

DIAGNOSTIC PROGRAM MANUAL
SIGMA 5 AND 7
MEMORY ENVIRONMENTAL TEST
PROGRAM NO. 705355C

June 1970

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RELATED PUBLICATIONS

<u>Publication Title</u>	<u>Publication No.</u>
Sigma 5 Computer, Reference Manual	900959
Sigma 5 Computer, Technical Manual	901172
Sigma 7 Computer, Reference Manual	900950
Sigma 7 Computer, Technical Manual	901060
Sigma 5/7 Relocatable Diagnostic Program Loader, Diagnostic Program Manual	900972
Sigma 5/7 Memory Test (Medic 75), Diagnostic Program Manual	900825
Sigma Symbol and Metasymbol, Reference Manual	900952

XDS 901572

SECTION I
PROGRAM LISTING

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL ORIG	LABEL	OPERATION	OPERAND	COMMENTS
1								SIGMA 5/7 MEMORY ENVIRONMENTAL TEST 705355-51000(3/1/70)
2								TITLE 'SIGMA 5/7 MEMORY ENVIRONMENTAL TEST 705355-51000(3/1/70)' *C
3								*
4								****PROGRAM MODIFICATIONS*****
5								* REVISION 000 (3/1/70) CHANGES INDICATED BY *C IN COLUMNS 71-72.
6								* 1. I/O INTERRUPT DISARMED DURING RE-INITIALIZATION *C
7								* 2. MEMORY FAULT INDICATORS ARE RESET DURING PROGRAM INITIALIZATION *C
8								* AND AT CONCLUSION OF EACH TEST. *C
9								* 3. PARITY INTERRUPT HANDLING ROUTINE AND INTERRUPT RETURN ARE *C
10								* REVISED. *C
11								* 4. CALCULATED MEMORY CONFIGURATION IS REPORTED VIA KSM. *C
12								* 5. DOWNWARD REVISION OF MEMORY CONFIGURATION ADDED AS OPERATOR *C
13								* OPTION. *C
14								* 6. SELECTION OF EITHER KSR OR LINE PRINTER AS ERROR *C
15								* OUTPUT DEVICE. HOW EVER THE LINE PRINTER MAY NOT BE USED *C
16								* AS ERROR OUTPUT DEVICE AT THE SAME TIME IT IS USED AS *C
17								* THE HIGH SPEED DEVICE. *C
18								* 7. ADDITIONAL ERROR DETECTION (CODE = 08) FOR TESTS 2 & 3. *C
19								* 8. COMMAND CHAINING UTILIZED FOR ALL I/O DEVICES
20								*REVISION 000 REDOCUMENTATION CHANGE ONLY
21								*
22								*
23								*
24								*
25								*
26								* PROGRAM OBJECTIVE:
27								*
28								TO EXERCISE THE SIGMA 5/7 MEMORY IN A MANNER DESIGNED TO
29								PROVIDE WORST CASE CONDITIONS OF ADDRESS SWITCHING, CROSSTALK
30								OR INTERFERENCE ON ADDRESS AND/OR DATA LINES, PORT ACCESS
31								CONFLICTS, AND HIGH FREQUENCY MEMORY ACCESS.
32								*
33								*
34								*
35								* GENERAL SPECIFICATIONS:
36								*
37								1. COMPUTER CONFIGURATION:
38								A. SIGMA 5/7
39								B. MINIMUM CORE MEMORY OF 8K
40								C. KEYBOARD PRINTER
41								D. CARD OR PAPER TAPE READER
42								2. PREREQUISITES:
43								MEDIC 75
44								3. SOURCE LANGUAGE:
45								METASYMBOL
46								4. PROGRAM MEDIA:
47								A. CARDS
48								B. PAPER TAPE
49								5. PROGRAM EXECUTION TIME FOR 8K MEMORY SANS PRINTOUT:
50								A. CYCLE OF TESTS 1-5 = 30 SECONDS *C
51								B. CYCLE OF TEST 10 = 15 MILLISECONDS
52								C. CYCLE OF TEST 11 = 15 SECONDS
53								D. CYCLE TIME IN SECONDS FOR TEST 1 = *C
54								((NO. CORE LOCATIONS = 4000)/1000)(SQUARED)/4 *C
55								
56								THIS IS 67 MIN. FOR 128K MEMORY
57								*
58								*
59								* OPERATING INSTRUCTIONS:
60								*
61								GENERAL:
62								MET/5 CONSISTS OF SEVEN TESTS. TESTS 1 THROUGH 5, OR ANY
63								COMBINATION THEREOF, MAY BE CYCLED IN SEQUENCE OR MAY BE
64								REPETITIVELY EXECUTED AS INDIVIDUAL TESTS. TEST 10 AND 11
65								ARE STAND ALONE TESTS WHICH MAY NOT BE EXECUTED IN COMBI-
66								NATION WITH OTHER TESTS, SUBSEQUENT TO ERROR DETECTION,
67								ALL PERTINENT ERROR INFORMATION IS DISPLAYED VIA KEYBOARD
68								PRINTER AND THE PROGRAM WILL HALT UNLESS PROGRAM CONTINU-
69								ATION IS SPECIFIED BY THE OPERATOR (SEE OPTIONS). THE
70								PROGRAM MAY BE FORCED TO LOOP ON THE ERROR PRODUCING TEST
71								CASE WITH OR WITHOUT THE ERROR DISPLAY (SEE OPTIONS).
72								*

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
73				*		LOADING INSTRUCTIONS:		
74				*		INITIAL PANEL SWITCH SETTINGS ARE AS FOLLOWS:		
75				*		CONTROL MODE	-LOCAL	
76				*		WATCHDOG TIMER	-NORMAL	
77				*		INTERLEAVE SELECT	-DIAGNOSTIC	
78				*		AUDIO	-OFF	
79				*		PARITY ERROR MODE	-CONT.	
80				*		SENSE SWITCHES	-OFF	
81				*		AFTER THE INITIAL SWITCH SETTINGS HAVE BEEN COMPLETED,		
82				*		PROCEED WITH THE STANDARD LOADING PROCEDURE AS OUTLINED IN		
83				*		THE SIGMA 577 RELOCATABLE DIAGNOSTIC LOADER SDS 900927A-1.		
84				*		SUBSEQUENT TO A SUCCESSFUL PROGRAM LOAD THE PROGRAM WILL		
85				*		TYPE THE MEMORY SIZE OF THE SYSTEM AND WILL REQUEST THE *C		
86				*		SELECTION OF A SMALLER MEMORY CONFIGURATION IF DESIRED. *C		
87				*		THE PROGRAM WILL THEN PRINT THE SELECTED I/O DEVICE *C		
88				*		ADDRESS AND WILL REQUEST THE ADDRESS OF THE COMMUNICA- *C		
89				*		TION DEVICE FOR ERROR & SUCCESS REPORTS (01. POK KSM, *C		
90				*		02. FOR LINE PRINTER). FOLLOWING THIS FINAL INPUT, THE *C		
91				*		PROGRAM WILL AUTOMATICALLY BEGIN THE TEST 1.5 CYCLE. *C		
92				*				
93				*				
94				*		SUCCESS INDICATIONS:		
95				*		A PASS COUNTER IS MAINTAINED AND MAY BE EXAMINED VIA THE		
96				*		KEYBOARD PRINTER BY SETTING SENSE SWITCH 3 (SEE OPTIONS).		
97				*		THE AGGREGATE PASS COUNT IS ALSO DISPLAYED WITH EACH ERROR		
98				*		PRINTOUT. THE PASS COUNTER IS RESET FOLLOWING PROGRAM		
99				*		RESTART OR RE-INITIALIZATION.		
100				*				
101				*		ERROR INDICATIONS AND PROCEDURES:		
102				*		BECAUSE OF THE VARIED NATURE OF THE TESTS, VALID ERROR		
103				*		INFORMATION IS TEST DEPENDENT AS INDICATED BY THE FOLLOW-		
104				*		ING LIST OF ERROR DISPLAYS:		
105				*		1. TEST NUMBER (ALL TESTS)		
106				*		2. ERROR CODE (ALL TESTS)		
107				*		3. PASS COUNT (ALL TESTS)		
108				*		4. ERROR COUNT (ALL TESTS)		
109				*		5. FAILING ADDRESS (ALL TESTS EXCEPT TEST 10)		
110				*		6. EXPECTED CONTENTS (ALL TESTS EXCEPT TEST 10)		
111				*		7. ACTUAL CONTENTS (ALL TESTS EXCEPT TEST 10)		
112				*		8. FAILING INSTRUCTIONS ADDRESS SEQUENCE (TESTS 1,2,3)		
113				*		ERROR CODES:		
114				*		01. DATA IN FAILING ADDRESS HAS BEEN ALTERED		
115				*		02. ADDRESSING ERROR DURING INSTRUCTION SEQUENCE		
116				*		03. PARITY ERROR DURING PARTIAL WRITE (STB)		
117				*		04. INCORRECT DATA STORAGE DURING PARTIAL WRITE		
118				*		05. PARITY ERROR DURING READ OPERATION		
119				*		06. I/O HUNG DUE TO GENERATION OF NEITHER PE OR POK		
120				*		07. UNUSUAL END I/O INTERRUPT (STATUS BITS IN K1)		
121				*		08. INSTRUCTION IN FAILING ADDRESS HAS BEEN ALTERED		
122				*				
123				*				
124				*		OPTIONS:		
125				*		1. SHORT LOOP:		
126				*		SET SENSE SWITCH 1 TO LOOP ON CURRENTLY EXECUTED TEST		
127				*		CASE, BYPASSING ERROR AND REPORTING ROUTINES. RESET		
128				*		SENSE SWITCH 1 FOR NORMAL OPERATION.		
129				*		2. LONG LOOP:		
130				*		SET SENSE SWITCH 2 TO LOOP ON CURRENTLY EXECUTED TEST		
131				*		CASE AND PERTINENT ERROR REPORTS. RESET SENSE SWITCH		
132				*		2 FOR NORMAL OPERATION.		
133				*		3. REPORT:		
134				*		SET SENSE SWITCH 3 TO REPORT THE CONCLUSION OF EACH		
135				*		TEST AND TO DISPLAY THE CURRENT PASS AND ERROR		
136				*		COUNTER VALUES.		
137				*		4. NO HALT ON ERROR:		
138				*		SET SENSE SWITCH 4 TO BYPASS THE NORMAL ERROR HALT		
139				*		FOLLOWING EACH ERROR PRINTOUT.		
140				*		5. RESTART:		
141				*		ACTIVATE THE PCP INTERRUPT TO RESET THE COUNTERS,		
142				*		RESTART THE PROGRAM, AND EXERCISE THE TEST SELECTION		
143				*		OPTION. THE REQUEST, 'SELECTED TESTS = 1', WILL BE		

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
144				*				DISPLAYED VIA KEYBOARD PRINTER. A KEYBOARD ENTRY LISTING THE DESIRED TESTS, SEPARATED BY COMMAS AND TERMINATED BY A PERIOD WILL RESTART THE PROGRAM CYCLE. 'ALL.' MAY BE ENTERED IF ALL 5 TESTS ARE TO BE EXECUTED. 6. REINITIALIZE: SET COMPUTE SWITCH TO IDLE, DEPRESS CPU RESET, SET COMPUTE SWITCH TO STEP, THEN TO RUN TO RESTART PROGRAM FROM POINT OF PROGRAM LOAD.
145				*				
146				*				
147				*				
148				*				
149				*				
150				*				
151				*				
152				*				
153					SYSTEM	SIG7P		
154					INFORM	FORM	16,16	
155		00000000		R0	EWU	X'0'		
156		00000001		R1	EWU	X'1'		
157		00000002		R2	EWU	X'2'		
158		00000003		R3	EWU	X'3'		
159		00000004		R4	EWU	X'4'		
160		00000005		R5	EWU	X'5'		
161		00000006		R6	EWU	X'6'		
162		00000007		R7	EWU	X'7'		
163		00000008		R8	EWU	X'8'		
164		00000009		R9	EWU	X'9'		
165		0000000A		R10	EWU	X'A'		
166		0000000B		R11	EWU	X'B'		
167		0000000C		R12	EWU	X'C'		
168		0000000D		R13	EWU	X'D'		
169		0000000E		R14	EWU	X'E'		
170		0000000F		R15	EWU	X'F'		
171		00000000		OUTFORM	CNAME			
172					PRDC			*C
173					BOUND	8		THIS PROC IS TO GENERATE *C
174				LF	GEN,8,24,8,24	AF(1),AF(2),AF(3),AF(4)	OUTPUT OR INPUT	COMMAND DOUBLE WORDS FOR *C
175					PEND			*C
176	01	00040			BRG	X'40'		
177	01	00040						
178				*				
179				*	TRAP LOCATIONS			
180				*				
181				*				
182	01	00040	0F40058A		XPSD,4	NB8BP		
183	01	00041	0F0005C8		XPSD,0	UNIMP		
184	01	00042	0F0005CC		XPSD,0	STACK		
185	01	00043	0F0005D0		XPSD,0	BFLB		
186	01	00044	0F0005D4		XPSD,0	FLBAT		
187	01	00045	0F0005D8		XPSD,0	DEC		
188	01	00046	0F0005DC		XPSD,0	DBGTIME		
189	01	00047	0F0005E0		XPSD,0	TRAPUN		
190	01	00048	0F0005E4		XPSD,0	CALL1		
191	01	00049	0F0005E8		XPSD,0	CALL2		
192	01	0004A	0F0005EC		XPSD,0	CALL3		
193	01	0004B	0F0005F0		XPSD,0	CALL4		
194	01	0004C	0F0005E0		XPSD,0	TRAPUN		
195	01	0004D	0F0005E0		XPSD,0	TRAPUN		
196	01	0004E	0F0005E0		XPSD,0	TRAPUN		
197	01	0004F	0F0005E0		XPSD,0	TRAPUN		
198				*				
199				*	INTERRUPT LOCATIONS			
200				*				
201				*				
202				*				
203	01	00050	0F0005F4		XPSD,0	PBWB8		
204	01	00051	0F0005F8		XPSD,0	PBWBFF		
205	01	00052	330005FC		MTW,0	PULSE1		
206	01	00053	330005FD		MTW,0	PULSE2		
207	01	00054	330005FE		MTW,0	PULSE3		
208	01	00055	330005FF		MTW,0	PULSE4		
209	01	00056	0F000600		XPSD,0	MEMPAR		
210	01	00057	0F000604		XPSD,0	INTUN		
211	01	00058	0F000608		XPSD,0	CBUNT1		
212	01	00059	0F00060C		XPSD,0	CBUNT2		
213	01	0005A	0F000610		XPSD,0	CBUNT3		

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL O P I G	LABEL	OPERATION	OPERAND	COMMENTS
214	01	0005B	0F000614			XPSD,0	COUNT4	
215	01	0005C	0F000618			XPSD,0	INPUT	
216	01	0005D	0F00033E			XPSD,0	INT	
217	01	0005E	0F000604			XPSD,0	INTUN	
218	01	0005F	0F000604			XPSD,0	INTUN	
219	01	00060	0F00061C			XPSD,0	EXTERN	
220	01	00061	0F00061C			XPSD,0	EXTERN	
221	01	00062	0F00061C			XPSD,0	EXTERN	
222	01	00063	0F00061C			XPSD,0	EXTERN	
223	01	00064	0F00061C			XPSD,0	EXTERN	
224	01	00065	0F00061C			XPSD,0	EXTERN	
225	01	00066	0F00061C			XPSD,0	EXTERN	
226	01	00067	0F00061C			XPSD,0	EXTERN	
227	01	00068	0F00061C			XPSD,0	EXTERN	
228	01	00069	0F00061C			XPSD,0	EXTERN	
229	01	0006A	0F00061C			XPSD,0	EXTERN	
230	01	0006B	0F00061C			XPSD,0	EXTERN	
231	01	0006C	0F00061C			XPSD,0	EXTERN	
232	01	0006D	0F00061C			XPSD,0	EXTERN	
233	01	0006E	0F00061C			XPSD,0	EXTERN	
234	01	0006F	0F00061C			XPSD,0	EXTERN	
235	01	00070	0F00061C			XPSD,0	EXTERN	
236	01	00071	0F00061C			XPSD,0	EXTERN	
237	01	00072	0F00061C			XPSD,0	EXTERN	
238	01	00073	0F00061C			XPSD,0	EXTERN	
239	01	00074	0F00061C			XPSD,0	EXTERN	
240	01	00075	0F00061C			XPSD,0	EXTERN	
241	01	00076	0F00061C			XPSD,0	EXTERN	
242	01	00077	0F00061C			XPSD,0	EXTERN	
243	01	00078	0F00061C			XPSD,0	EXTERN	
244	01	00079	0F00061C			XPSD,0	EXTERN	
245	01	0007A	0F00061C			XPSD,0	EXTERN	
246	01	0007B	0F00061C			XPSD,0	EXTERN	
247	01	0007C	0F00061C			XPSD,0	EXTERN	
248	01	0007D	0F00061C			XPSD,0	EXTERN	
249	01	0007E	0F00061C			XPSD,0	EXTERN	
250	01	0007F	0F00061C			XPSD,0	EXTERN	
251	01	00080	0F00061C			XPSD,0	EXTERN	
252	01	00081	0F00061C			XPSD,0	EXTERN	
253	01	00082	0F00061C			XPSD,0	EXTERN	
254	01	00083	0F00061C			XPSD,0	EXTERN	
255	01	00084	0F00061C			XPSD,0	EXTERN	
256	01	00085	0F00061C			XPSD,0	EXTERN	
257	01	00086	0F00061C			XPSD,0	EXTERN	
258	01	00087	0F00061C			XPSD,0	EXTERN	
259	01	00088	0F00061C			XPSD,0	EXTERN	
260	01	00089	0F00061C			XPSD,0	EXTERN	
261	01	0008A	0F00061C			XPSD,0	EXTERN	
262	01	0008B	0F00061C			XPSD,0	EXTERN	
263	01	0008C	0F00061C			XPSD,0	EXTERN	
264	01	0008D	0F00061C			XPSD,0	EXTERN	
265	01	0008E	0F00061C			XPSD,0	EXTERN	
266	01	0008F	0F00061C			XPSD,0	EXTERN	
267	01	00090	0F00061C			XPSD,0	EXTERN	
268	01	00091	0F00061C			XPSD,0	EXTERN	
269	01	00092	0F00061C			XPSD,0	EXTERN	
270	01	00093	0F00061C			XPSD,0	EXTERN	
271	01	00094	0F00061C			XPSD,0	EXTERN	
272	01	00095	0F00061C			XPSD,0	EXTERN	
273	01	00096	0F00061C			XPSD,0	EXTERN	
274	01	00097	0F00061C			XPSD,0	EXTERN	
275	01	00098	0F00061C			XPSD,0	EXTERN	
276	01	00099	0F00061C			XPSD,0	EXTERN	
277	01	0009A	0F00061C			XPSD,0	EXTERN	
278	01	0009B	0F00061C			XPSD,0	EXTERN	
279	01	0009C	0F00061C			XPSD,0	EXTERN	
280	01	0009D	0F00061C			XPSD,0	EXTERN	
281	01	0009E	0F00061C			XPSD,0	EXTERN	
282	01	0009F	0F00061C			XPSD,0	EXTERN	
283	01	000A0	0F00061C			XPSD,0	EXTERN	
284	01	000A1	0F00061C			XPSD,0	EXTERN	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
285	01	000A2	0F00061C			XPSD,0	EXTERN	
286	01	000A3	0F00061C			XPSD,0	EXTERN	
287	01	000A4	0F00061C			XPSD,0	EXTERN	
288	01	000A5	0F00061C			XPSD,0	EXTERN	
289	01	000A6	0F00061C			XPSD,0	EXTERN	
290	01	000A7	0F00061C			XPSD,0	EXTERN	
291	01	000A8	0F00061C			XPSD,0	EXTERN	
292	01	000A9	0F00061C			XPSD,0	EXTERN	
293	01	000AA	0F00061C			XPSD,0	EXTERN	
294	01	000AB	0F00061C			XPSD,0	EXTERN	
295	01	000AC	0F00061C			XPSD,0	EXTERN	
296	01	000AD	0F00061C			XPSD,0	EXTERN	
297	01	000AE	0F00061C			XPSD,0	EXTERN	
298	01	000AF	0F00061C			XPSD,0	EXTERN	
299	01	000B0	0F00061C			XPSD,0	EXTERN	
300	01	000B1	0F00061C			XPSD,0	EXTERN	
301	01	000B2	0F00061C			XPSD,0	EXTERN	
302	01	000B3	0F00061C			XPSD,0	EXTERN	
303	01	000B4	0F00061C			XPSD,0	EXTERN	
304	01	000B5	0F00061C			XPSD,0	EXTERN	
305	01	000B6	0F00061C			XPSD,0	EXTERN	
306	01	000B7	0F00061C			XPSD,0	EXTERN	
307	01	000B8	0F00061C			XPSD,0	EXTERN	
308	01	000B9	0F00061C			XPSD,0	EXTERN	
309	01	000BA	0F00061C			XPSD,0	EXTERN	
310	01	000BB	0F00061C			XPSD,0	EXTERN	
311	01	000BC	0F00061C			XPSD,0	EXTERN	
312	01	000BD	0F00061C			XPSD,0	EXTERN	
313	01	000BE	0F00061C			XPSD,0	EXTERN	
314	01	000BF	0F00061C			XPSD,0	EXTERN	
315	01	000C0	0F00061C			XPSD,0	EXTERN	
316	01	000C1	0F00061C			XPSD,0	EXTERN	
317	01	000C2	0F00061C			XPSD,0	EXTERN	
318	01	000C3	0F00061C			XPSD,0	EXTERN	
319	01	000C4	0F00061C			XPSD,0	EXTERN	
320	01	000C5	0F00061C			XPSD,0	EXTERN	
321	01	000C6	0F00061C			XPSD,0	EXTERN	
322	01	000C7	0F00061C			XPSD,0	EXTERN	
323	01	000C8	0F00061C			XPSD,0	EXTERN	
324	01	000C9	0F00061C			XPSD,0	EXTERN	
325	01	000CA	0F00061C			XPSD,0	EXTERN	
326	01	000CB	0F00061C			XPSD,0	EXTERN	
327	01	000CC	0F00061C			XPSD,0	EXTERN	
328	01	000CD	0F00061C			XPSD,0	EXTERN	
329	01	000CE	0F00061C			XPSD,0	EXTERN	
330	01	000CF	0F00061C			XPSD,0	EXTERN	
331	01	000D0	0F00061C			XPSD,0	EXTERN	
332	01	000D1	0F00061C			XPSD,0	EXTERN	
333	01	000D2	0F00061C			XPSD,0	EXTERN	
334	01	000D3	0F00061C			XPSD,0	EXTERN	
335	01	000D4	0F00061C			XPSD,0	EXTERN	
336	01	000D5	0F00061C			XPSD,0	EXTERN	
337	01	000D6	0F00061C			XPSD,0	EXTERN	
338	01	000D7	0F00061C			XPSD,0	EXTERN	
339	01	000D8	0F00061C			XPSD,0	EXTERN	
340	01	000D9	0F00061C			XPSD,0	EXTERN	
341	01	000DA	0F00061C			XPSD,0	EXTERN	
342	01	000DB	0F00061C			XPSD,0	EXTERN	
343	01	000DC	0F00061C			XPSD,0	EXTERN	
344	01	000DD	0F00061C			XPSD,0	EXTERN	
345	01	000DE	0F00061C			XPSD,0	EXTERN	
346	01	000DF	0F00061C			XPSD,0	EXTERN	
347	01	000E0	0F00061C			XPSD,0	EXTERN	
348	01	000E1	0F00061C			XPSD,0	EXTERN	
349	01	000E2	0F00061C			XPSD,0	EXTERN	
350	01	000E3	0F00061C			XPSD,0	EXTERN	
351	01	000E4	0F00061C			XPSD,0	EXTERN	
352	01	000E5	0F00061C			XPSD,0	EXTERN	
353	01	000E6	0F00061C			XPSD,0	EXTERN	
354	01	000E7	0F00061C			XPSD,0	EXTERN	
355	01	000E8	0F00061C			XPSD,0	EXTERN	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
356	01	000E9	0F00061C			XPSD,0	EXTERN	
357	01	000EA	0F00061C			XPSD,0	EXTERN	
358	01	000EB	0F00061C			XPSD,0	EXTERN	
359	01	000EC	0F00061C			XPSD,0	EXTERN	
360	01	000ED	0F00061C			XPSD,0	EXTERN	
361	01	000EE	0F00061C			XPSD,0	EXTERN	
362	01	000EF	0F00061C			XPSD,0	EXTERN	
363	01	000F0	0F00061C			XPSD,0	EXTERN	
364	01	000F1	0F00061C			XPSD,0	EXTERN	
365	01	000F2	0F00061C			XPSD,0	EXTERN	
366	01	000F3	0F00061C			XPSD,0	EXTERN	
367	01	000F4	0F00061C			XPSD,0	EXTERN	
368	01	000F5	0F00061C			XPSD,0	EXTERN	
369	01	000F6	0F00061C			XPSD,0	EXTERN	
370	01	000F7	0F00061C			XPSD,0	EXTERN	
371	01	000F8	0F00061C			XPSD,0	EXTERN	
372	01	000F9	0F00061C			XPSD,0	EXTERN	
373	01	000FA	0F00061C			XPSD,0	EXTERN	
374	01	000FB	0F00061C			XPSD,0	EXTERN	
375	01	000FC	0F00061C			XPSD,0	EXTERN	
376	01	000FD	0F00061C			XPSD,0	EXTERN	
377	01	000FE	0F00061C			XPSD,0	EXTERN	
378	01	000FF	0F00061C			XPSD,0	EXTERN	
379	01	00100	0F00061C			XPSD,0	EXTERN	
380	01	00101	0F00061C			XPSD,0	EXTERN	
381	01	00102	0F00061C			XPSD,0	EXTERN	
382	01	00103	0F00061C			XPSD,0	EXTERN	
383	01	00104	0F00061C			XPSD,0	EXTERN	
384	01	00105	0F00061C			XPSD,0	EXTERN	
385	01	00106	0F00061C			XPSD,0	EXTERN	
386	01	00107	0F00061C			XPSD,0	EXTERN	
387	01	00108	0F00061C			XPSD,0	EXTERN	
388	01	00109	0F00061C			XPSD,0	EXTERN	
389	01	0010A	0F00061C			XPSD,0	EXTERN	
390	01	0010B	0F00061C			XPSD,0	EXTERN	
391	01	0010C	0F00061C			XPSD,0	EXTERN	
392	01	0010D	0F00061C			XPSD,0	EXTERN	
393	01	0010E	0F00061C			XPSD,0	EXTERN	
394	01	0010F	0F00061C			XPSD,0	EXTERN	
395	01	00110	0F00061C			XPSD,0	EXTERN	
396	01	00111	0F00061C			XPSD,0	EXTERN	
397	01	00112	0F00061C			XPSD,0	EXTERN	
398	01	00113	0F00061C			XPSD,0	EXTERN	
399	01	00114	0F00061C			XPSD,0	EXTERN	
400	01	00115	0F00061C			XPSD,0	EXTERN	
401	01	00116	0F00061C			XPSD,0	EXTERN	
402	01	00117	0F00061C			XPSD,0	EXTERN	
403	01	00118	0F00061C			XPSD,0	EXTERN	
404	01	00119	0F00061C			XPSD,0	EXTERN	
405	01	0011A	0F00061C			XPSD,0	EXTERN	
406	01	0011B	0F00061C			XPSD,0	EXTERN	
407	01	0011C	0F00061C			XPSD,0	EXTERN	
408	01	0011D	0F00061C			XPSD,0	EXTERN	
409	01	0011E	0F00061C			XPSD,0	EXTERN	
410	01	0011F	0F00061C			XPSD,0	EXTERN	
411	01	00120	0F00061C			XPSD,0	EXTERN	
412	01	00121	0F00061C			XPSD,0	EXTERN	
413	01	00122	0F00061C			XPSD,0	EXTERN	
414	01	00123	0F00061C			XPSD,0	EXTERN	
415	01	00124	0F00061C			XPSD,0	EXTERN	
416	01	00125	0F00061C			XPSD,0	EXTERN	
417	01	00126	0F00061C			XPSD,0	EXTERN	
418	01	00127	0F00061C			XPSD,0	EXTERN	
419	01	00128	0F00061C			XPSD,0	EXTERN	
420	01	00129	0F00061C			XPSD,0	EXTERN	
421	01	0012A	0F00061C			XPSD,0	EXTERN	
422	01	0012B	0F00061C			XPSD,0	EXTERN	
423	01	0012C	0F00061C			XPSD,0	EXTERN	
424	01	0012D	0F00061C			XPSD,0	EXTERN	
425	01	0012E	0F00061C			XPSD,0	EXTERN	
426	01	0012F	0F00061C			XPSD,0	EXTERN	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
427	01	00130	0F00061C			XPSD,0	EXTERN	
428	01	00131	0F00061C			XPSD,0	EXTERN	
429	01	00132	0F00061C			XPSD,0	EXTERN	
430	01	00133	0F00061C			XPSD,0	EXTERN	
431	01	00134	0F00061C			XPSD,0	EXTERN	
432	01	00135	0F00061C			XPSD,0	EXTERN	
433	01	00136	0F00061C			XPSD,0	EXTERN	
434	01	00137	0F00061C			XPSD,0	EXTERN	
435	01	00138	0F00061C			XPSD,0	EXTERN	
436	01	00139	0F00061C			XPSD,0	EXTERN	
437	01	0013A	0F00061C			XPSD,0	EXTERN	
438	01	0013B	0F00061C			XPSD,0	EXTERN	
439	01	0013C	0F00061C			XPSD,0	EXTERN	
440	01	0013D	0F00061C			XPSD,0	EXTERN	
441	01	0013E	0F00061C			XPSD,0	EXTERN	
442	01	0013F	0F00061C			XPSD,0	EXTERN	
443								
444								
445								
446								
447								
448								
449								
450								
451	01	00140	120008BE		INITIAL	LD,R0	DISARMIB	SET UP REINITIALIZATION BRANCH *C
452	01	00141	15000026	A		STD,R0	X'26'	
453	01	00142	120008BC			LD,R0	0HINIT	*C
454	01	00143	15000028	A		STD,R0	X'28'	*C
455	01	00144	124002B6			LD,R4	REGSAVE1	INITIALIZE PUSH AND PULL *C
456	01	00145	154002B8			STD,R4	REGSAVE	COMMAND DOUBLE WORD *C
457	01	00146	22200467			LI,R2	DA(NEWLINE)	*C
458	01	00147	35200264			STW,R2	I(NEWLINE)	*C
459	01	00148	22000001	A		LI,R0	1	INITIAL COMMUNICATIONS VIA KSK *C
460	01	00149	350008B8			STW,R0	KSK	SAVE KSK ADDRESS *C
461	01	0014A	323008B8			LW,R3	KSK	OUTPUT HEADING TO THE KSK *C
462	01	0014B	35000810			STW,R0	DEVNO	*B
463	01	0014C	320008FC			LW,R0	XPSD*0	RESTORE TRAP FOR DETERMINING *C
464	01	0014D	35000040	A		STW,R0	X'40'	MEMORY SIZE. *C
465	01	0014E	32000673			LW,R0	HEADFORM	OUTPUT PROG. AND MANUAL NO. *C
466	01	0014F	6AF00250			BAL,R15	OUTPUT	MANUAL NO. *C
467	01	00150	6AF0016C			BAL,R15	CONSIZE	DETERMINE MEMORY CONFIGURATION
468	01	00151	6AF001AB			BAL,R15	DEVICES	DETERMINE AVAILABLE OUTPUT DEVICES
469	01	00152	32800958			LW,R8	*X'F000000'	INITIALIZE FOR EXECUTION OF ALL TESTS
470	01	00153	35800830			STW,R8	EXTSTS	
471	01	00154	6C100010	A		RD,1	X'10'	RESET MEMORY FAILURE INDICATIONS *C
472	01	00155	22800830	A		LI,R8	X'830'	ARM & ENABLE PARITY, I/O, & PCP
473	01	00156	60801200	A		WD,R8	X'1200'	INTERRUPTS
474	01	00157	32300810			LW,R3	DEVNO	OUT PUT TO SELECTED DEVICE *C
475	01	00158	313008B8			CH,R3	KSK	NO HEADING WILL BE OUTPUT TO *C
476	01	00159	693001FF			BNE	CONTROL	THE LINE PRINTER FROM HERE *C
477	01	0015A	222FFFFD	A		LI,R2	=3	TYPE HEADING *C
478	01	0015B	32040677			LW,R0	HEADFORM+4,R2	OUTPUT HEADING *C
479	01	0015C	6AF00250			BAL,R15	OUTPUT	
480	01	0015D	6520015B			BIK,R2	=-2	
481	01	0015E	680001FF			B	CONTROL	
482	01	0015F	CF00083E		RESTART1	HI,0	*HISPIB	
483	01	00160	22000000	A		LI,R0	0	*C
484	01	00161	3500084A			STW,R0	PARLOC	SET UP SPURIOUS PARITY INTERRUPT *C
485	01	00162	35000902			STW,R0	LINES	*C
486	01	00163	32000959			LW,R0	*X'01000000'	RESTORE COMMAND DOUBLE *C
487	01	00164	35000903			STW,R0	CDWORDER	WORD FOR TEST 3 *C
488	01	00165	124002B6			LD,R4	REGSAVE1	SETUP DOUBLE WORD FOR PUSH *C
489	01	00166	154002B8			STD,R4	REGSAVE	AND PULL INSTRUCTIONS. *C
490	01	00167	6AF001CB			BAL,R15	TESTSEL	REQUEST TEST SELECTION
491	01	00168	680001FF			B	CONTROL	
492						BOUND	8	
493	01	0016A	0000015F		RESTART	DATA	RESTART1,0	*C
494	01	0016B	00000000	A				
495								
496								

* THE FOLLOWING ROUTINE INITIALIZES THE PROGRAM, ACQUIRES A DETERMINATION OF MEMORY SIZE AND AVAILABLE OUTPUT DEVICES. THE RESTART ENTRY IS ENTERED VIA THE PCP INTERRUPT AND IS UTILIZED FOR THE SELECTION OF TESTS TO BE EXECUTED IN A CYCLIC MANNER.

* THE FOLLOWING ROUTINE DETERMINES AND STORES THE HIGHEST IMPLEMENTED MEMORY ADDRESS. MEMORY ADDRESSING TO THAT LOCATION IS ASSUMED TO BE

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
497								* CONTIGUOUS. THE HIGHEST IMPLEMENTED ADDRESS IS PRINTED VIA KSK AND *C
498								* THE REQUEST IS MADE FOR LESSER TEST MEMORY SIZE, IF OPERATOR *C
499								* RESPONSE IS A PERIOD THE ENTIRE IMPLEMENTED MEMORY WILL BE TESTED. *C
500								* IF A REDUCTION OF TEST MEMORY IS DESIRED, ENTER THE DESIRED CONFIG. *C
501								* URATION (8K.-128K.) VIA KSK. *C
502								*
503								*
504								*
505	01	0016C	35F001AA		CGRSIZE	STW,R15	SIZRET	
506	01	0016D	3200095A			LW,R0	*X'1FFFF'	MAXIMUM POSSIBLE ADDRESS
507	01	0016E	B2800000	A		LW,R8	*R0	
508	01	0016F	35000846			STW,R0	MAXCOR	STORE HIGHEST ADDRESS
509	01	00170	22100001	A		LI,R1	1	DETERMINE NO. OF TEST BLOCKS
510	01	00171	22801FFF	A		LI,R8	X'1FFF'	MAX ADDRESS FOR 2 BLOCKS
511	01	00172	31800846			CW,R8	MAXCOR	
512	01	00173	68300177			BE	*+4	
513	01	00174	20801000	A		AI,R8	X'1000'	MAX ADDRESS FOR NEXT BLOCK
514	01	00175	65100176			BIK,R1	*+1	INCREMENT BLOCK COUNTER
515	01	00176	68000172			B	*+4	
516	01	00177	35100848			STW,R1	NOBLK	SAVE BLOCK COUNT
517	01	00178	328207F0			LW,R8	DECHEX,R1	FETCH EBCDIC CODE FOR MEMORY SIZE *C
518	01	00179	25800078	A		SLS,R8	=8	ELIMINATE HEX K EQUIVALENT *C
519	01	0017A	4980095B			BR,R8	*X'14000000'	ADD LEADING BLANK *C
520	01	0017B	35800714			STW,R8	MEMSTAT+5	INSERT INTO MESSAGE *C
521	01	0017C	323008B8		SIZOUT	LW,R3	KSK	OUTPUT TO THE KSK *C
522	01	0017D	222FFFFE	A		LI,R2	=2	
523	01	0017E	32040673			LW,R0	FORMEM+2,R2	
524	01	0017F	6AF00250			BAL,R15	OUTPUT	PRINT MEMORY SIZE *C
525	01	00180	6520017E			BIK,R2	*+2	
526	01	00181	32E00680		NEWMEM	LW,R14	SELFORM	
527	01	00182	6AF00234			BAL,R15	KDREAD	FETCH OPTIONAL MEMORY SIZE *C
528	01	00183	6800017C			B	SIZOUT	ERROR RETURN FROM KDREAD
529	01	00184	25E00068	A		SLS,R14	=24	MASK & RIGHT JUSTIFY CHAR COUNT *C
530	01	00185	21E00000	A		CI,R14	0	
531	01	00186	E83001AA			BE	*SIZRET	NO CHANGE IN MEMORY SIZE *C
532	01	00187	21E00004	A		CI,R14	4	
533	01	00188	69200181			BG	NEWMEM	EXCESS CHARACTER INPUT *C
534	01	00189	25E00003	A		SLS,R14	3	1 CHAR SHIFT = 8 BITS *C
535	01	0018A	49E0095C			BR,R14	*X'100'	ADD DOUBLE LOGICAL SHIFT CODE *C
536	01	0018B	3280095D			LW,R8	*X'140404040'	LEADING BLANKS *C
537	01	0018C	A580000E	A		SLD,R8	*R14	SHIFT EBCDIC TO KB RIGHT JUSTIFIED *C
538	01	0018D	4B80095E			AND,R8	*X'FFFFFF00'	MASK OUT K *C
539	01	0018E	222FFFFE0	A		LI,R2	*32	
540	01	0018F	31840810		TESTAB	CW,R8	DECHEX+32,R2	SEARCH FOR NEW MEMORY SIZE *C
541	01	00190	68300194			BE	KFIG	EUREKA *C
542	01	00191	20800001	A		AI,R8	1	INCREMENT LAST BYTE *C
543	01	00192	6520018F			BIK,R2	TESTAB	
544	01	00193	68000181			B	NEWMEM	NOT IN TABLE *C
545	01	00194	4B80095F		KFIG	AND,R8	*X'1F'	MASK NUMBER OF TEST BLOCKS *C
546	01	00195	31800848			CW,R8	NOBLK	
547	01	00196	6920017C			BG	SIZOUT	
548	01	00197	35800848			STW,R8	NOBLK	
549	01	00198	2580000C	A		SLS,R8	12	CREATE MAX TEST ADDRESS *C
550	01	00199	49800960			BR,R8	*X'FFFF'	
551	01	0019A	31800960			CW,R8	*X'FFFF'	
552	01	0019B	692001A0			BG	NEWMAX	4K SELECTED = INSUFFICIENT *C
553	01	0019C	3200067B			LW,R0	SCORFORM	
554	01	0019D	323008B8			LW,R3	KSK	OUTPUT TO THE KSK *C
555	01	0019E	6AF00250			BAL,R15	OUTPUT	
556	01	0019F	68000181			B	NEWMEM	
557	01	001A0	35800846		NEWMAX	STW,R8	MAXCOR	
558	01	001A1	E80001AA			B	*SIZRET	EXIT ROUTINE *C
559	01	001A2	38000961		NBADD	SW,R0	*X'1000'	PARITY INTERRUPT RETURN *C
560	01	001A3	31000960			CW,R0	*X'FFFF'	MORE THAN 4K AVAILABLE *C
561	01	001A4	6920016E			BG	CGRSIZE+2	YES
562	01	001A5	323008B8			LW,R3	KSK	OUTPUT TO THE KSK *C
563	01	001A6	3200067B			LW,R0	SCORFORM	
564	01	001A7	6AF00250			BAL,R15	OUTPUT	INFORM OPERATOR *C
565	01	001A8	2E000000	A		WAIT		
566	01	001A9	0E00016A			LPSD,0	RESTART	*C
567					*			

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
568					*			
569					*			
570	01	001AA	00000000	A	SIZRET	DATA	0	
571					*			
572					*			
573					* THE FOLLOWING ROUTINE DETERMINES THE AVAILABILITY OF OUTPUT DEVICES			
574					* IN THE FOLLOWING PRIORITY: RAD, MAG TAPE, LINE PRINTER, *C			
575					* PAPER TAPE PUNCH, KEYBOARD PRINTER, THE HIGHEST PRIORITY ADDRESS			
576					* AVAILABLE IS THEN STORED FOR USE IN TESTS 3 AND 5.			
577					* CHANNEL ADDRESSES MAY BE FROM 0-7. DEVICE ADDRESSES MUST BE 02 FOR *C			
578					* LINE PRINTER, F0 FOR RAD, B0 FOR MAG TAPE, 05 FOR PAPER TAPE, OR 01 *C			
579					* FOR KEYBOARD PRINTER, THE OPERATOR IS REQUIRED TO SUPPLY THE ADDRESS *C			
580					* OF THE DEVICE SELECTED FOR PROGRAM OUTPUT COMMUNICATIONS. *C			
581					* THE KEYBOARD PRINTER IS NOT RECOMMENDED AS THE ONLY OUTPUT *C			
582					* DEVICE.			
583					*			
584					*			
585	01	001AB	35F001CA		DEVICES	STW,R15	DEVRET	
586	01	001AC	221FFFFB	A		LI,R1	*5	5 OUTPUT DEVICES
587	01	001AD	22200008	A	DEVADD	LI,R2	8	8 CHANNELS POSSIBLE
588	01	001AE	32920816		DEVCHAN	LW,R9	DEVTAB+5,R1	
589	01	001AF	CD000009	A		TI0,0	*R9	
590	01	00180	68C00186			BCH,12	HISPEDV	ADDRESS RECOGNITION
591	01	00181	20900100	A		A1,R9	X'100'	TRY NEXT CHANNEL, SAME DEVICE
592	01	00182	642001AF			BDR,R2	DEVCHAN+1	
593	01	00183	651001AD			BIR,R1	DEVADD	NO RECOGNITION FOR CURRENT DEVICE
594	01	00184	2E000000	A		WAIT		NO DEVICES RECOGNIZED
595	01	00185	68000140			B	INITIAL	
596	01	00186	35100816		HISPEDV	STW,R1	DEVTABIX	
597	01	00187	320208CA			LW,R0	CDWTAB+10,R1	LOAD SELECTED DEVICE WRITE ORDER
598	01	00188	25000018	A		SLS,R0	24	POSITION
599	01	00189	75000914			STB,R0	SCANCDW	STORE ORDER IN SCAN DATA CHAIN
600	01	0018A	3590083E			STW,R9	HISPI0	STORE HIGHEST PRIORITY DEV ADDRESS
601	01	0018B	6AF0031A			BAL,R15	PACK	
602	01	0018C	3200032B			LW,R0	PACKED+1	
603	01	0018D	3500073B			STW,R0	SELDEV+9	STORE DEVICE ADDRESS FOR OUTPUT
604	01	0018E	323008B8			LW,R3	K9K	OUT PUT TO THE K9K *C
605	01	0018F	32000677			LW,R0	HIDVFORM	*C
606	01	001C0	6AF00250			BAL,R15	OUTPUT	INFORM OPERATOR OF SELECTED DEVICE
607	01	001C1	323008B8			LW,R3	K9K	OUT PUT TO THE K9K *C
608	01	001C2	3200066E			LW,R0	CODEFORM	*C
609	01	001C3	6AF00250			BAL,R15	OUTPUT	*C
610	01	001C4	32E00680			LW,R14	SELFFORM	FETCH INPUT *C
611	01	001C5	6AF00234			BAL,R15	KBDREAD	*C
612	01	001C6	680001C1			B	B=5	ERROR RETURN FROM KBDREAD *C
613	01	001C7	6AF0032C			BAL,R15	UNPACK	*C
614	01	001C8	35800810			STW,R8	DEVNO	STORE SELECTED DEVICE NO. *C
615	01	001C9	E80001CA			B	*DEVRET	EXIT ROUTINE
616					*			
617					*			
618					*			
619	01	001CA	00000000	A	DEVRET	DATA	0	
620					*			
621					*			
622					* THE FOLLOWING ROUTINE REQUESTS, VIA KEYBOARD PRINTER, A SELECTION, VIA			
623					* KEYBOARD INPUT, OF THE TESTS TO BE EXECUTED. SELECTION NEED NOT BE			
624					* PRESENTED IN ASCENDING ORDER. TEST NUMBERS MAY CONSIST OF 1 OR 2			
625					* DIGITS AND MUST BE SEPARATED BY COMMAS. INPUT IS TERMINATED UPON			
626					* RECEIPT OF A PERIOD. RECEIPT OF A SLASH WILL CAUSE REJECTION OF THE			
627					* CURRENT INPUT. RECEIPT OF THE WORD, ALL, WILL SELECT THE ENTIRE TEST			
628					* CYCLE.			
629					*			
630					*			
631	01	001CB	35F001FE		TESTSEL	STW,R15	SELRET	
632	01	001CC	22000000	A		LI,R0	0	CLEAR SELECTION PARAMETER
633	01	001CD	35000830			STW,R0	EXTESTS	
634	01	001CE	323008B8			LW,R3	K9K	OUT PUT TO THE K9K *C
635	01	001CF	3200067A			LW,R0	REUFORM	*C
636	01	001D0	6AF00250			BAL,R15	OUTPUT	
637	01	001D1	32E00680		READSEL	LW,R14	SELFFORM	INPUT FORMAT FOR SELECTION
638	01	001D2	6AF00234			BAL,R15	KBDREAD	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
639	01	001D3	680001CC			B	TESTSEL*1	ERROR RETURN FROM KBUREAD
640	01	001D4	25E00208	A		SCS,R14	8	
641	01	001D5	71E00962			CB,R14	*X'02000000'	2 OR LESS DIGITS
642	01	001D6	68200100			BLE	CHINPUT	YES
643	01	001D7	4890095E			AND,R9	=X'FFFFFF00'	NO
644	01	001D8	31900963			CW,R9	*X'1D3D300'	ALL TESTS REQUESTED
645	01	001D9	693001CB			BNE	TESTSEL	NO, REQUEST AGAIN
646	01	001DA	32000958		ALLTEST	LW,R0	*X'F8000000'	YES, SET PARAMETER
647	01	001DB	35000830			STW,R0	EXTSTS	
648	01	001DC	E80001FE			B	*SELKET	EXIT
649	01	001DD	71E00959		CHINPUT	CB,R14	*X'01000000'	1 OR 2 DIGITS
650	01	001DE	691001DA			BL	ALLTEST	NO INPUT, SELECT ALL TESTS
651	01	001DF	25E00208	A		SCS,R14	8	
652	01	001E0	71E00964			CB,R14	*X'161000000'	TERMINATED BY SLASH
653	01	001E1	683001D1			BE	READSEL	YES, TRY AGAIN
654	01	001E2	6AF0032C			BAL,R15	UNPACK	NO
655	01	001E3	21800009	A		CI,R8	9	STAND ALONE TEST SELECTED
656	01	001E4	691001E0			BL	SETBIT	NO
657	01	001E5	22000000	A		LI,R0	0	YES, CLEAR PASS COUNTER
658	01	001E6	3500084B			STW,R0	PASSCTR	
659	01	001E7	358008BA			STW,R8	TESTNO	STORE TEST #
660	01	001E8	21800010	A		CI,R8	X'10'	YES
661	01	001E9	68300586			BE	TEST10	TEST 10
662	01	001EA	21800011	A		CI,R8	X'11'	
663	01	001EB	683005A5			BE	TEST11	
664	01	001EC	680001CB			B	TESTSEL	ILLEGAL REQUEST
665	01	001ED	32000830		SETBIT	LW,R0	EXTSTS	
666	01	001EE	32200008	A		LW,R2	R8	SET INDEX = TEST #
667	01	001EF	3A300002	A		LCW,R3	R2	
668	01	001F0	20300001	A		AI,R3	1	
669	01	001F1	2500027F	A		SCS,R0	0,1	PREPOSITION PARAMETER
670	01	001F2	25040200	A		SCS,R0	0,M2	SHIFT LEFT # TEST POSITIONS
671	01	001F3	49000965			BR,R0	*X'80000000'	
672	01	001F4	25060200	A		SCS,R0	0,M3	RE-POSITION PARAMETER
673	01	001F5	35000830			STW,R0	EXTSTS	
674	01	001F6	71E00966			CB,R14	*X'160000000'	TERMINATION BY COMMA
675	01	001F7	683001D1			BE	READSEL	YES
676	01	001F8	71E00967			CB,R14	*X'150000000'	N/L TERMINATOR IS OK.
677	01	001F9	683001D1			BE	READSEL	GET MORE TESTS
678	01	001FA	71E00968			CB,R14	*X'140000000'	CHECK FOR PERIOD
679	01	001FB	E80001FE			BE	*SELKET	SET UP TESTING SEQUENCE
680	01	001FC	6800024A			B	SLASH	START OVER
681	01	001FD	E80001FE			B	*SELKET	NO
682					*			
683					*			
684					*			
685	01	001FE	00000000	A	SELRET	DATA	0	
686					*			
687					* THE FOLLOWING ROUTINE DIRECTS THE SEQUENTIAL EXECUTION OF THE			
688					* SELECTED TESTS			
689					*			
690					*			
691					*			
692	01	001FF	22000000	A	CONTROL	LI,R0	0	INITIALIZE ERROR & PASS COUNTERS
693	01	00200	3500084B			STW,R0	PASSCTR	
694	01	00201	35000829			STW,R0	ERRCTR	
695	01	00202	22000001	A	NEWPASS	LI,R0	1	INITIALIZE TEST 10
696	01	00203	350008BA			STW,R0	TESTNO	
697	01	00204	32000830			LW,R0	EXTSTS	
698	01	00205	3500083C			STW,R0	EXHOLD	RESET EXECUTION POINTER
699	01	00206	227FFFF6	A		LI,R7	*10	INITIALIZE TEST COUNTER
700	01	00207	357008BB			STW,R7	TSTCTR	
701	01	00208	327008BB		NEXTST	LW,R7	TSTCTR	
702	01	00209	65700200			BIR,R7	***	
703	01	0020A	22000001	A		LI,R0	1	
704	01	0020B	6600084B			AWM,R0	PASSCTR	INCREMENT PASS COUNTER
705	01	0020C	68000202			B	NEWPASS	START ANOTHER PASS
706	01	0020D	357008BB			STW,R7	TSTCTR	
707	01	0020E	3200083C			LW,R0	EXHOLD	LOAD POINTER
708	01	0020F	25000001	A		SLS,R0	1	
709	01	00210	3500083C			STW,R0	EXHOLD	STORE UPDATED PARAMETER

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL ORIG	LABEL	OPERATION	OPERAND	COMMENTS
710	01	00211	698E022C			BDD	SWITCH+9,R7	EXECUTE THIS TEST
711	01	00212	22000001	A	TESTINC	LI,R0	1	
712	01	00213	660008BA			AWM,R0	TESTN0	INCREMENT TEST ID
713	01	00214	68000208			B	NEXTEST	
714	01	00215	6C100010	A	TESTRET	RD,R1	X'10'	RESET MEMORY FAILURE INDICATORS *C
715	01	00216	6C000000	A		RD,R0	0	REPORT IF SSS IS SET *C
716	01	00217	68200219			BCL,R2	S+2	
717	01	00218	6AF00438			BAL,R15	REPORT	
718	01	00219	221FFFE0	A		LI,R1	=20	CLEAR ERROR BUFFER
719	01	0021A	32000950			LW,R0	=X'40404040'	
720	01	0021B	350206A4			STM,R0	ERRBUF+20,R1	
721	01	0021C	6510021B			BIK,R1	S=1	
722	01	0021D	320008BA			LW,R0	TESTN0	
723	01	0021E	21000011	A		CI,R0	X'11'	
724	01	0021F	69300212			BNE	TESTINC	
725	01	00220	22000001	A		LI,R0	1	TEST 11, INCREMENT PASS COUNTER
726	01	00221	6600084B			AWM,R0	PASSLTH	
727	01	00222	6800054C			B	TEST5	
728	01	00223	68000453		SWITCH	B	TEST1	
729	01	00224	68000496			B	TEST2	
730	01	00225	680004F1			B	TEST3	
731	01	00226	6800051C			B	TEST4	
732	01	00227	6800054C			B	TEST5	
733	01	00228	68000582			B	TEST6	
734	01	00229	68000583			B	TEST7	
735	01	0022A	68000584			B	TEST8	
736	01	0022B	68000585			B	TEST9	
737	01	0022C	68000585			B	TEST9	
738	01	0022D	68000585			B	TEST9	
739	01	0022E	68000585			B	TEST9	
740	01	0022F	68000585			B	TEST9	
741	01	00230	68000585			B	TEST9	
742	01	00231	68000585			B	TEST9	
743	01	00232	68000586			B	TEST10	
744	01	00233	68000588			B	HALT1011	*C
745								
746								
747								
748								
749								
750								
751								
752								
753								
754								
755								
756	01	00234	02300000	A	KBDREAD	LCFI,2	0	SAVE REGISTER PAGE
757	01	00235	2B00089F			STM,R0	STORPAG	
758	01	00236	22100000	A		LI,R1	0	
759	01	00237	22000127		KBDREADA	LI,R0	DA(KINRD)	COMMAND DOUBLEWORD ADDRESS
760	01	00238	CC0008B8			SI0,0	*KSR	EXECUTE SINGEL CHARACTER INPUT *C
761	01	00239	CD0008B8			TI0,0	*KSR	*C
762	01	0023A	69C00239			BCL,12	S=1	
763	01	0023B	22200004	A		LI,R2	4	ADDED N/L TERMINATOR *C
764	01	0023C	72000843			LB,R0	KEYIN	LOAD CURRENT INPUT CHARACTER
765	01	0023D	710408B6			CB,R0	TERMVAR,R2	WAS IT A TERMINATING CHARACTER
766	01	0023E	6830024A			BE	SLASH	CHECK FOR SLASH TERMINATOR *C
767	01	0023F	6420023D			BDR,R2	S=2	ALL TERMINATING CHARACTERS CHECKED
768	01	00240	F502000E	A		STB,R0	*R14,R1	YES, STORE INPUT
769	01	00241	65100242			BIK,R1	S+1	
770	01	00242	68000237			B	KBDREADA	
771	01	00243	22200001	A	KBDREADB	LI,R2	1	FETCH NEX INPUT
772	01	00244	7504000E	A		STB,R0	R14,R2	STORE TERM CHAR IN R14(8-15)
773	01	00245	7510000E	A		STB,R1	R14	STORE CHAR COUNT IN R14(0-7)
774	01	00246	02300030	A		LCFI,2	3	RESTORE REGISTER PAGE
775	01	00247	2A00089F			LM,R0	STORPAG	
776	01	00248	20F00001	A		AI,R15	1	NORMAL RETURN
777	01	00249	E800000F	A		B	*R15	EXIT ROUTINE
778	01	0024A	71000964		SLASH	CB,R0	=X'16100000'	IF TERMINATOR IS A SLASH *C
779	01	0024B	E830000F	A		BE	*R15	ERROR RETURN *C
780	01	0024C	68000243			B	KBDREADB	INTERUPT TO START INPUT *C

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
781					*			
782					*			
783						BOUND	8	
784	01	0024E	0600210C	N	KINORD	INFORM	X'0600',BA(KEYIN)	
785	01	0024F	00000001	A		INFORM	0:1	
786					*			
787					* THE FOLLOWING ROUTINE WILL OUTPUT MESSAGES VIA KEYBOARD PRINTER &			*C
788					* LINE PRINTER.			*C
789					* CONTROL DATA IS SUPPLIED BY:			*C
790					*	REGISTER 3	CONTAINS THE DEVICE ADDRESS.	*C
791					*	REGISTER 0	CONTAINS THE DOUBLE WORD ADDRESS OF	*C
792					*	THE COMMAND	DOUBLE WORD THAT HAS THE MESSAGE	*C
793					*	ADDRESS AND	BYTE COUNT.	*C
794					*			
795					*			
796					*			
797	01	00250	02200000	A	OUTPUT	LCI	0	OUTPUT TO A KSK OR THE INDICATED
798	01	00251	080002B8			PSM,0	KEGSAVE	LINE PRINTER.
799	01	00252	22E00030	A		LI,R14	X'30'	DISARM I/O INTERRUPT
800	01	00253	6DE01100	A		WD,R14	X'1100'	
801	01	00254	313008B8			CW,R3	KSK	IS THE OUTPUT DEVICE A KSK
802	01	00255	6830025C			BE	KSKOUT	OR A LINE PRINTER.
803	01	00256	6AF00258			BAL,R15	COMRECY	
804	01	00257	68000265			B	LPOUT	
805	01	00258	35F002AE		COMRECY	STW,R15	R15	SAVE REGISTER 15
806	01	00259	CD000003	A		TIO,0	*R3	
807	01	0025A	69C0027B			BCS,12	UNUSUAL	
808	01	0025B	E80002AE			B	*R15	
809	01	0025C	22600001	A	KSKOUT	LI,R6	1	OUTPUT A NEWLINE AND THEN
810	01	0025D	46000264			XW,R0	NEWLINE	OUTPUT THE MESSAGE DESIGNATED
811	01	0025E	CC000003	A		SIO,0	*R3	
812	01	0025F	CD000003	A		TIO,0	*R3	
813	01	00260	69C0025F			BCS,12	*-1	
814	01	00261	33F00006	A		MTW,-1	R6	
815	01	00262	6830025D			BEZ	KSKOUT+1	
816	01	00263	680002A4			B	RESTORE	
817	01	00264	00000467		NEWLINE	DATA	DA(NEWLINE)	
818	01	00265	33000902		LPOUT	MTW,0	LINES	CHECK THE NO. OF LINES PRINTED
819	01	00266	68300270			BEZ	TOPPAGE	
820	01	00267	25000001	A		SLS,0	1	
821	01	00268	92C00000	A		LD,R12	*R0	
822	01	00269	4BC00969			AND,R12	X'FFFFFFFF'	
823	01	0026A	15C002B4			STD,R12	LPOUTCDW	STORE COMMAND DOUBLE WORD FOR
824	01	0026B	2200015A			LI,0	DA(LPOUTCDW)	OUTPUT TO THE LINE PRINTER
825					*			IS IN REGISTER 12
826	01	0026C	CC000003	A		SIO,0	*R3	PRINT OUT ONE LINE OF DATA
827	01	0026D	6AF00258			BAL,R15	COMRECY	CHECK FOR LINE PRINTER ERRORS
828	01	0026E	33F00902			MTW,-1	LINES	
829	01	0026F	680002A4			B	RESTORE	
830	01	00270	22800025	A	TOPPAGE	LI,R8	37	37 LINES PER PAGE
831	01	00271	35800902			STW,R8	LINES	
832	01	00272	350002AD			STW,0	TOPFORM+1	SAVE MESS. DA
833	01	00273	320002AC			LW,0	TOPFORM	
834	01	00274	227FFFFD	A		LI,R7	-3	
835	01	00275	CC000003	A		SIO,0	*R3	OUTPUT HEADING AT THE TOP OF
836	01	00276	6AF00258			BAL,R15	COMRECY	
837	01	00277	320E0677			LW,0	HEADFORM+4,R7	
838	01	00278	6AF00250			BAL,R15	OUTPUT	
839	01	00279	65700277			BIR,R7	*-2	GET NEXT LINE OF HEADER
840	01	0027A	680002A9			B	RETRY	
841	01	0027B	68400259		UNUSUAL	BCR,4	COMRECY+1	
842	01	0027C	69800290			BCS,8	NODEVICE	
843	01	0027D	CE100003	A		TDV,R1	*R3	
844	01	0027E	69400280			BCS,4	*+2	LINE PRINTER PROBLEMS
845	01	0027F	68000258			B	COMRECY	
846	01	00280	224FFFF8	A		LI,R4	-8	
847	01	00281	325008B7			LW,R5	TDVSTAT	
848	01	00282	45500001	A		CS,R5	R1	
849	01	00283	68380290			BE	LPTDV+8,R4	
850	01	00284	2550007F	A		SLS,R5	-1	
851	01	00285	65400282			BIR,R4	*-3	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
852	01	00286	2E000000	A		WAIT	0	*C
853	01	00287	68000286			B	*-1	*C
854	01	00288	2E000000	A	LPTDV	WAIT	0	*C
855	01	00289	68000295			B	LPFault	*C
856	01	0028A	6800029A			B	PAPLOW	*C
857	01	0028B	68000259			B	CMRELY+1	*C
858	01	0028C	68000259			B	CMRELY+1	*C
859	01	0028D	6800029F			B	PAPRUN	*C
860	01	0028E	2E000000	A		WAIT	0	*C
861	01	0028F	2E000000	A		WAIT	0	*C
862	01	00290	2200046A		NBDEVICE	LI#0	DA(NBDEV)	*C
863	01	00291	32300888			LW#R3	KSK	*C
864	01	00292	6AF00250			BAL#R15	OUTPUT	*C
865	01	00293	2E000000	A		WAIT	0	*C
866	01	00294	680002A9			B	RETRY	*C
867	01	00295	22000466		LPFAULT	LI#0	DA(FAULTLP)	*C
868	01	00296	32300888			LW#R3	KSK	*C
869	01	00297	6AF00250			BAL#15	OUTPUT	*C
870	01	00298	2E000000	A		WAIT	0	*C
871	01	00299	680002A9			B	RETRY	*C
872	01	0029A	22000468		PAPLOW	LI#0	DA(LPWAP)	*C
873	01	0029B	32300888			LW#R3	KSK	*C
874	01	0029C	6AF00250			BAL#15	OUTPUT	*C
875	01	0029D	2E000000	A		WAIT	0	*C
876	01	0029E	680002A9			B	RETRY	*C
877	01	0029F	22000469		PAPRUN	LI#0	DA(RUNPAP)	*C
878	01	002A0	32300888			LW#R3	KSK	*C
879	01	002A1	6AF00250			BAL#15	OUTPUT	*C
880	01	002A2	2E000000	A		WAIT	0	*C
881	01	002A3	680002A9			B	RETRY	*C
882	01	002A4	02200000	A	RESTORE	LCI	0	RESTOR THE REGISTERS
883	01	002A5	0A0002B8			PLM#0	REGSAVE	*C
884	01	002A6	22E00030	A		LI#R14	X'301	ARM I/O INTERRUPT
885	01	002A7	6DE01200	A		WD#R14	X'1200'	*C
886	01	002A8	E800000F	A		B	*15	*C
887	01	002A9	02200000	A	RETRY	LCI	0	*C
888	01	002AA	0A0002B8			PLM#0	REGSAVE	*C
889	01	002AB	68000250			B	OUTPUT	*C
890	01	002AC	00000158		TOPFORM	DATA	DA(POSITION)	*C
891	01	002AD	00000000	A		DATA	0	*C
892	01	002AE	00000000	A	IR15	DATA	0	*C
893						BBOUND	8	*C
894	01	002B0	05000AC8	N	POSITION	GEN#8,24,8,24	5,BA(*+2),0,1	*C
			00000001					
895	01	002B2	F1000000	A		DATA	X'F1000000'	*C
896						BBOUND	8	*C
897	01	002B4			LPOUTPUTW	RES	2	*C
898	01	002B6	000002BA	N	REGSAVE1	GEN#32,1,15,1,15	*+4,0,96,0,0	*C
			00600000					
899	01	002B8			REGSAVE	RES	2	*C
900	01	002BA				RES	96	*C
901					*			*C
902					*			*C
903					*			*C
904						BBOUND	8	*C
905					*			*C
906					*			*C
907					*			*C
908					*			*C
909					*			*C
910					*			*C
911	01	0031A	35F00329		PACK	STW#R15	PAKRET	
912	01	0031B	226FFFFE	A		LI#R6	*2	
913	01	0031C	22700004	A	PACKA	LI#R7	4	
914	01	0031D	22800000	A		LI#R8	0	
915	01	0031E	25800304	A	PACKB	SCD#R8	4	
916	01	0031F	208000B7	A		AI#R8	X'B7'	LOAD NEXT HEX DIGIT
917	01	00320	7180096A			CB#R8	*X'0000000'	CONVERSION FACTOR FOR A=1
918	01	00321	69200323			B#	*+2	IS DIGIT > 9
919	01	00322	20800039	A		AI#R8	X'39'	YES
920	01	00323	25800204	A		SCS#R8	4	NO, CONVERSION FACTOR FOR 0=9
								PREPARE FOR NEXT DIGIT

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
921	01	00324	6470031E			BDR,R7	PACKB	BRANCH IF 4 DIGITS NOT CONVERTED
922	01	00325	2580027C A			SCS,R8	=4	RESTORE WORD
923	01	00326	358C032C			STW,R8	PACKED+2,R6	
924	01	00327	6560031C			BIR,R6	PACKA	REPEAT FOR LAST 4 DIGITS
925	01	00328	E8000329			B	*PAKRET	
926					*			
927					*			
928					*			
929	01	00329	00000000 A		PAKRET	DATA	0	
930						BBOUND	8	
931	01	0032A			PACKED	RES	2	
932					*			
933					* THE FOLLOWING ROUTINE WILL CONVERT UP TO THREE LEFT JUSTIFIED			
934					* EBCDIC CHARACTERS IN REGISTER 9 TO HEXADECIMAL DIGITS.			
935					*			
936					*			
937					*			
938	01	0032C	35F0033D		UNPACK	STW,R15	UNPAKET	
939	01	0032D	22800000 A			LI,R8	0	
940	01	0032E	3270000E A			LW,R7	R14	LOAD INPUT FORMAT CONTROL WORD
941	01	0032F	25700078 A			SLS,R7	=8	POSITION CHARACTER COUNT
942	01	00330	48700968			AND,R7	=3	
943	01	00331	25800108 A		UNPACKA	SLD,R8	8	EBCDIC TO R8 FOR EXAMINATION
944	01	00332	7180096C			CB,R8	=X'1000000'	IS CHARACTER ALPHA-NUMERIC
945	01	00333	691001D1			BL	HEADSEL	NO, RE=REQUEST INPUT
946	01	00334	7180096D			CB,R8	=X'F000000'	YES, IS IT NUMERIC
947	01	00335	68100337			BGE	\$+2	YES
948	01	00336	20800009 A			AI,R8	9	NO, CONVERT TO HEX NUMBER
949	01	00337	2580017C A			SLD,R8	=4	
950	01	00338	2580007C A			SLS,R8	=4	STRIP ZONE BITS
951	01	00339	25800104 A			SLD,R8	4	RECOVER NUMERIC
952	01	0033A	64700331			BDR,R7	UNPACKA	ALL CHARACTERS EXAMINED
953	01	0033B	48800960			AND,R8	=X'FFFF'	YES
954	01	0033C	E800033D			B	*UNPAKET	
955					*			
956					*			
957					*			
958	01	0033D	00000000 A		UNPAKET	DATA	0	
959					*			
960					* PCP INTERRUPT FOR PROGRAM RESTART			
961					*			
962					*			
963					*			
964						BBOUND	8	
965	01	0033E	00000000 A		INT	DATA	0	
966	01	0033F	00000000 A			DATA	0	
967	01	00340	00000342			DATA	\$+2	
968	01	00341	00000000 A			DATA	0	
969	01	00342	0E00016A			LPSD,0	RESTART	*C
970					*			
971					* THE FOLLOWING ROUTINE IS INVOKED BY A NON-EXISTENT INSTRUCTION TRAP.			
972					* IF THIS TRAP OCCURED DURING TEST 2 OR 3 AN ERROR CONDITION IS			
973					* REPORTED. THE CAUSE IS INDETERMINATE WHEN TRAP OCCURS DURING OTHER			
974					* TESTS.			
975					*			
976					*			
977					*			
978	01	00343	3200088A		T23TRAP	LW,R0	TESTN0	
979	01	00344	21000002 A			CI,R0	2	TEST 2
980	01	00345	68300348			BE	\$+3	YES
981	01	00346	21000003 A			CI,R0	3	NO, TEST 3
982	01	00347	69300632			BNE	TRAP*0	NO
983	01	00348	680004D1			B	ALTERED	YES, FETCH ERROR INFORMATION *C
984					*			
985					* I/O INTERRUPT SERVICING ROUTINE * *C			
986					*			
987	01	00349	22E00030 A		IBINT	LI,R14	X'30'	DISARM IO & PCP INTERRUPTS *C
988	01	0034A	6DE01100 A			WD,R14	X'1100'	*C
989	01	0034B	02200000 A			LCI	0	*C
990	01	0034C	0B000288			PSM,0	REGSAVE	STORE ALL REGISTERS *C
991	01	0034D	6E100000 A			AID,R1	0	CLEAR INT. PEND, AND GET STATUS *C

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS	
992	01	0034E	C2000001	A		HID,R2	*R1	R1 CONTAINS AID STATUS AND	*C
993	01	0034F	352008FA			STW,R2	T5TEMP	STONE STATUS	*C
994	01	00350	353008FB			STW,R3	T5TEMP+1		*C
995	01	00351	6C000000	A		RU,R0	0	R2 AND R3 CONTAIN HID STATUS.	*C
996	01	00352	69100354			HCS,R1	*+2		*C
997	01	00353	2E000000	A		WAIT	0		*C
998	01	00354	2240000F	A		LI,R4	15	SET INDEX FOR CHECKING STATUS	*C
999	01	00355	3250038C			LW,R5	AI0STAT		*C
1000	01	00356	*5500001	A		CS,R5	R1	CHECK OUT STATUS RETURNED	*C
1001	01	00357	68380367			BE	HISPI0A10,R4	GO REPORT	*C
1002	01	00358	25500001	A		SLS,R5	1		*C
1003	01	00359	64400356			BDK,R4	*-3		*C
1004	01	0035A	3200067C			LW,R0	SPURINT	NO STATUS TO REPORT	*C
1005	01	0035B	32300888			LW,R3	KSK	SO REPORT A SPURIOUS I/O INT.	*C
1006	01	0035C	6AF00250			BAL,R15	OUTPUT		*C
1007	01	0035D	02200000	A	EXIT	LCI	0		*C
1008	01	0035E	0A000288			PLM,R0	REUSAVE		*C
1009	01	0035F	22E00030	A		LI,R14	X'30'	ARM I/O & PCH INTERRUPTS	*C
1010	01	00360	60E01200	A		WD,R14	X'1200'		*C
1011	01	00361	3210088A			LW,R1	TESTN0	RETURN TO THE START OF THE	*C
1012	01	00362	33F00001	A		MTW,-1	R1	EXECUTING TEST.	*C
1013	01	00363	0E300364			LPSD,R3	I0RET		*C
1014						BOUND	8		*C
1015	01	00364	00000366		I0RET	DATA	*+2		*C
1016	01	00365	00000000	A		DATA	0		*C
1017	01	00366	68020223			B	SWITCH,R1		*C
1018	01	00367	2E000000	A	HISPI0A10	WAIT		DATA OVER RUN IS NOT CHECKED	*C
1019	01	00368	6800035D			B	EXIT	TAPE DRIVE AVRIED	*C
1020	01	00369	6800036A			B	*+1	TAPE DRIVE IS WRITE PROTECTED	*C
1021	01	0036A	68000378			B	WRITPROT	RAD IS WRITE PROTECTED	*C
1022	01	0036B	2E000000	A		WAIT			*C
1023	01	0036C	2E000000	A		WAIT			*C
1024	01	0036D	2E000000	A		WAIT			*C
1025	01	0036E	2E000000	A		WAIT			*C
1026	01	0036F	6800037D			B	CONTINUE	INCORRECT LENGHT FROM L.P.	*C
1027	01	00370	68000386			B	TRANSERR	TRANSMISSION DATA ERROR	*C
1028	01	00371	6800037D			B	CONTINUE	ZERO BYTE COUNT	*C
1029	01	00372	6800037D			B	CONTINUE	INTERRUPT ON CHANNEL END	*C
1030	01	00373	68000389			B	I0PUEI	UNUSUAL END FROM THE IOP	*C
1031	01	00374	2E000000	A		WAIT			*C
1032	01	00375	2E000000	A		WAIT			*C
1033	01	00376	2E000000	A		WAIT			*C
1034	01	00377	68000374			B	*-3		*C
1035	01	00378	32300888		WRITPROT	LW,R3	KSK	TELL OPERATOR THAT THE RAD	*C
1036	01	00379	3200067D			LW,R0	WPROTECT	OR TAPE IS WRITE PROTECTED	*C
1037	01	0037A	6AF00250			BAL,R15	OUTPUT		*C
1038	01	0037B	2E000000	A		WAIT			*C
1039	01	0037C	6800035D			B	EXIT		*C
1040	01	0037D	3210088A		CONTINUE	LW,R1	TESTN0	COMPARE FOR TEST 3 I/O OPER.	*C
1041	01	0037E	21100003	A		CI,R1	3		*C
1042	01	0037F	68300381			BE	*+2		*C
1043	01	00380	6800035D			B	EXIT	IF NOT GO BACK AND START OVER	*C
1044	01	00381	02200000	A		LCI	0	RESTOR REGISTERS	*C
1045	01	00382	0A000288			PLM,R0	REUSAVE		*C
1046	01	00383	22E00030	A		LI,R14	X'30'	ARM I/O & PCH INTERRUPTS	*C
1047	01	00384	60E01200	A		WD,R14	X'1200'		*C
1048	01	00385	680004CC			B	T2MET	PICK UP WHERE IT LEFT OFF	*C
1049	01	00386	22D00007	A	TRANSERR	LI,R13	7	ERROR CODE 7	*C
1050	01	00387	6AF003C5			BAL,R15	ERR0R		*C
1051	01	00388	6800035D			B	EXIT		*C
1052	01	00389	22D00007	A	I0PUEI	LI,R13	7	ERROR CODE 7	*C
1053	01	0038A	6AF003C5			BAL,R15	ERR0R		*C
1054	01	0038B	6800037D			B	CONTINUE		*C
1055	01	0038C	00010000	A	AI0STAT	DATA	1**16		*C
1056					*				
1057					*				
1058	01	0038D	35100396		CLRBUFF	STW,R1	SAVER1	CLEAR THE ERROR BUFFER	*C
1059	01	0038E	35200397			STW,R2	SAVER2		*C
1060	01	0038F	3210095D			LW,R1	*X'40404040'	WITH BLANKS	*C
1061	01	00390	222FFFE0	A		LI,R2	*20		*C
1062	01	00391	351406A4			STW,R1	ERRNBUFF+20,R2		*C

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1063	01	00392	65200391			BIR,R2	*=1	
1064	01	00393	32100396			LW,R1	SAVEK1	*C
1065	01	00394	32200397			LW,R2	SAVEK2	*C
1066	01	00395	E800000F	A		B	*K15	*C
1067	01	00396	00000000	A	SAVER1	DATA	0	*C
1068	01	00397	00000000	A	SAVER2	DATA	0	*C
1069					*			
1070					*			
1071					*			
1072					*			
1073					* MEMORY PARITY INTERRUPT ROUTINE			
1074					*			
1075					*			
1076					*			
1077	01	00398	3270084A		PARINT	LW,R7	PARL0C	SET RETURN INDEX
1078	01	00399	22E00000	A		LI,R14	0	RESET SPURIOUS PARITY INTERRUPT
1079	01	0039A	35E0084A			STW,R14	PARL0C	
1080	01	0039B	0E30039C			LPSD,3	PARRET	
1081						BOUND	B	
1082	01	0039C	0000039E		PARRET	DATA	*+2	
1083	01	0039D	00000000	A		DATA	0	
1084	01	0039E	680E039F			B	*+1,K7	INTERRUPT RETURN SWITCH
1085	01	0039F	68000630			B	PARSPUR	SPURIOUS
1086	01	003A0	68000493			B	PARIKET	TEST1
1087	01	003A1	680004E2			B	PAR2KET	TESTS 2 & 3
1088	01	003A2	6800052B			B	PAR4ARET	TESTS 4,5,11
1089	01	003A3	68000539			B	PAR4BRET	TESTS 4,5,11
1090	01	003A4	68000596			B	PAR10RET	TEST10
1091					*			
1092					* THE FOLLOWING ROUTINE WILL EXECUTE AN I/O RESET AND PRE-SET THE PROPER			
1093					* ERROR CODE IF THE NPE,NPK CONDITION IS DETECTED DURING THE EXECUTION			
1094					* OF TEST 10. A WATCHDOG TIMER RUNOUT TRAP RESULTING FROM ANY OTHER			
1095					* CAUSE WILL RESULT IN A PROGRAM HALT.			
1096					*			
1097					*			
1098					*			
1099	01	003A5	32E008BA		TIMESUP	LW,R14	TESTNO	
1100	01	003A6	21E00010	A		CI,R14	X'10'	TIMER RUN OUT ON TEST 10
1101	01	003A7	6930063E			BNE	TRAP46	NO
1102	01	003A8	60000042	A		WD,R0	X'42'	YES, RESET I/O
1103	01	003A9	60000042	A		WD,R0	X'42'	
1104	01	003AA	6C000000	A		RD,0	0	
1105	01	003AB	69800590			BCC,8	!0LOOP	SHORT LOOP
1106	01	003AC	22D00006	A		LI,R13	6	ERROR CODE 6
1107	01	003AD	6AF003C5			BAL,R15	ERR0R	
1108	01	003AE	6800059D			B	!0HALT+1	EXIT
1109					*			
1110					* THE FOLLOWING ROUTINE WILL TEST THE SELECTED I/O DEVICE FOR READY			
1111					* STATUS, IF THE DEVICE IS NOT READY, THE OPERATOR WILL BE SO INFORMED			
1112					* VIA KEYBOARD PRINTER AND THE ROUTINE WILL LOOP UNTIL THE DEVICE IS			
1113					* READY.			
1114					*			
1115					*			
1116					*			
1117	01	003AF	35F003C4		DEVCHK	STW,R15	TESTURN	
1118	01	003B0	22EFF63C	A		LI,R14	+2500	
1119	01	003B1	65E003B1			BIR,R14	*	DELAY FOR PRINTER BUFFER TO CLEAR
1120	01	003B2	CD10083E			TIO,R1	*HISPI0	FETCH STATUS
1121	01	003B3	4B10096E			AND,R1	*X'F7000000'	
1122	01	003B4	3110096F			CB,R1	*X'10000000'	IS DEVICE READY
1123	01	003B5	683003B0			BE	CHE0T	CHECK FOR END OF TAPE
1124	01	003B6	323008B8			LW,R3	KSK	OUT PUT TO THE KSK
1125	01	003B7	3200066F			LW,R0	DEV0FORM	NO
1126	01	003B8	6AF00250			BAL,R15	OUTPUT	INFORM OPERATOR
1127	01	003B9	2E000000	A		WAIT		
1128	01	003BA	680003B0			B	DEVCHK+1	
1129	01	003BB	CE10083E		CHE0T	TDV,R1	*HISPI0	CHECK FOR END OF TAPE
1130	01	003BC	4B10096E			AND,R1	*X'02000000'	END FLAG
1131	01	003BD	683003C3			BEZ	TEXIT	
1132	01	003BE	3200067F			LW,R0	REWIND	REWIND TAPE IF FLAG IS SET
1133	01	003BF	CC00083E			SIO,0	*HISPI0	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1134	01	003C0	0000083E			T10,0	*HISPI0	*C
1135	01	003C1	69C003C0			BCS,12	*-1	*C
1136	01	003C2	680003C3			B	TEXTIT	*C
1137	01	003C3	E80003C4		TEXTIT	B	*TESTURN	
1138					*			
1139					*			
1140					*			
1141					*			
1142					*			
1143					*			
1144	01	003C4	00000000	A	TESTURN	DATA	0	
1145					*			
1146					* THE FOLLOWING ROUTINE WILL DISPENSE PERTINENT INFORMATION VIA THE			
1147					* KEYBOARD PRINTER UPON DETECTION OF AN ERROR CONDITION.			
1148					*			
1149					*			
1150					*			
1151	01	003C5	02300000	A	ERROR	LCFI,2	0	SAVE PAGE
1152	01	003C6	2800089F			STM,R0	STORPAG	
1153	01	003C7	6C000000	A		RD,0	0	
1154	01	003C8	69800428			BCS,8	RETADD	SHORT LOOP
1155	01	003C9	CF00083E			H10,0	*HISPI0	
1156	01	003CA	22200002	A		L1,R2	2	
1157	01	003CB	22100001	A		L1,R1	1	
1158	01	003CC	66100829			AMH,R1	ERRCTR	INCREMENT ERROR COUNTER
1159	01	003CD	329008BA			LW,R9	TESTN0	TEST ID
1160	01	003CE	6AF00433			BAL,R15	C0NC0L	
1161	01	003CF	55900690			STM,R9	ERRBUFF	
1162	01	003D0	32900000	A		LW,R9	R13	ERROR CODE
1163	01	003D1	6AF00433			BAL,R15	C0NC0L	
1164	01	003D2	55920691			STM,R9	ERRBUFF+1,R1	
1165	01	003D3	32900840			LW,R9	PASSCTR	PASS COUNTER
1166	01	003D4	6AF00433			BAL,R15	C0NC0L	
1167	01	003D5	35900693			STM,R9	ERRBUFF+3	
1168	01	003D6	32900829			LW,R9	ERRCTR	ERROR COUNTER
1169	01	003D7	6AF00433			BAL,R15	C0NC0L	
1170	01	003D8	55900695			STM,R9	ERRBUFF+5	
1171	01	003D9	25900210	A		SCS,R9	16	
1172	01	003DA	55920694			STM,R9	ERRBUFF+4,R1	
1173	01	003DB	320008BA			LW,R0	TESTN0	SKIP REMAINDER IF TEST 10
1174	01	003DC	21000010	A		C1,R0	X'10'	
1175	01	003DD	68300421			BE	ERRR0C	
1176	01	003DE	323008BA			LW,R3	TESTN0	FAILING ADDRESS
1177	01	003DF	21000007	A		C1,R13	7	CHECK FOR 10P ERROR
1178	01	003E0	693003EF			BNE	T1120R3	IT'S NOT 10P
1179	01	003E1	21300005	A		C1,R3	5	DETERMIN IF TEST 5 OR 11
1180	01	003E2	683003E5			BE	*+3	ITS TEST 5
1181	01	003E3	21300000	A		C1,R3	11	
1182	01	003E4	693003EF			BNE	T1120R3	IT'S NOT 5 OR 11
1183	01	003E5	520208FB			LH,R0	T5TEMP+1,R1	GET DOUBLE WORD ADDRESS OF
1184	01	003E6	25000001	A		SLS,R0	1	COMMAND DOUBLE WORD
1185	01	003E7	B2000000	A		LW,R0	*0	GET BYTE ADDRESS OF DATA BEING
1186	01	003E8	40000970			AND,R0	=X'FFFFFF'	TRANSFERRED TO THE HIGH SPEED DEV.
1187	01	003E9	350008FB			STM,R0	T5TEMP+1	
1188	01	003EA	2203FFFF	A		L1,R0	X'3FFFF'	STANDARD BYTE COUNT.
1189	01	003EB	580208FA			SH,R0	T5TEMP,1	SUBTRACT THE REMAINING BYTE COUNT
1190	01	003EC	300008FB			AW,R0	T5TEMP+1	ADD THE BYTE ADDRESS STARTED FROM
1191	01	003ED	2500007E	A		SLS,R0	*2	MAKE IT A WORD ADDRESS
1192	01	003EE	680003F1			B	*+3	SKIP THE NEXT TWO INST.
1193	01	003EF	6706082A		T1120R3	EXU	ERRLOC,R3	LOAD AND MODIFY ADDRESS
1194	01	003F0	6706082A			EXU	ERRLOC,R3	LOAD AND MODIFY ADDRESS
1195	01	003F1	67060817			EXU	ERRLOC,R3	
1196	01	003F2	32900000	A		LW,R9	R0	
1197	01	003F3	6AF00433		ERRR0D	BAL,R15	C0NC0L	
1198	01	003F4	75900697			STM,R9	ERRBUFF+7	
1199	01	003F5	25800378	A		SCD,R8	=8	
1200	01	003F6	35900696			STM,R9	ERRBUFF+6	
1201	01	003F7	32900890			LW,R9	SHUDBE	EXPECTED CONTENTS
1202	01	003F8	6AF00433			BAL,R15	C0NC0L	
1203	01	003F9	35800698			STM,R8	ERRBUFF+8	
1204	01	003FA	35900699			STM,R9	ERRBUFF+9	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1205	01	003FB	B2900000	A		LW,R9	*R0	CURRENT CONTENTS
1206	01	003FC	6AF00433			BAL,R15	C0NC0L	
1207	01	003FD	5590069C			STH,R9	ERRBUFF+12	
1208	01	003FE	25800370	A		SCD,R8	*16	
1209	01	003FF	3590069B			STW,R9	ERRBUFF+11	
1210	01	00400	5582069A			STH,R8	ERRBUFF+10,R1	
1211	01	00401	320008BA			LW,R0	TESTN0	
1212	01	00402	21000001	A		CI,R0	1	TEST1
1213	01	00403	6930040B			BNE	ERR0RA	NO
1214	01	00404	320008A7			LW,R0	ST0RPAG+8	YES
1215	01	00405	35000840			STW,R0	INSEW+1	TEST1 INSTRUCTION SEQUENCE
1216	01	00406	64000407			BDR,R0	*+1	
1217	01	00407	3500083F			STW,R0	INSEW	
1218	01	00408	22000000	A		LI,R0	0	
1219	01	00409	35000841			STW,R0	INSEW+2	
1220	01	0040A	68000410			B	ERR0RB	
1221	01	0040B	21000003	A	ERR0RA	CI,R0	3	TEST 2 OR 3
1222	01	0040C	69200421			BG	ERR0RC	NO
1223	01	0040D	35A0083F			STW,R10	INSEW	YES; INSTRUCTION SEQUENCE
1224	01	0040E	35800840			STW,R11	INSEW+1	
1225	01	0040F	35C00841			STW,R12	INSEW+2	
1226	01	00410	3290083F		ERR0RB	LW,R9	INSEW	PREPARE 1ST SEQUENTIAL ADDRESS
1227	01	00411	6AF00433			BAL,R15	C0NC0L	
1228	01	00412	7590069E			STB,R9	ERRBUFF+14	
1229	01	00413	25800378	A		SCD,R8	*8	
1230	01	00414	35900690			STW,R9	ERRBUFF+13	
1231	01	00415	32900840			LW,R9	INSEW+1	PREPARE 2ND SEQUENTIAL ADDRESS
1232	01	00416	6AF00433			BAL,R15	C0NC0L	
1233	01	00417	7594069F			STB,R9	ERRBUFF+15,R2	
1234	01	00418	25800378	A		SCD,R8	*8	
1235	01	00419	5590069F			STH,R9	ERRBUFF+15	
1236	01	0041A	25900210	A		SCB,R9	16	
1237	01	0041B	5592069E			STH,R9	ERRBUFF+14,R1	
1238	01	0041C	32900841			LW,R9	INSEW+2	PREPARE 3RD SEQUENTIAL ADDRESS
1239	01	0041D	6AF00433			BAL,R15	C0NC0L	
1240	01	0041E	759006A1			STB,R9	ERRBUFF+17	
1241	01	0041F	25800378	A		SCD,R8	*8	
1242	01	00420	359006A0			STW,R9	ERRBUFF+16	
1243	01	00421	32000670		ERR0RC	LW,R0	ERR0R0M	TEST 2 & 3 ERROR MESS.
1244	01	00422	32300810			LW,R3	DEVN0	OUT PUT TO SELECTED DEVICE
1245	01	00423	6AF00250			BAL,R15	0UTPUT	
1246	01	00424	6AF00380			BAL,R15	CLKBUFF	
1247	01	00425	6C000000	A		RD,R0	0	
1248	01	00426	69100428			BDS,1	*+2	
1249	01	00427	2E000000	A		WAIT		HALT ON ERROR
1250	01	00428	321008BA		RETADD	LW,R1	TESTN0	SET UP RETURN ADDRESS
1251	01	00429	3200089A			LW,R0	RET2INST	ERROR RETURN FOR TEST 2
1252	01	0042A	21100002	A		CI,R1	2	
1253	01	0042B	68300420			BE	ST0RNET	
1254	01	0042C	32000844			LW,R0	LINKNET	ERROR RETURN FOR REMAINING TESTS
1255	01	0042D	35000432		ST0RE1	STW,R0	ERR1	
1256	01	0042E	67020876			EXU	RE1BC0W,R1	RESTART DEVICE IF REQUIRED
1257	01	0042F	67020888			EXU	RESE10,R1	
1258	01	00430	02300000	A		LCF,2	0	
1259	01	00431	2A00089F			LM,R0	ST0RPAG	RESTORE PAGE
1260	01	00432	00000000	A	ERR1	DATA	0	
1261					*			
1262					*			
1263					*			
1264	01	00433	35F00437		C0NC0L	STW,R15	C0NRET	CONVERT 8 HEX DIGITS IN R9 TO 8
1265	01	00434	6AF0031A			BAL,R15	PACK	EBLDC CHARACTERS IN R8 & R9
1266	01	00435	1280032A			LD,R8	PACKED	
1267	01	00436	E8000437			B	*C0NRET	
1268					*			
1269					*			
1270					*			
1271	01	00437	00000000	A	C0NRET	DATA	0	
1272					*			
1273					*			
1274					*			
1275					*			

* BY SETTING SENSE SWITCH 3, THE FOLLOWING ROUTINE WILL REPORT VIA THE
 * KEYBOARD PRINTER THE ENSUING INFORMATION:
 * 1. IDENTIFICATION OF THE LAST TEST EXECUTED.

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1276								* 2. ACUMULATIVE PROGRAM PASS COUNT.
1277								* 3. ACUMULATIVE ERROR COUNT.
1278								*
1279								*
1280								*
1281	01	00438	35F00452		REPORT	STW,R15	REPRET	SAVE RETURN ADDRESS
1282	01	00439	02300000	A		LCPI,2	0	SAVE PAGE
1283	01	0043A	2B00089F			STM,R0	STORPAG	
1284	01	0043B	6AF0038D			BAL,R15	CLKBUFF	*C
1285	01	0043C	22100001	A		LI,R1	1	
1286	01	0043D	329008BA			LW,R9	TESTN0	TEST ID
1287	01	0043E	6AF00433			BAL,R15	CONC0L	
1288	01	0043F	55900690			STM,R9	ERKBUFF	
1289	01	00440	32900971			LW,R9	*X'D7C1E2E2'	PASS INDICATOR
1290	01	00441	55900692			STM,R9	ERKBUFF+2	
1291	01	00442	25900210	A		SCS,R9	16	
1292	01	00443	55920691			STM,R9	ERKBUFF+1,R1	
1293	01	00444	3290084B			LW,R9	PASSCTR	PASS COUNT
1294	01	00445	6AF00433			BAL,R15	CONC0L	
1295	01	00446	35900693			STM,R9	ERKBUFF+3	
1296	01	00447	32900829			LW,R9	ERRCTR	ERROR COUNT
1297	01	00448	6AF00433			BAL,R15	CONC0L	
1298	01	00449	55900695			STM,R9	ERKBUFF+5	
1299	01	0044A	25900210	A		SCS,R9	16	
1300	01	0044B	55920694			STM,R9	ERKBUFF+4,R1	
1301	01	0044C	323008B8			LW,R3	KSK	OUT PUT TO THE KSK *C
1302	01	0044D	32000679			LW,R0	REPF0RM	*C
1303	01	0044E	6AF00250			BAL,R15	OUTPUT	REPORT
1304	01	0044F	02300000	A		LCPI,2	0	RESTORE PAGE
1305	01	00450	2AC0089F			LM,R0	STORPAG	
1306	01	00451	E8000452			B	*REPRET	EXIT
1307								*
1308								*
1309								*
1310	01	00452	00000000	A	REPRET	DATA	0	
1311								*
1312								* THE FOLLOWING TEST IS DESIGNED TO IMPOSE WORST CASE CONDITIONS ON
1313								* THE X PREDRIVE MATRIX RECOVERY. SEQUENTIAL TEST LOCATIONS ARE CHOSEN
1314								* SUCH THAT THE ADDRESS FIELD OF THE 1ST INSTRUCTION DIFFERS FROM THE
1315								* LOCATION OF THE 2ND INSTRUCTION IN BIT 22 AND EITHER BITS 28, 29, 30,
1316								* AND 31, OR BITS 25 TO 27. ALL MEANINGFUL ADDRESS COMBINATIONS OF X
1317								* POSITIVE AND NEGATIVE, VOLTAGE AND CURRENT PREDRIVE MATRICES ARE
1318								* THUSLY EXECUTED.
1319								*
1320								*
1321								*
1322	01	00453	22100000	A	TEST1	LI,R1	0	FOR DETERMINATION OF ADDRESS LIMITS
1323	01	00454	222FFFE9	A		LI,R2	-23	TOTAL ENTRIES
1324	01	00455	22300002	A		LI,R3	2	FOR CONTROL OF 1ST & 2ND PASSES
1325	01	00456	224FFFFF	A		LI,R4	-1	FOR TEST ADDRESS MODIFICATION
1326	01	00457	32800846			LW,R8	MAXCOR	
1327	01	00458	31840788		TABENT	CM,R8	ADDTAB+23,R2	DETERMINE # ADDRESS TABLE ENTRIES
1328	01	00459	6910045C			BL	SETUP1	
1329	01	0045A	65100458			BIR,R1	*+1	
1330	01	0045B	65200458			BIR,R2	TABENT	
1331	01	0045C	38800960		SETUP1	SW,R8	*X'FFFF'	DETERMINE # LOCATIONS TO BE CHECKED
1332	01	0045D	35800847			STM,R8	MEMIX	
1333	01	0045E	351008B0			STM,R1	TABLIM	SAVE # ADDRESS TABLE ENTRIES
1334	01	0045F	3A200001	A		LCW,R2	R1	SET INDEX FOR TABLE LOOKUP
1335	01	00460	35200751			STM,R2	ADDIX	
1336	01	00461	22000771			LI,R0	ADDTAB	ESTABLISH TABLE ENTRY ADDRESS
1337	01	00462	30000001	A		AW,R0	R1	
1338	01	00463	32700847			LW,R7	MEMIX	
1339	01	00464	32800972			LW,R8	*X'AAAAAAAA'	FILL CORE ABOVE 1000 WITH DATA
1340	01	00465	35800890			STM,R8	SHUDBE	
1341	01	00466	358E0FFF	A		STM,R8	X'FFFF',R7	
1342	01	00467	64700466			BDR,R7	*-1	
1343	01	00468	221FFFC0	A	TIRUN	LI,R1	-50	# OF BASIC ADDRESSES
1344	01	00469	32500847			LW,R5	MEMIX	SET INDEX FOR MEMORY SCAN
1345	01	0046A	22800200	A	TIRPT	LI,R8	X'200'	L22 TOGGLES X & Y CURRENT DIRECTION
1346	01	0046B	32900842			LW,R9	INSTX	LOAD TEST INSTRUCTION

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1347	01	0046C	499207BB			BR,R9	BASICV1+50,R1	ADD L26/27 OR L28/29/30/31 CONFIG.
1348	01	0046D	C9940000	A		BR,R9	*R0,R2	ADD MEMORY BLOCK ADDRESS
1349	01	0046E	21300001	A		CI,R3	1	IS THIS 2ND PASS WITH ALT MATRIX
1350	01	0046F	69300472			BNEZ	*+3	NO
1351	01	00470	49900008	A		BR,R9	R8	YES, SET L22 IN ADDRESS FIELD
1352	01	00471	22800000	A		LI,R8	0	RESET L22 FOR TEST LOCATIONS
1353	01	00472	C9840000	A		BR,R8	*R0,R2	SET UP 1ST TEST LOCATION
1354	01	00473	498207EB			BR,R8	BASICV2+50,R1	SET UP 2ND TEST LOCATION
1355	01	00474	B5980008	A		STW,R9	*R8,R4	STORE TEST INSTR IN 1ST TEST LOC
1356	01	00475	32A008AF			LW,R10	SWXRET	LOAD TEST RETURN BRANCH
1357	01	00476	B5A00008	A		STW,R10	*R8	STORE IN 2ND TEST LOCATION
1358	01	00477	22600001	A	TEST1EX	LI,R6	1	SET UP TEST1 PARITY INTERRUPT RETURN *C
1359	01	00478	3560084A			STW,R6	PARLBC	*C
1360	01	00479	E8080008	A		B	*R8,R4	EXECUTE TEST LOCS *C
1361	01	0047A	22600000	A		LI,R6	0	RESET SPURIOUS PARITY INTERRUPT *C
1362	01	0047B	3560084A			STW,R6	PARLBC	*C
1363	01	0047C	6C000000	A		RD,0	0	CHECK SS1
1364	01	0047D	69800477			BCS,8	TEST1EX	SHORT LOOP
1365	01	0047E	32BA0FFF	A	T1CHK	LW,R11	X'FFFF',R5	
1366	01	0047F	31B00972			CW,R11	*X'AAAAAAAA'	HAVE CONTENTS CHANGED
1367	01	00480	68300487			BE	COROK	NO
1368	01	00481	31B00009	A		CW,R11	R9	YES, IS THIS 1ST TEST LOC
1369	01	00482	68300487			BE	COROK	YES
1370	01	00483	31B0000A	A		CW,R11	R10	NO, IS THIS 2ND TEST LOC
1371	01	00484	68300487			BE	COROK	YES
1372	01	00485	22D00001	A		LI,R13	1	ERROR CODE 1
1373	01	00486	6AF003C5			BAL,R15	ERRBK	
1374	01	00487	6C000000	A	COROK	RD,0	0	CURRENT LOCATION UNDISTURBED
1375	01	00488	6940046A			BCS,4	T1RPT	LONG LOOP
1376	01	00489	6450047E			BDR,R5	T1CHK	CHECK NEXT LOCATION
1377	01	0048A	32C00972			LW,R12	*X'AAAAAAAA'	SCAN COMPLETED
1378	01	0048B	B5C80008	A		STW,R12	*R8,R4	RESTORE DATA TO TEST LOCS
1379	01	0048C	B5C00008	A		STW,R12	*R8	
1380	01	0048D	65100469			BIR,R1	T1RUN+1	TEST NEXT MATRIX COMBINATION
1381	01	0048E	65200468			BIR,R2	T1RUN	REPEAT TEST IN NEXT MEMORY BLOCK
1382	01	0048F	64300491			BDR,R3	*+2	REPEAT ABOVE WITH ALT. MATRICES
1383	01	00490	68000215			B	TESTRET	X PREDIIVE MATRIX TEST COMPLETED
1384	01	00491	32200751			LW,R2	ADDIX	RESET TABLE LOOKUP INDEX
1385	01	00492	68000468			B	T1RUN	
1386	01	00493	22D00005	A	PAR1RET	LI,R13	5	PARITY ERROR RETURN, ERROR CODE 5 *C
1387	01	00494	6AF003C5			BAL,R15	ERRBK	*C
1388	01	00495	6800047C			B	T1CHK=2	*C
1389								
1390								* THE FOLLOWING TEST IS DESIGNED TO EXECUTE INSTRUCTIONS FROM 3 PSEUDO
1391								* RANDOMLY GENERATED LOCATIONS. ADDRESS PATTERNS ARE GENERATED AND
1392								* MAINTAINED IN REGISTERS 8 AND 9. ALL COMBINATIONS OF ALL IMPLEMENTED
1393								* 4K MEMORY BLOCKS ARE TESTED.
1394								*
1395								*
1396								*
1397	01	00496	32000788		TEST2	LW,R0	BALEKR	(BAL,R15 ERRBK)
1398	01	00497	3500089D			STW,R0	SHUDBE	
1399	01	00498	321008FD			LW,R1	T2XPSD	TO B INSERTED IN LOC X140' *C
1400	01	00499	35100040	A		STW,R1	X140'	*C
1401	01	0049A	3280089E			LW,R8	STORBAL	(STW,R0 X'FFFF',R1)
1402	01	0049B	3580049E			STW,R8	MEMFILL	STORE INSTRUCTION TO FILL CORE
1403	01	0049C	32100846			LW,R1	MAXCOR	
1404	01	0049D	38100960			SW,R1	*X'FFF'	
1405	01	0049E	00000000	A	MEMFILL	DATA	0	FILL TEST MEMORY WITH BRANCH TO ERR
1406	01	0049F	6410049E			BDR,R1	*-1	
1407	01	004A0	221FFFEO	A		LI,R1	*32	INDEX FOR ADDRESS LOOP 1
1408	01	004A1	32000845			LW,R0	MASKINST	(AND,R10 ADDMASK,R3)
1409	01	004A2	30000848			AW,R0	NOBLOK	ADD # OF BLOCK TABLE ENTRIES
1410	01	004A3	350004AC			STW,R0	MASKR10	(AND,R10 ADDMASK+NOBLOK,R3)
1411	01	004A4	30000973			AW,R0	*X100120000'	
1412	01	004A5	350004AE			STW,R0	MASKR11	(AND,R11 ADDMASK+NOBLOK,R4)
1413	01	004A6	32800974			LW,R8	*X101234567'	ADDRESS PATTERN FOR ADDRESS LOOP 1
1414	01	004A7	32900008	A		LW,R9	R8	PATTERN FOR ADDRESS LOOP 2
1415	01	004A8	222FFFEO	A	ADD1LBBP	LI,R2	*32	INDEX FOR ADDRESS LOOP 2
1416	01	004A9	3A300848			LCW,R3	NOBLOK	INDEX FOR BLOCK LOOP 1
1417	01	004AA	32400003	A		LW,R4	R3	INDEX FOR BLOCK LOOP 2

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1418	01	004A8	32A00008	A	ADD2BLK1	LW,R10	R8	R10 CONTAINS ADDRESS #1
1419	01	004AC	00000000	A	MASKR10	DATA	0	MASK SELECTED BITS FOR ADDRESS #1
1420	01	004AD	32B00009	A	BLKLOOP2	LW,R11	R9	R11 CONTAINS ADDRESS #2
1421	01	004AE	00000000	A	MASKR11	DATA	0	MASK SELECTED BITS FOR ADDRESS #2
1422	01	004AF	21A01000	A		CI,R10	X'1000'	IS ADDRESS #1 ABOVE 4K
1423	01	004B0	681004B2			BGE	*+2	YES
1424	01	004B1	49A00961			BR,R10	*X'1000'	NO, ADD 4K
1425	01	004B2	21B01000	A		CI,R11	X'1000'	IS ADDRESS #2 ABOVE 4K
1426	01	004B3	681004B5			BGE	*+2	YES
1427	01	004B4	49B00961			BR,R11	*X'1000'	NO, ADD 4K
1428	01	004B5	32C0000B	A		LW,R12	R11	
1429	01	004B6	65C004B7			BIR,R12	*+1	R12 CONTAINS ADDRESS #3
1430	01	004B7	31B0000A	A		CH,R11	R10	ARE ADDRESSES 1 AND 2 EQUAL
1431	01	004B8	683004E8			BE	INCBLK2	YES, FETCH NEXT COMBINATION
1432	01	004B9	B5B0000A	A		STW,R11	*R10	ADDRESS #1 CONTAINS ADDRESS #2
1433	01	004BA	32D00849			LW,R13	NOP	
1434	01	004BB	B5D0000B	A		STW,R13	*R11	ADDRESS #2 CONTAINS A NOP
1435	01	004BC	3200089A			LW,R0	RET2INST	(B T2MET)
1436	01	004BD	B500000C	A		STW,R0	*R12	ADDRESS #3 CONTAINS A RETURN BRANCH
1437	01	004BE	49A007E9			BR,R10	BRANDOM	ADD INDIRECTLY ADDRESSED BRANCH
1438	01	004BF	22D00002	A		LI,R13	2	ERROR CODE 2
1439	01	004C0	22000002	A		LI,R0	2	
1440	01	004C1	3500084A			STW,R0	PARLOC	SET UP TEST2 PARITY INTERRUPT RETURN
1441	01	004C2	22000003	A		LI,R0	3	
1442	01	004C3	3100088A			CH,R0	TESTN8	IS THIS TEST 3
1443	01	004C4	693004CB			BNE	ITIST2	NO
1444	01	004C5	32E0000B	A		LW,R14	R11	YES
1445	01	004C6	4BE00970			AND,R14	*X'00FFFFFF'	MAKE A TWO INST. LOOP WAITING
1446	01	004C7	30E00975			AND,R14	*X'68000000'	FOR THE 10P TO ACCESS THE
1447	01	004C8	B5E0000C	A		STW,R14	*R12	SAME LOCATIONS.
1448	01	004C9	35E00906			STW,R14	T3INST	
1449	01	004CA	68000508			B	T3RET	GO BACK TO TEST 3
1450	01	004CB	6800000A	A	ITIST2	B	R10	EXECUTE SEQUENCE
1451	01	004CC	22000000	A	T2RET	LI,R0	0	RESET SPURIOUS PARITY INTERRUPT
1452	01	004CD	3500084A			STW,R0	PARLOC	
1453	01	004CE	6C000000	A		RD,R0	0	
1454	01	004CF	69C004AB			HCS,12	ADD2BLK1	RE-EXECUTE IF LOOPING REQUESTED
1455	01	004D0	CF00083E			HIS,0	*HIS'10	HALT DEVICE
1456	01	004D1	32000849		ALTERED	LW,R0	NOP	
1457	01	004D2	B100000B	A		CH,R0	*R11	WAS 2ND LOCATION ALTERED
1458	01	004D3	683004D8			BE	ALTINS	NO
1459	01	004D4	32F0000B	A		LW,R15	R11	YES, FAILING ADDRESS
1460	01	004D5	3500089D			STW,R0	SHUDBE	
1461	01	004D6	22D00008	A	REPERR	LI,R13	8	ERROR CODE
1462	01	004D7	680003C5			B	ERR0K	
1463	01	004D8	3200089A		ALTINS	LW,R0	RET2INST	
1464	01	004D9	22F00003	A		LI,R15	3	CHECK FOR TEST 3
1465	01	004DA	31F0088A			CH,R15	TESTN8	
1466	01	004DB	693004DD			BNE	*+2	
1467	01	004DC	32000906			LW,R0	T3INST	
1468	01	004DD	B100000C	A		CH,R0	*R12	WAS 3RD LOCATION ALTERED
1469	01	004DE	683004E4			BE	CASEND	NO
1470	01	004DF	32F0000C	A		LW,R15	R12	YES, FAILING ADDRESS
1471	01	004E0	3500089D			STW,R0	SHUDBE	
1472	01	004E1	680004D6			B	REPERR	
1473	01	004E2	22D00005	A	PAR2RET	LI,R13	5	PARITY ERROR RETURN, ERROR CODE 5
1474	01	004E3	680003C5			B	ERR0K	
1475	01	004E4	32000788		CASEND	LW,R0	BALEKR	RESTORE ERROR BRANCHES
1476	01	004E5	B500000A	A		STW,R0	*R10	
1477	01	004E6	B500000B	A		STW,R0	*R11	
1478	01	004E7	B500000C	A		STW,R0	*R12	
1479	01	004E8	654004AB		INCBLK2	BIR,R4	ADD2BLK1	REPEAT WITH ADDRESSES 2 & 3 IN NEXT
1480	01	004E9	3A400848			LCW,R4	N8BL0K	4K MEMORY BLOCK
1481	01	004EA	653004AB			BIR,R3	ADD2BLK1	REPEAT WITH ADDRESS 1 IN NEXT 4K
1482	01	004EB	3A300848			LCW,R3	N8BL0K	MEMORY BLOCK
1483	01	004EC	25900201	A		SCS,R9	1	ALTER PATTERN FOR ADDRESSES 2 & 3
1484	01	004ED	652004AB			BIR,R2	ADD2BLK1	
1485	01	004EE	25800201	A		SCS,R8	1	ALTER PATTERN FOR ADDRESS #1
1486	01	004EF	651004AB			BIR,R1	ADD1LOOP	
1487	01	004F0	68000215			B	TESTRET	EXIT TEST2
1488					*			

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1489								* THE FOLLOWING TEST IS A REPEAT OF TEST2 WITH SIMULTANEOUS ACCESSING
1490								* OF ADDRESSES 2 AND 3 BY CPU AND IOP. PRIOR TO THE EXECUTION OF THE
1491								* INSTRUCTIONS IN THE TEST ADDRESSES AN I/O OPERATION IS STARTED TO
1492								* CONTINUALLY OUTPUT THE CONTENTS OF THESE ADDRESSES TO THE SELECTED
1493								* DEVICE. IF THE SELECTED DEVICE IS A RAD, THE LAST BYTE OF ADDRESS #2
1494								* AND THE 1ST BYTE OF ADDRESS #3 ARE USED BY THE SEEK ORDER.
1495								*
1496								*
1497								*
1498	01 004F1	22500000	A		TEST3	LI,R5	0	
1499	01 004F2	3550051B				STW,R5	RADFLG	*C
1500	01 004F3	32500816				LW,R5	DEVTABIX	*C
1501	01 004F4	215FFFFB	A			CI,R5	#5	IS THE DEVICE A RAD
1502	01 004F5	683004F9				BE	ITISKAD	*C
1503	01 004F6	215FFFFL	A			CI,R5	#4	IS THE DEVICE ATAPE
1504	01 004F7	68300502				BE	ITISTAPE	*C
1505	01 004F8	68000507				B	GB	*C
1506	01 004F9	6AF003AF			ITISKAD	BAL,R15	DEVCHK	CHECK FOR DEVICE READY
1507	01 004FA	3200067E				LW,R0	RADSEEK	COMMAND DOUBLE WORD FOR
1508	01 004FB	0000083E				SIB,R0	*HISPI#	SEEK SECTOR AND TRACK.
1509	01 004FC	0000083E				TIB,R0	*HISPI#	*C
1510	01 004FD	69C004FC				BOS,R2	#=1	*C
1511	01 004FE	3300051B				MTW,R0	RADFLG	HAVE I BEEN HERE BEFORE
1512	01 004FF	6910050A				BLZ	T3NET#2	YES I HAVE
1513	01 00500	33F0051B				MTW,R-1	RADFLG	NO I HAVE NOT
1514	01 00501	68000507				B	GB	*C
1515	01 00502	6AF003AF			ITISTAPE	BAL,R15	DEVCHK	CHECK FOR DEVICE READY
1516	01 00503	32C0067F				LW,R0	REWIND	COMMAND DOUBLE WORD FOR
1517	01 00504	0000083E				SIB,R0	*HISPI#	REWINDING THE TAPE DRIVE
1518	01 00505	0000083E				TIB,R0	*HISPI#	*C
1519	01 00506	69C00505				BOS,R2	#=1	*C
1520	01 00507	68000496			GB	B	TEST2	*C
1521	01 00508	3300051B			T3NET	MTW,R0	RADFLG	IS THE DEVICE A RAD
1522	01 00509	691004FA				BLZ	ITISKAD#1	IT IS
1523	01 0050A	22500005	A			LI,R5	5	*C
1524	01 0050B	32E0000B	A			LW,R14	R11	CALCULATE THE COMMAND DOUBLE
1525	01 0050C	25E00002	A			SLS,R14	2	WORDS FOR THE I/O OPERATION
1526	01 0050D	49E00903				BR,R14	COMBOKEX	THE BYTE ADDRESS WILL BE ADDRESS
1527	01 0050E	32F00904				LW,R15	2NDHALF	NO. 2 FROM TEST 2.
1528	01 0050F	15EA0906				STD,R14	I8CDW#2,R5	*C
1529	01 00510	6450050F				BDR,R5	#=1	GEN. A COMMAND CHAIN STRING
1530	01 00511	32F00905				LW,R15	LASTFLAG	INT. ON ZERO BYTE COUNT FLAG
1531	01 00512	22600020	A			LI,R6	X1201	ARM AND ENABLE I/O INTERRUPTS
1532	01 00513	60601200	A			WD,R6	X12001	*C
1533	01 00514	15E00912				STD,R14	I8CDW#10	*C
1534	01 00515	6AF003AF				BAL,R15	DEVCHK	*C
1535	01 00516	22000484				LI,R0	DA(I8CDW)	*C
1536	01 00517	0000083E				SIB,R0	*HISPI#	START IOP ACCESSING ADDRESSES
1537	01 00518	22E00002	A			LI,R14	2	SET UP TEST 3 PARITY INT.
1538	01 00519	35E0084A				STW,R14	PARLOC	RETURN.
1539	01 0051A	6800000A	A			B	R10	START..
1540	01 0051B	00000000	A		RADFLG	DATA	0	*C
1541								*
1542								* THE FOLLOWING TEST IS DESIGNED TO STORE AND LOAD VARYING DATA PATTERNS
1543								* IN ALL MEMORY LOCATIONS ABOVE 4K. STORAGE BY BYTE EXERCIZES PARTIAL
1544								* WRITE LOGIC WHICH ASSURES A PARITY CHECK FOR EACH MEMORY ACCESS. ANY
1545								* PARITY ERROR DURING EITHER THE PARTIAL WRITE OR THE FULL WORD COMPARE
1546								* WILL BE SO NOTED ON THE ERROR PRINTOUT AS WILL ANY DATA CHANGE.
1547								*
1548								*
1549								*
1550	01 0051C	223FFFF4	A		TEST4	LI,R3	#12	SET INDEX FOR DATA ACQUISITION
1551	01 0051D	22400001	A			LI,R4	1	
1552	01 0051E	22600000	A			LI,R6	0	*C
1553	01 0051F	22A00003	A			LI,R10	3	*C
1554	01 00520	22800004	A			LI,R11	4	*C
1555	01 00521	22C01000	A		ADUCTR	LI,R0	X110001	STARTING ADDRESS
1556	01 00522	350008B9				STW,R0	TESTLOC	ADDRESS COUNTER
1557	01 00523	22200003	A		BYTIX	LI,R2	3	BYTE ADDRESSING INDEX
1558	01 00524	32860858				LW,R8	PATTERN#12,R3	LOAD CURRENT DATA PATTERN
1559	01 00525	75840000	A		LDULBC	STB,R8	R0,R2	

LINE NO.	MEM PROCT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I C	LABEL	OPERATION	OPERAND	COMMENTS
1560	01	00526	3500089D			STW,R0	SMUDBE	
1561	01	00527	35A0084A			STW,R10	PARLBC	SET UP TEST4 PARITY INTKPT RET *C
1562	01	00528	F58408B9			STB,R8	*TESTLBC,R2	STORE BYTE
1563	01	00529	3560084A			STW,R6	PARLBC	RESET SPURIOUS PARITY INTERRUPT *C
1564	01	0052A	6800052F			B	LOOPA	PARITY OK MEME
1565	01	0052B	6C000000	A	PAR4BRET	RD,0	0	PARITY INTERRUPT RETURN *C
1566	01	0052C	69800526			BDS,B	LOULBC+1	ERROR SHORT LOOP
1567	01	0052D	22D00003	A		LI,R13	3	ERROR LONG LOOP
1568	01	0052E	6AF003C5			BAL,R15	ERRBK	ERROR CODE 3
1569	01	0052F	6C000000	A	LOOPA	RD,0	0	NON-ERROR SHORT LOOP
1570	01	00530	69C00526			BDS,12	LOULBC+1	ERROR LONG LOOP
1571	01	00531	64200525			BDR,R2	LOULBC	STORE NEXT BYTE
1572	01	00532	75800000	A		STB,R8	R0	
1573	01	00533	35A0084A			STW,R10	PARLBC	SET UP TEST4 PARITY INTKPT RETURN *C
1574	01	00534	F58008B9			STB,R8	*TESTLBC	
1575	01	00535	35B0084A			STW,R11	PARLBC	SET UP TEST4 PARITY INTKPT RETURN *C
1576	01	00536	B10008B9		COMPT4	CW,R0	*TESTLBC	ALL 4 BYTES STORED OK
1577	01	00537	3560084A			STW,R6	PARLBC	RESET SPURIOUS PARITY INTERRUPT *C
1578	01	00538	6800053D			B	LOOPB	
1579	01	00539	6C000000	A	PAR4BRET	RD,0	0	PARITY INTERRUPT RETURN *C
1580	01	0053A	69800536			BDS,B	COMPT4	PARITY ERROR SHORT LOOP
1581	01	0053B	22D00005	A		LI,R13	5	ERROR CODE 5
1582	01	0053C	6800053F			B	B+3	
1583	01	0053D	68300540		LOOPB	BE	B+3	BRANCH IF COMPARISON OK
1584	01	0053E	22D00004	A		LI,R13	4	ERROR CODE 4
1585	01	0053F	6AF003C5			BAL,R15	ERRBK	
1586	01	00540	6C000000	A		RD,0	0	ERROR LONG LOOP
1587	01	00541	69C00536			BDS,12	COMPT4	NON-ERROR SHORT LOOP
1588	01	00542	32C008B9			LW,R12	TESTLBC	
1589	01	00543	31C00846			CW,R12	MAXCOK	HAVE ALL ADDRESSES BEEN CHECKED
1590	01	00544	68300547			BE	ADDRINC	YES
1591	01	00545	664008B9			AWM,R4	TESTLBC	NO, CHECK NEXT ADDRESS
1592	01	00546	68000523			B	BYTIX	
1593	01	00547	65300521		ADDRINC	BIR,R3	ADUCTR	TRY NEXT DATA PATTERN
1594	01	00548	320008BA			LW,R0	TESTNO	
1595	01	00549	21000005	A		CI,R0	5	
1596	01	0054A	69100215			BL	TESTNET	TEST4
1597	01	0054B	68000564			B	HALTI05	TEST5/11
1598								
1599								
1600								* THE FOLLOWING TEST IS A REPEAT OF TEST4 WITH CONTINUAL ACCESSING OF
1601								* ALL IMPLEMENTED MEMORY ADDRESSES BY THE SELECTED I/O DEVICE
1602								* SIMULTANEOUS WITH TEST EXECUTION.
1603								
1604								
1605	01	0054C	32400848		TEST5	LW,R4	NOBLCK	GET NO. OF 4K MEMORY BLOCKS *C
1606	01	0054D	32300816			LW,R3	DEVTABIX	*C
1607	01	0054E	213FFFFB	A		CI,R3	-5	IS DEVICE A HAD *C
1608	01	0054F	68300568			BE	RAUTST	IT IS *C
1609	01	00550	213FFFFC	A		CI,R3	-4	IS DEVICE A TAPE *C
1610	01	00551	68300571			BE	TAPETST	IT IS *C
1611	01	00552	22803FFF	A	SETUPCDW	LI,R8	X'3FFF'	BYTE COUNT FOR CDWIS *C
1612	01	00553	22904000	A		LI,R9	X'4000'	STARTING ADDR FOR CDWIS *C
1613	01	00554	12600580			LD,R6	CDWTABLE	GET BASE CDW *C
1614	01	00555	49600009	A		BR,R6	R9	COMPLETE CDWIS *C
1615	01	00556	49700008	A		BR,R7	R8	*C
1616	01	00557	2250048A			LI,R5	DA(SCANCDW)	DA OF STARTING LOC. OF CDWIS *C
1617	01	00558	156A0000	A		STD,R6	Q,R5	STORE CDWIS *C
1618	01	00559	20604000	A		AI,R6	X'4000'	INCREMENT BYTE ADDRESS *C
1619	01	0055A	33100005	A		MTW,1	R5	INCREMENT CDW ADDRESS *C
1620	01	0055B	64400558			BDR,R4	B-3	COUNT NO OF 4K BLOCKS *C
1621	01	0055C	1260057A			LD,R6	VARIABLE	HAD SEEK OR TAPE REWIND *C
1622	01	0055D	156A0000	A		STD,R6	Q,R5	STORE CDW *C
1623	01	0055E	33100005	A		MTW,1	R5	*C
1624	01	0055F	1260057E			LD,R6	TRANSFER	TRANSFER IN CHANNEL *C
1625	01	00560	156A0000	A		STD,R6	Q,R5	STORE CDW *C
1626	01	00561	2200048A			LI,0	DA(SCANCDW)	DA OF CDW TABLE *C
1627	01	00562	CC00083E			SIB,0	*HISPIO	START DATA TRANSFER *C
1628	01	00563	6800051C			B	TEST4	START TEST 4 *C
1629	01	00564	1260057C		HALTI05	LD,R6	STUVARIB	RESTORE VARIABLE *C
1630	01	00565	1560057A			STD,R6	VARIABLE	*C

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1631	01	00566	CF00083E			HID,0	*HISPI0	HALT I/O OPERATION
1632	01	00567	68000215			B	TESTKET	FINISHED WITH TEST 5
1633	01	00568	6AF003AF		RADTST	BAL,15	DEVCHK	
1634	01	00569	3200067E			LW,0	RAUSEEK	
1635	01	0056A	CC00083E			SID,0	*HISPI0	
1636	01	0056B	CD00083E			TID,0	*HISPI0	
1637	01	0056C	69C0056B			BCE,12	S=1	
1638	01	0056D	1260064A			LD,R6	SEEK	
1639	01	0056E	49700581			BR,7	CDWTABLE+1	ADD FLAGS
1640	01	0056F	1560057A			STD,R6	VARIABLE	
1641	01	00570	68000552			B	SETUPCDW	
1642	01	00571	6AF003AF		TAPETST	BAL,15	DEVCHK	
1643	01	00572	3200067F			LW,0	REWIND	
1644	01	00573	CC00083E			SID,0	*HISPI0	
1645	01	00574	CD00083E			TID,0	*HISPI0	
1646	01	00575	69C00574			BCE,12	S=1	
1647	01	00576	1260064C			LD,R6	RETAP	
1648	01	00577	49700581			BR,7	CDWTABLE+1	ADD FLAGS
1649	01	00578	1560057A			STD,R6	VARIABLE	
1650	01	00579	68000552			B	SETUPCDW	
1651						BUND	8	
1652	01	0057A	01001A40 N		VARIABLE	OUTFORM	1,BA(ERKBUFF),X'20',4*(ERKBUFFA-ERKBUFF)	
			20000050					
1653	01	0057C	01001A40 N		STOVARIABLE	OUTFORM	1,BA(ERKBUFF),X'20',4*(ERKBUFFA-ERKBUFF)	
			20000050					
1654	01	0057E	08C0	A	TRANSFER	DATA,2	X'0800',DA(SCANCDW)	
			048A	N				
1655	01	0057F	00000000	A		DATA	0	
1656	01	00580	01000000	A	CDWTABLE	DATA	1**24	
1657	01	00581	2E000000	A		DATA	X'2E000000'	
1658	01	00582	2E000000	A	TEST6	WAIT		
1659	01	00583	2E000000	A	TEST7	WAIT		
1660	01	00584	2E000000	A	TEST8	WAIT		
1661	01	00585	2E000000	A	TEST9	WAIT		
1662								*
1663								* THE FOLLOWING TEST IS DESIGNED TO TEST THE MEMORY PARITY GENERATING/
1664								* CHECKING LOGIC BY EXPLORING DATA PATTERNS WHICH MAY RESULT IN BOTH THE
1665								* PE AND POK SIGNALS BEING SIMULTANEOUSLY HIGH OR LOW. DATA PATTERNS ARE
1666								* READ OUT AS THE 2ND WORD OF A STOP COMMAND DOUBLEWORD. EXECUTION OF
1667								* THIS TEST REQUIRES THE INSERTION OF A JUMPER IN CPU FRAME 1 FROM 04C17
1668								* TO 06C15 ON SIGMA 5, OR FROM 27G16 TO 27G21 ON SIGMA 7. THIS WILL
1669								* PERMIT UTILIZATION OF THE PCF FLIP FLOP AS AN I/O RESET. AN NPE.NPOK
1670								* CONDITION WILL CAUSE THE NEXT I/O INSTRUCTION TO HANG UP. DETECTION
1671								* OF THE PE+POK CONDITION MUST BE BY OBSERVATION OF BOTH SIGNALS ON
1672								* SCOPE. THIS IS A STAND-ALONE TEST AND MUST BE RUN INDEPENDENTLY.
1673								*
1674								*
1675								*
1676	01	00586	22800001	A	TEST10	LI,R8	1	
1677	01	00587	22A00000	A		LI,R10	0	
1678	01	00588	22B00005	A		LI,R11	5	
1679	01	00589	35A0084B	A		STW,R10	PASSLTR	CLEAR COUNTERS
1680	01	0058A	35A00829	A		STW,R10	ENRCTR	
1681	01	0058B	32000857	A		LW,R0	PEPK1	1ST COMMAND DOUBLEWORD
1682	01	0058C	35000908	A		STW,R0	IOCDW	
1683	01	0058D	221FFFE7	A	SETCDW2	LI,R1	*25	SET 2ND COMMAND DOUBLEWORD
1684	01	0058E	32020871	A		LW,R0	PEPK2+25,R1	
1685	01	0058F	35000909	A		STW,R0	IOCDW+1	
1686	01	00590	6C200010	A	IOLOOP	RD,2	X'10'	RESET MEMORY FZULT INDICATORS
1687	01	00591	22000484	A		LI,R0	DA(IOCDW)	
1688	01	00592	35B0084A	A		STW,R11	PARLOC	SET UP TEST10 PARITY INTRPT RETURN
1689	01	00593	CC00083E	A		SID,0	*HISPI0	EXECUTE SID WITH STOP ORDER
1690	01	00594	35A0084A	A		STW,R10	PARLOC	RESET SPURIOUS PARITY INTERRUPT
1691	01	00595	6800059C	A		B	IOHALT	BRANCH IF NPE
1692	01	00596	6C000000	A	PARIORET	RD,0	0	PE INTERRUPT RETURN
1693	01	00597	69800590	A		BCE,8	IOLOOP	INTERUPT ERROR SHORT LOOP
1694	01	00598	22D00005	A		LI,R13	5	ERROR CODE 5
1695	01	00599	6AF003C5	A		BAL,R15	ERROR	
1696	01	0059A	6C000000	A		RD,0	0	
1697	01	0059B	69400590	A		BCE,4	IOLOOP	INTERUPT ERROR LONG LOOP
1698	01	0059C	CF00083E	A	IOHALT	HID,0	*HISPI0	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1699	01	00590	6C000000	A		RD,0	0	PRK SET
1700	01	0059E	69C00590			BCS,12	!0LOOP	NON-ERROR LOOP
1701	01	0059F	6510058E			BIN,R1	SETCUM2+1	FETCH NEXT PATTERN
1702	01	005A0	66800840			AWM,R8	PASSCTR	
1703	01	005A1	6C000000	A		RD,0	0	
1704	01	005A2	6820058D			BCR,2	SETCUM2	REPEAT TEST
1705	01	005A3	6AF00438			BAL,R15	REPORT	
1706	01	005A4	6800058D			B	SETCUM2	
1707								
1708								
1709								
1710								
1711								
1712								
1713								
1714								
1715	01	005A5	32000678		TEST11	LW,R0	0PSFORM	REQUEST OUTPUT DEVICE ADDRESS
1716	01	005A6	32300808			LW,R3	KSK	OUTPUT MES TO KSK
1717	01	005A7	6AF00250			BAL,R15	OUTPUT	
1718	01	005A8	32E00680			LW,R14	SELFDM	FETCH DEVICE ADDRESS
1719	01	005A9	6AF00234			BAL,R15	KDUREAD	
1720	01	005AA	680005A5			B	TEST11	ERROR RETURN FROM KDUREAD
1721	01	005AB	25E00210	A		SCB,R14	16	POSITION CHARACTER COUNT
1722	01	005AC	6AF0032C			BAL,R15	UNPACK	CONVERT TO HEX
1723	01	005AD	3580083E			STW,R8	HISPI0	
1724	01	005AE	48800976			AND,R8	*XIFF1	MASK DEVICE ADDRESS
1725	01	005AF	21800006	A		CI,R8	X'06'	RAVIMT
1726	01	005B0	69100582			BL	*+2	NO
1727	01	005B1	48800977			AND,R8	*XIFO1	YES
1728	01	005B2	221FFFFB	A		LI,R1	-5	
1729	01	005B3	31820816			CW,R8	DEVTAB+5,R1	SEARCH TABLE
1730	01	005B4	68300587			BE	*+3	
1731	01	005B5	65100583			BIN,R1	*-2	
1732	01	005B6	680005A5			B	TEST11	
1733	01	005B7	35100816			STW,R1	DEVTABX	
1734	01	005B8	CF00083E		HALTI011	HIO,0	*HISPI0	
1735	01	005B9	6800054C			B	TEST5	EXECUTE
1736								* TRAP PROCESSING SWITCH TO SET UP IDENTIFICATION OF SPURIOUS TRAPS
1737								
1738								
1739								
1740								
1741	01	005BA	00000000	A	NONBP	BOUND	8	
1742	01	005BB	00000000	A		DATA	0	
1743	01	005BC	0000058E			DATA	NONBP+4	
1744	01	005BD	00000000	A		DATA	0	
1745	01	005BE	68000632			BCR,0	TRAP40	INTERRUPT SYSTEM FAULT
1746	01	005BF	68000632			BCR,0	TRAP40	MEMORY PROTECT VIOLATION
1747	01	005C0	68000632			BCR,0	TRAP40	MODE VIOLATION
1748	01	005C1	2E000000	A		WAIT		
1749	01	005C2	680001A2			BCR,0	NOADD	
1750	01	005C3	2E000000	A		WAIT		
1751	01	005C4	2E000000	A		WAIT		
1752	01	005C5	2E000000	A		WAIT		
1753	01	005C6	68000343			B	T23THAP	NON-EXISTENT INSTRUCTION
1754								
1755	01	005C8	00000000	A	UNIMP	BOUND	8	
1756	01	005C9	00000000	A		DATA	0	
1757	01	005CA	00000634			DATA	TRAP41	
1758	01	005CB	00000000	A		DATA	0	
1759	01	005CC	00000000	A	STACK	DATA	0	
1760	01	005CD	00000000	A		DATA	0	
1761	01	005CE	00000636			DATA	TRAP42	
1762	01	005CF	00000000	A		DATA	0	
1763	01	005D0	00000000	A	9FL0	DATA	0	
1764	01	005D1	00000000	A		DATA	0	
1765	01	005D2	00000638			DATA	TRAP43	
1766	01	005D3	00000000	A		DATA	0	
1767	01	005D4	00000000	A	FL0AT	DATA	0	
1768	01	005D5	00000000	A		DATA	0	
1769	01	005D6	0000063A			DATA	TRAP44	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1770	01	005D7	00000000	A		DATA	0	
1771	01	005D8	00000000	A	JEC	DATA	0	
1772	01	005D9	00000000	A		DATA	0	
1773	01	005DA	0000063C	A		DATA	TRAP45	
1774	01	005DB	00000000	A		DATA	0	
1775	01	005DC	00000000	A	DBGTIME	DATA	0	
1776	01	005DD	00000000	A		DATA	0	
1777	01	005DE	000003A5	A		DATA	TIMESUP	
1778	01	005DF	00000000	A		DATA	0	
1779	01	005E0	00000000	A	TRAPUN	DATA	0	
1780	01	005E1	00000000	A		DATA	0	
1781	01	005E2	00000640	A		DATA	TUNASS	
1782	01	005E3	00000000	A		DATA	0	
1783	01	005E4	00000000	A	CALL1	DATA	0	
1784	01	005E5	00000000	A		DATA	0	
1785	01	005E6	00000642	A		DATA	TRAP48	
1786	01	005E7	00000000	A		DATA	0	
1787	01	005E8	00000000	A	CALL2	DATA	0	
1788	01	005E9	00000000	A		DATA	0	
1789	01	005EA	00000644	A		DATA	TRAP49	
1790	01	005EB	00000000	A		DATA	0	
1791	01	005EC	00000000	A	CALL3	DATA	0	
1792	01	005ED	00000000	A		DATA	0	
1793	01	005EE	00000646	A		DATA	TRAP4A	
1794	01	005EF	00000000	A		DATA	0	
1795	01	005F0	00000000	A	CALL4	DATA	0	
1796	01	005F1	00000000	A		DATA	0	
1797	01	005F2	00000648	A		DATA	TRAP4B	
1798	01	005F3	00000000	A		DATA		
1799					*			
1800					* INTERUPT SWITCH TO SET UP IDENTIFICATION OF SPURIOUS INTERRUPTS			
1801					*			
1802					*			
1803					*			
1804	01	005F4	00000000	A	POWERN	DATA	0	
1805	01	005F5	00000000	A		DATA	0	
1806	01	005F6	00000620	A		DATA	INT50	
1807	01	005F7	00000000	A		DATA	0	
1808	01	005F8	00000000	A	POWERFF	DATA	0	
1809	01	005F9	00000000	A		DATA	0	
1810	01	005FA	00000622	A		DATA	INT51	
1811	01	005FB	00000000	A		DATA	0	
1812	01	005FC	00000000	A	PULSE1	DATA	0	
1813	01	005FD	00000000	A	PULSE2	DATA	0	
1814	01	005FE	00000000	A	PULSE3	DATA	0	
1815	01	005FF	00000000	A	PULSE4	DATA	0	
1816	01	00600	00000000	A	MEMPAR	DATA	0	
1817	01	00601	00000000	A		DATA	0	
1818	01	00602	00000398	A		DATA	PARINT	
1819	01	00603	00000000	A		DATA	0	
1820	01	00604	00000000	A	INTUN	DATA	0	
1821	01	00605	00000000	A		DATA	0	
1822	01	00606	00000624	A		DATA	TUNASS	
1823	01	00607	00000000	A		DATA	0	
1824	01	00608	00000000	A	CBUNT1	DATA	0	
1825	01	00609	00000000	A		DATA	0	
1826	01	0060A	00000626	A		DATA	INT5B	
1827	01	0060B	00000000	A		DATA	0	
1828	01	0060C	00000000	A	CBUNT2	DATA	0	
1829	01	0060D	00000000	A		DATA	0	
1830	01	0060E	00000628	A		DATA	INT59	
1831	01	0060F	00000000	A		DATA	0	
1832	01	00610	00000000	A	CBUNT3	DATA	0	
1833	01	00611	00000000	A		DATA	0	
1834	01	00612	0000062A	A		DATA	INT5A	
1835	01	00613	00000000	A		DATA	0	
1836	01	00614	00000000	A	CBUNT4	DATA	0	
1837	01	00615	00000000	A		DATA	0	
1838	01	00616	0000062C	A		DATA	INT5B	
1839	01	00617	00000000	A		DATA	0	
1840	01	00618	00000000	A	INOUT	DATA	0	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL ORIG	LABEL	OPERATION	OPERAND	COMMENTS
1841	01	00619	00000000	A		DATA	0	
1842	01	0061A	00000349			DATA	IBINT	
1843	01	0061B	00000000	A		DATA	0	*C
1844	01	0061C	00000000	A	EXTERN	DATA	0	
1845	01	0061D	00000000	A		DATA	0	
1846	01	0061E	0000062E			DATA	EXTIN	
1847	01	0061F	00000000	A		DATA	0	
1848					*			
1849					* INTERRUPT HALTS FOR IDENTIFICATION OF SPURIOUS INTERRUPTS			
1850					*			
1851					*			
1852					*			
1853	01	00620	2E000000	A	INT50	WAIT		POWER ON
1854	01	00621	0E00016A			LPSD,0	RESTART	
1855	01	00622	2E000000	A	INT51	WAIT		POWER OFF
1856	01	00623	0E00016A			LPSD,0	RESTART	
1857	01	00624	2E000000	A	IUNASS	WAIT		UNASSIGNED INTERRUPT
1858	01	00625	0E00016A			LPSD,0	RESTART	
1859	01	00626	2E000000	A	INT58	WAIT		COUNTER 1 ZERO
1860	01	00627	0E00016A			LPSD,0	RESTART	
1861	01	00628	2E000000	A	INT59	WAIT		COUNTER 2 ZERO
1862	01	00629	0E00016A			LPSD,0	RESTART	
1863	01	0062A	2E000000	A	INT5A	WAIT		COUNTER 3 ZERO
1864	01	0062B	0E00016A			LPSD,0	RESTART	
1865	01	0062C	2E000000	A	INT5B	WAIT		COUNTER 4 ZERO
1866	01	0062D	0E00016A			LPSD,0	RESTART	
1867	01	0062E	2E000000	A	EXTIN	WAIT		EXTERNAL
1868	01	0062F	0E00016A			LPSD,0	RESTART	
1869	01	00630	2E000000	A	PARSPUR	WAIT		SPURIOUS PARITY ERROR
1870	01	00631	0E00016A			LPSD,0	RESTART	*C
1871					*			
1872					* TRAP HALTS FOR IDENTIFICATION OF SPURIOUS TRAPS			
1873					*			
1874					*			
1875					*			
1876	01	00632	2E000000	A	TRAP40	WAIT		NON-ALLOWED OPERATION
1877	01	00633	0E00016A			LPSD,0	RESTART	*C
1878	01	00634	2E000000	A	TRAP41	WAIT		UNIMPLEMENTED INSTRUCTION
1879	01	00635	0E00016A			LPSD,0	RESTART	*C
1880	01	00636	2E000000	A	TRAP42	WAIT		PUSH-DOWN STACK LIMIT REACHED
1881	01	00637	0E00016A			LPSD,0	RESTART	*C
1882	01	00638	2E000000	A	TRAP43	WAIT		FIXED-POINT ARITHMETIC OVERFLOW
1883	01	00639	0E00016A			LPSD,0	RESTART	*C
1884	01	0063A	2E000000	A	TRAP44	WAIT		FLOATING-POINT FAULT
1885	01	0063B	0E00016A			LPSD,0	RESTART	*C
1886	01	0063C	2E000000	A	TRAP45	WAIT		
1887	01	0063D	0E00016A			LPSD,0	RESTART	*C
1888	01	0063E	2E000000	A	TRAP46	WAIT		WATCHDOG TIMER RUNOUT
1889	01	0063F	0E00016A			LPSD,0	RESTART	*C
1890	01	00640	2E000000	A	IUNASS	WAIT		UNASSIGNED TRAP
1891	01	00641	0E00016A			LPSD,0	RESTART	*C
1892	01	00642	2E000000	A	TRAP48	WAIT		CALL 1
1893	01	00643	0E00016A			LPSD,0	RESTART	*C
1894	01	00644	2E000000	A	TRAP49	WAIT		CALL 2
1895	01	00645	0E00016A			LPSD,0	RESTART	*C
1896	01	00646	2E000000	A	TRAP4A	WAIT		CALL 3
1897	01	00647	0E00016A			LPSD,0	RESTART	*C
1898	01	00648	2E000000	A	TRAP4B	WAIT		CALL 4
1899	01	00649	0E00016A			LPSD,0	RESTART	*C
1900					*			
1901					* FORMAT CONTROL WORDS FOR PROGRAM COMMUNICATIONS			
1902					*			
1903					*			
1904					*			
1905						BUND	8	*C
1906	01	0064A	0300241C	N	SEEK	BUTFORM	3,BA(DATA2),0,2	*C
			00000002					
1907	01	0064C	33000000	A	RETAP	BUTFORM	X'33',0,0,0	REWIND TAPE
			00000000					
1908	01	0064E	05001A04	N	CODEFOR	BUTFORM	5,BA(COMDEV),0,4*(COMDEVA-COMDEV)	*C
			00000020					

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1909	01	00650	05001A24 0000001C	N	DEV0F0R	OUTF0RM	5,BA(DEV0FF),0,4*(DEV0FFA=DEV0FF)	*C
1910	01	00652	05001A40 00000080	N	ERRF0R	OUTF0RM	5,BA(ERRBUFF),0,4*(ERRBUFFA=ERRBUFF)	*C
1911	01	00654	05001C3C 0000001C	N	F0RME	OUTF0RM	5,BA(MEMSTAT1),0,4*(MEMSTAT1=MEMSTAT1)	*C
1912	01	00656	05001C58 00000040	N		OUTF0RM	5,BA(MEMSTAT2),0,4*(MEMSTAT2=MEMSTAT2)	*C
1913	01	00658	05001B64 00000080	N	HEADF0R	OUTF0RM	5,BA(IDENT),0,4*(IDENTA=IDENT)	*C
1914	01	0065A	05001A90 00000048	N		OUTF0RM	5,BA(HEADING1),0,4*(HEADINGA=HEADING1)	*C
1915	01	0065C	05001AD8 00000044	N		OUTF0RM	5,BA(HEADING2),0,4*(HEADING2=HEADING2)	*C
1916	01	0065E	05001B1C 00000048	N		OUTF0RM	5,BA(HEADING3),0,4*(HEADING3=HEADING3)	*C
1917	01	00660	05001CC8 00000028	N	HIDVF0R	OUTF0RM	5,BA(SELDEV),0,4*(SELDEVA=SELDEV)	*C
1918	01	00662	05001C98 00000030	N	0PSF0R	OUTF0RM	5,BA(0PSDEV),0,4*(0PSDEVA=0PSDEV)	*C
1919	01	00664	05001A40 00000028	N	REPF0R	OUTF0RM	5,BA(ERRBUFF),0,4*(ERRBUFFA=ERRBUFF),2	*C
1920	01	00666	05001CF0 00000014	N	REQF0R	OUTF0RM	5,BA(TESTREW),0,4*(TESTREWA=TESTREW)	*C
1921	01	00668	05001BE4 00000058	N	SC0RF0R	OUTF0RM	5,BA(INSUF0R),0,4*(INSUF0RA=INSUF0R)	*C
1922	01	0066A	05001D04 0000001C	N	SPURIN	OUTF0RM	5,BA(SPUR),0,4*(SPURA=SPUR)	*C
1923	01	0066C	05001D20 00000024	N	WPR0TEC	OUTF0RM	5,BA(WPR0TE),0,4*(WPR0TEA=WPR0TE)	*C
1924	01	0066E	00000327		CODEF0RM	DATA	DA(CODEF0R)	*C
1925	01	0066F	00000328		DEV0F0RM	DATA	DA(DEV0F0R)	*C
1926	01	00670	00000329		ERRF0RM	DATA	DA(ERRF0R)	*C
1927	01	00671	0000032A		F0RME	DATA	DA(F0RME)	*C
1928	01	00672	0000032B			DATA	DA(F0RME)+1	*C
1929	01	00673	0000032C		HEADF0RM	DATA	DA(HEADF0R)	*C
1930	01	00674	0000032D			DATA	DA(HEADF0R)+1	*C
1931	01	00675	0000032E			DATA	DA(HEADF0R)+2	*C
1932	01	00676	0000032F			DATA	DA(HEADF0R)+3	*C
1933	01	00677	00000330		HIDVF0RM	DATA	DA(HIDVF0R)	*C
1934	01	00678	00000331		0PSF0RM	DATA	DA(0PSF0R)	*C
1935	01	00679	00000332		REPF0RM	DATA	DA(REPF0R)	*C
1936	01	0067A	00000333		REQF0RM	DATA	DA(REWF0R)	*C
1937	01	0067B	00000334		SC0RF0RM	DATA	DA(SC0RF0R)	*C
1938	01	0067C	00000335		SPURIN	DATA	DA(SPURIN)	*C
1939	01	0067D	00000336		WPR0TECT	DATA	DA(WPR0TEC)	*C
1940	01	0067E	00000325		RADSEEK	DATA	DA(SEEK)	*C
1941	01	0067F	00000326		REWIND	DATA	DA(RETAP)	*C
1942	01	00680	00000009	A	SELF0RM	INF0RM	0,09	SEEK SECTOR AND TRACK 0 REWIND TAPE
1943							*	
1944							* PROGRAM OUTPUT MESSAGES	
1945							*	
1946							*	
1947							*	
1948	01	00681	C5D9D9D6	A	COMDEV	TEXT	'ERR0R OUTPUT DEVICE ADDRESS = '	*C
	01	00682	D940D6E4	A				
	01	00683	E3D7E4E3	A				
	01	00684	40C4C5E5	A				
	01	00685	C9C3C540	A				
	01	00686	C1C4C4D9	A				
	01	00687	C5E2E240	A				
	01	00688	7E404040	A				
1949	01	00689			COMDEVA	EQU	*	*C
1950	01	00689	E2C5D3C5	A	DEV0FF	TEXT	'SELECTED DEVICE NOT READY'	
	01	0068A	C3E3C5C4	A				
	01	0068B	40C4C5E5	A				
	01	0068C	C9C3C540	A				
	01	0068D	U5D6E340	A				
	01	0068E	U9C5C1C4	A				
	01	0068F	E8404040	A				
1951	01	00690			DEV0FFA	EQU	*	*C

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1952	01	00690	40404040	A	ERRBUFF	TEXT		
	01	00691	40404040	A				
	01	00692	40404040	A				
	01	00693	40404040	A				
	01	00694	40404040	A				
	01	00695	40404040	A				
	01	00696	40404040	A				
	01	00697	40404040	A				
	01	00698	40404040	A				
	01	00699	40404040	A				
	01	0069A	40404040	A				
	01	0069B	40404040	A				
	01	0069C	40404040	A				
1953	01	0069D	40404040	A		TEXT		
	01	0069E	40404040	A				
	01	0069F	40404040	A				
	01	006A0	40404040	A				
	01	006A1	40404040	A				
	01	006A2	40404040	A				
	01	006A3	40404040	A				
1954		01 006A4			ERRBUFFA EQU			*C
1955	01	006A4	E3C5E2E3	A	HEADING1	TEXT	TEST ERROR PASS ERROR FAILING CONTENTS CONTENTS	
	01	006A5	4040C5D9	A				
	01	006A6	D9D6D940	A				
	01	006A7	D7C1E2E2	A				
	01	006A8	4040C5D9	A				
	01	006A9	D9D6D940	A				
	01	006AA	C6C1C9D3	A				
	01	006AB	C9D5C740	A				
	01	006AC	C3D6D5E3	A				
	01	006AD	C5D5E3E2	A				
	01	006AE	4040C3D6	A				
	01	006AF	D5E3C5D5	A				
	01	006B0	E3E24040	A				
1956	01	006B1	C6C1C9D3	A		TEXT	'FAILING INSTRUCTION'	
	01	006B2	C9D5C740	A				
	01	006B3	C9D5E2E3	A				
	01	006B4	D9E4C3E3	A				
	01	006B5	C9D6D540	A				
1957		01 006B6			HEADINGA EQU			*C
1958	01	006B6	D5D64440	A	HEADING2	TEXT	IND. CODE COUNT COUNT ADDRESS S/B ARE	
	01	006B7	4040C3D6	A				
	01	006B8	C4C54040	A				
	01	006B9	C3D6E4D5	A				
	01	006BA	E340C3D6	A				
	01	006BB	E4D5E340	A				
	01	006BC	C1C4C4D9	A				
	01	006BD	C5E2E240	A				
	01	006BE	404040E2	A				
	01	006BF	61C24040	A				
	01	006C0	40404040	A				
	01	006C1	C1D9C540	A				
	01	006C2	40404040	A				
1959	01	006C3	40404040	A		TEXT	'SEQUENCE'	
	01	006C4	40E2C5D8	A				
	01	006C5	E4C5D5C3	A				
	01	006C6	C5404040	A				
1960		01 006C7			HEADINGB EQU			*C
1961	01	006C7	60606060	A	HEADING3	TEXT	!.....	
	01	006C8	40406060	A				
	01	006C9	60604040	A				
	01	006CA	60606060	A				
	01	006CB	40406060	A				
	01	006CC	60604040	A				
	01	006CD	60606060	A				
	01	006CE	60404040	A				
	01	006CF	60606060	A				
	01	006D0	60606060	A				
	01	006D1	40406060	A				
	01	006D2	60606060	A				
	01	006D3	60604040	A				

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1962	01	006D4	60606060	A		TEXT	'-----'	
	01	006D5	60406060	A				
	01	006D6	60606040	A				
	01	006D7	60606060	A				
	01	006D8	60404040	A				
1963		01 006D9			HEADING EQU			
1964	01	006D9	40404040	A	IDENT	TEXT	' SIGMA 7/5 MEMORY ENVIRONMENTAL TEST (MET75)'	*C
	01	006DA	40404040	A				
	01	006DB	40E2C9C7	A				
	01	006DC	D4C140F7	A				
	01	006DD	61F540D4	A				
	01	006DE	C5D4D6D9	A				
	01	006DF	E840C5D5	A				
	01	006E0	E5C9D9D6	A				
	01	006E1	D5D4C5D5	A				
	01	006E2	E3C1D340	A				
	01	006E3	E3C5E2E3	A				
	01	006E4	4040D4C5	A				
	01	006E5	E3F7F55D	A				
1965	01	006E6	40F7F0F5	A		TEXT	' 705355=C00 '	*C
	01	006E7	F3F5F560	A				
	01	006E8	C3F0F040	A				
1966	01	006E9	40151540	A		DATA	X140151540'	*C
1967	01	006EA	D4C1D5E4	A		TEXT	'MANUAL 3010720'	*C
	01	006EB	C1D340F9	A				
	01	006EC	F0F1F5F7	A				
	01	006ED	F2C34040	A				
1968	01	006EE	40404015	A		DATA	X140404015'	*C
1969	01	006EF	E2C5E340	A		TEXT	'SET SENSE SWITCH FOUR FOR TEST 3 AND 5'	*C
	01	006F0	E2C5D5E2	A				
	01	006F1	C540E2E6	A				
	01	006F2	C9E3C3C8	A				
	01	006F3	40C6D6E4	A				
	01	006F4	D940C6D6	A				
	01	006F5	D940E3C5	A				
	01	006F6	E2E340F3	A				
	01	006F7	40C1D5C4	A				
	01	006F8	40F54040	A				
1970		01 006F9			IDENTA EQU			
1971	01	006F9	E3C8C9E2	A	INSUFCONR	TEXT	'THIS TEST SYSTEM CONTAINS LESS THAN 8K OF IMPLEMENTED'	*C
	01	006FA	40E3C5E2	A				
	01	006FB	E340E2E8	A				
	01	006FC	E2E3C5D4	A				
	01	006FD	40C3D6D5	A				
	01	006FE	E3C1C9D5	A				
	01	006FF	E240D3C5	A				
	01	00700	E2E240E3	A				
	01	00701	C8C1D540	A				
	01	00702	F8D240D6	A				
	01	00703	C640C9D4	A				
	01	00704	D7D3C5D4	A				
	01	00705	C5D5E3C5	A				
1972	01	00706	C440C3D6	A		TEXT	'D CORE MEMORY. MET75 CANNOT BE RUN'	
	01	00707	D9C540D4	A				
	01	00708	C5D4D6D9	A				
	01	00709	E84B40D4	A				
	01	0070A	C5E3F7F5	A				
	01	0070B	40C3C1D5	A				
	01	0070C	D5D6E340	A				
	01	0070D	C2C540D9	A				
	01	0070E	E4D54040	A				
1973		01 0070F			INSUFCONR EQU			
1974	01	0070F	E3C5E2E3	A	MEMSTAT1	TEXT	'TEST SYSTEM MEMORY# K.'	*C
	01	00710	40E2E2E2	A				
	01	00711	E3C5D440	A				
	01	00712	D4C5D4D6	A				
	01	00713	D9E87E40	A				
	01	00714	40404040	A				
	01	00715	D24B4040	A				
1975		01 00716			MEMSTAT2 EQU			
1976	01	00716	C5D5E3C5	A	MEMSTAT2	TEXT	'ENTER NEW SIZE (8K..128K) OR PERIOD IF NO CHANGE IS'	*C

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL	LABEL	OPERATION	OPERAND	COMMENTS
	01	00717	0940D5C5	A				
	01	00718	E640E2C5	A				
	01	00719	E9C54040	A				
	01	0071A	F3D24860	A				
	01	0071B	*1F2F8D2	A				
	01	0071C	*85D40D6	A				
	01	0071D	0940D7C5	A				
	01	0071E	09C9D4C4	A				
	01	0071F	*0C9C640	A				
	01	00720	05D640C3	A				
	01	00721	08C1D5C7	A				
	01	00722	0540C9E2	A				
1977	01	00723	40C4C5E2	A		TEXT	' DESIRED: '	*C
	01	00724	C9D9C5C4	A				
	01	00725	7A404040	A				
1978		01	00726		MEMSTATB	EQU	*	*C
1979	01	00726	E2C5D3C5	A	0PSDEV	TEXT	'SELECTED OUTPUT DEVICE ADDRESS FOR TEST 11 IS '	
	01	00727	C3E3C5C4	A				
	01	00728	40D6E4E3	A				
	01	00729	D7E4E340	A				
	01	0072A	C4C5E5C9	A				
	01	0072B	C3C540C1	A				
	01	0072C	C4C4D9C5	A				
	01	0072D	E2E240C6	A				
	01	0072E	D6D940E3	A				
	01	0072F	C5E2E340	A				
	01	00730	F1F140C9	A				
	01	00731	E2404040	A				
1980		01	00732		0PSDEVA	EQU	*	*C
1981	01	00732	E2C5D3C5	A	SELDEV	TEXT	'SELECTED OUTPUT DEVICE ADDRESS IS '	
	01	00733	C3E3C5C4	A				
	01	00734	40D6E4E3	A				
	01	00735	D7E4E340	A				
	01	00736	C4C5E5C9	A				
	01	00737	C3C540C1	A				
	01	00738	C4C4D9C5	A				
	01	00739	E2E240C9	A				
	01	0073A	E2404040	A				
	01	0073B	40404040	A				
1982		01	0073C		SELDEVA	EQU	*	*C
1983	01	0073C	E2C5D3C5	A	TESTREW	TEXT	'SELECTED TESTS . '	
	01	0073D	C3E3C5C4	A				
	01	0073E	40E3C5E2	A				
	01	0073F	E3E2407E	A				
	01	00740	40404040	A				
1984		01	00741		TESTREWA	EQU	*	*C
1985	01	00741	E2D7E4D9	A	SPUR	TEXT	'SPURIOUS INTERRUPT RECEIVED'	*C
	01	00742	C9D6E4E2	A				
	01	00743	40C9D5E3	A				
	01	00744	C5D9D9E4	A				
	01	00745	D7E340D9	A				
	01	00746	C5C3C9E5	A				
	01	00747	C5C44040	A				
1986		01	00748		SPURA	EQU	*	*C
1987	01	00748	E3C1D7C5	A	WPR0TE	TEXT	'TAPE DRIVE OR RAD IS WRITE PROTECTED'	*C
	01	00749	40C4D9C9	A				
	01	0074A	E5C540D6	A				
	01	0074B	D940D9C1	A				
	01	0074C	C440C9E2	A				
	01	0074D	40E6D9C9	A				
	01	0074E	E3C540D7	A				
	01	0074F	D9D6E3C5	A				
	01	00750	C3E3C5C4	A				
1988		01	00751		WPR0TEA	EQU	*	*C
1989					*			
1990					* PROGRAM CONSTANT TABLE			
1991					*			
1992					*			
1993					*			
1994	01	00751	00000000	A	ADDIX	DATA	0	
1995	01	00752	00001FFF	A	ADDMASK	DATA	X11FFF'	8K ADDRESS MASK

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
1996	01	00753	00002FFF	A		DATA	X'2FFF'	12K
1997	01	00754	00003FFF	A		DATA	X'3FFF'	16K
1998	01	00755	00004FFF	A		DATA	X'4FFF'	20K
1999	01	00756	00005FFF	A		DATA	X'5FFF'	24K
2000	01	00757	00006FFF	A		DATA	X'6FFF'	28K
2001	01	00758	00007FFF	A		DATA	X'7FFF'	32K
2002	01	00759	00008FFF	A		DATA	X'8FFF'	36K
2003	01	0075A	00009FFF	A		DATA	X'9FFF'	40K
2004	01	0075B	0000AFFF	A		DATA	X'AFFF'	44K
2005	01	0075C	0000BFFF	A		DATA	X'BFFF'	48K
2006	01	0075D	0000CFFF	A		DATA	X'CFFF'	52K
2007	01	0075E	0000DFFF	A		DATA	X'DFFF'	56K
2008	01	0075F	0000EFFF	A		DATA	X'EFFF'	60K
2009	01	00760	0000FFFF	A		DATA	X'FFFF'	64K
2010	01	00761	00010FFF	A		DATA	X'10FFF'	68K
2011	01	00762	00011FFF	A		DATA	X'11FFF'	72K
2012	01	00763	00012FFF	A		DATA	X'12FFF'	76K
2013	01	00764	00013FFF	A		DATA	X'13FFF'	80K
2014	01	00765	00014FFF	A		DATA	X'14FFF'	84K
2015	01	00766	00015FFF	A		DATA	X'15FFF'	88K
2016	01	00767	00016FFF	A		DATA	X'16FFF'	92K
2017	01	00768	00017FFF	A		DATA	X'17FFF'	96K
2018	01	00769	00018FFF	A		DATA	X'18FFF'	100K
2019	01	0076A	00019FFF	A		DATA	X'19FFF'	104K
2020	01	0076B	0001AFFF	A		DATA	X'1AFFF'	108K
2021	01	0076C	0001BFFF	A		DATA	X'1BFFF'	112K
2022	01	0076D	0001CFFF	A		DATA	X'1CFFF'	116K
2023	01	0076E	0001DFFF	A		DATA	X'1DFFF'	120K
2024	01	0076F	0001EFFF	A		DATA	X'1EFFF'	124K
2025	01	00770	0001FFFF	A		DATA	X'1FFFF'	128K
2026	01	00771	00001000	A	ADDTAB	DATA	X'1000'	ADDRESS TEST DIVISIONS
2027	01	00772	00002000	A		DATA	X'2000'	
2028	01	00773	00004000	A		DATA	X'4000'	
2029	01	00774	00005000	A		DATA	X'5000'	
2030	01	00775	00006000	A		DATA	X'6000'	
2031	01	00776	00008000	A		DATA	X'8000'	
2032	01	00777	00009000	A		DATA	X'9000'	
2033	01	00778	0000A000	A		DATA	X'A000'	
2034	01	00779	0000C000	A		DATA	X'C000'	
2035	01	0077A	0000D000	A		DATA	X'D000'	
2036	01	0077B	0000E000	A		DATA	X'E000'	
2037	01	0077C	00010000	A		DATA	X'10000'	
2038	01	0077D	00011000	A		DATA	X'11000'	
2039	01	0077E	00012000	A		DATA	X'12000'	
2040	01	0077F	00014000	A		DATA	X'14000'	
2041	01	00780	00015000	A		DATA	X'15000'	
2042	01	00781	00016000	A		DATA	X'16000'	
2043	01	00782	00018000	A		DATA	X'18000'	
2044	01	00783	00019000	A		DATA	X'19000'	
2045	01	00784	0001A000	A		DATA	X'1A000'	
2046	01	00785	0001C000	A		DATA	X'1C000'	
2047	01	00786	0001D000	A		DATA	X'1D000'	
2048	01	00787	0001E000	A		DATA	X'1E000'	
2049	01	00788	6AF003C5	A	BALERR	BAL,R15	EMM0K	
2050	01	00789	00000000	A	BASICV1	DATA	X'0'	PRESET L28-31 FOR X VOLTAGE MATRICES
2051	01	0078A	00000001	A		DATA	X'1'	
2052	01	0078B	00000002	A		DATA	X'2'	
2053	01	0078C	00000003	A		DATA	X'3'	
2054	01	0078D	00000004	A		DATA	X'4'	
2055	01	0078E	00000005	A		DATA	X'5'	
2056	01	0078F	00000006	A		DATA	X'6'	
2057	01	00790	00000007	A		DATA	X'7'	
2058	01	00791	00000008	A		DATA	X'8'	
2059	01	00792	00000009	A		DATA	X'9'	
2060	01	00793	0000000A	A		DATA	X'A'	
2061	01	00794	0000000B	A		DATA	X'B'	
2062	01	00795	0000000C	A		DATA	X'C'	
2063	01	00796	0000000D	A		DATA	X'D'	
2064	01	00797	0000000E	A		DATA	X'E'	
2065	01	00798	0000000F	A		DATA	X'F'	
2066	01	00799	00000000	A		DATA	X'0'	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
2067	01	0079A	00000004	A		DATA	X141	
2068	01	0079B	00000008	A		DATA	X181	
2069	01	0079C	0000000C	A		DATA	X1C1	
2070	01	0079D	00000001	A		DATA	X111	
2071	01	0079E	00000005	A		DATA	X151	
2072	01	0079F	00000009	A		DATA	X191	
2073	01	007A0	0000000D	A		DATA	X1D1	
2074	01	007A1	00000002	A		DATA	X121	
2075	01	007A2	00000006	A		DATA	X161	
2076	01	007A3	0000000A	A		DATA	X1A1	
2077	01	007A4	0000000E	A		DATA	X1E1	
2078	01	007A5	00000003	A		DATA	X131	
2079	01	007A6	00000007	A		DATA	X171	
2080	01	007A7	0000000B	A		DATA	X1B1	
2081	01	007A8	0000000F	A		DATA	X1F1	
2082	01	007A9	00000000	A		DATA	X101	
2083	01	007AA	00000010	A		DATA	X101	PRESET L25-27 FOR X CURRENT MATRICES
2084	01	007AB	00000020	A		DATA	X1201	
2085	01	007AC	00000030	A		DATA	X1301	
2086	01	007AD	00000040	A		DATA	X1401	
2087	01	007AE	00000050	A		DATA	X1501	
2088	01	007AF	00000060	A		DATA	X1601	
2089	01	007B0	00000070	A		DATA	X1701	
2090	01	007B1	00000000	A		DATA	X101	
2091	01	007B2	00000040	A		DATA	X1401	
2092	01	007B3	00000010	A		DATA	X1101	
2093	01	007B4	00000050	A		DATA	X1501	
2094	01	007B5	00000020	A		DATA	X1201	
2095	01	007B6	00000060	A		DATA	X1601	
2096	01	007B7	00000030	A		DATA	X1301	
2097	01	007B8	00000070	A		DATA	X1701	
2098	01	007B9	00000001	A	BASICV2	DATA	X111	RESET L28-31 FOR X VOLTAGE MATRICES
2099	01	007BA	00000002	A		DATA	X121	
2100	01	007BB	00000003	A		DATA	X131	
2101	01	007BC	00000004	A		DATA	X141	
2102	01	007BD	00000005	A		DATA	X151	
2103	01	007BE	00000006	A		DATA	X161	
2104	01	007BF	00000007	A		DATA	X171	
2105	01	007C0	00000008	A		DATA	X181	
2106	01	007C1	00000009	A		DATA	X191	
2107	01	007C2	0000000A	A		DATA	X1A1	
2108	01	007C3	0000000B	A		DATA	X1B1	
2109	01	007C4	0000000C	A		DATA	X1C1	
2110	01	007C5	0000000D	A		DATA	X1D1	
2111	01	007C6	0000000E	A		DATA	X1E1	
2112	01	007C7	0000000F	A		DATA	X1F1	
2113	01	007C8	00000000	A		DATA	X101	
2114	01	007C9	00000004	A		DATA	X141	
2115	01	007CA	00000008	A		DATA	X181	
2116	01	007CB	0000000C	A		DATA	X1C1	
2117	01	007CC	00000000	A		DATA	X101	
2118	01	007CD	00000005	A		DATA	X151	
2119	01	007CE	00000009	A		DATA	X191	
2120	01	007CF	0000000D	A		DATA	X1D1	
2121	01	007D0	00000001	A		DATA	X111	
2122	01	007D1	00000006	A		DATA	X161	
2123	01	007D2	0000000A	A		DATA	X1A1	
2124	01	007D3	0000000E	A		DATA	X1E1	
2125	01	007D4	00000002	A		DATA	X121	
2126	01	007D5	00000007	A		DATA	X171	
2127	01	007D6	0000000B	A		DATA	X1B1	
2128	01	007D7	0000000F	A		DATA	X1F1	
2129	01	007D8	00000003	A		DATA	X131	
2130	01	007D9	00000010	A		DATA	X1101	RESET L25-27 FOR X CURRENT MATRICES
2131	01	007DA	00000020	A		DATA	X1201	
2132	01	007DB	00000030	A		DATA	X1301	
2133	01	007DC	00000000	A		DATA	X101	
2134	01	007DD	00000050	A		DATA	X1501	
2135	01	007DE	00000060	A		DATA	X1601	
2136	01	007DF	00000070	A		DATA	X1701	
2137	01	007E0	00000040	A		DATA	X1401	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
2138	01	007E1	00000040	A		DATA	X'40'	
2139	01	007E2	00000000	A		DATA	X'0'	
2140	01	007E3	00000050	A		DATA	X'50'	
2141	01	007E4	00000010	A		DATA	X'10'	
2142	01	007E5	00000060	A		DATA	X'60'	
2143	01	007E6	00000020	A		DATA	X'20'	
2144	01	007E7	00000070	A		DATA	X'70'	
2145	01	007E8	00000030	A		DATA	X'30'	
2146	01	007E9	E8000000	A	BRANDM	B	*0	
2147	01	007EA	00000000	A	BYTADD	DATA	0	
2148	01	007EB	00004000	A		DATA	X'4000'	
2149	01	007EC	00008000	A		DATA	X'8000'	
2150	01	007ED	0000C000	A		DATA	X'C000'	
2151	01	007EE	84004000	A	CHMODE	DATA	X'84004000'	DATA CHAIN, UE INT, 4000 BYTES
2152	01	007EF	24004000	A		DATA	X'24004000'	COMMAND CHAIN
2153	01	007F0	4040F400	A	DECHEX	DATA	X'4040F400'	
2154	01	007F1	4040F801	A		DATA	X'4040F801'	
2155	01	007F2	40F1F202	A		DATA	X'40F1F202'	
2156	01	007F3	40F1F603	A		DATA	X'40F1F603'	
2157	01	007F4	40F2F004	A		DATA	X'40F2F004'	
2158	01	007F5	40F2F405	A		DATA	X'40F2F405'	
2159	01	007F6	40F2F806	A		DATA	X'40F2F806'	
2160	01	007F7	40F3F207	A		DATA	X'40F3F207'	
2161	01	007F8	40F3F608	A		DATA	X'40F3F608'	
2162	01	007F9	40F4F009	A		DATA	X'40F4F009'	
2163	01	007FA	40F4F40A	A		DATA	X'40F4F40A'	
2164	01	007FB	40F4F80B	A		DATA	X'40F4F80B'	
2165	01	007FC	40F5F20C	A		DATA	X'40F5F20C'	
2166	01	007FD	40F5F60D	A		DATA	X'40F5F60D'	
2167	01	007FE	40F6F00E	A		DATA	X'40F6F00E'	
2168	01	007FF	40F6F40F	A		DATA	X'40F6F40F'	
2169	01	00800	40F6F810	A		DATA	X'40F6F810'	
2170	01	00801	40F7F211	A		DATA	X'40F7F211'	
2171	01	00802	40F7F612	A		DATA	X'40F7F612'	
2172	01	00803	40F8F013	A		DATA	X'40F8F013'	
2173	01	00804	40F8F414	A		DATA	X'40F8F414'	
2174	01	00805	40F8F815	A		DATA	X'40F8F815'	
2175	01	00806	40F9F216	A		DATA	X'40F9F216'	
2176	01	00807	40F9F617	A		DATA	X'40F9F617'	
2177	01	00808	F1F0F018	A		DATA	X'F1F0F018'	
2178	01	00809	F1F0F419	A		DATA	X'F1F0F419'	
2179	01	0080A	F1F0F81A	A		DATA	X'F1F0F81A'	
2180	01	0080B	F1F1F21B	A		DATA	X'F1F1F21B'	
2181	01	0080C	F1F1F61C	A		DATA	X'F1F1F61C'	
2182	01	0080D	F1F2F01D	A		DATA	X'F1F2F01D'	
2183	01	0080E	F1F2F41E	A		DATA	X'F1F2F41E'	
2184	01	0080F	F1F2F81F	A		DATA	X'F1F2F81F'	
2185	01	00810	00000000	A	DEVNO	DATA	0	SELECTED DEVICE NO.
2186	01	00811	000000F0	A	DEVTAB	DATA	X'F0'	RAU
2187	01	00812	00000080	A		DATA	X'80'	MT
2188	01	00813	00000002	A		DATA	X'02'	LINE PRINTER
2189	01	00814	00000005	A		DATA	X'05'	PP
2190	01	00815	00000001	A		DATA	X'01'	KBU
2191	01	00816	00000000	A	DEVTABIX	DATA	0	
2192	01	00817	69000000	A	ERLOCMBD	BCL,0	0	FAILING LOCATION MODIFIERS
2193	01	00818	20000FFF	A		AI,RO	X'FFFF'	TEST1
2194	01	00819	33F00000	A		MTW,-1	RO	TEST1
2195	01	0081A	33F00000	A		MTW,-1	RO	TEST2
2196	01	0081B	69000000	A		BCL,0	0	TEST4
2197	01	0081C	69000000	A		BCL,0	0	TEST5
2198	01	0081D	69000000	A		BCL,0	0	
2199	01	0081E	69000000	A		BCL,0	0	
2200	01	0081F	69000000	A		BCL,0	0	
2201	01	00820	69000000	A		BCL,0	0	
2202	01	00821	69000000	A		BCL,0	0	
2203	01	00822	69000000	A		BCL,0	0	
2204	01	00823	69000000	A		BCL,0	0	
2205	01	00824	69000000	A		BCL,0	0	
2206	01	00825	69000000	A		BCL,0	0	
2207	01	00826	69000000	A		BCL,0	0	
2208	01	00827	69000000	A		BCL,0	0	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
2209	01	00828	69000000	A		BCS,0	0	
2210	01	00829	00000000	A	ERRCTR	DATA	0	
2211	01	0082A	69000000	A	ERRLOC	BCS,0	0	FAILING LOCATIONS
2212	01	0082B	32000005	A		LW,RO	R5	TEST1
2213	01	0082C	320008AE	A		LW,RO	STORPAG+15	TEST2
2214	01	0082D	32000618	A		LW,RO	INOUT	TEST 3
2215	01	0082E	32000889	A		LW,RO	TESTLOC	TEST4
2216	01	0082F	32000889	A		LW,RO	TESTLOC	TEST5
2217	01	00830	69000000	A		BCS,0	0	
2218	01	00831	69000000	A		BCS,0	0	
2219	01	00832	69000000	A		BCS,0	0	
2220	01	00833	69000000	A		BCS,0	0	
2221	01	00834	69000000	A		BCS,0	0	
2222	01	00835	69000000	A		BCS,0	0	
2223	01	00836	69000000	A		BCS,0	0	
2224	01	00837	69000000	A		BCS,0	0	
2225	01	00838	69000000	A		BCS,0	0	
2226	01	00839	69000000	A		BCS,0	0	
2227	01	0083A	69000000	A		BCS,0	0	
2228	01	0083B	32000889	A		LW,RO	TESTLOC	TEST11
2229	01	0083C	00000000	A	EXHOLD	DATA	0	
2230	01	0083D	00000000	A	EXTSTS	DATA	0	
2231	01	0083E	00000000	A	HISPI0	DATA	0	
2232	01	0083F		A	INSEQ	RES	3	
2233	01	00842	32C00000	A	INSTR	LW,R12	0	
2234	01	00843	00000000	A	KEYIN	DATA	0	
2235	01	00844	E800000F	A	LINKRET	B	*R15	
2236	01	00845	4BA60752	A	MASKINST	AND,R10	ADDUMASK,R3	
2237	01	00846	00000000	A	MAXCGR	DATA	0	
2238	01	00847	00000000	A	MEMIX	DATA	0	
2239	01	00848	00000000	A	NOBL0K	DATA	0	
2240	01	00849	69000000	A	NSP	BCS,0	0	
2241	01	0084A	00000000	A	PARLOC	DATA	0	
2242	01	0084B	00000000	A	PASSCTR	DATA	0	
2243	01	0084C	000000FF	A	PATTERN	DATA	X'FF'	
2244	01	0084D	00000011	A		DATA	X'11'	
2245	01	0084E	00000022	A		DATA	X'22'	
2246	01	0084F	00000044	A		DATA	X'44'	
2247	01	00850	00000088	A		DATA	X'88'	
2248	01	00851	00000033	A		DATA	X'33'	
2249	01	00852	000000CC	A		DATA	X'CC'	
2250	01	00853	00000066	A		DATA	X'66'	
2251	01	00854	00000099	A		DATA	X'99'	
2252	01	00855	00000055	A		DATA	X'55'	
2253	01	00856	000000AA	A		DATA	X'AA'	
2254	01	00857	00000000	A	PEP0K1	DATA	0	
2255	01	00858	00000000	A	PEP0K2	DATA	X'0'	NPF00=NPF30
2256	01	00859	24924924	A		DATA	X'24924924'	PF00=Pf27,NPF30
2257	01	0085A	49249249	A		DATA	X'49249249'	
2258	01	0085B	6DB6DB6D	A		DATA	X'6DB6DB6D'	NPF00=NPF27,Pf30
2259	01	0085C	92492492	A		DATA	X'92492492'	PF00=Pf30
2260	01	0085D	B6DB6DB6	A		DATA	X'B6DB6DB6'	NPF00=NPF27,Pf30
2261	01	0085E	DB6DB6DB	A		DATA	X'DB6DB6DB'	NPF00=NPF30
2262	01	0085F	FFFFF	A		DATA	X'FFFFFF'	Pf00=Pf27,NPF30
2263	01	00860	00804021	A		DATA	X'00804021'	PS00,PS09,PS18,PS27
2264	01	00861	08040204	A		DATA	X'08040204'	PS00,PS09,PS18,PS27
2265	01	00862	04824125	A		DATA	X'04824125'	NPS00,NPS09,NPS18,NPS27
2266	01	00863	20100803	A		DATA	X'20100803'	PS00,PS09,PS18,NPS27
2267	01	00864	20904822	A		DATA	X'20904822'	NPS00,NPS09,NPS18,PS27
2268	01	00865	24120908	A		DATA	X'24120908'	NPS00,NPS09,NPS18,PS27
2269	01	00866	2492493D	A		DATA	X'2492493D'	PS00,PS09,PS18,PS27
2270	01	00867	00000026	A		DATA	X'00000026'	NPS00,NPS09,PS18,NPS27
2271	01	00868	00004007	A		DATA	X'00004007'	NPS00,PS09,NPS18,PS27
2272	01	00869	0000402B	A		DATA	X'0000402B'	NPS00,PS09,PS18,PS27
2273	01	0086A	0080000E	A		DATA	X'0080000E'	PS00,NPS09,NPS18,PS27
2274	01	0086B	00800030	A		DATA	X'00800030'	PS00,NPS09,PS18,PS27
2275	01	0086C	00804011	A		DATA	X'00804011'	PS00,PS09,NPS18,NPS27
2276	01	0086D	00804013	A		DATA	X'00804013'	PS00,PS09,PS18,PS27
2277	01	0086E	00000001	A		DATA	X'00000001'	NPS00,NPS09,NPS18,PS27
2278	01	0086F	00000005	A		DATA	X'00000005'	NPS00,NPS09,NPS18,NPS27
2279	01	00870	00000024	A		DATA	X'00000024'	NPS00,NPS09,PS18,PS27

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS	
2280	01	00871	00000000	A	RADBYTES	DATA	0		
2281	01	00872	00000003	A		DATA	3		
2282	01	00873	00000000	A		DATA	0		
2283	01	00874	00000000	A		DATA	0		
2284	01	00875	00000000	A		DATA	0		
2285	01	00876	69000000	A	REI0CDW	BCS,0	0	*C	
2286	01	00877	69000000	A		BCS,0	0	TEST1	
2287	01	00878	69000000	A		BCS,0	0	TEST2	
2288	01	00879	69000000	A		BCS,0	0	*C	
2289	01	0087A	69000000	A		BCS,0	0	TEST4	
2290	01	0087B	69000000	A		BCS,0	0	TEST 5	*C
2291	01	0087C	69000000	A		BCS,0	0	TEST6	
2292	01	0087D	69000000	A		BCS,0	0	TEST7	
2293	01	0087E	69000000	A		BCS,0	0	TEST8	
2294	01	0087F	69000000	A		BCS,0	0	TEST9	
2295	01	00880	69000000	A		BCS,0	0	*C	
2296	01	00881	69000000	A		BCS,0	0	*C	
2297	01	00882	69000000	A		BCS,0	0	*C	
2298	01	00883	69000000	A		BCS,0	0	*C	
2299	01	00884	69000000	A		BCS,0	0	*C	
2300	01	00885	69000000	A		BCS,0	0	*C	
2301	01	00886	69000000	A		BCS,0	0	TEST10	
2302	01	00887	2200048A	A	RESETI9	LI,RO	DA(SCANCDW)	TEST11	
2303	01	00888	69000000	A		BCS,0	0	*C	
2304	01	00889	69000000	A		BCS,0	0	TEST1	
2305	01	0088A	69000000	A		BCS,0	0	TEST2	
2306	01	0088B	69000000	A		BCS,0	0	TEST 3	*C
2307	01	0088C	69000000	A		BCS,0	0	TEST4	
2308	01	0088D	69000000	A		BCS,0	0	TEST 5	
2309	01	0088E	69000000	A		BCS,0	0	TEST6	
2310	01	0088F	69000000	A		BCS,0	0	TEST7	
2311	01	00890	69000000	A		BCS,0	0	TEST8	
2312	01	00891	69000000	A		BCS,0	0	TEST9	
2313	01	00892	69000000	A		BCS,0	0	*C	
2314	01	00893	69000000	A		BCS,0	0	*C	
2315	01	00894	69000000	A		BCS,0	0	*C	
2316	01	00895	69000000	A		BCS,0	0	*C	
2317	01	00896	69000000	A		BCS,0	0	*C	
2318	01	00897	69000000	A		BCS,0	0	*C	
2319	01	00898	69000000	A		BCS,0	0	TEST10	
2320	01	00899	CC00083E	A		SI0,0	*HISPI0	TEST11	
2321	01	0089A	680004CC	A	RET2INST	B	T2HET		
2322	01	0089B	15820914	A	SCANSET	STD,R8	SCANCDW,R1		
2323	01	0089C	0800048A	A	SCANTIC	INFORM	X'800',DA(SCANCDW)	TIC FOR SCAN CHAIN	
2324	01	0089D	00000000	A	SHUDBE	DATA	0		
2325	01	0089E	35020FFF	A	STORBAL	STW,RO	X'FFF',R1		
2326	01	0089F		A	STORPAG	RES	16		
2327	01	008AF	6800047A	A	SWXRET	B	TEST1EX*3	*C	
2328	01	008B0	00000000	A	TABLIM	DATA	0		
2329	01	008B1	00000000	A	TAPREW	DATA	0		
2330	01	008B2	02000000	A		DATA	X'02000000'	CHECK FOR END OF TAPE	*C
2331	01	008B3	00000000	A		DATA	0	*C	
2332	01	008B4	00000000	A		DATA	0		
2333	01	008B5	00000000	A		DATA	0		
2334	01	008B6	15616B4B	A	TERMKAR	DATA	X'15616B4B'	*C	
2335	01	008B7	80C00000	A	TDVSTAT	DATA	1**31	*C	
2336	01	008B8	00000000	A	KSH	DATA	0	*C	
2337	01	008B9	00C00000	A	TESTL0C	DATA	0		
2338	01	008BA	00000000	A	TESTN0	DATA	0		
2339	01	008BB	00000000	A	TSTCTR	DATA	0		
2340						BBOUND	8		
2341	01	008BC	CF00083E	A	BRINIT	HI0,0	*HISPI0		
2342	01	008BD	68000140	A		B	INITIAL		
2343	01	008BE	22800020	A	DISARMIB	LI,R8	X'20'	*C	
2344	01	008BF	6D801100	A		WD,R8	X'1100'	*C	
2345	01	008C0	01000000	A	CDWTAB	DATA	X'01000000'	RAD	*C
2346	01	008C1	84000002	A		DATA	X'84000002'		
2347	01	008C2	01000000	A		DATA	X'01000000'	MAG TAPE	
2348	01	008C3	84000008	A		DATA	X'84000008'		
2349	01	008C4	01000000	A		DATA	X'01000000'	LINE PRINTER	*C
2350	01	008C5	84000008	A		DATA	X'84000008'	*C	

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
2351	01	008C6	01000000	A		DATA	X'01000000'	PAPER TAPE PUNCH
2352	01	008C7	84000008	A		DATA	X'84000008'	
2353	01	008C8	05000000	A		DATA	X'05000000'	KEYBOARD PRINTER
2354	01	008C9	84000008	A		DATA	X'84000008'	
2355	01	008CA	0800048A	A		INFORM	X'800',DA(SCANCDW)	
2356	01	008CB	00000000	A		DATA	0	
2357						BOUND	8	
2358						BOUND	8	
2359	01	008CC	05002374	N	FAULTLP	GEN,8,24,8,24	5,BA(FAULT),0,4*(FAULTA=FAULT)	*C
			0000001C					
2360	01	008CE	05002374	N	NEWLINE	GEN,8,24,8,24	5,BA(FAULT),0,4	*C
			00000004					
2361	01	008D0	05002390	N	LOWPAP	GEN,8,24,8,24	5,BA(LPL0W),0,4*(LPL0W1=LPL0W)	*C
			00000028					
2362	01	008D2	05002388	N	RUNPAP	GEN,8,24,8,24	5,BA(LPRUN),0,4*(LPRUN1=LPRUN)	
			00000030					
2363	01	008D4	05002358	N	N0DEV	OUTFORM	5,BA(N0DEVIC),0,4*(N0DEVICA=N0DEVIC)	*C
			0000001C					
2364	01	008D6	05D640D3	A	N0DEVIC	TEXT	'NO LINE PRINTER AVAILABLE'	*C
	01	008D7	C9D5C540	A				
	01	008D8	D7D9C9D5	A				
	01	008D9	E3C5D940	A				
	01	008DA	C1E5C1C9	A				
	01	008DB	D3C1C2D3	A				
	01	008DC	C5404040	A				
2365	01	008DD	40404015	A	N0DEVICA	EQW	*	*C
2366	01	008DD	40404015	A	FAULT	DATA	X'40404015'	*C
2367	01	008DE	D3C9D5C5	A		TEXT	'LINE PRINTER FAULT'	*C
	01	008DF	40D7D9C9	A				
	01	008E0	D5E3C5D9	A				
	01	008E1	40C6C1E4	A				
	01	008E2	D3E34040	A				
2368	01	008E3	40404015	A		DATA	X'40404015'	*C
2369	01	008E4	40404015	A	FAULTA	EQW	*	*C
2370	01	008E4	40404015	A	LPL0W	DATA	X'40404015'	*C
2371	01	008E5	E3C8C540	A		TEXT	'THE LINE PRINTER PAPER IS LOW'	*C
	01	008E6	D3C9D5C5	A				
	01	008E7	40D7D9C9	A				
	01	008E8	D5E3C5D9	A				
	01	008E9	40D7C1D7	A				
	01	008EA	C5D940C9	A				
	01	008EB	E240D3D6	A				
	01	008EC	E6404040	A				
2372	01	008ED	40404015	A		DATA	X'40404015'	*C
2373	01	008EE	40404015	A	LPL0W1	EQW	*	*C
2374	01	008EE	40404015	A	LPRUN	DATA	X'40404015'	*C
2375	01	008EF	E3C8C540	A		TEXT	'THE LINE PRINTERS PAPER IS RUNNING AWAY'	*C
	01	008F0	D3C9D5C5	A				
	01	008F1	40D7D9C9	A				
	01	008F2	D5E3C5D9	A				
	01	008F3	E240D7C1	A				
	01	008F4	D7C5D940	A				
	01	008F5	C9E240D9	A				
	01	008F6	E4D5C9D5	A				
	01	008F7	C740C1E6	A				
	01	008F8	C1E84040	A				
2376	01	008F9	40404015	A		DATA	X'40404015'	*C
2377	01	008FA	40404015	A	LPRUN1	EQW	*	*C
2378	01	008FA	0F40058A	A	T5TEMP	RES	2	STATUS FROM IOP
2379	01	008FC	0F0008FE	A	XP8D40	XP8D,4	N0N0P	XP8D FOR MEMORY SIZE
2380	01	008FD	0F0008FE	A	T23XP8D	XP8D,0	T23TRAPA	
2381						BOUND	8	
2382	01	008FE	00000000	A	T23TRAPA	DATA	0,0,T23TRAP,0	*C
	01	008FF	00000000	A				
	01	00900	00000343	A				
	01	00901	00000000	A				
2383	01	00902	01000000	A	LINES	DATA	0	
2384	01	00903	01000000	A	C0W0RDER	DATA	1**24	WRITE ORDER FOR COMMAND
2385					*			DOUBLE WORDS GEN:IN TEST 3
2386	01	00904	8E000008	A	2NDHALF	DATA	X'8E000008'	DATA CHAIN INT:ON UNUSUAL
2387					*			END,SUPPRESS INCORRECT LENGHT

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
2388					*			AND HALT ON TRANSMISSION ERROR *C
2389	01	00905	4E000008	A	LASTFLAG	DATA	X14E000008	*C
2390	01	00906	00000000	A	T3INST	DATA	0	*C
2391	01	00907	00000000	A	DATAZ	DATA	0	*C
2392						BOUND	8	
2393	01	00908			I9CDW	RES	12	*C
2394	01	00914			SCANCDW	RES	68	*C
2395		01 00140			END	INITIAL		
	01	00958	F8000000	A				
	01	00959	01000000	A				
	01	0095A	0001FFFF	A				
	01	0095B	40000000	A				
	01	0095C	00000100	A				
	01	0095D	40404040	A				
	01	0095E	FFFFFF00	A				
	01	0095F	0000001F	A				
	01	00960	00000FFF	A				
	01	00961	00001000	A				
	01	00962	02000000	A				
	01	00963	C1030300	A				
	01	00964	61000000	A				
	01	00965	80000000	A				
	01	00966	6B000000	A				
	01	00967	15000000	A				
	01	00968	4B000000	A				
	01	00969	F8FFFFFF	A				
	01	0096A	C0000000	A				
	01	0096B	00000003	A				
	01	0096C	C1000000	A				
	01	0096D	F0000000	A				
	01	0096E	F7000000	A				
	01	0096F	10000000	A				
	01	00970	00FFFFFF	A				
	01	00971	07C1E2E2	A				
	01	00972	AAAAAAAA	A				
	01	00973	00120000	A				
	01	00974	01234567	A				
	01	00975	68000000	A				
	01	00976	000000FF	A				
	01	00977	000000F0	A				
CONTROL SECTION SUMMARY: 01 00978 PT 0								

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS
* SYMBOL VALUES								
		ADDCTR/01 00521			ADDIX/01 00751		ADDMASK/01 00752	ADMINCL/01 00547
		ADDTAB/01 00771			ADD1L0BP/01 004AB		ADD2BLK1/01 004AB	AL0STAT/01 0038C
		ALLTEST/01 0010A			ALTERED/01 004D1		ALTINS/01 004D8	BALEKK/01 00788
		BASICV1/01 00789			BASICV2/01 00789		BLK10BP2/01 004AD	BRAN00M/01 007E9
		BRINIT/01 008BC			BYTADD/01 007EA		BYTIX/01 00523	CALL1/01 005E4
		CALL2/01 005E8			CALL3/01 005EC		CALL4/01 005FO	CASENU/01 004E4
		CDW0RDER/01 00903			CDWTAB/01 008CO		CDWTABLE/01 00580	CHE0T/01 003BB
		CHINPUT/01 00100			CHM0DE/01 007EE		CLRBUFF/01 00380	CODEP0M/01 0066E
		C0DEF0R/01 0064E			C0MDEV/01 00681		C0MDEVA/01 00689	COMPT4/01 00536
		C0MR0DY/01 00298			C0NC0L/01 00433		C0NRET/01 00437	C0NTINUE/01 00370
		C0NTR0L/01 001FF			C0R0K/01 00487		C0RSIZE/01 0016C	CBUNT1/01 00608
		C0UNT2/01 0060C			C0UNT3/01 00610		C0UNT4/01 00614	DATA2/01 00907
		DEC/01 005DB			DECMEX/01 007F0		DEVADD/01 001AD	DEVCHAN/01 001AE
		DEMCHEK/01 003AF			DEVICES/01 001AB		DEVNB/01 00810	DEV0P/01 00689
		DEWBFFA/01 00690			DEV0FORM/01 0066F		DEV0F0R/01 00650	DEVRET/01 001LA
		DEVTAB/01 00811			DEVTABIX/01 00816		DISAM10/01 0080E	DEUTIME/01 0050C
		ERL0CM0D/01 00817			ERRBUFF/01 00690		ERRBUFFA/01 006A4	ERHCTR/01 00829
		ERRET/01 00432			ERRF0R/01 00652		ERRF0RM/01 00670	EKKL0L/01 0082A
		ERR0R/01 003C5			ERR0MA/01 0040B		ERR0MB/01 00410	ERR0ML/01 00421
		ERR0RD/01 003F3			EXH0LD/01 0083C		EXIT/01 00350	EXTENM/01 0061C
		EXTETS/01 00830			EXTIN/01 0062E		FAULT/01 00800	FAULTA/01 008E4
		FAULTP/01 008CC			FL0AT/01 005D4		FORME/01 00654	F0RMEM/01 00671
		G0/01 00507			HALTI011/01 005BB		HALTI05/01 00564	HEADP0M/01 00673
		HEADF0R/01 00658			HEADING1/01 006A4		HEADINGA/01 006B6	HEADINGC/01 00609
		HEADING3/01 006C7			HEADINGB/01 006C7		HEADING2/01 006B6	HIDV0RM/01 00677
		HIDVF0R/01 006B0			HISPEDV/01 001B6		HISP10/01 0083E	HISP10A10/01 00367
		IDENT/01 00609			IDENTA/01 006F9		INCLK2/01 004E8	INITIAL/01 00140
		IN0UT/01 00618			INSEQ/01 0083F		INSTR/01 00842	INSUFL0M/01 006F9
		INSUFC0RA/01 0070F			INT/01 0033E		INTUN/01 00604	INT5A/01 0062A
		INT5B/01 0062C			INT50/01 00620		INT51/01 00622	INT58/01 00626
		INT59/01 00628			I0CDW/01 00908		I0HALT/01 0059C	I0INT/01 00349
		I0L0BP/01 00590			I0PUE1/01 00389		I0RET/01 00364	ITISMAU/01 004F9
		ITISTAPE/01 00902			ITIST2/01 004CB		IUNASS/01 00624	KBUREAD/01 00234
		K0DREADB/01 00243			K0DREADA/01 00237		KEYIN/01 00843	KFI0/01 00194
		KIN0RD/01 0024E			KSR/01 00888		KSR0UT/01 0025C	LASTFLAG/01 00908
		LINES/01 00902			LINKRET/01 00844		L0DL0C/01 00525	L00PA/01 0052F
		L00PB/01 00530			L0WPAP/01 00800		LPAULT/01 00295	LPL0W/01 008E4
		LPL0W1/01 008EE			LPOUT/01 00265		LPOUTC0W/01 002B4	LPHUN/01 008EE
		LPRUN1/01 008FA			LPTDV/01 00288		MASKINST/01 00845	MASKN10/01 004AC
		MASKR11/01 004AE			MAXC0R/01 00846		MEMFILL/01 0049E	MEMIX/01 00847
		MEMP0R/01 00600			MEMSTAT1/01 0070F		MEMSTATA/01 00716	MEMSTATB/01 00726
		MEMSTAT2/01 00716			NEWLINE/01 008CE		NEWMAX/01 001A0	MEMMEM/01 00181
		NEWPASS/01 00202			N0ADU/01 001A2		N0ADD/01 001A2	N0BL0K/01 00848
		N0DEV/01 00804			N0DEVICE/01 00290		N0DEVIC/01 00806	N0DEVILA/01 00800
		N0N0P/01 0058A			N0P/01 00849		N0FL0/01 005D0	N0SDEV/01 00726
		N0PSDEVA/01 00732			N0PSF0R/01 00662		N0PSF0RM/01 00678	0UTPUT/01 00250
		PACK/01 0031A			PACKA/01 0031C		PACKB/01 0031E	PACKED/01 0032A
		PAKRET/01 00329			PAPL0W/01 0029A		PAPRUN/01 0029F	PAKINT/01 00398
		PARL0C/01 0084A			PARRET/01 0039C		PAKSPUR/01 00630	PAKMET/01 00493
		PAR10RET/01 00596			PAR2RET/01 004E2		PAR4RET/01 0052B	PAK4BRET/01 00539
		PASSCTR/01 0084B			PATTERN/01 0084C		PEP0K1/01 00857	PEP0K2/01 00858
		P0S1T10N/01 002B0			P0W0FF/01 005F8		PEW0N/01 005F4	PULSE1/01 005FC
		PULSE2/01 005FD			PULSE3/01 005FE		PULSE4/01 005FF	RA0BYTES/01 00871
		RADFL0/01 0051B			RADSEEK/01 0067E		RADTST/01 00568	READSEL/01 00101
		REGSAVE1/01 002B6			REGSAVE/01 002B8		REI0CDW/01 00876	REMEM/01 00406
		REP0R/01 00664			REP0RM/01 00679		REP0RT/01 00438	REMPRET/01 00452
		REQ0R/01 00666			REQ0RM/01 0067A		RESET0/01 00888	RESTART1/01 0015F
		RESTART/01 0016A			REST0RE/01 002A4		RETADD/01 00428	RETAV/01 0064C
		RETRY/01 002A9			RET2INST/01 0089A		REWIND/01 0067F	RUNPAP/01 00802
		R0400000000			R1/000000001		R10/00000000A	R11/00000000B
		R12/00000000C			R13/00000000D		R14/00000000E	R15/00000000F
		R2400000002			R3/000000003		R4/000000004	R5/000000005
		R6400000006			R7/000000007		R8/000000008	R9/000000009
		SAVER1/01 00396			SAVER2/01 00397		SCANCDW/01 00914	SCANSET/01 0089B
		SCANTIC/01 0089C			SC0RF0RM/01 0067B		SC0RF0R/01 00668	SELK/01 0064A
		SELDEV/01 00732			SELDEVA/01 0073C		SELF0RM/01 00680	SELRET/01 001FE
		SETBIT/01 001ED			SETCDW2/01 0058D		SETUPCDW/01 00552	SETUP1/01 0045C
		SHU0BE/01 00890			SIZ0UT/01 0017C		SIZRET/01 001AA	SLASH/01 0024A
		SPUR/01 00741			SPURA/01 00748		SPURIN/01 0066A	SPURINT/01 0067C
		STACK/01 005CC			STDVARIB/01 0057C		ST0ERET/01 00420	ST0RBAL/01 0089E

LINE NO.	MEM PROT KEY	MEMORY ADDRESS	MEMORY CONTENTS	ABS OR REL OR I G	LABEL	OPERATION	OPERAND	COMMENTS		
		STORPAG/01	0089F		SWITCH/01	00223	SXRET/01	008AF	TABENT/01	00458
		TABLIM/01	008B0		TAPETST/01	00571	TAPREW/01	008B1	TDVSTAT/01	008B7
		TERMKAR/01	008B6		TESTAB/01	0018F	TESTINC/01	00212	TESTLGC/01	008B9
		TESTN0/01	008BA		TESTREG/01	0073C	TESTREGA/01	00741	TESTRET/01	00215
		TESTSEL/01	001CB		TESTURN/01	003C4	TEST1/01	00453	TESTLXX/01	00477
		TEST10/01	00586		TEST11/01	005A5	TEST2/01	00496	TEST3/01	004F1
		TEST4/01	0051C		TEST5/01	0054C	TEST6/01	00582	TEST7/01	00583
		TEST8/01	00584		TEST9/01	00585	TEXT/01	003C3	TIMESUP/01	003A5
		T0PFF0RM/01	002AC		T0PPAGE/01	00270	TRANSEK/01	00386	TRANSFER/01	0057E
		TRAPUN/01	005E0		TRAP4A/01	00646	TRAP4B/01	00648	TRAP40/01	00632
		TRAP41/01	00634		TRAP42/01	00636	TRAP43/01	00638	TRAP44/01	0063A
		TRAP45/01	0063C		TRAP46/01	0063E	TRAP48/01	00642	TRAP49/01	00644
		TSTCTR/01	008BB		TUNASS/01	00640	T1120R3/01	003EF	TCHK/01	0047E
		T1RPT/01	0046A		T1RUN/01	00468	T2MET/01	004LC	T23TRAP/01	00343
		T23TRAPA/01	008FE		T23XPSD/01	008FD	T3INST/01	00906	T3MET/01	00508
		T5TEMP/01	008FA		UNIMP/01	005C8	UNPACK/01	0032C	UNPACKA/01	00331
		UNPARET/01	0033D		UNUSUAL/01	0027B	VARIABLE/01	0057A	WPK0TE/01	00748
		WPK0TEA/01	00751		WPK0TECT/01	0067D	WPK0TEC/01	0066C	WPK0T/01	00378
		XPSD40/01	008FC		2NDHALF/01	00904	!NEWLINE/01	00264	!R15/01	002AE
		<ul style="list-style-type: none"> * NO EXTERNAL DEFINITIONS * NO PRIMARY REFERENCES * NO SECONDARY REFERENCES * NO UNDEFINED SYMBOLS * ERROR SEVERITY LEVEL: 0 * NO ERROR LINES 								

XDS 901572

SECTION II
CONCORDANCE LISTING

ADDCTR	1555=LI	1593/BIR				
ADDIX	1335/STW	1384/LW	1994=DATA			
ADDMASK	1995=DATA	2236/AND				
ADDRINC	1590/BE	1593=BIR				
ADDTAB	1327/CW	1336/LI	2026=DATA			
ADD1L00P	1415=LI	1486/BIR				
ADD2BLK1	1418=LW	1454/BCS	1479/BIR	1481/BIR	1484/BIR	
AF	174/GEN	174/GEN	174/GEN	174/GEN		
A10STAT	999/LW	1055=DATA				
ALLTEST	646=LW	650/BL				
ALTERED	983/B	1456=LW				
ALTINS	1458/BE	1463=LW				
BA	784/INFORM	894/GEN	1652/OUTFORM	1653/OUTFORM	1906/OUTFORM	1908/OUTFORM
	1909/OUTFORM	1910/OUTFORM	1911/OUTFORM	1912/OUTFORM	1913/OUTFORM	1914/OUTFORM
	1915/OUTFORM	1916/OUTFORM	1917/OUTFORM	1918/OUTFORM	1919/OUTFORM	1920/OUTFORM
	1921/OUTFORM	1922/OUTFORM	1923/OUTFORM	2359/GEN	2360/GEN	2361/GEN
	2363/OUTFORM					2362/GEN
BALERR	1397/LW	1475/LW	2049=BAL			
BASICV1	1347/0R	2050=DATA				
BASICV2	1354/0R	2098=DATA				
BLKL00P2	1420=LW					
BRAND0M	1437/0R	2146=B				
BRINIT	453/LD	2341=HI0				
BYTADD	2147=DATA					
BYTIX	1557=LI	1592/B				
CALL1	190/XPSD	1783=DATA				
CALL2	191/XPSD	1787=DATA				
CALL3	192/XPSD	1791=DATA				
CALL4	193/XPSD	1795=DATA				
CASEND	1469/BE	1475=LW				
CDW0RDER	487/STW	1526/0M	2384=DATA			
CDWTAB	597/LW	2345=DATA				
CDWTABLE	1613/LD	1639/0M	1648/0R	1656=DATA		
CHE0T	1123/BE	1129=TDV				
CHINPUT	642/BLE	649=CB				
CHMODE	2151=DATA					
CLRBUFF	1058=STW	1246/BAL	1284/BAL			
CODEFORM						

	608/LW	1924=DATA					
CODEFOR	1908=OUTFORM	1924/DATA					
COMDEV	1908=OUTFORM	1908=OUTFORM	1948=TEXT				
COMDEVA	1908=OUTFORM	1949=EQW					
COMPT4	1576=CW	1580/BCS	1587/BCS				
COMREDDY	803/BAL 858/B	805=STW	827/BAL	836/BAL	841/BCR	845/B	857/B
CONCBL	1160/BAL 1227/BAL	1163/BAL 1232/BAL	1166/BAL 1239/BAL	1169/BAL 1264=STW	1197/BAL 1287/BAL	1202/BAL 1294/BAL	1206/BAL 1297/BAL
CONRET	1264/STW	1267/B*	1271=DATA				
CONTINUE	1026/B	1028/B	1029/B	1040=LW	1054/B		
CONTRBL	476/BNE	481/B	491/B	692=LI			
COROK	1367/BE	1369/BE	1371/BE	1374=RD			
CORSIZE	467/BAL	505=STW	561/BG				
CBUNT1	211/XPSD	1824=DATA					
CBUNT2	212/XPSD	1828=DATA					
CBUNT3	213/XPSD	1832=DATA					
CBUNT4	214/XPSD	1836=DATA					
DA	457/LI 877/LI 1924/DATA 1931/DATA 1938/DATA 2355/INFORM	759/LI 890/DATA 1925/DATA 1932/DATA 1939/DATA	817/DATA 1535/LI 1926/DATA 1933/DATA 1940/DATA	824/LI 1616/LI 1927/DATA 1934/DATA 1941/DATA	862/LI 1626/LI 1928/DATA 1935/DATA 2302/LI	867/LI 1654/DATA 1929/DATA 1936/DATA 2323/INFORM	872/LI 1687/LI 1930/DATA 1937/DATA
DATAZ	1906=OUTFORM	2391=DATA					
DEC	187/XPSD	1771=DATA					
DECHEX	517/LW	540/CW	2153=DATA				
DEVADD	587=LI	593/BIR					
DEVCHAN	588=LW	592/BDR					
DEVCHK	1117=STW	1128/B	1506/BAL	1515/BAL	1534/BAL	1633/BAL	1642/BAL
DEVICES	468/BAL	585=STW					
DEVNB	462/STW	474/LW	614/STW	1244/LW	2185=DATA		
DEVOFF	1909=OUTFORM	1909=OUTFORM	1950=TEXT				
DEVOFFA	1909=OUTFORM	1951=EQW					
DEVOFFRM	1125/LW	1925=DATA					
DEVOFFR	1909=OUTFORM	1925/DATA					
DEVRET	585/STW	615/B*	619=DATA				
DEVTAB	588/LW	1729/CW	2186=DATA				
DEVTABIX	596/STW	1500/LW	1606/LW	1733/STW	2191=DATA		
DISARM10							

	451/LD	2343-LI					
DEGTIME	188/XPSD	1775=DATA					
ERL0CM0D	1195/EXU	2192=BCB					
ERRBUFF	720/STW	1062/STW	1161/STH	1164/STH	1167/STH	1170/STH	1172/STH
	1198/STB	1200/STW	1203/STW	1204/STW	1207/STH	1209/STH	1210/STH
	1228/STB	1230/STW	1233/STB	1235/STH	1237/STH	1240/STB	1242/STW
	1288/STH	1290/STH	1292/STH	1295/STW	1298/STH	1300/STH	
	1652/OUTFORM	1652/OUTFORM	1653/OUTFORM	1653/OUTFORM	1910/OUTFORM	1910/OUTFORM	
	1919/OUTFORM	1919/OUTFORM	1952=TEXT				
ERRBUFFA	1652/OUTFORM	1653/OUTFORM	1910/OUTFORM	1919/OUTFORM	1954=EUU		
ERRCTR	694/STW	1158/AHM	1168/LW	1296/LW	1680/STW	2210=DATA	
ERRET	1255/STW	1260=DATA					
ERRFOR	1910=OUTFORM	1926=DATA					
ERRFORM	1243/LW	1926=DATA					
ERRLOC	1193/EXU	1194/EXU	2211=BCB				
ERROR	1050/BAL	1053/BAL	1107/BAL	1151=LCFI	1373/BAL	1387/BAL	1462/B
	1474/B	1568/BAL	1585/BAL	1695/BAL	2049/BAL		
ERRORA	1213/BNE	1221=CI					
ERRORB	1220/B	1226=LW					
ERRORC	1175/BE	1222/BG	1243=LW				
ERRORD	1197=BAL						
EXHOLD	698/STW	707/LW	709/STW	2229=DATA			
EXIT	1007=LCI	1019/B	1039/B	1043/B	1051/B		
EXTERN	219/XPSD	220/XPSD	221/XPSD	222/XPSD	223/XPSD	224/XPSD	225/XPSD
	226/XPSD	227/XPSD	228/XPSD	229/XPSD	230/XPSD	231/XPSD	232/XPSD
	233/XPSD	234/XPSD	235/XPSD	236/XPSD	237/XPSD	238/XPSD	239/XPSD
	240/XPSD	241/XPSD	242/XPSD	243/XPSD	244/XPSD	245/XPSD	246/XPSD
	247/XPSD	248/XPSD	249/XPSD	250/XPSD	251/XPSD	252/XPSD	253/XPSD
	254/XPSD	255/XPSD	256/XPSD	257/XPSD	258/XPSD	259/XPSD	260/XPSD
	261/XPSD	262/XPSD	263/XPSD	264/XPSD	265/XPSD	266/XPSD	267/XPSD
	268/XPSD	269/XPSD	270/XPSD	271/XPSD	272/XPSD	273/XPSD	274/XPSD
	275/XPSD	276/XPSD	277/XPSD	278/XPSD	279/XPSD	280/XPSD	281/XPSD
	282/XPSD	283/XPSD	284/XPSD	285/XPSD	286/XPSD	287/XPSD	288/XPSD
	289/XPSD	290/XPSD	291/XPSD	292/XPSD	293/XPSD	294/XPSD	295/XPSD
	296/XPSD	297/XPSD	298/XPSD	299/XPSD	300/XPSD	301/XPSD	302/XPSD
	303/XPSD	304/XPSD	305/XPSD	306/XPSD	307/XPSD	308/XPSD	309/XPSD
	310/XPSD	311/XPSD	312/XPSD	313/XPSD	314/XPSD	315/XPSD	316/XPSD
	317/XPSD	318/XPSD	319/XPSD	320/XPSD	321/XPSD	322/XPSD	323/XPSD
	324/XPSD	325/XPSD	326/XPSD	327/XPSD	328/XPSD	329/XPSD	330/XPSD
	331/XPSD	332/XPSD	333/XPSD	334/XPSD	335/XPSD	336/XPSD	337/XPSD
	338/XPSD	339/XPSD	340/XPSD	341/XPSD	342/XPSD	343/XPSD	344/XPSD
	345/XPSD	346/XPSD	347/XPSD	348/XPSD	349/XPSD	350/XPSD	351/XPSD
	352/XPSD	353/XPSD	354/XPSD	355/XPSD	356/XPSD	357/XPSD	358/XPSD
	359/XPSD	360/XPSD	361/XPSD	362/XPSD	363/XPSD	364/XPSD	365/XPSD
	366/XPSD	367/XPSD	368/XPSD	369/XPSD	370/XPSD	371/XPSD	372/XPSD
	373/XPSD	374/XPSD	375/XPSD	376/XPSD	377/XPSD	378/XPSD	379/XPSD
	380/XPSD	381/XPSD	382/XPSD	383/XPSD	384/XPSD	385/XPSD	386/XPSD
	387/XPSD	388/XPSD	389/XPSD	390/XPSD	391/XPSD	392/XPSD	393/XPSD
	394/XPSD	395/XPSD	396/XPSD	397/XPSD	398/XPSD	399/XPSD	400/XPSD
	401/XPSD	402/XPSD	403/XPSD	404/XPSD	405/XPSD	406/XPSD	407/XPSD
	408/XPSD	409/XPSD	410/XPSD	411/XPSD	412/XPSD	413/XPSD	414/XPSD
	415/XPSD	416/XPSD	417/XPSD	418/XPSD	419/XPSD	420/XPSD	421/XPSD
	422/XPSD	423/XPSD	424/XPSD	425/XPSD	426/XPSD	427/XPSD	428/XPSD
	429/XPSD	430/XPSD	431/XPSD	432/XPSD	433/XPSD	434/XPSD	435/XPSD

	436/XPSD 1844=DATA	437/XPSD	438/XPSD	439/XPSD	440/XPSD	441/XPSD	442/XPSD
EXTESTS	470/STW	633/STW	647/STW	665/LW	673/STW	697/LW	2230=DATA
EXTIN	1846=DATA	1867=WAIT					
FAULT	2359/GEN	2359/GEN	2360/GEN	2366=DATA			
FAULTA	2359/GEN	2369=EGU					
FAULTLP	867/LI	2359=GEN					
FLSAT	186/XPSD	1767=DATA					
FORME	1911=OUTFORM	1927=DATA	1928=DATA				
FORMEM	523/LW	1927=DATA					
GB	1505/B	1514/B	1520=B				
HALTI911	744/B	1734=HI0					
HALTI95	1597/B	1629=LD					
HEADFORM	465/LW	478/LW	837/LW	1929=DATA			
HEADFOR	1913=OUTFORM	1929=DATA	1930=DATA	1931=DATA	1932=DATA		
HEADING1	1914=OUTFORM	1914=OUTFORM	1955=TEXT				
HEADINGA	1914=OUTFORM	1957=EGU					
HEADINGC	1916=OUTFORM	1963=EGU					
HEADING3	1916=OUTFORM	1916=OUTFORM	1961=TEXT				
HEADINGB	1915=OUTFORM	1960=EGU					
HEADING2	1915=OUTFORM	1915=OUTFORM	1958=TEXT				
MIDVFORM	605/LW	1933=DATA					
MIDVFOR	1917=OUTFORM	1933=DATA					
MISPEDV	590=BCR	596=STW					
MISPI0	482/HI0*	600/STW	1120/TI0*	1129/TOV*	1133/SI0*	1134/IJ0*	1155/HI0*
	1455/HI0*	1508/SI0*	1509/TI0*	1517/SI0*	1518/TI0*	1536/SI0*	1627/SI0*
	1631/HI0*	1635/SI0*	1636/TI0*	1644/SI0*	1645/TI0*	1689/SI0*	1698/HI0*
	1723/STW	1734/HI0*	2231=DATA	2320/SI0*	2341/HI0*		
MISPI9A10	1001=BE	1018=WAIT					
IDENT	1913=OUTFORM	1913=OUTFORM	1964=TEXT				
IDENTA	1913=OUTFORM	1970=EGU					
INCBK2	1431=BE	1479=DIR					
INFORM	154=FORM						
INITIAL	451=LD	595/B	2342/B	2395=END			
INOUT	215/XPSD	1840=DATA	2214/LW				
INSEQ	1215/STW	1217/STW	1219/STW	1223/STW	1224/STW	1225/STW	1226/LW
	1231/LW	1238/LW	2232=RES				
INSTR	1346/LW	2233=LW					
INSUF09R							

	1921/OUTFORM	1921/OUTFORM	1971-TEXT				
INSUFCHRA	1921/OUTFORM	1973-EQU					
INT	216/XPSD	965-DATA					
INTUN	210/XPSD	217/XPSD	218/XPSD	1820-DATA			
INT5A	1834/DATA	1863-WAIT					
INT5B	1838/DATA	1865-WAIT					
INT50	1806/DATA	1853-WAIT					
INT51	1810/DATA	1855-WAIT					
INT58	1826/DATA	1859-WAIT					
INT59	1830/DATA	1861-WAIT					
I0CDW	1528/STD	1533/STD	1535/LI	1682/STW	1685/STW	1687/LI	2393-MES
I0HALT	1108/B	1691/B	1698-HIB				
I0INT	987-LI	1842/DATA					
I0L00P	1105/BCS	1686-RD	1693/BCS	1697/BCS	1700/BCS		
I0PUEI	1030/B	1052-LI					
I0RET	1013/LPSD	1015-DATA					
ITISRAD	1502/BE	1506-BAL	1522/BLZ				
ITISTAPE	1504/BE	1515-BAL					
ITIST2	1443/BNE	1450-B					
IUNASS	1822/DATA	1857-WAIT					
KBDREAD	527/BAL	611/BAL	638/BAL	756-LCFI	1719/BAL		
KBDREADB	771-LI	780/B					
KBDREADA	759-LI	770/B					
KEYIN	764/LB	784-INFORM	223*-DATA				
KFIG	541/BE	545-AND					
KINORD	759/LI	784-INFORM					
KSR	460/STW	461/LW	475/CW	521/LW	554/LW	562/LW	604/LW
	607/LW	634/LW	760/SIB*	761/TIB*	801/CW	863/LW	868/LW
	873/LW	878/LW	1005/LW	1035/LW	1124/LW	1301/LW	1716/LW
	2336-DATA						
KSR0UT	802/BE	809-LI	815/BEZ				
LASTFLAG	1530/LW	2389-DATA					
LF	174-GEN						
LINES	485/STW	818/MTW	828/MTW	831/STW	2383-DATA		
LINKRET	1254/LW	2235-B					
L0DL0C	1559-STB	1566/BCS	1570/BCS	1571/BDR			
L00PA	1564/B	1569-RD					
L00PB							

	1578/B	1583=BE					
LBWPAP	872/LI	2361=GEN					
LPPFAULT	855/B	867=LI					
LPLW	2361/GEN	2361=GEN	2370=DATA				
LPLW1	2361/GEN	2373=EQU					
LPBUT	804/B	818=MTW					
LPBUTCDW	823/STD	824/LI	897=RES				
LPRUN	2362/GEN	2362=GEN	2374=DATA				
LPRUN1	2362/GEN	2377=EQU					
LPTDV	849/BE	854=WAIT					
MASKINST	1408/LW	2236=AND					
MASKR10	1410/STW	1419=DATA					
MASKR11	1412/STW	1421=DATA					
MAXCOR	508/STW	511/CW	557/STW	1326/LW	1403/LW	1589/LW	2237=DATA
MEMFILL	1402/STW	1405=DATA					
MEMIX	1332/STW	1338/LW	1344/LW	2238=DATA			
MEMPAR	209/XPSD	1816=DATA					
MEMSTAT1	520/STW	1911=OUTFORM	1911=OUTFORM	1974=TEXT			
MEMSTATA	1911=OUTFORM	1975=EQU					
MEMSTATB	1912=OUTFORM	1978=EQU					
MEMSTAT2	1912=OUTFORM	1912=OUTFORM	1976=TEXT				
NEWLINE	457/LI	817=DATA	2360=GEN				
NEWMAX	552/BG	557=STW					
NEWMEM	526=LW	533/BG	544/B	556/B			
NEWPASS	695=LI	705/B					
NEXTST	701=LW	713/B					
NBADD	559=SW	1749=BCR					
NBBLK	516/STW	546/CW	548/STW	1409/AW	1416/LCW	1480/LCW	1482/LCW
	1605/LW	2239=DATA					
NBDEV	862/LI	2363=OUTFORM					
NBDEVICE	842/BCS	862=LI					
NBDEVIC	2363=OUTFORM	2363=OUTFORM	2364=TEXT				
NBDEVICA	2363=OUTFORM	2365=EQU					
NBNBP	182/XPSD	1741=DATA	1743=DATA	2379/XPSD			
NBP	1433/LW	1456/LW	2240=BCS				
BFLO	185/XPSD	1763=DATA					
BPSDEV							

	1918/OUTFORM	1918/OUTFORM	1979=TEXT				
OPSDEVA							
	1918/OUTFORM	1980=EUU					
OPSFBR							
	1918-OUTFORM	1934/DATA					
OPSFBRM							
	1715/LW	1934=DATA					
OUTFORM							
	171=CNAME						
OUTPUT							
	466/BAL	479/BAL	524/BAL	555/BAL	564/BAL	606/BAL	609/BAL
	636/BAL	797=LCI	838/BAL	864/BAL	869/BAL	874/BAL	879/BAL
	889/B	1006/BAL	1037/BAL	1126/BAL	1245/BAL	1303/BAL	1717/BAL
PACK							
	601/BAL	911=STW	1265/BAL				
PACKA							
	913=LI	924=BIH					
PACKB							
	915=SCD	921=BDH					
PACKED							
	602/LW	923=STW	931=RES	1266/LD			
PAKRET							
	911/STW	925=B*	929=DATA				
PAPLOW							
	856/B	872=LI					
PAPRUN							
	859/B	877=LI					
PARINT							
	1077=LW	1818/DATA					
PARLOC							
	484/STW	1077/LW	1079/STW	1359/STW	1362/STW	1440/STW	1462/STW
	1538/STW	1561/STW	1563/STW	1573/STW	1575/STW	1577/STW	1688/STW
	1690/STW	2241=DATA					
PARRET							
	1080/LPSD	1082=DATA					
PARSPUR							
	1085/B	1869=WAIT					
PAR1RET							
	1086/B	1386=LI					
PAR10RET							
	1090/B	1692=RD					
PAR2RET							
	1087/B	1473=LI					
PAR4ARET							
	1088/B	1565=RD					
PAR4BRET							
	1089/B	1579=RD					
PASSCTR							
	658/STW	693/STW	704/AWM	726/AWM	1165/LW	1293/LW	1679/STW
	1702/AWM	2242=DATA					
PATTERN							
	1558/LW	2243=DATA					
PEP0K1							
	1681/LW	2254=DATA					
PEP0K2							
	1684/LW	2255=DATA					
POSITION							
	890/DATA	894=GEN					
P0W0FF							
	204/XPSD	1808=DATA					
P0W0N							
	203/XPSD	1804=DATA					
PULSE1							
	205/MTW	1812=DATA					
PULSE2							
	206/MTW	1813=DATA					
PULSE3							
	207/MTW	1814=DATA					
PULSE4							
	208/MTW	1815=DATA					
RADBYTES							

2280=DATA							
KADFLG	1499/STW	1511/MTW	1513/MTW	1521/MTW	1540=DATA		
KADSEK	1507/LW	1634/LW	1940=DATA				
KADTST	1608/BE	1633=HAL					
KEADSEL	637=LW	653/BE	675/BE	677/BE	945/BL		
KEGSAVE1	455/LD	488/LD	898=GEN				
KEGSAVE	456/STD	489/STD	798/PSM	883/PLM	888/PLM	899=RES	990/PSM
KEIBCDW	1008/PLM	1045/PLM					
KEIBCDW	1256/EXU	2285=BCS					
KEPEER	1461-LI	1472/B					
KEPFOR	1919=OUTFORM	1935=DATA					
KEPFORM	1302/LW	1935=DATA					
KEPBRT	717/BAL	1281-STW	1705/BAL				
KEPRET	1281/STW	1306/B*	1310=DATA				
KEQFOR	1920=OUTFORM	1936=DATA					
KEQFORM	635/LW	1936=DATA					
KESETI9	1257/EXU	2303=BCS					
KESTART1	482=HIP	493=DATA					
KESTART	493=DATA	566/LPSD	969/LPSD	1854/LPSD	1856/LPSD	1858/LPSD	1860/LPSD
	1862/LPSD	1864/LPSD	1866/LPSD	1868/LPSD	1870/LPSD	1877/LPSD	1879/LPSD
	1881/LPSD	1883/LPSD	1885/LPSD	1887/LPSD	1889/LPSD	1891/LPSD	1893/LPSD
	1895/LPSD	1897/LPSD	1899/LPSD				
KESTORE	816/B	829/B	882=LCI				
KEYADD	1154/BCS	1250=LW					
KEYAP	1647/LD	1907=OUTFORM	1941=DATA				
KEYRY	840/B	866/B	871/B	876/B	881/B	887=LCI	
KEY2INST	1251/LW	1435/LW	1463/LW	2321=B			
KEYIND	1132/LW	1516/LW	1643/LW	1941=DATA			
KUNPAP	877/LI	2362=GEN					
KO	155=EQU	451/LD	452/STD	453/LD	454/STD	459/LI	460/STW
	462/STW	463/LW	464/STW	465/LW	478/LW	483/LI	484/STW
	485/STW	486/LW	487/STW	506/LW	507/LW*	508/STW	523/LW
	553/LW	559/SW	560/CW	563/LW	597/LW	598/SLS	599/STB
	602/LW	603/STW	605/LW	608/LW	632/LI	633/STW	635/LW
	646/LW	647/STW	657/LI	658/STW	665/LW	669/SLS	670/SLS
	671/BR	672/SLS	673/STW	692/LI	693/STW	694/STW	695/LI
	696/STW	697/LW	698/STW	703/LI	704/AWM	707/LW	708/SLS
	709/STW	711/LI	712/AWM	719/LW	720/STW	722/LW	723/LI
	725/LI	726/AWM	757/STM	759/LI	764/LB	765/LB	768/STB
	772/STB	775/LM	778/CB	810/XW	821/LD*	978/LW	979/LI
	981/LI	1102/WU	1103/WU	1125/LW	1132/LW	1152/STM	1173/LW
	1174/LI	1183/LH	1184/SLS	1185/LW	1186/AND	1187/STW	1188/LI
	1189/SH	1190/AW	1191/SLS	1196/LW	1205/LW*	1211/LW	1212/LI
	1214/LW	1215/STW	1216/BDK	1217/STW	1218/LI	1219/STW	1221/LI
	1251/LW	1254/LW	1255/STW	1259/LM	1283/STM	1302/LW	1305/LM
	1336/LI	1337/AW	1348/BR*	1353/BR*	1397/LW	1398/STW	1408/LW

	1409/AW	1410/STW	1411/AW	1412/STW	1435/LW	1436/STW	1439/LI
	1440/STW	1441/LI	1442/CW	1451/LI	1452/STW	1456/LW	1457/CW
	1460/STW	1463/LW	1467/LW	1468/CW	1471/STW	1475/LW	1476/STW
	1477/STW	1478/STW	1555/LI	1556/STW	1559/STB	1560/STW	1572/STB
	1576/CW	1594/LW	1595/CI	1681/LW	1682/STW	1684/LW	1685/STW
	1687/LI	1715/LW	2193/AI	2194/MTW	2195/MTW	2212/LW	2213/LW
	2214/LW	2215/LW	2216/LW	2228/LW	2302/LI	2325/STW	
R1	156*EQU	509/LI	514/BIK	516/STW	517/LW	586/LI	588/LW
	593/BIK	596/STW	597/LW	718/LI	720/STW	721/BIK	758/LI
	768/STB	769/BIK	773/STB	843/TOV	848/CS	991/AID	992/HID*
	1000/CS	1011/LW	1012/MTW	1017/B	1040/LW	1041/LI	1058/STW
	1060/LW	1062/STW	1064/LW	1120/TID	1121/AND	1122/CW	1129/TOV
	1130/AND	1157/LI	1158/AWM	1164/STW	1172/STW	1183/LW	1189/SH
	1210/STW	1237/STW	1250/LW	1252/CI	1256/EXU	1257/EXU	1285/LI
	1292/STW	1300/STW	1322/LI	1329/BIK	1333/STW	1334/LCW	1337/AW
	1343/LI	1347/BR	1354/BR	1380/BIK	1399/LW	1400/BIK	1403/LW
	1404/SW	1406/BUR	1407/LI	1486/BIK	1683/LI	1684/LW	1701/BIK
	1728/LI	1729/CW	1731/BIK	1733/STW	2322/STD	2325/STW	
R10	165*EQU	1223/STW	1356/LW	1357/STW	1370/CW	1418/LW	1422/LI
	1424/BR	1430/CW	1432/STW*	1437/BR	1450/B	1476/STW*	1539/B
	1553/LI	1561/STW	1573/STW	1677/LI	1679/STW	1680/STW	1690/STW
	2236/AND						
R11	166*EQU	1224/STW	1365/LW	1366/CW	1368/LW	1370/LW	1420/LW
	1425/CI	1427/BR	1428/LW	1430/CW	1432/STW	1434/STW*	1444/LW
	1457/CW*	1459/LW	1477/STW*	1524/LW	1554/LI	1575/STW	1678/LI
	1688/STW						
R12	167*EQU	821/LD	822/AND	823/STD	1225/STW	1377/LW	1378/STW
	1379/STW	1428/LW	1429/BIK	1436/STW*	1447/STW*	1468/LW*	1470/LW
	1478/STW*	1588/LW	1589/CW	2233/LW			
R13	168*EQU	1049/LI	1052/LI	1106/LI	1162/LW	1177/LI	1372/LI
	1386/LI	1433/LW	1434/STW	1438/LI	1461/LI	1473/LI	1567/LI
	1581/LI	1584/LI	1694/LI				
R14	169*EQU	526/LW	529/SLS	530/CI	532/LI	534/SLS	535/BR
	537/SLD*	610/LW	637/LW	640/SCS	641/CS	649/CS	651/SCS
	652/CB	674/CB	676/CB	768/CB	772/STB*	772/STB	773/STB
	799/LI	800/WD	884/LI	885/WD	940/LW	987/LI	988/WD
	1009/LI	1010/WD	1046/LI	1047/WD	1078/LI	1079/STW	1099/LW
	1100/CI	1118/LI	1119/BIK	1444/LW	1445/AND	1446/AND	1447/STW
	1448/STW	1524/LW	1525/SLS	1526/BR	1528/STD	1533/STW	1537/LI
	1538/STW	1718/LW	1721/SCS				
R15	170*EQU	466/BAL	467/BAL	468/BAL	479/BAL	490/BAL	505/STW
	524/BAL	527/BAL	555/BAL	564/BAL	585/STW	601/BAL	606/BAL
	609/BAL	611/BAL	613/BAL	631/STW	636/BAL	638/BAL	654/BAL
	717/BAL	776/AI	777/B*	779/BE*	803/BAL	805/STW	827/BAL
	836/BAL	838/BAL	864/BAL	911/STW	938/STW	1006/BAL	1037/BAL
	1050/BAL	1053/BAL	1066/B*	1107/BAL	1117/STW*	1126/BAL	1160/BAL
	1163/BAL	1166/BAL	1169/BAL	1197/BAL	1202/BAL	1206/BAL	1227/BAL
	1232/BAL	1239/BAL	1245/BAL	1246/BAL	1264/STW	1265/BAL	1281/STW
	1284/BAL	1287/BAL	1294/BAL	1297/BAL	1303/BAL	1373/BAL	1387/BAL
	1459/LW	1464/LI	1465/CW	1470/LW	1506/BAL	1515/BAL	1527/LW
	1530/LW	1568/BAL	1585/BAL	1695/BAL	1705/BAL	1717/BAL	1719/BAL
	1722/BAL	2049/BAL	2235/B*				
R2	157*EQU	457/LI	458/STW	477/LI	478/LW	480/BIK	522/LI
	523/LW	525/BIK	539/LI	540/CW	543/BIK	587/LI	592/BUR
	666/LW	667/LCW	670/SCS	763/LI	765/CS	767/BUR	771/LI
	772/STB	992/HID	993/STW	1059/STW	1061/LI	1062/STW	1063/BIK
	1065/LW	1156/LI	1233/STB	1323/LI	1327/LW	1330/BIK	1334/LCW
	1335/STW	1348/BR	1353/BR	1381/BIK	1384/LW	1415/LI	1484/BIK
	1557/LI	1559/STB	1562/STB	1571/BUR			
R3	158*EQU	461/LW	474/LW	475/CW	521/LW	554/LW	562/LW
	604/LW	607/LW	634/LW	667/LCW*	668/AI	672/SCS	801/C*
	806/TID*	811/SID*	812/TID*	826/SID*	835/SID*	843/TOV*	863/LW

	868/LW 1176/LW 1301/LW 1482/LCW 1716/LW	873/LW 1179/CI 1324/LI 1550/LI 2236/AND	878/LW 1181/CI 1349/CI 1558/LW	994/STW 1193/EXU 1382/BDR 1593/BIR	1005/LW 1194/EXU 1416/LCW 1606/LW	1035/LW 1195/EXU 1417/LW 1607/CI	1124/LW 1244/LW 1481/BIR 1609/CI
R4	159-EQU 851/BIR 1378/STW 1620/BDR	455/LD 998/LI 1417/LW	456/STD 1001/BE 1479/BIR	488/LD 1003/BDR 1480/LCW	489/STD 1325/LI 1551/LI	846/LI 1355/STW 1591/AWM	849/BE 1360/B 1605/LW
R5	160-EQU 1344/LW 1503/CI 1622/STD	847/LW 1365/LW 1523/LI 1623/MTW	848/CS 1376/BDR 1528/STD 1625/STD	850/SLS 1498/LI 1529/BDR 2212/LW	999/LW 1499/STW 1616/LI	1000/CS 1500/LW 1617/STD	1002/SLS 1501/CI 1619/MTW
R6	161-EQU 1359/STW 1577/STW 1624/LD 1649/STD	809/LI 1361/LI 1613/LD 1625/STD	814/MTW 1362/STW 1614/BR 1629/LD	912/LI 1531/LI 1617/STD 1630/STD	923/STW 1532/WU 1618/AI 1638/LD	924/BIR 1552/LI 1621/LD 1640/STD	1358/LI 1563/STW 1622/STD 1647/LD
R7	162-EQU 834/LI 942/AND 1615/BR	699/LI 837/LW 952/BDR	700/STW 839/BIR 1077/LW	701/LW 913/LI 1084/B	702/BIR 921/BDR 1338/LW	706/STW 940/LW 1341/STW	710/BDR 941/SLS 1342/BDR
R8	163-EQU 511/CW 537/SLD 549/SLS 660/CI 916/AI 943/SLD 953/AND 1241/SCD 1340/STW 1355/STW* 1413/LW 1572/STB 1724/AND	469/LW 513/AI 538/AND 550/BR 662/CI 917/CB 944/CB 1199/SCD 1266/LD 1341/STW 1357/STW* 1414/LW 1574/STB 1725/CI	470/STW 517/LW 540/CW 551/CW 666/LW 919/AI 946/CB 1203/STW 1326/LW 1345/LI 1360/B* 1418/LW 1611/LI 1727/AND	472/LI 518/SLS 542/AI 557/STW 830/LI 920/SCS 948/AI 1208/SCD 1327/CW 1351/BR 1378/STW* 1485/SCS 1615/BR 1729/CW	473/WU 519/BR 545/AND 614/STW 831/STW 922/SCS 949/SLD 1210/STW 1331/SW 1352/LI 1379/STW* 1558/LW 1676/LI 2322/STD	507/LW 520/STW 546/CW 655/LI 914/LI 923/STW 950/SLS 1229/SCD 1332/STW 1353/BR 1401/LW 1559/STB 1702/AWM 2343/LI	510/LI 536/LW 548/STW 659/STW 915/SCD 939/LI 951/SLD 1234/SCD 1339/LW 1354/BR 1402/STW 1562/STB 1723/STW 2344/WU
R9	164-EQU 1159/LW 1170/STH 1204/STW 1231/LW 1242/STW 1293/LW 1347/BR 1483/SCS	588/LW 1161/STH 1171/SCS 1205/LW 1233/STB 1286/LW 1295/STW 1348/BR 1612/LI	589/TIO* 1162/LW 1172/STH 1207/STH 1235/STH 1288/STH 1296/LW 1351/BR 1614/BR	591/AI 1164/STH 1196/LW 1209/STW 1236/SCS 1289/LW 1298/STH 1355/STW 1942/INFBRM	600/STW 1165/LW 1198/STB 1226/LW 1237/STH 1290/STH 1299/SCS 1368/LW	643/AND 1167/STW 1200/STW 1228/STB 1238/LW 1291/SLS 1300/STH 1414/LW	644/LW 1168/LW 1201/LW 1230/STW 1240/STB 1292/STH 1346/LW 1420/LW
SAVER1	1058/STW	1064/LW	1067=DATA				
SAVER2	1059/STW	1065/LW	1068=DATA				
SCANCDW	599/STB 2323/INFBRM	1616/LI 2355/INFBRM	1626/LI 2394=RES	1654=DATA	2302/LI	2322/STD	
SCANSET	2322=STD						
SCANTIC	2323=INFBRM						
SCORFBRM	553/LW	563/LW	1937=DATA				
SCORFBR	1921=OUTFORM	1937=DATA					
SEEK	1638/LD	1906=OUTFORM	1940=DATA				
SELDEV	603/STW	1917/OUTFORM	1917/OUTFORM	1981=TEXT			
SELDEVA							

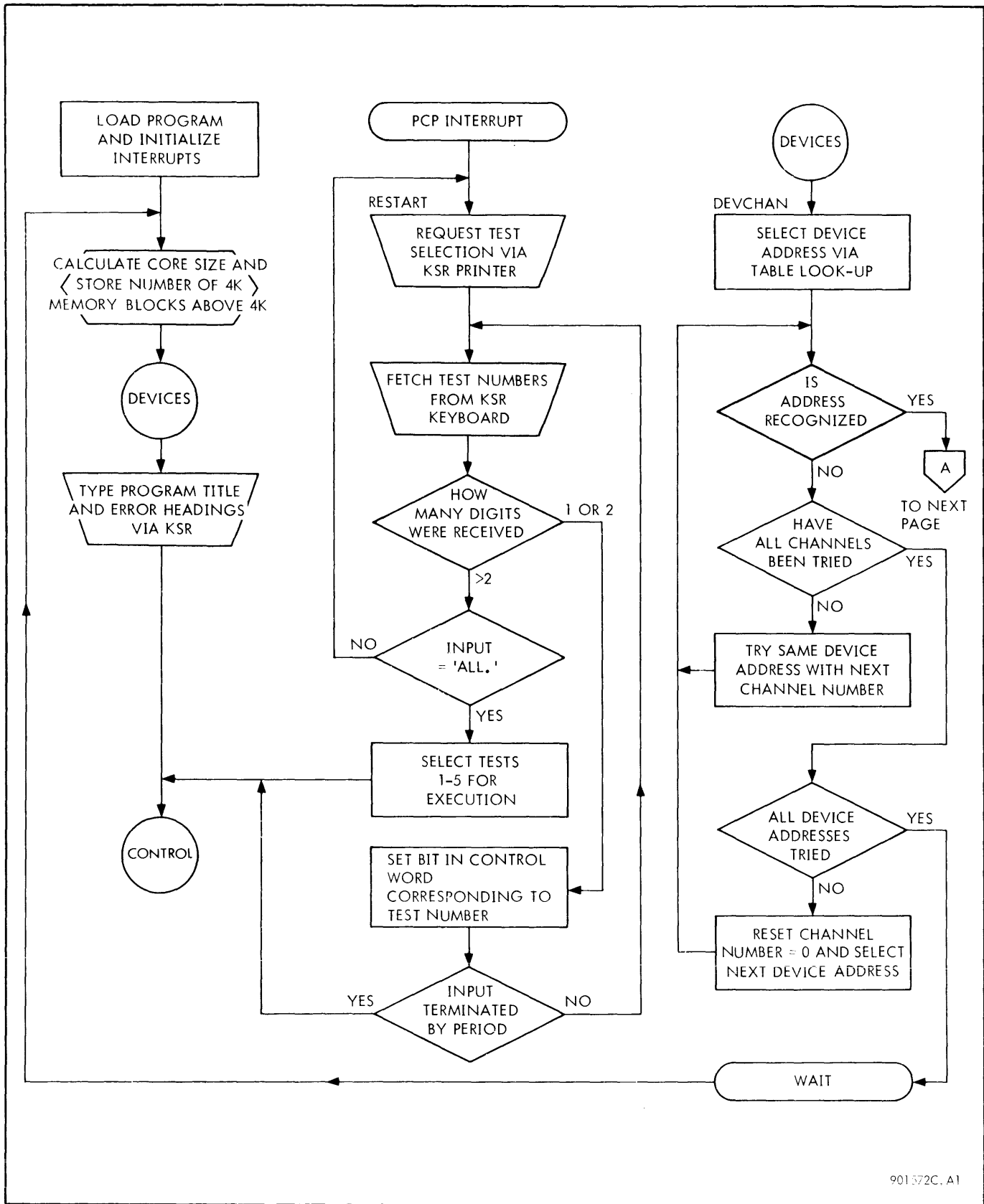
SELF0RM	1917/0UTF0RM	1982-EQU					
SELRET	526/LW	610/LW	637/LW	1718/LW	1942-INFORM		
SETBIT	631/STW	648/B*	679/BE*	681/B*	685-DATA		
SETCDW2	656/BL	665-LW					
SETUPCDW	1683-LI	1701/BIR	1704/BCR	1706/B			
SETUP1	1611-LI	1641/B	1650/B				
SHUDBE	1328/BL	1331-SW					
SIZOUT	1201/LW	1340/STW	1398/STW	1460/STW	1471/STW	1560/STW	2324-DATA
SIZRET	521-LW	528/B	547/BG				
SLASH	505/STW	531/BE*	558/B*	570-DATA			
SPUR	680/B	766/BE	778-CB				
SPURA	1922/0UTF0RM	1922/0UTF0RM	1985-TEXT				
SPURIN	1922/0UTF0RM	1986-EQU					
SPURINT	1922-0UTF0RM	1938/DATA					
STACK	1004/LW	1938-DATA					
STDVARIB	184/XPSD	1759-DATA					
ST0ERET	1629/LD	1653-0UTF0RM					
ST0RBAL	1253/BE	1255-STW					
ST0RPAG	1401/LW	2325-STW					
SWITCH	757/STM	775/LM	1152/STM	1214/LW	1259/LM	1283/STM	1305/LM
SWXRET	2213/LW	2326-RES					
TABENT	710/B0D	728-B	1017/B				
TAHLIM	1356/LW	2327-B					
TAPETST	1327-CW	1330/BIR					
TAPREW	1333/STW	2328-DATA					
TDVSTAT	1610/BE	1642-BAL					
TERMKAH	2329-DATA						
TESTAB	847/LW	2335-DATA					
TESTINC	765/CB	2334-DATA					
TESTLOC	540-CW	543/BIR					
TESTN9	711-LI	724/BNE					
TESTREQ	1556/STW	1562/STB*	1574/STB*	1576/CW*	1588/LW	1591/AWM	2215/LW
TESTREGA	2216/LW	2228/LW	2337-DATA				
	657/STW	696/STW	712/AWM	722/LW	978/LW	1011/LW	1040/LW
	1099/LW	1159/LW	1173/LW	1176/LW	1211/LW	1250/LW	1286/LW
	1442/CW	1465/CW	1594/LW	2338-DATA			
TESTREQ	1920/0UTF0RM	1920/0UTF0RM	1983-TEXT				
TESTREGA	1920/0UTF0RM	1984-EQU					

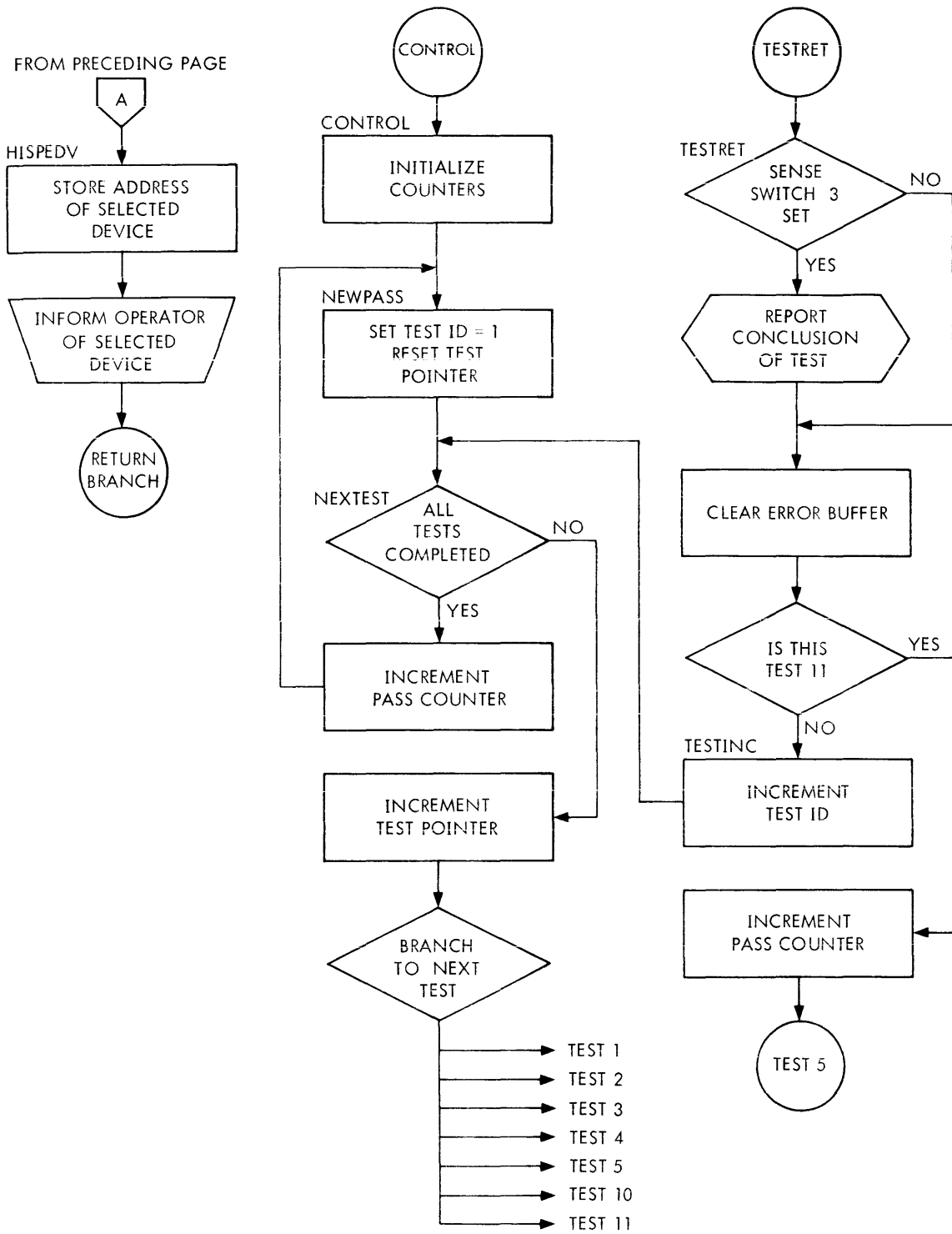
TESTRET	714=RD	1383/B	1487/B	1596/BL	1632/B		
TESTSEL	490/BAL	631=STW	639/B	645/BNE	664/B		
TESTURN	1117/STW	1137/B*	1144=DATA				
TEST1	728/B	1322=LI					
TEST1EX	1358=LI	1364/BCS	2327/B				
TEST10	661/BE	743/B	1676=LI				
TEST11	663/BE	1715=LW	1720/B	1732/B			
TEST2	729/B	1397=LW	1520/B				
TEST3	730/B	1498=LI					
TEST4	731/B	1550=LI	1628/B				
TEST5	727/B	732/B	1605=LW	1735/B			
TEST6	733/B	1658=WAIT					
TEST7	734/B	1659=WAIT					
TEST8	735/B	1660=WAIT					
TEST9	736/B	737/B	738/B	739/B	740/B	741/B	742/B
TEXIT	1661=WAIT						
	1131/BEZ	1136/B	1137=B				
TIMESUP	1099=LW	1777=DATA					
TBPFBRM	832/STW	833/LW	890=DATA				
TOPPAGE	819/BEZ	830=LI					
TRANSERR	1027/B	1049=LI					
TRANSFER	1624/LD	1654=DATA					
TRAPUN	189/XPSD	194/XPSD	195/XPSD	196/XPSD	197/XPSD	1779=DATA	
TRAP4A	1793=DATA	1896=WAIT					
TRAP4B	1797=DATA	1898=WAIT					
TRAP40	982/BNE	1745/BCR	1746/BCR	1747/BCR	1876=WAIT		
TRAP41	1757=DATA	1878=WAIT					
TRAP42	1761=DATA	1880=WAIT					
TRAP43	1765=DATA	1882=WAIT					
TRAP44	1769=DATA	1884=WAIT					
TRAP45	1773=DATA	1886=WAIT					
TRAP46	1101/BNE	1888=WAIT					
TRAP48	1785=DATA	1892=WAIT					
TRAP49	1789=DATA	1894=WAIT					
TSTCTR	700/STW	701/LW	706/STW	2339=DATA			
TUNASS	1781=DATA	1890=WAIT					

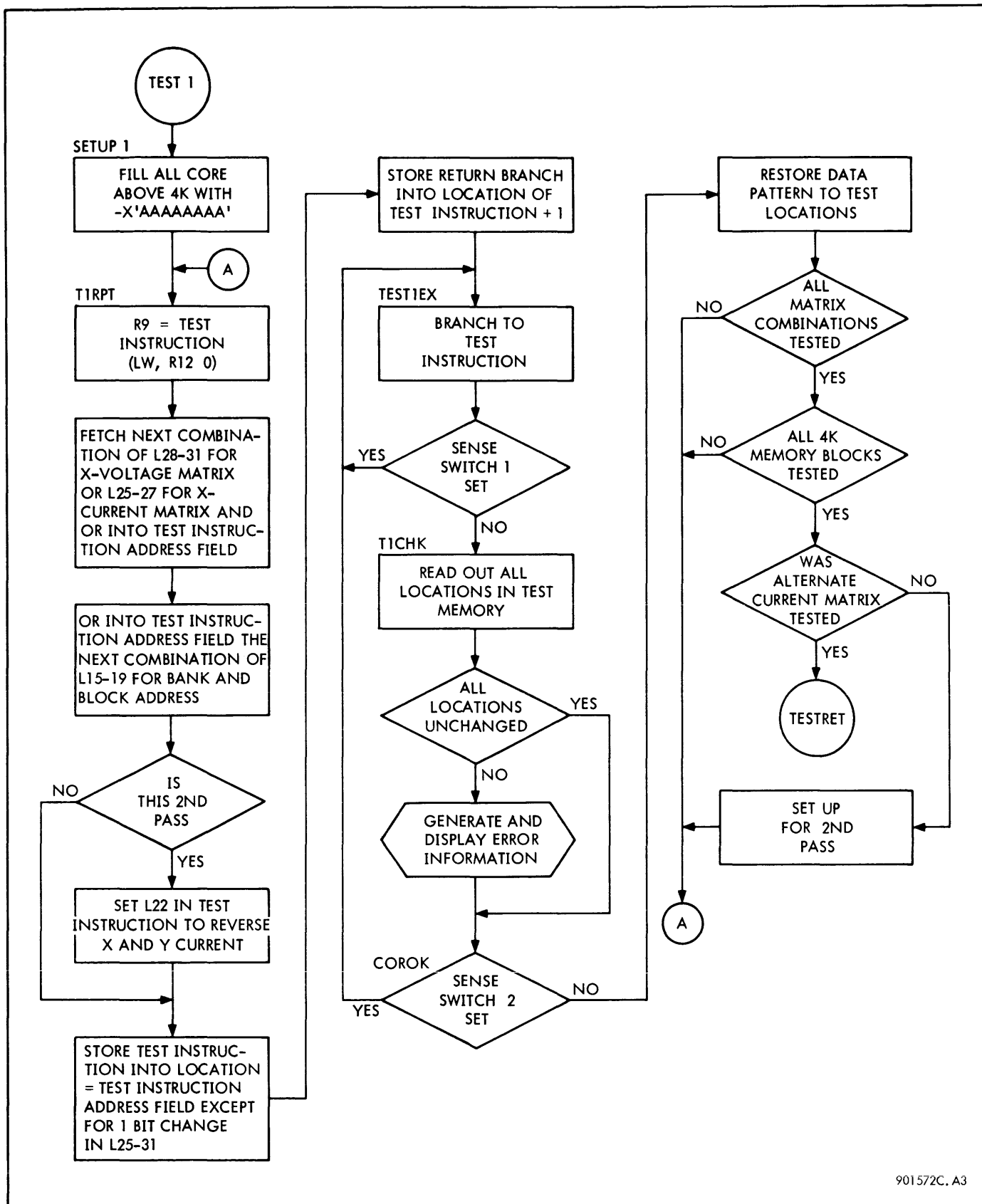
T112BR3							
T1CHK	1178/BNE	1182/BNE	1193-EXU				
T1RPT	1365-LW	1376/BDR	1388/B				
T1RUN	1345-LI	1375/BUS					
T2RET	1343-LI	1380/BIR	1381/BIR	1385/B			
T23TRAP	1048/B	1451-LI	2321/B				
T23TRAPA	978-LW	1753/B	2382/DATA				
T23XPSD	2380/XPSD	2382-DATA					
T3INST	1399/LW	2380-XPSD					
T3RET	1448/STW	1467/LW	2390-DATA				
T5TEMP	1449/B	1512/BLZ	1521-MTW				
UNIMP	993/STW	994/STW	1183/LH	1187/STW	1189/SH	1190/AW	2378-MES
UNPACK	183/XPSD	1755-DATA					
UNPACKA	613/BAL	654/BAL	938-STW	1722/BAL			
UNPARET	943-SLD	952/BDR					
UNUSUAL	938/STW	954/B*	958-DATA				
VARIABLE	807/BUS	841-BCR					
WPROTE	1621/LD	1630/STD	1640/STD	1649/STD	1652-OUTFORM		
WPROTEA	1923/OUTFORM	1923/OUTFORM	1987-TEXT				
WPROTECT	1923/OUTFORM	1988-EQU					
WPROTEC	1036/LW	1939-DATA					
WRITPRBT	1923-OUTFORM	1939/DATA					
XPSD40	1021/B	1035-LW					
ZNDHALF	463/LW	2379-XPSD					
\$	1527/LW	2386-DATA					
	480/BIR	512/BE	514/BIR	515/B	525/BIR	612/B	702/BIR
	716/BCR	721/BIR	762/BUS	767/BDR	769/BIR	813/BUS	839/BIR
	844/BUS	851/BIR	853/B	894/GEN	898/GEN	918/BG	947/BGE
	967/DATA	980/BE	996/BUS	1003/BDR	1015/DATA	1020/B	1034/B
	1042/BE	1063/BIR	1082/DATA	1084/B	1119/BIR	1135/BUS	1180/BE
	1192/B	1216/BDR	1248/BUS	1329/BIR	1342/BDR	1350/BNEZ	1382/BDR
	1406/BDR	1423/BGE	1426/BGE	1429/BIR	1466/BNE	1510/BUS	1519/BUS
	1529/BDR	1582/B	1583/BE	1620/BDR	1637/BUS	1646/BUS	1726/BL
	1730/BE	1731/BIR	1949/EQU	1951/EQU	1954/EQU	1957/EQU	1960/EQU
	1963/EQU	1970/EQU	1973/EQU	1975/EQU	1978/EQU	1980/EQU	1982/EQU
	1984/EQU	1986/EQU	1988/EQU	2365/EQU	2369/EQU	2373/EQU	2377/EQU
INEWLINE	458/STW	810/XW	817-DATA				
IR15	805/STW	808/B*	892-DATA				

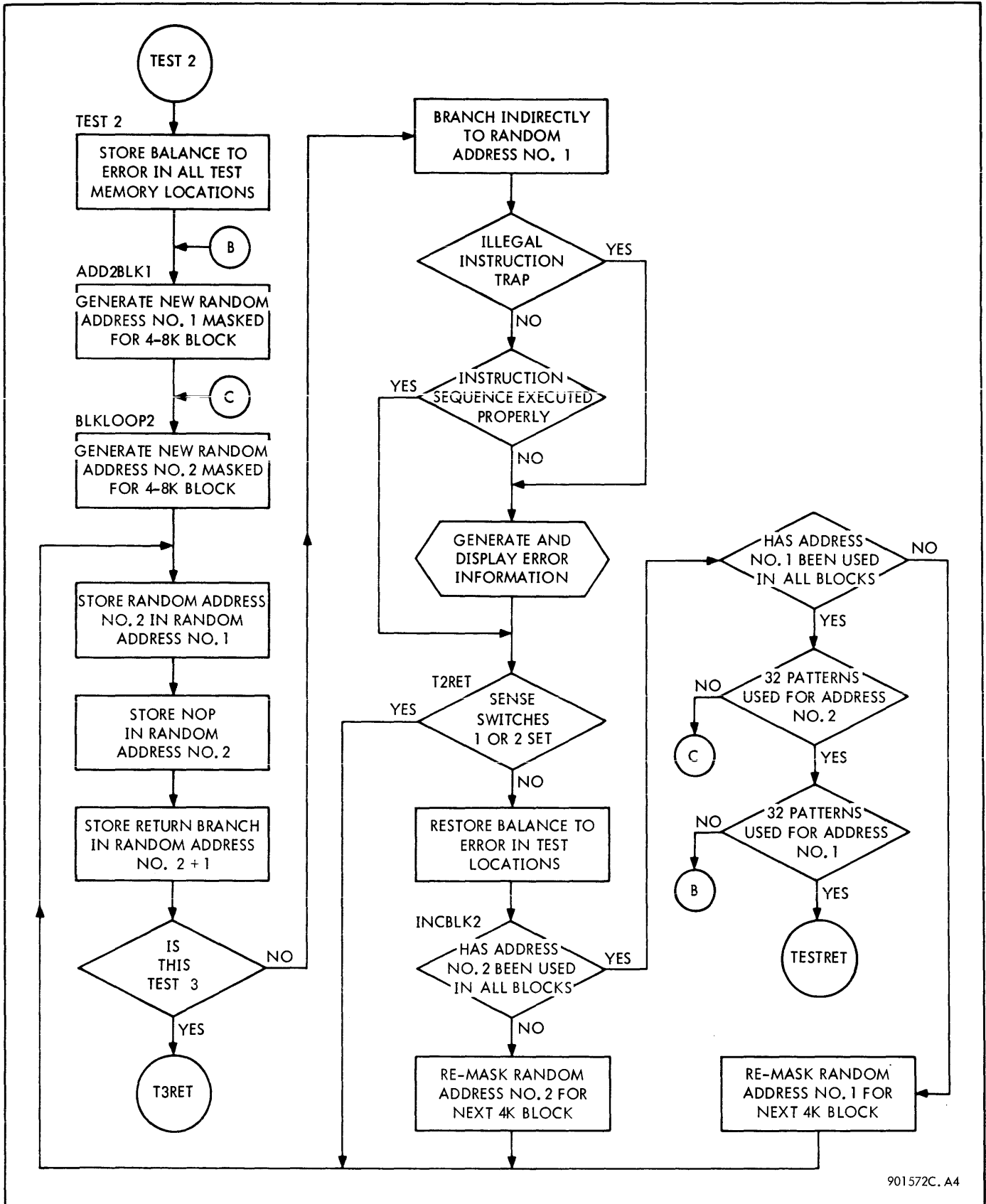
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APPENDIX A

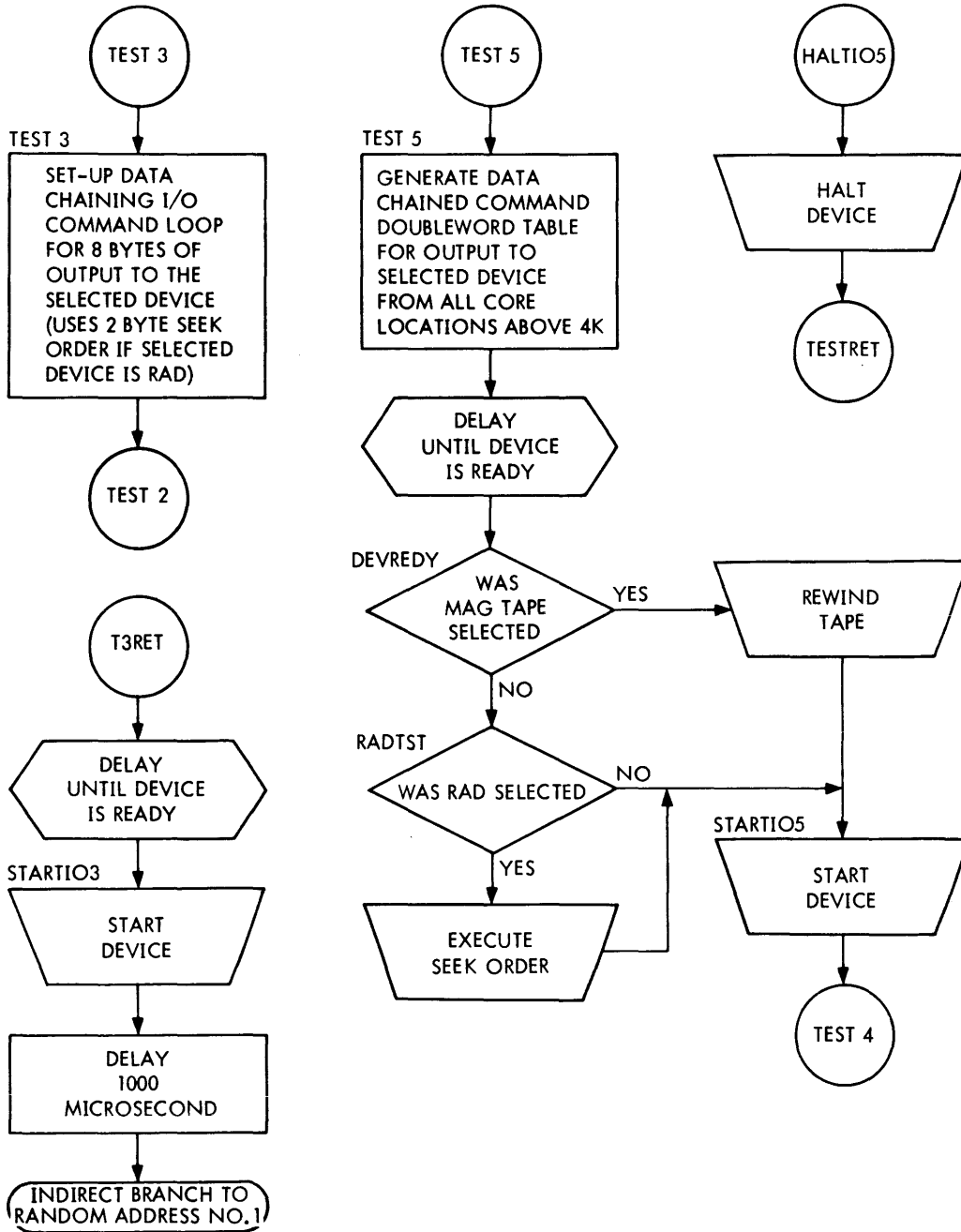


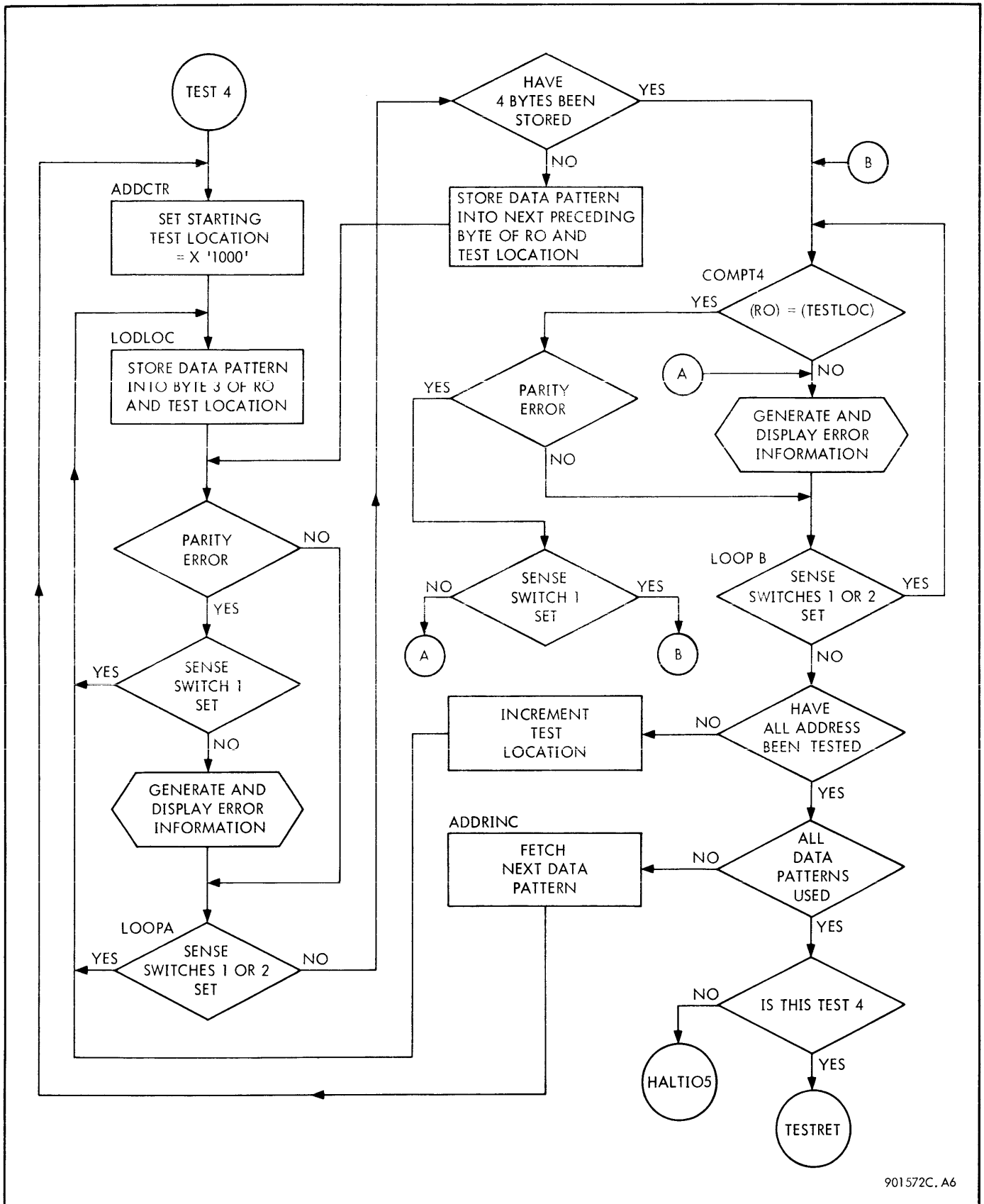


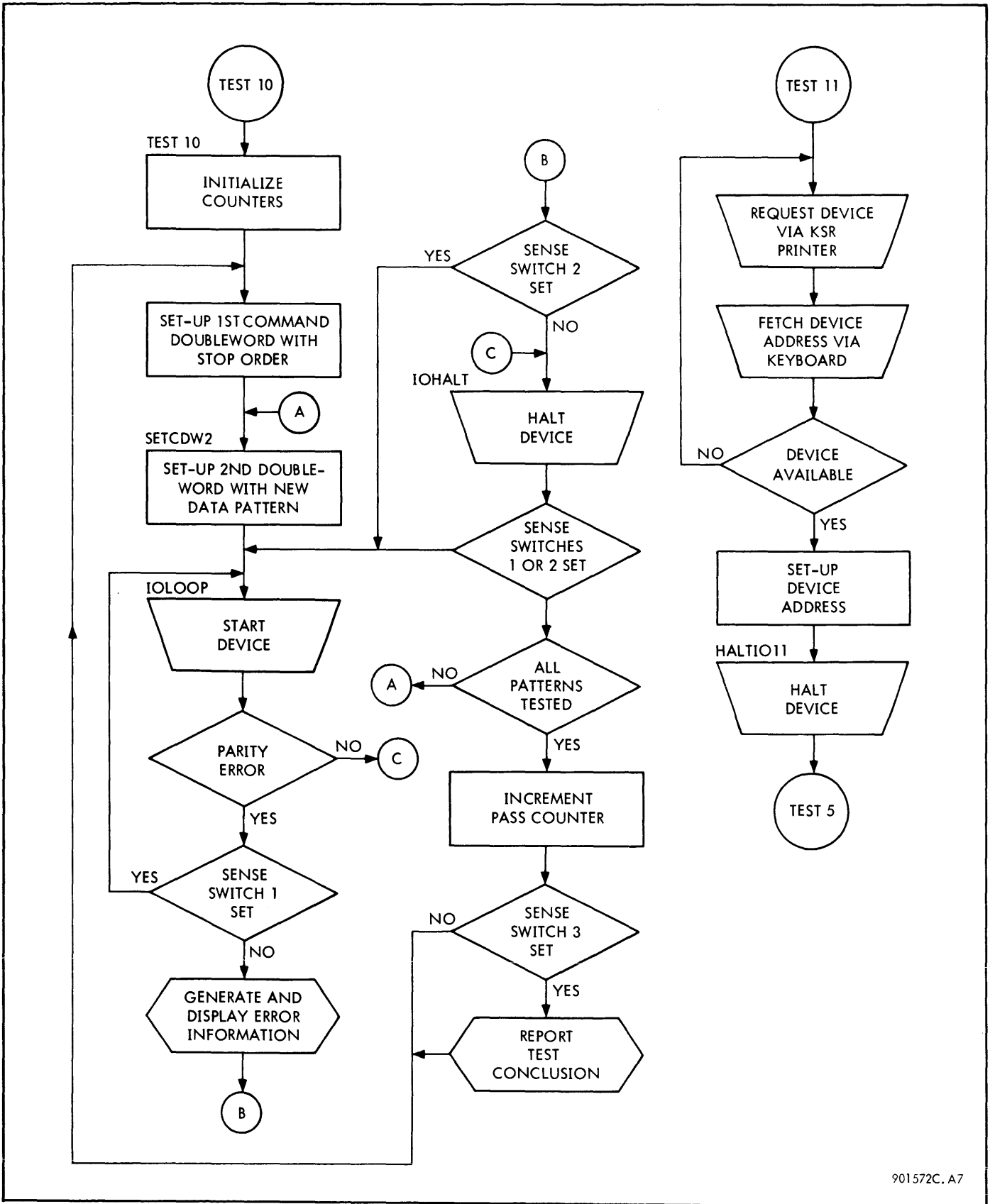




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