

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
3 ***** COPY LOG7868 ***** ** MAP EC HISTORY **
4 *****
5 *****
6 *****
7 ***** PREREQUISITES *****
8 ***** NONE *****
9 *****
10 *****
11 *****
12 *****
13 ***** MODIFICATIONS *****
14 *****
15 ***** CHANGES MADE TO MEET PPROGRAM REQUIREMENTS *****
16 *****
17 *****
18 ***** REA'S INCORPORATED *****
19 *****
20 ***** NONE *****
21 *****
22 *****
23 *****
24 ***** SPECIAL INSTRUCTIONS *****
25 *****
26 ***** NONE *****
27 *****
28 *****
29 *****
30 *****
31 ***** E. C. HISTORY *****
32 *****
33 ***** DATE 10JUN77 DATE 01MAR78 DATE DATE
E.C. 578625 E.C. 755285 E.C. E.C.
34 *****
35 *****
37 I7868 START X'2500' START ADDRESS OF ALL 'I' TYPE PROG
38 @QUES EQU X'0100' EQUATED VALUE FOR MDI STATEMENT
39 @FIXT EQU X'0101' EQUATED VALUE FOR MDI STATEMENT
40 @STOP EQU X'0102' EQUATED VALUE FOR MDI STATEMENT
41 @GOTO EQU X'0200' EQUATED VALUE FOR MDI STATEMENT
42 @CALL EQU X'0201' EQUATED VALUE FOR MDI STATEMENT
43 @INPT EQU X'0300' EQUATED VALUE FOR MDI STATEMENT
44 @UXX EQU X'0400' EQUATED VALUE FOR MDI STATEMENT
45 @UXX EQU X'0500' EQUATED VALUE FOR MDI STATEMENT
46 @NVLD EQU X'0600' EQUATED VALUE FOR MDI STATEMENT
47 EQ EQU X'0000' EQUATE FOR EQUAL
48 NE EQU X'0004' EQUATE FOR NOT EQUAL
49 HI EQU X'0008' EQUATE FOR HIGH
50 NH EQU X'000C' EQUATE FOR NOT HIGH
51 LO EQU X'0010' EQUATE FOR LOW
52 NL EQU X'0014' EQUATE FOR NOT LOW
53 LT EQU X'0010' 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 INTNL 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 FID 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 TUWORK 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 TUJA 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 WOPD
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 TUINPT EQU PID+X'0148' ADDRESS OF SINPT DATA
101 FARMAPA EQU PID+X'016E' ADDRESS OF SINPT INPUT AREA
102 @DCADD1 EQU PID+X'01B9' 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'01FE' 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 OF 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
000010
000004
000008
000014
000200
000202
000204
000000
000001
000000
000001
000002
000000
001800
000232
00180C
00180E
001810
001818
00181A
00189A
00189C
00189E
0018A0
0018A2
0018A4
0018A6
0018A8
0018AA
0018AC
0018AE
0018B0
0018B2
0018B4
0018B6
0018B8
0018BA
0018BE
0018C0
0018C2
0018C4
0018C6
0018C8
0018FC
001948
00196E
001988
0019BA
0019C4
0019D0
0019DA
0019E4
0019EE
0019F8
001A02
001A0C
001A16

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002500 25F8
198 ***** DC A(ENTPT) POINT TO MAP ENTPY 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 OPEPATOR **
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 STAPT AREA **
213 ** B) THE STEP NUMBER IN DECIMAL **
214 ** C) AN EQUATE FOR THE STEP NUMBER **
215 **
216 ** RULE INFORMATION TABLE **
217 ** THIS TABLE CONTAINES THE REQUIPED INFOPMATION 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' POP 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) INDICATOP 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 COMPARE TO MAKE ON RESULTS **
263 ** F) MASK FIELD FOR COMPARE **
264 ** G) LENGTH OF PARAMETER IN BYTES **
265 ** H) PARAMETER TO PASS TO TU **
266 ** I) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER **
267 **
268 ** \$TUXX **
269 ** A) RULE EQUATE X'0500' **
270 ** B) ADDRESS OF YES LEG RULE **
271 ** C) TU BRANCH TO ADDRESS **
272 ** D) TYPE OF COMPARE TO MAKE ON RESULTS **
273 ** E) LENGTH OF COMPARED RESULTS **
274 ** F) MASK FIELD FOR COMPARE **
275 ** G) LENGTH OF PARAMETER IN BYTES **
276 ** H) PARAMETER TO PASS TO THE TU **
277 ** I) STORE ADDRESS FOR FIRST 8 WORDS OF PPARAMETER **
278 **
279 ** \$NVLD **
280 ** A) RULE EQUATE X'0600' **
281 **
282 ** ENTPY POINT TABLE **
283 ** THIS TABLE CONTAINES THE ENTRY POINTS WITHIN THE MAP THAT **
284 ** THE MAP CAN BE ENTERED FROM THESE ENTRY POINTS ARE **
285 ** REFERENCED BY NAME AND ADDRESS. ENTRIES ARE AS FOLLOWS: **
286 **
287 ** A) NAME OF ENTRY POINT **
288 ** B) ADDRESS OF ENTRY POINT RULE TABLE **
289 **
290 ** THE ENTRY POINT TABLE END IS INDICATED BY A X'0000' **
291 **
292 ** MESSAGE TABLE **
293 ** THIS TABLE CONTAINES 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 ** STEP AND RULE ADDRESS TABLE **
312 **
313 *****
314 *****
315 DC AL2(N00001)
316 DC XL2'0001'
317 EQU00001 EQU 0001
318 DC AL2(N00002)
319 DC XL2'0002'
320 EQU00002 EQU 0002
321 DC AL2(N00003)
322 DC XL2'0003'
323 EQU00003 EQU 0003
324 DC AL2(N00004)
325 DC XL2'0004'
326 EQU00004 EQU 0004
327 DC AL2(N00005)
328 DC XL2'0005'
329 EQU00005 EQU 0005
330 DC AL2(N00006)
331 DC XL2'0006'
332 EQU00006 EQU 0006
333 DC AL2(N00007)
334 DC XL2'0007'
335 EQU00007 EQU 0007
336 DC AL2(N00008)
337 DC XL2'0008'
338 EQU00008 EQU 0008
339 DC AL2(N00009)
340 DC XL2'0009'
341 EQU00009 EQU 0009
342 DC AL2(N00010)
343 DC XL2'0010'
344 EQU00010 EQU 0010
345 DC AL2(N00011)
346 DC XL2'0011'
347 EQU00011 EQU 0011
348 DC AL2(N00012)
349 DC XL2'0012'
350 EQU00012 EQU 0012
351 DC AL2(N00013)
352 DC XL2'0013'
353 EQU00013 EQU 0013
354 DC AL2(N00014)
355 DC XL2'0014'
356 EQU00014 EQU 0014
357 DC AL2(N00015)
358 DC XL2'0015'
359 EQU00015 EQU 0015
360 DC AL2(N00016)
361 DC XL2'0016'
362 EQU00016 EQU 0016
363 DC AL2(N00017)
364 DC XL2'0017'
365 EQU00017 EQU 0017
366 DC AL2(N00018)
367 DC XL2'0018'
368 EQU00018 EQU 0018
369 DC AL2(N00019)
370 DC XL2'0019'
371 EQU00019 EQU 0019
372 DC AL2(DUMMY)
373 *****
374 *****
375 **
376 ** RULE INFORMATION TABLE **
377 **
378 *****
379 *****
380 N00001 $QUXX T7803, REPT=TS03, QT=(Q00071), YES=N00003, CT=(C00069)
381+N00001 DC A(@QUXX)
382+ DC AL2(N00003)
383+ DC A(T7803)
384+ DC AL2(TS03)
385+ DC AL2(0)
386+ DC C'AA'
387+ ALIGN WORD
388+ DC AL2(PARMARA)
389 N00002 $STOP FT=(F00075)
390+N00002 DC A(@STOP)
391+ DC A(F00075)
392 N00003 $QUXX T7819, REPT=TS19, QT=(Q00078), YES=N00005, CT=(C00077)
393+N00003 DC A(@QUXX)
394+ DC AL2(N00005)
395+ DC A(T7819)
396+ DC AL2(TS19)
397+ DC AL2(0)
398+ DC C'AA'
399+ ALIGN WORD
400+ DC AL2(PARMARA)
401 N00004 $STOP FT=(F00082)
402+N00004 DC A(@STOP)
403+ DC A(F00082)
404 N00005 $QUXX T7809, REPT=TS09, QT=(Q00085), YES=N00007, CT=(C00084)
405+N00005 DC A(@QUXX)
406+ DC AL2(N00007)
407+ DC A(T7809)
408+ DC AL2(TS09)
409+ DC AL2(0)
410+ DC C'AA'
411+ ALIGN WORD
412+ DC AL2(PARMARA)
413 N00006 $STOP FT=(F00089)
414+N00006 DC A(@STOP)
415+ DC A(F00089)
416 N00007 $QUXX T7810, REPT=TS10, QT=(Q00092), YES=N00009, CT=(C00091)
417+N00007 DC A(@QUXX)
418+ DC AL2(N00009)
419+ DC A(T7810)
420+ DC AL2(TS10)
421+ DC AL2(0)

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002502 2550
002504 0001
000001
002506 255E
002508 0002
000002
00250A 2562
00250C 0003
000003
00250E 2570
002510 0004
000004
002512 2574
002514 0005
000005
002516 2582
002518 0006
000006
00251A 2586
00251C 0007
000007
00251E 2594
002520 0008
000008
002522 2598
002524 0009
000009
002526 25A6
002528 0010
00000A
00252A 25AA
00252C 0011
00000B
00252E 25B8
002530 0012
00000C
002532 25BC
002534 0013
00000D
002536 25CA
002538 0014
00000E
00253A 25CE
00253C 0015
00000F
00253E 25DC
002540 0016
000010
002542 25E0
002544 0017
000011
002546 25EE
002548 0018
000012
00254A 25F2
00254C 0019
000013
00254E 0000

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422+ DC C'AA'
423+ ALIGN WORD
424+ DC AL2(PARMARA)
425 N00008 $STOP FT=(F00096)
426+N00008 DC A(@STOP)
427+ DC A(F00096)
428 N00009 $QUXX T7811, REPT=TS11, QT=(Q00099), YES=N00011, CT=(C00098)
429+N00009 DC A(@QUXX)
430+ DC AL2(N00011)
431+ DC A(T7811)
432+ DC AL2(TS11)
433+ DC AL2(0)
434+ DC C'AA'
435+ ALIGN WORD
436+ DC AL2(PARMARA)
437 N00010 $STOP FT=(F00103)
438+N00010 DC A(@STOP)
439+ DC A(F00103)
440 N00011 $QUXX T7815, REPT=TS15, QT=(Q00106), YES=N00013, CT=(C00105)
441+N00011 DC A(@QUXX)
442+ DC AL2(N00013)
443+ DC A(T7815)
444+ DC AL2(TS15)
445+ DC AL2(0)
446+ DC C'AA'
447+ ALIGN WORD
448+ DC AL2(PARMARA)
449 N00012 $STOP FT=(F00110)
450+N00012 DC A(@STOP)
451+ DC A(F00110)
452 N00013 $QUXX T7816, REPT=TS16, QT=(Q00113), YES=N00015, CT=(C00112)
453+N00013 DC A(@QUXX)
454+ DC AL2(N00015)
455+ DC A(T7816)
456+ DC AL2(TS16)
457+ DC AL2(0)
458+ DC C'AA'
459+ ALIGN WORD
460+ DC AL2(PARMARA)
461 N00014 $STOP FT=(F00117)
462+N00014 DC A(@STOP)
463+ DC A(F00117)
464 N00015 $QUXX T7818, REPT=TS18, QT=(Q00120), YES=N00017, CT=(C00119)
465+N00015 DC A(@QUXX)
466+ DC AL2(N00017)
467+ DC A(T7818)
468+ DC AL2(TS18)
469+ DC AL2(0)
470+ DC C'AA'
471+ ALIGN WORD
472+ DC AL2(PARMARA)
473 N00016 $STOP FT=(F00124)
474+N00016 DC A(@STOP)
475+ DC A(F00124)
476 N00017 $QUXX T7817, REPT=TS17, QT=(Q00127), YES=N00019, CT=(C00126)
477+N00017 DC A(@QUXX)
478+ DC AL2(N00019)
479+ DC A(T7817)
480+ DC AL2(TS17)
481+ DC AL2(0)
482+ DC C'AA'
483+ ALIGN WORD
484+ DC AL2(PARMARA)
485 N00018 $STOP FT=(F00131)
486+N00018 DC A(@STOP)
487+ DC A(F00131)
488 N00019 $STOP FT=(F00133)
489+N00019 DC A(@STOP)
490+ DC A(F00133)
491+ DC AL2(DUMMY)
492 ENDEPT EQU *
493 *****
494 *****
495 **
496 ** ENTRY POINT TABLE **
497 **
498 *****
499 *****
500 ENTPT EP=A, STEP=00001
501+ DC CL2'A'
502+ DC A(N00001)
503+ DC AL2(DUMMY)
504 *****
505 *****
506 **
507 ** MESSAGE TABLE **
508 **
509 *****
510 *****
511 F00075 EQU *
512 DC AL2(0001)
513 DC A(0018)
514 C5D5C440D6C640E2C CL0018'END OF SCOPE LOOP '
515 F00082 EQU *
516 DC AL2(0001)
517 DC A(0018)
518 C5D5C440D6C640E2C CL0018'END OF SCOPE LOOP '
519 F00089 EQU *
520 DC AL2(0001)
521 DC A(0018)
522 C5D5C440D6C640E2C CL0018'END OF SCOPE LOOP '
523 F00096 EQU *
524 DC AL2(0001)
525 DC A(0018)
526 C5D5C440D6C640E2C CL0018'END OF SCOPE LOOP '
527 F00103 EQU *
528 DC AL2(0001)
529 DC A(0018)
530 C5D5C440D6C640E2C CL0018'END OF SCOPE LOOP '
531 F00110 EQU *
532 DC AL2(0001)
533 DC A(0018)
534 C5D5C440D6C640E2C CL0018'END OF SCOPE LOOP '
535 F00117 EQU *

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002590 C1C1
002592 196E
002594 0102
002596 2640
002598 0400
00259A 25AA
00259C 27F8
00259E 2848
0025A0 0000
0025A2 C1C1
0025A4 196E
0025A6 0102
0025A8 2656
0025AA 0400
0025AC 25BC
0025AE 288C
0025B0 28FE
0025B2 0000
0025B4 C1C1
0025B6 196E
0025B8 0102
0025BA 266C
0025BC 0400
0025BE 25CE
0025C0 2920
0025C2 0000
0025C4 0000
0025C6 C1C1
0025C8 196E
0025CA 0102
0025CC 2682
0025CE 0400
0025D0 25E0
0025D2 2B72
0025D4 2BB4
0025D6 0000
0025D8 C1C1
0025DA 196E
0025DC 0102
0025DE 2698
0025E0 0400
0025E2 25F2
0025E4 29C6
0025E6 2A30
0025E8 0000
0025EA C1C1
0025EC 196E
0025EE 0102
0025F0 26AE
0025F2 0102
0025F4 26C4
0025F6 0000
0025F8
0025FE 0001
0025FF 0012
002600 C5D5C440D6C640E2C
002614
002614 0001
002616 0012
002618 C5D5C440D6C640E2C
00262A 0001
00262C 0012
00262E C5D5C440D6C640E2C
002640
002640 0001
002642 0012
002644 C5D5C440D6C640E2C
002656 0001
002658 0012
00265A C5D5C440D6C640E2C
00266C 0001
00266E 0012
002670 C5D5C440D6C640E2C
002682

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I7868 --- SCOPE LOOP P/N=4412897 EC=755285 PAGE 03

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002682 0001 536 DC AL2(0001)
002683 0012 537 DC A(0018)
002686 C5D5C440D6C640E2C 538 DC CLOO18*END OF SCOPE LOOP *
002698 0001 539 EQU F00124 *
002698 0001 540 DC AL2(0001)
00269A 0012 541 DC A(0018)
00269C C5D5C440D6C640E2C 542 DC CLOO18*END OF SCOPE LOOP *
0026AE 0001 543 EQU F00131 *
0026AE 0001 544 DC AL2(0001)
0026B0 0012 545 DC A(0018)
0026B2 C5D5C440D6C640E2C 546 DC CLOO18*END OF SCOPE LOOP *
0026C4 0001 547 EQU F00133 *
0026C4 0012 548 DC AL2(0001)
0026C8 C5D5C440D6C640E2C 549 DC A(0018)
0026DA 0000 550 DC CLOO18*END OF SCOPE LOOP *
0026DA 0000 551 HDIT 00B2
0026DA 0000 553+OPTN1 DC X'0000' PROGRAM OPTION CONTROL WORD 1
0026DC 0000 554+*
0026DC 0000 555+OPTN2 DC X'0000' PPOGAM OPTION CONTROL WORD 2
000010 556+* BIT HEX
000011 557+B48 EQU 16 8
000011 558+B49 EQU 17 4
000012 559+B50 EQU 18 2
000013 560+B51 EQU 19 2
000014 561+B52 EQU 20 4
000015 562+B53 EQU 21 4
000016 563+B54 EQU 22 2
000017 564+B55 EQU 23 7
000018 565+B56 EQU 24 8
000019 566+B57 EQU 25 9
00001A 567+B58 EQU 26 10
00001B 568+B59 EQU 27 11
00001C 569+B60 EQU 28 12
00001D 570+B61 EQU 29 13
00001E 571+B62 EQU 30 14
00001F 572+B63 EQU 31 14
00001F 573+CH EQU 30 15
00001F 574+CF EQU 31 15
0026DE 0000 576+OPTN3 DC X'0000' PROGRAM OPTION CONTROL WORD 3
577+*
578+* 0 MYSTERY INTERRUPT MI 8 CS STATUS IN PROGRESS CS
579+* 1 ERROR INTERRUPT ER 9 CS AVAILABLE CSA
580+* 2 EXPECTED INTERRUPT XI 10 CS STATUS INTERRUPT ER CE
581+* 3 INTERRUPT RECEIVED IN 11 ISB BITS ON (1-7) ISBON
582+*
583+* 4 EXPECTED EPR/ATTENT XE 12 TEST UNIT RESULTS VOID NG
584+* 5 HARD ERROR FOUND HE 13 OIO CC ERROR IOCC
585+* 6 WRONG INTR LEVEL SLE 14 NO INTERRUPT NOIN
586+* 7 NO INTR EXPECTED NI 15 INTERRUPT CC EPROR INCC
587+* BIT HEX
000020 588+MI EQU 32 0
000021 589+ER EQU 33 4
000022 590+XI EQU 34 2
000023 591+IN EQU 35 3
000024 592+XE EQU 36 4
000025 593+HE EQU 37 5
000026 594+SLE EQU 38 6
000027 595+NI EQU 39 7
000028 596+CS EQU 40 8
00002A 597+CSA EQU 41 9
00002B 598+C EQU 42 10
00002C 599+ISBON EQU 43 11
00002D 600+NG EQU 44 12
00002E 601+IOCC EQU 45 13
00002F 602+NOIN EQU 46 14
00002F 603+INCC EQU 47 15
604+*
605+* COMMON BUFFER FOR PRINTING DATA
606+*
608+*STUID DC A(*-*) TEST UNIT IDENTIFICATION
609+*SIOTN DC A(*-*) I/O AND INTR CONDITION CODES
610+*ISE DC A(*-*) R, INTR STATUS BYTE & DEV ADPS
611+*ADSTIO DC A(*-*) ADPS OF I/O * 4 BYTES
612+*DEV1 DC A(*-*) DEVICE DEPENDENT DATA
613+*DEV2 DC A(*-*) *
614+*DEV3 DC A(*-*) *
615+*DEV4 DC A(*-*) *
616+*SCTID EQU DEV1 PEAD ID BUFFER FOR IBIS & TERN
617+*DCBUF EQU * DCB BUFFER FOR LAST DCB USED
618+*DCB1 DC A(*-*) LAST DCB TABLE, CONTROL WORD
619+*DCB2 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
620+*DCB3 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
621+*DCB4 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
622+*DCB5 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
623+*DCB6 DC A(*-*) LAST DCB TABLE, CHAIN ADPS
624+*DCB7 DC A(*-*) LAST DCB TABLE, BYTE COUNT
625+*DCB8 DC A(*-*) LAST DCB TABLE, BUFFER ADDRESS
626+*
627+*CSBUF EQU * CYCLE STEAL DATA BUFFER
628+*CSTL1 DC A(*-*) CYCLE STEAL BUFFER, RESIDUAL ADPS
629+*CSTL2 DC A(*-*) CYCLE STEAL WD 2, DEVICE DEPEND
630+*CSTL3 DC A(*-*) CYCLE STEAL WD 3, DEVICE DEPEND
631+*CSTL4 DC A(*-*) CYCLE STEAL WD 4, DEVICE DEPEND
632+*CSTL5 DC A(*-*) CYCLE STEAL WD 5, DEVICE DEPEND
633+*CSTL6 DC A(*-*) CYCLE STEAL WD 6, DEVICE DEPEND
634+*CSTL7 DC A(*-*) CYCLE STEAL WD 7, DEVICE DEPEND
635+*CSTL8 DC A(*-*) CYCLE STEAL WD 8, DEVICE DEPEND
636+*
637+*SSUBN DC A(*-*) LAST SUBROUTINE ADDRESS USED
638+*SDATA DC 2A(*-*) OPTIONAL DATA
639+*SINTL DC X'0021' INTERRUPT LEVEL REQUESTED
640+*TURTN DC A(*-*) TEST UNIT RETURN ADPS TO MDI
641+*SDVID DC X'00B2' DEVICE ID
642+*SVCAL DC A(DEVADD) ADPS OF DEVICE ADDRESS
643+* DC A(*-*) IBIS CYLINDER ADDRESS
644+*
645+* THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
646+* FUNCTION. THE RESULTS THAT WERE SET UP IN THE RESULTS AREA ARE
647+* STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
648+*
649+*T3C02 MVWI X'3C02',STUID SET UP TEST UNIT ID
650+* BXS (R7) RETURN TO MDI SUPVR
651+* COPY COMEQU
652+*
653+* *****

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976

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654 *
655 * EQUATED NAMES FOR SUPPORTED SVC'S *
656 *
657 *****
658 OUT EQU 0 OUT SVC
659 OUTIN EQU 1 OUTIN SVC
660 IDLE EQU 2 IDLE SVC
661 ASCII EQU 3 HEX TO ASCII SVC
662 CHNGE EQU 4 CHANGE LEVEL SVC
663 PGMCK EQU 5 ALLOW RETURN ON PROGRAM CHECK SVC
664 EXIT EQU 6 EXIT SVC
665 TERM EQU 7 TERMINATE SVC
666 RESET EQU 8 RESET DEVICE SVC
667 PID EQU 9 PEAD ID SVC
668 START EQU 10 START CYCLE STEAL SVC
669 STCSS EQU 11 START CYCLE STEAL STATUS SVC
670 PREP EQU 12 PREPARE DEVICE SVC
671 READ EQU 13 READ WITH FUNCTION BIT 3 OFF SVC
672 READ1 EQU 14 READ WITH FUNCTION BIT 3 ON SVC
673 RSTAT EQU 15 PEAD STATUS SVC
674 WRIT EQU 16 WRITE WITH FUNCTION BIT 3 OFF SVC
675 WRIT1 EQU 17 WRITE WITH FUNCTION BIT 3 ON SVC
676 CTPL EQU 18 CONTROL SVC
677 RICB EQU 19 RELEASE INTERRUPT CONTROL BLOCK SVC
678 CICB EQU 20 CONNECT INTERRUPT CONTROL BLOCK SVC
679 HIO EQU 21 HALT ALL I/O
680 REQSD EQU 22 REQUEST USE OF DCP DISK SVC
681 RELSD EQU 23 RELEASE USE OF DCP DISK SVC
682 HALT EQU 24 HALT SVC
683 ETOH EQU 25 EBCDIC TO HEX SVC (STRING)
684 HTOE EQU 26 HEX TO EBCDIC SVC (STRING)
685 ATOH EQU 27 ASCII TO HEX SVC (STRING)
686 HTOA EQU 28 HEX TO ASCII SVC (STRING)
687 ETOA EQU 29 EBCDIC TO ASCII SVC (STRING)
688 ATOE EQU 30 ASCII TO EBCDIC SVC (STRING)
689 READI EQU 31 PEAD DATA SETS FOR MDI/UTIL
690 WRITI EQU 32 WRITE DATA SETS FOR UTIL
691 *****
692 *****
693 * EQUATES USED BY TU'S AS CONSTANTS *
694 *
695 *****
696 *****
697 PLUS EQU C'+1 PLUS CHAR
698 MINUS EQU C'-1 MINUS CHAR
699 ZERO EQU 0
700 ONE EQU 1
701 TWO EQU 2
702 THREE EQU 3
703 FOUR EQU 4
704 FIVE EQU 5
705 SIX EQU 6
706 SEVEN EQU 7
707 EIGHT EQU 8
708 NINE EQU 9
709 TEN EQU 10
710 ELEVEN EQU 11
711 TWELVE EQU 12
712 THIRTEEN EQU 13
713 FOURTEEN EQU 14
714 FIFTEEN EQU 15
715 SIXTEEN EQU 16
716 SEVENTEEN EQU 17
717 EIGHTEEN EQU 18
718 NINETEEN EQU 19
719 TWENTY EQU 20
720 TWENTYONE EQU 21
721 TWENTYTWO EQU 22
722 TWENTYTHREE EQU 23
723 TWENTYFOUR EQU 24
724 TWENTYFIVE EQU 25
725 TWENTYSIX EQU 26
726 TWENTYSEVEN EQU 27
727 TWENTYEIGHT EQU 28
728 TWENTYNINE EQU 29
729 THIRTY EQU 30
730 *****
731 *
732 * THE FOLLOWING ARE EQUATES FOR BIT DISPLACEMENTS FROM THE *
733 * BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES. *
734 *
735 *****
736 BS0 EQU 0
737 BS1 EQU 1
738 BS2 EQU 2
739 BS3 EQU 3
740 BS4 EQU 4
741 BS5 EQU 5
742 BS6 EQU 6
743 BS7 EQU 7
744 BS8 EQU 8
745 BS9 EQU 9
746 BS10 EQU 10
747 BS11 EQU 11
748 BS12 EQU 12
749 BS13 EQU 13
750 BS14 EQU 14
751 BS15 EQU 15
752 *****
753 COPY T7803
754 MACRO
755 XEQITL &E
756 GBLA &DEL,&CMPU,&CMPP,&CMPE,&ERT
757 LCLC &E
758 &F
759 ***** 15MAR77**
760 *
761 * SUB-ROUTINE
762 *
763 * EXECUTE INPUT AND OUTPUT COMMANDS
764 *
765 * PURPOSE
766 *
767 * TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
768 * THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
769 *
770 * 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
771 * THE I/O COMMAND.
772 * 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
773 * ISSUED BY THIS SUBROUTINE.
774 * 3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
775 * START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
776 * 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
777 * SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
778 * MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
779 * 5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
780 * EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC START'
781 * WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
782 * STARTS TO DETERMINE A LOST INTERRUPT.
783 * 7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
784 * WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL.
785 * 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
786 * 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
787 * 10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.
788 * 11. CHECK TO SEE IF THE EXERCISEP IS TO BE TERMINATED.
789 * 12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
790 * ISSUED BY THIS SUBROUTINE.
791 * 13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
792 * CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
793 * COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
794 *
795 * CALLING SEQUENCE
796 *
797 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
798 *
799 * --> BAL XIO OR XEQ ANY CYCLE STEAL COMMAND, MOD=0
800 * --> BAL XIO1 MOD PARM PRELOADED IN 'IOMOD'
801 * --> BAL XIOCS,R6 OR XEQ START CYCLE STEAL STATUS, MOD=F
802 * --> BAL XIOCS-4,R6 AUTO CS STATUS (FOLLOWING OTHER XIO
803 * AND DOES NOT POST INTERRUPT STATUS)
804 *
805 * RETURN CONTROL
806 *
807 * BXS (R6,2) RETURN TO USER NO ERROR
808 * OR B (R6)* RETURN AND RETRY ON ERROR
809 *
810 * EJECT
811 * XIO MVWZ IOMOD,R3 SET MOP OF 0 FOR CYCLE STEAL OP
812 * J XIO1 CS I/O'S ARE NOT RETRIED
813 *
814 * TBTR (R4,CE) RESET CS STATUS INTER ERROR INDICAT.
815 * TBTS (R4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
816 * XIOCS MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
817 * MVT X'0000',IOMOD SET CYCLE STEAL MODIFIER
818 * TBTR (R4,CS) IS CS IN PROGRESS, ERROR CONDITION
819 * JON XIO2 * YES, BYPASS SAVING I/O ADRES
820 * XIO1 MVW R6,I,STIO SAVE IAR FOR RETRY IF REQUESTED
821 * MVA DCBUF,R3 SET UP TO ADRES TO MOVE DCR TABLE
822 * MVW IODCB,R5 * AND THE FROM ADRES, ALONG WITH
823 * MVEI 16,R7 * THE NUMBER OF MOVES
824 * MVFN (R5),(R3) MOVE 1 STATUS WORD AND ADJUST
825 * MVEI 255,R3 CLEAR CYCLE STATUS BUFFER
826 * MVA CSBUF,R5 * TO ALL ONES *
827 * MVEI 16,R7 *
828 * FEN R3,(R5) *
829 * MVNI X'0708',SIOIN OVERLAY OLD CONDITION CODES
830 * MVWZ SISE,R3 ZERO OUT OLD ISB VALUE
831 *
832 * TBTR (R4,EP) RESET ANY ERROR BEFORE I/O COMMAND
833 * XIO2 TBTR (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
834 * MVA IOBLK,R7 SET UP CONTROL BLOCK FOR SUPVR
835 * TBTR (R4,SIE) RESET LEVEL ERROR INDICATOR
836 * TBTS (R4,XI) SET EXPECTED INTR CONTROL BIT
837 * SVC STAPT CALL SUPVR FOR I/O COMMAND
838 *
839 * TBTF (R4,NI) IS AN INTR EXPECTED
840 * BN (R6,2) * NO, RETURN TO USER
841 *
842 * THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
843 *
844 * XIOD MVWI X'0000',R5 SET UP WORK REG FOR 'LOST INTR'
845 * XIO8 TBTR (R4,IN) HAS INTERRUPT BEEN RECEIVED
846 * JON XIOCK * YES, CHECK IF ALL WAS SATISFACTORY
847 * SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO UN
848 * SUPVR WILL RETURN HERE
849 * ADVANCE TIME OUT COUNT
850 * JNZ XIO8 BCH IF TIME OUT NOT REACHED
851 * TBTS (R4,ER) SET ON ERROR CONTROL BIT
852 * B (R6)* EPR 'NO INTERRUPT'
853 * EJECT
854 * *****15MAR77**
855 *
856 * SUBROUTINE
857 *
858 * I/O EXECUTE ERROR HANDLING ROUTINE
859 *
860 * PURPOSE
861 *
862 * THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
863 * PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
864 * SUPERVISOR AND IT WAS NOT ACCEPTED.
865 *
866 * CALLING SEQUENCE
867 *
868 * SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
869 *
870 * RETURN CONTROL
871 *
872 * B (R6)* RETURN TO USERS EPROF HANDLEP
873 *
874 * *****
875 * CC 0= DEVICE NOT ATTACHED
876 * FOR 1= DEVICE BUSY
877 * I/O 2= DEVICE BUSY AFTER RESET
878 * 3= COMMAND REJECT
879 * 4= INTERVENTION REQUIRED
880 * 5= INTERFACE DATA CHECK
881 * 6= CONTROLLER BUSY
882 * 7= I/O COMMAND EXCEPTED
883 *
884 *
885 * XIOER DC X'706E' COPY STATUS ANY LEVEL INTO R3
886 * SRL 13,R3 POSITION CC CODE TO BITS 13-15

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM COPP 1976
887 * MVB R3,SIOIN * PUT IN LOG OUT AREA
888 * B (R6)* RETURN TO USER ERROR HANDLER
889 * EJECT
890 * *****15MAR77**
891 *
892 * SUB-ROUTINE
893 *
894 * ERROR INTERRUPT RUNS ON INTERRUPT LEVEL 'SINTL'
895 *
896 * PURPOSE
897 *
898 * THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERPOP
899 * OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE
900 * EXPECTED CODE.
901 *
902 * CALLING SEQUENCE
903 *
904 * SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT
905 *
906 * RETURN CONTROL
907 *
908 * SVC EXIT RETURN TO USER VIA SUPVR
909 *
910 * *****
911 *
912 * CC 0= CONTROLLER END ISB 0= ADD STATUS
913 * FOR 1= PROGRAM CONTROL INTERRUPT BITS 1= COMD REJECT
914 * INTR 2= EXCEPTION INTERRUPT FOR 2= INCOR LENGTH
915 * 3= DEVICE END INTERRUPT INTR 3= DCR SPEC CK
916 * 4= ATTENTION INTERRUPT 4= STC DATA CK
917 * 5= ATTENTION / PROGRAM CNTL INTR 5= INV STC ADRES
918 * 6= ATTENTION / EXCEPTION INTR 6= PROTECT CK
919 * 7= ATTENTION / DEVICE END INTR 7= I-FACE DATA
920 *
921 * INTER DC X'706E' COPY STATUS ANY LEVEL INTO R3
922 * SRL 13,R3 POSITION INDICATORS IN R3
923 * MVA OPTN1,R4 SET UP BASE ADRES
924 * TBTR (R4,CS) IS CS IN PROGRESS
925 * JOFF INTES * NO
926 * TBTS (R4,CE) TURN ON CYCLE STEAL INTR EPPOR
927 * MVW R7,CSTL8 SAVE CS ERR ISB VALUE, BITS 0-7
928 * MVB R3,CSTL8+1 * AND THE COND CODE
929 * J INTR1
930 * INTES TBTR (R4,XE) TEST EXPECTED ATTN / ERROR IND
931 * JOFF INTET BCH IF NOT EXPECTED
932 * CBI 4,R3 IS THIS AN 'ATTENTION' INTR
933 * JE INTR1 * YES, BCH TO END INTR SEQUENCE
934 * INTET TBTS (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
935 * J INTR1
936 *
937 * THE ERROR INTERRUPT USES THE SAME
938 * ENDING SEQUENCE AS THE NORMAL INTR
939 *
940 * EJECT *****15MAP77**
941 *
942 * SOUBROUTINE
943 *
944 * OKAY INTERRUPT RUNS ON INTERRUPT LEVEL 'SINTL'
945 *
946 * PURPOSE
947 *
948 * TO CHECK THE INTERRUPT AND CONTINUE THE TEST
949 *
950 * CALLING SEQUENCE
951 *
952 * SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED
953 * THE ERROR INTERRUPT HANDLEP WILL BRANCH TO THIS ROUTINE
954 * AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE
955 * COMMON SECTION IS HANDLED HERE.
956 *
957 * RETURN CONTROL
958 *
959 * SVC EXIT RETURN TO USER VIA SUPVR
960 *
961 * *****
962 * INTOK DC X'706E' COPY STATUS ANY LEVEL INTO R3
963 * SRL 13,R3 POSITION INDICATORS IN R3
964 * MVA OPTN1,R4 SET UP BASE ADRES
965 * INTR1 TBTS (R4,IN) SET INTERRUPT RECEIVED
966 * TBTR (R4,CS) IS 'CS IN PROGRESS' ON
967 * JON INTR1 * YES, BCH AROUND UPDATE
968 * MVB R3,SIOIN+1 SAVE INTERRUPTING CC CODE
969 * MVW R7,SISB SAVE INTR STATUS AND DEV ADRES
970 * INTF2 EQU *
971 * CPCL R5 CURRENT LEVEL COPIED BY DCP
972 * SLL 4,R5 POSITION INTR LEVEL AND PUT
973 * ABI 1,R5 * IN 'I' BIT
974 * CW $INTL,R5 IS THIS THE CORRECT INTR LEVEL
975 * JE INTR3 * YES, GO EXIT THIS LEVEL
976 * TBTS (R4,SIE) SET INTR LEVEL ERROR CONTROL BIT
977 * TBTR (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
978 * INTR3 TBTR (R4,XI) SET INTERRUPT EXPECTED
979 * JON INTR1 * YES, EXIT OFF THIS INTR LEVEL
980 * TBTS (R4,MI) * NO, SET MYSTERY INTR CONTROL BIT
981 * CBI 4,R3 ATTENTION INTERRUPT?
982 * JF INTFX YES
983 * TBTS (R4,NG) ERROR, UNEXPECTED INTERRUPT
984 * INTRX SVC EXIT EXIT THIS LEVEL VIA SUPVR TO PGM
985 * EJECT *****15MAR77**
986 *
987 * THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
988 * HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN
989 * RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
990 *
991 *
992 * XIOCK TBTR (R4,XE) WAS AN ERROR EXPECTED
993 * BN (R6,2) * YES, EXIT THIS ROUTINE
994 * TBTR (R4,CS) WAS AUTO CS IN PROGRESS
995 * JOFF XIOCV * NO, CONTINUE CHECKING
996 * TBTR (R4,CE) IS CS IN AN EPP CONDITION
997 * JOFF XIOCO * NO, BCH
998 * B (R6)* CS ERROR
999 * XIOCO TBTS (R4,CSA) TURN ON CS STATUS AVAIL FLAG
1000 * BXS (R6,2) GO TO USER

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1001 XIOCV TBT (R4,ER) WAS ERROR INTR CONTROL BIT ON
1002 XIOFF JOFF XIOCK * NO, EXIT THIS ROUTINE
1003 *
1004 MVB \$IOIN+1,R5 GET LAST INTR CC CODE
1005 CBI 2,R5 IS THIS CC=2
1006 BNE (R6)* * NO, BCH TO ERROR HANDLER
1007 XIOCQ MVB \$ISB,R5 GET LAST ISB DATA BYTE AND IF CS
1008 BN XIOCS-4 * AVAILABLE, GO AND GET IT
1009 B (R6)* ERROR
1010 XIOCX MVWZ OPTM3,R3 CLEAR OUT OPTION 3 CNTL BITS
1011 BXS (R6,2) RETURN TO USER VIA REG 6
1012 *
1013 * I/O PARAMETER LIST
1014 *
1015 IOBLK DC A(DEVADD) ADRS OF DEVICE ADRS
1016 DC A(XIOER) ERROR ROUTINE ADRS
1017 IODCB DC A(*-*) DCB ADRS OR LEVEL & INTR
1018 IOMOD DC A(*-*) MODIFIER
1019 DC A(*-*) ADRS OF LAST SVC CALL
1020 IORSP DC A(*-*) SECOND WORD OF LAST IDCB
1021 *
1022 * INTERRUPT CONTROL BLOCK FOR I/O COMMANDS
1023 *
1024 INTBL DC A(DEVADD) ADRS OF DEVICE ADRS
1025 DC A(INTOK) INTERRUPT OK RETURN ADRS
1026 DC A(INTER) INTERRUPT ERROR ADRS
1027 INTCC X'0003' INTERRUPT CODE EXPECTED
1028 EJECT
1029 *****15MAR77**
1030 *
1031 * SUBROUTINE
1032 *
1033 * CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE
1034 *
1035 * PURPOSE
1036 *
1037 * TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
1038 * PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
1039 * TO INTERRUPT.
1040 *
1041 * CALLING SEQUENCE
1042 *
1043 * THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
1044 *
1045 * --> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK
1046 * --> BAL \$CONP,R6 PREPARE DEVICE ONLY, ALREADY CONNECT
1047 *
1048 * RETURN CONTROL
1049 *
1050 * BXS (R6,2) RETURN TO USER VIA REG 6 IF OKAY
1051 * OR B (R6)* IF THE DEVICE COULD NOT BE CONNECTED
1052 *
1053 *****15MAR77**
1054 \$CONC MVBI 6,R7 NUMBER OF BYTE TO CLEAR
1055 MVBI 0,R3 * AND THE DATA TO USE
1056 MVA DEV1,R5 * ALONG WITH THE ADRS TO USE
1057 R3,(R5)
1058 MVWZ OPTM3,R3 CLEAR OLD CONTROLS FOR NEW ROUTINE
1059 AIF ('EP' EQ '') .NONE
1060 MVA SVCAL,R7 SET UP TO REQUEST DCP SUPR DISK
1061 SVC REQSD
1062 MVBI -1,R7 SET UP DELAY FOR IBIS
1063 JCT *,R7 * AND DECREMENT IT DOWN
1064 .NONE ANOP
1065 MVA INTPL,R7 SET R7 TO CONTROL BLOCK AND
1066 SVC CIBC * CONNECT IT TO THIS DEVICE
1067 BN (R6)* ERROR RETURN TO USER
1068 *
1069 \$CONP MVW \$INTI,IODCB PUT IN LEVEL & INTR PARAMETER
1070 MVA IOBLK,R7 SET R7 TO CONTROL BLOCK TO PREPARE
1071 MVWI X'0708',SIOIN INITIALIZE CONDITION CODE STORAGE
1072 MVWZ \$ISE,R3 * AND CLEAR OLD ISE VALUE
1073 MVA R6,\$STIO SET UP ADDRESS THAT STARTED LAST I/O
1074 SVC PEPB * AND CALL ON SUPR
1075 BXS (R6,2) RETURN TO USER
1076 EJECT
1077 *****15MAR77**
1078 *
1079 * SUBROUTINE
1080 *
1081 * DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERORS
1082 *
1083 * PURPOSE
1084 *
1085 * DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
1086 * SET THE 'NO GOOD' CONTROL BIT THEN LOG THE DATA THAT HAS
1087 * BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
1088 *
1089 * CALLING SEQUENCE
1090 *
1091 * THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
1092 *
1093 * --> B \$ERR\$ SET 'NG' BIT AND CONVERT DATA TO LOG
1094 * --> B \$CONX RETURN TO MDI SUPERVISOR TO TEST STS
1095 *
1096 * RETURN CONTROL
1097 *
1098 * B TURTN* RETURN TO MDI
1099 * OR B (R6)* IF THE DEVICE COULD NOT BE CONNECTED
1100 *
1101 *****15MAR77**
1102 \$ERR\$ MVWI X'8000',TUSTATUS SET ON 'NO GOOD' STATUS BIT
1103 MVA HEFLK,R7 GET ADRS OF CONTROL BLOCK
1104 SVC HTOE CONVERT HEX TO EBC VIS DCP
1105 \$FRNT MVBI 3,R5
1106 MVA TWORK,R3 SET UP BUFFER STORAGE
1107 MVW R3,BUFPT
1108 MVA LINE1,R1
1109 MVBI 4,R7
1110 MVBI 8,R6
1111 MVBUF MVFN (R3),(R1)
1112 MVBI 4,R7
1113 MVBI X'40',P2
1114 MVB E2,(R1)+

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1115 JCT MVBUF,R6
1116 MVBI 8,R6
1117 ANI 44,R1
1118 JCT MVBUF,R5
1119 MVWI PIDMSG10,PID+2
1120 MVA FAKETU,@DCADD1
1121 MVA DC2PT,@DCADD2
1122 ONI BIT0080,SUPSTAT
1123 MVA \$TUID,R3
1124 BAL TUNSGWTR*,R7 SET UP BUFFER STORAGE
GO TO MESSAGE WRITER
1125 *
1126 \$CONX EQU *
1127 AIF ('EP' EQ '') .NONF
1128 MVB (SCTID+1,SVCAL+3)
1129 MVA SVCAL,R7 SETUP CURRENT CYLINDER NUM
1130 SVC RELSD ADDR OF RELEASE PARM LIST
RELEASE CONTROL
1131 .NONF ANOP
1132 MVB DEVADD,R7 GET DEVICE ADDRESS FROM MDI
1133 SVC RICB RELEASE INTERRUPT CONTROL BLOCK
1134 B TURTN* RETURN TO MDI SUPERVISOR
1135 *
1136 BEGIN DC A(0007) NUMBER OF LINES TO PRINT
1137 DC A(0008) LINE LENGTH = 8 CHAR
1138 DC C'***ABORT'
1139 DC A(0040) LINE LENGTH = 40 CHAR
1140 DC C'TUID IOIN ISB INST DEV1 DEV2 DEV3 DEV4 '
1141 DC A(0040) LINE LENGTH = 40 CHAR
1142 LINE1 DC C'
1143 DC A(0040) LINE LENGTH = 40 CHAR
1144 DC C'CNTRL DCB2 DCB3 DCB4 DCB5 CHAD BYCT ADRS '
1145 DC A(0040) LINE LENGTH = 40 CHAR
1146 LINE2 DC C'
1147 DC A(0040) LINE LENGTH = 40 CHAR
1148 DC C'CSID CS-2 CS-3 CS-4 CS-5 CS-6 CS-7 CS-8 '
1149 DC A(0040) LINE LENGTH = 40 CHAR
1150 LINE3 DC C'
1151 *
1152 BUFPT DC A(*-*)
1153 DC2PT DC A(BEGIN)
1154 FIXTU DC X'0101'
1155 FAKETU DC X'0101'
1156 PIDMSG10 EQU X'F1F0'
1157 BIT0080 EQU X'0080'
1158 *
1159 * DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
1160 *
1161 HEBLK DC A(48) NUMBER OF BYTES TO CONVERT
1162 DC A(\$TUID) FROM ADRS
1163 DC A(TWORK) AND THE TO ADRS
1164 .A AIF (\$DEL EQ 0) .B
1165 EJECT
1166 .B ANOP
1167 AIF (\$CMPPE EQ 1) .C
1168 AIF (\$CMPPU EQ 1) .C
1169 AIF (\$CMPPP EQ 0) .G
1170 .C ANOP
1171 EJECT
1172 *****15MAR77**
1173 *
1174 * SUBROUTINE
1175 *
1176 * COMMON COMPARE ROUTINE
1177 *
1178 * PURPOSE
1179 *
1180 * THIS ROUTINE WILL ALLOW A COMMON COMPARE OF DATA THAT WAS
1181 * WRITTEN AND THEN READ BACK. IF THE COMPARE HAS BEEN DONE, THE
1182 * ERROR LOGGING PORTION MAY BE USED BY ENTERING AT 'CMPPP'.
1183 * THE READ BYTE COUNT IS USED FOR THE FIELD LENGTH.
1184 *
1185 * CALLING SEQUENCE
1186 *
1187 * THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
1188 *
1189 * --> BAL CMPE,R6 USE COMMON COMPARE FOR EQUAL VALUES
1190 * --> BAL CMPU,R6 USE COMMON COMPARE FOR UNEQUAL VALUE
1191 * --> BAL Cmpp,R6 USE LOGGING PORTION OF COMPARE RTN
1192 *
1193 * RETURN CONTROL
1194 *
1195 * OR BXS (R6) RETURN TO USER VIA REG 6
1196 * B \$FRNT RETURN TO USER AFTER PRINTING ERRORS
1197 *
1198 *****15MAR77**
1199 *
1200 * AIF (\$CMEP NE 1) .D
1201 *
1202 * COMPARE DATA FOR EQUAL
1203 CMPE MVW WRADR,R5 SET UP WRITE BUFFER ADRS
1204 MVW RDADR,R3 SET UP READ BUFFER ADRS
1205 MVW RDBCT,R7 SET UP BYTE COUNT FOR COMPARE
1206 BZ (R6,2) RETURN TO CALLER, BYTE COUNT ZERO
1207 CFEN (R3),(R5) COMPARE DATA
1208 BE (R6,2) BCH IF DATA THE SAME AND RETURN
1209 J CME-2
1210 .D AIF (\$CMPPU NE 1) .E
1211 *
1212 * COMPARE DATA FOR UNEQUAL
1213 *
1214 CMPU MVW WRADR,R5 SET UP WRITE BUFFER ADRS
1215 MVW RDADR,R3 SET UP READ BUFFER ADRS
1216 MVW RDBCT,R7 SET UP BYTE COUNT FOR COMPARE
1217 BZ (R6,2) RETURN TO CALLER, BYTE COUNT ZERO
1218 CFENEN (R3),(R5) COMPARE DATA
1219 BE (R6,2) BCH IF DATA THE SAME AND RETURN
1220 .E ANOP
1221 EJECT
1222 *
1223 * PRINT COMPARE ERROR
1224 *
1225 TBTS (R4,ER) SET ERROR CNTN BIT BECAUSE OF CMP ER
1226 MVW R7,R1 GET BYTE COUNT TO CONVERT
1227 MVA \$DCPC,R7 SET UP STG ADRS
1228 SVC ASCII CALL SUPVR TO CONVERT

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
1229 *
1230 MVB (R3,-2),R1      GET LAST GOOD COMPARE
1231 SLL 8,R1             POSITION FIRST BYTE
1232 MVB R1,R7            SAVE BYTE FOR NOW
1233 MVB (R3,-1),R1      GET BYTE THAT FAILED
1234 NWI X'00FF',R1      REMOVE BIT 0-7
1235 OW  R7,R1            * AND GET 1 ST BYTE BACK
1236 MVA $DCPS,R7        SET UP STG ADRS
1237 SVC ASCII           CALL SUPVR TO CONVERT
1238 *
1239 MVB R5,R3            MOVE ADRS TO OTHER REG
1240 MVB (R3,-2),R1      GET LAST GOOD COMPARE
1241 SLL 8,R1             POSITION FIRST BYTE
1242 MVB R1,R7            SAVE BYTE FOR NOW
1243 MVB (R3,-1),R1      GET BYTE THAT FAILED
1244 NWI X'00FF',R1      REMOVE BIT 0-7
1245 OW  R7,R1            * AND GET 1 ST BYTE BACK
1246 MVA $DCPS,R7        SET UP STG ADRS
1247 SVC ASCII           CALL SUPVR TO CONVERT
1248 *
1249 AD  H0000,CMPPER    ADD 1 TO COMPARE ERROR
1250 ULOG $DCPE          DATA COMPARE ERROR
1251 .G AIF (EERT EQ 0).H
1252 EJECT
1253 ***** **15MAR77**
1254 *
1255 * SUBROUTINE
1256 *
1257 * SPECIAL ERROR CHECKING OF THE DCB
1258 *
1259 * PURPOSE
1260 *
1261 * TO SET THE CONTROL BITS BEFORE ISSUING THE I/O COMMAND,
1262 * TESTING TO VERIFY THAT THE ERROR DID OCCUR, AND VERIFYING
1263 * THAT THE RESIDUAL ADDRESS IS WHAT IT SHOULD BE.
1264 *
1265 * CALLING SEQUENCE
1266 *
1267 * --> BAL  ERTST,R2      USE COMMON ERROR TEST SUBRTN
1268 * DC      A(1)           DISPLACEMENT FOR RESIDUAL ADRS
1269 * DC      A(*-*)        ERROR ADDRESS
1270 *
1271 * RETURN CONTROL
1272 *
1273 * BXS (R2,6)           RETURN TO USER VIA REG 2
1274 *
1275 *****
1276 ERTST TETS (R4,XE)    SET EXPECTED ERROR FOR EACH FAULT
1277 BAL  *-*,R6           GO XEQ I/O COMMAND
1278 DC  A($ERR$)         RETRY
1279 TBT  (R4,ER)         DID ERROR CONTROL BIT GET SET
1280 JON  ERTSV           * YES,GO CKECK RESIDUAL ADDRESS
1281 B    (R2,2)*         ERROR
1282 *
1283 ERTSV AW (R2),IODCB   DEVELOP DCB ERROR ADDRESS
1284 NOP ,               FOR ALL ARCH ADD (SWI IODCB)
1285 NOP ,               * (402E (ADD OF IODCB) 0001
1286 NOP *
1287 MVB IODCB,ERTSZ     SAVE DCB ADDRESS
1288 TBTR (R4,EP)         RESET ERROR BIT
1289 BAL  XIOCS-4,R6      REQUEST START CYCLE STEAL STAUTS
1290 DC  A($ERR$)         RETRY
1291 TBT  (R4,ER)         DID ERROR CONTROL BIT GET SET
1292 BON  $ERR$          YES-ERROR
1293 CW  CRTL1,ERTSZ     TEST FOR CORRECT RESIDUAL ADRS
1294 JZ  ERTSX           RESIDUAL ADDRESS OK
1295 B    (R2,2)*         ERROR
1296 ERTSX TBTR (R4,CS)  RESET CS IN PROGRESS CNTL BIT
1297 BXS (R2,4)         OK, RETURN TO CALLER
1298 *
1299 ERTSZ DC A(*-*)     DCB SAVE LOCATION
1300 .H ANOP
1301 MEND
1302 T7803 TUIT S03E
1303 ***** **06FEB76**
1304 *
1305 * TEST UNIT
1306 *
1307 * READ DEVICE ID 3/21/77
1308 *
1309 * PURPOSE
1310 *
1311 * FUNCTION: LOOP ON READ DEVICE ID.
1312 *
1313 * . PROGRAM INITIALIZES ATTACHMENT.
1314 * . READ DEVICE ID.
1315 * . LOOP UNTIL CE VERIFIES SCOPE PICTURE.
1316 *
1317 * CALLING SEQUENCE
1318 *
1319 * PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1320 * . NO STATUS PASSED BACK TO MDI
1321 *
1322 * EXITS NORMAL
1323 * . MDI TERMINATES LOOP.
1324 *
1325 * EXITS ERROR
1326 * . NONE
1327 *
1328 * RETURN CONTROL
1329 *
1330 * B TURTN*           RETURN TO MDI SUPERVISOR
1331 *
1332 *****
1333 *T7803 MVB R7,TURTN    SAVE RETURN ADDRESS
1334 MVTI X'7803',STUID  SAVE TU ID FOR DISPLAY
1335 MVA OPTN1,R4        SET UP POINTER ADRS IN R4
1336 BAL $CONC,R6        CLEAR DEV DEP STG AND CONNECT I/O BL
1337 DC  A(S03E)        ERROR ADRS FOR INVALID PREP
1338 *
1339 * TS03 MVA IOBLK,R7   SETUP FOR READ DEVICE ID
1340 S03E,R6             SETUP RETURN ADDRESS IF ERROR
1341 RTD                READ ID
1342 T03D BVC           RETURN TO MDI SUPERVISOR
1343 S03E B

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002728 6F0D 2718
00272C 4020 26E0 7803
002732 4424 26DA
002736 6E03 314E
00273A 2746
00273C 4724 313A
002740 4624 2746
002744 6009
002746 6812 2718

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
1344 *
1345 *
1346 COPY T7819
1347 TUIT S19E
1348 ***** **06FEB76**
1349 *
1350 * TEST UNIT
1351 *
1352 * READ CYCLE STEAL STATUS 3/15/77
1353 *
1354 * PURPOSE
1355 *
1356 * FUNCTION: LOOP ON READ CYCLE STEAL STATUS
1357 *
1358 * . PROGRAM INITIALIZES ATTACHMENT.
1359 * . READ CYCLE STEAL STATUS.
1360 * . LOOP UNTIL CE VERIFIES SCOPE PICTURE.
1361 *
1362 * CALLING SEQUENCE
1363 *
1364 * PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1365 * . NO STATUS PASSED BACK TO MDI
1366 *
1367 * EXITS NORMAL
1368 * . MDI TERMINATES LOOP.
1369 *
1370 * EXITS ERROR
1371 * . NONE
1372 *
1373 * RETURN CONTROL
1374 *
1375 * B TURTN*           RETURN TO MDI SUPERVISOR
1376 *
1377 *****
1378 *T7819 MVB R7,TURTN    SAVE RETURN ADDRESS
1379 MVTI X'7819',STUID  SAVE TU ID FOR DISPLAY
1380 MVA OPTN1,R4        SET UP POINTER ADRS IN R4
1381 BAL $CONC,R6        CLEAR DEV DEP STG AND CONNECT I/O BL
1382 DC  A(S19E)        ERROR ADRS FOR INVALID PREP
1383 *
1384 * TS19 MVTI X'FFFF',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
1385 MVA IOBLK,R7        SETUP IO BLOCK
1386 SVC RESET          ISSUE IO RESET
1387 TETS (R4,XE)        SETUP EXPECTED ERROR
1388 BAL  XIOCS,R6       READ CYCLE STEAL STATUS
1389 DC  A(S19E)        ERROR-EXIT
1390 B    TURTN*        RETURN TO MDI
1391 *
1392 *
1393 * COPY T7809
1394 TUIT S09E
1395 ***** **06FEB76**
1396 *
1397 * TEST UNIT
1398 *
1399 * SEEK NO-OP 3/15/77
1400 *
1401 * PURPOSE
1402 *
1403 * FUNCTION: LOOP ON SEEK NO-OP
1404 *
1405 * . PROGRAM INITIALIZES ATTACHMENT.
1406 * . SEEK NO-OP
1407 * . LOOP UNTIL CE VERIFIES SCOPE PICTURE.
1408 *
1409 * CALLING SEQUENCE
1410 *
1411 * PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1412 * . NO STATUS PASSED BACK TO MDI
1413 *
1414 * EXITS NORMAL
1415 * . MDI TERMINATES LOOP.
1416 *
1417 * EXITS ERROR
1418 * . NONE
1419 *
1420 * RETURN CONTROL
1421 *
1422 * B TURTN*           RETURN TO MDI SUPERVISOR
1423 *
1424 *****
1425 *T7809 MVB R7,TURTN    SAVE RETURN ADDRESS
1426 MVTI X'7809',STUID  SAVE TU ID FOR DISPLAY
1427 MVA OPTN1,R4        SET UP POINTER ADRS IN R4
1428 BAL $CONC,R6        CLEAR DEV DEP STG AND CONNECT I/O BL
1429 DC  A(S09E)        ERROR ADRS FOR INVALID PREP
1430 *
1431 * TS09 MVTI X'FFFF',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
1432 MVA IOBLK,R7        SETUP IO BLOCK
1433 SVC RESET          ISSUE IO RESET
1434 MVTI X'0005',SKDCB  SEEK
1435 MVA OPTN1,R4        SETUP SEEK NO-OP
1436 TETS (R4,XE)        SETUP EXPECTED ERROR
1437 BAL  $SEEK,R6       SEEK NO-OP
1438 DC  A(S09E)        ERROR-EXIT
1439 B    TURTN*        RETURN TO MDI
1440 *
1441 *
1442 * COPY T7810
1443 TUIT S10E
1444 ***** **06FEB76**
1445 *
1446 * TEST UNIT
1447 *
1448 * RECALIBRATE 3/21/77
1449 *
1450 * PURPOSE
1451 *
1452 * FUNCTION: LOOP ON RECAL.
1453 *
1454 * . PROGRAM INITIALIZES ATTACHMENT.
1455 * . RECALIBRATE.
1456 * . LOOP UNTIL CE VERIFIES SCOPE PICTURE.
1457 *
1458 *
1459 *
1460 *

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00274A 6F0D 2718
00274E 4020 26E0 7819
002754 4424 26DA
002758 6E03 314E
00275C 2772
00275E 4020 308E FFFF
002764 4724 313A
002768 6008
00276A 4C64
00276C 6E03 3044
002770 2772
002772 6812 2718
002776 6F0D 2718
00277A 4020 26E0 7809
002780 4424 26DA
002784 6E03 314E
002788 27AA
00278A 4020 308E FFFF
002790 4724 313A
002794 6008
002796 4020 2D6E 0005
00279C 4020 2D70 0000
0027A2 4C64
0027A4 6E03 2F6A
0027A8 27AA
0027AA 6812 2718

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I7868 --- SCOPE LOOP			P/N=4412897 EC=755285		PAGE 07	
LOCTR	OBJECT TEXT	STMT SOURCE STATEMENT	COPYRIGHT IBM CORP 1976			
		1461** CALLING SEQUENCE				
		1462**				
		1463** PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:				
		1464** . NO STATUS PASSED BACK TO MDI				
		1465**				
		1466** EXITS NORMAL				
		1467** . MDI TERMINATES LOOP.				
		1468**				
		1469** EXITS ERROR				
		1470** . NONE				
		1471**				
		1472** RETURN CONTROL				
		1473**				
		1474** B TUFTN*	RETURN TO MDI SUPERVISOR			
		1475**				
		1476** *****				
0027AE	6F0D 2718	1477** T7810 MVN R7,TURTN	SAVE RETURN ADDRESS			
0027B2	4020 26E0 7810	1478** MVN1 X'7810',STUID	SAVE TO ID FOR DISPLAY			
0027B8	4424 26DA	1479** MVA OPTN1,R4	SET UP POINTER ADRS IN R4			
0027BC	6E03 314E	1480** BAL \$CONC,R6	CLEAR DEV DEP STG AND CONNECT I/O BL			
0027C0	27F4	1481** DC A(S15E)	ERROR ADPS FOR INVALID PREP			
		1482**				
0027C2	4020 308E E000	1483** MVN1 X'E000',XIOTD+2	CHANGE TIMEOUT FOR NO-INTERRUPT			
0027C8	C020 0232	1484** MVB CPUID,R0	DETERMINE TYPE OF PROCESSOR			
0027CC	7025	1485** CBI 37,R0	*			
0027D0	4020 27E0 254C	1486** JNE T10T	JUMP IF NOT 4955			
0027D6	5003	1487** MVN1 X'254C',T10T2+2	LOAD TIME CONSTANT FOR 2 SEC			
0027D8	4020 27E0 0C0E	1488** J T10T2				
0027DE	4024 0000	1489** T10T MVN1 X'0C0E',T10T2+2	(4953) LOAD TIME CONS FOR 2 SEC			
0027E2	6002	1490** T10T2 MVN1 X'0000',P0	TIME OUT 2 SEC			
0027E4	B8FE	1491** T10T5 SVC IDLE	*			
0027E6	4724 313A	1492** JCT T10T5,R0	*			
0027EA	6008	1493** TS10 MVA IOBLK,R7	SETUP IO BLOCK			
0027EC	4C64	1494** SVC RESET	ISSUE IO RESET			
0027EE	6E03 2F72	1495** TBTS (R4,7E)	SETUP EXPECTED ERROR			
0027F2	27F4	1496** BAL \$RECL,R6	RECALIBRATE			
0027F4	6812 2718	1497** DC A(S10E)	ERROR-EXIT			
		1498** S10E B TURTN*	RETURN TO MDI			
		1499**				
		1500**				
		1502** COPY T7811				
		1503** T7811 TUIT S11E				
		1504** *****				
		1505**				
		1506** TEST UNIT				
		1507**				
		1508** SEEK	3/21/77			
		1509**				
		1510** PURPOSE				
		1511**				
		1512** FUNCTION: LOOP ON SEEK.				
		1513**				
		1514** . PROGRAM INITIALIZES ATTACHMENT.				
		1515** . RECALIBRATE AND DO A SIX TRACK SEEK (FORWARD-OUT DIRECTION)				
		1516** . DO A SIX TRACK SEEK (REVERSE-IN DIRECTION).				
		1517** . LOOP UNTIL CE VERIFES SCOPE PICTURE.				
		1518**				
		1519** CALLING SEQUENCE				
		1520**				
		1521** PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:				
		1522** . NO STATUS PASSED BACK TO MDI				
		1523**				
		1524** EXITS NORMAL				
		1525** . MDI TERMINATES LOOP.				
		1526**				
		1527** EXITS ERROR				
		1528** . NONE				
		1529**				
		1530** RETURN CONTROL				
		1531**				
		1532** B TURTN*	RETURN TO MDI SUPERVISOR			
		1533**				
		1534** *****				
0027F8	6F0D 2718	1535** T7811 MVN R7,TURTN	SAVE RETURN ADDRESS			
0027FC	4020 26E0 7811	1536** MVN1 X'7811',STUID	SAVE TO ID FOR DISPLAY			
002802	4424 26DA	1537** MVA OPTN1,R4	SET UP POINTER ADRS IN R4			
002806	6E03 314E	1538** BAL \$CONC,R6	CLEAR DEV DEP STG AND CONNECT I/O BL			
00280A	2888	1539** DC A(S11E)	ERROR ADPS FOR INVALID PREP			
		1540**				
00280C	C020 0232	1541** MVB CPUID,R0	DETERMINE TYPE OF PROCESSOR			
002810	F025	1542** CBI 37,R0	*			
002812	180A	1543** JNE T11T	JUMP IF NOT 4955			
002814	4020 2824 254C	1544** MVN1 X'254C',T11T2+2	LOAD TIME CONSTANT FOR 2 SEC			
00281A	5003	1545** J T11T2				
00281C	4020 2824 0C0E	1546** T11T MVN1 X'0C0E',T11T2+2	(4953) LOAD TIME CONS FOR 2 SEC			
002822	4024 0000	1547** T11T2 MVN1 X'0000',R0	TIME OUT 2 SEC			
002826	6002	1548** T11T5 SVC IDLE	*			
002828	B8FE	1549** JCT T11T5,R0	*			
00282A	4C90	1550** TBTR (R4,B48)	RESET ERROR BIT			
00282C	4020 308E E000	1551** TT711 MVN1 X'E000',XIOTD+2	CHANGE TIMEOUT FOR NO-INTERRUPT			
00282E	4724 313A	1552** MVA IOBLK,R7	SETUP IO BLOCK			
002830	6008	1553** SVC RESET	ISSUE IO RESET			
002832	6E03	1554** TBTS (R4,7E)	SETUP EXPECTED ERROR			
002834	6E03 2F72	1555** BAL \$RECL,R6	RECALIBRATE			
002836	2888	1556** DC A(S11E)	ERROR-EXIT			
002838	4CA1	1557** TBTR (R4,ER)	ANY ERROR?			
002840	1002	1558** JOFF TS11	NO			
002842	4C50	1559** TBTS (R4,B48)	SET ERROR INDICATION			
002844	5020	1560** J S11E	EXIT			
002846	4C90	1561** TS11 TBTR (R4,B48)	RECAL ERROR?			
002848	12F0	1562** JON TT711	YES-RETRY			
00284A	4724 313A	1563** MVA IOBLK,R7	SETUP IO BLOCK			
00284C	6008	1564** SVC RESET	ISSUE IO RESET			
00284E	4020 308E FF00	1565** MVN1 X'FF00',XIOTD+2	CHANGE TIMEOUT FOR NO-INTERRUPT			
002850	4020 2D6E 0005	1566** MVN1 X'0005',SKDCB+2	CHANGE TIMEOUT FOR NO-INTERRUPT			
002852	4020 2D70 0006	1567** MVN1 X'0006',SKDCB+2	FORWARD DIRECTION SIX TRACKS			
002854	4C64	1568** TBTS (R4,7E)	SET EXPECTED ERROR			
002856	6E03 2F6A	1569** BAL \$SEK,R6	SEEK			
00285A	2888	1570** DC A(S11E)	ERROR-EXIT			
00285C	4CA1	1571** TBTR (R4,ER)	ANY ERROR?			
00285E	1002	1572** JOFF TSS11	NO			
002860	4C50A	1573** TBTS (R4,B48)	SET ERROR INDICATION			
002862	500A	1574** J S11E	EXIT			
002864	4020 2D70 0806	1575** TSS11 MVN1 X'0806',SKDCB+2	REVERSE DIRECTION SIX TRACKS			

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1692**
1693** EXITS ERROR
1694** NONE
1695**
1696** RETURN CONTROL
1697**
1698** B TURTN* RETURN TO MDI SUPERVISOR
1699**
1700*****
002920 6F0D 2718 1701+T7816 MVN R7,TURTN SAVE RETURN ADDRESS
002924 4020 26E0 7816 1702+ MVWI X'7816',STUID SAVE TU ID FOR DISPLAY
00292A 4424 26DA 1703+ MVA OPTN1,R4 SET UP POINTER ADRS IN R4
00292E 6E03 314E 1704+ BAL SCONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
002932 29C2 1705+ DC A(S16E) ERROR ADRS FOR INVALID PREP
1706**
002934 C020 0232 1707 MVB CPUID,R0 DETERMINE TYPE OF PROCESSOR
002938 F025 1708 CBI 37,R0 *
00293A 1804 1709 JNE T18T JUMP IF NOT 4955
00293C 4020 294C 254C 1710 MVWI X'254C',T16T2+2 LOAD TIME CONSTANT FOR 2 SEC
002942 5003 1711 J T16T2 *
002944 4020 294C 0C0E 1712 T16T MVWI X'0C0E',T16T2+2 (4953) LOAD TIME CONS FOR 2 SEC
00294A 4024 0000 1713 T16T2 MVWI X'0000',R0 TIME OUT 2 SEC
00294E 6002 1714 T16T5 SVC IDLE *
002952 B8FE 1715 JCT T16T5,R0 *
002954 4C90 1716 TBTR (R4,B48) RESET ERROR INDICATION
00295A 4020 308E E000 1717 MVWI X'E000',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
00295E 4724 313A 1718 MVA IOBLK,R7 SETUP IO BLOCK
002962 6008 1719 SVC RESET ISSUE IO RESET
002966 6E03 2F72 1720 TBTS (R4,XE) SET EXPECTED ERROR
00296A 4CA1 1721 DC SRECL,R6 RECALIBRATE
00296E 1002 1722 J A(S16E) ERROR-EXIT
002972 4C50 1723 TBTR (R4,ER) INTERRUPT ERROR?
002976 1002 1724 JOFF S16F NO
00297A 4C50 1725 TBTS (R4,B48) SET ERROR INDICATION
00297E 5029 1726 J S16E EXIT
002982 4020 2D6E 0005 1727 S16F MVWI X'0005',SKDCB SEEK
002986 4020 2D70 012E 1728 MVWI X'012E',SKDCB+2 SEEK TO CE TRACK
00298A 4020 308E E000 1729 MVWI X'E000',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
00298E 4C64 1730 TBTS (R4,XE) SET EXPECTED ERROR
002992 6E03 2F6A 1731 BAL SSEEK,R6 SEEK
002996 29C2 1732 DC A(S16E) ERROR-EXIT
00299A 4CA1 1733 TBTR (R4,ER) INTERRUPT ERROR?
00299E 4C50 1734 JOFF TS16 NO
0029A2 5018 1735 TBTS (R4,B48) SET ERROR INDICATION
0029A6 4C90 1736 J S16E EXIT
0029AA 4724 313A 1737 TS16 TBTR (R4,B48) ANY ERROR?
0029AE 6008 1738 JON T716 YES-RECAL
0029B2 4020 308E FF00 1739 MVA IOBLK,R7 SETUP IO BLOCK
0029B6 4020 2D42 0100 1740 SVC RESET ISSUE IO RESET
0029BA 4020 2D04 0001 1741 MVWI X'FF00',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
0029BE 4020 2E06 2E00 1742 MVWI X'0100',RSDCB+4 SETUP LOG SECTOR 01,PHYSICAL 0
0029C2 4020 2E08 0100 1743 MVWI X'0001',WRSID SECTOR ID FOR CYL 01ZE
0029C6 4C64 1744 MVA OPTN1,R4 *
0029CA 4020 2E08 0100 1745 MVWI X'E000',WRSID+2 * LOGCAL SECTOR 01,HEAD 0
0029CE 4C64 1746 TBTS (R4,XE) SET EXPECTED ERROR
0029D2 6E03 3016 1747 BAL SSEEK,R6 WRITE SECTOR ID
0029D6 29C2 1748 DC A(S16E) ERROR
0029DA 6812 2718 1749 S16E B TURTN* RETURN TO MDI
1750**
1751**
1752** COPY T7817
1753** T7817 TUIT S17E
1754*****06FEB76**
1755**
1756** TEST UNIT
1757**
1758** READ DATA 3/24/77
1759**
1760** PURPOSE
1761**
1762** FUNCTION: LOOP ON READ DATA.
1763**
1764** . PROGRAM INITIALIZES ATTACHMENT.
1765** . RECALIBRATE AND SEEK TO CE TRACK.
1766** . READ DATA (CYL-01ZE, LOGICAL SECTOR-0, HEAD-0).
1767** . LOOP UNTIL CE VERIFIES SCOPE PICTURE.
1768**
1769** CALLING SEQUENCE
1770**
1771** PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1772** . NO STATUS PASSED BACK TO MDI
1773**
1774** EXITS NORMAL
1775** . MDI TERMINATES LOOP.
1776**
1777** EXITS ERROR
1778** . NONE
1779**
1780** RETURN CONTROL
1781**
1782** B TURTN* RETURN TO MDI SUPERVISOR
1783**
1784*****
0029C6 6F0D 2718 1785+T7817 MVN R7,TURTN SAVE RETURN ADDRESS
0029CA 4020 26E0 7817 1786+ MVWI X'7817',STUID SAVE TU ID FOR DISPLAY
0029D0 4424 26DA 1787+ MVA OPTN1,R4 SET UP POINTER ADRS IN R4
0029D4 6E03 314E 1788+ BAL SCONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
0029D8 2A6E 1789+ DC A(S16E) ERROR ADRS FOR INVALID PREP
1790**
0029DA C020 0232 1791 MVB CPUID,R0 DETERMINE TYPE OF PROCESSOR
0029DE F025 1792 CBI 37,R0 *
0029E0 1804 1793 JNE T17T JUMP IF NOT 4955
0029E2 4020 29F2 254C 1794 MVWI X'254C',T17T2+2 LOAD TIME CONSTANT FOR 2 SEC
0029E6 5003 1795 J T17T2 *
0029EA 4020 29F2 0C0E 1796 T17T MVWI X'0C0E',T17T2+2 (4953) LOAD TIME CONS FOR 2 SEC
0029EE 4024 0000 1797 T17T2 MVWI X'0000',R0 TIME OUT 2 SEC
0029F0 6002 1798 T17T5 SVC IDLE *
0029F4 6002 1799 JCT T17T5,R0 *
0029F8 B8FE 1800 TBTR (R4,B48) RESET ERROR INDICATION
0029FA 4C90 1801 TBTR (R4,B48) CHANGE TIMEOUT FOR NO-INTERRUPT
0029FE 4020 308E E000 1802 MVWI X'E000',XIOTD+2
002A02 4724 313A 1803 MVA IOBLK,R7 SETUP IO BLOCK
002A06 6008 1804 SVC RESET ISSUE IO RESET
002A08 6E03 2F72 1805 TBTS (R4,XE) SET EXPECTED ERROR
002A0E 6E03 2F72 1806 BAL SRECL,R6 RECALIBRATE

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
002A0C 2A6E 1807 DC A(S17E) ERROR-EXIT
002A0E 4CA1 1808 TBTR (R4,ER) INTERRUPT ERROR?
002A10 1002 1809 JOFF S17F NO
002A14 4C50 1810 TBTS (R4,B48) SET ERROR INDICATION
002A18 502C 1811 J S17E EXIT
002A1C 4020 2D6E 0005 1812 S17F MVWI X'0005',SKDCB SEEK
002A20 4020 2D70 012E 1813 MVWI X'012E',SKDCB+2 SEEK TO CE TRACK
002A22 4C64 1814 TBTS (R4,XE) SET EXPECTED ERROR
002A24 4020 308E E000 1815 MVWI X'E000',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
002A2A 6E03 2F6A 1816 BAL SSEEK,R6 SEEK
002A2E 2A6E 1817 DC A(S17E) ERROR-EXIT
002A30 4CA1 1818 TBTR (R4,ER) INTERRUPT ERROR?
002A32 1002 1819 JOFF TS17 NO
002A34 4C50 1820 TBTS (R4,B48) SET ERROR INDICATION
002A36 5018 1821 J S17E EXIT
002A38 4C90 1822 TS17 TBTR (R4,B48) ANY ERROR?
002A3C 4724 1823 JON T717 YES-RECAL
002A40 6008 1824 MVA IOBLK,R7 SETUP IO BLOCK
002A42 4020 308E FF00 1825 SVC RESET ISSUE IO RESET
002A46 4020 2DB2 0000 1826 MVWI X'FF00',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
002A48 4020 2DB2 0000 1827 MVWI X'0000',RSDCB+4 FLAG 0
002A4E 4020 2DB4 012E 1828 MVWI X'012E',RSDCB+6 CYL 01ZE
002A54 4020 2DB6 0000 1829 MVWI X'0000',RDCB+8 HEAD 0,SECTOR 0.
002A5A 4020 2DBA 0100 1830 MVWI X'0100',RDCB+12 BYTE COUNT
002A60 4020 2DBC 2A72 1831 MVA DATA17,RDCB+14 DATA ADDRESS
002A66 4C64 1832 TBTS (R4,XE) SET EXPECTED ERROR
002A68 6E03 2F94 1833 BAL SRD,R6 READ DATA
002A6C 2A6E 1834 DC A(S17E) ERROR
002A6E 6812 2718 1835 S17E B TURTN* RETURN TO MDI
1836**
002A72 0000000000000000 1837 DATA17 DC 128A(*-*) READ BUFFER
1838**
1839** COPY T7818
1840** T7818 TUIT S18E
1841*****06FEB76**
1842**
1843** TEST UNIT
1844**
1845** WRITE DATA 3/24/77
1846**
1847** PURPOSE
1848**
1849** FUNCTION: LOOP ON WRITE DATA.
1850**
1851** . PROGRAM INITIALIZES ATTACHMENT.
1852** . RECALIBRATE AND SEEK TO CE TRACK.
1853** . WRITE DATA (AAAA)-(CYL-01ZE, LOGICAL SECTOR-0, HEAD 0).
1854** . LOOP UNTIL CE VERIFIES SCOPE PICTURE.
1855**
1856** CALLING SEQUENCE
1857**
1858** PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1859** . NO STATUS PASSED BACK TO MDI
1860**
1861** EXITS NORMAL
1862** . MDI TERMINATES LOOP.
1863**
1864** EXITS ERROR
1865** . NONE
1866**
1867** RETURN CONTROL
1868**
1869** B TURTN* RETURN TO MDI SUPERVISOR
1870**
1871*****
002B72 6F0D 2718 1872+T7818 MVN R7,TURTN SAVE RETURN ADDRESS
002B76 4020 26E0 7818 1873+ MVWI X'7818',STUID SAVE TU ID FOR DISPLAY
002B7A 4424 26DA 1874+ MVA OPTN1,R4 SET UP POINTER ADRS IN R4
002B80 6E03 314E 1875+ BAL SCONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
002B84 2C1A 1876+ DC A(S16E) ERROR ADRS FOR INVALID PREP
1877**
002B86 C020 0232 1879 MVB CPUID,R0 DETERMINE TYPE OF PROCESSOR
002B8A F025 1880 CBI 37,R0 *
002B8C 1804 1881 JNE T18T JUMP IF NOT 4955
002B8E 4020 2B9E 254C 1882 MVWI X'254C',T18T2+2 LOAD TIME CONSTANT FOR 2 SEC
002B92 5003 1883 J T18T2 *
002B96 4020 2B9E 0C0E 1884 T18T MVWI X'0C0E',T18T2+2 (4953) LOAD TIME CONS FOR 2 SEC
002B9C 4020 0000 1885 T18T2 MVWI X'0000',R0 TIME OUT 2 SEC
002BA0 6008 1886 T18T5 SVC IDLE *
002BA2 6008 1887 JCT T18T5,R0 *
002BA4 4C90 1888 TBTR (R4,B48) RESET ERROR INDICATION
002BA6 4020 308E E000 1889 TBTR (R4,B48) CHANGE TIMEOUT FOR NO-INTERRUPT
002BAC 4724 313A 1890 MVA IOBLK,R7 SETUP IO BLOCK
002BB0 6008 1891 SVC RESET ISSUE IO RESET
002BB2 4C64 1892 TBTS (R4,XE) SET EXPECTED ERROR
002BB4 6E03 2F72 1893 BAL SRECL,R6 RECALIBRATE
002BB8 2C1A 1894 DC A(S18E) ERROR-EXIT
002BBA 4CA1 1895 TBTR (R4,ER) INTERRUPT ERROR?
002BBE 1002 1896 JOFF S18F NO
002BC0 4C50 1897 TBTS (R4,B48) SET ERROR INDICATION
002BC2 4020 2D6E 0005 1898 S18F MVWI X'0005',SKDCB SEEK
002BC4 4020 2D70 012E 1900 MVWI X'012E',SKDCB+2 SEEK TO CE TRACK
002BCE 4C64 1901 TBTS (R4,XE) SET EXPECTED ERROR
002BD0 4020 308E E000 1902 MVWI X'E000',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
002BD6 6E03 2F6A 1903 BAL SSEEK,R6 SEEK
002BDA 2C1A 1904 DC A(S18E) ERROR-EXIT
002BDC 4CA1 1905 TBTR (R4,ER) INTERRUPT ERROR?
002BDE 1002 1906 JOFF TS18 NO
002BEE 4C50 1907 TBTS (R4,B48) SET ERROR INDICATION
002BE2 5018 1908 J S18E EXIT
002BE4 4C90 1909 TS18 TBTR (R4,B48) ANY ERROR?
002BE8 6008 1910 JON T718 YES-RECAL
002BEC 6008 1911 MVA IOBLK,R7 SETUP IO BLOCK
002BEE 4020 308E FF00 1912 SVC RESET ISSUE IO RESET
002BF0 4020 2D92 0000 1913 MVWI X'FF00',XIOTD+2 CHANGE TIMEOUT FOR NO-INTERRUPT
002BF4 4020 2D92 0000 1914 MVWI X'0000',WRDCB+4 FLAG 0
002BF6 4020 2D94 012E 1915 MVWI X'012E',WRDCB+6 CYL 01ZE
002BF8 4020 2D96 0000 1916 MVWI X'0000',WRDCB+8 HEAD 0,SECTOR 0.
002C00 4020 2D9A 0100 1917 MVWI X'0100',WRDCB+12 BYTE COUNT
002C0C 4020 2D9C 2C1E 1918 MVA DATA18,WRDCB+14 DATA ADDRESS
002C12 4C64 1919 TBTS (R4,XE) SET EXPECTED ERROR
002C14 6E03 2FB0 1920 BAL SWRT,R6 WRITE DATA
002C18 2C1A 1921 DC A(S18E) ERROR

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYFIGHT IBM CORP 1976
002C1A 6812 2718 1922 S18E B TURTN* RETURN TO MDI
002C1E AAAAAAAAAAAAAAAAAA 1923 * DATA18 DC 128X'AAAA' WRITE BUFFER
1924 *
1927 * COPY T78DCB 01DEC76
1928 ** (T78DCB)
1929 *****12/1/76*****
1930 *
1931 * DCB TABLES AND DC'S
1932 *
1933 *****
1934 *
1935 ***** DIAGNOSTIC DCB *****
1936 *
1937 DGDCB DC X'2008' DIAGNOSTIC DCB
1938 DC X'0000' NOT USED
1939 DC A(*-*) 0-7 = PHYSICAL SECTOR # MINUS ONE
1940 DC X'0000' NOT USED
1941 DC X'0000' NOT USED
1942 DC A(*-*) CHAINING ADDRESS
1943 DC X'0100' BYTE COUNT
1944 DC A(*-*) DATA ADDRESS
1945 *
1946 ***** RECALIBRATE DCB *****
1947 *
1948 CLDCB DC X'0007' RECALIBRATE DCB
1949 DC 7A(*-*)
1950 *
1951 ***** WRITE SECTOR ID **
1952 *
1953 *
1954 WSDCB DC X'0002' WRITE SECTOR ID CONTROL WORD
1955 DC X'0000' NOT USED
1956 DC A(*-*) 0-7 = PHYSICAL SECTOR # MINUS ONE
1957 DC A(*-*) NOT USED
1958 DC A(*-*) NOT USED
1959 DC A(*-*) CHAIN ADDRESS
1960 DC X'0006' BYTE COUNT
1961 DC A(WRSID) ADDR OF SECTOR ID DATA
1962 ***** READ SECTOR ID DCB *****
1963 *
1964 RSDCB DC X'200A' READ SECTOR ID
1965 DC X'0000' NOT USED
1966 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
1967 DC X'0000' NOT USED
1968 DC X'0000' NOT USED
1969 DC X'0000' CHAIN ADDRESS
1970 DC X'0006' BYTE COUNT FOR READ SECTOR ID
1971 DC A(SCTID) SECTOR ID DATA ADDRESS
1972 *
1973 *
1974 ***** READ SECTOR ID IMMEDIATE DCB *****
1975 *
1976 RIDCB DC X'200E' READ SECTOR ID
1977 DC X'0000' NOT USED
1978 DC X'0000' NOT USED
1979 DC X'0000' NOT USED
1980 DC X'0000' NOT USED
1981 DC A(*-*) CHAIN ADDRESS
1982 DC X'0006' BYTE COUNT FOR READ SECTOR ID
1983 DC A(SCTID) SECTOR ID DATA ADDRESS
1984 *
1985 *
1986 ***** SEEK DCB *****
1987 *
1988 SKDCB DC X'0005' SEEK DCB
1989 DC X'0000' BIT 0-3=0; BIT4=DIRECTION; 5-15=DIFFER
1990 DC F'0'
1991 DC F'0'
1992 DC X'0000' 0-7 = HEAD; 8-15 NOT USED
1993 DC A(*-*) CHAIN ADDRESS
1994 DC F'0' NOT USED
1995 DC F'0' NOT USED
1996 *
1997 ***** CYCLE STEAL STATUS DCB *****
1998 *
1999 CSDCB DC X'2000' CONTROL WORD
2000 DC F'0' NOT USED
2001 DC F'0' NOT USED
2002 DC F'0' NOT USED
2003 DC F'0' NOT USED
2004 DC F'0' NOT USED
2005 DC X'0008' 4 WORDS OF STATS
2006 DC A(CSBUF) ADDRESS OF CYCLE STEAL STATUS DATA
2007 *
2008 ***** WRITE DCB *****
2009 *
2010 WRDCB DC X'0001' WRITE CONTROL WORD
2011 DC F'0' NOT USED
2012 DC X'0000' 0-7=0; 8-15 = FLAG BYTE
2013 DC X'0000' SEARCH ARGUMENT CYLINDER
2014 DC X'0000' SEARCH ARGUMENT HEAD-SECTOR
2015 DC A(*-*) CHAIN ADDRESS
2016 DC F'0' BYTE COUNT
2017 DC A(*-*) WRITE DATA ADDRESS
2018 *
2019 ***** VERIFY DCB *****
2020 *
2021 VPDCB DC X'200C' CONTROL WORD
2022 DC F'0' NOT USED
2023 DC X'0000' 0-7=0; 8-15 = FLAG BYTE
2024 DC X'0000' CYLINDER
2025 DC X'0000' HEAD - SECTOR
2026 DC A(*-*) CHAIN ADDRESS
2027 DC F'0' BYTE COUNT
2028 DC A(*-*) VERIFY DATA ADDRESS
2029 *
2030 ***** READ DCB *****
2031 *
2032 PDCB DC X'2009' READ DCB CONTROL WORD
2033 DC F'0' NOT USED
2034 DC X'0000' 0-7=0; 8-15 = FLAG BYTE
2035 DC X'0000' SEARCH ARGUMENT CYLINDER
2036 DC X'0101' SEARCH ARGUMENT H-R

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYFIGHT IBM CORP 1976
002DB8 0000 2037 DC A(*-*) CHAIN ADDRESS
002DB9 0000 2038 DC F'0' BYTE COUNT
002DBC 0000 2039 DC A(*-*) READ DATA ADDRESS
2040 *
2041 ***** WRITE SECTOR ID SKEWED *****
2042 *
2043 WKDCB DC X'0003' CONTROL WORD
2044 DC X'0000' NOT USED
2045 DC A(*-*) 0-7 = PHYSICAL SECTOR # MINUS ONE
2046 DC A(*-*) NOT USED
2047 DC A(*-*) NOT USED
2048 DC A(*-*) CHAIN ADDRESS
2049 DC X'0006' BYTE COUNT
2050 DC A(WPSID) ADDR OF SECTOR ID DATA
2051 *
2052 ***** READ SECTOR ID SKEWED *****
2053 *
2054 FKDCB DC X'200B' CONTROL WORD
2055 DC X'0000' NOT USED
2056 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
2057 DC X'0000' NOT USED
2058 DC X'0000' NOT USED
2059 DC A(*-*) CHAIN ADDRESS
2060 DC X'0006' BYTE COUNT FOR READ SECTOR ID
2061 DC A(SCTID) SECTOR ID DATA ADDRESS
2062 *
2063 *
2064 ZER00 DC X'0000' CONSTANTS AND DEFINED STORAGE LOCATIONS
2065 ONE1 DC X'0001' CONSTANT ZERO
2066 TIMEOUT DC 2A(*-*) CONSTANT ONE
2067 TONE DC X'0000' TIMEOUT COUNTER
2068 DC X'0001' CONSTANT FOR ADD DOUBLE
2069 COUNT DC F'1280' *
2070 DIFF DC A(*-*) BYTE COUNT (1280)
2071 XXX DC A(*-*) SEEK DIFFERENCE
2072 BCNT DC X'0000' WORK WORD INT TO ZERO
2073 JOE DC A(*-*) BYTE COUNT
2074 JOE1 DC A(*-*) WRITE PARAMETER POINTER
2075 WDATA DC X'DEB6' SAVE LOC FOR PARM LIST ADDRESS
2076 DC X'6BED' WRITE DATA
2077 TABLE DC A(*-*) *
2078 LGSEC DC X'0000' ADDR OF WRT PAR LIST FOR FORMAT RTNS
2079 PHYS DC X'0000' LOGICAL SECTOR #
2080 CB29 DC X'1D00' CONVERTED PHYSICAL SEC #
2081 FIVE9 DC X'3B00' CONSTANT BYTE 29
2082 WRSID DC X'0000' CONSTANT BYTE 59
2083 DC X'0000' FLAG, CYLINDER (WRT SECTOR ID DATA)
2084 DC X'0000' CYLINDER, HEAD
2085 CDAT DC X'0000' LOG SECTOR, NOT USED
2086 WSIDT DC X'FF34' INVALID DATA CONSTANT
2087 DC X'5678' WRITE SECTOR ID TEST DATA
2088 DC X'9A00' *
2089 SCTST DC X'0000' READ SECTOR ID TEST DATA BUFFER
2090 DC X'0000' *
2091 DC X'0000' *
2092 CTR01 DC X'0000' COUNTER
2093 CTR02 DC X'0000' COUNTER
2094 CTR03 DC X'0000' COUNTER
2095 CTR04 DC X'0000' COUNTER
2096 CTR05 DC X'0000' COUNTER
2097 CTR06 DC X'0000' COUNTER
2098 SAVR3 DC X'0000' SAVE AREA
2099 SAVR5 DC X'0000' SAVE AREA
2100 WR2 DC X'0000' *
2101 SVSEK DC X'0000' *
2102 ICT DC X'0000' *
2103 T56AA DC X'0000' *
2104 T56BB DC X'0000' *
2105 T56CC DC X'0000' *
2106 T56DD DC X'0000' *
2107 T56EE DC X'0000' *
2108 T56FF DC X'0000' *
2109 T56GG DC X'0000' *
2110 T86AA DC X'0000' *
2111 T86BB DC X'0000' *
2112 T86CC DC X'0000' *
2113 T86DD DC X'0000' *
2114 T86EE DC X'0000' *
2115 T86FF DC X'0000' *
2116 T86GG DC X'0000' *
2117 T41D DC X'0000' *
2118 T41LP DC X'0000' *
2119 WR1CT DC X'0000' *
2120 CYLOC DC X'0000' *
2121 PASS1 DC A(*-*)
2122 HEAD0 DC A(*-*)
2123 HEAD1 DC A(*-*)
2124 GDSE0 DC A(*-*)
2125 GDSE1 DC A(*-*)
2126 ER00 DC A(*-*)
2127 ER01 DC A(*-*)
2128 HD0SV DC A(*-*)
2129 HD1SV DC A(*-*)
2130 ER0SV DC A(*-*)
2131 ER1SV DC A(*-*)
2132 FATFR DC A(*-*)
2133 CECYL DC A(*-*)
2134 STATS DC A(*-*)
2135 *
2137 * COPY T78DPCIO 01DEC76
2138 ** (T78DPCIO)
2139 *
2140 * EXECUTE DPC INPUT/OUTPUT COMMANDS
2141 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
2142 *
2143 * 1 BAL CEOP1,R6 CE DIAGNOSTIC OP1(TURN ON DIAG MODE)
2144 *
2145 * 2 BAL CEOP2,R6 WRITE DIAG CLOCK STEP DATA
2146 *
2147 * 3 BAL SENS0,R6 CE READ SENSE WORD ZERO
2148 *
2149 * 4 BAL SENS1,R6 CE READ SENSE WORD ONE
2150 *
2151 * 5 BAL WRAP,R6 READ DIAGNOSTIC WRAP
2/07/77

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
2152 *          BXS (R6,2)          RETURN
2153 *          *****
2154 *          CE DIAGNOSTIC OP2 DATA WORD (CLOCK STEP)
2155 *
2156 *          BIT 00 - SET READY
2157 *          BIT 01 - RESET READY
2158 *          BIT 02 - SET WRITE CLOCK
2159 *          BIT 03 - SET READ CLOCK
2160 *          BIT 04 - INDEX PULSE
2161 *          BIT 05 - SECTOR PULSE
2162 *          BIT 06 - STANDARD READ DATA
2163 *          BIT 07 - SPEED PULSE
2164 *          BIT 08 - BEHIND HOME
2165 *          BIT 09 - RESET SEEK COMPLETE
2166 *          BIT 10 - PLO OUT OF SYNC
2167 *          BIT 11 - RST RD/WRT CLOCK
2168 *          BIT 12 -
2169 *          BIT 13 -
2170 *          BIT 14 -
2171 *          BIT 15 - RESET DIAGNOSTIC MODE
2172 *
2173 *          *****
2174 *
2175 *          *****
2176 *
2177 *          WRAP MVW R6, LSTIO          SAVE ADDRESS OF LAST IO
2178 *          MVB DEVADD, IDCBRAP+1    LOAD DEVICE ADDRESS IN IDCB
2179 *          IO IDCBR1                 READ SENSE WORD 1
2180 *          BNC 7, CCERR              CHECK COND CODE
2181 *          BXS (R6,2)              RETURN TO CALLER
2182 *
2183 *          CEOP1 MVW R6, LSTIO       SAVE ADDRESS OF LAST IO
2184 *          MVB DEVADD, IDCBC1+1     LOAD DEVICE ADDRESS IN IDCB
2185 *          IO IDCBC1                 SET DIAGNOSTIC MODE
2186 *          BNC 7, CCERR              CHECK COND CODE
2187 *          BXS (R6,2)              RETURN TO CALLER
2188 *
2189 *          CEOP2 MVW R6, LSTIO       SAVE ADDRESS OF LAST IO
2190 *          MVB DEVADD, IDCBC2+1     LOAD DEVICE ADDRESS IN IDCB
2191 *          IO IDCBC2                 WRITE DIAG CLOCK STEP
2192 *          BNC 7, CCERR              CHECK COND CODE
2193 *          BXS (R6,2)              RETURN TO CALLER
2194 *
2195 *          SENS1 MVW R6, LSTIO       SAVE ADDRESS OF LAST IO
2196 *          MVB DEVADD, IDCBC1+1     LOAD DEVICE ADDRESS IN IDCB
2197 *          IO IDCBC1                 READ SENSE WORD 2
2198 *          BNC 7, CCERR              CHECK COND CODE
2199 *          BXS (R6,2)              RETURN TO CALLER
2200 *
2201 *          SENS0 MVW R6, LSTIO       SAVE ADDRESS OF LAST IO
2202 *          MVB DEVADD, IDCBC0+1     LOAD DEVICE ADDRESS IN IDCB
2203 *          IO IDCBC0                 READ SENSE WORD 1
2204 *          BNC 7, CCERR              CHECK COND CODE
2205 *          BXS (R6,2)              RETURN TO CALLER
2206 *
2207 *          CCERR DC X'706E'          COPY STATUS ANY LEVEL INTO R3
2208 *          SRL 13, R3                POSITION CC CODE TO BITS 13-15
2209 *          MVB R3, %IOL              * PUT IN LOG AREA
2210 *          B (R6)                    RETURN TO USER
2211 *
2212 *          IORST DC X'6F05'          RESET IO
2213 *          IORST DC X'2205'          SENSE WORD ZERO
2214 *          IORST DC X'2205'          DATA WORD
2215 *          IORST DC X'2205'          SENSE WORD ONE
2216 *
2217 *          IORST DC X'4005'          CE DIAG OP1
2218 *          IORST DC X'4105'          SENSE DATA
2219 *          IORST DC X'4105'          CE DIAG OP2
2220 *          IORST DC X'4105'          SENSE DATA
2221 *          IORST DC X'2F05'          READ DIAG WRAP
2222 *          IORST DC X'2F05'          SENSE DATA
2223 *          IORST DC X'0232'          CPU ID
2224 *
2225 *          COPY T78IOL              01DEC76
2226 *          ** (T78IOL)
2227 *          *****3/11/77*****
2228 *
2229 *          SUBROUTINE
2230 *
2231 *          PURPOSE
2232 *          COMPARE READ SECTOR ID DATA TO WRITE SECTOR ID DATA
2233 *          NORMAL AND TEST DATA.
2234 *
2235 *          CALLING SEQUENCE
2236 *          BAL CHPRW, R6              (NORMAL)
2237 *          BAL CHPRT, R6              (TEST)
2238 *
2239 *          RETURN
2240 *          BXS (R6,2) - NORMAL
2241 *
2242 *          *****
2243 *
2244 *          CHPRM MVWI 5, R7           BYTE COUNT
2245 *          MVA SCTLID+1, R3          ADDR OF RD SECT ID DATA (TEST)
2246 *          MVA WRSID, R5             ADDR OF WR SECT ID DATA (TEST)
2247 *          J TT4Y
2248 *          CNPRM MVWI 5, R7           COMPARE BYTE COUNT
2249 *          MVA SCTLID+1, R3          ADDR OF RD SECT ID DATA
2250 *          MVA WRSID, R5             ADDR OF WR SECT ID DATA
2251 *          TT4Y CFNEN (R3), (R5)     COMPARE ID DATA
2252 *          BE (R6,2)                 BCH IF WRITE ID DATA OK
2253 *          B (R6)                    COMPARE ERROR
2254 *
2255 *          *****
2256 *          SUBROUTINE

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM CORP 1976
2257 *          PURPOSE
2258 *          CONVERT LOGICAL SECTOR NUMBER TO A PHYSICAL SECTOR MINUS
2259 *          ONE.
2260 *          SETUP LOGICAL SECTOR # IN LOCATION 'LGSEC'
2261 *          PHYSICAL SECTOR # WILL BE LOADED IN LOCATION 'PHYS'
2262 *
2263 *          LOGICAL SECTOR# TO PHYSICAL SECTOR# CONVERSION
2264 *          LOGICAL- X 00, 1E, 01, 1F, 02, 20, 03, 21, 04, 22, 05, 23, 06, 24,
2265 *          PHYSICAL X 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D,
2266 *
2267 *          LOGICAL- 07, 25, 08, 26, 09, 27, 0A, 28, 0B, 29, 0C, 2A, 0D, 2B,
2268 *          PHYSICAL 0E, 0F, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B,
2269 *
2270 *          LOGICAL- 0E, 2C, 0F, 2D, 10, 2E, 11, 2F, 12, 30, 13, 31, 14, 32,
2271 *          PHYSICAL 1C, 1D, 1E, 1F, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29,
2272 *
2273 *          LOGICAL- 15, 33, 16, 34, 17, 35, 18, 36, 19, 37, 1A, 38, 1B, 39,
2274 *          PHYSICAL 2A, 2B, 2C, 2D, 2E, 2F, 30, 31, 32, 33, 34, 35, 36, 37,
2275 *
2276 *          LOGICAL- 1C, 3A, 1D, 3B, X
2277 *          PHYSICAL 38, 39, 3A, 3B, X
2278 *
2279 *          CALLING SEQUENCE
2280 *          BAL CONVT, R6
2281 *
2282 *          RETURN
2283 *          B (TT304+2)
2284 *
2285 *          *****
2286 *
2287 *          CONV T MVW R6, TT304+2    SETUP RETURN ADDR
2288 *          CB ZERO, LGSEC+1          CK FOR LOG # ZERO
2289 *          JE TT303                   BCH IF LOG # IS ZERO
2290 *          CB LGSEC+1, CB29           COMP LOG TO 29
2291 *          JGE RTT01                  BCH IF LGSEC EQ OR LESS THAN CB29
2292 *          MVI 2, R0                  SETUP MULTIPLIER
2293 *          MB LGSEC+1, R0             LOG SECTOR # TIMES 2
2294 *          SWI 6, R0                  LOG SECT TIMES 2 MINUS 60
2295 *          MVB R0, PHYSC+1           PHYSICAL SECTOR NUMBER
2296 *          J TT304                    RETURN TO CALLER
2297 *          J FIVE9, PHYSC+1          PHYSICAL SECTOR # 59
2298 *          RTT01 MVWI 2, R0           RETURN TO CALLER
2299 *          MB LGSEC+1, R0            LOAD MULTIPLIER
2300 *          SWI 1, R0                 LOG SECTOR # TIMES 2
2301 *          MVB R0, PHYSC+1          SUBTRACT ONE
2302 *          B *-                       LOAD PHYSICAL SECTOR #
2303 *          RETURN TO CALLER
2304 *
2305 *          *****
2306 *          SUBROUTINE
2307 *
2308 *          PURPOSE
2309 *          LOAD WRITE SECTOR ID DATA BUFFER FROM RD SEC ID BUFFER
2310 *
2311 *          CALLING SEQUENCE
2312 *          BAL LWSID, R6
2313 *
2314 *          RETURN
2315 *          BXS (R6)
2316 *
2317 *          *****
2318 *
2319 *          LWSID MVWI 5, R7           BYTE COUNT
2320 *          MVA SCTLID+1, R3          ADDR OF RD SECT ID DATA BUFFER
2321 *          MVA WRSID, R5             ADDR OF WR SECT ID DATA BUFFER
2322 *          MVEN (R3), (R5)          MOV DATA FROM RD TO WR BUFFER
2323 *          BXS (R6)                 RETURN TO CALLER
2324 *
2325 *          *****
2326 *
2327 *          EXECUTE INPUT & OUTPUT COMMANDS
2328 *          TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
2329 *          EACH OF THESE ENTRIES SET R7 WITH THE ADPS OF ITS PARAMETER
2330 *          LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
2331 *          SUPVR CALL.
2332 *
2333 *          THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
2334 *
2335 *          1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
2336 *          2. ERROR INTERRUPTS RECEIVED FROM SUPVR
2337 *
2338 *          THIS ROUTINE HAS THE FOLLOWING ENTRIES:
2339 *
2340 *          1 BAL $RKEW, R6           READ SECTOR ID SKEWED
2341 *          2 BAL $WKST, R6           WRITE SECTOR ID SKEWED (TEST)
2342 *          3 BAL $RWST, R6           READ SECTOR ID SKEWED (TEST)
2343 *          4 BAL $RIDS, R6           READ SECTOR ID (TEST)
2344 *          5 BAL $WKEW, R6           WRITE SECTOR ID SKEWED
2345 *          6 BAL $WSEC, R6           WRITE SECTOR ID
2346 *          7 BAL $WSTS, R6           WRITE SECTOR ID (TEST)
2347 *          8 BAL $DIAG, R6           DIAGNOSTIC
2348 *          9 BAL $XIOCS, R6          CYCLE STEAL STATUS
2349 *          10 BAL $SEEK, R6          SEEK
2350 *          11 BAL $RECL, R6          RECALIBRATE
2351 *          12 BAL $RDID, R6          READ SECTOR ID

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
2382 * 13 BAL $RD,R6 READ
2383 * 14 BAL $RDVY,R6 READ VERIFY
2384 * 15 BAL $WRT,R6 WRITE
2385 *
2386 *
2387 *
2388 *
002F6A 4020 313E 2D6E $SEEK MVA SKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002F70 5064 J XIO
2390 *
2391 *
002F72 4020 313E 2D2E $RECL MVA CLDCB,IODCB SET UP BLOCK FOR SVC CALL
002F78 5060 J XIO
2393 *
2394 *
002F7A 4020 313E 2D4E $RDID MVA RSDCB,IODCB SET UP BLOCK FOR SVC CALL
002F80 0BFF MVB X'FF',R3 SET BUFFER TO F'S
002F82 4524 26E8 MVA SCTL,R5 SETUP READ SECTOR ID BUFFER ADRS
002F84 4724 0006 MVI 6,R7 SETUP BUFFER LENGTH
002F8A 2BAC FFN R3,(R5) INIT READ SECTOR ID BUFFER
002F8C 4020 2D5C 26E8 MVA SCTL,RSDCB+14 DATA ADDR
002F92 5053 J XIO
2401 *
2402 *
002F94 0BFF $RD MVB X'FF',R3 SETRD BUFFER TO ALL F'S
002F96 6D08 2DBC MVM RDDCB+14,R5 SET UP READ BUFFER ADRS
002F9A 4724 0100 MVI X'0100',R7 SET UP BUFFER LENGTH
002F9E 2BAC FFN R3,(R5) CLEAR READ BUFFER
002FA0 4020 313E 2DAE $RDS MVA RDDCB,IODCB SET UP BLOCK FOR SVC CALL
002FA6 5049 J XIO
2408 *
2409 *
002FA8 4020 313E 2D9E $RDVY MVA VRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002FAE 5045 J XIO
2411 *
2412 *
002FB0 4020 313E 2D8E $WRT MVA WRDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002FB6 5041 J XIO
2414 *
2415 *
002FB8 4020 313E 2DCE $RKEW MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002FBE 0BFF MVB X'FF',R3 SET BUFFER TO F'S
002FC0 4524 26E8 MVA SCTL,R5 SETUP READ SECTOR ID BUFFER ADRS
002FC4 4724 0006 MVI 6,R7 SETUP BUFFER LENGTH
002FCA 2BAC FFN R3,(R5) INIT READ SECTOR ID BUFFER
002FCC 4020 2DDC 26E8 MVA SCTL,RKDCB+14 DATA ADDR
002FD0 5034 J XIO
2422 *
2423 *
002FD2 4020 313E 2DBE $WKST MVA WKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002FD8 4020 2DCC 2E0C MVA WSIDT,WKDCB+14 DATA ADDR
002FDE 502D J XIO
2426 *
2427 *
002FE0 4020 313E 2DCE $RWST MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002FE6 4020 2DDC 2E12 MVA SCTL,RKDCB+14 DATA ADDR
002FE8 5026 J XIO
2430 *
2431 *
002FE8 4020 313E 2D4E $RIDS MVA RSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
002FF4 0BFF MVB X'FF',R3 SET BUFFER TO F'S
002FF6 4524 2E12 MVA SCTL,R5 SETUP READ SECTOR ID BUFFER ADRS
002FFA 4724 0006 MVI 6,R7 SETUP BUFFER LENGTH
002FFE 2BAC FFN R3,(R5) INIT READ SECTOR ID BUFFER
003000 4020 2D5C 2E12 MVA SCTL,RSDCB+14 DATA ADDR
003006 5019 J XIO
2438 *
2439 *
003008 4020 313E 2DBE $WKEW MVA WKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
00300E 4020 2DCC 2E04 MVA WFSID,WKDCB+14 DATA ADDR
003014 5012 J XIO
2442 *
2443 *
003016 4020 313E 2D3E $WSEC MVA WSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
00301C 4020 2D4C 2E04 MVA WRSID,WSDCB+14 DATA ADDR
003022 500B J XIO
2446 *
2447 *
003024 4020 313E 2D3E $WSTS MVA WSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
00302A 4020 2D4C 2E0C MVA WSIDT,WSDCB+14 DATA ADDR
003030 5004 J XIO
2449 *
2450 *
003032 4020 313E 2D1E $DIAG MVA DGDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
003038 5000 J XIO
2452 *
2453 *
2454 ***** 15MAR77**
2455 *****
2456 *****
2457 *****
2458 *****
2459 *****
2460 *****
2461 *****
2462 *****
2463 *****
2464 *****
2465 *****
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2489 *****
2490 *****
2491 *****
2492 *****
2493 *****
2494 *****
2495 *****

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
2496** --> BAL XIOCS,R6 OR XEQ START CYCLE STEAL STATUS, MOD=P
2497** --> BAL XIOCS-4,R6 AUTO CS STATUS (FOLLOWING OTHER XIO
2498** AND DOES NOT POST INTEPPUPT STATUS)
2499**
2500** RETURN CONTROL
2501**
2502** BXS (R6,2) RETURN TO USER NO ERROR
2503** OR B (R6)* RETURN AND RETPY ON ERROR
2504***** *****
2506** XIO MVWZ IOMOD,R3 SET HOF OF 0 FOR CYCLE STEAL OP
2507** J XIO1 CS I/O'S ARE NOT RETFIED
2508**
2509** TBTR (R4,CE) RESET CS STATUS INTER ERROR INDICAT.
2510** TBTS (R4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
2511** XIOCS MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
2512** MVWI X'0000',IOMOD SET CYCLE STEAL MODIFIER
2513** TBT (R4,CS) IS CS IN PROGRESS, ERROR CONDITION
2514** JON XIO2 * YES, BYPASS SAVING I/O ADPS
2515** XIO1 MVM R6,LSTIO SAVE IAR FOR RETPY IF REQUESTED
2516** MVA DCBUF,R3 SET UP TO ADRS TO MOVE DCB TABLE
2517** MVM IODCB,R5 * AND THE FROM ADRS ALONG WITH
2518** MVB 16,R7 * THE NUMBER OF MOVES
2519** MVI (R5),(R3) MOVE 1 STATUS WORD AND ADJUST
2520** MVA CSBUF,R5 CLEAR CYCLE STATUS BUFFER
2521** MVB 16,R7 * TO ALL ONES *
2522** FFN R3,(R5) *
2523** MVWI X'0708',SIOJN * OVEPLAY OLD CONDITION CODES
2524** MVWZ SISB,R3 ZERO OUT OLD ISB VALUE
2525**
2526**
2527** TBTR (R4,ER) RESET ANY EPPOP BEFORE I/O COMMAND
2528** XIO2 TETP (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
2529** MVA IOELR,R7 SET UP CONTROL BLOCK FOR SUPVP
2530** TBTR (R4,SLE) RESET LEVEL ERROR INDICATOR
2531** TBTS (R4,XT) SET EXPECTED INTR CONTROL BIT
2532** SVC START CALL SUPVP FOR I/O COMMAND
2533**
2534** TBTR (R4,NI) IS AN INTR EXPECTED
2535** BN (R6,2) * NO, PETUPN TO USEP
2536**
2537** THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
2538**
2539** XIO1D MVI X'0000',R5 SET UP WORK REG FOR 'LOST INTP'
2540** XIO8 TBTR (R4,IN) HAS INTERRUPT BEEN RECEIVED
2541** JON XIOCK * YES, CHECK IF ALL WAS SATISFACTORY
2542** SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
2543** MVI 1,R5 SUPVP WILL RETURN HERE
2544** JNZ XIO8 ADVANCE TIME OUT COUNT
2545** TBTS (R4,ER) BCH IF TIME OUT NOT PEACHED
2546** B (R6)* SET ON ERROR CONTROL BIT
2547** ***** 15MAR77**
2548***** *****
2549***** *****
2550** SUBROUTINE
2551** I/O EXECUTE ERROR HANDLING ROUTINE
2552**
2553** PURPOSE
2554** THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
2555** PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
2556** SUPERVISOR AND IT WAS NOT ACCEPTED.
2557**
2558** CALLING SEQUENCE
2559** SUPVR WILL ENTEP WHEN AN EPPOP OCCURS ON AN I/O COMMAND
2560**
2561** RETURN CONTPOL
2562** B (R6)* RETURN TO USERS ERROR HANDLER
2563** *****
2564***** *****
2565***** *****
2566***** *****
2567***** *****
2568***** *****
2569***** *****
2570***** *****
2571** CC 0= DEVICE NOT ATTACHED
2572** FOR 1= DEVICE BUSY
2573** I/O 2= DEVICE BUSY AFTEP PESET
2574** 3= COMMAND REJECT
2575** 4= INTERVENTION FEQUIRED
2576** 5= INTERFACE DATA CHECK
2577** 6= CONTROLLER BUSY
2578** 7= I/O COMMAND EXCEPTED
2579**
2580** XIOER DC X'706E' COPY STATUS ANY LEVEL INTO R3
2581** SRL 13,R3 POSITION CC CODE TO BITS 13-15
2582** MVB R3,SIOJN * PUT IN LOG OUT AREA
2583** B (R6)* RETURN TO USER ERROR HANDLER
2584***** *****
2585***** *****
2586** SUB-ROUTINE
2587** ERROR INTERRUPT RUNS ON INTERRUPT LEVEL 'SINTL'
2588**
2589** PURPOSE
2590** THIS ROUTINE WILL BE ENTERED WHEN THE SUPVP DETECTS AN EPPOP
2591** OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE
2592** EXPECTED CODE.
2593**
2594** CALLING SEQUENCE
2595** SUPVP WILL ENTEP WHEN AN ERROR OCCURS ON AN I/O INTERRUPT
2596**
2597** RETURN CONTPOL
2598** SVC EXIT RETURN TO USER VIA SUPVP
2599** *****
2600***** *****
2601***** *****
2602***** *****
2603** CC 0= CONTROLLER END ISB 0= ADD STATUS
2604** FOR 1= PROGRAM CONTROL INTERRUPT BITS 1= COMD REJECT
2605** INTR 2= EXCEPTION INTEPRUPT FOP 2= INCOR LENGTH
2606** 3= DEVICE END INTERRUPT INTR 3= DCB SPEC CK
2607** 4= ATTENTION INTERRUPT 4= STG DATA CK
2608** 5= ATTENTION / PROGRAM CNTL INTR 5= INV STG ADPS

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LOC TR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
2613** 6= ATTENTION / EXCEPTION INTR 6= PROTECT CK
2614** 7= ATTENTION / DEVICE END INTR 7= I-FACE DATA
0030AR 706E
0030B0 336A
0030B2 4424 26DA
0030B8 1006
0030BA 4C6A
0030BC 6F0D 270E
0030C0 C328 270F
0030C4 500A
0030C6 4C24
0030C8 1002
0030CA F304
0030CC 1006
0030CE 4C61
0030D0 5004
2615**
2616**INTER DC X'706E' COPY STATUS ANY LEVEL INTO R3
2617** SRL R3 POSITION INDICATORS IN R3
2618** MVA OPTN1,R4 SET UP BASE ADRS
2619** TBT (R4,IN) SET INTERRUPT RECEIVED
2620** JOFF INTES IS 'CS IN PROGRESS' ON
2621** TBT (R4,IN) * NO, BCH AROUND UPDATE
2622** MVB R7,CSTL8 SAVE CS ERR ISB VALUE, BITS 0-7
2623** MVB R3,CSTL8+1 * AND THE COND CODE
2624** J INTR1
2625**INTES TBT (R4,XE) TEST EXPECTED ATTEN / ERROR IND
2626** JOFF INTET BCH IF NOT EXPECTED
2627** CBI R3 IS THIS AN 'ATTENTION' INTR
2628** JE INTR1 * YES, BCH TO END INTR SEQUENCE
2629**INTET TBT (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
2630** J INTR1
2631** THE ERROR INTERRUPT USES THE SAME
2632** ENDING SEQUENCE AS THE NORMAL INTR
2633** *****15MAR77**
2634**
2635**
2636** SOUBROUTINE
2637**
2638** OKAY INTERRUPT RUNS ON INTERRUPT LEVEL 'SINTL'
2639**
2640** PURPOSE
2641** TO CHECK THE INTERRUPT AND CONTINUE THE TEST
2642**
2643** CALLING SEQUENCE
2644**
2645** SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED
2646** THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE
2647** AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE
2648** COMMON SECTION IS HANDLED HERE.
2649**
2650** RETURN CONTROL
2651**
2652** SVC EXIT RETURN TO USER VIA SUPVR
2653**
2654** *****15MAR77**
2655**
2656**INTOK DC X'706E' COPY STATUS ANY LEVEL INTO R3
2657** SRL R3 POSITION INDICATORS IN R3
2658** MVA OPTN1,R4 SET UP BASE ADRS
2659**INTR1 TBT (R4,IN) SET INTERRUPT RECEIVED
2660** TBT (R4,CS) IS 'CS IN PROGRESS' ON
2661** JON INTR2 * YES, BCH AROUND UPDATE
2662** MVB R3,SIOIN+1 SAVE INTERRUPTING CC CODE
2663** MVB R7,SISB SAVE INTR STATUS AND DEV ADRS
2664**INTR2 EQU *
2665** CPL R5 CURRENT LEVEL COPIED BY DCP
2666** SLL R5 POSITION INTR LEVEL AND PUT
2667** CBI R5 IN 'I' BIT
2668** SINTL,R5 IS THIS THE CORRECT INTR LEVEL
2669** JE INTR3 * YES, GO EXIT THIS LEVEL
2670** TBT (R4,SLE) SET INTR LEVEL ERROR CONTROL BIT
2671** TBT (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
2672**INTR3 TBT (R4,II) WAS INTERRUPT EXPECTED
2673** JON INTRX * YES, EXIT OFF THIS INTR LEVEL
2674** TBT (R4,NI) * NO, SET MYSTERY INTR CONTROL BIT
2675** CBI R3 ATTENTION INTERRUPT?
2676** JE INTRX YES
2677** TBT (R4,NG) ERROR, UNEXPECTED INTERRUPT
2678**INTRX SVC EXIT EXIT THIS LEVEL VIA SUPVR TO PGM
2679** *****15MAR77**
2680**
2681** THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
2682** HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN
2683** RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
2684**
2685**
2686**
2687**XIOCK TBT (R4,XE) WAS AN ERROR EXPECTED
2688** BN (R6,2) * YES, EXIT THIS ROUTINE
2689** TBT (R4,CS) WAS AUTO CS IN PROGRESS
2690** JOFF XIOCV * NO, CONTINUE CHECKING
2691** JOFF XIOCV IS CS IN AN ERR CONDITION
2692** B (R6) * NO, BCH
2693** XIOCV CS ERROR
2694**XIOCO TBT (R4,CSA) TURN ON CS STATS AVAIL FLAG
2695** BXS (R6,2) GO TO USER
2696**XIOCV TBT (R4,ER) WAS ERROR INTR CONTROL BIT ON
2697** JOFF XIOCK * NO, EXIT THIS ROUTINE
2698**
2699** MVB SIOIN+1,R5 GET LAST INTR CC CODE
2700** CBI R5 IS THIS CC=2
2701** BNE (R6) * NO, BCH TO ERROR HANDLER
2702**XIOCV MVB SISB,R5 GET LAST ISB DATA BYTE AND IF CS
2703** BN XIOCS-4 * AVAILABLE, GO AND GET IT
2704** B (R6) * NO, BCH
2705**XIOCK MVBZ OPTN3,R3 CLEAR OUT OPTION 3 CNTL BITS
2706** BXS (R6,2) RETURN TO USER VIA REG 6
2707**
2708** I/O PARAMETER LIST
2709**
2710**IOBLK DC A (DEVADD) ADRS OF DEVICE ADRS
2711** DC A (XIOER) ERROR ROUTINE ADRS
2712**IODCB DC A (*-*) DCB ADRS OR LEVEL & INTR
2713**IOHOD DC A (*-*) MODIFIER
2714**DC A (*-*) ADRS OF LAST SVC CALL
2715**IORSR DC A (*-*) SECOND WORD OF LAST IDCB
2716**
2717** INTERRUPT CONTROL BLOCK FOR I/O COMMANDS
2718**
2719**INTBL DC A (DEVADD) ADRS OF DEVICE ADRS
2720** DC A (INTOK) INTERRUPT OR RETURN ADRS
2721** DC A (INTR) INTERRUPT ERROR ADRS
2722**INTCC DC X'0003' INTERRUPT CODE EXPECTED
2723** *****15MAR77**
2724**
2725** SOUBROUTINE
2726**
2727** CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE

LOC TR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
2730** PURPOSE
2731**
2732** TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
2733** PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
2734** TO INTERRUPT.
2735**
2736** CALLING SEQUENCE
2737**
2738** THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
2739**
2740** --> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK
2741** --> BAL \$CONP,R6 PREPARE DEVICE ONLY, ALREADY CONNECT
2742**
2743** RETURN CONTROL
2744**
2745** BXS (R6,2) RETURN TO USER VIA REG 6 IF OKAY
2746** OR B (R6) * IF THE DEVICE COULD NOT BE CONNECTED
2747**
2748** *****15MAR77**
2749**\$CONC MVB 6,R7 NUMBER OF BYTE TO CLEAR
2750** MVB 0,R3 * AND THE DATA TO USE
2751** MVA DEV1,R5 * ALONG WITH THE ADRS TO USE
2752** FBN R3 (R6)
2753** MVBZ OPTN3,R3 CLEAR OLD CONTROLS FOR NEW ROUTINE
2754** MVA INTBL,R7 SET R7 TO CONTROL BLOCK AND
2755** SVC CIOCB * CONNECT IT TO THIS DEVICE
2756** BN (R6) * ERROR RETURN TO USER
2757**
2758**\$CONP MVB SINTL,IODCB PUT IN LEVEL & INTR PARAMETER
2759** IOBLK,R7 SET R7 TO CONTROL BLOCK TO PREPARE
2760** MVB X'0708',SIOIN INITIALIZE CONDITION CODE STORAGE
2761** MVBZ SISB,R3 * AND CLEAR OLD ISB VALUE
2762** MVA R6,LSTIO SET UP ADDRESS THAT STARTED LAST I/O
2763** SVC PREP * AND CALL ON SUPVR
2764** BXS (R6,2) RETURN TO USER
2765** *****15MAR77**
2766**
2767**
2768** SUBROUTINE
2769**
2770** DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
2771**
2772** PURPOSE
2773**
2774** DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
2775** SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS
2776** BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
2777**
2778** CALLING SEQUENCE
2779**
2780** THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
2781**
2782** --> B \$ERRS SET 'NG' BIT AND CONVERT DATA TO LOG
2783** --> B \$CONX RETURN TO MDI SUPERVISOR TO TEST STS
2784**
2785** RETURN CONTROL
2786**
2787** B TUPTN* RETURN TO MDI
2788** OR B (R6) * IF THE DEVICE COULD NOT BE CONNECTED
2789**
2790** *****15MAR77**
2791**\$ERRS MVI X'8000',TUSTATUS SET ON 'NO GOOD' STATUS BIT
2792** MVA HEBLK,R7 GET ADRS OF CONTROL BLOCK
2793** SVC HTOE CONVERT HEX TO EBC VIS DCP
2794**\$SRNT MVB 3,R5
2795** MVA TWORK,R3 SET UP BUFFER STORAGE
2796** MVA R3,BUPT
2797** MVA LINE1,R1
2798** MVB 4,R7
2799** MVB (R6)
2800**MVBUP MVB (R4,R1)
2801** MVB X'40',R2
2802** MVB R2,(R1)
2803** JCT MVBUP,R6
2804** MVEI 8,R6
2805** ANI 44,R1
2806** JCT MVBUP,R5
2807** MVI PIDMSG10,PID+2
2808** MVA FAKETU,@DCADD1
2809** MVA DC2PT,@DCADD2
2810** OWI BIT0080,SUPSTAT
2811** MVA \$TUID,R3
2812** BAL TMSGWTR*,R7 SET UP BUFFER STORAGE
2813** GO TO MESSAGE WRITER
2814**
2815**\$CONX EQU *
2816** MVB DEVADD,R7 GET DEVICE ADDRESS FROM MDI
2817** SVC RICB RELEASE INTERRUPT CONTROL BLOCK
2818** B TUPTN* RETURN TO MDI SUPERVISOR
2819**
2820**BEGIN DC A (0007) NUMBER OF LINES TO PRINT
2821** DC A (0008) LINE LENGTH = 8 CHAR
2822** DC C' * * ABORT'
2823** DC A (0040)
2824** DC C' @UID TOIN ISB INST LINE LENGTH = 40 CHAR
2825** DC A (0040) DEV1 DEV2 DEV3 DEV4
2826** DC C' LINE LENGTH = 40 CHAR
2827** DC A (0040)
2828** DC C' CNTL DCB2 DCB3 DCB4 LINE LENGTH = 40 CHAR
2829** DC A (0040) DCB5 CHAD BYCT ADRS
2830** DC C' LINE LENGTH = 40 CHAR
2831** DC A (0040)
2832** DC C' RSID CS-2 CS-3 CS-4 LINE LENGTH = 40 CHAR
2833** DC A (0040) CS-5 CS-6 CS-7 CS-8
2834** DC C' LINE LENGTH = 40 CHAR
2835**LINE3 DC
2836**\$BUPT DC A (*-*)
2837**DC2PT DC A (BEGIN)
2838**\$XTTU DC X'0101'
2839**FAKETU DC X'0101'
2840**PIDMSG10 EQU X'F1F0'
2841**BIT0080 EQU X'0080'
2842**
2843** DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
2844**

LOCTR	OBJECT TEXT	STMT SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
0032EC	0030	2845+HEBLK DC A(48)	NUMBER OF BYTES TO CONVERT
0032EE	26E0	2846+ DC A(STUID)	FROM ADRS
0032FO	181A	2847+ DC A(TUWORK)	AND THE TO ADRS
000000		2848 END	

DECLARED	NAME	ATTRIBUTES AND REFERENCES	CROSS-REFERENCE LISTING	COPYRIGHT IBM CORP 1976
0	.P0.	ABSOLUTE. HEX VALUE(00000000)	1484 1485 1490 1492 1541 1542 1547 1549 1625	
0	.P1.	ABSOLUTE. HEX VALUE(00000001)	1626 1631 1633 1707 1708 1713 1715 1792 1793	
0	.R2.	ABSOLUTE. HEX VALUE(00000002)	1798 1800 1879 1880 1885 1887 2305 2306 2307	
0	.R3.	ABSOLUTE. HEX VALUE(00000003)	2308 2312 2313 2314 2315	
0	.R4.	ABSOLUTE. HEX VALUE(00000004)	2797 2800 2803 2806	
0	.R5.	ABSOLUTE. HEX VALUE(00000005)	2802 2803	
0	.R6.	ABSOLUTE. HEX VALUE(00000006)	2211 2212 2253 2257 2259 2338 2340 2396 2399	
0	.R7.	ABSOLUTE. HEX VALUE(00000007)	2403 2406 2417 2420 2433 2436 2506 2516 2519	
0	.R8.	ABSOLUTE. HEX VALUE(00000008)	2520 2523 2525 2581 2582 2617 2623 2627 2657	
0	.R9.	ABSOLUTE. HEX VALUE(00000009)	2662 2673 2705 2750 2752 2753 2761 2795 2796	
0	.R10.	ABSOLUTE. HEX VALUE(00000010)	2800 2812	
0	.R11.	ABSOLUTE. HEX VALUE(00000011)	1336 1381 1388 1429 1438 1479 1495 1537 1550	
0	.R12.	ABSOLUTE. HEX VALUE(00000012)	1554 1557 1559 1561 1568 1571 1573 1576 1579	
0	.R13.	ABSOLUTE. HEX VALUE(00000013)	1581 1621 1634 1638 1641 1643 1647 1651 1653	
0	.R14.	ABSOLUTE. HEX VALUE(00000014)	1655 1661 1703 1716 1720 1723 1725 1730 1733	
0	.R15.	ABSOLUTE. HEX VALUE(00000015)	1735 1737 1746 1788 1801 1805 1808 1810 1814	
0	.R16.	ABSOLUTE. HEX VALUE(00000016)	1818 1820 1822 1832 1875 1888 1892 1895 1897	
0	.R17.	ABSOLUTE. HEX VALUE(00000017)	1901 1905 1907 1909 1919 2509 2510 2513 2527	
0	.R18.	ABSOLUTE. HEX VALUE(00000018)	2528 2530 2531 2534 2540 2546 2618 2619 2621	
0	.R19.	ABSOLUTE. HEX VALUE(00000019)	2625 2629 2658 2659 2660 2670 2671 2672 2674	
0	.R20.	ABSOLUTE. HEX VALUE(00000020)	2677 2687 2689 2691 2694 2696	
0	.R21.	ABSOLUTE. HEX VALUE(00000021)	2254 2258 2259 2339 2340 2397 2399 2404 2406	
0	.R22.	ABSOLUTE. HEX VALUE(00000022)	2418 2420 2434 2436 2517 2519 2521 2523 2539	
0	.R23.	ABSOLUTE. HEX VALUE(00000023)	2544 2666 2667 2668 2699 2700 2702 2751 2752	
0	.R24.	ABSOLUTE. HEX VALUE(00000024)	2794 2807	
0	.R25.	ABSOLUTE. HEX VALUE(00000025)	1337 1341 1382 1389 1430 1439 1480 1496 1538	
0	.R26.	ABSOLUTE. HEX VALUE(00000026)	1555 1569 1577 1622 1639 1649 1662 1704 1721	
0	.R27.	ABSOLUTE. HEX VALUE(00000027)	1731 1747 1789 1806 1816 1833 1876 1893 1903	
0	.R28.	ABSOLUTE. HEX VALUE(00000028)	1920 2179 2183 2185 2189 2191 2195 2198 2202	
0	.R29.	ABSOLUTE. HEX VALUE(00000029)	2204 2206 2213 2260 2261 2300 2341 2515 2535	
0	.R30.	ABSOLUTE. HEX VALUE(00000030)	2547 2583 2688 2689 2691 2701 2704 2706 2756	
0	.R31.	ABSOLUTE. HEX VALUE(00000031)	2762 2764 2799 2804 2805	
0	.R32.	ABSOLUTE. HEX VALUE(00000032)	650 1334 1340 1379 1386 1427 1434 1477 1493	
0	.R33.	ABSOLUTE. HEX VALUE(00000033)	1535 1552 1563 1619 1636 1657 1701 1718 1739	
0	.R34.	ABSOLUTE. HEX VALUE(00000034)	1786 1803 1824 1873 1890 1911 2252 2256 2337	
0	.R35.	ABSOLUTE. HEX VALUE(00000035)	2398 2405 2419 2435 2518 2522 2529 2622 2663	
2749	\$CONC	ADDRESS. HEX LOCATION(0000314E) IN CSECT(I7868) LENGTH(2)	1337 1382 1430 1480 1538 1622 1704 1789 1876	
639	\$INTL	ADDRESS. HEX LOCATION(00002716) IN CSECT(I7868) LENGTH(2)	2668 2758	
609	\$IOIN	ADDRESS. HEX LOCATION(000026E2) IN CSECT(I7868) LENGTH(2)	2212 2524 2582 2662 2699 2760	
610	\$ISB	ADDRESS. HEX LOCATION(000026E4) IN CSECT(I7868) LENGTH(2)	2525 2663 2702 2761	
594	\$LE	ABSOLUTE. HEX VALUE(00000026)	2530 2670	
2403	\$RD	ADDRESS. HEX LOCATION(00002F94) IN CSECT(I7868) LENGTH(2)	1833	
2395	\$RDID	ADDRESS. HEX LOCATION(00002F7A) IN CSECT(I7868) LENGTH(6)	1662	
2392	\$RECL	ADDRESS. HEX LOCATION(00002F72) IN CSECT(I7868) LENGTH(6)	1496 1555 1639 1721 1806 1893	
2389	\$SEEK	ADDRESS. HEX LOCATION(00002F6A) IN CSECT(I7868) LENGTH(6)	1439 1569 1577 1649 1731 1816 1903	
608	\$TUID	ADDRESS. HEX LOCATION(000026E0) IN CSECT(I7868) LENGTH(2)	649 1335 1380 1428 1478 1536 1620 1702 1787	
2413	\$WRT	ADDRESS. HEX LOCATION(00002FB0) IN CSECT(I7868) LENGTH(6)	1874 2812 2846	
2444	\$WSEC	ADDRESS. HEX LOCATION(00003016) IN CSECT(I7868) LENGTH(6)	1920	
102	@DCADD1	ADDRESS. HEX LOCATION(000019B8) IN CSECT(I7868) LENGTH(1)	1747	
103	@DCADD2	ADDRESS. HEX LOCATION(000019BA) IN CSECT(I7868) LENGTH(1)	2809	
44	@QUXX	ABSOLUTE. HEX VALUE(00000400)	381 393 405 417 429 441 453 465 477	
40	@STOP	ABSOLUTE. HEX VALUE(00000102)	390 402 414 426 438 450 462 474 486	
2820	BEGIN	ADDRESS. HEX LOCATION(000031DC) IN CSECT(I7868) LENGTH(2)	2837	
2841	BIT0080	ABSOLUTE. HEX VALUE(00000080)	2811	
2836	BUFPT	ADDRESS. HEX LOCATION(000032E4) IN CSECT(I7868) LENGTH(2)	2796	
557	B48	ABSOLUTE. HEX VALUE(00000010)	1550 1559 1561 1573 1581 1634 1643 1653 1655	
2080	CB29	ADDRESS. HEX LOCATION(00002E00) IN CSECT(I7868) LENGTH(2)	1716 1725 1735 1737 1801 1810 1820 1822 1888	
2210	CCEPF	ADDRESS. HEX LOCATION(00002ED2) IN CSECT(I7868) LENGTH(2)	1897 1907 1909	
598	CE	ABSOLUTE. HEX VALUE(0000002A)	2303	
678	CICB	ABSOLUTE. HEX VALUE(00000014)	2182 2188 2194 2201 2207	
1949	CLDCB	ADDRESS. HEX LOCATION(00002D2E) IN CSECT(I7868) LENGTH(2)	2509 2621 2691	
2226	CPUID	ABSOLUTE. HEX VALUE(00000232)	2755	
596	CS	ABSOLUTE. HEX VALUE(00000028)	1484 1541 1625 1707 1792 1879	
597	CSA	ABSOLUTE. HEX VALUE(00000029)	2510 2513 2619 2660 2689	
627	CSBUF	ADDRESS. HEX LOCATION(00002700) IN CSECT(I7868) LENGTH(1)	2694	
1999	CSDCB	ADDRESS. HEX LOCATION(00002D7E) IN CSECT(I7868) LENGTH(2)	2006 2521	
635	CSTL8	ADDRESS. HEX LOCATION(0000270E) IN CSECT(I7868) LENGTH(2)	2511	
			2622 2623	

CROSS-REFERENCE LISTING

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
1837	DATA17	ADDRESS. HEX LOCATION(00002A72) IN CSECT(I7868) LENGTH(2)
1924	DATA18	ADDRESS. HEX LOCATION(00002C1E) IN CSECT(I7868) LENGTH(2)
617	DCBUF	ADDRESS. HEX LOCATION(000026F0) IN CSECT(I7868) LENGTH(1)
2837	DC2PT	ADDRESS. HEX LOCATION(000032E6) IN CSECT(I7868) LENGTH(2)
105	DEVADD	ADDRESS. HEX LOCATION(000019D0) IN CSECT(I7868) LENGTH(1)
612	DEV1	ADDRESS. HEX LOCATION(000026E8) IN CSECT(I7868) LENGTH(2)
1937	DGDCB	ADDRESS. HEX LOCATION(00002D1E) IN CSECT(I7868) LENGTH(2)
67	DUMMY	ABSOLUTE. HEX VALUE(00000000)
492	ENTPT	ADDRESS. HEX LOCATION(000025F8) IN CSECT(I7868) LENGTH(1)
589	ER	ABSOLUTE. HEX VALUE(00000021)
664	EXIT	ABSOLUTE. HEX VALUE(00000006)
2839	FAKETU	ADDRESS. HEX LOCATION(000032EA) IN CSECT(I7868) LENGTH(2)
2081	FIVE9	ADDRESS. HEX LOCATION(00002E02) IN CSECT(I7868) LENGTH(2)
511	F00075	ADDRESS. HEX LOCATION(000025FE) IN CSECT(I7868) LENGTH(1)
515	F00082	ADDRESS. HEX LOCATION(00002614) IN CSECT(I7868) LENGTH(1)
519	F00089	ADDRESS. HEX LOCATION(0000262A) IN CSECT(I7868) LENGTH(1)
523	F00096	ADDRESS. HEX LOCATION(00002640) IN CSECT(I7868) LENGTH(1)
527	F00103	ADDRESS. HEX LOCATION(00002656) IN CSECT(I7868) LENGTH(1)
531	F00110	ADDRESS. HEX LOCATION(0000266C) IN CSECT(I7868) LENGTH(1)
535	F00117	ADDRESS. HEX LOCATION(00002682) IN CSECT(I7868) LENGTH(1)
539	F00124	ADDRESS. HEX LOCATION(00002698) IN CSECT(I7868) LENGTH(1)
543	F00131	ADDRESS. HEX LOCATION(000026AE) IN CSECT(I7868) LENGTH(1)
547	F00133	ADDRESS. HEX LOCATION(000026C4) IN CSECT(I7868) LENGTH(1)
2845	HEBLK	ADDRESS. HEX LOCATION(000032EC) IN CSECT(I7868) LENGTH(2)
684	HTOE	ABSOLUTE. HEX VALUE(0000001A)
2220	IDCBCE1	ADDRESS. HEX LOCATION(00002EE8) IN CSECT(I7868) LENGTH(2)
2222	IDCBCE2	ADDRESS. HEX LOCATION(00002EEC) IN CSECT(I7868) LENGTH(2)
2224	IDCBRAP	ADDRESS. HEX LOCATION(00002EF0) IN CSECT(I7868) LENGTH(2)
2216	IDCBO	ADDRESS. HEX LOCATION(00002EE0) IN CSECT(I7868) LENGTH(2)
2218	IDCB1	ADDRESS. HEX LOCATION(00002EE4) IN CSECT(I7868) LENGTH(2)
660	IDLE	ABSOLUTE. HEX VALUE(00000002)
591	IN	ABSOLUTE. HEX VALUE(00000023)
2719	INTBL	ADDRESS. HEX LOCATION(00003146) IN CSECT(I7868) LENGTH(2)
2616	INTER	ADDRESS. HEX LOCATION(000030AE) IN CSECT(I7868) LENGTH(2)
2625	INTES	ADDRESS. HEX LOCATION(000030C6) IN CSECT(I7868) LENGTH(2)
2629	INTET	ADDRESS. HEX LOCATION(000030CE) IN CSECT(I7868) LENGTH(2)
2656	INTOK	ADDRESS. HEX LOCATION(000030D2) IN CSECT(I7868) LENGTH(2)
2678	INTRX	ADDRESS. HEX LOCATION(00003102) IN CSECT(I7868) LENGTH(2)
2659	INTR1	ADDRESS. HEX LOCATION(000030DA) IN CSECT(I7868) LENGTH(2)
2664	INTR2	ADDRESS. HEX LOCATION(000030E8) IN CSECT(I7868) LENGTH(1)
2672	INTR3	ADDRESS. HEX LOCATION(000030F6) IN CSECT(I7868) LENGTH(2)
2710	IOBLK	ADDRESS. HEX LOCATION(0000313A) IN CSECT(I7868) LENGTH(2)
2712	IODCB	ADDRESS. HEX LOCATION(0000313E) IN CSECT(I7868) LENGTH(2)
2713	IOMOD	ADDRESS. HEX LOCATION(00003140) IN CSECT(I7868) LENGTH(2)
37	I7868	CSECT. START(00002500) LENGTH(3570) ESDID(0)
2078	LGSEC	ADDRESS. HEX LOCATION(00002DFC) IN CSECT(I7868) LENGTH(2)
2826	LINE1	ADDRESS. HEX LOCATION(00003214) IN CSECT(I7868) LENGTH(40)
611	LSTIO	ADDRESS. HEX LOCATION(000026E6) IN CSECT(I7868) LENGTH(2)
588	MI	ABSOLUTE. HEX VALUE(00000020)
2800	MVBUP	ADDRESS. HEX LOCATION(000031A0) IN CSECT(I7868) LENGTH(2)
600	NG	ABSOLUTE. HEX VALUE(0000002C)
595	NI	ABSOLUTE. HEX VALUE(00000027)
381	N00001	ADDRESS. HEX LOCATION(00002550) IN CSECT(I7868) LENGTH(2)
390	N00002	ADDRESS. HEX LOCATION(0000255E) IN CSECT(I7868) LENGTH(2)

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DECLARED	NAME	ATTRIBUTES AND REFERENCES
393	N00003	ADDRESS. HEX LOCATION(00002562) IN CSECT(I7868) LENGTH(2)
402	N00004	ADDRESS. HEX LOCATION(00002570) IN CSECT(I7868) LENGTH(2)
405	N00005	ADDRESS. HEX LOCATION(00002574) IN CSECT(I7868) LENGTH(2)
414	N00006	ADDRESS. HEX LOCATION(00002582) IN CSECT(I7868) LENGTH(2)
417	N00007	ADDRESS. HEX LOCATION(00002586) IN CSECT(I7868) LENGTH(2)
426	N00008	ADDRESS. HEX LOCATION(00002594) IN CSECT(I7868) LENGTH(2)
429	N00009	ADDRESS. HEX LOCATION(00002598) IN CSECT(I7868) LENGTH(2)
438	N00010	ADDRESS. HEX LOCATION(000025A6) IN CSECT(I7868) LENGTH(2)
441	N00011	ADDRESS. HEX LOCATION(000025AA) IN CSECT(I7868) LENGTH(2)
450	N00012	ADDRESS. HEX LOCATION(000025B8) IN CSECT(I7868) LENGTH(2)
453	N00013	ADDRESS. HEX LOCATION(000025BC) IN CSECT(I7868) LENGTH(2)
462	N00014	ADDRESS. HEX LOCATION(000025CA) IN CSECT(I7868) LENGTH(2)
465	N00015	ADDRESS. HEX LOCATION(000025CE) IN CSECT(I7868) LENGTH(2)
474	N00016	ADDRESS. HEX LOCATION(000025DC) IN CSECT(I7868) LENGTH(2)
477	N00017	ADDRESS. HEX LOCATION(000025E0) IN CSECT(I7868) LENGTH(2)
486	N00018	ADDRESS. HEX LOCATION(000025EE) IN CSECT(I7868) LENGTH(2)
489	N00019	ADDRESS. HEX LOCATION(000025F2) IN CSECT(I7868) LENGTH(2)
553	OPTN1	ADDRESS. HEX LOCATION(000026DA) IN CSECT(I7868) LENGTH(2)
576	OPTN3	ADDRESS. HEX LOCATION(000026DE) IN CSECT(I7868) LENGTH(2)
101	PARMARA	ADDRESS. HEX LOCATION(0000196E) IN CSECT(I7868) LENGTH(1)
2079	PHYSC	ADDRESS. HEX LOCATION(00002DFE) IN CSECT(I7868) LENGTH(2)
69	PID	ADDRESS. HEX LOCATION(00001800) IN CSECT(I7868) LENGTH(1)
2840	PIDMSG10	ABSOLUTE. HEX VALUE(0000F1F0)
670	PREP	ABSOLUTE. HEX VALUE(0000000C)
2032	RDDCB	ADDRESS. HEX LOCATION(00002DAE) IN CSECT(I7868) LENGTH(2)
666	RESET	ABSOLUTE. HEX VALUE(00000008)
677	RICB	ABSOLUTE. HEX VALUE(00000013)
667	RID	ABSOLUTE. HEX VALUE(00000009)
2054	RKDCB	ADDRESS. HEX LOCATION(00002DCE) IN CSECT(I7868) LENGTH(2)
1964	RSDCB	ADDRESS. HEX LOCATION(00002D4E) IN CSECT(I7868) LENGTH(2)
2312	RTT01	ADDRESS. HEX LOCATION(00002F46) IN CSECT(I7868) LENGTH(4)
616	SCTID	ADDRESS. HEX LOCATION(000026E8) IN CSECT(I7868) LENGTH(2)
2089	SCTST	ADDRESS. HEX LOCATION(00002E12) IN CSECT(I7868) LENGTH(2)
1988	SKDCB	ADDRESS. HEX LOCATION(00002D6E) IN CSECT(I7868) LENGTH(2)
668	START	ABSOLUTE. HEX VALUE(0000000A)
104	SUPSTAT	ADDRESS. HEX LOCATION(000019C4) IN CSECT(I7868) LENGTH(1)
1343	S03E	ADDRESS. HEX LOCATION(00002746) IN CSECT(I7868) LENGTH(4)
1441	S09E	ADDRESS. HEX LOCATION(000027AA) IN CSECT(I7868) LENGTH(4)
1498	S10E	ADDRESS. HEX LOCATION(000027F4) IN CSECT(I7868) LENGTH(4)
1582	S11E	ADDRESS. HEX LOCATION(00002888) IN CSECT(I7868) LENGTH(4)
1654	S15E	ADDRESS. HEX LOCATION(0000291C) IN CSECT(I7868) LENGTH(4)
1749	S16E	ADDRESS. HEX LOCATION(000029C2) IN CSECT(I7868) LENGTH(4)
1727	S16F	ADDRESS. HEX LOCATION(00002970) IN CSECT(I7868) LENGTH(6)
1835	S17E	ADDRESS. HEX LOCATION(00002A6E) IN CSECT(I7868) LENGTH(4)
1812	S17F	ADDRESS. HEX LOCATION(00002A16) IN CSECT(I7868) LENGTH(6)
1922	S18E	ADDRESS. HEX LOCATION(00002C1A) IN CSECT(I7868) LENGTH(4)
1899	S18F	ADDRESS. HEX LOCATION(00002BC2) IN CSECT(I7868) LENGTH(6)
1391	S19E	ADDRESS. HEX LOCATION(00002772) IN CSECT(I7868) LENGTH(4)
1575	TSS11	ADDRESS. HEX LOCATION(00002874) IN CSECT(I7868) LENGTH(6)
1340	TS03	ADDRESS. HEX LOCATION(0000273C) IN CSECT(I7868) LENGTH(4)
1434	TS09	ADDRESS. HEX LOCATION(00002790) IN CSECT(I7868) LENGTH(4)
1493	TS10	ADDRESS. HEX LOCATION(000027E6) IN CSECT(I7868) LENGTH(4)

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1561	TS11	ADDRESS. HEX LOCATION(00002848) IN CSECT(I7868) LENGTH(2)
1655	TS15	ADDRESS. HEX LOCATION(000028FE) IN CSECT(I7868) LENGTH(2)
1645	TS15F	ADDRESS. HEX LOCATION(000028DC) IN CSECT(I7868) LENGTH(6)
1737	TS16	ADDRESS. HEX LOCATION(00002992) IN CSECT(I7868) LENGTH(2)
1822	TS17	ADDRESS. HEX LOCATION(00002A38) IN CSECT(I7868) LENGTH(2)
1909	TS18	ADDRESS. HEX LOCATION(00002BE4) IN CSECT(I7868) LENGTH(2)
1386	TS19	ADDRESS. HEX LOCATION(00002764) IN CSECT(I7868) LENGTH(4)
2310	TT303	ADDRESS. HEX LOCATION(00002F3E) IN CSECT(I7868) LENGTH(6)
2316	TT304	ADDRESS. HEX LOCATION(00002F56) IN CSECT(I7868) LENGTH(4)
2259	TT4Y	ADDRESS. HEX LOCATION(00002F0E) IN CSECT(I7868) LENGTH(2)
1551	TT711	ADDRESS. HEX LOCATION(0000282C) IN CSECT(I7868) LENGTH(6)
1635	TT715	ADDRESS. HEX LOCATION(000028C0) IN CSECT(I7868) LENGTH(6)
1717	TT716	ADDRESS. HEX LOCATION(00002954) IN CSECT(I7868) LENGTH(6)
1802	TT717	ADDRESS. HEX LOCATION(000029FA) IN CSECT(I7868) LENGTH(6)
1889	TT718	ADDRESS. HEX LOCATION(00002BA6) IN CSECT(I7868) LENGTH(6)
92	TUMSGWTR	ADDRESS. HEX LOCATION(000018BA) IN CSECT(I7868) LENGTH(1)
640	TURTN	ADDRESS. HEX LOCATION(00002718) IN CSECT(I7868) LENGTH(2)
74	TUSTATUS	ADDRESS. HEX LOCATION(00001818) IN CSECT(I7868) LENGTH(1)
75	TUWORK	ADDRESS. HEX LOCATION(0000181A) IN CSECT(I7868) LENGTH(1)
1489	T10T	ADDRESS. HEX LOCATION(000027D8) IN CSECT(I7868) LENGTH(6)
1490	T10T2	ADDRESS. HEX LOCATION(000027DE) IN CSECT(I7868) LENGTH(4)
1491	T10T5	ADDRESS. HEX LOCATION(000027E2) IN CSECT(I7868) LENGTH(2)
1546	T11T	ADDRESS. HEX LOCATION(0000281C) IN CSECT(I7868) LENGTH(6)
1547	T11T2	ADDRESS. HEX LOCATION(00002822) IN CSECT(I7868) LENGTH(4)
1548	T11T5	ADDRESS. HEX LOCATION(00002826) IN CSECT(I7868) LENGTH(2)
1630	T15T	ADDRESS. HEX LOCATION(000028B0) IN CSECT(I7868) LENGTH(6)
1631	T15T2	ADDRESS. HEX LOCATION(000028B6) IN CSECT(I7868) LENGTH(4)
1632	T15T5	ADDRESS. HEX LOCATION(000028EA) IN CSECT(I7868) LENGTH(2)
1712	T16T	ADDRESS. HEX LOCATION(00002944) IN CSECT(I7868) LENGTH(6)
1713	T16T2	ADDRESS. HEX LOCATION(0000294A) IN CSECT(I7868) LENGTH(4)
1714	T16T5	ADDRESS. HEX LOCATION(0000294E) IN CSECT(I7868) LENGTH(2)
1797	T17T	ADDRESS. HEX LOCATION(000029EA) IN CSECT(I7868) LENGTH(6)
1798	T17T2	ADDRESS. HEX LOCATION(000029F0) IN CSECT(I7868) LENGTH(4)
1799	T17T5	ADDRESS. HEX LOCATION(000029F4) IN CSECT(I7868) LENGTH(2)
1884	T18T	ADDRESS. HEX LOCATION(00002B96) IN CSECT(I7868) LENGTH(6)
1885	T18T2	ADDRESS. HEX LOCATION(00002B9C) IN CSECT(I7868) LENGTH(4)
1886	T18T5	ADDRESS. HEX LOCATION(00002BA0) IN CSECT(I7868) LENGTH(2)
1334	T7803	ADDRESS. HEX LOCATION(00002728) IN CSECT(I7868) LENGTH(4)
1427	T7809	ADDRESS. HEX LOCATION(00002776) IN CSECT(I7868) LENGTH(4)
1477	T7810	ADDRESS. HEX LOCATION(000027AE) IN CSECT(I7868) LENGTH(4)
1535	T7811	ADDRESS. HEX LOCATION(000027F8) IN CSECT(I7868) LENGTH(4)
1619	T7815	ADDRESS. HEX LOCATION(0000288C) IN CSECT(I7868) LENGTH(4)
1701	T7816	ADDRESS. HEX LOCATION(00002920) IN CSECT(I7868) LENGTH(4)
1786	T7817	ADDRESS. HEX LOCATION(000029C6) IN CSECT(I7868) LENGTH(4)
1873	T7818	ADDRESS. HEX LOCATION(00002B72) IN CSECT(I7868) LENGTH(4)
1379	T7819	ADDRESS. HEX LOCATION(0000274A) IN CSECT(I7868) LENGTH(4)
2021	VRDCB	ADDRESS. HEX LOCATION(00002D9E) IN CSECT(I7868) LENGTH(2)
2043	WKDCB	ADDRESS. HEX LOCATION(00002DBE) IN CSECT(I7868) LENGTH(2)
2010	WRDCB	ADDRESS. HEX LOCATION(00002D8E) IN CSECT(I7868) LENGTH(2)
2082	WRSID	ADDRESS. HEX LOCATION(00002E04) IN CSECT(I7868) LENGTH(2)
1954	WSDCB	ADDRESS. HEX LOCATION(00002D3E) IN CSECT(I7868) LENGTH(2)
2086	WSIDT	ADDRESS. HEX LOCATION(00002F0C) IN CSECT(I7868) LENGTH(2)
592	XE	ABSOLUTE. HEX VALUE(00000024)
590	XI	ABSOLUTE. HEX VALUE(00000022)

DECLARED	NAME	ATTRIBUTES AND REFERENCES
2506	XIO	ADDRESS. HEX LOCATION(0000303A) IN CSECT(I7868) LENGTH(4)
2687	XIOCK	ADDRESS. HEX LOCATION(00003104) IN CSECT(I7868) LENGTH(2)
2694	XIOCO	ADDRESS. HEX LOCATION(00003116) IN CSECT(I7868) LENGTH(2)
2511	XIOCS	ADDRESS. HEX LOCATION(00003044) IN CSECT(I7868) LENGTH(6)
2696	XIOCV	ADDRESS. HEX LOCATION(0000311A) IN CSECT(I7868) LENGTH(2)
2705	XIOCX	ADDRESS. HEX LOCATION(00003134) IN CSECT(I7868) LENGTH(4)
2580	XIOER	ADDRESS. HEX LOCATION(000030A2) IN CSECT(I7868) LENGTH(2)
2539	XIOTD	ADDRESS. HEX LOCATION(0000308C) IN CSECT(I7868) LENGTH(4)
2515	XIO1	ADDRESS. HEX LOCATION(00003054) IN CSECT(I7868) LENGTH(4)
2528	XIO2	ADDRESS. HEX LOCATION(0000307A) IN CSECT(I7868) LENGTH(2)
2540	XIO8	ADDRESS. HEX LOCATION(00003090) IN CSECT(I7868) LENGTH(2)
2064	ZERO0	ADDRESS. HEX LOCATION(00002DDE) IN CSECT(I7868) LENGTH(2)

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