

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
3 COPY LOG7803 \*\* MAP EC HISTORY \*\*
4 \*\*\*\*\*
5 \*
6 \*
7 \* \*\*\* PREREQUISITES \*\*\*
8 \*
9 \* NONF
10 \*\*\*\*\*
11 \*
12 \* \*\*\* MODIFICATIONS \*\*\*
13 \*
14 \* NONE
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 01MAR78 DATE 01SEP78 DATE DATE
33 \* E.C. 755285 E.C. 374888 E.C. E.C.
34 \*
35 \*\*\*\*\*
37 I7803 START X'2500' START ADDRESS OF ALL 'I' TYPE PROG
38 @QUES EQU X'0100' EQUATED VALUE FOR MDI STATEMENT
39 @FIXT EQU X'0101' EQUATED VALUE FOR MDI STATEMENT
40 @STOP EQU X'0102' EQUATED VALUE FOR MDI STATEMENT
41 @CALL EQU X'0200' EQUATED VALUE FOR MDI STATEMENT
42 @INPT EQU X'0201' EQUATED VALUE FOR MDI STATEMENT
43 @QUXX EQU X'0300' EQUATED VALUE FOR MDI STATEMENT
44 @TUXX EQU X'0400' EQUATED VALUE FOR MDI STATEMENT
45 @NVLD EQU X'0500' EQUATED VALUE FOR MDI STATEMENT
46 @EQ EQU X'0600' EQUATED VALUE FOR MDI STATEMENT
47 EQ EQU X'0000' EQUATE FOR EQUAL
48 NE EQU X'0004' EQUATE FOR NOT EQUAL
49 HI EQU X'0008' EQUATE FOR HIGH
50 NH EQU X'000C' EQUATE FOR NOT HIGH
51 LO EQU X'0010' EQUATE FOR LOW
52 NL EQU X'0014' EQUATE FOR NOT LOW
53 LT EQU X'0018' EQUATE FOR LESS THAN
54 LE EQU X'000C' EQUATE FOR LESS THAN OR EQUAL TO
55 GT EQU X'0008' EQUATE FOR GREATER THAN
56 GE EQU X'0014' EQUATE FOR GREATER THAN OR EQUAL TO
57 ON EQU X'0200' EQUATE FOR ON
58 OF EQU X'0202' EQUATE FOR OFF
59 MX EQU X'0204' EQUATE FOR MIXED
60 EBC EQU X'0000' EQUATE FOR EBCDIC DATA TRANSFER
61 HEX EQU X'0001' EQUATE FOR HEX DATA TRANSFER
62 XTRNL EQU X'0001' EQUATE FOR EXTERNAL REFERENCE
63 INTRNL EQU X'0000' EQUATE FOR INTERNAL REFERENCE
64 PARM EQU X'0000' EQUATE INDICATING PARAMETER
65 DA EQU X'0001' EQUATE FOR DEVICE ADDRESS
66 UA EQU X'0002' EQUATE FOR UNIT ADDRESS
67 DUMMY EQU X'0000' DUMMY EQUATE
69 PID EQU \*-X'0D00' ADDRESS OF MDI HEADER
70 PTYPE EQU \*-X'22CE' ADDRESS OF PROCESSOR TYPE FIELD
71 STEPNUM EQU PID+X'000C' ADDRESS OF DECIMAL STEP NUMBER
72 OPWD1 EQU PID+X'000E' ADDRESS OF OPTION WORD ONE
73 OPWD2 EQU PID+X'0010' ADDRESS OF OPTION WORD TWO
74 TUSTATUS EQU PID+X'0018' ADDRESS OF TU STATUS WORD
75 TWORK EQU PID+X'001A' ADDRESS OF TU WORK AREA
76 TUPARM1 EQU PID+X'009A' ADDRESS OF PARM 1 POINTER
77 TUPARM2 EQU PID+X'009C' ADDRESS OF PARM 2 POINTER
78 TUPARM3 EQU PID+X'009E' ADDRESS OF PARM 3 POINTER
79 TUPARM4 EQU PID+X'00A0' ADDRESS OF PARM 4 POINTER
80 TUPARM5 EQU PID+X'00A2' ADDRESS OF PARM 5 POINTER
81 TUPARM6 EQU PID+X'00A4' ADDRESS OF PARM 6 POINTER
82 TUPARM7 EQU PID+X'00A6' ADDRESS OF PARM 7 POINTER
83 TUPARM8 EQU PID+X'00A8' ADDRESS OF PARM 8 POINTER
84 TUPARM9 EQU PID+X'00AA' ADDRESS OF PARM 9 POINTER
85 TUPARM10 EQU PID+X'00AC' ADDRESS OF PARM 10 POINTER
86 TUPARM11 EQU PID+X'00AE' ADDRESS OF PARM 11 POINTER
87 TUPARM12 EQU PID+X'00B0' ADDRESS OF PARM 12 POINTER
88 TUPARM13 EQU PID+X'00B2' ADDRESS OF PARM 13 POINTER
89 TUPARM14 EQU PID+X'00B4' ADDRESS OF PARM 14 POINTER
90 TUPARM15 EQU PID+X'00B6' ADDRESS OF PARM 15 POINTER
91 TUPARM16 EQU PID+X'00B8' ADDRESS OF PARM 16 POINTER
92 TUMSGWTR EQU PID+X'00BA' ADDRESS OF -> TO COMMON MSG WRITER
93 TUA EQU PID+X'00BE' ADDRESS OF UNIT ADDRESS IN EBC
94 TUDA EQU PID+X'00C0' ADDRESS OF DEVICE ADDRESS IN EBC
95 TUBUFF EQU PID+X'00C2' ADDRESS OF LAST USED WORD IN MAP
96 TULAST EQU PID+X'00C4' ADDRESS OF LAST ADDRESSABLE WORD
97 TURESULN EQU PID+X'00C6' ADDRESS OF LENGTH OF TU RESULTS
98 TURESUL EQU PID+X'00C8' ADDRESS OF TU RESULTS FIELD
99 MAPNAME EQU PID+X'00FC' ADDRESS OF MAP NAME FIELD IN HEX
100 TUIIPT EQU PID+X'0148' ADDRESS OF \$INPT DATA
101 PARMIFA EQU PID+X'016E' ADDRESS OF \$INPT INPUT AREA
102 @DCADD1 EQU PID+X'01B8' MDI POINTER
103 @DCADD2 EQU PID+X'01BA' MDI POINTER
104 SUPSTAT EQU PID+X'01C4' ADDRESS OF MDI STATUS
105 DEVADD EQU PID+X'01D0' ADDRESS OF DEVICE ADDRESS TABLE 0
106 DEVADD1 EQU PID+X'01DA' ADDRESS OF DEVICE ADDRESS TABLE 1
107 DEVADD2 EQU PID+X'01E4' ADDRESS OF DEVICE ADDRESS TABLE 2
108 DEVADD3 EQU PID+X'01EE' ADDRESS OF DEVICE ADDRESS TABLE 3
109 DEVADD4 EQU PID+X'01F8' ADDRESS OF DEVICE ADDRESS TABLE 4
110 DEVADD5 EQU PID+X'0202' ADDRESS OF DEVICE ADDRESS TABLE 5
111 DEVADD6 EQU PID+X'020C' ADDRESS IF DEVICE ADDRESS TABLE 6
112 DEVADD7 EQU PID+X'0216' ADDRESS OF DEVICE ADDRESS TABLE 7
113 PRINT OFF

002500
000100
000101
000102
000200
000201
000300
000400
000500
000600
000000
000004
000008
00000C
000010
000014
000018
00000C
000014
000200
000202
000204
000000
000001
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000000
000001
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000001
000002
000000
001800
000232
00180C
00180E
001810
001818
00181A
00181A
00189C
00189E
0018A0
0018A2
0018A4
0018A6
0018A8
0018AA
0018AC
0018AE
0018B0
0018B2
0018B4
0018B6
0018B8
0018BA
0018BE
0018C0
0018C2
0018C4
0018C6
0018C8
0018FC
001848
00196E
0019B8
0019BA
0019C4
0019D0
0019DA
0019E4
0019E8
0019F8
001A02
001A0C
001A16

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002500 264E
198 \*\*\*\*\* DC A(ENTPT) POINT TO MAP ENTRY POINT TABLE
199 \*\*\*\*\*
200 \*\*\*\*\*
201 \*\*\*\*\*
202 \*\* THE FOLLOWING TABLES ARE USED BY THE MDI SUPERVISOR (D3C00) \*\*
203 \*\* TO LOCATE THE CORRECT RULE TO INVOKE, TO OBTAIN THE PROPER \*\*
204 \*\* PARAMETERS TO PASS TO THE TU'S AND TO PASS TO THE OPERATOR \*\*
205 \*\* THE INDICATED MESSAGE(S). THERE ARE FOUR TABLES USED FOR THIS \*\*
206 \*\* PURPOSE THEY ARE: \*\*
207 \*\*
208 \*\* STEP AND RULE ADDRESS TABLE \*\*
209 \*\* THIS TABLE GIVES THE ADDRESS OF THE RULE TO INVOKE AND \*\*
210 \*\* THE ASSOCIATED STEP DECIMAL STEP NUMBER OF THAT RULE. \*\*
211 \*\* ENTRIES ARE AS FOLLOWS: \*\*
212 \*\* A) AN ADDRESS OF THE RULE DC START AREA \*\*
213 \*\* B) THE STEP NUMBER IN DECIMAL \*\*
214 \*\* C) AN EQUATE FOR THE STEP NUMBER \*\*
215 \*\*
216 \*\* RULE INFORMATION TABLE \*\*
217 \*\* THIS TABLE CONTAINS THE REQUIRED INFORMATION TO EXECUTE \*\*
218 \*\* THE APPROPRIATE RULE UNDER MDI. EACH RULE HAS ITS OWN \*\*
219 \*\* UNIQUELY DEFINED AREA INDICATED BELOW. END OF TABLE IS \*\*
220 \*\* INDICATED WITH A X'0000' FOR THE RULE EQUATE. \*\*
221 \*\*
222 \*\* \$QUES \*\*
223 \*\* A) RULE EQUATE X'0100' \*\*
224 \*\* B) ADDRESS OF THE YES LEG RULE \*\*
225 \*\*
226 \*\* \$FIXT \*\*
227 \*\* A) RULE EQUATE X'0101' \*\*
228 \*\* B) ADDRESS OF MESSAGE TO PRINT \*\*
229 \*\*
230 \*\* \$STOP \*\*
231 \*\* A) RULE EQUATE X'0102' \*\*
232 \*\* B) ADDRESS OF MESSAGE \*\*
233 \*\*
234 \*\* \$GOTO \*\*
235 \*\* A) RULE EQUATE X'0200' \*\*
236 \*\* B) ADDRESS OF MESSAGE \*\*
237 \*\* C) NAME OF MAP TO GO TO \*\*
238 \*\* D) ENTRY POINT WITHIN GO TO MAP TO USE \*\*
239 \*\* E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE \*\*
240 \*\*
241 \*\* \$CALL \*\*
242 \*\* A) RULE EQUATE X'0201' \*\*
243 \*\* B) ADDRESS OF MESSAGE \*\*
244 \*\* C) NAME OF MAP TO CALL \*\*
245 \*\* D) ENTRY POINT WITHIN CALLED MAP TO USE \*\*
246 \*\* E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE \*\*
247 \*\*
248 \*\* \$INPT \*\*
249 \*\* A) RULE EQUATE X'0300' \*\*
250 \*\* B) INPUT TYPE (EBCDIC OR HEX) \*\*
251 \*\* C) ADDRESS OF YES LEG RULE \*\*
252 \*\* D) DESTINATION LOCATION OF INPUT DATA \*\*
253 \*\* E) LENGTH OF INPUT DATA \*\*
254 \*\* F) LOWER LIMIT OF GOOD DATA \*\*
255 \*\* G) HIGHER LIMIT OF GOOD DATA \*\*
256 \*\*
257 \*\* \$QUXX \*\*
258 \*\* A) RULE EQUATE X'0400' \*\*
259 \*\* B) ADDRESS OF YES LEG RULE \*\*
260 \*\* C) TU BRANCH TO ADDRESS (INITIAL) \*\*
261 \*\* D) TU BRANCH TO ADDRESS (SECONDARY) \*\*
262 \*\* E) LENGTH OF PARAMETER IN BYTES \*\*
263 \*\* F) PARAMETER TO PASS TO TU \*\*
264 \*\* G) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER \*\*
265 \*\*
266 \*\* \$TUXX \*\*
267 \*\* A) RULE EQUATE X'0500' \*\*
268 \*\* B) ADDRESS OF YES LEG RULE \*\*
269 \*\* C) TU BRANCH TO ADDRESS \*\*
270 \*\* D) TYPE OF COMPARE TO MAKE ON RESULTS \*\*
271 \*\* E) LENGTH OF COMPARED RESULTS \*\*
272 \*\* F) MASK FIELD FOR COMPARE \*\*
273 \*\* G) LENGTH OF PARAMETER IN BYTES \*\*
274 \*\* H) PARAMETER TO PASS TO THE TU \*\*
275 \*\* I) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER \*\*
276 \*\*
277 \*\* \$NVLD \*\*
278 \*\* A) RULE EQUATE X'0600' \*\*
279 \*\*
280 \*\* ENTRY POINT TABLE \*\*
281 \*\* THIS TABLE CONTAINS THE ENTRY POINTS WITHIN THE MAP THAT \*\*
282 \*\* THE MAP CAN BE ENTERED FROM THESE ENTRY POINTS ARE \*\*
283 \*\* REFERENCED BY NAME AND ADDRESS. ENTRIES ARE AS FOLLOWS: \*\*
284 \*\*
285 \*\* A) NAME OF ENTRY POINT \*\*
286 \*\* B) ADDRESS OF ENTRY POINT RULE TABLE \*\*
287 \*\*
288 \*\* THE ENTRY POINT TABLE END IS INDICATED BY A X'0000' \*\*
289 \*\*
290 \*\* MESSAGE TABLE \*\*
291 \*\* THIS TABLE CONTAINS THE MESSAGE PASSED TO THE OPERATOR \*\*
292 \*\* VIA THE MDI SUPERVISOR. THE TABLE IS AS FOLLOWS: \*\*
293 \*\*
294 \*\* A) EQUATE FOR START OF MESSAGE BLOCK \*\*
295 \*\* B) NUMBER OF LINES OF MESSAGE \*\*
296 \*\* C) LENGTH OF FOLLOWING LINE \*\*
297 \*\* D) FIRST LINE OF MESSAGE \*\*
298 \*\* E) LENGTH OF FOLLOWING LINE \*\*
299 \*\* F) SECOND LINE OF MESSAGE \*\*
300 \*\* G) ETC. \*\*
301 \*\*
302 \*\*\*\*\*
303 \*\*\*\*\*
304 \*\*\*\*\*
305 \*\*\*\*\*

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308 \*\*\*\*\*
309 \*\*\*\*\*
310 \*\*
311 \*\* STEP AND RULE ADDRESS TABLE \*\*
312 \*\*
313 \*\*\*\*\*
314 \*\*\*\*\*
002502 2550 DC AL2(N00001)
002504 0001 DC XL2'0001'
000001 EQU 0001
002506 2554 DC AL2(N00002)
002508 0002 DC XL2'0002'

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002598 2B46 422+ DC A(T7806)
00259A 0000 423+ DC AL2(EQ)
00259C 000A 424+ DC AL2(10)
00259E 000000000000000000 425+ DC X'00000000000000000000'

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002668 0002 536 F00005 EQU *
002668 0002 537 DC AL2(0002)
00266A 002A 538 DC A(0042)
00266C D7D6E6C5D940D6D54 539 DC C10042'POWER ON THE 4962, WAIT 16 SECONDS AND RUN '
002696 0018 540 DC A(0024)
002698 D4C1D7F7F8F0F540C 541 DC C10024'MAP7805 FOR MORE TESTING'
0026B0 0002 542 F00062 EQU *
0026B2 002A 543 DC AL2(0002)
0026B4 D7D6E6C5D940D6D54 544 DC A(0042)
0026DE 0018 545 DC C10042'POWER ON THE 4962, WAIT 16 SECONDS AND RUN '
0026E0 D4C1D7F7F8F2F040C 546 DC A(0024)
0026E2 D4C1D7F7F8F2F040C 547 DC C10024'MAP7820 FOR MORE TESTING'
0026F8 0000 548 HDT 00B2
550+OPTN1 DC X'0000' PROGRAM OPTION CONTROL WORD 1
551+*
0026FA 0000 552+OPTN2 DC X'0000' PROGRAM OPTION CONTROL WORD 2
553+*
000010 554+B48 EQU 16 0 8 PROBLEM PROGRAM CONTROL BITS
000011 555+B49 EQU 17 1 4 *
000012 556+B50 EQU 18 2 2 * THESE BITS ARE USED WITH THE
000013 557+B51 EQU 19 3 1 * SECOND OPTION WD AND ARE TO
000014 558+B52 EQU 20 4 8 * BE ASSIGNED BY EACH PROGRAMMER
000015 559+B53 EQU 21 5 2 *
000016 560+B54 EQU 22 6 4 *
000017 561+B55 EQU 23 7 1 *
000018 562+B56 EQU 24 8 8 *
000019 563+B57 EQU 25 9 4 *
00001A 564+B58 EQU 26 10 2 *
00001B 565+B59 EQU 27 11 1 *
00001C 566+B60 EQU 28 12 8 *
00001D 567+B61 EQU 29 13 4 *
00001E 568+B62 EQU 30 14 2 *
00001F 569+B63 EQU 31 15 1 *
00001F 570+CHP EQU 30 14 2 CHARACTER SUPPLIED
00001F 571+CHP EQU 31 15 1 COMPARE OPERATION
0026FC 0000 572+OPTN3 DC X'0000' PROGRAM OPTION CONTROL WORD 3
573+*
574+*
575+* 0 MYSTERY INTERRUPT NI 8 CS STATUS IN PROGRESS CS
576+* 1 ERROR INTERRUPT ER 9 CS AVAILABLE CSA
577+* 2 EXPECTED INTERRUPT XI 10 CS STATUS INTERRUPT ERR CE
578+* 3 INTERRUPT RECEIVED IN 11 ISB BITS ON (1-7) ISBON
579+*
580+* 4 EXPECTED ERR/ATTENT YE 12 TEST UNIT RESULTS VOID NG
581+* 5 HARD ERROR FOUND HE 13 OTO CC ERROR IOCC
582+* 6 WRONG INTR LEVEL $LE 14 NO INTERRUPT NOIN
583+* 7 NO INTR EXPECTED NI 15 INTERRUPT CC ERROR INCC
584+*
585+MI EQU 32 0 8 MYSTERY INTERRUPT HAPPENED
586+ER EQU 33 1 4 ERROR RECEIVED ON INTERRUPT
587+XI EQU 34 2 2 EXPECTED INTERRUPT CONTROL BIT
588+IN EQU 35 3 1 INTERRUPT RECEIVED CONTROL BIT
589+YE EQU 36 4 8 EXPECTED ERROR RESPONSE
590+HE EQU 37 5 4 HARD ERROR, 8 RETRIES
591+$LE EQU 38 6 2 INTERRUPT ON WPOING LEVEL ERROR
592+NI EQU 39 7 1 NO INTERRUPT EXPECTED E
593+CS EQU 40 8 8 CYCLE STATUS IN PROGRESS
594+CSA EQU 41 9 4 CYCLE STEAL AVAILABLE
595+CE EQU 42 10 2 CYCLE STEAL STATUS INERRRUPT ERROR
596+ISBON EQU 43 11 1 ISB BITS ON (1-7)
597+NG EQU 44 12 8 TEST UNIT RESULTS NO GOOD
598+IOCC EQU 45 13 4 OTO CC ERROR
599+NOIN EQU 46 14 2 NO INTERRUPT
600+INCC EQU 47 15 1 INTERRUPT CC ERROR
601+*
602+* COMMON BUFFER FOR PRINTING DATA
603+*
605+$TUID DC A(*-*) TEST UNIT IDENTIFICATION
606+$IOIN DC A(*-*) I/O AND INTR CONDITION CODES
607+$ISB DC A(*-*) R7, INTR STATUS BYTE & DEV ADRS
608+$LSTIO DC A(*-*) ADRS OF LAST I/O + 4 BYTES
609+$DEV1 DC A(*-*) DEVICE DEPENDENT DATA
610+$DEV2 DC A(*-*) *
611+$DEV3 DC A(*-*) *
612+$DEV4 DC A(*-*) *
613+$CTID EQU DEV1 READ ID BUFFER FOR IBIS & TERN
614+$DCBUF EQU * DCB BUFFER FOR LAST DCB USED
615+$DCB1 DC A(*-*) LAST DCB TABLE, CONTROL WORD
616+$DCB2 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
617+$DCB3 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
618+$DCB4 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
619+$DCB5 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
620+$DCB6 DC A(*-*) LAST DCB TABLE, CHAIN ADRS
621+$DCB7 DC A(*-*) LAST DCR TABLE, BYTE COUNT
622+$DCB8 DC A(*-*) LAST DCR TABLE, BUFFER ADDRESS
623+*
624+$CSBUF EQU * CYCLE STEAL DATA BUFFER
625+$CSTL1 DC A(*-*) CYCLE STEAL BUFFER, RESIDUAL ADRS
626+$CSTL2 DC A(*-*) CYCLE STEAL WD 2, DEVICE DEPEND
627+$CSTL3 DC A(*-*) CYCLE STEAL WD 3, DEVICE DEPEND
628+$CSTL4 DC A(*-*) CYCLE STEAL WD 4, DEVICE DEPEND
629+$CSTL5 DC A(*-*) CYCLE STEAL WD 5, DEVICE DEPEND
630+$CSTL6 DC A(*-*) CYCLE STEAL WD 6, DEVICE DEPEND
631+$CSTL7 DC A(*-*) CYCLE STEAL WD 7, DEVICE DEPEND
632+$CSTL8 DC A(*-*) CYCLE STEAL WD 8, DEVICE DEPEND
633+*
634+$SUBN DC A(*-*) LAST SUBROUTINE ADDRESS USED
635+$DATA DC 2A(*-*) OPTIONAL DATA
636+$INTL DC X'0021' INTERRUPT LEVEL REQUESTED
637+$TURTN DC A(*-*) TEST UNIT RETURN ADRS TO MDI
638+$DVID DC X'00B2' DEVICE ID
639+$VVAL DC A(DEVADD) ADRS OF DEVICE ADDRESS
640+ DC A(*-*) IBIS CYLINDER ADDRESS
641+*
642+* THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
643+* FUNCTION. THE RESULTS THAT WERE SET UP IN THE RESULTS AREA ARE
644+* STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
645+*
646+$T3C02 MVWI X'3C02', $TUID SET UP TEST UNIT ID
647+ EQU (R7) RETURN TO MDI SUPVR
648+ COPY COMEQU
649+ *****
650+ *****
651+ *
652+ * EQUATED NAMES FOR SUPPORTED SVC'S
653+ *

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000000 654 *****
000001 655 OUT EQU 0 OUT SVC
000002 656 OUTIN EQU 1 OUTIN SVC
000003 657 IDLE EQU 2 IDLE SVC
000004 658 IDLE5 EQU 3 IDLE SVC - INDEPENDENT OF CPU TYPE
000005 659 CHNGE EQU 4 CHANGE LEVEL SVC
000006 660 PCCHK EQU 5 ALLOW RETURN ON PROGRAM CHECK SVC
000007 661 EXIT EQU 6 EXIT SVC
000008 662 TERM EQU 7 TERMINATE SVC
000009 663 RESET EQU 8 RESET DEVICE SVC
00000A 664 RID EQU 9 READ ID SVC
00000B 665 START EQU 10 START CYCLE STEAL SVC
00000C 666 STCSS EQU 11 START CYCLE STEAL STATUS SVC
00000D 667 PREP EQU 12 PREPARE DEVICE SVC
00000E 668 READ0 EQU 13 READ WITH FUNCTION BIT 3 OFF SVC
00000F 669 READ1 EQU 14 READ WITH FUNCTION BIT 3 ON SVC
000010 670 RSTAT EQU 15 READ STATUS SVC
000011 671 WRIT0 EQU 16 WRITE WITH FUNCTION BIT 3 OFF SVC
000012 672 WRIT1 EQU 17 WRITE WITH FUNCTION BIT 3 ON SVC
000013 673 CTRL EQU 18 CONTROL SVC
000014 674 RIBC EQU 19 RELEASE INTERRUPT CONTROL BLOCK SVC
000015 675 CICB EQU 20 CONNECT INTERRUPT CONTROL BLOCK SVC
000016 676 HIO EQU 21 HALT ALL I/O
000017 677 REQSD EQU 22 REQUEST USE OF DCP DISK SVC
000018 678 RELSD EQU 23 RELEASE USE OF DCP DISK SVC
000019 679 HALT EQU 24 HALT SVC
00001A 680 ETOH EQU 25 EBCDIC TO HEX SVC (STRING)
00001B 681 HTOE EQU 26 HEX TO EBCDIC SVC (STRING)
00001C 682 ATOH EQU 27 ASCII TO HEX SVC (STRING)
00001D 683 HTOA EQU 28 HEX TO ASCII SVC (STRING)
00001E 684 ETOA EQU 29 EBCDIC TO ASCII SVC (STRING)
00001F 685 ATOE EQU 30 ASCII TO EBCDIC SVC (STRING)
000020 686 READI EQU 31 READ DATA SETS FOR MDI/UTIL
000020 687 WRITI EQU 32 WRITE DATA SETS FOR UTIL
689 *****
690 *
691 * EQUATES USED BY TU'S AS CONSTANTS
692 *
693 *****
694 PLUS EQU C'+1' PLUS CHAR
695 MINUS EQU C'-1' MINUS CHAR
696 ZERO EQU 0
697 ONE EQU 1
698 TWO EQU 2
699 THREE EQU 3
700 FOUR EQU 4
701 FIVE EQU 5
702 SIX EQU 6
703 SEVEN EQU 7
704 EIGHT EQU 8
705 NINE EQU 9
706 TEN EQU 10
707 ELEVEN EQU 11
708 TWELVE EQU 12
709 THIRTEEN EQU 13
710 FOURTEEN EQU 14
711 FIFTEEN EQU 15
712 SIXTEEN EQU 16
713 SEVENTEEN EQU 17
714 EIGHTEEN EQU 18
715 NINETEEN EQU 19
716 TWENTY EQU 20
717 TWENTYONE EQU 21
718 TWENTYTWO EQU 22
719 TWENTYTHREE EQU 23
720 TWENTYFOUR EQU 24
721 TWENTYFIVE EQU 25
722 TWENTYSIX EQU 26
723 TWENTYSEVEN EQU 27
724 TWENTYEIGHT EQU 28
725 TWENTYNINE EQU 29
726 THIRTY EQU 30
727 *****
728 *
729 * THE FOLLOWING ARE EQUATES FOR BIT DISPLACEMENTS FROM THE
730 * BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES.
731 *
732 *****
733 BS0 EQU 0
734 BS1 EQU 1
735 BS2 EQU 2
736 BS3 EQU 3
737 BS4 EQU 4
738 BS5 EQU 5
739 BS6 EQU 6
740 BS7 EQU 7
741 BS8 EQU 8
742 BS9 EQU 9
743 BS10 EQU 10
744 BS11 EQU 11
745 BS12 EQU 12
746 BS13 EQU 13
747 BS14 EQU 14
748 BS15 EQU 15
749 COPY T7801 01DEC76
750 T7801 TUIT T7801
751 *****06FEB76**
752 *****
753+*
754+* TEST UNIT
755+*
756+* 4962 ATTACHMENT TEST 5/09/77
757+*
758+* PURPOSE
759+*
760+*
761+* CALLING SEQUENCE
762+*
763+* ROUTINE WILL PREPARE THE I/O DEVICE TO INTERRUPT ON LEVEL ZERO
764+* AND CAUSE AN INTERRUPT. WHEN THE INTERRUPT OCCURS, THE LEVEL IS
765+* COMPARED TO THE EXPECTED LEVEL. THIS IS DONE ON ALL LEVELS.
766+* LEVEL THREE WILL NOT OCCUR BECAUSE THIS PROGRAM WILL BE RUNNING
767+* AS A BACKGROUND PROGRAM.
768+* CYCLE STEAL STATUS OP IS USED TO FORCE AN INTERRUPT. RESIDUAL
769+* ADDRESS AND STATUS WORD ARE ALSO CHECKED.
770+*
771+* PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
772+* . TURESUL BIT 0-----NOT USED

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0029EA 0000            1001      DC      X'0000'      NO OP
0029EB 0000            1002      DC      X'0000'
0029EC 0000            1003      DC      X'0000'
0029ED 0000            1004      DC      X'0000'
0029EE 0000            1005      DC      A(SKDCB)    CHAIN ADDRESS
0029EF 3920            1006      DC      X'0000'
0029F4 0000            1007 *
1009      COPY T7804      01DEC76
1010      TUIT $ERR$
1011 *****06FEB76**
1012**
1013** TEST UNIT
1014**
1015** THIS ROUTINE WILL FORCE ERRORS THAT THE ATTACHMENT WILL REJECT
1016**
1017** PURPOSE
1018**
1019** CALLING SEQUENCE      5/05/77
1020**
1021** THE FOLLOWING ERRORS ARE FORCED:
1022**
1023** 0. INVALID COMMAND
1024** 1. INVALID SECTOR NUMBER (RD OP)
1025** 2. INVALID SECTOR NUMBER (RD SECTOR ID)
1026** 3. INVALID SECTOR NUMBER (DIAG OP)
1027** 4. ODD BYTE COUNT
1028** 5. INVALID BYTE COUNT (READ SECTOR ID)
1029** 6. INVALID BYTE COUNT (START DIAG)
1030** 7. ODD DATA ADDRESS
1031**
1032** PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1033** . TURESUL BIT 0--INVALID COMMAND
1034** . TURESUL BIT 1--INVALID SECTOR # (RD OP)
1035** . TURESUL BIT 2--INVALID SECTOR # (RD SECTOR ID)
1036** . TURESUL BIT 3--INVALID SECTOR # (DIAG OP)
1037** . TURESUL BIT 4--ODD BYTE COUNT
1038** . TURESUL BIT 5--INVALID BYTE COUNT (RD SECTOR ID)
1039** . TURESUL BIT 6--INVALID BYTE COUNT (START ID)
1040** . TURESUL BIT 7--ODD DATA ADDRESS
1041** . TURESUL BIT 8--OIO ERROP
1042** . TURESUL BIT 9-----NOT USED
1043** . TURESUL BIT 10-----NOT USED
1044** . TURESUL BIT 11-----NOT USED
1045** . TURESUL BIT 12-----NOT USED
1046** . TURESUL BIT 13-----NOT USED
1047** . TURESUL BIT 14-----NOT USED
1048** . TURESUL BIT 15-----NOT USED
1049**
1050**
1051** RETURN CONTROL
1052**
1053** B TURTN* RETURN TO MDI SUPERVISOR
1054**
1055*****
1056*****
1057+T7804 MVW R7,TURTN SAVE RETURN ADDRESS
1058+ MVWI X'7804',STUID SAVE TU ID FOR DISPLAY
1059+ MVA OPTN1,R4 SET UP POINTER ADRS IN R4
1060+ BAL $CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
1061+ DC A($ERR$) ERROR ADRS FOR INVALID PREP
1062**
1063 MVWI X'000A',CEDAT TURN ON READY, MODE 1&4
1064 BAL CEOP1,R6 *
1065 DC A(T04K)
1066 MVWZ TURESUL,R2 CLEAR RESULTS WORD
1067 MVA TURESUL,R0 ADDRESS OF RESULTS
1068 MVWI X'2006',RDDCB INVALID READ COMMAND
1069 ERTST 1,$RDS$ USE SPECIAL XIO ROUTINE
1070+ MVA $RDS,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1071+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1072+ DC A(1) DISP FROM TOP OF DCB IN BYTES
1073+ DC A(T04A) ERROR ADDRESS
1074 *
1075 MVWI X'2009',RDDCB READ CONTROL WORD
1076 MVWI X'004C',RDDCB+8 SETUP INVALID SECTOR #
1077 MVWI X'0002',RDDCB+12 SETUP VALID BYTE COUNT
1078 ERTST $RDS$ USE SPECIAL XIO ROUTINE
1079+ MVA $RDS,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1080+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1081+ DC A(9) DISP FROM TOP OF DCB IN BYTES
1082+ DC A(T04B) ERROR ADDRESS
1083 *
1084 MVWI X'3C00',RSDCB+4 SETUP INVALID SEC NUM
1085 ERTST 3,$RDID USE SPECIAL XIO ROUTINE
1086+ MVA $RDID,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1087+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1088+ DC A(5) DISP FROM TOP OF DCB IN BYTES
1089+ DC A(T04C) ERROR ADDRESS
1090 *
1091 MVWI X'3C00',DGDCB+4 SETUP INVALID SECTOR #
1092 MVWI X'0100',DGDCB+12 SETUP VALID BYTE COUNT
1093 ERTST 3,$DIAG USE SPECIAL XIO ROUTINE
1094+ MVA $DIAG,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1095+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1096+ DC A(5) DISP FROM TOP OF DCB IN BYTES
1097+ DC A(T04D) ERROR ADDRESS
1098 *
1099 MVWI X'2009',RDDCB READ CONTROL WORD
1100 MVWI X'003B',RDDCB+8 RESTORE VALID SECTOR #
1101 MVWI X'0003',RDDCB+12 SETUP INVALID BYTE COUNT
1102 ERTST 7,$RDID USE SPECIAL XIO ROUTINE
1103+ MVA $RDS,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1104+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1105+ DC A(13) DISP FROM TOP OF DCB IN BYTES
1106+ DC A(T04E) ERROR ADDRESS
1107 *
1108 MVWI X'200A',RSDCB READ SECTOR ID CONTROL WORD
1109 MVWI X'0000',RSDCB+4 VALIDATE SECTOR #
1110 MVWI X'0008',RSDCB+12 SETUP INVALID BYTE COUNT
1111 ERTST 7,$RDID USE SPECIAL XIO ROUTINE
1112+ MVA $RDID,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1113+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1114+ DC A(13) DISP FROM TOP OF DCB IN BYTES
1115+ DC A(T04F) ERROR ADDRESS

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
002AC0 4020 390C 0006 1116 MVWI X'0006',RSDCB+12 RESTORE VALID BYTE COUNT
1117 *
1118 MVWI X'0000',DGDCB+4 RESTORE VALID SECTOR #
1119 MVWI X'0006',DGDCB+12 SETUP INVALID BYTE COUNT
1120 ERTST 7,$DIAG USE SPECIAL XIO ROUTINE
1121+ MVA $DIAG,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1122+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1123+ DC A(13) DISP FROM TOP OF DCB IN BYTES
1124+ DC A(T04G) ERROR ADDRESS
1125 MVWI X'0100',DGDCB+12 RESTORE VALID BYTE COUNT
1126 *
1127 MVWI X'2009',RDDCB READ CONTROL WORD
1128 MVWI X'0002',RDDCB+12 RESTORE VALID BYTE COUNT
1129 MVWI X'3FF9',RDDCB+14 SETUP INVALID DATA ADDRESS
1130 ERTST 8,$RDS$ USE SPECIAL XIO ROUTINE
1131+ MVA $RDS,ERTST+4 SET UP ADDRESS FOR I/O COMMAND
1132+ BAL ERTST,R2 USE COMMON ERROR TESTING SUBROUTINE
1133+ DC A(15) DISP FROM TOP OF DCB IN BYTES
1134+ DC A(T04H) ERROR ADDRESS
1135 MVWI X'0100',DGDCB+12 RESTORE VALID BYTE COUNT
1136 MVW TUBUFF,RDDCB+14 RESTORE VALID DATA ADDRESS
1137+ DC A(15)
1138 *
1139 T04J MVA IOBLK,R7 RESET
1140+ SVC RESET *
1141+ TXIT
1142+ B $CONX RETURN TO MDI CONTROLLER
1143*****
1144 *
1145 T04A TBTS (R0,0) INVALID COMMAND
1146 J T04J
1147 T04B TBTS (R0,1) INVALID SECTOR # (RD OP)
1148 J T04J
1149 T04C TBTS (R0,2) INVALID SECTOR # (RD SECTOR ID)
1150 J T04J
1151 T04D TBTS (R0,3) INVALID SECTOR # (DIAG OP)
1152 J T04J
1153 T04E TBTS (R0,4) ODD BYTE COUNT
1154 J T04J
1155 T04F TBTS (R0,5) INVALID BYTE COUNT (RD SECTOR ID)
1156 J T04J
1157 T04G TBTS (R0,6) INVALID BYTE COUNT (START DIAG)
1158 J T04J
1159 T04H TBTS (R0,7) ODD DATA ADDRESS
1160 J T04J
1161 T04K TBTS (R0,8) OIO ERROR
1162 J T04J
1163 *
1164 *
1165 *
1166 COPY T7806 01DEC76
1167 TUIT T06ER
1168*****06FEB76**
1169**
1170** TEST UNIT
1171**
1172** DATA BUFFER WRAP TEST      5/05/77
1173**
1174** PURPOSE
1175**
1176** CALLING SEQUENCE
1177**
1178** THIS ROUTINE WILL VERIFY THE DATA BUFFER IN THE 4962 ATTACHMENT
1179** CARD BY TURNING ON DIAGNOSTIC MODE AND RUNNING BUFFER WRAP TEST.
1180**
1181** PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1182** . TURESUL BIT 0-----NOT USED
1183** . TURESUL BIT 1-----NOT USED
1184** . TURESUL BIT 2-----NOT USED
1185** . TURESUL BIT 3-----NOT USED
1186** . TURESUL BIT 4-----NOT USED
1187** . TURESUL BIT 5-----NOT USED
1188** . TURESUL BIT 6-----NOT USED
1189** . TURESUL BIT 7-----NOT USED
1190** . TURESUL BIT 8-----NOT USED
1191** . TURESUL BIT 9-----NOT USED
1192** . TURESUL BIT 10-----NOT USED
1193** . TURESUL BIT 11-----NOT DIAGNOSTIC MODE
1194** . TURESUL BIT 12-----NOT USED
1195** . TURESUL BIT 13-----OIO CC ERROR
1196** . TURESUL BIT 14-----WRAP TEST FAILED
1197** . TURESUL BIT 15-----NO INTERRUPT RECEIVED
1198**
1199** . TURESUL BIT 16-31 -----CYCLE STEAL STATUS FOR FAILING OP
1200** . TURESUL BIT 32-47 -----CC - 32-39 OIO CC,40-47 INT CC
1201** . TURESUL BIT 48-63 -----IBS
1202** . TURESUL BIT 64-79 -----OPTION WORD 3 (ERROR INDICATORS)
1203**
1204**
1205**
1206**
1207**
1208** RETURN CONTROL
1209**
1210** B TURTN* RETURN TO MDI SUPERVISOR
1211**
1212*****
1213*****
1214+T7806 MVW R7,TURTN SAVE RETURN ADDRESS
1215+ MVWI X'7806',STUID SAVE TU ID FOR DISPLAY
1216+ MVA OPTN1,R4 SET UP POINTER ADRS IN R4
1217+ BAL $CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
1218+ DC A(T06ER) ERROR ADRS FOR INVALID PREP
1219**
1220 MVWZ TURESUL,R2 CLEAR RESULTS WORD
1221 MVWZ TURESUL+2,R2 CLEAR RESULTS WORD 2
1222 MVWZ TURESUL+4,R2 CLEAR RESULTS WORD 3
1223 MVWZ TURESUL+6,R2 CLEAR RESULTS WORD 4
1224 MVWZ TURESUL+8,R2 CLEAR RESULTS WORD 5
1225 MVA TURESUL,R2 ADDRESS OF RESULTS
1226 TBTS (R4,NI) TURN ON NO INTER MODE INDICATOR
1227 MVA IOBLK,R7 ISSUE DEVICE RESET
1228+ SVC RESET *
1229 MVWI 0,CEDAT SET DIAGNOSTIC MODE

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IOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
002B80 6E03 3A34 1230 BAL CEOP1,R6 \*
002B81 2BEA 1231 DC A(T06ER) ERROR
002B86 6E03 3A70 1232 BAL SENS0,R6 RPAD SENSE WORD ONE
002B88A 2BEA 1233 DC A(T06ER) ERROR
002B88C 402F 3A94 8000 1234 CBI X'8000',RDATA0 CHECK FOR DIAGNOSTIC MODE
002B92 1025 1235 JOFF T06D DIAG MODE NOT ON
002B94 6E03 3A20 1236 BAL WRAP,R6 READ DIAGNOSTIC WRAP
002B98 2BEA 1237 DC A(T06ER) ERROR
002B9A 882B 3A9C 3AA4 1238 CW CEDAT,RAPDAT COMPARE DATA BUFFER
002BA0 1820 1239 JNE T06A ERROR
002BA2 4020 3A9C FFFF 1240 MVWI X'FFFF',CEDAT SET ALL ONES AS DATA PATTERN
002BA8 6E03 3A34 1241 BAL CEOP1,R6 WRITE BUFFER DATA PATTERN
002BAC 2BEA 1242 DC A(T06ER) ERROR
002BAE 6E03 3A20 1243 BAL WRAP,R6 READ DIAGNOSTIC WRAP
002BB2 2BEA 1244 DC A(T06ER) ERROR
002BB4 882B 3A9C 3AA4 1245 CW CEDAT,RAPDAT COMPARE DATA BUFFER
002BA 1813 1246 JNE T06A ERROR
002B8C 4124 0001 1247 MVWI 1,R1 INIT DATA PATTERN TO 1
002BC0 690D 3A9C 1248 T06L MVA R1,CEDAT LOAD DATA PATTERN IN WRT DATA WD
002BC4 6E03 3A34 1249 BAL CEOP1,R6 WRITE BUFFER DATA PATTERN
002BC8 2BEA 1250 DC A(T06ER) ERROR
002BCA 6E03 3A20 1251 BAL WRAP,R6 READ DIAGNOSTIC WRAP
002BCE 2BEA 1252 DC A(T06ER) ERROR
002BD0 882B 3A9C 3AA4 1253 CW CEDAT,RAPDAT COMPARE DATA BUFFER
002BD6 1805 1254 JNE T06A ERROR
002BD8 3109 1255 SLL 1,R1 SHFT DATA PATTERN
002BDA 1718 1256 JCY T6END ALL DATA PATTEFNS TESTED
002BDC 50F1 1257 J T06L LOOP
002BDE 444B 1258 T06D TBTS (R2,11) NOT DIAGNOSTIC MODE
002BE0 5009 1259 J T06C EXIT
002BE2 444E 1260 T06A TBTS (R2,14) DATA BUFFER FAILURE
002BE4 5007 1261 J T06C EXIT
002BE6 444F 1262 T06B TBTS (R2,15) NO INTERRUPT RECEIVED
002BE8 5005 1263 J T06C EXIT
002BEA CA25 18C8 1264 T06ER MVWZ TURESUL,R2 CLEAR RESULTS WORD
002BEE 4224 18C8 1265 MVA TURESUL,R2 ADDRESS OF RESULTS
002BF2 444D 1266 TBTS (R2,13) OIO CC ERROR
002BF4 8828 2720 18CA 1267 T06C MVW CSTL2,TURESUL+2 CYCLE STEAL STATUS FOR FAILING OP
002BFA 8828 2700 18CC 1268 MVW \$I0IN,TURESUL+4 CONDITION CODES
002C00 8828 2702 18CE 1269 MVW \$ISB,TURESUL+6 ISB
002C0C 4020 3AA0 0001 1270 T6END MVWI OPTN3,TURESUL+8 OPTION WORD 3 (CONDITION CODES)
002C12 6E03 3A48 1271 BAL C,OP2,R6 \*
002C16 2BEA 1272 DC A(T06ER) \*
002C18 4724 3CEA 1273 MVA IOBLK,R7 \*
002C1C 6008 1274 SVC RESET \*
1275 \*
1276 \*
1277 \*
1278 \*\*\*\*\*
1279 \*
1281 COPY T7807 01DEC76
1282 T7807 TUIT T07ER
1283 \*\*\*\*\*
1284 \*\*\*\*\*
1285 \*\*\*\*\*
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002C22 6F0D 2736 7807
002C26 4020 26FE
002C30 6E03 3CFE
002C34 3088
002C36 CA25 18C8
002C3A CA25 18CA
002C3C CA25 18CC
002C42 CA25 18CE
002C46 CA25 18D0
002C4A 8028 19D0 3A97
002C50 C020 0232
002C54 F025

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
002C56 180D 1345 JNE TT07 JUMP IF NOT CLINGSTONE
002C58 4020 2EAE 0300 1346 MVWI X'0300',TT7A+2 LOAD TIME CONSTANT FOR 10 MSEC
002C5E 4020 2ED8 254C 1347 MVWI X'254C',TT7B+2 LOAD TIME CONSTANT FOR 2 SEC
002C64 4020 2F32 000B 1348 MVWI X'000B',TT7C+2 LOAD TIME CONSTANT FOR 40 USEC
002C6A 4020 2FB4 7860 1349 MVWI X'7860',TT7D+2 LOAD TIME CONSTANT FOR 400 MSEC
002C70 500D 1350 J TT7E
002C72 4020 2EAE 0200 1351 TT07 MVWI X'0200',TT7A+2 (ELBERTA) LOAD TIME CONS FOR 10 MSEC
002C78 4020 2ED8 0C00 1352 MVWI X'0C00',TT7B+2 (ELBERTA) LOAD TIME CONS FOR 2 SEC
002C7E 4020 2F32 0007 1353 MVWI X'0007',TT7C+2 (ELBERTA) LOAD TIME CONS FOR 40 USEC
002C84 4020 2FB4 5000 1354 MVWI X'5000',TT7D+2 (ELBERTA) LOAD TIME CONS FOR 400 MSEC
002C8A 4C9C 1355 TBTR (R4,B60) RESET TABLE INDICATOR
002C8C 4020 3B4E 0400 1356 TT7E MVWI X'0400',SRD+8 SETUP COUNT TO CLEAR READ BUFFFR
002C92 4020 394E 30D0 1357 MVA WRBUF,WRDCB+14 WRITE BUFFER ADDRESS IN DCB
002C98 4020 396E 34D0 1358 MVA RBUF,RDCB+14 READ BUFFER ADDRESS IN DCB
002CA4 8038 189A 30A4 1359 MVB TUPARM1\*,TEST SET TEST NUMBER TO BE RUN
002CA8 4724 3CEA 1360 MVA IOBLK,R7 ISSUE DEVICE RESET
002C8 6008 1361 SVC RESET \*
002CAA 402B 30A4 1000 1362 TWI X'1000',TEST TEST 10?
002CB0 6A00 2E38 1363 BON T807 YES
002CB4 4020 3B46 0BAA 1364 MVWI X'0BAA',SRD READ BUFFER INIT CHARACTER
002CB8 4020 3020 AAAA 1365 MVWI X'AAAA',T7AA+2 \*
002CC0 4C5B 1366 TBTS (R4,B59) SET TWO SEC INDICATOR
002CC2 08FF 1367 MVBI X'FF',R0 DATA PATTERN 'FF'
002CC4 4124 30D0 1368 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002CC8 4724 0400 1369 MVWI X'0400',R7 BYTE COUNT
002CC 282C 1370 FFN R0,(R1) LOAD WRITE BUFFER
002CC2 4020 2E52 1371 MVA TO7X,R6 GO TO WRITE/READ ROUTINE
002CD2 4020 3B46 0BFF 1372 MVWI X'0BFF',SRD READ BUFFER INIT CHARACTER
002CD8 4020 3020 FFFF 1373 MVWI X'FFFF',T7AA+2 \*
002CDE 4C9B 1374 TBTR (R4,B59) RESET TWO SEC INDICATOR
002CE0 0855 1375 MVBI X'55',R0 DATA PATTERN '55'
002CE2 4124 30D0 1376 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002CE6 4724 0400 1377 MVWI X'0400',R7 BYTE COUNT
002CEA 282C 1378 FFN R0,(R1) LOAD WRITE BUFFER
002CF0 6E03 2E52 1379 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002CF2 08AA 1380 MVBI X'AA',R0 DATA PATTERN 'AA'
002CF6 4124 30D0 1381 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002CFA 4724 0400 1382 MVWI X'0400',R7 BYTE COUNT
002CC 282C 1383 FFN R0,(R1) LOAD WRITE BUFFER
002CD0 6E03 2E52 1384 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D00 4C5C 1385 TBTS (R4,B60) SET TABLE INDICATOR FOR ONLY 400 B'YTS
002D02 4124 30D0 1386 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D06 4724 0200 1387 MVWI X'0200',R7 WORD COUNT
002D0A 4050 DEB6 1388 TT7G MVWI X'DEB6',(R1)+ LOAD WRITE BUFFER
002D0E BFFD 1389 JCT TT7G,R7 DECREMENT WORD COUNT
002D10 6E03 2E52 1390 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D14 4124 30D0 1391 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D18 4724 0200 1392 MVWI X'0200',R7 WORD COUNT
002D1C 4050 0001 1393 TT7H MVWI X'0001',(R1)+ LOAD WRITE BUFFER
002D20 BFFD 1394 JCT TT7H,R7 DECREMENT WORD COUNT
002D22 6E03 2E52 1395 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D26 4124 30D0 1396 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D2A 4724 0200 1397 MVWI X'0200',R7 WORD COUNT
002D2E 4050 0002 1398 TT7J MVWI X'0002',(R1)+ LOAD WRITE BUFFER
002D32 BFFD 1399 JCT TT7J,R7 DECREMENT WORD COUNT
002D34 6E03 2E52 1400 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D38 4124 30D0 1401 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D3C 4724 0200 1402 TT7K MVWI X'0200',R7 WORD COUNT
002D40 4050 0004 1403 MVWI X'0004',(R1)+ LOAD WRITE BUFFER
002D44 BFFD 1404 JCT TT7K,R7 DECREMENT WORD COUNT
002D46 6E03 2E52 1405 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D4A 4124 30D0 1406 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D4E 4724 0200 1407 MVWI X'0200',R7 WORD COUNT
002D52 4050 0008 1408 TT7L MVWI X'0008',(R1)+ LOAD WRITE BUFFER
002D58 BFFD 1409 JCT TT7L,R7 DECREMENT WORD COUNT
002D5C 6E03 2E52 1410 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D5E 4124 30D0 1411 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D60 4724 0200 1412 MVWI X'0200',R7 WORD COUNT
002D64 4050 0010 1413 TT7M MVWI X'0010',(R1)+ LOAD WRITE BUFFER
002D68 BFFD 1414 JCT TT7M,R7 DECREMENT WORD COUNT
002D6A 6E03 2E52 1415 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D6E 4124 30D0 1416 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D72 4724 0200 1417 TT7N MVWI X'0200',R7 WORD COUNT
002D76 4050 0020 1418 MVWI X'0020',(R1)+ LOAD WRITE BUFFER
002D7A BFFD 1419 JCT TT7N,R7 DECREMENT WORD COUNT
002D7C 6E03 2E52 1420 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D7E 4124 30D0 1421 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D84 4724 0200 1422 TT7P MVWI X'0200',R7 WORD COUNT
002D88 4050 0040 1423 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D8C BFFD 1424 JCT TT7P,R7 DECREMENT WORD COUNT
002D8E 6E03 2E52 1425 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002D92 4124 30D0 1426 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002D96 4724 0200 1427 TT7Q MVWI X'0200',R7 WORD COUNT
002D9A 4050 0080 1428 MVWI X'0080',(R1)+ LOAD WRITE BUFFER
002D9E BFFD 1429 JCT TT7Q,R7 DECREMENT WORD COUNT
002DA0 6E03 2E52 1430 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002DA4 4124 30D0 1431 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002DA8 4724 0200 1432 TT7R MVWI X'0200',R7 WORD COUNT
002DAC 4050 0100 1433 MVWI X'0100',(R1)+ LOAD WRITE BUFFER
002DB0 BFFD 1434 JCT TT7R,R7 DECREMENT WORD COUNT
002DB2 6E03 2E52 1435 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002DB6 4124 30D0 1436 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002DBA 4724 0200 1437 TT7S MVWI X'0200',R7 WORD COUNT
002DBE 4050 0200 1438 MVWI X'0200',(R1)+ LOAD WRITE BUFFER
002DC2 BFFD 1439 JCT TT7S,R7 DECREMENT WORD COUNT
002DC4 6E03 2E52 1440 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002DC8 4124 30D0 1441 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002DCC 4724 0200 1442 TT7T MVWI X'0200',R7 WORD COUNT
002DD0 4050 0400 1443 MVWI X'0400',(R1)+ LOAD WRITE BUFFER
002DD4 BFFD 1444 JCT TT7T,R7 DECREMENT WORD COUNT
002DD6 6E03 2E52 1445 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002DD8 4124 30D0 1446 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002DDE 4724 0200 1447 TT7U MVWI X'0200',R7 WORD COUNT
002DE2 4050 0800 1448 MVWI X'0800',(R1)+ LOAD WRITE BUFFER
002DE6 BFFD 1449 JCT TT7U,R7 DECREMENT WORD COUNT
002DE8 6E03 2E52 1450 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002DEC 4124 30D0 1451 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002DF0 4724 0200 1452 TT7V MVWI X'0200',R7 WORD COUNT
002DF4 4050 1000 1453 MVWI X'1000',(R1)+ LOAD WRITE BUFFER
002DF8 BFFD 1454 JCT TT7V,R7 DECREMENT WORD COUNT
002DFA 6E03 2E52 1455 BAL TO7X,R6 GO TO WRITE/READ ROUTINE
002DFE 4124 30D0 1456 MVA WRBUF,R1 WRITE BUFFER ADDRESS FROM MDI
002E02 4724 0200 1457 TT7W MVWI X'0200',R7 WORD COUNT
002E06 4050 2000 1458 MVWI X'2000',(R1)+ LOAD WRITE BUFFER



LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYFIGHT IBM CORP 1976
1688 \*
1689 \*\*\*\*\*
1690 \*
1691 \*\*\*\*\* DIAGNOSTIC DCB \*\*\*\*\*
1692 \*
0038D0 2008 1693 DGDCB DC X'2008' DIAGNOSTIC DCB
0038D2 0000 1694 DC X'0000' NOT USED
0038D4 0000 1695 DC A(\*-\*) 0-7 = PHYSICAL SECTOR # MINUS ONE
0038D6 0000 1696 DC X'0000' NOT USED
0038D8 0000 1697 DC X'0000' NOT USED
0038DA 0000 1698 DC A(\*-\*) CHAINING ADDRESS
0038DC 0100 1699 DC X'0100' BYTE COUNT
0038DE 0000 1700 DC A(\*-\*) DATA ADDRESS
1701 \*
1702 \*
1703 \*\*\*\*\* RECALIBRATE DCB \*\*\*\*\*
1704 \*
0038E0 0007 1705 CLDCB DC X'0007' RECALIBRATE DCB
0038E2 0000000000000000 1706 DC 7A(\*-\*)
1707 \*
1708 \*\*\*\*\* WRITE SECTOR ID \*\*
1709 \*
0038F0 0002 1710 WSDCB DC X'0002' WRITE SECTOR ID CONTROL WORD
0038F2 0000 1711 DC X'0000' NOT USED
0038F4 0000 1712 DC A(\*-\*) 0-7 = PHYSICAL SECTOR # MINUS ONE
0038F6 0000 1713 DC A(\*-\*) NOT USED
0038F8 0000 1714 DC A(\*-\*) NOT USED
0038FA 0000 1715 DC A(\*-\*) CHAIN ADDRESS
0038FC 0006 1716 DC X'0006' BYTE COUNT
0038FE 39B6 1717 DC A(WRSID) ADDR OF SECTOR ID DATA
1718 \*\*\*\*\* READ SECTOR ID DCB \*\*\*\*\*
1719 \*
003900 200A 1720 RSDCB DC X'200A' READ SECTOR ID
003902 0000 1721 DC X'0000' NOT USED
003904 0000 1722 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
003906 0000 1723 DC X'0000' NOT USED
003908 0000 1724 DC X'0000' NOT USED
00390A 0000 1725 DC X'0000' CHAIN ADDRESS
00390C 0006 1726 DC X'0006' BYTE COUNT FOR READ SECTOR ID
00390E 2706 1727 DC A(SCTID) SECTOR ID DATA ADDRESS
1728 \*
1729 \*
1730 \*\*\*\*\* READ SECTOR ID IMMEDIATE DCB \*\*\*\*\*
1731 \*
003910 200E 1732 RIDCB DC X'200E' READ SECTOR ID
003912 0000 1733 DC X'0000' NOT USED
003914 0000 1734 DC X'0000' NOT USED
003916 0000 1735 DC X'0000' NOT USED
003918 0000 1736 DC X'0000' NOT USED
00391A 0000 1737 DC A(\*-\*) CHAIN ADDRESS
00391C 0006 1738 DC X'0006' BYTE COUNT FOR READ SECTOR ID
00391E 2706 1739 DC A(SCTID) SECTOR ID DATA ADDRESS
1740 \*
1741 \*
1742 \*\*\*\*\* SEEK DCB \*\*\*\*\*
1743 \*
003920 0005 1744 SKDCB DC X'0005' SEEK DCB
003922 0000 1745 DC X'0000' BIT 0-3=0; BIT4=DIRECTION; 5-15=DTFPER
003924 0000 1746 DC F'0'
003926 0000 1747 DC F'0'
003928 0000 1748 DC X'0000' 0-7 = HEAD; 8-15 NOT USED
00392A 0000 1749 DC A(\*-\*) CHAIN ADDRESS
00392C 0000 1750 DC F'0' NOT USED
00392E 0000 1751 DC F'0' NOT USED
1752 \*
1753 \*\*\*\*\* CYCLE STEAL STATUS DCB \*\*\*\*\*
1754 \*
003930 2000 1755 CSDCB DC X'2000' CONTROL WORD
003932 0000 1756 DC F'0' NOT USED
003934 0000 1757 DC F'0' NOT USED
003936 0000 1758 DC F'0' NOT USED
003938 0000 1759 DC F'0' NOT USED
00393A 0000 1760 DC F'0' NOT USED
00393C 0008 1761 DC X'0008' 4 WORDS OF STATS
00393E 271E 1762 DC A(CSBUF) ADDRESS OF CYCLE STEAL STATUS DATA
1763 \*
1764 \*\*\*\*\* WRITE DCB \*\*\*\*\*
1765 \*
003940 0001 1766 WRDCB DC X'0001' WRITE CONTROL WORD
003942 0000 1767 DC F'0' NOT USED
003944 0000 1768 DC X'0000' 0-7=0; 8-15 = FLAG BYTE
003946 0000 1769 DC X'0000' SEARCH ARGUMENT CYLINDER
003948 0000 1770 DC X'0000' SEARCH ARGUMENT HEAD-SECTOR
00394A 0000 1771 DC A(\*-\*) CHAIN ADDRESS
00394C 0000 1772 DC F'0' BYTE COUNT
00394E 0000 1773 DC A(\*-\*) WRITE DATA ADDRESS
1774 \*
1775 \*\*\*\*\* VERIFY DCB \*\*\*\*\*
1776 \*
003950 200C 1777 VRDCB DC X'200C' CONTROL WORD
003952 0000 1778 DC F'0' NOT USED
003954 0000 1779 DC X'0000' 0-7=0; 8-15 = FLAG BYTE
003956 0000 1780 DC X'0000' CYLINDER
003958 0000 1781 DC X'0000' HEAD - SECTOR
00395A 0000 1782 DC A(\*-\*) CHAIN ADDRESS
00395C 0000 1783 DC F'0' BYTE COUNT
00395E 0000 1784 DC A(\*-\*) VERIFY DATA ADDRESS
1785 \*
1786 \*\*\*\*\* READ DCB \*\*\*\*\*
1787 \*
003960 2009 1788 RDCB DC X'2009' READ DCB CONTROL WORD
003962 0000 1789 DC F'0' NOT USED
003964 0000 1790 DC X'0000' 0-7=0; 8-15 = FLAG BYTE
003966 0000 1791 DC X'0000' SEARCH ARGUMENT CYLINDER
003968 0101 1792 DC X'0101' SEARCH ARGUMENT H-R
00396A 0000 1793 DC A(\*-\*) CHAIN ADDRESS
00396C 0000 1794 DC F'0' BYTE COUNT
00396E 0000 1795 DC A(\*-\*) READ DATA ADDRESS
1796 \*
1797 \*\*\*\*\* WRITE SECTOR ID SKEWED \*\*\*\*\*
1798 \*
003970 0003 1799 WKDCB DC X'0003' CONTROL WORD
003972 0000 1800 DC X'0000' NOT USED
003974 0000 1801 DC A(\*-\*) 0-7 = PHYSICAL SECTOR # MINUS ONE

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003976 0000 1802 DC A(\*-\*) NOT USED
003978 0000 1803 DC A(\*-\*) NOT USED
00397A 0000 1804 DC A(\*-\*) CHAIN ADDRESS
00397C 0006 1805 DC X'0006' BYTE COUNT
00397E 39B6 1806 DC A(WRSID) ADDR OF SECTOR ID DATA
1807 \*
1808 \*\*\*\*\* READ SECTOR ID SKEWED \*\*\*\*\*
1809 \*
003980 200B 1810 RKDCB DC X'200B' CONTROL WORD
003982 0000 1811 DC X'0000' NOT USED
003984 0000 1812 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
003986 0000 1813 DC X'0000' NOT USED
003988 0000 1814 DC X'0000' NOT USED
00398A 0000 1815 DC A(\*-\*) CHAIN ADDRESS
00398C 0006 1816 DC X'0006' BYTE COUNT FOR READ SECTOR ID
00398E 2706 1817 DC A(SCTID) SECTOR ID DATA ADDRESS
1818 \*
1819 \*
1820 ZEROO DC X'0000' CONSTANTS AND DEFINED STORAGE LOCATIONS
1821 ONE1 DC X'0001' CONSTANT ZERO
1822 TIMEOUT DC 2A(\*-\*) CONSTANT ONE
1823 TONE DC X'0000' TIMEOUT COUNTER
1824 \*
1825 COUNT DC F'1280' CONSTANT FOR ADD DOUBLE
1826 DIFF DC A(\*-\*) \*
1827 XXX DC A(\*-\*) BYTE COUNT (1280)
1828 BCNT DC X'0000' SEEK DIFFERENCE
1829 JOE DC A(\*-\*) WORK WORD INT TO ZERO
1830 JOE1 DC X'0000' BYTE COUNT
1831 WDATA DC A(\*-\*) WRITE PARAMETER POINTER
1832 \*
1833 TABLE DC X'6BED' SAVE LOC FOR PARM LIST ADDRESS
1834 LGSEC DC A(\*-\*) WRITE DATA
1835 PHYS DC X'0000' \*
1836 CB29 DC X'1D00' ADDR OF WRT PAR LIST FOR FORMAT RTNS
1837 FIVE9 DC X'3B00' LOGICAL SECTOR #
1838 WRSID DC X'0000' CONVERTED PHYSICAL SEC #
1839 \*
1840 \*
1841 CDAT DC X'0000' CONSTANT BYTE 29
1842 WSIDT DC X'FF34' CONSTANT BYTE 59
1843 \*
1844 \*
1845 SCST DC X'0000' FLAG, CYLINDER (WRT SECTOR ID DATA)
1846 \*
1847 \*
1848 CTR01 DC X'0000' CYLINDER, HEAD
1849 CTR02 DC X'0000' LOG SECTOR, NOT USED
1850 CTR03 DC X'0000' INVALID DATA CONSTANT
1851 CTR04 DC X'0000' WRITE SECTOR ID TEST DATA
1852 CTR05 DC X'0000' \*
1853 CTR06 DC X'0000' READ SECTOR ID TEST DATA BUFFER
1854 SAVR3 DC X'0000' \*
1855 SAVR5 DC X'0000' COUNTER
1856 WR2 DC X'0000' COUNTER
1857 SVSEK DC X'0000' COUNTER
1858 LCT DC X'0000' COUNTER
1859 T56AA DC X'0000' COUNTER
1860 T56BB DC X'0000' COUNTER
1861 T56CC DC X'0000' COUNTER
1862 T56DD DC X'0000' COUNTER
1863 T56EE DC X'0000' COUNTER
1864 T56FF DC X'0000' COUNTER
1865 T56GG DC X'0000' COUNTER
1866 T86AA DC X'0000' COUNTER
1867 T86BB DC X'0000' COUNTER
1868 T86CC DC X'0000' COUNTER
1869 T86DD DC X'0000' COUNTER
1870 T86EE DC X'0000' COUNTER
1871 T86FF DC X'0000' COUNTER
1872 T86GG DC X'0000' COUNTER
1873 T41D DC X'0000' COUNTER
1874 T41LP DC X'0000' COUNTER
1875 WRLCT DC X'0000' COUNTER
1876 WRLC DC X'0000' COUNTER
1877 PASS1 DC A(\*-\*)
1878 HEAD0 DC A(\*-\*)
1879 HEAD1 DC A(\*-\*)
1880 GDSE0 DC A(\*-\*)
1881 GDSE1 DC A(\*-\*)
1882 ERO0 DC A(\*-\*)
1883 ERO1 DC A(\*-\*)
1884 HDOSV DC A(\*-\*)
1885 HDISV DC A(\*-\*)
1886 EROSV DC A(\*-\*)
1887 ERISV DC A(\*-\*)
1888 PATTR DC A(\*-\*)
1889 CECYL DC A(\*-\*)
1890 STATS DC A(\*-\*)
1891 \*
1893 \*
1894 \*\* COPY T78DPCIO 01DEC76
1895 \* (T78DPCIO)
1896 \*
1897 \* EXECUTE DPC INPUT/OUTPUT COMMANDS
1898 \* THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1899 \*
1900 \* 1 BAL CPOP1,R6 CE DIAGNOSTIC OP1(TURN ON DIAG MODE)
1901 \* 2 BAL CPOP2,R6 WRITE DIAG CLOCK STEP DATA
1902 \*
1903 \* 3 BAL SENS0,R6 CE READ SENSE WORD ZERO
1904 \*
1905 \* 4 BAL SENS1,R6 CE READ SENSE WORD ONE
1906 \*
1907 \* 5 BAL WRAP,R6 READ DIAGNOSTIC WRAP
1908 \*
1909 \* BXS (R6,2) RFTURN
1910 \*
1911 \* \*\*\*\*\*
1912 \*
1913 \* CE DIAGNOSTIC OP2 DATA WORD (CLOCK STEP)
1914 \*
1915 \* BIT 00 - SET READY
1916 \* BIT 01 - RESET READY



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1917 \* BIT 02 - SET WRITE CLOCK
1918 \* BIT 03 - SET READ CLOCK
1919 \* BIT 04 - INDEX PULSE
1920 \* BIT 05 - SECTOR PULSE
1921 \* BIT 06 - STANDARD READ DATA
1922 \* BIT 07 - SPEED PULSE
1923 \* BIT 08 - BEHIND HOME
1924 \* BIT 09 - SET SEEK COMPLETE
1925 \* BIT 10 - RESET SEEK COMPLETE
1926 \* BIT 11 - PLO OUT OF SYNC
1927 \* BIT 12 - RST RD/WRT CLOCK
1928 \* BIT 13 -
1929 \* BIT 14 -
1930 \* BIT 15 - RESET DIAGNOSTIC MODE
1932 \*\*\*\*\*
1933 \*
1934 \*
1935 WRAP MVW R6, LSTIO SAVE ADDRESS OF LAST IO
1936 MVB DEVADD, IDCBRAP+1 LOAD DEVICE ADDRESS IN IDCBC
1937 IO IDCBRAP READ SENSE WORD 1
1938 BNCC 7, CCERR CHECK COND CODE
1939 BXS (R6, 2) RETURN TO CALLER
1940 \*
1941 CEOP1 MVW R6, LSTIO SAVE ADDRESS OF LAST IO
1942 MVB DEVADD, IDCBC1+1 LOAD DEVICE ADDRESS IN IDCBC
1943 IO IDCBC1 SET DIAGNOSTIC MODE
1944 BNCC 7, CCERR CHECK COND CODE
1945 BXS (R6, 2) RETURN TO CALLER
1946 \*
1947 CEOP2 MVW R6, LSTIO SAVE ADDRESS OF LAST IO
1948 MVB DEVADD, IDCBC2+1 LOAD DEVICE ADDRESS IN IDCBC
1949 IO IDCBC2 WRITE DIAG CLOCK STEP
1950 BNCC 7, CCERR CHECK COND CODE
1951 BXS (R6, 2) RETURN TO CALLER
1952 \*
1953 \*
1954 SENS1 MVW R6, LSTIO SAVE ADDRESS OF LAST IO
1955 MVB DEVADD, IDCBC1+1 LOAD DEVICE ADDRESS IN IDCBC
1956 IO IDCBC1 READ SENSE WORD 2
1957 BNCC 7, CCERR CHECK COND CODE
1958 BXS (R6, 2) RETURN TO CALLER
1959 \*
1960 SENSO MVW R6, LSTIO SAVE ADDRESS OF LAST IO
1961 MVB DEVADD, IDCBC0+1 LOAD DEVICE ADDRESS IN IDCBC
1962 IO IDCBC0 READ SENSE WORD 1
1963 BNCC 7, CCERR CHECK COND CODE
1964 BXS (R6, 2) RETURN TO CALLER
1965 \*
1966 CCERR DC X'706E' COPY STATUS ANY LEVEL INTO R3
1967 SRL 13, R3 POSITION CC CODE TO BITS 13-15
1968 MVB R3, FIOIN \* PUT IN LOG AREA
1969 B (R6) \* RETURN TO USER
1970 \*
1971 IORST DC X'6F05' RESET IO
1972 IDCBC0 DC X'2205' SENSE WORD ZERO
1973 RDATA0 DC A(\*-\*) DATA WORD
1974 IDCBC1 DC X'2105' SENSE WORD ONE
1975 RDATA1 DC A(\*-\*)
1976 IDCBC2 DC X'4005' CE DIAG OP1
1977 CEDAT DC A(\*-\*) SENSE DATA
1978 IDCBC3 DC X'4105' CE DIAG OP2
1979 CEDAT2 DC A(\*-\*) SENSE DATA
1980 IDCBRAP DC X'2F05' READ DIAG WRAP
1981 RDATA2 DC A(\*-\*) SENSE DATA
1982 CPUID EQU X'0232' CPU ID
1983 \*
1985 COPY T78IO 01DEC76
1986 \*\* (T78IO)
1987 \*\*\*\*\*12/01/76\*\*\*\*\*
1988 \*
1989 \* SUBROUTINE
1990 \*
1991 \* PURPOSE
1992 \*
1993 \* COMPARE READ SECTOR ID DATA TO WRITE SECTOR ID DATA
1994 \* NORMAL AND TEST DATA.
1995 \*
1996 \* CALLING SEQUENCE
1997 \*
1998 \* BAL CMPRW, R6 (NORMAL)
1999 \* BAL CMPRT, R6 (TEST)
2000 \*
2001 \* RETURN
2002 \*
2003 \* BXS (R6, 2) - NORMAL
2004 \*
2005 \*
2006 \*\*\*\*\*
2007 \*
2008 CMPRT MVWI 5, R7 BYTE COUNT
2009 MVA SCTLST+1, R3 ADDR OF RD SECT ID DATA (TEST)
2010 MVA WSIDT, R5 ADDR OF WR SECT ID DATA (TEST)
2011 J TT4Y
2012 CMPRW MVWI 5, R7 COMPARE BYTE COUNT
2013 MVA SCTLST+1, R3 ADDR OF RD SECT ID DATA
2014 MVA WRSID, R5 ADDR OF WR SECT ID DATA
2015 TT4Y CFNEN (R3), (R5) COMPARE ID DATA
2016 BE (R6, 2) BCH IF WRITE ID DATA OK
2017 B (R6) \* COMPARE ERROR
2018 \*
2019 \*\*\*\*\*
2020 \*
2021 \* SUBROUTINE
2022 \*
2023 \* PURPOSE
2024 \* CONVERT LOGICAL SECTOR NUMBER TO A PHYSICAL SECTOR MINUS
2025 \* ONE.
2026 \* SETUP LOGICAL SECTOR # IN LOCATION 'LGSEC'
2027 \* PHYSICAL SECTOR # WILL BE LOADED IN LOCATION 'PHYS'
2028 \*
2029 \* LOGICAL SECTOR# TO PHYSICAL SECTOR# CONVERSION
2030 \* LOGICAL- X 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D,
2031 \* PHYSICAL X 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D,

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2032 \*
2033 \* LOGICAL- 07, 25, 08, 26, 09, 27, 0A, 28, 0B, 29, 0C, 2A, 0D, 2B,
2034 \* PHYSICAL 0E, 0F, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B,
2035 \*
2036 \* LOGICAL- 0E, 2C, 0F, 2D, 10, 2E, 11, 2F, 12, 30, 13, 31, 14, 32,
2037 \* PHYSICAL 1C, 1D, 1E, 1F, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29,
2038 \*
2039 \* LOGICAL- 15, 33, 16, 34, 17, 35, 18, 36, 19, 37, 1A, 38, 1B, 39,
2040 \* PHYSICAL 2A, 2B, 2C, 2D, 2E, 2F, 30, 31, 32, 33, 34, 35, 36, 37,
2041 \*
2042 \* LOGICAL- 1C, 3A, 1D, 3B, X
2043 \* PHYSICAL 38, 39, 3A, 3B, X
2044 \*
2045 \*
2046 \* CALLING SEQUENCE
2047 \*
2048 \* BAL CONVT, R6
2049 \*
2050 \* RETURN
2051 \*
2052 \* B (TT304+2)
2053 \*
2054 \*\*\*\*\*
2055 \*
2056 CONVT MVW R6, TT304+2 SETUP RETURN ADDR
2057 CB ZER00, LGSEC+1 CK FOR LOG # ZERO
2058 JE TT303 BCH IF LOG # IS ZERO
2059 CB LGSEC+1, CB29 COMP LOG TO 29
2060 JGE RTT01 BCH IF LGSEC EQ OR LESS THAN CB29
2061 MVWI 2, R0 SETUP MULTIPLIER
2062 MB LGSEC+1, R0 LOG SECTOR # TIMES 2
2063 SWI 60, R0 LOG SEC TIMES 2 MINUS 60
2064 MVB R0, PHYS+1 PHYSICAL SECTOR NUMBER
2065 J TT304 RETURN TO CALLER
2066 MVB TT304, PHYS+1 PHYSICAL SECTOR # 59
2067 RTT01 J TT304 RETURN TO CALLER
2068 MVWI 2, R0 LOAD MULTIPLIER
2069 MB LGSEC+1, R0 LOG SECTOR # TIMES 2
2070 SWI 1, R0 SUBTRACT ONE
2071 MVB R0, PHYS+1 LOAD PHYSICAL SECTOR #
2072 TT304 B \*-# RETURN TO CALLER
2073 \*
2074 \*\*\*\*\*
2075 \*
2076 \* SUBROUTINE
2077 \*
2078 \* PURPOSE
2079 \*
2080 \* LOAD WRITE SECTOR ID DATA BUFFER FROM RD SEC ID BUFFER
2081 \*
2082 \* CALLING SEQUENCE
2083 \*
2084 \* BAL LWSID, R6
2085 \*
2086 \* RETURN
2087 \*
2088 \* BXS (R6)
2089 \*
2090 \*\*\*\*\*
2091 \*
2092 \*
2093 LWSID MVWI 5, R7 BYTE COUNT
2094 MVA SCTLST+1, R3 ADDR OF RD SECT ID DATA BUFFER
2095 MVA WRSID, R5 ADDR OF WR SECT ID DATA BUFFER
2096 MVFN (R3), (R5) MOV DATA FROM RD TO WR BUFFER
2097 BXS (R6) RETURN TO CALLER
2098 \*
2099 \*
2100 \* EXECUTE INPUT & OUTPUT COMMANDS
2101 \* TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
2102 \* EACH OF THESE ENTRIES SET R7 WITH THE ADDR OF ITS PARAMETER
2103 \* LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
2104 \* SUPVR CALL.
2105 \*
2106 \* THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
2107 \*
2108 \* 1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
2109 \* 2. ERROR INTERRUPTS RECEIVED FROM SUPVR
2110 \*
2111 \* THIS ROUTINE HAS THE FOLLOWING ENTRIES:
2112 \*
2113 \* 1 BAL \$RKEW, R6 READ SECTOR ID SKEWED
2114 \*
2115 \* 2 BAL \$WKST, R6 WRITE SECTOR ID SKEWED (TEST)
2116 \*
2117 \* 3 BAL \$RWST, R6 READ SECTOR ID SKEWED (TEST)
2118 \*
2119 \* 4 BAL \$RIDS, R6 READ SECTOR ID (TEST)
2120 \*
2121 \* 5 BAL \$WKEW, R6 WRITE SECTOR ID SKEWED
2122 \*
2123 \* 6 BAL \$WSEC, R6 WRITE SECTOR ID
2124 \*
2125 \* 7 BAL \$WSTS, R6 WRITE SECTOR ID (TEST)
2126 \*
2127 \* 8 BAL \$DIAG, R6 DIAGNOSTIC
2128 \*
2129 \* 9 BAL \$XIOCS, R6 CYCLE STEAL STATUS
2130 \*
2131 \* 10 BAL \$SSEEK, R6 SEEK
2132 \*
2133 \* 11 BAL \$RECL, R6 RECALIBRATE
2134 \*
2135 \* 12 BAL \$RDID, R6 READ SECTOR ID
2136 \*
2137 \* 13 BAL \$RD, R6 READ
2138 \*
2139 \* 14 BAL \$RDVY, R6 READ VERIFY
2140 \*
2141 \* 15 BAL \$WRT, R6 WRITE
2142 \*
2143 \*
2144 \*
2145 \* \$SSEEK MVA SKDCB, IODCB SET UP CONTROL BLOCK FOR SVC CALL
2146 \* J XIO

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003B24 4020 3CEE 38E0 2147 \*
003B2A 5060 2148 \$RECL MVA CLDCB,IODCB SET UP BLOCK FOR SVC CALL
2149 J XIO
2150 \*
003B2C 4020 3CEE 3900 2151 \$RDID MVA RSDCB,IODCB SET UP BLOCK FOR SVC CALL
003B32 0BFF 2152 MVRT X'FF',R3 SET BUFFER TO F'S
003B34 4524 2706 2153 MVA SCTID,R5 SETUP READ SECTOR ID BUFFER ADRS
003B38 4724 0006 2154 MVWI 6,R7 SETUP BUFFER LENGTH
003B3C 2BAC 2155 FFN R3,(R5) INIT READ SECTOR ID BUFFER
003B3E 4020 390E 2706 2156 MVA SCTID,RSDCB+14 DATA ADDR
003B44 5053 2157 J XIO
2158 \*
003B46 0BFF 2159 \$RD MVBI X'FF',R3 SETRD BUFFER TO ALL F'S
003B48 6D08 396E 2160 MVA RDDCB+14,R5 SET UP READ BUFFER ADRS
003B4C 4724 0100 2161 MVWI X'0100',R7 SET UP BUFFER LENGTH
003B50 2BAC 2162 FFN R3,(R5) CLEAR READ BUFFER
003B52 4020 3CEE 3960 2163 \$RDS MVA RDDCB,IODCB SET UP BLOCK FOR SVC CALL
003B58 5049 2164 J XIO
2165 \*
003B5A 4020 3CEE 3950 2166 \$RDVY MVA VRDCE,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003B60 5045 2167 J XIO
2168 \*
003B62 4020 3CEE 3940 2169 \$WRT MVA WRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003B68 5041 2170 J XIO
2171 \*
003B6A 4020 3CEE 3980 2172 \$RKEW MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003B70 0BFF 2173 MVBI X'FF',R3 SET BUFFER TO F'S
003B72 4524 2706 2174 MVA SCTID,R5 SETUP READ SECTOR ID BUFFER ADRS
003B76 4724 0006 2175 MVWI 6,R7 SETUP BUFFER LENGTH
003B7A 2BAC 2176 FFN R3,(R5) INIT READ SECTOR ID BUFFER
003B7C 4020 398E 2706 2177 MVA SCTID,RKDCB+14 DATA ADDR
003B82 5034 2178 J XIO
2179 \*
003B84 4020 3CEE 3970 2180 \$WKST MVA WKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003B8A 4020 397E 39BE 2181 MVA WSIDT,WKDCB+14 DATA ADDR
003B90 502D 2182 J XIO
2183 \*
003B92 4020 3CEE 3980 2184 \$RWST MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003B98 4020 398E 39C4 2185 MVA SCTST,PKDCB+14 DATA ADDR
003B9E 5026 2186 J XIO
2187 \*
003BA0 4020 3CEE 3900 2188 \$RIDS MVA RSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003BA6 0BFF 2189 MVBI X'FF',R3 SET BUFFER TO F'S
003BA8 4524 39C4 2190 MVA SCTST,R5 SETUP READ SECTOR ID BUFFER ADRS
003BAC 4724 0006 2191 MVWI 6,R7 SETUP BUFFER LENGTH
003BB0 2BAC 2192 FFN R3,(R5) INIT READ SECTOR ID BUFFER
003BB2 4020 390E 39C4 2193 MVA SCTST,RSDCB+14 DATA ADDR
003BB8 5019 2194 J XIO
2195 \*
003BBA 4020 3CEE 3970 2196 \$WKEW MVA WKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003BC0 4020 397E 39B6 2197 MVA WRSID,WKDCB+14 DATA ADDR
003BC6 5012 2198 J XIO
2199 \*
003BC8 4020 3CEE 38F0 2200 \$WSEC MVA WSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003BCE 4020 38FE 39B6 2201 MVA WRSID,WSDCB+14 DATA ADDR
003BD4 500B 2202 J XIO
003BD6 4020 3CEE 38F0 2203 \$WSTS MVA WSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003BDC 4020 38FE 39B6 2204 MVA WSIDT,WSDCB+14 DATA ADDR
003BE2 5004 2205 J XIO
2206 \*
003BE4 4020 3CEE 38D0 2207 \$DIAG MVA DGDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003BEA 5000 2208 J XIO
2209 XEQIT
2210 \*\*\*\*\*29JUL76\*\*
2211\*\*
2212\*\* SUB-ROUTINE
2213\*\*
2214\*\* EXECUTE INPUT AND OUTPUT COMMANDS
2215\*\*
2216\*\* PURPOSE
2217\*\*
2218\*\* TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
2219\*\* THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
2220\*\*
2221\*\* 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
2222\*\* THE I/O COMMAND.
2223\*\* 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
2224\*\* ISSUED BY THIS SUBROUTINE.
2225\*\* 3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
2226\*\* START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
2227\*\* 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
2228\*\* SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
2229\*\* MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
2230\*\* 5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
2231\*\* EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC START'.
2232\*\* 6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
2233\*\* STARTS TO DETERMINE A LOST INTERRUPT.
2234\*\* 7. ACCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
2235\*\* WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL.
2236\*\* 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
2237\*\* 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
2238\*\* 10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.
2239\*\* 11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
2240\*\* 12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
2241\*\* ISSUED BY THIS SUBROUTINE.
2242\*\* 13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
2243\*\* CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
2244\*\* COUNT IT AND SET UP THE PROPER EPROR MESSAGE TO BE PRINTED.
2245\*\*
2246\*\* CALLING SEQUENCE
2247\*\*
2248\*\* THIS ROUTINE HAS THE FOLLOWING ENTRIES:
2249\*\*
2250\*\* --> BAL XIO OR XEQ ANY CYCLE STEAL COMMAND, MOD=0
2251\*\* --> BAL XIO1 MOD PARM PRELOADED IN 'IOMOD'
2252\*\* --> BAL XIOCS,R6 OR XEQ START CYCLE STEAL STATUS, MOD=F
2253\*\* --> BAL XIOCS-4,R6 AUTO CS STATUS (FOLLOWING OTHER XIO
2254\*\* AND DOES NOT POST INTERRUPT STATUS)
2255\*\*
2256\*\* RETURN CONTROL
2257\*\*
2258\*\* BXS (R6,2) RETURN TO USER NO ERROR
2259\*\* OR B (R6,2) RETURN AND RETRY ON ERROR
2260\*\*\*\*\*

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
003BEC CB25 3CF0 2262+XIO MVWZ IOMOD,R3 SET MOP OF 0 FOR CYCLE STEAL OP
003BF0 500A 2263+ J XIO1 CS I/O'S ARE NOT RETRIED
2264+ \*
003BF2 4CA8 2265+ TBTR (R4,CE) RESET CS STATUS INTER ERROR INDICAT.
003BF4 4C68 2266+ TBTS (R4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
003BF6 4020 3CEE 3930 2267+XIOCS MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003BFC 4020 3CF0 000F 2268+ MVWI X'000F',IOMOD SET CYCLE STEAL MODIFIER
003C02 4C28 2269+ TBT (R4,CS) IS CS IN PROGRESS, ERROR CONDITION
003C04 1213 2270+ JON XIO2 \* YES, BYPASS SAVING I/O ADRS
003C06 6E0D 2271+XIO1 MVW R6,LSTIO SAVE IAR FOR RETRY IF REQUESTED
003C0A 4324 270E 2272+ MVA DCBUE,R5 SET UP TO ADRS TO MOVE DCB TABLE
003C0E 6D08 3CEE 2273+ MVW IODCB,R3 \* AND THE FROM ADRS, ALONG WITH
003C12 0F10 2274+ MVBI 16,R7 \* THE NUMBER OF MOVES
003C16 2D64 2275+ MVFN (R5),R3 MOVE 1 STATUS WORD AND ADJUST
003C18 4524 271E 2276+ MVA CSBUE,R5 CLEAR CYCLE STATUS BUFFER
003C1C 0F10 2277+ MVBI 16,R7 \* TO ALL ONES \*
003C20 2BAC 2278+ FFN R3,(R5) \*
003C22 4020 2700 0708 2279+ MVWI X'0708',SIOIN OVERLAY OLD CONDITION CODES
003C26 CB25 2702 2280+ MVWZ \$ISB,R3 ZERO OUT OLD ISB VALUE
2281+
2282+ \*
003C2A 4CA1 2283+ TBTR (R4,ER) RESET ANY ERROR BEFORE I/O COMMAND
003C2C 4CA3 2284+XIO2 TBTR (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
003C2E 4724 3CEA 2285+ MVA IOBLK,R7 SET UP CONTROL BLOCK FOR SUPVR
003C32 4CA6 2286+ TBTR (R4,\$LE) RESET LEVEL ERROR INDICATOR
003C34 4C62 2287+ TBTS (R4,XI) SET EXPECTED INTR CONTROL BIT
003C36 600A 2288+ SVC START CALL SUPVR FOR I/O COMMAND
2289+ \*
003C38 4CA7 2290+ TBTR (R4,NI) IS AN INTR EXPECTED
003C3A 6AC0 0002 2291+ BN (R6,2) \* NO, RETURN TO USER
2292+ \*
2293+ \* THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
2294+ \*
003C3E 0D00 2295+ MVBI X'00',R5 SET UP WORK REG FOR 'LOST INTR'
003C40 4CA3 2296+XIO8 TBTP (R4,IN) HAS INTERRUPT BEEN RECEIVED
003C42 1238 2297+ JON XIOCK \* YES, CHECK IF ALL WAS SATISFACTORY
003C44 6002 2298+ SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
2299+ \*
003C46 7DA1 0001 2300+ AWI 1,R5 SUPVR WILL RETURN HERE
003C4A 18FA 2301+ JNZ X'08 ADVANCE TIME OUT COUNT
003C4C 4C61 2302+ TBTS (R4,ER) ECH IF TIME OUT NOT REACHED
003C4E 68D2 0000 2303+ B (R6)\* SET ON ERROR CONTROL BIT
ERR 'NO INTERRUPT'
2305+\*\*\*\*\*03FEB76\*\*
2306+ \*
2307+ \* SUBROUTINE
2308+ \*
2309+ \* I/O EXECUTE ERROR HANDLING ROUTINE
2310+ \*
2311+ \* PURPOSE
2312+ \*
2313+ \* THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
2314+ \* PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
2315+ \* SUPERVISOR AND IT WAS NOT ACCEPTED.
2316+ \*
2317+ \* CALLING SEQUENCE
2318+ \*
2319+ \* SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
2320+ \*
2321+ \* RETURN CONTROL
2322+ \*
2323+ \* B (R6)\* RETURN TO USERS ERROR HANDLER
2324+ \*
2325+\*\*\*\*\*
2326+ \*
2327+ \* CC 0= DEVICE NOT ATTACHED
2328+ \* FOR 1= DEVICE BUSY
2329+ \* I/O 2= DEVICE BUSY AFTER RESET
2330+ \* 3= COMMAND REJECT
2331+ \* 4= INTERVENTION REQUIRED
2332+ \* 5= INTERFACE DATA CHECK
2333+ \* 6= CONTROLLER BUSY
2334+ \* 7= I/O COMMAND ACCEPTED
2335+ \*
003C52 706E 2336+XIOER DC X'706E' COPY STATUS ANY LEVEL INTO R3
003C54 336A 2337+ SRL 13,R3 POSITION CC CODE TO BITS 13-15
003C56 C328 2700 2338+ MVB R3,SIOIN \* PUT IN LOG OUT AREA
003C5A 68D2 0000 2339+ B (R6) RETURN TO USER ERROR HANDLER
2341+\*\*\*\*\*14APR76\*\*
2342+ \*
2343+ \* SUB-ROUTINE
2344+ \*
2345+ \* ERROR INTERRUPT RUNS ON INTERRUPT LEVEL '\$INTL'
2346+ \*
2347+ \* PURPOSE
2348+ \*
2349+ \* THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR
2350+ \* OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE
2351+ \* EXPECTED CODE.
2352+ \*
2353+ \* CALLING SEQUENCE
2354+ \*
2355+ \* SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT
2356+ \*
2357+ \* RETURN CONTROL
2358+ \*
2359+ \* SVC EXIT RETURN TO USER VIA SUPVR
2360+ \*
2361+\*\*\*\*\*
2362+ \*
2363+ \* CC 0= CONTROLLER END ISB 0= ADD STATUS
2364+ \* FOR 1= PROGRAM CONTROL INTERRUPT BITS 1= COND REJECT
2365+ \* INTR 2= EXCEPTION INTERRUPT FOR 2= INCOR LENGTH
2366+ \* 3= DEVICE END INTERRUPT INTR 3= DCB SPEC CK
2367+ \* 4= ATTENTION INTERRUPT 4= STG DATA CK
2368+ \* 5= ATTENTION / PROGRAM CNTL INTR 5= INV STG ADRS
2369+ \* 6= ATTENTION / EXCEPTION INTR 6= PROTRCT CK
2370+ \* 7= ATTENTION / DEVICE END INTR 7= I-FACE DATA
2371+ \*
003C5E 706E 2372+INTER DC X'706E' COPY STATUS ANY LEVEL INTO R3
003C60 336A 2373+ SRL 13,R3 POSITION INDICATORS IN R3
003C62 4424 26F8 2374+ MVA OPTN1,R4 SET UP BASE ADRS
003C66 4C28 2375+ TBT (R4,CS) IS CS IN PROGRESS
003C68 106E 2376+ JOFF INTES \* NO
003C6A 4C6A 2377+ TBTS (R4,CE) TURN ON CYCLE STEAL INTER ERROR
IL

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003C6C 6F0D 272C 2378+ MVW R7,CSTL8 SAVE CS ERR ISB VALUE, BITS 0-7
003C70 C328 272D 2379+ MVB R3,CSTL8+1 \* AND THE COND CODE
003C74 500A 2380+ J INTR1
003C76 4C24 2381+INTES TBT (R4,XE) TEST EXPECTED ATTN / ERROR IND
003C78 1002 2382+ JOFF INTET BCH IF NOT EXPECTED
003C7A F304 2383+ CBI 4,R3 IS THIS AN 'ATTENTION' INTR
003C7C 1006 2384+ JE INTR1 \* YES, BCH TO END INTR SEQUENCE
003C7E 4C61 2385+INTET TBT (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
003C80 5004 2386+ J INTR1
2387+\* THE ERROR INTERRUPT USES THE SAME
2388+\* ENDING SEQUENCE AS THE NORMAL INTR
2390+\*\*\*\*\*14APR76
2391+\*
2392+\* SOUBROUTINE
2393+\*
2394+\* OKAY INTERRUPT RUNS ON INTERRUPT LEVEL 'SINTL'
2395+\*
2396+\* PURPOSE
2397+\*
2398+\* TO CHECK THE INTERRUPT AND CONTINUE THE TEST
2399+\*
2400+\* CALLING SEQUENCE
2401+\*
2402+\* SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED
2403+\* THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE
2404+\* AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE
2405+\* COMMON SECTION IS HANDLED HERE.
2406+\*
2407+\* RETURN CONTROL
2408+\*
2409+\* SVC EXIT RETURN TO USER VIA SUPVR
2410+\*
2411+\*\*\*\*\*
2412+INTOK DC X'706E' COPY STATUS ANY LEVEL INTO R3
2413+ SRL 13,R3 POSITION INDICATORS IN R3
2414+ MVA OPN1,R4 SET UP BASE ADRS
2415+INTR1 TBT (R4,IN) SET INTERRUPT RECEIVED
2416+ TBT (R4,CS) IS 'CS IN PROGRESS' ON
2417+ JON INTR2 \* YES, BCH AROUND UPDATE
2418+ MVB R3,\$IOIN+1 SAVE INTERRUPTING CC CODE
2419+ MVW R7,\$ISB SAVE INTR STATUS AND DEV ADRS
2420+INTR2 EQU \*
2421+\* CPCL R5 CURRENT LEVEL COPIED BY DCP
2422+ SLL 4,R5 POSITION INTR LEVEL AND PUT
2423+ ABI 1,R5 \* IN '1' BIT
2424+ CH \$INTL,R5 IS THIS THE CORRECT INTR LEVEL
2425+ JE INTR3 \* YES, GO EXIT THIS LEVEL
2426+ TBT (R4,\$LE) SET INTR LEVEL ERROR CONTROL BIT
2427+ TBT (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
2428+INTR3 TBT (R4,XI) WAS INTERRUPT EXPECTED
2429+ JON INTRX \* YES, EXIT OFF THIS INTR LEVEL
2430+ TBT (R4,MI) \* NO, SET MYSTERY INTR CONTROL BIT
2431+ CBI 4,R3 ATTENTION INTERRUPT?
2432+ JE INTRX YES
2433+ TBT (R4,NG) ERROR, UNEXPECTED INTERRUPT
2434+INTRX SVC EXIT EXIT THIS LEVEL VIA SUPVR TO PGM
2436+\*\*\*\*\*03FEB76\*\*
2437+\*
2438+\* THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
2439+\* HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN
2440+\* RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
2441+\*
2442+\*
2443+XIOCK TBT (R4,XE) WAS AN ERROR EXPECTED
2444+ BN (R6,2) \* YES, EXIT THIS ROUTINE
2445+ TBT (R4,CS) WAS AUTO CS IN PROGRESS
2446+ JOFF XIOCV \* NO, CONTINUE CHECKING
2447+ TBT (R4,CE) IS CS IN AN ERR CONDITION
2448+ JOFF XIOCO \* NO, BCH
2449+ B (R6) CS ERROR
2450+XIOCO TBT (R4,CSA) TURN ON CS STATS AVAIL FLAG
2451+ BXS (R6,2) GO TO USER
2452+XIOCV TBT (R4,ER) WAS ERROR INTR CONTROL BIT ON
2453+ JOFF XIOCX \* NO, EXIT THIS ROUTINE
2454+\*
2455+ MVB \$IOIN+1,R5 GET LAST INTR CC CODE
2456+ CBI 2,R5 IS THIS CC=2
2457+ BNE (R6)\* \* NO, BCH TO ERFOR HANDLER
2458+XIOCV MVB \$ISB,R5 GET LAST ISB DATA BYTE AND IF CS
2459+ BN XIOCS-4 \* AVAILABLE, GO AND GET IT
2460+ B (R6)\* ERROR
2461+XIOCV MVWZ OPTN3,R3 CLEAR OUT OPTION 3 CNTL BITS
2462+ BXS (R6,2) RETURN TO USER VIA REG 6
2463+\*
2464+\* I/O PARAMETER LIST
2465+\*
2466+IOBLK DC A(DEVADD) ADRS OF DEVICE ADRS
2467+ DC A(XIOER) ERROR ROUTINE ADRS
2468+IODCB DC A(\*-\*) DCB ADRS OR LEVEL & INTR
2469+IOMOD DC A(\*-\*) MODIFIER
2470+ DC A(\*-\*) ADRS OF LAST SVC CALL
2471+IORSR DC A(\*-\*) SECOND WORD OF LAST IDCB
2472+\*
2473+\* INTERRUPT CONTROL BLOCK FOR I/O COMMANDS
2474+\*
2475+INTBL DC A(DEVADD) ADRS OF DEVICE ADRS
2476+ DC A(INTOK) INTERRUPT OK RETURN ADRS
2477+ DC A(INTR) INTERRUPT ERROR ADRS
2478+INTCC DC X'0003' INTERRUPT CODE EXPECTED
2480+\*\*\*\*\*11AY76\*\*
2481+\*
2482+\* SUBROUTINE
2483+\*
2484+\* CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE
2485+\*
2486+\* PURPOSE
2487+\*
2488+\* TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
2489+\* PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
2490+\* TO INTERRUPT.
2491+\*
2492+\* CALLING SEQUENCE
2493+\*
2494+\* THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
2495+\*
2496+\* --> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK
2497+\* --> BAL \$CONP,R6 PREPARE DEVICE ONLY, ALREADY CONNECT
2498+\*
2499+\* RETURN CONTROL
2500+\*
2501+\* BXS (R6,2) RETURN TO USER VIA REG 6 IF OKAY
2502+\* OR B (R6)\* IF THE DEVICE COULD NOT BE CONNECTED
2503+\*
2504+\*\*\*\*\*06APR76\*\*
2505+\*CONC MVBI 6,R7 NUMBER OF BYTE TO CLEAR
2506+ MVB 0,R3 \* AND THE DATA TO USE
2507+ MVA DEV1,R5 \* ALONG WITH THE ADRS TO USE
2508+ PFN R3,(R5) \*
2509+ MVWZ OPTN3,R3 CLEAR OLD CONTROLS FOR NEW ROUTINE
2510+ MVA INTBL,R7 SET R7 TO CONTROL BLOCK AND
2511+ SVC CIBC \* CONNECT IT TO THIS DEVICE
2512+ BN (R6)\* ERROR RETURN TO USER
2513+\*
2514+\*CONP MVH \$INTL,IODCB PUT IN LEVEL & INTR PARAMETER
2515+ MVA IOBLK,R7 SET R7 TO CONTROL BLOCK TO PREPARE
2516+ MVWI X'0708',\$IOIN INITIALIZE CONDITION CODE STORAGE
2517+ MVWZ \$ISB,R3 \* AND CLEAR OLD ISB VALUE
2518+ MVW R6,\$STIO SET UP ADDRESS THAT STARTED LAST I/O
2519+ SVC PRP \* AND CALL ON SUPVR
2520+ BXS (R6,2) RETURN TO USER
2522+\*\*\*\*\*
2523+\*
2524+\* SUBROUTINE
2525+\*
2526+\* DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
2527+\*
2528+\* PURPOSE
2529+\*
2530+\* DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
2531+\* SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS
2532+\* BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
2533+\*
2534+\* CALLING SEQUENCE
2535+\*
2536+\* THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
2537+\*
2538+\* --> B \$ERRS SET 'NG' BIT AND CONVERT DATA TO LOG
2539+\* --> B \$CONX RETURN TO NDI SUPERVISOR TO TEST STS
2540+\*
2541+\* RETURN CONTROL
2542+\*
2543+\* B TURTN\* RETURN TO NDI
2544+\* OR B (R6)\* IF THE DEVICE COULD NOT BE CONNECTED
2545+\*
2546+\*\*\*\*\*
2547+\*ERRS MVWI X'8000',TUSTATUS SET ON 'NO GOOD' STATUS BIT
2548+ MVA HEBLK,R7 GET ADRS OF CONTROL BLOCK
2549+ SVC HTOE CONVERT HEX TO EBC VIS DCP
2550+\*SPRNT MVBI 3,R5
2551+ MVA TUBWRK,R3 SET UP BUFFER STORAGE
2552+ MVW R3,BUFP
2553+ MVA LINE1,R1
2554+ MVBI 4,R7
2555+ MVBI 8,R6
2556+MVBUF MVFN (R3),(R1)
2557+ MVBI 4,R7
2558+ MVBI X'40',R2
2559+ MVB R2,(R1)+
2560+ JCT MVBUF,R6
2561+ MVBI 8,R6
2562+ AWI 44,R1
2563+ JCT MVBUF,R5
2564+ MVWI PIDMSG10,PID+2
2565+ MVA FAKETU,@DCADD1
2566+ MVA DC2PT,@DCADD2
2567+ OWI BIT0080,SUPSTAT
2568+ MVA \$TUD,R3
2569+ BAL TUMSGWTR\*,R7 SET UP BUFFER STORAGE
2570+\* GO TO MESSAGE WRITER
2571+\*CONX EQU \*
2572+ MVB DEVADD,R7 GET DEVICE ADDRESS FROM NDI
2573+ SVC RIBC RELEASE INTERRUPT CONTROL BLOCK
2574+ B TURTN\* RETURN TO NDI SUPERVISOR
2575+\*
2576+\*BEGIN DC A(0007) NUMBER OF LINES TO PRINT
2577+ DC A(0008) LINE LENGTH = 8 CHAR
2578+ DC C'\*' ABORT'
2579+ DC A(0040)
2580+ DC C'TUID' IOIN ISB INST LINE LENGTH = 40 CHAR
2581+ DC A(0040)
2582+\*LINE1 DC A(0040)
2583+ DC A(CNTL) DCB2 DCB3 DCB4 LINE LENGTH = 40 CHAR
2584+ DC C3D5E3D340C4C3C2F DCB5 CHAD BYCT ADRS
2585+ DC A(0040) LINE LENGTH = 40 CHAR
2586+\*LINE2 DC C'
2587+ DC A(0040)
2588+ DC C'RSID CS-2 CS-3 CS-4 LINE LENGTH = 40 CHAR
2589+ DC A(0040) CS-5 CS-6 CS-7 CS-8
2590+\*LINE3 DC C'
2591+\*
2592+\*BUFP DC A(\*-\*)
2593+\*DC2PT DC A(BEGIN)
2594+\*FIXTU DC X'0101'
2595+\*FAKETU DC X'0101'
2596+\*PIDMSG10 EQU X'F1F0'
2597+\*BIT0080 EQU X'0080'
2598+\*
2599+\* DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
2600+\*
2601+\*HEBLK DC A(48) NUMBER OF BYTES TO CONVERT
2602+ DC A(\$TUD) FROM ADRS
2603+ DC A(TUBWRK) AND THE TO ADRS
2605+\*\*\*\*\*11SEP75\*\*
2606+\*
2607+\* SUBROUTINE
2608+\*
2609+\* SPECIAL ERROR CHECKING OF THE DCB
2610+\*

LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
		2611+*	PURPOSE	
		2612+*		
		2613+*	TO SET THE CONTROL BITS BEFORE ISSUING THE I/O COMMAND,	
		2614+*	TESTING TO VERIFY THAT THE ERROR DID OCCUR, AND VERIFYING	
		2615+*	THAT THE RESIDUAL ADDRESS IS WHAT IT SHOULD BE.	
		2616+*		
		2617+*	CALLING SEQUENCE	
		2618+*		
		2619+*	--> BAL ERTST,R2 USE COMMON ERROR TEST SUBRTN	
		2620+*	DC A(1) DISPLACEMENT FOR RESIDUAL ADDR	
		2621+*	DC A(*-*) ERROR ADDRESS	
		2622+*		
		2623+*	RETURN CONTROL	
		2624+*		
		2625+*	BXS (R2,6) RETURN TO USPR VIA REG 2	
		2626+*		
		2627+*	*****	
003EA2	4C64	2628+*	ERTST TBTS (R4,XE) SET EXPECTED ERROR FOR EACH FAULT	
003EA4	6E03 0000	2629+*	BAL *-*,R6 GO XEO I/O COMMAND	
003EA8	3D32	2630+*	DC A(\$ERR\$) RETRY	
003EAA	4C21	2631+*	TBT (R4,ER) DID ERROR CONTROL BIT GET SET	
003EAC	1202	2632+*	JON ERTSV * YES,GO CKECK RESIDUAL ADDRESS	
003EAE	6852 0002	2633+*	B (R2,2)* ERROR	
		2634+*		
003EB2	AA08 3CEE	2635+*	ERTSV AW (R2),IODCB DEVELOP DCB ERROR ADDRESS	
003EB6	5000	2636+*	NOP FOR ALL ARCH ADD (SWI 1,IODCB)	
003EB8	5000	2637+*	NOP * (402E (ADD OF IODCB) 0001	
003EBA	5000	2638+*	NOP *	
003EBC	8828 3CEE 3EE0	2639+*	MVW IODCB,ERTSZ SAVE DCB ADDRESS	
003EC2	4CA1	2640+*	TBTR (R4,ER) RESET ERROR BIT	
003EC4	6E03 3BF2	2641+*	BAL XIOCS-4,R6 REQUEST START CYCLE STEAL STAUTS	
003EC8	3D32	2642+*	DC A(\$ERR\$) RETRY	
003ECA	4C21	2643+*	TBT (R4,ER) DID ERFOR CONTROL BIT GET SET	
003ECC	6A00 3D32	2644+*	BON \$ERR\$ YES-ERROR	
003ED0	882B 271E 3EE0	2645+*	CW CSTL1,ERTSZ TEST FOR CORRECT RESIDUAL ADDR	
003ED6	1002	2646+*	JE ERTSX RESIDUAL ADDRESS OK	
003ED8	6852 0002	2647+*	B (R2,2)* ERROR	
003EDC	4CA8	2648+*	ERTSX TBTR (R4,CS) RESET CS IN PROGRESS CNL BIT	
003EDE	5202	2649+*	BXS (R2,4) OK, RETURN TO CALLER	
		2650+*		
003EE0	0000	2651+*	ERTSZ DC A(*-*) DCB SAVE LOCATION	
000000		2652	END	

DECLARED	NAME	ATTRIBUTES AND REFERENCES	COPYRIGHT IBM CORP 1976
		CROSS-REFERENCE LISTING	
997	\$CKSK	ADDRESS. HEX LOCATION(000029DE) IN CSECT(I7803 ) LENGTH(6)	
2505	\$CONC	ADDRESS. HEX LOCATION(00003CFE) IN CSECT(I7803 ) LENGTH(2)	
2514	\$CONP	ADDRESS. HEX LOCATION(00003D16) IN CSECT(I7803 ) LENGTH(6)	
2571	\$CONX	ADDRESS. HEX LOCATION(00003D82) IN CSECT(I7803 ) LENGTH(1)	
2207	\$DIAG	ADDRESS. HEX LOCATION(00003BE4) IN CSECT(I7803 ) LENGTH(6)	
2547	\$ERR\$	ADDRESS. HEX LOCATION(00003D32) IN CSECT(I7803 ) LENGTH(6)	
636	\$INTL	ADDRESS. HEX LOCATION(00002734) IN CSECT(I7803 ) LENGTH(2)	
606	\$IOIN	ADDRESS. HEX LOCATION(00002700) IN CSECT(I7803 ) LENGTH(2)	
607	\$ISB	ADDRESS. HEX LOCATION(00002702) IN CSECT(I7803 ) LENGTH(2)	
591	\$LE	ABSOLUTE. HEX VALUE(00000026)	
2159	\$RD	ADDRESS. HEX LOCATION(00003B46) IN CSECT(I7803 ) LENGTH(2)	
2163	\$RD\$	ADDRESS. HEX LOCATION(00003B52) IN CSECT(I7803 ) LENGTH(6)	
2151	\$RDI	ADDRESS. HEX LOCATION(00003B2C) IN CSECT(I7803 ) LENGTH(6)	
2145	\$SEEK	ADDRESS. HEX LOCATION(00003B1C) IN CSECT(I7803 ) LENGTH(6)	
605	\$TUID	ADDRESS. HEX LOCATION(000026FE) IN CSECT(I7803 ) LENGTH(2)	
2169	\$WRT	ADDRESS. HEX LOCATION(00003B62) IN CSECT(I7803 ) LENGTH(6)	
102	@DCADD1	ADDRESS. HEX LOCATION(000019B8) IN CSECT(I7803 ) LENGTH(1)	
103	@DCADD2	ADDRESS. HEX LOCATION(000019BA) IN CSECT(I7803 ) LENGTH(1)	
39	@FIXT	ABSOLUTE. HEX VALUE(00000101)	
41	@GOTO	ABSOLUTE. HEX VALUE(00000200)	477 492 507 510
38	@QUES	ABSOLUTE. HEX VALUE(00000100)	
45	@TUXX	ABSOLUTE. HEX VALUE(00000500)	
1828	BCNT	ADDRESS. HEX LOCATION(000039A2) IN CSECT(I7803 ) LENGTH(2)	
2576	BEGIN	ADDRESS. HEX LOCATION(00003D8C) IN CSECT(I7803 ) LENGTH(2)	
2597	BIT0080	ABSOLUTE. HEX VALUE(00000080)	
2592	BUFPT	ADDRESS. HEX LOCATION(00003E94) IN CSECT(I7803 ) LENGTH(2)	
565	B59	ABSOLUTE. HEX VALUE(0000001B)	
566	B60	ABSOLUTE. HEX VALUE(0000001C)	
567	B61	ABSOLUTE. HEX VALUE(0000001D)	
1836	CB29	ADDRESS. HEX LOCATION(000039B2) IN CSECT(I7803 ) LENGTH(2)	
1966	CCERR	ADDRESS. HEX LOCATION(00003A84) IN CSECT(I7803 ) LENGTH(2)	
595	CE	ABSOLUTE. HEX VALUE(0000002A)	
1977	CEDAT	ADDRESS. HEX LOCATION(00003A9C) IN CSECT(I7803 ) LENGTH(2)	
1979	CEDAT2	ADDRESS. HEX LOCATION(00003AA0) IN CSECT(I7803 ) LENGTH(2)	
1941	CEOP1	ADDRESS. HEX LOCATION(00003A34) IN CSECT(I7803 ) LENGTH(4)	
1947	CEOP2	ADDRESS. HEX LOCATION(00003A48) IN CSECT(I7803 ) LENGTH(4)	
1000	CHSK	ADDRESS. HEX LOCATION(000029E8) IN CSECT(I7803 ) LENGTH(2)	
675	CICB	ABSOLUTE. HEX VALUE(00000014)	
1705	CLDCB	ADDRESS. HEX LOCATION(000038E0) IN CSECT(I7803 ) LENGTH(2)	
1982	CPUID	ABSOLUTE. HEX VALUE(00000232)	
593	CS	ABSOLUTE. HEX VALUE(00000028)	
594	CSA	ABSOLUTE. HEX VALUE(00000029)	
624	CSBUF	ADDRESS. HEX LOCATION(0000271E) IN CSECT(I7803 ) LENGTH(1)	
1755	CSDCB	ADDRESS. HEX LOCATION(00003930) IN CSECT(I7803 ) LFNGTH(2)	
625	CSTL1	ADDRESS. HEX LOCATION(0000271E) IN CSECT(I7803 ) LENGTH(2)	
626	CSTL2	ADDRESS. HEX LOCATION(00002720) IN CSECT(I7803 ) LENGTH(2)	
628	CSTL4	ADDRESS. HEX LOCATION(00002724) IN CSECT(I7803 ) LENGTH(2)	
632	CSTL8	ADDRESS. HEX LOCATION(0000272C) IN CSECT(I7803 ) LENGTH(2)	
614	DCBUF	ADDRESS. HEX LOCATION(0000270E) IN CSECT(I7803 ) LENGTH(1)	
2593	DC2PT	ADDRESS. HEX LOCATION(00003E96) IN CSECT(I7803 ) LENGTH(2)	
105	DEVADD	ADDRESS. HEX LOCATION(000019D0) IN CSECT(I7803 ) LENGTH(1)	
609	DEV1	ADDRESS. HEX LOCATION(00002706) IN CSECT(I7803 ) LENGTH(2)	
1693	DGDCB	ADDRESS. HEX LOCATION(000038D0) IN CSECT(I7803 ) LENGTH(2)	



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DECLARED	NAME	ATTRIBUTES AND REFERENCES
67	DUMMY	ABSOLUTE. HEX VALUE(00000000)
513	ENTPT	ADDRESS. HEX LOCATION(0000264E) IN CSECT(I7803 ) LENGTH(1)
47	EQ	ABSOLUTE. HEX VALUE(00000000)
586	ER	ABSOLUTE. HEX VALUE(00000021) 468 483 498
2628	ERTST	ADDRESS. HEX LOCATION(00003EA2) IN CSECT(I7803 ) LENGTH(2)
2635	ERTSV	ADDRESS. HEX LOCATION(00003EB2) IN CSECT(I7803 ) LENGTH(4)
2648	ERTSX	ADDRESS. HEX LOCATION(00003EDC) IN CSECT(I7803 ) LENGTH(2)
2651	ERTSZ	ADDRESS. HEX LOCATION(00003EE0) IN CSECT(I7803 ) LENGTH(2)
661	EXIT	ABSOLUTE. HEX VALUE(00000006)
2595	FAKETU	ADDRESS. HEX LOCATION(00003E9A) IN CSECT(I7803 ) LENGTH(2)
1837	FIVE9	ADDRESS. HEX LOCATION(000039B4) IN CSECT(I7803 ) LENGTH(2)
536	F00005	ADDRESS. HEX LOCATION(00002668) IN CSECT(I7803 ) LENGTH(1)
532	F00013	ADDRESS. HEX LOCATION(00002654) IN CSECT(I7803 ) LENGTH(1)
542	F00062	ADDRESS. HEX LOCATION(000026B0) IN CSECT(I7803 ) LENGTH(1)
2601	HEBLK	ADDRESS. HEX LOCATION(00003E9C) IN CSECT(I7803 ) LENGTH(2)
681	HTOE	ABSOLUTE. HEX VALUE(0000001A)
1976	IDCBCE1	ADDRESS. HEX LOCATION(00003A9A) IN CSECT(I7803 ) LENGTH(2)
1978	IDCBCE2	ADDRESS. HEX LOCATION(00003A9E) IN CSECT(I7803 ) LENGTH(2)
1980	IDCBRAP	ADDRESS. HEX LOCATION(00003AA2) IN CSECT(I7803 ) LENGTH(2)
1972	IDCBO	ADDRESS. HEX LOCATION(00003A92) IN CSECT(I7803 ) LENGTH(2)
1974	IDCB1	ADDRESS. HEX LOCATION(00003A96) IN CSECT(I7803 ) LENGTH(2)
657	IDLE	ABSOLUTE. HEX VALUE(00000002)
588	IN	ABSOLUTE. HEX VALUE(00000023)
2475	INTBL	ADDRESS. HEX LOCATION(00003CF6) IN CSECT(I7803 ) LENGTH(2)
2372	INTER	ADDRESS. HEX LOCATION(00003C5E) IN CSECT(I7803 ) LENGTH(2)
2381	INTES	ADDRESS. HEX LOCATION(00003C76) IN CSECT(I7803 ) LENGTH(2)
2385	INTET	ADDRESS. HEX LOCATION(00003C7E) IN CSECT(I7803 ) LENGTH(2)
2412	INTOK	ADDRESS. HEX LOCATION(00003C82) IN CSECT(I7803 ) LENGTH(2)
63	INTRNL	ABSOLUTE. HEX VALUE(00000000)
2434	INTRX	ADDRESS. HEX LOCATION(00003CB2) IN CSECT(I7803 ) LENGTH(2)
2415	INTR1	ADDRESS. HEX LOCATION(00003C8A) IN CSECT(I7803 ) LENGTH(2)
2420	INTR2	ADDRESS. HEX LOCATION(00003C98) IN CSECT(I7803 ) LENGTH(1)
2428	INTR3	ADDRESS. HEX LOCATION(00003CA6) IN CSECT(I7803 ) LENGTH(2)
2466	IOBLK	ADDRESS. HEX LOCATION(00003CEA) IN CSECT(I7803 ) LENGTH(2)
2468	IODCB	ADDRESS. HEX LOCATION(00003CEE) IN CSECT(I7803 ) LENGTH(2)
2469	IOMOD	ADDRESS. HEX LOCATION(00003CF0) IN CSECT(I7803 ) LENGTH(2)
842	ITST1	ADDRESS. HEX LOCATION(000027D6) IN CSECT(I7803 ) LENGTH(6)
828	ITST5	ADDRESS. HEX LOCATION(000027A6) IN CSECT(I7803 ) LENGTH(2)
37	I7803	CSECT. START(00002500) LENGTH(6626) ESDID(1)
1829	JOE	ADDRESS. HEX LOCATION(000039A4) IN CSECT(I7803 ) LENGTH(2)
1834	LGSEC	ADDRESS. HEX LOCATION(000039AE) IN CSECT(I7803 ) LENGTH(2)
2582	LINE1	ADDRESS. HEX LOCATION(00003DC4) IN CSECT(I7803 ) LENGTH(40)
608	LSTIO	ADDRESS. HEX LOCATION(00002704) IN CSECT(I7803 ) LENGTH(2)
585	MI	ABSOLUTE. HEX VALUE(00000020)
2556	MVBUF	ADDRESS. HEX LOCATION(00003D50) IN CSECT(I7803 ) LENGTH(2)
597	NG	ABSOLUTE. HEX VALUE(0000002C)
592	NI	ABSOLUTE. HEX VALUE(00000027)
381	N00001	ADDRESS. HEX LOCATION(00002550) IN CSECT(I7803 ) LENGTH(2)
384	N00002	ADDRESS. HEX LOCATION(00002554) IN CSECT(I7803 ) LENGTH(2)
390	N00003	ADDRESS. HEX LOCATION(00002560) IN CSECT(I7803 ) LENGTH(2)
402	N00004	ADDRESS. HEX LOCATION(0000257A) IN CSECT(I7803 ) LENGTH(2)
405	N00005	ADDRESS. HEX LOCATION(0000257E) IN CSECT(I7803 ) LENGTH(2)
417	N00006	ADDRESS. HEX LOCATION(00002590) IN CSECT(I7803 ) LENGTH(2)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
420	N00007	ADDRESS. HEX LOCATION(00002594) IN CSECT(I7803 ) LENGTH(2)
432	N00008	ADDRESS. HEX LOCATION(000025AE) IN CSECT(I7803 ) LENGTH(2)
435	N00009	ADDRESS. HEX LOCATION(000025B2) IN CSECT(I7803 ) LENGTH(2)
447	N00010	ADDRESS. HEX LOCATION(000025CC) IN CSECT(I7803 ) LENGTH(2)
450	N00011	ADDRESS. HEX LOCATION(000025D0) IN CSECT(I7803 ) LENGTH(2)
462	N00012	ADDRESS. HEX LOCATION(000025EA) IN CSECT(I7803 ) LENGTH(2)
465	N00013	ADDRESS. HEX LOCATION(000025EE) IN CSECT(I7803 ) LENGTH(2)
477	N00014	ADDRESS. HEX LOCATION(00002608) IN CSECT(I7803 ) LENGTH(2)
480	N00015	ADDRESS. HEX LOCATION(0000260C) IN CSECT(I7803 ) LENGTH(2)
492	N00016	ADDRESS. HEX LOCATION(00002626) IN CSECT(I7803 ) LENGTH(2)
495	N00017	ADDRESS. HEX LOCATION(0000262A) IN CSECT(I7803 ) LENGTH(2)
507	N00018	ADDRESS. HEX LOCATION(00002644) IN CSECT(I7803 ) LENGTH(2)
510	N00019	ADDRESS. HEX LOCATION(00002648) IN CSECT(I7803 ) LENGTH(2)
550	OPTN1	ADDRESS. HEX LOCATION(000026F8) IN CSECT(I7803 ) LENGTH(2)
573	OPTN3	ADDRESS. HEX LOCATION(000026FC) IN CSECT(I7803 ) LENGTH(2)
101	PARMARA	ADDRESS. HEX LOCATION(0000196E) IN CSECT(I7803 ) LENGTH(1)
1835	PHYSC	ADDRESS. HEX LOCATION(000039B0) IN CSECT(I7803 ) LENGTH(2)
69	PID	ADDRESS. HEX LOCATION(00001800) IN CSECT(I7803 ) LENGTH(1)
2596	PIDMSG10	ABSOLUTE. HEX VALUE(0000F1F0)
667	PREP	ABSOLUTE. HEX VALUE(0000000C)
1981	RAPDAT	ADDRESS. HEX LOCATION(00003AA4) IN CSECT(I7803 ) LENGTH(2)
1973	RDATA0	ADDRESS. HEX LOCATION(00003A94) IN CSECT(I7803 ) LENGTH(2)
1679	RDBUF	ADDRESS. HEX LOCATION(000034D0) IN CSECT(I7803 ) LENGTH(1)
1788	RDDCB	ADDRESS. HEX LOCATION(00003960) IN CSECT(I7803 ) LENGTH(2)
663	RESET	ABSOLUTE. HEX VALUE(00000008)
674	RICB	ABSOLUTE. HEX VALUE(00000013)
664	RID	ABSOLUTE. HEX VALUE(00000009)
1810	RKDCB	ADDRESS. HEX LOCATION(00003980) IN CSECT(I7803 ) LENGTH(2)
1720	RSDCB	ADDRESS. HEX LOCATION(00003900) IN CSECT(I7803 ) LENGTH(2)
2068	RTT01	ADDRESS. HEX LOCATION(00003AF8) IN CSECT(I7803 ) LENGTH(4)
0	R0	REGISTER. HEX VALUE(00000000)
0	R1	REGISTER. HEX VALUE(00000001)
0	R2	REGISTER. HEX VALUE(00000002)
0	R3	REGISTER. HEX VALUE(00000003)
0	R4	REGISTER. HEX VALUE(00000004)
0	R5	REGISTER. HEX VALUE(00000005)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
0	R6	2550 2563 REGISTER. HEX VALUE(00000006) 808 825 833 843 846 849 868 871 878 882 892 906 921 927 942 1060 1064 1217 1230 1232 1236 1241 1243 1249 1251 1272 1334 1371 1379 1384 1390 1395 1400 1405 1410 1415 1420 1425 1430 1435 1440 1445 1450 1455 1460 1465 1470 1472 1483 1490 1493 1505 1511 1523 1526 1529 1537 1544 1553 1560 1573 1619 1925 1939 1941 1945 1947 1951 1954 1958 1960 1964 1969 2016 2017 2056 2097 2271 2291 2303 2339 2444 2449 2451 2457 2460 2462 2512 2518 2520 2555 2560 2561 2629 2641
0	R7	REGISTER. HEX VALUE(00000007) 647 803 824 830 832 958 1057 1139 1214 1227 1274 1331 1360 1369 1377 1382 1387 1389 1392 1394 1397 1399 1402 1404 1407 1409 1412 1414 1417 1419 1422 1424 1427 1429 1432 1434 1437 1439 1442 1444 1447 1449 1452 1454 1457 1459 1462 1464 1467 1469 1513 1541 1542 1546 1562 1581 1586 1587 1601 1608 1621 1632 2008 2012 2093 2154 2161 2175 2191 2274 2278 2085 2378 2419 2505 2510 2515 2548 2554 2557 2569 2572
613	SCTID	ADDRESS. HEX LOCATION(00002706) IN CSECT(I7803 ) LENGTH(2) 1727 1739 1817 2013 2094 2153 2156 2174 2177
1845	SCTST	ADDRESS. HEX LOCATION(000039C4) IN CSECT(I7803 ) LENGTH(2) 2009 2185 2190 2193
1960	SENS0	ADDRESS. HEX LOCATION(00003A70) IN CSECT(I7803 ) LENGTH(4) 1232
1744	SKDCB	ADDRESS. HEX LOCATION(00003920) IN CSECT(I7803 ) LENGTH(2) 863 864 865 866 877 880 1005 2145
665	START	RESOLU. HEX VALUE(0000000A) 2288
104	SUPSTAT	ADDRESS. HEX LOCATION(000019C4) IN CSECT(I7803 ) LENGTH(1) 2567
1647	TEST	ADDRESS. HEX LOCATION(000030A4) IN CSECT(I7803 ) LENGTH(2) 1359 1362 1520 1550 1567
1520	TTTF	ADDRESS. HEX LOCATION(00002EDE) IN CSECT(I7803 ) LENGTH(6) 1516
1518	TTTT	ADDRESS. HEX LOCATION(00002EDA) IN CSECT(I7803 ) LENGTH(2) 1519
1351	TT07	ADDRESS. HEX LOCATION(00002C72) IN CSECT(I7803 ) LENGTH(6) 1345
2066	TT303	ADDRESS. HEX LOCATION(00003AF0) IN CSECT(I7803 ) LENGTH(6) 2058
2072	TT304	ADDRESS. HEX LOCATION(00003B08) IN CSECT(I7803 ) LENGTH(4) 2056 2065 2067
2015	TT4Y	ADDRESS. HEX LOCATION(00003AC0) IN CSECT(I7803 ) LENGTH(2) 2011
1503	TT7A	ADDRESS. HEX LOCATION(00002EAC) IN CSECT(I7803 ) LENGTH(4) 1346 1351
1517	TT7B	ADDRESS. HEX LOCATION(00002ED6) IN CSECT(I7803 ) LENGTH(4) 1347 1352
1539	TT7C	ADDRESS. HEX LOCATION(00002F30) IN CSECT(I7803 ) LENGTH(4) 1348 1353
1575	TT7D	ADDRESS. HEX LOCATION(00002FB2) IN CSECT(I7803 ) LENGTH(4) 1349 1354
1356	TT7E	ADDRESS. HEX LOCATION(00002C8C) IN CSECT(I7803 ) LENGTH(6) 1350
1388	TT7G	ADDRESS. HEX LOCATION(00002D0A) IN CSECT(I7803 ) LENGTH(4) 1389
1393	TT7H	ADDRESS. HEX LOCATION(00002D1C) IN CSECT(I7803 ) LENGTH(4) 1394
1398	TT7J	ADDRESS. HEX LOCATION(00002D2E) IN CSECT(I7803 ) LENGTH(4) 1399
1403	TT7K	ADDRESS. HEX LOCATION(00002D40) IN CSECT(I7803 ) LENGTH(4) 1404
1408	TT7L	ADDRESS. HEX LOCATION(00002D52) IN CSECT(I7803 ) LENGTH(4) 1409
1413	TT7M	ADDRESS. HEX LOCATION(00002D64) IN CSECT(I7803 ) LENGTH(4) 1414
1418	TT7N	ADDRESS. HEX LOCATION(00002D76) IN CSECT(I7803 ) LENGTH(4) 1419
1423	TT7P	ADDRESS. HEX LOCATION(00002D88) IN CSECT(I7803 ) LENGTH(4) 1424
1428	TT7Q	ADDRESS. HEX LOCATION(00002D9A) IN CSECT(I7803 ) LENGTH(4) 1429
1433	TT7R	ADDRESS. HEX LOCATION(00002DAC) IN CSECT(I7803 ) LENGTH(4) 1434
1438	TT7S	ADDRESS. HEX LOCATION(00002DBE) IN CSECT(I7803 ) LENGTH(4) 1439
1443	TT7T	ADDRESS. HEX LOCATION(00002DD0) IN CSECT(I7803 ) LENGTH(4) 1444
1448	TT7U	ADDRESS. HEX LOCATION(00002DE2) IN CSECT(I7803 ) LENGTH(4) 1449
1453	TT7V	ADDRESS. HEX LOCATION(00002DF4) IN CSECT(I7803 ) LENGTH(4) 1454
1458	TT7W	ADDRESS. HEX LOCATION(00002E06) IN CSECT(I7803 ) LENGTH(4) 1459
1463	TT7X	ADDRESS. HEX LOCATION(00002E18) IN CSECT(I7803 ) LENGTH(4) 1464
1468	TT7Y	ADDRESS. HEX LOCATION(00002E2A) IN CSECT(I7803 ) LENGTH(4) 1469
95	TUBUFF	ADDRESS. HEX LOCATION(000018C2) IN CSECT(I7803 ) LENGTH(1) 890 1136
96	TULAST	ADDRESS. HEX LOCATION(000018C4) IN CSECT(I7803 ) LENGTH(1) 888
92	TUMSGWTR	ADDRESS. HEX LOCATION(000018BA) IN CSECT(I7803 ) LENGTH(1) 2569
76	TUPARM1	ADDRESS. HEX LOCATION(0000189A) IN CSECT(I7803 ) LENGTH(1) 1359
98	TURESUL	ADDRESS. HEX LOCATION(000018C8) IN CSECT(I7803 ) LENGTH(1) 810 811 812 813 814 815 816 951 952 853 924 988 989 990 991 992 993 1066 1067 1220 1221 1222 1223 1224 1225 1264 1265 1267 1268 1269 1270 1337 1338 1339 1340 1341 1552 1555 1556 1557 1558 1570 1579 1634 1638 1639 1640 1641 1642 1643
637	TURTN	ADDRESS. HEX LOCATION(00002736) IN CSECT(I7803 ) LENGTH(2) 803 1057 1214 1331 2574

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
74	TUSTATUS	ADDRESS. HEX LOCATION(00001818) IN CSECT(I7803 ) LENGTH(1) 2547
75	TUWORK	ADDRESS. HEX LOCATION(0000181A) IN CSECT(I7803 ) LENGTH(1) 2551 2603
964	T01A	ADDRESS. HEX LOCATION(00002992) IN CSECT(I7803 ) LENGTH(2) 841
966	T01B	ADDRESS. HEX LOCATION(00002996) IN CSECT(I7803 ) LENGTH(2) 852 854 856 858 860 869 872 879 885
951	T01C	ADDRESS. HEX LOCATION(00002962) IN CSECT(I7803 ) LENGTH(6) 965 967 969 971 973 975 977 979 981
994	T01ER	ADDRESS. HEX LOCATION(000029DA) IN CSECT(I7803 ) LENGTH(2) 809 844 847 850 883 893 907 922 928
902	T01G	ADDRESS. HEX LOCATION(000028BC) IN CSECT(I7803 ) LENGTH(4) 943 899
891	T01H	ADDRESS. HEX LOCATION(0000289C) IN CSECT(I7803 ) LENGTH(2) 901
914	T01J	ADDRESS. HEX LOCATION(000028E4) IN CSECT(I7803 ) LENGTH(6) 903
925	T01K	ADDRESS. HEX LOCATION(00002906) IN CSECT(I7803 ) LENGTH(6) 936
968	T01L	ADDRESS. HEX LOCATION(0000299A) IN CSECT(I7803 ) LENGTH(2) 887
970	T01M	ADDRESS. HEX LOCATION(0000299E) IN CSECT(I7803 ) LENGTH(2) 897
972	T01N	ADDRESS. HEX LOCATION(000029A2) IN CSECT(I7803 ) LENGTH(2) 909
974	T01P	ADDRESS. HEX LOCATION(000029A6) IN CSECT(I7803 ) LENGTH(2) 911 932 947
976	T01Q	ADDRESS. HEX LOCATION(000029AA) IN CSECT(I7803 ) LENGTH(2) 913
822	T01T	ADDRESS. HEX LOCATION(0000278C) IN CSECT(I7803 ) LENGTH(6) 819
827	T01T1	ADDRESS. HEX LOCATION(000027A2) IN CSECT(I7803 ) LENGTH(4) 820 822
823	T01T2	ADDRESS. HEX LOCATION(00002792) IN CSECT(I7803 ) LENGTH(6) 821
980	T01U	ADDRESS. HEX LOCATION(000029B2) IN CSECT(I7803 ) LENGTH(2) 934
982	T01V	ADDRESS. HEX LOCATION(000029B6) IN CSECT(I7803 ) LENGTH(2) 874 945
984	T01W	ADDRESS. HEX LOCATION(000029BA) IN CSECT(I7803 ) LENGTH(2) 876 949
978	T01X	ADDRESS. HEX LOCATION(000029AE) IN CSECT(I7803 ) LENGTH(2) 930
986	T01Y	ADDRESS. HEX LOCATION(000029BE) IN CSECT(I7803 ) LENGTH(2) 924
940	T01Z	ADDRESS. HEX LOCATION(0000293E) IN CSECT(I7803 ) LENGTH(6) 917
1145	T04A	ADDRESS. HEX LOCATION(00002B22) IN CSECT(I7803 ) LENGTH(2) 1073
1147	T04B	ADDRESS. HEX LOCATION(00002B26) IN CSECT(I7803 ) LENGTH(2) 1082
1149	T04C	ADDRESS. HEX LOCATION(00002B2A) IN CSECT(I7803 ) LENGTH(2) 1085
1151	T04D	ADDRESS. HEX LOCATION(00002B2E) IN CSECT(I7803 ) LENGTH(2) 1087
1153	T04E	ADDRESS. HEX LOCATION(00002B32) IN CSECT(I7803 ) LENGTH(2) 1106
1155	T04F	ADDRESS. HEX LOCATION(00002B36) IN CSECT(I7803 ) LENGTH(2) 1115
1157	T04G	ADDRESS. HEX LOCATION(00002B3A) IN CSECT(I7803 ) LENGTH(2) 1124
1159	T04H	ADDRESS. HEX LOCATION(00002B3E) IN CSECT(I7803 ) LENGTH(2) 1134
1139	T04J	ADDRESS. HEX LOCATION(00002B18) IN CSECT(I7803 ) LENGTH(4) 1146 1148 1150 1152 1154 1156 1158 1160 1162
1161	T04K	ADDRESS. HEX LOCATION(00002B42) IN CSECT(I7803 ) LENGTH(2) 1089
1260	T06A	ADDRESS. HEX LOCATION(00002BE2) IN CSECT(I7803 ) LENGTH(2) 1095
1267	T06C	ADDRESS. HEX LOCATION(00002BF4) IN CSECT(I7803 ) LENGTH(6) 1239 1246 1254
1258	T06D	ADDRESS. HEX LOCATION(00002BDE) IN CSECT(I7803 ) LENGTH(2) 1259 1261 1263
1264	T06ER	ADDRESS. HEX LOCATION(00002BBA) IN CSECT(I7803 ) LENGTH(4) 1235
1248	T06L	ADDRESS. HEX LOCATION(00002BC0) IN CSECT(I7803 ) LENGTH(4) 1218 1231 1233 1237 1242 1244 1250 1252 1273
1507	T07A	ADDRESS. HEX LOCATION(00002EB8) IN CSECT(I7803 ) LENGTH(2) 1257
1525	T07B	ADDRESS. HEX LOCATION(00002EF2) IN CSECT(I7803 ) LENGTH(6) 1509
1572	T07BB	ADDRESS. HEX LOCATION(00002FA6) IN CSECT(I7803 ) LENGTH(6) 1521
1544	T07C	ADDRESS. HEX LOCATION(00002F42) IN CSECT(I7803 ) LENGTH(4) 1568
1555	T07CD	ADDRESS. HEX LOCATION(00002F66) IN CSECT(I7803 ) LENGTH(6) 1547
1580	T07CE	ADDRESS. HEX LOCATION(00002FC2) IN CSECT(I7803 ) LENGTH(2) 1571 1580
1576	T07E	ADDRESS. HEX LOCATION(00002FB6) IN CSECT(I7803 ) LENGTH(2) 1635 1645
1638	T07ER	ADDRESS. HEX LOCATION(00003088) IN CSECT(I7803 ) LENGTH(4) 1575
1581	T07G	ADDRESS. HEX LOCATION(00002FC4) IN CSECT(I7803 ) LENGTH(4) 1335 1473 1475 1477 1491 1494 1506 1512 1524 1527 1530 1538 1545 1554 1561 1574 1620
1552	T07J	ADDRESS. HEX LOCATION(00002F5A) IN CSECT(I7803 ) LENGTH(6) 1577
1550	T07JJ	ADDRESS. HEX LOCATION(00002F52) IN CSECT(I7803 ) LENGTH(6) 1508
1591	T07K	ADDRESS. HEX LOCATION(00002FE6) IN CSECT(I7803 ) LENGTH(4) 1569
1626	T07L	ADDRESS. HEX LOCATION(00003062) IN CSECT(I7803 ) LENGTH(4) 1588
1612	T07N	ADDRESS. HEX LOCATION(00003028) IN CSECT(I7803 ) LENGTH(6) 1585
1613	T07P	ADDRESS. HEX LOCATION(0000302E) IN CSECT(I7803 ) LENGTH(2) 1596

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1570	T07Q	1633 ADDRESS. HEX LOCATION(00002F9E) IN CSECT(I7803 ) LENGTH(6)
1618	T07RR	1590 1605 1611 ADDRESS. HEX LOCATION(00003042) IN CSECT(I7803 ) LENGTH(6)
1531	T07S	1614 ADDRESS. HEX LOCATION(00002F0A) IN CSECT(I7803 ) LENGTH(6)
1488	T07SS	1617 ADDRESS. HEX LOCATION(00002E62) IN CSECT(I7803 ) LENGTH(6)
1489	T07T	1485 ADDRESS. HEX LOCATION(00002E68) IN CSECT(I7803 ) LENGTH(6)
1634	T07V	1487 1624 ADDRESS. HEX LOCATION(00003080) IN CSECT(I7803 ) LENGTH(6)
1655	T07W	1631 ADDRESS. HEX LOCATION(000030A6) IN CSECT(I7803 ) LENGTH(2)
1673	T07WW	1486 ADDRESS. HEX LOCATION(000030CA) IN CSECT(I7803 ) LENGTH(2)
1483	T07X	1488 ADDRESS. HEX LOCATION(00002E52) IN CSECT(I7803 ) LENGTH(4) 1371 1379 1384 1390 1395 1400 1405 1410 1415 1420 1425 1430 1435 1440 1445 1450 1455 1460
1625	T07Y	1465 1470 ADDRESS. HEX LOCATION(0000305E) IN CSECT(I7803 ) LENGTH(4)
1567	T07Z	1483 ADDRESS. HEX LOCATION(00002F94) IN CSECT(I7803 ) LENGTH(6)
955	T1END	1549 ADDRESS. HEX LOCATION(0000297A) IN CSECT(I7803 ) LENGTH(2)
1271	T6END	950 ADDRESS. HEX LOCATION(00002C0C) IN CSECT(I7803 ) LENGTH(6)
1609	T7AA	1256 ADDRESS. HEX LOCATION(0000301E) IN CSECT(I7803 ) LENGTH(4)
1559	T7END	1365 1373 ADDRESS. HEX LOCATION(00002F7E) IN CSECT(I7803 ) LENGTH(6)
803	T7801	1471 1478 1551 ADDRESS. HEX LOCATION(00002746) IN CSECT(I7803 ) LENGTH(4)
1057	T7804	392 ADDRESS. HEX LOCATION(000029F6) IN CSECT(I7803 ) LENGTH(4)
1214	T7806	407 ADDRESS. HEX LOCATION(00002B46) IN CSECT(I7803 ) LENGTH(4)
1331	T7807	422 ADDRESS. HEX LOCATION(00002C22) IN CSECT(I7803 ) LENGTH(4)
1472	T807	437 452 467 482 497 ADDRESS. HEX LOCATION(00002E38) IN CSECT(I7803 ) LENGTH(4)
1777	VRDCB	1363 ADDRESS. HEX LOCATION(00003950) IN CSECT(I7803 ) LENGTH(2)
1799	WKDCB	2166 ADDRESS. HEX LOCATION(00003970) IN CSECT(I7803 ) LENGTH(2)
1935	WRAP	2180 2181 2196 2197 ADDRESS. HEX LOCATION(00003A20) IN CSECT(I7803 ) LENGTH(4)
1677	WRBUF	1236 1243 1251 ADDRESS. HEX LOCATION(000030D0) IN CSECT(I7803 ) LENGTH(1) 1357 1368 1376 1381 1386 1391 1396 1401 1406 1411 1416 1421 1426 1431 1436 1441 1446 1451 1456 1461 1466 1582 1578
1766	WRDCB	ADDRESS. HEX LOCATION(00003940) IN CSECT(I7803 ) LENGTH(2) 1357 1498 1499 1500 1501 1502 1597 2169
1838	WRSID	ADDRESS. HEX LOCATION(000039F6) IN CSECT(I7803 ) LENGTH(2) 1717 1806 2014 2095 2197 2201
1710	WSDCB	ADDRESS. HEX LOCATION(000038F0) IN CSECT(I7803 ) LENGTH(2) 2200 2201 2203 2204
1842	WSIDT	ADDRESS. HEX LOCATION(000039BE) IN CSECT(I7803 ) LENGTH(2) 2010 2181 2204
589	XE	ABSOLUTE. HEX VALUE(00000024) 848 870 881 891 905 920 926 941 2381
587	XI	2443 2628 ABSOLUTE. HEX VALUE(00000022) 2287 2428
2262	XIO	ADDRESS. HEX LOCATION(00003BEC) IN CSECT(I7803 ) LENGTH(4) 998 2146 2149 2157 2164 2167 2170 2178 2182
2443	XIOCK	2186 2194 2198 2202 2205 2208 ADDRESS. HEX LOCATION(00003CB4) IN CSECT(I7803 ) LENGTH(2)
2450	XIOCO	2297 ADDRESS. HEX LOCATION(00003CC6) IN CSECT(I7803 ) LENGTH(2)
2267	XIOCS	2448 ADDRESS. HEX LOCATION(00003BF6) IN CSECT(I7803 ) LENGTH(6) 849 882 892 906 921 927 942 1472 1553
2452	XIOCV	2459 2641 ADDRESS. HEX LOCATION(00003CCA) IN CSECT(I7803 ) LENGTH(2)
2461	XIOCX	2446 ADDRESS. HEX LOCATION(00003CE4) IN CSECT(I7803 ) LENGTH(4)
2336	XIOER	2453 ADDRESS. HEX LOCATION(00003C52) IN CSECT(I7803 ) LENGTH(2)
2271	XIOI	2467 ADDRESS. HEX LOCATION(00003C06) IN CSECT(I7803 ) LENGTH(4)
2284	XIOI2	2263 ADDRESS. HEX LOCATION(00003C2C) IN CSECT(I7803 ) LENGTH(2)
2296	XIOI8	2270 ADDRESS. HEX LOCATION(00003C40) IN CSECT(I7803 ) LENGTH(2)
1820	ZERO0	2301 ADDRESS. HEX LOCATION(00003990) IN CSECT(I7803 ) LENGTH(2) 853 2057