

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
3 COPY LOG4810 \*\* 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 02DEC76 DATE 15MAR77 DATE 10JUN77
33 \* E.C. 578468 E.C. 578469 E.C. 578714 E.C. 578625
34 \*
35 \* DATE 22JUL77 DATE DATE DATE
36 \* E.C. 578757 E.C. E.C. E.C.
37 \*
38 \*\*\*\*\*
39 I4810 START X'2500' START ADDRESS OF ALL 'I' TYPE PROG
40 @QUES EQU X'0100' EQUATED VALUE FOR MDI STATEMENT
41 @FLXT EQU X'0101' EQUATED VALUE FOR MDI STATEMENT
42 @STOP EQU X'0102' EQUATED VALUE FOR MDI STATEMENT
43 @GOTO EQU X'0200' EQUATED VALUE FOR MDI STATEMENT
44 @CALL EQU X'0201' EQUATED VALUE FOR MDI STATEMENT
45 @INFT EQU X'0300' EQUATED VALUE FOR MDI STATEMENT
46 @QUXX EQU X'0400' EQUATED VALUE FOR MDI STATEMENT
47 @TUXX EQU X'0500' EQUATED VALUE FOR MDI STATEMENT
48 @NVL D EQU X'0600' EQUATED VALUE FOR MDI STATEMENT
49 EQ EQU X'0000' EQUATE FOR EQUAL
50 NE EQU X'0001' EQUATE FOR NOT EQUAL
51 HI EQU X'0008' EQUATE FOR HIGH
52 NH EQU X'000C' EQUATE FOR NOT HIGH
53 LO EQU X'0010' EQUATE FOR LOW
54 NL EQU X'0014' EQUATE FOR NOT LOW
55 LT EQU X'0010' EQUATE FOR LESS THAN
56 LE EQU X'000C' EQUATE FOR LESS THAN OR EQUAL TO
57 GT EQU X'0008' EQUATE FOR GREATER THAN
58 GE EQU X'0014' EQUATE FOR GREATER THAN OR EQUAL TO
59 ON EQU X'0200' EQUATE FOR ON
60 OF EQU X'0202' EQUATE FOR OFF
61 MX EQU X'0204' EQUATE FOR MIXED
62 EBC EQU X'0000' EQUATE FOR EBCDIC DATA TRANSFER
63 HEX EQU X'0001' EQUATE FOR HEX DATA TRANSFER
64 KTRNL EQU X'0001' EQUATE FOR EXTERNAL REFERENCE
65 INTRNL EQU X'0000' EQUATE FOR INTERNAL REFERENCE
66 PARM EQU X'0000' EQUATE INDICATING PARAMETER
67 DA EQU X'0001' EQUATE FOR DEVICE ADDRESS
68 UA EQU X'0002' EQUATE FOR UNIT ADDRESS
69 DUMMY EQU X'0000' DUMMY EQUATE
70 PID EQU \*-X'0000' ADDRESS OF MDI HEADER
71 PTYPE EQU \*-X'22CE' ADDRESS OF PROCESSOR TYPE FIELD
72 STEPNUM EQU PID+X'000C' ADDRESS OF DECIMAL STEP NUMBER
73 CPWD1 EQU PID+X'000E' ADDRESS OF OPTION WORD ONE
74 CPWD2 EQU PID+X'0010' ADDRESS OF OPTION WORD TWO
75 TUSTATUS EQU PID+X'0018' ADDRESS OF TU STATUS WORD
76 TUMASK EQU PID+X'001A' ADDRESS OF TU MASK WORD
77 TUPARM1 EQU PID+X'009A' ADDRESS OF PARM 1 POINTER
78 TUPARM2 EQU PID+X'009C' ADDRESS OF PARM 2 POINTER
79 TUPARM3 EQU PID+X'009E' ADDRESS OF PARM 3 POINTER
80 TUPARM4 EQU PID+X'00A0' ADDRESS OF PARM 4 POINTER
81 TUPARM5 EQU PID+X'00A2' ADDRESS OF PARM 5 POINTER
82 TUPARM6 EQU PID+X'00A4' ADDRESS OF PARM 6 POINTER
83 TUPARM7 EQU PID+X'00A6' ADDRESS OF PARM 7 POINTER
84 TUPARM8 EQU PID+X'00A8' ADDRESS OF PARM 8 POINTER
85 TUPARM9 EQU PID+X'00AA' ADDRESS OF PARM 9 POINTER
86 TUPARM10 EQU PID+X'00AC' ADDRESS OF PARM 10 POINTER
87 TUPARM11 EQU PID+X'00AE' ADDRESS OF PARM 11 POINTER
88 TUPARM12 EQU PID+X'00B0' ADDRESS OF PARM 12 POINTER
89 TUPARM13 EQU PID+X'00B2' ADDRESS OF PARM 13 POINTER
90 TUPARM14 EQU PID+X'00B4' ADDRESS OF PARM 14 POINTER
91 TUPARM15 EQU PID+X'00B6' ADDRESS OF PARM 15 POINTER
92 TUPARM16 EQU PID+X'00B8' ADDRESS OF PARM 16 POINTER
93 TUMSGWTR EQU PID+X'00BA' ADDRESS OF -> TO COMMON MSG WRITER
94 TUA EQU PID+X'00BE' ADDRESS OF UNIT ADDRESS IN EBC
95 TUBUFF EQU PID+X'00C0' ADDRESS OF DEVICE ADDRESS IN EBC
96 TULAST EQU PID+X'00C2' ADDRESS OF LAST USED WORD IN MAP
97 TURESULT EQU PID+X'00C4' ADDRESS OF LAST ADDRESSABLE WORD
98 TURESUL EQU PID+X'00C6' ADDRESS OF LENGTH OF TU RESULTS
99 TURESUL EQU PID+X'00C8' ADDRESS OF TU RESULTS FIELD
100 TURESUL EQU PID+X'00CA' ADDRESS OF MAP NAME FIELD IN HEX
101 TURESUL EQU PID+X'00CC' ADDRESS OF \$INPT DATA
102 TURESUL EQU PID+X'00CE' ADDRESS OF \$INPT INPUT AREA
103 TURESUL EQU PID+X'00D0' MDI POINTER
104 TURESUL EQU PID+X'00D2' MDI POINTER
105 TURESUL EQU PID+X'00D4' ADDRESS OF MDI STATUS
106 TURESUL EQU PID+X'00D6' ADDRESS OF DEVICE ADDRESS TABLE 0
107 TURESUL EQU PID+X'00D8' ADDRESS OF DEVICE ADDRESS TABLE 1
108 TURESUL EQU PID+X'00DA' ADDRESS OF DEVICE ADDRESS TABLE 2
109 TURESUL EQU PID+X'00DC' ADDRESS OF DEVICE ADDRESS TABLE 3
110 TURESUL EQU PID+X'00DE' ADDRESS OF DEVICE ADDRESS TABLE 4
111 TURESUL EQU PID+X'00E0' ADDRESS OF DEVICE ADDRESS TABLE 5
112 TURESUL EQU PID+X'00E2' ADDRESS OF DEVICE ADDRESS TABLE 6
113 TURESUL EQU PID+X'00E4' ADDRESS OF DEVICE ADDRESS TABLE 7
114 TURESUL EQU PID+X'00E6' ADDRESS OF DEVICE ADDRESS TABLE 8
115 TURESUL EQU PID+X'00E8' ADDRESS OF DEVICE ADDRESS TABLE 9
116 TURESUL EQU PID+X'00EA' ADDRESS OF DEVICE ADDRESS TABLE 10
117 TURESUL EQU PID+X'00EC' ADDRESS OF DEVICE ADDRESS TABLE 11
118 TURESUL EQU PID+X'00EE' ADDRESS OF DEVICE ADDRESS TABLE 12
119 TURESUL EQU PID+X'00F0' ADDRESS OF DEVICE ADDRESS TABLE 13
120 TURESUL EQU PID+X'00F2' ADDRESS OF DEVICE ADDRESS TABLE 14
121 TURESUL EQU PID+X'00F4' ADDRESS OF DEVICE ADDRESS TABLE 15
122 TURESUL EQU PID+X'00F6' ADDRESS OF DEVICE ADDRESS TABLE 16
123 TURESUL EQU PID+X'00F8' ADDRESS OF DEVICE ADDRESS TABLE 17
124 TURESUL EQU PID+X'00FA' ADDRESS OF DEVICE ADDRESS TABLE 18
125 TURESUL EQU PID+X'00FC' ADDRESS OF DEVICE ADDRESS TABLE 19
126 TURESUL EQU PID+X'00FE' ADDRESS OF DEVICE ADDRESS TABLE 20

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
002500 27B0
201 DC A(ENTPT) POINT TO MAP ENTRY POINT TABLE
202 \*\*\*\*\*
203 \*\*\*\*\*
204 \*\*\*\*\*
205 \*\* THE FOLLOWING TABLES ARE USED BY THE MDI SUPERVISOR (D3C00) \*\*
206 \*\* TO LOCATE THE CORRECT RULE TO INVOKE, TO OBTAIN THE PROPER \*\*
207 \*\* PARAMETERS TO PASS TO THE TU'S AND TO PASS TO THE OPERATOR \*\*
208 \*\* THE INDICATED MESSAGE(S). THERE ARE FOUR TABLES USED FOR THIS \*\*
209 \*\* PURPOSE THEY ARE: \*\*
210 \*\*
211 \*\* STEP AND RULE ADDRESS TABLE \*\*
212 \*\* THIS TABLE GIVES THE ADDRESS OF THE RULE TO INVOKE AND \*\*
213 \*\* THE ASSOCIATED STEP DECIMAL STEP NUMBER OF THAT RULE. \*\*
214 \*\* ENTRIES ARE AS FOLLOWS: \*\*
215 \*\* A) AN ADDRESS OF THE RULE DC START AREA \*\*
216 \*\* B) THE STEP NUMBER IN DECIMAL \*\*
217 \*\* C) AN EQUATE FOR THE STEP NUMBER \*\*
218 \*\*
219 \*\* RULE INFORMATION TABLE \*\*
220 \*\* THIS TABLE CONTAINS THE REQUIRED INFORMATION TO EXECUTE \*\*
221 \*\* THE APPROPRIATE RULE UNDER MDI. EACH RULE HAS ITS OWN \*\*
222 \*\* UNIQUELY DEFINED AREA INDICATED BELOW. END OF TABLE IS \*\*
223 \*\* INDICATED WITH A X'0000' FOR THE RULE EQUATE. \*\*
224 \*\*
225 \*\* \$QUES \*\*
226 \*\* A) RULE EQUATE X'0100' \*\*
227 \*\* B) ADDRESS OF THE YES LEG RULE \*\*
228 \*\*
229 \*\* \$FIXT \*\*
230 \*\* A) RULE EQUATE X'0101' \*\*
231 \*\* B) ADDRESS OF MESSAGE TO PRINT \*\*
232 \*\*
233 \*\* \$STOP \*\*
234 \*\* A) RULE EQUATE X'0102' \*\*
235 \*\* B) ADDRESS OF MESSAGE \*\*
236 \*\*
237 \*\* \$GOTO \*\*
238 \*\* A) RULE EQUATE X'0200' \*\*
239 \*\* B) ADDRESS OF MESSAGE \*\*
240 \*\* C) NAME OF MAP TO GO TO \*\*
241 \*\* D) ENTRY POINT WITHIN GO TO MAP TO USE \*\*
242 \*\* E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE \*\*
243 \*\*
244 \*\* \$CALL \*\*
245 \*\* A) RULE EQUATE X'0201' \*\*
246 \*\* B) ADDRESS OF MESSAGE \*\*
247 \*\* C) NAME OF MAP TO CALL \*\*
248 \*\* D) ENTRY POINT WITHIN CALLED MAP TO USE \*\*
249 \*\* E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE \*\*
250 \*\*
251 \*\* \$INFT \*\*
252 \*\* A) RULE EQUATE X'0300' \*\*
253 \*\* B) INPUT TYPE (EBCDIC OR HEX) \*\*
254 \*\* C) ADDRESS OF YES LEG RULE \*\*
255 \*\* D) DESTINATION LOCATION OF INPUT DATA \*\*
256 \*\* E) LENGTH OF INPUT DATA \*\*
257 \*\* F) LOWER LIMIT OF GOOD DATA \*\*
258 \*\* G) HIGHER LIMIT OF GOOD DATA \*\*
259 \*\*
260 \*\* \$QUXX \*\*
261 \*\* A) RULE EQUATE X'0400' \*\*
262 \*\* B) ADDRESS OF YES LEG RULE \*\*
263 \*\* C) TU BRANCH TO ADDRESS (INITIAL) \*\*
264 \*\* D) TU BRANCH TO ADDRESS (SECONDARY) \*\*
265 \*\* E) LENGTH OF PARAMETER IN BYTES \*\*
266 \*\* F) PARAMETER TO PASS TO TU \*\*
267 \*\* G) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER \*\*
268 \*\*
269 \*\* \$TUXX \*\*
270 \*\* A) RULE EQUATE X'0500' \*\*
271 \*\* B) ADDRESS OF YES LEG RULE \*\*
272 \*\* C) TU BRANCH TO ADDRESS \*\*
273 \*\* D) TYPE OF COMPARE TO MAKE ON RESULTS \*\*
274 \*\* E) LENGTH OF COMPARED RESULTS \*\*
275 \*\* F) MASK FIELD FOR COMPARE \*\*
276 \*\* G) LENGTH OF PARAMETER IN BYTES \*\*
277 \*\* H) PARAMETER TO PASS TO THE TU \*\*
278 \*\* I) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER \*\*
279 \*\*
280 \*\* \$NVL D \*\*
281 \*\* A) RULE EQUATE X'0600' \*\*
282 \*\*
283 \*\* ENTRY POINT TABLE \*\*
284 \*\* THIS TABLE CONTAINS THE ENTRY POINTS WITHIN THE MAP THAT \*\*
285 \*\* THE MAP CAN BE ENTERED FROM THESE ENTRY POINTS ARE \*\*
286 \*\* REFERENCED BY NAME AND ADDRESS. ENTRIES ARE AS FOLLOWS: \*\*
287 \*\*
288 \*\* A) NAME OF ENTRY POINT \*\*
289 \*\* B) ADDRESS OF ENTRY POINT RULE TABLE \*\*
290 \*\*
291 \*\* THE ENTRY POINT TABLE END IS INDICATED BY A X'0000' \*\*
292 \*\*
293 \*\* MESSAGE TABLE \*\*
294 \*\* THIS TABLE CONTAINS THE MESSAGE PASSED TO THE OPERATOR \*\*
295 \*\* VIA THE MDI SUPERVISOR. THE TABLE IS AS FOLLOWS: \*\*
296 \*\*
297 \*\* A) EQUATE FOR START OF MESSAGE BLOCK \*\*
298 \*\* B) NUMBER OF LINES OF MESSAGE \*\*
299 \*\* C) LENGTH OF FOLLOWING LINE \*\*
300 \*\* D) FIRST LINE OF MESSAGE \*\*
301 \*\* E) LENGTH OF FOLLOWING LINE \*\*
302 \*\* F) SECOND LINE OF MESSAGE \*\*
303 \*\* G) ETC. \*\*
304 \*\*
305 \*\* \*\*\*\*\* \*\*
306 \*\* \*\*\*\*\* \*\*
307 \*\* \*\*\*\*\* \*\*
308 \*\* \*\*\*\*\* \*\*

Table with columns: LOCTR, OBJECT TEXT, STMT, SOURCE STATEMENT. Contains assembly code for STEP AND RULE ADDRESS TABLE, including instructions like EQU, DC, AL2, and XL2 with various addresses and labels.

Table with columns: LOCTR, OBJECT TEXT, STMT, SOURCE STATEMENT. Contains assembly code for RULE INFORMATION TABLE, including instructions like EQU, DC, AL2, and XL2 with various addresses and labels, and macro definitions like \$QUES and \$FIXT.

I4810 --- DISKETTE UNIT DEVICE P/N=1635075 EC=578757 PAGE 03  
 LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976

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002632 0200 543+ DC AL2(ON)
002634 0001 544+ DC AL2(01)
002636 30 545+ DC X'30'
002637 00 546+ ALIGN WORD
002638 0000 547+ DC AL2(0)
00263A C1C1 548+ DC C'AA'
549+ ALIGN WORD
550+ DC AL2(PARMARA)
00263E 196E 551+ N00011 $FIXT FT=(F00083),GTO=((4800,A))
552+ N00011 DC A(FIXT)
553+ DC A(F00083)
554+ N00012 $GOTO TYPE=INTRNL,EP=B,FT=(F00087),GTO=(N00013)
555+ N00012 DC A(@GOTO)
002642 0200 556+ DC A(F00087)
002644 2824 557+ DC CL4'3C00'
002646 F3C3F0F0 558+ DC CL2'B'
00264A C240 559+ DC AL2(INTRNL)
00264C 0000 560+ N00013 $TUXX T4852,01,00,EQ,PLNG=2,PARM=4C,QT=(Q00090),YES=N00015, X
561+ N00013 DC A(@TUXX)
562+ DC AL2(N00015)
563+ DC A(T4852)
564+ DC AL2(EQ)
565+ DC AL2(0)
566+ DC X'00'
567+ ALIGN WORD
00265A U002 568+ DC AL2(2)
00265C F4C3 569+ DC C'4C'
570+ ALIGN WORD
571+ DC AL2(PARMARA)
572+ N00014 $NVLD FT=(F00093)
573+ N00014 DC A(@NVLD)
574+ N00015 $QUXX T4855,PLNG=5,PARM=00/00,QT=(Q00102),YES=N00017, X
575+ N00015 DC A(@QUXX)
576+ DC AL2(N00017)
577+ DC A(T4855)
578+ DC AL2(DUMMY)
579+ DC AL2(5)
580+ DC C'00/00'
581+ ALIGN WORD
582+ DC AL2(PARMARA)
583+ N00016 $FIXT FT=(F00104),CT=(C00025)
584+ N00016 DC A(@FIXT)
585+ DC A(F00104)
586+ N00017 $QUXX T4855,PLNG=5,PARM=00/00,QT=(Q00116),YES=N00019, X
587+ N00017 DC A(@QUXX)
588+ DC AL2(N00019)
589+ DC A(T4855)
590+ DC AL2(DUMMY)
591+ DC AL2(5)
592+ DC C'00/00'
593+ ALIGN WORD
594+ DC AL2(PARMARA)
595+ N00018 $EIXT FT=(F00118),CT=(C00025)
596+ N00018 DC A(@EIXT)
597+ DC A(F00118)
598+ N00019 $QUXX T4854,PLNG=8,PARM=4C/4C/4C,QT=(Q00133),YES=N00025, X
599+ N00019 DC A(@QUXX)
600+ DC AL2(N00025)
601+ DC A(T4854)
602+ DC AL2(DUMMY)
603+ DC AL2(8)
604+ DC C'4C/4C/4C'
605+ ALIGN WORD
606+ DC AL2(PARMARA)
607+ N00020 $QUXX T4854,PLNG=8,PARM=4C/4C/4C,QT=(Q00136),YES=N00022, X
608+ N00020 DC A(@QUXX)
609+ DC AL2(N00022)
610+ DC A(T4854)
611+ DC AL2(DUMMY)
612+ DC AL2(8)
613+ DC C'4C/4C/4C'
614+ ALIGN WORD
615+ DC AL2(PARMARA)
616+ N00021 $FIXT FT=(F00141),CT=(C00025)
617+ N00021 DC A(@FIXT)
618+ DC A(F00141)
619+ N00022 $QUES QT=(Q00149),YES=N00024,CT=(C00146)
620+ N00022 DC A(@QUES)
621+ DC AL2(N00024)
622+ N00023 $FIXT FT=(F00151),CT=(C00025)
623+ N00023 DC A(@FIXT)
624+ DC A(F00151)
625+ N00024 $FIXT FT=(F00155),CT=(C00025)
626+ N00024 DC A(@FIXT)
627+ DC A(F00155)
628+ N00025 $QUES QT=(Q00004),YES=N00027,CT=(C00160)
629+ N00025 DC A(@QUES)
630+ DC AL2(N00027)
631+ N00026 $GOTO TYPE=XTRNL,MAP=4802,EP=A,FT=(F00166),GTO=((4802,A))
632+ N00026 DC A(@GOTO)
633+ DC A(F00166)
634+ DC CL4'4802'
635+ DC CL2'A'
636+ DC AL2(XTRNL)
637+ N00027 $QUES QT=(Q00172),YES=N00029,CT=(C00169)
638+ N00027 DC A(@QUES)
639+ DC AL2(N00029)
640+ N00028 $GOTO TYPE=XTRNL,MAP=4802,EP=A,FT=(F00175),GTO=((4802,A))
641+ N00028 DC A(@GOTO)
642+ DC A(F00175)
643+ DC CL4'4802'
644+ DC CL2'A'
645+ DC AL2(XTRNL)
646+ N00029 $QUES QT=(Q00004),YES=N00031,CT=(C00178)
647+ N00029 DC A(@QUES)
648+ DC AL2(N00031)
649+ N00030 $GOTO TYPE=XTRNL,MAP=4802,EP=A,FT=(F00184),GTO=((4802,A))
650+ N00030 DC A(@GOTO)
651+ DC A(F00184)
652+ DC CL4'4802'
653+ DC CL2'A'
654+ DC AL2(XTRNL)
655+ N00031 $FIXT FT=(F00261)
656+ N00031 DC A(@FIXT)
657+ DC A(F00261)
658+ N00032 $GOTO TYPE=INTRNL,EP=C,FT=(F00187),GTO=(N00033)

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0026FA 0200 659+ N00032 DC A(@GOTO)
0026FC 2A66 660+ DC A(F00187)
0026FE F3C3F0F0 661+ DC CL4'3C00'
002702 C340 662+ DC CL2'C'
002704 0000 663+ DC AL2(INTRNL)
664+ N00033 $TUXX T4852,01,00,EQ,PLNG=2,PARM=4C,QT=(Q00190),YES=N00035, X
665+ N00033 DC A(@TUXX)
002706 0500 666+ DC AL2(N00035)
002708 271A 667+ DC A(T4852)
00270A 2DC6 668+ DC AL2(EQ)
00270C 0000 669+ DC AL2(0)
00270E 0001 670+ DC X'00'
002710 00 671+ ALIGN WORD
002712 0002 672+ DC AL2(2)
002714 F4C3 673+ DC C'4C'
674+ ALIGN WORD
675+ DC AL2(PARMARA)
676+ N00034 $NVLD FT=(F00193)
677+ N00034 DC A(@NVLD)
678+ N00035 $QUXX T4855,PLNG=5,PARM=00/00,QT=(Q00204),YES=N00039, X
679+ N00035 DC A(@QUXX)
680+ DC AL2(N00039)
681+ DC A(T4855)
682+ DC AL2(DUMMY)
683+ DC AL2(5)
684+ DC C'00/00'
685+ ALIGN WORD
686+ DC AL2(PARMARA)
687+ N00036 $QUXX T4855,PLNG=5,PARM=00/00,QT=(Q00207),YES=N00038, X
688+ N00036 DC A(@QUXX)
689+ DC AL2(N00038)
690+ DC A(T4855)
691+ DC AL2(DUMMY)
692+ DC AL2(5)
693+ DC C'00/00'
694+ ALIGN WORD
695+ DC AL2(PARMARA)
696+ N00037 $FIXT FT=(F00211)
697+ N00037 DC A(@FIXT)
698+ DC A(F00211)
699+ N00038 $GOTO TYPE=INTRNL,EP=D,FT=(F00215),GTO=(N00042)
700+ N00038 DC A(@GOTO)
701+ DC A(F00215)
702+ DC CL4'3C00'
703+ DC CL2'D'
704+ DC AL2(INTRNL)
705+ N00039 $QUXX T4855,PLNG=5,PARM=11/00,QT=(Q00223),YES=N00047, X
706+ N00039 DC A(@QUXX)
707+ DC AL2(N00047)
708+ DC A(T4855)
709+ DC AL2(DUMMY)
710+ DC AL2(5)
711+ DC C'11/00'
712+ ALIGN WORD
713+ DC AL2(PARMARA)
714+ N00040 $QUXX T4855,PLNG=5,PARM=11/00,QT=(Q00225),YES=N00042, X
715+ N00040 DC A(@QUXX)
716+ DC AL2(N00042)
717+ DC A(T4855)
718+ DC AL2(DUMMY)
719+ DC AL2(5)
720+ DC C'11/00'
721+ ALIGN WORD
722+ DC AL2(PARMARA)
723+ N00041 $FIXT FT=(F00229)
724+ N00041 DC A(@FIXT)
725+ DC A(F00229)
726+ N00042 $QUES QT=(Q00237),YES=N00044,CT=(C00233)
727+ N00042 DC A(@QUES)
728+ DC AL2(N00044)
729+ N00043 $GOTO TYPE=XTRNL,MAP=4802,EP=A,FT=(F00240),GTO=((4802,A))
730+ N00043 DC A(@GOTO)
731+ DC A(F00240)
732+ DC CL4'4802'
733+ DC CL2'A'
734+ DC AL2(XTRNL)
735+ N00044 $QUES QT=(Q00004),YES=N00046,CT=(C00243)
736+ N00044 DC A(@QUES)
737+ DC AL2(N00046)
738+ N00045 $GOTO TYPE=XTRNL,MAP=4802,EP=A,FT=(F00249),GTO=((4802,A))
739+ N00045 DC A(@GOTO)
740+ DC A(F00249)
741+ DC CL4'4802'
742+ DC CL2'A'
743+ DC AL2(XTRNL)
744+ N00046 $FIXT FT=(F00263)
745+ N00046 DC A(@FIXT)
746+ DC A(F00263)
747+ N00047 $QUES QT=(Q00004),YES=N00049,CT=(C00252)
748+ N00047 DC A(@QUES)
749+ DC AL2(N00049)
750+ N00048 $GOTO TYPE=XTRNL,MAP=4802,EP=A,FT=(F00258),GTO=((4802,A))
751+ N00048 DC A(@GOTO)
752+ DC A(F00258)
753+ DC CL4'4802'
754+ DC CL2'A'
755+ DC AL2(XTRNL)
756+ N00049 $FIXT FT=(F00265)
757+ N00049 DC A(@FIXT)
758+ DC A(F00265)
759+ DC AL2(DUMMY)
760+ ENTP EQU *
761+ *****
762+ *****
763+ **
764+ **
765+ **
766+ **
767+ **
768+ *****
769+ *****
770+ *****
771+ *****
772+ *****
773+ *****
774+ *****

```

ENTRY POINT TABLE

```

ENTPI EP=A,STEP=00001
DC CL2'A'
DC A(N00001)
ENTPI EP=B,STEP=00013
DC CL2'B'
DC A(N00013)
ENTPI EP=C,STEP=00033

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
0027B8 C340 775+ DC CL2\*CI
0027BA 2706 776+ DC A(N00033)
0027BC C440 777+ EMTPT EF=D,STEP=00042
0027BE 2776 778+ DC CL2\*CI
0027C0 0000 779+ DC A(N00042)
780 DC AL2(DUMMMY)
781 \*\*\*\*\*
782 \*\*\*\*\*
783 \*\*
784 \*\*
785 \*\*
786 \*\*\*\*\*
787 \*\*\*\*\*
788 F00047 EQU \*
789 DC AL2(0001)
790 DC A(0008)
791 DC CL0008'EXTERNAL'
792 F00057 EQU \*
793 DC AL2(0001)
794 DC A(0008)
795 DC CL0008'EXTERNAL'
796 F00064 EQU \*
797 DC AL2(0001)
798 DC A(0008)
799 DC CL0008'EXTERNAL'
800 F00083 EQU \*
801 DC AL2(0002)
802 DC A(0046)
803 DC CL0046'RUN DISKETTE UNIT DIAGNOSTIC TEST AGAIN. LOAD '
804 DC A(0010)
805 DC CL0010'MAP 4800. '
806 F00087 EQU \*
807 DC AL2(0001)
808 DC A(0008)
809 DC CL0008'INTERNAL'
810 F00093 EQU \*
811 DC AL2(0001)
812 DC A(0038)
813 DC CL0038'--NO-- IS NOT VALID, GO TO NEXT STEP. '
814 F00104 EQU \*
815 DC AL2(0003)
816 DC A(0044)
817 DC CL0044'CHECK FAILING LINES ON ATTACHMENT CABLE FOR '
818 DC A(0042)
819 DC CL0042'AN OPEN OR SHORT CIRCUIT. IF NONE, REPLACE'
820 DC A(0020)
821 DC CL0020'THE ATTACHMENT CARD.'
822 F00118 EQU \*
823 DC AL2(0003)
824 DC A(0040)
825 DC CL0040'CHECK DISKETTE UNIT CABLE ASSEMBLY FOR A'
826 DC A(0042)
827 DC CL0042'SHOET CIRCUIT OR AN OPEN. IF NONE, REPLACE'
828 DC A(0042)
829 DC CL0042'THE DRIVE CONTROL CARD. SEE MIM PARA A3.14'
830 F00141 EQU \*
831 DC AL2(0003)
832 DC A(0046)
833 DC CL0046'CHECK FAILING LINES ON ATTACHMENT CARD FOR AN '
834 DC A(0042)
835 DC CL0042'OPEN OR SHORT CIRCUIT. IF NONE REPLACE THE'
836 DC A(0014)
837 DC CL0014'ATTACH. CARD. '
838 F00151 EQU \*
839 DC AL2(0001)
840 DC A(0042)
841 DC CL0042'REPLACE THE DISKETTE UNIT CABLE ASSEMBLY. '
842 F00155 EQU \*
843 DC AL2(0002)
844 DC A(0040)
845 DC CL0040'REPLACE THE DRIVE CONTROL CARD. SEE MIM '
846 DC A(0016)
847 DC CL0016'PARAGRAPH A3.14.'
848 F00166 EQU \*
849 DC AL2(0001)
850 DC A(0008)
851 DC CL0008'EXTERNAL'
852 F00175 EQU \*
853 DC AL2(0001)
854 DC A(0008)
855 DC CL0008'EXTERNAL'
856 F00184 EQU \*
857 DC AL2(0001)
858 DC A(0008)
859 DC CL0008'EXTERNAL'
860 F00261 EQU \*
861 DC AL2(0001)
862 DC A(0020)
863 DC CL0020'GO TO FREELANCE MODE'
864 F00187 EQU \*
865 DC AL2(0001)
866 DC A(0008)
867 DC CL0008'INTERNAL'
868 F00193 EQU \*
869 DC AL2(0001)
870 DC A(0036)
871 DC CL0036'--NO--IS NOT VALID, GO TO NEXT STEP.'
872 F00211 EQU \*
873 DC AL2(0003)
874 DC A(0042)
875 DC CL0042'CHECK DISKETTE UNIT ATTACHMENT CABLE, THEN'
876 DC A(0042)
877 DC CL0042'REPLACE THE ATTACHMENT CARD. RUN WRITE MAP'
878 DC A(0006)
879 DC CL0006'AGAIN.'
880 F00215 EQU \*
881 DC AL2(0001)
882 DC A(0008)
883 DC CL0008'INTERNAL'
884 F00229 EQU \*
885 DC AL2(0003)
886 DC A(0042)
887 DC CL0042'CHECK DISKETTE UNIT ATTACHMENT CABLE, THEN'
888 DC A(0042)
889 DC CL0042'REPLACE THE ATTACHMENT CARD. RUN WRITE MAP'
890 DC A(0006)

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002B64 C1C7C1C9D54B 891 DC CL0006'AGAIN.'
002B6A 0001 F00240 EQU \*
002B6A 0008 DC AL2(0001)
002B6E C5E7E3C5D9D5C1D3 894 DC A(0008)
002B76 0001 F00249 EQU \*
002B76 0008 DC AL2(0001)
002B7A C5E7E3C5D9D5C1D3 898 DC A(0008)
002B82 0001 F00263 EQU \*
002B82 0014 DC AL2(0001)
002B86 C7D640E3D640C6D9C 902 DC A(0020)
002B9A 0001 F00258 EQU \*
002B9A 0008 DC AL2(0001)
002B9E C5E7E3C5D9D5C1D3 905 DC A(0008)
002BA6 0001 F00265 EQU \*
002BA6 0016 DC AL2(0001)
002BA8 C7D640E3D640C6D9C 909 DC A(0022)
002BAA 910 DC CL0022'GO TO FREELANCE MODE. '
911 DC
912 HDIT 0106
914+CPTN1 DC X'0000' PROGRAM OPTION CONTROL WORD 1
915\*\*
916+QPIN2 DC X'0000' PROGRAM OPTION CONTROL WORD 2
00010 EQU 16 BIT HEX
00011 EQU 17 1 4
00012 EQU 18 2 2
00013 EQU 19 3 1
00014 EQU 20 4 8
00015 EQU 21 5 4
00016 EQU 22 6 2
00017 EQU 23 7 1
00018 EQU 24 8 8
00019 EQU 25 9 4
0001A EQU 26 10 2
0001B EQU 27 11 1
0001C EQU 28 12 8
0001D EQU 29 13 4
0001E EQU 30 14 2
0001F EQU 31 15 1
0001E EQU 30 14 2 CHARACTER SUPPLIED
0001F EQU 31 15 1 COMPARE OPERATION
002BC4 0000 937+OPIN3 DC X'0000' PROGRAM OPTION CONTROL WORD 3
938\*\*
939\*\* 0 MYSTERY INTERRUPT MI 8 CS STATUS IN PROGRESS CS
940\*\* 1 ERROR INTERRUPT ER 9 CS AVAILABLE CSA
941\*\* 2 EXPECTED INTERRUPT XI 10 CS STATUS INTERRUPT ERR CE
942\*\* 3 INTERRUPT RECEIVED IN 11 ISB BITS ON (1-7) ISBON
943\*\*
944\*\* 4 EXPECTED ERR/ATTENT XE 12 TEST UNIT RESULTS VOID NG
945\*\* 5 HARD ERROR FOUND HE 13 OIO CC ERROR IOCC
946\*\* 6 WRONG INTR LEVEL \$LE 14 NO INTERRUPT NOIN
947\*\* 7 NO INTR EXPECTED NI 15 INTERRUPT CC ERROR INCC
948\*\*
949+MI EQU 32 0 8
950+ER EQU 33 1 4
951+XI EQU 34 2 2
952+IN EQU 35 3 1
953+XE EQU 36 4 8
954+HE EQU 37 5 4
955+\$LE EQU 38 6 2
956+NI EQU 39 7 1
957+CS EQU 40 8 8
958+CSA EQU 41 9 4
959+CE EQU 42 10 2
960+ISBON EQU 43 11 1
961+NG EQU 44 12 8
962+IOCC EQU 45 13 4
963+NCIN EQU 46 14 2
964+INCC EQU 47 15 1
965\*\*
967\*\* COMMON BUFFER FOR PRINTING DATA
969+\$TUID DC A(\*-\*) TEST UNIT IDENTIFICATION
970+\$I0IN DC A(\*-\*) I/O AND INTR CONDITION CODES
971+\$ISB DC A(\*-\*) R7 INTR STATUS BYTE & DEV ADRS
972+\$LSTIC DC A(\*-\*) ADRS OF LAST I/O + 4 BYTES
973+\$DEV1 DC A(\*-\*) DEVICE DEPENDENT DATA
974+\$DEV2 DC A(\*-\*)
975+\$DEV3 DC A(\*-\*)
976+\$DEV4 DC A(\*-\*)
977+\$SCTID EQU DEV1
978+\$DCBUF EQU \*
979+\$DCB1 DC A(\*-\*)
980+\$DCB2 DC A(\*-\*)
981+\$DCB3 DC A(\*-\*)
982+\$DCB4 DC A(\*-\*)
983+\$DCB5 DC A(\*-\*)
984+\$DCB6 DC A(\*-\*)
985+\$DCB7 DC A(\*-\*)
986+\$DCB8 DC A(\*-\*)
987\*\*
988+\$SBUF EQU \*
989+\$STL1 DC A(\*-\*)
990+\$STL2 DC A(\*-\*)
991+\$STL3 DC A(\*-\*)
992+\$STL4 DC A(\*-\*)
993+\$STL5 DC A(\*-\*)
994+\$STL6 DC A(\*-\*)
995+\$STL7 DC A(\*-\*)
996+\$STL8 DC A(\*-\*)
997\*\*
998+\$SUBN DC A(\*-\*)
999+\$DATA DC 2A(\*-\*)
1000+\$INTL DC X'0021'
1001+\$IURTN DC A(\*-\*)
1002+\$DVID DC X'0106'
1003+\$VVAL DC A(DEVADD)
1004\*\*
1005\*\*
1006\*\* THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
1007\*\* FUNCTION. THE RESULTS THAT WERE SET UP IN THE RESULTS AREA ARE
1008\*\* STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
1009\*\*

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002C06 4020 2BC6 3C02 1010+T3C02 MVWI X'3C02', $TUID SET UP TEST UNIT ID
002C0C 5700 1011+ BXS (R7) RETURN TO MDI SUPVR
1013 COPY COMEQU
1014 *****
1015 *
1016 * EQUATED NAMES FOR SUPPORTED SVC'S
1017 *
1018 *****
1019 OUT EQU 0 OUT SVC
1020 OUTIN EQU 1 OUTIN SVC
1021 IDLE EQU 2 IDLE SVC
1022 ASCII EQU 3 HEX TO ASCII SVC
1023 CHNGE EQU 4 CHANGE LEVEL SVC
1024 PGMCK EQU 5 ALLOW RETURN ON PROGRAM CHECK SVC
1025 EXIT EQU 6 EXIT SVC
1026 TERM EQU 7 TERMINATE SVC
1027 RESET EQU 8 RESET DEVICE SVC
1028 RID EQU 9 READ ID SVC
1029 START EQU 10 START CYCLE STEAL SVC
1030 SICSS EQU 11 START CYCLE STEAL STATUS SVC
1031 PREP EQU 12 PREPARE DEVICE SVC
1032 READ EQU 13 READ WITH FUNCTION BIT 3 OFF SVC
1033 READ1 EQU 14 READ WITH FUNCTION BIT 3 ON SVC
1034 RSTAT EQU 15 READ STATUS SVC
1035 WRIT0 EQU 16 WRITE WITH FUNCTION BIT 3 OFF SVC
1036 WRIT1 EQU 17 WRITE WITH FUNCTION BIT 3 ON SVC
1037 CTRL EQU 18 CONTROL SVC
1038 RIBC EQU 19 RELEASE INTERRUPT CONTROL BLOCK SVC
1039 CICB EQU 20 CONNECT INTERRUPT CONTROL BLOCK SVC
1040 HIO EQU 21 HALT ALL I/O
1041 REQSD EQU 22 REQUEST USE OF DCP DISK SVC
1042 REISD EQU 23 RELEASE USE OF DCP DISK SVC
1043 HALT EQU 24 HALT SVC
1044 EBCD EQU 25 EBCDIC TO HEX SVC (STRING)
1045 HTOE EQU 26 HEX TO EBCDIC SVC (STRING)
1046 ATOH EQU 27 ASCII TO HEX SVC (STRING)
1047 HTOA EQU 28 HEX TO ASCII SVC (STRING)
1048 ETOA EQU 29 EBCDIC TO ASCII SVC (STRING)
1049 ATOE EQU 30 ASCII TO EBCDIC SVC (STRING)
1050 READI EQU 31 READ DATA SETS FOR MDI/UTIL
1051 WRITI EQU 32 WRITE DATA SETS FOR UTIL
1053 *****
1054 *
1055 * EQUATES USED BY TU'S AS CONSTANTS
1056 *
1057 *****
1058 PLUS EQU C+1 PLUS CHAR
1059 MINUS EQU C-1 MINUS CHAR
1061 ZERO EQU 0
1062 ONE EQU 1
1063 TWO EQU 2
1064 THREE EQU 3
1065 FOUR EQU 4
1066 FIVE EQU 5
1067 SIX EQU 6
1068 SEVEN EQU 7
1069 EIGHT EQU 8
1070 NINE EQU 9
1071 TEN EQU 10
1072 ELEVN EQU 11
1073 TWELV EQU 12
1074 THRTE EQU 13
1075 FIVTN EQU 15
1076 SIXT4 EQU 16
1077 THRY2 EQU 32
1078 SIXT4 EQU 64
1079 CNE28 EQU 128
1080 TWS6 EQU 256
1081 ONK EQU 1024
1082 TWOK EQU 2048
1083 THREK EQU 3072
1084 FOURK EQU 4096
1086 M1 EQU -1
1087 M2 EQU -2
1088 M3 EQU -3
1089 M4 EQU -4
1091 *****
1092 *
1093 * THE FOLLOWING ARE EQUATES FOR BIT DISPLACEMENTS FROM THE *
1094 * BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES. *
1095 *
1096 *****
1097 BS0 EQU 0
1098 BS1 EQU 1
1099 BS2 EQU 2
1100 BS3 EQU 3
1101 BS4 EQU 4
1102 BS5 EQU 5
1103 BS6 EQU 6
1104 BS7 EQU 7
1105 BS8 EQU 8
1106 BS9 EQU 9
1107 BS10 EQU 10
1108 BS11 EQU 11
1109 BS12 EQU 12
1110 BS13 EQU 13
1111 BS14 EQU 14
1112 BS15 EQU 15
1114 COPY T4850
1115 T4850 TUIT $ERR$
1116 *****06FEB76**
1117 *
1118 * TEST UNIT
1119 *
1120 * FILE WRITE TEST #1 3/11/76
1121 *
1122 * PURPOSE
1123 *
1124 * DETERMINE THE FOLLOWING:
1125 * 1. TEST WHETHER WRITE ERRORS OCCUR ON ONLY ONE HEAD
1126 *
1127 * CALLING SEQUENCE
1128 *
1129 * PERFORM-THE FOLLOWING:
1130 * 1. RECALIBRATE.
1131 * 2. SEEK TO TRACK 76.

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1132** 3. SELECT HEAD ZERO.
1133** 4. ISSUE FORMAT COMMAND N=2.
1134** 5. ISSUE A READ VERIFY COMMAND.
1135** 6. VERIFY AND INDICATE IF THERE WERE READ ERRORS.
1136** 7. REFORMAT IF NO ERRORS TO N=1.
1137** 8. REPEAT ABOVE USING HEAD ONE.
1138**
1139** PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1140** TURESUL BIT 0---READ ERRORS ON HEAD0 N=2
1141** TURESUL BIT 1---READ ERRORS ON HEAD1 N=2
1142** TURESUL BIT 2---READ ERRORS ON HEAD0 N=1
1143** TURESUL BIT 3---READ ERRORS ON HEAD1 N=1
1144** TURESUL BIT 4---ERASE CURRENT ERROR
1145** TURESUL BIT 5---NOT USED
1146** TURESUL BIT 6---NOT USED
1147** TURESUL BIT 7---NOT USED
1148** TURESUL BIT 8---NOT USED
1149** TURESUL BIT 9---NOT USED
1150** TURESUL BIT 10---NOT USED
1151** TURESUL BIT 11---NOT USED
1152** TURESUL BIT 12---NOT USED
1153** TURESUL BIT 13---NOT USED
1154** TURESUL BIT 14---NOT USED
1155** TURESUL BIT 15---NOT USED
1156** TURESUL BIT 16-31 CYCLE STEAL STATUS FOR HEAD ZERO
1157** TURESUL BIT 32-47 CYCLE STEAL STATUS FOR HEAD ONE
1158**
1159** RETURN CONTROL
1160**
1161** B TURTN* RETURN TO MDI SUPERVISOR
1162**
1163*****
1164**T4850 MVW R7 TURTN SAVE RETURN ADDRESS
1165** MVWI X'4850', $TUID SAVE TU ID FOR DISPLAY
1166** MVA OPT1, R4 SET UP POINTER ADRS IN R4
1167** BBL $CONC, R5 CLEAR DEV DEF STG AND CONNECT I/O BL
1168** DC A($ERR$) ERROR ADRS FOR INVALID PREP
1169**
1170 MVWZ TURESUL, R2 CLEAR RESULTS WORD
1171 MVWZ TURESUL+2, R2 CLEAR RESULTS WORD 2
1172 MVWZ TURESUL+4, R2 CLEAR RESULTS WORD 3
1173 MVW TUBUFF, R0 GET ADDRESS OF FIRST UNUSED STOR POS
1174 MVA TURESUL, R2
1175 MVW R0, VRDCB+14 LOAD BUFFER ADDRESS IN VERIFY DCB
1176 MVWI X'5000', R0 DELAY TO GET BY BUSY AFTER RESET
1177 JCT
1178 BAL $RCL, R6 RECALIBRATE
1179 DC A($ERR$) ERROR
1180 TBTR (R4, ER) CHECK FOR CC ERROR
1181 BON $ERR$ ERROR
1182 MVWI X'0005', SKDCB SEEK CONTROL WORD - NO CHAINING
1183 MVWI 76, SKDCB+2 SEEK TO TRACK 76, SELECT HEAD ZERO
1184 MVWI 0, SKDCB+8 HEAD SELECT (NEW ARCH)
1185 EAL $SEEK, R6 SEEK
1186 DC A($ERR$) ERROR
1187 TBTR (R4, ER) CHECK FOR CC ERROR
1188 BON $ERR$ ERROR
1189 MVWI 0, SIDE SET UP HEAD ZERO FOR FORMAT DCB
1190 BAL FTT2, R6 FORMAT N=2
1191 TWI X'4780', TURESUL+2 ANY ERRORS?
1192 JOFF T501A, TURESUL+2 NO
1193 TBTS (R2, 0) SET HEAD ZERO ERROR BIT
1194 J T502
1195 T501A TWI X'0005', TURESUL+2 ANY ERASE ERRORS?
1196 JOFF T501 NO
1197 TBTS (R2, 4) SET ERASE CURRENT ERR BIT
1198 J T502
1199 T501 BAL FTT1, R6 FORMAT N=1
1200 JOFF X'4780', TURESUL+2 ANY ERRORS?
1201 TBTS (R2, 2) NO
1202 T502 MVWI X'0005', SKDCB SET HEAD ZERO ERROR BIT
1203 MVWI X'1000', SKDCB+2 SEEK CONTROL WORD-NO CHAINING
1204 MVWI X'0100', SKDCB+8 SELECT HEAD ONE
1205 MVWI X'0100', SKDCB+8 HEAD SELECT ONE (NEW ARCH)
1206 BAL $SEEK, R6 SEEK NO-OP, SELECT HEAD ONE
1207 DC A($ERR$) ERROR
1208 TBTR (R4, ER) CC ERROR
1209 BON $ERR$ ERROR
1210 MVB ONE1+1, SIDE+1 SETUP HEAD 1 FOR FORMAT ROUTINE
1211 BAL FTT2, R6 FORMAT N=2
1212 TWI X'4780', TURESUL+4 ANY ERRORS?
1213 JOFF T503A, TURESUL+4 NO
1214 TBTS (R2, 1) SET HEAD ONE ERROR BIT
1215 J T505
1216 T503A TWI X'0005', TURESUL+4 ANY ERASE ERRORS?
1217 JOFF T503 NO
1218 TBTS (R2, 4) SET ERASE ERROR BIT
1219 J T505
1220 T503 BAL FTT1, R6 FORMAT N=1
1221 TWI X'4780', TURESUL+4 ANY ERRORS?
1222 JOFF T505 NO
1223 TBTS (R2, 3) SET HEAD ONE ERROR BIT
1224 T505 BAL $RDID, R6 READ ID TO ESTABLISH HEAD POSITION
1225 DC A(T50F) TO BE PASSED BACK TO SUPERVISOR
1226 EXIT
1227 T50F TXIT
1228** TUIT B RETURN TO MDI CONTROLLER
1229** *****
1230**
1231**
1232** SUBROUTINE
1233**
1234** FORMAT N=1
1235**
1236** PURPOSE - SETUP DCB PARAMETERS TO FORMAT SELECTED TRACK N=1
1237**
1238** CALLING SEQUENCE - BAL FTT1, R6
1239**
1240** RETURN - B (FTT1Q+2)
1241**
1242** *****
1243**
1244** FTT1 MVW R6, FTT1Q+2 SETUP RETURN ADDRESS
1245** MVB FPN1, FRDCB+6 SETUP N=1
1246** MVB VSI1, FRDCB+7 SETUP C
1247** MVB SIDE+1, FRDCB+8 SETUP H

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
002D08 4020 2FDC 0F00 1248 MVWI 3840,BCNT BYTE COUNT FOR READ OP
002D0E 6E03 2D3E 1249 BAL FTT,R6 GOTO FORMAT ROUTINE
002D12 6802 0000 1250 FTT10 B \*-# RETURN TO CALLER
002D16 1000 1251 FFNE1 DC X'1Q00'

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002DDE B8FF 1365 JCT \*R0 \*
002DE0 6E03 3028 1366 BAL \$RECL,R6 RECALIBRATE
002DE4 31D0 1367 DC A(\$ERR\$) ERROR
002DE6 4CA1 1368 TBTR (R4,ER) CHECK FOR CC ERROR
002DE8 6A00 31D0 0005 1369 BON \$ERR\$ ERROR

LOCTR OBJECT TEXT STMT SOURCE STATEMENT
1482\*\* 5. SELECT HEAD ONE.
1483\*\* 6. ISSUE FORMAT COMMAND N=1, C=76.
1484\*\*
1485\*\* PARAMETERS PASSED TO PROGRAM IN FOLLOWING FORMAT:
1486\*\* PARM1---BIT0---NOT USED
1487\*\* BIT1---NOT USED
1488\*\* BIT2---NOT USED
1489\*\* BIT3---HEAD SELECTION. (0=HEAD 0/1=HEAD 1)
1490\*\* BIT4---NOT USED
1491\*\* BIT5---NOT USED
1492\*\* BIT6---NOT USED
1493\*\* BIT7---HEAD SELECTION. (0=HEAD 0/1=HEAD 1)
1494\*\* PARM2---BIT8---NOT USED
1495\*\* BIT9---NOT USED
1496\*\* BIT10---NOT USED
1497\*\* BIT11---NOT USED
1498\*\* BIT12---NOT USED
1499\*\* BIT13---NOT USED
1500\*\* BIT14---NOT USED
1501\*\* BIT15---ONLY WRITE ON ONE HEAD.
1502\*\*
1503\*\* RETURN CONTROL
1504\*\* B TURTN\* RETURN TO MDI SUPERVISOR
1505\*\*
1506\*\*
1507\*\*
1508\*\* MVW R7,TURTN SAVE RETURN ADDRESS
1509\*\* MVWI X'4855',STUID SAVE TU ID FOR DISPLAY
1510\*\* MVA OPTN1,R4 SET UP POINTER ADRS IN R4
1511\*\* BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
1512\*\* DC A(T55E) ERROR ADRS FOR INVALID PREP
1513\*\*
1514\*\* MVWI X'5000',R0 DELAY TO GET BY BUSY AFTER RESET
1515\*\* JCT \*R0 \*
1516\*\* MVWI X'0005',SKDCB SEEK CONTROL WORD - NO CHAINING
1517\*\* MVWI 0,SKDCB+2 SELECT HEAD NOOP
1518\*\* MVB TUPARM1\*,SKDCB+2 HEAD SELECT FROM MDI
1519\*\* MVB TUPARM1\*,SKDCB+8 HEAD SELECT (NEW ARCH)
1520\*\* BAL \$SEEK,R6 SEEK
1521\*\* DC A(T55E) ERROR
1522\*\* TBTR (R4,ER) CHECK FOR CC ERROR
1523\*\* JON T55E ERROR
1524\*\* MVWI X'0002',FRDCB FORMAT CONTROL WORD
1525\*\* MVWI X'C8C8',FRDCB+4 FORMAT DATA WORD
1526\*\* MVWI X'104C',FRDCB+6 FROMAT N-C
1527\*\* MVWI X'0001',FRDCB+8 H-R
1528\*\* MVB TUPARM1\*,FRDCB+8 HEAD FROM MDI
1529\*\* BAL \$FMT,R6 FORMAT
1530\*\* DC A(T55E) ERROR
1531\*\* TBTR (R4,ER) CHECK FOR CC ERROR
1532\*\* JON T55E ERROR
1533\*\* MVB TUPARM2\*,R0 GET PARM2
1534\*\* JNZ T55E BYPASS BIT ON
1535\*\* MVWI X'1000',SKDCB+2 SELECT HEAD ONE-NOOP
1536\*\* MVWI X'0100',SKDCB+8 HEAD SELECT (NEW ARCH)
1537\*\* BAL \$SEEK,R6 SEEK
1538\*\* DC A(T55E) ERROR
1539\*\* TBTR (R4,ER) CHECK FOR CC ERROR
1540\*\* JON T55E ERROR
1541\*\* MVWI X'0101',FRDCB+8 H-R
1542\*\* BAL \$FMT,R6 FORMAT
1543\*\* DC A(T55E) ERROR
1544\*\* T55E BAL \$RDIS,R6 READ ID TO ESTABLISH HEAD POSITION
1545\*\* DC A(T55E) TO BE PASSED BACK TO SUPERVISOR
1546\*\* T55F TXIT EXIT
1547\*\* T55F B \$CONX RETURN TO MDI CONTROLLER
1548\*\*
1549\*\*
1550\*\* COPY T48DCB
1551\*\*
1552\*\*
1553\*\*
1554\*\* \*\*\*\*\*2/17/76\*\*\*\*\*
1555\*\*
1556\*\* DCB TABLES
1557\*\*
1558\*\*
1559\*\*
1560\*\* \*\*\*\*\* DIAGNOSTIC DCB \*\*\*\*\*
1561\*\*
1562\*\* DGD CB DC X'2000' DIAGNOSTIC DCB
1563\*\* DC X'0000' NOT USED
1564\*\* DC X'0000' NOT USED
1565\*\* DC X'0000' NOT USED
1566\*\* DC X'0000' NOT USED
1567\*\* DC X'0000' CHAIN ADDRESS
1568\*\* DC X'000E' BYTE COUNT FOR READ DIAG
1569\*\* DC A(DIAGH) DATA ADDRESS
1570\*\*
1571\*\*
1572\*\* \*\*\*\*\* RECALIBRATE DCB \*\*\*\*\*
1573\*\*
1574\*\* CLDCB DC X'0007' RECALIBRATE DCB
1575\*\* DC 7A(\*-\*)
1576\*\*
1577\*\* \*\*\*\*\* FORMAT DCB \*\*\*\*\*
1578\*\*
1579\*\* FRDCB DC X'0002' FORMAT CONTROL WORD
1580\*\* DC X'0000' NOT USED
1581\*\* DC A(\*-\*) FORMAT DATA WORD
1582\*\* DC A(\*-\*) N - C BYTES
1583\*\* DC X'0001' H - R BYTES
1584\*\* DC A(\*-\*) CHAIN ADDRESS
1585\*\* DC F'0' NOT USED
1586\*\* DC F'0' NOT USED
1587\*\*
1588\*\* \*\*\*\*\* READ SECTOR ID DCB \*\*\*\*\*
1589\*\*
1590\*\* RSDCB DC X'200A' READ SECTOR ID
1591\*\* DC X'0000' NOT USED
1592\*\* DC X'0000' NOT USED
1593\*\* DC X'0000' NOT USED
1594\*\* DC X'0000' NOT USED
1595\*\* DC X'0000' CHAIN ADDRESS
1596\*\* DC X'0004' BYTE COUNT FOR READ SECTOR ID
1597\*\* DC A(SCTID) SECTOR ID DATA ADDRESS
1598\*\*
1599\*\*

LOCTR OBJECT TEXT STMT SOURCE STATEMENT
1599 \*\*\*\*\* SEEK DCB \*\*\*\*\*
1600 \*
1601 SKDCB DC X'0005' SEEK DCB
1602 DC X'0000' BIT 3=HEAD;BIT 4=DIRECTION;8-15=DIFF
1603 F'0'
1604 DC F'0'
1605 DC F'0' 0-7 HEAD SELECT (NEW ARCH)
1606 DC F'0'
1607 DC F'0'
1608 DC F'0'
1609 \*
1610 \*
1611 \*\*\*\*\* CYCLE STEAL STATUS DCB \*\*\*\*\*
1612 \*
1613 CSDCB DC X'2000' CONTROL WORD
1614 DC F'0' NOT USED
1615 DC F'0' NOT USED
1616 DC F'0' NOT USED
1617 DC F'0' NOT USED
1618 DC F'0' NOT USED
1619 DC X'0004' 2 WORDS OF STATS
1620 DC A(CSBUF) ADDRESS OF CYCLE STEAL STATUS DATA
1621 \*
1622 \*\*\*\*\* WRITE DCB \*\*\*\*\*
1623 \*
1624 WRDCB DC X'0001' 8-15=1- ATA AM;8-15=2-CONTROL AM
1625 DC F'0' NOT USED
1626 DC F'0'
1627 DC X'0000' SERCH ARGUMENT N-C
1628 DC X'0000' SEARCH ARGUMENT H-R
1629 DC A(\*-\*) CHAIN ADDRESS
1630 DC F'0' BYTE COU T
1631 DC A(\*-\*) WRITE DATA ADDRESS
1632 \*
1633 \*\*\*\*\* VERIFY DCB \*\*\*\*\*
1634 \*
1635 VRDCB DC X'000C' CONTROL WORD
1636 DC F'0' NOT USED
1637 DC F'0' NOT USED
1638 DC A(\*-\*) N-C
1639 DC A(\*-\*) H-R
1640 DC A(\*-\*) CHAIN ADDRESS
1641 DC F'0' BYTE COUNT
1642 DC A(\*-\*) VERIFY DATA ADDRESS
1643 \*
1644 \*\*\*\*\* READ DCB \*\*\*\*\*
1645 \*
1646 RDCCB DC X'2009' READ DCB CONTROL WORD
1647 DC F'0' NOT USED
1648 DC F'0' NOT USED
1649 DC X'0000' SEARCH ARGUMENT N-C
1650 DC X'0101' SEARCH ARGUMENT H-R
1651 DC A(\*-\*) CHAIN ADDRESS
1652 DC F'3328' BYTE COUNT
1653 DC A(\*-\*) READ DATA ADDRESS
1654 \*
1655 \*
1656 \*
1657 \*
1658 COUNT DC F'4096' BYTE COUNT (4096)
1659 CTN32 DC F'3200' BYTE COUNT (3200)
1660 SAVE DC X'0000' SCTID INFO
1661 DC X'0000' \*
1662 DIFF DC X'0000' SEEK DIFFERENCE
1663 FDATA DC X'0008' FORMAT DATA BYTE FOR COMPARE
1664 XXX DC X'0000' WORK WORD INT TO ZERO
1665 ENDEX DC X'0046' TERMINATING SEEK DIFFERENCE
1666 ZERCO DC X'0000' CONSTANT ZERO
1667 ONE1 DC X'0001' CONSTANT ONE
1668 BEVR DC X'0000' SEEK REVERSE
1669 H-R DC X'0000' H-R
1670 BCNT DC X'0000' BYTE COUNT
1671 JOE DC X'0000' WRITE PARAMETER POINTER
1672 JOE1 DC X'0000' SAVE LOC FOR PARM LIST ADDRESS
1673 WDATA DC X'7AE5' WRITE DATA
1674 DC X'69BD' \*
1675 CYLND DC X'0000' TEMP SAVE AREA FOR CYLINDER #
1676 DC X'0000' \*
1677 FORMT DC X'0000' FROMAT BIT FROM OPERATOR
1678 CYLIN DC X'004C' CYLINDER NUM SELECTED FROM OPERATOR
1679 HEAD DC F'0000' HEAD NUM SELECTED FROM OPERATOR
1680 SECT DC F'0001' SECTOR # SELECTED BY OPERATOR
1681 BYCNO DC F'3328' BYTE COUNT SELECTED BY OPER
1682 TABLE DC A(\*-\*) ADDR OF WRT PAR LIST FOR FORMAT RTNS
1683 DIAGW DC 7A(\*-\*) DIAGNOSTIC BUFFER
1684 CONST DC X'0000' SECTOR # PLUS ONE FOR N='X'
1685 SBYT DC X'0000' FULL BYTE COUNT FOR N='X'
1686 CDAT DC X'00FF' CONSTANT '00' & 'FF'
1687 CTR01 DC X'0000' COUNTER 1
1688 CTR02 DC X'0000' COUNTER 2
1689 CTR03 DC X'0000' COUNTER 3
1690 CTR04 DC X'0000' COUNTER 4
1691 CTR05 DC X'0000' COUNTER 5
1692 SAVR3 DC X'0000' SAVE AREA
1693 SAVR5 DC X'0000' SAVE AREA
1694 SIDE DC X'0000' SIDE BEING TESTED
1695 TRK DC X'0000' CURRENT CYLINDER NUMBER
1696 WTDAT DC X'0000' WORK AREA
1697 SVSIX DC X'4C00' CYLINDER NUMBER 76
1699 COPY T48ID
1700 \*
1701 \* EXECUTE INPUT & OUTPUT COMMANDS
1702 \* TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
1703 \* EACH OF THESE ENTRIES SET R7 WITH THE ADRS OF ITS PARAMETER
1704 \* LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
1705 \* SUPVR CALL.
1706 \*
1707 \* THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
1708 \*
1709 \* 1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
1710 \* 2. ERROR INTERRUPTS RECEIVED FROM SUPVR
1711 \* 3. LOOP ON ERROR, THE CALL MUST HAVE A 'DC' STATEMENT AFTER
1712 \* THE CALL WITH THE ADDRESS OF THE RETPY STATEMENT
1713 \* 4. CYCLE STEAL IN PROGRESS WITH AN ERROR
1714 \* 5. SOMETHING ELSE
1715 \*

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1716 \* THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1717 \*
1718 \* 1 BAL \$SEEK,R6 SEEK
1719 \*
1720 \* 2 BAL \$RECL,R6 RECALIBRATE
1721 \*
1722 \* 3 BAL \$RDID,R6 READ SECTOR ID
1723 \*
1724 \* 4 BAL \$RD,R6 READ
1725 \*
1726 \* 5 BAL \$RDVY,R6 READ VERIFY
1727 \*
1728 \* 6 BAL \$WRT,R6 WRITE
1729 \*
1730 \* 7 BAL \$FMT,R6 FORMAT
1731 \*
1732 \* 8 BAL XIOCS,R6 CYCLE STEAL STATUSB
1733 \*
1734 \* 9 BAL \$DIAG,R6 READ DIAGNOSTICS
1735 \*
1736 \*
1737 \$SEEK MVA SKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1738 J XIO
1739 \*
1740 \$RECL MVA CLDCB,IODCB SET UP BLOCK FOR SVC CALL
1741 J XIO
1742 \*
1743 \$RDID MVA RSDCB,IODCB SET UP BLOCK FOR SVC CALL
1744 MVI X\*9999,SCTID INVALIDATE SECTOR ID BUFFER AREA
1745 MVI X\*9999,SCTID+2
1746 J XIO
1747 \*
1748 \$RD MVI 255,R3 INIT READ BUFFER TO FF'S
1749 MVW RDDCB+14,R5
1750 MVI X\*0400,R7
1751 \*
1752 \$RDS MVA RDDCB,IODCB SET UP BLOCK FOR SVC CALL
1753 J XIO
1754 \*
1755 \$RDVY MVA VRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1756 J XIO
1757 \*
1758 \$WRT MVA WRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1759 J XIO
1760 \*
1761 \$FMT MVA FRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1762 J XIO
1763 \$DIAG MVA DGDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1764 MVI X\*000D,ICMOD MODIFIER FOR DIAG OP
1765 J XIO1
1766 CEOP2 BXS (R6,2) DUMMY RETURN TO USER
1767 \*
1768 XEXIT 1
1769 \*\*\*\*\*29JUL76\*\*
1770 \*
1771\*\* SUB-ROUTINE
1772\*\*
1773\*\* EXECUTE INPUT AND OUTPUT COMMANDS
1774\*\*
1775\*\* PURPOSE
1776\*\*
1777\*\* TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
1778\*\* THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
1779\*\*
1780\*\* 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
1781\*\* THE I/O COMMAND.
1782\*\* 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
1783\*\* ISSUED BY THIS SUBROUTINE.
1784\*\* 3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
1785\*\* START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
1786\*\* 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
1787\*\* SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
1788\*\* MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
1789\*\* 5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
1790\*\* EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC START'.
1791\*\* 6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
1792\*\* STARTS TO DETERMINE A LOST INTERRUPT.
1793\*\* 7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
1794\*\* WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL.
1795\*\* 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
1796\*\* 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
1797\*\* 10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.
1798\*\* 11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
1799\*\* 12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
1800\*\* ISSUED BY THIS SUBROUTINE.
1801\*\* 13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
1802\*\* CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
1803\*\* COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
1804\*\*
1805\*\* CALLING SEQUENCE
1806\*\*
1807\*\* THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1808\*\*
1809\*\* --> BAL XIO OR XEQ ANY CYCLE STEAL COMMAND, MOD=0
1810\*\* --> BAL XIO1 MOD PARM PRELOADED IN 'IOMOD'
1811\*\* --> BAL XIOCS,R6 OR XEQ START CYCLE STEAL STATUS, MOD=F
1812\*\* --> BAL XIOCS-4,R6 AUTO CS STATUS (FOLLOWING OTHER XIO
1813\*\* AND DOES NOT POST INTERRUPT STATUS)
1814\*\*
1815\*\* RETURN CONTROL
1816\*\*
1817\*\* BXS (R6,2) RETURN TO USER NO ERROR
1818\*\* OR B (R6,\*) RETURN AND RETRY ON ERROR
1819\*\* \*\*\*\*\*
1821+XIO MVWZ IOMOD,R3 SET MOF OF 0 FOR CYCLE STEAL OP
1822+ J XIO1 CS I/O'S ARE NOT RETRIED
1823\*\*
1824+ TBTR (R4,CE) RESET CS STATUS INTER ERROR INDICAT.
1825+ TBTS (R4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
1826+XICCS MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1827+ MVI X\*000F,ICMOD SET CYCLE STEAL MODIFIER
1828+ TBTR (R4,CS) IS CS IN PROGRESS, ERROR CONDITION
1829+ JON XIO2 \* YES, BYPASS SAVING I/O ADRS
1830+XIO1 MVH R6,LSSTO SAVE IAR FOR RETRY IF REQUESTED
1831+ MVA DCBUF,R3 SET UP TO ADRS. TO MOVE DCB TABLE
1832+ MVW IODCB,R5 \* AND THE FROM ADRS, ALONG WITH

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1833+ MVEI 16,R7 \* THE NUMBER OF MOVES
1834+ MVFN (R5),(R3) MOVE 1 STATUS WORD AND ADJUST
1835+ MVI 255,R3 CLEAR CYCLE STATUS BUFFER
1836+ MVA CSBUF,R5 \* TO ALL ONES \*
1837+ MVI 16,R7 \*
1838+ FPN R3,(R5) \*
1839+ MVI X\*0108,\$IOIN OVERLAY OLD CONDITION CODES
1840+ MVWZ \$ISB,R3 ZERO OUT OLD ISB VALUE
1841\*\*
1842+ TBTR (R4,ER) RESET ANY ERROR BEFORE I/O COMMAND
1843+XIO2 TBTR (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
1844+ MVA IOBLK,R7 SET UP CONTROL BLOCK FOR SUPVR
1845+ TBTR (R4,\$LE) RESET LEVEL ERROR INDICATOR
1846+ TBTS (R4,XI) SET EXPECTED INTR CONTROL BIT
1847+ SVC START CALL SUPVR FOR I/O COMMAND
1848\*\*
1849+ TBTR (R4,NI) IS AN INTR EXPECTED
1850+ BN (R6,2) \* NO, RETURN TO USER
1851\*\*
1852\*\* THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
1853\*\*
1854+ MVEI X\*00,R5 SET UP WRK REG FOR 'LOST INTR'
1855+XIO8 TBTR (R4,IN) HAS INTERRUPT BEEN RECEIVED
1856+ JON XIOCK \* YES, CHECK IF ALL WAS SATISFACTORY
1857+ SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
1858\*\* SUPVR WILL RETURN HERE
1859+ AWI 1,R5 ADVANCE TIME OUT COUNT
1860+ JNZ XIO8 BCH IF TIME OUT NOT REACHED
1861+ TBTS (R4,ER) SET ON ERROR CONTROL BIT
1862+ B (R6) ERR 'NO INTERRUPT'
1863\*\*
1864+\*\*\*\*\*03FEB76\*\*
1865\*\*
1866\*\* SUBROUTINE
1867\*\*
1868\*\* I/O EXECUTE ERROR HANDLING ROUTINE
1869\*\*
1870\*\* PURPOSE
1871\*\*
1872\*\* THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
1873\*\* PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
1874\*\* SUPERVISOR AND IT WAS NOT ACCEPTED.
1875\*\*
1876\*\* CALLING SEQUENCE
1877\*\*
1878\*\* SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
1879\*\*
1880\*\* RETURN CONTROL
1881\*\*
1882\*\* B (R6)\* RETURN TO USERS ERROR HANDLER
1883\*\*
1884+\*\*\*\*\*
1885\*\*
1886\*\* CC 0= DEVICE NOT ATTACHED
1887\*\* FOR 1= DEVICE BUSY
1888\*\* I/O 2= DEVICE BUSY AFTER RESET
1889\*\* 3= COMMAND REJECT
1890\*\* 4= INTERVENTION REQUIRED
1891\*\* 5= INTERFACE DATA CHECK
1892\*\* 6= CONTROLLER BUSY
1893\*\* 7= I/O COMMAND EXCEPTED
1894\*\*
1895+XICER DC X\*706E' COPY STATUS ANY LEVEL INTO R3
1896+ SRL 13,R3 POSITION CC CODE TO BITS 13-15
1897+ MVB R3,\$IOIN \* PUT IN LOG OUT AREA
1898+ B (R6)\* RETURN TO USER ERROR HANDLER
1899+\*\*\*\*\*14APR76\*\*
1900\*\*
1901\*\*
1902\*\* SUB-ROUTINE
1903\*\*
1904\*\* ERROR INTERRUPT RUNS ON INTERRUPT LEVEL '\$INTL'
1905\*\*
1906\*\* PURPOSE
1907\*\*
1908\*\* THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR
1909\*\* OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE
1910\*\* EXPECTED CODE.
1911\*\*
1912\*\* CALLING SEQUENCE
1913\*\*
1914\*\* SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT
1915\*\*
1916\*\* RETURN CONTROL
1917\*\*
1918\*\* SVC EXIT RETURN TO USER VIA SUPVR
1919\*\*
1920+\*\*\*\*\*
1921\*\*
1922\*\* CC 0= CONTROLLER END ISB 0= ADD STATUS
1923\*\* FOR 1= PROGRAM CONTROL INTERRUPT BITS 1= COMD REJECT
1924\*\* INTR 2= EXCEPTION INTERRUPT FOR 2= INCOR LENGTH
1925\*\* 3= DEVICE END INTERRUPT INTR 3= DCB SPEC CK
1926\*\* 4= ATTENTION INTERRUPT 4= STG DATA CK
1927\*\* 5= ATTENTION / PROGRAM CNTL INTR 5= INV STG ADRS
1928\*\* 6= ATTENTION / EXCEPTION INTR 6= PROTRCT CK
1929\*\* 7= ATTENTION / DEVICE END INTR 7= I-FACE DATA
1930\*\*
1931+INIER DC X\*706E' COPY STATUS ANY LEVEL INTO R3
1932+ SRL 13,R3 POSITION INDICATORS IN R3
1933+ MVA OPTN1,R4 SET UP BASE ADRS
1934+ TBTR (R4,CS) IS CS IN PROGRESS
1935+ JOFF INTES \* NO
1936+ TBTS (R4,CE) TURN ON CYCLE STEAL INTER ERROR
1937+ MVH R7,CSTL8 SAVE CS ERR ISB VALUE, BITS 0-7
1938+ MVB R3,CSTL8+1 \* AND THE COND CODE
1939+ J INTR1
1940+INTES TBTR (R4,YE) TEST EXPECTED ATTN / ERROR IND
1941+ JOFF INTET BCH IF NOT EXPECTED
1942+ CBI 4,R3 IS THIS AN 'ATTENTION' INTR
1943+ JE INTR1 \* YES, BCH TO END INTR SEQUENCE
1944+INTET TBTS (R4,ER) SET EXPECTED INTR CONTROL BIT
1945+ J INTR1
1946\*\*
1947\*\* THE ERROR INTERRUPT USES THE SAME
1948\*\* ENDING SEQUENCE AS THE NORMAL INTR
1949+\*\*\*\*\*14APR76\*\*
1950\*\*
1951\*\* SOUBROUTINE



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1952\*\* OKAY INTERRUPT RUNS ON INTERRUPT LEVEL '\$INTL'
1953\*\* PURPOSE
1954\*\* TO CHECK THE INTERRUPT AND CONTINUE THE TEST
1955\*\* CALLING SEQUENCE
1956\*\* SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED
1957\*\* THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE
1958\*\* AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE
1959\*\* COMMON SECTION IS HANDLED HERE.
1960\*\* RETURN CONTROL
1961\*\* SVC EXIT RETURN TO USER VIA SUPVR
1962\*\*
1963\*\*
1964\*\*
1965\*\*
1966\*\*
1967\*\*
1968\*\*
1969\*\*
1970\*\*
1971\*\*INTOK DC X'706E'
1972\*\* SRL 13,R3
1973\*\* MVA OPTN1,R4
1974\*\*INIR1 TBTS (R4,I)
1975\*\* TBT (R4,CS)
1976\*\* JON INTR2
1977\*\* MVB R3,\$ICIN+1
1978\*\* MVA R7,\$ISB
1979\*\*INIR2 EQU \*
1980\*\* CPECL R5
1981\*\* SLL 4,R5
1982\*\* ABI 1,R5
1983\*\* CW \$INTL,R5
1984\*\* JE INTR3
1985\*\* TBTS (R4,\$LE)
1986\*\* TBTS (R4,ER)
1987\*\*INIR3 TBTR (R4,XI)
1988\*\* JON INTR4
1989\*\* TBTS (R4,MI)
1990\*\* CBI 4,R3
1991\*\* JE INTRX
1992\*\* TBTS (R4,NG)
1993\*\*INIRX SVC EXIT
1994\*\*
1995\*\*
1996\*\*
1997\*\* THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
1998\*\* HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN
1999\*\* RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
2000\*\*
2001\*\*
2002\*\*XIOCK TBTR (R4,XE)
2003\*\* BN (R6,2)
2004\*\* TBTR (R4,CS)
2005\*\* JOFF XIOCV
2006\*\* TBT (R4,CE)
2007\*\* JOFF XIOCO
2008\*\* B (R6)\*
2009\*\*XIOCO TBTS (R4,CSA)
2010\*\* BXS (R6,2)
2011\*\*XIOCV TBT (R4,ER)
2012\*\* JOFF XIOCX
2013\*\*
2014\*\* MVB \$IOIN+1,R5
2015\*\* CBI 2,R5
2016\*\* BNE (R6)\*
2017\*\*XIOCV MVB \$ISB,R5
2018\*\* BN XIOCS-4
2019\*\* B (R6)\*
2020\*\*XICCX MVAZ OPTN3,R3
2021\*\* BXS (R6,2)
2022\*\*
2023\*\* I/O PARAMETER LIST
2024\*\*
2025\*\*IOBLK DC A(DEVADD)
2026\*\* DC A(XIOER)
2027\*\*IODCB DC A(\*-\*)
2028\*\*IOMOD DC A(\*-\*)
2029\*\* DC A(\*-\*)
2030\*\*IORSF DC A(\*-\*)
2031\*\*
2032\*\* INTERRUPT CONTROL BLOCK FOR I/O COMMANDS
2033\*\*
2034\*\*INTBL DC A(DEVADD)
2035\*\* DC A(INTOK)
2036\*\* DC A(INTR)
2037\*\*INTCC DC X'0003'
2038\*\*
2039\*\*
2040\*\*
2041\*\* SUBROUTINE
2042\*\*
2043\*\* CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE
2044\*\*
2045\*\* PURPOSE
2046\*\*
2047\*\* TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
2048\*\* PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
2049\*\* TO INTERRUPT.
2050\*\*
2051\*\* CALLING SEQUENCE
2052\*\*
2053\*\* THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
2054\*\*
2055\*\* --> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK
2056\*\* --> BAL \$CONC,R6 PREPARE DEVICE ONLY, ALREADY CONNECT
2057\*\*
2058\*\* RETURN CONTROL
2059\*\*
2060\*\* BXS (R6,2)
2061\*\* OR B (R6)\*
2062\*\*
2063\*\*
2064\*\*\$CONC MVB 6,R7
2065\*\* MVB 0,R3
2066\*\* MVA DEV1,R5
2067\*\* FPN R3,(R5)
2068\*\* MVAZ OPTN3,R3
2069\*\* MVA SVCAL,R7

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2070\*\* SVC REOSD
2071\*\* MVB -1,R7
2072\*\* JCT \*R7
2073\*\* MVA INTBL,R7
2074\*\* SVC CIBC
2075\*\* BN (R6)\*
2076\*\*
2077\*\*\$CONC MVA \$INTL,IODCB
2078\*\* IOBLK,R7
2079\*\* MVA X'0708', \$IOIN
2080\*\* MVAZ \$ISB,R3
2081\*\* MVB R6,\$LSTIO
2082\*\* SVC FRFP
2083\*\* BXS (R6,2)
2084\*\*
2085\*\*
2086\*\*
2087\*\* SUBROUTINE
2088\*\*
2089\*\* DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
2090\*\*
2091\*\* PURPOSE
2092\*\*
2093\*\* DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
2094\*\* SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS
2095\*\* BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
2096\*\*
2097\*\* CALLING SEQUENCE
2098\*\*
2099\*\* THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
2100\*\*
2101\*\* --> B \$ERR\$ SET 'NG' BIT AND CONVERT DATA TO LOG
2102\*\* --> B \$CONX RETURN TO MDI SUPERVISOR TO TEST STS
2103\*\*
2104\*\* RETURN CONTROL
2105\*\*
2106\*\* OR B TURTN\*
2107\*\* (R6)\*
2108\*\*
2109\*\*
2110\*\*\$ERR\$ MVA X'8000',TUSTATUS
2111\*\* MVA HEBLK,R7
2112\*\* SVC HIOE
2113\*\*\$PRNT MVEI 3,R5
2114\*\* MVA TUNCRK,R3
2115\*\* MVA R3,BUFPT
2116\*\* MVA LINE1,R1
2117\*\* MVB 4,R7
2118\*\* MVB (R6)
2119\*\*MVBUF MVB (R3),(R1)
2120\*\* MVB 4,R7
2121\*\* MVB X'40',R2
2122\*\* MVB R2,(R1)\*
2123\*\* JCT MVBUF,R6
2124\*\* MVB 8,R6
2125\*\* ABI 44,R1
2126\*\* JCT MVBUF,R5
2127\*\* MVA PIDMSG10,PID+2
2128\*\* MVA FAKETU,@LCCADD1
2129\*\* MVA DC2FT,@DCADD2
2130\*\* MVA BIT0080,SUBSTAT
2131\*\* MVA \$TUID,R3
2132\*\* BAL TUMSGTR\*,R7
2133\*\*
2134\*\*\$CONX EQU \*
2135\*\* MVB SCTID+1,SVCAL+3
2136\*\* MVA SVCAL,R7
2137\*\* SVC RELSD
2138\*\* MVB DEVADD,R7
2139\*\* SVC RICB
2140\*\* B TURTN\*
2141\*\*
2142\*\*\$BEGIN DC A(0007)
2143\*\* DC A(0008)
2144\*\* DC C'ABOFT'
2145\*\* DC A(0040)
2146\*\* DC C'TUID ICIN ISB INST
2147\*\* DC A(0040)
2148\*\*LINE1 DC C'
2149\*\* DC A(0040)
2150\*\* DC C'CENTL DCB2 DCB3 DCB4
2151\*\* DC A(0040)
2152\*\*LINE2 DC C'
2153\*\* DC A(0040)
2154\*\* DC C'RSID CS-2 CS-3 CS-4
2155\*\* DC A(0040)
2156\*\*LINE3 DC C'
2157\*\*
2158\*\*\$BUFPT DC A(\*-\*)
2159\*\*DC2P1 DC A(\$BEGIN)
2160\*\*\$FIXTU DC X'0101'
2161\*\*\$FAKETU DC X'0101'
2162\*\*\$PIDMSG10 EQU X'F1F0'
2163\*\*\$BIT0080 EQU X'0080'
2164\*\*
2165\*\* DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
2166\*\*
2167\*\*HEBLK DC A(48)
2168\*\* DC A(\$TUID)
2169\*\* DC A(TUWRK)
2170\*\*
2171\*\*
2172\*\* END

CROSS-REFERENCE LISTING

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
0	.R0.	ABSOLUTE. HEX VALUE(00000000) 1173 1175 1176 1177 1364 1365 1426 1427 1514 1515 1533
0	.R1.	ABSOLUTE. HEX VALUE(00000001) 2116 2119 2122 2125
0	.R2.	ABSOLUTE. HEX VALUE(00000002) 1170 1171 1172 1174 1193 1197 1202 1214 1218 1223 2121 2122
0	.R3.	ABSOLUTE. HEX VALUE(00000003) 1748 1751 1821 1834 1835 1838 1840 1896 1897 1932 1938 1942 1973 1977 1990 2020 2065 2067 2068 2080 2114 2115 2119 2131
0	.R4.	ABSOLUTE. HEX VALUE(00000004) 1166 1180 1187 1208 1297 1302 1315 1360 1368 1376 1422 1430 1438 1445 1510 1522 1531 1539 1824 1825 1828 1842 1843 1845 1846 1849 1855 1861 1933 1934 1936 1940 1944 1973 1974 1975 1985 1986 1987 1989 1992 2002 2004 2006 2009 2011
0	.R5.	ABSOLUTE. HEX VALUE(00000005) 1749 1751 1832 1834 1836 1838 1854 1859 1981 1982 1983 2014 2015 2017 2066 2067 2113 2126
0	.R6.	ABSOLUTE. HEX VALUE(00000006) 1167 1178 1185 1190 1199 1206 1211 1220 1224 1244 1249 1266 1271 1292 1295 1300 1313 1361 1366 1374 1378 1423 1428 1436 1443 1450 1452 1511 1520 1529 1537 1542 1544 1766 1830 1850 1862 1898 2003 2008 2010 2016 2019 2021 2075 2081 2083 2118 2123 2124
0	.R7.	ABSOLUTE. HEX VALUE(00000007) 1011 1164 1358 1420 1506 1750 1833 1837 1844 1937 1978 2064 2069 2071 2072 2073 2078 2111 2117 2120 2132 2136 2138
2064	\$CONC	ADDRESS. HEX LOCATION(00003192) IN CSECT(I4810 ) LENGTH(2) 1467 1361 1423 1513
2134	\$CONX	ADDRESS. HEX LOCATION(00003220) IN CSECT(I4810 ) LENGTH(1) 1227 1381 1455 1547
2110	\$ERR\$	ADDRESS. HEX LOCATION(000031D0) IN CSECT(I4810 ) LENGTH(6) 1168 1179 1181 1186 1188 1207 1209 1296 1301 1314 1362 1367 1369 1375 1377 1379
1761	\$FMT	ADDRESS. HEX LOCATION(00003068) IN CSECT(I4810 ) LENGTH(6) 1295 1529 1542
1000	\$INTL	ADDRESS. HEX LOCATION(00002BFC) IN CSECT(I4810 ) LENGTH(2) 1983 2077
970	\$ICIN	ADDRESS. HEX LOCATION(00002BC8) IN CSECT(I4810 ) LENGTH(2) 1839 1897 1977 2014 2079
971	\$ISB	ADDRESS. HEX LOCATION(00002BCA) IN CSECT(I4810 ) LENGTH(2) 1840 1978 2017 2080
955	\$LE	ABSOLUTE. HEX VALUE(00000026) 1845 1985
1743	\$RDID	ADDRESS. HEX LOCATION(00003030) IN CSECT(I4810 ) LENGTH(6) 1224 1300 1378 1452 1544
1755	\$RDVY	ADDRESS. HEX LOCATION(00003058) IN CSECT(I4810 ) LENGTH(6) 1313
1740	\$RECL	ADDRESS. HEX LOCATION(00003028) IN CSECT(I4810 ) LENGTH(6) 1178 1366 1428
1737	\$SEEK	ADDRESS. HEX LOCATION(00003020) IN CSECT(I4810 ) LENGTH(6) 1185 1206 1374 1436 1450 1520 1537
969	\$UID	ADDRESS. HEX LOCATION(00002BC4) IN CSECT(I4810 ) LENGTH(2) 1010 1165 1359 1421 1509 2131 2168
105	@DCADD1	ADDRESS. HEX LOCATION(000019B8) IN CSECT(I4810 ) LENGTH(1) 2128
106	@DCADD2	ADDRESS. HEX LOCATION(000019BA) IN CSECT(I4810 ) LENGTH(1) 2129
42	@FIXT	ABSOLUTE. HEX VALUE(00000101) 477 483 552 584 596 617 623 626 656 697 724 745 757
44	@GOTO	ABSOLUTE. HEX VALUE(00000200) 498 555 632 641 650 659 700 730 739 751
49	@NVLD	ABSOLUTE. HEX VALUE(00000600) 573 677
41	@QUES	ABSOLUTE. HEX VALUE(00000100) 474 480 620 629 638 647 727 736 748
47	@QUXX	ABSOLUTE. HEX VALUE(00000400) 575 587 599 608 679 688 706 715
48	@TUXX	ABSOLUTE. HEX VALUE(00000500) 486 504 516 528 540 561 665
1670	BCNT	ADDRESS. HEX LOCATION(00002FDC) IN CSECT(I4810 ) LENGTH(2) 1248 1270 1312
2142	BEGIN	ADDRESS. HEX LOCATION(00003236) IN CSECT(I4810 ) LENGTH(2) 2159
2163	BIT0080	ABSOLUTE. HEX VALUE(00000080) 2130
2158	BUFPT	ADDRESS. HEX LOCATION(0000333E) IN CSECT(I4810 ) LENGTH(2) 2115
959	CE	ABSOLUTE. HEX VALUE(0000002A) 1824 1936 2006
1039	CICB	ABSOLUTE. HEX VALUE(00000014) 2074
1574	CLDCB	ADDRESS. HEX LOCATION(00002F44) IN CSECT(I4810 ) LENGTH(2) 1740
957	CS	ABSOLUTE. HEX VALUE(00000028) 1825 1828 1934 1975 2005
958	CSA	ABSOLUTE. HEX VALUE(00000029) 1315 2009
988	CSBUF	ADDRESS. HEX LOCATION(00002EE6) IN CSECT(I4810 ) LENGTH(1) 1620 1836
1613	CSDCB	ADDRESS. HEX LOCATION(00002F84) IN CSECT(I4810 ) LENGTH(2) 1826
990	CSTL2	ADDRESS. HEX LOCATION(00002EE8) IN CSECT(I4810 ) LENGTH(2) 1320 1322
996	CSTL8	ADDRESS. HEX LOCATION(00002BF4) IN CSECT(I4810 ) LENGTH(2) 1937 1938
978	DCBUF	ADDRESS. HEX LOCATION(00002ED6) IN CSECT(I4810 ) LENGTH(1) 1831
2159	DC2FT	ADDRESS. HEX LOCATION(00003340) IN CSECT(I4810 ) LENGTH(2) 2129
108	DEVADD	ADDRESS. HEX LOCATION(000019D0) IN CSECT(I4810 ) LENGTH(1) 1003 2025 2034 2138
973	DEV1	ADDRESS. HEX LOCATION(00002BCE) IN CSECT(I4810 ) LENGTH(2) 977 2066
1562	DGDCB	ADDRESS. HEX LOCATION(00002F34) IN CSECT(I4810 ) LENGTH(2)

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1683	DIAGH	1763 ADDRESS. HEX LOCATION(00002FF6) IN CSECT(I4810 ) LENGTH(2) 1569
70	DUMHY	ABSOLUTE. HEX VALUE(00000000) 465 578 590 602 611 682 691 709 718 759 780
760	ENTPT	ADDRESS. HEX LOCATION(000027B0) IN CSECT(I4810 ) LENGTH(1) 201
50	EQ	ABSOLUTE. HEX VALUE(0000000Q) 564 668
950	ER	ABSOLUTE. HEX VALUE(00000021) 1180 1187 1208 1297 1302 1368 1376 1430 1438 1445 1522 1531 1539 1842 1861 1944 1986 2011
1025	EXIT	ABSOLUTE. HEX VALUE(00000006) 1993
2161	FAKETU	ADDRESS. HEX LOCATION(00003344) IN CSECT(I4810 ) LENGTH(2) 2128
1251	FFNE1	ADDRESS. HEX LOCATION(00002D16) IN CSECT(I4810 ) LENGTH(2) 1245
1579	FRDCB	ADDRESS. HEX LOCATION(00002F54) IN CSECT(I4810 ) LENGTH(2) 1245 1246 1247 1267 1268 1269 1293 1294 1304 1305 1524 1525 1526 1527 1528 1541 1761
1292	FTT	ADDRESS. HEX LOCATION(00002D3E) IN CSECT(I4810 ) LENGTH(4) 1249 1271
1273	FTTH0	ADDRESS. HEX LOCATION(00002D3C) IN CSECT(I4810 ) LENGTH(2) 1267
1244	FTT1	ADDRESS. HEX LOCATION(00002CF2) IN CSECT(I4810 ) LENGTH(4) 1199 1220
1250	FTT10	ADDRESS. HEX LOCATION(00002D12) IN CSECT(I4810 ) LENGTH(4) 1244
1266	FTT2	ADDRESS. HEX LOCATION(00002D18) IN CSECT(I4810 ) LENGTH(4) 1190 1211
1272	FTT20	ADDRESS. HEX LOCATION(00002D38) IN CSECT(I4810 ) LENGTH(4) 1266
788	F00047	ADDRESS. HEX LOCATION(000027C2) IN CSECT(I4810 ) LENGTH(1) 478
792	F00057	ADDRESS. HEX LOCATION(000027CE) IN CSECT(I4810 ) LENGTH(1) 484
796	F00064	ADDRESS. HEX LOCATION(000027DA) IN CSECT(I4810 ) LENGTH(1) 499
800	F00083	ADDRESS. HEX LOCATION(000027E6) IN CSECT(I4810 ) LENGTH(1) 553
806	F00087	ADDRESS. HEX LOCATION(00002824) IN CSECT(I4810 ) LENGTH(1) 556
814	F00104	ADDRESS. HEX LOCATION(0000285A) IN CSECT(I4810 ) LENGTH(1) 585
822	F00118	ADDRESS. HEX LOCATION(000028CC) IN CSECT(I4810 ) LENGTH(1) 597
830	F00141	ADDRESS. HEX LOCATION(00002950) IN CSECT(I4810 ) LENGTH(1) 618
838	F00151	ADDRESS. HEX LOCATION(000029BE) IN CSECT(I4810 ) LENGTH(1) 624
842	F00155	ADDRESS. HEX LOCATION(000029EC) IN CSECT(I4810 ) LENGTH(1) 627
848	F00166	ADDRESS. HEX LOCATION(00002A2A) IN CSECT(I4810 ) LENGTH(1) 633
852	F00175	ADDRESS. HEX LOCATION(00002A36) IN CSECT(I4810 ) LENGTH(1) 644
856	F00184	ADDRESS. HEX LOCATION(00002A42) IN CSECT(I4810 ) LENGTH(1) 651
864	F00187	ADDRESS. HEX LOCATION(00002A66) IN CSECT(I4810 ) LENGTH(1) 660
872	F00211	ADDRESS. HEX LOCATION(00002A9A) IN CSECT(I4810 ) LENGTH(1) 698
880	F00215	ADDRESS. HEX LOCATION(00002AFC) IN CSECT(I4810 ) LENGTH(1) 701
884	F00229	ADDRESS. HEX LOCATION(00002B08) IN CSECT(I4810 ) LENGTH(1) 725
892	F00240	ADDRESS. HEX LOCATION(00002B6A) IN CSECT(I4810 ) LENGTH(1) 731
896	F00249	ADDRESS. HEX LOCATION(00002B76) IN CSECT(I4810 ) LENGTH(1) 740
904	F00258	ADDRESS. HEX LOCATION(00002B9A) IN CSECT(I4810 ) LENGTH(1) 752
860	F00261	ADDRESS. HEX LOCATION(00002A4E) IN CSECT(I4810 ) LENGTH(1) 657
900	F00263	ADDRESS. HEX LOCATION(00002B82) IN CSECT(I4810 ) LENGTH(1) 746
908	F00265	ADDRESS. HEX LOCATION(00002BA6) IN CSECT(I4810 ) LENGTH(1) 758
2167	HEBLK	ADDRESS. HEX LOCATION(00003346) IN CSECT(I4810 ) LENGTH(2) 2111
1045	HTOE	ABSOLUTE. HEX VALUE(0000001A) 2112
1021	IDLE	ABSOLUTE. HEX VALUE(000000Q2) 1857
952	IN	ABSOLUTE. HEX VALUE(00000023) 1843 1855 1974
2034	INTBL	ADDRESS. HEX LOCATION(0000318A) IN CSECT(I4810 ) LENGTH(2) 2073
1931	INTER	ADDRESS. HEX LOCATION(000030F2) IN CSECT(I4810 ) LENGTH(2) 2036
1940	INTES	ADDRESS. HEX LOCATION(0000310A) IN CSECT(I4810 ) LENGTH(2) 1935
1944	INTET	ADDRESS. HEX LOCATION(00003112) IN CSECT(I4810 ) LENGTH(2) 1941
1971	INTOK	ADDRESS. HEX LOCATION(00003116) IN CSECT(I4810 ) LENGTH(2) 2035
66	INTRNL	ABSOLUTE. HEX VALUE(00000000) 559 663 704
1993	INTRX	ADDRESS. HEX LOCATION(00003146) IN CSECT(I4810 ) LENGTH(2) 1988 1991
1974	INTR1	ADDRESS. HEX LOCATION(0000311E) IN CSECT(I4810 ) LENGTH(2) 1939 1943 1945
1979	INTR2	ADDRESS. HEX LOCATION(0000312C) IN CSECT(I4810 ) LENGTH(1) 1976
1987	INTR3	ADDRESS. HEX LOCATION(0000313A) IN CSECT(I4810 ) LENGTH(2) 1984
2025	IOBLK	ADDRESS. HEX LOCATION(0000317E) IN CSECT(I4810 ) LENGTH(2) 1844 2078
2027	IODCB	ADDRESS. HEX LOCATION(00003182) IN CSECT(I4810 ) LENGTH(2) 1737 1740 1743 1752 1755 1758 1761 1763 1826 1832 2077

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
2028	IOMOD	ADDRESS. HEX LOCATION(00003184) IN CSECT(I4810 ) LENGTH(2)
40	I4810	CSECT. START(00002500) LENGTH(3660) ESDID(0)
2148	LINE1	ADDRESS. HEX LOCATION(0000326E) IN CSECT(I4810 ) LENGTH(40)
972	LST10	ADDRESS. HEX LOCATION(00002BCC) IN CSECT(I4810 ) LENGTH(2)
949	MI	ABSOLUTE. HEX VALUE(00000020)
2119	MVBUF	ADDRESS. HEX LOCATION(000031EE) IN CSECT(I4810 ) LENGTH(2)
62	MX	ABSOLUTE. HEX VALUE(00000204)
961	NG	ABSOLUTE. HEX VALUE(0000002C)
956	NI	ABSOLUTE. HEX VALUE(00000027)
474	N00001	ADDRESS. HEX LOCATION(000025C8) IN CSECT(I4810 ) LENGTH(2)
477	N00002	ADDRESS. HEX LOCATION(000025CC) IN CSECT(I4810 ) LENGTH(2)
480	N00003	ADDRESS. HEX LOCATION(000025D0) IN CSECT(I4810 ) LENGTH(2)
483	N00004	ADDRESS. HEX LOCATION(000025D4) IN CSECT(I4810 ) LENGTH(2)
486	N00005	ADDRESS. HEX LOCATION(000025D8) IN CSECT(I4810 ) LENGTH(2)
498	N00006	ADDRESS. HEX LOCATION(000025EA) IN CSECT(I4810 ) LENGTH(2)
504	N00007	ADDRESS. HEX LOCATION(000025F6) IN CSECT(I4810 ) LENGTH(2)
516	N00008	ADDRESS. HEX LOCATION(00002608) IN CSECT(I4810 ) LENGTH(2)
528	N00009	ADDRESS. HEX LOCATION(0000261A) IN CSECT(I4810 ) LENGTH(2)
540	N00010	ADDRESS. HEX LOCATION(0000262C) IN CSECT(I4810 ) LENGTH(2)
552	N00011	ADDRESS. HEX LOCATION(0000263E) IN CSECT(I4810 ) LENGTH(2)
555	N00012	ADDRESS. HEX LOCATION(00002642) IN CSECT(I4810 ) LENGTH(2)
561	N00013	ADDRESS. HEX LOCATION(0000264E) IN CSECT(I4810 ) LENGTH(2)
573	N00014	ADDRESS. HEX LOCATION(00002660) IN CSECT(I4810 ) LENGTH(2)
575	N00015	ADDRESS. HEX LOCATION(00002662) IN CSECT(I4810 ) LENGTH(2)
584	N00016	ADDRESS. HEX LOCATION(00002674) IN CSECT(I4810 ) LENGTH(2)
587	N00017	ADDRESS. HEX LOCATION(00002678) IN CSECT(I4810 ) LENGTH(2)
596	N00018	ADDRESS. HEX LOCATION(0000268A) IN CSECT(I4810 ) LENGTH(2)
599	N00019	ADDRESS. HEX LOCATION(0000268E) IN CSECT(I4810 ) LENGTH(2)
608	N00020	ADDRESS. HEX LOCATION(000026A2) IN CSECT(I4810 ) LENGTH(2)
617	N00021	ADDRESS. HEX LOCATION(000026B6) IN CSECT(I4810 ) LENGTH(2)
620	N00022	ADDRESS. HEX LOCATION(000026BA) IN CSECT(I4810 ) LENGTH(2)
623	N00023	ADDRESS. HEX LOCATION(000026BE) IN CSECT(I4810 ) LENGTH(2)
626	N00024	ADDRESS. HEX LOCATION(000026C2) IN CSECT(I4810 ) LENGTH(2)
629	N00025	ADDRESS. HEX LOCATION(000026C6) IN CSECT(I4810 ) LENGTH(2)
632	N00026	ADDRESS. HEX LOCATION(000026CA) IN CSECT(I4810 ) LENGTH(2)
638	N00027	ADDRESS. HEX LOCATION(000026D6) IN CSECT(I4810 ) LENGTH(2)
641	N00028	ADDRESS. HEX LOCATION(000026DA) IN CSECT(I4810 ) LENGTH(2)
647	N00029	ADDRESS. HEX LOCATION(000026E6) IN CSECT(I4810 ) LENGTH(2)
650	N00030	ADDRESS. HEX LOCATION(000026EA) IN CSECT(I4810 ) LENGTH(2)
656	N00031	ADDRESS. HEX LOCATION(000026F6) IN CSECT(I4810 ) LENGTH(2)
659	N00032	ADDRESS. HEX LOCATION(000026FA) IN CSECT(I4810 ) LENGTH(2)
665	N00033	ADDRESS. HEX LOCATION(00002706) IN CSECT(I4810 ) LENGTH(2)
677	N00034	ADDRESS. HEX LOCATION(00002718) IN CSECT(I4810 ) LENGTH(2)
679	N00035	ADDRESS. HEX LOCATION(0000271A) IN CSECT(I4810 ) LENGTH(2)
688	N00036	ADDRESS. HEX LOCATION(0000272C) IN CSECT(I4810 ) LENGTH(2)
697	N00037	ADDRESS. HEX LOCATION(0000273E) IN CSECT(I4810 ) LENGTH(2)
700	N00038	ADDRESS. HEX LOCATION(00002742) IN CSECT(I4810 ) LENGTH(2)
706	N00039	ADDRESS. HEX LOCATION(0000274E) IN CSECT(I4810 ) LENGTH(2)
715	N00040	ADDRESS. HEX LOCATION(00002760) IN CSECT(I4810 ) LENGTH(2)
724	N00041	ADDRESS. HEX LOCATION(00002772) IN CSECT(I4810 ) LENGTH(2)
727	N00042	ADDRESS. HEX LOCATION(00002776) IN CSECT(I4810 ) LENGTH(2)
730	N00043	ADDRESS. HEX LOCATION(0000277A) IN CSECT(I4810 ) LENGTH(2)
736	N00044	ADDRESS. HEX LOCATION(00002786) IN CSECT(I4810 ) LENGTH(2)
739	N00045	ADDRESS. HEX LOCATION(0000278A) IN CSECT(I4810 ) LENGTH(2)
745	N00046	ADDRESS. HEX LOCATION(00002796) IN CSECT(I4810 ) LENGTH(2)
748	N00047	ADDRESS. HEX LOCATION(0000279A) IN CSECT(I4810 ) LENGTH(2)
751	N00048	ADDRESS. HEX LOCATION(0000279E) IN CSECT(I4810 ) LENGTH(2)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
757	N00049	ADDRESS. HEX LOCATION(000027AA) IN CSECT(I4810 ) LENGTH(2)
61	OF	ABSOLUTE. HEX VALUE(00000202)
60	ON	ABSOLUTE. HEX VALUE(0000020D)
1667	ONE1	ADDRESS. HEX LOCATION(00002FD6) IN CSECT(I4810 ) LENGTH(2)
914	OPTN1	ADDRESS. HEX LOCATION(00002BC0) IN CSECT(I4810 ) LENGTH(2)
937	OPTN3	ADDRESS. HEX LOCATION(00002EC4) IN CSECT(I4810 ) LENGTH(2)
104	PARMARA	ADDRESS. HEX LOCATION(0000196E) IN CSECT(I4810 ) LENGTH(1)
72	PID	ADDRESS. HEX LOCATION(000018D0) IN CSECT(I4810 ) LENGTH(1)
2162	PIDMSG10	ABSOLUTE. HEX VALUE(0000F1F0)
1031	PREP	ABSOLUTE. HEX VALUE(0000000C)
1646	RDDCB	ADDRESS. HEX LOCATION(00002FB4) IN CSECT(I4810 ) LENGTH(2)
1042	RELSD	ABSOLUTE. HEX VALUE(00000017)
1041	REQSD	ABSOLUTE. HEX VALUE(00000016)
1038	RICB	ABSOLUTE. HEX VALUE(00000013)
1590	RSDCB	ADDRESS. HEX LOCATION(00002F64) IN CSECT(I4810 ) LENGTH(2)
977	SCID	ADDRESS. HEX LOCATION(00002BCE) IN CSECT(I4810 ) LENGTH(2)
1694	SIDE	ADDRESS. HEX LOCATION(00003018) IN CSECT(I4810 ) LENGTH(2)
1601	SKDCB	ADDRESS. HEX LOCATION(00002F74) IN CSECT(I4810 ) LENGTH(2)
1029	START	ABSOLUTE. HEX VALUE(000000QA)
107	SUPSTAT	ADDRESS. HEX LOCATION(000019C4) IN CSECT(I4810 ) LENGTH(1)
1003	SVCAL	ADDRESS. HEX LOCATION(00002C02) IN CSECT(I4810 ) LENGTH(2)
1697	SYSIX	ADDRESS. HEX LOCATION(0000301E) IN CSECT(I4810 ) LENGTH(2)
98	TUBUFF	ADDRESS. HEX LOCATION(000018C2) IN CSECT(I4810 ) LENGTH(1)
95	TUHSGWTR	ADDRESS. HEX LOCATION(000018BA) IN CSECT(I4810 ) LENGTH(1)
79	TUPARM1	ADDRESS. HEX LOCATION(0000189A) IN CSECT(I4810 ) LENGTH(1)
80	TUPARM2	ADDRESS. HEX LOCATION(0000189C) IN CSECT(I4810 ) LENGTH(1)
81	TUPARM3	ADDRESS. HEX LOCATION(0000189E) IN CSECT(I4810 ) LENGTH(1)
101	TURESUL	ADDRESS. HEX LOCATION(000018C8) IN CSECT(I4810 ) LENGTH(1)
1001	TURTN	ADDRESS. HEX LOCATION(00002BFE) IN CSECT(I4810 ) LENGTH(2)
77	TUSTATUS	ADDRESS. HEX LOCATION(00001818) IN CSECT(I4810 ) LENGTH(1)
78	TUWORK	ADDRESS. HEX LOCATION(0000181A) IN CSECT(I4810 ) LENGTH(1)
1010	T3C02	ADDRESS. HEX LOCATION(00002C06) IN CSECT(I4810 ) LENGTH(6)
1164	T4850	ADDRESS. HEX LOCATION(00002C0E) IN CSECT(I4810 ) LENGTH(4)
1358	T4852	ADDRESS. HEX LOCATION(00002DC6) IN CSECT(I4810 ) LENGTH(4)
1420	T4854	ADDRESS. HEX LOCATION(00002E1A) IN CSECT(I4810 ) LENGTH(4)
1508	T4855	ADDRESS. HEX LOCATION(00002E9E) IN CSECT(I4810 ) LENGTH(4)
1322	T50E	ADDRESS. HEX LOCATION(00002DBE) IN CSECT(I4810 ) LENGTH(6)
1227	T50F	ADDRESS. HEX LOCATION(00002CEE) IN CSECT(I4810 ) LENGTH(4)
1318	T50K	ADDRESS. HEX LOCATION(00002DAE) IN CSECT(I4810 ) LENGTH(6)
1317	T50R	ADDRESS. HEX LOCATION(00002DAA) IN CSECT(I4810 ) LENGTH(4)
1199	T501	ADDRESS. HEX LOCATION(00002C8C) IN CSECT(I4810 ) LENGTH(4)
1195	T501A	ADDRESS. HEX LOCATION(00002C80) IN CSECT(I4810 ) LENGTH(6)
1203	T502	ADDRESS. HEX LOCATION(00002C9A) IN CSECT(I4810 ) LENGTH(6)
1220	T503	ADDRESS. HEX LOCATION(00002CDA) IN CSECT(I4810 ) LENGTH(4)
1216	T503A	ADDRESS. HEX LOCATION(00002CCE) IN CSECT(I4810 ) LENGTH(6)
1224	T505	ADDRESS. HEX LOCATION(00002CE8) IN CSECT(I4810 ) LENGTH(4)
1452	T54E	ADDRESS. HEX LOCATION(00002E94) IN CSECT(I4810 ) LENGTH(4)
1455	T54F	ADDRESS. HEX LOCATION(00002E9A) IN CSECT(I4810 ) LENGTH(4)
1544	T55E	ADDRESS. HEX LOCATION(00002F2A) IN CSECT(I4810 ) LENGTH(4)
1547	T55F	ADDRESS. HEX LOCATION(00002F30) IN CSECT(I4810 ) LENGTH(4)
1635	VRDCB	ADDRESS. HEX LOCATION(00002FA4) IN CSECT(I4810 ) LENGTH(2)
1624	WRDCB	ADDRESS. HEX LOCATION(00002F94) IN CSECT(I4810 ) LENGTH(2)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
		1758
953	XE	ABSOLUTE. HEX VALUE(00000024)
		1940 2002
951	XI	ABSOLUTE. HEX VALUE(00000022)
		1846 1987
1821	XIO	ADDRESS. HEX LOCATION(00003080) IN CSECT(I4810 ) LENGTH(4)
		1738 1741 1746 1753 1756 1759 1762
2002	XIOCK	ADDRESS. HEX LOCATION(00003148) IN CSECT(I4810 ) LENGTH(2)
		1856
2009	XIOCO	ADDRESS. HEX LOCATION(0000315A) IN CSECT(I4810 ) LENGTH(2)
		2007
1826	XIOCS	ADDRESS. HEX LOCATION(0000308A) IN CSECT(I4810 ) LENGTH(6)
		2018
2011	XIOCV	ADDRESS. HEX LOCATION(0000315E) IN CSECT(I4810 ) LENGTH(2)
		2005
2020	XIOCX	ADDRESS. HEX LOCATION(00003178) IN CSECT(I4810 ) LENGTH(4)
		2012
1895	XIOER	ADDRESS. HEX LOCATION(000030E6) IN CSECT(I4810 ) LENGTH(2)
		2026
1830	XIO1	ADDRESS. HEX LOCATION(0000309A) IN CSECT(I4810 ) LENGTH(4)
		1765 1822
1843	XIO2	ADDRESS. HEX LOCATION(000030C0) IN CSECT(I4810 ) LENGTH(2)
		1829
1855	XIO8	ADDRESS. HEX LOCATION(000030D4) IN CSECT(I4810 ) LENGTH(2)
		1860
65	XTRNL	ABSOLUTE. HEX VALUE(00000001)
		502 636 645 654 734 743 755

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