

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976

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3      COPY LOG7815                ** MAP EC HISTORY **
4      *****
5      *
6      *           *** PREREQUISITES ***
7      *
8      *           NONE
9      *
10     *****
11     *
12     *           *** MODIFICATIONS ***
13     *
14     *     CHANGES MADE TO MEET PROGRAM REQUIREMENTS
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 17DEC76 DATE 18JAN77 DATE 04MAR77 DATE 10JUN77
33     *           E.C. 578486 E.C. 578573 E.C. 578638 E.C. 578625
34     *
35     *           DATE 01MAR78 DATE         DATE         DATE
36     *           E.C. 755285 E.C.         E.C.         E.C.
37     *
38     *****
40     I7815     STAPT X'2500'         START ADDRESS OF ALL 'I' TYPE PROG
41     @QUES    EQU X'0100'         EQUATED VALUE FOR MDI STATEMENT
42     @FIXT    EQU X'0101'         EQUATED VALUE FOR MDI STATEMENT
43     @STOP    EQU X'0102'         EQUATED VALUE FOR MDI STATEMENT
44     @GOTO    EQU X'0200'         EQUATED VALUE FOR MDI STATEMENT
45     @CALL    EQU X'0201'         EQUATED VALUE FOR MDI STATEMENT
46     @INPT    EQU X'0300'         EQUATED VALUE FOR MDI STATEMENT
47     @QUXX    EQU X'0400'         EQUATED VALUE FOR MDI STATEMENT
48     @TUXX    EQU X'0500'         EQUATED VALUE FOR MDI STATEMENT
49     @NVLD    EQU X'0600'         EQUATED VALUE FOR MDI STATEMENT
50     @EQU    EQU X'0000'         EQUATE FOR EQUAL
51     @NE      EQU X'0004'         EQUATE FOR NOT EQUAL
52     @HI      EQU X'0008'         EQUATE FOR HIGH
53     @NH      EQU X'000C'         EQUATE FOR NOT HIGH
54     @LO      EQU X'0010'         EQUATE FOR LOW
55     @NL      EQU X'0014'         EQUATE FOR NOT LOW
56     @LT      EQU X'0010'         EQUATE FOR LESS THAN
57     @LE      EQU X'000C'         EQUATE FOR LESS THAN OR EQUAL TO
58     @GT      EQU X'0008'         EQUATE FOR GREATER THAN
59     @GE      EQU X'0014'         EQUATE FOR GREATER THAN OR EQUAL TO
60     @ON      EQU X'0200'         EQUATE FOR ON
61     @OFF     EQU X'0202'         EQUATE FOR OFF
62     @MX      EQU X'0204'         EQUATE FOR MIXED
63     @EBC     EQU X'0000'         EQUATE FOR EBCDIC DATA TRANSFER
64     @HEX     EQU X'0001'         EQUATE FOR HEX DATA TRANSFER
65     @XTRNL   EQU X'0001'         EQUATE FOR EXTERNAL REFERENCE
66     @INTRNL  EQU X'0000'         EQUATE FOR INTERNAL REFERENCE
67     @PARM    EQU X'0000'         EQUATE INDICATING PARAMETER
68     @DA      EQU X'0001'         EQUATE FOR DEVICE ADDRESS
69     @UA      EQU X'0002'         EQUATE FOR UNIT ADDRESS
70     @DUMMY   EQU X'0000'         DUMMY EQUATE
71     @PID     EQU *-X'0D00'         ADDRESS OF MDI HEADER
72     @PTYPE   EQU *-X'22CE'         ADDRESS OF PROCESSOR TYPE FIELD
73     @STEPNUM EQU PID+X'000C'         ADDRESS OF DECIMAL STEP NUMBER
74     @OPWD1   EQU PID+X'000E'         ADDRESS OF OPTION WORD ONE
75     @OPWD2   EQU PID+X'0010'         ADDRESS OF OPTION WORD TWO
76     @TUSTATUS EQU PID+X'0018'         ADDRESS OF TU STATUS WORD
77     @TWORK   EQU PID+X'001A'         ADDRESS OF TU WORK AREA
78     @TUPARM1 EQU PID+X'009A'         ADDRESS OF PARM 1 POINTER
79     @TUPARM2 EQU PID+X'009C'         ADDRESS OF PARM 2 POINTER
80     @TUPARM3 EQU PID+X'009E'         ADDRESS OF PARM 3 POINTER
81     @TUPARM4 EQU PID+X'00A0'         ADDRESS OF PARM 4 POINTER
82     @TUPARM5 EQU PID+X'00A2'         ADDRESS OF PARM 5 POINTER
83     @TUPARM6 EQU PID+X'00A4'         ADDRESS OF PARM 6 POINTER
84     @TUPARM7 EQU PID+X'00A6'         ADDRESS OF PARM 7 POINTER
85     @TUPARM8 EQU PID+X'00A8'         ADDRESS OF PARM 8 POINTER
86     @TUPARM9 EQU PID+X'00AA'         ADDRESS OF PARM 9 POINTER
87     @TUPARM10 EQU PID+X'00AC'        ADDRESS OF PARM 10 POINTER
88     @TUPARM11 EQU PID+X'00AE'        ADDRESS OF PARM 11 POINTER
89     @TUPARM12 EQU PID+X'00B0'        ADDRESS OF PARM 12 POINTER
90     @TUPARM13 EQU PID+X'00B2'        ADDRESS OF PARM 13 POINTER
91     @TUPARM14 EQU PID+X'00B4'        ADDRESS OF PARM 14 POINTER
92     @TUPARM15 EQU PID+X'00B6'        ADDRESS OF PARM 15 POINTER
93     @TUPARM16 EQU PID+X'00B8'        ADDRESS OF PARM 16 POINTER
94     @TUMSGWTR EQU PID+X'00BA'         ADDRESS OF -> TO COMMON MSG WRITER
95     @TUUA    EQU PID+X'00BA'         ADDRESS OF UNIT ADDRESS IN EBC
96     @TUDA    EQU PID+X'00C0'         ADDRESS OF DEVICE ADDRESS IN EBC
97     @TUBUFF  EQU PID+X'00C2'         ADDRESS OF LAST USED WORD IN MAP
98     @TULAST  EQU PID+X'00C4'         ADDRESS OF LAST ADDRESSABLE WORD
99     @TURESUL EQU PID+X'00C6'         ADDRESS OF LENGTH OF TU RESULTS
100    @TURESUL EQU PID+X'00C8'         ADDRESS OF TU RESULTS FIELD
101    @MAPNAME  EQU PID+X'00FC'         ADDRESS OF MAP NAME FIELD IN HEX
102    @TUINPT  EQU PID+X'0148'         ADDRESS OF SINPT DATA
103    @PARMADR1 EQU PID+X'016E'         ADDRESS OF PARM 14 POINTER
104    @DCADD1  EQU PID+X'01B8'         MDI POINTER
105    @DCADD2  EQU PID+X'01BA'         MDI POINTER
106    @SUPSTAT EQU PID+X'01C4'         ADDRESS OF MDI STATUS
107    @DEVADD  EQU PID+X'01D0'         ADDRESS OF DEVICE ADDRESS TABLE 0
108    @DEVADD1 EQU PID+X'01DA'         ADDRESS OF DEVICE ADDRESS TABLE 1
109    @DEVADD2 EQU PID+X'01E4'         ADDRESS OF DEVICE ADDRESS TABLE 2
110    @DEVADD3 EQU PID+X'01EE'         ADDRESS OF DEVICE ADDRESS TABLE 3
111    @DEVADD4 EQU PID+X'01F8'         ADDRESS OF DEVICE ADDRESS TABLE 4
112    @DEVADD5 EQU PID+X'0202'         ADDRESS OF DEVICE ADDRESS TABLE 5
113    @DEVADD6 EQU PID+X'020C'         ADDRESS OF DEVICE ADDRESS TABLE 6
114    @DEVADD7 EQU PID+X'0216'         ADDRESS OF DEVICE ADDRESS TABLE 7
115    @PRINT   OFF

```

002500  
000100  
000101  
000102  
000200  
000201  
000300  
000400  
000500  
000600  
000000  
000004  
000008  
00000C  
000010  
000014  
000018  
00001C  
000020  
000202  
000204  
000000  
000001  
000001  
000000  
000000  
000001  
000002  
000000  
001800  
000232  
00180C  
00180E  
001810  
001818  
00181A  
00181B  
00181C  
00181E  
001810  
001812  
001814  
001816  
001818  
00181A  
00181C  
00181E  
001820  
001822  
001824  
001826  
001828  
00182A  
00182C  
00182E  
001830  
001832  
001834  
001836  
001838  
00183A  
00183C  
00183E  
001840  
001842  
001844  
001846  
001848  
00184A  
00184C  
00184E  
001850  
001852  
001854  
001856  
001858  
00185A  
00185C  
00185E  
001860  
001862  
001864  
001866  
001868  
00186A  
00186C  
00186E  
001870  
001872  
001874  
001876  
001878  
00187A  
00187C  
00187E  
001880  
001882  
001884  
001886  
001888  
00188A  
00188C  
00188E  
001890  
001892  
001894  
001896  
001898  
00189A  
00189C  
00189E  
001900  
001902  
001904  
001906  
001908  
00190A  
00190C  
00190E  
001910  
001912  
001914  
001916

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002500 25EA                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 STAPT 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      *     $INPT
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      *
270      *     $TUXX
271      *     A) RULE EQUATE X'0500'
272      *     B) ADDRESS OF YES LEG RULE
273      *     C) TU BRANCH TO ADDRESS
274      *     D) TYPE OF COMPARE TO MAKE ON RESULTS
275      *     E) LENGTH OF COMPARE RESULTS
276      *     F) MASK FIELD FOR COMPARE
277      *     G) LENGTH OF PARAMETER IN BYTES
278      *     H) PARAMETER TO PASS TO THE TU
279      *     I) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER
280      *
281      *
282      *     $NVLD
283      *     A) RULE EQUATE X'0600'
284      *
285      *     ENTRY POINT TABLE
286      *     THIS TABLE CONTAINS THE ENTRY POINTS WITHIN THE MAP THAT
287      *     THE MAP CAN BE ENTERED FROM THESE ENTRY POINTS ARE
288      *     REFERENCED BY NAME AND ADDRESS. ENTRIES ARE AS FOLLOWS:
289      *
290      *     A) NAME OF ENTRY POINT
291      *     B) ADDRESS OF ENTRY POINT RULE TABLE
292      *
293      *     THE ENTRY POINT TABLE END IS INDICATED BY A X'0000'
294      *
295      *     MESSAGE TABLE
296      *     THIS TABLE CONTAINS THE MESSAGE PASSED TO THE OPERATOR
297      *     VIA THE MDI SUPERVISOR. THE TABLE IS AS FOLLOWS:
298      *
299      *     A) EQUATE FOR START OF MESSAGE BLOCK
300      *     B) NUMBER OF LINES OF MESSAGE
301      *     C) LENGTH OF FOLLOWING LINE
302      *     D) FIRST LINE OF MESSAGE
303      *     E) LENGTH OF FOLLOWING LINE
304      *     F) SECOND LINE OF MESSAGE
305      *     G) ETC.
306      *
307      *****
308      *****

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311 \*\*\*\*\*
312 \*\*\*\*\*
313 \*\* STEP AND RULE ADDRESS TABLE \*\*
314 \*\*
315 \*\*
316 \*\*\*\*\*
317 \*\*\*\*\*
318 DC AL2(N00001)
319 XL2'0001'
320 EQN00001 EQU 0001
321 DC AL2(N00002)
322 XL2'0002'

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425+ DC AL2(T72A)
426+ DC AL2(0)
427+ DC C'AA'
428+ ALIGN WORD
429+ DC AL2(PAPMARA)
430 N00010 \$NVLDT FT=(F00020)
431+ N00010 DC A(@NVLDT)
432 N00011 \$GOTO TYPE=INTRNL,EP=B,FT=(F00107),GTO=(N00005)

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
00273A          0003      539 F00157 EQU *
00273A          0003      540 DC AL2(0003)
00273C          002C      541 DC A(0044)
00273E          C5D5E2E4D9C540C9D 542 DC C10044 'ENSURE INTEGRITY OF 4962 DISK BY RUNNING THE'
00276A          002C      543 DC A(0044)
00276C          04F9F6F240D4C1D7E 544 DC C10044 '4962 MAPS --- DCP WILL AUTOMATICALLY RETURN '
00279A          000C      545 DC A(0012)
00279A          E3D640D4C1D740F7F 546 DC C10012 'TO MAP 7809.'
0027A6          0003      547 F00163 EQU *
0027A6          002A      548 DC AL2(0003)
0027A8          D5C5E640C4C540D4E 549 DC A(0042)
0027AA          002A      550 DC C10042 'NEW DE MUST BE INITIALIZED TO GSD FOPMAT. '
0027D4          D3D6C1C440C1D5C44 551 DC A(0042)
0027D6          0010      552 DC C10042 'LOAD AND EXECUTE THE 4962 DISK INITIALIZE '
002800          D7D9D6C7D9C1D4404 553 DC A(0016)
002802          554 DC C10016 'PROGRAM (78F0). '
002812          0000      555 HDIT 00B2
002814          0000      557+OPTN1 DC X'0000' PROGRAM OPTION CONTROL WOPD 1
002814          0000      558+* DC X'0000' PROGRAM OPTION CONTROL WOPD 2
000010          560+* BIT HEX
000010          561+B48 EQU 16 0 8 PROBLEM PROGRAM CONTROL BITS
000011          562+B49 EQU 17 1 4 *
000012          563+B50 EQU 18 2 2 * THESE BITS APE USED WITH THE
000013          564+B51 EQU 19 3 1 * SECOND OPTION WD AND ARE TO
000014          565+B52 EQU 20 4 8 * BE ASSIGNED BY FACH PROGRAMMER
000015          566+B53 EQU 21 5 4 *
000015          567+B54 EQU 22 6 2 *
000017          568+B55 EQU 23 7 1 *
000019          569+B56 EQU 24 8 8 *
000019          570+B57 EQU 25 9 4 *
00001A          571+B58 EQU 26 10 2 *
00001B          572+B59 EQU 27 11 1 *
00001C          573+B60 EQU 28 12 8 *
00001D          574+B61 EQU 29 13 4 *
00001E          575+B62 EQU 30 14 2 *
00001F          576+B63 EQU 31 15 1 *
00001F          577+CH EQU 30 14 2 CHARACTER SUPPLIED
00001F          578+CHP EQU 31 15 1 COMPARE OPEATION
002816          0000      580+OPTN3 DC X'0000' PROGRAM OPTION CONTROL WORD 3
581+*
582+* 0 MYSTERY INTERRUPT MI 8 CS STATUS IN PROGRESS CS
583+* 1 EPPOR INTERRUPT ER 9 CS AVAILABLE CSA
584+* 2 EXPECTED INTERRUPT XI 10 CS STATUS INTRERUPT ERP CE
585+* 3 INTERRUPT RECEIVED IN 11 ISB BITS ON (1-7) ISBON
586+*
587+* 4 EXPECTED EPP/ATTENT XE 12 TEST UNIT RESULTS VOID NG
588+* 5 HARD ERFOR FOUND HE 13 OIO CC ERROR IOCC
589+* 6 WRONG INTR LEVEL $LE 14 NO INTERRUPT NOIN
590+* 7 NO INTR EXPECTED NI 15 INTRERUPT CC ERPOP INCC
591+* BIT HEX
592+* MI EQU 32 0 8 MYSTERY INTERRUPT HAPPENED
593+* ER EQU 33 1 4 EPPOR RECEIVED ON INTERRUPT
594+* XI EQU 34 2 2 EXPECTED INTERRUPT CONTROL BIT
595+* IN EQU 35 3 1 INTRERUPT RECEIVED CONTROL BIT
596+* XE EQU 36 4 8 EXPECTED EPPOR RESPONSE
597+* HE EQU 37 5 4 HARD EPPOR, 8 RETRIES
598+* $LE EQU 38 6 2 INTRERUPT ON WRONG LEVEL ERFOR
599+* NI EQU 39 7 1 NO INTRERUPT EXPECTED E
600+* CS EQU 40 8 8 CYCLE STATUS IN PROGRESS
601+* CSA EQU 41 9 4 CYCLE STEAL AVAILABLE
602+* CE EQU 42 10 2 CYCLE STEAL STATUS INTRERUPT EPPOR
603+* ISBON EQU 43 11 1 ISB BITS ON (1-7)
604+* NG EQU 44 12 8 TEST UNIT RESULTS NO GOOD
605+* IOCC EQU 45 13 4 OIO CC ERFOR
606+* NOIN EQU 46 14 2 NO INTRERUPT
607+* INCC EQU 47 15 1 INTRERUPT CC ERROR
608+*
609+* COMMON BUFFER FOR PRINTING DATA
610+*
002818          0000      612+$TUID DC A(*-*) TEST UNIT IDENTIFICATION
00281A          0000      613+$IIOIN DC A(*-*) I/O AND INTP CONDITION CODES
00281C          0000      614+$ISB DC A(*-*) F7, INTR STATUS BYTE & DEV ADPS
00281E          0000      615+$LSTIO DC A(*-*) ADPS OF LAST I/O + 4 BYTES
002820          0000      616+$DEV1 DC A(*-*) DEVICE DEPENDENT DATA
002822          0000      617+$DEV2 DC A(*-*) *
002824          0000      618+$DEV3 DC A(*-*) *
002826          0000      619+$DEV4 DC A(*-*) *
002828          0000      620+$CTID EQU DEV1 READ ID BUFFER FOR IBIS & TERN
002828          0000      621+$DCBUF EQU * DCB BUFFEP FOR LAST DCB USED
002828          0000      622+$DCB1 DC A(*-*) LAST DCB TABLE, CONTROL WORD
00282A          0000      623+$DCB2 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
00282C          0000      624+$DCB3 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
00282E          0000      625+$DCB4 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
002830          0000      626+$DCB5 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
002832          0000      627+$DCB6 DC A(*-*) LAST DCB TABLE, CHAIN ADPS
002834          0000      628+$DCB7 DC A(*-*) LAST DCB TABLE, BYTE COUNT
002836          0000      629+$DCB8 DC A(*-*) LAST DCB TABLE, BUFFER ADDRESS
630+*
002838          0000      631+$CSBUF EQU * CYCLE STEAL DATA BUFFEP
00283A          0000      632+$CSTL1 DC A(*-*) CYCLE STEAL BUFFER, RESIDUAL ADPS
00283C          0000      633+$CSTL2 DC A(*-*) CYCLE STEAL WD 2, DEVICE DEPEND
00283E          0000      634+$CSTL3 DC A(*-*) CYCLE STEAL WD 3, DEVICE DEPEND
002840          0000      635+$CSTL4 DC A(*-*) CYCLE STEAL WD 4, DEVICE DEPEND
002842          0000      636+$CSTL5 DC A(*-*) CYCLE STEAL WD 5, DEVICE DEPEND
002844          0000      637+$CSTL6 DC A(*-*) CYCLE STEAL WD 6, DEVICE DEPEND
002846          0000      638+$CSTL7 DC A(*-*) CYCLE STEAL WD 7, DEVICE DEPEND
002848          0000      639+$CSTL8 DC A(*-*) CYCLE STEAL WD 8, DEVICE DEPEND
640+*
002848          0000      641+$SUBN DC A(*-*) LAST SUBROUTINE ADDRESS USED
00284A          00000000      642+$DATA DC 2A(*-*) OPTIONAL DATA
00284C          0021      643+$TNTL DC X'0021' INTRERUPT LEVEL REQUESTED
002850          0000      644+$TURTN DC A(*-*) TEST UNIT RETUFN ADPS TO MDI
002852          00B2      645+$DVID DC X'00B2' DEVICE ID
002854          19D0      646+$SVCAL DC A(DEVADD) ADPS OF DEVICE ADDRESS
002856          0000      647+ DC A(*-*) IBIS CYLINDER ADDRESS
648+*
649+* THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
650+* FUNCTION. THE RESULTS THAT WERE SET UP IN THE RESULTS APEA APE
651+* STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
652+*
002858          4020 2818 3C02      653+$T3C02 MVWI X'13C02', $TUID SET UP TEST UNIT ID
00285E          5700      654+ BXS (F7) RETURN TO MDI SUPVR
656 COPY COMEQU

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM COPP 1976
657 *****
658 *
659 * EQUATED NAMES FOR SUPPORTED SVC'S
660 *
661 *****
662 OUT EQU 0 OUT SVC
663 OUTIN EQU 1 OUTIN SVC
664 IDLE EQU 2 IDLE SVC
665 ASCII EQU 3 HEX TO ASCII SVC
666 CHNGE EQU 4 CHANGE LEVEL SVC
667 PGMCK EQU 5 ALLOW RETURN ON PPOGRAM CHECK SVC
668 EXIT EQU 6 EXIT SVC
669 TERM EQU 7 TERMINATE SVC
670 RESET EQU 8 RESET DEVICE SVC
671 RID EQU 9 READ ID SVC
672 STAPT EQU 10 START CYCLE STEAL SVC
673 STCSS EQU 11 START CYCLE STEAL STATUS SVC
674 PREP EQU 12 PREPAPE DEVICE SVC
675 PEADO EQU 13 PEAD WITH FUNCTION BIT 3 OFF SVC
676 PEAD1 EQU 14 PEAD WITH FUNCTION BIT 3 ON SVC
677 RSTAT EQU 15 READ STATUS SVC
678 WRITO EQU 16 WRITE WITH FUNCTION BIT 3 OFF SVC
679 WRIT1 EQU 17 WRITE WITH FUNCTION BIT 3 ON SVC
680 CTRL EQU 18 CONTROL SVC
681 RIBC EQU 19 RELEASE INTERRUPT CONTROL BLOCK SVC
682 CIBC EQU 20 CONNECT INTRERUPT CONTROL BLOCK SVC
683 HIO EQU 21 HALT I/O
684 RECSO EQU 22 REQUEST USE OF DCP DISK SVC
685 RELSD EQU 23 RELEASE USE OF DCP DISK SVC
686 HALT EQU 24 HALT SVC
687 ETOH EQU 25 EBCDIC TO HEX SVC (STRING)
688 HTOE EQU 26 HEX TO EBCDIC SVC (STRING)
689 ATOH EQU 27 ASCII TO HEX SVC (STRING)
690 HTOA EQU 28 HEX TO ASCII SVC (STRING)
691 ETOA EQU 29 EBCDIC TO ASCII SVC (STRING)
692 ATOE EQU 30 ASCII TO EBCDIC SVC (STRING)
693 READI EQU 31 READ DATA SETS FOR MDI/UTIL
694 WRITI EQU 32 WRITE DATA SETS FOR UTIL
695 *****
696 *
697 * EQUATES USED BY TU'S AS CONSTANTS
698 *
699 *
700 *****
701 PLUS EQU C'+ ' PLUS CHAR
702 MINUS EQU C-' MINUS CHAR
703 ZERO EQU 0
704 ONE EQU 1
705 TWO EQU 2
706 THREE EQU 3
707 FOUR EQU 4
708 FIVE EQU 5
709 SIX EQU 6
710 SEVEN EQU 7
711 EIGHT EQU 8
712 NINE EQU 9
713 TEN EQU 10
714 ELEVN EQU 11
715 TWELV EQU 12
716 THRTN EQU 13
717 FIVTN EQU 14
718 SIXTN EQU 15
719 SEVNTN EQU 16
720 EIGHTN EQU 17
721 NINTN EQU 18
722 ONE8 EQU 128
723 TWO56 EQU 256
724 ONEK EQU 1024
725 TWOK EQU 2048
726 THPEK EQU 3072
727 FOURK EQU 4096
728 M1 EQU -1
729 M2 EQU -2
730 M3 EQU -3
731 M4 EQU -4
732 *****
733 *
734 * THE FOLLOWING APE EQUATES FOR BIT DISPLACEMENTS FROM THE
735 * BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES.
736 *
737 *
738 *
739 *****
740 RSO EQU 0
741 BS1 EQU 1
742 BS2 EQU 2
743 BS3 EQU 3
744 BS4 EQU 4
745 BS5 EQU 5
746 BS6 EQU 6
747 BS7 EQU 7
748 BS8 EQU 8
749 RS9 EQU 9
750 BS10 EQU 10
751 BS11 EQU 11
752 BS12 EQU 12
753 BS13 EQU 13
754 BS14 EQU 14
755 BS15 EQU 15
756 T7835 COPY T7835 01DEC76
757 TUIT $ERF$ *****06FEB76**
760+*
761+* TEST UNIT
762+*
763+* (QU12) EXERCISER FOR ACCESS CONTROL ADJUSTMENT 12/01/76
764+*
765+* PURPOSE
766+*
767+* FUNCTION: LOOP ON SERKS
768+*
769+* : PROGRAM INITIALIZES ATTACHMENT.
770+* : RECALIBRATE
771+* : DETERMINE IF FORMAT IS GSD OR SDD
772+* : SEEKS (FWD) TO TRACK 300 (RD ID TO VERIFY TPACK 300)
773+* : SEEKS (REV) TO TRACK 150 (RD ID TO VERIFY TRACK 300)
774+* : LOOP ON SEEK OPERATION BETWEEN TRACKS 150-300-150-300 ETC
775+* : IF A SEEK 'COMPLETE' DOES NOT OCCUR WITHIN 100-300 MSEC AFTER

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
776\*\* : SEEK COMMAND, RESTART THE ROUTINE WITH A RECALIBRATE.
777\*\* : LOOP UNTIL CE INPUTS ANSWER TO MAP QUESTION.
778\*\* CALLING SEQUENCE
779\*\* PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
780\*\* : NO STATUS PASSED BACK TO MDI
781\*\* :
782\*\* :
783\*\* :
784\*\* : EXITS NORMAL
785\*\* : MDI TERMINATES LOOP.
786\*\* :
787\*\* : EXITS EPROR
788\*\* : NONE
789\*\* :
790\*\* RETURN CONTROL
791\*\* :
792\*\* B TURTN\* RETURN TO MDI SUPERVISOR
793\*\* :
794\*\* \*\*\*\*\*
795\*\* MVW R7,TURTN SAVE RETURN ADDRESS
796\*\* MVWI X'7835',STUID SAVE TU ID FOR DISPLAY
797\*\* MVA OPTN1,R4 SET UP POINTER ADRS IN R4
798\*\* BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
799\*\* DC A(\$ERR\$) ERROR ADRS FOR INVALID PREP
800\*\* :
801\*\* MVB PTYPE,P0 DETERMINE TYPE OF PROCESSOR
802\*\* CBI 37,R0 \*
803\*\* JBE T35T \*
804\*\* MVWI X'44EC',T35T1+2 LOAD TIME CONSTANT FOR 2 SEC
805\*\* MVWI X'44EC',T35T3+2 LOAD TIME CONSTANT FOR 2 SEC
806\*\* MVWI X'44EC',T35T4+2 LOAD TIME CONSTANT FOR 2 SEC
807\*\* J TS12B \*
808\*\* T35T MVWI X'6400',T35T1+2 (4953) LOAD TIME CONS FOR 2 SEC
809\*\* MVWI X'6400',T35T3+2 (4953) LOAD TIME CONS FOR 2 SEC
810\*\* MVWI X'6400',T35T4+2 (4953) LOAD TIME CONS FOR 2 SEC
811\*\* TS12B MVA IOBLK,R7 SETUP IOBLK
812\*\* SVC RESET ISSUE IO RESET
813\*\* BAL \$RECL,R6 RECALIBRATE
814\*\* DC A(\$ERR\$) ERROR-EXIT
815\*\* MVWI 0,SKDCB+2 SELECT HEAD
816\*\* MVWI X'400',SKDCB+8 SELECT HEAD ONE
817\*\* BAL \$SEK,R6 SEEK NOOP - SELECT HEAD
818\*\* DC A(\$ERR\$) ERROR-EXIT
819\*\* BAL SDD,R6 DETERMINE FORMAT (SDD OR GSD)
820\*\* TBT (R4,B59) WAS ID FORMAT DETERMINED?
821\*\* BON \$ERR\$ NO - EXIT
822\*\* TBT (R4,B60) IS HEAD POSITIONED AT HOME (SDD FMT)
823\*\* JON S12K YES
824\*\* TBT (R4,B62) IS HEAD POSITIONED AT HOME (GSD FMT)
825\*\* BOFF \$ERR\$ NO - EXIT
826\*\* S12K MVWI X'0005',SKDCB SEEK
827\*\* MVWI 300,SKDCB+2 FORWARD DIRECTION 300 TRACKS
828\*\* TBT (R4,NI) SET NO INTERRUPT EXPECTED
829\*\* BAL \$SEK,R6 SEEK
830\*\* DC A(\$ERR\$) ERROR EXIT
831\*\* T35T1 MVWI X'0000',R0 TIME OUT - 100-300 MSEC (100)
832\*\* JCT \*R0 \*
833\*\* TBTR (R4,IN) INTERRUPT RECEIVED?
834\*\* BOFF TS12B NO- RECAL AND LOOP
835\*\* BAL \$RDID,R6 READ ID
836\*\* DC A(\$ERR\$) ERROR-EXIT
837\*\* TBTR (R4,ER) ERROR-EXIT
838\*\* JON S12A INTERRUPT ERROR?
839\*\* TBT (R4,B60) YES- RECAL AND LOOP
840\*\* JON S12N SDD FORMAT?
841\*\* CWI 300,SCTID+2 CYL 300 (GSD FORMAT)?
842\*\* JNE TS12A NO- RECAL AND LOOP
843\*\* J S12O YES
844\*\* S12N CB NIX,SCTID+1 CYL 300 (SDD FORMAT)?
845\*\* JE S12P YES-CHECK OTHER HALF OF CYL ID
846\*\* J TS12A NO - RECAL AND LOOP
847\*\* S12P CB SVB,SCTID+2 CYL 300 (SDD FORMAT)?
848\*\* BNE TS12A NO- RECAL AND LOOP
849\*\* J S12O YES
850\*\* S12M BAL \$CONC,R6 CONNECT AND PREPARE
851\*\* DC A(\$ERR\$) ERROR
852\*\* S12Q MVWI X'0896',SKDCB+2 SET SEEK REVERSE 150 TRACKS
853\*\* TBTS (R4,NI) SET NO INTERRUPT EXPECTED
854\*\* BAL \$SEK,R6 SPEK TO TPACK 150
855\*\* DC A(\$ERR\$) ERROR-EXIT
856\*\* T35T3 MVWI X'0000',R0 TIME OUT - 100-300 MSEC (100)
857\*\* JCT \*R0 \*
858\*\* TBTR (R4,IN) INTERRUPT RECEIVED?
859\*\* JOFF TS12B NO- RECAL AND LOOP
860\*\* BAL \$RDID,R6 READ ID
861\*\* DC A(\$ERR\$) ERROR-EXIT
862\*\* TBTR (R4,ER) INTERRUPT ERROR?
863\*\* JON S12A YES- RECAL AND LOOP
864\*\* TBT (R4,B60) SDD FORMAT?
865\*\* JON S12S YES
866\*\* CWI 150,SCTID+2 CYL 150 (GSD FORMAT)?
867\*\* JNE TS12A NO- RECAL AND LOOP
868\*\* J S12T YES
869\*\* S12S CB FBE,SCTID+1 CYL 150 (SDD FORMAT)?
870\*\* JE S12U YES-CHECK OTHER HALF OF CYL ID
871\*\* J TS12A NO - RECAL AND LOOP
872\*\* S12U CB SVB,SCTID+2 CYL 150 (SDD FORMAT) 2ND HALF
873\*\* JNE TS12A NO- RECAL AND LOOP
874\*\* S12T MVWI 150,SKDCB+2 FORWARD DIRECTION 150 TRACKS
875\*\* TBTS (R4,NI) SET NO INTERRUPT EXPECTED
876\*\* BAL \$SEK,R6 SEEK
877\*\* DC A(\$ERR\$) ERROR-EXIT
878\*\* T35T4 MVWI X'0000',R0 TIME OUT - 100-300 MSEC (100)
879\*\* JCT \*R0 \*
880\*\* TBTP (R4,IN) INTERRUPT RECEIVED?
881\*\* JOFF TS12B NO- RECAL AND LOOP
882\*\* TXIT EXIT
883\*\* B \$CONX RETURN TO MDI CONTROLLER
884\*\* \*\*\*\*\*
885\*\* SVB DC X'7B00' CONSTANT FOR SDD FORMAT
886\*\* NIX DC X'9600' CONSTANT
887\*\* FBE DC X'4B00' CONSTANT
888\*\* \*
889\*\* \*

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00298C 6E0D 29E4 890 SDD MVW R6,S12R+2 SETUP RETURN ADDRESS
002990 4C9B 891 TBTR (R4,B59) RESET INDICATORS
002992 4C9C 892 TBTR (R4,B60) \*
002994 4C9E 893 TBTR (R4,B62) \*
002996 4C9F 894 TBTR (R4,B64) \*
002998 4020 2A34 3A00 895 MVWI X'3A00',RSDCB+4 LOG SECT 3B (PHY SEC -1)
00299E 6E03 2BD6 896 BAL \$RDID,R6 READ ID
0029A2 2DDC 897 DC A(\$ERR\$) ERROR-EXIT
0029A4 402F 2824 013B 898 CWI X'013B',SCTID+4 GSD FMT?
0029AA 1015 899 JE S12B YES
0029AC 802B 2821 2823 900 CB SCTID+1,SCTID+3 MUST BE SDD FORMAT (COMP BYTO TO 2)
0029B2 1002 901 JE S12C MAYBE
0029B4 4C5B 902 S12D TBTS (R4,B59) UNDETERMINED FORMAT
0029B6 5015 903 J S12R RETURN
0029B8 802B 2822 2824 904 S12C CB SCTID+2,SCTID+4 2ND BYTE OF SDD TO 3RD BYTE
0029BE 187A 905 JNE S12D UNDETERMINED FORMAT
0029C0 802B 2AC0 2821 906 CB ZER00,SCTID+1 CYL ZERO?
0029C6 1001 907 JE S12F \*
0029C8 500C 908 S12G J S12R FMT=SDD,NOT ON TRACK 0,FETUPN
0029CA 802B 2986 2822 909 S12F CB SVB,SCTID+2 COMP SDD HEAD AND SECTOR
0029D0 1000 910 JE S12H SDD FORMAT
0029D2 4C5C 911 S12H TBTS (R4,B60) FMT=SDD,HEAD ON TRACK 0
0029D4 5006 912 J S12R RETURN
0029D6 402F 2822 0000 913 S12B CWI 0,SCTID+2 CYL ZERO?
0029DC 1001 914 JE S12J YES
0029DE 4C5F 915 TBTS (R4,B63) FMT=GSD,NOT ON TRACK ZERO
0029E0 4C5E 916 S12J TBTS (R4,B62) FMT=GSD,HEAD ON TRACK ZERO
0029E2 6802 0000 917 S12R B \*- RETURN TO CALLER
918 \*
919 \*
921 COPY T7872 01DEC76
922 \*\*\*\*\*
923 \*T7872
924 \* THIS TU INHIBITS INTERRUPT 12/01/76\*
925 \* CALLING ROUTINE LOOPS ON T72A \*
926 \*\*\*\*\*
0029E6 6F0D 2850 0020 927 T7872 MVW R7,TURTN SAVE RETURN ADDRESS
0029EA 4020 2D98 0020 928 MVWI X'0020',IODCB PREP TO LEVEL 2 WITH THE 'I' BIT OFF
0029F0 4724 2D94 929 MVA IOBLK,R7 \*
0029F6 5002 930 J T72B \*
0029F8 6F0D 2850 932 T72A MVW R7,TURTN SAVE RETURN ADDRESS
0029FC 6802 2E2C 933 T72B B \$CONX EXIT
934 \*
936 COPY T78DCB 01DEC76
937 \*\* (T78DCB)
938 \*\*\*\*\*12/1/76\*\*\*\*\*
939 \*
940 \* DCB TABLES AND DC'S
941 \*
942 \*\*\*\*\*
943 \*
944 \*\*\*\*\* DIAGNOSTIC DCB \*\*\*\*\*
945 \*
946 DGDCB DC X'2008' DIAGNOSTIC DCB
947 DC X'0000' NOT USED
948 DC A(\*-\*) 0-7 = PHYSICAL SECTOR # MINUS ONE
949 DC X'0000' NOT USED
950 DC X'0000' NOT USED
951 DC A(\*-\*) CHAINING ADDRESS
952 DC X'0100' BYTE COUNT
953 DC A(\*-\*) DATA ADDRESS
954 \*
955 \*
956 \*\*\*\*\* RECALIBRATE DCB \*\*\*\*\*
957 \*
958 CLDCB DC X'0007' RECALIBRATE DCB
959 DC 7A(\*-\*)
960 \*
961 \*\*\*\*\* WRITE SECTOR ID \*\*\*\*\*
962 \*
963 WSDCB DC X'0002' WRITE SECTOR ID CONTROL WORD
964 DC X'0000' NOT USED
965 DC A(\*-\*) 0-7 = PHYSICAL SECTOR # MINUS ONE
966 DC A(\*-\*) NOT USED
967 DC A(\*-\*) NOT USED
968 DC A(\*-\*) CHAIN ADDRESS
969 DC X'0006' BYTE COUNT
970 DC A(WRSID) ADDR OF SECTOR ID DATA
971 \*\*\*\*\* READ SECTOR ID DCB \*\*\*\*\*
972 \*
973 RSDCB DC X'200A' READ SECTOR ID
974 DC X'0000' NOT USED
975 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
976 DC X'0000' NOT USED
977 DC X'0000' NOT USED
978 DC X'0000' CHAIN ADDRESS
979 DC X'0000' BYTE COUNT FOR READ SECTOR ID
980 DC A(SCTID) SECTOR ID DATA ADDRESS
981 \*
982 \*
983 \*\*\*\*\* READ SECTOR ID IMMEDIATE DCB \*\*\*\*\*
984 \*
985 RIDCB DC X'200E' READ SECTOR ID
986 DC X'0000' NOT USED
987 DC X'0000' NOT USED
988 DC X'0000' NOT USED
989 DC X'0000' NOT USED
990 DC A(\*-\*) CHAIN ADDRESS
991 DC X'0006' BYTE COUNT FOR READ SECTOR ID
992 DC A(SCTID) SECTOR ID DATA ADDRESS
993 \*
994 \*
995 \*\*\*\*\* SEEK DCB \*\*\*\*\*
996 \*
997 SKDCB DC X'0005' SEEK DCB
998 DC X'0000' BIT 0-3=0;BIT4=DIRECTION;5-15=DIFFER
999 DC F'0'
1000 DC F'0'
1001 DC X'0000' 0-7 = HEAD;8-15 NOT USED
1002 DC A(\*-\*) CHAIN ADDRESS
1003 DC F'0' NOT USED
1004 DC F'0' NOT USED
1005 \*

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1006 \*\*\*\*\* CYCLE STEAL STATUS DCB \*\*\*\*\*
1007 \*
1008 CSDCB DC X'2000' CONTROL WORD
1009 F'0' NOT USED
1010 DC F'0' NOT USED
1011 DC F'0' NOT USED
1012 DC F'0' NOT USED
1013 DC F'0' NOT USED
1014 DC X'0008' 4 WORDS OF STATS
1015 DC A(CSBUF) ADDRESS OF CYCLE STEAL STATUS DATA
1016 \*
1017 \*\*\*\*\* WRITE DCB \*\*\*\*\*
1018 \*
1019 WRDCB DC X'0001' WRITE CONTROL WORD
1020 F'0' NOT USED
1021 DC X'0000' 0-7=0,8-15 = FLAG BYTE
1022 DC X'0000' SEARCH ARGUMENT CYLINDER
1023 DC X'0000' SEARCH ARGUMENT HEAD-SECTOR
1024 DC A(\*) CHAIN ADDRESS
1025 DC F'0' BYTE COUNT
1026 DC A(\*) WRITE DATA ADDRESS
1027 \*
1028 \*\*\*\*\* VERIFY DCB \*\*\*\*\*
1029 \*
1030 VRDCB DC X'200C' CONTROL WORD
1031 DC F'0' NOT USED
1032 DC X'0000' 0-7=0,8-15 = FLAG BYTE
1033 DC X'0000' CYLINDER
1034 DC X'0000' HEAD - SECTOR
1035 DC A(\*) CHAIN ADDRESS
1036 DC F'0' BYTE COUNT
1037 DC A(\*) VERIFY DATA ADDRESS
1038 \*
1039 \*\*\*\*\* READ DCB \*\*\*\*\*
1040 \*
1041 RDDBC DC X'2009' READ DCB CONTROL WORD
1042 DC F'0' NOT USED
1043 DC X'0000' 0-7=0,8-15 = FLAG BYTE
1044 DC X'0000' SEARCH ARGUMENT CYLINDER
1045 DC X'0101' SEARCH ARGUMENT H-P
1046 DC A(\*) CHAIN ADDRESS
1047 DC F'0' BYTE COUNT
1048 DC A(\*) READ DATA ADDRESS
1049 \*
1050 \*\*\*\*\* WRITE SECTOR ID SKEWED \*\*\*\*\*
1051 \*
1052 WKDCB DC X'0003' CONTROL WORD
1053 DC X'0000' NOT USED
1054 DC A(\*) 0-7 = PHYSICAL SECTOR # MINUS ONE
1055 DC X'0000' NOT USED
1056 DC A(\*) NOT USED
1057 DC A(\*) CHAIN ADDRESS
1058 DC X'0006' BYTE COUNT
1059 DC A(WFSID) ADDR OF SECTOR ID DATA
1060 \*
1061 \*\*\*\*\* READ SECTOR ID SKEWED \*\*\*\*\*
1062 \*
1063 PKDCB DC X'200B' CONTROL WORD
1064 DC X'0000' NOT USED
1065 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
1066 DC X'0000' NOT USED
1067 DC X'0000' NOT USED
1068 DC A(\*) CHAIN ADDRESS
1069 DC X'0006' BYTE COUNT FOR READ SECTOR ID
1070 DC A(SCTID) SECTOR ID DATA ADDRESS
1071 \*
1072 \* CONSTANTS AND DEFINED STORAGE LOCATIONS
1073 ZERO DC X'0000' CONSTANT ZERO
1074 ONE DC X'0001' CONSTANT ONE
1075 TIMEOUT DC 2A(\*) TIMEOUT COUNT
1076 TONE DC X'0000' CONSTANT FOR ADD DOUBLE
1077 \*
1078 COUNT DC X'0001' BYTE COUNT (1280)
1079 DIFF DC A(\*) SEEK DIFFERENC
1080 DXX DC A(\*) WORK WORD INT TO ZERO
1081 ECNT DC X'0000' BYTE COUNT
1082 JOE DC A(\*) WRITE PARAMETER POINTER
1083 JOE1 DC A(\*) SAVE LOC FOR PARM LIST ADDRESS
1084 WDATA DC X'DEB6' WRITE DATA
1085 DC X'6EED' \*
1086 TABLE DC A(\*) ADDR OF WPT PAR LIST FOR FOFMRT RN
1087 LGSEC DC X'0000' LOGICAL SECTOR #
1088 PHYSC DC X'0000' CONVERTED PHYSICAL SEC #
1089 CB29 DC X'1D00' CONSTANT BYTE 29
1090 FIVE9 DC X'3B00' CONSTANT BYTE 59
1091 WRSID DC X'0000' FLAG, CYLINDER (WRT SECTOR ID DATA)
1092 DC X'0000' CYLINDER, HEAD
1093 DC X'0000' LOG SECTOR, NOT USED
1094 CDAT DC X'00FF' INVALID DATA CONSTANT
1095 WSIDT DC X'FF34' WRITE SECTOR ID TEST DATA
1096 DC X'5678' \*
1097 DC X'9A00' \*
1098 SCTST DC X'0000' RPAD SECTOR ID TEST DATA BUFFER
1099 DC X'0000' \*
1100 DC X'0000' \*
1101 CTRP01 DC X'0000' COUNTER
1102 CTRP02 DC X'0000' COUNTER
1103 CTRP03 DC X'0000' COUNTER
1104 CTRP04 DC X'0000' COUNTER
1105 CTRP05 DC X'0000' COUNTER
1106 CTRP06 DC X'0000' COUNTER
1107 SAVR3 DC X'0000' SAVE AREA
1108 SAVR5 DC X'0000' SAVE AREA
1109 WR2 DC X'0000' \*
1110 SVSEK DC X'0000' \*
1111 ICT DC X'0000' \*
1112 T56AA DC X'0000' \*
1113 T56BA DC X'0000' \*
1114 T56CC DC X'0000' \*
1115 T56DD DC X'0000' \*
1116 T56EE DC X'0000' \*
1117 T56FF DC X'0000' \*
1118 T56GG DC X'0000' \*
1119 T86AA DC X'0000' \*

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002E20 0000 1120 T86BR DC X'0000'
002E22 0000 1121 T86CC DC X'0000'
002E24 0000 1122 T86DD DC X'0000'
002E26 0000 1123 T86EE DC X'0000'
002E28 0000 1124 T86FF DC X'0000'
002E2A 0000 1125 T86GG DC X'0000'
002E2C 0000 1126 T41D DC X'0000'
002E2E 0000 1127 T41E DC X'0000'
002E30 0000 1128 WRLCT DC X'0000'
002E32 0000 1129 CYLOC DC X'0000'
002E34 0000 1130 PASS1 DC A(\*)
002E36 0000 1131 HEAD0 DC A(\*)
002E38 0000 1132 HEAD1 DC A(\*)
002E3A 0000 1133 GDSE0 DC A(\*)
002E3C 0000 1134 GDSE1 DC A(\*)
002E3E 0000 1135 ERO0 DC A(\*)
002E40 0000 1136 ERO1 DC A(\*)
002E42 0000 1137 HDOSV DC A(\*)
002E44 0000 1138 HD1SV DC A(\*)
002E46 0000 1139 EROSV DC A(\*)
002E48 0000 1140 EP1SV DC A(\*)
002E4A 0000 1141 PATTP DC A(\*)
002E4C 0000 1142 CECYL DC A(\*)
002E4E 0000 1143 STATS DC A(\*)
1144 \*
1146 \*\* COPY T78IO 01DEC76
1147 \*\* (T78IO)
1149 \*\*\*\*\*12/01/76\*\*\*\*\*
1150 \* SUBROUTINE
1151 \*
1152 \* PURPOSE
1153 \*
1154 \* COMPARE READ SECTOR ID DATA TO WRITE SECTOR ID DATA
1155 \* NORMAL AND TEST DATA.
1156 \*
1157 \* CALLING SEQUENCE
1158 \*
1159 \* BAL CMPFW,R6 (NORMAL)
1160 \* BAL CMPRT,R6 (TEST)
1161 \*
1162 \* RETURN
1163 \*
1164 \* BXS (R6,2) - NORMAL
1165 \*
1166 \*
1167 \*\*\*\*\*
1168 \*
1169 CMPRT MVWI 5,R7 BYTE COUNT
002E54 4724 2AF5 MVA SCTST+1,R3 ADDR OF RD SECT ID DATA (TEST)
002E58 4524 2AE E MVA WSIDT,R5 ADDR OF WR SECT ID DATA (TEST)
1171 J TT4Y
1172 \*
1173 CMPRW MVWI 5,R7 COMPARE BYTE COUNT
002E62 4324 2821 MVA SCTID+1,F3 ADDR OF RD SEC ID DATA
002E66 4524 2AE6 MVA WRSID,R5 ADDR OF WR SEC ID DATA
002E6A 2BA6 CFMEN (R3),(R5) COMPARE ID DATA
002E6C 68C0 BE (R6,2) RCH IF WRITE ID DATA OK
002E70 68D2 0000 B (R6)\* COMPARE ERROR
1179 \*
1180 \*\*\*\*\*
1181 \*
1182 \* SUBROUTINE
1183 \*
1184 \* PURPOSE
1185 \* CONVERT LOGICAL SECTOR NUMBER TO A PHYSICAL SECTOR MINUS
1186 \* ONE.
1187 \* SETUP LOGICAL SECTOR # IN LOCATION 'LGSEC'
1188 \* PHYSICAL SECTOR # WILL BE LOADED IN LOCATION 'PHYSC'
1189 \*
1190 \* LOGICAL SECTOR# TO PHYSICAL SECTOR# CONVERSION
1191 \* LOGICAL- X 00, 1E, 01, 1E, 02, 20, 03, 21, 04, 22, 05, 23, 06, 24,
1192 \* PHYSICAL X 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D,
1193 \*
1194 \* LOGICAL- 07, 25, 08, 26, 09, 27, 0A, 28, 0B, 29, 0C, 2A, 0D, 2B,
1195 \* PHYSICAL 0E, 0F, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B,
1196 \*
1197 \* LOGICAL- 0E, 2C, 0F, 2D, 10, 2F, 11, 2F, 12, 30, 13, 31, 14, 32,
1198 \* PHYSICAL 1C, 1D, 1E, 1F, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29,
1199 \*
1200 \* LOGICAL- 15, 33, 16, 34, 17, 35, 18, 36, 19, 37, 1A, 38, 1B, 39,
1201 \* PHYSICAL 2A, 2B, 2C, 2D, 2E, 2F, 30, 31, 32, 33, 34, 35, 36, 37,
1202 \*
1203 \* LOGICAL- 1C, 3A, 1D, 3B, X
1204 \* PHYSICAL 38, 39, 3A, 3B, X
1205 \*
1206 \*
1207 \* CALLING SEQUENCE
1208 \*
1209 \* BAL CONVT,F6
1210 \*
1211 \* RETURN
1212 \*
1213 \* B (TT304+2)
1214 \*
1215 \*\*\*\*\*
1216 \*
1217 CONVT MVW R6,TT304+2 SETUP RETURN ADDR
002E74 6E0D 2BB4 ZERO0,ZERO0, LGSEC+1 CK FOR LOG # ZERO
002E78 802F 2AC0 2ADF JB TT303 RCH IF LOG # IS ZERO
002E7E 100D CB LGSEC+1,CB29 CCMF LOG TO 29
002E80 802B 2ADF 2AE2 CB LGSEC+1,CB29 RCH IF LGSEC EQ OR LESS THAN CB29
1221 JGE RTT01 SETUP MULTIPLIER
1222 MVWI 2,R0 LOG SECTOR # TIMES 2
002E88 4024 0002 MB LGSEC+1,R0 LOG SEC TIMES 2 MINUS 80
002E8C E821 2ADF SWI 60,R0 PHYSICAL SECTOR NUMBER
002E90 7802 003C MVB R0,PHYSC+1 RETURN TO CALLER
1225 J TT304 PHYSICAL SECTOR # 59
002E94 C028 2AE1 J TT304 RETURN TO CALLER
002E98 5008 RTT01 J TT304
002E9A 8028 2AE4 2AE1 RTT01 MVW 2,R0 LOAD MULTIPLIER
002BA0 5008 RTT01 MVW 1,R0 LOG SECTOR # TIMES 2
002BA2 4024 0002 SWI 1,R0 SUBTRACT ONE
002BA6 E821 2ADF MVW R0,PHYSC+1 LOAD PHYSICAL SECTOR #
002BA8 7802 0001 RTT01 B \*-4 RETURN TO CALLER
002BAF C028 2AE1
002BB2 6802 0000

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
1235 *****
1236 *
1237 * SUBROUTINE
1238 *
1239 * PURPOSE
1240 *
1241 *          LOAD WRITE SECTOR ID DATA BUFFER FROM RD SEC ID BUFFER
1242 *
1243 * CALLING SEQUENCE
1244 *
1245 *          BAL LWSID,R6
1246 *
1247 * RETURN
1248 *
1249 *          BXS (R6)
1250 *
1251 *****
1252 *
1253 *
1254 LWSID MVWI 5,R7          BYTE COUNT
1255 MVA SCTLID+1,R3        ADDR OF RD SECT ID DATA BUFFER
1256 MVA WPSID,R5          ADDR OF WR SECT ID DATA BUFFER
1257 MVFN (R3),(R5)        MOV DATA FROM RD TO WR BUFFER
1258 BXS (R6)              RETURN TO CALLER
1259 *
1260 * EXECUTE INPUT & OUTPUT COMMANDS
1261 * TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
1262 * EACH OF THESE ENTRIES SET R7 WITH THE ADPS OF ITS PARAMETER
1263 * LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
1264 * SUPVR CALL.
1265 * THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
1266 * 1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
1267 * 2. ERROR INTERRUPTS RECEIVED FROM SUPVR
1268 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1269 *
1270 * 1 BAL SRKEW,R6          READ SECTOR ID SKEWED
1271 * 2 BAL $WKST,R6         WRITE SECTOR ID SKEWED (TEST)
1272 * 3 BAL $RWST,P6        READ SECTOR ID SKEWED (TEST)
1273 * 4 BAL $RIDS,R6       READ SECTOR ID (TEST)
1274 * 5 BAL $WKEW,R6       WRITE SECTOR ID SKEWED
1275 * 6 BAL $WSEC,R6       WRITE SECTOR ID
1276 * 7 BAL $WSTS,R6       WRITE SECTOR ID (TEST)
1277 * 8 BAL $DIAG,R6       DIAGNOSTIC
1278 * 9 BAL XIOCS,R6       CYCLE STEAL STATUS
1279 * 10 BAL $SEEK,R6      SEEK
1280 * 11 BAL $PECL,R6     RECALIBRATE
1281 * 12 BAL $RDID,P6     READ SECTOR ID
1282 * 13 BAL $RDV,P6      READ VERIFY
1283 * 14 BAL $RDVY,P6    READ VERIFY
1284 * 15 BAL $WRT,R6     WRITE
1285 *
1286 * $SEEK MVA SKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1287 * J
1288 *
1289 * $RECL MVA CLDCB,IODCB SET UP PLOCK FOR SVC CALL
1290 * J
1291 *
1292 * $RDID MVA RSDCB,IODCB SET UP BLOCK FOR SVC CALL
1293 * MVBI X'FFF',P3      SET BUFFER TO F'S
1294 * MVA SCTLID,R5      SETUP READ SECTOR ID BUFFER ADPS
1295 * MVWI 6,R7          SETUP BUFFER LENGTH
1296 * PPN R3,(P5)       INIT READ SECTOR ID BUFFER
1297 * MVA SCTLID,RSDCB+14 DATA ADDR
1298 * J
1299 *
1300 * $RDV MVA RDDCB+14,R5 SETRD BUFFER TO ALL F'S
1301 * MVWI X'0100',P7   SET UP READ BUFFER ADPS
1302 * FPN R3,(R5)       SET UP BUFFER LENGTH
1303 * MVA RDDCB,IODCB  CLEAR READ BUFFER
1304 * J                  SET UP BLOCK FOR SVC CALL
1305 *
1306 * $RDVY MVA VRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1307 * J
1308 *
1309 * $WRT MVA WPDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1310 * J
1311 *
1312 * $RKFW MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1313 * MVBI X'FFF',R3    SET BUFFER TO F'S
1314 * MVA SCTLID,R5    SETUP READ SECTOR ID BUFFER ADPS
1315 * MVWI 6,R7        SETUP BUFFER LENGTH
1316 * PPN R3,(P5)     INIT READ SECTOR ID BUFFER
1317 * MVA SCTLID,RKDCB+14 DATA ADDR
1318 * J
1319 *
1320 * $WKST MVA WKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1321 * MVA WSIDT,WKDCB+14 DATA ADDR
1322 * J
1323 *
1324 * $RWST MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1325 * MVA SCTLID,RKDCB+14 DATA ADDR
1326 * J
1327 *
1328 * $RIDS MVA RSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1329 * J
1330 *
1331 *
1332 *
1333 *
1334 *
1335 *
1336 *
1337 *
1338 *
1339 *
1340 *
1341 *
1342 *
1343 *
1344 *
1345 *
1346 *
1347 *
1348 *
1349 *

```

```

002BB6 4724 0005
002BBA 4324 2821
002BBE 4524 2AE6
002BC2 2BA4
002BC4 5600

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM COPP 1976
002C50 0BFF          1350 MVBI X'FFF',R3      SET BUFFER TO F'S
002C52 4524 2AF4    1351 MVA SCTLID,R5      SETUP READ SECTOR ID BUFFER ADPS
002C56 4724 0006    1352 MVWI 6,R7          SETUP BUFFER LENGTH
002C5A 2BAC        1353 FPN R3,(P5)       INIT READ SECTOR ID BUFFER
002C5C 4020 2A3E 2AF4 1354 MVA SCTLID,RSDCB+14 DATA ADDR
002C62 5019        1355 J
002C64 4020 2D98 2AA0 1356 *
002C6A 4020 2AAE 2AE6 1357 $WKEW MVA WKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002C70 5012        1358 MVA WRSID,WKDCB+14 DATA ADDR
002C72 4020 2D98 2A20 1359 J
002C78 4020 2A2E 2AE6 1360 *
002C7E 500B        1361 $WSEC MVA WSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002C80 4020 2D98 2A20 1362 MVA WSID,WSDCB+14 DATA ADDR
002C86 4020 2A2E 2AE6 1363 J
002C8C 5004        1364 $WSTS MVA WSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002C8E 4020 2D98 2A00 1365 MVA WSIDT,WSDCB+14 DATA ADDR
002C94 5000        1366 J
1367 *
1368 $DIAG MVA DGDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1369 J
1370 XEQIT
1371 *****29JUL76**
1372**
1373** SUB-ROUTINE
1374**
1375** EXECUTE INPUT AND OUTPUT COMMANDS
1376**
1377** PURPOSE
1378**
1379** TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
1380** THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
1381**
1382** 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
1383** THE I/O COMMAND.
1384** 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
1385** ISSUED BY THIS SUBROUTINE.
1386** 3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
1387** START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
1388** 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
1389** SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
1390** MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
1391** 5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
1392** EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC START'.
1393** 6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
1394** STARTS TO DETERMINE A LOST INTERRUPT.
1395** 7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
1396** WAS AN EPPROP OF OKAY AND EXIT OFF THE INTERRUPT LEVEL.
1397** 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
1398** 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
1399** 10. CHECK IF THERE WAS AN EPPROP CONDITION, IF NOT RETURN.
1400** 11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
1401** 12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
1402** ISSUED BY THIS SUBROUTINE.
1403** 13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
1404** CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
1405** COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
1406**
1407** CALLING SEQUENCE
1408**
1409** THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1410**
1411** --> BAL XIO OR XEQ ANY CYCLE STEAL COMMAND, MOD=0
1412** --> BAL XIO1 MOD PARM PRELOADED IN 'TOMOD'
1413** --> BAL XIOCS,R6 OF XEQ START CYCLE STEAL STATUS, MOD=F
1414** --> BAL XIOCS-4,P6 AUTO CS STATUS (FOLLOWING OTHER XIO
1415** AND DOES NOT POST INTERRUPT STATUS)
1416**
1417** RETURN CONTROL
1418**
1419** BXS (P6,2) RETURN TO USER NO EPPROP
1420** OR B (R6)* RETURN AND RETRY ON EPPROP
1421*****
1422** $XIO MVWZ ICMOD,P3 SET MOD OF 0 FOR CYCLE STEAL OP
1423** J XIO1 CS I/O'S ARE NOT RETRIED
1424**
1425**
1426** TBTR (P4,CE) RESET CS STATUS INTER EPPROP INDICAT.
1427** TBTS (P4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
1428** $XIOCS MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1429** MVWI X'0000',IOMOD SET CYCLE STEAL MODIFIER
1430** TBT (P4,CS) IS CS IN PROGRESS, EPPROP CONDITION
1431** JON XIO2 * YES, BYPASS SAVING I/O ADPS
1432** $XIO1 MVW P6,LSTIO SAVE IAP FOR RETRY IF REQUESTED
1433** MVA DCBUP,R3 SET UP TO ADPS TO MOVE DCB TABLE
1434** MVW IODCB,R5 * AND THE FROM ADPS, ALONG WITH
1435** MVBI 16,P7 * THE NUMBER OF MOVES
1436** MVFN (P5),(P3) MOVE 1 STATUS WORD AND ADJUST
1437** MVA CSBUF,P5 CLEAR CYCLE STATUS BUFFER
1438** * TO ALL ONES *
1439**
1440** FPN R3,(R5) *
1441** MVWI X'0708',SIOIN OVERLAY OLD CONDITION CODES
1442** MVWZ SISB,P3 ZEP0 OUT OLD ISB VALUE
1443**
1444** TBTR (R4,EP) RESET ANY EPPROP BEFORE I/O COMMAND
1445** TBTP (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
1446** MVA IOBLK,R7 SET UP CONTROL BLOCK FOR SUPVR
1447** TBTR (R4,IE) RESET LEVEL EPPROP INDICATOR
1448** TBTS (R4,IT) SET EXPECTED INTR CONTROL BIT
1449** SVC START CALL SUPVR FOR I/O COMMAND
1450**
1451** TBTP (R4,NI) IS AN INTR EXPECTED
1452** BN (P6,2) * NO, RETURN TO USER
1453**
1454** THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
1455**
1456** MVBI X'00',R5 SET UP WORK REG FOR 'LOST INTP'
1457** $XIO8 TBTR (R4,IN) HAS INTERRUPT BEEN RECEIVED
1458** JON XIOCK * YES, CHECK IF ALL WAS SATISFACTORY
1459** SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
1460**
1461** AWI 1,P5 SUPVR WILL RETURN HERE
1462** JNZ XIO8 ADVANCE TIME OUT COUNT
1463** TBTS (R4,EF) BCH IF TIME OUT NOT REACHED
1464** B (R6)* SET ON ERROR CONTROL BIT
1465** EPP 'NO INTERRUPT'

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1466+\*\*\*\*\*03FEB76\*\*
1467+ SUBROUTINE
1469+ I/O EXECUTE ERROR HANDLING ROUTINE
1470+ PURPOSE
1471+ THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
1472+ PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
1473+ SUPERVISOR AND IT WAS NOT ACCEPTED.
1474+ CALLING SEQUENCE
1475+ SUPVP WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
1476+ RETURN CONTROL
1477+ B (R6) \* RETURN TO USERS ERROR HANDLER
1478+ \*\*\*\*\*
1479+ CC 0= DEVICE NOT ATTACHED
1480+ FOR 1= DEVICE BUSY
1481+ I/O 2= DEVICE BUSY AFTER RESET
1482+ 3= COMMAND REJECT
1483+ 4= INTERVENTION REQUIRED
1484+ 5= INTERFACE DATA CHECK
1485+ 6= CONTROLLER BUSY
1486+ 7= I/O COMMAND EXCEPTED
1487+ X'706E' COPY STATUS ANY LEVEL INTO R3
1488+ SRL 13,R3 POSITION CC CODE TO BITS 13-15
1489+ MVB R3,SIOIN \* PUT IN LOG OUT AREA
1490+ B (R6) \* RETURN TO USER ERROR HANDLER
1491+ \*\*\*\*\*14APR76\*\*
1492+ SUB-ROUTINE
1493+ ERROR INTERPUPT RUNS ON INTERRUPT LEVEL '\$INTL'
1494+ PURPOSE
1495+ THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN EPROF
1496+ OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE
1497+ EXPECTED CODE.
1498+ CALLING SEQUENCE
1499+ SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT
1500+ RETURN CONTROL
1501+ SVC EXIT RETURN TO USER VIA SUPVR
1502+ \*\*\*\*\*
1503+ CC 0= CONTROLLER END ISB 0= ADD STATUS
1504+ FOP 1= PROGRAM CONTROL INTERRUPT BITS 1= COMD REJECT
1505+ INTR 2= EXCEPTION INTERRUPT FOP 2= INCOR LENGTH
1506+ 3= DEVICE END INTERRUPT INTR 3= DCB SPEC CK
1507+ 4= ATTENTION INTERRUPT 4= STG DATA CK
1508+ 5= ATTENTION / PROGRAM CNTL INTR 5= INV STG ADPS
1509+ 6= ATTENTION / EXCEPTION INTR 6= PPOTRC CK
1510+ 7= ATTENTION / DEVICE END INTR 7= I-FACE DATA
1511+ X'706E' COPY STATUS ANY LEVEL INTO P3
1512+ SRL 13,P3 POSITION INDICATORS IN R3
1513+ MVA OPTN1,P4 SET UP BASE ADPS
1514+ TBT (R4,CS) IS CS IN PROGRESS
1515+ JOFF INTES \* NO
1516+ TETS (R4,CE) TURN ON CYCLE STEAL INTR EPPOR
1517+ MVB R7,CSTL8 SAVE CS ERR ISB VALUE, BITS 0-7
1518+ MVE R3,CSTL8+1 \* AND THE COND CODE
1519+ J INTF1
1520+ INTES TBT (R4,XE) TEST EXPECTED ATTN / EPPOR IND
1521+ JOFF INTET BCH IF NOT EXPECTED
1522+ CBI 4,P3 IS THIS AN 'ATTENTION' INTR
1523+ JE INTF1 \* YES, BCH TO END INTR SEQUENCE
1524+ TETS (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
1525+ J INTF1
1526+ THE ERROR INTERRUPT USES THE SAME
1527+ ENDING SEQUENCE AS THE NORMAL INTR
1528+ \*\*\*\*\*14APR76\*\*
1529+ SOUBROUTINE
1530+ OKAY INTERPUPT RUNS ON INTERRUPT LEVEL '\$INTL'
1531+ PURPOSE
1532+ TO CHECK THE INTERRUPT AND CONTINUE THE TEST
1533+ CALLING SEQUENCE
1534+ SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED
1535+ THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE
1536+ AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE
1537+ COMMON SECTION IS HANDLED HERE.
1538+ RETURN CONTROL
1539+ SVC EXIT RETURN TO USER VIA SUPVP
1540+ \*\*\*\*\*
1541+ INTOK DC X'706E' COPY STATUS ANY LEVEL INTO P3
1542+ SRL 13,P3 POSITION INDICATORS IN P3
1543+ MVA OPTN1,P4 SET UP BASE ADPS
1544+ TETS (R4,IN) SET INTERRUPT RECEIVED
1545+ JON INTF2 IS 'CS' IN PROGRESS ON
1546+ TBT (R4,CS) \* YES, BCH AROUND UPDATE
1547+ MVB R3,SIOIN+1 SAVE INTERRUPTING CC CODE
1548+ MVB P7,SISB SAVE INTR STATUS AND DEV ADPS
1549+ EQU \*

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1582+ CPCL P5 CUPRENT LEVEL COPIED BY DCP
1583+ SLL 4,R5 POSITION INTR LEVEL AND PUT
1584+ ABI 1,P5 \* IN 'I' BIT
1585+ CW INTL,P5 IS THIS THE CORRECT INTR LEVEL
1586+ JE INTRP3 \* YES, GO EXIT THIS LEVEL
1587+ TETS (R4,SLE) SET INTR LEVEL EPPOR CONTROL BIT
1588+ TETS (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
1589+ INTR3 TBTP (R4,XI) WAS INTERPUPT EXPECTED
1590+ JON INTRP3 \* YES, EXIT OFF THIS INTR LEVEL
1591+ TETS (R4,MI) \* NO SET MYSTERY INTR CONTROL BIT
1592+ CBI 4,P3 ATTENTION INTERPUPT?
1593+ JE INTRX YES
1594+ TETS (R4,NG) EPPOR UNEXPECTED INTERPUPT
1595+ INTRX SVC EXIT THIS LEVEL VIA SUPVP TO PGM
1596+ \*\*\*\*\*03FEB76\*\*
1597+ \*\*\*\*\*
1598+ \*\*\*\*\*
1599+ THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERPUPT
1600+ HAS BEEN SERVICED. THE EXERCISE FINDS AN INTERPUPT HAS BEEN
1601+ RECEIVED AND BRANCHES HERE TO CHECK FOR ANY EPROF CONDITIONS.
1602+ \*\*\*\*\*
1603+ \*\*\*\*\*
1604+ XIOCK TETR (R4,XE) WAS AN ERROR EXPECTED
1605+ BN (R6,2) \* YES, EXIT THIS ROUTINE
1606+ TETR (P4,CS) WAS AUTO CS IN PPOGRESS
1607+ JOFF XIOCV \* NO, CONTINUE CHECKING
1608+ TBT (R4,CE) IS 'CS' IN AN ERR CONDITION
1609+ JOFF XIOCV \* NO, BCH
1610+ B (R6) \* CS ERROR
1611+ XIOCO TETS (R4,CSA) TURN ON CS STATS AVAIL FLAG
1612+ BXS (R6,2) GO TO USER
1613+ XIOCV TBT (R4,EB) WAS EPPOR INTR CONTROL BIT ON
1614+ JOFF XIOCK \* NO, EXIT THIS ROUTINE
1615+ \*\*\*\*\*
1616+ MVB SIOIN+1,P5 GET LAST INTR CC CODE
1617+ CBI 2,R5 IS THIS CC=2
1618+ BNE (R6) \* NO, BCH TO ERROR HANDLER
1619+ XIOCV MVB SISB,R5 GET LAST ISB DATA BYTE AND IF CS
1620+ BN XIOCS-4 \* AVAILABLE, GO AND GET IT
1621+ B (R6) \* ERROR
1622+ XIOCX VMWZ (R6,3) CLEAR OUT OPTION 3 CNTL BITS
1623+ BXS (R6,2) RETURN TO USER VIA REG 6
1624+ \*\*\*\*\*
1625+ I/O PARAMETER LIST
1626+ \*\*\*\*\*
1627+ IOBLK DC A (DEVADD) ADPS OF DEVICE ADPS
1628+ DC A (XIOER) ERROR ROUTINE ADPS
1629+ IODCB DC A (\*-\*) DCB ADPS OR LEVEL & INTR
1630+ IOMOD DC A (\*-\*) MODIFIER
1631+ DC A (\*-\*) ADPS OF LAST SVC CALL
1632+ IORSP DC A (\*-\*) SECOND WORD OF LAST IDCB
1633+ \*\*\*\*\*
1634+ INTERPUPT CONTROL BLOCK FOR I/O COMMANDS
1635+ \*\*\*\*\*
1636+ INTBL DC A (DEVADD) ADPS OF DEVICE ADPS
1637+ DC A (INTOK) INTERRUPT OK RETURN ADPS
1638+ DC A (INTR) INTERRUPT EPROF ADPS
1639+ INTCC DC X'0003' INTERRUPT CODE EXPECTED
1640+ \*\*\*\*\*11MAY76\*\*
1641+ \*\*\*\*\*
1642+ \*\*\*\*\*
1643+ SUBROUTINE
1644+ \*\*\*\*\*
1645+ CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE
1646+ \*\*\*\*\*
1647+ PURPOSE
1648+ \*\*\*\*\*
1649+ TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
1650+ PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
1651+ TO INTERPUPT.
1652+ \*\*\*\*\*
1653+ CALLING SEQUENCE
1654+ \*\*\*\*\*
1655+ THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
1656+ \*\*\*\*\*
1657+ --> BAL \$CONC,P6 CLEAR DEV DEP STG AND CONNECT I/O BLK
1658+ --> BAL \$CONC,P6 PREPARE DEVICE ONLY, ALREADY CONNECT
1659+ \*\*\*\*\*
1660+ RETURN CONTROL
1661+ \*\*\*\*\*
1662+ BXS (R6,2) RETURN TO USER VIA REG 6 IF OKAY
1663+ OP B (R6) \* IF THE DEVICE COULD NOT BE CONNECTED
1664+ \*\*\*\*\*
1665+ \*\*\*\*\*
1666+ \$CONC MVBI 6,P7 NUMBER OF BYTE TO CLEAR
1667+ MVBI 0,P3 \* AND THE DATA TO USE
1668+ MVA DEV1,R5 \* ALONG WITH THE ADPS TO USE
1669+ FBN P3 (R5)
1670+ MVWZ OPTN1,P3 CLEAR OLD CONTROLS FOR NEW ROUTINE
1671+ MVA INTBL,P7 SET P7 TO CONTROL BLOCK AND
1672+ SVC CIOB \* CONNECT IT TO THIS DEVICE
1673+ BN (R6) \* EPPOR RETURN TO USER
1674+ \*\*\*\*\*
1675+ \$CONC MVW SINTL,IODCB PUT IN LEVEL & INTR PARAMETER
1676+ MVA IOBLK,P7 SET P7 TO CONTROL BLOCK TO PREPARE
1677+ MVAI X'0708',SIOIN INITIALIZE CONDITION CODE STORAGE
1678+ MVWZ SISB,R3 \* AND CLEAR OLD ISB VALUE
1679+ MVW R6,LISTIO SET UP ADDRESS THAT STARTED LAST I/O
1680+ SVC PREP \* AND CALL ON SUPVP
1681+ BXS (R6,2) RETURN TO USER
1682+ \*\*\*\*\*06APR76\*\*
1683+ \*\*\*\*\*
1684+ \*\*\*\*\*
1685+ SUBROUTINE
1686+ \*\*\*\*\*
1687+ DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
1688+ \*\*\*\*\*
1689+ PURPOSE
1690+ \*\*\*\*\*
1691+ DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
1692+ SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS
1693+ BEEN FOUND TO HELP THE OPERATOR DEFINE THE EPPOR CONDITION.
1694+ \*\*\*\*\*
1695+ CALLING SEQUENCE
1696+ \*\*\*\*\*
1697+ THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
1698+ \*\*\*\*\*

LOCTR OBJECT TEXT STMT SOURCE STATEMENT
1699\*\* --> B \$EPP\$ SET 'NG' BIT AND CONVERT DATA TO LOG
1700\*\* --> B \$CONX RETURN TO MDI SUPERVISOR TO TEST STS
1701\*\* RETURN CONTROL
1702\*\* RETURN CONTROL
1703\*\*
1704\*\* OR B TURTN\* RETURN TO MDI
1705\*\* OR B (P6)\* IF THE DEVICE COULD NOT BE CONNECTED
1706\*\*
1707\*\* \*\*\*\*\*
1708\*\* \$ERR\$ MVWI X'18000',TUSTATUS SET ON 'NO GOOD' STATUS BIT
1709\*\* MVBA HEBLK,R7 GET ADRS OF CONTROL BLOCK
1710\*\* SVC HTOE CONVERT HEX TO EBC VIS DCP
1711\*\* \$FRNT MVBI 3,R5
1712\*\* MVBA TUNORK,P3 SET UP BUFFER STORAGE
1713\*\* MVW P3,BUFPT
1714\*\* MVBA LINE1,R1
1715\*\* MVBI 4,P7
1716\*\* MVBI 8,R6
1717\*\* MVBN (R3),(R1)
1718\*\* MVBI 4,P7
1719\*\* MVBI X'40',R2
1720\*\* MVBA R2,(R1)
1721\*\* JCT MVBUF,R6
1722\*\* MVBI 8,R6
1723\*\* MVBA 4,R1
1724\*\* JCT MVBUF,R5
1725\*\* MVWI PIDMSG10,PID\*2
1726\*\* MVBA FAKETU,@DCADD1
1727\*\* MVBA DC2PT,@DCADD2
1728\*\* OWI BIT0080,SUPSTAT
1729\*\* MVBA \$TUID,R3 SET UP BUFFER STORAGE
1730\*\* BAL TUMSG\*P7 GO TO MESSAGE WRITEP
1731\*\*
1732\*\* \$CONX EQU \*
1733\*\* MVBA DEVADD,P7 GET DEVICE ADDRESS FROM MDI
1734\*\* MVBA R1CB RELEASE INTERRUPT CONTROL BLOCK
1735\*\* B TURTN\* RETURN TO MDI SUPERVISOR
1736\*\*
1737\*\* BEGIN DC A(0007) NUMBER OF LINES TO PRINT
1738\*\* DC A(0008) LINE LENGTH = 8 CHAP
1739\*\* DC C'\*' ABOPT'
1740\*\* DC A(0040) LINE LENGTH = 40 CHAP
1741\*\* DC C'TUID IOIN ISB INST DEV1 DEV2 DEV3 DEV4 '
1742\*\* DC A(0040) LINE LENGTH = 40 CHAP
1743\*\* LINE1 DC C'
1744\*\* DC A(0040) LINE LENGTH = 40 CHAR
1745\*\* DC C'CNTRL DCB2 DCB3 DCB4 DCB5 CHAD BYCT ADPS '
1746\*\* DC A(0040) LINE LENGTH = 40 CHAP
1747\*\* LINE2 DC C'
1748\*\* DC A(0040) LINE LENGTH = 40 CHAR
1749\*\* DC C'PSID CS-2 CS-3 CS-4 CS-5 CS-6 CS-7 CS-8 '
1750\*\* DC A(0040) LINE LENGTH = 40 CHAR
1751\*\* LINE3 DC C'
1752\*\*
1753\*\* BUFPT DC A(\*-\*)
1754\*\* DC2PT DC A(BEGIN)
1755\*\* FAKETU DC X'0101'
1756\*\* FAKETU DC X'0101'
1757\*\* PIDMSG10 EQU X'F1F0'
1758\*\* BIT0080 EQU X'0080'
1759\*\*
1760\*\* DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
1761\*\*
1762\*\* HEBLK DC A(48) NUMBER OF BYTES TO CONVERT
1763\*\* DC A(\$TUID) FROM ADRS
1764\*\* DC A(TUNORK) AND THE TO ADRS
1765\*\* END

CROSS-REFERENCE LISTING
DECLAPED NAME ATTRIBUTES AND REFERENCES
0 .P0. ABSOLUTE. HEX VALUE (00000000)
801 802 831 832 856 857 878 879 1222
1223 1224 1225 1229 1230 1231 1232
0 .R1. ABSOLUTE. HEX VALUE (00000001)
1714 1717 1720 1723
0 .R2. ABSOLUTE. HEX VALUE (00000002)
1719 1720
0 .R3. ABSOLUTE. HEX VALUE (00000003)
1170 1174 1176 1255 1257 1313 1316 1320 1323
1334 1337 1350 1353 1423 1433 1436 1437 1440
1442 1498 1499 1534 1540 1544 1574 1579 1592
1622 1667 1669 1670 1678 1712 1713 1717 1729
0 .R4. ABSOLUTE. HEX VALUE (00000004)
797 820 822 824 828 833 837 839 853
858 862 864 875 880 891 892 893 894
902 911 915 916 1426 1427 1430 1444 1445
1447 1448 1451 1457 1463 1535 1536 1538 1542
1546 1575 1576 1577 1587 1588 1589 1591 1594
1604 1606 1608 1611 1613
0 .P5. ABSOLUTE. HEX VALUE (00000005)
1171 1175 1176 1256 1257 1314 1316 1321 1323
1335 1337 1351 1353 1434 1436 1438 1440 1456
1461 1583 1584 1585 1616 1617 1619 1668 1669
1711 1724
0 .R6. ABSOLUTE. HEX VALUE (00000006)
798 813 817 819 829 835 850 854 860
876 890 896 1177 1178 1217 1258 1432 1452
1464 1500 1605 1610 1612 1618 1621 1623 1673
1679 1681 1716 1721 1722
0 .R7. ABSOLUTE. HEX VALUE (00000007)
654 795 811 927 929 932 1169 1173 1254
1315 1322 1336 1352 1435 1439 1446 1539 1580
1666 1671 1676 1709 1715 1718 1730 1733
1666 \$CONC ADDRESS. HEX LOCATION (00002DA8) IN CSECT (I7815 ) LENGTH (2)
798 850
1732 \$CONX ADDRESS. HEX LOCATION (00002E2C) IN CSECT (I7815 ) LENGTH (1)
888 893
1708 \$ERR\$ ADDRESS. HEX LOCATION (00002DDC) IN CSECT (I7815 ) LENGTH (6)
799 814 818 821 825 830 836 851 855
643 \$INTL ADDRESS. HEX LOCATION (0000284E) IN CSECT (I7815 ) LENGTH (2)
1585 1675
613 \$IOIN ADDRESS. HEX LOCATION (0000281A) IN CSECT (I7815 ) LENGTH (2)
1441 1499 1579 1616 1677
614 \$ISB ADDRESS. HEX LOCATION (0000281C) IN CSECT (I7815 ) LENGTH (2)
1442 1580 1619 1678
598 \$LE ABSOLUTE. HEX VALUE (00000026)
1443 1587
1312 \$PDIID ADDRESS. HEX LOCATION (00002BD6) IN CSECT (I7815 ) LENGTH (6)
835 860 896
1309 \$RECL ADDRESS. HEX LOCATION (00002BCE) IN CSECT (I7815 ) LENGTH (6)
813
1306 \$SEK ADDRESS. HEX LOCATION (00002BC6) IN CSECT (I7815 ) LENGTH (6)
817 829 854 876
612 \$TUID ADDRESS. HEX LOCATION (00002818) IN CSECT (I7815 ) LENGTH (2)
653 796 1729 1763
105 @DCADD1 ADDRESS. HEX LOCATION (000019B8) IN CSECT (I7815 ) LENGTH (1)
1726
106 @DCADD2 ADDRESS. HEX LOCATION (000019BA) IN CSECT (I7815 ) LENGTH (1)
172
42 @FIXT ABSOLUTE. HEX VALUE (00000101)
419 439 477
44 @GOTO ABSOLUTE. HEX VALUE (00000200)
398 433 451 471
49 @NVLD ABSOLUTE. HEX VALUE (00000600)
396 431 466
41 @QUES ABSOLUTE. HEX VALUE (00000100)
384 413 416 468
47 @QUXX ABSOLUTE. HEX VALUE (00000400)
387 404 422 442 457
1737 BEGIN ADDRESS. HEX LOCATION (00002E36) IN CSECT (I7815 ) LENGTH (2)
1754
1758 BIT0080 ABSOLUTE. HEX VALUE (00000080)
1728
1753 BUFPT ADDRESS. HEX LOCATION (00002F3E) IN CSECT (I7815 ) LENGTH (2)
1713
572 B59 ABSOLUTE. HEX VALUE (0000001B)
820 891 902
573 P60 ABSOLUTE. HEX VALUE (0000001C)
822 839 864 892 911
575 B62 ABSOLUTE. HEX VALUE (0000001E)
824 893 916
576 B63 ABSOLUTE. HEX VALUE (0000001F)
894 915
1089 CB29 ADDRESS. HEX LOCATION (00002AE2) IN CSECT (I7815 ) LENGTH (2)
1220
602 CE ABSOLUTE. HEX VALUE (0000002A)
1426 1538 1608
682 CICB ABSOLUTE. HEX VALUE (00000014)
1672
958 CLDCB ADDRESS. HEX LOCATION (00002A10) IN CSECT (I7815 ) LENGTH (2)
1309
600 CS ABSOLUTE. HEX VALUE (00000028)
1427 1430 1536 1577 1606
601 CSA ABSOLUTE. HEX VALUE (00000029)
1611
631 CSBUF ADDRESS. HEX LOCATION (00002838) IN CSECT (I7815 ) LENGTH (1)
1015 1438
1008 CSDCB ADDRESS. HEX LOCATION (00002A60) IN CSECT (I7815 ) LENGTH (2)
1428
639 CSTL8 ADDRESS. HEX LOCATION (00002846) IN CSECT (I7815 ) LENGTH (2)
1539 1540
621 DCBUF ADDRESS. HEX LOCATION (00002828) IN CSECT (I7815 ) LENGTH (1)
1433
1754 DC2PT ADDRESS. HEX LOCATION (00002F40) IN CSECT (I7815 ) LENGTH (2)
172
108 DEVADD ADDRESS. HEX LOCATION (000019D0) IN CSECT (I7815 ) LENGTH (1)
646 1627 1636 1733
616 DEV1 ADDRESS. HEX LOCATION (00002820) IN CSECT (I7815 ) LENGTH (2)
620 1668
946 DGDCEB ADDRESS. HEX LOCATION (00002A00) IN CSECT (I7815 ) LENGTH (2)



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DECLARED	NAME	ATTRIBUTES AND REFERENCES
70	DUMMY	1368 ABSOLUTE. HEX VALUE (00000000)
480	ENTPT	375 479 497 ADDRESS. HEX LOCATION (000025EA) IN CSECT (I7815 ) LENGTH (1)
593	CP	201 ABSOLUTE. HEX VALUE (00000021)
668	EXIT	837 862 1444 1463 1546 1588 1613 ABSOLUTE. HEX VALUE (00000006)
1756	FAKETU	1595 ADDRESS. HEX LOCATION (00002F44) IN CSECT (I7815 ) LENGTH (2)
888	FBE	1726 ADDRESS. HEX LOCATION (0000298A) IN CSECT (I7815 ) LENGTH (2)
1090	FIVE9	869 ADDRESS. HEX LOCATION (00002AE4) IN CSECT (I7815 ) LENGTH (2)
509	F00070	1227 ADDRESS. HEX LOCATION (00002622) IN CSECT (I7815 ) LENGTH (1)
513	F00096	399 ADDRESS. HEX LOCATION (00002628) IN CSECT (I7815 ) LENGTH (1)
523	F00107	420 ADDRESS. HEX LOCATION (000026CE) IN CSECT (I7815 ) LENGTH (1)
527	F00109	434 ADDRESS. HEX LOCATION (000026D4) IN CSECT (I7815 ) LENGTH (1)
535	F00129	440 ADDRESS. HEX LOCATION (00002734) IN CSECT (I7815 ) LENGTH (1)
539	F00157	452 ADDRESS. HEX LOCATION (0000273A) IN CSECT (I7815 ) LENGTH (1)
547	F00163	472 ADDRESS. HEX LOCATION (000027A6) IN CSECT (I7815 ) LENGTH (1)
1762	HEBLK	478 ADDRESS. HEX LOCATION (00002F46) IN CSECT (I7815 ) LENGTH (2)
698	H7OE	1709 ABSOLUTE. HEX VALUE (0000001A)
664	IDLE	1710 ABSOLUTE. HEX VALUE (00000002)
595	IN	1459 ABSOLUTE. HEX VALUE (00000023)
1636	INTBL	833 858 880 1445 1457 1576 ADDRESS. HEX LOCATION (00002DA0) IN CSECT (I7815 ) LENGTH (2)
1533	INTER	1671 ADDRESS. HEX LOCATION (00002D08) IN CSECT (I7815 ) LENGTH (2)
1542	INTES	1638 ADDRESS. HEX LOCATION (00002D20) IN CSECT (I7815 ) LENGTH (2)
1546	INTET	1537 ADDRESS. HEX LOCATION (00002D28) IN CSECT (I7815 ) LENGTH (2)
1573	INTOK	1543 ADDRESS. HEX LOCATION (00002D2C) IN CSECT (I7815 ) LENGTH (2)
66	INTRNL	1637 ABSOLUTE. HEX VALUE (00000000)
1595	INTRX	402 437 455 ADDRESS. HEX LOCATION (00002D5C) IN CSECT (I7815 ) LENGTH (2)
1576	INTP1	1590 1593 ADDRESS. HEX LOCATION (00002D34) IN CSECT (I7815 ) LENGTH (2)
1581	INTR2	1541 1545 1547 ADDRESS. HEX LOCATION (00002D42) IN CSECT (I7815 ) LENGTH (1)
1589	INTP3	1578 ADDRESS. HEX LOCATION (00002D50) IN CSECT (I7815 ) LENGTH (2)
1627	IOBLK	1586 ADDRESS. HEX LOCATION (00002D94) IN CSECT (I7815 ) LENGTH (2)
1629	IODCB	811 929 1446 1676 ADDRESS. HEX LOCATION (00002D98) IN CSECT (I7815 ) LENGTH (2)
1630	IOMOD	928 1306 1309 1312 1324 1327 1330 1333 1341 1345 1349 1357 1361 1364 1368 1428 1434 1675 ADDRESS. HEX LOCATION (00002D9A) IN CSECT (I7815 ) LENGTH (2)
40	I7815	1423 1429 CSECT. START (00002500) LENGTH (2636) ESDID (0)
1087	LGSEC	40 ADDRESS. HEX LOCATION (00002ADE) IN CSECT (I7815 ) LENGTH (2)
1743	LINE1	1218 1220 1223 1230 ADDRESS. HEX LOCATION (00002E6E) IN CSECT (I7815 ) LENGTH (40)
615	LSTIO	1714 ADDRESS. HEX LOCATION (0000281E) IN CSECT (I7815 ) LENGTH (2)
592	MI	1432 1679 ABSOLUTE. HEX VALUE (00000020)
1717	MVBUF	1591 ADDRESS. HEX LOCATION (00002DFA) IN CSECT (I7815 ) LENGTH (2)
604	NG	1721 1724 ABSOLUTE. HEX VALUE (0000002C)
599	NI	1594 ABSOLUTE. HEX VALUE (00000027)
887	NIX	828 853 875 1451 ADDRESS. HEX LOCATION (00002988) IN CSECT (I7815 ) LENGTH (2)
384	N00001	844 ADDRESS. HEX LOCATION (00002550) IN CSECT (I7815 ) LENGTH (2)
387	N00002	318 490 ADDRESS. HEX LOCATION (00002554) IN CSECT (I7815 ) LENGTH (2)
396	N00003	321 ADDRESS. HEX LOCATION (00002562) IN CSECT (I7815 ) LENGTH (2)
398	N00004	324 ADDRESS. HEX LOCATION (00002564) IN CSECT (I7815 ) LENGTH (2)
404	N00005	327 388 ADDRESS. HEX LOCATION (00002570) IN CSECT (I7815 ) LENGTH (2)
413	N00006	330 385 493 ADDRESS. HEX LOCATION (0000257E) IN CSECT (I7815 ) LENGTH (2)
416	N00007	333 ADDRESS. HEX LOCATION (00002582) IN CSECT (I7815 ) LENGTH (2)
419	N00008	336 ADDRESS. HEX LOCATION (00002586) IN CSECT (I7815 ) LENGTH (2)
422	N00009	339 ADDRESS. HEX LOCATION (0000258A) IN CSECT (I7815 ) LENGTH (2)
431	N00010	342 417 ADDRESS. HEX LOCATION (00002598) IN CSECT (I7815 ) LENGTH (2)
433	N00011	345 ADDRESS. HEX LOCATION (0000259A) IN CSECT (I7815 ) LENGTH (2)
439	N00012	348 423 ADDRESS. HEX LOCATION (000025A6) IN CSECT (I7815 ) LENGTH (2)
442	N00013	351 414 ADDRESS. HEX LOCATION (000025AA) IN CSECT (I7815 ) LENGTH (2)
451	N00014	354 405 ADDRESS. HEX LOCATION (000025B8) IN CSECT (I7815 ) LENGTH (2)
457	N00015	357 ADDRESS. HEX LOCATION (000025C4) IN CSECT (I7815 ) LENGTH (2)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
466	N00016	360 443 ADDRESS. HEX LOCATION (000025D2) IN CSECT (I7815 ) LENGTH (2)
468	N00017	363 ADDRESS. HEX LOCATION (000025D4) IN CSECT (I7815 ) LENGTH (2)
471	N00018	366 458 496 ADDRESS. HEX LOCATION (000025D8) IN CSECT (I7815 ) LENGTH (2)
477	N00019	369 ADDRESS. HEX LOCATION (000025E4) IN CSECT (I7815 ) LENGTH (2)
557	OPTN1	372 459 ADDRESS. HEX LOCATION (00002812) IN CSECT (I7815 ) LENGTH (2)
580	OPTN3	797 1535 1575 ADDRESS. HEX LOCATION (00002816) IN CSECT (I7815 ) LENGTH (2)
104	PARMAFA	1622 1670 ADDRESS. HEX LOCATION (0000196E) IN CSECT (I7815 ) LENGTH (1)
1088	PHYSC	394 411 429 449 464 ADDRESS. HEX LOCATION (00002AE0) IN CSECT (I7815 ) LENGTH (2)
72	PID	1225 1227 1232 ADDRESS. HEX LOCATION (00001800) IN CSECT (I7815 ) LENGTH (1)
1757	PIDMSG10	74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 1725 ABSOLUTE. HEX VALUE (0000F1F0)
674	PREP	1725 ABSOLUTE. HEX VALUE (0000000C)
73	PTYPE	930 1680 ADDRESS. HEX LOCATION (00000232) IN CSECT (I7815 ) LENGTH (1)
1041	PDDCB	801 ADDRESS. HEX LOCATION (00002A90) IN CSECT (I7815 ) LENGTH (2)
670	RESET	1321 1324 ABSOLUTE. HEX VALUE (00000008)
681	RICB	812 ABSOLUTE. HEX VALUE (00000013)
1063	RKDCB	1734 ADDRESS. HEX LOCATION (00002AB0) IN CSECT (I7815 ) LENGTH (2)
973	RSDCB	1333 1338 1345 1346 ADDRESS. HEX LOCATION (00002A30) IN CSECT (I7815 ) LENGTH (2)
1229	RTO1	895 1312 1317 1349 1354 ADDRESS. HEX LOCATION (00002BA2) IN CSECT (I7815 ) LENGTH (4)
620	SCTID	1221 ADDRESS. HEX LOCATION (00002820) IN CSECT (I7815 ) LENGTH (2)
1098	SCTST	844 847 866 869 872 898 900 900 904 904 906 909 913 980 992 1070 1174 1255 1314 1317 1335 1338 ADDRESS. HEX LOCATION (00002AF4) IN CSECT (I7815 ) LENGTH (2)
890	SDD	1170 1346 1351 1354 ADDRESS. HEX LOCATION (0000298C) IN CSECT (I7815 ) LENGTH (4)
997	SKDCB	819 ADDRESS. HEX LOCATION (00002A50) IN CSECT (I7815 ) LENGTH (2)
672	STAFT	815 816 826 827 852 874 1306 ABSOLUTE. HEX VALUE (0000000A)
107	SUPSTAT	1449 ADDRESS. HEX LOCATION (000019C4) IN CSECT (I7815 ) LENGTH (1)
886	SVB	1728 ADDRESS. HEX LOCATION (00002986) IN CSECT (I7815 ) LENGTH (2)
913	S12B	847 872 909 ADDRESS. HEX LOCATION (000029D6) IN CSECT (I7815 ) LENGTH (6)
904	S12C	899 ADDRESS. HEX LOCATION (000029B8) IN CSECT (I7815 ) LENGTH (6)
902	S12D	901 ADDRESS. HEX LOCATION (000029B4) IN CSECT (I7815 ) LENGTH (2)
909	S12F	905 ADDRESS. HEX LOCATION (000029CA) IN CSECT (I7815 ) LENGTH (6)
911	S12H	907 ADDRESS. HEX LOCATION (000029D2) IN CSECT (I7815 ) LENGTH (2)
916	S12J	910 ADDRESS. HEX LOCATION (000029E0) IN CSECT (I7815 ) LENGTH (2)
826	S12K	914 ADDRESS. HEX LOCATION (000028D4) IN CSECT (I7815 ) LENGTH (6)
850	S12M	823 ADDRESS. HEX LOCATION (00002922) IN CSECT (I7815 ) LENGTH (4)
844	S12N	407 445 460 ADDRESS. HEX LOCATION (0000290C) IN CSECT (I7815 ) LENGTH (6)
847	S12P	840 ADDRESS. HEX LOCATION (00002916) IN CSECT (I7815 ) LENGTH (6)
852	S12Q	845 ADDRESS. HEX LOCATION (00002928) IN CSECT (I7815 ) LENGTH (6)
917	S12R	843 849 ADDRESS. HEX LOCATION (000029E2) IN CSECT (I7815 ) LENGTH (4)
869	S12S	890 903 908 912 ADDRESS. HEX LOCATION (00002958) IN CSECT (I7815 ) LENGTH (6)
874	S12T	865 ADDRESS. HEX LOCATION (0000296A) IN CSECT (I7815 ) LENGTH (6)
872	S12U	868 ADDRESS. HEX LOCATION (00002962) IN CSECT (I7815 ) LENGTH (6)
813	TS12A	870 ADDRESS. HEX LOCATION (000028A8) IN CSECT (I7815 ) LENGTH (4)
811	TS12B	838 842 846 848 867 871 873 ADDRESS. HEX LOCATION (000028A2) IN CSECT (I7815 ) LENGTH (4)
1227	TT303	807 834 859 863 881 ADDRESS. HEX LOCATION (00002B9A) IN CSECT (I7815 ) LENGTH (6)
1233	TT304	1219 ADDRESS. HEX LOCATION (00002BB2) IN CSECT (I7815 ) LENGTH (4)
1176	TT4Y	1217 1226 1228 ADDRESS. HEX LOCATION (00002B6A) IN CSECT (I7815 ) LENGTH (2)
95	TUMSGWTR	1172 ADDRESS. HEX LOCATION (000018BA) IN CSECT (I7815 ) LENGTH (1)
644	TUPTN	1730 ADDRESS. HEX LOCATION (00002850) IN CSECT (I7815 ) LENGTH (2)
77	TUSTATUS	795 827 932 1735 ADDRESS. HEX LOCATION (00001818) IN CSECT (I7815 ) LENGTH (1)
78	TUWORK	1708 ADDRESS. HEX LOCATION (0000181A) IN CSECT (I7815 ) LENGTH (1)
808	T35T	1712 1764 ADDRESS. HEX LOCATION (00002890) IN CSECT (I7815 ) LENGTH (6)
831	T35T1	803 ADDRESS. HEX LOCATION (000028E8) IN CSECT (I7815 ) LENGTH (4)
856	T35T3	804 808 ADDRESS. HEX LOCATION (00002936) IN CSECT (I7815 ) LENGTH (4)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
878	T35T4	ADDRESS. HEX LOCATION(00002978) IN CSECT(I7815 ) LENGTH(4) 806 810
932	T72A	ADDRESS. HEX LOCATION(000029F8) IN CSECT(I7815 ) LENGTH(4) 390 425
933	T72B	ADDRESS. HEX LOCATION(000029FC) IN CSECT(I7815 ) LENGTH(4) 390 425
795	T7835	ADDRESS. HEX LOCATION(00002860) IN CSECT(I7815 ) LENGTH(4) 406 444 459
927	T7872	ADDRESS. HEX LOCATION(000029E6) IN CSECT(I7815 ) LENGTH(4) 389 424
1030	VRDCB	ADDRESS. HEX LOCATION(00002A80) IN CSECT(I7815 ) LENGTH(2) 1327
1052	WKDCB	ADDRESS. HEX LOCATION(00002AA0) IN CSECT(I7815 ) LENGTH(2) 1341 1342 1357 1358
1019	WRDCB	ADDRESS. HEX LOCATION(00002A70) IN CSECT(I7815 ) LENGTH(2) 1330
1091	WSID	ADDRESS. HEX LOCATION(00002AE6) IN CSECT(I7815 ) LENGTH(2) 970 1059 1175 1256 1358 1362
963	WSDCB	ADDRESS. HEX LOCATION(00002A20) IN CSECT(I7815 ) LENGTH(2) 1361 1362 1364 1365
1095	WSIDT	ADDRESS. HEX LOCATION(00002AEE) IN CSECT(I7815 ) LENGTH(2) 1171 1342 1365
596	XE	ABSOLUTE. HEX VALUE(00000024) 1542 1604
594	XI	ABSOLUTE. HEX VALUE(00000022) 1448 1589
1423	XIO	ADDRESS. HEX LOCATION(00002C96) IN CSECT(I7815 ) LENGTH(4) 1307 1310 1318 1325 1328 1331 1339 1343 1347
1604	XIOCK	ADDRESS. HEX LOCATION(00002D5E) IN CSECT(I7815 ) LENGTH(2) 1458
1611	XIOCO	ADDRESS. HEX LOCATION(00002D70) IN CSECT(I7815 ) LENGTH(2) 1609
1428	XIOCS	ADDRESS. HEX LOCATION(00002CA0) IN CSECT(I7815 ) LENGTH(6) 1620
1613	XIOCV	ADDRESS. HEX LOCATION(00002D74) IN CSECT(I7815 ) LENGTH(2) 1607
1622	XIOCX	ADDRESS. HEX LOCATION(00002D8E) IN CSECT(I7815 ) LENGTH(4) 1614
1497	XIOER	ADDRESS. HEX LOCATION(00002CFC) IN CSECT(I7815 ) LENGTH(2) 1628
1432	XIO1	ADDRESS. HEX LOCATION(00002CB0) IN CSECT(I7815 ) LENGTH(4) 1424
1445	XIO2	ADDRESS. HEX LOCATION(00002CD6) IN CSECT(I7815 ) LENGTH(2) 1431
1457	XIO8	ADDRESS. HEX LOCATION(00002CEA) IN CSECT(I7815 ) LENGTH(2) 1462
65	XTRNL	ABSOLUTE. HEX VALUE(00000001) 475
1073	ZERO0	ADDRESS. HEX LOCATION(00002AC0) IN CSECT(I7815 ) LENGTH(2) 906 1218

\*\*\*\*\* LAST PAGE \*\*\*\*\*