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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
                              3       COPY  LOG7A10                  ** MAP EC HISTORY **
                              4 ************************************************************************
                              5 *                                                                      *
                              6 *                     ***       PREREQUISITES         ***              *
                              7 *                                                                      *
                              8 *                                NONE                                  *
                              9 *                                                                      *
                             10 ************************************************************************
                             11 *                                                                      *
                             12 *                     ***       MODIFICATIONS         ***              *
                             13 *                                                                      *
                             14 *     CHANGES MADE TO CORRECT ERRORS FOUND WHILE IN TEST               *
                             15 *                                                                      *
                             16 ************************************************************************
                             17 *                                                                      *
                             18 *                     ***     REA'S INCORPORATED      ***              *
                             19 *                                                                      *
                             20 *                              27-12159  27-12168                      *
                             21 *                                                                      *
                             22 ************************************************************************
                             23 *                                                                      *
                             24 *                     ***    SPECIAL INSTRUCTIONS     ***              *
                             25 *                                                                      *
                             26 *                                NONE                                  *
                             27 *                                                                      *
                             28 ************************************************************************
                             29 *                                                                      *
                             30 *                     ***       E. C. HISTORY         ***              *
                             31 *                                                                      *
                             32 *          DATE 17AUG78  DATE 02OCT78  DATE 10JAN79  DATE              *
                             33 *          E.C. 755391   E.C. 375102   E.C. 375222   E.C.               *
                             34 *                                                                      *
                             35 ************************************************************************
002500                       37 I7A10    START X'2500'          START ADDRESS OF ALL 'I' TYPE PROG
000100                       38 @QUES    EQU   X'0100'          EQUATED VALUE FOR MDI STATEMENT
000101                       39 @FIXT    EQU   X'0101'          EQUATED VALUE FOR MDI STATEMENT
000102                       40 @STOP    EQU   X'0102'          EQUATED VALUE FOR MDI STATEMENT
000200                       41 @GOTO    EQU   X'0200'          EQUATED VALUE FOR MDI STATEMENT
000201                       42 @CALL    EQU   X'0201'          EQUATED VALUE FOR MDI STATEMENT
000300                       43 @INPT    EQU   X'0300'          EQUATED VALUE FOR MDI STATEMENT
000400                       44 @QUXX    EQU   X'0400'          EQUATED VALUE FOR MDI STATEMENT
000500                       45 @TUXX    EQU   X'0500'          EQUATED VALUE FOR MDI STATEMENT
000600                       46 @NVLD    EQU   X'0600'          EQUATED VALUE FOR MDI STATEMENT
000000                       47 EQ       EQU   X'0000'          EQUATE FOR EQUAL
000004                       48 NE       EQU   X'0004'          EQUATE FOR NOT EQUAL
000008                       49 HI       EQU   X'0008'          EQUATE FOR HIGH
00000C                       50 NH       EQU   X'000C'          EQUATE FOR NOT HIGH
000010                       51 LO       EQU   X'0010'          EQUATE FOR LOW
000014                       52 NL       EQU   X'0014'          EQUATE FOR NOT LOW
000010                       53 LT       EQU   X'0010'          EQUATE FOR LESS THAN
00000C                       54 LE       EQU   X'000C'          EQUATE FOR LESS THAN OR EQUAL TO
000008                       55 GT       EQU   X'0008'          EQUATE FOR GREATER THAN
000014                       56 GE       EQU   X'0014'          EQUATE FOR GREATER THAN OR EQUAL TO
000200                       57 ON       EQU   X'0200'          EQUATE FOR ON
000202                       58 OF       EQU   X'0202'          EQUATE FOR OFF
000204                       59 MX       EQU   X'0204'          EQUATE FOR MIXED
000000                       60 EBC      EQU   X'0000'          EQUATE FOR EBCDIC DATA TRANSFER
000001                       61 HEX      EQU   X'0001'          EQUATE FOR HEX DATA TRANSFER
000001                       62 XTRNL    EQU   X'0001'          EQUATE FOR EXTERNAL REFERENCE
000000                       63 INTRNL   EQU   X'0000'          EQUATE FOR INTERNAL REFERENCE
000000                       64 PARM     EQU   X'0000'          EQUATE INDICATING PARAMETER
000001                       65 DA       EQU   X'0001'          EQUATE FOR DEVICE ADDRESS
000002                       66 UA       EQU   X'0002'          EQUATE FOR UNIT ADDRESS
000000                       67 DUMMY    EQU   X'0000'          DUMMY EQUATE
001800                       69 PID      EQU   *-X'0D00'        ADDRESS OF MDI HEADER
000232                       70 PTYPE    EQU   *-X'22CE'        ADDRESS OF PROCESSOR TYPE FIELD
00180C                       71 STEPNUM  EQU   PID+X'000C'      ADDRESS OF DECIMAL STEP NUMBER
00180E                       72 OPWD1    EQU   PID+X'000E'      ADDRESS OF OPTION WORD ONE
001810                       73 OPWD2    EQU   PID+X'0010'      ADDRESS OF OPTION WORD TWO
001818                       74 TUSTATUS EQU   PID+X'0018'      ADDRESS OF TU STATUS WORD
00181A                       75 TUWORK   EQU   PID+X'001A'      ADDRESS OF TU WORK AREA
00189A                       76 TUPARM1  EQU   PID+X'009A'      ADDRESS OF PARM 1 POINTER
00189C                       77 TUPARM2  EQU   PID+X'009C'      ADDRESS OF PARM 2 POINTER
00189E                       78 TUPARM3  EQU   PID+X'009E'      ADDRESS OF PARM 3 POINTER
0018A0                       79 TUPARM4  EQU   PID+X'00A0'      ADDRESS OF PARM 4 POINTER
0018A2                       80 TUPARM5  EQU   PID+X'00A2'      ADDRESS OF PARM 5 POINTER
0018A4                       81 TUPARM6  EQU   PID+X'00A4'      ADDRESS OF PARM 6 POINTER
0018A6                       82 TUPARM7  EQU   PID+X'00A6'      ADDRESS OF PARM 7 POINTER
0018A8                       83 TUPARM8  EQU   PID+X'00A8'      ADDRESS OF PARM 8 POINTER
0018AA                       84 TUPARM9  EQU   PID+X'00AA'      ADDRESS OF PARM 9 POINTER
0018AC                       85 TUPARM10 EQU   PID+X'00AC'      ADDRESS OF PARM 10 POINTER
0018AE                       86 TUPARM11 EQU   PID+X'00AE'      ADDRESS OF PARM 11 POINTER
0018B0                       87 TUPARM12 EQU   PID+X'00B0'      ADDRESS OF PARM 12 POINTER
0018B2                       88 TUPARM13 EQU   PID+X'00B2'      ADDRESS OF PARM 13 POINTER
0018B4                       89 TUPARM14 EQU   PID+X'00B4'      ADDRESS OF PARM 14 POINTER
0018B6                       90 TUPARM15 EQU   PID+X'00B6'      ADDRESS OF PARM 15 POINTER
0018B8                       91 TUPARM16 EQU   PID+X'00B8'      ADDRESS OF PARM 16 POINTER
0018BA                       92 TUMSGWTR EQU   PID+X'00BA'      ADDRESS OF -> TO COMMON MSG WRITER
0018BE                       93 TUUA     EQU   PID+X'00BF'      ADDRESS OF UNIT ADDRESS IN EBC
0018C0                       94 TUDA     EQU   PID+X'00C0'      ADDPESS OF DEVICE ADDRESS IN EBC
0018C2                       95 TUBUFF   EQU   PID+X'00C2'      ADDRESS OF LAST USED WORD IN MAP
0018C4                       96 TULAST   EQU   PID+X'00C4'      ADDRESS OF LAST ADDRESSABLE WORD
0018C6                       97 TURESULN EQU   PID+X'00C6'      ADDRESS OF LENGTH OF TU RESULTS
0018C8                       98 TURESUL  EQU   PID+X'00C8'      ADDRESS OF TU RESULTS FIELD
0018FC                       99 MAPNAME  EQU   PID+X'00FC'      ADDRESS OF MAP NAME FIELD IN HEX
001948                      100 TUINPT   EQU   PID+X'0148'      ADDRESS OF $INPT DATA
00196E                      101 PARMARA  EQU   PID+X'016E'      ADDRESS OF $INPT INPUT AREA
0019B8                      102 @DCADD1  EQU   PID+X'01B8'      MDI POINTER
0019BA                      103 @DCADD2  EQU   PID+X'01BA'      MDI POINTER
0019C4                      104 SUPSTAT  EQU   PID+X'01C4'      ADDRESS OF MDI STATUS
0019D0                      105 DEVADD   EQU   PID+X'01D0'      ADDRESS OF DEVICE ADDRESS TABLE 0
0019DA                      106 DEVADD1  EQU   PID+X'01DA'      ADDRESS OF DEVICE ADDRESS TABLE 1
0019E4                      107 DEVADD2  EQU   PID+X'01E4'      ADDRESS OF DEVICE ADDRESS TABLE 2
0019EE                      108 DEVADD3  EQU   PID+X'01EE'      ADDRESS OF DEVICE ADDRESS TABLE 3
0019F8                      109 DEVADD4  EQU   PID+X'01F8'      ADDRESS OF DEVICE ADDRESS TABLE 4
001A02                      110 DEVADD5  EQU   PID+X'0202'      ADDRESS OF DEVICE ADDRESS TABLE 5
001A0C                      111 DEVADD6  EQU   PID+X'020C'      ADDRESS IF DEVICE ADDRESS TABLE 6
001A16                      112 DEVADD7  EQU   PID+X'0216'      ADDRESS OF DEVICE ADDRESS TABLE 7
                            113         PRINT OFF
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
002500  2F18                198         DC    A(ENTPT)          POINT TO MAP ENTRY POINT TABLE
                            199 ************************************************************************
                            200 ************************************************************************
                            201 **                                                                    **
                            202 **  THE FOLLOWING TABLES ARE USED BY THE MDI SUPERVISOR (D3C00)        **
                            203 **  TO LOCATE THE CORRECT RULE TO INVOKE, TO OBTAIN THE PROPER         **
                            204 **  PARAMETERS TO PASS TO THE TU'S AND TO PASS TO THE OPERATOR         **
                            205 **  THE INDICATED MESSAGE(S). THERE ARE FOUR TABLES USED FOR THIS      **
                            206 **  PURPOSE THEY ARE:                                                 **
                            207 **                                                                    **
                            208 **  STEP AND RULE ADDRESS TABLE                                       **
                            209 **       THIS TABLE GIVES THE ADDPESS OF THE RULE TO INVOKE AND       **
                            210 **       THE ASSOCIATED STEP DECIMAL STEP NUMBER OF THAT RULE.        **
                            211 **       ENTRIES ARE AS FOLLOWES                                      **
                            212 **                 A)  AN ADDRESS OF THE RULE DC START AREA           **
                            213 **                 B)  THE STEP NUMBER IN DECIMAL                     **
                            214 **                 C)  AN EQUATE FOR THE STEP NUMBER                  **
                            215 **                                                                    **
                            216 **  RULE INFORMATION TABLE                                            **
                            217 **       THIS TABLE CONTAINES THE REQUIRED INFORMATION TO EXECUTE     **
                            218 **       THE APPROPRIATE RULE UNDER MDI. EACH RULE HAS ITS OWN        **
                            219 **       UNIQUELY DEFINED AREA INDICATED BELOW. END OF TABLE IS       **
                            220 **       INDICATED WITH A X'0000' FOR THE RULE EQUATE.                **
                            221 **                                                                    **
                            222 **       $QUES                                                        **
                            223 **             A) RULE EQUATE X'0100'                                 **
                            224 **             B) ADDRESS OF THE YES LEG RULE                         **
                            225 **                                                                    **
                            226 **       $FIXT                                                        **
                            227 **             A) RULE EQUATE X'0101'                                 **
                            228 **             B) ADDRESS OF MESSAGE TO PRINT                         **
                            229 **                                                                    **
                            230 **       $STOP                                                        **
                            231 **             A) RULE EQUATE X'0102'                                 **
                            232 **             B) ADDRESS OF MESSAGE                                  **
                            233 **                                                                    **
                            234 **       $GOTO                                                        **
                            235 **             A) RULE EQUATE X'0200'                                 **
                            236 **             B) ADDRESS OF MESSAGE                                  **
                            237 **             C) NAME OF MAP TO GO TO                                **
                            238 **             D) ENTRY POINT WITHIN GO TO MAP TO USE                 **
                            239 **             E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE        **
                            240 **                                                                    **
                            241 **       $CALL                                                        **
                            242 **             A) RULE EQUATE X'0201'                                 **
                            243 **             B) ADDRESS OF MESSAGE                                  **
                            244 **             C) NAME OF MAP TO CALL                                 **
                            245 **             D) ENTRY POINT WITHIN CALLED MAP TO USE                **
                            246 **             E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE        **
                            247 **                                                                    **
                            248 **       $INPT                                                        **
                            249 **                                                                    **
                            250 **             A) RULE EQUATE X'0300'                                 **
                            251 **             B) INPUT TYPE (EBCDIC OR HEX)                          **
                            252 **             C) ADDRESS OF YES LEG RULE                             **
                            253 **             D) DESTINATION LOCATION OF INPUT DATA                  **
                            254 **             E) LENGTH OF INPUT DATA                                **
                            255 **             F) LOWER LIMIT OF GOOD DATA                            **
                            256 **             G) HIGHER LIMIT OF GOOD DATA                           **
                            257 **                                                                    **
                            258 **       $QUXX                                                        **
                            259 **             A) RULE EQUATE X'0400'                                 **
                            260 **             B) ADDRESS OF YES LEG RULE                             **
                            261 **             C) TU BRANCH TO ADDRESS (INITIAL)                      **
                            262 **             D) TU BRANCH TO ADDRESS (SECONDARY)                    **
                            263 **             E) LENGTH OF PARAMETER IN BYTES                        **
                            264 **             F) PARAMETER TO PASS TO TU                             **
                            265 **             G) STORE ADDRESS FOR FIRST 8 WOPDS OF PARAMETER        **
                            266 **                                                                    **
                            267 **       $TUXX                                                        **
                            268 **             A) RULE EQUATE X'0500'                                 **
                            269 **             B) ADDRESS OF YES LEG RULE                             **
                            270 **             C) TU BRANCH TO ADDRESS                                **
                            271 **             D) TYPE OF COMPARE TO MAKE ON RESULTS                  **
                            272 **             E) LENGTH OF COMPARED RESULTS                          **
                            273 **             F) MASK FIELD FOR COMPARE                              **
                            274 **             G) LENGTH OF PARAMETER IN BYTES                        **
                            275 **             H) PARAMETER TO PASS TO THE TU                         **
                            276 **             I) STORE ADDRESS FOR FIRST 8 WORDS OF PARAMETER        **
                            277 **                                                                    **
                            278 **       $NVLD                                                        **
                            279 **             A) RULE EQUATE X'0600'                                 **
                            280 **                                                                    **
                            281 **  ENTRY POINT TABLE                                                 **
                            282 **       THIS TABLE CONTAINS THE ENTRY POINTS WITHIN THE MAP THAT     **
                            283 **       THE MAP CAN BE ENTERED FROM THESE ENTRY POINTS ARE           **
                            284 **       REFERENCED BY NAME AND ADDRESS. ENTRIES ARE AS FOLLOWES:     **
                            285 **                                                                    **
                            286 **          A) NAME OF ENTRY POINT                                    **
                            287 **          B) ADDRESS OF ENTRY POINT RULE TABLE                      **
                            288 **                                                                    **
                            289 **       THE ENTRY POINT TABLE END IS INDICATED BY A X'0000'          **
                            290 **                                                                    **
                            291 **  MESSAGE TABLE                                                     **
                            292 **       THIS TABLE CONTAINES THE MESSAGE PASSED TO THE OPERATOR      **
                            293 **       VIA THE MDI SUPERVISOR. THE TABLE IS AS FOLLOWES:            **
                            294 **                                                                    **
                            295 **          A) EQUATE FOR START OF MESSAGE BLOCK                      **
                            296 **          B) NUMBER OF LINES OF MESSAGE                             **
                            297 **          C) LENGTH OF FOLLOWING LINE                               **
                            298 **          D) FIRST LINE OF MESSAGE                                  **
                            299 **          E) LENGTH OF FOLLOWING LINE                               **
                            300 **          F) SECOND LINE OF MESSAGE                                 **
                            301 **          G) ETC.                                                   **
                            302 **                                                                    **
                            303 ************************************************************************
                            304 ************************************************************************
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976
                            308 ************************************************************************
                            309 ************************************************************************
                            310 **                                                                    **
                            311 **                  STEP AND RULE ADDRESS TABLE                       **
                            312 **                                                                    **
                            313 ************************************************************************
                            314 ************************************************************************
002502  26D0                315          DC    AL2(N00001)
002504  0001                316          DC    XL2'0001'
000001                      317 EQN00001 EQU       0001
002506  26E2                318          DC    AL2(N00002)
002508  0002                319          DC    XL2'0002'
000002                      320 EQN00002 EQU       0002
00250A  26EE                321          DC    AL2(N00003)
00250C  0003                322          DC    XL2'0003'
000003                      323 EQN00003 EQU       0003
00250E  2700                324          DC    AL2(N00004)
002510  0004                325          DC    XL2'0004'
000004                      326 EQN00004 EQU       0004
002512  2716                327          DC    AL2(N00005)
002514  0005                328          DC    XL2'0005'
000005                      329 EQN00005 EQU       0005
002516  2722                330          DC    AL2(N00006)
002518  0006                331          DC    XL2'0006'
000006                      332 EQN00006 EQU       0006
00251A  2726                333          DC    AL2(N00007)
00251C  0007                334          DC    XL2'0007'
000007                      335 EQN00007 EQU       0007
00251E  2744                336          DC    AL2(N00008)
002520  0008                337          DC    XL2'0008'
000008                      338 EQN00008 EQU       0008
002522  2748                339          DC    AL2(N00009)
002524  0009                340          DC    XL2'0009'
000009                      341 EQN00009 EQU       0009
002526  275A                342          DC    AL2(N00010)
002528  0010                343          DC    XL2'0010'
00000A                      344 EQN00010 EQU       0010
00252A  2766                345          DC    AL2(N00011)
00252C  0011                346          DC    XL2'0011'
00000B                      347 EQN00011 EQU       0011
00252E  277C                348          DC    AL2(N00012)
002530  0012                349          DC    XL2'0012'
00000C                      350 EQN00012 EQU       0012
002532  2788                351          DC    AL2(N00013)
002534  0013                352          DC    XL2'0013'
00000D                      353 EQN00013 EQU       0013
002536  27AA                354          DC    AL2(N00014)
002538  0014                355          DC    XL2'0014'
00000E                      356 EQN00014 EQU       0014
00253A  27B6                357          DC    AL2(N00015)
00253C  0015                358          DC    XL2'0015'
00000F                      359 EQN00015 EQU       0015
00253E  27D8                360          DC    AL2(N00016)
002540  0016                361          DC    XL2'0016'
000010                      362 EQN00016 EQU       0016
002542  27E4                363          DC    AL2(N00017)
002544  0017                364          DC    XL2'0017'
000011                      365 EQN00017 EQU       0017
002546  2816                366          DC    AL2(N00018)
002548  0018                367          DC    XL2'0018'
000012                      368 EQN00018 EQU       0018
00254A  2822                369          DC    AL2(N00019)
00254C  0019                370          DC    XL2'0019'
000013                      371 EQN00019 EQU       0019
00254E  2848                372          DC    AL2(N00020)
002550  0020                373          DC    XL2'0020'
000014                      374 EQN00020 EQU       0020
002552  2854                375          DC    AL2(N00021)
002554  0021                376          DC    XL2'0021'
000015                      377 EQN00021 EQU       0021
002556  287A                378          DC    AL2(N00022)
002558  0022                379          DC    XL2'0022'
000016                      380 EQN00022 EQU       0022
00255A  2886                381          DC    AL2(N00023)
00255C  0023                382          DC    XL2'0023'
000017                      383 EQN00023 EQU       0023
00255E  28A0                384          DC    AL2(N00024)
002560  0024                385          DC    XL2'0024'
000018                      386 EQN00024 EQU       0024
002562  28A2                387          DC    AL2(N00025)
002564  0025                388          DC    XL2'0025'
000019                      389 EQN00025 EQU       0025
002566  28B8                390          DC    AL2(N00026)
002568  0026                391          DC    XL2'0026'
00001A                      392 EQN00026 EQU       0026
00256A  28BA                393          DC    AL2(N00027)
00256C  0027                394          DC    XL2'0027'
00001B                      395 EQN00027 EQU       0027
00256E  28D8                396          DC    AL2(N00028)
002570  0028                397          DC    XL2'0028'
00001C                      398 EQN00028 EQU       0028
002572  28E4                399          DC    AL2(N00029)
002574  0029                400          DC    XL2'0029'
00001D                      401 EQN00029 EQU       0029
002576  28FA                402          DC    AL2(N00030)
002578  0030                403          DC    XL2'0030'
00001E                      404 EQN00030 EQU       0030
00257A  2906                405          DC    AL2(N00031)
00257C  0031                406          DC    XL2'0031'
00001F                      407 EQN00031 EQU       0031
00257E  291C                408          DC    AL2(N00032)
002580  0032                409          DC    XL2'0032'
000020                      410 EQN00032 EQU       0032
002582  2928                411          DC    AL2(N00033)
002584  0033                412          DC    XL2'0033'
000021                      413 EQN00033 EQU       0033
002586  294A                414          DC    AL2(N00034)
002588  0034                415          DC    XL2'0034'
000022                      416 EQN00034 EQU       0034
00258A  294C                417          DC    AL2(N00035)
00258C  0035                418          DC    XL2'0035'
000023                      419 EQN00035 EQU       0035
00258E  2972                420          DC    AL2(N00036)
002590  0036                421          DC    XL2'0036'
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976
000024                      422 EQN00036 EQU       0036
002592  2974                423          DC    AL2(N00037)
002594  0037                424          DC    XL2'0037'
000025                      425 EQN00037 EQU       0037
002596  298A                426          DC    AL2(N00038)
002598  0038                427          DC    XL2'0038'
000026                      428 EQN00038 EQU       0038
00259A  298C                429          DC    AL2(N00039)
00259C  0039                430          DC    XL2'0039'
000027                      431 EQN00039 EQU       0039
00259E  29AE                432          DC    AL2(N00040)
0025A0  0040                433          DC    XL2'0040'
000028                      434 EQN00040 EQU       0040
0025A2  29B0                435          DC    AL2(N00041)
0025A4  0041                436          DC    XL2'0041'
000029                      437 EQN00041 EQU       0041
0025A6  29CC                438          DC    AL2(N00042)
0025A8  0042                439          DC    XL2'0042'
00002A                      440 EQN00042 EQU       0042
0025AA  29DE                441          DC    AL2(N00043)
0025AC  0043                442          DC    XL2'0043'
00002B                      443 EQN00043 EQU       0043
0025AE  29EA                444          DC    AL2(N00044)
0025B0  0044                445          DC    XL2'0044'
00002C                      446 EQN00044 EQU       0044
0025B2  29F6                447          DC    AL2(N00045)
0025B4  0045                448          DC    XL2'0045'
00002D                      449 EQN00045 EQU       0045
0025B6  2A18                450          DC    AL2(N00046)
0025B8  0046                451          DC    XL2'0046'
00002E                      452 EQN00046 EQU       0046
0025BA  2A1A                453          DC    AL2(N00047)
0025BC  0047                454          DC    XL2'0047'
00002F                      455 EQN00047 EQU       0047
0025BE  2A40                456          DC    AL2(N00048)
0025C0  0048                457          DC    XL2'0048'
000030                      458 EQN00048 EQU       0048
0025C2  2A42                459          DC    AL2(N00049)
0025C4  0049                460          DC    XL2'0049'
000031                      461 EQN00049 EQU       0049
0025C6  2A58                462          DC    AL2(N00050)
0025C8  0050                463          DC    XL2'0050'
000032                      464 EQN00050 EQU       0050
0025CA  2A5A                465          DC    AL2(N00051)
0025CC  0051                466          DC    XL2'0051'
000033                      467 EQN00051 EQU       0051
0025CE  2A7C                468          DC    AL2(N00052)
0025D0  0052                469          DC    XL2'0052'
000034                      470 EQN00052 EQU       0052
0025D2  2A7E                471          DC    AL2(N00053)
0025D4  0053                472          DC    XL2'0053'
000035                      473 EQN00053 EQU       0053
0025D6  2A9A                474          DC    AL2(N00054)
0025D8  0054                475          DC    XL2'0054'
000036                      476 EQN00054 EQU       0054
0025DA  2AA6                477          DC    AL2(N00055)
0025DC  0055                478          DC    XL2'0055'
000037                      479 EQN00055 EQU       0055
0025DE  2AC8                480          DC    AL2(N00056)
0025E0  0056                481          DC    XL2'0056'
000038                      482 EQN00056 EQU       0056
0025E2  2ACA                483          DC    AL2(N00057)
0025E4  0057                484          DC    XL2'0057'
000039                      485 EQN00057 EQU       0057
0025E6  2AF0                486          DC    AL2(N00058)
0025E8  0058                487          DC    XL2'0058'
00003A                      488 EQN00058 EQU       0058
0025EA  2AF2                489          DC    AL2(N00059)
0025EC  0059                490          DC    XL2'0059'
00003B                      491 EQN00059 EQU       0059
0025EE  2B08                492          DC    AL2(N00060)
0025F0  0060                493          DC    XL2'0060'
00003C                      494 EQN00060 EQU       0060
0025F2  2B0A                495          DC    AL2(N00061)
0025F4  0061                496          DC    XL2'0061'
00003D                      497 EQN00061 EQU       0061
0025F6  2B2C                498          DC    AL2(N00062)
0025F8  0062                499          DC    XL2'0062'
00003E                      500 EQN00062 EQU       0062
0025FA  2B2E                501          DC    AL2(N00063)
0025FC  0063                502          DC    XL2'0063'
00003F                      503 EQN00063 EQU       0063
0025FE  2B4C                504          DC    AL2(N00064)
002600  0064                505          DC    XL2'0064'
000040                      506 EQN00064 EQU       0064
002602  2B58                507          DC    AL2(N00065)
002604  0065                508          DC    XL2'0065'
000041                      509 EQN00065 EQU       0065
002606  2B7A                510          DC    AL2(N00066)
002608  0066                511          DC    XL2'0066'
000042                      512 EQN00066 EQU       0066
00260A  2B7C                513          DC    AL2(N00067)
00260C  0067                514          DC    XL2'0067'
000043                      515 EQN00067 EQU       0067
00260E  2BA2                516          DC    AL2(N00068)
002610  0068                517          DC    XL2'0068'
000044                      518 EQN00068 EQU       0068
002612  2BA4                519          DC    AL2(N00069)
002614  0069                520          DC    XL2'0069'
000045                      521 EQN00069 EQU       0069
002616  2BBA                522          DC    AL2(N00070)
002618  0070                523          DC    XL2'0070'
000046                      524 EQN00070 EQU       0070
00261A  2BBC                525          DC    AL2(N00071)
00261C  0071                526          DC    XL2'0071'
000047                      527 EQN00071 EQU       0071
00261E  2BDE                528          DC    AL2(N00072)
002620  0072                529          DC    XL2'0072'
000048                      530 EQN00072 EQU       0072
002622  2BE0                531          DC    AL2(N00073)
002624  0073                532          DC    XL2'0073'
000049                      533 EQN00073 EQU       0073
002626  2BFE                534          DC    AL2(N00074)
002628  0074                535          DC    XL2'0074'
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LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT
00004A                     536 EQN00074 EQU      0074
00262A  2C0A               537          DC    AL2(N00075)
00262C  0075               538          DC    XL2'0075'
00004B                     539 EQN00075 EQU      0075
00262E  2C3C               540          DC    AL2(N00076)
002630  0076               541          DC    XL2'0076'
00004C                     542 EQN00076 EQU      0076
002632  2C3E               543          DC    AL2(N00077)
002634  0077               544          DC    XL2'0077'
00004D                     545 EQN00077 EQU      0077
002636  2C68               546          DC    AL2(N00078)
002638  0078               547          DC    XL2'0078'
00004E                     548 EQN00078 EQU      0078
00263A  2C6A               549          DC    AL2(N00079)
00263C  0079               550          DC    XL2'0079'
00004F                     551 EQN00079 EQU      0079
00263E  2C80               552          DC    AL2(N00080)
002640  0080               553          DC    XL2'0080'
000050                     554 EQN00080 EQU      0080
002642  2C82               555          DC    AL2(N00081)
002644  0081               556          DC    XL2'0081'
000051                     557 EQN00081 EQU      0081
002646  2CA4               558          DC    AL2(N00082)
002648  0082               559          DC    XL2'0082'
000052                     560 EQN00082 EQU      0082
00264A  2CA6               561          DC    AL2(N00083)
00264C  0083               562          DC    XL2'0083'
000053                     563 EQN00083 EQU      0083
00264E  2CD0               564          DC    AL2(N00084)
002650  0084               565          DC    XL2'0084'
000054                     566 EQN00084 EQU      0084
002652  2CD2               567          DC    AL2(N00085)
002654  0085               568          DC    XL2'0085'
000055                     569 EQN00085 EQU      0085
002656  2CE8               570          DC    AL2(N00086)
002658  0086               571          DC    XL2'0086'
000056                     572 EQN00086 EQU      0086
00265A  2CEA               573          DC    AL2(N00087)
00265C  0087               574          DC    XL2'0087'
000057                     575 EQN00087 EQU      0087
00265E  2D0C               576          DC    AL2(N00088)
002660  0088               577          DC    XL2'0088'
000058                     578 EQN00088 EQU      0088
002662  2D0E               579          DC    AL2(N00089)
002664  0089               580          DC    XL2'0089'
000059                     581 EQN00089 EQU      0089
002666  2D2A               582          DC    AL2(N00090)
002668  0090               583          DC    XL2'0090'
00005A                     584 EQN00090 EQU      0090
00266A  2D36               585          DC    AL2(N00091)
00266C  0091               586          DC    XL2'0091'
00005B                     587 EQN00091 EQU      0091
00266E  2D6C               588          DC    AL2(N00092)
002670  0092               589          DC    XL2'0092'
00005C                     590 EQN00092 EQU      0092
002672  2D6E               591          DC    AL2(N00093)
002674  0093               592          DC    XL2'0093'
00005D                     593 EQN00093 EQU      0093
002676  2D90               594          DC    AL2(N00094)
002678  0094               595          DC    XL2'0094'
00005E                     596 EQN00094 EQU      0094
00267A  2D92               597          DC    AL2(N00095)
00267C  0095               598          DC    XL2'0095'
00005F                     599 EQN00095 EQU      0095
00267E  2DB8               600          DC    AL2(N00096)
002680  0096               601          DC    XL2'0096'
000060                     602 EQN00096 EQU      0096
002682  2DBA               603          DC    AL2(N00097)
002684  0097               604          DC    XL2'0097'
000061                     605 EQN00097 EQU      0097
002686  2DD0               606          DC    AL2(N00098)
002688  0098               607          DC    XL2'0098'
000062                     608 EQN00098 EQU      0098
00268A  2DD2               609          DC    AL2(N00099)
00268C  0099               610          DC    XL2'0099'
000063                     611 EQN00099 EQU      0099
00268E  2DF4               612          DC    AL2(N00100)
002690  0100               613          DC    XL2'0100'
000064                     614 EQN00100 EQU      0100
002692  2DF6               615          DC    AL2(N00101)
002694  0101               616          DC    XL2'0101'
000065                     617 EQN00101 EQU      0101
002696  2E14               618          DC    AL2(N00102)
002698  0102               619          DC    XL2'0102'
000066                     620 EQN00102 EQU      0102
00269A  2E20               621          DC    AL2(N00103)
00269C  0103               622          DC    XL2'0103'
000067                     623 EQN00103 EQU      0103
00269E  2E56               624          DC    AL2(N00104)
0026A0  0104               625          DC    XL2'0104'
000068                     626 EQN00104 EQU      0104
0026A2  2E58               627          DC    AL2(N00105)
0026A4  0105               628          DC    XL2'0105'
000069                     629 EQN00105 EQU      0105
0026A6  2E7A               630          DC    AL2(N00106)
0026A8  0106               631          DC    XL2'0106'
00006A                     632 EQN00106 EQU      0106
0026AA  2E7C               633          DC    AL2(N00107)
0026AC  0107               634          DC    XL2'0107'
00006B                     635 EQN00107 EQU      0107
0026AE  2EA2               636          DC    AL2(N00108)
0026B0  0108               637          DC    XL2'0108'
00006C                     638 EQN00108 EQU      0108
0026B2  2EA4               639          DC    AL2(N00109)
0026B4  0109               640          DC    XL2'0109'
00006D                     641 EQN00109 EQU      0109
0026B6  2EBA               642          DC    AL2(N00110)
0026B8  0110               643          DC    XL2'0110'
00006E                     644 EQN00110 EQU      0110
0026BA  2EBC               645          DC    AL2(N00111)
0026BC  0111               646          DC    XL2'0111'
00006F                     647 EQN00111 EQU      0111
0026BE  2EDE               648          DC    AL2(N00112)
0026C0  0112               649          DC    XL2'0112'
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LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT
000070                     650 EQN00112 EQU      0112
0026C2  2EE0               651          DC    AL2(N00113)
0026C4  0113               652          DC    XL2'0113'
000071                     653 EQN00113 EQU      0113
0026C6  2EFE               654          DC    AL2(N00114)
0026C8  0114               655          DC    XL2'0114'
000072                     656 EQN00114 EQU      0114
0026CA  2F0A               657          DC    AL2(N00115)
0026CC  0115               658          DC    XL2'0115'
000073                     659 EQN00115 EQU      0115
0026CE  0000               660          DC    AL2(DUMMY)
                           661 ********************************************************************************
                           662 ********************************************************************************
                           663 **                                                                            **
                           664 **                          RULE INFORMATION TABLE                            **
                           665 **                                                                            **
                           666 ********************************************************************************
                           667 ********************************************************************************
                           668 N00001   $TUXX T7A52,01,80,OF,QT=(Q00109),YES=N00003
0026D0  0500               669+N00001   DC    A(@TUXX)
0026D2  26EE               670+         DC    AL2(N00003)
0026D4  35A6               671+         DC    A(T7A52)
0026D6  0202               672+         DC    AL2(OF)
0026D8  0001               673+         DC    AL2(01)
0026DA  80                 674+         DC    X'80'
0026DB  00                 675+         ALIGN WORD
0026DC  0000               676+         DC    AL2(0)
0026DE  C1C1               677+         DC    C'AA'
                           678+         ALIGN WORD
0026E0  196E               679+         DC     AL2(PARMARA)
                           680 N00002   $GOTO TYPE=XTRNL,MAP=7A20,EP=A,PT=(F00111)
0026E2  0200               681+N00002   DC    A(@GOTO)
0026E4  2F1E               682+         DC    A(F00111)
0026E6  F7C1F2F0           683+         DC    CL4'7A20'
0026EA  C140               684+         DC    CL2'A'
0026EC  0001               685+         DC    AL2(XTRNL)
                           686 N00003   $TUXX T7A13,02,0000,EQ,QT=(Q00118),YES=N00007,CT=(C00006),    X
0026EE  0500               687+N00003   DC    A(@TUXX)
0026F0  2726               688+         DC    AL2(N00007)
0026F2  36F2               689+         DC    A(T7A13)
0026F4  0000               690+         DC    AL2(EQ)
0026F6  0002               691+         DC    AL2(02)
0026F8  0000               692+         DC    X'0000'
                           693+         ALIGN WORD
0026FA  0000               694+         DC    AL2(0)
0026FC  C1C1               695+         DC    C'AA'
                           696+         ALIGN WORD
0026FE  196E               697+         DC     AL2(PARMARA)
                           698 N00004   $TUXX T7A02,06,000000000001,ON,QT=(Q00120),YES=N00006
002700  0500               699+N00004   DC    A(@TUXX)
002702  2722               700+         DC    AL2(N00006)
002704  3062               701+         DC    A(T7A02)
002706  0200               702+         DC    AL2(ON)
002708  0006               703+         DC    AL2(06)
00270A  000000000001       704+         DC    X'000000000001'
                           705+         ALIGN WORD
002710  0000               706+         DC    AL2(0)
002712  C1C1               707+         DC    C'AA'
                           708+         ALIGN WORD
002714  196E               709+         DC     AL2(PARMARA)
                           710 N00005   $CALL TYPE=XTRNL,MAP=7A13,EP=A,PT=(F00099)
002716  0201               711+N00005   DC    A(@CALL)
002718  2F30               712+         DC    A(F00099)
00271A  F7C1F1F3           713+         DC    CL4'7A13'
00271E  C140               714+         DC    CL2'A'
002720  0001               715+         DC    AL2(XTRNL)
                           716 N00006   $FIXT FT=(F00106),GTO=((7A80,A))
002722  0101               717+N00006   DC    A(@FIXT)
002724  2F56               718+         DC    A(F00106)
                           719 N00007   $TUXX T7A08,14,00000001000000000000000000080,OF,QT=(Q00133),    X
002726  0500               720+N00007   DC    A(@TUXX)
002728  2748               721+         DC    AL2(N00009)
00272A  365C               722+         DC    A(T7A08)
00272C  0202               723+         DC    AL2(OF)
00272E  000E               724+         DC    AL2(14)
002730  00000001000000000000000000080   725+         DC    X'00000001000000000000000000080'
                           726+         ALIGN WORD
00273E  0000               727+         DC    AL2(0)
002740  C1C1               728+         DC    C'AA'
                           729+         ALIGN WORD
002742  196E               730+         DC     AL2(PARMARA)
                           731 N00008   $FIXT FT=(F00107)
002744  0101               732+N00008   DC    A(@FIXT)
002746  2F7C               733+         DC    A(F00107)
                           734 N00009   $TUXX T7A14,02,0000,EQ,QT=(Q00102),YES=N00011,CT=(C00013)
002748  0500               735+N00009   DC    A(@TUXX)
00274A  2766               736+         DC    AL2(N00011)
00274C  39BA               737+         DC    A(T7A14)
00274E  0000               738+         DC    AL2(EQ)
002750  0002               739+         DC    AL2(02)
002752  0000               740+         DC    X'0000'
                           741+         ALIGN WORD
002754  0000               742+         DC    AL2(0)
002756  C1C1               743+         DC    C'AA'
                           744+         ALIGN WORD
002758  196E               745+         DC     AL2(PARMARA)
                           746 N00010   $CALL TYPE=XTRNL,MAP=7A13,EP=A,PT=(F00099)
00275A  0201               747+N00010   DC    A(@CALL)
00275C  2F30               748+         DC    A(F00099)
00275E  F7C1F1F3           749+         DC    CL4'7A13'
002762  C140               750+         DC    CL2'A'
002764  0001               751+         DC    AL2(XTRNL)
                           752 N00011   $TUXX T7A55,02,0700,ON,PLNG=6,PARM=4F0000,QT=(Q00102),        X
002766  0500               753+N00011   DC    A(@TUXX)
002768  2788               754+         DC    AL2(N00013)
00276A  35CA               755+         DC    A(T7A55)
00276C  0200               756+         DC    AL2(ON)
00276E  0002               757+         DC    AL2(02)
002770  0700               758+         DC    X'0700'
                           759+         ALIGN WORD
002772  0006               760+         DC    AL2(6)
002774  F4C6F0F0F0F0       761+         DC    C'4F0000'
                           762+         ALIGN WORD
00277A  196E               763+         DC     AL2(PARMARA)
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976

00277C  0201                764 N00012  $CALL TYPE=XTRNL,MAP=7A16,EP=B,FT=(F00099)
00277E  2F30              765+N00012    DC    A(@CALL)
002780  F7C1F1F6            766+        DC    A(F00099)
002784  C240                767+        DC    CL4'7A16'
002786  0001                768+        DC    CL2'B'
                            769+        DC    AL2(XTRNL)
002788  0500                770 N00013  $TUXX T7A18,02,0001,ON,PLNG=17,PARM=0003/40004C0065E5,       X
00278A  27B6              771+N00013    DC    A(@TUXX)
00278C  3A86                772+        DC    AL2(N00015)
00278E  0200                773+        DC    A(T7A18)
002790  0002                774+        DC    AL2(ON)
002792  0001                775+        DC    AL2(02)
                            776+        DC    X'0001'
002794  0011                777+        ALIGN WORD
002796  F0F0F0F361F4F0F0F    778+        DC    AL2(17)
0027A7  00                  779+        DC    C'0003/40004C0065E5'
0027A8  196E                780+        ALIGN WORD
                            781+        DC     AL2(PARMARA)
0027AA  0201                782 N00014  $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
0027AC  2F30              783+N00014    DC    A(@CALL)
0027AE  F7C1F1F6            784+        DC    A(F00099)
0027B2  C440                785+        DC    CL4'7A16'
0027B4  0001                786+        DC    CL2'D'
                            787+        DC    AL2(XTRNL)
0027B6  0500                788 N00015  $TUXX T7A18,02,0101,EQ,PLNG=17,PARM=0003/40016DE565E5,       X
0027B8  27E4              789+N00015    DC    A(@TUXX)
0027BA  3A86                790+        DC    AL2(N00017)
0027BC  0000                791+        DC    A(T7A18)
0027BE  0002                792+        DC    AL2(EQ)
0027C0  0101                793+        DC    AL2(02)
                            794+        DC    X'0101'
0027C2  0011                795+        ALIGN WORD
0027C4  F0F0F0F361F4F0F0F   796+        DC    AL2(17)
0027D5  00                  797+        DC    C'0003/40016DE565E5'
0027D6  196E                798+        ALIGN WORD
                            799+        DC     AL2(PARMARA)
0027D8  0201                800 N00016  $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
0027DA  2F30              801+N00016    DC    A(@CALL)
0027DC  F7C1F1F6            802+        DC    A(F00099)
0027E0  C440                803+        DC    CL4'7A16'
0027E2  0001                804+        DC    CL2'D'
                            805+        DC    AL2(XTRNL)
0027E4  0500                806 N00017  $TUXX T7A18,02,0102,EQ,PLNG=33,PARM=0007/40016DE54C0065E461E4DX
0027E6  2822              807+N00017    DC    A(@TUXX)
0027E8  3A86                808+        DC    AL2(N00019)
0027EA  0000                809+        DC    A(T7A18)
0027EC  0002                810+        DC    AL2(EQ)
0027EE  0102                811+        DC    AL2(02)
                            812+        DC    X'0102'
0027F0  0021                813+        ALIGN WORD
0027F2  F0F0F0F761F4F0F0F   814+        DC    AL2(33)
002813  00                  815+        DC    C'0007/40016DE54C0065E461E4D80065E5'
002814  196E                816+        ALIGN WORD
                            817+        DC     AL2(PARMARA)
002816  0201                818 N00018  $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
002818  2F30              819+N00018    DC    A(@CALL)
00281A  F7C1F1F6            820+        DC    A(F00099)
00281E  C440                821+        DC    CL4'7A16'
002820  0001                822+        DC    CL2'D'
                            823+        DC    AL2(XTRNL)
002822  0500                824 N00019  $TUXX T7A18,02,0055,ON,PLNG=21,PARM=0004/44554000430065E5,     X
002824  2854              825+N00019    DC    A(@TUXX)
002826  3A86                826+        DC    AL2(N00021)
002828  0200                827+        DC    A(T7A18)
00282A  0002                828+        DC    AL2(ON)
00282C  0055                829+        DC    AL2(02)
                            830+        DC    X'0055'
00282E  0015                831+        ALIGN WORD
002830  F0F0F0F461F4F4F5F   832+        DC    AL2(21)
002845  00                  833+        DC    C'0004/44554000430065E5'
002846  196E                834+        ALIGN WORD
                            835+        DC     AL2(PARMARA)
002848  0201                836 N00020  $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
00284A  2F30              837+N00020    DC    A(@CALL)
00284C  F7C1F1F6            838+        DC    A(F00099)
002850  C440                839+        DC    CL4'7A16'
002852  0001                840+        DC    CL2'D'
                            841+        DC    AL2(XTRNL)
002854  0500                842 N00021  $TUXX T7A18,02,0055,ON,PLNG=21,PARM=0004/44554000430065E5,     X
002856  2886              843+N00021    DC    A(@TUXX)
002858  3A86                844+        DC    AL2(N00023)
00285A  0200                845+        DC    A(T7A18)
00285C  0002                846+        DC    AL2(ON)
00285E  0055                847+        DC    AL2(02)
                            848+        DC    X'0055'
002860  0015                849+        ALIGN WORD
002862  F0F0F0F461F4F4F5F   850+        DC    AL2(21)
002877  00                  851+        DC    C'0004/44554000430065E5'
002878  196E                852+        ALIGN WORD
                            853+        DC     AL2(PARMARA)
00287A  0201                854 N00022  $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
00287C  2F30              855+N00022    DC    A(@CALL)
00287E  F7C1F1F6            856+        DC    A(F00099)
002884  0001                857+        DC    CL4'7A16'
                            858+        DC    CL2'D'
                            859+        DC    AL2(XTRNL)
002886  0500                860 N00023  $TUXX T7A31,02,0000,ON,PLNG=09,PARM=0001/9ADF,QT=(Q00102),     X
002888  28A2              861+N00023    DC    A(@TUXX)
00288A  3C60                862+        DC    AL2(N00025)
00288C  0200                863+        DC    A(T7A31)
00288E  0002                864+        DC    AL2(ON)
002890  0000                865+        DC    AL2(02)
                            866+        DC    X'0000'
002892  0009                867+        ALIGN WORD
002894  F0F0F0F161F9C1C4C   868+        DC    AL2(09)
0028AD  00                  869+        DC    C'0001/9ADF'
0028AE  196E                870+        ALIGN WORD
                            871+        DC     AL2(PARMARA)
0028A0  0600                872 N00024  $NVLD FT=(F00100)
                          873+N00024    DC    A(@NVLD)
0028A2  0500                874 N00025  $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490908,QT=(Q00102),     X
0028A4  28BA              875+N00025    DC    A(@TUXX)
0028A6  35CA                876+        DC    AL2(N00027)
                            877+        DC    A(T7A55)
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976

0028A8  0000                878+        DC    AL2(EQ)
0028AA  0002                879+        DC    AL2(02)
0028AC  0703                880+        DC    X'0703'
                            881+        ALIGN WORD
0028AE  0006                882+        DC    AL2(06)
0028B0  F4F9F0F9F0F8        883+        DC    C'490908'
                            884+        ALIGN WORD
0028B6  196E                885+        DC     AL2(PARMARA)
                            886 N00026  $NVLD FT=(F00100)
0028B8  0600                887+N00026  DC    A(@NVLD)
                            888 N00027  $TUXX T7A18,02,0040,ON,PLNG=13,PARM=0002/980065E5,QT=(Q00102),X
0028BA  0500                889+N00027  DC    A(@TUXX)
0028BC  29E4                890+        DC    AL2(N00029)
0028BE  3A86                891+        DC    A(T7A18)
0028C0  0200                892+        DC    AL2(ON)
0028C2  0002                893+        DC    AL2(02)
0028C4  0040                894+        DC    X'0040'
                            895+        ALIGN WORD
0028C6  000D                896+        DC    AL2(13)
0028C8  F0F0F0F261F9F8F0F   897+        DC    C'0002/980065E5'
0028D5  00                  898+        ALIGN WORD
0028D6  196E                899+        DC     AL2(PARMARA)
                            900 N00028  $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
0028D8  0201                901+N00028  DC    A(@CALL)
0028DA  2F30                902+        DC    A(F00099)
0028DC  F7C1F1F6            903+        DC    CL4'7A16'
0028E0  C440                904+        DC    CL2'D'
0028E2  0001                905+        DC    AL2(XTRNL)
                            906 N00029  $TUXX T7A55,02,0700,ON,PLNG=6,PARM=4F0000,QT=(Q00102),        X
0028E4  0500                907+N00029  DC    A(@TUXX)
0028E6  2906                908+        DC    AL2(N00031)
0028E8  35CA                909+        DC    A(T7A55)
0028EA  0200                910+        DC    AL2(ON)
0028EC  0002                911+        DC    AL2(02)
0028EE  0700                912+        DC    X'0700'
                            913+        ALIGN WORD
0028F0  0006                914+        DC    AL2(6)
0028F2  F4C6F0F0F0F0        915+        DC    C'4F0000'
                            916+        ALIGN WORD
0028F8  196E                917+        DC     AL2(PARMARA)
                            918 N00030  $CALL TYPE=XTRNL,MAP=7A16,EP=B,FT=(F00099)
0028FA  0201                919+N00030  DC    A(@CALL)
0028FC  2F30                920+        DC    A(F00099)
0028FE  F7C1F1F6            921+        DC    CL4'7A16'
002902  C240                922+        DC    CL2'B'
002904  0001                923+        DC    AL2(XTRNL)
                            924 N00031  $TUXX T7A55,02,0700,ON,PLNG=6,PARM=4D0000,QT=(Q00102),        X
002906  0500                925+N00031  DC    A(@TUXX)
002908  2928                926+        DC    AL2(N00033)
00290A  35CA                927+        DC    A(T7A55)
00290C  0200                928+        DC    AL2(ON)
00290E  0002                929+        DC    AL2(02)
002910  0700                930+        DC    X'0700'
                            931+        ALIGN WORD
002912  0006                932+        DC    AL2(6)
002914  F4C4F0F0F0F0        933+        DC    C'4D0000'
                            934+        ALIGN WORD
00291A  196E                935+        DC     AL2(PARMARA)
                            936 N00032  $CALL TYPE=XTRNL,MAP=7A16,EP=B,FT=(F00099)
00291C  0201                937+N00032  DC    A(@CALL)
00291E  2F30                938+        DC    A(F00099)
002920  F7C1F1F6            939+        DC    CL4'7A16'
002924  C240                940+        DC    CL2'B'
002926  0001                941+        DC    AL2(XTRNL)
                            942 N00033  $TUXX T7A30,02,0000,EQ,PLNG=17,PARM=0003/92804400CA40,        X
002928  0500                943+N00033  DC    A(@TUXX)
00292A  294C                944+        DC    AL2(N00035)
00292C  3B98                945+        DC    A(T7A30)
00292E  0000                946+        DC    AL2(EQ)
002930  0002                947+        DC    AL2(02)
002932  0000                948+        DC    X'0000'
                            949+        ALIGN WORD
002934  0011                950+        DC    AL2(17)
002936  F0F0F0F361F9F2F8F   951+        DC    C'0003/92804400CA40'
002947  00                  952+        ALIGN WORD
002948  196E                953+        DC     AL2(PARMARA)
                            954 N00034  $NVLD FT=(F00100)
00294A  0600                955+N00034  DC    A(@NVLD)
                            956 N00035  $TUXX T7A31,02,0000,EQ,PLNG=21,PARM=0005/8200E37FEB7F8A00,     X
00294C  0500                957+N00035  DC    A(@TUXX)
00294E  2974                958+        DC    AL2(N00037)
002950  3C60                959+        DC    A(T7A31)
002952  0000                960+        DC    AL2(EQ)
002954  0002                961+        DC    AL2(02)
002956  0000                962+        DC    X'0000'
                            963+        ALIGN WORD
002958  0015                964+        DC    AL2(21)
00295A  F0F0F0F561F8F2F0F   965+        DC    C'0005/8200E37FEB7F8A00'
00296F  00                  966+        ALIGN WORD
002970  196E                967+        DC     AL2(PARMARA)
                            968 N00036  $NVLD FT=(F00100)
002972  0600                969+N00036  DC    A(@NVLD)
                            970 N00037  $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490908,QT=(Q00102),        X
002974  0500                971+N00037  DC    A(@TUXX)
002976  298C                972+        DC    AL2(N00039)
002978  35CA                973+        DC    A(T7A55)
00297A  0000                974+        DC    AL2(EQ)
00297C  0002                975+        DC    AL2(02)
00297E  0703                976+        DC    X'0703'
                            977+        ALIGN WORD
002980  0006                978+        DC    AL2(06)
002982  F4F9F0F9F0F8        979+        DC    C'490908'
                            980+        ALIGN WORD
002988  196E                981+        DC     AL2(PARMARA)
                            982 N00038  $NVLD FT=(F00100)
00298A  0600                983+N00038  DC    A(@NVLD)
                            984 N00039  $TUXX T7A31,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,        X
00298C  0500                985+N00039  DC    A(@TUXX)
00298E  29B0                986+        DC    AL2(N00041)
002990  3C60                987+        DC    A(T7A31)
002992  0000                988+        DC    AL2(EQ)
002994  0002                989+        DC    AL2(02)
002996  0000                990+        DC    X'0000'
                            991+        ALIGN WORD
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                    COPYRIGHT IBM CORP 1976

002998  0011                992+          DC    AL2(17)
00299A  F0F0F0F361F8C1F8F   993+          DC    C'0003/8A80880065E5'
0029AB  00                  994+          ALIGN WORD
0029AC  196E                995+          DC     AL2(PARMARA)
                            996 N00040    $NVLD FT=(F00100)
0029AE  0600                997+N00040    DC    A(@NVLD)
                            998 N00041    $TUXX T7A33,04,24924924,EQ,PLNG=09,PARM=0001/0075,QT=(Q00102),X
0029B0  0500                999+N00041    DC    A(@TUXX)
0029B2  29F6               1000+          DC    AL2(N00045)
0029B4  3DD0               1001+          DC    A(T7A33)
0029B6  0000               1002+          DC    AL2(EQ)
0029B8  0004               1003+          DC    AL2(04)
0029BA  24924924           1004+          DC    X'24924924'
                           1005+          ALIGN WORD
0029BE  0009               1006+          DC    AL2(09)
0029C0  F0F0F0F161F0F0F7F  1007+          DC    C'0001/0075'
0029C9  00                 1008+          ALIGN WORD
0029CA  196E               1009+          DC     AL2(PARMARA)
                           1010 N00042    $TUXX T7A02,02,FFFF,EQ,QT=(Q00098),YES=N00044
0029CC  0500               1011+N00042    DC    A(@TUXX)
0029CE  29EA               1012+          DC    AL2(N00044)
0029D0  3062               1013+          DC    A(T7A02)
0029D2  0000               1014+          DC    AL2(EQ)
0029D4  0002               1015+          DC    AL2(02)
0029D6  FFFF               1016+          DC    X'FFFF'
                           1017+          ALIGN WORD
0029D8  0000               1018+          DC    AL2(0)
0029DA  C1C1               1019+          DC    C'AA'
                           1020+          ALIGN WORD
0029DC  196E               1021+          DC     AL2(PARMARA)
                           1022 N00043    $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
0029DE  0201               1023+N00043    DC    A(@CALL)
0029E0  2F30               1024+          DC    A(F00099)
0029E2  F7C1F1F6           1025+          DC    CL4'7A16'
0029E6  C440               1026+          DC    CL2'D'
0029E8  0001               1027+          DC    AL2(XTRNL)
                           1028 N00044    $CALL TYPE=XTRNL,MAP=7A20,EP=A,FT=(F00241)
0029EA  0201               1029+N00044    DC    A(@CALL)
0029EC  2FC4               1030+          DC    A(F00241)
0029EE  F7C1F2F0           1031+          DC    CL4'7A20'
0029F2  C140               1032+          DC    CL2'A'
0029F4  0001               1033+          DC    AL2(XTRNL)
                           1034 N00045    $TUXX T7A30,02,0000,EQ,PLNG=17,PARM=0003/92804400CA40,      X
0029F6  0500               1035+N00045    DC    A(@TUXX)
0029F8  2A1A               1036+          DC    AL2(N00047)
0029FA  3B98               1037+          DC    A(T7A30)
0029FC  0000               1038+          DC    AL2(EQ)
0029FE  0002               1039+          DC    AL2(02)
002A00  0000               1040+          DC    X'0000'
                           1041+          ALIGN WORD
002A02  0011               1042+          DC    AL2(17)
002A04  F0F0F0F361F9F2F8F  1043+          DC    C'0003/92804400CA40'
002A15  00                 1044+          ALIGN WORD
002A16  196E               1045+          DC     AL2(PARMARA)
                           1046 N00046    $NVLD FT=(F00100)
002A18  0600               1047+N00046    DC    A(@NVLD)
                           1048 N00047    $TUXX T7A31,02,0000,EQ,PLNG=21,PARM=0004/8203E37FEB7F8A00,  X
002A1A  0500               1049+N00047    DC    A(@TUXX)
002A1C  2A42               1050+          DC    AL2(N00049)
002A1E  3C60               1051+          DC    A(T7A31)
002A20  0000               1052+          DC    AL2(EQ)
002A22  0002               1053+          DC    AL2(02)
002A24  0000               1054+          DC    X'0000'
                           1055+          ALIGN WORD
002A26  0015               1056+          DC    AL2(21)
002A28  F0F0F0F461F8F2F0F  1057+          DC    C'0004/8203E37FEB7F8A00'
002A3D  00                 1058+          ALIGN WORD
002A3E  196E               1059+          DC     AL2(PARMARA)
                           1060 N00048    $NVLD FT=(F00100)
002A40  0600               1061+N00048    DC    A(@NVLD)
                           1062 N00049    $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490908,QT=(Q00102),     X
002A42  0500               1063+N00049    DC    A(@TUXX)
002A44  2A5A               1064+          DC    AL2(N00051)
002A46  35CA               1065+          DC    A(T7A55)
002A48  0000               1066+          DC    AL2(EQ)
002A4A  0002               1067+          DC    AL2(02)
002A4C  0703               1068+          DC    X'0703'
                           1069+          ALIGN WORD
002A4E  0006               1070+          DC    AL2(06)
002A50  F4F9F0F9F0F8       1071+          DC    C'490908'
                           1072+          ALIGN WORD
002A56  196E               1073+          DC     AL2(PARMARA)
                           1074 N00050    $NVLD FT=(F00100)
002A58  0600               1075+N00050    DC    A(@NVLD)
                           1076 N00051    $TUXX T7A31,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,      X
002A5A  0500               1077+N00051    DC    A(@TUXX)
002A5C  2A7E               1078+          DC    AL2(N00053)
002A5E  3C60               1079+          DC    A(T7A31)
002A60  0000               1080+          DC    AL2(EQ)
002A62  0002               1081+          DC    AL2(02)
002A64  0000               1082+          DC    X'0000'
                           1083+          ALIGN WORD
002A66  0011               1084+          DC    AL2(17)
002A68  F0F0F0F361F8C1F8F  1085+          DC    C'0003/8A80880065E5'
002A79  00                 1086+          ALIGN WORD
002A7A  196E               1087+          DC     AL2(PARMARA)
                           1088 N00052    $NVLD FT=(F00100)
002A7C  0600               1089+N00052    DC    A(@NVLD)
                           1090 N00053    $TUXX T7A33,04,24924924,EQ,PLNG=09,PARM=0001/0075,QT=(Q00102),X
002A7E  0500               1091+N00053    DC    A(@TUXX)
002A80  2AA6               1092+          DC    AL2(N00055)
002A82  3DD0               1093+          DC    A(T7A33)
002A84  0000               1094+          DC    AL2(EQ)
002A86  0004               1095+          DC    AL2(04)
002A88  24924924           1096+          DC    X'24924924'
                           1097+          ALIGN WORD
002A8C  0009               1098+          DC    AL2(09)
002A8E  F0F0F0F161F0F0F7F  1099+          DC    C'0001/0075'
002A97  00                 1100+          ALIGN WORD
002A98  196E               1101+          DC     AL2(PARMARA)
                           1102 N00054    $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
002A9A  0201               1103+N00054    DC    A(@CALL)
002A9C  2F30               1104+          DC    A(F00099)
002A9E  F7C1F1F6           1105+          DC    CL4'7A16'
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                    COPYRIGHT IBM CORP 1976

002AA2  C440               1106+          DC    CL2'D'
002AA4  0001               1107+          DC    AL2(XTRNL)
                           1108 N00055    $TUXX T7A30,02,0000,EQ,PLNG=17,PARM=0003/92804400CA40,      X
002AA6  0500               1109+N00055    DC    A(@TUXX)
002AA8  2ACA               1110+          DC    AL2(N00057)
002AAA  3B98               1111+          DC    A(T7A30)
002AAC  0000               1112+          DC    AL2(EQ)
002AAE  0002               1113+          DC    AL2(02)
002AB0  0000               1114+          DC    X'0000'
                           1115+          ALIGN WORD
002AB2  0011               1116+          DC    AL2(17)
002AB4  F0F0F0F361F9F2F8F  1117+          DC    C'0003/92804400CA40'
002AC5  00                 1118+          ALIGN WORD
002AC6  196E               1119+          DC     AL2(PARMARA)
                           1120 N00056    $NVLD FT=(F00100)
002AC8  0600               1121+N00056    DC    A(@NVLD)
                           1122 N00057    $TUXX T7A31,02,0000,EQ,PLNG=21,PARM=0004/8234E37FEB7F8A00,  X
002ACA  0500               1123+N00057    DC    A(@TUXX)
002ACC  2AF2               1124+          DC    AL2(N00059)
002ACE  3C60               1125+          DC    A(T7A31)
002AD0  0000               1126+          DC    AL2(EQ)
002AD2  0002               1127+          DC    AL2(02)
002AD4  0000               1128+          DC    X'0000'
                           1129+          ALIGN WORD
002AD6  0015               1130+          DC    AL2(21)
002AD8  F0F0F0F461F8F2F3F  1131+          DC    C'0004/8234E37FEB7F8A00'
002AED  00                 1132+          ALIGN WORD
002AEE  196E               1133+          DC     AL2(PARMARA)
                           1134 N00058    $NVLD FT=(F00100)
002AF0  0600               1135+N00058    DC    A(@NVLD)
                           1136 N00059    $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490908,QT=(Q00102),     X
002AF2  0500               1137+N00059    DC    A(@TUXX)
002AF4  2B0A               1138+          DC    AL2(N00061)
002AF6  35CA               1139+          DC    A(T7A55)
002AF8  0000               1140+          DC    AL2(EQ)
002AFA  0002               1141+          DC    AL2(02)
002AFC  0703               1142+          DC    X'0703'
                           1143+          ALIGN WORD
002AFE  0006               1144+          DC    AL2(06)
002B00  F4F9F0F9F0F8       1145+          DC    C'490908'
                           1146+          ALIGN WORD
002B06  196E               1147+          DC     AL2(PARMARA)
                           1148 N00060    $NVLD FT=(F00100)
002B08  0600               1149+N00060    DC    A(@NVLD)
                           1150 N00061    $TUXX T7A31,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,      X
002B0A  0500               1151+N00061    DC    A(@TUXX)
002B0C  2B2E               1152+          DC    AL2(N00063)
002B0E  3C60               1153+          DC    A(T7A31)
002B10  0000               1154+          DC    AL2(EQ)
002B12  0002               1155+          DC    AL2(02)
002B14  0000               1156+          DC    X'0000'
                           1157+          ALIGN WORD
002B16  0011               1158+          DC    AL2(17)
002B18  F0F0F0F361F8C1F8F  1159+          DC    C'0003/8A80880065E5'
002B29  00                 1160+          ALIGN WORD
002B2A  196E               1161+          DC     AL2(PARMARA)
                           1162 N00062    $NVLD FT=(F00100)
002B2C  0600               1163+N00062    DC    A(@NVLD)
                           1164 N00063    $TUXX T7A33,06,249249249249,EQ,PLNG=09,PARM=0001/0075,       X
002B2E  0500               1165+N00063    DC    A(@TUXX)
002B30  2B58               1166+          DC    AL2(N00065)
002B32  3DD0               1167+          DC    A(T7A33)
002B34  0000               1168+          DC    AL2(EQ)
002B36  0006               1169+          DC    AL2(06)
002B38  249249249249       1170+          DC    X'249249249249'
                           1171+          ALIGN WORD
002B3E  0009               1172+          DC    AL2(09)
002B40  F0F0F0F161F0F0F7F  1173+          DC    C'0001/0075'
002B49  00                 1174+          ALIGN WORD
002B4A  196E               1175+          DC     AL2(PARMARA)
                           1176 N00064    $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
002B4C  0201               1177+N00064    DC    A(@CALL)
002B4E  2F30               1178+          DC    A(F00099)
002B50  F7C1F1F6           1179+          DC    CL4'7A16'
002B54  C440               1180+          DC    CL2'D'
002B56  0001               1181+          DC    AL2(XTRNL)
                           1182 N00065    $TUXX T7A30,02,0000,EQ,PLNG=17,PARM=0003/92804400CA40,      X
002B58  0500               1183+N00065    DC    A(@TUXX)
002B5A  2B7C               1184+          DC    AL2(N00067)
002B5C  3B98               1185+          DC    A(T7A30)
002B5E  0000               1186+          DC    AL2(EQ)
002B60  0002               1187+          DC    AL2(02)
002B62  0000               1188+          DC    X'0000'
                           1189+          ALIGN WORD
002B64  0011               1190+          DC    AL2(17)
002B66  F0F0F0F361F9F2F8F  1191+          DC    C'0003/92804400CA40'
002B77  00                 1192+          ALIGN WORD
002B78  196E               1193+          DC     AL2(PARMARA)
                           1194 N00066    $NVLD FT=(F00100)
002B7A  0600               1195+N00066    DC    A(@NVLD)
                           1196 N00067    $TUXX T7A31,02,0000,EQ,PLNG=21,PARM=0004/8238E37FEB7F8A00,  X
002B7C  0500               1197+N00067    DC    A(@TUXX)
002B7E  2BA4               1198+          DC    AL2(N00069)
002B80  3C60               1199+          DC    A(T7A31)
002B82  0000               1200+          DC    AL2(EQ)
002B84  0002               1201+          DC    AL2(02)
002B86  0000               1202+          DC    X'0000'
                           1203+          ALIGN WORD
002B88  0015               1204+          DC    AL2(21)
002B8A  F0F0F0F461F8F2F3F  1205+          DC    C'0004/8238E37FEB7F8A00'
002B9F  00                 1206+          ALIGN WORD
002BA0  196E               1207+          DC     AL2(PARMARA)
                           1208 N00068    $NVLD FT=(F00100)
002BA2  0600               1209+N00068    DC    A(@NVLD)
                           1210 N00069    $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490908,QT=(Q00102),     X
002BA4  0500               1211+N00069    DC    A(@TUXX)
002BA6  2BBC               1212+          DC    AL2(N00071)
002BA8  35CA               1213+          DC    A(T7A55)
002BAA  0000               1214+          DC    AL2(EQ)
002BAC  0002               1215+          DC    AL2(02)
002BAE  0703               1216+          DC    X'0703'
                           1217+          ALIGN WORD
002BB0  0006               1218+          DC    AL2(06)
002BB2  F4F9F0F9F0F8       1219+          DC    C'490908'
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                          1220+          ALIGN WORD
002BB8  196E              1221+          DC    AL2(PARMARA)
                          1222 N00070    $NVLD FT=(F00100)
002BBA  0600              1223+N00070    DC    A(@NVLD)
                          1224 N00071    $TUXX T7A31,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,        X
002BBC  0500              1225+N00071    DC    A(@TUXX)
002BBE  2BE0              1226+          DC    AL2(N00073)
002BC0  3C60              1227+          DC    A(T7A31)
002BC2  0000              1228+          DC    AL2(EQ)
002BC4  0002              1229+          DC    AL2(02)
002BC6  0000              1230+          DC    X'0000'
                          1231+          ALIGN WORD
002BC8  0011              1232+          DC    AL2(17)
002BCA  F0F0F0F361F8C1F8F 1233+          DC    C'0003/8A80880065E5'
002BDB  00                1234+          ALIGN WORD
002BDC  196E              1235+          DC     AL2(PARMARA)
                          1236 N00072    $NVLD FT=(F00100)
002BDE  0600              1237+N00072    DC    A(@NVLD)
                          1238 N00073    $TUXX T7A33,06,249249249249,EQ,PLNG=13,PARM=0001/0075,        X
002BE0  0500              1239+N00073    DC    A(@TUXX)
002BE2  2C0A              1240+          DC    AL2(N00075)
002BE4  3DD0              1241+          DC    A(T7A33)
002BE6  0000              1242+          DC    AL2(EQ)
002BE8  0006              1243+          DC    AL2(06)
002BEA  249249249249      1244+          DC    X'249249249249'
                          1245+          ALIGN WORD
002BF0  000D              1246+          DC    AL2(13)
002BF2  F0F0F0F161F0F0F7F 1247+          DC    C'0001/0075'
002BFB  00                1248+          ALIGN WORD
002BFC  196E              1249+          DC     AL2(PARMARA)
                          1250 N00074    $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
002BFE  0201              1251+N00074    DC    A(@CALL)
002C00  2F30              1252+          DC    A(F00099)
002C02  F7C1F1F6          1253+          DC    CL4'7A16'
002C06  C440              1254+          DC    CL2'D'
002C08  0001              1255+          DC    AL2(XTRNL)
                          1256 N00075    $TUXX T7A30,02,0000,EQ,PLNG=33,PARM=0007/40556D7F657F6D7E657E4X
002C0A  0500              1257+N00075    DC    A(@TUXX)
002C0C  2C3E              1258+          DC    AL2(N00077)
002C0E  3B98              1259+          DC    A(T7A30)
002C10  0000              1260+          DC    AL2(EQ)
002C12  0002              1261+          DC    AL2(02)
002C14  0000              1262+          DC    X'0000'
                          1263+          ALIGN WORD
002C16  0021              1264+          DC    AL2(33)
002C18  F0F0F0F761F4F0F5F 1265+          DC    C'0007/40556D7F657F6D7E657E4400CA40'
002C39  00                1266+          ALIGN WORD
002C3A  196E              1267+          DC     AL2(PARMARA)
                          1268 N00076    $NVLD FT=(F00100)
002C3C  0600              1269+N00076    DC    A(@NVLD)
                          1270 N00077    $TUXX T7A32,02,0000,EQ,PLNG=25,PARM=0005/8220E37FEB7F9ADF8A30,X
002C3E  0500              1271+N00077    DC    A(@TUXX)
002C40  2C6A              1272+          DC    AL2(N00079)
002C42  3D18              1273+          DC    A(T7A32)
002C44  0000              1274+          DC    AL2(EQ)
002C46  0002              1275+          DC    AL2(02)
002C48  0000              1276+          DC    X'0000'
                          1277+          ALIGN WORD
002C4A  0019              1278+          DC    AL2(25)
002C4C  F0F0F0F561F8F2F2F 1279+          DC    C'0005/8220E37FEB7F9ADF8A30'
002C65  00                1280+          ALIGN WORD
002C66  196E              1281+          DC     AL2(PARMARA)
                          1282 N00078    $NVLD FT=(F00100)
002C68  0600              1283+N00078    DC    A(@NVLD)
                          1284 N00079    $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490B08,QT=(Q00102),        X
002C6A  0500              1285+N00079    DC    A(@TUXX)
002C6C  2C82              1286+          DC    AL2(N00081)
002C6E  35CA              1287+          DC    A(T7A55)
002C70  0000              1288+          DC    AL2(EQ)
002C72  0002              1289+          DC    AL2(02)
002C74  0703              1290+          DC    X'0703'
                          1291+          ALIGN WORD
002C76  0006              1292+          DC    AL2(06)
002C78  F4F9F0C2F0F8      1293+          DC    C'490B08'
                          1294+          ALIGN WORD
002C7E  196E              1295+          DC     AL2(PARMARA)
                          1296 N00080    $NVLD FT=(F00100)
002C80  0600              1297+N00080    DC    A(@NVLD)
                          1298 N00081    $TUXX T7A32,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,        X
002C82  0500              1299+N00081    DC    A(@TUXX)
002C84  2CA6              1300+          DC    AL2(N00083)
002C86  3D18              1301+          DC    A(T7A32)
002C88  0000              1302+          DC    AL2(EQ)
002C8A  0002              1303+          DC    AL2(02)
002C8C  0000              1304+          DC    X'0000'
                          1305+          ALIGN WORD
002C8E  0011              1306+          DC    AL2(17)
002C90  F0F0F0F361F8C1F8F 1307+          DC    C'0003/8A80880065E5'
002CA1  00                1308+          ALIGN WORD
002CA2  196E              1309+          DC     AL2(PARMARA)
                          1310 N00082    $NVLD FT=(F00100)
002CA4  0600              1311+N00082    DC    A(@NVLD)
                          1312 N00083    $TUXX T7A32,02,0000,EQ,PLNG=25,PARM=0005/9A048200E37FEB7F8A30,X
002CA6  0500              1313+N00083    DC    A(@TUXX)
002CA8  2CD2              1314+          DC    AL2(N00085)
002CAA  3D18              1315+          DC    A(T7A32)
002CAC  0000              1316+          DC    AL2(EQ)
002CAE  0002              1317+          DC    AL2(02)
002CB0  0000              1318+          DC    X'0000'
                          1319+          ALIGN WORD
002CB2  0019              1320+          DC    AL2(25)
002CB4  F0F0F0F561F9C1F0F 1321+          DC    C'0005/9A048200E37FEB7F8A30'
002CCD  00                1322+          ALIGN WORD
002CCE  196E              1323+          DC     AL2(PARMARA)
                          1324 N00084    $NVLD FT=(F00100)
002CD0  0600              1325+N00084    DC    A(@NVLD)
                          1326 N00085    $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490B08,QT=(Q00102),        X
002CD2  0500              1327+N00085    DC    A(@TUXX)
002CD4  2CEA              1328+          DC    AL2(N00087)
002CD6  35CA              1329+          DC    A(T7A55)
002CD8  0000              1330+          DC    AL2(EQ)
002CDA  0002              1331+          DC    AL2(02)
002CDC  0703              1332+          DC    X'0703'
                          1333+          ALIGN WORD
```



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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976

002CDE  0006              1334+          DC    AL2(06)
002CE0  F4F9F0C2F0F8      1335+          DC    C'490B08'
                          1336+          ALIGN WORD
002CE6  196E              1337+          DC     AL2(PARMARA)
                          1338 N00086    $NVLD FT=(F00100)
002CE8  0600              1339+N00086    DC    A(@NVLD)
                          1340 N00087    $TUXX T7A32,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,        X
002CEA  0500              1341+N00087    DC    A(@TUXX)
002CEC  2D0E              1342+          DC    AL2(N00089)
002CEE  3D18              1343+          DC    A(T7A32)
002CF0  0000              1344+          DC    AL2(EQ)
002CF2  0002              1345+          DC    AL2(02)
002CF4  0000              1346+          DC    X'0000'
                          1347+          ALIGN WORD
002CF6  0011              1348+          DC    AL2(17)
002CF8  F0F0F0F361F8C1F8F 1349+          DC    C'0003/8A80880065E5'
002D09  00                1350+          ALIGN WORD
002D0A  196E              1351+          DC     AL2(PARMARA)
                          1352 N00088    $NVLD FT=(F00100)
002D0C  0600              1353+N00088    DC    A(@NVLD)
                          1354 N00089    $TUXX T7A33,04,039A039A,EQ,PLNG=09,PARM=0001/0075,QT=(Q00102),X
002D0E  0500              1355+N00089    DC    A(@TUXX)
002D10  2D36              1356+          DC    AL2(N00091)
002D12  3DD0              1357+          DC    A(T7A33)
002D14  0000              1358+          DC    AL2(EQ)
002D16  0004              1359+          DC    AL2(04)
002D18  039A039A          1360+          DC    X'039A039A'
                          1361+          ALIGN WORD
002D1C  0009              1362+          DC    AL2(09)
002D1E  F0F0F0F161F0F0F7F 1363+          DC    C'0001/0075'
002D27  00                1364+          ALIGN WORD
002D28  196E              1365+          DC     AL2(PARMARA)
                          1366 N00090    $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
002D2A  0201              1367+N00090    DC    A(@CALL)
002D2C  2F30              1368+          DC    A(F00099)
002D2E  F7C1F1F6          1369+          DC    CL4'7A16'
002D32  C440              1370+          DC    CL2'D'
002D34  0001              1371+          DC    AL2(XTRNL)
                          1372 N00091    $TUXX T7A30,02,0000,EQ,PLNG=37,PARM=0008/40246DFF409265FF40496X
002D36  0500              1373+N00091    DC    A(@TUXX)
002D38  2D6E              1374+          DC    AL2(N00093)
002D3A  3B98              1375+          DC    A(T7A30)
002D3C  0000              1376+          DC    AL2(EQ)
002D3E  0002              1377+          DC    AL2(02)
002D40  0000              1378+          DC    X'0000'
                          1379+          ALIGN WORD
002D42  0025              1380+          DC    AL2(37)
002D44  F0F0F0F861F4F0F2F 1381+          DC    C'0008/40246DFF409265FF40496DFE402465FE'
002D69  00                1382+          ALIGN WORD
002D6A  196E              1383+          DC     AL2(PARMARA)
                          1384 N00092    $NVLD FT=(F00100)
002D6C  0600              1385+N00092    DC    A(@NVLD)
                          1386 N00093    $TUXX T7A30,02,0000,EQ,PLNG=17,PARM=0003/4400CA409280,        X
002D6E  0500              1387+N00093    DC    A(@TUXX)
002D70  2D92              1388+          DC    AL2(N00095)
002D72  3B98              1389+          DC    A(T7A30)
002D74  0000              1390+          DC    AL2(EQ)
002D76  0002              1391+          DC    AL2(02)
002D78  0000              1392+          DC    X'0000'
                          1393+          ALIGN WORD
002D7A  0011              1394+          DC    AL2(17)
002D7C  F0F0F0F361F4F4F0F 1395+          DC    C'0003/4400CA409280'
002D8D  00                1396+          ALIGN WORD
002D8E  196E              1397+          DC     AL2(PARMARA)
                          1398 N00094    $NVLD FT=(F00100)
002D90  0600              1399+N00094    DC    A(@NVLD)
                          1400 N00095    $TUXX T7A31,02,0000,EQ,PLNG=21,PARM=0004/8214E37FEB7F8A00,    X
002D92  0500              1401+N00095    DC    A(@TUXX)
002D94  2DBA              1402+          DC    AL2(N00097)
002D96  3C60              1403+          DC    A(T7A31)
002D98  0000              1404+          DC    AL2(EQ)
002D9A  0002              1405+          DC    AL2(02)
002D9C  0000              1406+          DC    X'0000'
                          1407+          ALIGN WORD
002D9E  0015              1408+          DC    AL2(21)
002DA0  F0F0F0F461F8F2F1F 1409+          DC    C'0004/8214E37FEB7F8A00'
002DB5  00                1410+          ALIGN WORD
002DB6  196E              1411+          DC     AL2(PARMARA)
                          1412 N00096    $NVLD FT=(F00100)
002DB8  0600              1413+N00096    DC    A(@NVLD)
                          1414 N00097    $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490908,QT=(Q00102),        X
002DBA  0500              1415+N00097    DC    A(@TUXX)
002DBC  2DD2              1416+          DC    AL2(N00099)
002DBE  35CA              1417+          DC    A(T7A55)
002DC0  0000              1418+          DC    AL2(EQ)
002DC2  0002              1419+          DC    AL2(02)
002DC4  0703              1420+          DC    X'0703'
                          1421+          ALIGN WORD
002DC6  0006              1422+          DC    AL2(06)
002DC8  F4F9F0F9F0F8      1423+          DC    C'490908'
                          1424+          ALIGN WORD
002DCE  196E              1425+          DC     AL2(PARMARA)
                          1426 N00098    $NVLD FT=(F00100)
002DD0  0600              1427+N00098    DC    A(@NVLD)
                          1428 N00099    $TUXX T7A31,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,        X
002DD2  0500              1429+N00099    DC    A(@TUXX)
002DD4  2DF6              1430+          DC    AL2(N00101)
002DD6  3C60              1431+          DC    A(T7A31)
002DD8  0000              1432+          DC    AL2(EQ)
002DDA  0002              1433+          DC    AL2(02)
002DDC  0000              1434+          DC    X'0000'
                          1435+          ALIGN WORD
002DDE  0011              1436+          DC    AL2(17)
002DE0  F0F0F0F361F8C1F8F 1437+          DC    C'0003/8A80880065E5'
002DF1  00                1438+          ALIGN WORD
002DF2  196E              1439+          DC     AL2(PARMARA)
                          1440 N00100    $NVLD FT=(F00100)
002DF4  0600              1441+N00100    DC    A(@NVLD)
                          1442 N00101    $TUXX T7A18,02,0080,ON,PLNG=13,PARM=0002/980065E5,QT=(Q00102),X
002DF6  0500              1443+N00101    DC    A(@TUXX)
002DF8  2E20              1444+          DC    AL2(N00103)
002DFA  3A86              1445+          DC    A(T7A18)
002DFC  0200              1446+          DC    AL2(ON)
002DFE  0002              1447+          DC    AL2(02)
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976

002E00  0080                1448+         DC    X'0080'
                            1449+         ALIGN WORD
002E02  000D                1450+         DC    AL2(13)
002E04  F0F0F0F261F9F8F0F   1451+         DC    C'0002/980065E5'
002E11  00                  1452+         ALIGN WORD
002E12  196E                1453+         DC     AL2(PARMARA)
                            1454 N00102   $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
002E14  0201                1455+N00102   DC    A(@CALL)
002E16  2F30                1456+         DC    A(F00099)
002E18  F7C1F1F6            1457+         DC    CL4'7A16'
002E1C  C440                1458+         DC    CL2'D'
002E1E  0001                1459+         DC    AL2(XTRNL)
                            1460 N00103   $TUXX T7A30,02,0000,EQ,PLNG=37,PARM=0008/40246DFF409365FF40496X
002E20  0500                1461+N00103   DC    A(@TUXX)
002E22  2E58                1462+         DC    AL2(N00105)
002E24  3B98                1463+         DC    A(T7A30)
002E26  0000                1464+         DC    AL2(EQ)
002E28  0002                1465+         DC    AL2(02)
002E2A  0000                1466+         DC    X'0000'
                            1467+         ALIGN WORD
002E2C  0025                1468+         DC    AL2(37)
002E2E  F0F0F0F861F4F0F2F   1469+         DC    C'0008/40246DFF409365FF40496DFE402465FE'
002E53  00                  1470+         ALIGN WORD
002E54  196E                1471+         DC     AL2(PARMARA)
                            1472 N00104   $NVLD FT=(P00100)
002E56  0600                1473+N00104   DC    A(@NVLD)
                            1474 N00105   $TUXX T7A30,02,0000,EQ,PLNG=17,PARM=0003/4400CA409280,        X
002E58  0500                1475+N00105   DC    A(@TUXX)
002E5A  2E7C                1476+         DC    AL2(N00107)
002E5C  3B98                1477+         DC    A(T7A30)
002E5E  0000                1478+         DC    AL2(EQ)
002E60  0002                1479+         DC    AL2(02)
002E62  0000                1480+         DC    X'0000'
                            1481+         ALIGN WORD
002E64  0011                1482+         DC    AL2(17)
002E66  F0F0F0F361F4F4F0F   1483+         DC    C'0003/4400CA409280'
002E77  00                  1484+         ALIGN WORD
002E78  196E                1485+         DC     AL2(PARMARA)
                            1486 N00106   $NVLD FT=(P00100)
002E7A  0600                1487+N00106   DC    A(@NVLD)
                            1488 N00107   $TUXX T7A31,02,0000,EQ,PLNG=21,PARM=0004/8214E37FEB7F8A00,    X
002E7C  0500                1489+N00107   DC    A(@TUXX)
002E7E  2EA4                1490+         DC    AL2(N00109)
002E80  3C60                1491+         DC    A(T7A31)
002E82  0000                1492+         DC    AL2(EQ)
002E84  0002                1493+         DC    AL2(02)
002E86  0000                1494+         DC    X'0000'
                            1495+         ALIGN WORD
002E88  0015                1496+         DC    AL2(21)
002E8A  F0F0F0F461F8F2F1F   1497+         DC    C'0004/8214E37FEB7F8A00'
002E9F  00                  1498+         ALIGN WORD
002EA0  196E                1499+         DC     AL2(PARMARA)
                            1500 N00108   $NVLD FT=(P00100)
002EA2  0600                1501+N00108   DC    A(@NVLD)
                            1502 N00109   $TUXX T7A55,02,0703,EQ,PLNG=06,PARM=490908,QT=(Q00102),        X
002EA4  0500                1503+N00109   DC    A(@TUXX)
002EA6  2EBC                1504+         DC    AL2(N00111)
002EA8  35CA                1505+         DC    A(T7A55)
002EAA  0000                1506+         DC    AL2(EQ)
002EAC  0002                1507+         DC    AL2(02)
002EAE  0703                1508+         DC    X'0703'
                            1509+         ALIGN WORD
002EB0  0006                1510+         DC    AL2(06)
002EB2  F4F9F0F9F0F8        1511+         DC    C'490908'
                            1512+         ALIGN WORD
002EB8  196E                1513+         DC     AL2(PARMARA)
                            1514 N00110   $NVLD FT=(P00100)
002EBA  0600                1515+N00110   DC    A(@NVLD)
                            1516 N00111   $TUXX T7A31,02,0000,EQ,PLNG=17,PARM=0003/8A80880065E5,        X
002EBC  0500                1517+N00111   DC    A(@TUXX)
002EBE  2EE0                1518+         DC    AL2(N00113)
002EC0  3C60                1519+         DC    A(T7A31)
002EC2  0000                1520+         DC    AL2(EQ)
002EC4  0002                1521+         DC    AL2(02)
002EC6  0000                1522+         DC    X'0000'
                            1523+         ALIGN WORD
002EC8  0011                1524+         DC    AL2(17)
002ECA  F0F0F0F361F8C1F8F   1525+         DC    C'0003/8A80880065E5'
002EDB  00                  1526+         ALIGN WORD
002EDC  196E                1527+         DC     AL2(PARMARA)
                            1528 N00112   $NVLD FT=(P00100)
002EDE  0600                1529+N00112   DC    A(@NVLD)
                            1530 N00113   $TUXX T7A18,02,0080,OF,PLNG=13,PARM=0002/910065E5,QT=(Q00102),X
002EE0  0500                1531+N00113   DC    A(@TUXX)
002EE2  2F0A                1532+         DC    AL2(N00115)
002EE4  3A86                1533+         DC    A(T7A18)
002EE6  0202                1534+         DC    AL2(OF)
002EE8  0002                1535+         DC    AL2(02)
002EEA  0080                1536+         DC    X'0080'
                            1537+         ALIGN WORD
002EEC  000D                1538+         DC    AL2(13)
002EEE  F0F0F0F261F9F1F0F   1539+         DC    C'0002/910065E5'
002EFB  00                  1540+         ALIGN WORD
002EFC  196E                1541+         DC     AL2(PARMARA)
                            1542 N00114   $CALL TYPE=XTRNL,MAP=7A16,EP=D,FT=(F00099)
002EFE  0201                1543+N00114   DC    A(@CALL)
002F00  2F30                1544+         DC    A(F00099)
002F02  F7C1F1F6            1545+         DC    CL4'7A16'
002F06  C440                1546+         DC    CL2'D'
002F08  0001                1547+         DC    AL2(XTRNL)
                            1548 N00115   $GOTO TYPE=XTRNL,MAP=7A20,EP=A,FT=(F00455)
002F0A  0200                1549+N00115   DC    A(@GOTO)
002F0C  3000                1550+         DC    A(F00455)
002F0E  F7C1F2F0            1551+         DC    CL4'7A20'
002F12  C140                1552+         DC    CL2'A'
002F14  0001                1553+         DC    AL2(XTRNL)
002F16  0000                1554          DC    AL2(DUMMY)
002F18                      1555 ENTPT    EQU   *
                            1556 ********************************************************************************
                            1557 ********************************************************************************
                            1558 **                                                                            **
                            1559 **                          ENTRY POINT TABLE                                 **
                            1560 **                                                                            **
                            1561 ********************************************************************************
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976

                            1562 ********************************************************************************
                            1563          ENTPT EP=A,STEP=00001
002F18  C140                1564+         DC    CL2'A'
002F1A  26D0                1565+         DC    A(N00001)
002F1C  0000                1566          DC    AL2(DUMMY)
                            1567 ********************************************************************************
                            1568 ********************************************************************************
                            1569 **                                                                            **
                            1570 **                          MESSAGE TABLE                                     **
                            1571 **                                                                            **
                            1572 ********************************************************************************
                            1573 ********************************************************************************
002F1E                      1574 F00111   EQU   *
002F1E  0001                1575          DC    AL2(0001)
002F20  000E                1576          DC    A(0014)
002F22  D5D6E340C2C1E2C54   1577          DC    CL0014'NOT BASE FILE '
002F30                      1578 F00099   EQU   *
002F30  0001                1579          DC    AL2(0001)
002F32  0022                1580          DC    A(0034)
002F34  C5E7C5C3E4E3C540D   1581          DC    CL0034'EXECUTE MAP 7A10 IN -MANUAL MODE- '
002F56                      1582 F00106   EQU   *
002F56  0001                1583          DC    AL2(0001)
002F58  0022                1584          DC    A(0034)
002F5A  C7D6E3D640D7D6E6C   1585          DC    CL0034'GOTO POWER DISTRIBUTION MAP 7A80,A'
002F7C                      1586 F00107   EQU   *
002F7C  0001                1587          DC    AL2(0001)
002F7E  001C                1588          DC    A(0028)
002F80  C7D6E3D640D4C1D74   1589          DC    CL0028'GOTO MAP 7A71 ENTRY POINT A.'
002F9C                      1590 F00100   EQU   *
002F9C  0001                1591          DC    AL2(0001)
002F9E  0024                1592          DC    A(0036)
002FA0  D5D640C9E240C9D5E   1593          DC    CL0036'NO IS INVALID PROCEED TO NEXT STEP. '
002FC4                      1594 F00241   EQU   *
002FC4  0002                1595          DC    AL2(0002)
002FC6  0022                1596          DC    A(0034)
002FC8  C5E7C5C3E4E3C540D   1597          DC    CL0034'EXECUTE MAP 7A10 IN -MANUAL MODE- '
002FEA  0014                1598          DC    A(0020)
002FEC  D7D6E2E2C9C2D3C54   1599          DC    CL0020'POSSIBLE FILE ERROR '
003000                      1600 F00455   EQU   *
003000  0001                1601          DC    AL2(0001)
003002  000E                1602          DC    A(0014)
003004  C7D640E3D640D4C1D   1603          DC    CL0014'GO TO MAP7A20 '
                            1604          PDIT  00
003012  0000                1606+OPTN1    DC    X'0000'             PROGRAM OPTION CONTROL WORD 1
                            1607+*
003014  0000                1608+OPTN2    DC    X'0000'             PROGRAM OPTION CONTROL WORD 2
                            1609+*                    BIT     HEX
000010                      1610+B48      EQU   16      0       8   PROBLEM PROGRAM CONTROL BITS
000011                      1611+B49      EQU   17      1       4   *
000012                      1612+B50      EQU   18      2       2   * THESE BITS ARE USED WITH THE
000013                      1613+B51      EQU   19      3       1   * SECOND OPTION WD   AND ARE TO
000014                      1614+B52      EQU   20      4       8   * BE ASSIGNED BY EACH PROGRAMMER
000015                      1615+B53      EQU   21      5       4   *
000016                      1616+B54      EQU   22      6       2   *
000017                      1617+B55      EQU   23      7       1   *
000018                      1618+B56      EQU   24      8       8   *
000019                      1619+B57      EQU   25      9       4   *
00001A                      1620+B58      EQU   26     10       2   *
00001B                      1621+B59      EQU   27     11       1   *
00001C                      1622+B60      EQU   28     12       8   *
00001D                      1623+B61      EQU   29     13       4   *
00001E                      1624+B62      EQU   30     14       2   *
00001F                      1625+B63      EQU   31     15       1   *
00001E                      1626+CH       EQU   30     14       2   CHARACTER SUPPLIED
00001F                      1627+CMP      EQU   31     15       1   COMPARE OPERATION
003016  0000                1629+OPTN3    DC    X'0000'             PROGRAM OPTION CONTROL WORD 3
                            1630+*
                            1631+*  0   MYSTERY INTERRUPT     MI        8  CS STATUS IN PROGRESS    CS
                            1632+*  1   ERROR INTERRUPT       ER        9  CS AVAILABLE             CSA
                            1633+*  2   EXPECTED INTERRUPT    XI       10  CS STATUS INTERRUPT ERR  CE
                            1634+*  3   INTERRUPT RECEIVED    IN       11  ISB BITS ON (1-7)        ISBON
                            1635+*
                            1636+*  4   EXPECTED ERR/ATTENT   XE       12  TEST UNIT RESULTS VOID   NG
                            1637+*  5   HARD ERROR FOUND      HE       13  OIO CC ERROR             IOCC
                            1638+*  6   WRONG INTR LEVEL      $LE      14  NO INTERRUPT             NOIN
                            1639+*  7   NO INTR EXPECTED      NI       15  INTERRUPT CC ERROR       INCC
                            1640+*                    BIT     HEX
000020                      1641+MI       EQU   32      0       8   MYSTERY INTERRUPT HAPPENED
000021                      1642+ER       EQU   33      1       4   ERROR RECEIVED ON INTERRUPT
000022                      1643+XI       EQU   34      2       2   EXPECTED INTERRUPT CONTROL BIT
000023                      1644+IN       EQU   35      3       1   INTERRUPT RECEIVED CONTROL BIT
000024                      1645+XE       EQU   36      4       8   EXPECTED ERROR RESPONSE
000025                      1646+HE       EQU   37      5       4   HARD ERROR, 8 RETRIES
000026                      1647+$LE      EQU   38      6       2   INTERRUPT ON WRONG LEVEL ERROR
000027                      1648+NI       EQU   39      7       1   NO INTERRUPT EXPECTED E
000028                      1649+CS       EQU   40      8       8   CYCLE STATUS IN PROGRESS
000029                      1650+CSA      EQU   41      9       4   CYCLE STEAL AVAILABLE
00002A                      1651+CE       EQU   42     10       2   CYCLE STEAL STATUS INERRRUPT ERROR
00002B                      1652+ISBON    EQU   43     11       1   ISB BITS ON (1-7)
00002C                      1653+NG       EQU   44     12       8   TEST UNIT RESULTS NO GOOD
00002D                      1654+IOCC     EQU   45     13       4   OIO CC ERROR
00002E                      1655+NOIN     EQU   46     14       2   NO INTERRUPT
00002F                      1656+INCC     EQU   47     15       1   INTERRUPT CC ERROR
                            1657+*
                            1658+*      COMMON BUFFER FOR PRINTING DATA
                            1659+*
003018  0000                1661+$TUID    DC    A(*-*)              TEST UNIT IDENTIFICATION
00301A  0000                1662+$IOIN    DC    A(*-*)              I/O AND INTR CONDITION CODES
00301C  0000                1663+$ISB     DC    A(*-*)              R7, INTR STATUS BYTE & DEV ADRS
00301E  0000                1664+LSTIO    DC    A(*-*)              ADRS OF LAST I/O + 4 BYTES
003020  0000                1665+DEV1     DC    A(*-*)              DEVICE DEPENDENT DATA
003022  0000                1666+DEV2     DC    A(*-*)              *
003024  0000                1667+DEV3     DC    A(*-*)              *
003026  0000                1668+DEV4     DC    A(*-*)              CS STATUS ERROR ISB & INTR CC
003028                      1669+$CTID    EQU   DEV1                READ ID BUFFER FOR IBIS & FERN
003028                      1670+DCBUF    EQU   *                   DCB BUFFER FOR LAST DCB USED
003028  0000                1671+DCB1     DC    A(*-*)              LAST DCB TABLE, CONTROL WORD
00302A  0000                1672+DCB2     DC    A(*-*)              LAST DCB TABLE, DEV DEP WORD
00302C  0000                1673+DCB3     DC    A(*-*)              LAST DCB TABLE, DEV DEP WORD
00302E  0000                1674+DCB4     DC    A(*-*)              LAST DCB TABLE, DEV DEP WORD
003030  0000                1675+DCB5     DC    A(*-*)              LAST DCB TABLE, DEV DEP WORD
003032  0000                1676+DCB6     DC    A(*-*)              LAST DCB TABLE, CHAIN ADRS
003034  0000                1677+DCB7     DC    A(*-*)              LAST DCB TABLE, BYTE COUNT
003036  0000                1678+DCB8     DC    A(*-*)              LAST DCB TABLE, BUFFER ADDRESS
```

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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
                         1679+*
003038                   1680+CSBUF EQU   *                      CYCLE STEAL DATA BUFFER
003038  0000             1681+CSTL1 DC    A(*-*)                 CS STATUS WD 0, RESIDUAL ADDRESS
00303A  0000             1682+CSTL2 DC    A(*-*)                 CS STATUS WD 1, RESIDUAL COUNT
00303C  0000             1683+CSTL3 DC    A(*-*)                 CS STATUS WD 2, RETRY CNT WD 1
00303E  0000             1684+CSTL4 DC    A(*-*)                 CS STATUS WD 3, RETRY CNT WD 2
003040  0000             1685+CSTL5 DC    A(*-*)                 CS STATUS WD 5, ERROR STATUS WD 1
003042  0000             1686+CSTL6 DC    A(*-*)                 CS STATUS WD 5, ERROR STATUS WD 2
003044  0000             1687+CSTL7 DC    A(*-*)                 CS STATUS WD 6, LAST DCB ADDRESS
003046  0000             1688+CSTL8 DC    A(*-*)                 CS STATUS WD 7, PREVIOUS HD/CYL
003048  0000             1689+CSTL9 DC    A(*-*)                 CS STATUS WD 8, CURRENT HD/CYL
00304A  0000             1690+CST10 DC    A(*-*)                 CS STATUS WD 9, FLAG/SECTOR
00304C  0000             1691+CST11 DC    A(*-*)                 CS STATUS WD 10, HEAD/CYLINDER
00304E  0000             1692+CST12 DC    A(*-*)                 CS STATUS WD 11, DIAG BYTES 1, 2
003050  0000             1693+CST13 DC    A(*-*)                 CS STATUS WD 12, AND 3 + WRAP BYTE
                         1694+*
003052  0000             1695+$SUBN DC    A(*-*)                 LAST SUBROUTINE ADDRESS USED
003054  00000000         1696+$DATA DC    2A(*-*)                OPTIONAL DATA
003058  0021             1697+$INTL DC    X'0021'                INTERRUPT LEVEL REQUESTED
00305A  0000             1698+TURTN DC    A(*-*)                 TEST UNIT RETURN ADRS TO MDI
00305C  00               1699+$DVID DC    X'00'                  DEVICE ID
00305E  19D0             1700+SVCAL DC    A(DEVADD)              ADRS OF DEVICE ADDRESS
003060  0000             1701+      DC    A(*-*)                 IBIS CYLINDER ADDRESS
                         1702+*
                         1703+*     THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
                         1704+*     FUNCTION.  THE RESULTS THAT WERE SET UP IN THE RESULTS AREA ARE
                         1705+*     STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
                         1706+*
003062  4020 3018 7A02   1707+T7A02 MVWI  X'7A02',$TUID           SET UP TEST UNIT ID
003068  5700             1708+      BXS   (R7)                     RETURN TO MDI SUPVR
                         1710       COPY  COMEQU
                         1711 ************************************************************************
                         1712 *                                                                      *
                         1713 *                EQUATED NAMES FOR SUPPORTED SVC'S                     *
                         1714 *                                                                      *
                         1715 ************************************************************************
000000                   1716 OUT   EQU   0                      OUT SVC
000001                   1717 OUTIN EQU   1                      OUTIN SVC
000002                   1718 IDLE  EQU   2                      IDLE SVC
000003                   1719 IDLE5 EQU   3                      IDLE SVC - INDEPENDENT OF CPU TYPE
000004                   1720 CHNGE EQU   4                      CHANGE LEVEL SVC
000005                   1721 PGMCK EQU   5                      ALLOW RETURN ON PROGRAM CHECK SVC
000006                   1722 EXIT  EQU   6                      EXIT SVC
000007                   1723 TERM  EQU   7                      TERMINATE SVC
000008                   1724 RESET EQU   8                      RESET DEVICE SVC
000009                   1725 RID   EQU   9                      READ ID SVC
00000A                   1726 START EQU   10                     START CYCLE STEAL SVC
00000B                   1727 STCSS EQU   11                     START CYCLE STEAL STATUS SVC
00000C                   1728 PREP  EQU   12                     PREPARE DEVICE SVC
00000D                   1729 READ0 EQU   13                     READ WITH FUNCTION BIT 3 OFF SVC
00000E                   1730 READ1 EQU   14                     READ WITH FUNCTION BIT 3 ON SVC
00000F                   1731 RSTAT EQU   15                     READ STATUS SVC
000010                   1732 WRIT0 EQU   16                     WRITE WITH FUNCTION BIT 3 OFF SVC
000011                   1733 WRIT1 EQU   17                     WRITE WITH FUNCTION BIT 3 ON SVC
000012                   1734 CTRL  EQU   18                     CONTROL SVC
000013                   1735 RICB  EQU   19                     RELEASE INTERUPT CONTROL BLOCK SVC
000014                   1736 CICB  EQU   20                     CONNECT INTERUPT CONTROL BLOCK SVC
000015                   1737 HIO   EQU   21                     HALT ALL I/O
000016                   1738 REQSD EQU   22                     REQUEST USE OF DCP DISK SVC
000017                   1739 RELSD EQU   23                     RELEASE USE OF DCP DISK SVC
000018                   1740 HALT  EQU   24                     HALT SVC
000019                   1741 ETOH  EQU   25                     EBCDIC TO HEX SVC (STRING)
00001A                   1742 HTOE  EQU   26                     HEX TO EBCDIC SVC (STRING)
00001B                   1743 ATOH  EQU   27                     ASCII TO HEX SVC (STRING)
00001C                   1744 HTOA  EQU   28                     HEX TO ASCII SVC (STRING)
00001D                   1745 ETOA  EQU   29                     EBCDIC TO ASCII SVC (STRING)
00001E                   1746 ATOE  EQU   30                     ASCII TO EBCDIC SVC (STRING)
00001F                   1747 READI EQU   31                     READ DATA SETS FOR MDI/UTIL
000020                   1748 WRITI EQU   32                     WRITE DATA SETS FOR UTIL
                         1750 ************************************************************************
                         1751 *                                                                      *
                         1752 *                EQUATES USED BY TU'S AS CONSTANTS                     *
                         1753 *                                                                      *
                         1754 ************************************************************************
00004E                   1755 PLUS  EQU   C'+'                  PLUS CHAR
000060                   1756 MINUS EQU   C'-'                  MINUS CHAR
000000                   1758 ZERO  EQU   0
000001                   1759 ONE   EQU   1
000002                   1760 TWO   EQU   2
000003                   1761 THREE EQU   3
000004                   1762 FOUR  EQU   4
000005                   1763 FIVE  EQU   5
000006                   1764 SIX   EQU   6
000007                   1765 SEVEN EQU   7
000008                   1766 EIGHT EQU   8
000009                   1767 NINE  EQU   9
00000A                   1768 TEN   EQU   10
00000B                   1769 ELEVN EQU   11                     11
00000C                   1770 TWELV EQU   12                     12
00000D                   1771 THRTN EQU   13                     13
00000F                   1772 FIVTN EQU   15                     15
000010                   1773 SIXTN EQU   16                     16
000020                   1774 THRY2 EQU   32                     32
000040                   1775 SIXT4 EQU   64                     64
000080                   1776 ONE28 EQU   128                    128
000100                   1777 TWO56 EQU   256                    256
000400                   1778 ONEK  EQU   1024                   1024
000800                   1779 TWOK  EQU   2048                   2048
000C00                   1780 THREK EQU   3072                   3072
001000                   1781 FOURK EQU   4096                   4096
FFFFFF                   1783 M1    EQU   -1                     -1
FFFFFE                   1784 M2    EQU   -2                     -2
FFFFFD                   1785 M3    EQU   -3                     -3
FFFFFC                   1786 M4    EQU   -4                     -4
                         1788 ************************************************************************
                         1789 *                                                                      *
                         1790 *     THE FOLLOWING ARE EQUATES FOR BIT DISPLACEMENTS FROM THE         *
                         1791 *     BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES.       *
                         1792 *                                                                      *
                         1793 ************************************************************************
000000                   1794 BS0   EQU   0
000001                   1795 BS1   EQU   1
000002                   1796 BS2   EQU   2
000003                   1797 BS3   EQU   3
```



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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
000004                   1798 BS4   EQU   4
000005                   1799 BS5   EQU   5
000006                   1800 BS6   EQU   6
000007                   1801 BS7   EQU   7
000008                   1802 BS8   EQU   8
000009                   1803 BS9   EQU   9
00000A                   1804 BS10  EQU   10
00000B                   1805 BS11  EQU   11
00000C                   1806 BS12  EQU   12
00000D                   1807 BS13  EQU   13
00000E                   1808 BS14  EQU   14
00000F                   1809 BS15  EQU   15
                         1811       COPY  T7A00DCB                 26OCT77
                         1812 ** (T7A00DCB)
                         1813 *
                         1814 ************************************************4/28/77**********
                         1815 *
                         1816 *     DCB TABLES AND DC'S
                         1817 *
                         1818 ************************************************************************
                         1819 *
                         1820 ***** DIAGNOSTIC DCB   ********
                         1821 *
003068  2008             1822 DGDCB DC    X'2008'                DIAGNOSTIC DCB
00306C  0000             1823       DC    A(*-*)                 FLAG / PHYSICAL SECTOR#
00306E  0000             1824       DC    A(*-*)                 HEAD / CYLINDER#'S
003070  0000             1825       DC    X'0000'                NOT USED
003072  3144             1826       DC    A(RSBA)                RSB ADDPESS
003074  0000             1827       DC    A(*-*)                 CHAINING ADDRESS
003076  0100             1828       DC    X'0100'                BYTE COUNT
003078  0000             1829       DC    A(*-*)                 DATA ADDRESS
                         1830 *
                         1831 ***** RECALIBRATE DCB  ********
                         1832 *
00307A  0001             1833 CLDCB DC    X'0001'                RECALIBRATE DCB
00307C  00000000000000000000 1834       DC    7A(*-*)
                         1835 *
                         1836 ***** WRITE SECTOR ID  ********
                         1837 *
00308A  002D             1838 WSDCB DC    X'002D'                WRITE SECTOR ID CNTL WORD
00308C  0000             1839       DC    A(*-*)                 FLAG / PHYSICAL SECTOR#
00308E  0000             1840       DC    A(*-*)                 HEAD / CYLINDER#'S
003090  0000             1841       DC    X'0000'                NOT USED
003092  3144             1842       DC    A(RSBA)                RSB ADDRESS
003094  0000             1843       DC    A(*-*)                 CHAIN ADDRESS
003096  0004             1844       DC    X'0004'                BYTE COUNT
003098  3138             1845       DC    A(WRSID)               ADDR OF SECTOR ID DATA
                         1846 *
                         1847 ***** READ SECTOR ID DCB  *******
                         1848 *
00309A  201C             1849 RSDCB DC    X'201C'                READ SECTOR ID CNTL WORD
00309C  0000             1850       DC    A(*-*)                 FLAG / PHYSICAL SECTOR#
00309E  0000             1851       DC    X'0000'                HEAD / CYLINDER#'S
0030A0  0000             1852       DC    X'0000'                NOT USED
0030A2  3144             1853       DC    A(RSBA)                RSB ADDRESS
0030A4  0000             1854       DC    A(*-*)                 CHAIN ADDRESS
0030A6  0004             1855       DC    X'0004'                BYTE COUNT FOR READ SECTOR ID
0030A8  3020             1856       DC    A(SCTID)               SECTOR ID DATA ADDRESS
                         1857 *
                         1858 ***** SEEK DCB  ********
                         1859 *
0030AA  0000             1860 SKDCB DC    X'0000'                SEEK DCB CONTROL WORD
0030AC  0000             1861       DC    X'0000'                NOT USED
0030AE  0000             1862       DC    A(*-*)                 HEAD / CYLINDER#'S
0030B0  0000             1863       DC    X'0000'                NOT USED
0030B2  3144             1864       DC    A(RSBA)                RSB ADDRESS
0030B4  0000             1865       DC    A(*-*)                 CHAIN ADDRESS
0030B6  0000             1866       DC    X'0000'                NOT USED
0030B8  0000             1867       DC    X'0000'                NOT USED
                         1868 *
                         1869 ***** CYCLE STEAL STATUS DCB  ********
                         1870 *
0030BA  2000             1871 CSDCB DC    X'2000'                CONTROL WORD
0030BC  0000             1872       DC    F'0'                   NOT USED
0030BE  0000             1873       DC    F'0'                   NOT USED
0030C0  0000             1874       DC    F'0'                   NOT USED
0030C2  0000             1875       DC    F'0'                   NOT USED
0030C4  0000             1876       DC    F'0'                   NOT USED
0030C6  001A             1877       DC    X'001A'                13 WORDS OF STATUS
0030C8  3038             1878       DC    A(CSBUF)               ADDRESS OF CYCLE STEAL STATUS DATA
                         1879 *
                         1880 ***** WRITE DCB  **********
                         1881 *
0030CA  0028             1882 WRDCB DC    X'0028'                WRITE DATA DCB CNTL WORD
0030CC  0000             1883       DC    A(*-*)                 FLAG / RECORD#
0030CE  0000             1884       DC    A(*-*)                 HEAD / CYLIDNER#'S
0030D0  0000             1885       DC    A(*-*)                 SCAN / REPEAT COUNT
0030D2  3144             1886       DC    A(RSBA)                RSB ADDRESS
0030D4  0000             1887       DC    A(*-*)                 CHAIN ADDRESS
0030D6  0100             1888       DC    X'0100'                BYTE COUNT
0030D8  0000             1889       DC    A(*-*)                 WRITE DATA ADDRESS
                         1890 *
                         1891 ***** VERIFY DCB   *******
                         1892 *
0030DA  0019             1893 VRDCB DC    X'0019'                CONTROL WORD
0030DC  0000             1894       DC    A(*-*)                 FLAG / RECORD#
0030DE  0000             1895       DC    A(*-*)                 HEAD / CYLINDER#'S
0030E0  0000             1896       DC    A(*-*)                 SCAN / REPEAT COUNT
0030E2  3144             1897       DC    A(RSBA)                RSB ADDRESS
0030E4  0000             1898       DC    A(*-*)                 CHAIN ADDRESS
0030E6  0000             1899       DC    A(*-*)                 BYTE COUNT
0030E8  0000             1900       DC    F'0'                   NOT USED
                         1901 *
                         1902 ***** READ DCB   *******
                         1903 *
0030EA  2018             1904 RDDCB DC    X'2018'                READ DCB CONTROL WORD
0030EC  0000             1905       DC    A(*-*)                 FLAG / RECORD#
0030EE  0000             1906       DC    A(*-*)                 HEAD / CYLINDER#'S
0030F0  0000             1907       DC    A(*-*)                 SCAN / REPEAT COUNT
0030F2  3144             1908       DC    A(RSBA)                RSB ADDRESS
0030F4  0000             1909       DC    A(*-*)                 CHAIN ADDRESS
0030F6  0100             1910       DC    X'0100'                BYTE COUNT
0030F8  0000             1911       DC    A(*-*)                 READ DATA ADDRESS
                         1912 *
```

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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
                         1913 ****  WRITE SECTOR ID SKEWED   ****
                         1914 *
0030FA  002F             1915 WKDCB DC    X'002F'                 CONTROL WORD
0030FC  0000             1916       DC    A(*-*)                  FLAG / PHYSICAL SECTOR#
0030FE  0000             1917       DC    A(*-*)                  HEAD / CYLINDER#'S
003100  0000             1918       DC    F'0'                    NOT USED
003102  3144             1919       DC    A(RSBA)                 RSB ADDRESS
003104  0000             1920       DC    A(*-*)                  CHAIN ADDRESS
003106  0004             1921       DC    X'0004'                 BYTE COUNT
003108  3138             1922       DC    A(WRSID)                ADDR OF SECTOR ID DATA
                         1923 *
                         1924 ****  READ SECTOR ID SKEWED    ****
                         1925 *
00310A  201D             1926 RKDCB DC    X'201D'                 CONTROL WORD
00310C  0000             1927       DC    A(*-*)                  FLAG / PHYSICAL SECTOR#
00310E  0000             1928       DC    A(*-*)                  HEAD / CYLINDER#'S
003110  0000             1929       DC    F'0'                    NOT USED
003112  3144             1930       DC    A(RSBA)                 RSB ADDRESS
003114  0000             1931       DC    A(*-*)                  CHAIN ADDRESS
003116  0004             1932       DC    X'0004'                 BYTE COUNT
003118  3020             1933       DC    A(SCTID)                SECTOR ID DATA ADDRESS
                         1934 *
                         1935 ****  READ MULTIPLE SECTOR IDS     ****
                         1936 *
00311A  201C             1937 RMDCB DC    X'201C'                 CONTROL WORD
00311C  0000             1938       DC    A(*-*)                  FLAG / PHYSICAL SECTOR#
00311E  0000             1939       DC    A(*-*)                  HEAD / CYLINDER#'S
003120  0000             1940       DC    F'0'                    NOT USED
003122  3144             1941       DC    A(RSBA)                 RSB ADDRESS
003124  0000             1942       DC    A(*-*)                  CHAIN ADDRESS
003126  0084             1943       DC    X'0084'                 BYTE COUNT
003128  3154             1944       DC    A(ID00)                 DATA AREA ADDRESS
                         1945 *
                         1946 *     CONSTANTS AND DEFINED STORAGE  LOCATIONS
00312A  0000             1947 ZERO0 DC    X'0000'                 CONSTANT ZERO
00312C  0001             1948 ONE1  DC    X'0001'                 CONSTANT ONE
00312E  0000             1949 RAY   DC    A(*-*)                  WRITE PARAMETER POINTER
003130  EB6D             1950 WDATA DC    X'EB6D'                 WRITE DATA
003132  6BDB             1951       DC    X'6BDB'                 *
003134  0000             1952 LGSEC DC    X'0000'                 LOGICAL SECTOR #
003136  0000             1953 PHYSC DC    X'0000'                 CONVERTED PHYSICAL SEC #
003138  0000             1954 WRSID DC    X'0000'                 FLAG,SECTOR   (WRT SECTOR ID DATA)
00313A  0000             1955       DC    X'0000'                 HEAD,CYLINDER
00313C  FF34             1956 WSIDT DC    X'FF34'                 WRITE SECTOR ID TEST DATA
00313E  5678             1957       DC    X'5678'                 *
003140  0000             1958 SCTST DC    X'0000'                 READ SECTOR ID TEST DATA BUFFER
003142  0000             1959       DC    X'0000'
003144  00000000000000000 1960 RSBA  DC    6A(*-*)                 RESIDUAL STATUS BLOCK
003150  0000             1961 CTR02 DC    X'0000'                 COUNTER
003152  0000             1962 CTR03 DC    X'0000'                 COUNTER
003154  0000             1963 ID00  DC    X'0000'                 ID ADDRESS TO BE SET BY USER
003156  1010             1964 PDATA DC    X'1010'                 WRITE DIAG WORD 1 DATA PATTERNS
003158  5555             1965       DC    X'5555'                 *
00315A  AAAA             1966       DC    X'AAAA'                 *
00315C  FFFF             1967       DC    X'FFFF'                 *
                         1968 *
                         1969 ****************************4/06/77**********************************
                         1970 *
                         1971 *  SUBROUTINE
                         1972 *
                         1973 *     PURPOSE
                         1974 *
                         1975 *          COMPARE READ SECTOR ID DATA TO WRITE SECTOR ID DATA
                         1976 *
                         1977 *     CALLING SEQUENCE
                         1978 *
                         1979 *          BAL  CMPRW,R6          (NORMAL)
                         1980 *
                         1981 *     RETURN
                         1982 *
                         1983 *          BXS (R6,2)     -   NORMAL
                         1984 *
                         1985 *
                         1986 ************************************************************************
                         1987 *
00315E  4724 0004        1988 CMPRW MVWI  4,R7                    COMPARE BYTE COUNT
003162  4324 3020        1989       MVA   SCTID,R3                ADDR OF RD SEC ID DATA
003166  4524 3138        1990       MVA   WRSID,R5                ADDR OF WR SEC ID DATA
00316A  2BA6             1991       CFNEN (R3),(R5)               COMPARE ID DATA
00316C  68C0 0002        1992       BE    (R6,2)                  BCH IF WRITE ID DATA OK
003170  68D2 0000        1993       B     (R6)*                   COMPARE ERROR
                         1995 ************************************************************************
                         1996 *
                         1997 *     EXECUTE INPUT & OUTPUT COMMANDS
                         1998 *     TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
                         1999 *     EACH OF THESE ENTRIES SET R7 WITH THE ADRS OF ITS PARAMETER
                         2000 *     LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
                         2001 *     SUPVR CALL.
                         2002 *     .
                         2003 *     THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
                         2004 *     .
                         2005 *     1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
                         2006 *     2. ERROR INTERRUPTS RECEIVED FROM SUPVR
                         2007 *
                         2008 *     THIS ROUTINE HAS THE FOLLOWING ENTRIES:
                         2009 *     .
                         2010 * 1   BAL   $RKEW,R6                 READ SECTOR ID SKEWED
                         2011 *     .
                         2012 * 2   BAL   $WKEW,R6                 WRITE SECTOR ID SKEWED
                         2013 *     .
                         2014 * 3   BAL   $WSEC,R6                 WRITE SECTOR ID
                         2015 *     .
                         2016 * 4   BAL   $DIAG,R6                 DIAGNOSTIC
                         2017 *     .
                         2018 * 5   BAL   XIOCS,R6                 CYCLE STEAL STATUS
                         2019 *     .
                         2020 * 6   BAL   $SEEK,R6                 SEEK
                         2021 *     .
                         2022 * 7   BAL   $RECL,R6                 RECALIBRATE
                         2023 *     .
                         2024 * 8   BAL   $RDID,R6                 READ SECTOR ID
                         2025 *     .
                         2026 * 9   BAL   $RD,R6                   READ
                         2027 *     .
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
                         2028 * 10  BAL   $RDVY,R6                 READ VERIFY
                         2029 *
                         2030 * 11  BAL   $WRT,R6                  WRITE
                         2031 *
                         2032 * 12  BAL   $RDIM,R6                 READ MULTI SECTOR IDS
                         2033 *
                         2034 ************************************************************************
                         2035 *
003174  4020 338C 30AA   2036 $SEEK MVA   SKDCB,IODCB              SET UP CONTROL BLOCK FOR SVC CALL
00317A  507F             2037       J     XIO
                         2038 *
00317C  4020 338C 307A   2039 $RECL MVA   CLDCB,IODCB              SET UP BLOCK FOR SVC CALL
003182  507B             2040       J     XIO
                         2041 *
003184  4020 338C 309A   2042 $RDID MVA   RSDCB,IODCB              SET UP BLOCK FOR SVC CALL
00318A  0BBB             2043       MVBI  X'BB',R3                SET BUFFER TO B'S
00318C  4524 3020        2044       MVA   SCTID,R5                SETUP READ SECTOR ID BUFFER ADRS
003190  4724 0004        2045       MVWI  4,R7                    SETUP BUFFER LENGTH
003194  2BAC             2046       FFN   R3,(R5)                 INIT READ SECTOR ID BUFFER
003196  4020 30A8 3020   2047       MVA   SCTID,RSDCB+14          DATA ADDR
00319C  506E             2048       J     XIO
                         2049 *
00319E  4020 338C 311A   2050 $RDIM MVA   RMDCB,IODCB              SET UP CONTPOL BLOCK FOR SVC CALL
0031A4  4724 0084        2051       MVWI  132,R7                  SET BUFFER LENGTH
0031A8  4524 3154        2052       MVA   ID00,R5                 SET BUFFER ADDRESS
0031AC  0BBB             2053       MVBI  X'BB',R3                SET CLEAR CHARACTERS
0031AE  2BAC             2054       FFN   R3,(R5)                 CLEAR THE BUFFER
0031B0  5064             2055       J     XIO
                         2056 *
0031B2  0BFF             2057 $RD   MVBI  X'FF',R3                SETRD BUFFER TO ALL F'S
0031B4  6D08 30F8        2058       MVW   RDDCB+14,R5             SET UP READ BUFFER ADRS
0031B8  6F08 30F6        2059       MVW   RDDCB+12,R7             SET UP BUFFER LENGTH
0031BC  2BAC             2060       FFN   R3,(R5)                 CLEAR READ BUFFER
0031BE  4020 338C 30EA   2061 $RD$  MVA   RDDCB,IODCB             SET UP BLOCK FOR SVC CALL
0031C4  505A             2062       J     XIO
                         2063 *
0031C6  4020 338C 30DA   2064 $RDVY MVA   VRDCB,IODCB             SET UP CONTROL BLOCK FOR SVC CALL
0031CC  5056             2065       J     XIO
                         2066 *
0031CE  4020 338C 30CA   2067 $WRT  MVA   WRDCB,IODCB             SET UP CONTROL BLOCK FOR SVC CALL
0031D4  5052             2068       J     XIO
                         2069 *
0031D6  4020 338C 310A   2070 $RKEW MVA   RKDCB,IODCB              SET UP CONTROL BLOCK FOR SVC CALL
0031DC  0BBB             2071       MVBI  X'BB',R3                SET BUFFER TO B'S
0031DE  4524 3020        2072       MVA   SCTID,R5                SETUP READ SECTOR ID BUFFER ADRS
0031E2  4724 0004        2073       MVWI  4,R7                    SETUP BUFFER LENGTH
0031E6  2BAC             2074       FFN   R3,(R5)                 INIT READ SECTOR ID BUFFER
0031E8  4020 3118 3020   2075       MVA   SCTID,RKDCB+14           DATA ADDR
0031EE  5045             2076       J     XIO
                         2077 *
0031F0  4020 338C 30FA   2078 $WKEW MVA   WKDCB,IODCB              SET UP CONTROL BLOCK FOR SVC CALL
0031F6  4020 3108 3138   2079       MVA   WRSID,WKDCB+14          DATA ADDR
0031FC  503E             2080       J     XIO
                         2081 *
0031FE  4020 338C 308A   2082 $WSEC MVA   WSDCB,IODCB              SET UP CONTROL BLOCK FOR SVC CALL
003204  4020 3098 3138   2083       MVA   WRSID,WSDCB+14          DATA ADDR
00320A  5037             2084       J     XIO
                         2085 *
00320C  4020 338C 306A   2086 $DIAG MVA   DGDCB,IODCB              SET UP CONTROL BLOCK FOR SVC CALL
003212  5033             2087       J     XIO
                         2088 *
003214  6E0D 301E        2089 $WRT0 MVW   R6,LSTIO                 SAVE IAR FOR RETRY IF REQUESTED
003218  0BFF             2090       MVBI  255,R3                  CLEAR CYCLE STATUS BUFFER
00321A  4524 3038        2091       MVA   CSBUF,R5                *  TO ALL ONES  *
00321E  0F16             2092       MVBI  22,R7                   *
003220  2BAC             2093       FFN   R3,(R5)                 *
003222  4524 3028        2094       MVA   DCBUF,R5                CLEAR DCB BUFFER TO ALL ONES
003226  0F10             2095       MVBI  16,R7                   *
003228  2BAC             2096       FFN   R3,(R5)                 *
00322A  4020 301A 0708   2097       MVWI  X'0708',$IOIN           OVERLAY OLD CONDITION CODES
003230  CB25 301C        2098       MVWZ  $ISB,R3                 ZERO OUT OLD ISB VALUE
003234  4CA3             2099       TBTR  (R4,IN)                 CLEAR INTERRUPT RECEIVED CNTL BIT
003236  4CA1             2100       TBTR  (R4,ER)                 RESET ANY ERROR BEFORE I/O COMMAND
003238  4C62             2101       TBTS  (R4,XI)                 SET EXPECTED INTR CONTROL BIT
00323A  4724 3388        2102       MVA   IOBLK,R7                SET UP CONTROL BLK FOR SUPR
00323E  C020 338F        2103       MVB   IOMOD+1,R0              GET IDCB FUNC/MODIFIER
003242  4020 338E 00F0   2104       RBMWI X'00F0',IOMOD           REMOVE FUNCTION FROM 'IOMOD'
003248  3022             2105       SRL   4,R0                    RIGHT JUSTIFY FUNCTION BITS IN R0
00324A  F005             2106       CBI   5,R0                    IDCB FUNCTION = 5?
00324C  1003             2107       JE    $WRT1                   YES - ISSUE 'SVC  WRIT1'
00324E  6010             2108       SVC   WRIT0                   ISSUE WRITE DPC '4X' OP
003250  6802 32D4        2109       B     XIO8-4                  GO WAIT FOR THE INTERRUPT
003254  6011             2110 $WRT1 SVC   WRIT1                   ISSUE WRITE DPC '5X' OP
003256  6802 32D4        2111       B     XIO8-4                  GO WAIT FOR THE INTERRUPT
                         2112 *
00325A  4020 338C 30CA   2113 $DGWR MVA   WRDCB,IODCB              SET UP CONTROL BLK FOR SVC CALL
003260  6802 3280        2114       B     XIODG                   ISSUE START CS DIAG CMD
                         2115 *
003264  4020 338C 30EA   2116 $DGRD MVA   RDDCB,IODCB              SET UP CONTROL BLK FOR SVC CALL
00326A  6F08 30F6        2117       MVW   RDDCB+12,R7             GET NO. OF BYTES TO CLEAR
00326E  6D08 30F8        2118       MVW   RDDCP+14,R5             ADDR OF READ BUFFER
003272  0BFF             2119       MVBI  X'FF',R3                CLEAR TO F'S
003274  2BAC             2120       FFN   R3,(R5)                 *
003276  6802 3280        2121       B     XIODG                   ISSUE START CS DIAG CMD
                         2123       COPY  T7AXEQ                  09MAR78
                         2124        PRINT OFF
                         2688       T7AXEQ
                         2689+************************************************************************29JUL76**
                         2690+**
                         2691+** SUB-ROUTINE
                         2692+**
                         2693+**     EXECUTE INPUT AND OUTPUT COMMANDS
                         2694+**
                         2695+** PURPOSE
                         2696+*
                         2697+**     TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
                         2698+**     THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
                         2699+**
                         2700+**        1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
                         2701+**           THE I/O COMMAND.
                         2702+**        2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
                         2703+**           ISSUED BY THIS SUBROUTINE.
                         2704+**        3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
                         2705+**           START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                         2706+**     4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
                         2707+**        SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
                         2708+**        MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
                         2709+**     5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
                         2710+**        EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC  START'.
                         2711+**     6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
                         2712+**        STARTS TO DETERMINE A LOST INTERRUPT.
                         2713+**     7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
                         2714+**        WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL.
                         2715+**     8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
                         2716+**     9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
                         2717+**    10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.
                         2718+**    11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
                         2719+**    12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
                         2720+**        ISSUED BY THIS SUBROUTINE.
                         2721+**    13. CHECK THE ISB BITS THAT APE ON. IF BIT 0 IS ON, ISSUE A
                         2722+**        CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
                         2723+**        COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
                         2724+**
                         2725+** CALLING SEQUENCE
                         2726+**
                         2727+**     THIS ROUTINE HAS THE FOLLOWING ENTRIES:
                         2728+**
                         2729+** --> BAL   XIO        OR          XEQ ANY CYCLE STEAL COMMAND, MOD=0
                         2730+** --> BAL   XIO1                   MOD PARM PRELOADED IN 'IOMOD'
                         2731+** --> BAL   XIOCS,R6   OR          XEQ START CYCLE STEAL STATUS, MOD=F
                         2732+** --> BAL   XIOCS-4,R6             AUTO CS STATUS (FOLLOWING OTHER XIO
                         2733+**     .                           AND DOES NOT POST INTERRUPT STATUS)
                         2734+**
                         2735+** RETURN CONTROL
                         2736+**
                         2737+**     BXS   (R6,2)                RETURN TO USER NO ERROR
                         2738+** OR  B     (R6)*                RETURN AND RETRY ON ERROR
                         2739+*****************************************************************************
00327A  CB25 338E        2741+XIO    MVWZ  IOMOD,R3              SET MOP OF 0 FOR CYCLE STEAL OP
00327E  500E             2742+       J     XIO1                  CS I/O'S ARE NOT RETRIED
                         2743+**
003280  4020 338E 000D   2744+XIODG MVWI  X'000D',IOMOD          SET MODIFIER FOR DIAGNOSTIC OPS
003286  500A             2745+       J     XIO1                  GO TO CS OPS
                         2746+*
003288  4CAA             2747+       TBTR  (R4,CE)               RESET CS STATUS INTER ERROR INDICAT.
00328A  4C68             2748+       TBTS  (R4,CS)               SET 'CYCLE STEAL STATUS' IN PROGRESS
00328C  4020 338C 30BA   2749+XIOCS MVA   CSDCB,IODCB           SET UP CONTROL BLOCK FOR SVC CALL
003292  4020 338E 000F   2750+       MVWI  X'000F',IOMOD         SET CYCLE STEAL MODIFIER
003298  4C28             2751+       TBT   (R4,CS)               IS CS IN PROGRESS, ERROR CONDITION
00329A  1213             2752+       JON   XIO2                  * YES, BYPASS SAVING I/O ADRS
00329C  6E0D 301E        2753+XIO1   MVW   R6,LSTIO              SAVE IAR FOR RETRY IF REQUESTED
0032A0  4324 3028        2754+       MVA   DCBUF,R3              SET UP TO ADPS TO MOVE DCB TABLE
0032A4  6D08 338C        2755+       MVW   IODCB,R5              * AND THE FROM ADRS, ALONG WITH
0032A8  0F1A             2756+       MVBI  26,R7                 * THE NUMBER OF MOVES
0032AA  2D6A             2757+       MVFN  (R5),*(R3)            MOVE 1 STATUS WORD AND ADJUST
0032AC  0BFF             2758+       MVBI  255,R3                CLEAR CYCLE STATUS BUFFER
0032AE  4524 3038        2759+       MVA   CSBUF,R5              *  TO ALL ONES  *
0032B2  0F1A             2760+       MVBI  26,R7                 *
0032B4  2BAC             2761+       FFN   R3,(R5)               *
0032B6  4020 301A 0708   2762+       MVWI  X'0708',$IOIN         OVERLAY OLD CONDITION CODES
0032BC  CB25 301C        2763+       MVWZ  $ISB,R3               ZERO OUT OLD ISB VALUE
                         2764+**
0032C0  4CA1             2765+       TBTR  (R4,ER)               RESET ANY ERROR BEFORE I/O COMMAND
0032C2  4CA3             2766+XIO2   TBTR  (R4,IN)               CLEAR INTERRUPT RECEIVED CNTL BIT
0032C4  4724 3388        2767+       MVA   IOBLK,R7              SET UP CONTROL BLOCK FOR SUPVR
0032C8  4CA6             2768+       TBTR  (R4,$LE)              RESET LEVEL ERROR INDICATOR
0032CA  4C62             2769+       TBTS  (R4,XI)               SET EXPECTED INTR CONTROL BIT
0032CC  600A             2770+       SVC   START                 CALL SUPVR FOR I/O COMMAND
                         2771+**
0032CE  4CA7             2772+       TBTR  (R4,NI)               IS AN INTR EXPECTED
0032D0  6AC0 0002        2773+       BN    (R6,2)                * NO, RETURN TO USER
                         2774+*
                         2775+*            THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
                         2776+*
0032D4  4524 0000        2777+       MVWI  0,R5                  SET UP WORK REG FOR 'LOST INTR'
0032D8  4CA3             2778+XIO8   TBTR  (R4,IN)               HAS INTERRUPT BEEN RECEIVED
0032DA  1239             2779+       JON   XIOCK                 * YES, CHECK IF ALL WAS SATISFACTORY
0032DC  6002             2780+       SVC   IDLE                  ALLOW ANOTHER PROGRAM A CHANCE TO RUN
                         2781+*                                  SUPVR WILL RETURN HERE
0032DE  6002             2782+       SVC   IDLE                  ALLOW ANOTHER PROGRAM A CHANCE TO RUN
                         2783+*                                  SUPVR WILL RETURN HERE
0032E0  7DA1 0001        2784+       AWI   1,R5                  ADVANCE TIME OUT COUNT
0032E4  18F9             2785+       JNZ   XIO8                  BCH IF TIME OUT NOT REACHED
0032E6  4C61             2786+       TBTS  (R4,ER)               SET ON ERROR CONTROL BIT
0032E8  68D2 0000        2787+       B     (R6)*                 ERR 'NO INTERRUPT'
                         2789+*****************************************************************03FEB76**
                         2790+*
                         2791+* SUBROUTINE
                         2792+*
                         2793+*      I/O EXECUTE ERROR HANDLING ROUTINE
                         2794+*
                         2795+* PURPOSE
                         2796+*
                         2797+*      THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
                         2798+*      PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
                         2799+*      SUPERVISOR AND IT WAS NOT ACCEPTED.
                         2800+*
                         2801+* CALLING SEQUENCE
                         2802+*
                         2803+*      SUPVR WILL ENTER WHEN AN ERROP OCCURS ON AN I/O COMMAND
                         2804+*
                         2805+* RETURN CONTROL
                         2806+*
                         2807+*      B      (R6)*                RETURN TO USERS ERROR HANDLER
                         2808+*
                         2809+*****************************************************************************
                         2810+*
                         2811+* CC         0= DEVICE NOT ATTACHED
                         2812+* FOR        1= DEVICE BUSY
                         2813+* I/O        2= DEVICE BUSY AFTER RESET
                         2814+*           3= COMMAND REJECT
                         2815+*           4= INTERVENTION REQUIRED
                         2816+*           5= INTERFACE DATA CHECK
                         2817+*           6= CONTROLLER BUSY
                         2818+*           7= I/O COMMAND EXCEPTED
                         2819+*
0032EC  706E             2820+XIOER CPLSR R3                     COPY STATUS ANY LEVEL INTO R3
0032EE  336A             2821+       SRL   13,R3                 POSITION CC CODE TO BITS 13-15
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
0032F0  C328 301A        2822+       MVB   R3,$IOIN              * PUT IN LOG OUT AREA
0032F4  68D2 0000        2823+       B     (R6)*                 RETURN TO USER ERROR HANDLER
                         2825+*****************************************************************14APR76**
                         2826+*                                                                        IL
                         2827+* SUB-ROUTINE                                                           IL
                         2828+*                                                                        IL
                         2829+*      ERROR INTERRUPT             RUNS ON INTERRUPT LEVEL '$INTL'       IL
                         2830+*                                                                        IL
                         2831+* PURPOSE                                                              IL
                         2832+*                                                                        IL
                         2833+*      THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR      IL
                         2834+*      OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE        IL
                         2835+*      EXPECTED CODE.                                                    IL
                         2836+*                                                                        IL
                         2837+* CALLING SEQUENCE                                                     IL
                         2838+*                                                                        IL
                         2839+*      SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT         IL
                         2840+*                                                                        IL
                         2841+* RETURN CONTROL                                                       IL
                         2842+*                                                                        IL
                         2843+*      SVC   EXIT                  RETURN TO USEP VIA SUPVR              IL
                         2844+*                                                                        IL
                         2845+*****************************************************************************IL
                         2846+*                                                                        IL
                         2847+* CC         0= CONTROLLER END                ISB   0= ADD STATUS       IL
                         2848+* FOR        1= PROGRAM CONTROL INTERRUPT     BITS  1= COMD REJECT      IL
                         2849+* INTR       2= EXCEPTION INTERRUPT           FOR   2= INCOR LENGTH     IL
                         2850+*           3= DEVICE END INTERRUPT          INTR  3= DCB SPEC CK      IL
                         2851+*           4= ATTENTION INTERRUPT                 4= STG DATA CK     IL
                         2852+*           5= ATTENTION / PROGRAM CNTL INTR       5= INV STG ADRS    IL
                         2853+*           6= ATTENTION / EXCEPTION INTR          6= PROTECT CK      IL
                         2854+*           7= ATTENTION / DEVICE END INTR         7= I-FACE DATA     IL
                         2855+*                                                                        IL
0032F8  706E             2856+INTER CPLSR R3                     COPY STATUS ANY LEVEL INTO R3         IL
0032FA  336A             2857+       SRL   13,R3                 POSITION INDICATORS IN R3             IL
0032FC  4020 3012        2858+       MVA   OPTN1,R4              SET UP BASE ADRS                      IL
003300  4C28             2859+       TBT   (R4,CS)               IS CS IN PROGRESS                     IL
003302  1006             2860+       JOFF  INTES                 * NO                                  IL
003304  4C6A             2861+       TBTS  (R4,CE)               TURN ON CYCLE STEAL INTER ERROR       IL
003306  6F0D 3026        2862+       MVW   R7,DEV4               SAVE CS ERR ISB VALUE, BITS 0-7       IL
00330A  C328 3027        2863+       MVB   R3,DEV4+1             * AND THE COND CODE                   IL
00330E  500A             2864+       J     INTR1                                                       IL
003310  4C24             2865+INTES TBT   (R4,XE)               TEST  EXPECTED ATTEN / ERROR IND      IL
003312  1002             2866+       JOFF  INTET                 BCH IF NOT EXPECTED                   IL
003314  F304             2867+       CBI   4,R3                  IS THIS AN 'ATTENTION' INTR           IL
003316  1006             2868+       JE    INTR1                 * YES, BCH TO END INTR SEQUENCE       IL
003318  4C61             2869+INTET TBTS  (R4,ER)               SET ERROR ON I/O COMMAND CNTL BIT     IL
00331A  5004             2870+       J     INTR1                                                       IL
                         2871+*                                  THE ERROR INTERRUPT USES THE SAME     IL
                         2872+*                                  ENDING SEQUENCE AS THE NORMAL INTR    IL
                         2874+*****************************************************************14APR76IL
                         2875+*                                                                        IL
                         2876+* SOUBROUTINE                                                          IL
                         2877+*                                                                        IL
                         2878+*      OKAY  INTERRUPT             RUNS ON INTERRUPT LEVEL '$INTL'       IL
                         2879+*                                                                        IL
                         2880+* PURPOSE                                                              IL
                         2881+*                                                                        IL
                         2882+*      TO CHECK THE INTERRUPT AND CONTINUE THE TEST                      IL
                         2883+*                                                                        IL
                         2884+* CALLING SEQUENCE                                                     IL
                         2885+*                                                                        IL
                         2886+*      SUPERVISOR WILL ENTER HERE  IF INTR CC IS AS REQUESTED            IL
                         2887+*      THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE           IL
                         2888+*      AFTER THE SPECIAL PART HAS BEEN COMPLETED  AND THE                IL
                         2889+*      COMMON SECTION IS HANDLED HERE.                                   IL
                         2890+*                                                                        IL
                         2891+* RETURN CONTROL                                                       IL
                         2892+*                                                                        IL
                         2893+*      SVC   EXIT                  RETURN TO USER VIA SUPVR              IL
                         2894+*                                                                        IL
                         2895+*****************************************************************************IL
003320  4424 3012        2896+INTOK CPLSR R3                     COPY STATUS ANY LEVEL INTO R3         IL
003324  4C63             2897+       SRL   13,R3                 POSITION INDICATORS IN R3             IL
003326  4C28             2898+       MVA   OPTN1,R4              SET UP BASE ADRS                      IL
003328  1204             2899+INTR1 TBTS  (R4,IN)               SET   INTERRUPT RECEIVED              IL
00332A  C328 301B        2900+       TBT   (R4,CS)               IS 'CS IN PROGRESS' ON                IL
00332E  6F0D 301C        2901+       JON   INTR2                 * YES, BCH AROUND UPDATE              IL
003332                   2902+       MVB   R3,$IOIN+1            SAVE INTERRUPTING CC CODE             IL
                         2903+       MVW   R7,$ISB               SAVE INTR STATUS AND DEV ADRS         IL
                         2904+INTR2 EQU   *                                                            IL
003332  3521             2905+       CPCL  R5                    CURRENT LEVEL COPIED BY DCP           IL
003334  0501             2906+       SLL   4,R5                  POSITION INTR LEVEL AND PUT           IL
003336  CD24 3058        2907+       ABI   1,R5                  * IN 'I' BIT                          IL
00333A  1002             2908+       CW    $INTL,R5              IS THIS THE CORRECT INTR LEVEL        IL
00333C  4C66             2909+       JE    INTR3                 * YES, GO EXIT THIS LEVEL             IL
00333E  4C61             2910+       TBTS  (R4,$LE)              SET INTR LEVEL ERROR CONTROL BIT      IL
003340  4CA2             2911+       TBTS  (R4,ER)               SET ERROR ON I/O COMMAND CNTL BIT     IL
003342  1204             2912+INTR3 TBTR  (R4,XI)               WAS INTERRUPT EXPECTED                IL
003344  4C60             2913+       JON   INTRX                 * YES, EXIT OFF THIS INTR LEVEL       IL
003346  F304             2914+       TBTS  (R4,MI)               * NO, SET MYSTERY INTR CONTROL BIT    IL
003348  1001             2915+       CBI   4,R3                  ATTENTION INTERRUPT?                  IL
00334A  4C6C             2916+       JE    INTRX                 YES                                   IL
00334C  6006             2917+       TBTS  (R4,NG)               ERROR,UNEXPECTED INTERRUPT            IL
                         2918+INTRX SVC   EXIT                  EXIT THIS LEVEL VIA SUPVR TO PGM      IL
                         2920+*****************************************************************03FEB76**
                         2921+*
                         2922+*      THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
                         2923+*      HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN
                         2924+*      RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
                         2925+*
                         2926+*
00334E  4CA4             2927+XIOCK TBTR  (R4,XE)               WAS AN ERROR EXPECTED
003350  6AC0 0002        2928+       BN    (R6,2)                * YES, EXIT THIS ROUTINE
003354  4CA8             2929+       TBTR  (R4,CS)               WAS AUTO CS IN PROGRESS
003356  1006             2930+       JOFF  XIOCV                 * NO, CONTINUE CHECKING
003358  4C2A             2931+       TBT   (R4,CE)               IS CS IN AN ERR CONDITION
00335A  1002             2932+       JOFF  XIOCO                 * NO, BCH
00335C  68D2 0000        2933+       B     (R6)*                 CS ERROR
003360  4C69             2934+XIOCO TBTS  (R4,CSA)              TURN ON CS STATS AVAIL FLAG
003362  5601             2935+       BXS   (R6,2)                GO TO USER
003364  4C21             2936+XIOCV TBT   (R4,ER)               WAS ERROR INTR CONTROL BIT ON
003366  100D             2937+       JOFF  XIOCX                 * NO, EXIT THIS ROUTINE
                         2938+*
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976

003368  C520 301B        2939+       MVB   $IOIN+1,R5          GET LAST INTR CC CODE
00336C  F502             2940+       CBI   2,R5                IS THIS CC=2
00336E  1003             2941+       JE    XIOCQ               YES
003370  F506             2942+       CBI   6,R5                IS THIS CC=6
003372  68D1 0000        2943+       BNE   (R6)*               * NO, BCH TO ERROR HANDLER
003376  C520 301C        2944+XIOCQ  MVB   $ISB,R5             GET LAST ISB DATA BYTE AND IF CS
00337A  6A00 3288        2945+       BN    XIOCS-4             * AVAILABLE, GO AND GET IT
00337E  68D2 0000        2946+       B     (R6)*               ERROR
003382  CB25 301E        2947+XIOCX  MVWZ  OPTN3,R3            CLEAR OUT OPTION 3 CNTL BITS
003386  5601             2948+       BXS   (R6,2)              RETURN TO USER VIA REG 6
                         2949+*
                         2950+*            I/O   PARAMETER LIST
                         2951+*
003388  19D0             2952+IOBLK  DC    A(DEVADD)           ADRS OF DEVICE ADRS
00338A  32EC             2953+       DC    A(XIOERR)           ERROR ROUTINE ADRS
00338C  0000             2954+IODCB  DC    A(*-*)              DCB ADRS OR LEVEL & INTR
00338E  0000             2955+IOMOD  DC    A(*-*)              MODIFIER
003390  0000             2956+       DC    A(*-*)              ADRS OF LAST SVC CALL
003392  0000             2957+IORSP  DC    A(*-*)              SECOND WORD OF LAST IDCB
                         2958+*
                         2959+*            INTERRUPT CONTROL BLOCK FOR I/C COMMANDS
                         2960+*
003394  19D0             2961+INTBL  DC    A(DEVADD)           ADRS OF DEVICE ADRS
003396  331C             2962+       DC    A(INTOK)            INTERRUPT OK RETURN ADRS
003398  32F8             2963+       DC    A(INTEP)            INTERRUPT ERROR ADRS
00339A  0003             2964+INTCC  DC    X'0003'             INTERRUPT CODE EXPECTED
                         2966+*****************************************************************11MAY76**
                         2967+*
                         2968+* SUBROUTINE
                         2969+*
                         2970+*     CONNECT INTERRUPT CONTROL BLOCK & PREPAPE DEVICE
                         2971+*
                         2972+* PURPOSE
                         2973+*
                         2974+*     TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
                         2975+*     PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
                         2976+*     TO INTERRUPT.
                         2977+*
                         2978+* CALLING SEQUENCE
                         2979+*
                         2980+*     THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
                         2981+*
                         2982+* --> BAL   $CONC,R6            CLEAR DEV DEP STG AND CONNECT I/O BLK
                         2983+* --> BAL   $CONP,R6            PREPARE DEVICE ONLY, ALREADY CONNECT
                         2984+*
                         2985+* RETURN CONTROL
                         2986+*
                         2987+*     BXS   (R6,2)              RETURN TO USER VIA REG 6 IF OKAY
                         2988+* OR  B     (R6)*               IF THE DEVICE COULD NOT BE CONNECTED
                         2989+*
                         2990+*****************************************************************
00339C  0F06             2991+$CONC MVBI  6,R7                NUMBER OF BYTE TO CLEAR
00339E  0B00             2992+      MVBI  0,R3                * AND THE DATA TO USE
0033A0  4524 3020        2993+      MVA   DEV1,R5             * ALONG WITH THE ADRS TO USE
0033A4  2BAC             2994+      FFN   R3,(R5)             *
0033A6  CB25 3016        2995+      MVWZ  OPTN3,R3            CLEAR OLD CONTROLS FOR NEW ROUTINE
0033AA  4724 3394        2996+      MVA   INTBL,R7            SET R7 TO CONTROL BLOCK AND
0033AE  6014             2997+      SVC   CICP                * CONNECT IT TO THIS DEVICE
0033B0  6AD0 0000        2998+      BN    (R6)*               ERROR RETURN TO USER
                         2999+*
0033B4  8828 3058 338C   3000+$CONP MVW   $INTL,IODCB         PUT IN LEVEL & INTR PARAMETER
0033BA  4724 3388        3001+      MVA   IOBLK,R7            SET R7 TO CONTROL BLOCK TO PREPARE
0033BE  4020 301A 0708   3002+      MVWI  X'0708',$IOIN       INITIALIZE CONDITION CODE STORAGE
0033C4  CB25 301C        3003+      MVWZ  $ISB,R3             * AND CLEAR OLD ISB VALUE
0033C8  6E0D 301E        3004+      MVW   R6,LSTIO            SET UP ADDRESS THAT STARTED LAST I/O
0033CC  600C             3005+      SVC   PREP                * AND CALL ON SUPVR
0033CE  5601             3006+      BXS   (R6,2)              RETURN TO USER
                         3008+*****************************************************************06APR76**
                         3009+*
                         3010+* SUBROUTINE
                         3011+*
                         3012+*     DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
                         3013+*
                         3014+* PURPOSE
                         3015+*
                         3016+*     DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
                         3017+*     SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS
                         3018+*     BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
                         3019+*
                         3020+* CALLING SEQUENCE
                         3021+*
                         3022+*     THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
                         3023+*
                         3024+* --> B     $ERR$               SET 'NG' BIT AND CONVERT DATA TO LOG
                         3025+* --> B     $CONX               RETURN TO MDI SUPERVISOR TO TEST STS
                         3026+*
                         3027+* RETURN CONTROL
                         3028+*
                         3029+*     B     TURTN*              RETURN TO MDI
                         3030+* OR  B     (R6)*               IF THE DEVICE COULD NOT BE CONNECTED
                         3031+*
                         3032+*****************************************************************
0033D0  4020 1818 8000   3033+$ERR$  MVWI   X'8000',TUSTATUS   SET ON 'NO GOOD' STATUS BIT
0033D6  4724 35A0        3034+       MVA    HEBLK,R7          GET ADRS OF CONTROL BLOCK
0033DA  601A             3035+       SVC    HTOE              CONVERT HEX TO EBC VIS DCP
0033DC  4020 188E 4040   3036+       MVWI  X'4040',TUWORK+116
0033E2  4020 1890 4040   3037+       MVWI  X'4040',TUWORK+118
0033E8  4020 1892 4040   3038+       MVWI  X'4040',TUWORK+120
0033EE  0D04             3039+$PRNT  MVBI  4,R5
0033F0  4324 181A        3040+       MVA   TUWORK,R3           SET UP BUFFER STORAGE
0033F4  6B0D 3598        3041+       MVW   R3,BUFPT
0033F8  4124 3474        3042+       MVA   LINE1,R1
0033FC  0F04             3043+       MVBI  4,R7
0033FE  0E08             3044+       MVBI  8,R6
003400  2B24             3045+MVBUF  MVFN  (R3),(R1)
003402  0F04             3046+       MVBI  4,R7
003404  0A40             3047+       MVBI  X'40',R2
003406  C258             3048+       MVB   R2,(R1)+
003408  BEFB             3049+       JCT   MVBUF,R6
00340A  0E08             3050+       MVBI  8,R6
00340C  7921 002C        3051+       AWI   44,R1
00340E  BDF7             3052+       JCT   MVBUF,R5
003412  4020 1802 F1F0   3053+       MVWI  PIDMSG10,PID+2
003418  4020 19B8 359E   3054+       MVA   FAKETU,@DCADD1
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976

00341E  4020 19BA 359A   3055+       MVA   DC2PT,@DCADD2
003424  402C 19C4 0080   3056+       OWI   BIT0080,SUPSTAT
00342A  4324 3018        3057+       MVA   $TUID,R3            SET UP BUFFER STORAGE
00342E  6F13 18BA        3058+       BAL   TUMSGWTR*,R7        GO TO MESSAGE WRITER
                         3059+*
003432                   3060+$CONX  EQU   *
003432  C720 19D0        3061+       MVB   DEVADD,R7           GET DEVICE ADDRESS FROM MDI
003436  6013             3062+       SVC   RICB                RELEASE INTERRUPT CONTROL BLOCK
003438  6812 305A        3063+       B     TURTN*              RETURN TO MDI SUPERVISOR
                         3064+*
00343C  0009             3065+BEGIN  DC    A(0009)             NUMBER OF LINES TO PRINT
00343E  0008             3066+       DC    A(0008)             LINE LENGTH = 8 CHAR
003440  5C5C40C1C2D6D9E3 3067+       DC    C'** ABORT'
003448  0028             3068+       DC    A(0040)             LINE LENGTH = 40 CHAR
00344A  E3E4C9C440C9D6C9D 3069+      DC    C'TUID IOIN ISB  INST SECT ID  DATA CSCC '
003472  0028             3070+       DC    A(0040)             LINE LENGTH = 40 CHAR
003474  4040404040404040 3071+LINE1  DC    C'                  '
00349C  0028             3072+       DC    A(0040)             LINE LENGTH = 40 CHAR
00349E  C3D5E3D340C4C3C2F 3073+      DC    C'CNTL DCB1 DCB2 DCB3 DCB4 CHAD BYCT ADRS '
0034C6  0028             3074+       DC    A(0040)             LINE LENGTH = 40 CHAR
0034C8  4040404040404040 3075+LINE2  DC    C'                  '
0034F0  0028             3076+       DC    A(0040)             LINE LENGTH = 40 CHAR
0034F2  C3E260F040C3E260F 3077+      DC    C'CS-0 CS-1 CS-2 CS-3 CS-4 CS-5 CS-6 CS-7 '
00351A  0028             3078+       DC    A(0040)             LINE LENGTH = 40 CHAR
00351C  4040404040404040 3079+LINE3  DC    C'                  '
003544  0028             3080+       DC    A(0040)             LINE LENGTH = 40 CHAR
003546  C3E260F840C3E260F 3081+      DC    C'CS-8 CS-9 CS-A CS-B CS-C '
00356E  0028             3082+       DC    A(0040)             LINE LENGTH = 40 CHAR
003570  4040404040404040 3083+LINE4  DC    C'                  '
                         3084+*
003598  0000             3085+BUFPT  DC    A(*-*)
00359A  343C             3086+DC2PT  DC    A(BEGIN)
00359C  0101             3087+FIXTU  DC    X'0101'
00359E  0101             3088+FAKETU   DC  X'0101'
00F1F0                   3089+PIDMSG10 EQU   X'F1F0'
000080                   3090+BIT0080  EQU   X'0080'
                         3091+*
                         3092+*       DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
                         3093+*
0035A0  003A             3094+HEBLK  DC    A(58)               NUMBER OF BYTES TO CONVERT
0035A2  3018             3095+       DC    A($TUID)            FROM ADRS
0035A4  181A             3096+       DC    A(TUWORK)           AND THE TO ADRS
                         3097        COPY  T7A52               28APR78
                         3098 T7A52 TUIT  1
                         3099+*****************************************************************06FEB76**
                         3100+*
                         3101+* TEST UNIT
                         3102+*
                         3103+*
                         3104+*
                         3105+* PURPOSE
                         3106+*
                         3107+*     TEST THE CONFIGURATION RECORD FOR THE BASE FILE AT THIS
                         3108+*     ADDRESS.
                         3109+*
                         3110+* CALLING SEQUENCE
                         3111+*
                         3112+*     MDI=@TUXX,T7A52,1,80,OF'
                         3113+*     .
                         3114+*     TURESUL BIT(S) 0 -.....NOT BASE FILE
                         3115+*
                         3116+* RETURN CONTROL
                         3117+*
                         3118+*       B     TURTN*              RETURN TO MDI SUPERVISOR
                         3119+*
                         3120+*****************************************************************
0035A6  6F0D 305A        3121+T7A52  MVW   R7,TURTN             SAVE RETURN ADDRESS
0035AA  4020 3018 7A52   3122+       MVWI  X'7A52',$TUID       SAVE TU ID FOR DISPLAY
0035B0  4424 3012        3123+       MVA   OPTN1,R4            SET UP POINTER ADRS IN R4
                         3124+*
0035B4  D025 18C8        3125        MVDZ  TURESUL,R0          CLEAR THE RESULTS AREA
0035B8  4224 18C8        3126        MVA   TURESUL,R2          LOAD RESULTS BASE REG.
0035BC  802B 19D0 19D3   3127        CB    DEVADD,DEVADD+3     TEST IF BASE FILE
0035C2  1001             3128        JE    T7A50X              NO CONTINUE THIS MAP
0035C4  4A40             3129        TBTS  (R2,0)              SET NOT BASE FILE BIT
                         3130 T7A50X TXIT                      * RESULTS AND EXIT
0035C6  6802 3432        3131+T7A50X B     $CONX               RETURN TO MDI CONTROLLER
                         3132+*****************************************************************
                         3134        COPY  T7A55               14AUG78
                         3135 T7A55 TUIT
                         3136+*****************************************************************06FEB76**
                         3137+*
                         3138+* TEST UNIT
                         3139+*
                         3140+*     DIRECT PROGRAM CONTROL INTERRUPTING CMDS
                         3141+*
                         3142+* PURPOSE
                         3143+*
                         3144+*     THREE PARAMETERS ARE NEEDED FOR THE EXECUTION OF THIS TU AND ARE:
                         3145+*     .
                         3146+*     1. ONE BYTE OF FUNCTION-MODIFIER,IE, X'4X' FOR DPC WRITE,
                         3147+*     2. TWO BYTES OF DATA TO BE  USED IN THE SECOND PART OF THE IDCB,
                         3148+*     .  IE, X'0005' TO BE SENT TO THE DEVICE.
                         3149+*     .
                         3150+*     THIS TEST UNIT PREPARES THE DEVICE AND EXPECTS AN INTERRUPT
                         3151+*     AND WILL SEND BACK THE CONDITION CODES OF THE I/O AND INTR.
                         3152+*
                         3153+* CALLING SEQUENCE
                         3154+*
                         3155+*     MDI=@TUXX,T7A55,2,0708,EQ,PLNG=6,PARM=FMXXXX'
                         3156+*     .
                         3157+*     TURESUL BIT(S) 0 - 15.....OIO CC, INTR CC
                         3158+*     .             16 - 23.....INTERRUPT STATUS BYTE
                         3159+*     .                24 ..... CYCLE STEAL STATUS IO/INTR ERROR
                         3160+*     .                25 ..... CAP ERROR STATUS BIT
                         3161+*     .             32 - 47.....CYCLE STEAL STATUS WORD 4
                         3162+*     .             48 - 63.....CYCLE STEAL STATUS WORD 5
                         3163+*
                         3164+* RETURN CONTROL
                         3165+*
                         3166+*       B     TURTN*              RETURN TO MDI SUPERVISOR
                         3167+*
                         3168+*****************************************************************
0035CA  6F0D 305A        3169+T7A55  MVW   R7,TURTN             SAVE RETURN ADDRESS
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976

0035CE  4020 3018 7A55  3170+        MVWI   X'7A55',$TUID        SAVE TU ID FOR DISPLAY
0035D4  4424 3012       3171+        MVA    OPTN1,R4             SET UP POINTER ADRS IN R4
0035D8  6E03 339C       3172+        BAL    $CONC,R6             CLEAR DEV DEP STG AND CONNECT I/O BL
0035DC  33D0            3173+        DC     A($ERR$)             ERROR ADRS FOR INVALID PREP
                        3174+*
0035DE  4224 18C8       3175         MVA    TURESUL,R2           LOAD ADDR TURESULS BUFF IN REG 2
0035E2  4020 301A 0708  3176         MVWI   X'0708',$IOIN        INIT THE CONDITION CODES
0035E8  6908 189A       3177         MVW    TUPARM1,R1           SET UP PARM ADRS
0035EC  8118 3658       3178         MVB    (R1)+,T7A55L         * AND SET IN FUNCTION-MODIFIER
0035F0  8028 19D0 3659  3179         MVB    DEVADD,T7A55L+1      * FOLLOWED BY THE DEVICE ADRS
0035F6  8118 365A       3180         MVB    (R1)+,T7A55L+2       * AND SET IN EVEN BYTE DATA
0035FA  8118 365B       3181         MVB    (R1)+,T7A55L+3       * AND SET IN ODD BYTE DATA
0035FE  D020 3658       3182         MVD    T7A55L,R0            GET FUNCTION, MODIFIER AND DEV ADRS
                        3183 *                                   * AND THE SECOND WORD OF THE IDCB
003602  680C 3658       3184         IO     T7A55L               ISSUE THE I/O COMMAND AND
003606  70AE            3185         CPLSR  R5                   * GET THE I/O CONDITION CODE IN R5
003608  356A            3186         SRL    13,R5                POSITION CC IN THE RESULTS FIELD
00360A  C529 301A       3187         MVB    R5,$IOIN             * AND SAVE IT IN THE RESULTS
00360E  0DFF            3188         MVBI   -1,R5                SET UP FOR DELAY
003610  6003            3189 T7A55K  SVC    IDLE5                WAIT FOR INTERRUPT
003612  4CA3            3190         TBTR   (R4,IN)              HAS IT COME YET
003614  1201            3191         JN     T7A55M               * YES, GET OUT OF DELAY
003616  BDFC            3192         JCT    T7A55K,R5            * NO, CHECK FOR TIME OUT
003618  9028 301A 18C8  3193 T7A55M  MVD    $IOIN,TURESUL        PUT ANY INTR COND CODE FOUND IN
00361E  C025 18CB       3194         MVBZ   TURESUL+3,R0         CLEAR BYTE 3 OF TURESULS BUFFER
003622  4C21            3195         TBT    (R4,ER)              EXCEPTION INTERRUPT OCCUR?
003624  1001            3196         JOFF   X7A55                NO - RETURN TO MDI
003626  9E02            3197         JAL    IO5ER,R6             GO GET CYCLE STEAL STATUS INFO
                        3198 X7A55   TXIT                       * RESULTS AND EXIT
003628  6802 3432       3199+X7A55   B      $CONX                RETURN TO MDI CONTROLLER
                        3200+*************************************************************************
                        3201 *
00362C  6E0D 3652       3202 IO5ER   MVW    R6,TA55+2            SAVE RETURN ADDRESS
003630  6E03 328C       3203         BAL    XIOCS,R6             GET CYCLE STEAL STATUS
003634  33D0            3204         DC     A($ERR$)             ABORT TEST IF ERROR
003636  4C21            3205         TBT    (R4,ER)              EXCEPTION INTR OCCUR?
003638  120D            3206         JON    CSER5                YES - SET CSS INTR ERROR BIT ON
00363A  9028 3040 18CC  3207         MVD    CSTL5,TURESUL+4      MOVE CS STATUS WDS 4 & 5 IN TU BUF
003640  8028 3051 18D0  3208         MVB    CST13+1,TURESUL+8    MOVE WRAP BYTE IN TURESULS BUFFER
003646  402B 3040 602A  3209         TWI    X'602A',CSTL5        CHECK IF CAP ERROR BIT ON
00364C  10ED            3210         JOFF   X7A55                NO - RETURN TO MDI
00364E  4A59            3211         TBTS   (R2,25)              SET CAP ERROR STATUS BIT ON
003650  6802 0000       3212 TA55    B      *-*                  RETURN
003654  4A4D            3213 CSER5   TBTS   (R2,13)              CYCLE STEAL STATUS EXCEPTION INTR
003656  50E8            3214         J      X7A55                RETURN TO MDI
                        3215 *
                        3216 *              IDCB FOR DIRECT PROGRAM CONTROL COMMAND
                        3217 *
003658  0000            3218 T7A55L  DC     X'0000'              FUNCTION-MODIFIER-DEVICE ADDRESS
00365A  0000            3219         DC     X'0000'              IMMEDIATE DATA BUFFER
                        3221         COPY   T7A08
                        3222 T7A08 TUIT
                        3223+*************************************************************************06FEB76**
                        3224+*
                        3225+* TEST UNIT
                        3226+*
                        3227+*      STORE ERROR HALT CODE, STATUS, AND SENSE BYTES
                        3228+*
                        3229+* PURPOSE
                        3230+*
                        3231+*      TO FETCH AND STORE THE DIAGNOSTIC SENSE BYTE AND DIAG SENSE
                        3232+*      BYTES 1,2,3 INTO THE TU WORK AREA ('TUWORK'). ALSO STORE ANY
                        3233+*      ERROR HALT CODE PASSED TO THIS TU.
                        3234+*
                        3235+* CALLING SEQUENCE
                        3236+*
                        3237+*      FETCH SENSE AND SENSE BYTES 1,2,3 FROM THE DISK UNIT.
                        3238+*      LOAD SENSE BYTES INTO MAIN STG AND SAVE. STORE ERROR HALT CODE
                        3239+*      IF ANY.
                        3240+*
                        3241+*      MDI=$TUXX,T7A08,,,,PLNG=1,PARM=C (C=HALT CODE)
                        3242+*
                        3243+*      TUWORK BITS 0-7.............ERROR HALT CODE
                        3244+*             -        8-15.............STATUS BYTE
                        3245+*             -       16-31.............SINGLE SHOT SENSE BYTES 1 & 2
                        3246+*             -       32-39.............SINGLE SHOT SENSE BYTE 3
                        3247+*             -       40-47.............NOT USED
                        3248+*             -       48-63.............MULTISAMPLE SENSE BYTES 1 & 2
                        3249+*             -       64-78.............MULTISAMPLE SENSE BYTE 3 &
                        3250+*             -                         WRAP BYTE
                        3251+*
                        3252+* RETURN CONTROL
                        3253+*
                        3254+*       B      TURTN*               RETURN TO MDI SUPERVISOR
                        3255+*
                        3256+*************************************************************************
003660  4020 3018 7A08  3257+T7A08   MVW    R7,TURTN             SAVE RETURN ADDRESS
003666  4424 3012       3258+        MVWI   X'7A08',$TUID        SAVE TU ID FOR DISPLAY
00366A  6E03 339C       3259+        MVA    OPTN1,R4             SET UP POINTER ADRS IN R4
00366E  33D0            3260+        BAL    $CONC,R6             CLEAR DEV DEP STG AND CONNECT I/O BL
                        3261+        DC     A($ERR$)             ERROR ADRS FOR INVALID PREP
                        3262+*
003670  8038 189A 181A  3263         MVB    TUPARM1*,TUWORK      SAVE ERROR HALT CODE
003676  6E03 328C       3264         BAL    XIOCS,R6             GET CYCLE STEAL STATUS
00367A  33D0            3265         DC     A($ERR$)             ABORT ON ERROR
00367C  8028 3043 181B  3266         MVB    CSTL6+1,TUWORK+1     SAVE THE SENSE IN TUWORK
003682  9028 3040 181C  3267         MVD    CSTL5,TUWORK+2       SAVE THE STATUS WORDS
003688  4020 338E 0055  3268         MVWI   X'0055',IOMOD        LOAD SINGLESAMPLE PULSE IDCB CMD WD
00368E  6E03 3214       3269         BAL    $WRT0,R6             EXECUTE SINGLESAMPLE PUSLE TEST
003692  33D0            3270         DC     A($ERR$)             ABORT TEST IF ERROR
003694  4CA1            3271         TBTR   (R4,ER)              WAS THERE AN EXCEPTION INTERRUPT?
003696  6E03 328C       3272         BAL    XIOCS,R6             GET CYCLE STEAL STATUS
00369A  33D0            3273         DC     A($ERR$)             ABORT ON ERROR
00369C  9028 304E 1820  3274         MVD    CST12,TUWORK+6       SAVE THE DIAG. SENSE BYTES
0036A2  4020 338E 0056  3275         MVWI   X'0056',IOMOD        LOAD MULTISAMPLE PULSE IDCB CMD WD
0036A8  6E03 3214       3276         BAL    $WRT0,R6             EXECUTE MULTISAMPLE PUSLE TEST
0036AC  33D0            3277         DC     A($ERR$)             ABORT TEST IF ERROR
0036AE  4CA1            3278         TBTR   (R4,ER)              WAS THERE AN EXCEPTION INTERRUPT?
0036B0  4020 338E 0057  3279         MVWI   X'0057',IOMOD        LOAD WRAP BYTE IDCB CMD WD
0036B6  6E03 3214       3280         BAL    $WRT0,R6             FETCH WRAP BYTE
0036BA  33D0            3281         DC     A($ERR$)             ABORT TEST IF ERROR
0036BC  4CA1            3282         TBTR   (R4,ER)              WAS THERE AN EXCEPTION INTERRUPT?
0036BE  6E03 328C       3283 T7A88   BAL    XIOCS,R6             GET CYCLE STEAL STATUS
0036C2  33D0            3284         DC     A($ERR$)             ABORT ON ERROR
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976

0036C4  9028 304E 1824  3285         MVD    CST12,TUWORK+10      SAVE THE DIAG. SENSE BYTES
0036CA  8828 181A 18C8  3286         MVW    TUWORK,TURESUL       MOVE INTO TU RESULTS AREA
0036D0  9028 1810 18CA  3287 *       MVD    TUWORK+2,TURESUL+2   *
0036D6  9028 1820 18CE  3288 *       MVD    TUWORK+6,TURESUL+6   *
0036DC  9028 1824 18D2  3289         MVD    TUWORK+10,TURESUL+10  *
0036E2  402B 181C 0001  3290         TWI    X'0001',TUWORK+2     CHECK INTERFACE ERROR?
0036E8  1202            3291         JON    T7A89                YES EXIT
0036EA  C025 18D5       3292         MVBZ   TURESUL+13,R0        CLEAR WRAP BYTE IF NO ERROR
                        3293 T7A89   TXIT
0036EE  6802 3432       3294+T7A89   B      $CONX                RETURN TO MDI CONTROLLER
                        3295+*************************************************************************
                        3297         COPY   T7A13                15MAR78
                        3298 T7A13  TUIT
                        3299+*************************************************************************06FEB76**
                        3300+*
                        3301+* TEST UNIT
                        3302+*
                        3303+*      INTERFACE AND I/O BUFFER TEST
                        3304+*
                        3305+* PURPOSE
                        3306+*
                        3307+*      WRITE TO CAP DIAGNOSTIC WORD 1 AND CHECK FOR NO ERRORS.
                        3308+*      READ DIAGNOSTIC WORD 1, CHECK FOR NO ERRORS AND VERIFY
                        3309+*      PATTERN IS AS WRITTEN. PATTERNS USED ARE FF, AA, 55, AND 10.
                        3310+*
                        3311+* CALLING SEQUENCE
                        3312+*
                        3313+*      MDI=$TUXX,'T7A13,02,00,EQ
                        3314+*      .
                        3315+*      TURESULS BIT(S) 0 - 7 ..... DATA PATTERN IN USE IF ERROR
                        3316+*      .                 8 ..... DISK UNIT PARITY CHECK
                        3317+*      .                 9 ..... ERROR ON WRITE DIAG WORD 1
                        3318+*      .                10 ..... ERROR ON READ DIAG WORD 1
                        3319+*      .                11 ..... DATA COMPARE ERROR
                        3320+*      .                12 ..... CS STATUS ERROR (BIT 12-WORD 4)
                        3321+*      .                13 ..... CS STATUS IO INTERRUPT ERROR
                        3322+*      .            14 - 15 ..... NOT USED
                        3323+*      .            16 - 47 ..... CYCLE STEAL STATUS WORDS 4 & 5
                        3324+*      .            48 - 55 ..... BYTE 2 OF CSS WORD 12 (WRAP BYTE)
                        3325+*
                        3326+* RETURN CONTROL
                        3327+*
                        3328+*       B      TURTN*               RETURN TO MDI SUPERVISOR
                        3329+*
                        3330+*************************************************************************
0036F2  6F0D 305A       3331+T7A13   MVW    R7,TURTN             SAVE RETURN ADDRESS
0036F6  4020 3018 7A13  3332+        MVWI   X'7A13',$TUID        SAVE TU ID FOR DISPLAY
0036FC  4424 3012       3333+        MVA    OPTN1,R4             SET UP POINTER ADRS IN R4
003700  6E03 339C       3334+        BAL    $CONC,R6             CLEAR DEV DEP STG AND CONNECT I/O BL
003704  33D0            3335+        DC     A($ERR$)             ERROR ADRS FOR INVALID PREP
                        3336+*
003706  D025 18C8       3337         MVDZ   TURESUL,R0           CLEAR TU RESULTS BUFFER
00370A  D025 18CC       3338         MVDZ   TURESUL+4,R0         CLEAR TU RESULTS BUFFER
00370E  4224 18C8       3339         MVA    TURESUL,R2           SETUP ADDR OF TURESUL IN REG 2
003712  4020 3A82 0006  3340         MVWI   6,LPCNT              SET UP LOOP COUNT
003718  6908 3A82       3341 DPAT0   MVW    LPCNT,R1             *
00371C  6B28 3156       3342         MVW    (R1,PDATA),R3        GET PATTERN TO BE WRITTEN
003720  C328 18C8       3343         MVB    R3,TURESUL           MOVE PATTERN TO TURESULS
003724  6B0D 338C       3344         MVW    R3,IODCB             MOVE PATTERN TO 2ND WD OF IDCB
003728  4020 338E 0048  3345         MVWI   X'0048',IOMOD        SETUP WRITE DIAG WD 1 IDCB MOD
00372E  6E03 3214       3346         BAL    $WRT0,R6             WRTIE DIAG WORD 1
003732  33D0            3347         DC     A($ERR$)             ABORT TEST IF OIO ERROR
003734  4C21            3348         TBT    (R4,ER)              EXCEPTION INTERRUPT OCCUR?
003736  1002            3349         JOFF   *+6                  BYPASS CHECKING STATUS
003738  9E26            3350         JAL    WD1ER,R6             YES - CHECK THE ERROR
00373A  4A49            3351         TBTS   (R2,9)               ERROR ON WRITE
00373C  4020 30EA 2088  3352         MVWI   X'2088',RDDCB        LOAD READ DIAG WORD 1 CNTL WD
003742  4020 30F6 0002  3353         MVWI   2,RDDCB+12           SETUP BYTE CNT TO READ WD 1
003748  4020 30F8 38BA  3354         MVA    RDBUF,RDDCB+14       SETUP ADDR OF READ BUFFER
00374E  6E03 3264       3355         BAL    $DGRD,R6             READ DIAG WORD 1
003752  33D0            3356         DC     A($ERR$)             ABORT TEST IF OIO ERROR
003754  4C21            3357         TBT    (R4,ER)              EXCEPTION INTERRUPT OCCUR?
003756  1002            3358         JOFF   *+6                  BYPASS CHECKING STATUS
003758  9E16            3359         JAL    WD1ER,R6             YES - CHECK THE ERROR
00375A  4A4A            3360         TBTS   (R2,10)              ERROR ON READ
00375C  6908 3A82       3361         MVW    LPCNT,R1             VERIFY THAT DATA PATTERN READ
003760  6B28 3156       3362         MVW    (R1,PDATA),R3        IS AS WRITTEN
003764  6B0F 38BA       3363         SW     RDBUF,R3             *
003768  1808            3364         JNZ    PAT1                 SET BIT ON IN TURESUL IF DATA ERR
00376A  A829 3A84 3A82  3365         SW     TWO2,LPCNT           DECREASE LPCNT TO GET NEXT PATTERN
003770  1AD3            3366         JNN    DPAT0                NO - CONTINUE TEST
003772  C025 18C8       3367         MVBZ   TURESUL,R0           CLEAR PATTN IN TURESULS IF NO ERRS
                        3368 X7A13   TXIT                       RETURN TO MDI
003776  6802 3432       3369+X7A13   B      $CONX                RETURN TO MDI CONTROLLER
                        3370+*************************************************************************
                        3371 *
00377A  C328 18C8       3372 PAT1    MVB    R3,TURESUL           SET RESULTS BIT THAT FAILED
00377E  4A4B            3373         TBTS   (R2,11)              SET RESULTS BIT ON FOR DATA ERROR
003780  9E02            3374         JAL    WD1ER,R6             GET THE STATUS
003782  50F9            3375         J      X7A13                RETURN TO MDI
003784  50F8            3376         J      X7A13                RETURN TO MDI
003786  6E0D 37AA       3377 WD1ER   MVW    R6,TA13+2            SAVE PETURN ADDPESS
00378A  6E03 328C       3378         BAL    XIOCS,R6             GET CYCLE STEAL STATUS
00378E  33D0            3379         DC     A($ERR$)             ABORT TEST IF ERROR
003790  4C21            3380         TBT    (R4,ER)              EXCEPTION INTR OCCUR?
003792  1210            3381         JON    CSER0                YES - SET CSS INTR ERROR BIT ON
003794  9028 3040 18CA  3382         MVD    CSTL5,TURESUL+2      MOVE CS STATUS WDS 4 & 5 IN TU BUF
00379A  8028 3051 18CE  3383         MVB    CST13+1,TURESUL+6    MOVE WRAP BYTE IN TURESULS BUFFER
0037A0  402B 3040 602A  3384         TWI    X'602A',CSTL5        CHECK IF CAP ERROR BIT ON
0037A6  1003            3385         JOFF   TA13A                NO - RETURN
0037A8  6802 0000       3386 TA13    B      *-*                  RETURN
0037AC  4029 37AA 0002  3387 TA13A   AWI    2,TA13+2             BYPASS SETTING ERROR
0037B2  50FA            3388         J      TA13
0037B4  4A4D            3389 CSER0   TBTS   (R2,13)              CYCLE STEAL STATUS EXCEPTION INTR
0037B6  50DF            3390         J      X7A13                RETURN TO MDI
                        3391 *
0037B8  0000            3392 TRKNO   DC     A(*-*)
0037BA                  3393 WRBUF   DS     128F
0038BA                  3394 RDBUF   DS     128F
                        3396         COPY   T7A14                15MAR78
                        3397 T7A14  TUIT
                        3398+*************************************************************************06FEB76**
                        3399+*
                        3400+* TEST UNIT
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                           3401+*
                           3402+*      FCB TEST
                           3403+*
                           3404+* PURPOSE
                           3405+*
                           3406+*      VERIFY THAT ALL FCB WORDS CAN BE WRITTEN WITHOUT ERRORS.
                           3407+*      WRITE TWO FCB WORDS WITH THE FOLLOWING PATTERN X'FFFF'.
                           3408+*      CHECK FOR NO CAP ERRORS THEN CHECK THE WORDS WRITTEN
                           3409+*      TO DETERMINE IF WORDS WERE WRITTEN CORRECTLY.
                           3410+*
                           3411+* CALLING SEQUENCE
                           3412+*
                           3413+*      MDI=$TUXX,'T7A14,02,0000,EQ'
                           3414+*      .
                           3415+*      TURESULS BIT(S) 0 - 7 ..... DATA PATTERN IN USE IF ERROR
                           3416+*      .                 8 ..... DISK UNIT PARITY CHECK
                           3417+*      .                 9 ..... ERROR ON WRITE TO FCB
                           3418+*      .                10 ..... ERROR ON READ TO FCB
                           3419+*      .                11 ..... DATA COMPARE ERROR
                           3420+*      .                12 ..... CS STATUS ERROR (BIT 12 - WORD 4)
                           3421+*      .                13 ..... CS STATIS IO INTERRUPT ERROR
                           3422+*      .            14 - 15 ..... NOT USED
                           3423+*      .            16 - 47 ..... CYCLE STEAL STATUS WORDS 4 & 5
                           3424+*      .            48 - 55 ..... BYTE 2 OF CSS WORD 12 (WRAP BYTE)
                           3425+*      .            64 - 79 ..... ERROR DATA WORD
                           3426+*
                           3427+* RETURN CONTROL
                           3428+*
                           3429+*      B     TURTN*              RETURN TO MDI SUPERVISOR
                           3430+*
                           3431+*****************************************************************************
0039BA  6F0D 305A          3432+T7A14  MVW   R7,TURTN            SAVE RETURN ADDRESS
0039BE  4020 3018 7A14     3433+       MVWI  X'7A14',$TUID       SAVE TU ID FOR DISPLAY
0039C4  4424 3012          3434+       MVA   OPTN1,R4            SET UP POINTER ADRS IN R4
0039C8  6E03 339C          3435+       BAL   $CONC,R6            CLEAR DEV DEP STG AND CONNECT I/O BL
0039CC  33D0               3436+       DC    A($ERR$)            ERROR ADRS FOR INVALID PREP
                           3437+*
0039CE  D025 18C8          3438        MVDZ  TURESUL,R0          CLEAR TU RESULTS BUFFER
0039D2  D025 18CC          3439        MVDZ  TURESUL+4,R0        CLEAR TU RESULTS BUFFER
0039D6  4224 18C8          3440        MVA   TURESUL,R2          SETUP ADDR OF TURESUL IN REG 2
0039DA  4020 30D8 37BA     3441        MVA   WRBUF,WRDCB+14      GET DATA PATTERN ADDRESS
0039E0  4020 30D6 0020     3442        MVWI  32,WRDCB+12         SETUP BYTE CNT TO WRITE FCB
0039E6  4020 30CA 0020     3443        MVWI  X'0020',WRDCB       LOAD WRITE FCB DCB CNTL WORD
0039EC  4324 1212          3444 DPAT   MVWI  X'1212',R3          SET PATTERN TO BE WRITTEN
0039F0  C328 18C8          3445        MVB   R3,TURESUL          MOVE PATTERN TO TURESULS
0039F4  0F20               3446        MVBI  32,R7               SETUP NUMBER OF BYTES TO INITIALIZE
0039F6  4524 37BA          3447        MVA   WRBUF,R5            GET ADDRESS OF WRITE BUFFER
0039FA  2BAC               3448        FFN   R3,(R5)             INITIALIZE WRITE BUFFER WITH PATTERN
0039FC  4020 37CE FFFF     3449        MVWI  X'FFFF',WRBUF+20    LOAD WRITE BUFFER WORD PATTERN
003A02  4020 37D0 FFFF     3450        MVWI  X'FFFF',WRBUF+22    LOAD WRITE BUFFER WORD PATTERN
003A08  6E03 325A          3451        BAL   $DGWR,R6            WRITE ALL WORDS OF FCB
003A0C  33D0               3452        DC    A($ERR$)            ABORT TEST IF OIO ERROR
003A0E  4C21               3453        TBT   (R4,ER)             EXCEPTION INTERRUPT OCCUR?
003A10  1002               3454        JOFF  *+6                 BYPASS CHECKING STATUS
003A12  9E1E               3455        JAL   CAPER,R6            YES - CHECH THE ERROR
003A14  4A49               3456        TBTS  (R2,9)              ERROR ON WRITE TO FCB
003A16  6E03 328C          3457        BAL   XIOCS,R6            GET CYCLE STEAL STATUS
003A1A  33D0               3458        DC    A($ERR$)            ABORT TEST IF ERROR
003A1C  4C21               3459        TBT   (R4,ER)             EXCEPTION INTR OCCUR?
003A1E  122F               3460        JON   CSSER               YES - SET CSS INTR ERROR BIT ON
003A20  712A               3461        SW    R1,R1               CLEAR REG 1
003A22  4524 37D0          3462        MVA   WRBUF+22,R5         SET THE READ ADDRESS
003A26  0F02               3463        MVBI  2,R7                VERIFY THAT 2 WORDS OF THE
003A28  4324 3048          3464        MVA   CSTL9,R3            * FCB OF THE SELECTED FILE
003A2C  8DD7               3465 L7A14  CW    (R5)+,(R3)+         * WERE WRITTEN WITH THE FF'S
003A2E  1806               3466        JNE   FCBER               SET BIT ON IN TURESUL IF DATA ERR
003A30  07FF               3467        ABI   -1,R7               *
003A32  18FC               3468        JNZ   L7A14               *
003A34  C025 18C8          3469        MVBZ  TURESUL,R0          CLEAR PATTN IN TURESULS IF NO ERRS
                           3470 X7A14  TXIT                      RETURN TO MDI
003A38  6802 3432          3471+X7A14  B     $CONX               RETURN TO MDI CONTROLLER
                           3472+*****************************************************************************
                           3473 *
003A3C  4A4B               3474 FCBER  TBTS  (R2,11)             SET RESULTS BIT ON FOR DATA ERROR
003A3E  ADB9 FFFE FFFE     3475        SW    (R5,-2),(R3,-2)     *
003A44  8B28 FFFE 18D0     3476        MVW   (R3,-2),TURESUL+8   *
003A4A  9E02               3477        JAL   CAPER,R6            GET THE STATUS
003A4C  50F5               3478        J     X7A14               RETURN TO MDI
003A4E  50F4               3479        J     X7A14               RETURN TO MDI
003A50  6E0D 3A74          3480 CAPER  MVW   R6,TA14+2           SAVE THE RTURN
003A54  6E03 328C          3481        BAL   XIOCS,R6            GET CYCLE STEAL STATUS
003A58  33D0               3482        DC    A($ERR$)            ABORT TEST IF ERROR
003A5A  4C21               3483        TBT   (R4,ER)             EXCEPTION INTR OCCUR?
003A5C  1210               3484        JON   CSSER               YES - SET CSS INTR ERROR BIT ON
003A5E  9028 3040 18CA     3485        MVD   CSTL5,TURESUL+2     MOVE CS STATUS WDS 4 & 5 IN TU BUF
003A64  8028 3051 18CE     3486        MVB   CSTL3+1,TURESUL+6   MOVE WRAP BYTE IN TURESULS BUFFER
003A6A  402B 3040 602A     3487        TWI   X'602A',CSTL5       CHECK CAP ERROR BITS
003A70  1002               3488        JOFF  TA14A               NO - RETURN
003A72  6802 0000          3489 TA14   B     *-*                 RETURN
003A76  4029 3A74 0002     3490 TA14A  AWI   2,TA14+2            SET ERROR
003A7C  50FA               3491        J     TA14                RETURN
003A7E  4A4D               3492 CSSER  TBTS  (R2,13)             CYCLE STEAL STATUS EXCEPTION INTR
003A80  50DB               3493        J     X7A14               RETURN TO MDI
                           3494 *
003A82  0006               3495 LPCNT  DC    X'0006'             PATTERN LPCNT
003A84  0002               3496 TWO2   DC    X'0002'             DECIMAL NUMBER 2
                           3498        COPY  T7A18               26APR78
                           3499 T7A18 TUIT                                                    06FEB76**
                           3500+*****************************************************************************
                           3501+*
                           3502+** TEST UNIT
                           3503+*
                           3504+**     SINGLE INSTRUCTION MODE CHECK
                           3505+*
                           3506+** PURPOSE
                           3507+*
                           3508+**     TO VERIFY THAT THE CAP ACCUMULATOR AND FILE CONTROL BLOCK
                           3509+**     CAN BE WRITTEN/READ.
                           3510+*
                           3511+** CALLING SEQUENCE
                           3512+*
                           3513+**     EXECUTE COMMANDS IN SINGLE INSTRUCTION MODE.
                           3514+**     READ FCB 0 WORD 4.
                           3515+**     PASS DATA WORD READ FROM FCB 0 WORD 4 TO TO TURESULS.
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                           3516+*      .
                           3517+*      MDI=$TUXX,'T7A18,02,XXXX,EQ,PLNG=XX,PARM=XXXX/XXXX...'
                           3518+*      .
                           3519+*      TURESUL BIT(S) 0 - 15 ..... FCB 0 WORD 4 DATA WORD
                           3520+*
                           3521+* RETURN CONTROL
                           3522+*
                           3523+*      B     TURTN*              RETURN TO MDI SUPERVISOR
                           3524+*
                           3525+*****************************************************************************
003A86  6F0D 305A          3526+T7A18  MVW   R7,TURTN            SAVE RETURN ADDRESS
003A8A  4020 3018 7A18     3527+       MVWI  X'7A18',$TUID       SAVE TU ID FOR DISPLAY
003A90  4424 3012          3528+       MVA   OPTN1,R4            SET UP POINTER ADRS IN R4
003A94  6E03 339C          3529+       BAL   $CONC,R6            CLEAR DEV DEP STG AND CONNECT I/O BL
003A98  33D0               3530+       DC    A($ERR$)            ERROR ADRS FOR INVALID PREP
                           3531+*
003A9A  C825 18C8          3532        MVWZ  TURESUL,R0          CLEAR RESULTS AREA
                           3533 *
003A9E  4020 338E 0049     3534        MVWI  X'0049',IOMOD       LOAD DIAG WD 2 IDCB MODIFIER
003AA4  4020 338C 0008     3535        MVWI  X'0008',IODCB       SET CAP TO DIAG INSTR & CNTRL MODE
003AAA  6E03 3214          3536        BAL   $WRT0,R6            WRITE CAP DIAGNOSTIC WORD 2
003AAE  33D0               3537        DC    A($ERR$)            ABORT TEST IF I/O ERROR
003AB0  4C21               3538        TBT   (R4,EF)             TEST FOR ERROR
003AB2  1001               3539        JOFF  *+4                 BYPASS ERROR CHECK
003AB4  9E3F               3540        JAL   T18ER,R6            EXIT ON ERROR
                           3541 *
003AB6  6818 189A          3542        MVW   TUPARM1*,R0         GET NO. OF COMMANDS IN TABLE
003ABA  6A08 189C          3543        MVW   TUPARM2,R2          GET ADDR OF COMMAND TABLE
003ABE  3009               3544        SLL   1,R0                COMPUTE ADDRESS OF LAST ENTRY
003AC0  7208               3545        AW    R2,R0               * OF COMMANDS IN TABLE
003AC2  680D 3B96          3546        MVW   R0,LCMMD            SAVE IT
003AC6  C890               3547 INSTR  MVW   (R2)+,R0            GET COMMAND TO XEQ IN SINGLE MODE
003AC8  700D               3548        VR    R0                  INVERT COMMAND
003ACA  6808 338C          3549        MVW   R0,IODCB            LOAD COMMAND IN 2ND WORD OF IDCB
003ACE  4020 338E 0048     3550        MVWI  X'0048',IOMOD       LOAD WRITE DIAG WD 1 IDCB MODIFIER
003AD4  6E03 3214          3551        BAL   $WRT0,R6            WRITE DIAG WORD 1
003AD8  33D0               3552        DC    A($ERR$)            ABORT TEST IF I/O ERROR
003ADA  4C21               3553        TBT   (R4,ER)             TEST FOR ERROR
003ADC  1001               3554        JOFF  *+4                 BYPASS ERROR CHECK
003ADE  9E2A               3555        JAL   T18ER,R6            EXIT ON ERROR
003AE0  9E41               3556        JAL   WRTSN,R6            WAIT FOR CONTPOLLER CYCLE COMPLETE
003AE2  CA2A 3B96          3557        CW    LCMMD,R2            HAVE ALL COMMANDS BEEN EXECUTED?
003AE6  18EF               3558        JNE   INSTR               NO - GO EXECUTE NEXT COMMAND
                           3559 *
003AE8  4020 338C FF82     3560        MVWI  X'FF82',IODCB       LOAD 2ND WORD CF IDCB
003AEE  4020 338E 0048     3561        MVWI  X'0048',IOMOD       LOAD WRITE DIAG WD 1 IDCB MODIFIFR
003AF4  6E03 3214          3562        BAL   $WRT0,R6            WRITE DIAGNOSTIC WORD 1
003AF8  33D0               3563        DC    A($ERR$)            ABORT TEST IF I/O ERROR
003AFA  4C21               3564        TBT   (R4,ER)             TEST FOR ERROR
003AFC  1001               3565        JOFF  *+4                 BYPASS ERROR CHECK
003AFE  9E1A               3566        JAL   T18ER,R6            EXIT ON ERROR
003E00  9E31               3567        JAL   WRTSN,R6            WAIT FOR CONTROLLER CYCLE COMPLETE
                           3568 *
003B02  4020 338E 0049     3569        MVWI  X'0049',IOMOD       LOAD DIAG WD 2 IDCB MODIFIER
003B08  4020 338C 0000     3570        MVWI  X'0000',IODCB       SET CAP TO ACTIVE MODE
003B0E  6E03 3214          3571        BAL   $WRT0,R6            WRITE CAP DIAGNOSTIC WORD 2
003B12  33D0               3572        DC    A($ERR$)            ABORT TEST IF I/O ERROR
003B14  4C21               3573        TBT   (R4,ER)             TEST FOR ERROR
003B16  1001               3574        JOFF  *+4                 BYPASS ERROR CHECK
003B18  9E0D               3575        JAL   T18ER,R6            EXIT
003B1A  4024 00FF          3576        MVWI  X'00FF',R0          DELAY LOOP
003B1E  6003               3577 T18LP  SVC   IDLE5               *
003B20  B8FE               3578        JCT   T18LP,R0            *
                           3579 *
003B22  6E03 328C          3580        BAL   XIOCS,R6            GET CYCLE STEAL STATUS
003B26  33D0               3581        DC    A($ERR$)            ABORT TEST IF ERROR
003B28  4C21               3582        TBT   (R4,ER)             EXCEPTION INTR OCCUR?
003B2A  1217               3583        JON   TA18A               YES - SET CSS INTR ERROR BIT ON
003B2C  8828 3046 18C8     3584        MVW   CSTL8,TURESUL       SAVE FCB 0 WD 7 IN 'TURESULS'
003B32  5016               3585        J     T18EX               *
                           3586 *
003B34  6E0D 3B58          3587 T18ER  MVW   R6,TA18+2           SAVE RETURN ADDRESS
003B38  6E03 328C          3588        BAL   XIOCS,R6            GET CYCLE STEAL STATUS
003B3C  33D0               3589        DC    A($ERR$)            ABORT TEST IF ERROR
003B3E  4C21               3590        TBT   (R4,ER)             EXCEPTION INTR OCCUR?
003B40  120C               3591        JON   TA18A               YES - SET CSS INTR ERROR BIT ON
003B42  9028 3040 18CA     3592        MVD   CSTL5,TURESUL+2     MOVE CS STATUS WDS 4 & 5 IN TU BUF
003B48  8028 3051 18CE     3593        MVB   CSTL3+1,TURESUL+6   MOVE WRAP BYTE IN TURESULS BUFFER
003B4E  402B 3040 402A     3594        TWI   X'402A',CSTL5       CHECK IF CAP ERROR BIT ON
003B54  1202               3595        JON   TA18A               YES SET ERROR
003B56  6802 0000          3596 TA18   B     *-*                 RETURN
003B5A  4020 18C8 FFFF     3597 TA18A  MVWI  X'FFFF',TURESUL     SET RESULTS TO FF
                           3598 T18EX  TXIT
003B60  6802 3432          3599+T18EX  B     $CONX               RETURN TO MDI CONTROLLER
                           3600+*****************************************************************************
                           3601 *
003B64  6E0D 3B94          3602 WRTSN  MVW   R6,RETRN+2          SAVE RETURN ADDRESS
003B68  4020 338C 000E     3603        MVWI  X'000E',IODCB       LOAD 2ND WORD OF IDCB
003B6E  4020 338E 0049     3604        MVWI  X'0049',IOMOD       LOAD WRITE DIAG WD 2 IDCB MODIFIER
003B74  6E03 3214          3605        BAL   $WRT0,R6            WRITE DIAGNOSTIC WORD 2
003B78  33D0               3606        DC    A($ERR$)            ABORT TEST IF I/O ERROR
003B7A  4C21               3607        TBT   (R4,ER)             TEST FOR ERROR
003B7C  1001               3608        JOFF  *+4                 BYPASS ERROR CHECK
003B7E  9EDA               3609        JAL   T18ER,R6            EXIT OK
003B80  4020 30EA 2089     3610        MVWI  X'2089',RDDCB       LOAD READ DIAG WD 2 DCB CNTL WD
003B86  4020 30F6 0002     3611        MVWI  2,RDDCB+12          LOAD BYTE COUNT
003B8C  4020 30F8 38BA     3612        MVA   RDBUF,RDDCB+14      LOAD ADDRESS OF DATA BUFFER
                           3613 *CCC   BAL   $DGRD,R6            READ DIAGNOSTIC WORD 2
                           3614 *      DC    A($ERR$)            ABORT TEST IF I/O ERROR
                           3615 *      TBT   (R4,ER)             TEST FOR ERROR
                           3616 *      JOFF  *+4                 BYPASS ERROR CHECK
                           3617 *      JAL   T18ER,R6            EXIT OK
                           3618 *      TWI   X'0010',RDBUF       CHECK FOR 'CONTRLLR CYCLE COMPLETE'
                           3619 *      JOFF  WCCC                WAIT TILL 'CONTRLLR CYCL
003B92  6802 0000          3620 RETRN  B     *-*                 RETURN TO CALLER
                           3621 *
003B96  0000               3622 LCMMD  DC    A(*-*)              ADDR OF LAST CMD IN TABLE
                           3623        COPY  T7A30               06JUN78
                           3624 T7A30 TUIT                                                    06FEB76**
                           3625+*****************************************************************************
                           3626+*
                           3627+** TEST UNIT
                           3628+*
                           3629+**     SINGLE INSTRUCTION MODE CHECK
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                         3630+*
                         3631+* PURPOSE
                         3632+*
                         3633+*     TO VERIFY THAT THE CAP ACCUMULATOR AND FILE CONTROL BLOCK
                         3634+*     CAN BE WRITTEN/READ.
                         3635+*
                         3636+* CALLING SEQUENCE
                         3637+*
                         3638+*     EXECUTE COMMANDS IN SINGLE INSTRUCTION MODE.
                         3639+*     READ FCB 0 WORD 4.
                         3640+*     PASS DATA WORD READ FROM FCB 0 WORD 4 TO TO TURESULS.
                         3641+*     .
                         3642+*     MDI=$TUXX,'T7A30,02,0000,OF,PLNG=XX,PARM=CCCC/DDDD....'
                         3643+*     -       C= COUNT OF DATA WORDS PASSED, D= DATA WORDS.
                         3644+*     .
                         3645+*     TURESUL BIT(S) 0 - 7 ..... FCB 0 WORD 4 DATA WORD
                         3646+*
                         3647+* RETURN CONTROL
                         3648+*
                         3649+*       B     TURTN*                 RETURN TO MDI SUPERVISOR
                         3650+*
003B98  6F0D 305A        3651+*************************************************************************
003B9C  4020 3018 7A30   3652+T7A30  MVW   R7,TURTN               SAVE RETURN ADDRESS
003BA2  4424 3012        3653+       MVWI  X'7A30',$TUID          SAVE TU ID FOR DISPLAY
003BA6  6E03 339C        3654+       MVA   OPTN1,R4               SET UP POINTER ADRS IN R4
003BAA  33D0             3655+       BAL   $CONC,R6               CLEAR DEV DEP STG AND CONNECT I/O BL
                         3656+       DC    A($ERR$)               ERROR ADRS FOR INVALID PREP
                         3657+*
003BAC  C825 18C8        3658        MVWZ  TURESUL,R0             CLEAR RESULTS AREA
                         3659 *
003BB0  4020 338E 004F   3660        MVWI  X'004F',IOMOD          SET CAP RESET
003BB6  6E03 3214        3661        BAL   $WRT0,R6               WRITE CAP DIAGNOSTIC WORD 2
003BBA  33D0             3662        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003BBC  4C21             3663        TBT   (R4,ER)                TEST ERROR
003BPE  1233             3664        JON   T30ER                  EXIT IF ON
                         3665 *
003BC0  4020 338E 0049   3666        MVWI  X'0049',IOMOD          LOAD DIAG WD 2 IDCB MODIFIER
003BC6  4020 338C 0008   3667        MVWI  X'0008',IODCB          SET CAP TO DIAG INSTR & CNTRL MODE
003BCC  6E03 3214        3668        BAL   $WRT0,R6               WRITE CAP DIAGNOSTIC WORD 2
003BD0  33D0             3669        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003BD2  4C21             3670        TBT   (R4,ER)                TEST ERROR
003BD4  1228             3671        JON   T30ER                  EXIT IF ON
                         3672 *
003BD6  6818 189A        3673        MVW   TUPARM1*,R0            GET NO. OF COMMANDS IN TABLE
003BDA  6A08 189C        3674        MVW   TUPARM2,R2             GET ADDR OF COMMAND TABLE
003BDE  3009             3675        SLL   1,R0                   COMPUTE ADDRESS OF LAST ENTRY
003BE0  7208             3676        AW    R2,R0                  * OF COMMANDS IN TABLE
003BE2  680D 3C5E        3677        MVW   R0,LCMM0               SAVE IT
003BE6  C890             3678 INST0  MVW   (R2)+,R0               GET COMMAND TO XEQ IN SINGLE MODE
003BE8  700D             3679        VR    R0                     INVERT COMMAND
003BEA  680D 338C        3680        MVW   R0,IODCB               LOAD COMMAND IN 2ND WORD OF IDCB
003BEE  4020 338E 0048   3681        MVWI  X'0048',IOMOD          LOAD WRITE DIAG WD 1 IDCB MODIFIER
003BF4  6E03 3214        3682        BAL   $WRT0,R6               WRITE DIAG WORD 1
003BF8  33D0             3683        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003BFA  4C21             3684        TBT   (R4,ER)                TEST ERROR
003BFC  1214             3685        JON   T30ER                  EXIT IF ON
003BE8  9E17             3686        JAL   WRTM0,R6               WAIT FOR CONTROLLER CYCLE COMPLETE
003C00  CA24 3C5E        3687        CW    LCMM0,R2               HAVE ALL COMMANDS BEEN EXECUTED?
003C04  18F0             3688        JNE   INST0                  NO - GO EXECUTE NEXT CCMMAND
                         3689 *
003C06  4020 338C FFFF   3690        MVWI  X'FFFF',IODCB          LOAD 2ND WORD OF IDCB
003C0C  4020 338E 0048   3691        MVWI  X'0048',IOMOD          LOAD WRITE DIAG WD 1 IDCB MODIFIER
003C12  6E03 3214        3692        BAL   $WRT0,R6               WRITE DIAGNOSTIC WORD 1
003C16  33D0             3693        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003C18  4C21             3694        TBT   (R4,ER)                TEST ERROR
003C1A  1205             3695        JON   T30ER                  EXIT IF ON
003C1C  9E08             3696        JAL   WRTS0,R6               WAIT FOR CONTROLLER CYCLE COMPLETE
                         3697 *
003C1E  4020 18C8 0000   3698 T7A0E  MVWI  X'0000',TURESUL        SET GOOD 'TURESULS'
003C24  5002             3699        J     T30EX
003C26  6802 33D0        3700 T30ER  B     $ERR$                  ABORT IF ERROP
                         3701 T30EX  TXIT
003C2A  6802 3432        3702+T30EX  B     $CONX                  RETURN TO MDI CONTROLLER
                         3703+*************************************************************************
                         3704 *
003C2E  6E0D 3C5C        3705 WRTS0  MVW   R6,RETR0+2             SAVE RETURN ADDRESS
003C32  4020 338C 000E   3706        MVWI  X'000E',IODCB          LOAD 2ND WORD OF IDCB
003C38  4020 338E 0049   3707        MVWI  X'0049',IOMOD          LOAD WRITE DIAG WD 2 IDCB MODIFIER
003C3E  6E03 3214        3708        BAL   $WRT0,R6               WRITE DIAGNOSTIC WORD 2
003C42  33D0             3709        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003C44  4C21             3710        TBT   (R4,ER)                TEST ERROR
003C46  12EF             3711        JON   T30ER                  EXIT IF ON
003C48  4020 30EA 2089   3712        MVWI  X'2089',RDDCB          LOAD READ DIAG WD 2 DCB CNTL WD
003C4E  4020 30F6 0002   3713        MVWI  2,RDDCB+12             LOAD BYTE COUNT
003C54  4020 30F8 38BA   3714        MVA   RDBUF,RDDCB+14         LOAD ADDRESS OF DATA BUFFER
                         3715 *CC0   BAL   $DGRD,R6               READ DIAGNOSTIC WORD 2
                         3716 *      DC    A($ERR$)               ABORT TEST IF I/O ERROR
                         3717 *      TBT   (R4,ER)                TEST ERROR
                         3718 *      JON   T30ER                  EXIT IF ON
                         3719 *      TWI   X'0010',RDBUF          CHECK FOR 'CONTRLLR CYCLE COMPLEFE'
                         3720 *      JOFF  WCC0                   WAIT TILL 'CONTRLLR CYCL
003C5A  6802 0000        3721 RETR0  B     *-*                    RETURN TO CALLER
                         3722 *
003C5E  0000             3723 LCMM0  DC    A(*-*)                 ADDR OF LAST CMD IN TABLE
                         3724        COPY  T7A31                  06JUN78
                         3725 T7A31 TUIT                                          06FEB76**
                         3726+*************************************************************************
                         3727+*
                         3728+* TEST UNIT
                         3729+*
                         3730+*     SINGLE INSTRUCTION MODE CHECK
                         3731+*
                         3732+* PURPOSE
                         3733+*
                         3734+*     TO VERIFY THAT THE CAP ACCUMULATOR AND FILE CONTROL BLOCK
                         3735+*     CAN BE WRITTEN/READ.
                         3736+*
                         3737+* CALLING SEQUENCE
                         3738+*
                         3739+*     EXECUTE COMMANDS IN SINGLE INSTRUCTION MODE.
                         3740+*     READ FCB 0 WORD 0.
                         3741+*     PASS DATA WORD READ FROM FCB 0 WORD 0 TO TO TURESULS.
                         3742+*     .
                         3743+*     MDI=$TUXX,'T7A31,02,8000,OF'
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                         3744+*
                         3745+*     TURESUL BIT(S) 0 - 7 ..... FCB 0 WORD 0 DATA WORD
                         3746+*
                         3747+* RETURN CONTROL
                         3748+*
                         3749+*       B     TURTN*                 RETURN TO MDI SUPERVISOR
                         3750+*
003C60  6F0D 305A        3751+*************************************************************************
003C64  4020 3018 7A31   3752+T7A31  MVW   R7,TURTN               SAVE RETURN ADDRESS
003C6A  4424 3012        3753+       MVWI  X'7A31',$TUID          SAVE TU ID FOR DISPLAY
003C6E  6E03 339C        3754+       MVA   OPTN1,R4               SET UP POINTER ADRS IN R4
003C72  33D0             3755+       BAL   $CONC,R6               CLEAR DEV DEP STG AND CONNECT I/O BL
                         3756+       DC    A($ERR$)               ERROR ADRS FOR INVALID PREP
                         3757+*
003C74  C825 18C8        3758        MVWZ  TURESUL,R0             CLEAR RESULTS AREA
                         3759 *
003C78  4020 338E 0049   3760        MVWI  X'0049',IOMOD          LOAD DIAG WD 2 IDCB MODIFIER
003C7E  4020 338C 0808   3761        MVWI  X'0808',IODCB          SET CAP TO DIAG INSTR & CNTRL MODE
003C84  6E03 3214        3762        BAL   $WRT0,R6               WRITE CAP DIAGNOSTIC WORD 2
003C88  33D0             3763        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003C8A  4C21             3764        TBT   (R4,ER)                TEST FOR ERROR
003C8C  1228             3765        JON   T31ER                  EXIT IF ON
                         3766 *
003C8E  6818 189A        3767        MVW   TUPARM1*,R0            GET NO. OF COMMANDS IN TABLE
003C92  6A08 189C        3768        MVW   TUPARM2,R2             GET ADDR OF COMMAND TABLE
003C96  3009             3769        SLL   1,R0                   COMPUTE ADDRESS OF LAST ENTRY
003C98  7208             3770        AW    R2,R0                  * OF COMMANDS IN TABLE
003C9A  680D 3D16        3771        MVW   R0,LCMM1               SAVE IT
003C9E  C890             3772 INSTR1 MVW   (R2)+,R0               GET COMMAND TO XEQ IN SINGLE MODE
003CA0  700D             3773        VR    R0                     INVERT COMMAND
003CA2  680D 338C        3774        MVW   R0,IODCB               LOAD COMMAND IN 2ND WORD OF IDCB
003CA6  4020 338E 0048   3775        MVWI  X'0048',IOMOD          LOAD WRITE DIAG WD 1 IDCB MODIFIER
003CAC  6E03 3214        3776        BAL   $WRT0,R6               WRITE DIAG WORD 1
003CB0  33D0             3777        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003CB2  4C21             3778        TBT   (R4,ER)                TEST FOR ERROR
003CB4  1214             3779        JON   T31ER                  EXIT IF ON
003CB6  9E17             3780        JAL   WRTS1,R6               WAIT FOR CONTROLLER CYCLE COMPLETE
003CB8  CA24 3D16        3781        CW    LCMM1,R2               HAVE ALL COMMANDS BEEN EXECUTED?
003CBC  18F0             3782        JNE   INSTR1                 NO - GO EXECUTE NEXT COMMAND
                         3783 *
003CBE  4020 338C FFFF   3784        MVWI  X'FFFF',IODCB          LOAD 2ND WORD OF IDCB
003CC4  4020 338E 0048   3785        MVWI  X'0048',IOMOD          LOAD WRITE DIAG WD 1 IDCB MODIFIER
003CCA  6E03 3214        3786        BAL   $WRT0,R6               WRITE DIAGNOSTIC WORD 1
003CCE  33D0             3787        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003CD0  4C21             3788        TBT   (R4,ER)                TEST FOR ERROR
003CD2  1205             3789        JON   T31ER                  EXIT IF ON
003CD4  9E08             3790        JAL   WRTS1,R6               WAIT FOR CONTROLLER CYCLE COMPLETE
                         3791 *
003CD6  4020 18C8 0000   3792 T7A3E1 MVWI  X'0000',TURESUL        SET GOOD 'TURESULS'
003CDC  5002             3793        J     T31EX
003CDE  6802 33D0        3794 T31ER  B     $ERR$                  ABORT IF ERROR
                         3795 T31EX  TXIT
003CE2  6802 3432        3796+T31EX  B     $CONX                  RETURN TO MDI CONTROLLER
                         3797+*************************************************************************
                         3798 *
003CE6  6E0D 3D14        3799 WRTS1  MVW   R6,RETR1+2             SAVE RETURN ADDRESS
003CEA  4020 338C 080E   3800        MVWI  X'080E',IODCB          LOAD 2ND WORD OF IDCB
003CF0  4020 338E 0049   3801        MVWI  X'0049',IOMOD          LOAD WRITE DIAG WD 2 IDCB MODIFIER
003CF6  6E03 3214        3802        BAL   $WRT0,R6               WRITE DIAGNOSTIC WORD 2
003CFA  33D0             3803        DC    A($ERR$)               ABORT TEST IF I/O ERROR
003CFC  4C21             3804        TBT   (R4,ER)                TEST FOR ERROR
003CFE  12EF             3805        JON   T31ER                  EXIT IF ON
003D00  4020 30EA 2089   3806        MVWI  X'2089',RDDCB          LOAD READ DIAG WD 2 DCB CNTL WD
003D06  4020 30F6 0002   3807        MVWI  2,RDDCB+12             LOAD BYTE COUNT
003D0C  4020 30F8 38BA   3808        MVA   RDBUF,RDDCB+14         LOAD ADDRESS OF DATA BUFFER
                         3809 *CC1   BAL   $DGRD,R6               READ DIAGNOSTIC WORD 2
                         3810 *      DC    A($ERR$)               ABORT TEST IF I/O ERROR
                         3811 *      TBT   (R4,ER)                TEST FOR ERROR
                         3812 *      JON   T31ER                  EXIT IF ON
                         3813 *      TWI   X'0010',RDBUF          CHECK FOR 'CONTRLLR CYCLE COMPLETE'
                         3814 *      JOFF  WCC1                   WAIT TILL 'CONTRLLR CYCL
003D12  6802 0000        3815 RETR1  B     *-*                    RETURN TO CALLER
                         3816 *
003D16  0000             3817 LCMM1  DC    A(*-*)                 ADDR OF LAST CMD IN TABLE
                         3818        COPY  T7A32                  06JUN78
                         3819 T7A32 TUIT                                          06FEB76**
                         3820+*************************************************************************
                         3821+*
                         3822+* TEST UNIT
                         3823+*
                         3824+*     SINGLE INSTRUCTION MODE CHECK
                         3825+*
                         3826+* PURPOSE
                         3827+*
                         3828+*     TO VERIFY THAT THE CAP ACCUMULATOR AND FILE CONTROL BLOCK
                         3829+*     CAN BE WRITTEN/READ.
                         3830+*
                         3831+* CALLING SEQUENCE
                         3832+*
                         3833+*     EXECUTE COMMANDS IN SINGLE INSTRUCTION MODE.
                         3834+*     READ FCB 0 WORD 4.
                         3835+*     PASS DATA WORD READ FROM FCB 0 WORD 4 TO TO TURESULS.
                         3836+*     .
                         3837+*     MDI=$TUXX,'T7A32,02,8000,OF'
                         3838+*     .
                         3839+*     TURESUL BIT(S) 0 - 7 ..... FCB 0 WORD 4 DATA WORD
                         3840+*
                         3841+* RETURN CONTROL
                         3842+*
                         3843+*       B     TURTN*                 RETURN TO MDI SUPERVISOR
                         3844+*
                         3845+*************************************************************************
003D18  6F0D 305A        3846+T7A32  MVW   R7,TURTN               SAVE RETURN ADDRESS
003D1C  4020 3018 7A32   3847+       MVWI  X'7A32',$TUID          SAVE TU ID FOR DISPLAY
003D22  4424 3012        3848+       MVA   OPTN1,R4               SET UP POINTER ADRS IN R4
003D26  6E03 339C        3849+       BAL   $CONC,R6               CLEAR DEV DEP STG AND CONNECT I/O BL
003D2A  33D0             3850+       DC    A($ERR$)               ERROR ADRS FOR INVALID PREP
                         3851+*
003D2C  C825 18C8        3852        MVWZ  TURESUL,R0             CLEAR RESULTS AREA
                         3853 *
003D30  4020 338E 0049   3854        MVWI  X'0049',IOMOD          LOAD DIAG WD 2 IDCB MODIFIER
003D36  4020 338C 0A08   3855        MVWI  X'0A08',IODCB          SET CAP TO DIAG INSTR & CNTRL MODE
003D3C  6E03 3214        3856        BAL   $WRT0,R6               WRITE CAP DIAGNOSTIC WORD 2
003D40  33D0             3857        DC    A($ERR$)               ABORT TEST IF I/O ERROR
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976

003D42  4C21              3858         TBT   (R4,ER)                 TEST FOR ERROR
003D44  1228              3859         JON   T32ER                   EXIT IF ON
                          3860 *
003D46  6818 189A         3861         MVW   TUPARM1*,R0             GET NO. OF COMMANDS IN TABLE
003D4A  6A08 189C         3862         MVW   TUPARM2,R2              GET ADDR OF COMMAND TABLE
003D4E  3009              3863         SLL   1,R0                    COMPUTE ADDRESS OF LAST ENTRY
003D50  7208              3864         AW    R2,R0                   * OF COMMANDS IN TABLE
003D52  680D 3DCE         3865         MVW   R0,LCMM2                SAVE IT
003D56  C890              3866 INST2   MVW   (R2)+,R0                GET COMMAND TO XEQ IN SINGLE MODE
003D58  700D              3867         VR    R0                      INVERT COMMAND
003D5A  680D 338C         3868         MVW   R0,IODCB                LOAD COMMAND IN 2ND WORD OF IDCB
003D5E  4020 338E 0048    3869         MVWI  X'0048',IOMOD           LOAD WRITE DIAG WD 1 IDCB MODIFIER
003D64  6E03 3214         3870         BAL   $WRT0,R6                WRITE DIAG WORD 1
003D68  33D0              3871         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003D6A  4C21              3872         TBT   (R4,ER)                 TEST FOR ERROR
003D6C  1214              3873         JON   T32ER                   EXIT IF ON
003D6E  9E17              3874         JAL   WRTS2,R6                WAIT FOR CONTROLLER CYCLE COMPLETE
003D70  CA24 3DCE         3875         CW    LCMM2,R2                HAVE ALL COMMANDS BEEN EXECUTED?
003D74  18F0              3876         JNE   INST2                   NO - GO EXECUTE NEXT COMMAND
                          3877 *
003D76  4020 338C FFFF    3878         MVWI  X'FFFF',IODCB           LOAD 2ND WORD OF IDCB
003D7C  4020 338E 0048    3879         MVWI  X'0048',IOMOD           LOAD WRITE DIAG WD 1 IDCB MODIFIER
003D82  6E03 3214         3880         BAL   $WRT0,R6                WRITE DIAGNOSTIC WORD 1
003D86  33D0              3881         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003D88  4C21              3882         TBT   (R4,ER)                 TEST FOR ERROR
003D8A  1205              3883         JON   T32ER                   EXIT IF ON
003D8C  9E08              3884         JAL   WRTS2,R6                WAIT FOR CONTROLLER CYCLE COMPLETE
                          3885 *
003D8E  4020 18C8 0000    3886 T7A2E   MVWI  X'0000',TURESUL          SET GOOD 'TURESULS'
003D94  5002              3887         J     T32EX
003D96  6802 33D0         3888 T32ER   B     $ERR$                   ABORT IF ERROR
                          3889 T32EX   TXIT
003D9A  6802 3432         3890+T32EX   B     $CONX                   RETURN TO MDI CONTROLLER
                          3891+*********************************************************************
                          3892 *
003D9E  6E0D 3DCC         3893 WRTS2   MVW   R6,RETR2+2              SAVE RETURN ADDRESS
003DA2  4020 338C 0A0E    3894         MVWI  X'0A0E',IODCB           LOAD 2ND WORD OF IDCB
003DA8  4020 338E 0049    3895         MVWI  X'0049',IOMOD           LOAD WRITE DIAG WD 2 IDCB MODIFIER
003DAE  6E03 3214         3896         BAL   $WRT0,R6                WRITE DIAGNOSTIC WORD 2
003DB2  33D0              3897         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003DB4  4C21              3898         TBT   (R4,ER)                 TEST FOR ERROR
003DB6  12EF              3899         JON   T32ER                   EXIT IF ON
003DB8  4020 30EA 2089    3900         MVWI  X'2089',RDDCB           LOAD READ DIAG WD 2 DCB CNTL WD
003DBE  4020 30F6 0002    3901         MVWI  2,RDDCB+12              LOAD BYTE COUNT
003DC4  4020 30F8 38BA    3902         MVA   RDBUF,RDDCB+14          LOAD ADDRESS OF DATA BUFFER
                          3903 *CC2    BAL   $DGRD,R6                READ DIAGNOSTIC WORD 2
                          3904 *       DC    A($ERR$)                ABORT TEST IF I/O ERROR
                          3905 *       TBT   (R4,ER)                 TEST FOR ERROR
                          3906 *       JON   T32ER                   EXIT IF ON
                          3907 *       TWI   X'0010',RDBUF           CHECK FOR 'CONTRLLR CYCLE COMPLETE'
                          3908 *       JOFF  WCC2                    WAIT TILL 'CONTRLLR CYCL
003DCA  6802 0000         3909 RETR2   B     *-*                     RETURN TO CALLER
                          3910 *
003DCE  0000              3911 LCMM2   DC    A(*-*)                  ADDR OF LAST CMD IN TABLE
                          3912         COPY  T7A33                   06JUN78
                          3913 T7A33 TUIT
                          3914+*********************************************************************06FEB76**
                          3915+*
                          3916+** TEST UNIT
                          3917+**
                          3918+**      SINGLE INSTRUCTION MODE CHECK
                          3919+**
                          3920+** PURPOSE
                          3921+**
                          3922+**      TO VERIFY THAT THE CAP ACCUMULATOR AND FILE CONTROL BLOCK
                          3923+**      CAN BE WRITTEN/READ.
                          3924+**
                          3925+** CALLING SEQUENCE
                          3926+**
                          3927+**      EXECUTE COMMANDS IN SINGLE INSTRUCTION MODE.
                          3928+**      READ FCB 0 WORD 4.
                          3929+**      PASS DATA WORD READ FROM FCB 0 WORD 4 TO TO TURESULS.
                          3930+**      .
                          3931+**      MDI=$TUXX,'T7A33,02,8000,OF'
                          3932+**      .
                          3933+**      TURESUL BIT(S) 0 - 15 ..... FCB 0 WORD 4 DATA WORD
                          3934+**      .              16 - 79 ..... DATA BUFFER 1 WDS 0 - 3
                          3935+**
                          3936+** RETURN CONTROL
                          3937+**
                          3938+**       B     TURTN*                  RETURN TO MDI SUPERVISOR
                          3939+**
                          3940+*********************************************************************
003DD0  6F0D 305A         3941+T7A33   MVW   R7,TURTN                SAVE RETURN ADDRESS
003DD4  4020 3018 7A33    3942+        MVWI  X'7A33',$TUID           SAVE TU ID FOR DISPLAY
003DDA  4424 3012         3943+        MVA   OPTN1,R4                SET UP POINTER ADRS IN R4
003DDE  6E03 339C         3944+        BAL   $CONC,R6                CLEAR DEV DEP STG AND CONNECT I/O BL
003DE2  33D0              3945+        DC    A($ERR$)                ERROR ADRS FOR INVALID PREP
                          3946+*
003DE4  C825 18C8         3947         MVWZ  TURESUL,R0              CLEAR RESULTS AREA
                          3948 *
003DE8  4020 338E 0049    3949         MVWI  X'0049',IOMOD           LOAD DIAG WD 2 IDCB MODIFIER
003DEE  4020 338C 0008    3950         MVWI  X'0008',IODCB           SET CAP TO DIAG INSTR & CNTRL MODE
003DF4  6E03 3214         3951         BAL   $WRT0,R6                WRITE CAP DIAGNOSTIC WORD 2
003DF8  33D0              3952         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003DFA  4C21              3953         TBT   (R4,ER)                 TEST FOR ERROR
003DFC  1001              3954         JOFF  *+4                     BYPASS ERROR CHECK
003DFE  9E61              3955         JAL   T33ER,R6                EXIT IF ON
                          3956 *
003E00  6818 189A         3957         MVW   TUPARM1*,R0             GET NO. OF COMMANDS IN TABLE
003E04  6A08 189C         3958         MVW   TUPARM2,R2              GET ADDR OF COMMAND TABLE
003E08  3009              3959         SLL   1,R0                    COMPUTE ADDRESS OF LAST ENTRY
003E0A  7208              3960         AW    R2,R0                   * OF COMMANDS IN TABLE
003E0C  680D 3F24         3961         MVW   R0,LCMM3                SAVE IT
003E10  C890              3962 INST3   MVW   (R2)+,R0                GET COMMAND TO XEQ IN SINGLE MODE
003E12  700D              3963         VR    R0                      INVERT COMMAND
003E14  680D 338C         3964         MVW   R0,IODCB                LOAD COMMAND IN 2ND WORD OF IDCB
003E18  4020 338E 0048    3965         MVWI  X'0048',IOMOD           LOAD WRITE DIAG WD 1 IDCB MODIFIER
003E1E  6E03 3214         3966         BAL   $WRT0,R6                WRITE DIAG WORD 1
003E22  33D0              3967         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003E24  4C21              3968         TBT   (R4,ER)                 TEST FOR ERROR
003E26  1001              3969         JOFF  *+4                     BYPASS ERROR CHECK
003E28  9E4C              3970         JAL   T33ER,R6                EXIT IF ON
003E2A  9E63              3971         JAL   WRTS3,R6                WAIT FOR CONTROLLER CYCLE COMPLETE
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976

003E2C  CA24 3F24         3972         CW    LCMM3,R2                HAVE ALL COMMANDS BEEN EXECUTED?
003E30  18EF              3973         JNE   INST3                   NO - GO EXECUTE NEXT COMMAND
                          3974 *
003E32  4020 338E 004F    3975         MVWI  X'004F',IOMOD           LOAD CAP RESET IDCB MODIFIER
003E38  6E03 3214         3976         BAL   $WRT0,R6                RESET CAP CONTROLS
003E3C  33D0              3977         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003E3E  4C21              3978         TBT   (R4,ER)                 TEST FOR ERROR
003E40  1001              3979         JOFF  *+4                     BYPASS ERROR CHECK
003E42  9E3F              3980         JAL   T33ER,R6                EXIT IF ON
                          3981 *
003E44  4020 30EA 2013    3982         MVWI  X'2013',RDDCB           LOAD READ FCB CONTROL WORD
003E4A  4020 30F0 0001    3983         MVWI  1,RDDCB+6               SETUP DCB TO RD DATA BUFFER 1
003E50  4020 30F6 0100    3984         MVWI  256,RDDCB+12            SET BYTE COUNT
003E56  6E03 31B2         3985         BAL   $RD,R6                  READ DATA BUFFER 1
003E5A  33D0              3986         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003E5C  4C21              3987         TBT   (R4,ER)                 TEST FOR ERROR
003E5E  1001              3988         JOFF  *+4                     BYPASS ERROR CHECK
003E60  9E30              3989         JAL   T33ER,R6                EXIT IF ON
003E62  9028 38BA 18C8    3990         MVD   RDBUF,TURESUL           SAVE FIRST 4 WORDS OF DATA
003E68  9028 38BE 18CC    3991         MVD   RDBUF+4,TURESUL+4       *     BUFFER 1
                          3992 *
003E6E  4020 338E 0049    3993         MVWI  X'0049',IOMOD           LOAD DIAG WD 2 IDCB MODIFIER
003E74  4020 338C 0008    3994         MVWI  X'0008',IODCB           SET CAP TO DIAG INSTR & CNTRL MODE
003E7A  6E03 3214         3995         BAL   $WRT0,R6                WRITE CAP DIAGNOSTIC WORD 2
003E7E  33D0              3996         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003E80  4C21              3997         TBT   (R4,ER)                 TEST FOR ERROR
003E82  1001              3998         JOFF  *+4                     BYPASS ERROR CHECK
003E84  9E1E              3999         JAL   T33ER,R6                EXIT IF ON
003E86  4020 338C FFFF    4000         MVWI  X'FFFF',IODCB           LOAD 2ND WORD OF IDCB
003E8C  4020 338E 0048    4001         MVWI  X'0048',IOMOD           LOAD WRITE DIAG WD 1 IDCB MODIFIER
003E92  6E03 3214         4002         BAL   $WRT0,R6                WRITE DIAGNOSTIC WORD 1
003E96  33D0              4003         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003E98  4C21              4004         TBT   (R4,ER)                 TEST FOR ERROR
003E9A  1001              4005         JOFF  *+4                     BYPASS ERROR CHECK
003E9C  9E12              4006         JAL   T33ER,R6                EXIT IF ON
003E9E  9E29              4007         JAL   WRTS3,R6                WAIT FOR CONTROLLER CYCLE COMPLETE
                          4008 *
003EA0  4020 338E 0049    4009 T7ER3   MVWI  X'0049',IOMOD           LOAD DIAG WD 2 IDCB MODIFIER
003EA6  4020 338C 0000    4010         MVWI  X'0000',IODCB           SET CAP TO ACTIVE MODE
003EAC  6E03 3214         4011         BAL   $WRT0,R6                WRITE CAP DIAGNOSTIC WORD 2
003EB0  33D0              4012         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003EB2  4C21              4013         TBT   (R4,ER)                 TEST FOR ERROR
003EB4  1001              4014         JOFF  *+4                     BYPASS ERROR CHECK
003EB6  9E05              4015         JAL   T33ER,R6                EXIT IF ON
003EB8  4024 00FF         4016         MVWI  X'00FF',R0              DELAY LOOP
003EBC  6003              4017 T33LP   SVC   IDLE5                   *
003EBE  B8FE              4018         JCT   T33LP,R0                *
003EC0  5016              4019         J     T33EX
003EC2  6E0D 3EE6         4020 T33ER   MVW   R6,TA33+2                SAVE RETURN ADDRESS
003EC6  6E03 328C         4021         BAL   XIOCS,R6                GET CYCLE STEAL STATUS
003ECA  33D0              4022         DC    A($ERR$)                ABORT TEST IF ERROR
003ECC  4C21              4023         TBT   (R4,ER)                 EXCEPTION INTR OCCUR?
003ECE  1203              4024         JON   TA33A                   YES - SET CSS INTR ERROR BIT ON
003ED0  9028 3040 18CA    4025         MVD   CSTL5,TURESUL+2         MOVE CS STATUS WDS 4 & 5 IN TU BUF
003ED6  8028 3051 18CE    4026         MVB   CST13+1,TURESUL+6       MOVE WRAP BYTE IN TURESULS BUFFER
003EDC  402B 3040 402A    4027         TWI   X'402A',CSTL5           CHECK IF CAP ERROR BIT ON
003EE2  1202              4028         JON   TA33A                   NO - RETURN
003EE4  6802 0000         4029 TA33    B     *-*                     RETURN
003EE8  4020 18C8 8888    4030 TA33A   MVWI  X'8888',TURESUL         SET RESULTS TO 88
                          4031 T33EX   TXIT
003EEE  6802 3432         4032+T33EX   B     $CONX                   RETURN TO MDI CONTROLLER
                          4033+*********************************************************************
                          4034 *
003EF2  6E0D 3F22         4035 WRTS3   MVW   R6,RETR3+2               SAVE RETURN ADDRESS
003EF6  4020 338C 000E    4036         MVWI  X'000E',IODCB           LOAD 2ND WORD OF IDCB
003EFC  4020 338E 0049    4037         MVWI  X'0049',IOMOD           LOAD WRITE DIAG WD 2 IDCB MODIFIER
003F02  6E03 3214         4038         BAL   $WRT0,R6                WRITE DIAGNOSTIC WORD 2
003F06  33D0              4039         DC    A($ERR$)                ABORT TEST IF I/O ERROR
003F08  4C21              4040         TBT   (R4,ER)                 TEST FOR ERROR
003F0A  1001              4041         JOFF  *+4                     BYPASS ERROR CHECK
003F0C  9EDA              4042         JAL   T33ER,R6                EXIT IF ON
003F0E  4020 30EA 2089    4043         MVWI  X'2089',RDDCB           LOAD READ DIAG WD 2 DCB CNTL WD
003F14  4020 30F6 0002    4044         MVWI  2,RDDCB+12              LOAD BYTE COUNT
003F1A  4020 30F8 38BA    4045         MVA   RDBUF,RDDCB+14          LOAD ADDRESS OF DATA BUFFER
                          4046 *CC3    BAL   $DGRD,R6                READ DIAGNOSTIC WORD 2
                          4047 *       DC    A($ERR$)                ABORT TEST IF I/O ERROR
                          4048 *       TBT   (R4,ER)                 TEST FOR ERROR
                          4049 *       JAL   T33ER,R6                EXIT IF ON
                          4050 *       TWI   X'0010',RDBUF           CHECK FOR 'CONTRLLR CYCLE COMPLETE'
                          4051 *       JOFF  WCC3                    WAIT TILL 'CONTRLLR CYCL
003F20  6802 0000         4052 RETR3   B     *-*                     RETURN TO CALLER
                          4053 *
003F24  0000              4054 LCMM3   DC    A(*-*)                  ADDR OF LAST CMD IN TABLE
000000                    4055         END
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CROSS-REFERENCE LISTING

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DECLARED  NAME      ATTRIBUTES AND REFERENCES
  2991    $CONC      ADDRESS. HEX LOCATION(0000339C) IN CSECT(I7A10   ) LENGTH(2)
                    3172  3260  3334  3435  3529  3655  3755  3849  3944
  3060    $CONX      ADDRESS. HEX LOCATION(00003432) IN CSECT(I7A10   ) LENGTH(1)
                    3131  3199  3294  3369  3471  3599  3702  3796  3890
                    4032
  2116    $DGRD      ADDRESS. HEX LOCATION(00003264) IN CSECT(I7A10   ) LENGTH(6)
                    3355
  2113    $DGWR      ADDRESS. HEX LOCATION(0000325A) IN CSECT(I7A10   ) LENGTH(6)
                    3451
  3033    $ERR$      ADDRESS. HEX LOCATION(000033D0) IN CSECT(I7A10   ) LENGTH(6)
                    3173  3204  3261  3265  3270  3273  3277  3281  3284
                    3335  3347  3356  3379  3436  3452  3458  3482  3530
                    3537  3552  3563  3572  3581  3589  3606  3656  3662
                    3669  3683  3693  3700  3709  3756  3763  3777  3787
                    3794  3803  3850  3857  3871  3881  3888  3897  3945
                    3952  3967  3977  3986  3996  4003  4012  4022  4039
  1697    $INTL      ADDRESS. HEX LOCATION(00003058) IN CSECT(I7A10   ) LENGTH(2)
                    2908  3000
  1662    $IOIN      ADDRESS. HEX LOCATION(0000301A) IN CSECT(I7A10   ) LENGTH(2)
                    2097  2762  2822  2902  2939  3002  3176  3187  3193
  1663    $ISB       ADDRESS. HEX LOCATION(0000301C) IN CSECT(I7A10   ) LENGTH(2)
                    2098  2763  2903  2944  3003
  1647    $LE        ABSOLUTE. HEX VALUE(00000026)
                    2768  2910
  2057    $RD        ADDRESS. HEX LOCATION(000031B2) IN CSECT(I7A10   ) LENGTH(2)
                    3985
  1661    $TUID      ADDRESS. HEX LOCATION(00003018) IN CSECT(I7A10   ) LENGTH(2)
                    1707  3057  3095  3122  3170  3258  3332  3433  3527
                    3653  3753  3847  3942
  2089    $WRT0      ADDRESS. HEX LOCATION(00003214) IN CSECT(I7A10   ) LENGTH(4)
                    3269  3276  3280  3346  3536  3551  3562  3571  3605
                    3661  3668  3682  3692  3708  3762  3776  3786  3802
                    3856  3870  3880  3896  3951  3966  3976  3995  4002
                    4011  4038
  2110    $WRT1      ADDRESS. HEX LOCATION(00003254) IN CSECT(I7A10   ) LENGTH(2)
                    2107
    42    @CALL      ABSOLUTE. HEX VALUE(00000201)
                     711   747   765   783   801   819   837   855   901
                     919   937  1023  1029  1103  1177  1251  1367  1455
                    1543
   102    @DCADD1    ADDRESS. HEX LOCATION(000019B8) IN CSECT(I7A10   ) LENGTH(1)
                    3054
   103    @DCADD2    ADDRESS. HEX LOCATION(000019BA) IN CSECT(I7A10   ) LENGTH(1)
                    3055
    39    @FIXT      ABSOLUTE. HEX VALUE(00000101)
                     717   732
    41    @GOTO      ABSOLUTE. HEX VALUE(00000200)
                     681  1549
    46    @NVLD      ABSOLUTE. HEX VALUE(00000600)
                     873   887   955   969   983   997  1047  1061  1075
                    1089  1121  1135  1149  1163  1195  1209  1223  1237
                    1269  1283  1297  1311  1325  1339  1353  1385  1399
                    1413  1427  1441  1473  1487  1501  1515  1529
    45    @TUXX      ABSOLUTE. HEX VALUE(00000500)
                     669   687   699   720   735   753   771   789   807
                     825   843   861   875   889   907   925   943   957
                     971   985   999  1011  1035  1049  1063  1077  1091
                    1109  1123  1137  1151  1165  1183  1197  1211  1225
                    1239  1257  1271  1285  1299  1313  1327  1341  1355
                    1373  1387  1401  1415  1429  1443  1461  1475  1489
                    1503  1517  1531
  3065    BEGIN      ADDRESS. HEX LOCATION(0000343C) IN CSECT(I7A10   ) LENGTH(2)
                    3086
  3090    BIT0080    ABSOLUTE. HEX VALUE(00000080)
                    3056
  3085    BUFPT      ADDRESS. HEX LOCATION(00003598) IN CSECT(I7A10   ) LENGTH(2)
                    3041
  3480    CAPER      ADDRESS. HEX LOCATION(00003A50) IN CSECT(I7A10   ) LENGTH(4)
                    3455  3477
  1651    CE         ABSOLUTE. HEX VALUE(0000002A)
                    2747  2861  2931
  1736    CICB       ABSOLUTE. HEX VALUE(00000014)
                    2997
  1833    CLDCB      ADDRESS. HEX LOCATION(0000307A) IN CSECT(I7A10   ) LENGTH(2)
                    2039
  1649    CS         ABSOLUTE. HEX VALUE(00000028)
                    2748  2751  2859  2900  2929
  1650    CSA        ABSOLUTE. HEX VALUE(00000029)
                    2934
  1680    CSBUF      ADDRESS. HEX LOCATION(00003038) IN CSECT(I7A10   ) LENGTH(1)
                    1878  2091  2759
  1871    CSDCB      ADDRESS. HEX LOCATION(000030BA) IN CSECT(I7A10   ) LENGTH(2)
                    2749
  3389    CSER0      ADDRESS. HEX LOCATION(000037B4) IN CSECT(I7A10   ) LENGTH(2)
                    3381
  3213    CSER5      ADDRESS. HEX LOCATION(00003654) IN CSECT(I7A10   ) LENGTH(2)
                    3206
  3492    CSSER      ADDRESS. HEX LOCATION(00003A7E) IN CSECT(I7A10   ) LENGTH(2)
                    3460  3484
  1685    CSTL5      ADDRESS. HEX LOCATION(00003040) IN CSECT(I7A10   ) LENGTH(2)
                    3207  3209  3267  3382  3384  3485  3487  3592  3594
                    4025  4027
  1686    CSTL6      ADDRESS. HEX LOCATION(00003042) IN CSECT(I7A10   ) LENGTH(2)
                    3266
  1688    CSTL8      ADDRESS. HEX LOCATION(00003046) IN CSECT(I7A10   ) LENGTH(2)
                    3584
  1689    CSTL9      ADDRESS. HEX LOCATION(00003048) IN CSECT(I7A10   ) LENGTH(2)
                    3464
  1692    CST12      ADDRESS. HEX LOCATION(0000304E) IN CSECT(I7A10   ) LENGTH(2)
                    3274  3285
  1693    CST13      ADDRESS. HEX LOCATION(00003050) IN CSECT(I7A10   ) LENGTH(2)
                    3208  3383  3486  3593  4026
  1670    DCBUF      ADDRESS. HEX LOCATION(00003028) IN CSECT(I7A10   ) LENGTH(1)
                    2094  2754
  3086    DC2PT      ADDRESS. HEX LOCATION(0000359A) IN CSECT(I7A10   ) LENGTH(2)
                    3055
   105    DEVADD     ADDRESS. HEX LOCATION(000019D0) IN CSECT(I7A10   ) LENGTH(1)
                    1700  2952  2961  3061  3127  3127  3179
  1665    DEV1       ADDRESS. HEX LOCATION(00003020) IN CSECT(I7A10   ) LENGTH(2)
                    1669  2993
  1668    DEV4       ADDRESS. HEX LOCATION(00003026) IN CSECT(I7A10   ) LENGTH(2)
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CROSS-REFERENCE LISTING

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DECLARED  NAME      ATTRIBUTES AND REFERENCES
                    2862  2863
  1822    DGDCB      ADDRESS. HEX LOCATION(0000306A) IN CSECT(I7A10   ) LENGTH(2)
                    2086
  3341    DPAT0      ADDRESS. HEX LOCATION(00003718) IN CSECT(I7A10   ) LENGTH(4)
                    3366
    67    DUMMY      ABSOLUTE. HEX VALUE(00000000)
                     660  1554  1566
  1555    ENTPT      ADDRESS. HEX LOCATION(00002F18) IN CSECT(I7A10   ) LENGTH(1)
                     198
    47    EQ         ABSOLUTE. HEX VALUE(00000000)
                     690   738   792   810   878   946   960   974   988
                    1002  1014  1038  1052  1066  1080  1094  1112  1126
                    1140  1154  1168  1186  1200  1214  1228  1242  1260
                    1274  1288  1302  1316  1330  1344  1358  1376  1390
                    1404  1418  1432  1464  1478  1492  1506  1520
  1642    ER         ABSOLUTE. HEX VALUE(00000021)
                    2100  2765  2786  2869  2911  2936  3195  3205  3271
                    3278  3282  3348  3357  3380  3453  3459  3483  3538
                    3553  3564  3573  3582  3590  3607  3663  3670  3684
                    3694  3710  3764  3778  3788  3804  3858  3872  3882
                    3898  3953  3968  3978  3987  3997  4004  4013  4023
                    4040
  1722    EXIT       ABSOLUTE. HEX VALUE(00000006)
                    2918
  3088    FAKETU     ADDRESS. HEX LOCATION(0000359E) IN CSECT(I7A10   ) LENGTH(2)
                    3054
  3474    FCBER      ADDRESS. HEX LOCATION(00003A3C) IN CSECT(I7A10   ) LENGTH(2)
                    3466
  1578    F00099     ADDRESS. HEX LOCATION(00002F30) IN CSECT(I7A10   ) LENGTH(1)
                     712   748   766   784   802   820   838   856   902
                     920   938  1024  1104  1178  1252  1368  1456  1544
  1582    F00106     ADDRESS. HEX LOCATION(00002F56) IN CSECT(I7A10   ) LENGTH(1)
                     718
  1586    F00107     ADDRESS. HEX LOCATION(00002F7C) IN CSECT(I7A10   ) LENGTH(1)
                     733
  1574    F00111     ADDRESS. HEX LOCATION(00002F1E) IN CSECT(I7A10   ) LENGTH(1)
                     682
  1594    F00241     ADDRESS. HEX LOCATION(00002FC4) IN CSECT(I7A10   ) LENGTH(1)
                    1030
  1600    F00455     ADDRESS. HEX LOCATION(00003000) IN CSECT(I7A10   ) LENGTH(1)
                    1550
  3094    HEBLK      ADDRESS. HEX LOCATION(000035A0) IN CSECT(I7A10   ) LENGTH(2)
                    3034
  1742    HTOE       ABSOLUTE. HEX VALUE(0000001A)
                    3035
  1718    IDLE       ABSOLUTE. HEX VALUE(00000002)
                    2780  2782
  1719    IDLE5      ABSOLUTE. HEX VALUE(00000003)
                    3189  3577  4017
  1963    ID00       ADDRESS. HEX LOCATION(00003154) IN CSECT(I7A10   ) LENGTH(2)
                    1944  2052
  1644    IN         ABSOLUTE. HEX VALUE(00000023)
                    2099  2766  2778  2899  3190
  3547    INSTR      ADDRESS. HEX LOCATION(00003AC6) IN CSECT(I7A10   ) LENGTH(2)
                    3558
  3772    INSTR1     ADDRESS. HEX LOCATION(00003C9E) IN CSECT(I7A10   ) LENGTH(2)
                    3782
  3678    INST0      ADDRESS. HEX LOCATION(00003BE6) IN CSECT(I7A10   ) LENGTH(2)
                    3688
  3866    INST2      ADDRESS. HEX LOCATION(00003D56) IN CSECT(I7A10   ) LENGTH(2)
                    3876
  3962    INST3      ADDRESS. HEX LOCATION(00003E10) IN CSECT(I7A10   ) LENGTH(2)
                    3973
  2961    INTBL      ADDRESS. HEX LOCATION(00003394) IN CSECT(I7A10   ) LENGTH(2)
                    2996
  2856    INTER      ADDRESS. HEX LOCATION(000032F8) IN CSECT(I7A10   ) LENGTH(2)
                    2963
  2865    INTES      ADDRESS. HEX LOCATION(00003310) IN CSECT(I7A10   ) LENGTH(2)
                    2860
  2869    INTET      ADDRESS. HEX LOCATION(00003318) IN CSECT(I7A10   ) LENGTH(2)
                    2866
  2896    INTOK      ADDRESS. HEX LOCATION(0000331C) IN CSECT(I7A10   ) LENGTH(2)
                    2962
  2918    INTRX      ADDRESS. HEX LOCATION(0000334C) IN CSECT(I7A10   ) LENGTH(2)
                    2913  2916
  2899    INTR1      ADDRESS. HEX LOCATION(00003324) IN CSECT(I7A10   ) LENGTH(2)
                    2864  2868  2870
  2904    INTR2      ADDRESS. HEX LOCATION(00003332) IN CSECT(I7A10   ) LENGTH(1)
                    2901
  2912    INTR3      ADDRESS. HEX LOCATION(00003340) IN CSECT(I7A10   ) LENGTH(2)
                    2909
  2952    IOBLK      ADDRESS. HEX LOCATION(00003388) IN CSECT(I7A10   ) LENGTH(2)
                    2102  2767  3001
  2954    IODCB      ADDRESS. HEX LOCATION(0000338C) IN CSECT(I7A10   ) LENGTH(2)
                    2036  2039  2042  2050  2061  2064  2067  2070  2078
                    2082  2086  2113  2116  2749  2755  3000  3344  3535
                    3549  3560  3570  3603  3667  3680  3690  3706  3761
                    3774  3784  3800  3855  3868  3878  3894  3950  3964
                    3994  4000  4010  4036
  2955    IOMOD      ADDRESS. HEX LOCATION(0000338E) IN CSECT(I7A10   ) LENGTH(2)
                    2103  2741  2741  2744  2750  3268  3275  3279  3345
                    3534  3550  3561  3569  3604  3660  3666  3681  3691
                    3707  3760  3775  3785  3801  3854  3869  3879  3895
                    3949  3965  3975  3993  4001  4009  4037
  3202    IO5ER      ADDRESS. HEX LOCATION(0000362C) IN CSECT(I7A10   ) LENGTH(4)
                    3197
    37    I7A10      CSECT. START(00002500) LENGTH(6694) ESDID(1)
                     37
  3622    LCMMD      ADDRESS. HEX LOCATION(00003B96) IN CSECT(I7A10   ) LENGTH(2)
                    3546  3557
  3723    LCMM0      ADDRESS. HEX LOCATION(00003C5E) IN CSECT(I7A10   ) LENGTH(2)
                    3677  3687
  3817    LCMM1      ADDRESS. HEX LOCATION(00003D16) IN CSECT(I7A10   ) LENGTH(2)
                    3771  3781
  3911    LCMM2      ADDRESS. HEX LOCATION(00003DCE) IN CSECT(I7A10   ) LENGTH(2)
                    3865  3875
  4054    LCMM3      ADDRESS. HEX LOCATION(00003F24) IN CSECT(I7A10   ) LENGTH(2)
                    3961  3972
  3071    LINE1      ADDRESS. HEX LOCATION(00003474) IN CSECT(I7A10   ) LENGTH(40)
                    3042
  3495    LPCNT      ADDRESS. HEX LOCATION(00003A82) IN CSECT(I7A10   ) LENGTH(2)
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CROSS-REFERENCE LISTING

DECLARED	NAME	ATTRIBUTES AND REFERENCES
		3340 3341 3361 3365
1664	LSTIO	ADDRESS. HEX LOCATION(0000301E) IN CSECT(I7A10) LENGTH(2)
		2089 2753 3004
3465	L7A14	ADDRESS. HEX LOCATION(00003A2C) IN CSECT(I7A10) LENGTH(2)
		3468
1641	MI	ABSOLUTE. HEX VALUE(00000020)
		2914
3045	MVBUF	ADDRESS. HEX LOCATION(00003400) IN CSECT(I7A10) LENGTH(2)
		3049 3052
1653	NG	ABSOLUTE. HEX VALUE(0000002C)
		2917
1648	NI	ABSOLUTE. HEX VALUE(00000027)
		2772
669	N00001	ADDRESS. HEX LOCATION(000026D0) IN CSECT(I7A10) LENGTH(2)
		315 1565
681	N00002	ADDRESS. HEX LOCATION(000026E2) IN CSECT(I7A10) LENGTH(2)
		318
687	N00003	ADDRESS. HEX LOCATION(000026EE) IN CSECT(I7A10) LENGTH(2)
		321 670
699	N00004	ADDRESS. HEX LOCATION(00002700) IN CSECT(I7A10) LENGTH(2)
		324
711	N00005	ADDRESS. HEX LOCATION(00002716) IN CSECT(I7A10) LENGTH(2)
		327
717	N00006	ADDRESS. HEX LOCATION(00002722) IN CSECT(I7A10) LENGTH(2)
		330 700
720	N00007	ADDRESS. HEX LOCATION(00002726) IN CSECT(I7A10) LENGTH(2)
		333 688
732	N00008	ADDRESS. HEX LOCATION(00002744) IN CSECT(I7A10) LENGTH(2)
		336
735	N00009	ADDRESS. HEX LOCATION(00002748) IN CSECT(I7A10) LENGTH(2)
		339 721
747	N00010	ADDRESS. HEX LOCATION(0000275A) IN CSECT(I7A10) LENGTH(2)
		342
753	N00011	ADDRESS. HEX LOCATION(00002766) IN CSECT(I7A10) LENGTH(2)
		345 736
765	N00012	ADDRESS. HEX LOCATION(0000277C) IN CSECT(I7A10) LENGTH(2)
		348
771	N00013	ADDRESS. HEX LOCATION(00002788) IN CSECT(I7A10) LENGTH(2)
		351 754
783	N00014	ADDRESS. HEX LOCATION(000027AA) IN CSECT(I7A10) LENGTH(2)
		354
789	N00015	ADDRESS. HEX LOCATION(000027B6) IN CSECT(I7A10) LENGTH(2)
		357 772
801	N00016	ADDRESS. HEX LOCATION(000027D8) IN CSECT(I7A10) LENGTH(2)
		360
807	N00017	ADDRESS. HEX LOCATION(000027E4) IN CSECT(I7A10) LENGTH(2)
		363 790
819	N00018	ADDRESS. HEX LOCATION(00002816) IN CSECT(I7A10) LENGTH(2)
		366
825	N00019	ADDRESS. HEX LOCATION(00002822) IN CSECT(I7A10) LENGTH(2)
		369 808
837	N00020	ADDRESS. HEX LOCATION(00002848) IN CSECT(I7A10) LENGTH(2)
		372
843	N00021	ADDRESS. HEX LOCATION(00002854) IN CSECT(I7A10) LENGTH(2)
		375 826
855	N00022	ADDRESS. HEX LOCATION(0000287A) IN CSECT(I7A10) LENGTH(2)
		378
861	N00023	ADDRESS. HEX LOCATION(00002886) IN CSECT(I7A10) LENGTH(2)
		381 844
873	N00024	ADDRESS. HEX LOCATION(000028A0) IN CSECT(I7A10) LENGTH(2)
		384
875	N00025	ADDRESS. HEX LOCATION(000028A2) IN CSECT(I7A10) LENGTH(2)
		387 862
887	N00026	ADDRESS. HEX LOCATION(000028B8) IN CSECT(I7A10) LENGTH(2)
		390
889	N00027	ADDRESS. HEX LOCATION(000028BA) IN CSECT(I7A10) LENGTH(2)
		393 876
901	N00028	ADDRESS. HEX LOCATION(000028D8) IN CSECT(I7A10) LENGTH(2)
		396
907	N00029	ADDRESS. HEX LOCATION(000028E4) IN CSECT(I7A10) LENGTH(2)
		399 890
919	N00030	ADDRESS. HEX LOCATION(000028FA) IN CSECT(I7A10) LENGTH(2)
		402
925	N00031	ADDRESS. HEX LOCATION(00002906) IN CSECT(I7A10) LENGTH(2)
		405 908
937	N00032	ADDRESS. HEX LOCATION(0000291C) IN CSECT(I7A10) LENGTH(2)
		408
943	N00033	ADDRESS. HEX LOCATION(00002928) IN CSECT(I7A10) LENGTH(2)
		411 926
955	N00034	ADDRESS. HEX LOCATION(0000294A) IN CSECT(I7A10) LENGTH(2)
		414
957	N00035	ADDRESS. HEX LOCATION(0000294C) IN CSECT(I7A10) LENGTH(2)
		417 944
969	N00036	ADDRESS. HEX LOCATION(00002972) IN CSECT(I7A10) LENGTH(2)
		420
971	N00037	ADDRESS. HEX LOCATION(00002974) IN CSECT(I7A10) LENGTH(2)
		423 958
983	N00038	ADDRESS. HEX LOCATION(0000298A) IN CSECT(I7A10) LENGTH(2)
		426
985	N00039	ADDRESS. HEX LOCATION(0000298C) IN CSECT(I7A10) LENGTH(2)
		429 972
997	N00040	ADDRESS. HEX LOCATION(000029AE) IN CSECT(I7A10) LENGTH(2)
		432
999	N00041	ADDRESS. HEX LOCATION(000029B0) IN CSECT(I7A10) LENGTH(2)
		435 986
1011	N00042	ADDRESS. HEX LOCATION(000029CC) IN CSECT(I7A10) LENGTH(2)
		438
1023	N00043	ADDRESS. HEX LOCATION(000029DE) IN CSECT(I7A10) LENGTH(2)
		441
1029	N00044	ADDRESS. HEX LOCATION(000029EA) IN CSECT(I7A10) LENGTH(2)
		444 1012
1035	N00045	ADDRESS. HEX LOCATION(000029F6) IN CSECT(I7A10) LENGTH(2)
		447 1000
1047	N00046	ADDRESS. HEX LOCATION(00002A18) IN CSECT(I7A10) LENGTH(2)
		450
1049	N00047	ADDRESS. HEX LOCATION(00002A1A) IN CSECT(I7A10) LENGTH(2)
		453 1036
1061	N00048	ADDRESS. HEX LOCATION(00002A40) IN CSECT(I7A10) LENGTH(2)
		456
1063	N00049	ADDRESS. HEX LOCATION(00002A42) IN CSECT(I7A10) LENGTH(2)
		459 1050

CROSS-REFERENCE LISTING

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1075	N00050	ADDRESS. HEX LOCATION(00002A58) IN CSECT(I7A10) LENGTH(2)
		462
1077	N00051	ADDRESS. HEX LOCATION(00002A5A) IN CSECT(I7A10) LENGTH(2)
		465 1064
1089	N00052	ADDRESS. HEX LOCATION(00002A7C) IN CSECT(I7A10) LENGTH(2)
		468
1091	N00053	ADDRESS. HEX LOCATION(00002A7E) IN CSECT(I7A10) LENGTH(2)
		471 1078
1103	N00054	ADDRESS. HEX LOCATION(00002A9A) IN CSECT(I7A10) LENGTH(2)
		474
1109	N00055	ADDRESS. HEX LOCATION(00002AA6) IN CSECT(I7A10) LENGTH(2)
		477 1092
1121	N00056	ADDRESS. HEX LOCATION(00002AC8) IN CSECT(I7A10) LENGTH(2)
		480
1123	N00057	ADDRESS. HEX LOCATION(00002ACA) IN CSECT(I7A10) LENGTH(2)
		483 1110
1135	N00058	ADDRESS. HEX LOCATION(00002AF0) IN CSECT(I7A10) LENGTH(2)
		486
1137	N00059	ADDRESS. HEX LOCATION(00002AF2) IN CSECT(I7A10) LENGTH(2)
		489 1124
1149	N00060	ADDRESS. HEX LOCATION(00002B08) IN CSECT(I7A10) LENGTH(2)
		492
1151	N00061	ADDRESS. HEX LOCATION(00002B0A) IN CSECT(I7A10) LENGTH(2)
		495 1138
1163	N00062	ADDRESS. HEX LOCATION(00002B2C) IN CSECT(I7A10) LENGTH(2)
		498
1165	N00063	ADDRESS. HEX LOCATION(00002B2E) IN CSECT(I7A10) LENGTH(2)
		501 1152
1177	N00064	ADDRESS. HEX LOCATION(00002B4C) IN CSECT(I7A10) LENGTH(2)
		504
1183	N00065	ADDRESS. HEX LOCATION(00002B58) IN CSECT(I7A10) LENGTH(2)
		507 1166
1195	N00066	ADDRESS. HEX LOCATION(00002B7A) IN CSECT(I7A10) LENGTH(2)
		510
1197	N00067	ADDRESS. HEX LOCATION(00002B7C) IN CSECT(I7A10) LENGTH(2)
		513 1184
1209	N00068	ADDRESS. HEX LOCATION(00002BA2) IN CSECT(I7A10) LENGTH(2)
		516
1211	N00069	ADDRESS. HEX LOCATION(00002BA4) IN CSECT(I7A10) LENGTH(2)
		519 1198
1223	N00070	ADDRESS. HEX LOCATION(00002BBA) IN CSECT(I7A10) LENGTH(2)
		522
1225	N00071	ADDRESS. HEX LOCATION(00002BBC) IN CSECT(I7A10) LENGTH(2)
		525 1212
1237	N00072	ADDRESS. HEX LOCATION(00002BDE) IN CSECT(I7A10) LENGTH(2)
		528
1239	N00073	ADDRESS. HEX LOCATION(00002BE0) IN CSECT(I7A10) LENGTH(2)
		531 1226
1251	N00074	ADDRESS. HEX LOCATION(00002BFE) IN CSECT(I7A10) LENGTH(2)
		534
1257	N00075	ADDRESS. HEX LOCATION(00002C0A) IN CSECT(I7A10) LENGTH(2)
		537 1240
1269	N00076	ADDRESS. HEX LOCATION(00002C3C) IN CSECT(I7A10) LENGTH(2)
		540
1271	N00077	ADDRESS. HEX LOCATION(00002C3E) IN CSECT(I7A10) LENGTH(2)
		543 1258
1283	N00078	ADDRESS. HEX LOCATION(00002C68) IN CSECT(I7A10) LENGTH(2)
		546
1285	N00079	ADDRESS. HEX LOCATION(00002C6A) IN CSECT(I7A10) LENGTH(2)
		549 1272
1297	N00080	ADDRESS. HEX LOCATION(00002C80) IN CSECT(I7A10) LENGTH(2)
		552
1299	N00081	ADDRESS. HEX LOCATION(00002C82) IN CSECT(I7A10) LENGTH(2)
		555 1286
1311	N00082	ADDRESS. HEX LOCATION(00002CA4) IN CSECT(I7A10) LENGTH(2)
		558
1313	N00083	ADDRESS. HEX LOCATION(00002CA6) IN CSECT(I7A10) LENGTH(2)
		561 1300
1325	N00084	ADDRESS. HEX LOCATION(00002CD0) IN CSECT(I7A10) LENGTH(2)
		564
1327	N00085	ADDRESS. HEX LOCATION(00002CD2) IN CSECT(I7A10) LENGTH(2)
		567 1314
1339	N00086	ADDRESS. HEX LOCATION(00002CE8) IN CSECT(I7A10) LENGTH(2)
		570
1341	N00087	ADDRESS. HEX LOCATION(00002CEA) IN CSECT(I7A10) LENGTH(2)
		573 1328
1353	N00088	ADDRESS. HEX LOCATION(00002D0C) IN CSECT(I7A10) LENGTH(2)
		576
1355	N00089	ADDRESS. HEX LOCATION(00002D0E) IN CSECT(I7A10) LENGTH(2)
		579 1342
1367	N00090	ADDRESS. HEX LOCATION(00002D2A) IN CSECT(I7A10) LENGTH(2)
		582
1373	N00091	ADDRESS. HEX LOCATION(00002D36) IN CSECT(I7A10) LENGTH(2)
		585 1356
1385	N00092	ADDRESS. HEX LOCATION(00002D6C) IN CSECT(I7A10) LENGTH(2)
		588
1387	N00093	ADDRESS. HEX LOCATION(00002D6E) IN CSECT(I7A10) LENGTH(2)
		591 1374
1399	N00094	ADDRESS. HEX LOCATION(00002D90) IN CSECT(I7A10) LENGTH(2)
		594
1401	N00095	ADDRESS. HEX LOCATION(00002D92) IN CSECT(I7A10) LENGTH(2)
		597 1388
1413	N00096	ADDRESS. HEX LOCATION(00002DB8) IN CSECT(I7A10) LENGTH(2)
		600
1415	N00097	ADDRESS. HEX LOCATION(00002DBA) IN CSECT(I7A10) LENGTH(2)
		603 1402
1427	N00098	ADDRESS. HEX LOCATION(00002DD0) IN CSECT(I7A10) LENGTH(2)
		606
1429	N00099	ADDRESS. HEX LOCATION(00002DD2) IN CSECT(I7A10) LENGTH(2)
		609 1416
1441	N00100	ADDRESS. HEX LOCATION(00002DF4) IN CSECT(I7A10) LENGTH(2)
		612
1443	N00101	ADDRESS. HEX LOCATION(00002DF6) IN CSECT(I7A10) LENGTH(2)
		615 1430
1455	N00102	ADDRESS. HEX LOCATION(00002E14) IN CSECT(I7A10) LENGTH(2)
		618
1461	N00103	ADDRESS. HEX LOCATION(00002E20) IN CSECT(I7A10) LENGTH(2)
		621 1444
1473	N00104	ADDRESS. HEX LOCATION(00002E56) IN CSECT(I7A10) LENGTH(2)
		624
1475	N00105	ADDRESS. HEX LOCATION(00002E58) IN CSECT(I7A10) LENGTH(2)

CROSS-REFERENCE LISTING

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DECLARED  NAME      ATTRIBUTES AND REFERENCES
                    627  1462
  1487    N00106    ADDRESS. HEX LOCATION(00002E7A) IN CSECT(I7A10    ) LENGTH(2)
                    630
  1489    N00107    ADDRESS. HEX LOCATION(00002E7C) IN CSECT(I7A10    ) LENGTH(2)
                    633  1476
  1501    N00108    ADDRESS. HEX LOCATION(00002EA2) IN CSECT(I7A10    ) LENGTH(2)
                    636
  1503    N00109    ADDRESS. HEX LOCATION(00002EA4) IN CSECT(I7A10    ) LENGTH(2)
                    639  1490
  1515    N00110    ADDRESS. HEX LOCATION(00002EBA) IN CSECT(I7A10    ) LENGTH(2)
                    642
  1517    N00111    ADDRESS. HEX LOCATION(00002EBC) IN CSECT(I7A10    ) LENGTH(2)
                    645  1504
  1529    N00112    ADDRESS. HEX LOCATION(00002EDE) IN CSECT(I7A10    ) LENGTH(2)
                    648
  1531    N00113    ADDRESS. HEX LOCATION(00002EE0) IN CSECT(I7A10    ) LENGTH(2)
                    651  1518
  1543    N00114    ADDRESS. HEX LOCATION(00002EFE) IN CSECT(I7A10    ) LENGTH(2)
                    654
  1549    N00115    ADDRESS. HEX LOCATION(00002F0A) IN CSECT(I7A10    ) LENGTH(2)
                    657  1532
    58    OF        ABSOLUTE. HEX VALUE(00000202)
                    672   723  1534
    57    ON        ABSOLUTE. HEX VALUE(00000200)
                    702   756   774   828   846   864   892   910   928
                   1446
  1606    OPTN1     ADDRESS. HEX LOCATION(00003012) IN CSECT(I7A10    ) LENGTH(2)
                   2858  2898  3123  3171  3259  3333  3434  3528  3654
                   3754  3848  3943
  1629    OPTN3     ADDRESS. HEX LOCATION(00003016) IN CSECT(I7A10    ) LENGTH(2)
                   2947  2995
   101    PARMARA   ADDRESS. HEX LOCATION(0000196E) IN CSECT(I7A10    ) LENGTH(1)
                    679   697   709   730   745   763   781   799   817
                    835   853   871   885   899   917   935   953   967
                    981   995  1009  1021  1045  1059  1073  1087  1101
                   1119  1133  1147  1161  1175  1193  1207  1221  1235
                   1249  1267  1281  1295  1309  1323  1337  1351  1365
                   1383  1397  1411  1425  1439  1453  1471  1485  1499
                   1513  1527  1541
  3372    PAT1      ADDRESS. HEX LOCATION(0000377A) IN CSECT(I7A10    ) LENGTH(4)
                   3364
  1964    PDATA     ADDRESS. HEX LOCATION(00003156) IN CSECT(I7A10    ) LENGTH(2)
                   3342  3362
    69    PID       ADDRESS. HEX LOCATION(00001800) IN CSECT(I7A10    ) LENGTH(1)
                     71    72    73    74    75    76    77    78    79
                     80    81    82    83    84    85    86    87    88
                     89    90    91    92    93    94    95    96    97
                     98    99   100   101   102   103   104   105   106
                    107   108   109   110   111   112  3053
  3089    PIDMSG10  ABSOLUTE. HEX VALUE(0000F1F0)
                   3053
  1728    PREP      ABSOLUTE. HEX VALUE(0000000C)
                   3005
  3394    RDBUF     ADDRESS. HEX LOCATION(000038BA) IN CSECT(I7A10    ) LENGTH(2)
                  *3354  3363  3612  3714  3808  3902  3990  3991  4045
  1904    RDDCB     ADDRESS. HEX LOCATION(000030EA) IN CSECT(I7A10    ) LENGTH(2)
                   2058  2059  2061  2116  2117  2118  3352  3353  3354
                   3610  3611  3612  3712  3713  3714  3806  3807  3808
                   3900  3901  3902  3982  3983  3984  4043  4044  4045
  3620    RETRN     ADDRESS. HEX LOCATION(00003B92) IN CSECT(I7A10    ) LENGTH(4)
                   3602
  3721    RETR0     ADDRESS. HEX LOCATION(00003C5A) IN CSECT(I7A10    ) LENGTH(4)
                   3705
  3815    RETR1     ADDRESS. HEX LOCATION(00003D12) IN CSECT(I7A10    ) LENGTH(4)
                   3799
  3909    RETR2     ADDRESS. HEX LOCATION(00003DCA) IN CSECT(I7A10    ) LENGTH(4)
                   3893
  4052    RETR3     ADDRESS. HEX LOCATION(00003F20) IN CSECT(I7A10    ) LENGTH(4)
                   4035
  1735    RICB      ABSOLUTE. HEX VALUE(00000013)
                   3062
  1926    RKDCB     ADDRESS. HEX LOCATION(0000310A) IN CSECT(I7A10    ) LENGTH(2)
                   2070  2075
  1937    RMDCB     ADDRESS. HEX LOCATION(0000311A) IN CSECT(I7A10    ) LENGTH(2)
                   2050
  1960    RSBA      ADDRESS. HEX LOCATION(00003144) IN CSECT(I7A10    ) LENGTH(2)
                   1826  1842  1853  1864  1886  1897  1908  1919  1930
                   1941
  1849    RSDCB     ADDRESS. HEX LOCATION(0000309A) IN CSECT(I7A10    ) LENGTH(2)
                   2042  2047
     0    R0        REGISTER. HEX VALUE(00000000)
                   2103  2105  2106  3125  3182  3194  3292  3337  3338
                   3367  3438  3439  3469  3532  3542  3544  3545  3546
                   3547  3548  3549  3576  3578  3658  3673  3675  3676
                   3677  3678  3679  3680  3758  3767  3769  3770  3771
                   3772  3773  3774  3852  3861  3863  3864  3865  3866
                   3867  3868  3947  3957  3959  3960  3961  3962  3963
                   3964  4016  4018
     0    R1        REGISTER. HEX VALUE(00000001)
                   3042  3045  3048  3051  3177  3178  3180  3181  3341
                   3342  3361  3362  3461  3461
     0    R2        REGISTER. HEX VALUE(00000002)
                   3047  3048  3126  3129  3175  3211  3213  3339  3351
                   3360  3373  3389  3440  3456  3474  3492  3543  3545
                   3547  3547  3557  3674  3676  3678  3678  3687  3768
                   3770  3772  3772  3781  3862  3864  3866  3866  3875
                   3958  3960  3962  3962  3972
     0    R3        REGISTER. HEX VALUE(00000003)
                   1989  1991  2043  2046  2053  2054  2057  2060  2071
                   2074  2090  2093  2096  2098  2119  2120  2741  2754
                   2757  2758  2761  2763  2820  2821  2822  2856  2857
                   2863  2867  2896  2897  2902  2915  2947  2992  2994
                   2995  3003  3040  3041  3045  3057  3342  3343  3344
                   3362  3363  3372  3444  3445  3448  3464  3465  3475
                   3476
     0    R4        REGISTER. HEX VALUE(00000004)
                   2099  2100  2101  2747  2748  2751  2765  2766  2768
                   2769  2772  2778  2786  2858  2859  2861  2865  2869
                   2898  2899  2900  2910  2911  2912  2914  2917  2927
                   2929  2931  2934  2936  3123  3171  3190  3195  3205
                   3259  3271  3278  3282  3333  3348  3357  3380  3434
                   3453  3459  3483  3528  3538  3553  3564  3573  3582
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CROSS-REFERENCE LISTING

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DECLARED  NAME      ATTRIBUTES AND REFERENCES
                    3590  3607  3654  3663  3670  3684  3694  3710  3754
                    3764  3778  3788  3804  3848  3858  3872  3882  3898
                    3943  3953  3968  3978  3987  3997  4004  4013  4023
                    4040
     0    R5        REGISTER. HEX VALUE(00000005)
                    1990  1991  2044  2046  2052  2054  2058  2060  2072
                    2074  2091  2093  2094  2096  2118  2120  2755  2757
                    2759  2761  2777  2784  2906  2907  2908  2939  2940
                    2942  2944  2993  2994  3039  3052  3185  3186  3187
                    3188  3192  3447  3448  3462  3465  3475
     0    R6        REGISTER. HEX VALUE(00000006)
                    1992  1993  2089  2753  2773  2787  2823  2928  2933
                    2935  2943  2946  2948  2998  3004  3006  3044  3049
                    3050  3172  3197  3202  3203  3260  3264  3269  3272
                    3276  3280  3283  3334  3346  3350  3355  3359  3374
                    3377  3378  3435  3451  3455  3457  3477  3480  3481
                    3529  3536  3540  3551  3555  3556  3562  3566  3567
                    3571  3575  3580  3587  3588  3602  3605  3609  3655
                    3661  3668  3682  3686  3692  3696  3705  3708  3755
                    3762  3776  3780  3786  3790  3799  3802  3849  3856
                    3870  3874  3880  3884  3893  3896  3944  3951  3955
                    3966  3970  3971  3976  3980  3985  3989  3995  3999
                    4002  4006  4007  4011  4015  4020  4021  4035  4038
                    4042
     0    R7        REGISTER. HEX VALUE(00000007)
                    1708  1988  2045  2051  2059  2073  2092  2095  2102
                    2117  2756  2760  2767  2862  2903  2991  2996  3001
                    3034  3043  3046  3058  3061  3121  3169  3257  3331
                    3432  3446  3463  3467  3526  3652  3752  3846  3941
  1669    SCTID     ADDRESS. HEX LOCATION(00003020) IN CSECT(I7A10    ) LENGTH(2)
                   1856  1933  1989  2044  2047  2072  2075
  1860    SKDCB     ADDRESS. HEX LOCATION(000030AA) IN CSECT(I7A10    ) LENGTH(2)
                   2036
  1726    START     ABSOLUTE. HEX VALUE(0000000A)
                   2770
   104    SUPSTAT   ADDRESS. HEX LOCATION(000019C4) IN CSECT(I7A10    ) LENGTH(1)
                   3056
  3386    TA13      ADDRESS. HEX LOCATION(000037A8) IN CSECT(I7A10    ) LENGTH(4)
                   3377  3387  3388
  3387    TA13A     ADDRESS. HEX LOCATION(000037AC) IN CSECT(I7A10    ) LENGTH(6)
                   3385
  3489    TA14      ADDRESS. HEX LOCATION(00003A72) IN CSECT(I7A10    ) LENGTH(4)
                   3480  3490  3491
  3490    TA14A     ADDRESS. HEX LOCATION(00003A76) IN CSECT(I7A10    ) LENGTH(6)
                   3488
  3596    TA18      ADDRESS. HEX LOCATION(00003B56) IN CSECT(I7A10    ) LENGTH(4)
                   3587
  3597    TA18A     ADDRESS. HEX LOCATION(00003B5A) IN CSECT(I7A10    ) LENGTH(6)
                   3583  3591  3595
  4029    TA33      ADDRESS. HEX LOCATION(00003EE4) IN CSECT(I7A10    ) LENGTH(4)
                   4020
  4030    TA33A     ADDRESS. HEX LOCATION(00003EE8) IN CSECT(I7A10    ) LENGTH(6)
                   4024  4028
  3212    TA55      ADDRESS. HEX LOCATION(00003650) IN CSECT(I7A10    ) LENGTH(4)
                   3202
    92    TUMSGWTR  ADDRESS. HEX LOCATION(000018BA) IN CSECT(I7A10    ) LENGTH(1)
                   3058
    76    TUPARM1   ADDRESS. HEX LOCATION(0000189A) IN CSECT(I7A10    ) LENGTH(1)
                   3177  3263  3542  3673  3767  3861  3957
    77    TUPARM2   ADDRESS. HEX LOCATION(0000189C) IN CSECT(I7A10    ) LENGTH(1)
                   3543  3674  3768  3862  3958
    98    TURESUL   ADDRESS. HEX LOCATION(000018C8) IN CSECT(I7A10    ) LENGTH(1)
                   3125  3126  3175  3193  3194  3207  3208  3286  3287
                   3288  3289  3292  3337  3338  3339  3343  3367  3372
                   3382  3383  3438  3439  3440  3445  3469  3476  3485
                   3486  3532  3584  3592  3593  3597  3658  3698  3758
                   3792  3852  3886  3947  3990  3991  4025  4026  4030
  1698    TURTN     ADDRESS. HEX LOCATION(0000305A) IN CSECT(I7A10    ) LENGTH(2)
                   3063  3121  3169  3257  3331  3432  3526  3652  3752
                   3846  3941
    74    TUSTATUS  ADDRESS. HEX LOCATION(00001818) IN CSECT(I7A10    ) LENGTH(1)
                   3033
    75    TUWORK    ADDRESS. HEX LOCATION(0000181A) IN CSECT(I7A10    ) LENGTH(1)
                   3036  3037  3038  3040  3096  3263  3266  3267  3274
                   3285  3286  3287  3288  3289  3290
  3496    TWO2      ADDRESS. HEX LOCATION(00003A84) IN CSECT(I7A10    ) LENGTH(2)
                   3365
  3587    T18ER     ADDRESS. HEX LOCATION(00003B34) IN CSECT(I7A10    ) LENGTH(4)
                   3540  3555  3566  3575  3609
  3599    T18EX     ADDRESS. HEX LOCATION(00003B60) IN CSECT(I7A10    ) LENGTH(4)
                   3585
  3577    T18LP     ADDRESS. HEX LOCATION(00003B1E) IN CSECT(I7A10    ) LENGTH(2)
                   3578
  3700    T30ER     ADDRESS. HEX LOCATION(00003C26) IN CSECT(I7A10    ) LENGTH(4)
                   3664  3671  3685  3695  3711
  3702    T30EX     ADDRESS. HEX LOCATION(00003C2A) IN CSECT(I7A10    ) LENGTH(4)
                   3699
  3794    T31ER     ADDRESS. HEX LOCATION(00003CDE) IN CSECT(I7A10    ) LENGTH(4)
                   3765  3779  3789  3805
  3796    T31EX     ADDRESS. HEX LOCATION(00003CE2) IN CSECT(I7A10    ) LENGTH(4)
                   3793
  3888    T32ER     ADDRESS. HEX LOCATION(00003D96) IN CSECT(I7A10    ) LENGTH(4)
                   3859  3873  3883  3899
  3890    T32EX     ADDRESS. HEX LOCATION(00003D9A) IN CSECT(I7A10    ) LENGTH(4)
                   3887
  4020    T33ER     ADDRESS. HEX LOCATION(00003EC2) IN CSECT(I7A10    ) LENGTH(4)
                   3955  3970  3980  3989  3999  4006  4015  4042
  4032    T33EX     ADDRESS. HEX LOCATION(00003EEE) IN CSECT(I7A10    ) LENGTH(4)
                   4019
  4017    T33LP     ADDRESS. HEX LOCATION(00003EBC) IN CSECT(I7A10    ) LENGTH(2)
                   4018
  1707    T7A02     ADDRESS. HEX LOCATION(00003062) IN CSECT(I7A10    ) LENGTH(6)
                    701  1013
  3257    T7A08     ADDRESS. HEX LOCATION(0000365C) IN CSECT(I7A10    ) LENGTH(4)
                    722
  3331    T7A13     ADDRESS. HEX LOCATION(000036F2) IN CSECT(I7A10    ) LENGTH(4)
                    689
  3432    T7A14     ADDRESS. HEX LOCATION(000039BA) IN CSECT(I7A10    ) LENGTH(4)
                    737
  3526    T7A18     ADDRESS. HEX LOCATION(00003A86) IN CSECT(I7A10    ) LENGTH(4)
                    773   791   809   827   845   891  1445  1533
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DECLARED NAME ATTRIBUTES AND REFERENCES

3652 T7A30 ADDRESS. HEX LOCATION(00003B98) IN CSECT(I7A10) LENGTH(4)
945 1037 1111 1185 1259 1375 1389 1463 1477

3752 T7A31 ADDRESS. HEX LOCATION(00003C60) IN CSECT(I7A10) LENGTH(4)
863 959 987 1051 1079 1125 1153 1199 1227
1403 1431 1491 1519

3846 T7A32 ADDRESS. HEX LOCATION(00003D18) IN CSECT(I7A10) LENGTH(4)
1273 1301 1315 1343

3941 T7A33 ADDRESS. HEX LOCATION(00003DD0) IN CSECT(I7A10) LENGTH(4)
1001 1093 1167 1241 1357

3131 T7A50X ADDRESS. HEX LOCATION(000035C6) IN CSECT(I7A10) LENGTH(4)
3128

3121 T7A52 ADDRESS. HEX LOCATION(000035A6) IN CSECT(I7A10) LENGTH(4)
671

3169 T7A55 ADDRESS. HEX LOCATION(000035CA) IN CSECT(I7A10) LENGTH(4)
755 877 909 927 973 1065 1139 1213 1287
1329 1417 1505

3189 T7A55K ADDRESS. HEX LOCATION(00003610) IN CSECT(I7A10) LENGTH(2)
3192

3218 T7A55L ADDRESS. HEX LOCATION(00003658) IN CSECT(I7A10) LENGTH(2)
3178 3179 3180 3181 3182 3184

3193 T7A55M ADDRESS. HEX LOCATION(00003618) IN CSECT(I7A10) LENGTH(6)
3191

3294 T7A89 ADDRESS. HEX LOCATION(000036EE) IN CSECT(I7A10) LENGTH(4)
3291

1893 VRDCB ADDRESS. HEX LOCATION(000030DA) IN CSECT(I7A10) LENGTH(2)
2064

3377 WD1ER ADDRESS. HEX LOCATION(00003786) IN CSECT(I7A10) LENGTH(4)
3350 3359 3374

1915 WKDCB ADDRESS. HEX LOCATION(000030FA) IN CSECT(I7A10) LENGTH(2)
2078 2079

3393 WRBUF ADDRESS. HEX LOCATION(000037BA) IN CSECT(I7A10) LENGTH(2)
3441 3447 3449 3450 3462

1882 WRDCB ADDRESS. HEX LOCATION(000030CA) IN CSECT(I7A10) LENGTH(2)
2067 2113 3441 3442 3443

1732 WRIT0 ABSOLUTE. HEX VALUE(00000010)
2108

1733 WRIT1 ABSOLUTE. HEX VALUE(00000011)
2110

1954 WRSID ADDRESS. HEX LOCATION(00003138) IN CSECT(I7A10) LENGTH(2)
1845 1922 1990 2079 2083

3602 WRTSN ADDRESS. HEX LOCATION(00003B64) IN CSECT(I7A10) LENGTH(4)
3556 3567

3705 WRTS0 ADDRESS. HEX LOCATION(00003C2E) IN CSECT(I7A10) LENGTH(4)
3686 3696

3799 WRTS1 ADDRESS. HEX LOCATION(00003CE6) IN CSECT(I7A10) LENGTH(4)
3780 3790

3893 WRTS2 ADDRESS. HEX LOCATION(00003D9E) IN CSECT(I7A10) LENGTH(4)
3874 3884

4035 WRTS3 ADDRESS. HEX LOCATION(00003EF2) IN CSECT(I7A10) LENGTH(4)
3971 4007

1838 WSDCB ADDRESS. HEX LOCATION(0000308A) IN CSECT(I7A10) LENGTH(2)
2082 2083

1645 XE ABSOLUTE. HEX VALUE(00000024)
2865 2927

1643 XI ABSOLUTE. HEX VALUE(00000022)
2101 2769 2912

2741 XIO ADDRESS. HEX LOCATION(0000327A) IN CSECT(I7A10) LENGTH(4)
2037 2040 2048 2055 2062 2065 2068 2076 2080
2084 2087

2927 XIOCK ADDRESS. HEX LOCATION(0000334E) IN CSECT(I7A10) LENGTH(2)
2779

2934 XIOCO ADDRESS. HEX LOCATION(00003360) IN CSECT(I7A10) LENGTH(2)
2932

2944 XIOCQ ADDRESS. HEX LOCATION(00003376) IN CSECT(I7A10) LENGTH(4)
2941

2749 XIOCS ADDRESS. HEX LOCATION(0000328C) IN CSECT(I7A10) LENGTH(6)
2945 3203 3264 3272 3283 3378 3457 3481 3580
3588 4021

2936 XIOCV ADDRESS. HEX LOCATION(00003364) IN CSECT(I7A10) LENGTH(2)
2930

2947 XIOCX ADDRESS. HEX LOCATION(00003382) IN CSECT(I7A10) LENGTH(4)
2937

2744 XIODG ADDRESS. HEX LOCATION(00003280) IN CSECT(I7A10) LENGTH(6)
2114 2121

2820 XIOER ADDRESS. HEX LOCATION(000032EC) IN CSECT(I7A10) LENGTH(2)
2953

2753 XIO1 ADDRESS. HEX LOCATION(0000329C) IN CSECT(I7A10) LENGTH(4)
2742 2745

2766 XIO2 ADDRESS. HEX LOCATION(000032C2) IN CSECT(I7A10) LENGTH(2)
2752

2778 XIO8 ADDRESS. HEX LOCATION(000032D8) IN CSECT(I7A10) LENGTH(2)
2109 2111 2785

62 XTRNL ABSOLUTE. HEX VALUE(00000001)
695 715 751 769 787 805 823 841 859
905 923 941 1027 1033 1107 1181 1255 1371
1459 1547 1553

3369 X7A13 ADDRESS. HEX LOCATION(00003776) IN CSECT(I7A10) LENGTH(4)
3375 3376 3390

3471 X7A14 ADDRESS. HEX LOCATION(00003A38) IN CSECT(I7A10) LENGTH(4)
3478 3479 3493

3199 X7A55 ADDRESS. HEX LOCATION(00003628) IN CSECT(I7A10) LENGTH(4)
3196 3210 3214

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