

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
001D70 3 038F2 START X'1D70'
4 *****
5 *
6 * *** PREREQUISITES ***
7 *
8 * NONE
9 *
10 *****
11 *
12 * *** MODIFICATIONS ***
13 *
14 * NONE
15 *
16 *****
17 *
18 * *** REA'S INCORPORATED ***
19 *
20 * NONE
21 *
22 *****
23 *
24 * *** SPECIAL INSTRUCTIONS ***
25 *
26 * NONE
27 *
28 *****
29 *
30 * *** E. C. HISTORY ***
31 *
32 * DATE 12APR78 DATE 08AUG78 DATE DATE
33 * E.C. 755404D E.C. 755404 E.C. E.C.
34 *
35 *****
37 HOPFO EQU X'0FF0'
38 H3010 EQU X'3010'
39 *****
40 OVERLAY PROGRAM PROGRAM START EXECUTION
41 *****
42 CYR00 MVW R7,OLYRA SAVE OVERLAY RETURN ADDRESS
43 B ICV01
44 *****
45 * ENTRY FOR OPTION '0C' INITIAL CONFIGURATION
46 *****
47 MVW R7,OLYRA SAVE OVERLAY RETURN ADDRESS
48 B ICV50
49 *****
50 *****
51 *****
52 *****
53 *****
54 *****
55 *****
56 *****
57 CTNE1 DC X'00' # ENTRIES BYTE 1
58 CTNEU DC X'00' NUMBER ENTRIES USED CONFIGUR TABLE
59 *
60 TCS1P DC X'0000' TCS 1ST PASS SWITCH
61 TCSLS DC X'0000' TCS DISAPPEARED SWITCH
62 TCS1A DC X'0000' 1ST FOUND TCS ENTRY ADDRESS
63 TCS2A DC X'0000' 2ND FOUND TCS ENTRY ADDRESS
64 TCS3A DC X'0000' 3ST FOUND TCS ENTRY ADDRESS
65 *
66 DEVAD DC X'0000' DEVICE ADDRESS/TYPE FOR READ STATUS
67 *
68 R1SAV DC X'0000' SAVE AREA FOR R1
69 R2SAV DC X'0000' SAVE AREA FOR R2
70 *****
71 * CONFIG TABLE MESSAGES = 3820 -384F
72 *
73 * CONTROL BLOCK OUTIN
74 * ALIGN WORD
75 DC X'00C0'
76 CTM1 DC A(CTM1A) OUTPUT
77 DC A(CHD22) INPUT - ALT CONSOLE DA/TYPE
78 DC A(-1)
79 DC A(1)
80 * OUTPUT MESSAGE
81 DC X'3820'
82 CTM1A DC C'ALTERNATE CONSOLE DEVICE ADDRESS AND TYPE'
83 DC X'00'
84 *
85 * CONTROL BLOCK OUTPUT
86 * ALIGN WORD
87 DC X'00C0'
88 CTM2 DC A(CTM2A) OUTPUT
89 DC A(-1) INPUT
90 * OUTPUT MESSAGE
91 DC X'382F'
92 CTM2A DC C'INITIAL AUTO CONFIGURATION'
93 DC X'00'
94 *
95 * CONTROL BLOCK OUTPUT
96 * ALIGN WORD
97 DC X'0080'
98 CTM30 DC A(CTM31) OUTPUT
99 DC A(-1) INPUT
100 * OUTPUT MESSAGE
101 DC X'384C'
102 CTM31 DC C'REFERENCE THE TWO CHANNEL SWITCH CONSOLE(S)'
103 DC X'00'
104 *
105 * CONTROL BLOCK OUTPUT
106 * ALIGN WORD
107 DC X'0080'
108 CTM32 DC A(CTM33) OUTPUT
109 DC A(-1) INPUT
110 * OUTPUT MESSAGE
111 DC X'384C'
112 CTM33 DC C'CHANGE THE SELECT SWITCH TO THE OTHER POSITION'
113 DC X'00'
114 *
115 * CONTROL BLOCK OUTPUT
116 * ALIGN WORD
117 DC X'0080'
118 CTM34 DC A(CTM35)

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
001E5E FFFF 119 * DC A(-1)
120 * OUTPUT MESSAGE
121 DC X'384C'
122 CTM35 DC C'ENSURE THE MODE SWITCH(S) IS IN MANUAL MODE'
123 DC X'00'
124 *
125 * CONTROL BLOCK OUTPUT
126 * ALIGN WORD
127 DC X'0080'
128 CTM36 DC A(CTM37) OUTPUT
129 DC A(-1) INPUT
130 * OUTPUT MESSAGE
131 DC X'384C'
132 CTM37 DC C'PRESS AND RELEASE THE RESET PUSHBUTTON'
133 CTM38 DC X'00' OF C'('
134 DC C'S)'
135 DC X'00'
136 CTM39 DC C'(' CONSTANT
137 *
138 * CONTROL BLOCK OUTIN
139 * ALIGN WORD
140 DC X'00C0'
141 CTM4 DC A(CTM4A) OUTPUT
142 DC A(CTM4B) INPUT
143 DC A(1)
144 DC A(1)
145 * OUTPUT MESSAGE
146 DC X'385F'
147 CTM4A DC C'ENTER 01 WHEN ACTION IS COMPLETE'
148 DC X'00'
149 * INPUT
150 CTM4B DC X'00' INPUT
151 DC X'00'
152 *
153 * CONTROL BLOCK OUTPUT
154 * ALIGN WORD
155 DC X'0080'
156 CTM41 DC A(CTM42) OUTPUT
157 DC A(-1) INPUT
158 * OUTPUT MESSAGE
159 DC X'384C'
160 CTM42 DC C'REFERENCE THE TWO CHANNEL SWITCH CONSOLE '
161 DC C'FARTHEST FROM PROCESSOR'
162 DC X'00'
163 *
164 * CONTROL BLOCK OUTPUT
165 * ALIGN WORD
166 DC X'0080'
167 CTM43 DC A(CTM44) OUTPUT
168 DC A(-1) INPUT
169 * OUTPUT MESSAGE
170 DC X'384C'
171 CTM44 DC C'REFERENCE THE TWO CHANNEL SWITCH CONSOLE '
172 DC C'NEAREST THE PROCESSOR'
173 DC X'00'
174 *
175 * CONTROL BLOCK OUTPUT
176 * ALIGN WORD
177 DC X'0080'
178 CTM48 DC A(CTM49) OUTPUT
179 DC A(-1) INPUT
180 * OUTPUT MESSAGE
181 DC X'384C'
182 CTM49 DC C'SET SELECT SWITCHE(S) TO THIS PROCESSOR'
183 DC X'00'
184 *
185 * CONTROL BLOCK OUTIN
186 * ALIGN WORD
187 DC X'00C0'
188 CTM45 DC A(CTM46) OUTPUT
189 DC A(CTM4B) INPUT
190 DC A(1)
191 DC A(1)
192 * OUTPUT MESSAGE
193 DC X'385E'
194 CTM46 DC C'ENTER 01 WHEN ACTION IS COMPLETE'
195 DC X'00'
196 *
197 * CONTROL BLOCK OUTIN
198 * ALIGN WORD
199 DC X'00C0'
200 CTM4C DC A(CTM4D) OUTPUT
201 DC A(CTM4B) INPUT
202 DC A(1)
203 DC A(1)
204 * OUTPUT MESSAGE
205 DC X'385D'
206 CTM4D DC C'ENTER 01 WHEN ACTION IS COMPLETE'
207 DC X'00'
208 *
209 * CONTROL BLOCK OUTIN
210 * ALIGN WORD
211 DC X'00C0'
212 CTM5 DC A(CTM5A) OUTPUT
213 DC A(CTM5B) INPUT
214 DC A(1)
215 DC A(1)
216 * OUTPUT MESSAGE
217 DC X'3836'
218 CTM5A DC C'IS CUSTOMER USING COMMON I/O? 00=NO, 01=YES (TERMINATE)'
219 DC X'00'
220 * INPUT
221 * ALIGN WORD
222 CTM5B DC X'00' INPUT
223 DC X'00'
224 *
225 * CONTROL BLOCK OUTPUT
226 * ALIGN WORD
227 DC X'00C0'
228 CTM52 DC A(CTM53) OUTPUT
229 DC A(-1) INPUT
230 * OUTPUT MESSAGE
231 DC X'3845'
232 CTM53 DC C'ERROR-TWO CHANNEL SWITCH WAS IN WRONG POSITION'

038F2 - CONFIGURATION INITIAL CONFIG OVERLAY P/N=8327417 EC=755404 PAGE 02
 LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976

```

00208C 00          233 DC X'00'
                234 *
                235 * CONTROL BLOCK OUTPUT
00208D 00          236 ALIGN WORD
00208E 00C0       237 DC X'00C0'
002090 2096       238 CTH54 DC A(CTM55)
002092 FFFF       239 DC A(-1)
                240 * OUTPUT MESSAGE
002094 383C       241 DC X'383C'
002096 C5D9D9D6D960C3C1D 242 CTH55 DC C'ERROR-CAN'T FIND REFLECTED TWO CHANNEL SWITCH'
0020C3 00          243 DC X'00'
                244 *
                245 * CONTROL BLOCK OUTPUT
                246 ALIGN WORD
0020C4 00C0       247 DC X'00C0'
0020C6 20CC       248 DC A(CTM57)
0020C8 FFFF       249 DC A(-1)
                250 * OUTPUT MESSAGE
0020CA 3837       251 DC X'3837'
0020CC C5D9D9D6D960D9C5C 252 CTH57 DC C'ERROR-REFLECTED TWO CHANNEL SWITCH DIDN'T DISAPPEAR'
0020FF 00          253 DC X'00'
                254 *
                255 * CONTROL BLOCK OUTPUT
                256 ALIGN WORD
002100 00C0       257 DC X'00C0'
002102 2108       258 CTH58 DC A(CTM59)
002104 FFFF       259 DC A(-1)
                260 * OUTPUT MESSAGE
002106 3834       261 DC X'3834'
002108 C5D9D9D6D960D4D6D 262 CTH59 DC C'ERROR-MORE THAN ONE TWO CHANNEL SWITCH DISAPPEARED'
00213A 00          263 DC X'00'
                264 *
                265 * CONTROL BLOCK OUTPUT
                266 ALIGN WORD
00213B 00          267 DC X'00C0'
00213C 00C0       268 CTH6 DC A(CTM6A)
002140 FFFF       269 DC A(-1)
                270 * OUTPUT MESSAGE
002142 3823       271 DC X'3823'
002144 C9D5E5C1D3C9C440C 272 CTH6A DC C'INVALID ENTRY'
002151 00          273 DC X'00'
                274 *
                275 * CONTROL BLOCK OUTPUT
                276 ALIGN WORD
002152 0080       277 DC X'0080'
002154 215A       278 CTH6B DC A(CTM6C)
002156 FFFF       279 DC A(-1)
                280 * OUTPUT MESSAGE
002158 3823       281 DC X'3823'
00215A C9D5D5C5D940E2E3D 282 CTH6C DC C'INNER STORAGE'
002167 00          283 DC X'00'
                284 *
                285 * CONTROL BLOCK OUTIN
                286 ALIGN WORD
002168 00C0       287 DC X'00C0'
00216A 2174       288 CTH7 DC A(CTM7A)
00216C 21FC       289 DC A(CTM7F)
00216E 0001       290 DC A(1)
002170 0001       291 DC A(1)
                292 * OUTPUT MESSAGE
002172 3850       293 DC X'3850'
002174 F0F37EF1F6D26B40F 294 CTH7A DC C'03=16K, 07=32K, 0B=48K, 0F=64K'
002192 00          295 DC X'00'
                296 *
                297 * CONTROL BLOCK OUTIN
                298 ALIGN WORD
002193 00          299 DC X'00C0'
002195 00C0       300 CTH7B DC A(CTM7C)
002197 21A0       301 DC A(CTM7F)
002198 21FC       302 DC A(1)
00219A 0001       303 DC A(1)
00219C 0001       304 DC A(1)
                305 * OUTPUT MESSAGE
00219E 3851       306 DC X'3851'
0021A0 C1C4C4D9C5E2E240E 307 CTH7C DC C'ADDRESS TRANSLATOR - 00=NO, 01=YES'
0021C2 00          308 DC X'00'
                309 *
                310 * CONTROL BLOCK OUTIN
                311 ALIGN WORD
0021C3 00          312 DC X'00C0'
0021C4 00C0       313 CTH7D DC A(CTM7E)
0021C6 21D0       314 DC A(CTM7F)
0021C8 21FC       315 DC A(1)
0021CA 0002       316 DC A(2)
0021CC 0001       317 DC A(1)
                318 * OUTPUT MESSAGE
0021CE 3852       319 DC X'3852'
0021D0 F0E7E7E77E40D5E4D 320 CTH7E DC C'OXXX= NUMBER OF 16K BLOCKS OF OUTER STORAGE'
0021FB 00          321 DC X'00'
                322 * INPUT
                323 ALIGN WORD
0021FC 0000       324 DC X'0000'
0021FE 00          325 DC X'00'
                326 *
                327 * CONTROL BLOCK OUTPUT
                328 ALIGN WORD
0021FF 00          329 DC X'0080'
002200 0080       330 CTH8 DC A(CTM8A)
002202 2208       331 DC A(-1)
002204 FFFF       332 DC A(-1)
                333 * OUTPUT MESSAGE
002206 384A       334 DC X'384A'
002208 E3C1C2D3C540C6E4D 335 CTH8A DC C'TABLE FULL'
002212 00          336 DC X'00'
                337 *
                338 * END OF CDATA
                339 *****
                340 *****
                341 *****
                342 *****
                343 *****
                344 *****
                345 *****
                346 *****
                347 *****
                348 *****
                349 *****
                350 *****
                351 *****
                352 *****
                353 *****
                354 *****
                355 *****
                356 *****
                357 *****
                358 *****
                359 *****
                360 *****
                361 *****
                362 *****
                363 *****
                364 *****
                365 *****
                366 *****
                367 *****
                368 *****
                369 *****
                370 *****
                371 *****
                372 *****
                373 *****
                374 *****
                375 *****
                376 *****
                377 *****
                378 *****
                379 *****
                380 *****
                381 *****
                382 *****
                383 *****
                384 *****
                385 *****
                386 *****
                387 *****
                388 *****
                389 *****
                390 *****
                391 *****
                392 *****
                393 *****
                394 *****
                395 *****
                396 *****
                397 *****
                398 *****
                399 *****
                400 *****
                401 *****
                402 *****
                403 *****
                404 *****
                405 *****
                406 *****
                407 *****
                408 *****
                409 *****
                410 *****
                411 *****
                412 *****
                413 *****
                414 *****
                415 *****
                416 *****
                417 *****
                418 *****
                419 *****
                420 *****
                421 *****
                422 *****
                423 *****
                424 *****
                425 *****
                426 *****
                427 *****
                428 *****
                429 *****
                430 *****
                431 *****
                432 *****
                433 *****
                434 *****
                435 *****
                436 *****
                437 *****
                438 *****
                439 *****
                440 *****
                441 *****
                442 *****
                443 *****
                444 *****
                445 *****
                446 *****
                447 *****
                448 *****
                449 *****
                450 *****
                451 *****
                452 *****
                453 *****
                454 *****
                455 *****
                456 *****
                457 *****
                458 *****
                459 *****
                460 *****
                461 *****
                462 *****
                463 *****
                464 *****
                465 *****
                466 *****
  
```

038F2 - CONFIGURATION INITIAL CONFIG OVERLAY P/N=8327417 EC=755404 PAGE 02A
 LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976

```

00221A 4724 1D96 348 MVA CTM1,R7
00221E 6001 349 SVC OUTIN PRINT 'INITIAL CONFIGURATION' "3820"
                350 * ENTER ALT CONSOLE DA/TYPE
002220 6F08 282A 351 MVW CMD22,R7 ALT CONSOLE DA/TYPE
002224 1804 352 JNZ ICV05 J ALT CONSOLE ENTERED NOT 0000
002226 4724 2842 353 MVA CMD30,R7
00222A 6000 354 SVC OUT PRINT 'PROGRAMMER OR CE CONSOLE"3832"
00222C 5006 355 J J CONTINUE AUTO CONFIG
                356 *
                357 * ALT CONSOLE ENTERED
00222E 6F1D 279A 358 ICV05 MVW R7,CTABN* ALT CONSOLE DA/TYPE INTO TABLE
002232 4724 2782 359 MVA CTR15,R7
002236 6020 360 WRTTI WRITE DISK, THEN TERM, THEN DO
002238 6007 361 SVC TERM IPL TO CONFIG USING ALT CONSOLE
                362 *
                363 * PROGRAM TERMINATED
                364 *****
                365 *****
                366 *****
                367 *****
                368 *****
                369 *****
                370 *****
                371 *****
                372 *****
                373 *****
                374 *****
                375 *****
                376 *****
                377 *****
                378 *****
                379 *****
                380 *****
                381 *****
                382 *****
                383 *****
                384 *****
                385 *****
                386 *****
                387 *****
                388 *****
                389 *****
                390 *****
                391 *****
                392 *****
                393 *****
                394 *****
                395 *****
                396 *****
                397 *****
                398 *****
                399 *****
                400 *****
                401 *****
                402 *****
                403 *****
                404 *****
                405 *****
                406 *****
                407 *****
                408 *****
                409 *****
                410 *****
                411 *****
                412 *****
                413 *****
                414 *****
                415 *****
                416 *****
                417 *****
                418 *****
                419 *****
                420 *****
                421 *****
                422 *****
                423 *****
                424 *****
                425 *****
                426 *****
                427 *****
                428 *****
                429 *****
                430 *****
                431 *****
                432 *****
                433 *****
                434 *****
                435 *****
                436 *****
                437 *****
                438 *****
                439 *****
                440 *****
                441 *****
                442 *****
                443 *****
                444 *****
                445 *****
                446 *****
                447 *****
                448 *****
                449 *****
                450 *****
                451 *****
                452 *****
                453 *****
                454 *****
                455 *****
                456 *****
                457 *****
                458 *****
                459 *****
                460 *****
                461 *****
                462 *****
                463 *****
                464 *****
                465 *****
                466 *****
  
```

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
467 * INCORRECT ENTRY
468 MVA CTM6,R7
469 SVC OUT
470 J SS003
471 * ENTRY OK
472 SS004 OW R6,R5
473 OWI X'0800',P5 ADDRESS TRANSLATOR BIT
474 SS005 MVW R5,CTABS* FILL STORAGE INTO CONFIG TABLE
475 * FINISHED ENTERING STORAGE SIZE.
476 *-----
477 CIA04 EQUI *
478 MVWI HOFF0,R7 THIS WILL
479 MVWI H3010,R0 CLEAR THE
480 SW R1,R1 CONFIGURATION
481 SFN R1,(R0) TABLE
482 *-----
483 SS00A MVW CTW00,CTAD1 SET ADDRESS TO 0
484 MVW CTW00,CTNE1 SET # ENTRIES USED TO 0
485 *-----
486 * SET INITIALLY CONFIGURED FLAG
487 MVW CTABC,R3 ADDRESS INIT CONFIG FLAG
488 MVB CTC01,(R3) SET INIT CONFIG FLAG
489 *-----
490 * TEST EACH ADDRESS FOR A DEVICE AND MAKE A CONFIGURATION TABLE
491 * ENTRY FOR EACH DEVICE THAT IS FOUND.
492 *
493 * TEST EACH ADDRESS FOR A DEVICE
494 CIA05 MVB CTADD,CTIDA ADDRESS READ ID
495 * READ DEVICE ID ON AN ADDRESS
496 BAL CYI01,R7 CALL READ ID
497 * DEVICE ATTACHED IF CTIDF = 1
498 CWI 1,CTIDF
499 JLT CIA09 NO DEVICE AT THIS ADDRESS
500 * DEVICE FOUND AT THIS ADDRESS
501 AWI 1,CTNE1 INCREMENT # ENTRIES IN TABLE
502 CWI CTIDF,CTNE1 MAX # CONFIG TABLE ENTRIES = 69
503 JLE CIA05
504 * CONFIGURATION TABLE IS FULL
505 MVA CTM8,R7
506 SVC OUT PRINT CONFIG TABLE FULL
507 B CIA15
508 * ENTER DEVICE DATA IN CONFIGURATION TABLE ENTRY
509 CIA07 MVB CTNEU,R5 NUMBER OF ENTRIES USED
510 MW CTW16,R5 DELTA INTO TABLE
511 MVW CTABA,R3 ADDRESS OF CONFIG TABLE
512 AW R5,R3 START OF ENTRY IN TABLE
513 MVB CTADD,(R3,CUDA) DEVICE ADDRESS INSERTED
514 MVW CTIDF,(R3,CUDRI) DEVICE ID INSERTED
515 * SET IF ALL DEVICE ADDRESSES TESTED
516 CIA09 AWI 1,CTAD1 INCREMENT DEVICE ADDRESS
517 CWI CTWFF,CTAD1
518 JLE CIA05 B IF ALL ADDRESSES NOT TESTED
519 *****ALL ADDRESSES HAVE BEEN TESTED
520 * INSERT # OF ENTRIES IN TABLE
521 MVB CTABA,R1 CONFIGURATION TABLE ADDRESS
522 MVB CTNEU,(R1,2) INSERT # OF ENTRIES
523 ***** INSERT DEVICE TYPE IN ALL ENTRIES
524 CIA10 MVW CTW00,CEDN1 ZERO COUNT IF REQUIRED
525 AWI 1,CEDN1 INCREMENT COUNT
526 MW CTW16,R6 DELTA INTO TABLE
527 MVW CTABA,R3 ADDRESS OF CONFIGURATION TABLE
528 AW R6,R3 START OF ENTRY
529 MVW (R3,CUDRI),R6 R6 = DEVICE ID
530 SRL 16,R5 ZERO R5
531 * FIND DEVICE TYPE FROM DEVICE ID
532 BAL CDEVT,R7
533 *
534 * ID PASSED IN R6
535 MVB R6,(R3,CUDT) TYPE RETURNED IN R6
536 CWI CTNE1,CEDN1 DEVICE TYPE INTO CONFIG TABLE
537 BLT CIA11 B IF NOT THROUGH ALL TABLE ENTRIES
538 ***** FINISHED ENTERING DEVICE TYPE
539 *-----
540 * LOOK FOR A TWO CHANNEL SWITCH. IF HAVE A TCS FIND DEVICES ON IT
541 * AND SET TCS BIT IN THEIR ENTRIES AND INDICATE A CYCLE STEAL
542 * DEVICE OR A DEVICE IN THE TCS ENTRY.
543 * SEARCH TABLE FOR TCS
544 CIAA0 MVBI X'3E',R3 X'3E' = TCS DEVICE TYPE
545 BAL DTYPS,R7 SEARCH TABLE
546 MVW R3,R7
547 BZ CIAA9 J IF NO TCS FOUND
548 * TCS FOUND
549 MVW R2,TCS1A
550 JZ TCN1P 1ST FOUND TCS ENTRY ADDRESS
551 * CK TCS 1ST PASS SW
552 JZ TCN1P J NOT 1ST PASS
553 * FIRST PASS
554 CIAA1 MVA CTM5,R7
555 SVC OUTIN PRINT 'CUSTOMER USING TCS 00=N 01=Y'
556 MVB CTM5B,R7
557 CBI X'00',R7
558 JE CIAA3 J DO TCS
559 CBI X'01',R7 J NOT VALID
560 JNE CIAA2 TERMINATE, CUSTOMER USING TCS
561 SVC TERM
562 *-----
563 CIAA2 MVA CTM6,R7
564 SVC OUT PRINT 'INVALID ENTRY'
565 J CIAA1 REQUEST ENTRY AGAIN
566 *-----
567 CIAA3 EQUI *
568 MVWZ TCS1P,R7 RESET TCS 1ST PASS SW
569 MVB CTM39,CTM38 CHAR CHAIN (S)
570 MVA CTM30,R7
571 SVC OUT PRINT 'REF THE TCS SW CONSOLE'
572 MVA CTM48,R7
573 SVC OUT PRINT 'SET SELECT SW TO THIS PROCESOR'
574 MVA CTM34,R7
575 SVC OUT PRINT 'ENSURE MODE SW IS IN MANUAL'
576 MVA CTM36,R7
577 SVC OUT PRINT 'PRESS & RELEASE RESET SW'
578 MVA CTM4C,R7
579 SVC OUTIN PRINT 'ENTER 01 WHEN ACTION COMPLETE'
580 B CIA04 J - RECONFIGURE WITH MAX TCS SYSTEM

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
581 *-----
582 * NOT 1ST PASS
583 TCN1P EQU *
584 MVW R1,R1SAV SAVE R1
585 MVW R2,R2SAV SAVE R2
586 MVW (R2),DEVAD DEVICE ADDRESS FOR READ STATUS
587 BAL CSTAT,R7 READ STATUS
588 MVW IDCWB2,R7
589 SLL 10,R7
590 SRL 10,R7
591 MVW R7,(R2,4) STATUS BITS 10-15 INTO 3RD WORD
592 MVW R1SAV,R1 RESTORE R1
593 MVW R2SAV,R2 RESTORE R2
594 AWI R1,R1
595 AWI R2,R2
596 CB CTABU*,R1
597 BGT TC1TC J PAST END OF TABLE
598 DTYP2,R7 LOOK FOR 2ND TCS IN TABLE
599 MVW R3,R7
600 JZ TCN1P J - NO 2ND TCS
601 * 2ND TCS FOUND
602 MVW R1,R1SAV SAVE R1
603 MVW R2,R2SAV SAVE R2
604 MVW R2,TCS2A 2ND TCS ENTRY ADDRESS
605 MVW (R2),DEVAD DEVICE ADDRESS FOR READ STATUS
606 BAL CSTAT,R7 READ STATUS
607 MVW IDCWB2,R7
608 SLL 10,R7
609 SRL 10,R7
610 MVW R7,(R2,4) STATUS BITS 10-15 INTO 3RD WORD
611 MVW R1SAV,R1 RESTORE R1
612 MVW R2SAV,R2 RESTORE R2
613 TCN3P AWI R1,R1
614 AWI R2,R2
615 CB CTABU*,R1
616 TCN4P JLE
617 * PAST END OF TABLE & NO 3RD TCS.
618 * OUTER TCS NOT IN PROPER POSITION.
619 MVB X'01',R3 R3 = 0001 FOR CE
620 MVA CTM54,R7
621 SVC OUT PRINT 'ERROR-CAN'T FIND REFLECTED TCS
622 B CIA03 B START AUTO CONFIG OVER AGAIN
623 TCN4P BAL DTYP2,R7 LOOK FOR 3RD TCS IN TABLE
624 MVW R3,R7
625 JZ TCN3P J - NO 3RD TCS
626 * 3RD TCS FOUND
627 MVW R2,TCS3A
628 MVW (R2),DEVAD 3RD TCS ENTRY ADDRESS
629 BAL CSTAT,R7 DEVICE ADDRESS FOR READ STATUS
630 MVW IDCWB2,R7 READ STATUS
631 SLL 10,R7
632 SRL 10,R7
633 MVW R7,(R2,4) STATUS BITS 10-15 INTO 3RD WORD
634 MVB CTC00,CTM38 DELETE CHARS (S)
635 MVA CTM41,R7
636 SVC OUT PRINT 'REF TCS CONSOLE FARTHEST AWAY'
637 MVA CTM32,R7
638 SVC OUT PRINT 'CHANGE SELECT SW POSITION'
639 MVA CTM36,R7 PRINT 'PRESS & RELEASE RESET SW'
640 SVC OUT
641 MVA CTM45,R7
642 SVC OUTIN PRINT 'ENTER 01 WHEN ACTION COMPLETE'
643 * OUTER TCS DEVICES HAVE NOW DISAPPEARED
644 BAL TCDEA,R7 DO EVERY ADDRESS
645 MVW TCS2A,R3
646 MVW STCDA*,(R3,8) 2ND DEVICE IN TCS ENTRY 5TH WORD
647 MVB CSSC2,(R3,9) CSS BIT
648 MVW TCS1A,R3
649 MVW STCDA*,(R3,8) 2ND DEVICE IN TCS ENTRY 5TH WORD
650 MVB CSSC2,(R3,9) CSS BIT
651 MVW TCS3A,R3
652 MVW STCDA*,(R3,8) 2ND DEVICE IN TCS ENTRY 5TH WORD
653 MVB CSSC2,(R3,9) CSS BIT
654 * SEARCH FOR REFLECTED TCS FROM THE THREE TCS ENTRIES.
655 * IT HAS DISAPPEARED NOW.
656 MVWI X'0000',TCSDS INITIALIZE FLAG
657 MVB TCS1A*,CTIDA ADDRESS FOR READ ID TO TCS
658 BAL CYRID,R7 READ DEVICE ID
659 MVW CTIDF,R7
660 JNZ TCSR2 J DEVICE FOUND
661 * TCS NOT FOUND SO IT IS THE REFLECTED TCS
662 MVWI X'0001',TCSDS SET TCS DISAPPEARED FLAG
663 MVW TCS1A,R3
664 TBTS (R3,32) SET BIT 0 OF 3RD WORD REFLECTED TCS
665 TCSR2 MVB TCS2A*,CTIDA ADDRESS FOR READ ID TO TCS
666 BAL CYRID,R7 READ DEVICE ID
667 MVW CTIDF,R7
668 JNZ TCSR3 J DEVICE FOUND
669 * TCS NOT FOUND SO IT IS THE REFLECTED TCS
670 MVB TCSDS,R7 CK IF A TCS HAS ALREADY DISAPPEARED
671 JNZ TCSND J ERROR MORE THAN ONE TCS DISAPPEARED
672 MVWI X'0001',TCSDS SET TCS DISAPPEARED FLAG
673 MVW TCS2A,R3
674 TBTS (R3,32) SET BIT 0 OF 3RD WORD REFLECTED TCS
675 TCSR3 MVB TCS3A*,CTIDA ADDRESS FOR READ ID TO TCS
676 BAL CYRID,R7 READ DEVICE ID
677 MVW CTIDF,R7
678 JZ TCSR5 J DEVICE NOT FOUND
679 * TCS DIDN'T DISAPPEAR
680 MVW TCSDS,R7
681 JNZ TCSR5 J OK SOME TCS HAS DISAPPEARED
682 * ERROR - NO TCS DISAPPEARED
683 MVA CTM56,R7
684 SVC OUT PRINT 'ERROR-REF TCS DIDN'T DISAPPEAR
685 B CIA03 B START AUTO CONFIG OVER AGAIN
686 TCSND MVA CTM58,R7
687 SVC OUT PRINT 'ERROR-MORE THN 1 TCS DISAPPEAR
688 B CIA03 B START AUTO CONFIG OVER AGAIN
689 * TCS NOT FOUND SO IT IS THE REFLECTED TCS
690 TCSR5 MVW TCSDS,R7 CK IF A TCS ALREADY DISAPPEARED
691 JNZ TCSND J ERROR MORE THAN ONE TCS DISAPPEARED
692 MVW TCS3A,R3
693 TBTS (R3,32) SET BIT 0 OF 3RD WORD REFLECTED TCS
694 TCSR5 EQU *

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
695 * FINISHED OUTER TCS
696 * DO INNER TCS
697 TC1TC EQU *
698 MVA CTM43,R7
699 SVC OUT PRINT 'REF TCS CONSOLE NEAREST PROCSR
700 MVA CTM32,R7
701 SVC OUT PRINT 'CHANGE SELECT SW POSITION'
702 MVA CTM36,R7
703 SVC OUT PRINT 'PRESS & RELEASE RESET SW'
704 MVA CTM4,R7
705 SVC OUTIN PRINT 'ENTER 01 WHEN ACTION COMPLETE'
706 * INNER TCS DEVICES NOW DISAPPEARED
707 BAL TCDEA,R7 DO FOR EVERY ADDRESS
708 MVW TCS1A,R3
709 MVW STCDA*,(R3,6) 1ST DEVICE IN 1ST TCS 4TH WORD
710 MVB CSSC2,(R3,7) CSS BIT
711 MVW TCN2N,R3
712 JZ TCN2N,R3 J NO 2ND TCS
713 MVW STCDA*,(R3,6) 1ST DEVICE IN 2ND TCS 4TH WORD
714 MVB CSSC2,(R3,7) CSS BIT
715 MVW TCS3A,R3
716 JZ TCN2N,R3 J NO 2ND TCS
717 MVW STCDA*,(R3,6) 1ST DEVICE IN 2ND TCS 4TH WORD
718 MVB CSSC2,(R3,7) CSS BIT
719 TCN2N EQU *
720 * FINISHED TWO CHANNEL SWITCH.
721 CIAA9 EQU *
722 -----
723 CIA15 MVWI X'0000',CINCF RESET INITIAL CONFIGURATING FLAG
724 B OLYRA* RETURN TO BASIC
725 *
726 *****
727 ***** END OF INITIALIZATION PASS *****
728 *****
729 *****
730 *****
731 * SUBROUTINE - DTYPES
732 * PURPOSE - SEARCH CONFIG TABLE FOR A DEVICE TYPE
733 * INPUT - R3 = DEVICE TYPE TO SEARCH FOR
734 * OUTPUT - R1 = ENTRY #
735 * R2 = ENTRY ADDRESS
736 * R3 = 0 IF NOT FOUND, DT IF FOUND
737 *****
738 DTYP5 SLL 8,R3
739 SRL 8,R3
740 MVWI 1,R1 1ST ENTRY #
741 MVW CT1A1E,R2 @ 1ST REAL ENTRY
742 DTYP2 CB (R2,1),R3
743 JE DTPY9,DTYP9 DEVICE TYPE FOUND - GO RETURN
744 AWI 1,R1
745 AWI 16,R2
746 CB CTABU*,R1 CK # ENTRIES IN TABLE
747 DTYP2 DTPY2 & NO ENTRY FOUND
748 * END OF TABLE REACHED & NO ENTRY FOUND
749 SRL 16,R3 ZERO R3 FOR RETURN
750 DTYP9 B (R7) RETURN
751 *****
752 *****
753 *****
754 *****
755 * DATA
756 *****
757 *
758 * CONTROL BLOCK OUTPUT
759 ALIGN WORD
760 DC X'00C0'
761 FF02 DC A(F02A)
762 DC A(-1)
763 *
764 DC X'3833'
765 FF02A DC C'CONFIG ERROR-OIO CC='
766 FF02B DC C'
767 DC X'00'
768 *
769 *
770 * CONTROL BLOCK OUTPUT
771 ALIGN WORD
772 DC X'0080'
773 FF06 DC A(F06A)
774 DC A(-1)
775 *
776 DC X'384C'
777 FF06A DC C'DEVICE NOT ATTACHED'
778 DC X'00'
779 *
780 * CONTROL BLOCK HTOE
781 FF09 DC A(1) # BYTES HEX DATA
782 FF09A DC A(DEVAD) DATA ADDRESS (HEX)
783 FF09B DC A(FF10B) BUFFER ADDRESS (EBCDIC)
784 *
785 * CONTROL BLOCK OUTPUT
786 ALIGN WORD
787 DC X'0080'
788 FF10 DC A(FF10A)
789 DC A(-1)
790 *
791 DC X'384C'
792 FF10A DC C'ADDRESS='
793 FF10B DC C'
794 DC X'00'
795 *
796 *****
797 * END OF DATA
798 *****
799 *****
800 *
801 *****
802 * OIO CONTROL BLOCK - FOR DCP
803 *****
804 CTRLBLOK DC A(DEVAD) 0/1 DEVICE ADDRESS POINTER
805 DC A(OIOCCERR) 2/3 ERROR RETURN ADDRESS
806 DATAWORD DC A(*) 4/5 VARIABLE (USUALLY DCB ADDRESS)
807 DC A(*) 6/7 VARIABLE DEPENDENT ON OP
808 LASTSVC DC A(*) 8/9 ADDRESS OF LAST SVC
809 IDCBNZ EQU * 10/11 SECOND WORD OF IDCB = STATUS WORD FOR KIFF
810 DC A(*) 10/11 SECOND WORD OF IDCB (DEVICE ID)
811 *****

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
812 * NAME - ERROR OIO CC SUBROUTINE (BEFORE INTERRUPT)
813 * PURPOSE - TO DETERMINE THE OIO CONDITION CODE RETURNED IF NOT 7
814 * COME HERE ONLY IF CC NOT = 7
815 *
816 * CONDITION CODES BEFORE INTERRUPT ARE
817 * CC = 0 NOT ATTACHED
818 * CC = 1 BUSY
819 * CC = 2 BUSY AFTER RESET
820 * CC = 3 COMMAND REJECT
821 * CC = 4 NOT USED
822 * CC = 5 INTERFACE DATA CHECK
823 * CC = 6 CONTROLLER BUSY
824 * CC = 7 GOOD
825 *****
826 OIOCCERR CPLSR R3 GET INDICATORS
827 SRL 13,R3 EXTRACT CONDITION CODE
828 MVW R3,OIOCC SAVE CONDITION CODE
829 * R = OIOCC FOR CE
830 * R4 = DA & TYPE FOR CE
831 MVW DEVAD,R4
832 MVA FF09,R7
833 SVC HTOE
834 MVA FF10,R7
835 SVC OUT PRINT 'ADDRESS=XX'
836 MVA CCERRHTE,R7
837 SVC HTOE
838 MVA FF02,R7
839 SVC OUT PRINT 'OIO CC= XXXX'
840 CWI OIOCC
841 JNE CCERREND J
842 * CC = 0 = DEVICE NOT ATTACHED
843 MVA FF06,R7
844 SVC OUT PRINT 'DEVICE NOT ATTACHED'
845 CCERREND B BACK6* GO RETURN FROM READ STATUS SUBROUTINE
846 *****
847 * CONTROL BLOCK HTOE
848 CCERRHTE DC A(2) # BYTES
849 DC A(OIOCC) FROM ADDRESS (HEX)
850 DC A(FF02B) TO ADDRESS (EBCDIC)
851 *****
852 OIOCC DC X'0000' CONDITION CODE
853 *****
854 *****
855 * START READ STATUS
856 *****
857 CSTAT MVW R7,BACK6 SAVE RETURN ADDRESS
858 MVWZ DATAWORD,R7 ZERO MODIFIER INTO CONTROL BLOCK
859 MVA CTRLBLOK,R7 GET PARAMETER LIST ADDRESS
860 *-----
861 SVC RESET RESET DEVICE
862 *-----
863 MVWI X'0003',DATAWORD MODIFIER INTO CONTROL BLOCK
864 MVA CTRLBLOK,R7 GET PARAMETER LIST ADDRESS
865 *-----
866 SVC RSTAT READ STATUS
867 *-----
868 B BACK6* RETURN
869 *****
870 *****
871 *****
872 BACK6 DC A(*) START CYCLE STEAL STATUS RETURN
873 *****
874 *****
875 *
876 * DO FOR EVERY ADDRESS SUBROUTINE
877 -----
878 TCDEA MVW R7,TCDEA SAVE RETURN ADDRESS
879 MVW CTW00,CTAD1 ADDRESS ZERO FOR FIRST READ ID
880 MVWI 0,STCDA INITIALIZE DEVICE ENTRY ADDRESS
881 MVWI 0,CSSCS INITIALIZE CSS SW
882 CIAA4 MVB CTADD,CTIDA ADDRESS FOR READ ID
883 BAL CYRID,R7 READ DEVICE ID
884 MVWI 1,CTSEN START SEARCH AT ENTRY 1
885 SRL 16,R7
886 MVW R7,CBPA3 0
887 MVW R7,CBPA4 0
888 MVW CTAD1,CTSA SEARCH ADDRESS
889 BAL CSRCH,R7 SEARCH TABLE FOR ENTRY WITH ADDRESS
890 MVW CTSEE,R7
891 JZ CIAA5 J NOT IN TABLE
892 * ADDRESS HAS AN ENTRY IN TABLE
893 MVW CTIDE,R7
894 JNZ CIAA6,R7 J IN TABLE & IN HARD = OK
895 * IN TABLE & NOT IN HARD = TCS DEVICE HAS DISAPPEARED
896 MVW CTSEA,R7 @ OF TABLE ENTRY
897 TBT (R7,22) CK TCS BIT
898 JON CIAA8 J IGNORE IF TCS BIT ALREADY ON
899 * SET TCS BIT IN TABLE ENTRY.
900 MVW CTSEA,R7 @ OF TABLE ENTRY
901 TBTs (R7,22) SET TCS BIT ON IN ENTRY
902 * TESTS FOR CYCLE STEAL DEVICE ON TCS.
903 BYPASS IF ONE ALREADY FOUND.
904 CSSCS,R3
905 JNZ CIAA5 J BYPASS, CS DEVICE ALREADY FOUND
906 MVW R7,STCDA SAVE TCS DEVICE ENTRY ADDRESS
907 AWI 15,R7,R4 R4 = LAST BYTE OF ENTRY
908 TBT (R4,6) TEST CYCLE STEAL BIT IN READ ID
909 JOFF CIAA8 J NOT A CS DEVICE. CK NEXT ENTRY
910 * FOUND A CYCLE STEAL TCS DEVICE. ENTER IN TCS ENTRY
911 MVWI 1,CSSCS SET CYCLE STEAL DEVICE SWITCH
912 J CIAA8 J TO CK NEXT ADDRESS
913 * NOT IN TABLE
914 CIAA5 MVW CTIDE,R7
915 JZ CIAA6,R7 J NOT IN TABLE & NOT IN HARD = OK
916 * NOT IN TABLE & IN HARD = TCS DEVICE
917 * NEVER HAPPEN, NO ACTION REQUIRED.
918 MVA CTM52,R7
919 SVC OUT PRINT 'ERROR-TCS IN WRONG POSITION'
920 J CIAAA
921 CIAA8 AWI 1,CTAD1 NEXT ADDRESS
922 CW CTWFF,CTAD1
923 JLE CIAA4 J ALL ADDRESSES NOT TESTED
924 ***** ALL ADDRESSES HAVE BEEN TESTED *****
925 *****
926 B TCDEA* RETURN-NORMAL
927 *****
928 CIAAA B CIA03 RETURN-ERROR-RESTART AUTO CONFIG

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
00272A 0000
00272C 0000
00272E 00
00272F 00
929 *****
930 TCDRA DC A(*-*) RETURN ADDRESS
931 STCDA DC X'0000' TCS DEVICE ENTRY ADDRESS
932 CSSCS DC X'00' 1 = CYCLE STEAL DEVICE SWITCH
933 CSSC2 DC X'00' 1 = CYCLE STEAL DEVICE SWITCH BYTE 2
934 *****
935 *-----
936 * END DO FOR EVERY ADDRESS SUBROUTINE
937 *-----
938 *****
939 * COPY COMMON SUBROUTINES
940 *****
941 * COPY DNSUB1
942 *****
943 *
944 *****
945 * *** TITLE ***
946 * 'CONFIGURATION COMMON SUBROUTINES' *
947 *****
948 *****
949 *****
950 *
951 * SYSTEM EQUATES - WAS MEMBER DCPEQUA
952 *****
953 *****
954 SM EQU 1 SUMMARY MASK DISABLE OR
955 * ENABLE CODE
956 AT EQU 2 ADDRESS TRANSLATOR ENABLE OR
957 * DISABLE CODE
958 *****
959 *
960 * EQUATED NAMES FOR SUPPORTED SVC'S
961 *
962 *****
963 OUT EQU 0 OUT SVC
964 OUTIN EQU 1 OUTIN SVC
965 IDLE EQU 2 IDLE SVC
966 ASCII EQU 3 HEX TO ASCII SVC
967 CHNGE EQU 4 CHANGE LEVEL SVC
968 PGMCK EQU 5 ALLOW RETURN ON PROGRAM CHECK SVC
969 EXIT EQU 6 EXIT SVC
970 TERM EQU 7 TERMINATE SVC
971 RESET EQU 8 RESET DEVICE SVC
972 RID EQU 9 READ ID SVC
973 START EQU 10 START CYCLE STEAL SVC
974 STCSS EQU 11 START CYCLE STEAL STATUS SVC
975 PREP EQU 12 PREPARE DEVICE SVC
976 READ0 EQU 13 READ WITH FUNCTION BIT 3 OFF SVC
977 READ1 EQU 14 READ WITH FUNCTION BIT 3 ON SVC
978 RSTAT EQU 15 READ STATUS SVC
979 WRTO EQU 16 WRITE WITH FUNCTION BIT 3 OFF SVC
980 WRIT1 EQU 17 WRITE WITH FUNCTION BIT 3 ON SVC
981 CTRL EQU 18 CONTROL SVC
982 RICE EQU 19 RELEASE INTERRUPT CONTROL BLOCK SVC
983 CIBC EQU 20 CONNECT INTERRUPT CONTROL BLOCK SVC
984 HIO EQU 21 HALT I/O SVC
985 REQSD EQU 22 REQUEST USE OF DCP DISK SVC
986 RELSD EQU 23 RELEASE USE OF DCP DISK SVC
987 HALT EQU 24 HALT SVC
988 ETOH EQU 25 EBCDIC TO HEX SVC (STRING)
989 HTOE EQU 26 HEX TO EBCDIC SVC (STRING)
990 ATOH EQU 27 ASCII TO HEX SVC (STRING)
991 HTOA EQU 28 HEX TO ASCII SVC (STRING)
992 ETOA EQU 29 EBCDIC TO ASCII SVC (STRING)
993 ATOE EQU 30 ASCII TO EBCDIC SVC (STRING)
994 READI EQU 31 READ DATA SETS FOR MDI/UTIL
995 WRITI EQU 32 WRITE DATA SETS FOR UTIL
996 *
997 VLDSV EQU 32 NUMBER OF HIGHEST VALID SVC
998 *****
999 *****
1000 *
1001 * EQUATES USED BY DCP
1002 *
1003 *****
1004 AUTO EQU 0 AUTOMATIC MODE IND
1005 TPGSW EQU 0 TERMINATE PGM SW
1006 LOOP EQU 1 LOOP PGM IND
1007 OFF EQU 2 TURN OPT BITS OFF
1008 ON EQU 2 TURN OPT BITS ON
1009 UTIL EQU 3 UTILITY REQUESTING DATA
1010 LODED EQU 4 PGM LOADED
1011 STOP EQU 6 STOP AFTER MSG OUT
1012 ALTDV EQU 7 ALTERNATE OUTPUT DEV ASSIGNED
1013 NXTVT EQU 8 TAKE NEXT DATA SET IND
1014 IRD EQU 10 MDI READ REQUEST
1015 RTMHI EQU 11 MDI RETURN REQ
1016 TUIDS EQU 12 SAVE THE T.U. J.D.
1017 LDIAG EQU 13 LOOP ALL DIAG PACKAGE
1018 CNRUN EQU 14 UNIT ADR ASSIGNMENT RUN
1020 NINTL EQU 3 HIGHEST INT LEVEL ON SYSTEM
1021 MDIRT EQU 48 MDI IMMEDIATE RETURN IN CNTL BLK
1022 OPRWD EQU 14 DISP TO PGM OPTION WORD
1024 EOT EQU X'0D' END OF MESSAGE CHAR (RETURN)
1025 TTBL EQU X'11' ATEN CHAR (X-ON)
1026 DLETE EQU X'7F' DELETE CHAR (RUBOUT)
1027 PLUS EQU C+'+' PLUS CHAR
1028 MINUS EQU C+'-' MINUS CHAR
1029 BLANK EQU C+' ' BLANK CHAR
1031 NEGZR EQU X'1800' NEGATIVE AND ZERO INDICATORS
1032 STPCD EQU X'64' STOP CODE FOR MEMORY
1033 SMBIT EQU X'0010' SUMMARY MASK BIT
1035 ZERO EQU 0 VALUE OF 0
1036 ONE EQU 1 1
1037 TWO EQU 2 2
1038 THREE EQU 3 3
1039 FOUR EQU 4 4
1040 FIVE EQU 5 5
1041 SIX EQU 6 6
1042 SEVEN EQU 7 7
1043 EIGHT EQU 8 8
1044 NINE EQU 9 9
1045 TEN EQU 10 10
1046 ELEVN EQU 11 11
1047 TWELV EQU 12 12
1048 THRTN EQU 13 13
1049 FORTN EQU 14 14

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
00000F 1050 FIVTN EQU 15 15
000010 1051 SIXTN EQU 16 16
000011 1052 SEVTN EQU 17 17
000014 1053 TWNTY EQU 20 20
000015 1054 TWENTY EQU 21 21
000017 1055 TWENTY EQU 23 23
000019 1056 TWENTY EQU 25 25
00001A 1057 TWENTY EQU 26 26
00001C 1058 TWENTY EQU 28 28
00001E 1059 THRTY EQU 30 30
000039 1060 FIFTY EQU 57 57
00003C 1061 SIXTY EQU 60 60
000040 1062 SIXTY EQU 64 64
000042 1063 SIXTY EQU 66 66
00004B 1064 SEVNTY EQU 75 75
0000C0 1065 ONE92 EQU 192 192
0000D0 1066 TWO08 EQU 208 INPROC,SUP ST,SM MSK
001000 1067 TWO56 EQU 256 256
001000 1068 THR52 EQU 352 352
001000 1069 FOURK EQU 4096 4096
000030 1070 HPTHY EQU X'30' HEX 30
003FFE 1071 H3FFE EQU X'3FFE' HEX 3FFE
FFFFFE 1073 M1 EQU -1 -1
FFFFFE 1074 M2 EQU -2 -2
FFFFFE 1075 M3 EQU -3 -3
FFFFFE 1076 M16 EQU -16 -16
FFFFFE 1077 M28 EQU -28 -28
FFFFFE 1078 M30 EQU -30 -30
00D4C3 1080 MCKLB EQU C'MC'
00D7C3 1081 PKLAB EQU C'PC'
1083 *****
1084 *****
1085 * EQUATES FOR DISK
1086 *
1087 *****
1088 BOE EQU 6 DISP TO BOE FROM START OF
1089 * ENTRY IN VTOC
1090 EOE EQU 8 DISP TO EOE FROM START OF
1091 * ENTRY IN VTOC
1092 DSTYP EQU 12 DISP TO TYPE OF DATA SET IN
1093 * ENTRY OF VTOC
1094 SPTTE EQU 15 NUMBER SECTORS/TRACK
1095 DIP2A EQU 15 ADDR 1ST DIPL2 SECTOR
1096 EDK2 EQU 30 ADDR LAST DIPL2 SECTOR+1
1097 PRCA EQU 120 ADDR 1ST PROC1 SECTOR
1098 EPRC1 EQU 180 ADDR LAST PROC1 SECTOR+1
1099 PRC2A EQU 180 ADDR 1ST PROC2 SECTOR
1100 LPRC2 EQU 240 ADDR LAST PROC2 SECTOR+1
1101 PRC3A EQU 240 ADDR 1ST PROC3 SECTOR
1102 EPRC3 EQU 300 ADDR LAST PROC3 SECTOR+1
1103 VTOCA EQU 330 ADDR 1ST VTOC SECTOR
1104 EVTOC EQU 360 ADDR LAST VTOC SECTOR+1
1105 LDSST EQU 2219 ADDR LAST SECTOR ON DISK
1106 PDSST EQU 360 ADDR 1ST DATA SECTOR
1107 DPCPY EQU 10 CYLINDER DCP ON
1108 LVTE EQU 32 LENGTH IN BYTES OF A VTOC ENTRY
1109 NDFPS EQU 8 NUMBER ENTRIES/SECTOR IN VTOC
1110 CHDLP EQU 4 DISP TO DATA IN MULT SECT'S
1111 VHDLP EQU 10 NUMBER BYTES OF HEADER INFORMATION
1112 IHDLP EQU 14 NUM BYTES PAST ALL HEADER INFO
1113 VHDLP EQU 30
1114 *
1115 * ON 1ST SECTOR OF EACH PROGRAM DATA
1116 * SET
1117 *****
1118 *
1119 * EQUATES FOR CODED STOPS USED BY DCP
1120 * (NORMAL AND ERROR)
1121 *
1122 *****
1123 RECD1 EQU X'3800' DCP WAIT
1124 ACNG EQU X'3801' ALTERNATE CONSOLE ERROR
1125 PKCD EQU X'3802' PROGRAM CHECK ERROR
1126 MCKCD EQU X'3803' MACHINE CHECK ERROR
1127 PTWNG EQU X'3804' POWER THERMAL ERROR
1128 PSTER EQU X'3805' PROGRAM TERM
1129 INVCD EQU X'3806' INVALID COMMAND ERROR
1130 ALTCN EQU X'3807' ALT IN/OUT UNDER TEST
1131 RES EQU X'3808' ALT IN/OUT ON LINE
1132 UXP EQU X'3809' UNEXPECTED I/O INTERRUPT
1133 BPCD5 EQU X'380A' PROGRAM STARTED
1134 LPCD4 EQU X'380B' DISK ERROR
1135 LPCD5 EQU X'380C' PROGRAM NOT FOUND
1136 LPCD6 EQU X'380D' PROGRAM LOADED
1137 HLTCD EQU X'380E' HALT SVC
1138 RPCD2 EQU X'3810' PROGRAM NOT EXPECTING REPLY
1139 RPCD5 EQU X'3812' PROGRAM EXPECTING HEX DATA
1140 ERR1 EQU X'3813' TOO MANY CHARACTERS ENTERED
1141 ENTCD EQU X'3814' ASK FOR DATA ENTRY
1142 SVCOD EQU X'3815' TOO MANY SVC CALLS
1144 *****
1145 *
1146 * THE FOLLOWING EQUATES ARE THE DISPLACEMENT FROM THE
1147 * START OF A PROGRAM HEADER OF THE VARIOUS INFORMATION IN
1148 * EACH PROGRAM HEADER
1149 *
1150 *****
1151 HID EQU 0 PROG I.D.
1152 DVADR EQU 0 DEVICE TYPE IN DEVICE TABLE
1153 DVTYP EQU 1 DEVICE ADR IN DEVICE TABLE
1154 HDDP1 EQU 3 DEVICE DEPENDENT DATA
1155 HDDP2 EQU 4 DEVICE DEPENDENT DATA
1156 CPUMD EQU 4 CPU MODEL DISPLACEMENT
1157 LSADR EQU 6 LAST ADR DISPLACEMENT
1158 HPK1 EQU 7 PROTECT KEY
1159 HPK1 EQU 7 PROTECT KEY PLUS ONE
1160 HPSA EQU 6 DIAG PROG START ADR
1161 INTAR EQU 6 DEVICE INTERRUPT ADR
1162 HDVTE EQU 08 DIAG DEV TABLE POINTER
1163 EXPNT EQU 17
1164 TBEND EQU 18 END OF TABLE IND
1165 SCEND EQU 19 END OF SECTOR IND
1166 CICBT EQU 20 C I C B INDICATOR
1167 CFEXT EQU 08
1158 HTUID EQU 18 MDI MAP I.D DISPLACEMENT

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
000010 1169 UDTAS EQU 16 UNIT ASSIGNED BIT
000020 1170 PD TAS EQU 32
1171 UN CRT EQU 0 UNCONDITIONAL RETURN BIT
1172 CKDAD EQU 1 CHECK REQUESTED DEV
1173 IOCHK EQU 1 I/O CHK IN PSW
1174 NEWAR EQU 15
1175 *****
1176 *
1177 * THE FOLLOWING EQUATES ARE THE OFFSETS INTO EACH ENTRY *
1178 * FOR THE DATA SPECIFIED. (16 BYTES / ENTRY) *
1179 *
1180 *****
1181 CU DA EQU 0 DEVICE ADDRESS
1182 CU DT EQU 1 DEVICE TYPE
1183 CU DF EQU 2 CONTROL FLAGS
1184 CU DD1 EQU 3 DEVICE DEPENDENT DATA -- 1
1185 CU DD2 EQU 4 DEVICE DEPENDENT DATA -- 2
1186 CU DD3 EQU 5 DEVICE DEPENDENT DATA -- 3
1187 CU DD4 EQU 6 DEVICE DEPENDENT DATA -- 4
1188 CU DD5 EQU 7 DEVICE DEPENDENT DATA -- 5
1189 CU DD6 EQU 8 DEVICE DEPENDENT DATA -- 6
1190 CU DD7 EQU 9 DEVICE DEPENDENT DATA -- 7
1191 CU DD8 EQU 10 DEVICE DEPENDENT DATA -- 8
1192 CU DD9 EQU 11 DEVICE DEPENDENT DATA -- 9
1193 CU DA EQU 12 DEVICE DEPENDENT DATA -- 10
1194 CU DD B EQU 13 DEVICE DEPENDENT DATA -- 11
1195 CU DR I EQU 14 DEVICE READ ID DATA RETURNED
1196 *****
1197 *
1198 * THE FOLLOWING EQUATES ARE THE DISPLACEMENTS FROM THE *
1199 * START OF A QUE BLOCK OF THE VARIOUS INFORMATION. *
1200 *
1201 *****
1202 QI AR EQU 0 IARB OF CALLING PROGRAM
1203 QAKR EQU 2 KEY REG
1204 QLSR EQU 4 LSR OF CALLING PROGRAM
1205 QRO EQU 6 XRO OF CALLING PROGRAM
1206 OR1 EQU 8 XR1 OF CALLING PROGRAM
1207 OR2 EQU 10 XR2 OF CALLING PROGRAM
1208 OR3 EQU 12 XR3 OF CALLING PROGRAM
1209 OR4 EQU 14 XR4 OF CALLING PROGRAM
1210 OR5 EQU 16 XR5 OF CALLING PROGRAM
1211 OR6 EQU 18 XR6 OF CALLING PROGRAM
1212 OR7 EQU 20 XR7 OF CALLING PROGRAM
1213 OSVC EQU 22 SVC NUMBER OF CALLING PROGRAM
1214 OSVC EQU 22 SVC NUMBER OF CALLING PROGRAM
1215 OSVC EQU 22 SVC NUMBER OF CALLING PROGRAM
1216 OSVC EQU 22 SVC NUMBER OF CALLING PROGRAM
1217 QAV1 EQU 24 INTO SVC ON
1218 QAV2 EQU 26 AVAILABLE WORD 2
1219 *****
1220 *
1221 * THE FOLLOWING EQUATES ARE THE DISPLACEMENTS FROM THE START *
1222 * OF EACH SLOT IN THE DEVICE TABLE TO THE VARIOUS *
1223 * INFORMATION IN EACH SLOT *
1224 *
1225 *****
1226 OAG EQU 2 RETURN ADDRESS IF COND CODE OF
1227 * INTERRUPT MATCHES THE COND
1228 * CODE AT OCC
1229 *
1230 OAB EQU 4 RETURN ADDRESS IF CONDITION
1231 * CODE OF INTERRUPT DOES NOT
1232 * MATCH CONDITION CODE AT OCC
1233 OCC EQU 7 CONDITION CODE EXPECTED
1234 *****
1235 *
1236 * DATA FOR COMMON SUBROUTINES *
1237 *
1238 *****
1239 OLTRA DC A(*) OVERLAY RETURN ADDRESS
1240 *****
1241 CTMSZ DC X'0230' ADDRESS IN DCP LAST USABLE STORAGE
1242 ALTER DC X'0240' ADDRESS IN DCP ALT CONSOLE ADD-TYPE
1243 *****
1244 AOPTN1 DC X'180E' ADDRESS IN BASIC OF OPTION WORD 1
1245 *****
1246 CTNAD EQU 256 # DEVICE ADDRESSES
1247 *****
1248 CDT3D DC X'3D' FLOATING POINT
1249 CDT3E DC X'3E' TCS
1250 CDT40 DC X'40' TRY
1251 CDT44 DC X'44' CRT
1252 CDT45 DC X'45' DISPLAY
1253 CDT64 DC X'64' PRINTER
1254 CDT68 DC X'68' 4973 PRINTER
1255 CDTA0 DC X'A0' S/IO
1256 CDTA3 DC X'A3' S/IO
1257 CDTA4 DC X'A4' S/IO
1258 CDTA8 DC X'A8' S/IO
1259 CDTA9 DC X'A9' S/IO
1260 CDTB0 DC X'B0' S/IO
1261 CDTB4 DC X'B4' S/IO
1262 CDTB0 DC X'E0' COM SYS
1263 CDTB1 DC X'E1' COM SYS
1264 *****
1265 CTC01 DC X'01' CONSTANT
1266 CTC02 DC X'02' CONSTANT
1267 CTC03 DC X'03' CONSTANT
1268 CTC04 DC X'04' CONSTANT
1269 CTC05 DC X'05' CONSTANT
1270 CTC06 DC X'06' CONSTANT
1271 CTC07 DC X'07' CONSTANT
1272 CTC14 DC H'14' CONSTANT
1273 CTCFF DC X'FF' CONSTANT 255 1 BYTE
1274 *****
1275 CTW00 ALIGN WORD CONSTANT DECIMAL 00 1 WORD
1276 CTW13 DC X'000D' CONSTANT DECIMAL 13 1 WORD
1277 CTW16 DC X'0010' CONSTANT DECIMAL 16 1 WORD
1278 CTWFF DC X'00FF' CONSTANT
1279 *****
1280 * ALIGN WORD
1281 * ENTER ALT CONSOLE
1282 CAEAD DC X'00' ADDRESS - WORD
1283 CAEAE DC X'00' ADDRESS - BYTE
1284 CAETY DC X'00' TYPE - WORD
1285 CAETZ DC X'00' TYPE - BITE

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
00275E 00 1286 CTSA DC X'00' SEARCH FOR DEVICE ADDRESS
00275F 00 1287 CTSA2 DC X'00' SEARCH FOR DEVICE ADDRESS - BYTE 2
002760 0000 1288 CTSEA DC X'0000' ENTRY FOUND ADDRESS
002762 00 1289 CTSEF DC X'00' ENTRY FOUND NUMBER
002763 00 1290 CTSEN DC X'00' ENTRY FOUND NUMBER - BYTE 2
002764 0000 1291 CTSEN DC X'0000' ENTRY # TO START SEARCH AT
002766 00 1292 CTAD1 DC X'00' ADDRESS BYTE 1
002767 00 1293 CTADD DC X'00' ADDRESS BYTE 2
002768 0000 1294 IPLPS DC X'0000' SWITCH - IPL PASS
00276A 0000 1295 PASS1 DC X'0000' 1ST PASS FLAG
00276C 0000 1296 CINC3 DC X'0000' FLAG IN INITIAL CONFIGURATING MODE
00276E 0000 1297 CBPA3 DC X'0000' FLAG BYPASS A3 OEMIA ENTRIES IN CSRCH
002770 0000 1298 CBPA4 DC X'0000' FLAG BYPASS A4 KITE ENTRIES IN CSRCH
002772 0000 1299 CCERR DC X'0000' FLAG CONDITION CODE ERROR IN READ ID
002774 00 1300 CEDN1 DC X'00' COUNTER TO ENTER DEVICE TYPE
002775 00 1301 CEDN2 DC X'00' COUNTER
002776 00 1302 CHACT DC X'00' COUNTER FOR DEVICE ADDRESS
002777 00 1303 CHACT DC X'00' COUNTER 2ND BYTE
002778 00 1304 CTMC1 DC X'00' PRINT COUNTER BYTE 1
002779 00 1305 CTMC2 DC X'00' PRINT COUNTER BYTE 2
00277A 40404040 1306 CDVT1 DC C' ; DEVICE NAME RETURNED BY CDEVT
00277E 40404040 1307 CDVT2 DC C' ; DEVICE NAME RETURNED BY CDEVT
1308 *****
1309 * CONTROL FOR WRIT
1310 CTRL5 DC A(CTRL6) ADDRESS OF CONFIG TABLE NAME
1311 DC X'3000' WRIT - ADDRESS OF CONFIG TABLE
1312 DC X'0800' WRIT - # WORDS TO WRITE = 2048
1313 CTRL6 DC C'38F1' CONFIG TABLE NAME
1314 *****
1315 * CONFIGURATION TABLE 1120 BYTES
1316 * ENTRY ZERO = SYSTEM INFORMATION
1317 * ENTRY 1 - FF = DEVICE DATA
1318 CTLEL DC X'0010' TABLE ENTRY LENGTH = 16 BYTES
1319 CTLENG DC F'4096' CONFIGURATION TABLE LENGTH
1320 CTABA DC X'3000' ADDRESS OF CONFIGURATION TABLE
1321 CTABC DC X'3002' ADDRESS NUMBER OF ENTRIES USED
1322 CTABP DC X'3003' ADDRESS OF CONFIGURED FLAG
1323 CTABD DC X'3005' ADDRESS OF SYSTEM TYPE
1324 CTABS DC X'3006' ADDRESS LAST USABLE STORAGE
1325 CTABN DC X'3008' ADDRESS ALT CONSOLE ADD-TYPE
1326 CTABE DC X'3010' ADDRESS 1ST REAL ENTRY
1327 CTABF DC X'3FF0' ADDRESS LAST ENTRY
1328 DC X'00' KEEP READI STORAGE ADDRESS ON WD. BD.
1329 CTRL1 DC C'U38F1' CONFIGURATION TABLE NAME
1330 CTRL2 DC X'0000' STORAGE ADDRESS FOR CTRL1
1331 *****
1332 * ALIGN WORD
1333 CTMNE DC X'00' 255 = MAX # ENTRIES IN CONFIG TABLE
1334 CTMFE DC X'FF' BYTE 2
1335 *****
1336 * CONFIGURATION TABLE FIELD EXPANSION
1337 *
1338 CTDA DC X'00' DEVICE ADDRESS
1339 CTTT DC X'00' DEVICE TYPE
1340 CTCF DC B'00000000' CONTROL FLAGS
1341 * BIT 0 - USED BY DCP
1342 * 1 - CHAIN ENTRIES
1343 * 2 - LAST USED ENTRY IN TABLE
1344 * 3 - LAST ENTRY IN EACH SECTOR
1345 * 4 - USED BY DCP
1346 * 5 - USED BY DCP
1347 * 6 - TCS DEVICE
1348 * 7 - END OF TABLE
1349 CTDD1 DC B'00000000' DEVICE DEPENDENT
1350 CTDD2 DC B'00000000' DEVICE DEPENDENT
1351 CTDD3 DC B'00000000' DEVICE DEPENDENT
1352 CTDD4 DC B'00000000' DEVICE DEPENDENT
1353 CTDD5 DC B'00000000' DEVICE DEPENDENT
1354 CTDD6 DC B'00000000' DEVICE DEPENDENT
1355 CTDD7 DC B'00000000' DEVICE DEPENDENT
1356 CTDD8 DC B'00000000' DEVICE DEPENDENT
1357 CTDD9 DC B'00000000' DEVICE DEPENDENT
1358 CTDDA DC B'00000000' DEVICE DEPENDENT
1359 CTDD B DC B'00000000' DEVICE DEPENDENT
1360 CTDID DC X'00' DEVICE READ ID RESULTS
1361 CTIDI DC X'00' DEVICE READ ID RESULTS - BYTE 2
1362 *****
1363 * ALIGN WORD
1364 *
1365 * CONFIG TABLE MESSAGES = 3820 - 384F
1366 *
1367 * CONTROL BLOCK HTOE
1368 CNM25 DC X'0001' HEX DATA 1 BYTES
1369 DC A(CTSEB) DATA ADDRESS
1370 DC A(CTE02) EBCDIC OUT BUFFER - ENTRY #
1371 * CONTROL BLOCK HTOE
1372 CTM20 DC A(16) # BYTES HEX DATA
1373 CTM21 DC A(0) DATA ADDRESS (HEX)
1374 CTM22 DC A(CTE04) BUFFER ADDRESS (EBCDIC)
1375 *
1376 * COMMON TABLE ENTRY
1377 DC X'384C'
1378 CTE01 DC C'ENTRY '
1379 CTE02 DC C'---'
1380 CTE03 DC C'---'
1381 CTE04 DC 1C' ' 16 WORDS
1382 CTE05 DC 15C' ' 16 WORDS
1383 CTE06 DC X'00'
1384 *
1385 * CONTROL BLOCK OUTIN
1386 * ALIGN WORD
1387 CMD20 DC X'00C0'
1388 DC A(CMD21)
1389 DC A(CMD22)
1390 DC A(2)
1391 DC A(1)
1392 *
1393 * OUTPUT
1394 DC X'3821'
1395 CMD21 DC C'ALTERNATE CONSOLE DEVICE ADDRESS AND TYPE'
1396 DC X'00'
1397 *
1398 * INPUT
1399 * ALIGN WORD
1400 * ADDRESS
1401 * TYPE

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1400 * CONTROL BLOCK OUTPUT
1401 * ALIGN WORD
1402 DC X'00C0'
1403 CMD25 DC A(CMD26)
1404 DC A(-1)
1405 * OUTPUT
1406 DC X'3829'
1407 CMD26 DC C'NO DEVICE'
1408 DC X'00'

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1517 DC X'3844'
1518 CTI16 DC C'ERROR-READ ID D.A.= '
1519 CTI17 DC C' ' DEVICE ADDRESS
1520 DC C' CC= '
1521 CTI18 DC C' ' CONDITION CODE
1522 DC X'00'

LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
1632	*	INPUT	R6 = READ ID	
1633	*	OUTPUT	R6 = DEVICE TYPE	
1634	*	OUTPUT	CDVT1 & 2 = DEVICE NAME (EBCDIC)	
1635	*		R1, R3, & R4 ARE NOT CHANGED	
1636	*		IF DEVICE ID IS NOT RECOGNIZED: R6 RETURNED = 0000	
1637	*		R5 RETURNED = 0000	
1638	*	*****	*****	
1639	*	DATA DEFINITION		
1640	*	DEVICE NAME TABLE		
1641	DNTAB	X'0010'	READ ID	
1642	DC	X'0000'	MASK	
1643	DC	X'0040'	DEVICE TYPE	
1644	DC	C'TTY	DEVICE NAME	
1645	DC	X'0206'	READ ID	
1646	DC	X'0000'	MASK	
1647	DC	X'0064'	DEVICE TYPE	
1648	DC	C'PRINTER	DEVICE NAME	
1649	DC	X'0306'	READ ID	
1650	DC	X'0000'	MASK	
1651	DC	X'0068'	DEVICE TYPE	
1652	DC	C'PRINTER	DEVICE NAME	
1653	DC	X'0106'	READ ID	
1654	DC	X'0000'	MASK	
1655	DC	X'0048'	DEVICE TYPE	
1656	DC	C'DISKETTE'	DEVICE NAME	
1657	DC	X'0126'	READ ID	
1658	DC	X'0000'	MASK	
1659	DC	X'004A'	DEVICE TYPE	
1660	DC	C'DISKETTE'	DEVICE NAME	
1661	*			
1662	DC	X'00AA'	READ ID	
1663	DC	X'0000'	MASK	
1664	DC	X'0078'	DEVICE TYPE	
1665	DC	C'DISK	DEVICE NAME DUTCHESS	
1666	DC	X'00BA'	READ ID	
1667	DC	X'0000'	MASK	
1668	DC	X'0078'	DEVICE TYPE	
1669	DC	C'DISK	DEVICE NAME DUTCHESS	
1670	DC	X'00CA'	READ ID	
1671	DC	X'0000'	MASK	
1672	DC	X'0078'	DEVICE TYPE	
1673	DC	C'DISK	DEVICE NAME DUTCHESS	
1674	DC	X'00A2'	READ ID	
1675	DC	X'0000'	MASK	
1676	DC	X'0079'	DEVICE TYPE	
1677	DC	C'DISK	DEVICE NAME VTL	
1678	DC	X'00B2'	READ ID	
1679	DC	X'0000'	MASK	
1680	DC	X'0079'	DEVICE TYPE	
1681	DC	C'DISK	DEVICE NAME VTL	
1682	DC	X'3106'	READ ID	
1683	DC	X'0000'	MASK	
1684	DC	X'007A'	DEVICE TYPE	
1685	DC	C'DISK	DEVICE NAME	
1686	*			
1687	DC	X'0406'	READ ID	
1688	DC	X'0000'	MASK	
1689	DC	X'0040'	DEVICE TYPE	
1690	DC	C'DISPLAY	DEVICE NAME CRT	
1691	DC	X'040E'	READ ID	
1692	DC	X'0000'	MASK	
1693	DC	X'0045'	DEVICE TYPE	
1694	DC	C'DISPLAY	DEVICE NAME 4978 DISPLAY	
1695	*			
1696	DC	X'0028'	READ ID	
1697	DC	X'0000'	MASK	
1698	DC	X'0050'	DEVICE TYPE	
1699	DC	C'TIMER	DEVICE NAME	
1700	*			
1701	DC	X'C010'	READ ID	
1702	DC	X'0000'	MASK	
1703	DC	X'00A0'	DEVICE TYPE	
1704	DC	C'INT DI	DEVICE NAME	
1705	DC	X'C018'	READ ID	
1706	DC	X'0000'	MASK	
1707	DC	X'00A0'	DEVICE TYPE	
1708	DC	C'INT DO	DEVICE NAME	
1709	DC	X'8008'	READ ID	
1710	DC	X'0000'	MASK	
1711	DC	X'00B0'	DEVICE TYPE	
1712	DC	C'SIO DI I'	DEVICE NAME	
1713	DC	X'8010'	READ ID	
1714	DC	X'0000'	MASK	
1715	DC	X'00B0'	DEVICE TYPE	
1716	DC	C'SIO DI	DEVICE NAME	
1717	DC	X'8018'	READ ID	
1718	DC	X'0000'	MASK	
1719	DC	X'00B4'	DEVICE TYPE	
1720	DC	C'SIO DO	DEVICE NAME	
1721	DC	X'8020'	READ ID	
1722	DC	X'0000'	MASK	
1723	DC	X'00A8'	DEVICE TYPE	
1724	DC	C'SIO AI	DEVICE NAME	
1725	DC	X'8028'	READ ID	
1726	DC	X'0000'	MASK	
1727	DC	X'00A8'	DEVICE TYPE	
1728	DC	C'SIO AI A'	DEVICE NAME INSTRUMENTATION AMP	
1729	DC	X'8030'	READ ID	
1730	DC	X'0000'	MASK	
1731	DC	X'00A8'	DEVICE TYPE	
1732	DC	C'SIO AI R'	DEVICE NAME MPX RELAY	
1733	DC	X'8038'	READ ID	
1734	DC	X'0000'	MASK	
1735	DC	X'00A8'	DEVICE TYPE	
1736	DC	C'SIO AI S'	DEVICE NAME MPX SS	
1737	DC	X'8040'	READ ID	
1738	DC	X'0000'	MASK	
1739	DC	X'00A9'	DEVICE TYPE	
1740	DC	C'SIO AO	DEVICE NAME	
1741	*			
1742	DC	X'100E'	READ ID	
1743	DC	X'0000'	MASK	
1744	DC	X'00E8'	DEVICE TYPE	
1745	DC	C'ACCA SL	DEVICE NAME	

LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
1746	DC	X'1006'	READ ID	
1747	DC	X'0000'	MASK	
1748	DC	X'00F0'	DEVICE TYPE	
1749	DC	C'BSCA SL	DEVICE NAME	
1750	DC	X'1016'	READ ID	
1751	DC	X'0020'	MASK	
1752	DC	X'00F8'	DEVICE TYPE	
1753	DC	C'SDLG SL	DEVICE NAME	
1754	DC	X'200E'	READ ID	
1755	DC	X'0700'	MASK	
1756	DC	X'00E9'	DEVICE TYPE	
1757	DC	C'ACCA ML	DEVICE NAME	
1758	DC	X'2006'	READ ID	
1759	DC	X'0700'	MASK	
1760	DC	X'00F1'	DEVICE TYPE	
1761	DC	C'BSCA ML	DEVICE NAME	
1762	*			
1763	DC	X'201E'	READ ID	
1764	DC	X'0700'	MASK	
1765	DC	X'00E1'	DEVICE TYPE EO & E1	
1766	DC	C'COM SYS	DEVICE NAME 4987	
1767	*			
1768	DC	X'0030'	READ ID	
1769	DC	X'0000'	MASK	
1770	DC	X'003E'	DEVICE TYPE	
1771	DC	C'TCS	DEVICE NAME	
1772	*			
1773	DC	X'FFFF'	READ ID	
1774	DC	X'0000'	MASK	
1775	DC	X'0000'	DEVICE TYPE	
1776	DC	C'DELETED	DEVICE NAME	
1777	*			
1778	DC	X'0000'	END OF TABLE	
1779	*****	*****	*****	
1780	*	DEVICES WITH NO READID		
1781	DVTNA	X'003D'	DEVICE TYPE	
1782	DC	C'FLT PT	DEVICE NAME	
1783	DC	X'00A3'	DEVICE TYPE	
1784	DC	C'OEM DPC	DEVICE NAME	
1785	DC	X'00A4'	DEVICE TYPE	
1786	DVTNE	E2C9D640C1E3C3C8	DEVICE NAME	
1787	DC	X'0000'	END OF TABLE	
1788	DVTUN	C'	BLANK NAME FOR UNKNOWN DEVICE	
1789	*****	*****	*****	
1790	*****	*****	*****	
1791	*****	*****	*****	
1792	*****	*****	*****	
1793	CDVRA	A(*-*)	RETURN ADDRESS	
1794	CDVR1	X'0000'	SAVE AREA FOR R1	
1795	*****	*****	*****	
1796	*	PROGRAM START		
1797	*	TEST FOR WOODPECKER		
1798	*****	*****	*****	
1799	CDEVT MVW	R7,CDVRA	SAVE RETURN ADDRESS	
1800	MVW	R1,CDVR1	SAVE R1	
1801	*		R6 = DEVICE READ ID	
1802	MVA	DNTAB-FORTN,R2	ADDRESS OF DEVICE TYPE TABLE	
1803	DET15	EQU	*	
1804	ABI	FORTN,R2	INCREMENT TO NEXT ENTRY	
1805	CWI	ZERO,(R2)	END OF TABLE	
1806	JE	DET17	J YES TEST OTHERS WITH NO READID	
1807	*		R6 = PASSED DEVICE READ ID	
1808	MVW	R6,R7		
1809	RBTW	(R2,TWO),R7	MASK OUT UNUSED BITS	
1810	CW	(R2,ZERO),R7	DOES ID MATCH	
1811	JNE	DET15	BR/TRY NEXT ENTRY	
1812	DET16	EQU	*	
1813	HVBI	EIGHT,R7	LENGTH OF DEVICE NAME FIELD	
1814	MVA	(R2,SIX),R6	START ADDRESS OF LABEL	
1815	MVA	CDVT1,R1	WHERE TO PUT IT	
1816	MVFN	(R6),(R1)	MOVE THE DEVICE NAME	
1817	MVW	(R2,FOUR),R6	DEVICE TYPE INTO R6	
1818	J	DET21	J TO RETURN	
1819	*	TEST FOR OTHERS WITH NO READID		
1820	DET17	EQU	*	
1821	MVW	R5,R1	CK FOR A PASSED DEVICE TYPE	
1822	JZ	DET20	J NO DEVICE TYPE PASSED	
1823	MVA	DVTNA-TEN,R2	ADDRESS OF DEVICE TYPE TABLE	
1824	DET18	EQU	*	
1825	ABI	TEN,R2	INCREMENT TO NEXT ENTRY	
1826	CWI	ZERO,(R2)	END OF TABLE	
1827	JE	DET20	J YES	
1828	*		R5 = PASSED DEVICE TYPE	
1829	CB	(R2,ONE),R5	DOES ID MATCH	
1830	DET18	EQU	J NO	
1831	DET19	EQU	*	
1832	HVBI	EIGHT,R7	LENGTH OF DEVICE NAME FIELD	
1833	MVA	(R2,TWO),R5	START ADDRESS OF LABEL	
1834	MVA	CDVT1,R1	WHERE TO PUT IT	
1835	MVFN	(R5),(R1)	MOVE THE LABEL	
1836	MVW	(R2,FOUR),R6	DEVICE TYPE INTO R6	
1837	J	DET21	J TO RETURN	
1838	DET20	EQU	*	
1839	HVBI	EIGHT,R7	DEVICE UNKNOWN	
1840	MVA	DVTUN,R5	LENGTH OF DEVICE NAME FIELD	
1841	MVA	CDVT1,R1	START ADDRESS OF LABEL	
1842	MVFN	(R5),(R1)	WHERE TO PUT IT	
1843	HVBI	ZERO,R5	MOVE THE LABEL	
1844	MVW	R5,R6	RESET R5	
1845	DET21	EQU	RESET R6	
1846	MVW	CDVR1,R1	RESTORE R1	
1847	B	CDVRA*	RETURN	
1848	*****	*****	*****	
1849	*****	*****	*****	
1850	*****	*****	*****	
1851	*	PROCEDURE CACON	MEMBER=CACON	
1852	*	ENTER ALTERNATE CONSOLE		
1853	*	000 = NO ALT CONSOLE		
1854	*	J AATT = AA=DEVICE ADDRESS, TT=DEVICE TYPE		
1855	*****	*****	*****	
1856	CACON MVW	R7,CACRA	SAVE RETURN ADDRESS	
1857	CACOP MVA	CM20,R7		
1858	SVC	OUTTN	PRINT 'ENTER ALT CONSOLE'	
1859	*		EXPECT ADDRESS/TYPE	
1860	BAL	CMDCPT,R7	CK FOR DCP TERMINATE	
1861	MVW	CM22,R7		

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1862 JNZ CAC05 B IF NO ALT CONSOLE
1863 * 0000 = CE CONSOLE
1864 MVA CMD30,R7
1865 SVC OUT PRINT 'PROGRAMMER OR CE CONSOLE
1866 J CAC10
1867 * ALTERNATE CONSOLE ENTERED
1868 CAC05 MVB CAC22,CAEAE ADDRESS
1869 MVB CMD22,CLETZ TYPE
1870 BAL CADTY,R7 CALL CHECK ADDRESS VS TYPE
1871 * R6 = 1=OK, 0=ERROR
1872 CWI 1,R6
1873 JE CAC10 J ENTERED OK
1874 * DEVICE ENTERED NOT FOUND
1875 MVA CMD25,R7
1876 SVC OUT PRINT 'NO DEVICE'
1877 * ALT CONSOLE ENTERED OK OR NONE ENTERED
1878 CAC10 MVW CMD22,CFABN* ALT CONSOLE ADD-TYPE INTO TABLE
1879 MVW CMD22,ALTER* ALT CONSOLE ADD-TYPE INTO DCP
1880 B CACRA* RETURN
1881 * CACRA* RETURN ADDRESS
1882 CACRA DC A(*-*) RETURN ADDRESS
1883 * END OF CACON PROCEDURE
1884 *
1885 * PROCEDURE CADTY MEMBER=CADTY
1886 * CHECK ALTERNATE CONSOLE ADDRESS VS TYPE
1887 * INPUT CAERA = RETURN ADDRESS
1888 * CAEAD = ADDRESS
1889 * CAETY = TYPE
1890 * OUTPUT R6 = 0=ERROR, 1=OK
1891 * R4 = READ ID RESULT
1892 *
1893 * DATA DEFINITIONS
1894 * CAERA DC X'0000' RETURN ADDRESS
1895 *
1896 * PROGRAM START
1897 * CADTY MVW R7,CAERA RETURN ADDRESS
1898 * MVW CAEAD,CTIDD DEVICE ADDRESS
1899 * BAL CYRID,R7 CALL READ ID
1900 * ID RETURNED IN CTIID
1901 * COMPARE READ ID VS DEVICE TYPE
1902 * CTIID,R4 R4 = READ ID FOR RETURN
1903 * R4,R6 R6 = ID FOR BAL
1904 * SRL 16,R5 ZERO R5
1905 * BAL CDVVT,R7 CALL FIND DEVICE TYPE
1906 * TYPE RETURNED IN R6
1907 * CHECK TYPE
1908 *
1909 *
1910 * CW CAETY,R6
1911 * JNE CAD20
1912 * CB CDT40,R6 TTY
1913 * JE CAD10
1914 * CB CDT44,R6 CRT
1915 * JE CAD10
1916 * CB CDT45,R6 DISPLAY
1917 * JE CAD10
1918 * CB CDT54,R6 PRINTER
1919 * JE CAD10
1920 * CB CDT68,R6 4973 PRINTER
1921 * JNE CAD20 B IF NOT VALID TYPE
1922 *
1923 * CAD10 MVWI 1,R6
1924 * J CAD30
1925 * INVALID ADD VS TYPE
1926 * CAD20 MVWI 0,R6
1927 *
1928 * CAD30 B CAERA* RETURN
1929 * END OF CADTY PROCEDURE
1930 *
1931 * PROCEDURE STYPE
1932 * FIND SYSTEM TYPE
1933 * DIAG X'04' INSTRUCTION RETURNS R0 = X'0002' FOR BELLE 4952
1934 * X'0003' FOR ELBERTA 4953
1935 * X'0005' FOR CLING 4955
1936 *
1937 * RETURN R1=22 FOR BELLE 4952
1938 * R1=23 FOR ELBERTA 4953
1939 * R1=25 FOR CLING 4955
1940 *
1941 * RETURN TO NEXT INSTRUCTION
1942 *
1943 * STYPE DIAG X'04' DIAGNOSE SYSTEM TYPE
1944 * CBI X'02',R0
1945 * JE STYP5,R0
1946 * CBI X'03',R0
1947 * JE STYP7,R0
1948 *
1949 * 4955 = '0005'
1950 * MVBI X'25',R1
1951 * J STYP9
1952 * 4952 = '0002'
1953 * STYP5 MVBI X'22',R1
1954 * J STYP9
1955 * 4953 = '0003'
1956 * STYP7 MVBI X'53',R1
1957 * STYP9 B RETURN TO CALLER
1958 * END OF SYSTEM TYPE PROCEDURE
1959 *
1960 *
1961 *
1962 *
1963 * PROCEDURE CDCPT
1964 * CHECK FOR DCP TERMINATE BIT ON - BIT 0 OPTION WORD 1
1965 * CDCPT DC 1 X'0000' RETURN ADDRESS
1966 *
1967 * CDCPT MVW R7,CDCPP SAVE RETURN ADDRESS
1968 * MVW A07TH1,R7 @ OF OPTION WORD 1 IN BASIC
1969 * TBT (R7,0) BIT 0 = DCP TERMINATE PROGRAM
1970 * JZ CDCPU GO
1971 *
1972 *-----
1973 * SVC TERM TERMINATE PROGRAM
1974 *-----
1975 * CDCPU B CDCPP* RETURN
1976 * END CHECK FOR DCP TERMINATE
1977 *

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1978 *****
1980 *****
1981 * PROCEDURE WANDT
1982 * PURPOSE - A) WRITE CONFIGURATION TABLE TO DISK AND TERMINATE.
1983 * B) TERMINATE.
1984 *****
1985 WANDT MVA CTRL5,R7
1986 * WRITE
1987 CTERM SVC TERM TERMINATE PROGRAM
1988 *****
1989 * END OF COMMON SUBROUTINES
1990 *****
1991 * END OF COMMON SUBROUTINES
1992 *****
1993 * END CYR00 END OF PROGRAM
1994 *****
1995 * END OF CONFIGURATION PROGRAM
1996 *****
1997 *
1998 *****

002D4E 4724 2782
002D52 6020
002D54 6007

001D70

CROSS-REFERENCE LISTING

COPYRIGHT IBM CORP 1976

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1242	ALTER	ADDRESS. HEX LOCATION(00002734) IN CSECT(038F2)) LENGTH(2)
1244	AOPTN1	ADDRESS. HEX LOCATION(00002736) IN CSECT(038F2)) LENGTH(2)
872	BACK6	ADDRESS. HEX LOCATION(00002696) IN CSECT(038F2)) LENGTH(2)
1856	CACON	ADDRESS. HEX LOCATION(00002C8A) IN CSECT(038F2)) LENGTH(4)
1882	CACRA	ADDRESS. HEX LOCATION(00002CD2) IN CSECT(038F2)) LENGTH(2)
1868	CAC05	ADDRESS. HEX LOCATION(00002CA6) IN CSECT(038F2)) LENGTH(6)
1878	CAC10	ADDRESS. HEX LOCATION(00002CC2) IN CSECT(038F2)) LENGTH(6)
1900	CADTY	ADDRESS. HEX LOCATION(00002CD6) IN CSECT(038F2)) LENGTH(4)
1923	CAD10	ADDRESS. HEX LOCATION(00002D14) IN CSECT(038F2)) LENGTH(4)
1926	CAD20	ADDRESS. HEX LOCATION(00002D1A) IN CSECT(038F2)) LENGTH(4)
1928	CAD30	ADDRESS. HEX LOCATION(00002D1E) IN CSECT(038F2)) LENGTH(4)
1281	CAEAD	ADDRESS. HEX LOCATION(0000275A) IN CSECT(038F2)) LENGTH(1)
1282	CAEAE	ADDRESS. HEX LOCATION(0000275B) IN CSECT(038F2)) LENGTH(1)
1897	CAERA	ADDRESS. HEX LOCATION(00002CD4) IN CSECT(038F2)) LENGTH(2)
1283	CAETY	ADDRESS. HEX LOCATION(0000275C) IN CSECT(038F2)) LENGTH(1)
1284	CAETZ	ADDRESS. HEX LOCATION(0000275D) IN CSECT(038F2)) LENGTH(1)
1297	CBPA3	ADDRESS. HEX LOCATION(0000276E) IN CSECT(038F2)) LENGTH(2)
1298	CBPA4	ADDRESS. HEX LOCATION(00002770) IN CSECT(038F2)) LENGTH(2)
1299	CCERR	ADDRESS. HEX LOCATION(00002772) IN CSECT(038F2)) LENGTH(2)
844	CCERREND	ADDRESS. HEX LOCATION(0000266C) IN CSECT(038F2)) LENGTH(4)
847	CCERRHTE	ADDRESS. HEX LOCATION(00002670) IN CSECT(038F2)) LENGTH(2)
1966	CDCPR	ADDRESS. HEX LOCATION(00002D3A) IN CSECT(038F2)) LENGTH(2)
1968	CDCPT	ADDRESS. HEX LOCATION(00002D3C) IN CSECT(038F2)) LENGTH(4)
1975	CDCPU	ADDRESS. HEX LOCATION(00002D4A) IN CSECT(038F2)) LENGTH(4)
1799	CDEVT	ADDRESS. HEX LOCATION(00002C18) IN CSECT(038F2)) LENGTH(4)
1256	CDTA3	ADDRESS. HEX LOCATION(00002740) IN CSECT(038F2)) LENGTH(1)
1257	CDTA4	ADDRESS. HEX LOCATION(00002741) IN CSECT(038F2)) LENGTH(1)
1262	CDTE0	ADDRESS. HEX LOCATION(00002746) IN CSECT(038F2)) LENGTH(1)
1248	CDT3D	ADDRESS. HEX LOCATION(00002738) IN CSECT(038F2)) LENGTH(1)
1250	CDT40	ADDRESS. HEX LOCATION(0000273A) IN CSECT(038F2)) LENGTH(1)
1251	CDT44	ADDRESS. HEX LOCATION(0000273B) IN CSECT(038F2)) LENGTH(1)
1252	CDT45	ADDRESS. HEX LOCATION(0000273C) IN CSECT(038F2)) LENGTH(1)
1253	CDT64	ADDRESS. HEX LOCATION(0000273D) IN CSECT(038F2)) LENGTH(1)
1254	CDT68	ADDRESS. HEX LOCATION(0000273E) IN CSECT(038F2)) LENGTH(1)
1793	CDVRA	ADDRESS. HEX LOCATION(00002C14) IN CSECT(038F2)) LENGTH(2)
1794	CDVR1	ADDRESS. HEX LOCATION(00002C16) IN CSECT(038F2)) LENGTH(2)
1306	CDVT1	ADDRESS. HEX LOCATION(0000277A) IN CSECT(038F2)) LENGTH(4)
1300	CEDN1	ADDRESS. HEX LOCATION(00002774) IN CSECT(038F2)) LENGTH(1)
928	CIAAA	ADDRESS. HEX LOCATION(00002726) IN CSECT(038F2)) LENGTH(4)
554	CIAA1	ADDRESS. HEX LOCATION(000023A4) IN CSECT(038F2)) LENGTH(4)
563	CIAA2	ADDRESS. HEX LOCATION(000023B8) IN CSECT(038F2)) LENGTH(4)
567	CIAA3	ADDRESS. HEX LOCATION(000023C0) IN CSECT(038F2)) LENGTH(1)
882	CIAA4	ADDRESS. HEX LOCATION(000026AE) IN CSECT(038F2)) LENGTH(6)
914	CIAA5	ADDRESS. HEX LOCATION(00002706) IN CSECT(038F2)) LENGTH(4)
921	CIAA8	ADDRESS. HEX LOCATION(00002714) IN CSECT(038F2)) LENGTH(6)
721	CIAA9	ADDRESS. HEX LOCATION(000025A6) IN CSECT(038F2)) LENGTH(1)
418	CIA03	ADDRESS. HEX LOCATION(00002268) IN CSECT(038F2)) LENGTH(6)
477	CIA04	ADDRESS. HEX LOCATION(000022E0) IN CSECT(038F2)) LENGTH(1)
494	CIA05	ADDRESS. HEX LOCATION(00002300) IN CSECT(038F2)) LENGTH(6)
509	CIA07	ADDRESS. HEX LOCATION(0000232A) IN CSECT(038F2)) LENGTH(4)
516	CIA09	ADDRESS. HEX LOCATION(00002344) IN CSECT(038F2)) LENGTH(6)
525	CIA10	ADDRESS. HEX LOCATION(00002362) IN CSECT(038F2)) LENGTH(6)
723	CIA15	ADDRESS. HEX LOCATION(000025A6) IN CSECT(038F2)) LENGTH(6)
1296	CINCF	ADDRESS. HEX LOCATION(0000276C) IN CSECT(038F2)) LENGTH(2)
1387	CMD20	ADDRESS. HEX LOCATION(000027F6) IN CSECT(038F2)) LENGTH(2)
1393	CMD21	ADDRESS. HEX LOCATION(00002800) IN CSECT(038F2)) LENGTH(41)

CROSS-REFERENCE LISTING

COPYRIGHT IBM CORP 1976

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1397	CMD22	ADDRESS. HEX LOCATION(0000282A) IN CSECT(038F2)) LENGTH(1)
1398	CMD23	ADDRESS. HEX LOCATION(0000282B) IN CSECT(038F2)) LENGTH(1)
1404	CMD25	ADDRESS. HEX LOCATION(00002830) IN CSECT(038F2)) LENGTH(2)
1408	CMD26	ADDRESS. HEX LOCATION(00002836) IN CSECT(038F2)) LENGTH(9)
1414	CMD30	ADDRESS. HEX LOCATION(00002842) IN CSECT(038F2)) LENGTH(2)
1418	CMD31	ADDRESS. HEX LOCATION(00002848) IN CSECT(038F2)) LENGTH(24)
1447	CSRCH	ADDRESS. HEX LOCATION(00002862) IN CSECT(038F2)) LENGTH(1)
932	CSSCS	ADDRESS. HEX LOCATION(0000272E) IN CSECT(038F2)) LENGTH(1)
933	CSSC2	ADDRESS. HEX LOCATION(0000272F) IN CSECT(038F2)) LENGTH(1)
857	CSTAT	ADDRESS. HEX LOCATION(00002678) IN CSECT(038F2)) LENGTH(4)
1320	CTABA	ADDRESS. HEX LOCATION(00002790) IN CSECT(038F2)) LENGTH(2)
1322	CTABC	ADDRESS. HEX LOCATION(00002794) IN CSECT(038F2)) LENGTH(2)
1325	CTABN	ADDRESS. HEX LOCATION(0000279A) IN CSECT(038F2)) LENGTH(2)
1323	CTABP	ADDRESS. HEX LOCATION(00002796) IN CSECT(038F2)) LENGTH(2)
1324	CTABS	ADDRESS. HEX LOCATION(00002798) IN CSECT(038F2)) LENGTH(2)
1321	CTABU	ADDRESS. HEX LOCATION(00002792) IN CSECT(038F2)) LENGTH(2)
1293	CTADD	ADDRESS. HEX LOCATION(00002767) IN CSECT(038F2)) LENGTH(1)
1292	CTAD1	ADDRESS. HEX LOCATION(00002766) IN CSECT(038F2)) LENGTH(1)
1326	CTA1E	ADDRESS. HEX LOCATION(0000279C) IN CSECT(038F2)) LENGTH(2)
54	CTC00	ADDRESS. HEX LOCATION(00001D80) IN CSECT(038F2)) LENGTH(1)
1265	CTC01	ADDRESS. HEX LOCATION(00002748) IN CSECT(038F2)) LENGTH(1)
1266	CTC02	ADDRESS. HEX LOCATION(00002749) IN CSECT(038F2)) LENGTH(1)
1267	CTC03	ADDRESS. HEX LOCATION(0000274A) IN CSECT(038F2)) LENGTH(1)
1268	CTC04	ADDRESS. HEX LOCATION(0000274B) IN CSECT(038F2)) LENGTH(1)
1269	CTC05	ADDRESS. HEX LOCATION(0000274C) IN CSECT(038F2)) LENGTH(1)
1270	CTC06	ADDRESS. HEX LOCATION(0000274D) IN CSECT(038F2)) LENGTH(1)
1271	CTC07	ADDRESS. HEX LOCATION(0000274E) IN CSECT(038F2)) LENGTH(1)
1377	CTE02	ADDRESS. HEX LOCATION(000027CE) IN CSECT(038F2)) LENGTH(2)
1379	CTE04	ADDRESS. HEX LOCATION(000027D2) IN CSECT(038F2)) LENGTH(2)
1505	CTICA	ADDRESS. HEX LOCATION(000028DA) IN CSECT(038F2)) LENGTH(1)
1506	CTICC	ADDRESS. HEX LOCATION(000028DB) IN CSECT(038F2)) LENGTH(1)
1494	CTICT	ADDRESS. HEX LOCATION(000028CA) IN CSECT(038F2)) LENGTH(2)
1504	CTIDA	ADDRESS. HEX LOCATION(000028D9) IN CSECT(038F2)) LENGTH(1)
1503	CTIDD	ADDRESS. HEX LOCATION(000028D8) IN CSECT(038F2)) LENGTH(1)
1509	CTIDF	ADDRESS. HEX LOCATION(000028DE) IN CSECT(038F2)) LENGTH(2)
1508	CTIID	ADDRESS. HEX LOCATION(000028DC) IN CSECT(038F2)) LENGTH(2)
1493	CTI2	ADDRESS. HEX LOCATION(000028C8) IN CSECT(038F2)) LENGTH(2)
1496	CTI04	ADDRESS. HEX LOCATION(000028CC) IN CSECT(038F2)) LENGTH(2)
1501	CTI05	ADDRESS. HEX LOCATION(000028D6) IN CSECT(038F2)) LENGTH(2)
1514	CTI15	ADDRESS. HEX LOCATION(000028E2) IN CSECT(038F2)) LENGTH(2)
1518	CTI16	ADDRESS. HEX LOCATION(000028E8) IN CSECT(038F2)) LENGTH(20)
1519	CTI17	ADDRESS. HEX LOCATION(000028FC) IN CSECT(038F2)) LENGTH(4)
1521	CTI18	ADDRESS. HEX LOCATION(00002906) IN CSECT(038F2)) LENGTH(2)
1524	CTI20	ADDRESS. HEX LOCATION(0000290A) IN CSECT(038F2)) LENGTH(2)
1525	CTI30	ADDRESS. HEX LOCATION(0000290C) IN CSECT(038F2)) LENGTH(2)
1526	CTI35	ADDRESS. HEX LOCATION(0000290E) IN CSECT(038F2)) LENGTH(2)
1527	CTI40	ADDRESS. HEX LOCATION(00002910) IN CSECT(038F2)) LENGTH(2)
1528	CTI45	ADDRESS. HEX LOCATION(00002912) IN CSECT(038F2)) LENGTH(2)
1529	CTI50	ADDRESS. HEX LOCATION(00002914) IN CSECT(038F2)) LENGTH(2)
1530	CTI55	ADDRESS. HEX LOCATION(00002916) IN CSECT(038F2)) LENGTH(2)
1532	CTI60	ADDRESS. HEX LOCATION(00002918) IN CSECT(038F2)) LENGTH(2)
1319	CTLNG	ADDRESS. HEX LOCATION(0000278E) IN CSECT(038F2)) LENGTH(2)
1332	CTMNE	ADDRESS. HEX LOCATION(000027A8) IN CSECT(038F2)) LENGTH(1)
76	CTM1	ADDRESS. HEX LOCATION(00001D96) IN CSECT(038F2)) LENGTH(2)
82	CTM1A	ADDRESS. HEX LOCATION(00001DA0) IN CSECT(038F2)) LENGTH(41)

CROSS-REFERENCE LISTING

COPYRIGHT IBM CORP 1976

DECLARED	NAME	ATTRIBUTES AND REFERENCES
88	CTM2	ADDRESS. HEX LOCATION (00001DCC) IN CSECT (038F2) LENGTH (2)
92	CTM2A	ADDRESS. HEX LOCATION (00001DD2) IN CSECT (038F2) LENGTH (26)
98	CTM30	ADDRESS. HEX LOCATION (00001DF0) IN CSECT (038F2) LENGTH (2)
102	CTM31	ADDRESS. HEX LOCATION (00001DF6) IN CSECT (038F2) LENGTH (43)
108	CTM32	ADDRESS. HEX LOCATION (00001E24) IN CSECT (038F2) LENGTH (2)
112	CTM33	ADDRESS. HEX LOCATION (00001E2A) IN CSECT (038F2) LENGTH (46)
118	CTM34	ADDRESS. HEX LOCATION (00001E5C) IN CSECT (038F2) LENGTH (2)
122	CTM35	ADDRESS. HEX LOCATION (00001E62) IN CSECT (038F2) LENGTH (43)
128	CTM36	ADDRESS. HEX LOCATION (00001E90) IN CSECT (038F2) LENGTH (2)
132	CTM37	ADDRESS. HEX LOCATION (00001E96) IN CSECT (038F2) LENGTH (38)
133	CTM38	ADDRESS. HEX LOCATION (00001EBC) IN CSECT (038F2) LENGTH (1)
136	CTM39	ADDRESS. HEX LOCATION (00001EC0) IN CSECT (038F2) LENGTH (2)
141	CTM4	ADDRESS. HEX LOCATION (00001EC4) IN CSECT (038F2) LENGTH (2)
147	CTM4A	ADDRESS. HEX LOCATION (00001ECE) IN CSECT (038F2) LENGTH (32)
150	CTM4B	ADDRESS. HEX LOCATION (00001EEF) IN CSECT (038F2) LENGTH (1)
200	CTM4C	ADDRESS. HEX LOCATION (00001FE4) IN CSECT (038F2) LENGTH (2)
206	CTM4D	ADDRESS. HEX LOCATION (00001FEE) IN CSECT (038F2) LENGTH (32)
156	CTM41	ADDRESS. HEX LOCATION (00001EF4) IN CSECT (038F2) LENGTH (2)
160	CTM42	ADDRESS. HEX LOCATION (00001EFA) IN CSECT (038F2) LENGTH (41)
167	CTM43	ADDRESS. HEX LOCATION (00001F3E) IN CSECT (038F2) LENGTH (2)
171	CTM44	ADDRESS. HEX LOCATION (00001F44) IN CSECT (038F2) LENGTH (41)
188	CTM45	ADDRESS. HEX LOCATION (00001FB6) IN CSECT (038F2) LENGTH (2)
194	CTM46	ADDRESS. HEX LOCATION (00001FC0) IN CSECT (038F2) LENGTH (32)
178	CTM48	ADDRESS. HEX LOCATION (00001F86) IN CSECT (038F2) LENGTH (2)
182	CTM49	ADDRESS. HEX LOCATION (00001F8C) IN CSECT (038F2) LENGTH (39)
212	CTM5	ADDRESS. HEX LOCATION (00002012) IN CSECT (038F2) LENGTH (2)
218	CTM5A	ADDRESS. HEX LOCATION (0000201C) IN CSECT (038F2) LENGTH (54)
222	CTM5B	ADDRESS. HEX LOCATION (00002054) IN CSECT (038F2) LENGTH (1)
228	CTM52	ADDRESS. HEX LOCATION (00002058) IN CSECT (038F2) LENGTH (2)
232	CTM53	ADDRESS. HEX LOCATION (0000205E) IN CSECT (038F2) LENGTH (46)
238	CTM54	ADDRESS. HEX LOCATION (00002090) IN CSECT (038F2) LENGTH (2)
242	CTM55	ADDRESS. HEX LOCATION (00002096) IN CSECT (038F2) LENGTH (45)
248	CTM56	ADDRESS. HEX LOCATION (000020C6) IN CSECT (038F2) LENGTH (2)
252	CTM57	ADDRESS. HEX LOCATION (000020CC) IN CSECT (038F2) LENGTH (51)
258	CTM58	ADDRESS. HEX LOCATION (00002102) IN CSECT (038F2) LENGTH (2)
262	CTM59	ADDRESS. HEX LOCATION (00002108) IN CSECT (038F2) LENGTH (50)
268	CTM6	ADDRESS. HEX LOCATION (0000213E) IN CSECT (038F2) LENGTH (2)
272	CTM6A	ADDRESS. HEX LOCATION (00002144) IN CSECT (038F2) LENGTH (13)
278	CTM6B	ADDRESS. HEX LOCATION (00002154) IN CSECT (038F2) LENGTH (2)
282	CTM6C	ADDRESS. HEX LOCATION (0000215A) IN CSECT (038F2) LENGTH (13)
288	CTM7	ADDRESS. HEX LOCATION (0000216A) IN CSECT (038F2) LENGTH (2)
294	CTM7A	ADDRESS. HEX LOCATION (00002174) IN CSECT (038F2) LENGTH (30)
300	CTM7B	ADDRESS. HEX LOCATION (00002196) IN CSECT (038F2) LENGTH (2)
306	CTM7C	ADDRESS. HEX LOCATION (000021A0) IN CSECT (038F2) LENGTH (34)
312	CTM7D	ADDRESS. HEX LOCATION (000021C6) IN CSECT (038F2) LENGTH (2)
318	CTM7E	ADDRESS. HEX LOCATION (000021D0) IN CSECT (038F2) LENGTH (43)
322	CTM7F	ADDRESS. HEX LOCATION (000021FC) IN CSECT (038F2) LENGTH (2)
328	CTM8	ADDRESS. HEX LOCATION (00002202) IN CSECT (038F2) LENGTH (2)
332	CTM8A	ADDRESS. HEX LOCATION (00002208) IN CSECT (038F2) LENGTH (10)
58	CTNEU	ADDRESS. HEX LOCATION (00001D83) IN CSECT (038F2) LENGTH (1)
57	CTNE1	ADDRESS. HEX LOCATION (00001D82) IN CSECT (038F2) LENGTH (1)
804	CTRLBLOK	ADDRESS. HEX LOCATION (0000262E) IN CSECT (038F2) LENGTH (2)
1310	CTRL5	ADDRESS. HEX LOCATION (00002782) IN CSECT (038F2) LENGTH (2)
1313	CTRL6	ADDRESS. HEX LOCATION (00002788) IN CSECT (038F2) LENGTH (4)
1286	CTSA	ADDRESS. HEX LOCATION (0000275E) IN CSECT (038F2) LENGTH (1)
1287	CTSA2	ADDRESS. HEX LOCATION (0000275F) IN CSECT (038F2) LENGTH (1)

CROSS-REFERENCE LISTING

COPYRIGHT IBM CORP 1976

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1288	CTSEA	ADDRESS. HEX LOCATION (00002760) IN CSECT (038F2) LENGTH (2)
1290	CTSEE	ADDRESS. HEX LOCATION (00002763) IN CSECT (038F2) LENGTH (1)
1289	CTSEF	ADDRESS. HEX LOCATION (00002762) IN CSECT (038F2) LENGTH (1)
1291	CTSEN	ADDRESS. HEX LOCATION (00002764) IN CSECT (038F2) LENGTH (2)
1278	CTWFF	ADDRESS. HEX LOCATION (00002758) IN CSECT (038F2) LENGTH (2)
1275	CTW00	ADDRESS. HEX LOCATION (00002752) IN CSECT (038F2) LENGTH (2)
1277	CTW16	ADDRESS. HEX LOCATION (00002756) IN CSECT (038F2) LENGTH (2)
1181	CUDA	ABSOLUTE. HEX VALUE (00000000)
1195	CUDRI	ABSOLUTE. HEX VALUE (0000000E)
1182	CUDT	ABSOLUTE. HEX VALUE (00000001)
1454	CXS02	ADDRESS. HEX LOCATION (00002878) IN CSECT (038F2) LENGTH (4)
1456	CXS03	ADDRESS. HEX LOCATION (0000287E) IN CSECT (038F2) LENGTH (4)
1463	CXS04	ADDRESS. HEX LOCATION (00002894) IN CSECT (038F2) LENGTH (4)
1468	CXS05	ADDRESS. HEX LOCATION (000028A2) IN CSECT (038F2) LENGTH (4)
1474	CXS06	ADDRESS. HEX LOCATION (000028B0) IN CSECT (038F2) LENGTH (6)
1480	CXS08	ADDRESS. HEX LOCATION (000028C0) IN CSECT (038F2) LENGTH (4)
1538	CYI01	ADDRESS. HEX LOCATION (00002920) IN CSECT (038F2) LENGTH (2)
1539	CYI05	ADDRESS. HEX LOCATION (00002922) IN CSECT (038F2) LENGTH (6)
1553	CYI10	ADDRESS. HEX LOCATION (0000294E) IN CSECT (038F2) LENGTH (2)
1560	CYI20	ADDRESS. HEX LOCATION (00002958) IN CSECT (038F2) LENGTH (6)
1568	CYI22	ADDRESS. HEX LOCATION (00002972) IN CSECT (038F2) LENGTH (2)
1575	CYI25	ADDRESS. HEX LOCATION (00002984) IN CSECT (038F2) LENGTH (6)
1579	CYI30	ADDRESS. HEX LOCATION (00002998) IN CSECT (038F2) LENGTH (4)
1585	CYI35	ADDRESS. HEX LOCATION (000029AA) IN CSECT (038F2) LENGTH (6)
1588	CYI40	ADDRESS. HEX LOCATION (000029B8) IN CSECT (038F2) LENGTH (2)
1595	CYI45	ADDRESS. HEX LOCATION (000029CC) IN CSECT (038F2) LENGTH (6)
1598	CYI50	ADDRESS. HEX LOCATION (000029DA) IN CSECT (038F2) LENGTH (4)
1604	CYI55	ADDRESS. HEX LOCATION (000029EC) IN CSECT (038F2) LENGTH (6)
1608	CYI60	ADDRESS. HEX LOCATION (000029FA) IN CSECT (038F2) LENGTH (6)
1621	CYI65	ADDRESS. HEX LOCATION (00002A20) IN CSECT (038F2) LENGTH (6)
1623	CYI70	ADDRESS. HEX LOCATION (00002A26) IN CSECT (038F2) LENGTH (4)
1537	CYRID	ADDRESS. HEX LOCATION (0000291E) IN CSECT (038F2) LENGTH (2)
42	CYR00	ADDRESS. HEX LOCATION (00001D70) IN CSECT (038F2) LENGTH (4)
806	DATAWORD	ADDRESS. HEX LOCATION (00002632) IN CSECT (038F2) LENGTH (2)
1803	DET15	ADDRESS. HEX LOCATION (00002C24) IN CSECT (038F2) LENGTH (1)
1820	DET17	ADDRESS. HEX LOCATION (00002C4A) IN CSECT (038F2) LENGTH (1)
1824	DET18	ADDRESS. HEX LOCATION (00002C52) IN CSECT (038F2) LENGTH (1)
1838	DET20	ADDRESS. HEX LOCATION (00002C72) IN CSECT (038F2) LENGTH (1)
1845	DET21	ADDRESS. HEX LOCATION (00002C82) IN CSECT (038F2) LENGTH (1)
66	DEVAD	ADDRESS. HEX LOCATION (00001D8E) IN CSECT (038F2) LENGTH (2)
1641	DNTAB	ADDRESS. HEX LOCATION (00002A2A) IN CSECT (038F2) LENGTH (2)
738	DTYPS	ADDRESS. HEX LOCATION (000025B0) IN CSECT (038F2) LENGTH (2)
742	DTYP2	ADDRESS. HEX LOCATION (000025BC) IN CSECT (038F2) LENGTH (4)
750	DTYP9	ADDRESS. HEX LOCATION (000025D2) IN CSECT (038F2) LENGTH (4)
1781	DVTNA	ADDRESS. HEX LOCATION (00002BEC) IN CSECT (038F2) LENGTH (2)
1788	DVTUN	ADDRESS. HEX LOCATION (00002C0C) IN CSECT (038F2) LENGTH (8)
1043	EIGHT	ABSOLUTE. HEX VALUE (00000008)
761	FF02	ADDRESS. HEX LOCATION (000025D8) IN CSECT (038F2) LENGTH (2)
765	FF02A	ADDRESS. HEX LOCATION (000025DE) IN CSECT (038F2) LENGTH (20)
766	FF02B	ADDRESS. HEX LOCATION (000025F2) IN CSECT (038F2) LENGTH (4)
773	FF06	ADDRESS. HEX LOCATION (000025FA) IN CSECT (038F2) LENGTH (2)
777	FF06A	ADDRESS. HEX LOCATION (00002600) IN CSECT (038F2) LENGTH (19)
781	FF09	ADDRESS. HEX LOCATION (00002614) IN CSECT (038F2) LENGTH (2)
788	FF10	ADDRESS. HEX LOCATION (0000261C) IN CSECT (038F2) LENGTH (2)
792	FF10A	ADDRESS. HEX LOCATION (00002622) IN CSECT (038F2) LENGTH (8)

CROSS-REFERENCE LISTING

COPYRIGHT IBM CORP 1976

DECLARED	NAME	ATTRIBUTES AND REFERENCES
793	PF10B	ADDRESS. HEX LOCATION(0000262A) IN CSECT(O38F2) LENGTH(2)
1049	FORTN	ABSOLUTE. HEX VALUE(0000000E)
1039	FOUR	ABSOLUTE. HEX VALUE(00000004)
989	HTOE	ABSOLUTE. HEX VALUE(0000001A)
37	HOFFO	ABSOLUTE. HEX VALUE(00000FF0)
38	H3010	ABSOLUTE. HEX VALUE(00003010)
345	ICV01	ADDRESS. HEX LOCATION(00002214) IN CSECT(O38F2) LENGTH(4)
357	ICV05	ADDRESS. HEX LOCATION(0000222E) IN CSECT(O38F2) LENGTH(4)
369	ICV30	ADDRESS. HEX LOCATION(0000223A) IN CSECT(O38F2) LENGTH(4)
380	ICV50	ADDRESS. HEX LOCATION(0000224C) IN CSECT(O38F2) LENGTH(4)
391	ICV60	ADDRESS. HEX LOCATION(00002262) IN CSECT(O38F2) LENGTH(4)
809	IDCBW2	ADDRESS. HEX LOCATION(00002638) IN CSECT(O38F2) LENGTH(1)
965	IDLE	ABSOLUTE. HEX VALUE(00000002)
851	OIOCC	ADDRESS. HEX LOCATION(00002676) IN CSECT(O38F2) LENGTH(2)
826	OIOCCERR	ADDRESS. HEX LOCATION(0000263A) IN CSECT(O38F2) LENGTH(2)
1239	OLYRA	ADDRESS. HEX LOCATION(00002730) IN CSECT(O38F2) LENGTH(2)
1036	ONE	ABSOLUTE. HEX VALUE(00000001)
963	OUT	ABSOLUTE. HEX VALUE(00000000)
964	OUTIN	ABSOLUTE. HEX VALUE(00000001)
3	O38F2	CSECT. START(00001D70) LENGTH(4070) ESDID(1)
1295	PASS1	ADDRESS. HEX LOCATION(0000276A) IN CSECT(O38F2) LENGTH(2)
971	RESET	ABSOLUTE. HEX VALUE(00000008)
972	RID	ABSOLUTE. HEX VALUE(00000009)
978	RSTAT	ABSOLUTE. HEX VALUE(0000000F)
0	R0	REGISTER. HEX VALUE(00000000)
0	R1	REGISTER. HEX VALUE(00000001)
68	R1SAV	ADDRESS. HEX LOCATION(00001D90) IN CSECT(O38F2) LENGTH(2)
0	R2	REGISTER. HEX VALUE(00000002)
69	R2SAV	ADDRESS. HEX LOCATION(00001D92) IN CSECT(O38F2) LENGTH(2)
0	R3	REGISTER. HEX VALUE(00000003)
0	R4	REGISTER. HEX VALUE(00000004)
0	R5	REGISTER. HEX VALUE(00000005)
0	R6	REGISTER. HEX VALUE(00000006)
0	R7	REGISTER. HEX VALUE(00000007)
1041	SIX	ABSOLUTE. HEX VALUE(00000006)
434	SS001	ADDRESS. HEX LOCATION(0000227C) IN CSECT(O38F2) LENGTH(4)
452	SS002	ADDRESS. HEX LOCATION(000022A4) IN CSECT(O38F2) LENGTH(2)
457	SS003	ADDRESS. HEX LOCATION(000022B2) IN CSECT(O38F2) LENGTH(4)
472	SS004	ADDRESS. HEX LOCATION(000022D6) IN CSECT(O38F2) LENGTH(2)

CROSS-REFERENCE LISTING

COPYRIGHT IBM CORP 1976

DECLARED	NAME	ATTRIBUTES AND REFERENCES
474	SS005	ADDRESS. HEX LOCATION(000022DC) IN CSECT(O38F2) LENGTH(4)
931	STCDA	ADDRESS. HEX LOCATION(0000272C) IN CSECT(O38F2) LENGTH(2)
1944	STYPE	ADDRESS. HEX LOCATION(00002D22) IN CSECT(O38F2) LENGTH(2)
1953	STYP5	ADDRESS. HEX LOCATION(00002D30) IN CSECT(O38F2) LENGTH(2)
1956	STYP7	ADDRESS. HEX LOCATION(00002D34) IN CSECT(O38F2) LENGTH(2)
1957	STYP9	ADDRESS. HEX LOCATION(00002D36) IN CSECT(O38F2) LENGTH(4)
878	TCDEA	ADDRESS. HEX LOCATION(00002698) IN CSECT(O38F2) LENGTH(4)
930	TCDRA	ADDRESS. HEX LOCATION(0000272A) IN CSECT(O38F2) LENGTH(2)
583	TCN1P	ADDRESS. HEX LOCATION(000023EC) IN CSECT(O38F2) LENGTH(1)
719	TCN2N	ADDRESS. HEX LOCATION(000025A6) IN CSECT(O38F2) LENGTH(1)
613	TCN3P	ADDRESS. HEX LOCATION(00002450) IN CSECT(O38F2) LENGTH(4)
623	TCN4P	ADDRESS. HEX LOCATION(0000246A) IN CSECT(O38F2) LENGTH(4)
61	TCSDS	ADDRESS. HEX LOCATION(00001D86) IN CSECT(O38F2) LENGTH(2)
686	TCSND	ADDRESS. HEX LOCATION(00002540) IN CSECT(O38F2) LENGTH(4)
694	TCSR5	ADDRESS. HEX LOCATION(00002556) IN CSECT(O38F2) LENGTH(1)
665	TCSR2	ADDRESS. HEX LOCATION(000024FE) IN CSECT(O38F2) LENGTH(6)
675	TCSR3	ADDRESS. HEX LOCATION(00002520) IN CSECT(O38F2) LENGTH(6)
690	TCSR5	ADDRESS. HEX LOCATION(0000254A) IN CSECT(O38F2) LENGTH(4)
62	TCS1A	ADDRESS. HEX LOCATION(00001D88) IN CSECT(O38F2) LENGTH(2)
60	TCS1P	ADDRESS. HEX LOCATION(00001D84) IN CSECT(O38F2) LENGTH(2)
63	TCS2A	ADDRESS. HEX LOCATION(00001D8A) IN CSECT(O38F2) LENGTH(2)
64	TCS3A	ADDRESS. HEX LOCATION(00001D8C) IN CSECT(O38F2) LENGTH(2)
697	TC1TC	ADDRESS. HEX LOCATION(00002556) IN CSECT(O38F2) LENGTH(1)
1045	TEN	ABSOLUTE. HEX VALUE(0000000A)
970	TERM	ABSOLUTE. HEX VALUE(00000007)
1037	TWO	ABSOLUTE. HEX VALUE(00000002)
995	WRITI	ABSOLUTE. HEX VALUE(00000020)
1035	ZERO	ABSOLUTE. HEX VALUE(00000000)

***** LAST PAGE *****