

```
3 COPY LOG4840 ** MAP EC HISTORY **
4 *****
5 *
6 * ** PREREQUISITES **
7 *
8 * NONE
9 *
10 *****
11 *
12 * ** MODIFICATIONS **
13 *
14 * MODIFICATION'S MADE TO CORRECT PROBLEMS ENCOUNTERED DURING TESTING
15 *
16 *****
17 *
18 * ** REA'S INCORPORATED **
19 *
20 * NONE
21 *
22 *****
23 *
24 * ** SPECIAL INSTRUCTIONS **
25 *
26 * NONE
27 *
28 *****
29 *
30 * ** E. C. HISTORY **
31 *
32 * DATE 01OCT76 DATE 15MAR77 DATE 10JUN77 DATE 22JUL77
33 * E.C. 578468 E.C. 578714 E.C. 578625 E.C. 578757
34 *
35 *****
36 *
37 * I4840 START X'2500' START ADDRESS OF ALL 'I' TYPE PROG
38 @QUES EQU X'0100' EQUATED VALUE FOR MDI STATEMENT
39 @FIXT EQU X'0101' EQUATED VALUE FOR MDI STATEMENT
40 @STOP EQU X'0102' EQUATED VALUE FOR MDI STATEMENT
41 @GOTO EQU X'0200' EQUATED VALUE FOR MDI STATEMENT
42 @CALL EQU X'0201' EQUATED VALUE FOR MDI STATEMENT
43 @INPT EQU X'0300' EQUATED VALUE FOR MDI STATEMENT
44 @QUXX EQU X'0400' EQUATED VALUE FOR MDI STATEMENT
45 @TUXX EQU X'0500' EQUATED VALUE FOR MDI STATEMENT
46 @NVLD EQU X'0600' EQUATED VALUE FOR MDI STATEMENT
47 EQ EQU X'0000' EQUATE FOR EQUAL
48 NE EQU X'0004' EQUATE FOR NOT EQUAL
49 HI EQU X'0008' EQUATE FOR HIGH
50 NH EQU X'000C' EQUATE FOR NOT HIGH
51 LO EQU X'0010' EQUATE FOR LOW
52 NL EQU X'0014' EQUATE FOR NOT LOW
53 LT EQU X'0018' EQUATE FOR LESS THAN
54 LE EQU X'000C' EQUATE FOR LESS THAN OR EQUAL TO
55 GT EQU X'0008' EQUATE FOR GREATER THAN
56 GE EQU X'0014' EQUATE FOR GREATER THAN OR EQUAL TO
57 CN EQU X'0200' EQUATE FOR ON
58 OF EQU X'0202' EQUATE FOR OFF
59 MX EQU X'0204' EQUATE FOR MIXED
60 EBC EQU X'0000' EQUATE FOR EBCDIC DATA TRANSFER
61 HEX EQU X'0004' EQUATE FOR HEX DATA TRANSFER
62 XTRNL EQU X'0001' EQUATE FOR EXTERNAL REFERENCE
63 INTNRL EQU X'0000' EQUATE FOR INTERNAL REFERENCE
64 PARM EQU X'0000' EQUATE INDICATING PARAMETER
65 DA EQU X'0001' EQUATE FOR DEVICE ADDRESS
66 UA EQU X'0002' EQUATE FOR UNIT ADDRESS
67 DUMMY EQU X'0000' DUMMY EQUATE
68 PID EQU *-X'0D00' ADDRESS OF MDI HEADER
69 PTYPER EQU *-X'22CE' ADDRESS OF PROCESSOR TYPE FIELD
70 STEPNUM EQU PID+X'000C' ADDRESS OF DECIMAL STEP NUMBER
71 OPWD1 EQU PID+X'000E' ADDRESS OF OPTION WORD ONE
72 CWD2 EQU PID+X'0010' ADDRESS OF OPTION WORD TWO
73 TUSTATUS EQU PID+X'0018' ADDRESS OF TU STATUS WORD
74 TUNORK EQU PID+X'001A' ADDRESS OF TU WORK AREA
75 TUPARM1 EQU PID+X'009A' ADDRESS OF PARM 1 POINTER
76 TUPARM2 EQU PID+X'009C' ADDRESS OF PARM 2 POINTER
77 TUPARM3 EQU PID+X'009E' ADDRESS OF PARM 3 POINTER
78 TUPARM4 EQU PID+X'00A0' ADDRESS OF PARM 4 POINTER
79 TUPARM5 EQU PID+X'00A2' ADDRESS OF PARM 5 POINTER
80 TUPARM6 EQU PID+X'00A4' ADDRESS OF PARM 6 POINTER
81 TUPARM7 EQU PID+X'00A6' ADDRESS OF PARM 7 POINTER
82 TUPARM8 EQU PID+X'00A8' ADDRESS OF PARM 8 POINTER
83 TUPARM9 EQU PID+X'00AA' ADDRESS OF PARM 9 POINTER
84 TUPARM10 EQU PID+X'00AC' ADDRESS OF PARM 10 POINTER
85 TUPARM11 EQU PID+X'00AE' ADDRESS OF PARM 11 POINTER
86 TUPARM12 EQU PID+X'00B0' ADDRESS OF PARM 12 POINTER
87 TUPARM13 EQU PID+X'00B2' ADDRESS OF PARM 13 POINTER
88 TUPARM14 EQU PID+X'00B4' ADDRESS OF PARM 14 POINTER
89 TUPARM15 EQU PID+X'00B6' ADDRESS OF PARM 15 POINTER
90 TUPARM16 EQU PID+X'00B8' ADDRESS OF PARM 16 POINTER
91 TUMSGWTR EQU PID+X'00BA' ADDRESS OF -> TO COMMON MSG WRITER
92 TUDA EQU PID+X'00BE' ADDRESS OF UNIT ADDRESS IN EBC
93 TUBUFF EQU PID+X'00C0' ADDRESS OF DEVICE ADDRESS IN EBC
94 TULAST EQU PID+X'00C2' ADDRESS OF LAST USED WORD IN MAP
95 TURESUL EQU PID+X'00C4' ADDRESS OF LAST ADDRESSABLE WORD
96 TURESUL EQU PID+X'00C6' ADDRESS OF LENGTH OF TU RESULTS
97 TURESUL EQU PID+X'00C8' ADDRESS OF TU RESULTS FIELD
98 TURESUL EQU PID+X'00CA' ADDRESS OF TU RESULTS FIELD
99 MAPNAME EQU PID+X'00FC' ADDRESS OF MAP NAME FIELD IN HEX
100 TUINPT EQU PID+X'0148' ADDRESS OF $INPT DATA
101 PARMARA EQU PID+X'016E' ADDRESS OF $INPT INPUT AREA
102 @DCADD1 EQU PID+X'01B8' MDI POINTER
103 @DCADD2 EQU PID+X'01BA' MDI POINTER
104 SUPSTA EQU PID+X'01C4' ADDRESS OF MDI STATUS
105 DEVADD EQU PID+X'01D0' ADDRESS OF DEVICE ADDRESS TABLE 0
106 DEVADD1 EQU PID+X'01DA' ADDRESS OF DEVICE ADDRESS TABLE 1
107 DEVADD2 EQU PID+X'01DE' ADDRESS OF DEVICE ADDRESS TABLE 2
108 DEVADD3 EQU PID+X'01E2' ADDRESS OF DEVICE ADDRESS TABLE 3
109 DEVADD4 EQU PID+X'01E8' ADDRESS OF DEVICE ADDRESS TABLE 4
110 DEVADD5 EQU PID+X'0202' ADDRESS OF DEVICE ADDRESS TABLE 5
111 DEVADD6 EQU PID+X'020C' ADDRESS OF DEVICE ADDRESS TABLE 6
112 DEVADD7 EQU PID+X'0216' ADDRESS OF DEVICE ADDRESS TABLE 7
113 FRIMT OFF
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198 ***** DC A(ENTPT) POINT TO MAP ENTRY POINT TABLE *****
199 *****
200 *****
201 *****
202 ** THE FOLLOWING TABLES ARE USED BY THE MDI SUPERVISOR (D3C00) **
203 ** TO LOCATE THE CORRECT RULE TO INVOKE, TO OBTAIN THE PROPER **
204 ** PARAMETERS TO PASS TO THE TU'S AND TO PASS TO THE OPERATOR **
205 ** THE INDICATED MESSAGE(S). THERE ARE FOUR TABLES USED FOR THIS **
206 ** PURPOSE THEY ARE: **
207 **
208 ** STEP AND RULE ADDRESS TABLE **
209 ** THIS TABLE GIVES THE ADDRESS OF THE RULE TO INVOKE AND **
210 ** THE ASSOCIATED STEP DECIMAL STEP NUMBER OF THAT RULE. **
211 ** ENTRIES ARE AS FOLLOWS **
212 ** A) AN ADDRESS OF THE RULE DC START AREA **
213 ** B) THE STEP NUMBER IN DECIMAL **
214 ** C) AN EQUATE FOR THE STEP NUMBER **
215 **
216 ** RULE INFORMATION TABLE **
217 ** THIS TABLE CONTAINS THE REQUIRED INFORMATION TO EXECUTE **
218 ** THE APPROPRIATE RULE UNDER MDI. EACH RULE HAS ITS OWN **
219 ** UNIQUELY DEFINED AREA INDICATED BELOW. END OF TABLE IS **
220 ** INDICATED WITH A X'0000' FOR THE RULE EQUATE. **
221 **
222 ** $QUES **
223 ** A) RULE EQUATE X'0100' **
224 ** B) ADDRESS OF THE YES LEG RULE **
225 **
226 ** $FIXT **
227 ** A) RULE EQUATE X'0101' **
228 ** B) ADDRESS OF MESSAGE TO PRINT **
229 **
230 ** $STOP **
231 ** A) RULE EQUATE X'0102' **
232 ** B) ADDRESS OF MESSAGE **
233 **
234 ** $GOTO **
235 ** A) RULE EQUATE X'0200' **
236 ** B) ADDRESS OF MESSAGE **
237 ** C) NAME OF MAP TO GO TO **
238 ** D) ENTRY POINT WITHIN GO TO MAP TO USE **
239 ** E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE **
240 **
241 ** $CALL **
242 ** A) RULE EQUATE X'0201' **
243 ** B) ADDRESS OF MESSAGE **
244 ** C) NAME OF MAP TO CALL **
245 ** D) ENTRY POINT WITHIN CALLED MAP TO USE **
246 ** E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE **
247 **
248 ** $INPT **
249 ** A) RULE EQUATE X'0300' **
250 ** B) INPUT TYPE (EBCDIC OR HEX) **
251 ** C) ADDRESS OF YES LEG RULE **
252 ** D) DESTINATION LOCATION OF INPUT DATA **
253 ** E) LENGTH OF INPUT DATA **
254 ** F) LOWER LIMIT OF GOOD DATA **
255 ** G) HIGHER LIMIT OF GOOD DATA **
256 **
257 ** $QUXX **
258 ** A) RULE EQUATE X'0400' **
259 ** B) ADDRESS OF YES LEG RULE **
260 ** C) TU BRANCH TO ADDRESS (INITIAL) **
261 ** D) TU BRANCH TO ADDRESS (SECONDARY) **
262 ** E) LENGTH OF PARAMETER IN BYTES **
263 ** F) PARAMETER TO PASS TO TU **
264 ** G) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER **
265 **
266 ** $TUXX **
267 ** A) RULE EQUATE X'0500' **
268 ** B) ADDRESS OF YES LEG RULE **
269 ** C) TU BRANCH TO ADDRESS **
270 ** D) TYPE OF COMPARE TO MAKE ON RESULTS **
271 ** E) LENGTH OF COMPARED RESULTS **
272 ** F) MASK FIELD FOR COMPARE **
273 ** G) LENGTH OF PARAMETER IN BYTES **
274 ** H) PARAMETER TO PASS TO THE TU **
275 ** I) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER **
276 **
277 **
278 ** $NVLD **
279 ** A) RULE EQUATE X'0600' **
280 **
281 **
282 ** ENTRY POINT TABLE **
283 ** THIS TABLE CONTAINS THE ENTRY POINTS WITHIN THE MAP THAT **
284 ** THE MAP CAN BE ENTERED FROM THESE ENTRY POINTS ARE **
285 ** REFERENCED BY NAME AND ADDRESS. ENTRIES ARE AS FOLLOWS: **
286 **
287 ** A) NAME OF ENTRY POINT **
288 ** B) ADDRESS OF ENTRY POINT RULE TABLE **
289 **
290 ** THE ENTRY POINT TABLE END IS INDICATED BY A X'0000' **
291 **
292 ** MESSAGE TABLE **
293 ** THIS TABLE CONTAINS THE MESSAGE PASSED TO THE OPERATOR **
294 ** VIA THE MDI SUPERVISOR. THE TABLE IS AS FOLLOWS: **
295 **
296 ** A) EQUATE FOR START OF MESSAGE BLOCK **
297 ** B) NUMBER OF LINES OF MESSAGE **
298 ** C) LENGTH OF FOLLOWING LINE **
299 ** D) FIRST LINE OF MESSAGE **
300 ** E) LENGTH OF FOLLOWING LINE **
301 ** F) SECOND LINE OF MESSAGE **
302 ** G) ETC. **
303 **
304 *****
305 *****
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LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
308			*****	
309			*****	
310			**	
311			**	
312			STEP AND RULE ADDRESS TABLE	
313			**	
314			*****	
315			*****	
002502	25D0	315	DC AL2(N00001)	
002504	0001	316	DC XL2'0001'	
000001		317	EQN00001 EQU 0001	
002506	25D4	318	DC AL2(N00002)	
002508	0002	319	DC XL2'0002'	
000002		320	EQN00002 EQU 0002	
00250A	25E0	321	DC AL2(N00003)	
00250C	0003	322	DC XL2'0003'	
000003		323	EQN00003 EQU 0003	
00250E	25E4	324	DC AL2(N00004)	
002510	0004	325	DC XL2'0004'	
000004		326	EQN00004 EQU 0004	
002512	25E8	327	DC AL2(N00005)	
002514	0005	328	DC XL2'0005'	
000005		329	EQN00005 EQU 0005	
002516	25FC	330	DC AL2(N00006)	
002518	0006	331	DC XL2'0006'	
000006		332	EQN00006 EQU 0006	
00251A	2608	333	DC AL2(N00007)	
00251C	0007	334	DC XL2'0007'	
000007		335	EQN00007 EQU 0007	
00251E	260C	336	DC AL2(N00008)	
002520	0008	337	DC XL2'0008'	
000008		338	EQN00008 EQU 0008	
002522	2610	339	DC AL2(N00009)	
002524	0009	340	DC XL2'0009'	
000009		341	EQN00009 EQU 0009	
002526	2624	342	DC AL2(N00010)	
002528	0010	343	DC XL2'0010'	
000010		344	EQN00010 EQU 0010	
00252A	2638	345	DC AL2(N00011)	
00252C	0011	346	DC XL2'0011'	
000011		347	EQN00011 EQU 0011	
00252E	263C	348	DC AL2(N00012)	
002530	0012	349	DC XL2'0012'	
000012		350	EQN00012 EQU 0012	
002532	2640	351	DC AL2(N00013)	
002534	0013	352	DC XL2'0013'	
000013		353	EQN00013 EQU 0013	
002536	2644	354	DC AL2(N00014)	
002538	0014	355	DC XL2'0014'	
000014		356	EQN00014 EQU 0014	
00253A	2648	357	DC AL2(N00015)	
00253C	0015	358	DC XL2'0015'	
000015		359	EQN00015 EQU 0015	
00253E	265A	360	DC AL2(N00016)	
002540	0016	361	DC XL2'0016'	
000016		362	EQN00016 EQU 0016	
002542	265C	363	DC AL2(N00017)	
002544	0017	364	DC XL2'0017'	
000017		365	EQN00017 EQU 0017	
002546	2660	366	DC AL2(N00018)	
002548	0018	367	DC XL2'0018'	
000018		368	EQN00018 EQU 0018	
00254A	266C	369	DC AL2(N00019)	
00254C	0019	370	DC XL2'0019'	
000019		371	EQN00019 EQU 0019	
00254E	267E	372	DC AL2(N00020)	
002550	0020	373	DC XL2'0020'	
000020		374	EQN00020 EQU 0020	
002552	2680	375	DC AL2(N00021)	
002554	0021	376	DC XL2'0021'	
000021		377	EQN00021 EQU 0021	
002556	2684	378	DC AL2(N00022)	
002558	0022	379	DC XL2'0022'	
000022		380	EQN00022 EQU 0022	
00255A	2690	381	DC AL2(N00023)	
00255C	0023	382	DC XL2'0023'	
000023		383	EQN00023 EQU 0023	
00255E	26A2	384	DC AL2(N00024)	
002560	0024	385	DC XL2'0024'	
000024		386	EQN00024 EQU 0024	
002562	26A4	387	DC AL2(N00025)	
002564	0025	388	DC XL2'0025'	
000025		389	EQN00025 EQU 0025	
002566	26A8	390	DC AL2(N00026)	
002568	0026	391	DC XL2'0026'	
000026		392	EQN00026 EQU 0026	
00256A	26B4	393	DC AL2(N00027)	
00256C	0027	394	DC XL2'0027'	
000027		395	EQN00027 EQU 0027	
00256E	26C6	396	DC AL2(N00028)	
002570	0028	397	DC XL2'0028'	
000028		398	EQN00028 EQU 0028	
002572	26C8	399	DC AL2(N00029)	
002574	0029	400	DC XL2'0029'	
000029		401	EQN00029 EQU 0029	
002576	26CC	402	DC AL2(N00030)	
002578	0030	403	DC XL2'0030'	
000030		404	EQN00030 EQU 0030	
00257A	26D0	405	DC AL2(N00031)	
00257C	0031	406	DC XL2'0031'	
000031		407	EQN00031 EQU 0031	
00257E	26D4	408	DC AL2(N00032)	
002580	0032	409	DC XL2'0032'	
000032		410	EQN00032 EQU 0032	
002582	26D8	411	DC AL2(N00033)	
002584	0033	412	DC XL2'0033'	
000033		413	EQN00033 EQU 0033	
002586	26DC	414	DC AL2(N00034)	
002588	0034	415	DC XL2'0034'	
000034		416	EQN00034 EQU 0034	
00258A	26E0	417	DC AL2(N00035)	
00258C	0035	418	DC XL2'0035'	
000035		419	EQN00035 EQU 0035	
00258E	26E4	420	DC AL2(N00036)	
002590	0036	421	DC XL2'0036'	
000036		422	EQN00036 EQU 0036	
002592	26E8	423	DC AL2(N00037)	

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002594	0037	424	DC XL2'0037'	
000037		425	EQN00037 EQU 0037	
002596	26EC	426	DC AL2(N00038)	
002598	0038	427	DC XL2'0038'	
000038		428	EQN00038 EQU 0038	
00259A	26F0	429	DC AL2(N00039)	
00259C	0039	430	DC XL2'0039'	
000039		431	EQN00039 EQU 0039	
00259E	26F4	432	DC AL2(N00040)	
0025A0	0040	433	DC XL2'0040'	
000040		434	EQN00040 EQU 0040	
0025A2	26F8	435	DC AL2(N00041)	
0025A4	0041	436	DC XL2'0041'	
000041		437	EQN00041 EQU 0041	
0025A6	26FC	438	DC AL2(N00042)	
0025A8	0042	439	DC XL2'0042'	
000042		440	EQN00042 EQU 0042	
0025AA	2700	441	DC AL2(N00043)	
0025AC	0043	442	DC XL2'0043'	
000043		443	EQN00043 EQU 0043	
0025AE	2704	444	DC AL2(N00044)	
0025B0	0044	445	DC XL2'0044'	
000044		446	EQN00044 EQU 0044	
0025B2	2708	447	DC AL2(N00045)	
0025B4	0045	448	DC XL2'0045'	
000045		449	EQN00045 EQU 0045	
0025B6	270C	450	DC AL2(N00046)	
0025B8	0046	451	DC XL2'0046'	
000046		452	EQN00046 EQU 0046	
0025BA	2710	453	DC AL2(N00047)	
0025BC	0047	454	DC XL2'0047'	
000047		455	EQN00047 EQU 0047	
0025BE	2714	456	DC AL2(N00048)	
0025C0	0048	457	DC XL2'0048'	
000048		458	EQN00048 EQU 0048	
0025C2	2718	459	DC AL2(N00049)	
0025C4	0049	460	DC XL2'0049'	
000049		461	EQN00049 EQU 0049	
0025C6	271C	462	DC AL2(N00050)	
0025C8	0050	463	DC XL2'0050'	
000050		464	EQN00050 EQU 0050	
0025CA	2720	465	DC AL2(N00051)	
0025CC	0051	466	DC XL2'0051'	
000051		467	EQN00051 EQU 0051	
0025CE	0000	468	DC AL2(DUMMY)	
469		469	*****	
470		470	*****	
471		471	**	
472		472	**	
473		473	RULE INFORMATION TABLE	
474		474	**	
475		475	*****	
476	000001	476	\$QUES QT=(Q00056),YES=N00003,CT=(C00049)	
477	N00001	477	DC A(@QUES)	
478		478	DC AL2(N00003)	
479	N00002	479	\$GOTO TYPE=INTRNL,EP=B,GTC=(N00007)	
480	N00002	480	DC A(@GOTO)	
481		481	DC A(EQ)	
482		482	DC CL4'3C00'	
483		483	DC CL2'B'	
484		484	DC AL2(INTRNL)	
485	N00003	485	\$QUES QT=(Q00060),YES=N00005,CT=(C00021)	
486	N00003	486	DC A(@QUES)	
487		487	DC AL2(N00005)	
488	N00004	488	\$FIXT FT=(F00063),CT=(C00022)	
489	N00004	489	DC A(@FIXT)	
490		490	DC A(F00063)	
491	N00005	491	\$QUXX T4854,PLNG=8,PARM=4C/4C/4C,QT=(Q00073),YES=N00007, X	
492	N00005	492	DC A(@QUXX)	
493		493	DC AL2(N00007)	
494		494	DC A(T4854)	
495		495	DC AL2(DUMMY)	
496		496	DC AL2(8)	
497		497	DC C'4C/4C/4C'	
498		498	ALIGN WORD	
499		499	DC AL2(PARMARA)	
500	N00006	500	\$GOTO TYPE=XTRNL,MAP=4820,EP=A,GTO=((4820,A))	
501	N00006	501	DC A(@GOTO)	
502		502	DC A(EQ)	
503		503	DC CL4'4820'	
504		504	DC CL2'A'	
505		505	DC AL2(XTRNL)	
506	N00007	506	\$QUES QT=(Q00081),YES=N00009,CT=(C00078)	
507	N00007	507	DC A(@QUES)	
508		508	DC AL2(N00009)	
509	N00008	509	\$FIXT GTO=((4880,A))	
510	N00008	510	DC A(@FIXT)	
511		511	DC A(EQ)	
512	N00009	512	\$QUXX T4854,PLNG=8,PARM=4C/4C/4C,QT=(Q00091),YES=N00015, X	
513	N00009	513	DC A(@QUXX)	
514		514	DC AL2(N00015)	
515		515	DC A(T4854)	
516		516	DC AL2(DUMMY)	
517		517	DC AL2(8)	
518		518	DC C'4C/4C/4C'	
519		519	ALIGN WORD	
520		520	DC AL2(PARMARA)	
521	N00010	521	\$QUXX T4854,PLNG=8,PARM=4C/4C/4C,QT=(Q00100),YES=N00012, X	
522	N00010	522	DC A(@QUXX)	
523		523	DC AL2(N00012)	
524		524	DC A(T4854)	
525		525	DC AL2(DUMMY)	
526		526	DC AL2(8)	
527		527	DC C'4C/4C/4C'	
528		528	ALIGN WORD	
529		529	DC AL2(PARMARA)	
530	N00011	530	\$FIXT FT=(F00103),CT=(C00022)	
531	N00011	531	DC A(@FIXT)	
532		532	DC A(F00103)	
533	N00012	533	\$QUES QT=(Q00110),YES=N00014,CT=(C00107)	
534	N00012	534	DC A(@QUES)	
535		535	DC AL2(N00014)	
536	N00013	536	\$FIXT FT=(F00112),CT=(C00022)	
537	N00013	537	DC A(@FIXT)	
538		538	DC A(F00112)	
539	N00014	539	\$FIXT FT=(F00119),CT=(C00022)	

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LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
002644	0101	540+	N00014 DC A(@FIXT)	
002646	2818	541+	DC A(F00119)	
002648	0500	542+	\$TUXX T4852,01,00,EQ,PLNG=2,PARM=00,QT=(Q00124),YES=N00017, X	
00264A	265C	543+	N00015 DC A(@TUXX)	
00264C	28CC	544+	DC AL2(N00017)	
00264E	0000	545+	DC A(T4852)	
002650	0001	546+	DC AL2(E0)	
002652	00	547+	DC AL2(01)	
002653	00	548+	DC X(01)	
002654	0002	549+	ALIGN WORD	
002656	FOF0	550+	DC AL2(2)	
		551+	DC C'00'	
		552+	ALIGN WORD	
002658	196E	553+	DC AL2(PARMARA)	
		554+	\$NVLD FT=(F00127)	
00265A	0600	555+	N00016 DC A(@NVLD)	
		556+	\$QUES QT=(Q00146),YES=N00019,CT=(C00130),ST=(S00139)	
00265C	0100	557+	N00017 DC A(@QUES)	
00265E	266C	558+	DC AL2(N00019)	
		559+	\$GOTO TYPE=INTRNL,EP=C,GTO=(N00030)	
002660	0200	560+	N00018 DC A(@GOTO)	
002662	0000	561+	DC A(E0)	
002664	F3C3FOFO	562+	DC CL4'3C00'	
002666	C340	563+	DC CL2'C'	
00266A	0000	564+	DC AL2(INTRNL)	
		565+	\$TUXX T4852,01,00,EQ,PLNG=2,PARM=01,CT=(Q00151),YES=N00021, X	
00266C	0500	566+	N00019 DC A(@TUXX)	
00266E	2680	567+	DC AL2(N00021)	
002670	28CC	568+	DC A(T4852)	
002672	0000	569+	DC AL2(E0)	
002674	0001	570+	DC AL2(01)	
002676	00	571+	DC X(01)	
002677	00	572+	ALIGN WORD	
002678	0002	573+	DC AL2(2)	
00267A	FOF1	574+	DC C'01'	
		575+	ALIGN WORD	
00267C	196E	576+	DC AL2(PARMARA)	
		577+	\$NVLD FT=(F00154)	
00267E	0600	578+	N00020 DC A(@NVLD)	
		579+	\$QUES QT=(Q00158),YES=N00023,CT=(C00157)	
002680	0100	580+	N00021 DC A(@QUES)	
002682	2690	581+	DC AL2(N00023)	
		582+	\$GOTO TYPE=INTRNL,EP=C,GTO=(N00030)	
002684	0200	583+	N00022 DC A(@GOTO)	
002686	0000	584+	DC A(E0)	
002688	F3C3FOFO	585+	DC CL4'3C00'	
00268C	C340	586+	DC CL2'C'	
00268E	0000	587+	DC AL2(INTRNL)	
		588+	\$TUXX T4852,01,00,EQ,PLNG=2,PARM=02,CT=(Q00163),YES=N00025, X	
002690	0500	589+	N00023 DC A(@TUXX)	
002692	26A4	590+	DC AL2(N00025)	
002694	28CC	591+	DC A(T4852)	
002696	0000	592+	DC AL2(E0)	
002698	0001	593+	DC AL2(01)	
00269A	00	594+	DC X(01)	
00269B	00	595+	ALIGN WORD	
00269C	0002	596+	DC AL2(2)	
00269E	FOF2	597+	DC C'02'	
		598+	ALIGN WORD	
0026A0	196E	599+	DC AL2(PARMARA)	
		600+	\$NVLD FT=(F00166)	
0026A2	0600	601+	N00024 DC A(@NVLD)	
		602+	\$QUES QT=(Q00170),YES=N00027,CT=(C00169)	
0026A4	0100	603+	N00025 DC A(@QUES)	
0026A6	26B4	604+	DC AL2(N00027)	
		605+	\$GOTO TYPE=INTRNL,EP=C,GTO=(N00030)	
0026A8	0200	606+	N00026 DC A(@GOTO)	
0026AA	0000	607+	DC A(E0)	
0026AC	F3C3FOFO	608+	DC CL4'3C00'	
0026B0	C340	609+	DC CL2'C'	
0026B2	0000	610+	DC AL2(INTRNL)	
		611+	\$TUXX T4852,01,00,EQ,PLNG=2,PARM=03,CT=(Q00176),YES=N00029, X	
0026B4	0500	612+	N00027 DC A(@TUXX)	
0026B6	26C8	613+	DC AL2(N00029)	
0026B8	28CC	614+	DC A(T4852)	
0026BA	0000	615+	DC AL2(E0)	
0026BC	0001	616+	DC AL2(01)	
0026BE	00	617+	DC X(01)	
0026BF	00	618+	ALIGN WORD	
0026C0	0002	619+	DC AL2(2)	
0026C2	FOF3	620+	DC C'03'	
		621+	ALIGN WORD	
0026C4	196E	622+	DC AL2(PARMARA)	
		623+	\$NVLD FT=(F00179)	
0026C6	0600	624+	N00028 DC A(@NVLD)	
		625+	\$QUES QT=(Q00183),YES=N00035,CT=(C00182)	
0026C8	0100	626+	N00029 DC A(@QUES)	
0026CA	26E0	627+	DC AL2(N00035)	
		628+	\$QUES QT=(Q00196),YES=N00032,CT=(C00187)	
0026CC	0100	629+	N00030 DC A(@QUES)	
0026CE	26D4	630+	DC AL2(N00032)	
		631+	\$FIXT FT=(F00199),CT=(C00022)	
0026D0	0101	632+	N00031 DC A(@FIXT)	
0026D2	28E2	633+	DC A(F00199)	
		634+	\$QUES QT=(Q00208),YES=N00034,CT=(C00203)	
0026D4	0100	635+	N00032 DC A(@QUES)	
0026D6	26DC	636+	DC AL2(N00034)	
		637+	\$FIXT GTO=(4880,A)	
0026D8	0101	638+	N00033 DC A(@FIXT)	
0026DA	0000	639+	DC A(E0)	
		640+	\$FIXT FT=(F00004),CT=(C00022)	
0026DC	0101	641+	N00034 DC A(@FIXT)	
0026DE	2914	642+	DC A(F00004)	
		643+	\$QUES QT=(Q00224),YES=N00037,CT=(C00215)	
0026E0	0100	644+	N00035 DC A(@QUES)	
0026E2	26E8	645+	DC AL2(N00037)	
		646+	\$FIXT FT=(F00227),CT=(C00022)	
0026E4	0101	647+	N00036 DC A(@FIXT)	
0026E6	2952	648+	DC A(F00227)	
		649+	\$QUES QT=(Q00236),YES=N00039,CT=(C00231)	
0026E8	0100	650+	N00037 DC A(@QUES)	
0026EA	26F0	651+	DC AL2(N00039)	
		652+	\$FIXT FT=(F00238),CT=(C00022)	
0026EC	0101	653+	N00038 DC A(@FIXT)	
0026EE	2984	654+	DC A(F00238)	
		655+	\$QUES QT=(Q00244),YES=N00041,CT=(C00241)	

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LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
0026F0	0100	656+	N00039 DC A(@QUES)	
0026F2	26F8	657+	DC AL2(N00041)	
		658+	\$FIXT FT=(F00248),CT=(C00022)	
0026F4	0101	659+	N00040 DC A(@FIXT)	
0026F6	29AA	660+	DC A(F00248)	
		661+	\$QUES QT=(Q00257),YES=N00043,CT=(C00254)	
0026F8	0100	662+	N00041 DC A(@QUES)	
0026FA	2700	663+	DC AL2(N00043)	
		664+	\$FIXT FT=(F00260),CT=(C00022)	
0026FC	0101	665+	N00042 DC A(@FIXT)	
0026FE	2A16	666+	DC A(F00260)	
		667+	\$QUES QT=(Q00270),YES=N00045,CT=(C00264)	
002700	0100	668+	N00043 DC A(@QUES)	
002702	2708	669+	DC AL2(N00045)	
		670+	\$FIXT FT=(F00272),CT=(C00022)	
002704	0101	671+	N00044 DC A(@FIXT)	
002706	2A3E	672+	DC A(F00272)	
		673+	\$QUES QT=(Q00278),YES=N00047,CT=(C00275)	
002708	0100	674+	N00045 DC A(@QUES)	
00270A	2710	675+	DC AL2(N00047)	
		676+	\$FIXT FT=(F00280),CT=(C00022)	
00270C	0101	677+	N00046 DC A(@FIXT)	
00270E	2A60	678+	DC A(F00280)	
		679+	\$QUES QT=(Q00284),YES=N00049,CT=(C00021)	
002710	0100	680+	N00047 DC A(@QUES)	
002712	2718	681+	DC AL2(N00049)	
		682+	\$FIXT FT=(F00288),CT=(C00022)	
002714	0101	683+	N00048 DC A(@FIXT)	
002716	2A96	684+	DC A(F00288)	
		685+	\$QUES QT=(Q00293),YES=N00051,CT=(C00021)	
002718	0100	686+	N00049 DC A(@QUES)	
00271A	2720	687+	DC AL2(N00051)	
		688+	\$FIXT FT=(F00298),CT=(C00022)	
00271C	0101	689+	N00050 DC A(@FIXT)	
00271E	2AE6	690+	DC A(F00298)	
		691+	\$FIXT FT=(F00304),CT=(C00022)	
002720	0101	692+	N00051 DC A(@FIXT)	
002722	2B4C	693+	DC A(F00304)	
002724	0000	694+	DC AL2(DUMMY)	
002726		695+	ENTPT EQU *	
		696+	*****	
		697+	*****	
		698+	**	
		699+	**	ENTRY POINT TABLE
		700+	**	**
		701+	*****	
		702+	*****	
		703+	*****	
002726	C140	704+	ENTPT EP=A,STEP=00001	
002728	25D0	705+	DC CL2'A'	
		706+	DC A(N00001)	
		707+	ENTPT EP=B,STEP=00007	
00272A	C240	708+	DC CL2'B'	
00272C	26B8	709+	DC A(N00007)	
		710+	ENTPT EP=C,STEP=00030	
00272E	C340	711+	DC CL2'C'	
002730	26CC	712+	DC A(N00030)	
002732	0000	713+	DC AL2(DUMMY)	
		714+	*****	
		715+	*****	
		716+	**	MESSAGE TABLE
		717+	**	**
		718+	*****	
		719+	*****	
002734	0002	720+	F00063 EQU *	
002736	001C	721+	DC AL2(0002)	
002738	C4D640C8C5C1C461C	722+	DC A(0028)	
00273A	0014	723+	DC CL0028'DO HEAD/CARRIAGE ADJUSTMENT.'	
00273C	0014	724+	DC A(0020)	
00273E	E2C5C540D4C9D440D	725+	DC CL0020'SEE MIM PARA A3.9.2.'	
002740		726+	F00103 EQU *	
002742	0002	727+	DC AL2(0002)	
002744	002A	728+	DC A(0042)	
002746	C3C8C5C3D240C3C1C	729+	DC CL0042'CHECK CABLES, THEN REPLACE THE ATTACHMENT '	
002748	0006	730+	DC A(0006)	
00274A	C3C1D9C44B40	731+	DC CL0006'CARD. '	
00274C	0003	732+	F00112 EQU *	
00274E	002A	733+	DC AL2(0003)	
002750	C3C8C5C3D240C4D9C	734+	DC A(0042)	
002752	002C	735+	DC CL0042'CHECK DRIVE CONTROL CARD TAB CONNECTOR AND'	
002754	C3D6D5D5C5C3E3D6D	736+	DC A(0044)	
002756	001A	737+	DC CL0044'CONNECTOR BLOCK, THEN REPLACE DRIVE CONTROL '	
002758	C3C1D9C44B40E2C5C	738+	DC A(0026)	
00275A	0001	739+	DC CL0026'CARD. SEE MIM PARA. A3.14.'	
00275C	0026	740+	F00119 EQU *	
00275E	0026	741+	DC AL2(0001)	
002760	D9C5D7D3C1C3C540C	742+	DC A(0038)	
002762	0001	743+	DC CL0038'REPLACE DISKETTE UNIT CABLE ASSEMBLY. '	
002764	0024	744+	F00127 EQU *	
002766	0060D5D6606040C9E	745+	DC AL2(0001)	
002768	0001	746+	DC A(0036)	
00276A	0001	747+	DC CL0036'---NO--- IS INVALID, GO TO NEXT STEP. '	
00276C	0001	748+	F00154 EQU *	
00276E	0024	749+	DC AL2(0001)	
002770	0024	750+	DC A(0036)	
002772	0060D5D6606040C9E	751+	DC CL0036'---NO--- IS INVALID, GO TO NEXT STEP. '	
002774	0001	752+	F00166 EQU *	
002776	0024	753+	DC AL2(0001)	
002778	0024	754+	DC A(0036)	
00277A	0060D5D6606040C9E	755+	DC CL0036'---NO--- IS INVALID, GO TO NEXT STEP. '	
00277C	0001	756+	F00179 EQU *	
00277E	0024	757+	DC AL2(0001)	
002780	0024	758+	DC A(0036)	
002782	0060D5D6606040C9E	759+	DC CL0036'---NO--- IS INVALID, GO TO NEXT STEP. '	
002784	0002	760+	F00199 EQU *	
002786	0016	761+	DC AL2(0002)	
002788	D9C5D7D3C1C3C540E	762+	DC A(0022)	
00278A	0016	763+	DC CL0022'REPLACE STEPPER MOTOR.'	
00278C	E2C5C540D4C9D440D	764+	DC A(0022)	
00278E		765+	DC CL0022'SEE MIM PARA. A3.12.2 '	
002790		766+	F00004 EQU *	
002792	0002	767+	DC AL2(0002)	
002794	0024	768+	DC A(0036)	
002796	D9C5D7D3C1C3C540C	769+	DC CL0036'REPLACE DISKETTE DRIVE CONTROL CARD.'	
002798	0014	770+	DC A(0020)	
00279A	E2C5C540D4C9D440D	771+	DC CL0020'SEE MIM PARA A3.14. '	

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
002952 772 F00227 EQU *
002953 773 DC AL2(0002)
002954 774 DC A(0022)
002955 775 DC CL0022'REPLACE STEPPER MOTOR.'

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891+DCB1 DC A(*-*)
892+DCB2 DC A(*-*)
893+DCB3 DC A(*-*)
894+DCB4 DC A(*-*)
895+DCB5 DC A(*-*)

LOCTR OBJECT TEXT STMT SOURCE STATEMENT
000003 000004 000005 000006 000007 000008 000009 00000A 00000B 00000C 00000D 00000E 00000F
1012 BS3 EOU 3
1013 BS4 EOU 4
1014 BS5 EOU 5
1015 BS6 EOU 6
1016 BS7 EOU 7
1017 BS8 EOU 8
1018 BS9 EOU 9
1019 BS10 EOU 10
1020 BS11 EOU 11
1021 BS12 EOU 12
1022 BS13 EOU 13
1023 BS14 EOU 14
1024 BS15 EOU 15
1025 COPY T4852
1026 T4852 TUIT \$ERR\$
1027 *****06FEB76**
1028**
1029**
1030** TEST UNIT
1031**
1032** FILE SEEK SETUP TEST #1. 3/11/76
1033**
1034** PURPOSE
1035** DETERMINE THE FOLLOWING:
1. MOVE HEADS TO CORRECT CYLINDER PRIOR TO DATA ACCESS
1038** COMMAND.
1039**
1040** CALLING SEQUENCE
1041**
1042** PERFORM THE FOLLOWING:
1. RECALIBRATE.
1043**
2. ISSUE SEEK FORWARD.
1044**
3. SELECT HEAD ZERO.
1045**
1046**
1047**
1048** PARAMETER IS PASSED TO PROGRAM IN THE FOLLOWING FORMAT.
1049** PARM1=SEEK DIFFERENCE FOR SEEK FORWARD COMMAND.
1050**
1051**
1052** RETURN CONTROL
1053**
1054** B TURIN* RETURN TO MDI SUPERVISOR
1055**
1056**
1057** T4852 MVW R7, TURIN SAVE RETURN ADDRESS
1058** MVWI X'4852', STUID SAVE TU ID FOR DISPLAY
1059** MVA OPTN1, R4 SET UP POINTER ADRS IN R4
1060** BAL \$CONC, R6 CLEAR DEV DEP STG AND CONNECT I/O BL
1061** DC A(\$ERR\$) ERROR ADRS FOR INVALID PREP
1062**
1063** MVWI X'5000', R0 DELAY TO GET BY BUSY AFTER RESET
1064** JCT * R0 *
1065** BAL \$RECL, R6 RECALIBRATE
1066** DC A(\$ERR\$) ERROR
1067** TBTR (R4, ER) CHECK FOR CC ERROR
1068** BON \$ERR\$ ERROR
1069** MVWI X'0005', SKDCB SEEK CONTROL WORD
1070** MVWI X'0000', SKDCB+2 SELECT HEAD ZERO, FORWARD
1071** MVWI X'0000', SKDCB+8 SELECT HEAD ZERO (NEW ARCH)
1072** MVB TUPARM1, SKDCB+3 DIFFERENCE FROM MDI
1073** BAL \$SEEK, R6 SEEK SELECT HEAD ZERO
1074** DC A(\$ERR\$) ERROR
1075** TBTR (R4, ER) INTERRUPT ERROR?
1076** BON \$ERR\$ YES-ERROR
1077** BAL \$RDID, R6 READ ID TO ESTABLISH HEAD POSITION
1078** DC A(\$ERR\$) TO BE PASSED BACK TO SUPERVISOR
1079** TXIT EXIT
1080** B \$CONX RETURN TO MDI CONTROLLER
1081** *****
1082**
1083** COPY T4854
1084** T4854 TUIT T54E
1085** *****06FEB76**
1086**
1087** TEST UNIT
1088**
1089** FILE SCOPE SEEK TEST #1. 3/11/76
1090**
1091** PURPOSE
1092** DETERMINE THE FOLLOWING:
1. PROVIDE SEEK COMMANDS TO FILE TO INSURE, VISUALLY,
1094** THAT THE SEEK MECHANISM IS OPERATING PROPERLY.
1095**
1096**
1097**
1098** CALLING SEQUENCE
1099**
1100** PERFORM THE FOLLOWING:
1. RECALIBRATE.
1101**
2. SEEK FORWARD.
1102**
3. SELECT HEAD ONE.
1103**
4. SEEK REVERSE.
1104**
5. SELECT HEAD ZERO.
1105**
6. SEEK FORWARD.
1106**
7. SELECT HEAD ONE.
1107**
1108**
1109** PARAMETERS PASSED TO PROGRAM IN FOLLOWING FORMAT:
1110** PARM1---SEEK DIFFERENCE FOR FIRST SEEK FORWARD COMMAND.
1111** PARM2---SEEK DIFFERENCE FOR SEEK REVERSE COMMAND.
1112** PARM3---SEEK DIFFERENCE FOR SECOND SEEK FORWARD COMMAND.
1113**
1114** RETURN CONTROL
1115**
1116** B TURIN* RETURN TO MDI SUPERVISOR
1117**
1118**
1119** T4854 MVW R7, TURIN SAVE RETURN ADDRESS
1120** MVWI X'4854', STUID SAVE TU ID FOR DISPLAY
1121** MVA OPTN1, R4 SET UP POINTER ADRS IN R4
1122** BAL \$CONC, R6 CLEAR DEV DEP STG AND CONNECT I/O BL
1123** DC A(T54E) ERROR ADRS FOR INVALID PREP
1124**
1125** MVWI X'5000', R0 DELAY TO GET BY BUSY AFTER RESET
1126** JCT * R0 *
1127** BAL \$RECL, R6 RECALIBRATE
1128** DC A(T54E) ERROR

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
002C40 4CA1 1129 TBTR (R4, ER) CHECK FOR CC ERROR
002C42 122B 1130 JON T54E ERROR
002C44 4020 2CE4 0005 1131 MVWI X'0005', SKDCB SEEK CONTROL WORD - NO CHAINING
002C4A 4020 2CE6 1000 1132 MVWI X'0000', SKDCB+2 SELECT HEAD ONE, FORWARD
002C50 4020 2CEC 0100 1133 MVWI X'0100', SKDCB+8 HEAD SELECT (NEW ARCH)
002C56 8038 189E 2CE7 1134 MVB TUPARM1, SKDCB+3 DIFFERENCE FROM MDI
002C60 6E03 2D90 1135 BAL \$SEEK, R6 SEEK
002C62 4CA1 1136 DC A(\$ERR\$) ERROR
002C64 121A 1137 TBTR (R4, ER) CHECK FOR CC ERROR
002C66 4020 2CE6 0800 1138 JON T54E ERROR
002C6C 4020 2CEC 0000 1139 MVWI X'0800', SKDCB+2 SELECT HEAD ZERO, REVERSE
002C72 8038 189E 2CE7 1140 MVWI X'0000', SKDCB+8 HEAD SELECT (NEW ARCH)
002C78 6E03 2D90 1141 MVB TUPARM2, SKDCB+3 DIFFERENCE FROM MDI
002C7C 2C9A 1142 BAL \$SEEK, R6 SEEK
002C7E 4CA1 1143 DC A(T54E) ERROR
002C80 120C 1144 TBTR (R4, ER) CHECK FOR CC ERROR
002C82 4020 2CE6 1000 1145 JON T54E ERROR
002C88 4020 2CEC 0100 1146 MVWI X'1000', SKDCB+2 SELECT HEAD ONE
002C8E 8038 189E 2CE7 1147 MVWI X'0100', SKDCB+8 HEAD SELECT (NEW ARCH)
002C94 6E03 2D90 1148 MVB TUPARM3, SKDCB+3 DIFFERENCE FROM MDI
002C98 2C9A 1149 BAL \$SEEK, R6 SEEK
002C9A 6E03 2DA0 1150 DC A(T54E) ERROR
002C9E 2CA0 1151 T54E BAL \$RDID, R6 READ ID TO ESTABLISH HEAD POSITION
1152 DC A(T54E) TO BE PASSED BACK TO SUPERVISOR
1153 TXIT EXIT
002CA0 6802 2F90 1154 T54F B \$CONX RETURN TO MDI CONTROLLER
1155 *****
1156 *
1157 *
1158 *
1159 * COPY T48DCB
1160 *****2/17/76*****
1161 *
1162 *
1163 * DCB TABLES
1164 *
1165 *****
1166 *
1167 ***** DIAGNOSTIC DCB *****
1168 *
1169 DGECB DC X'2000' DIAGNOSTIC DCB
1170 DC X'0000' NOT USED
1171 DC X'0000' NOT USED
1172 DC X'0000' NOT USED
1173 DC X'0000' NOT USED
1174 DC X'0000' CHAIN ADDRESS
1175 DC X'000E' BYTE COUNT FOR READ DIAG
1176 DC A(DIAGH) DATA ADDRESS
1177 *
1178 *
1179 ***** RECALIBRATE DCB *****
1180 *
1181 CLDCB DC X'0007' RECALIBRATE DCB
1182 DC 7A(*-*)
1183 *
1184 ***** FORMAT DCB *****
1185 *
1186 FRDCB DC X'0002' FORMAT CONTROL WORD
1187 DC X'0000' NOT USED
1188 DC A(*-*) FORMAT DATA WORD
1189 DC A(*-*) N - C BYTES
1190 DC X'0001' H - R BYTES
1191 DC A(*-*) CHAIN ADDRESS
1192 DC F'0' NOT USED
1193 DC F'0' NOT USED
1194 *
1195 ***** READ SECTOR ID DCB *****
1196 *
1197 RSDCB DC X'200A' READ SECTOR ID
1198 DC X'0000' NOT USED
1199 DC X'0000' NOT USED
1200 DC X'0000' NOT USED
1201 DC X'0000' NOT USED
1202 DC X'0000' CHAIN ADDRESS
1203 DC X'0004' BYTE COUNT FOR READ SECTOR ID
1204 DC A(SCTID) SECTOR ID DATA ADDRESS
1205 *
1206 ***** SEEK DCB *****
1207 *
1208 SKDCB DC X'0005' SEEK DCB
1209 DC X'0000' BIT 3=HEAD; BIT 4=DIRECTION; 8-15=DIFF
1210 DC F'0'
1211 DC F'0'
1212 DC F'0'
1213 DC F'0'
1214 DC F'0'
1215 DC F'0'
1216 *
1217 *
1218 ***** CYCLE STEAL STATUS DCB *****
1219 *
1220 CSDCB DC X'2000' CONTROL WORD
1221 DC F'0' NOT USED
1222 DC F'0' NOT USED
1223 DC F'0' NOT USED
1224 DC F'0' NOT USED
1225 DC F'0' NOT USED
1226 DC X'0004' 2 WORDS OF STATS
1227 DC A(CSBUF) ADDRESS OF CYCLE STEAL STATUS DATA
1228 *
1229 ***** WRITE DCB *****
1230 *
1231 WRDCB DC X'0001' 8-15=1- ATA AM; 8-15=2-CONTROL AM
1232 DC F'0' NOT USED
1233 DC F'0'
1234 DC X'0000' SEARCH ARGUMENT N-C
1235 DC X'0000' SEARCH ARGUMENT H-R
1236 DC A(*-*) CHAIN ADDRESS
1237 DC F'0' BYTE COUNT
1238 DC A(*-*) WRITE DATA ADDRESS
1239 *
1240 ***** VERIFY DCB *****
1241 *
1242 VRDCB DC X'000C' CONTROL WORD
1243 DC F'0' NOT USED
1244 DC F'0' NOT USED
1245 DC A(*-*) N-C

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002D1C 0000 1246 DC A(*-*) H-R
002D1E 0000 1247 DC A(*-*) CHAIN ADDRESS
002D20 0000 1248 DC F'0' BYTE COUNT
002D22 0000 1249 DC A(*-*) VERIFY DATA ADDRESS
1250 *
1251 ***** READ DCB *****
1252 *
002D24 2009 1253 RDRCB DC X'2009' READ DCB CONTROL WORD
002D26 0000 1254 DC F'0' NOT USED
002D28 0000 1255 DC F'0' NOT USED
002D4A 0000 1256 DC X'0000' SEARCH ARGUMENT N-C
002D2C 0101 1257 DC X'0101' SEARCH ARGUMENT H-R
002D2E 0000 1258 DC F'0' CHAIN ADDRESS
002D30 0000 1259 DC F'3328' BYTE COUNT
002D32 0000 1260 DC A(*-*) READ DATA ADDRESS
1261 *
1262 *
1263 *
1264 *
002D34 1000 1265 COUNT DC F'4096' BYTE COUNT (4096)
002D36 0C80 1266 CTN32 DC F'3200' BYTE COUNT (3200)
002D38 0000 1267 SAVE DC X'0000' SCTID INFO
002D3A 0000 1268 DC X'0000' *
002D3C 0000 1269 DIFF DC X'0000' SEEK DIFFERENCE
002D3E 00C8 1270 FDATA DC X'00C8' FORMAT DATA BYTE FOR COMPARE
002D40 0000 1271 XH DC X'0000' WORK WORD INH TO ZERO
002D42 0046 1272 ENDEX DC X'0046' TERMINATING SEEK DIFFERENCE
002D44 0000 1273 ZERCO DC X'0000' CONSTANT ZERO
002D46 0001 1274 CNE1 DC X'0001' CONSTANT ONE
002D48 0800 1275 REVR DC X'0800' SEEK REVERSE
002D4A 0000 1276 HHRH DC X'0000' H-R
002D4C 0000 1277 BCNT DC X'0000' BYTE COUNT
002D4E 0000 1278 JOE DC X'0000' WRITE PARAMETER POINTER
002D50 0000 1279 JOE1 DC X'0000' SAVE LOC FOR PARM LIST ADDRESS
002D52 7A25 1280 WDATA DC X'7A25' WRITE DATA
002D54 69BD 1281 DC X'69BD' *
002D56 0000 1282 CYLND DC X'0000' TEMP SAVE AREA FOR CYLINDER #
002D58 0000 1283 DC X'0000' *
002D5A 0000 1284 FORMT DC X'0000' FROMAT BIT FROM OPERATOR
002D5C 004C 1285 CYLIN DC X'004C' CYLINDER NUM SELECTED FROM OPERATOR
002D5E 0000 1286 HEAD DC F'0000' HEAD NUM SELECTED FROM OPERATOR
002D60 0001 1287 SECT DC F'0001' SECTOR # SELECT BY OPERATOR
002D62 0D00 1288 BYCNO DC F'3328' BYTE COUNT SELECTED BY OPER
002D64 0000 1289 TABLE DC A(*-*) ADDR OF WRT PAR LIST FOR FORMAT RTNS
002D66 0000000000000000 1290 DIAGW DC 7A(*-*) DIAGNOSTIC BUFFER
002D74 0000 1291 CONST DC X'0000' SECTOR # PLUS ONE FOR N='X'
002D76 0000 1292 SBYT DC X'0000' FULL BYTE COUNT FOR N='X'
002D78 00FF 1293 CDRT DC X'00FF' CONSTANT '00' & 'FF'
002D7A 0000 1294 CTR01 DC X'0000' COUNTER 1
002D7C 0000 1295 CTR02 DC X'0000' COUNTER 2
002D7E 0000 1296 CTR03 DC X'0000' COUNTER 3
002D80 0000 1297 CTR04 DC X'0000' COUNTER 4
002D82 0000 1298 CTR05 DC X'0000' COUNTER 5
002D84 0000 1299 SAVR3 DC X'0000' SAVE AREA
002D86 0000 1300 SAVR5 DC X'0000' SAVE AREA
002D88 0000 1301 SIDE DC X'0000' SIDE BEING TESTED
002D8A 0000 1302 TRK DC X'0000' CURRENT CYLINDER NUMBER
002D8C 0000 1303 WDAT DC X'0000' WORK AREA
002D8E 4C00 1304 SVSIX DC X'4C00' CYLINDER NUMBER 76
1306 *
1307 * COPY 4/15/76
1308 * EXECUTE INPUT & OUTPUT COMMANDS
1309 * TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
1310 * EACH OF THESE ENTRIES SET R7 WITH THE ADRES OF ITS PARAMETER
1311 * LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
1312 * SUPVR CALL.
1313 *
1314 * THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
1315 *
1316 * 1. LOST INTERRUPTS BY TIMING OUT A CCOUNTING LOOP
1317 *
1318 * 2. ERROR INTERRUPTS RECEIVED FROM SUPVR
1319 *
1320 * 3. LOOP ON ERROR, THE CALL MUST HAVE A 'DC' STATEMENT AFTER
1321 * THE CALL WITH THE ADDRESS OF THE RETRY STATEMENT
1322 *
1323 * 4. CYCLE STEAL IN PROGRESS WITH AN ERROR
1324 *
1325 * 5. SOMETHING ELSE
1326 *
1327 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1328 *
1329 * 1 BAL $SEEK,R6 SEEK
1330 *
1331 * 2 BAL $RECL,R6 RECALIBRATE
1332 *
1333 * 3 BAL $RDID,R6 READ SECTOR ID
1334 *
1335 * 4 BAL $RD,R6 READ
1336 *
1337 * 5 BAL $RDVY,R6 READ VERIFY
1338 *
1339 * 6 BAL $WRT,R6 WRITE
1340 *
1341 * 7 BAL $FMT,R6 FORMAT
1342 *
1343 * 8 BAL XIOCS,R6 CYCLE STEAL STATUSB
1344 *
1345 * 9 BAL $DIAG,R6 READ DIAGNOSTICS
1346 *
002D90 4020 2EF2 2CE4 1344 $SEEK MVA SKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002D96 502C J XIO
1345 *
002D98 4020 2EF2 2CB4 1346 $RECL MVA CLDCB,IODCB SET UP BLOCK FOR SVC CALL
002D9E 5028 J XIO
1347 *
002DA0 4020 2EF2 2CD4 1347 $RDID MVA RSDCB,IODCB SET UP BLOCK FOR SVC CALL
002DA6 4020 2B8C 9999 1348 MVI X'9999',SCTID INVALIDATE SECTOR ID BUFFER AREA
002D4C 4020 2B8E 9999 1349 MVI X'9999',SCTID+2
002DB2 501E J XIO
1350 *
002DB4 0BFF 1351 $RD MVB 255,R3 INIT READ BUFFER TO FF'S
002DB6 6D08 2D32 1352 MVM RDRCB+14,R5
002DB8 4724 0400 1353 MVI X'0400',R7
002DBE 2BAC 1354 FFN R3,(R5)
002DC0 4020 2EF2 2D24 1355 $RDS MVA RDRCB,IODCB SET UP BLOCK FOR SVC CALL
002DC6 5014 J XIO
1356 *
002DC8 4020 2EF2 2D14 1357 $RDVY MVA VRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976

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002DCE 5010 1363 J XIO
1364 *
002DD0 4020 2EF2 2D04 1365 $WRT MVA WRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002DD6 500C J XIO
1366 *
002DD8 4020 2EF2 2CC4 1367 $FMT MVA FRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002DDA 5008 J XIO
1368 *
002DE0 4020 2EF2 2CA4 1369 $DIAG MVA DGDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002DE6 4020 2EF4 000D 1370 MVI X'000D',IOMOD MODIFIER FOR DIAG OP
002DE8 500E J XIO1
1371 *
002DEE 5601 1372 CEOF2 BXS (R6,2) DUMMY RETURN TO USER
1373 *
1374 * XEQUIT 1
1375 *****29JUL76**
1376 *
1377 *
1378 *
1379 *
1380 * EXECUTE INPUT AND OUTPUT CCMANDS
1381 *
1382 * PURPOSE
1383 *
1384 * TO EXECUTE ALL I/O CCMANDS FROM A CCMON PLACE.
1385 * THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
1386 *
1387 * 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
1388 * THE I/O COMMAND.
1389 *
1390 * 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
1391 * ISSUED BY THIS SUBROUTINE.
1392 *
1393 * 3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
1394 * START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
1395 *
1396 * 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
1397 * SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
1398 * MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
1399 *
1400 * 5. MOVES THE ADDRESS OF THE I/O CONTROL BLCK IN R7, SET THE
1401 * EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC START'.
1402 *
1403 * 6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
1404 * STARTS TO DETERMINE A LOST INTERRUPT.
1405 *
1406 * 7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
1407 * WAS AN ERROR OR OKAY AND OFF THE INTERRUPT LEVEL.
1408 *
1409 * 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
1410 *
1411 * 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
1412 *
1413 * 10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.
1414 *
1415 * 11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
1416 *
1417 * 12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
1418 * ISSUED BY THIS SUBROUTINE.
1419 *
1420 * 13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
1421 * CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
1422 * COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
1423 *
1424 * CALLING SEQUENCE
1425 *
1426 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1427 *
1428 * --> BAL XIO OR XEQ ANY CYCLE STEAL COMMAND, MOD=0
1429 * --> BAL XIO1 MOD PARM PRELOADED IN 'IOMOD'
1430 * --> BAL XIOCS,R6 OR XEQ START CYCLE STEAL STATUS, MOD=F
1431 * --> BAL XIOCS-4,R6 AUTO CS STATUS (FOLLOWING OTHER XIO
1432 * AND DOES NOT POST INTERRUPT STATUS)
1433 *
1434 * RETURN CONTROL
1435 *
1436 * BXS (R6,2) RETURN TO USER NO ERROR
1437 * CR B (R6) RETUPN AND RETRY ON ERROR
1438 * MVMZ IOMOD,R3 SET MOF OF 0 FOF CYCLE STEAL OP
1439 * J XIO1 CS I/O'S ARE NOT RETRIED
1440 *
1441 * TBTR (R4,CE) RESET CS STATUS INTER ERROR INDICAT.
1442 * TBTS (R4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
1443 * MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1444 * MVI X'000F',IOMOD SET CYCLE STEAL MODIFIER
1445 * TB (R4,CS) IS CS IN PROGRESS, ERROR CONDITION
1446 * JON XIO2 * YES, BYPASS SAVING I/O ADRES
1447 * MVM R6,LSTIO SAVE IAR FOR RETRY IF REQUESTED
1448 * MVA DCBUF,R5 SET UP TO ACDS TO MOVE DCB TABLE
1449 * MVM IODCE,R3 * AND THE FRM ADRS, ALONG WITH
1450 * MVB 16,R7 * THE NUMBER OF MOVES
1451 * MVM (R5),(R3) MOVE 1 STATUS WORD AND ADJUST
1452 * MVB 255,R3 CLEAR CYCLE STATUS BUFFER
1453 * MVA CSBUF,R5 * TO ALL ONES *
1454 * MVB 16,R7 *
1455 * EFN R3,(R5) *
1456 * MVI X'0708',IOIN OVERLAY OLD CONDITION CODES
1457 * MVMZ $ISB,R3 ZERO OUT OLD ISB VALUE
1458 *
1459 * TBTR (R4,ER) RESET ANY ERROR BEFORE I/O COMMAND
1460 * TBTR (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
1461 * MVA IOBLK,R7 SET UP CONTROL BLOCK FOR SUPVR
1462 * TBTR (R4,$LE) RESET LEVEL ERROR INDICATOR
1463 * TBTS (R4,XI) SET EXPECTED INTR CONTROL BIT
1464 * SVC START CALL SUPVR FOR I/O COMMAND
1465 *
1466 * TBTR (R4,NI) IS AN INTR EXPECTED
1467 * BN (R6,2) * NO, RETURN TO USER
1468 *
1469 * THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
1470 *
1471 * MVB 1,R5 SET UP WRK REG FOR 'LOST INTR'
1472 * TBTR (R4,IB) HAS INTERRUPT BEEN RECEIVED
1473 * JON XIOCB * YES, CHECK IF ALL WAS SATISFACTORY
1474 * SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
1475 * SUPVR WILL RETURN HERE
1476 * ADVANCE TIME OUT COUNT
1477 * BCH IF TIME OUT NOT REACHED
1478 * TBTS (R4,ER) SET ON FROR CONTROL BIT
1479 * B (R6) * ERR 'NO INTERRUPT'
1480 * *****03FEB76**
1481 *
1482 * SUBROUTINE
1483 *
1484 * I/O EXECUTE ERRCR HANDLING ROUTINE
1485 *
1486 * PURPOSE
1487 *
1488 * THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
1489 * PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1481** SUPERVISOR AND IT WAS NOT ACCEPTED.
1482**
1483** CALLING SEQUENCE
1484**
1485** SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
1486**
1487** RETURN CONTROL
1488**
1489** B (R6)* RETURN TO USERS ERROR HANDLER
1490**
1491**
1492**
1493** CC 0= DEVICE NOT ATTACHED
1494** FOR 1= DEVICE BUSY
1495** I/O 2= DEVICE BUSY AFTER RESET
1496** 3= COMMAND REJECT
1497** 4= INTERVENTION REQUIRED
1498** 5= INTERFACE DATA CHECK
1499** 6= CONTRCLLR BUSY
1500** 7= I/O COMMAND EXCEPTED
1501**
1502**XIOER DC X'706E' COPY STATUS ANY LEVEL INTO R3
1503** SRL 13,R3 POSITION CC CODE TO BITS 13-15
1504** MVB R3,SICIN * PUT IN LOG OUT AREA
1505** B (R6)* RETURN TO USER ERROR HANDLER
1507**
1508**
1509** SUB-ROUTINE
1510**
1511** ERROR INTERRUPT RUNS ON INTERRUPT LEVEL '\$INTL'
1512**
1513** PURPOSE
1514**
1515** THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR
1516** OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE
1517** EXPECTED CODE.
1518**
1519** CALLING SEQUENCE
1520**
1521** SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT
1522**
1523** RETURN CONTROL
1524**
1525** SVC EXIT RETURN TO USER VIA SUPVR
1526**
1527**
1528**
1529** CC 0= CONTROLLER END ISB 0= ADD STATUS
1530** FOR 1= PROGRAM CONTROL INTERRUPT BITS 1= COMD REJECT
1531** INTR 2= EXCEPTION INTERRUPT FOR 2= INCOR LENGTH
1532** 3= DEVICE END INTERRUPT INTR 3= DCB SPEC CK
1533** 4= ATTENTION INTERRUPT 4= STG DATA CK
1534** 5= ATTENTION / PROGRAM CNTL INTR 5= INV STG ADRS
1535** 6= ATTENTION / EXCEPTION INTR 6= PROTRC CK
1536** 7= ATTENTION / DEVICE END INTR 7= I-FACE DATA
1537**
1538**INTR DC X'706E' COPY STATUS ANY LEVEL INTO R3
1539** SRL 13,R3 POSITION INDICATORS IN R3
1540** MVA OPIN1,R4 SET UP BASE ADRS
1541** TBT (R4,CS) IS CS IN PROGRESS
1542** JOFF INTES * NO
1543** TBT (R4,CE) TURN ON CYCLE STEAL INTER ERROR
1544** MVB R7,CST18 SAVE CS ERR ISB VALUE, BITS 0-7
1545** MVB R3,CST18+1 * AND THE COND CODE
1546** J INTR1
1547** INTES TBT (R4,XE) TEST EXPECTED ATTEN / ERROR IND
1548** JOFF INTES BCH IF NOT EXPECTED
1549** CBI 4,R3 IS THIS AN 'ATTENTION' INTR
1550** JE INTR1 * YES, BCH TO END INTR SEQUENCE
1551**INTET TBT (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
1552** J INTR1
1553** THE ERROR INTERRUPT USES THE SAME
1554** ENDING SEQUENCE AS THE NORMAL INTR
1556**
1557**
1558** SOUBROUTINE
1559**
1560** OKAY INTEPRUPT RUNS ON INTERRUPT LEVEL '\$INTL'
1561**
1562** PURPOSE
1563** TO CHECK THE INTERRUPT AND CONTINUE THE TEST
1564**
1565** CALLING SEQUENCE
1566**
1567** SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED
1568** THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE
1569** AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE
1570** COMMON SECTION IS HANDLED HERE.
1571**
1572** RETURN CONTROL
1573**
1574** SVC EXIT RETURN TO USER VIA SUPVR
1575**
1576**
1577**
1578**INTOK DC X'706E' COPY STATUS ANY LEVEL INTO R3
1579** SRL 13,R3 POSITION INDICATORS IN R3
1580** MVA OPIN1,R4 SET UP BASE ADRS
1581** INTR1 TBT (R4,IS) SET INTERRUPT RECEIVED
1582** TBT (R4,CS) IS 'CS IN PROGRESS' ON
1583** JON INT2 * YES, BCH AROUND UPDATE
1584** MVB R3,SICIN+1 SAVE INTERRUPTING CC CODE
1585** MVB R7,SISB SAVE INTR STATUS AND DEV ADRS
1586**INT2 EQU *
1587** CPCL R5 CURRENT LEVEL COPIED BY DCP
1588** SLL 4,R5 POSITION INTR LEVEL AND PUT
1589** ABI 1,R5 * IN 'I' BIT
1590** CH '\$INTL',R5 IS THIS THE CORRECT INTR LEVEL
1591** JE INTR3 * YES, GO EXIT THIS LEVEL
1592** TBT (R4,\$LE) SET INTR LEVEL ERROR CONTROL BIT
1593** TBT (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
1594**INTR3 TBT (R4,XI) WAS INTERRUPT EXPECTED
1595** JON INTR1 * YES, EXIT OFF THIS INTR LEVEL
1596** TBT (R4,MI) * NO, SET MYSTERY INTR CONTROL BIT
1597** CBI 4,R3 ATTENTION INTERRUPT?
1598** JE INTRX YES

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1599** TBT (R4,NG) ERROR, UNEXPECTED INTERRUPT IL
1600**INTX SVC EXIT EXIT THIS LEVEL VIA SUPVR TO PGM IL
1602**
1603**
1604** THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
1605** HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN
1606** RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
1607**
1608**
1609**XIOCK TBT (R4,XE) WAS AN ERROR EXPECTED
1610** BN (R6,2) * YES, EXIT THIS ROUTINE
1611** TBT (R4,CS) WAS AUTO CS IN PROGRESS
1612** JOFF XIOCV * NO, CONTINUE CHECKING
1613** TBT (R4,CE) IS CS IN AN ERR CONDITION
1614** JOFF XIOCO * NO, BCH
1615** B (R6)* CS ERROR
1616**XIOCO TBT (R4,CSA) TURN ON CS STATUS AVAIL FLAG
1617** BXS (R6,2) GO TO USER
1618**XIOCV TBT (R4,ER) WAS ERROR INTR CONTROL BIT ON
1619** JOFF XICCX * NO, EXIT THIS ROUTINE
1620**
1621** MVB \$IOIN+1,R5 GET LAST INTR CC CODE
1622** CBI 2,R5 IS THIS CC=2
1623** BNE (R6)* * NO, BCH TO ERROR HANDLER
1624**XIOCV MVB \$ISB,R5 GET LAST ISB DATA BYTE AND IF CS
1625** BN (R6)* * AVAILABLE, GO AND GET IT
1626** B (R6)* ERROR
1627**XICCX MVBZ OPTN3,R3 CLEAR OUT OPTION 3 CNTL BITS
1628** BXS (R6,2) RETURN TO USER VIA REG 6
1629**
1630** I/O PARAMETER LIST
1631**
1632**IOBLK DC A(DEVADD) ADRS OF DEVICE ADRS
1633** A(XIOER) ERROR ROUTINE ADRS
1634**IODCB DC A(*-*) DCB ADRS OR LEVEL & INTR
1635**IOHOD DC A(*-*) MODIFIER
1636** A(*-*) ADRS OF LAST SVC CALL
1637**ICRSP DC A(*-*) SECOND WORD OF LAST IDCB
1638**
1639** INTERRUPT CONTROL BLOCK FOR I/O COMMANDS
1640**
1641**INTBL DC A(DEVADD) ADRS OF DEVICE ADRS
1642** DC A(INTOK) INTERRUPT OK RETURN ADRS
1643** DC A(INTR) INTERRUPT ERROR ADRS
1644**INTCC DC X'0003' INTERRUPT CODE EXPECTED
1645**
1646**
1647**
1648** SUBROUTINE
1649**
1650** CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE
1651**
1652** PURPOSE
1653** TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
1654** PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
1655** TO INTERRUPT.
1656**
1657** CALLING SEQUENCE
1658**
1659** THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
1660**
1661** --> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK
1662** --> BAL \$CONP,R6 PREPARE DEVICE ONLY, ALREADY CONNECT
1663**
1664** RETURN CONTROL
1665**
1666** OR B (R6,2) RETURN TO USER VIA REG 6 IF OKAY
1667** B (R6)* IF THE DEVICE COULD NOT BE CONNECTED
1668**
1669**
1670**\$CONC MVB 6,R7 NUMBER OF BYTE TO CLEAR
1671** MVB 0,R3 * AND THE DATA TO USE
1672** MVA DEV1,R5 * ALONG WITH THE ADRS TO USE
1673** R3,(R5) *
1674** MVBZ OPTN3,R3 CLEAR OLD CONTROLS FOR NEW ROUTINE
1675** MVA SVCAL,R7 SET UP TO REQUEST DCP SUPR DISK
1676** SVC KEQSE *
1677** MVB -1,R7 SET UP DELAY FOR IBIS
1678** JCT * R7 * AND DECREMENT IT DOWN
1679** MVA INTBL,R7 SET R7 TO CONTROL BLOCK AND
1680** SVC CIOB * CONNECT IT TO THIS DEVICE
1681** BN (R6)* ERROR RETURN TO USER
1682**
1683**
1684**\$CONP MVB \$INTL,IODCB PUT IN LEVEL & INTR PARAMETER
1685** MVA IOBLK,R7 SET R7 TO CONTROL BLOCK TO PREPARE
1686** MVB X'0708',SIOIN INITIALIZE CONDITION CODE STORAGE
1687** MVBZ \$ISB,R3 * AND CLEAR OLD ISB VALUE
1688** MVB R6,ISTIO SET UP ADDRESS THAT STARTED LAST I/O
1689** SVC PREP * AND CALL ON SUPVR
1690** BXS (R6,2) RETURN TO USER
1691**
1692**
1693** SUBROUTINE
1694**
1695** DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
1696**
1697** PURPOSE
1698** TO DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
1699** SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS
1700** BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
1701**
1702** CALLING SEQUENCE
1703**
1704** THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
1705**
1706** --> B \$ERR\$ SET 'NG' BIT AND CONVERT DATA TO LOG
1707** --> B \$CCNX RETURN TO MDI SUPERVISOR TO TEST STS
1708**
1709** RETURN CONTROL
1710**
1711** OR B TURTN* RETURN TO MDI
1712** B (R6)* IF THE DEVICE COULD NOT BE CONNECTED
1713**
1714**
1715**
1716**\$ERR\$ MVB X'8000',TUSTATUS SET ON 'NO GOOD' STATUS BIT
1717**

LOCTR	OBJECT TEXT	STMT	SOURCE	STATEMENT	COPYRIGHT IBM CORP 1976
002F46	4724 30B6	1718*	MVA	HEBLK,R7	GET ADRS OF CONTROL BLOCK
002F4A	601A	1719*	SVC	HIOE	CONVERT HEX TO EBC VIS DCP
002F4C	0D03	1720*	MVBI	3,R5	
002F4E	4324 181A	1721*	MVA	TUWCRK,R3	SET UP BUFFER STORAGE
002F52	680D 30AE	1722*	MVA	E3,BUFPT	
002F56	4124 2FDE	1723*	MVA	LINE1,R1	
002F5A	0F04	1724*	MVBI	4,R7	
002F5C	0E08	1725*	MVBI	8,R6	
002F5E	2B24	1726*	MVBUF	(R3),(R1)	
002F60	0F04	1727*	MVBI	4,R1	
002F62	0A40	1728*	MVBI	X(40),R2	
002F64	C258	1729*	MVB	E2,(R1)*	
002F66	BEF6	1730*	JCT	MVBUF,R6	
002F68	0E08	1731*	MVBI	8,R6	
002F6A	7921 002C	1732*	AWI	44,R1	
002F6E	BD7F	1733*	JCT	MVBUF,R5	
002F70	4020 1802 F1F0	1734*	MVBI	FIDMSG10,PID+2	
002F76	4020 19B8 30B4	1735*	MVA	FAKETU,@DCADD1	
002F7C	4020 19BA 30B0	1736*	MVA	DC2PT,@DCADD2	
002F82	402C 19C4 0080	1737*	OWI	BIT0080,SUPSTAT	
002F88	4324 2B84	1738*	MVA	STUID,R3	SET UP BUFFER STORAGE
002F8C	6F13 18BA	1739*	BAL	TUMSGWTR*,R7	GO TO MESSAGE WRITER
002F90		1740**			
002F90	8028 2B8D 2BC3	1741**	\$CONX	EQU *	SETUP CURRENT CYLINDER NUM
002F96	4724 2BC0	1742*	MVB	STCID+1,SVCAL+3	ADDR OF RELEASE PARM LIST
002F9A	6017	1743*	MVA	SVCAL,R7	RELEASE CONTROL
002F9C	C720 19D0	1744*	SVC	RELSD	GET DEVICE ADDRESS FROM MDI
002FA0	6013	1745*	MVB	DEVADD,R7	RELEASE INTERRUPT CONTROL BLOCK
002FA2	6812 2BBC	1746*	SVC	RICB	RETURN TO MDI SUPERVISOR
002FA6	0007	1747*	B	TURTN*	
002FA8	0008	1748**			
002FAA	5C5C40C1C2D6D9E3	1749*	DC	A(0007)	NUMBER OF LINES TO PRINT
002FB2	0028	1750*	DC	A(0008)	LINE LENGTH = 8 CHAR
002FB4	E3E4C9C440C9D6C9D	1751*	DC	C** ABORT*	
002FDC	0028	1752*	DC	A(0040)	LINE LENGTH = 40 CHAR
002FDE	40404040404040404	1753*	DC	C*UID IOIN ISB INST	DEV1 DEV2 DEV3 DEV4
003006	0028	1754*	DC	A(0040)	LINE LENGTH = 40 CHAR
003008	C3D5E3D340C4C3C2F	1755*	DC	C*LINE1	
003030	0028	1756*	DC	A(0040)	LINE LENGTH = 40 CHAR
003032	40404040404040404	1757*	DC	C*CNIL DCB2 DCB3 DCB4	DCE5 CHAD BYCT ADRS
00305A	0028	1758*	DC	A(0040)	LINE LENGTH = 40 CHAR
00305C	D9E2C9C440C3E260F	1759*	DC	C*LINE2	
003084	0028	1760*	DC	A(0040)	LINE LENGTH = 40 CHAR
003086	40404040404040404	1761*	DC	C*RSID CS-2 CS-3 CS-4	CS-5 CS-6 CS-7 CS-8
0030AE	0000	1762*	DC	A(0040)	LINE LENGTH = 40 CHAR
0030B0	2FA6	1763*	DC	C*	
0030B2	0101	1764**			
0030B4	0101	1765*	DC	A(*-*)	
00F1F0		1766*	DC	A(BEGIN)	
000080		1767*	DC	X*0101*	
		1768*	DC	X*0101*	
		1769*	DC	X*F1F0*	
		1770*	DC	X*0080*	
		1771**			
		1772**			
		1773**			
0030B6	0030	1774*	DC	A(48)	NUMBER OF BYTES TO CONVERT
0030B8	2B84	1775*	DC	A(\$TUID)	FROM ADRS
0030BA	181A	1776*	DC	A(TUWCRK)	AND THE TO ADRS
000000		1777*			
		1779	END		

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0	.R0.	ABSOLUTE. HEX VALUE(00000000)	
0	.R1.	ABSOLUTE. HEX VALUE(00000001)	
0	.R2.	ABSOLUTE. HEX VALUE(00000002)	
0	.R3.	ABSOLUTE. HEX VALUE(00000003)	
0	.R4.	ABSOLUTE. HEX VALUE(00000004)	
0	.R5.	ABSOLUTE. HEX VALUE(00000005)	
0	.R6.	ABSOLUTE. HEX VALUE(00000006)	
0	.R7.	ABSOLUTE. HEX VALUE(00000007)	
1671	\$CONC	ADDRESS. HEX LOCATION(00002F02) IN CSECT(I4840) LENGTH(2)	
1741	\$CONX	ADDRESS. HEX LOCATION(00002F90) IN CSECT(I4840) LENGTH(1)	
1717	\$ERR\$	ADDRESS. HEX LOCATION(00002F40) IN CSECT(I4840) LENGTH(6)	
912	\$INTL	ADDRESS. HEX LOCATION(00002EBA) IN CSECT(I4840) LENGTH(2)	
882	\$ICIN	ADDRESS. HEX LOCATION(00002E86) IN CSECT(I4840) LENGTH(2)	
883	\$ISB	ADDRESS. HEX LOCATION(00002B88) IN CSECT(I4840) LENGTH(2)	
867	\$LE	ABSOLUTE. HEX VALUE(00000026)	
1350	\$RDL	ADDRESS. HEX LOCATION(00002DA0) IN CSECT(I4840) LENGTH(6)	
1347	\$RECL	ADDRESS. HEX LOCATION(00002D98) IN CSECT(I4840) LENGTH(6)	
1344	\$SEEK	ADDRESS. HEX LOCATION(00002D90) IN CSECT(I4840) LENGTH(6)	
881	\$TUID	ADDRESS. HEX LOCATION(00002B84) IN CSECT(I4840) LENGTH(2)	
102	@DCALD1	ADDRESS. HEX LOCATION(000019B8) IN CSECT(I4840) LENGTH(1)	
103	@DCALD2	ADDRESS. HEX LOCATION(000019BA) IN CSECT(I4840) LENGTH(1)	
39	@FIXT	ABSOLUTE. HEX VALUE(00000101)	
41	@GOTO	ABSOLUTE. HEX VALUE(00000200)	
46	@NVL	ABSOLUTE. HEX VALUE(00000600)	
38	@QULS	ABSOLUTE. HEX VALUE(00000100)	
44	@QUXX	ABSOLUTE. HEX VALUE(00000400)	
45	@TUXX	ABSOLUTE. HEX VALUE(00000500)	
1749	BEGIN	ADDRESS. HEX LOCATION(00002FA6) IN CSECT(I4840) LENGTH(2)	
1770	BIT0080	ABSOLUTE. HEX VALUE(00000080)	
1765	BUFPT	ADDRESS. HEX LOCATION(000030AE) IN CSECT(I4840) LENGTH(2)	
871	CE	ABSOLUTE. HEX VALUE(0000002A)	
951	CICB	ABSOLUTE. HEX VALUE(00000014)	
1181	CLDCB	ADDRESS. HEX LOCATION(00002CE4) IN CSECT(I4840) LENGTH(2)	
809	CS	ABSOLUTE. HEX VALUE(00000028)	
870	CSA	ABSOLUTE. HEX VALUE(00000029)	
900	CSBUF	ADDRESS. HEX LOCATION(00002BA4) IN CSECT(I4840) LENGTH(1)	
1220	CSDCB	ADDRESS. HEX LOCATION(00002CF4) IN CSECT(I4840) LENGTH(2)	
908	CSTL8	ADDRESS. HEX LOCATION(00002BB2) IN CSECT(I4840) LENGTH(2)	
890	DCBUF	ADDRESS. HEX LOCATION(00002E94) IN CSECT(I4840) LENGTH(1)	
1766	DC2PT	ADDRESS. HEX LOCATION(000030E0) IN CSECT(I4840) LENGTH(2)	
105	DEVADD	ADDRESS. HEX LOCATION(000019D0) IN CSECT(I4840) LENGTH(1)	
885	DEV1	ADDRESS. HEX LOCATION(00002B8C) IN CSECT(I4840) LENGTH(2)	
1169	DGDCB	ADDRESS. HEX LOCATION(00002CA4) IN CSECT(I4840) LENGTH(2)	
1290	DIAGW	ADDRESS. HEX LOCATION(00002D66) IN CSECT(I4840) LENGTH(2)	
67	DUMMY	ABSOLUTE. HEX VALUE(00000000)	
695	ENTPI	ADDRESS. HEX LOCATION(00002726) IN CSECT(I4840) LENGTH(1)	
47	EQ	ABSOLUTE. HEX VALUE(00000000)	
862	ER	ABSOLUTE. HEX VALUE(00000021)	
937	EXIT	ABSOLUTE. HEX VALUE(00000006)	
1768	FAKETU	ADDRESS. HEX LOCATION(000030B4) IN CSECT(I4840) LENGTH(2)	

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
1186	FRDCB	1735 ADDRESS. HEX LOCATION(00002CC4) IN CSECT(I4840) LENGTH(2)
766	F00004	1368 ADDRESS. HEX LOCATION(00002914) IN CSECT(I4840) LENGTH(1)
720	F00063	642 ADDRESS. HEX LOCATION(00002734) IN CSECT(I4840) LENGTH(1)
726	F00103	490 ADDRESS. HEX LOCATION(0000276A) IN CSECT(I4840) LENGTH(1)
732	F00112	532 ADDRESS. HEX LOCATION(000027A0) IN CSECT(I4840) LENGTH(1)
740	F00119	538 ADDRESS. HEX LOCATION(00002818) IN CSECT(I4840) LENGTH(1)
760	F00199	541 ADDRESS. HEX LOCATION(000028E2) IN CSECT(I4840) LENGTH(1)
772	F00227	633 ADDRESS. HEX LOCATION(00002952) IN CSECT(I4840) LENGTH(1)
778	F00238	648 ADDRESS. HEX LOCATION(00002984) IN CSECT(I4840) LENGTH(1)
782	F00248	654 ADDRESS. HEX LOCATION(000029AA) IN CSECT(I4840) LENGTH(1)
790	F00260	660 ADDRESS. HEX LOCATION(00002A16) IN CSECT(I4840) LENGTH(1)
794	F00272	666 ADDRESS. HEX LOCATION(00002A3E) IN CSECT(I4840) LENGTH(1)
798	F00280	672 ADDRESS. HEX LOCATION(00002A60) IN CSECT(I4840) LENGTH(1)
804	F00288	678 ADDRESS. HEX LOCATION(00002A96) IN CSECT(I4840) LENGTH(1)
810	F00298	684 ADDRESS. HEX LOCATION(00002AE6) IN CSECT(I4840) LENGTH(1)
818	F00304	690 ADDRESS. HEX LOCATION(00002B4C) IN CSECT(I4840) LENGTH(1)
1774	HEBLK	693 ADDRESS. HEX LOCATION(000030B6) IN CSECT(I4840) LENGTH(2)
957	HIOE	1718 ABSOLUTE. HEX VALUE(0000001A)
933	IDLE	1719 ABSOLUTE. HEX VALUE(00000002)
864	IN	1464 ABSOLUTE. HEX VALUE(00000023)
1641	INTBL	1450 1462 1581 ADDRESS. HEX LOCATION(00002EFA) IN CSECT(I4840) LENGTH(2)
1538	INTEB	1680 ADDRESS. HEX LOCATION(00002E62) IN CSECT(I4840) LENGTH(2)
1547	INTES	1643 ADDRESS. HEX LOCATION(00002E7A) IN CSECT(I4840) LENGTH(2)
1551	INTEI	1542 ADDRESS. HEX LOCATION(00002E82) IN CSECT(I4840) LENGTH(2)
1578	INTOK	1548 ADDRESS. HEX LOCATION(00002E86) IN CSECT(I4840) LENGTH(2)
63	INTRNL	1642 ABSOLUTE. HEX VALUE(00000000)
1600	INTRX	484 564 587 610 ADDRESS. HEX LOCATION(00002EB6) IN CSECT(I4840) LENGTH(2)
1581	INTR1	1595 1598 ADDRESS. HEX LOCATION(00002E8E) IN CSECT(I4840) LENGTH(2)
1586	INTR2	1546 1550 1552 ADDRESS. HEX LOCATION(00002E9C) IN CSECT(I4840) LENGTH(1)
1594	INTR3	1583 ADDRESS. HEX LOCATION(00002EAA) IN CSECT(I4840) LENGTH(2)
1632	IOBLK	1591 ADDRESS. HEX LOCATION(00002EEB) IN CSECT(I4840) LENGTH(2)
1634	IODCB	1451 1685 ADDRESS. HEX LOCATION(00002EF2) IN CSECT(I4840) LENGTH(2)
1635	IOMOD	1344 1347 1350 1359 1362 1365 1368 1370 1433 ADDRESS. HEX LOCATION(00002EF4) IN CSECT(I4840) LENGTH(2)
37	I4840	1439 1684 CSECT. START(00002500) LENGTH(3004) ESDID(0)
1755	LINE1	1371 1428 1434 ADDRESS. HEX LOCATION(00002FDE) IN CSECT(I4840) LENGTH(40)
884	LSTIO	1723 ADDRESS. HEX LOCATION(00002E8A) IN CSECT(I4840) LENGTH(2)
861	MI	1437 1688 ABSOLUTE. HEX VALUE(00000020)
1726	MVBUF	1596 ADDRESS. HEX LOCATION(00002F5E) IN CSECT(I4840) LENGTH(2)
673	NG	1730 1733 ABSOLUTE. HEX VALUE(0000002C)
968	NI	1599 ABSOLUTE. HEX VALUE(00000027)
477	N00001	1456 ADDRESS. HEX LOCATION(000025D0) IN CSECT(I4840) LENGTH(2)
480	N00002	315 705 ADDRESS. HEX LOCATION(000025D4) IN CSECT(I4840) LENGTH(2)
486	N00003	318 ADDRESS. HEX LOCATION(000025E0) IN CSECT(I4840) LENGTH(2)
489	N00004	321 478 ADDRESS. HEX LOCATION(000025E4) IN CSECT(I4840) LENGTH(2)
492	N00005	324 ADDRESS. HEX LOCATION(000025E8) IN CSECT(I4840) LENGTH(2)
501	N00006	327 487 ADDRESS. HEX LOCATION(000025FC) IN CSECT(I4840) LENGTH(2)
507	N00007	330 ADDRESS. HEX LOCATION(00002608) IN CSECT(I4840) LENGTH(2)
510	N00008	333 493 708 ADDRESS. HEX LOCATION(0000260C) IN CSECT(I4840) LENGTH(2)
513	N00009	336 ADDRESS. HEX LOCATION(00002610) IN CSECT(I4840) LENGTH(2)
522	N00010	339 508 ADDRESS. HEX LOCATION(00002624) IN CSECT(I4840) LENGTH(2)
531	N00011	342 ADDRESS. HEX LOCATION(00002638) IN CSECT(I4840) LENGTH(2)
534	N00012	345 ADDRESS. HEX LOCATION(0000263C) IN CSECT(I4840) LENGTH(2)
537	N00013	348 523 ADDRESS. HEX LOCATION(00002640) IN CSECT(I4840) LENGTH(2)
540	N00014	351 ADDRESS. HEX LOCATION(00002644) IN CSECT(I4840) LENGTH(2)
543	N00015	354 535 ADDRESS. HEX LOCATION(00002648) IN CSECT(I4840) LENGTH(2)
555	N00016	357 514 ADDRESS. HEX LOCATION(0000265A) IN CSECT(I4840) LENGTH(2)

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557	N00017	360 ADDRESS. HEX LOCATION(0000265C) IN CSECT(I4840) LENGTH(2)
560	N00018	363 544 ADDRESS. HEX LOCATION(00002660) IN CSECT(I4840) LENGTH(2)
566	N00019	366 ADDRESS. HEX LOCATION(0000266C) IN CSECT(I4840) LENGTH(2)
578	N00020	369 558 ADDRESS. HEX LOCATION(0000267E) IN CSECT(I4840) LENGTH(2)
580	N00021	372 ADDRESS. HEX LOCATION(00002680) IN CSECT(I4840) LENGTH(2)
583	N00022	375 567 ADDRESS. HEX LOCATION(00002684) IN CSECT(I4840) LENGTH(2)
589	N00023	378 ADDRESS. HEX LOCATION(00002690) IN CSECT(I4840) LENGTH(2)
601	N00024	381 581 ADDRESS. HEX LOCATION(000026A2) IN CSECT(I4840) LENGTH(2)
603	N00025	384 ADDRESS. HEX LOCATION(000026A4) IN CSECT(I4840) LENGTH(2)
606	N00026	387 590 ADDRESS. HEX LOCATION(000026A8) IN CSECT(I4840) LENGTH(2)
612	N00027	390 ADDRESS. HEX LOCATION(000026B4) IN CSECT(I4840) LENGTH(2)
624	N00028	393 604 ADDRESS. HEX LOCATION(000026C6) IN CSECT(I4840) LENGTH(2)
626	N00029	396 ADDRESS. HEX LOCATION(000026C8) IN CSECT(I4840) LENGTH(2)
629	N00030	399 613 ADDRESS. HEX LOCATION(000026CC) IN CSECT(I4840) LENGTH(2)
632	N00031	402 711 ADDRESS. HEX LOCATION(000026D0) IN CSECT(I4840) LENGTH(2)
635	N00032	405 ADDRESS. HEX LOCATION(000026E4) IN CSECT(I4840) LENGTH(2)
638	N00033	408 630 ADDRESS. HEX LOCATION(000026D8) IN CSECT(I4840) LENGTH(2)
641	N00034	411 ADDRESS. HEX LOCATION(000026DC) IN CSECT(I4840) LENGTH(2)
644	N00035	414 636 ADDRESS. HEX LOCATION(000026E0) IN CSECT(I4840) LENGTH(2)
647	N00036	417 627 ADDRESS. HEX LOCATION(000026E4) IN CSECT(I4840) LENGTH(2)
650	N00037	420 ADDRESS. HEX LOCATION(000026E8) IN CSECT(I4840) LENGTH(2)
653	N00038	423 645 ADDRESS. HEX LOCATION(000026EC) IN CSECT(I4840) LENGTH(2)
656	N00039	426 ADDRESS. HEX LOCATION(000026F0) IN CSECT(I4840) LENGTH(2)
659	N00040	429 651 ADDRESS. HEX LOCATION(000026F4) IN CSECT(I4840) LENGTH(2)
662	N00041	432 ADDRESS. HEX LOCATION(000026F8) IN CSECT(I4840) LENGTH(2)
665	N00042	435 657 ADDRESS. HEX LOCATION(000026FC) IN CSECT(I4840) LENGTH(2)
668	N00043	438 ADDRESS. HEX LOCATION(00002700) IN CSECT(I4840) LENGTH(2)
671	N00044	441 663 ADDRESS. HEX LOCATION(00002704) IN CSECT(I4840) LENGTH(2)
674	N00045	444 ADDRESS. HEX LOCATION(00002708) IN CSECT(I4840) LENGTH(2)
677	N00046	447 669 ADDRESS. HEX LOCATION(0000270C) IN CSECT(I4840) LENGTH(2)
680	N00047	450 ADDRESS. HEX LOCATION(00002710) IN CSECT(I4840) LENGTH(2)
683	N00048	453 675 ADDRESS. HEX LOCATION(00002714) IN CSECT(I4840) LENGTH(2)
686	N00049	456 ADDRESS. HEX LOCATION(00002718) IN CSECT(I4840) LENGTH(2)
689	N00050	459 681 ADDRESS. HEX LOCATION(0000271C) IN CSECT(I4840) LENGTH(2)
692	N00051	462 ADDRESS. HEX LOCATION(00002720) IN CSECT(I4840) LENGTH(2)
826	OPTN1	465 687 ADDRESS. HEX LOCATION(00002B7E) IN CSECT(I4840) LENGTH(2)
849	OPTN3	1059 1121 1540 1580 ADDRESS. HEX LOCATION(00002B82) IN CSECT(I4840) LENGTH(2)
101	PARMARA	1627 1675 ADDRESS. HEX LOCATION(0000196E) IN CSECT(I4840) LENGTH(1)
69	PID	499 520 529 553 576 599 622 ADDRESS. HEX LOCATION(00001800) IN CSECT(I4840) LENGTH(1)
1769	PIDMSG10	71 72 73 74 75 76 77 78 79 ABSOLUTE. HEX VALUE(0000F1F0)
943	PREP	1734 ABSOLUTE. HEX VALUE(0000000C)
1253	RDDCB	1689 ADDRESS. HEX LOCATION(00002D24) IN CSECT(I4840) LENGTH(2)
954	RELSD	1356 1359 ABSOLUTE. HEX VALUE(00000017)
953	REQSD	1744 ABSOLUTE. HEX VALUE(00000016)
950	RICB	1677 ABSOLUTE. HEX VALUE(00000013)
1197	RSDCB	1746 ADDRESS. HEX LOCATION(00002CD4) IN CSECT(I4840) LENGTH(2)
889	SCTID	1350 ADDRESS. HEX LOCATION(00002B8C) IN CSECT(I4840) LENGTH(2)
1208	SKDCB	1204 1351 1352 1742 ADDRESS. HEX LOCATION(00002CE4) IN CSECT(I4840) LENGTH(2)
941	START	1069 1070 1071 1072 1131 1132 1133 1134 1139 ABSOLUTE. HEX VALUE(0000000A)
104	SUPSTAT	1140 1141 1146 1147 1148 1344 ADDRESS. HEX LOCATION(000019C4) IN CSECT(I4840) LENGTH(1)
915	SVCAL	1454 ADDRESS. HEX LOCATION(00002BC0) IN CSECT(I4840) LENGTH(2)
92	TUMSGWTR	1676 1742 1743 ADDRESS. HEX LOCATION(000018BA) IN CSECT(I4840) LENGTH(1)
76	TUPARM1	1739 ADDRESS. HEX LOCATION(0000189A) IN CSECT(I4840) LENGTH(1)
77	TUPARM2	1072 1134 ADDRESS. HEX LOCATION(0000189C) IN CSECT(I4840) LENGTH(1)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
78	TUPARM3	1141 ADDRESS. HEX LCCATION(0000189E) IN CSECT(I4840) LENGTH(1)
913	TURTN	1148 ADDRESS. HEX LOCATION(00002BBC) IN CSECT(I4840) LENGTH(2)
74	TUSTATUS	1057 1119 1747 ADDRESS. HEX LOCATION(00001818) IN CSECT(I4840) LENGTH(1)
75	TUWORK	1717 ADDRESS. HEX LCCATION(0000181A) IN CSECT(I4840) LENGTH(1)
1057	T4852	1721 1776 ADDRESS. HEX LOCATION(00002BCC) IN CSECT(I4840) LENGTH(4)
1119	T4854	545 568 591 614 ADDRESS. HEX LCCATION(00002C20) IN CSECT(I4840) LENGTH(4)
1151	T54E	494 515 524 ADDRESS. HEX LOCATION(00002C9A) IN CSECT(I4840) LENGTH(4)
1154	T54F	1123 1128 1130 1136 1138 1143 1145 1150 ADDRESS. HEX LCCATION(00002CA0) IN CSECT(I4840) LENGTH(4)
1242	VRDCB	1152 ADDRESS. HEX LOCATION(00002D14) IN CSECT(I4840) LENGTH(2)
1231	WRDCB	1362 ADDRESS. HEX LOCATION(00002D04) IN CSECT(I4840) LENGTH(2)
865	XE	1365 ABSOLUTE. HEX VALUE(00000024)
863	XI	1547 1609 ABSOLUTE. HEX VALUE(00000022)
1428	XIO	1453 1594 ADDRESS. HEX LCCATION(00002DF0) IN CSECT(I4840) LENGTH(4)
1609	XIOCK	1345 1348 1353 1360 1363 1366 1369 ADDRESS. HEX LOCATION(00002EB8) IN CSECT(I4840) LENGTH(2)
1616	XIOCO	1463 ADDRESS. HEX LOCATION(00002ECA) IN CSECT(I4840) LENGTH(2)
1433	XIOCS	1614 ADDRESS. HEX LOCATION(00002DFA) IN CSECT(I4840) LENGTH(6)
1618	XIOCV	1625 ADDRESS. HEX LCCATION(00002ECE) IN CSECT(I4840) LENGTH(2)
1627	XIOCX	1612 ADDRESS. HEX LOCATION(00002EE8) IN CSECT(I4840) LENGTH(4)
1502	XIOER	1619 ADDRESS. HEX LCCATION(00002E56) IN CSECT(I4840) LENGTH(2)
1437	XIO1	1633 ADDRESS. HEX LOCATION(00002E0A) IN CSECT(I4840) LENGTH(4)
1450	XIO2	1372 1429 ADDRESS. HEX LOCATION(00002E30) IN CSECT(I4840) LENGTH(2)
1462	XIO8	1436 ADDRESS. HEX LCCATION(00002E44) IN CSECT(I4840) LENGTH(2)
62	XTRNL	1467 ABSOLUTE. HEX VALUE(00000001)
		505

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