

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
3 COPY LOG7A13 ** MAP EC HISTORY **
4 *****
5 *
6 * ** PREREQUISITES **
7 *
8 * NONE
9 *
10 *****
11 *
12 * ** MODIFICATIONS **
13 *
14 * CHANGES MADE TO CORRECT ERRORS FOUND WHILE IN TEST
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 17AUG78 DATE 02OCT78 DATE 10JAN79 DATE
33 * E.C. 755391 E.C. 375102 E.C. 375222 E.C.
34 *
35 *****
36 I7A13 START X'2500' START ADDRESS OF ALL 'I' TYPE PROG
37 @QUES EQU X'0100' EQUATED VALUE FOR MDI STATEMENT
38 @FLXT EQU X'0101' EQUATED VALUE FOR MDI STATEMENT
39 @STOP EQU X'0102' EQUATED VALUE FOR MDI STATEMENT
40 @GOTO EQU X'0200' EQUATED VALUE FOR MDI STATEMENT
41 @CALL EQU X'0201' EQUATED VALUE FOR MDI STATEMENT
42 @INPT EQU X'0300' EQUATED VALUE FOR MDI STATEMENT
43 @QUXX EQU X'0400' EQUATED VALUE FOR MDI STATEMENT
44 @TUXX EQU X'0500' EQUATED VALUE FOR MDI STATEMENT
45 @NVLD EQU X'0600' EQUATED VALUE FOR MDI STATEMENT
46 EQ EQU X'0000' EQUATE FOR EQUAL
47 NE EQU X'0004' EQUATE FOR NOT EQUAL
48 HI EQU X'0008' EQUATE FOR HIGH
49 NH EQU X'000C' EQUATE FOR NOT HIGH
50 LO EQU X'0010' EQUATE FOR LOW
51 NL EQU X'0014' EQUATE FOR NOT LOW
52 LT EQU X'0010' EQUATE FOR LESS THAN
53 LE EQU X'000C' EQUATE FOR LESS THAN OR EQUAL TO
54 GE EQU X'0008' EQUATE FOR GREATER THAN
55 ON EQU X'0014' EQUATE FOR GREATER THAN OR EQUAL TO
56 OF EQU X'0202' EQUATE FOR OFF
57 MX EQU X'0204' EQUATE FOR MIXED
58 EBC EQU X'0000' EQUATE FOR EBCDIC DATA TRANSFER
59 HEX EQU X'0001' EQUATE FOR HEX DATA TRANSFER
60 XENL EQU X'0001' EQUATE FOR EXTERNAL REFERENCE
61 INTNL EQU X'0000' EQUATE FOR INTERNAL REFERENCE
62 PARM EQU X'0000' EQUATE INDICATING PARAMETER
63 DA EQU X'0001' EQUATE FOR DEVICE ADDRESS
64 UA EQU X'0002' EQUATE FOR UNIT ADDRESS
65 DUMMY EQU X'0000' DUMMY EQUATE
66 PID EQU *-X'0D00' ADDRESS OF MDI HEADER
67 PTYPE EQU *-X'22CE' ADDRESS OF PROCESSOR TYPE FIELD
68 STEPNUM EQU PID+X'000C' ADDRESS OF DECIMAL STEP NUMBER
69 OPWD1 EQU PID+X'000E' ADDRESS OF OPTION WORD ONE
70 OPWD2 EQU PID+X'0010' ADDRESS OF OPTION WORD TWO
71 TUSTATUS EQU PID+X'0018' ADDRESS OF TU STATUS WORD
72 TUPARM EQU PID+X'001A' ADDRESS OF TU WORK AREA
73 TUPARM1 EQU PID+X'009A' ADDRESS OF PARM 1 POINTER
74 TUPARM2 EQU PID+X'009C' ADDRESS OF PARM 2 POINTER
75 TUPARM3 EQU PID+X'009E' ADDRESS OF PARM 3 POINTER
76 TUPARM4 EQU PID+X'00A0' ADDRESS OF PARM 4 POINTER
77 TUPARM5 EQU PID+X'00A2' ADDRESS OF PARM 5 POINTER
78 TUPARM6 EQU PID+X'00A4' ADDRESS OF PARM 6 POINTER
79 TUPARM7 EQU PID+X'00A6' ADDRESS OF PARM 7 POINTER
80 TUPARM8 EQU PID+X'00A8' ADDRESS OF PARM 8 POINTER
81 TUPARM9 EQU PID+X'00AA' ADDRESS OF PARM 9 POINTER
82 TUPARM10 EQU PID+X'00AC' ADDRESS OF PARM 10 POINTER
83 TUPARM11 EQU PID+X'00AE' ADDRESS OF PARM 11 POINTER
84 TUPARM12 EQU PID+X'00B0' ADDRESS OF PARM 12 POINTER
85 TUPARM13 EQU PID+X'00B2' ADDRESS OF PARM 13 POINTER
86 TUPARM14 EQU PID+X'00B4' ADDRESS OF PARM 14 POINTER
87 TUPARM15 EQU PID+X'00B6' ADDRESS OF PARM 15 POINTER
88 TUPARM16 EQU PID+X'00B8' ADDRESS OF PARM 16 POINTER
89 TUMSGWTR EQU PID+X'00BA' ADDRESS OF -> TO COMMON MSG WRITER
90 TUA EQU PID+X'00BE' ADDRESS OF UNIT ADDRESS IN ERC
91 TUDA EQU PID+X'00C0' ADDRESS OF DEVICE ADDRESS IN EBC
92 TUBUFF EQU PID+X'00C2' ADDRESS OF LAST USED WORD IN MAP
93 TULAST EQU PID+X'00C4' ADDRESS OF LAST ADDRESSABLE WORD
94 TURESULN EQU PID+X'00C6' ADDRESS OF LENGTH OF TU RESULTS
95 TURESUL EQU PID+X'00C8' ADDRESS OF TU RESULTS FIELD
96 MAPNAME EQU PID+X'00FC' ADDRESS OF MAP NAME FIELD IN HEX
97 TUINPT EQU PID+X'0148' ADDRESS OF \$INPT DATA
98 PARMARA EQU PID+X'016E' ADDRESS OF \$INPT INPUT AREA
99 @DCADD1 EQU PID+X'01B8' MDI POINTER
100 @DCADD2 EQU PID+X'01BA' MDI POINTER
101 SUPSTAT EQU PID+X'01C4' ADDRESS OF MDI STATUS
102 DEVADD EQU PID+X'01D0' ADDRESS OF DEVICE ADDRESS TABLE 0
103 DEVADD1 EQU PID+X'01DA' ADDRESS OF DEVICE ADDRESS TABLE 1
104 DEVADD2 EQU PID+X'01E4' ADDRESS OF DEVICE ADDRESS TABLE 2
105 DEVADD3 EQU PID+X'01E8' ADDRESS OF DEVICE ADDRESS TABLE 3
106 DEVADD4 EQU PID+X'01F8' ADDRESS OF DEVICE ADDRESS TABLE 4
107 DEVADD5 EQU PID+X'0202' ADDRESS OF DEVICE ADDRESS TABLE 5
108 DEVADD6 EQU PID+X'020C' ADDRESS OF DEVICE ADDRESS TABLE 6
109 DEVADD7 EQU PID+X'0216' ADDRESS OF DEVICE ADDRESS TABLE 7
110 PRINT OFF
111
112
113

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

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308 *****
309 *****
310 *****
311 **
312 **
313 *****
314 *****
002502 2540 315 DC AL2(N00001)
002504 0001 316 DC XL2'0001'
000001 317 EQN00001 EQU 0001
002506 2554 318 DC AL2(N00002)
002508 0002 319 DC XL2'0002'
000002 320 EQN00002 EQU 0002
00250A 2560 321 DC AL2(N00003)
00250C 0003 322 DC XL2'0003'
000003 323 EQN00003 EQU 0003
00250E 2574 324 DC AL2(N00004)
002510 0004 325 DC XL2'0004'
000004 326 EQN00004 EQU 0004
002512 2580 327 DC AL2(N00005)
002514 0005 328 DC XL2'0005'
000005 329 EQN00005 EQU 0005
002516 2594 330 DC AL2(N00006)
002518 0006 331 DC XL2'0006'
000006 332 EQN00006 EQU 0006
00251A 25A0 333 DC AL2(N00007)
00251C 0007 334 DC XL2'0007'
000007 335 EQN00007 EQU 0007
00251E 25B4 336 DC AL2(N00008)
002520 0008 337 DC XL2'0008'
000008 338 EQN00008 EQU 0008
002522 25C8 339 DC AL2(N00009)
002524 0009 340 DC XL2'0009'
000009 341 EQN00009 EQU 0009
002526 25CC 342 DC AL2(N00010)
002528 0010 343 DC XL2'0010'
00000A 344 EQN00010 EQU 0010
00252A 25D8 345 DC AL2(N00011)
00252C 0011 346 DC XL2'0011'
00000B 347 EQN00011 EQU 0011
00252E 25E8 348 DC AL2(N00012)
002530 0012 349 DC XL2'0012'
00000C 350 EQN00012 EQU 0012
002532 25EC 351 DC AL2(N00013)
002534 0013 352 DC XL2'0013'
00000D 353 EQN00013 EQU 0013
002536 25FC 354 DC AL2(N00014)
002538 0014 355 DC XL2'0014'
00000E 356 EQN00014 EQU 0014
00253A 2600 357 DC AL2(N00015)
00253C 0015 358 DC XL2'0015'
00000F 359 EQN00015 EQU 0015
00253E 0000 360 DC AL2(DUMMY)
361 *****
362 *****
363 **
364 **
365 **
366 *****
367 *****
368 N00001 $TUXX T7A02,04,00000008,OF,QT=(Q00086),YES=N00003,CT=(C00009),X
369+N00001 DC A(@TUXX)
370+ DC AL2(N00003)
371+ DC A(T7A02)
372+ DC AL2(OF)
373+ DC AL2(04)
374+ DC X'00000008'
375+ ALIGN WORD
376+ DC AL2(0)
377+ DC C'AA'
378+ ALIGN WORD
379+ DC AL2(PARMARA)
380 N00002 $GOTO TYPE=INTRNL,EP=B,FT=(F00088)
381+N00002 DC A(@GOTO)
382+ DC A(F00088)
383+ DC CL4'3C00'
384+ DC CL2'B'
385+ DC AL2(INTRNL)
386 N00003 $TUXX T7A02,04,00004000,OF,QT=(Q00090),YES=N00005
387+N00003 DC A(@TUXX)
388+ DC AL2(N00005)
389+ DC A(T7A02)
390+ DC AL2(OF)
391+ DC AL2(04)
392+ DC X'00004000'
393+ ALIGN WORD
394+ DC AL2(0)
395+ DC C'AA'
396+ ALIGN WORD
397+ DC AL2(PARMARA)
398 N00004 $GOTO TYPE=INTRNL,EP=B,FT=(F00092)
399+N00004 DC A(@GOTO)
400+ DC A(F00092)
401+ DC CL4'3C00'
402+ DC CL2'B'
403+ DC AL2(INTRNL)
404 N00005 $TUXX T7A02,04,00000002,OF,QT=(Q00095),YES=N00007,CT=(C00009)
405+N00005 DC A(@TUXX)
406+ DC AL2(N00007)
407+ DC A(T7A02)
408+ DC AL2(OF)
409+ DC AL2(04)
410+ DC X'00000002'
411+ ALIGN WORD
412+ DC AL2(0)
413+ DC C'AA'
414+ ALIGN WORD
415+ DC AL2(PARMARA)
416 N00006 $GOTO TYPE=INTRNL,EP=B,FT=(F00097)
417+N00006 DC A(@GOTO)
418+ DC A(F00097)
419+ DC CL4'3C00'
420+ DC CL2'B'
421+ DC AL2(INTRNL)

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0025A0 0500 422 N00007 $TUXX T7A02,04,00002000,ON,QT=(Q00100),YES=N00011,CT=(C00009)
0025A2 25D8 423+N00007 DC A(@TUXX)
0025A4 25A6 424+ DC AL2(N00011)
0025A6 0200 425+ DC A(T7A02)
0025A8 0004 426+ DC AL2(ON)
0025AA 00002000 427+ DC AL2(04)
428+ DC X'00002000'
429+ ALIGN WORD
0025AE 0000 430+ DC AL2(0)
0025B0 C1C1 431+ DC C'AA'
432+ ALIGN WORD
0025B2 196E 433+ DC AL2(PARMARA)
434 N00008 $TUXX T7A02,04,00100000,ON,QT=(Q00103),YES=N00010,CT=(C00009)
435+N00008 DC A(@TUXX)
0025B4 0500 436+ DC AL2(N00010)
0025B6 25CC 437+ DC A(T7A02)
0025B8 25A6 438+ DC AL2(ON)
0025BA 0200 439+ DC AL2(04)
0025BE 00100000 440+ DC X'00100000'
441+ ALIGN WORD
0025C2 0000 442+ DC AL2(0)
0025C4 C1C1 443+ DC C'AA'
444+ ALIGN WORD
0025C6 196E 445+ DC AL2(PARMARA)
446 N00009 $FIXT FT=(F00105)
447+N00009 DC A(@FIXT)
448+ DC A(F00105)
449 N00010 $GOTO TYPE=XTRNL,EP=A,MAP=7A14,FT=(F00107)
450+N00010 DC A(@GOTO)
0025CA 0200 451+ DC A(F00107)
0025CC 26B8 452+ DC CL4'7A14'
0025D0 F7C1F1F4 453+ DC CL2'A'
0025D4 C140 454+ DC AL2(XTRNL)
455 N00011 $QUXX T7A28,REPT=L7A28,PLNG=4,PARM=FFFF,QT=(Q00057),
456+N00011 DC A(@QUXX) X
0025DA 25EA 457+ DC AL2(N00013)
0025DC 2DEA 458+ DC A(T7A28)
0025DE 2DFE 459+ DC AL2(L7A28)
0025E0 0004 460+ DC AL2(4)
0025E2 C6C6C6C6 461+ DC C'FFFF'
462+ ALIGN WORD
0025E6 196E 463+ DC AL2(PARMARA)
464 N00012 $FIXT FT=(F00060),ST=(S00070)
465+N00012 DC A(@FIXT)
0025EA 26CE 466+ DC A(F00060)
467 N00013 $QUXX T7A28,REPT=L7A28,PLNG=4,PARM=FFFF,QT=(Q00056),
468+N00013 DC A(@QUXX) X
0025EE 2600 469+ DC AL2(N00015)
0025F0 2DEA 470+ DC A(T7A28)
0025F2 2DFE 471+ DC AL2(L7A28)
0025F4 0004 472+ DC AL2(4)
0025F6 C6C6C6C6 473+ DC C'FFFF'
474+ ALIGN WORD
0025FA 196E 475+ DC AL2(PARMARA)
476 N00014 $FIXT FT=(F00075)
477+N00014 DC A(@FIXT)
0025FE 2762 478+ DC A(F00075)
479 N00015 $FIXT FT=(F00065),ST=(S00070)
480+N00015 DC A(@FIXT)
002602 27C2 481+ DC A(F00065)
002604 0000 482+ DC AL2(DUMMY)
483 ENTPT EQU *
484 *****
485 *****
486 **
487 **
488 **
489 *****
490 *****
491 ENTPT EP=A,STEP=00001
492+ DC CL2'A'
493+ DC A(N00001)
494 ENTPT EP=B,STEP=00011
495+ DC CL2'B'
496+ DC A(N00011)
497 ENTPT EP=C,STEP=00013
498+ DC CL2'C'
499+ DC A(N00013)
500+ DC AL2(DUMMY)
501 *****
502 *****
503 **
504 **
505 **
506 *****
507 *****
508 F00088 EQU *
509 DC AL2(0001)
510 DC A(0018)
511 DC CL0018'GOTO ENTRY POINT B'
512 F00092 EQU *
513 DC AL2(0001)
514 DC A(0018)
515 DC CL0018'GOTO ENTRY POINT B'
516 F00097 EQU *
517 DC AL2(0001)
518 DC A(0018)
519 DC CL0018'GOTO ENTRY POINT B'
520 F00105 EQU *
521 DC AL2(0004)
522 DC A(0016)
523 C5E7C3C8C1D5C7C54
524 DC CL0016'EXCHANGE CARD(S)'
525 DC A(0016)
526 C1F260C4F240C1D5C
527 DC CL0016'A2-D2 AND A2-C2 '
528 DC A(0028)
529 C9C640E3C8C9E240C
530 DC CL0028'IF THIS FAILS TO CORRECT THE'
531 DC A(0028)
532 D7D9D6C2D3C5D440C
533 DC CL0028'PROBLEM EXCHANGE BOARD A2 . '
534 F00107 EQU *
535 DC AL2(0001)
536 DC A(0018)
537 DC CL0018'GOTO ENTRY POINT A'
538 F00060 EQU *
539 DC AL2(0005)

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0026D0 001C 536 DC A(0028)
0026D2 6040C9D5E2D7C5C3E 537 DC CL0028*- INSPECT AND RESEAT CABLES *
0026E0 001A 538 DC A(0026)
0026F0 C2C5E3E6C5C5D540C 539 DC CL0026* BETWEEN ATTACH. AND 4963. *
00270A 0018 540 DC A(0024)
00270C 6040C5E7C3C8C1D5C 541 DC CL0024*- EXCHANGE CARD -A2-C2. *
002724 0022 542 DC A(0034)
002726 6040C5E7C3C8C1D5C 543 DC CL0034*- EXCHANGE THE 4963 ATTACH. CARD. *
002748 0018 544 DC A(0024)
00274A 6040C5E7C3C8C1D5C 545 DC CL0024*- EXCHANGE CARD -A2-D2. *
002762 546 EQU F00075 *
002762 0003 547 DC AL2(0003)
002764 001C 548 DC A(0028)
002766 6040C9D5E2D7C5C3E 549 DC CL0028*- INSPECT AND RESEAT CABLES *
002782 001A 550 DC A(0026)
002784 C2C5E3E6C5C5D540C 551 DC CL0026* BETWEEN ATTACH. AND 4963. *
00279E 0022 552 DC A(0034)
0027A2 6040C5E7C3C8C1D5C 553 DC CL0034*- EXCHANGE THE 4963 ATTACH. CARD. *
0027C2 0005 555 DC AL2(0005)
0027C4 001C 556 DC A(0028)
0027C6 6040C9D5E2D7C5C3E 557 DC CL0028*- INSPECT AND RESEAT CABLES *
0027E2 001A 558 DC A(0026)
0027E4 C2C5E3E6C5C5D540C 559 DC CL0026* BETWEEN ATTACH. AND 4963. *
0027FE 0018 560 DC A(0024)
002800 6040C5E7C3C8C1D5C 561 DC CL0024*- EXCHANGE CARD -A2-C2. *
002818 0018 562 DC A(0024)
00281A 6040C5E7C3C8C1D5C 563 DC CL0024*- EXCHANGE CARD -A2-D2. *
002832 0022 564 DC A(0034)
002834 6040C5E7C3C8C1D5C 565 DC CL0034*- EXCHANGE THE 4963 ATTACH. CARD. *
002856 0000 568+OPTN1 DC 00 X'0000' PROGRAM OPTION CONTROL WORD 1
002858 0000 570+OPTN2 DC 00 X'0000' PROGRAM OPTION CONTROL WORD 2
000010 571+* BIT HEX PROBLEM PROGRAM CONTROL BITS
000011 572+B48 EQU 16 0 8
000012 573+B49 EQU 17 1 4
000013 574+B50 EQU 18 2 2
000014 575+B51 EQU 19 3 1
000015 576+B52 EQU 20 4 8
000016 577+B53 EQU 21 5 4
000017 578+B54 EQU 22 6 2
000018 579+B55 EQU 23 7 1
000019 580+B56 EQU 24 8 8
00001A 581+B57 EQU 25 9 4
00001B 582+B58 EQU 26 10 2
00001C 583+B59 EQU 27 11 1
00001D 584+B60 EQU 28 12 8
00001E 585+B61 EQU 29 13 4
00001F 586+B62 EQU 30 14 2
000020 587+B63 EQU 31 15 1
000021 588+CHP EQU 30 14 2
000022 589+CHP EQU 31 15 1
00285A 0000 592+* OPTN3 DC 00 X'0000' PROGRAM OPTION CONTROL WORD 3
593+* 0 MYSTERY INTERRUPT MI 8 CS STATUS IN PROGRESS CS
594+* 1 ERROR INTERRUPT ER 9 CS AVAILABLE CSA
595+* 2 EXPECTED INTERRUPT XI 10 CS STATUS INTERRUPT ERR CE
596+* 3 INTERRUPT RECEIVED IN 11 ISB BITS ON (1-7) ISBON
597+*
598+* 4 EXPECTED ERR/ATTENT YE 12 TEST UNIT RESULTS VOID NG
599+* 5 HARD ERROR FOUND HE 13 OIO CC ERROR IOCC
600+* 6 WRONG INTR LEVEL SLE 14 NO INTERRUPT NOIN
601+* 7 NO INTR EXPECTED NI 15 INTERRUPT CC ERROR INCC
602+* BIT HEX
603+* MI EQU 32 0 8 MYSTERY INTERRUPT HAPPENED
604+* ER EQU 33 1 4 ERROR RECEIVED ON INTERRUPT
605+* XI EQU 34 2 2 EXPECTED INTERRUPT CONTROL BIT
606+* IN EQU 35 3 1 INTERRUPT RECEIVED CONTROL BIT
607+* XE EQU 36 4 8 EXPECTED ERROR RESPONSE
608+* HE EQU 37 5 4 HARD ERROR, 8 RETRIES
609+* SLE EQU 38 6 2 INTERRUPT ON WRONG LEVEL ERROR
610+* NI EQU 39 7 1 NO INTERRUPT EXPECTED E
611+* CS EQU 40 8 8 CYCLE STATUS IN PROGRESS
612+* CSA EQU 41 9 4 CYCLE STEAL AVAILABLE
613+* CE EQU 42 10 2 CYCLE STEAL STATUS INTERRUPT ERROR
614+* ISBON EQU 43 11 1 ISB BITS ON (1-7)
615+* NG EQU 44 12 8 TEST UNIT RESULTS NO GOOD
616+* IOCC EQU 45 13 4 OIO CC ERROR
617+* NOIN EQU 46 14 2 NO INTERRUPT
618+* INCC EQU 47 15 1 INTERRUPT CC ERROR
619+*
620+* COMMON BUFFER FOR PRINTING DATA
621+*
00285C 0000 623+*STUID DC A(*-*) TEST UNIT IDENTIFICATION
00285E 0000 624+*STI0IN DC A(*-*) I/O AND INTR CONDITION CODES
002860 0000 625+*SISB DC A(*-*) R7, INTR STATUS BYTE & DEV ADRS
002862 0000 626+*LSTIO DC A(*-*) ADRS OF LAST I/O + 4 BYTES
002864 0000 627+*DEV1 DC A(*-*) DEVICE DEPENDENT DATA
002866 0000 628+*DEV2 DC A(*-*) *
002868 0000 629+*DEV3 DC A(*-*) *
00286A 0000 630+*DEV4 DC A(*-*) *
00286C 0000 631+*SCTID EQU DEV1 CS STATUS ERROR ISB & INTR CC
00286E 0000 632+*DCBUF EQU * DCB BUFFER FOR LAST DCB USED
002870 0000 633+*DCB1 DC A(*-*) LAST DCB TABLE, CONTROL WORD
002872 0000 634+*DCB2 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
002874 0000 635+*DCB3 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
002876 0000 636+*DCB4 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
002878 0000 637+*DCB5 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
00287A 0000 638+*DCB6 DC A(*-*) LAST DCP TABLE, CHAIN ADRS
00287C 0000 639+*DCB7 DC A(*-*) LAST DCB TABLE, BYTE COUNT
00287E 0000 640+*DCB8 DC A(*-*) LAST DCB TABLE, BUFFER ADDRESS
00287F 641+*
00287C 0000 642+*CSBUF EQU * CYCLE STEAL DATA BUFFER
00287E 0000 643+*CSTL1 DC A(*-*) CS STATUS WD 0, RESIDUAL ADDRESS
002880 0000 644+*CSTL2 DC A(*-*) CS STATUS WD 1, RESIDUAL COUNT
002882 0000 645+*CSTL3 DC A(*-*) CS STATUS WD 2, RETRY CNT WD 1
002884 0000 646+*CSTL4 DC A(*-*) CS STATUS WD 3, RETRY CNT WD 2
002886 0000 647+*CSTL5 DC A(*-*) CS STATUS WD 4, ERROR STATUS WD 1
002888 0000 648+*CSTL6 DC A(*-*) CS STATUS WD 5, ERROR STATUS WD 2
00288A 0000 649+*CSTL7 DC A(*-*) CS STATUS WD 6, LAST DCB ADDRESS
00288C 0000 650+*CSTL8 DC A(*-*) CS STATUS WD 7, PREVIOUS HD/CYL
00288E 0000 651+*CSTL9 DC A(*-*) CS STATUS WD 8, CURRENT HD/CYL
002890 0000 652+*CST10 DC A(*-*) CS STATUS WD 9, FLAG/SECTOR

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002890 0000 653+*CST11 DC A(*-*) CS STATUS WD 10, HEAD/CYLINDER
002892 0000 654+*CST12 DC A(*-*) CS STATUS WD 11, DIAG BYTES 1, 2
002894 0000 655+*CST13 DC A(*-*) CS STATUS WD 12, AND 3 + WRAP BYTE
656+*
002896 0000 657+*SSUBN DC A(*-*) LAST SUBROUTINE ADDRESS USED
002898 00000000 658+*SDATA DC 2A(*-*) OPTIONAL DATA
00289C 0021 X'0021' 659+*STMTL DC X'0021' INTERRUPT LEVEL REQUESTED
00289E 0000 660+*TURTN DC X(*-*) TEST UNIT RETURN ADRES TO MDI
0028A0 00 661+*SDVID DC X'00' DEVICE ID
0028A2 19D0 662+*SVCAL DC A(DEVADD) ADRS OF DEVICE ADDRESS
0028A4 0000 663+ DC A(*-*) IBIS CYLINDER ADDRESS
664+*
665+* THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
666+* FUNCTION. THE RESULTS THAT WERE SET UP IN THE RESULTS AREA ARE
667+* STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
668+*
0028A6 4020 285C 7A02 669+*T7A02 MVWMI X'7A02',STUID SET UP TEST UNIT ID
0028AC 5700 670+ BXS (R7) RETURN TO MDI SUPVR
671+ COPY COMEQU
672+ *****
673+ *****
674+ *
675+ * EQUATED NAMES FOR SUPPORTED SVC'S
676+ *
677+ *****
678+ OUT EQU 0 OUT SVC
679+ OUTIN EQU 1 OUTIN SVC
680+ IDLE EQU 2 IDLE SVC
681+ IDLE5 EQU 3 IDLE SVC - INDEPENDENT OF CPU TYPE
682+ CHNGE EQU 4 CHANGE LEVEL SVC
683+ PGMCK EQU 5 ALLOW RETURN ON PROGRAM CHECK SVC
684+ EXIT EQU 6 EXIT SVC
685+ TRM EQU 7 TERMINATE SVC
686+ RESET EQU 8 RESET DEVICE SVC
687+ RID EQU 9 READ ID SVC
688+ START EQU 10 START CYCLE STEAL SVC
689+ STCSS EQU 11 START CYCLE STEAL STATUS SVC
690+ PREP EQU 12 PREPARE DEVICE SVC
691+ READ0 EQU 13 READ WITH FUNCTION BIT 3 OFF SVC
692+ READ1 EQU 14 READ WITH FUNCTION BIT 3 ON SVC
693+ RSTAT EQU 15 READ STATUS SVC
694+ WRIT0 EQU 16 WRITE WITH FUNCTION BIT 3 OFF SVC
695+ WRIT1 EQU 17 WRITE WITH FUNCTION BIT 3 ON SVC
696+ CTRL EQU 18 CONTROL SVC
697+ RICB EQU 19 RELEASE INTERRUPT CONTROL BLOCK SVC
698+ CICB EQU 20 CONNECT INTERRUPT CONTROL BLOCK SVC
699+ HIO EQU 21 HALT ALL I/O
700+ PROSD EQU 22 REQUEST USE OF DCP DISK SVC
701+ RELSD EQU 23 RELEASE USE OF DCP DISK SVC
702+ HALT EQU 24 HALT SVC
703+ ETOH EQU 25 EBCDIC TO HEX SVC (STRING)
704+ HTOA EQU 26 HEX TO EBCDIC SVC (STRING)
705+ ATOH EQU 27 ASCII TO HEX SVC (STRING)
706+ HTOA EQU 28 HEX TO ASCII SVC (STRING)
707+ ETOA EQU 29 EBCDIC TO ASCII SVC (STRING)
708+ ATOA EQU 30 ASCII TO EBCDIC SVC (STRING)
709+ RADI EQU 31 READ DATA SETS FOR UTIL
710+ WRATI EQU 32 WRITE DATA SETS FOR UTIL
711+ *****
712+ *****
713+ *
714+ * EQUATES USED BY TU'S AS CONSTANTS
715+ *
716+ *****
717+ PLUS EQU C'+' PLUS CHAR
718+ MINUS EQU C'-' MINUS CHAR
719+ ZERO EQU 0
720+ ONE EQU 1
721+ TWO EQU 2
722+ THREE EQU 3
723+ FOUR EQU 4
724+ FIVE EQU 5
725+ SIX EQU 6
726+ SEVEN EQU 7
727+ EIGHT EQU 8
728+ NINE EQU 9
729+ TEN EQU 10
730+ ELEVN EQU 11
731+ TWELV EQU 12
732+ THRTN EQU 13
733+ FIVTN EQU 14
734+ SIXTY EQU 15
735+ SIXTY2 EQU 16
736+ SIXTY4 EQU 16
737+ SIXTY4 EQU 32
738+ ONE28 EQU 64
739+ TWO56 EQU 128
740+ ONEK EQU 256
741+ TWOK EQU 1024
742+ THREK EQU 2048
743+ FOURK EQU 4096
744+ M1 EQU -1
745+ M2 EQU -2
746+ M3 EQU -3
747+ M4 EQU -4
748+ M4 EQU -4
749+ *****
750+ *****
751+ *
752+ * THE FOLLOWING ARE EQUATES FOR BIT DISPLACEMENTS FROM THE
753+ * BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES.
754+ *
755+ *****
756+ BS0 EQU 0
757+ BS1 EQU 1
758+ BS2 EQU 2
759+ BS3 EQU 3
760+ BS4 EQU 4
761+ BS5 EQU 5
762+ BS6 EQU 6
763+ BS7 EQU 7
764+ BS8 EQU 8
765+ BS9 EQU 9
766+ BS10 EQU 10
767+ BS11 EQU 11
768+ BS12 EQU 12
769+ BS13 EQU 13
770+ BS14 EQU 14
771+ BS15 EQU 15

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LOCTR OBJECT TEXT          STMT SOURCE STATEMENT          COPYRIGHT IBM CORP 1976
26OCT77
773 ** COPY T7A00DCB
774 ** (T7A00DCB)
775 *
776 *****4/28/77*****
777 *
778 * DCB TABLES AND DC'S
779 *
780 *****
781 *
782 ***** DIAGNOSTIC DCB *****
783 *
784 DGDCB DC X'2008'          DIAGNOSTIC DCB
785 DC A(*-*)              FLAG / PHYSICAL SECTOR#
786 DC A(*-*)              HEAD / CYLINDER#'S
787 DC X'0000'            NOT USED
788 DC A(RSBA)            RSB ADDRESS
789 DC A(*-*)              CHAINING ADDRESS
790 DC X'0100'            BYTE COUNT
791 DC A(*-*)              DATA ADDRESS
792 *
793 ***** RECALIBRATE DCB *****
794 *
795 CLDCB DC X'0001'          RECALIBRATE DCB
796 DC 7A(*-*)
797 *
798 ***** WRITE SECTOR ID *****
799 *
800 WSDCB DC X'002D'          WRITE SECTOR ID CNTL WORD
801 DC A(*-*)              FLAG / PHYSICAL SECTOR#
802 DC A(*-*)              HEAD / CYLINDER#'S
803 DC X'0000'            NOT USED
804 DC A(RSBA)            RSB ADDRESS
805 DC A(*-*)              CHAIN ADDRESS
806 DC X'0004'            BYTE COUNT
807 DC A(WRSID)           ADDR OF SECTOR ID DATA
808 *
809 ***** READ SECTOR ID DCB *****
810 *
811 RSDCB DC X'201C'          READ SECTOR ID CNTL WORD
812 DC A(*-*)              FLAG / PHYSICAL SECTOR#
813 DC X'0000'            HEAD / CYLINDER#'S
814 DC X'0000'            NOT USED
815 DC A(RSBA)            RSB ADDRESS
816 DC A(*-*)              CHAIN ADDRESS
817 DC X'0004'            BYTE COUNT FOR READ SECTOR ID
818 DC A(SCTID)           SECTOR ID DATA ADDRESS
819 *
820 ***** SEEK DCB *****
821 *
822 SKDCB DC X'0000'          SEEK DCB CONTROL WORD
823 DC X'0000'            NOT USED
824 DC A(*-*)              HEAD / CYLINDER#'S
825 DC X'0000'            NOT USED
826 DC A(RSBA)            RSB ADDRESS
827 DC A(*-*)              CHAIN ADDRESS
828 DC X'0000'            NOT USED
829 DC X'0000'            NOT USED
830 *
831 ***** CYCLE STEAL STATUS DCB *****
832 *
833 CSDCB DC X'2000'          CONTROL WORD
834 DC F'0'                NOT USED
835 DC F'0'                NOT USED
836 DC F'0'                NOT USED
837 DC F'0'                NOT USED
838 DC F'0'                NOT USED
839 DC X'001A'            13 WORDS OF STATUS
840 DC A(CSBUF)           ADDRESS OF CYCLE STEAL STATUS DATA
841 *
842 ***** WRITE DCB *****
843 *
844 WRDCB DC X'0028'          WRITE DATA DCB CNTL WORD
845 DC A(*-*)              FLAG / RECORD#
846 DC A(*-*)              HEAD / CYLINDER#'S
847 DC A(*-*)              SCAN / REPEAT COUNT
848 DC A(RSBA)            RSB ADDRESS
849 DC A(*-*)              CHAIN ADDRESS
850 DC X'0100'            BYTE COUNT
851 DC A(*-*)              WRITE DATA ADDRESS
852 *
853 ***** VERIFY DCB *****
854 *
855 VRDCB DC X'0019'          CONTROL WORD
856 DC A(*-*)              FLAG / RECORD#
857 DC A(*-*)              HEAD / CYLINDER#'S
858 DC A(*-*)              SCAN / REPEAT COUNT
859 DC A(RSBA)            RSB ADDRESS
860 DC A(*-*)              CHAIN ADDRESS
861 DC A(*-*)              BYTE COUNT
862 DC F'0'                NOT USED
863 *
864 ***** READ DCB *****
865 *
866 RDCB DC X'2018'          READ DCB CONTROL WORD
867 DC A(*-*)              FLAG / RECORD#
868 DC A(*-*)              HEAD / CYLINDER#'S
869 DC A(*-*)              SCAN / REPEAT COUNT
870 DC A(RSBA)            RSB ADDRESS
871 DC A(*-*)              CHAIN ADDRESS
872 DC X'0100'            BYTE COUNT
873 DC A(*-*)              READ DATA ADDRESS
874 *
875 ***** WRITE SECTOR ID SKEWED *****
876 *
877 WKDCB DC X'002F'          CONTROL WORD
878 DC A(*-*)              FLAG / PHYSICAL SECTOR#
879 DC A(*-*)              HEAD / CYLINDER#'S
880 DC F'0'                NOT USED
881 DC A(RSBA)            RSB ADDRESS
882 DC A(*-*)              CHAIN ADDRESS
883 DC X'0004'            BYTE COUNT
884 DC A(WRSID)           ADDR OF SFECTOR ID DATA
885 *
886 ***** READ SECTOR ID SKEWED *****

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LOCTR OBJECT TEXT          STMT SOURCE STATEMENT          COPYRIGHT IBM CORP 1976
26OCT77
887 *
888 RKDCB DC X'201D'          CONTROL WORD
889 DC A(*-*)              FLAG / PHYSICAL SECTOR#
890 DC A(*-*)              HEAD / CYLINDER#'S
891 DC F'0'                NOT USED
892 DC A(RSBA)            RSB ADDRESS
893 DC A(*-*)              CHAIN ADDRESS
894 DC X'0004'            BYTE COUNT
895 DC A(SCTID)           SECTOR ID DATA ADDRESS
896 *
897 ***** READ MULTIPLE SECTOR IDS *****
898 *
899 RMDCB DC X'201C'          CONTROL WORD
900 DC A(*-*)              FLAG / PHYSICAL SECTOR#
901 DC A(*-*)              HEAD / CYLINDER#'S
902 DC F'0'                NOT USED
903 DC A(RSBA)            RSB ADDRESS
904 DC A(*-*)              CHAIN ADDRESS
905 DC X'0084'            BYTE COUNT
906 DC A(ID00)           DATA AREA ADDRESS
907 *
908 * CONSTANTS AND DEFINED STORAGE LOCATIONS
909 ZER00 DC X'0000'          CONSTANT ZERO
910 ONE1 DC X'0001'          CONSTANT ONE
911 RAY DC A(*-*)           WRITE PARAMETER POINTER
912 WDATA DC X'EB6D'        WRITE DATA
913 DC X'6BDB'            *
914 LGSEC DC X'0000'        LOGICAL SECTOR #
915 PHYSC DC X'0000'        CONVERTED PHYSICAL SEC #
916 WRSID DC X'0000'        FLAG,SECTOR (WRT SECTOR ID DATA)
917 DC X'0000'            HEAD,CYLINDER
918 WSIDT DC X'F34'         WRITE SECTOR ID TEST DATA
919 DC X'578'            *
920 SCTST DC X'0000'        READ SECTOR ID TEST DATA BUFFER
921 DC X'0000'            *
922 RSBA DC 6A(*-*)         RESIDUAL STATUS BLOCK
923 CTR02 DC X'0000'        COUNTER
924 CTR03 DC X'0000'        COUNTER
925 ID00 DC X'0000'        ID ADDRESS TO BE SET BY USER
926 PDATA DC X'1010'       WRITE DIAG WORD 1 DATA PATTERNS
927 DC X'5555'            *
928 DC X'AAAA'            *
929 DC X'FFFF'            *
930 *
931 *****4/06/77*****
932 *
933 * SUBROUTINE
934 *
935 * PURPOSE
936 *
937 * COMPARE READ SECTOR ID DATA TO WRITE SECTOR ID DATA
938 *
939 * CALLING SEQUENCE
940 *
941 * BAL CMPRW,R6 (NORMAL)
942 *
943 * RETURN
944 *
945 * BXS (R6,2) - NORMAL
946 *
947 *
948 *****
949 *
950 CMPRW MVWI 4,R7          COMPARE BYTE COUNT
951 MVA SCTID,R3            ADDR OF RD SEC ID DATA
952 MVA WRSID,R5            ADDR OF WR SEC ID DATA
953 CFMEN (R3),(R5)        COMPARE ID DATA
954 BE (R6,2)              BCH IF WRITE ID DATA OK
955 B (R6)                 COMPARE ERROR
956 *****
957 *
958 * EXECUTE INPUT & OUTPUT COMMANDS
959 * TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
960 * EACH OF THESE ENTRIES SET R7 WITH THE ADRS OF ITS PARAMETER
961 * LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
962 * SUPVR CALL.
963 *
964 * THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
965 *
966 * 1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
967 * 2. ERROR INTERRUPTS RECEIVED FROM SUPVR
968 *
969 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
970 *
971 *
972 * 1 BAL $RKEW,R6 READ SECTOR ID SKEWED
973 *
974 * 2 BAL $WKEW,R6 WRITE SECTOR ID SKEWED
975 *
976 * 3 BAL $WSEC,R6 WRITE SECTOR ID
977 *
978 * 4 BAL $DIAG,R6 DIAGNOSTIC
979 *
980 * 5 BAL $XIOCS,R6 CYCLE STEAL STATUS
981 *
982 * 6 BAL $SEEK,R6 SEEK
983 *
984 * 7 BAL $RECL,R6 RECALIBRATE
985 *
986 * 8 BAL $RDID,R6 READ SECTOR ID
987 *
988 * 9 BAL $RD,R6 READ
989 *
990 * 10 BAL $RDVY,R6 READ VERIFY
991 *
992 * 11 BAL $WRT,R6 WRITE
993 *
994 * 12 BAL $RDIM,R6 READ MULTI SECTOR IDS
995 *
996 *****
997 *
998 $SEEK MVA SKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
999 XIO
1000 *
1001 $RECL MVA CLDCB,IODCB SET UP BLOCK FOR SVC CALL

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LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
0029C6  507B                1002 J XIO
0029C8  4020 2BD0 28DE       1003 *
0029CE  0BB8                1004 $RDID MVA RSDCB,IODCB      SET UP BLOCK FOR SVC CALL
0029D0  4524 2864           1005 MVEI X'BB',R3             SET BUFFER TO B'S
0029D4  4724 0004           1006 MVA SCTL,R5             SETUP READ SECTOR ID BUFFER ADRS
0029D8  2BAC                1007 MVWI 4,R7              SETUP BUFFER LENGTH
0029DA  4020 28EC 2864       1008 FFN R3,(R5)           INIT READ SECTOR ID BUFFER
0029E0  506E                1009 MVA SCTL,RSDCB+14      DATA ADDR
0029E2  4020 2BD0 295E       1010 J XIO
0029E8  4724 0084           1011 *
0029EC  4524 2998           1012 $RDIM MVA RMDCB,IODCB   SET UP CONTROL BLOCK FOR SVC CALL
0029F0  0BB8                1013 MVWI 132,R7           SET BUFFER LENGTH
0029F2  2BAC                1014 MVA ID00,R5           SET BUFFER ADDRESS
0029F4  5064                1015 MVEI X'BB',R3         SET CLEAR CHARACTERS
0029F6  0BFF                1016 FFN R3,(R5)         CLEAR THE BUFFER
0029F8  6D08 293C           1017 J XIO
0029FC  6F08 293A           1018 *
002A00  2BAC                1019 $RD MVEI X'FF',R3     SETRD BUFFER TO ALL F'S
002A02  4020 2BD0 292E       1020 MVW RDDCB+14,R5      SET UP READ BUFFER ADRS
002A08  505A                1021 MVW RDDCB+12,R7      SET UP BUFFER LENGTH
002A0A  4020 2BD0 291E       1022 FFN R3,(R5)         CLEAR READ BUFFER
002A10  5056                1023 $RDE MVA RDDCB,IODCB  SET UP BLOCK FOR SVC CALL
002A12  4020 2BD0 290E       1024 J XIO
002A18  5052                1025 *
002A1A  4020 2BD0 294E       1026 $RDVY MVA VRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002A20  0BB8                1027 J XIO
002A22  4524 2864           1028 *
002A24  4724 0004           1029 $WRT MVA WRDCB,IODCB  SET UP CONTROL BLOCK FOR SVC CALL
002A26  2BAC                1030 J XIO
002A28  4020 295C 2864       1031 *
002A32  5045                1032 $RKEW MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002A34  4020 2BD0 293E       1033 MVEI X'BB',R3         SET BUFFER TO B'S
002A36  4020 294C 297C       1034 MVA SCTL,R5           SETUP READ SECTOR ID BUFFER ADRS
002A40  503E                1035 MVWI 4,R7             SETUP BUFFER LENGTH
002A42  4020 2BD0 28CE       1036 FFN R3,(R5)         INIT READ SECTOR ID BUFFER
002A44  4020 28DC 297C       1037 MVA SCTL,RKDCB+14    DATA ADDR
002A46  5037                1038 J XIO
002A48  4020 2BD0 293E       1039 *
002A50  4020 294C 297C       1040 $WKEW MVA WKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002A52  503E                1041 MVA WRSID,WKDCB+14   DATA ADDR
002A54  5037                1042 J XIO
002A56  4020 2BD0 28AE       1043 *
002A58  6E0D 2862           1044 $WSEC MVA WSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002A5C  0BFF                1045 MVA WRSID,WSDCB+14  DATA ADDR
002A60  4524 287C           1046 J XIO
002A62  0F16                1047 *
002A64  2BAC                1048 $DIAG MVA DGDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002A66  4524 286C           1049 J XIO
002A68  0F10                1050 *
002A6C  2BAC                1051 $WRTO MVW R6,LSTIO       SAVE IAR FOR RETRY IF REQUESTED
002A6E  4020 285E 0708       1052 MVEI 255,R3         CLEAR CYCLE STATUS BUFFER
002A70  CB25 2860           1053 MVA CSBUF,R5        * TO ALL ONES *
002A72  4CA3                1054 MVEI 4,R7           *
002A74  4CA1                1055 FFN R3,(R5)        *
002A76  4C62                1056 MVA DCBUF,R5        CLEAR DCB BUFFER TO ALL ONES
002A78  4C61                1057 MVEI 16,R7         *
002A7A  4C62                1058 FFN R3,(R5)        *
002A7C  4724 2BCC           1059 MVWI X'0708', $IOIN  OVERLAY OLD CONDITION CODES
002A7E  C020 2BD3           1060 MVWZ $ISB,R3        ZERO OUT OLD ISB VALUE
002A80  402D 2BD2 00F0       1061 TBTR (R4,IN)       CLEAR INTERRUPT RECEIVED CNTL BIT
002A82  3022                1062 TBTR (R4,ER)       RESET ANY ERROR BEFORE I/O COMMAND
002A84  0F05                1063 TBTS (R4,XI)       SET EXPECTED INTR CONTROL BIT
002A86  402D 2BD2 00F0       1064 MVA IOBLK,R7        SET UP CONTROL BLK FOR SUPR
002A88  3022                1065 MVB IOMOD+1,R0      GET IDCB FUNC/MODIFIER
002A8A  0F05                1066 RBTWHI X'00F0',IOMOD REMOVE FUNCTION FROM 'IOMOD'
002A8C  0F05                1067 SRL 4,R0            ICHGT JUSTIFY FUNCTION BITS IN F0
002A8E  0F05                1068 CBI 5,R0            IDCB FUNCTION = 5?
002A90  1003                1069 JE $WRT1           YES - ISSUE 'SVC WRIT1'
002A92  6010                1070 SVC WRIT0          ISSUE WRITE DPC '4X' OP
002A94  6802 2B18           1071 B XIO8-4           GO WAIT FOR THE INTERRUPT
002A96  6011                1072 $WRT1 SVC WRIT1  ISSUE WRITE DPC '5X' OP
002A98  6802 2B18           1073 B XIO8-4           GO WAIT FOR THE INTERRUPT
002A9A  6802 2B18           1074 *
002A9E  4020 2BD0 290E       1075 $DGWR MVA WRDCB,IODCB SET UP CONTROL BLK FOR SVC CALL
002AA0  6802 2AC4           1076 B XIODG           ISSUE START CS DIAG CMD
002AA2  4020 2BD0 292E       1077 *
002AA4  6F08 293A           1078 $DGRD MVA RDDCB,IODCB SET UP CONTROL BLK FOR SVC CALL
002AA6  6D08 293C           1079 MVW RDDCB+12,R7     GET NO. OF BYTES TO CLEAR
002AA8  0BFF                1080 MVW RDDCB+14,R5     ADDR OF READ BUFFER
002AAE  2BAC                1081 MVEI X'FF',R3       CLEAR TO F'S
002AB0  2BAC                1082 FFN R3,(R5)        *
002ABA  6802 2AC4           1083 B XIODG           ISSUE START CS DIAG CMD
002AB2  6802 2AC4           1084 COPY T7AXEQ        09MAR78
002AB4  6802 2AC4           1085 PRINT OFF
002AB6  6802 2AC4           1086 T7AXEQ
002AB8  6802 2AC4           1087 *****29JUL76**
002ACA  6802 2AC4           1088 *
002AC2  6802 2AC4           1089 SUB-ROUTINE
002AC4  6802 2AC4           1090 EXECUTE INPUT AND OUTPUT COMMANDS
002AC6  6802 2AC4           1091 PURPOSE
002AC8  6802 2AC4           1092 TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
002ACA  6802 2AC4           1093 THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
002ACE  6802 2AC4           1094 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
002ACF  6802 2AC4           1095 THE I/O COMMAND.
002AD0  6802 2AC4           1096 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
002AD2  6802 2AC4           1097 ISSUED BY THIS SUBROUTINE.
002AD4  6802 2AC4           1098 3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
002AD6  6802 2AC4           1099 START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
002AD8  6802 2AC4           1100 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
002ADA  6802 2AC4           1101 SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
002ADE  6802 2AC4           1102 MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
002ADF  6802 2AC4           1103 5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
002AE0  6802 2AC4           1104 EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC START'.
002AE2  6802 2AC4           1105 6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
002AE4  6802 2AC4           1106 STARTS TO DETERMINE A LOST INTERRUPT.
002AE6  6802 2AC4           1107 7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
002AE8  6802 2AC4           1108 WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL.
002AEA  6802 2AC4           1109 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
002AEC  6802 2AC4           1110 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
002AEE  6802 2AC4           1111 10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.

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LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
1680**  11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
1681**  12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
1682**  ISSUED BY THIS SUBROUTINE.
1683**  13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
1684**  CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
1685**  COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
1686**
1687** CALLING SEQUENCE
1688**
1689** THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1690**
1691** --> BAL XIO OR XEQ ANY CYCLE STEAL COMMAND, MOD=0
1692** --> BAL XIO1 MOD PARM PRELOADED IN 'IOMOD'
1693** --> BAL XIOCS,R6 OR XEQ START CYCLE STEAL STATUS, MOD=F
1694** --> BAL XIOCS-4,R6 AUTO CS STATUS (FOLLOWING OTHER XIO
1695** AND DOES NOT POST INTERRUPT STATUS)
1696**
1697** RETURN CONTROL
1700** OR B (R6,2) RETURN TO USER NO ERROR
1701** OR B (R6,2) RETURN AND RETRY ON ERROR
1703** XIO MVWZ IOMOD,R3 SET MOF OF 0 FOR CYCLE STEAL OP
1704** J XIO1 CS I/O'S ARE NOT RETRIED
1705**
1706** XIODG MVWI X'000D',IOMOD SET MODIFIER FOR DIAGNOSTIC OPS
1707** J XIO1 GO TO CS OPS
1708**
1709** TBTR (R4,CE) RESET CS STATUS INTER ERROR INDICAT.
1710** TBTS (R4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
1711** XIOCS MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
1712** MVWI X'000F',IOMOD SET CYCLE STEAL MODIFIER
1713** TBTR (R4,CS) IS CS IN PROGRESS, ERROR CONDITION
1714** JON XIO2 * YES, BYPASS SAVING I/O ADRS
1715** XIO1 MVW R6,LSTIO SAVE IAR FOR RETRY IF REQUESTED
1716** MVA DCBUF,R3 SET UP TO ADRS TO MOVE DCB TABLE
1717** MVW IODCB,R5 * AND THE FROM ADRS, ALONG WITH
1718** MVEI 26,R7 * THE NUMBER OF MOVES
1719** MVFN (R5),(R3) MOVE 1 STATUS WORD AND ADJUST
1720** MVEI 255,R3 CLEAR CYCLE STATUS BUFFER
1721** MVA CSBUF,R5 * TO ALL ONES *
1722** MVEI 26,R7 *
1723** FFN R3,(R5) *
1724** MVWI X'0708', $IOIN OVERLAY OLD CONDITION CODES
1725** MVWZ $ISB,R3 ZERO OUT OLD ISB VALUE
1726**
1727** TBTR (R4,ER) RESET ANY ERROR BEFORE I/O COMMAND
1728** XIO2 TBTR (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
1729** MVA IOBLK,R7 SET UP CONTROL BLOCK FOR SUPVR
1730** TBTR (R4,$LE) RESET LEVEL ERROR INDICATOR
1731** TBTS (R4,XI) SET EXPECTED INTR CONTROL BIT
1732** SVC START CALL SUPVR FOR I/O COMMAND
1733**
1734** TBTR (R4,NI) IS AN INTR EXPECTED
1735** BN (R6,2) * NO, RETURN TO USER
1736**
1737** THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
1738**
1739** MVWI 0,R5 SET UP WORK REG FOR 'LOST INTR'
1740** XIO8 TBTR (R4,IN) HAS INTERRUPT BEEN RECEIVED
1741** JON XIOCK * YES, CHECK IF ALL WAS SATISFACTORY
1742** SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
1743** SVC IDLE SUPVR WILL RETURN HERE
1744** SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
1745** SVC IDLE SUPVR WILL RETURN HERE
1746** ANI 1,R5 ADVANCE TIME OUT COUNT
1747** JNZ XIO8 BCH IF 'TIME OUT' NOT REACHED
1748** TBTS (R4,ER) SET ON ERROR CONTROL BIT
1749** B (R6,*) ERR 'NO INTERRUPT'
1751** *****03FER76**
1752**
1753** SUBROUTINE
1754**
1755** I/O EXECUTE ERROR HANDLING ROUTINE
1756**
1757** PURPOSE
1758**
1759** THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
1760** PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
1761** SUPERVISOR AND IT WAS NOT ACCEPTED.
1762**
1763** CALLING SEQUENCE
1764**
1765** SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
1766**
1767** RETURN CONTROL
1768**
1769** B (R6)* RETURN TO USERS ERROR HANDLER
1770**
1771** *****
1772**
1773** CC 0= DEVICE NOT ATTACHED
1774** FOR 1= DEVICE BUSY
1775** I/O 2= DEVICE BUSY AFTER RESET
1776** 3= COMMAND REJECT
1777** 4= INTERVENTION REQUIRED
1778** 5= INTERFACE DATA CHECK
1779** 6= CONTROLLER BUSY
1780** 7= I/O COMMAND EXCEPTED
1781**
1782** XIOER CPLSR R3 COPY STATUS ANY LEVEL INTO R3
1783** SRL 13,R3 POSITION CC CODE TO BITS 13-3
1784** MVB R3,$IOIN * PUT IN LOG OUT AREA
1785** B (R6)* RETURN TO USER ERROR HANDLER
1787** *****14APR76**
1788**
1789** SUB-ROUTINE
1790**
1791** ERROR INTERRUPT RUNS ON INTERRUPT LEVEL '$INTL'
1792**
1793** PURPOSE
1794**
1795** THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR
1796** OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE

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LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
		1797**	EXPECTED CODE.	IL
		1798**		IL
		1799**	CALLING SEQUENCE	IL
		1800**		IL
		1801**	SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT	IL
		1802**		IL
		1803**	RETURN CONTROL	IL
		1804**		IL
		1805**	SVC EXIT	IL
		1806**	RETURN TO USER VIA SUPVR	IL
		1807**	*****	IL
		1808**		IL
		1809**	CC 0= CONTROLLER END ISB 0= ADD STATUS	IL
		1810**	FOR 1= PROGRAM CONTROL INTERRUPT BITS 1= COMD REJECT	IL
		1811**	INTR 2= EXCEPTION INTERRUPT FOR 2= INCOR LENGTH	IL
		1812**	3= DEVICE END INTERRUPT INTR 3= DCB SPEC CK	IL
		1813**	4= ATTENTION INTERRUPT 4= STG DATA CK	IL
		1814**	5= ATTENTION / PROGRAM CNTL INTR 5= INV STG ADRS	IL
		1815**	6= ATTENTION / EXCEPTION INTR 6= PROTRCT CK	IL
		1816**	7= ATTENTION / DEVICE END INTR 7= I-FACE DATA	IL
		1817**		IL
002B3C	706E	1818+INTER	CPLSR R3 COPY STATUS ANY LEVEL INTO R3	IL
002B3E	336A	1819+	SRL 13,R3 POSITION INDICATORS IN R3	IL
002B40	4424	1820+	MVA OPTN1,R4 SET UP BASE ADRS	IL
002B44	4C28	1821+	TBT (R4,CS) IS CS IN PROGRESS	IL
002B46	1006	1822+	JOFF INTES * NO	IL
002B48	4C6A	1823+	TBTS (R4,CE) TURN ON CYCLE STEAL INTER ERROR	IL
002B4A	6F0D	1824+	MVW R7,DEV4 SAVE CS ERR ISB VALUE, BITS 0-7	IL
002B4E	286A	1825+	MVB R3,DEV4+1 * AND THE COND CODE	IL
002B52	500A	1826+	J INTR1	IL
002B54	4C24	1827+INTES	TBT (R4,XE) TEST EXPECTED ATTEN / ERROR IND	IL
002B56	1002	1828+	JOFF INTET BCH IF NOT EXPECTED	IL
002B58	F304	1829+	CBI 4,R3 IS THIS AN 'ATTENTION' INTR	IL
002B5A	1006	1830+	JE INTR1 * YES, BCH TO END INTR SEQUENCE	IL
002B5C	4C61	1831+INTET	TBTS (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT	IL
002B5E	5004	1832+	J INTR1	IL
		1833**		IL
		1834**	THE ERROR INTERRUPT USES THE SAME	IL
		1835**	ENDING SEQUENCE AS THE NORMAL INTR	IL
		1836**	*****14APR76	IL
		1837**		IL
		1838**	SOUBROUTINE	IL
		1839**		IL
		1840**	OKAY INTERRUPT RUNS ON INTERRUPT LEVEL '\$INTL'	IL
		1841**		IL
		1842**	PURPOSE	IL
		1843**		IL
		1844**	TO CHECK THE INTERRUPT AND CONTINUE THE TEST	IL
		1845**		IL
		1846**	CALLING SEQUENCE	IL
		1847**		IL
		1848**	SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED	IL
		1849**	THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE	IL
		1850**	AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE	IL
		1851**	COMMON SECTION IS HANDLED HERE.	IL
		1852**		IL
		1853**	RETURN CONTROL	IL
		1854**		IL
		1855**	SVC EXIT	IL
		1856**	RETURN TO USER VIA SUPVR	IL
		1857**	*****	IL
		1858+INTOK	CPLSP R3 COPY STATUS ANY LEVEL INTO R3	IL
		1859+	SRL 13,R3 POSITION INDICATORS IN R3	IL
		1860+	MVA OPTN1,R4 SET UP BASE ADRS	IL
		1861+INTR1	TBTS (R4,IN) SET INTERRUPT RECEIVED	IL
		1862+	TBT (R4,CS) IS 'CS IN PROGRESS' ON	IL
		1863+	JON INTR2 * YES, BCH AROUND UPDATE	IL
		1864+	MVE R3,\$IOIN+1 SAVE INTERRUPTING CC CODE	IL
		1865+	MVW R7,\$ISB SAVE INTR STATUS AND DEV ADRS	IL
		1866+	EOU *	IL
		1867+INTR2	CPCL R5 CURRENT LEVEL COPIED BY DCP	IL
		1868+	SLL 4,R5 POSITION INTR LEVEL AND PUT	IL
		1869+	ABI 1,R5 * IN 'I' BIT	IL
		1870+	CW \$INTL,R5 IS THIS THE CORRECT INTR LEVEL	IL
		1871+	JE INTR3 * YES, GO EXIT THIS LEVEL	IL
		1872+	TBTS (R4,\$LE) SET INTR LEVEL ERROR CONTROL BIT	IL
		1873+	TBTS (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT	IL
		1874+INTR3	TBTR (R4,SI) WAS INTERRUPT EXPECTED	IL
		1875+	JON INTR4 * YES, EXIT OFF THIS INTR LEVEL	IL
		1876+	TBTS (R4,HI) * NO, SET MYSTERY INTR CONTROL BIT	IL
		1877+	CBI 4,R3 ATTENTION INTERRUPT?	IL
		1878+	JE INTRX YES	IL
		1879+	TBTS (R4,NG) ERROR, UNEXPECTED INTERRUPT	IL
		1880+INTRX	SVC EXIT EXIT THIS LEVEL VIA SUPVR TO PGM	IL
		1881**	*****03FEB76	IL
		1882**		IL
		1883**		IL
		1884**	THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT	IL
		1885**	HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN	IL
		1886**	RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.	IL
		1887**		IL
		1888**		IL
		1889+XIOCK	TBTR (R4,XE) WAS AN ERROR EXPECTED	IL
		1890+	BN (R6,2) * YES, EXIT THIS ROUTINE	IL
		1891+	TBTR (R4,CS) WAS AUTO CS IN PROGRESS	IL
		1892+	JOFF XIOCV * NO, CONTINUE CHECKING	IL
		1893+	TBT (R4,CE) IS CS IN AN ERR CONDITION	IL
		1894+	JOFF XIOCO * NO, BCH	IL
		1895+	B (R6)* CS ERROR	IL
		1896+XIOCO	TBTS (R4,CSA) TURN ON CS STATS AVAIL FLAG	IL
		1897+	BXS (R6,2) GO TO USER	IL
		1898+XIOCV	TBT (R4,ER) WAS ERROR INTR CONTROL BIT ON	IL
		1899+	JOFF XIOCX * NO, EXIT THIS ROUTINE	IL
		1900**		IL
		1901+	MVB \$IOIN+1,R5 GET LAST INTR CC CODE	IL
		1902+	CBI 2,R5 IS THIS CC=2	IL
		1903+	JE XIOCC YES	IL
		1904**	CBI 6,R5 IS THIS CC=6	IL
		1905+	BNE (R6)* * NO, BCH TO ERROR HANDLER	IL
		1906+XIOCC	MVB \$ISB,R5 GET LAST ISB DATA BYTE AND IF CS	IL
		1907+	BN XIOCS-4 * AVAILABLE, GO AND GET IT	IL
		1908+	B (R6)* ERROR	IL
		1909+XIOCX	MVWZ OPTN3,R3 CLEAR OUT OPTION 3 CNTL BITS	IL
		1910+	BXS (R6,2) RETURN TO USER VIA REG 6	IL
		1911**		IL
		1912**	I/O PARAMETER LIST	IL

LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
002BCC	19D0	1913**		IL
002BCE	2B30	1914+IOBLK	DC A (DEVADD) ADRS OF DEVICE ADRS	IL
002BD0	0000	1915+	DC A (XIOER) ERROR ROUTINE ADRS	IL
002BD2	0000	1916+IODCB	DC A (*-*) DCB ADRS OR LEVEL & INTR	IL
002BD4	0000	1917+IOMOD	DC A (*-*) MODIFIER	IL
002BD6	0000	1918+	DC A (*-*) ADRS OF LAST SVC CALL	IL
		1919+IORSP	DC A (*-*) SECOND WORD OF LAST IDCB	IL
		1920**		IL
		1921**	INTERRUPT CONTROL BLOCK FOR I/O COMMANDS	IL
		1922**		IL
002BD8	19D0	1923+INTBL	DC A (DEVADD) ADRS OF DEVICE ADRS	IL
002BDA	2B60	1924+	DC A (INTOK) INTERRUPT OK RETURN ADRS	IL
002BDC	2B3C	1925+	DC A (INTER) INTERRUPT ERROR ADRS	IL
002BDE	0003	1926+INTCC	DC X'0003' INTERRUPT CODE EXPECTED	IL
		1928**	*****11MAY76**	IL
		1929**		IL
		1930**	SUBROUTINE	IL
		1931**		IL
		1932**	CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE	IL
		1933**		IL
		1934**	PURPOSE	IL
		1935**		IL
		1936**	TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND	IL
		1937**	PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE	IL
		1938**	TO INTERRUPT.	IL
		1939**		IL
		1940**	CALLING SEQUENCE	IL
		1941**		IL
		1942**	THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:	IL
		1943**		IL
		1944**	--> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK	IL
		1945**	BAL \$CONP,R6 PREPARE DEVICE ONLY, ALREADY CONNECT	IL
		1946**		IL
		1947**	RETURN CONTROL	IL
		1948**		IL
		1949**	BXS (R6,2) RETURN TO USER VIA REG 6 IF OKAY	IL
		1950**	OR B (R6)* IF THE DEVICE COULD NOT BE CONNECTED	IL
		1951**		IL
		1952**	*****	IL
002BE0	0F06	1953+\$CONC	MVBI 6,R7 NUMBER OF BYTE TO CLEAR	IL
002BE2	0B00	1954+	MVBI 0,R3 * AND THE DATA TO USE	IL
002BE4	4524	1955+	MVA DEV1,R5 * ALONG WITH THE ADRS TO USE	IL
002BE8	2BAC	1956+	FFN R3,(R5) *	IL
002BEA	CB25	1957+	MVWZ OPTN3,R3 CLEAR OLD CONTROLS FOR NEW ROUTINE	IL
002BE8	4724	1958+	MVWZ INTN3,R7 * CONNECT IT TO THIS DEVICE	IL
002BF2	6014	1959+	SVC CIOCB * ERROR RETURN TO USER	IL
002BF4	6AD0	1960+	BN (R6)*	IL
		1961**		IL
002BF8	8828	1962+\$CONP	MVW \$INTL,IODCB PUT IN LEVEL & INTR PARAMETER	IL
002BFE	4724	1963+	MVA IOBLK,R7 SET R7 TO CONTROL BLOCK TO PREPARE	IL
002C02	4020	1964+	MVWI X'0708',\$IOIN INITIALIZE CONDITION CODE STORAGE	IL
002C08	CB25	1965+	MVWZ \$ISB,R3 * AND CLEAR OLD ISB VALUE	IL
002C0C	6E0D	1966+	MVW R6,\$STIO SET UP ADDRESS THAT STARTED LAST I/O	IL
002C10	600C	1967+	SVC PREP * AND CALL ON SUPVR	IL
002C12	5601	1968+	BXS (R6,2) RETURN TO USER	IL
		1970**	*****06APR76**	IL
		1971**		IL
		1972**	SUBROUTINE	IL
		1973**		IL
		1974**	DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS	IL
		1975**		IL
		1976**	PURPOSE	IL
		1977**		IL
		1978**	DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND	IL
		1979**	SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS	IL
		1980**	BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.	IL
		1981**		IL
		1982**	CALLING SEQUENCE	IL
		1983**		IL
		1984**	THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:	IL
		1985**		IL
		1986**	--> B \$ERRS SET 'NG' BIT AND CONVERT DATA TO LOG	IL
		1987**	--> B \$CONX RETURN TO MDI SUPERVISOR TO TEST STS	IL
		1988**		IL
		1989**	RETURN CONTROL	IL
		1990**		IL
		1991**	B TURTN*	IL
		1992**	OR B (R6)* RETURN TO MDI	IL
		1993**		IL
		1994**	*****	IL
002C14	4020	1995+\$ERRS	MVHI X'8000',TUSTATUS SET ON 'NO GOOD' STATUS BIT	IL
002C1A	4724	1996+	MVA HEBLK,R7 GET ADRS OF CONTROL BLOCK	IL
002C1E	601A	1997+	SVC HTOE CONVERT HEX TO EBC VIS DCP	IL
002C20	4020	1998+	MVHI X'4040',TUNORK+116	IL
002C26	4020	1999+	MVHI X'4040',TUNORK+118	IL
002C2C	4020	2000+	MVHI X'4040',TUNORK+120	IL
002C32	0D04	2001+\$PRNT	MVBI 4,R5	IL
002C34	4324	2002+	MVA TUNORK,R3 SET UP BUFFER STORAGE	IL
002C38	6B0D	2003+	MVW R3,BUFPT	IL
002C3C	4124	2004+	MVA LINE1,R1	IL
002C40	0F04	2005+	MVBI 4,R7	IL
002C42	0E08	2006+	MVBI 8,R6	IL
002C44	2B24	2007+MVBUF	MVFN (R3),(R1)	IL
002C46	0F04	2008+	MVFN 4,R7	IL
002C48	0A40	2009+	MVBI X'40',R2	IL
002C4A	C258	2010+	MVB R2,(R1)+	IL
002C4C	BEFB	2011+	JCT MVBUF,R6	IL
002C4E	0E08	2012+	MVBI 8,R6	IL
002C50	7921	2013+	AWI 44,R1	IL
002C54	BD77	2014+	JCT MVBUF,R5	IL
002C56	4020	2015+	MVWI PIDMSG10,PID+2	IL
002C5C	4020	2016+	MVA FAKETU,@DCADD1	IL
002C62	4020	2017+	MVA DC2PT,@DCADD2	IL
002C68	402C	2018+	OWI BIT0080,SUPSTAT	IL
002C6E	4324	2019+	MVA \$TUID,R3	IL
002C72	6F13	2020+	BAL TUNSG@TR*,R7 SET UP BUFFER STORAGE	IL
		2021**		IL
		2022+\$CONX	EQU * GET DEVICE ADDRESS FROM MDI	IL
002C76	C720	2023+	MVB DEVADD,R7 RELEASE INTERRUPT CONTROL BLOCK	IL
002C7A	6013	2024+	SVC RIB RETURN TO MDI SUPERVISOR	IL
002C7C	6812	2025+	B TURTN*	IL

Table with columns: LOCTR, OBJECT TEXT, STMT SOURCE STATEMENT, COPYRIGHT IBM CORP 1976. Contains assembly code and diagnostic information for I7A13.

Table with columns: DECLARED, NAME, ATTRIBUTES AND REFERENCES, CROSS-REFERENCE LISTING, COPYRIGHT IBM CORP 1976. Contains cross-reference listing for I7A13.

CROSS-REFERENCE LISTING

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
1880	INTRX	385 403 421 ADDRESS. HEX LOCATION(00002B90) IN CSECT(I7A13) LENGTH(2)
1861	INTR1	1875 1878 ADDRESS. HEX LOCATION(00002B68) IN CSECT(I7A13) LENGTH(2)
1866	INTR2	1826 1830 1832 ADDRESS. HEX LOCATION(00002B76) IN CSECT(I7A13) LENGTH(1)
1874	INTR3	1863 ADDRESS. HEX LOCATION(00002B84) IN CSECT(I7A13) LENGTH(2)
1914	IOBLK	1871 ADDRESS. HEX LOCATION(00002BCC) IN CSECT(I7A13) LENGTH(2)
1916	IODCB	1064 1729 1963 ADDRESS. HEX LOCATION(00002BD0) IN CSECT(I7A13) LENGTH(2)
1917	IOMOD	998 1001 1004 1012 1023 1026 1029 1032 1040 ADDRESS. HEX LOCATION(00002BD2) IN CSECT(I7A13) LENGTH(2)
37	I7A13	1065 1066 1703 1706 1712 2089 2124 CSECT. START(00002500) LENGTH(2402) ESDID(1)
2033	LINE1	37 ADDRESS. HEX LOCATION(00002CB8) IN CSECT(I7A13) LENGTH(40)
626	LSTIO	2004 ADDRESS. HEX LOCATION(00002862) IN CSECT(I7A13) LENGTH(2)
2087	L7A28	1051 1715 1966 ADDRESS. HEX LOCATION(00002DFE) IN CSECT(I7A13) LENGTH(2)
603	MI	459 471 ABSOLUTE. HEX VALUE(00000020)
2007	MVBUF	1876 ADDRESS. HEX LOCATION(00002C44) IN CSECT(I7A13) LENGTH(2)
615	NG	2011 2014 ABSOLUTE. HEX VALUE(0000002C)
610	NI	1879 ABSOLUTE. HEX VALUE(00000027)
369	N00001	1734 ADDRESS. HEX LOCATION(00002540) IN CSECT(I7A13) LENGTH(2)
381	N00002	315 493 ADDRESS. HEX LOCATION(00002554) IN CSECT(I7A13) LENGTH(2)
387	N00003	318 ADDRESS. HEX LOCATION(00002560) IN CSECT(I7A13) LENGTH(2)
399	N00004	321 370 ADDRESS. HEX LOCATION(00002574) IN CSECT(I7A13) LENGTH(2)
405	N00005	324 ADDRESS. HEX LOCATION(00002580) IN CSECT(I7A13) LENGTH(2)
417	N00006	327 388 ADDRESS. HEX LOCATION(00002594) IN CSECT(I7A13) LENGTH(2)
423	N00007	330 ADDRESS. HEX LOCATION(000025A0) IN CSECT(I7A13) LENGTH(2)
435	N00008	333 406 ADDRESS. HEX LOCATION(000025B4) IN CSECT(I7A13) LENGTH(2)
447	N00009	336 ADDRESS. HEX LOCATION(000025C8) IN CSECT(I7A13) LENGTH(2)
450	N00010	339 ADDRESS. HEX LOCATION(000025CC) IN CSECT(I7A13) LENGTH(2)
456	N00011	342 436 ADDRESS. HEX LOCATION(000025D8) IN CSECT(I7A13) LENGTH(2)
465	N00012	345 424 496 ADDRESS. HEX LOCATION(000025E8) IN CSECT(I7A13) LENGTH(2)
468	N00013	348 ADDRESS. HEX LOCATION(000025EC) IN CSECT(I7A13) LENGTH(2)
477	N00014	351 457 499 ADDRESS. HEX LOCATION(000025FC) IN CSECT(I7A13) LENGTH(2)
480	N00015	354 ADDRESS. HEX LOCATION(00002600) IN CSECT(I7A13) LENGTH(2)
58	OF	357 469 ABSOLUTE. HEX VALUE(00000202)
57	ON	372 390 408 ABSOLUTE. HEX VALUE(00000200)
568	OPTN1	426 438 ADDRESS. HEX LOCATION(00002856) IN CSECT(I7A13) LENGTH(2)
591	OPTN3	1820 1860 2083 2118 ADDRESS. HEX LOCATION(0000285A) IN CSECT(I7A13) LENGTH(2)
101	PARMARA	1909 1957 ADDRESS. HEX LOCATION(0000196E) IN CSECT(I7A13) LENGTH(1)
69	PID	379 397 415 433 445 463 475 ADDRESS. HEX LOCATION(00001800) IN CSECT(I7A13) LENGTH(1)
2051	PIDMSG10	71 72 73 74 75 76 77 78 79 ABSOLUTE. HEX VALUE(0000F1F0)
690	PREP	80 81 82 83 84 85 86 87 88 ABSOLUTE. HEX VALUE(0000000C)
866	PDDCB	89 90 91 92 93 94 95 96 97 ADDRESS. HEX LOCATION(0000292E) IN CSECT(I7A13) LENGTH(2)
697	RICB	98 99 100 101 102 103 104 105 106 ABSOLUTE. HEX VALUE(00000013)
888	RKDCB	2024 ADDRESS. HEX LOCATION(0000294E) IN CSECT(I7A13) LENGTH(2)
899	RMDCB	1032 1037 ADDRESS. HEX LOCATION(0000295E) IN CSECT(I7A13) LENGTH(2)
922	RSBA	1012 ADDRESS. HEX LOCATION(00002988) IN CSECT(I7A13) LENGTH(2)
811	RSDCB	788 804 815 826 848 859 870 881 892 ADDRESS. HEX LOCATION(000028DE) IN CSECT(I7A13) LENGTH(2)
0	R0	1004 1009 REGISTER. HEX VALUE(00000000)
0	F1	1065 1067 1068 REGISTER. HEX VALUE(00000001)
0	R2	2004 2007 2010 2013 REGISTER. HEX VALUE(00000002)
0	R3	2009 2010 REGISTER. HEX VALUE(00000003)
0	R4	951 952 1005 1008 1015 1016 1019 1022 1033 REGISTER. HEX VALUE(00000004)

CROSS-REFERENCE LISTING

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
0	R5	2133 REGISTER. HEX VALUE(00000005)
0	R6	952 953 1006 1008 1014 1016 1020 1022 1034 REGISTER. HEX VALUE(00000006)
0	R7	1036 1053 1055 1056 1058 1080 1082 1717 1719 REGISTER. HEX VALUE(00000007)
631	SCTID	1721 1723 1739 1746 1868 1869 1870 1901 1902 ADDRESS. HEX LOCATION(00002864) IN CSECT(I7A13) LENGTH(2)
822	SKDCB	1904 1906 1955 1956 2001 2014 ADDRESS. HEX LOCATION(000028EE) IN CSECT(I7A13) LENGTH(2)
688	START	954 955 1051 1715 1735 1749 1785 1890 1895 ABSOLUTE. HEX VALUE(0000000A)
104	SUPSTAT	1871 1905 1908 1910 1960 1966 1968 2006 2011 ADDRESS. HEX LOCATION(000019C4) IN CSECT(I7A13) LENGTH(1)
92	TUMSGWTR	2018 ADDRESS. HEX LOCATION(000018BA) IN CSECT(I7A13) LENGTH(1)
76	TUPARM1	2020 ADDRESS. HEX LOCATION(0000189A) IN CSECT(I7A13) LENGTH(1)
660	TURTN	2088 2123 ADDRESS. HEX LOCATION(0000289E) IN CSECT(I7A13) LENGTH(2)
74	TUSTATUS	2025 2081 2092 2117 2136 ADDRESS. HEX LOCATION(00001818) IN CSECT(I7A13) LENGTH(1)
75	TUWORK	1995 ADDRESS. HEX LOCATION(0000181A) IN CSECT(I7A13) LENGTH(1)
669	T7A02	1998 1999 2000 2002 2058 ADDRESS. HEX LOCATION(000028A6) IN CSECT(I7A13) LENGTH(6)
2081	T7A28	371 389 407 425 437 ADDRESS. HEX LOCATION(00002DEA) IN CSECT(I7A13) LENGTH(4)
855	VRDCB	458 470 ADDRESS. HEX LOCATION(0000291E) IN CSECT(I7A13) LENGTH(2)
877	WKDCB	1026 ADDRESS. HEX LOCATION(0000293E) IN CSECT(I7A13) LENGTH(2)
844	WRDCB	1040 1041 ADDRESS. HEX LOCATION(0000290E) IN CSECT(I7A13) LENGTH(2)
694	WRIT0	1029 1075 ABSOLUTE. HEX VALUE(00000010)
695	WRIT1	1070 ABSOLUTE. HEX VALUE(00000011)
916	WRSID	1072 ADDRESS. HEX LOCATION(0000297C) IN CSECT(I7A13) LENGTH(2)
800	WSDCB	807 884 952 1041 1045 ADDRESS. HEX LOCATION(000028CE) IN CSECT(I7A13) LENGTH(2)
607	XE	1044 1045 ABSOLUTE. HEX VALUE(00000024)
605	XI	1827 1889 2087 2125 2133 ABSOLUTE. HEX VALUE(00000022)
1703	XIO	1063 1731 1874 ADDRESS. HEX LOCATION(00002ABE) IN CSECT(I7A13) LENGTH(4)
1889	XIOCK	999 1002 1010 1017 1024 1027 1030 1038 1042 ADDRESS. HEX LOCATION(00002B92) IN CSECT(I7A13) LENGTH(2)
1896	XIOCO	1046 1049 ADDRESS. HEX LOCATION(00002BA4) IN CSECT(I7A13) LENGTH(2)
1906	XIOCQ	1894 ADDRESS. HEX LOCATION(00002BBA) IN CSECT(I7A13) LENGTH(4)
1711	XIOCS	1903 ADDRESS. HEX LOCATION(00002AD0) IN CSECT(I7A13) LENGTH(6)
1898	XIOCV	1907 ADDRESS. HEX LOCATION(00002BA8) IN CSECT(I7A13) LENGTH(2)
1909	XIOCX	1892 ADDRESS. HEX LOCATION(00002BC6) IN CSECT(I7A13) LENGTH(4)
1706	XIODG	1899 ADDRESS. HEX LOCATION(00002AC4) IN CSECT(I7A13) LENGTH(6)
1782	XIOER	1076 1083 ADDRESS. HEX LOCATION(00002B30) IN CSECT(I7A13) LENGTH(2)
1715	XIO1	1915 ADDRESS. HEX LOCATION(00002AE0) IN CSECT(I7A13) LENGTH(4)
1728	XIO2	1704 1707 ADDRESS. HEX LOCATION(00002B06) IN CSECT(I7A13) LENGTH(2)
1740	XIO8	1714 ADDRESS. HEX LOCATION(00002B1C) IN CSECT(I7A13) LENGTH(2)
62	XTRNL	1071 1073 1747 ABSOLUTE. HEX VALUE(00000001)
2092	X7A28	454 ADDRESS. HEX LOCATION(00002E12) IN CSECT(I7A13) LENGTH(4)
2136	X7A29	2085 2091 ADDRESS. HEX LOCATION(00002E5C) IN CSECT(I7A13) LENGTH(4)

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