
 00562 R 701012 A
 00563 R 504255 R
 00564 R 741200 A
 00565 R 600570 R
 00566 R 100176 R
 00567 R 000041 A
 00570 R 701004 A
 00571 R 701022 A
 00572 R 701012 A
 00573 R 504255 R
 00574 R 741200 A
 00575 R 600600 R
 00576 R 100176 R
 00577 R 000042 A
 00600 R 444243 R
 00601 R 741000 A
 00602 R 600605 R
 00603 R 100130 R
 00604 R 600503 R

/S11
 MRS
 AND (200
 SNA
 JMP ,+3
 JMS ERROR
 37
 MSM
 MRS
 AND (200
 SZA
 JMP ,+3
 JMS ERROR
 40
 MCM
 MRS
 AND (200
 SNA
 JMP ,+3
 JMS ERROR
 41
 MSM
 MCM
 MRS
 AND (200
 SNA
 JMP ,+3
 JMS ERROR
 42
 ISZ TSTCNT
 SKP
 JMP S12
 JMS M5
 JMP S10,1
 ,EJECT

/MAINT NOT CLEARING WITH MCM

/SET MAINT FLOP

/MAINT FLOP NOT SETTING WITH MSM

/MAINT FLOP NOT CLEARING WITH MCM

/SET MAINT FLOP
/CLEAR MAINT FLOP PWR CLR

/MAINT FLOP NOT CLEARING WITH MCM

/T12 = TEST IMM+DEFF FLAGS

00605	R	200032	R	S12	LAC	MINCYC		
00606	R	044243	R		DAC	TSTCNT		
00607	R	204256	R	S12.1	LAC	(300000)	/SET IMM+DEF FLAGS	
00610	R	701024	A		MLS			
00611	R	701041	A		USI			
00612	R	600615	R		JMP	,+3		
00613	R	100176	R		JMS	ERROR	/SKIPPED WITH I MULT DISABLED	
00614	R	000043	A		43			
00615	R	701061	A		USD			
00616	R	600621	R		JMP	,+3		
00617	R	100176	R		JMS	ERROR	/SKIPPED WITH D MULT DISABLED	
00620	R	000044	A		44			
00621	R	702012	A		URA		/GENERATE RIF WITH READ ADDRESS	
00622	R	701012	A		MRS			
00623	R	504256	R		AND	(300000)		
00624	R	741200	A		SNA			
00625	R	600630	R		JMP	,+3		
00626	R	100176	R		JMS	ERROR	/RIF NOT GENERATED WITH MAINT = 0 BY URA	
00627	R	000045	A		45			
00630	R	204256	R		LAC	(300000)	/SET JMM + DEF FLAGS	
00631	R	701024	A		MLS			
00632	R	701052	A		URAA		/GENERATE RIF WITH READ AUTO ADDRESS	
00633	R	701012	A		MRS			
00634	R	504256	R		AND	(300000)		
00635	R	741200	A		SNA			
00636	R	600641	R		JMP	,+3		
00637	R	100176	R		JMS	ERROR	/RIF NOT GENERATED WITH URAA	
00640	R	000046	A		46			
00641	R	204256	R		LAC	(300000)	/SET IMM+DEF FLAGS	
00642	R	701024	A		MLS			
00643	R	701004	A		MSM			
00644	R	702012	A		URA			
00645	R	701012	A		MRS			
00646	R	504256	R		AND	(300000)		
00647	R	544256	R		SAD	(300000)		
00650	R	600653	R		JMP	,+3		
00651	R	100176	R		JMS	ERROR	/RIF BEING GENERATED WITH MAIN=1	
00652	R	000047	A		47			

,EJECT

/T13=TEST DEF ENABLE FLOP

```

S13
00653 R 701022 A MCM
00654 R 701052 A URAA
00655 R 701012 A MRS
00656 R 504256 R AND (300000) /READ STATUS
00657 R 741200 A SNA
00660 R 600663 R JMP ,+3
00661 R 100176 R JMS ERROR /IMM OR DEF FLAG SET WITH MAINT ON A 1
00662 R 000050 A 50
00663 R 701022 A MCM /CLEAR MAINT
00664 R 204257 R LAC (1
00665 R 702004 A USINT /SET DEF EN FLOP
00666 R 701012 A MRS
00667 R 504256 R AND (300000)
00670 R 741200 A SNA
00671 R 600674 R JMP ,+3
00672 R 100176 R JMS ERROR /IMM OR DEF FLAG SET WITH DEF EN SET
00673 R 000051 A 51
00674 R 701004 A MSM
00675 R 701012 A MRS
00676 R 504256 R AND (300000)
00677 R 544245 R SAD (100000)
00700 R 600703 R JMP ,+3
00701 R 100176 R JMS ERROR /DEF FLAG DID NOT SET OR IMM FLAG SET
00702 R 000052 A 52
00703 R 701022 A MCM
00704 R 702012 A URA /GENERATE RIF TO CLEAR DEF FLAG
00705 R 701012 A MRS
00706 R 504256 R AND (300000)
00707 R 741200 A SNA
00710 R 600713 R JMP ,+3
00711 R 100176 R JMS ERROR /DEF FLAG WAS NOT CLEARED
00712 R 000053 A 53 /SET MAINT, DEF FLAG SHOULD NOT SET
00713 R 701004 A MSM
00714 R 701012 A MRS
00715 R 504256 R AND (300000)
00716 R 741200 A SNA
00717 R 600722 R JMP ,+3
00720 R 100176 R JMS ERROR /RIF DID NOT CLEAR DEF FLAG OR WAS
00721 R 000054 A 54 /RESET BY DEF EN
00722 R 701022 A MCM
00723 R 444243 R ISZ TSTCNT
00724 R 741000 A SKP
00725 R 600730 R JMP S14
00726 R 100130 R JMS M5
00727 R 600607 R JMP S12,1
,EJECT

```

/T14 = TEST IMM ENABLE FLOP

00730	R	200032	R	S14	LAC	MINCYC	
00731	R	044243	R		DAC	TSTCNT	
00732	R	701004	A	S14,1	MSM		/SET MAINT FLOP
00733	R	701012	A		MRS		/READ STATUS
00734	R	504256	R		AND	(300000)	
00735	R	741200	A		SNA		
00736	R	600741	R		JMP	,+3	
00737	R	100176	R		JMS	ERROR	/IMM OF DEF FLAG SET WITH MAINT ON A 1
00740	R	000055	A		55		
00741	R	701022	A		MCM		
00742	R	204260	R		LAC	(2	
00743	R	702004	A		USINT		
00744	R	701012	A		MRS		
00745	R	504256	R		AND	(300000)	
00746	R	741200	A		SNA		
00747	R	600752	R		JMP	,+3	
00750	R	100176	R		JMS	ERROR	/IMM OR DEF FLAG SET WITH IMM EN SET
00751	R	000056	A		56		
00752	R	701004	A		MSM		
00753	R	701012	A		MRS		
00754	R	504256	R		AND	(300000)	
00755	R	544244	R		SAD	(200000)	
00756	R	600761	R		JMP	,+3	
00757	R	100176	R		JMS	ERROR	/IMM FLAG DID NOT SET OR DEF FLAG SET
00760	R	000057	A		57		
00761	R	701022	A		MCM		
00762	R	702012	A		URA		/GENERATE RIF TO CLEAR DEF FLAG
00763	R	701012	A		MRS		
00764	R	504256	R		AND	(300000)	
00765	R	741200	A		SNA		
00766	R	600771	R		JMP	,+3	
00767	R	100176	R		JMS	ERROR	/IMM FLAG WAS NOT CLEARED
00770	R	000060	A		60		
00771	R	701004	A		MSM		
00772	R	701012	A		MRS		
00773	R	504256	R		AND	(300000)	
00774	R	741200	A		SNA		
00775	R	601000	R		JMP	,+3	
00776	R	100176	R		JMS	ERROR	/RIF DID NOT CLEAR IMM FLAG OR WAS
00777	R	000061	A		61		
01000	R	701022	A		MCM		/WAS RESET BY IMM EN
					,EJECT		

/T15 = TEST IMM EN AND DEF EN

```

/
S15      LAC      (3
01001 R 204261 R      USINT
01002 R 702004 A      CLA
01003 R 750000 A      USINT
01004 R 702004 A      MSM
01005 R 701004 A      /SET MAINT
01006 R 701012 A      MRS
01007 R 504256 R      AND      (300000
01010 R 741200 A      SNA
01011 R 601014 R      JMP      ,+3
01012 R 100176 R      JMS      ERROR      /EITHER DEF OR IMM EN NOT CLEARED BY MCM
01013 R 000062 A      62
01014 R 204261 R      LAC      (3      /SET IMM + DEF EN
01015 R 702004 A      USINT
01016 R 701012 A      MRS
01017 R 504256 R      AND      (300000
01020 R 544256 R      SAD      (300000
01021 R 601024 R      JMP      ,+3
01022 R 100176 R      JMS      ERROR      /IMM OR DEF FLAG DID NOT SET
01023 R 000063 A      63
01024 R 701022 A      MCM
01025 R 702012 A      URA
01026 R 701012 A      MRS
01027 R 504256 R      AND      (300000
01030 R 741200 A      SNA
01031 R 601034 R      JMP      ,+3
01032 R 100176 R      JMS      ERROR      /IMM+DEF ENABLES DID NOT CLEAR WHEN FLAGS CLEARED
01033 R 000064 A      64
01034 R 444243 R      ISZ      TSTCNT
01035 R 741000 A      SKP
01036 R 601041 R      JMP      S20
01037 R 100130 R      JMS      M5
01040 R 600732 R      JMP      S14,1
      ,EJECT

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01041	R	200032	R	S20	LAC	MINCYC	
01042	R	044243	R		DAC	TSTCNT	
01043	R	701022	A	S20,2	MCM		
				/T21 = TEST A/D DONE FLOP			
				/			
01044	R	701021	A	S21	FCMOD		
01045	R	204251	R		LAC	(2000	/SET A/D DONE FLOP
01046	R	701024	A		MLS		
01047	R	701012	A		MRS		
01050	R	504251	R		AND	(2000	
01051	R	740200	A		SZA		
01052	R	601055	R		JMP	,+3	
01053	R	100176	R		JMS	ERROR	/A/D DONE FLOP NOT SETTING
01054	R	000065	A		65		
01055	R	701021	A		FCMOD		/ENTER FC MODE
01056	R	702041	A		FCSD		
01057	R	741000	A		SKP		
01060	R	601063	R		JMP	,+3	
01061	R	100176	R		JMS	ERROR	/CANNOT SKIP ON DONE
01062	R	000066	A		66		
01063	R	702032	A		FCRB		/READ BUFFER TO CLEAR DONE
01064	R	702041	A		FCSD		
01065	R	601070	R		JMP	,+3	
01066	R	100176	R		JMS	ERROR	/DONE DID NOT CLEAR WITH FRB
01067	R	000067	A		67		
01070	R	204251	R		LAC	(2000	
01071	R	701024	A		MLS		
01072	R	701022	A		MCM		/CLEAR MAINT TO GENERATE CLR DONE
01073	R	701012	A		MRS		
01074	R	504251	R		AND	(2000	
01075	R	741200	A		SNA		
01076	R	601101	R		JMP	,+3	
01077	R	100176	R		JMS	ERROR	/CLEAR MAINT NOT CLEARING DONE
01100	R	000070	A		70		
01101	R	444243	R		ISZ	TSTCNT	
01102	R	741000	A		SKP		
01103	R	601106	R		JMP	S22	
01104	R	100130	R		JMS	M5	
01105	R	601043	R		JMP	S20,2	
					,EJECT		

/TEST 22 = TEST A/D DONE FLOP AND CONVERTER

01106	R	200032	R	S22	LAC	MINCYC
01107	R	044243	R		DAC	TSTCNT
01110	R	701021	A	S22,1	FCMOD	
01111	R	204251	R		LAC	(2000
01112	R	701024	A		MLS	
01113	R	702041	A		FCSD	
01114	R	741000	A		SKP	
01115	R	601120	R		JMP	,+3
01116	R	100176	R		JMS	ERROR
01117	R	000071	A		71	
01120	R	701022	A		MCM	
01121	R	701021	A		FCMOD	
01122	R	702041	A		FCSD	
01123	R	601126	R		JMP	,+3
01124	R	100176	R		JMS	ERROR
01125	R	000072	A		72	
01126	R	444243	R		ISZ	TSTCNT
01127	R	741000	A		SKP	
01130	R	601133	R		JMP	S23
01131	R	100130	R		JMS	M5
01132	R	601110	R		JMP	S22,1

,EJECT

/DONE DID NOT GET SET WITH STATUS BIT

/MCM DID NOT GENERATE CLR DONE

/TEST 23 - TEST FC ENABLE FLOP

01133	R	200032	R	S23	LAC	MINCYC		
01134	R	044243	R		DAC	TSTCNT		
01135	R	701021	A	S23,1	FCMOD			/ENTER AFC MODE
01136	R	702004	A		FCEI			
01137	R	701012	A		MRS			
01140	R	504262	R		AND	(4000		
01141	R	740200	A		SZA			
01142	R	601145	R		JMP	,+3		
01143	R	100176	R		JMS	ERROR		/CANNOT SET FCEN WITH FEI
01144	R	000073	A		73			
01145	R	702001	A		FCDI			
01146	R	701012	A		MRS			
01147	R	504262	R		AND	(4000		
01150	R	741200	A		SNA			
01151	R	601154	R		JMP	,+3		
01152	R	100176	R		JMS	ERROR		/CANNOT DISABLE FCEN WITH FDI
01153	R	000074	A		74			
01154	R	204262	R		LAC	(4000		
01155	R	701024	A		MLS			
01156	R	701012	A		MRS			
01157	R	504262	R		AND	(4000		
01160	R	740200	A		SZA			
01161	R	601164	R		JMP	,+3		
01162	R	100176	R		JMS	ERROR		/CANNOT SET FCEN WITH STATUS
01163	R	000075	A		75			
01164	R	750000	A		CLA			
01165	R	701024	A		MLS			
01166	R	701012	A		MRS			
01167	R	504262	R		AND	(4000		
01170	R	741200	A		SNA			
01171	R	601174	R		JMP	,+3		
01172	R	100176	R		JMS	ERROR		
01173	R	000076	A		76			
					,EJECT			

/TEST 24 = TEST P FLOP

S24
01174 R 204252 R LAC (1000
01175 R 701024 A MLS
01176 R 701022 A MCM
01177 R 701012 A MRS
01200 R 504252 R AND (1000
01201 R 741200 A SNA
01202 R 601205 R JMP ,+3
01203 R 100176 R JMS ERROR
01204 R 000077 A 77
01205 R 204252 R LAC (1000
01206 R 701024 A MLS
01207 R 701012 A MRS
01210 R 504252 R AND (1000
01211 R 740200 A SZA
01212 R 601215 R JMP ,+3
01213 R 100176 R JMS ERROR
01214 R 000100 A 100
01215 R 701022 A MCM
01216 R 701012 A MRS
01217 R 504252 R AND (1000
01220 R 741200 A SNA
01221 R 601224 R JMP ,+3
01222 R 100176 R JMS ERROR
01223 R 000101 A 101
EJECT

/MCM NOT CLEARING P FLOP

/CANNOT SET P FLOP WITH STATUS

/CLEAR MAINT NOT CLEARING P FLOP

/TEST 25 - MORE TESTS OF P FLOP

```

/
S25      LAC      (1000
01224 R 204252 R
01225 R 701024 A
01226 R 701021 A
01227 R 701012 A
01230 R 504252 R
01231 R 740200 A
01232 R 601235 R
01233 R 100176 R
01234 R 000102 A
01235 R 100162 R
01236 R 601255 R
01237 R 702021 A
01240 R 104174 R
01241 R 000144 A
01242 R 702041 A
01243 R 741000 A
01244 R 601247 R
01245 R 100176 R
01246 R 000103 A
01247 R 701012 A
01250 R 504252 R
01251 R 741200 A
01252 R 601255 R
01253 R 100176 R
01254 R 000104 A
01255 R 701022 A
01256 R 444243 R
01257 R 741000 A
01260 R 601263 R
01261 R 100130 R
01262 R 601135 R

S25,1   MCM
        ISZ     TSTCNT
        SKP
        JMP     S26
        JMS     M5
        JMP     S23,1
        .EJECT

```

(1000

,+3

ERROR

/FCMOD CLEARED P FLOP

TESTFC

S25,1

DELAY

/WAIT 100 USECS

,+3

ERROR

/NO A/D DONE IN 100 USECS

(1000

,+3

ERROR

/A/D DONE DID NOT CLEAR P FLOP

S25,1

TSTCNT

S26

M5

S23,1

.EJECT

/TEST 26 - TEST SAMPLE FLOP

01263	R	200032	R	S26	LAC	MINCYC
01264	R	044243	R		DAC	TSTCNT
01265	R	204253	R	S26,1	LAC	(400
01266	R	701024	A		MLS	
01267	R	701022	A		MCM	
01270	R	701012	A		MRS	
01271	R	504253	R		AND	(400
01272	R	741200	A		SNA	
01273	R	601276	R		JMP	,+3
01274	R	100176	R		JMS	ERROR
01275	R	000105	A		105	
01276	R	204253	R		LAC	(400
01277	R	701024	A		MLS	
01300	R	701012	A		MRS	
01301	R	504253	R		AND	(400
01302	R	740200	A		SZA	
01303	R	601306	R		JMP	,+3
01304	R	100176	R		JMS	ERROR
01305	R	000106	A		106	
01306	R	701022	A		MCM	
01307	R	701012	A		MRS	
01310	R	504253	R		AND	(400
01311	R	741200	A		SNA	
01312	R	601315	R		JMP	,+3
01313	R	100176	R		JMS	ERROR
01314	R	000107	A		107	
01315	R	100162	R		JMS	TESTFC
01316	R	601344	R		JMP	S31,1

.EJECT

/MCM NOT CLEARING SAMPLE FLOP

/CANNOT SET SAMPLE FLOP WITH STATUS

/CLEAR MAINT NOT CLEARING SAMPLE FLOP

/TEST 31 - TEST INT DLY

01317	R	701021	A	S31	FCMOD	
01320	R	204260	R		LAC	(2
01321	R	702024	A		FCLAG	
01322	R	702004	A		FCEI	
01323	R	204251	R		LAC	(2000)
01324	R	044241	R		DAC	FLGCHK
01325	R	100170	R		JMS	MONBRK
01326	R	702001	A		FCDI	
01327	R	702041	A		FCSD	
01330	R	741000	A		SKP	
01331	R	601334	R		JMP	,+3
01332	R	100176	R		JMS	ERROR
01333	R	000110	A		110	
01334	R	702021	A		FCCV	
01335	R	104174	R		JMS	DELAY
01336	R	000144	A		144	
01337	R	702041	A		FCSD	
01340	R	741000	A		SKP	
01341	R	601344	R		JMP	,+3
01342	R	100176	R		JMS	ERROR
01343	R	000111	A		111	
01344	R	701022	A	S31,1	MCM	
01345	R	444243	R		ISZ	TSTCNT
01346	R	601265	R		JMP	S26,1
					.EJECT	

/A/D NOT DONE YET

/CONVERT; CHECK IF DONE CLEARED
/INT DELAY
/WAIT 100 USECS

/A/D BEING HELD UP BY IND DELAY?

```

/TEST 32 = TEST LOADING AND READING FC ADDRESS BITS
01347 R 200032 R S32 LAC MINCYC
01350 R 044243 R DAC TSTCNT
01351 R 701022 A MCM
01352 R 701021 A S32,1 FCMOD
01353 R 750000 A CLA
01354 R 702024 A FCLAG
01355 R 702012 A FCRA
01356 R 741200 A SNA
01357 R 601362 R JMP ,+3
01360 R 100176 R JMS ERROR /CANNOT CLEAR ADDRESS BITS
01361 R 000112 A 112
01362 R 750001 A CLA,CMA
01363 R 702024 A FCLAG
01364 R 702012 A FCRA
01365 R 544263 R SAD (777600
01366 R 601371 R JMP ,+3
01367 R 100176 R JMS ERROR /CANNOT LOAD ADDRESS BITS
01370 R 000113 A 113
01371 R 750000 A CLA
01372 R 702024 A FCLAG
01373 R 741200 A SNA
01374 R 601377 R JMP ,+3
01375 R 100176 R JMS ERROR /CANNOT CLEAR ADDRESS BITS
01376 R 000114 A 114
,EJECT

```

/TEST 33 - TEST FLOATING A 0 THROUGH FIELD OF 1 IN FC ADDRESS

01377	R	204264	R	LAC	(777400	
01400	R	044240	R	DAC	TEMP	
01401	R	701021	A	S33	FCMOD	
01402	R	204240	R	LAC	TEMP	
01403	R	702024	A	FCLAG		
01404	R	702012	A	FCRA		
01405	R	544240	R	SAD	TEMP	
01406	R	601411	R	JMP	,+3	
01407	R	100176	R	JMS	ERROR	/ADDRESS DID NOT LOAD CORRECTLY
01410	R	000115	A	115		
01411	R	204240	R	LAC	TEMP	/UPDATE PATTERN
01412	R	744000	A	CLL		
01413	R	740010	A	RAL		
01414	R	344255	R	TAD	(200	
01415	R	044240	R	DAC	TEMP	
01416	R	741400	A	SZL		/DONE YET?
01417	R	601401	R	JMP	S33	/NO, LOOP
01420	R	100162	R	JMS	TESTFC	
01421	R	601427	R	JMP	S33,1	
01422	R	204251	R	LAC	(2000)	
01423	R	044241	R	DAC	FLGCHK	
01424	R	702004	A	FCEI		
01425	R	100170	R	JMS	MONBRK	
01426	R	702001	A	FCDI		
01427	R	701022	A	S33,1	MCM	
01430	R	444243	R	ISZ	TSTCNT	
01431	R	601352	R	JMP	S32,1	
				.EJECT		

/TEST 34 = TEST THAT IN UDC MODE LD ADDR WILL NOT GENERATE LD ADR+GAIN

01432	R	200032	R	S34	LAC	MINCYC	
01433	R	044243	R		DAC	TSTCNT	
01434	R	701021	A	S34.1	FCMOD		/GO TO FC MODE
01435	R	750000	A		CLA		/CLEAR ADDRESS REGISTER
01436	R	702024	A		FCLAG		
01437	R	740001	A		CMA		/PUT ALL ONES IN AC
01440	R	701001	A		UMOD		/GO TO UDC MODE
01441	R	702024	A		ULA		/LOAD ADDRESS
01442	R	701021	A		FCMOD		/GO BACK TO FMOD
01443	R	702012	A		FCRA		
01444	R	741200	A		SNA		
01445	R	601450	R		JMP	,+3	
01446	R	100176	R		JMS	ERROR	/IN UDC MODE ULA GENERATES
01447	R	000116	A		116		
01450	R	100162	R		JMS	TESTFC	
01451	R	601456	R		JMP	S35	
01452	R	204251	R		LAC	(2000)	
01453	R	044241	R		DAC	FLGCHK	
01454	R	702004	A		FCEI		
01455	R	100170	R		JMS	MONBRK	
					.EJECT		

/TEST 35 - TEST BUSY FLOP

01456 R 702001 A
 01457 R 701022 A
 01460 R 702032 A
 01461 R 701004 A
 01462 R 701012 A
 01463 R 504246 R
 01464 R 741200 A
 01465 R 601470 R
 01466 R 100176 R
 01467 R 000117 A
 01470 R 204246 R
 01471 R 701024 A
 01472 R 701012 A
 01473 R 504246 R
 01474 R 740200 A
 01475 R 601500 R
 01476 R 100176 R
 01477 R 000120 A
 01500 R 701022 A
 01501 R 701012 A
 01502 R 504246 R
 01503 R 741200 A
 01504 R 601507 R
 01505 R 100176 R
 01506 R 000121 A
 01507 R 444243 R
 01510 R 601434 R

S35 FCDI
 MCM
 FCRB
 MSM
 MRS
 AND (40000)
 SNA
 JMP ,+3
 JMS ERROR
 117
 LAC (40000)
 MLS
 MRS
 AND (40000)
 SZA
 JMP ,+3
 JMS ERROR
 120
 MCM
 MRS
 AND (40000)
 SNA
 JMP ,+3
 JMS ERROR
 121
 ISZ TSTCNT
 JMP S34,1
 .EJECT

/MCM NOT CLEARING BUSY FLOP

/CANNOT SET BUSY FLOP WITH STATUS

/CANNOT CLEAR BUSY FLOP WITH CLEAR STATUS

/TEST 40 - TEST SKIP ON NOT BUSY + CLEAR BUSY WITH X AFAULT

01511	R	200032	R	S40	LAC	MINCYC	
01512	R	044243	R		DAC	TSTCNT	
01513	R	701022	A	S40,1	MCM		
01514	R	701004	A		MSM		
01515	R	750000	A		CLA		/CLEAR ADDRESS REGISTER
01516	R	702024	A		ULA		
01517	R	702041	A		USNB		
01520	R	741000	A		SKP		
01521	R	601524	R		JMP	,+3	
01522	R	100176	R		JMS	ERROR	/FAILS TO SKIP ON NOT BUSY
01523	R	000122	A		122		
01524	R	204246	R		LAC	(40000)	/SET BUSY FLOP
01525	R	701024	A		MLS		
01526	R	702041	A		USNB		
01527	R	601532	R		JMP	,+3	
01530	R	100176	R		JMS	ERROR	/SKIPS WHEN BUSY FLOP SET
01531	R	000123	A		123		
01532	R	701012	A		MRS		
01533	R	504250	R		AND	(10000)	
01534	R	741200	A		SNA		
01535	R	601540	R		JMP	,+3	
01536	R	100176	R		JMS	ERROR	/A XFAULT NOT CLEARED WITH MCM
01537	R	000124	A		124		
01540	R	204250	R		LAC	(10000)	/SET A XFAULT TO GENERATE RESET BUSY
01541	R	701024	A		MLS		
01542	R	701012	A		MRS		
01543	R	504250	R		AND	(10000)	
01544	R	740200	A		SZA		
01545	R	601550	R		JMP	,+3	
01546	R	100176	R		JMS	ERROR	/CANNOT SET A XFAULT WITH STATUS
01547	R	000125	A		125		
01550	R	702041	A		USNB		
01551	R	741000	A		SKP		
01552	R	601555	R		JMP	,+3	
01553	R	100176	R		JMS	ERROR	/BUSY NOT CLEARING WITH RESET BUSY
01554	R	000126	A		126		
01555	R	701022	A		MCM		
01556	R	701012	A		MRS		
01557	R	504252	R		AND	(1000)	
01560	R	741200	A		SNA		
01561	R	601564	R		JMP	,+3	
01562	R	100176	R		JMS	ERROR	/MCM NOT CLEARING A XFAULT
01563	R	000127	A		127		
					.EJECT		

/TEST 41 - TEST THAT 0 FAULT RESETS BUSY

```

/
S41
01564 R 701022 A MCM
01565 R 701004 A MSM
01566 R 701001 A UMOD
01567 R 204246 R LAC (40000)
01570 R 701024 A MLS
01571 R 702041 A USNB
01572 R 601575 R JMP ,+3
01573 R 100176 R JMS ERROR /BUSY DID NOT SET WITH STATUS
01574 R 000130 A 130
01575 R 701012 A MRS
01576 R 504247 R AND (20000)
01577 R 741200 A SNA
01600 R 601603 R JMP ,+3
01601 R 100176 R JMS ERROR /MCM DID NOT RESET XFAULT
01602 R 000131 A 131
01603 R 204247 R LAC (20000)
01604 R 701024 A MLS
01605 R 701012 A MRS
01606 R 504247 R AND (20000)
01607 R 740200 A SZA
01610 R 601613 R JMP ,+3
01611 R 100176 R JMS ERROR /CANNOT SET XFAULT WITH STATUS
01612 R 000132 A 132
01613 R 702041 A USNB
01614 R 741000 A SKP
01615 R 601620 R JMP ,+3
01616 R 100176 R JMS ERROR /DEFAULT DID NOT GENERATE - RESET BUSY
01617 R 000133 A 133
01620 R 701022 A MCM
01621 R 701012 A MRS
01622 R 504247 R AND (20000)
01623 R 741200 A SNA
01624 R 601627 R JMP ,+3
01625 R 100176 R JMS ERROR /CLEAR STATUS DID NOT CLEAR XFAULT
01626 R 000134 A 134
01627 R 444243 R ISZ TSTCNT
01630 R 741000 A SKP
01631 R 601634 R JMP S42
01632 R 100130 R JMS M5
01633 R 601513 R JMP S40,1
,EJECT

```

/TEST 42 - TEST LOADING PATTERNS INTO ADDRESS REGISTER

01634	R	200032	R	S42	LAC	MINCYC		
01635	R	044243	R		DAC	TSTCNI		
01636	R	750000	A	S42,1	CLA			
01637	R	702024	A		ULA			
01640	R	702012	A		URA			
01641	R	741200	A		SNA			
01642	R	601645	R		JMP	,+3		
01643	R	100176	R		JMS	ERROR		/CAN SET ADDRESS REGISTER TO ZEROES
01644	R	000135	A		135			
01645	R	740001	A		CMA			
01646	R	702024	A		ULA			
01647	R	702012	A		URA			
01650	R	544265	R		SAD	(776000		
01651	R	601654	R		JMP	,+3		
01652	R	100176	R		JMS	ERROR		/CAN SET ADDRESS REGISTER TO ONES
01653	R	000136	A		136			
01654	R	750000	A		CLA			
01655	R	702024	A		ULA			
01656	R	702012	A		URA			
01657	R	741200	A		SNA			
01660	R	601663	R		JMP	,+3		
01661	R	100176	R		JMS	ERROR		/ADDRESS REGISTER WILL NOT CLEAR
01662	R	000137	A		137			
01663	R	204266	R		LAC	(525252		/LOAD COMPLIMENT BIT PATTERN
01664	R	702024	A		ULA			
01665	R	702012	A		URA			/READ IT
01666	R	544267	R		SAD	(524000		/DID IT LOAD CORRECTLY
01667	R	601672	R		JMP	,+3		
01670	R	100176	R		JMS	ERROR		/COMPLIMENT BIT PATTERN DID NOT LOAD
01671	R	000140	A		140			
01672	R	740001	A		CMA			
01673	R	702024	A		ULA			
01674	R	702012	A		URA			
01675	R	544270	R		SAD	(252000		
01676	R	601701	R		JMP	,+3		
01677	R	100176	R		JMS	ERROR		/COMPLIMENT BIT PATTERN DID NOT LOAD
01700	R	000141	A		141			
					.EJECT			

/T43 - TEST THAT IN FCMOD ULA IS DISABLED

```

/
S43      MCM
01701 R 701022 A      CLA
01702 R 750000 A      ULA
01703 R 702024 A      FCMOD
01704 R 701021 A      CMA
01705 R 740001 A      ULA
01706 R 702024 A      UMOD
01707 R 701001 A      URA
01710 R 702012 A      SNA
01711 R 741200 A      JMP      ,+3
01712 R 601715 R      JMS      ERROR
01713 R 100176 R      142
01714 R 000142 A      ,EJECT
```

/T44 - TEST THAT A+D FAULT GENERATES GENERIC CODE 0001

```

S44
01715 R 750000 A CLA
01716 R 702024 A ULA
01717 R 702012 A URA
01720 R 741200 A SNA
01721 R 601724 R JMP ,+3
01722 R 100176 R JMS ERROR /CANNOT CLEAR ADDRESS REGISTER
01723 R 000143 A 143
01724 R 204247 R LAC (020000 /SET D FAULT
01725 R 701024 A MLS
01726 R 702012 A URA
01727 R 544271 R SAD (100
01730 R 601733 R JMP ,+3
01731 R 100176 R JMS ERROR /D FAULT DID NOT SET GENERIC CODE BIT3
01732 R 000144 A 144
01733 R 750000 A CLA
01734 R 702024 A ULA /CLEAR ADDRESS AND FAULT
01735 R 702012 A URA
01736 R 741200 A SNA
01737 R 601742 R JMP ,+3
01740 R 100176 R JMS ERROR
01741 R 000145 A 145
01742 R 204250 R LAC (010000 /SET A FAULT
01743 R 701024 A MLS
01744 R 702012 A URA
01745 R 544271 R SAD (100
01746 R 601751 R JMP ,+3
01747 R 100176 R JMS ERROR /A FAULT DID NOT SET GENERIC CODE BIT3
01750 R 000146 A 146
01751 R 701022 A MCM
01752 R 444243 R ISZ TSTCNT
01753 R 741000 A SKP
01754 R 601757 R JMP S45
01755 R 100130 R JMS M5
01756 R 601636 R JMP S42,1
EJECT

```

/T45 = FLOAT A ONE THRU ADDRESS REGISTER

01757	R	200032	R	S45	LAC	MINCYC
01760	R	044243	R		DAC	TSTCNT
01761	R	204251	R		LAC	(2000)
01762	R	044240	R		DAC	TEMP
01763	R	204240	R	S45,1	LAC	TEMP
01764	R	702024	A		ULA	
01765	R	702012	A		URA	
01766	R	544240	R		SAD	TEMP
01767	R	601772	R		JMP	,+3
01770	R	100176	R		JMS	ERROR
01771	R	000147	A			147
01772	R	744000	A		CLL	
01773	R	204240	R		LAC	TEMP
01774	R	740010	A		RAL	
01775	R	740400	A		SNL	
01776	R	601762	R		JMP	S45,1-1
01777	R	444243	R		ISZ	TSTCNT
02000	R	741000	A		SKP	
02001	R	602004	R		JMP	S50
02002	R	100130	R		JMS	M5
02003	R	601763	R		JMP	S45,1

.EJECT

/TEST 50 = CLOCK X BITS OF DEF ADDRESS

02004 R 200032 R
 02005 R 044243 R
 02006 R 701022 A
 02007 R 750000 A
 02010 R 702024 A
 02011 R 701004 A
 02012 R 144240 R
 02013 R 204240 R
 02014 R 344245 R
 02015 R 044240 R
 02016 R 702044 A
 02017 R 702012 A
 02020 R 544240 R
 02021 R 602024 R
 02022 R 100176 R
 02023 R 000150 A
 02024 R 544272 R
 02025 R 741000 A
 02026 R 602013 R
 02027 R 701022 A

S50 LAC MINCYC
 DAC TSTCNI
 S50,1 MCM
 CLA
 ULA
 MSM
 DZM TEMP
 L50 LAC TEMP
 TAD (100000
 DAC TEMP
 MCLK
 URA
 SAD TEMP
 JMP ,+3
 JMS ERROR
 150
 SAD (700000
 SKP
 JMP L50
 MCM

/CLEAR ALL FLAGS
 /CLEAR ADDRESS REGISTER; - AUTO
 /SCAN SHOULD BE TRUE TO CLOCK DEF
 /ADDRESS REGISTER; SET MAINT

/DEF X NOT COUNTING CORRECTLY

/T51 = CLOCK TO X FAULT

02030 R 204272 R
 02031 R 702024 A
 02032 R 702044 A
 02033 R 702012 A
 02034 R 544271 R
 02035 R 602040 R
 02036 R 100176 R
 02037 R 000151 A
 02040 R 701012 A
 02041 R 504273 R
 02042 R 544247 R
 02043 R 602046 R
 02044 R 100176 R
 02045 R 000152 A

S51 LAC (700000
 ULA
 MCLK
 URA
 SAD (100
 JMP ,+3
 JMS ERROR
 151
 MRS
 AND (30000
 SAD (20000
 JMP ,+3
 JMS ERROR
 152
 ,EJECT

/SET X TO ALL ONES

/CLOCK TO 0 STATE, SET FAULT

/X DID NOT GO TO 0 OR GEN FAULT NOT GENERATED

/CHECK STATUS

/D FAULT NOT GENERATED

/T52 = CLOCK Y BITS OF DEF ADDRESS

```

/
02046 R 204272 R S52 LAC (700000 /SET X TO ALL ONES
02047 R 702024 A ULA
02050 R 701004 A MSM
02051 R 044240 R DAC TEMP
02052 R 204240 R L52 LAC TEMP /UPDATE SOFTWARE COUNTER
02053 R 344250 R TAD (10000
02054 R 044240 R DAC TEMP
02055 R 702044 A MCLK /GENERATE CLOCK PULSE
02056 R 702012 A URA /READ ADDRESS
02057 R 544240 R SAD TEMP /IS IT SAME AS SOFTWARE REGISTER?
02060 R 602064 R JMP ,+4
02061 R 100176 R JMS ERROR /NO, ERROR DID NOT COUNT CORRECTLY
02062 R 000153 A 153
02063 R 602067 R JMP S53
02064 R 544274 R SAD (770000 /Y'S ALL COUNTED
02065 R 741000 A SKP
02066 R 602052 R JMP L52 /NO, LOOP

```

/T53 = CLOCK WD BITS OF DEF ADDRESS

```

/
02067 R 204274 R S53 LAC (770000 /SET X*Y
02070 R 702024 A ULA
02071 R 701004 A MSM
02072 R 044240 R DAC TEMP
02073 R 204240 R L53 LAC TEMP
02074 R 344251 R TAD (2000
02075 R 044240 R DAC TEMP
02076 R 702044 A MCLK
02077 R 702012 A URA
02100 R 544240 R SAD TEMP
02101 R 602104 R JMP ,+3
02102 R 100176 R JMS ERROR
02103 R 000154 A 154
02104 R 544265 R SAD (776000
02105 R 741000 A SKP
02106 R 602073 R JMP L53
02107 R 444243 R ISZ TSTCNT
02110 R 741000 A SKP
02111 R 602114 R JMP S54
02112 R 100130 R JMS M5
02113 R 602006 R JMP S50,1
,EJECT

```

/T54 = TEST TRANSFER FROM IMM TO DEF ADDRESS REGISTER
/AND CLEARING OF DEF ADDRESS

02114	R	200032	R	S54	LAC	M1NCYC	
02115	R	044243	R		DAC	TSTCNT	
02116	R	701022	A	S54,1	MCM		
02117	R	750001	A		CLA!CMA		/SET DEF ADDRESS TO ALL ONES
02120	R	702024	A		ULA		
02121	R	701004	A		MSM		
02122	R	204244	R		LAC	(200000	/SET IMMEDIATE FLAG
02123	R	701024	A		MLS		
02124	R	702012	A		URA		
02125	R	741200	A		SNA		
02126	R	602131	R		JMP	,+3	
02127	R	100176	R		JMS	ERROR	/IMM ONLY SHOULD HAVE CLEARED DEF ADDRESS
02130	R	000155	A		155		
02131	R	702041	A		USNB		
02132	R	602135	R		JMP	,+3	
02133	R	100176	R		JMS	ERROR	/START SCAN DID NOT SET BUSY
02134	R	000156	A		156		
02135	R	750001	A		CLA!CMA		
02136	R	702024	A		ULA		
02137	R	701052	A		URAA		
02140	R	741200	A		SNA		
02141	R	602144	R		JMP	,+3	
02142	R	100176	R		JMS	ERROR	/IMM ADDRESS DID NOT CLEAR
02143	R	000157	A		157		
02144	R	702044	A		MCLK		/PUT 1 IN IMM ADDRESS
02145	R	750001	A		CLA!CMA		/SET DEF ADDRESS TO ALL ONES
02146	R	702024	A		ULA		
02147	R	701052	A		URAA		
02150	R	544245	R		SAD	(100000	
02151	R	602154	R		JMP	,+3	
02152	R	100176	R		JMS	ERROR	/IMM ADDRESS DID NOT CLOCK
02153	R	000160	A		160		
02154	R	702012	A		URA		
02155	R	544245	R		SAD	(100000	
02156	R	602161	R		JMP	,+3	
02157	R	100176	R		JMS	ERROR	/IMM ADDRESS DID NOT JAM INTO DEF ADD,
02160	R	000161	A		161		
02161	R	701022	A		MCM		
02162	R	701052	A		URAA		
					.EJECT		

/T55 = TEST CLOCK X OF IMMEDIATE ADDRESS REGISTER

02163	R	701004	A	S55	MSM		/SET MAINT+IMMEDIATE FLAG
02164	R	204244	R		LAC	(200000)	
02165	R	701024	A		MLS		
02166	R	144240	R		DZM	TEMP	
02167	R	204240	R	L55	LAC	TEMP	
02170	R	344245	R		TAD	(100000)	
02171	R	044240	R		DAC	TEMP	
02172	R	702044	A		MCLK		
02173	R	701052	A		URAA		
02174	R	544240	R		SAD	TEMP	
02175	R	602200	R		JMP	,+3	
02176	R	100176	R		JMS	ERROR	/IMM X NOT COUNTING CORRECTLY
02177	R	000162	A		162		
02200	R	702012	A		URA		
02201	R	544240	R		SAD	TEMP	
02202	R	602205	R		JMP	,+3	
02203	R	100176	R		JMS	ERROR	/IMM DID NOT TRANSFER TO DEFF CORRECTLY
02204	R	000163	A		163		
02205	R	544272	R		SAD	(700000)	
02206	R	741000	A		SKP		
02207	R	602167	R		JMP	L55	
02210	R	702021	A		USCAN		/TRY TO CLEAR IMM ADDRESS WITH START SCAN
02211	R	701052	A		URAA		/SHOULD BE INHIBITED BY IMM FLAG
02212	R	544272	R		SAD	(700000)	
02213	R	602216	R		JMP	,+3	
02214	R	100176	R		JMS	ERROR	/IMM FLAG DID NOT INHIBIT START SCAN
02215	R	000164	A		164		
02216	R	750000	A		CLA		/CLEAR IMM ENABLE
02217	R	702004	A		USINT		
02220	R	702021	A		USCAN		/TRY TO CLEAR IMM ADD WITH START SCAN
02221	R	701052	A		URAA		
02222	R	544272	R		SAD	(700000)	
02223	R	602226	R		JMP	,+3	
02224	R	100176	R		JMS	ERROR	/IMM FLAG DID NOT INHIBIT START SCAN
02225	R	000165	A		165		
02226	R	701022	A		MCM		
02227	R	702012	A		URA		/GENERATE RIF TO CLEAR IMM FLAG
02230	R	701004	A		MSM		
02231	R	702021	A		USCAN		/TRY TO CLEAR IMM ADD WITH START SCAN
02232	R	701052	A		URAA		
02233	R	741200	A		SNA		/START SCAN DID NOT CLEAR IMM ADD
02234	R	602237	R		JMP	,+3	
02235	R	100176	R		JMS	ERROR	
02236	R	000166	A		166		
02237	R	444243	R		ISZ	TSTCNT	
02240	R	741000	A		SKP		
02241	R	602244	R		JMP	S60	
02242	R	100130	R		JMS	M5	
02243	R	602116	R		JMP	S54,1	
					,EJECT		

/T60 - CLOCK TO X FAULT IN IMMEDIATE ADDRESS REGISTER

```

02244 R 200032 R S60 LAC M1NCYC
02245 R 044243 R DAC TSTCNT
02246 R 701004 A S60,1 MSM
02247 R 204244 R LAC (200000)
02250 R 701024 A MLS
02251 R 104210 R JMS MCLK
02252 R 000007 A 7
02253 R 701012 A MRS
02254 R 504273 R AND (30000) /CHECK FAULT CONDITIONS
02255 R 741200 A SNA
02256 R 602261 R JMP ,+3
02257 R 100176 R JMS ERROR /FAULT SET IMM ADDRESS=7
02260 R 000167 A 167
02261 R 702044 A MCLK
02262 R 701012 A MRS
02263 R 504250 R AND (10000)
02264 R 740200 A SZA
02265 R 602270 R JMP ,+3
02266 R 100176 R JMS ERROR /A FAULT DID NOT SET
02267 R 000170 A 170
02270 R 701004 A MSM /SET MAINT
02271 R 750000 A CLA /CLEAR IMM ENABLE
02272 R 702004 A USINT
02273 R 702021 A USCAN /TRY TO CLEAR AIX FAULT
02274 R 701012 A MRS
02275 R 504250 R AND (10000)
02276 R 544250 R SAD (10000)
02277 R 602302 R JMP ,+3
02300 R 100176 R JMS ERROR /IMM FLAG DID NOT INHIBIT USCAN
02301 R 000171 A 171
02302 R 701022 A MCM
02303 R 702012 A URA /GENERATE RIF TO CLEAR IMM FLAG
02304 R 701004 A MSM
02305 R 702021 A USCAN
02306 R 701012 A MRS
02307 R 504250 R AND (10000)
02310 R 741200 A SNA
02311 R 602314 R JMP ,+3
02312 R 100176 R JMS ERROR /START SCAN DID NOT CLEAR FAULT
02313 R 000172 A 172
,EJECT

```

/T61 = TEST CLOCK Y OF IMMEDIATE ADDRESS REGISTER

02314	R	701004	A	S61	MSM		
02315	R	204244	R		LAC	(200000	
02316	R	701024	A		MLS		/SET MAINT + IMM ENABLE
02317	R	104210	R		JMS	MCLOCK	/PRESET IMM X TO ALL ONES
02320	R	000007	A		7		
02321	R	204272	R		LAC	(700000	
02322	R	702024	A		ULA		/PRESET DEF X TO ALL ONES
02323	R	044240	R		DAC	TEMP	
02324	R	204240	R	L61	LAC	TEMP	
02325	R	344250	R		TAD	(10000	
02326	R	044240	R		DAC	TEMP	
02327	R	702044	A		MCLK		
02330	R	701052	A		URAA		
02331	R	544240	R		SAD	TEMP	
02332	R	602335	R		JMP	,+3	
02333	R	100176	R		JMS	ERROR	/IMM Y NOT COUNTING CORRECTLY
02334	R	000173	A		173		
02335	R	702012	A		URA		
02336	R	544240	R		SAD	TEMP	
02337	R	602342	R		JMP	,+3	
02340	R	100176	R		JMS	ERROR	/IMM DID NOT JAM TO DEFF CORRECTLY
02341	R	000174	A		174		
02342	R	544274	R		SAD	(770000	
02343	R	741000	A		SKP		
02344	R	602324	R		JMP	L61	/LOOP AGAIN
02345	R	701022	A		MCM		
02346	R	701052	A		URAA		
02347	R	444243	R		ISZ	TSTCNT	
02350	R	741000	A		SKP		
02351	R	602354	R		JMP	S62	
02352	R	100130	R		JMS	M5	
02353	R	602246	R		JMP	S60,1	
					,EJECT		

/T62 - CLOCK WD BITS OF DEF ADDRESS

02354	R	200032	R	S62	LAC	MINCYC	
02355	R	044243	R		DAC	TSTCNT	
02356	R	701004	A	S62,1	MSM		
02357	R	204244	R		LAC	(200000	/SET MAINT + IMM ENABLE
02360	R	701024	A		MLS		
02361	R	104210	R		JMS	MCLOCK	/PRESET IMM X TO ONES
02362	R	000007	A		7		
02363	R	204272	R		LAC	(700000	/PRESET DEF X TO ONES
02364	R	702024	A		ULA		
02365	R	104210	R		JMS	MCLOCK	/PRESET IMM Y TO ONES
02366	R	000007	A		7		
02367	R	204274	R		LAC	(770000	/PRESET DEF X*Y TO ONES
02370	R	702024	A		ULA		
02371	R	044240	R		DAC	TEMP	
02372	R	204240	R	L62	LAC	TEMP	
02373	R	344251	R		TAD	(2000	
02374	R	044240	R		DAC	TEMP	
02375	R	702044	A		MCLK		
02376	R	701052	A		URAA		
02377	R	544240	R		SAD	TEMP	
02400	R	602403	R		JMP	,+3	
02401	R	100176	R		JMS	ERROR	/IMM WD NOT COUNTING CORRECTLY
02402	R	000175	A		175		
02403	R	702012	A		URA		
02404	R	544240	R		SAD	TEMP	
02405	R	602410	R		JMP	,+3	
02406	R	100176	R		JMS	ERROR	/IMM DID NOT JAM TO DEFF CORRECTLY
02407	R	000176	A		176		
02410	R	544265	R		SAD	(776000	
02411	R	741000	A		SKP		
02412	R	602372	R		JMP	L62	/LOOP AGAIN
02413	R	701022	A		MCM		
02414	R	701052	A		URAA		
					,EJECT		

/T63 = CLOCK DEF X, Y, WD TO FAULT

02415 R	204265 R	S63	LAC	(776000	
02416 R	702024 A		ULA		
02417 R	702044 A		MCLK		/ONE CLOCK PULSE
02420 R	702012 A		URA		
02421 R	544275 R		SAD	(76100	/GEN CODE FOR FAULT NOT GEN
02422 R	602425 R		JMP	,+3	
02423 R	100176 R		JMS	ERROR	
02424 R	000177 A		177		
02425 R	701012 A		MRS		
02426 R	544247 R		SAD	(20000	
02427 R	602432 R		JMP	,+3	
02430 R	100176 R		JMS	ERROR	/DEF ADR FAULT DID NOT SET
02431 R	000200 A		200		
02432 R	701022 A		MCM		
02433 R	701052 A		URAA		
			,EJECT		

/T64 - CLOCK IMM X, Y, WD TO FAULT

02434	R	701004	A	S64	MSM		
02435	R	204244	R		LAC	(200000	/SET MAINT * IMM ENABLE
02436	R	701024	A		MLS		
02437	R	104210	R		JMS	MCLOCK	/CLOCK IMM X TO ONES
02440	R	000007	A		7		
02441	R	204272	R		LAC	(700000	/PRESET DEF X TO ONES
02442	R	702024	A		ULA		
02443	R	104210	R		JMS	MCLOCK	/PRESET IMM Y TO ONES
02444	R	000007	A		7		
02445	R	204274	R		LAC	(770000	/PRESET DEF X*Y TO ONES
02446	R	702024	A		ULA		
02447	R	104210	R		JMS	MCLOCK	/PRESET IMM WD TO ONES
02450	R	000003	A		3		
02451	R	204265	R		LAC	(776000	/SET DEF X,Y,WD TO ONES
02452	R	702024	A		ULA		
02453	R	750000	A		CLA		/CLEAR DEF ADR
02454	R	702024	A		ULA		
02455	R	702044	A		MCLK		/ONE CLOCK PULSE
02456	R	701052	A		URAA		
02457	R	544275	R		SAD	(76100	
02460	R	602463	R		JMP	,+3	
02461	R	100176	R		JMS	ERROR	/GEN CODE FOR FAULT NOT GEN
02462	R	000201	A		201		
02463	R	701012	A		MRS		
02464	R	544276	R		SAD	(200200	
02465	R	602470	R		JMP	,+3	
02466	R	100176	R		JMS	ERROR	/DID NOT CLEAR VIA RESET FAULT OR
02467	R	000202	A		202		
02470	R	701022	A		MCM		
02471	R	701052	A		URAA		
02472	R	444243	R		ISZ	TSTCNT	
02473	R	741000	A		SKP		
02474	R	602477	R		JMP	S65,2	
02475	R	100130	R		JMS	M5	
02476	R	602356	R		JMP	S62,1	
					,EJECT		

/T65 = OPERATION CHECK OF SCAN CLOCK IN DEF SCAN

```

/
S65,2  LAC      MINCYC
        DAC      TSTCNT
        DZM      TEMP
        USCAN    /CLEAR TIMER
        USNB     /START DEF SCAN
        SKP      /SKIP IF NOT BUSY
        JMP      E65
        ISZ      /SCAN DONE, CHECK FOR FAULT
        JMP      ,+4 /TIME OUT
        JMS      ERROR /LOOP
                /SCAN STARTED AND TIMED OUT
        203
E65    MRS
        SAD      (20000
        JMP      ,+3
        JMS      ERROR /DEF ADR FAULT DID NOT SET
        204
        MCM
        URAA

```

/T70 = OPERATIONAL CHECK SCAN CLOCK IN IMM SCAN

```

/
S70    DZM      TEMP
        LAC      (200000
        MLS
        USNB     /SET IMM FLAG TO START SCAN
        SKP      /SKIP IF NOT BUSY
        JMP      E70
        ISZ      /SCAN DONE, CHECK FOR FAULT
        JMP      ,+4
        JMS      ERROR /SCAN STARTED AND TIMED OUT
        205
E70    MRS
        SAD      (210000
        JMP      ,+3
        JMS      ERROR /IMM ADR FAULT DID NOT SET
        206
        MCM
        URAA
        ,EJECT

```

/T71 - CHECK THAT DATA IN IS ZEROES

02542	R	204266	R	S71	LAC	(525252	
02543	R	701064	A		ULD		
02544	R	702032	A		URD		
02545	R	741200	A		SNA		
02546	R	602551	R		JMP	,+3	
02547	R	100176	R		JMS	ERROR	/DATA IN PICKING UP BITS
02550	R	000207	A		207		
02551	R	204300	R		LAC	(252525	
02552	R	701044	A		ULPS		
02553	R	702032	A		URD		
02554	R	741200	A		SNA		
02555	R	602560	R		JMP	,+3	
02556	R	100176	R		JMS	ERROR	/DATA IN PICKING UP BITS
02557	R	000210	A		210		
02560	R	701022	A		MCM		

/T72 - CHECK THAT COS GATE IS DISABLED BY OPEN BUS

02561	R	204300	R	S72	LAC	(252525	
02562	R	701064	A		ULD		
02563	R	701072	A		URCG		
02564	R	741200	A		SNA		
02565	R	602570	R		JMP	,+3	
02566	R	100176	R		JMS	ERROR	
02567	R	000211	A		211		
02570	R	204266	R		LAC	(525252	
02571	R	701044	A		ULPS		
02572	R	701072	A		URCG		
02573	R	741200	A		SNA		
02574	R	602577	R		JMP	,+3	
02575	R	100176	R		JMS	ERROR	
02576	R	000212	A		212		
02577	R	701022	A		MCM		
02600	R	444243	R		ISZ	TSTCNT	
02601	R	741000	A		SKP		
02602	R	602605	R		JMP	S73	
02603	R	100130	R		JMS	M5	
02604	R	602501	R		JMP	S65=1	

,EJECT

```

/T73 = TEST BITS 0 + 8 OF DATA IN AN FC ADR DECODE
02605 R 200032 R S73 LAC M1NCYC
02606 R 044243 R DAC TSTCNT
02607 R 701004 A S73,1 MSM
02610 R 701021 A FCMOD
02611 R 750000 A CLA /SET X+Y OF FC ADR TO 0
02612 R 702024 A FCLAG
02613 R 701001 A UMOD
02614 R 702032 A URD
02615 R 544301 R SAD (376774 /BITS 0 + 8 SHOULD BE DESELECTED
02616 R 602621 R JMP ,+3 /BY FC ADDRESS AND MAINT
02617 R 100176 R JMS ERROR
02620 R 000213 A 213

```

```

/T74 = TEST BITS 1 + 9 OF DATA IN AND FC ADR DECODE
02621 R 701004 A S74 MSM
02622 R 701021 A FCMOD
02623 R 204302 R LAC (110000 /SET X+Y OF FC ADR TO 1
02624 R 702024 A FCLAG
02625 R 701001 A UMOD
02626 R 702032 A URD
02627 R 544303 R SAD (577374 /BITS 1 + 9 SHOULD BE DESELECTED
02630 R 602633 R JMP ,+3 /BY FC ADDRESS + MAINT
02631 R 100176 R JMS ERROR
02632 R 000214 A 214

```

```

/T75 = TEST BITS 2 + 10 OF DATA IN AND FC ADR DECODE
02633 R 701004 A S75 MSM
02634 R 701021 A FCMOD
02635 R 204304 R LAC (220000 /SET X+Y OF FC ADR TO 2
02636 R 702024 A FCLAG
02637 R 701001 A UMOD
02640 R 702032 A URD
02641 R 544305 R SAD (677574 /BITS 2 + 10 SHOULD B
02642 R 602645 R JMP ,+3 /DESELECTED BY FC ADR + MAINT
02643 R 100176 R JMS ERROR
02644 R 000215 A 215

```

```

/T100 = TEST BITS 3 + 11 OF DATA IN AND FC ADR DECODE
02645 R 701004 A S100 MSM
02646 R 701021 A FCMOD
02647 R 204306 R LAC (330000 /SET X+Y OF FC ADR TO 3
02650 R 702024 A FCLAG
02651 R 701001 A UMOD
02652 R 702032 A URD
02653 R 544307 R SAD (737674 /BITS 3 + 11 SHOULD BE
02654 R 602657 R JMP ,+3 /DESELECTED BY FC ADR + MAINT
02655 R 100176 R JMS ERROR
02656 R 000216 A 216
,EJECT

```

```

/T101 = TEST BITS 4 + 12 OF DATA IN AND FC ADR DECODE
S101  MSM
      FCMOD
      LAC      (440000)      /SET X+Y OF FC ADR TO 4
      FCLAG
      UMOD
      URD
      SAD      (757734)      /BITS 4 + 12 SHOULD BE
      JMP      ,+3           /DESELECTED BY FC ADR + MAINT
      JMS      ERROR
      217

```

```

/T102 = TEST BITS 5 + 13 OF DATA IN AND FC ADR DECODE
S102  MSM
      FCMOD
      LAC      (550000)      /SET X+Y OF FC ADR TO 5
      FCLAG
      UMOD
      URD
      SAD      (767724)      /BITS 5 + 13 SHOULD BE
      JMP      ,+3           /DESELECTED BY FC ADR + MAINT
      JMS      ERROR
      220

```

```

/T103 = TEST BITS 6 + 14 OF DATA IN AND FC ADR DECODE
S103  MSM
      FCMOD
      LAC      (660000)      /SET X+Y OF FC ADR TO 6
      FCLAG
      UMOD
      URD
      SAD      (773764)      /BITS 6 + 14 SHOULD BE
      JMP      ,+3           /DESELECTED BY FC ADR + MAINT
      JMS      ERROR
      221
      MCM

```

```

/T104 = TEST BITS 7 + 15 OF DATA IN AND FC ADR DECODE
S104  MSM
      FCMOD
      LAC      (770000)      /SET X+Y OF FC ADR TO 7
      FCLAG
      UMOD
      URD
      SAD      (775770)      /BITS 7 + 15 SHOULD BE
      JMP      ,+3           /DESELECTED BY FC ADR + MAINT
      JMS      ERROR
      222
      MCM
      ,EJECT

```

/T105 = TEST THAT MAINT (0) DISABLES FC ADR = DATA IN LINK

```

/
S105      FCMOD
02731 R 701021 A      FCEI
02732 R 702004 A      CLA
02733 R 750000 A      .FCLAG
02734 R 702024 A      UMOD
02735 R 701001 A      URD
02736 R 702032 A      SNA
02737 R 741200 A      JMP      ,+3
02740 R 602743 R      JMS      ERROR      /MAINT = 0 NOT INHIBITING FC ADR
02741 R 100176 R      223
02742 R 000223 A      JMS      TESTFC
02743 R 100162 R      JMP      S105,1
02744 R 602750 R      LAC      (2000)
02745 R 204251 R      DAC      FLGCHK
02746 R 044241 R      JMS      MONBRK
02747 R 100170 R      S105,1 FCMOD
02750 R 701021 A      FCDI
02751 R 702001 A      JMS      HOLD
02752 R 100141 R      ISZ      TSTCNT
02753 R 444243 R      JMP      S73,1
02754 R 602607 R      .EJECT

```

/T110 = TEST DB AND COS GATES 0 + 8 USING MAINT LOGIC AND
 /FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

02755	R	200032	R	S110	LAC	MINCYC	
02756	R	044243	R		DAC	TSTCNT	
02757	R	750000	A	S110,1	CLA		/SET DB TO ALL ZEROES
02760	R	701044	A		ULPS		
02761	R	701022	A		MCM		/MCM SHOULD CLEAR
02762	R	701004	A		MSM		/SET MAINT
02763	R	701021	A		FCMOD		
02764	R	204317	R		LAC	(40	/SET X+Y TO 0; PCL = 1, POP = 0
02765	R	702024	A		FCLAG		
02766	R	701001	A		UMOD		
02767	R	701072	A		URCG		
02770	R	544301	R		SAD	(376774	/ONLY DATA IN 0 + 8 WILL BE
02771	R	602774	R		JMP	,+3	/FALSE CONDITION
02772	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR
02773	R	000224	A		224		
02774	R	204301	R		LAC	(376774	/SET DB TO COMPLEMENT OF BITS UNDER TEST
02775	R	701044	A		ULPS		
02776	R	701072	A		URCG		
02777	R	741200	A		SNA		
03000	R	603003	R		JMP	,+3	
03001	R	100176	R		JMS	ERROR	/DB ERROR OR POP = 0 DID NOT INHIBIT COS
03002	R	000225	A		225		
03003	R	701021	A		FCMOD		
03004	R	204320	R		LAC	(0	/SET X+Y TO 0; PCL = 0, POP = 0
03005	R	702024	A		FCLAG		
03006	R	701001	A		UMOD		
03007	R	701072	A		URCG		
03010	R	741200	A		SNA		
03011	R	603014	R		JMP	,+3	
03012	R	100176	R		JMS	ERROR	/PCLOSE = 0 DID NOT DISABLE COS GATES
03013	R	000226	A		226		
					,EJECT		

/T111 = TEST DB AND COS GATES 0 + 8 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

```

03014 R 750001 A S111 CLA:OMA /SET DB TO ALL ONES
03015 R 701044 A ULPS
03016 R 701004 A MSM
03017 R 701021 A FCMOD
03020 R 204320 R LAC (0 /SET X+Y TO 0; POP = 0, PCL = 0
03021 R 702024 A FCLAG
03022 R 701001 A UMOD
03023 R 701072 A URCG
03024 R 741200 A SNA
03025 R 603030 R JMP ,+3
03026 R 100176 R JMS ERROR /P OPEN = 0 DID NOT DISABLE COS GATE
03027 R 000227 A 227
03030 R 701021 A FCMOD
03031 R 702004 A FCEI
03032 R 204271 R LAC (100 /SET X+Y TO 0; PCL = 0, POP = 1
03033 R 702024 A FCLAG
03034 R 701001 A UMOD
03035 R 204321 R LAC (401000 /SET DB TO BITS UNDER TEST
03036 R 701044 A ULPS
03037 R 701072 A URCG
03040 R 544321 R SAD (401000 /ONLY 0 + 8 DATA IN TRUE
03041 R 603044 R JMP ,+3
03042 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03043 R 000230 A 230
03044 R 204301 R LAC (376774 /SET COMP TO DB OF BITS UNDER TEST
03045 R 701064 A ULD
03046 R 701072 A URCG
03047 R 741200 A SNA
03050 R 603053 R JMP ,+3
03051 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03052 R 000231 A 231
03053 R 100162 R JMS TESTFC
03054 R 603060 R JMP S111,1
03055 R 204251 R LAC (2000)
03056 R 044241 R DAC FLGCHK
03057 R 100170 R JMS MONBRK
03060 R 701021 A S111,1 FCMOD
03061 R 702001 A FCEI
03062 R 100141 R JMS HOLD
03063 R 444243 R ISZ TSTCNT
03064 R 602757 R JMP S110,1
,EJECT

```


/T112 = TEST DB AND COS GATES 1 + 9 USING MAINT LOGIC AND
 /FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

03065	R	200032	R	S112	LAC	MINCYC	
03066	R	044243	R		DAC	TSTCNT	
03067	R	750000	A	S112,1	CLA		/SET DB TO ALL ZEROES
03070	R	701044	A		ULPS		
03071	R	701022	A		MCM		/MCM SHOULD CLEAR
03072	R	701004	A		MSM		/SET MAINT
03073	R	701021	A		FCMOD		
03074	R	204322	R		LAC	(110040)	/SET X+Y TO 1; PCL = 1, POP = 0
03075	R	702024	A		FCLAG		
03076	R	701001	A		UMOD		
03077	R	701072	A		URCG		
03100	R	544303	R		SAD	(577374	/ONLY DATA IN 1 + 9 WILL BE
03101	R	603104	R		JMP	,+3	/FALSE
03102	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR
03103	R	000232	A		232		
03104	R	204303	R		LAC	(577374	/SET DB TO COMPLEMENT OF BITS UNDER TEST
03105	R	701044	A		ULPS		
03106	R	701072	A		URCG		
03107	R	741200	A		SNA		
03110	R	603113	R		JMP	,+3	
03111	R	100176	R		JMS	ERROR	/DB ERROR OR POP = 0 DID NOT INHIBIT COS
03112	R	000233	A		233		
03113	R	701021	A		FCMOD		
03114	R	204302	R		LAC	(110000)	/SET X+Y TO 1; P,L = 0, POP = 0
03115	R	702024	A		FCLAG		
03116	R	701001	A		UMOD		
03117	R	701072	A		URCG		
03120	R	741200	A		SNA		
03121	R	603124	R		JMP	,+3	
03122	R	100176	R		JMS	ERROR	/PCLOSE = 0 DID NOT DISABLE COS GATES
03123	R	000234	A		234		
03124	R	701022	A		MCM		
					.EJECT		

/T113 = TEST DB AND COS GATES 1 + 9 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

```

03125 R 750001 A      S113    CLAI:MA            /SET DB TO ALL ONES
03126 R 701044 A            ULPS
03127 R 701004 A            MSM
03130 R 701021 A            FCMOD
03131 R 204302 R            LAC      (110000)        /SET X+Y TO 1; POP = 0, PCL = 0
03132 R 702024 A            FCLAG
03133 R 701001 A            UMOD
03134 R 701072 A            URCG
03135 R 741200 A            SNA
03136 R 603141 R            JMP      ,+3
03137 R 100176 R            JMS      ERROR            /P OPEN = 0 DID NOT DISABLE COS GATE
03140 R 000235 A            235
03141 R 701021 A            FCMOD
03142 R 702004 A            FCEI
03143 R 204323 R            LAC      (110100)        /SET X+Y TO 1; PCL = 0, POP = 1
03144 R 702024 A            FCLAG
03145 R 701001 A            UMOD
03146 R 204324 R            LAC      (200400)        /SET DB TO BITS UNDER TEST
03147 R 701044 A            ULPS
03150 R 701072 A            URCG
03151 R 544324 R            SAD      (200400)        /ONLY 1 + 9 DATA IN TRUE
03152 R 603155 R            JMP      ,+3
03153 R 100176 R            JMS      ERROR            /DB ERROR OR COS GATE ERROR
03154 R 000236 A            236
03155 R 204303 R            LAC      (577374)        /SET COMP TO DB OF BITS UNDER TEST
03156 R 701064 A            ULD
03157 R 701072 A            URCG
03160 R 741200 A            SNA
03161 R 603164 R            JMP      ,+3
03162 R 100176 R            JMS      ERROR            /DB ERROR OR COS GATE ERROR
03163 R 000237 A            237
03164 R 100162 R            JMS      TESTFC
03165 R 603171 R            JMP      S113,1
03166 R 204251 R            LAC      (2000)
03167 R 044241 R            DAC      FLGCHK
03170 R 100170 R            JMS      MONBRK
03171 R 701021 A            S113,1 FCMOD
03172 R 702001 A            FCDI
03173 R 100141 R            JMS      HOLD
03174 R 444243 R            ISZ      TSTCNT
03175 R 603067 R            JMP      S112,1
                             ,EJECT
  
```

/T114 = TEST DB AND COS GATES 2 + 10 USING MAINT LOGIC AND
/FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

03176	R	200032	R	S114	LAC	MINCYC		
03177	R	044243	R		DAC	TSTCNI		
03200	R	750000	A	S114,1	CLA		/SET DB TO ALL ZEROES	
03201	R	701044	A		ULPS			
03202	R	701022	A		MCM		/MCM SHOULD CLEAR	
03203	R	701004	A		MSM		/SET MAINT	
03204	R	701021	A		FCMOD			
03205	R	204325	R		LAC	(220040	/SET X+Y TO 2; PCL = 1, POP = 0	
03206	R	702024	A		FCLAG			
03207	R	701001	A		UMOD			
03210	R	701072	A		URCG			
03211	R	544305	R		SAD	(677574	/ONLY DATA IN 2 + 10 WILL BE	
03212	R	603215	R		JMP	,+3	/FALSE	
03213	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR	
03214	R	000240	A		240			
03215	R	204305	R		LAC	(677574	/SET DB TO COMPLEMENT BITS UNDER TEST	
03216	R	701044	A		ULPS			
03217	R	701072	A		URCG			
03220	R	741200	A		SNA			
03221	R	603224	R		JMP	,+3		
03222	R	100176	R		JMS	ERROR	/DB ERROR OR POP = 0 DID NOT INHIBIT COS	
03223	R	000241	A		241			
03224	R	701021	A		FCMOD			
03225	R	204304	R		LAC	(220000	/SET X+Y TO 2; PCL = 0, POP = 0	
03226	R	702024	A		FCLAG			
03227	R	701001	A		UMOD			
03230	R	701072	A		URCG			
03231	R	741200	A		SNA			
03232	R	603235	R		JMP	,+3		
03233	R	100176	R		JMS	ERROR	/PCLOSE = 0 DID NOT DISABLE COS GATES	
03234	R	000242	A		242			
					,EJECT			

/T115 = TEST DB AND COS GATES 2 + 10 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

03235	R	750001	A	S115	CLAICMA		/SET DB TO ALL ONES
03236	R	701044	A		ULPS		
03237	R	701004	A		MSM		
03240	R	701021	A		FCMOD		
03241	R	204304	R		LAC	(220000)	/SET X+Y TO 2; POP = 0, PCL = 0
03242	R	702024	A		FCLAG		
03243	R	701001	A		UMOD		
03244	R	701072	A		URCG		
03245	R	741200	A		SNA		
03246	R	603251	R		JMP	,+3	
03247	R	100176	R		JMS	ERROR	/P OPEN = 0 DID NOT DIABLE COS GATE
03250	R	000243	A		243		
03251	R	701021	A		FCMOD		
03252	R	702004	A		FCEI		
03253	R	204326	R		LAC	(220100)	/SET X+Y TO 2; PCL = 0, POP = 1
03254	R	702024	A		FCLAG		
03255	R	701001	A		UMOD		
03256	R	204327	R		LAC	(100200)	/SET DB TO BITS UNDER TEST
03257	R	701044	A		ULPS		
03260	R	701072	A		URCG		
03261	R	544327	R		SAD	(100200)	/ONLY 2 + 10 DATA IN TRUE
03262	R	603265	R		JMP	,+3	
03263	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR
03264	R	000244	A		244		
03265	R	204305	R		LAC	(677574)	/SET COMP TO DB OF BITS UNDER TEST
03266	R	701064	A		ULD		
03267	R	701072	A		URCG		
03270	R	741200	A		SNA		
03271	R	603274	R		JMP	,+3	
03272	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR
03273	R	000245	A		245		
03274	R	100162	R		JMS	TESTFC	
03275	R	603301	R		JMP	S115,1	
03276	R	204251	R		LAC	(2000)	
03277	R	044241	R		DAC	FLGCHK	
03300	R	100170	R		JMS	MONBRK	
03301	R	701021	A	S115,1	FCMOD		
03302	R	702001	A		FCDI		
03303	R	100141	R		JMS	HOLD	
03304	R	444243	R		ISZ	TSTCNT	
03305	R	603200	R		JMP	S114,1	
					,EJECT		

/T120 = TEST DB AND COS GATES 3 + 11 USING MAINT LOGIC AND
 /FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

03306	R	200032	R	S120	LAC	MINCYC	
03307	R	044243	R		DAC	TSTCNT	
03310	R	750000	A	S120,1	CLA		/SET DB TO ALL ZEROES
03311	R	701044	A		ULPS		
03312	R	701022	A		MCM		/MCM SHOULD CLEAR
03313	R	701004	A		MSM		/SET MAINT
03314	R	701021	A		FCMOD		
03315	R	204330	R		LAC	(330040)	/SET X+Y TO 3; PCL = 1, POP = 0
03316	R	702024	A		FCLAG		
03317	R	701001	A		UMOD		
03320	R	701072	A		URCG		
03321	R	544307	R		SAD	(737674	/ONLY DATA IN 3 + 11 WILL BE
03322	R	603325	R		JMP	,+3	/FALSE
03323	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR
03324	R	000246	A		246		
03325	R	204307	R		LAC	(737674	/SET DB TO COMPLEMENT OF BITS UNDER TEST
03326	R	701044	A		ULPS		
03327	R	701072	A		URCG		
03330	R	741200	A		SNA		
03331	R	603334	R		JMP	,+3	
03332	R	100176	R		JMS	ERROR	/DB ERROR OR POP = 0 DID NOT INHIBIT COS
03333	R	000247	A		247		
03334	R	701021	A		FCMOD		
03335	R	204306	R		LAC	(330000)	/SET X+Y TO 3; PCL = 0, POP = 0
03336	R	702024	A		FCLAG		
03337	R	701001	A		UMOD		
03340	R	701072	A		URCG		
03341	R	741200	A		SNA		
03342	R	603345	R		JMP	,+3	
03343	R	100176	R		JMS	ERROR	/PCLOSE = 0 DID NOT DISABLE COS GATES
03344	R	000250	A		250		
					.EJECT		

/T121 = TEST DB AND COS GATES 3 + 11 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

```

03345 R 750001 A S121 CLAICMA /SET DB TO ALL ONES
03346 R 701044 A ULPS
03347 R 701004 A MSM
03350 R 701021 A FCMOD
03351 R 204306 R LAC (330000) /SET X+Y TO 3; POP = 0, PCL = 0
03352 R 702024 A FCLAG
03353 R 701001 A UMOD
03354 R 701072 A URCG
03355 R 741200 A SNA
03356 R 603361 R JMP ,+3
03357 R 100176 R JMS ERROR /P OPEN = 0 DID NOT DISABLE COS GATES
03360 R 000251 A 251
03361 R 701021 A FCMOD
03362 R 702004 A FCEI
03363 R 204331 R LAC (330100) /SET X+Y TO 3; PCL = 0, POP = 1
03364 R 702024 A FCLAG
03365 R 701001 A UMOD
03366 R 204332 R LAC (40100) /SET DB TO BITS UNDER TEST
03367 R 701044 A ULPS
03370 R 701072 A URCG
03371 R 544332 R SAD (40100) /ONLY 3 + 11 DATA IN TRUE
03372 R 603375 R JMP ,+3
03373 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03374 R 000252 A 252
03375 R 204307 R LAC (737674) /SET COMPLIMENT TO DB OF BITS UNDER TEST
03376 R 701064 A ULD
03377 R 701072 A URCG
03400 R 741200 A SNA
03401 R 603404 R JMP ,+3
03402 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03403 R 000253 A 253
03404 R 100162 R JMS TESTFC
03405 R 603411 R JMP S121,1
03406 R 204251 R LAC (2000)
03407 R 044241 R DAC FLGCHK
03410 R 100170 R JMS MONBRK
03411 R 701021 A S121,1 FCMOD
03412 R 702001 A FCDI
03413 R 100141 R JMS HOLD
03414 R 444243 R ISZ TSTCNT
03415 R 603310 R JMP S120,1
      .EJECT

```

/T122 = TEST DB AND COS GATES 4 + 12 USING MAINT LOGIC AND
/FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

```

/
03416 R 200032 R S122 LAC M1NCYC
03417 R 044243 R DAC TSTCNT
03420 R 750000 A S122,1 CLA /SET DB TO ALL ZEROES
03421 R 701044 A ULPS
03422 R 701022 A MCM /MCM SHOULD CLEAR
03423 R 701004 A MSM /SET MAINT
03424 R 701021 A FCMOD
03425 R 204333 R LAC (440040) /SET X+Y TO 4; PCL=1; POP = 0
03426 R 702024 A FCLAG
03427 R 701001 A UMOD
03430 R 701072 A URCG
03431 R 544311 R SAD (757734) /ONLY DATA IN 4 + 12 WILL BE
03432 R 603435 R JMP ,+3 /FALSE
03433 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03434 R 000254 A 254
03435 R 204311 R LAC (757734) /SEB DB TO COMPLEMENT OF BITS UNDER TEST
03436 R 701044 A ULPS
03437 R 701072 A URCG
03440 R 741200 A SNA
03441 R 603444 R JMP ,+3
03442 R 100176 R JMS ERROR /DB ERROR OR POP = 0 DID NOT INHIBIT COS
03443 R 000255 A 255
03444 R 701021 A FCMOD
03445 R 204310 R LAC (440000) /SET X+Y TO 4; PCL = 0, POP = 0
03446 R 702024 A FCLAG
03447 R 701001 A UMOD
03450 R 701072 A URCG
03451 R 741200 A SNA
03452 R 603455 R JMP ,+3
03453 R 100176 R JMS ERROR /PCLOSE = 0 DID NOT DISABLE COS GATES
03454 R 000256 A 256
,EJECT

```

/T123 = TEST DB AND COS GATES 4 + 12 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

03455	R	750001	A	S123	CLA: CMA	/SET DB TO ALL ONES
03456	R	701044	A		ULPS	
03457	R	701004	A		MSM	
03460	R	701021	A		FCMOD	
03461	R	204310	R		LAC (440000)	/SET X+Y TO 4; POP = 0, PCL = 0
03462	R	702024	A		FCLAG	
03463	R	701001	A		UMOD	
03464	R	701072	A		URCG	
03465	R	741200	A		SNA	
03466	R	603471	R		JMP ,+3	
03467	R	100176	R		JMS ERROR	/P OPEN = 0 DID NOT DISABLE COS GATE
03470	R	000257	A		257	
03471	R	701021	A		FCMOD	
03472	R	702004	A		FCEI	
03473	R	204334	R		LAC (440100)	/SET X+Y TO 4; PCL = 0, POP = 1
03474	R	702024	A		FCLAG	
03475	R	701001	A		UMOD	
03476	R	204335	R		LAC (20040)	/SET DB TO BITS UNDER TEST
03477	R	701044	A		ULPS	
03500	R	701072	A		URCG	
03501	R	544335	R		SAD (20040)	/ONLY 4 + 12 DATA IN TRUE
03502	R	603505	R		JMP ,+3	
03503	R	100176	R		JMS ERROR	/DB ERROR OR COS GATE ERROR
03504	R	000260	A		260	
03505	R	204311	R		LAC (757734)	/SET COMP TO DB OF BITS UNDER TEST
03506	R	701064	A		ULD	
03507	R	701072	A		URCG	
03510	R	741200	A		SNA	
03511	R	603514	R		JMP ,+3	
03512	R	100176	R		JMS ERROR	/DB ERROR OR COS GATE ERROR
03513	R	000261	A		261	
03514	R	100162	R		JMS TESTFC	
03515	R	603521	R		JMP S123,1	
03516	R	204251	R		LAC (2000)	
03517	R	044241	R		DAC FLGCHK	
03520	R	100170	R		JMS MONBRK	
03521	R	701021	A	S123,1	FCMOD	
03522	R	702001	A		FCDI	
03523	R	100141	R		JMS HOLD	
03524	R	444243	R		ISZ TSTCNT	
03525	R	603420	R		JMP S122,1	
					,EJECT	

/T124 = TEST DB AND COS GATES 5 + 13 USING MAINT LOGIC AND
 /FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

03526	R	200032	R	S124	LAC	MINCYC	
03527	R	044243	R		DAC	TSTCNT	
03530	R	750000	A	S124,1	CLA		/SET DB TO ALL ZEROES
03531	R	701044	A		ULPS		
03532	R	701022	A		MCM		/MCM SHOULD CLEAR
03533	R	701004	A		MSM		/SET MAINT
03534	R	701021	A		FCMOD		
03535	R	204336	R		LAC	(550040	/SET X+Y TO 5; PCL = 1, POP = 0
03536	R	702024	A		FCLAG		
03537	R	701001	A		UMOD		
03540	R	701072	A		URCG		
03541	R	544313	R		SAD	(767724	/ONLY DATA IN 5 + 13 WILL BE
03542	R	603545	R		JMP	,+3	/FALSE
03543	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR
03544	R	000262	A		262		
03545	R	204313	R		LAC	(767724	/SET DB TO COMPLEMENT OF BITS UNDER TEST
03546	R	701044	A		ULPS		
03547	R	701072	A		URCG		
03550	R	741200	A		SNA		
03551	R	603554	R		JMP	,+3	
03552	R	100176	R		JMS	ERROR	/DB ERROR OR POP = 0 DID NOT INHIBIT COS
03553	R	000263	A		263		
03554	R	701021	A		FCMOD		
03555	R	204312	R		LAC	(550000	/SET X+Y TO 5; PCL = 0, POP = 0
03556	R	702024	A		FCLAG		
03557	R	701001	A		UMOD		
03560	R	701072	A		URCG		
03561	R	741200	A		SNA		
03562	R	603565	R		JMP	,+3	
03563	R	100176	R		JMS	ERROR	/PCLOSE = 0 DID NOT DISABLE COS GATES
03564	R	000264	A		264		
					,EJECT		

/T125 = TEST DB AND COS GATES 5 + 13 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

```

03565 R 750001 A      $125   CLAICMA      /SET DB TO ALL ONES
03566 R 701044 A      ULPS
03567 R 701004 A      MSM
03570 R 701021 A      FCMOD
03571 R 204312 R      LAC      (550000)   /SET X+Y TO 5; POP = 0, PCL = 0
03572 R 702024 A      FCLAG
03573 R 701001 A      UMOD
03574 R 701072 A      URCG
03575 R 741200 A      SNA
03576 R 603601 R      JMP      ,+3
03577 R 100176 R      JMS      ERROR      /P OPEN = 0 DID NOT DISABLE COS GATE
03600 R 000265 A      265
03601 R 701021 A      FCMOD
03602 R 702004 A      FCEI
03603 R 204337 R      LAC      (550100)   /SET X+Y TO 5; PCL = 0, POP = 1
03604 R 702024 A      FCLAG
03605 R 701001 A      UMOD
03606 R 204340 R      LAC      (10020)   /SET DB TO BITS UNDER TEST
03607 R 701044 A      ULPS
03610 R 701072 A      URCG
03611 R 544340 R      SAD      (10020)
03612 R 603615 R      JMP      ,+3
03613 R 100176 R      JMS      ERROR      /DB ERROR OR COS GATE ERROR
03614 R 000266 A      266
03615 R 204313 R      LAC      (767754)   /SET COMP TO DB OF BITS UNDER TEST
03616 R 701064 A      ULD
03617 R 701072 A      URCG
03620 R 741200 A      SNA
03621 R 603624 R      JMP      ,+3
03622 R 100176 R      JMS      ERROR      /DB ERROR OR COS GATE ERROR
03623 R 000267 A      267
03624 R 100162 R      JMS      TESTFC
03625 R 603631 R      JMP      $125,1
03626 R 204251 R      LAC      (2000)
03627 R 044241 R      DAC      FLGCHK
03630 R 100170 R      JMS      MONBRK
03631 R 701021 A      S125,1 FCMOD
03632 R 702001 A      FCDI
03633 R 100141 R      JMS      HOLD
03634 R 444243 R      ISZ      TSTCNT
03635 R 603530 R      JMP      $124,1
      ,EJECT
  
```

/T130 = TEST DB AND COS GATES 6 + 14 USING MAINT LOGIC AND
/FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

```

03636 R 200032 R S130 LAC MENCYC
03637 R 044243 R DAC TSTCNT
03640 R 750000 A S130,1 CLA /SET DB TO ALL ZEROES
03641 R 701044 A ULPS
03642 R 701022 A MCM /MCM SHOULD CLEAR
03643 R 701004 A MSM /SET MAINT
03644 R 701021 A FCMOD
03645 R 204341 R LAC (660040) /SET X+Y TO 6; PCL = 1, POP = 0
03646 R 702024 A FCLAG
03647 R 701001 A UMOD
03650 R 701072 A URCG
03651 R 544315 R SAD (773704) /ONLY DATA IN 6 + 14 WILL BE
03652 R 603655 R JMP ,+3 /FALSE
03653 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03654 R 000270 A 270
03655 R 204315 R LAC (773704) /SET DB TO COMPLEMENT OF BITS UNDER TEST
03656 R 701044 A ULPS
03657 R 701072 A URCG
03660 R 741200 A SNA
03661 R 603664 R JMP ,+3
03662 R 100176 R JMS ERROR /DB ERROR OR POP = 0 DID NOT INHIBIT COS
03663 R 000271 A 271
03664 R 701021 A FCMOD
03665 R 204314 R LAC (660000) /SET X+Y TO 6; PCL = 0, POP
03666 R 702024 A FCLAG
03667 R 701001 A UMOD
03670 R 701072 A URCG
03671 R 741200 A SNA
03672 R 603675 R JMP ,+3
03673 R 100176 R JMS ERROR /PCLOSE = 0 DID NOT DISABLE COS GATES
03674 R 000272 A 272
,EJECT

```

/T131 = TEST DB AND COS GATES 6 + 14 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

```

03675 R 750001 A S131 CLA!CMA /SET DB TO ALL ONES
03676 R 701044 A ULPS
03677 R 701004 A MSM
03700 R 701021 A FCMOD
03701 R 204314 R LAC (660000) /SET X+Y TO 6; POP = 0, PCL = 0
03702 R 702024 A FCLAG
03703 R 701001 A UMOD
03704 R 701072 A URCG
03705 R 741200 A SNA
03706 R 603711 R JMP ,+3
03707 R 100176 R JMS ERROR /P OPEN = 0 DID NOT DISABLE COS GATE
03710 R 000273 A 273
03711 R 701021 A FCMOD
03712 R 702004 A FCEI
03713 R 204342 R LAC (660100) /SET X+Y TO 6; PCL = 0, POP = 1
03714 R 702024 A FCLAG
03715 R 701001 A UMOD
03716 R 204343 R LAC (4010) /SET DB TO BITS UNDER TEST
03717 R 701044 A ULPS
03720 R 701072 A URCG
03721 R 544343 R SAD (4010) /ONLY 6 + 14 DATA IN TRUE
03722 R 603725 R JMP ,+3
03723 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03724 R 000274 A 274
03725 R 204315 R LAC (773764) /SET COMP TO DB OF BITS UNDER TEST
03726 R 701064 A ULD
03727 R 701072 A URCG
03730 R 741200 A SNA
03731 R 603734 R JMP ,+3
03732 R 100176 R JMS ERROR /DB ERROR OR COS GATE ERROR
03733 R 000275 A 275
03734 R 100162 R JMS TESTFC
03735 R 603741 R JMP S131,1
03736 R 204251 R LAC (2000)
03737 R 044241 R DAC FLGCHK
03740 R 100170 R JMS MONBRK
03741 R 701021 A S131,1 FCMOD
03742 R 702001 A FCDI
03743 R 100141 R JMS HOLD
03744 R 444243 R ISZ TSTCNT
03745 R 603640 R JMP S130,1
,EJECT
  
```

/T132 = TEST DB AND COS GATES 7 + 15 USING MAINT LOGIC AND
 /FC ADR DECODE TO GENERATE DATA IN (P CLOSE SIDE)

03746	R	200032	R	S132	LAC	MINCYC	
03747	R	044243	R		DAC	TSTCNI	
03750	R	750000	A	S132,1	CLA		/SET DB TO ALL ZEROES
03751	R	701044	A		ULPS		
03752	R	701022	A		MCM		/MCM SHOULD CLEAR
03753	R	701004	A		MSM		/SET MAINT
03754	R	701021	A		FCMOD		
03755	R	204344	R		LAC	(770040)	/SET X+Y TO 7; PCL = 1, POP = 0
03756	R	702024	A		FCLAG		
03757	R	701001	A		UMOD		
03760	R	701072	A		URCG		
03761	R	544316	R		SAD	(775770)	/ONLY DATA IN 7 + 15 WILL BE
03762	R	603765	R		JMP	,+3	/FALSE
03763	R	100176	R		JMS	ERROR	/DB ERROR OR COS GATE ERROR
03764	R	000276	A		276		
03765	R	204316	R		LAC	(775770)	/SET DB TO COMPLEMENT OF BITS UNDER TEST
03766	R	701044	A		ULPS		
03767	R	701072	A		URCG		
03770	R	741200	A		SNA		/DB ERROR OR POP = 0 DID NOT INHIBIT COS
03771	R	603774	R		JMP	,+3	
03772	R	100176	R		JMS	ERROR	
03773	R	000277	A		277		
03774	R	701021	A		FCMOD		
03775	R	204274	R		LAC	(770000)	/SET X+Y TO 7; PCL = 0, POP = 0
03776	R	702024	A		FCLAG		
03777	R	701001	A		UMOD		
04000	R	701072	A		URCG		
04001	R	741200	A		SNA		
04002	R	604005	R		JMP	,+3	
04003	R	100176	R		JMS	ERROR	/PCLOSE = 0 DID NOT DISABLE COS GATES
04004	R	000300	A		300		
					,EJECT		

/T133 = TEST DB AND COS GATES 7 + 15 USING MAINT LOGIC
 /AND FC ADR DECODE TO GENERATE DATA IN (P OPEN SIDE)

```

04005 R 750001 A      S133   CLA!CMA           /SET DB TO ALL ONES
04006 R 701044 A      ULPS
04007 R 701004 A      MSM
04010 R 701021 A      FCMOD
04011 R 204274 R      LAC      (770000)       /SET X+Y TO 7; POP = 0, PCL = 0
04012 R 702024 A      FCLAG
04013 R 701001 A      UMOD
04014 R 701072 A      URCG
04015 R 741200 A      SNA
04016 R 604021 R      JMP      ,+3
04017 R 100176 R      JMS     ERROR           /P OPEN = 0 DID NOT DISABLE COS GATES
04020 R 000301 A      301
04021 R 701021 A      FCMOD
04022 R 702004 A      FCEI
04023 R 204345 R      LAC      (770100)       /SET X+Y TO 7; PCL = 0, POP = 1
04024 R 702024 A      FCLAG
04025 R 701001 A      UMOD
04026 R 204346 R      LAC      (2004)         /SET DB TO BITS UNDER TEST
04027 R 701044 A      ULPS
04030 R 701072 A      URCG
04031 R 544346 R      SAD      (2004)
04032 R 604035 R      JMP      ,+3
04033 R 100176 R      JMS     ERROR           /DB ERROR OR COS GATE ERROR
04034 R 000302 A      302
04035 R 204316 R      LAC      (775770)       /SET COMP TO DB OF BITS UNDER TEST
04036 R 701064 A      ULD
04037 R 701072 A      URCG
04040 R 741200 A      SNA
04041 R 604044 R      JMP      ,+3
04042 R 100176 R      JMS     ERROR           /DB ERROR OR COS GATE ERROR
04043 R 000303 A      303
04044 R 100162 R      JMS     TESTFC
04045 R 604051 R      JMP     S133,1
04046 R 204251 R      LAC     (2000)
04047 R 044241 R      DAC     FLGCHK
04050 R 100170 R      JMS     MONBRK
04051 R 701021 A      S133,1 FCMOD
04052 R 702001 A      FCEI
04053 R 100141 R      JMS     HOLD
04054 R 444243 R      ISZ    TSTCNT
04055 R 603750 R      JMP     S132,1
          .EJECT

```

/T135 - TEST THAT DONE AND FC EN CAUSES PI OR API

```

/
04056 R 777700 A          LAW      =100
04057 R 044243 R          DAC      TSTCNT
04060 R 100130 R          JMS      M5
04061 R 444243 R          ISZ      TSTCNT
04062 R 604060 R          JMP      ,=2
04063 R 200032 R          S135     LAC      MINCYC
04064 R 044243 R          S135,1  DAC      TSTCNT
04065 R 701022 A          MCM
04066 R 204347 R          LAC      (402000      /SET A/D DONE; FCMOD
04067 R 701024 A          MLS
04070 R 204251 R          LAC      (2000)
04071 R 044241 R          DAC      FLGCHK
04072 R 702004 A          FCEI
04073 R 100170 R          JMS      MONBRK
04074 R 702001 A          FCDI
04075 R 701022 A          MCM
04076 R 100141 R          JMS      HOLD
04077 R 444243 R          ISZ      TSTCNT
04100 R 604065 R          JMP      S135,1

```

/T140 - TEST THAT DEF ONLY CAUSES PI OR API

```

/
04101 R 200032 R          S140     LAC      MINCYC
04102 R 044243 R          DAC      TSTCNT
04103 R 701022 A          S140,1  MCM
04104 R 701004 A          MSM
04105 R 204245 R          LAC      (100000      /SET DEF FLAG
04106 R 044241 R          DAC      FLGCHK
04107 R 701024 A          MLS
04110 R 100170 R          JMS      MONBRK
04111 R 701022 A          MCM
04112 R 701052 A          URAA
04113 R 100141 R          JMS      HOLD
04114 R 444243 R          ISZ      TSTCNT
04115 R 604103 R          JMP      S140,1

```

/T141 - TEST THAT A FAULT CAUSES PI OR API

```

/
04116 R 200032 R          S141     LAC      MINCYC
04117 R 044243 R          DAC      TSTCNT
04120 R 701022 A          S141,1  MCM
04121 R 204250 R          LAC      (100000
04122 R 044241 R          DAC      FLGCHK
04123 R 701024 A          MLS
04124 R 100170 R          JMS      MONBRK
04125 R 701022 A          MCM
04126 R 100141 R          JMS      HOLD
04127 R 444243 R          ISZ      TSTCNT
04130 R 604120 R          JMP      S141,1

```

,EJECT

/T143 - TEST THAT A/D DONE CAUSES PI OR API BREAK

04131	R	200032	R	S143	LAC	MINCYC	
04132	R	044243	R		DAC	TSTCNT	
04133	R	701022	A	S143,1	MCM		
04134	R	204251	R		LAC	(2000	/SET A/D DONE
04135	R	044241	R		DAC	FLGCHK	
04136	R	701024	A		MLS		
04137	R	701021	A		FCMOD		
04140	R	702004	A		FCEI		
04141	R	100170	R		JMS	MONBRK	
04142	R	702001	A		FCDI		
04143	R	701022	A		MCM		
04144	R	100141	R		JMS	HOLD	
04145	R	444243	R		ISZ	TSTCNT	
04146	R	604153	R		JMP	S143,1	

/T144 - TEST THAT UDC A FAULT CAUSES PI OR API BREAK

04147	R	200032	R	S144	LAC	MINCYC	
04150	R	044243	R		DAC	TSTCNT	
04151	R	701022	A	S144,1	MCM		
04152	R	204250	R		LAC	(10000	
04153	R	044241	R		DAC	FLGCHK	
04154	R	701024	A		MLS		
04155	R	100170	R		JMS	MONBRK	
04156	R	701022	A		MCM		
04157	R	100141	R		JMS	HOLD	
04160	R	444243	R		ISZ	TSTCNT	
04161	R	604151	R		JMP	S144,1	
04162	R	200001	R		LAC	UODSW+1	
04163	R	740100	A		SMA		
04164	R	604167	R		JMP	+3	
04165	R	777400	A		LAW	-400	
04166	R	741000	A		SKP		
04167	R	777760	A		LAW	-20	
04170	R	040032	R		DAC	MINCYC	
04171	R	444242	R		ISZ	RUNLEN	
04172	R	600250	R		JMP	S3,1-2	
04173	R	600154	R		JMP	TERMIN	

.EJECT

/DELAY - ENTER WITH POINTER TO DELAY TIME WANTED IN USEC(OCTAL)

04174	R	000000	A	DELAY	0		
04175	R	224174	R	LAC*	DELAY		/GET TIMER
04176	R	444174	R	ISZ	DELAY		/SET FOR RETURN
04177	R	744020	A	CLL!RAR			/DIVIDE BY FOUR
04200	R	744020	A	CLL!RAR			
04201	R	741200	A	SNA			
04202	R	624174	R	JMP*	DELAY		/AC=0, EXIT
04203	R	740001	A	CMA			
04204	R	344257	R	TAD	(1)		
04205	R	740200	A	SZA			
04206	R	604204	R	JMP	,=2		/4US LOOP
04207	R	624174	R	JMP*	DELAY		

/MCLOCK - CLOCK MAINT CLOCK SPECIFIED NUMBER OF TIMES

04210	R	000000	A	MCLOCK	0		
04211	R	224210	R	LAC*	MCLOCK		
04212	R	740001	A	CMA			
04213	R	344257	R	TAD	(1)		
04214	R	044240	R	DAC	TEMP		
04215	R	702044	A	MCLK			
04216	R	444240	R	ISZ	TEMP		
04217	R	604215	R	JMP	,=2		
04220	R	444210	R	ISZ	MCLOCK		
04221	R	624210	R	JMP*	MCLOCK		

/RANDOM NUMBER GENERATOR - EXIT WITH NUMBER IN AC + RANB

04222	R	000000	A	RANDOM	0		
04223	R	204233	R	LAC	RANA		
04224	R	344234	R	TAD	RANB		
04225	R	044233	R	DAC	RANA		
04226	R	750010	A	GLK			
04227	R	344233	R	TAD	RANA		
04230	R	344234	R	TAD	RANB		
04231	R	044234	R	DAC	RANB		
04232	R	624222	R	JMP*	RANDOM		
04233	R	731420	A	RANA	731420		
04234	R	015610	A	RANB	015610		

04235	R	000000	A	HOLSW	0		
04236	R	000000	A	SAVAC	0		
04237	R	000000	A	M5IND	0		
04240	R	000000	A	TEMP	0		
04241	R	000000	A	FLGCHK	0		
04242	R	000000	A	RUNLEN	0		
04243	R	000000	A	TSTCNT	0		
					,EJECT		

END UQDSW

000000 R
04244 R 200000 A #L
04245 R 100000 A #L
04246 R 040000 A #L
04247 R 020000 A #L
04250 R 010000 A #L
04251 R 002000 A #L
04252 R 001000 A #L
04253 R 000400 A #L
04254 R 400000 A #L
04255 R 000200 A #L
04256 R 300000 A #L
04257 R 000001 A #L
04260 R 000002 A #L
04261 R 000003 A #L
04262 R 004000 A #L
04263 R 777600 A #L
04264 R 777400 A #L
04265 R 776000 A #L
04266 R 525252 A #L
04267 R 524000 A #L
04270 R 252000 A #L
04271 R 000100 A #L
04272 R 700000 A #L
04273 R 030000 A #L
04274 R 770000 A #L
04275 R 076100 A #L
04276 R 200200 A #L
04277 R 210000 A #L
04300 R 252525 A #L
04301 R 376774 A #L
04302 R 110000 A #L
04303 R 577374 A #L
04304 R 220000 A #L
04305 R 677574 A #L
04306 R 330000 A #L
04307 R 737674 A #L
04310 R 440000 A #L
04311 R 757734 A #L
04312 R 550000 A #L
04313 R 767754 A #L
04314 R 660000 A #L
04315 R 773764 A #L
04316 R 775770 A #L
04317 R 000040 A #L
04320 R 000000 A #L
04321 R 401000 A #L
04322 R 110040 A #L
04323 R 110100 A #L
04324 R 200400 A #L
04325 R 220040 A #L
04326 R 220100 A #L
04327 R 100200 A #L

04330 R 330040 A #L
04331 R 330100 A #L
04332 R 040100 A #L
04333 R 440040 A #L
04334 R 440100 A #L
04335 R 020040 A #L
04336 R 550040 A #L
04337 R 550100 A #L
04340 R 010020 A #L
04341 R 660040 A #L
04342 R 660100 A #L
04343 R 004010 A #L
04344 R 770040 A #L
04345 R 770100 A #L
04346 R 002004 A #L
04347 R 402000 A #L

SIZE=04350

NO ERROR LINES

BDINIT	00034	R	BDSERV	00057	R	CHK,1	00105	R	DELAY	04174	R
EBA	707764	A	EEM	707702	A	ERCODE	00022	R	ERROR	00176	R
ERR,1	00222	R	ERR,2	00230	R	ERWC	00021	R	EXIT	00122	R
EXIT,1	00126	R	E65	02512	R	E70	02533	R	FCCV	702021	A
FCDI	702001	A	FCEI	702004	A	FCLAG	702024	A	FCMOD	701021	A
FCRA	702012	A	FCRB	702032	A	FCSO	702041	A	FLGCHK	04241	R
HOLD	00141	R	HOLD,1	00142	R	HOLSW	04235	R	L50	02013	R
L52	02052	R	L53	02073	R	L55	02167	R	L61	02324	R
L62	02372	R	MAJCYC	00033	R	MCLK	702044	A	MCLOCK	04210	R
MCM	701022	A	MINCYC	00032	R	MLS	701024	A	MONBRK	00170	R
MON,1	00174	R	MRS	701012	A	MSM	701004	A	M5	00130	R
M5IND	04237	R	RANA	04233	R	RANB	04234	R	RANDOM	04222	R
RUNLEN	04242	R	SAVAC	04236	R	SYSERR	00020	R	S10	00501	R
S10,1	00503	R	S100	02645	R	S101	02657	R	S102	02671	R
S103	02703	R	S104	02716	R	S105	02731	R	S105,1	02750	R
S11	00544	R	S110	02755	R	S110,1	02757	R	S111	03014	R
S111,1	03060	R	S112	03065	R	S112,1	03067	R	S113	03125	R
S113,1	03171	R	S114	03176	R	S114,1	03200	R	S115	03235	R
S115,1	03301	R	S12	00605	R	S12,1	00607	R	S120	03306	R
S120,1	03310	R	S121	03345	R	S121,1	03411	R	S122	03416	R
S122,1	03420	R	S123	03455	R	S123,1	03521	R	S124	03526	R
S124,1	03530	R	S125	03565	R	S125,1	03631	R	S13	00653	R
S130	03636	R	S130,1	03640	R	S131	03675	R	S131,1	03741	R
S132	03746	R	S132,1	03750	R	S133	04005	R	S133,1	04051	R
S135	04063	R	S135,1	04065	R	S14	00730	R	S14,1	00732	R
S140	04101	R	S140,1	04103	R	S141	04116	R	S141,1	04120	R
S143	04131	R	S143,1	04133	R	S144	04147	R	S144,1	04151	R
S15	01001	R	S20	01041	R	S20,2	01043	R	S21	01044	R
S22	01106	R	S22,1	01110	R	S23	01133	R	S23,1	01135	R
S24	01174	R	S25	01224	R	S25,1	01255	R	S26	01263	R
S26,1	01265	R	S3	00246	R	S3,1	00252	R	S31	01317	R
S31,1	01344	R	S32	01347	R	S32,1	01352	R	S33	01401	R
S33,1	01427	R	S34	01432	R	S34,1	01434	R	S35	01456	R
S4	00302	R	S40	01511	R	S40,1	01513	R	S41	01564	R
S42	01634	R	S42,1	01636	R	S43	01701	R	S44	01715	R
S45	01757	R	S45,1	01763	R	S5	00332	R	S50	02004	R
S50,1	02006	R	S51	02030	R	S52	02046	R	S53	02067	R
S54	02114	R	S54,1	02116	R	S55	02163	R	S6	00361	R
S6,1	00363	R	S60	02244	R	S60,1	02246	R	S61	02314	R
S62	02354	R	S62,1	02356	R	S63	02415	R	S64	02434	R
S65	02502	R	S65,2	02477	R	S7	00433	R	S70	02521	R
S71	02542	R	S72	02561	R	S73	02605	R	S73,1	02607	R
S74	02621	R	S75	02633	R	TEMP	04240	R	TERMIN	00154	R
TESTFC	00162	R	TSTCNT	04243	R	ULA	702024	A	ULD	701064	A
ULPS	701044	A	UMOD	701001	A	UODSW	00000	R	URA	702012	A
URAA	701052	A	URCG	701072	A	URD	702032	A	USCAN	702021	A
USD	701061	A	USI	701041	A	USINT	702004	A	USNB	702041	A

UODSW	00000	R	SYSERR	00020	R	ERWC	00021	R	ERCODE	00022	R
MINCYC	00032	R	MAJCYC	00033	R	BDINIT	00034	R	BDSERV	00057	R
CHK,1	00105	R	EXIT	00122	R	EXIT,1	00126	R	M5	00130	R
HOLD	00141	R	HOLD,1	00142	R	TERMIN	00154	R	TESTFC	00162	R
MONBRK	00170	R	MON,1	00174	R	ERROR	00176	R	ERR,1	00222	R
ERR,2	00230	R	S3	00246	R	S3,1	00252	R	S4	00302	R
S5	00332	R	S6	00361	R	S6,1	00363	R	S7	00433	R
S10	00501	R	S10,1	00503	R	S11	00544	R	S12	00605	R
S12,1	00607	R	S13	00653	R	S14	00730	R	S14,1	00732	R
S15	01001	R	S20	01041	R	S20,2	01043	R	S21	01044	R
S22	01106	R	S22,1	01110	R	S23	01133	R	S23,1	01135	R
S24	01174	R	S25	01224	R	S25,1	01255	R	S26	01263	R
S26,1	01265	R	S31	01317	R	S31,1	01344	R	S32	01347	R
S32,1	01352	R	S33	01401	R	S33,1	01427	R	S34	01432	R
S34,1	01434	R	S35	01456	R	S40	01511	R	S40,1	01513	R
S41	01564	R	S42	01634	R	S42,1	01636	R	S43	01701	R
S44	01715	R	S45	01757	R	S45,1	01763	R	S50	02004	R
S50,1	02006	R	L50	02013	R	S51	02030	R	S52	02046	R
L52	02052	R	S53	02067	R	L53	02073	R	S54	02114	R
S54,1	02116	R	S55	02163	R	L55	02167	R	S60	02244	R
S60,1	02246	R	S61	02314	R	L61	02324	R	S62	02354	R
S62,1	02356	R	L62	02372	R	S63	02415	R	S64	02434	R
S65,2	02477	R	S65	02502	R	E65	02512	R	S70	02521	R
E70	02533	R	S71	02542	R	S72	02561	R	S73	02605	R
S73,1	02607	R	S74	02621	R	S75	02633	R	S100	02645	R
S101	02657	R	S102	02671	R	S103	02703	R	S104	02716	R
S105	02731	R	S105,1	02750	R	S110	02755	R	S110,1	02757	R
S111	03014	R	S111,1	03060	R	S112	03065	R	S112,1	03067	R
S113	03125	R	S113,1	03171	R	S114	03176	R	S114,1	03200	R
S115	03235	R	S115,1	03301	R	S120	03306	R	S120,1	03310	R
S121	03345	R	S121,1	03411	R	S122	03416	R	S122,1	03420	R
S123	03455	R	S123,1	03521	R	S124	03526	R	S124,1	03530	R
S125	03565	R	S125,1	03631	R	S130	03636	R	S130,1	03640	R
S131	03675	R	S131,1	03741	R	S132	03746	R	S132,1	03750	R
S133	04005	R	S133,1	04051	R	S135	04063	R	S135,1	04065	R
S140	04101	R	S140,1	04103	R	S141	04116	R	S141,1	04120	R
S143	04131	R	S143,1	04133	R	S144	04147	R	S144,1	04151	R
DELAY	04174	R	MCLK	04210	R	RANDOM	04222	R	RANA	04233	R
RANB	04234	R	HOLSW	04235	R	SAVAC	04236	R	M5IND	04237	R
TEMP	04240	R	FLGCHK	04241	R	RUNLEN	04242	R	TSTCNT	04243	R
UMOD	701001	A	MSM	701004	A	MRS	701012	A	FCMOD	701021	A
MCM	701022	A	MLS	701024	A	USI	701041	A	ULPS	701044	A
URAA	701052	A	USD	701061	A	ULD	701064	A	URCG	701072	A
FCDI	702001	A	FCEI	702004	A	USINT	702004	A	FCRA	702012	A
URA	702012	A	FCCV	702021	A	USCAN	702021	A	FCLAG	702024	A
ULA	702024	A	FCRB	702032	A	URD	702032	A	FCSD	702041	A
USNB	702041	A	MCLK	702044	A	EEM	707702	A	EBA	707764	A