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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
                             3       COPY  LOG7A00              ** MAP EC HISTORY **
                             4  ************************************************************************
                             5  *                                                                      *
                             6  *                    ***       PREREQUISITES        ***                *
                             7  *                                                                      *
                             8  *                                 NONE                                 *
                             9  *                                                                      *
                            10  ************************************************************************
                            11  *                                                                      *
                            12  *                    ***       MODIFICATIONS        ***                *
                            13  *                                                                      *
                            14  *     CHANGES MADE TO CORRECT ERRORS FOUND WHILE IN TEST                *
                            15  *                                                                      *
                            16  ************************************************************************
                            17  *                                                                      *
                            18  *                    ***     REA'S INCORPORATED     ***                *
                            19  *                                                                      *
                            20  *                                 NONE                                 *
                            21  *                                                                      *
                            22  ************************************************************************
                            23  *                                                                      *
                            24  *                    ***    SPECIAL INSTRUCTIONS    ***                *
                            25  *                                                                      *
                            26  *                                 NONE                                 *
                            27  *                                                                      *
                            28  ************************************************************************
                            29  *                                                                      *
                            30  *                    ***       E. C. HISTORY        ***                *
                            31  *                                                                      *
                            32  *       DATE 17AUG78  DATE 02OCT78  DATE 10JAN79  DATE                 *
                            33  *       E.C. 755391   E.C. 375102   E.C. 375222   E.C.                   *
                            34  *                                                                      *
                            35  ************************************************************************
002500                      37  I7A00    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 GREATEF 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
000011                      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
001232                      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 POITTER
0018A4                      81  TUPARM6  EQU   PID+X'00A4'          ADDRESS OF PARM 6 POINTER
0018A6                      82  TUPARM7  EQU   PID+X'00A6'          ADDRESS OF PARM 7 POITTER
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'00BE'          ADDRESS OF UNIT ADDRESS IN EBC
0018C0                      94  TUDA     EQU   PID+X'00C0'          ADDRESS 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  2A24               198          DC    A(ENTPT)            POINT TO MAP ENTRY POINT TABLE
                           199  ************************************************************************
                           200  ************************************************************************
                           201  **                                                                    **
                           202  **   THE FOLLOWING TABLES ARE USED BY THE MDI SUPERVISOR (D3C00)      **
                           203  **   TO LOCATE THE CORRECT RULE TO INVOKE, TO OBTAIN THE PROPER       **
                           204  **   PARAMETERS TO PASS TO THE TU'S AND TO PASS TO THE OPERATOR       **
                           205  **   THE INDICATED MESSAGE(S). THERE ARE FOUR TABLES USED FOR THIS    **
                           206  **   PURPOSE THEY ARE:                                               **
                           207  **                                                                    **
                           208  **   STEP AND RULE ADDRESS TABLE                                     **
                           209  **        THIS TABLE GIVES THE ADDRESS OF THE RULE TO INVOKE AND      **
                           210  **        THE ASSOCIATED STEP DECIMAL STEP NUMBER OF THAT RULE.       **
                           211  **        ENTRIES ARE AS 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       **
                           241  **                                                                    **
                           242  **        $CALL                                                       **
                           243  **              A) RULE EQUATE X'0201'                                **
                           244  **              B) ADDRESS OF MESSAGE                                 **
                           245  **              C) NAME OF MAP TO CALL                                **
                           246  **              D) ENTRY POINT WITHIN CALLED MAP TO USE               **
                           247  **              E) INDICATOR FOR EXTERNAL OR INTERNAL REFERENCE       **
                           248  **                                                                    **
                           249  **        $INPT                                                       **
                           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 WORDS 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'                                **
                           281  **                                                                    **
                           282  **   ENTRY POINT TABLE                                               **
                           283  **        THIS TABLE CONTAINS THE ENTRY POINTS WITHIN THE MAP THAT     **
                           284  **        THE MAP CAN BE ENTERED FROM THESE ENTRY POINTS ARE           **
                           285  **        REFERENCED BY NAME AND ADDRESS. ENTRIES ARE AS FOLLOWES:     **
                           286  **                                                                    **
                           287  **             A) NAME OF ENTRY POINT                                 **
                           288  **             B) ADDRESS OF ENTRY POINT RULE TABLE                   **
                           289  **                                                                    **
                           290  **        THE ENTRY POINT TABLE END IS INDICATED BY A X'0000'         **
                           291  **                                                                    **
                           292  **   MESSAGE TABLE                                                   **
                           293  **        THIS TABLE CONTAINES THE MESSAGE PASSED TO THE OPERATOR      **
                           294  **        VIA THE MDI SUPERVISOR. THE TABLE IS AS FOLLOWES:           **
                           295  **                                                                    **
                           296  **             A) EQUATE FOR START OF MESSAGE BLOCK                   **
                           297  **             B) NUMBER OF LINES OF MESSAGE                          **
                           298  **             C) LENGTH OF FOLLOWING LINE                            **
                           299  **             D) FIRST LINE OF MESSAGE                               **
                           300  **             E) LENGTH OF FOLLOWING LINE                            **
                           301  **             F) SECOND LINE OF MESSAGE                              **
                           302  **             G) ETC.                                                **
                           303  **                                                                    **
                           304  ************************************************************************
                           305  ************************************************************************
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976
                           308 ************************************************************************
                           309 ************************************************************************
                           310 **                                                                    **
                           311 **                    STEP AND RULE ADDRESS TABLE                     **
                           312 **                                                                    **
                           313 ************************************************************************
                           314 ************************************************************************
002502  2610               315          DC    AL2(N00001)
002504  0001               316          DC    XL2'0001'
000001                     317 EQN00001 EQU       0001
002506  2622               318          DC    AL2(N00002)
002508  0002               319          DC    XL2'0002'
000002                     320 EQN00002 EQU       0002
00250A  2626               321          DC    AL2(N00003)
00250C  0003               322          DC    XL2'0003'
000003                     323 EQN00003 EQU       0003
00250E  263C               324          DC    AL2(N00004)
002510  0004               325          DC    XL2'0004'
000004                     326 EQN00004 EQU       0004
002512  264E               327          DC    AL2(N00005)
002514  0005               328          DC    XL2'0005'
000005                     329 EQN00005 EQU       0005
002516  265A               330          DC    AL2(N00006)
002518  0006               331          DC    XL2'0006'
000006                     332 EQN00006 EQU       0006
00251A  2670               333          DC    AL2(N00007)
00251C  0007               334          DC    XL2'0007'
000007                     335 EQN00007 EQU       0007
00251E  267C               336          DC    AL2(N00008)
002520  0008               337          DC    XL2'0008'
000008                     338 EQN00008 EQU       0008
002522  2680               339          DC    AL2(N00009)
002524  0009               340          DC    XL2'0009'
000009                     341 EQN00009 EQU       0009
002526  2696               342          DC    AL2(N00010)
002528  0010               343          DC    XL2'0010'
00000A                     344 EQN00010 EQU       0010
00252A  26A8               345          DC    AL2(N00011)
00252C  0011               346          DC    XL2'0011'
00000B                     347 EQN00011 EQU       0011
00252E  26BA               348          DC    AL2(N00012)
002530  0012               349          DC    XL2'0012'
00000C                     350 EQN00012 EQU       0012
002532  26CC               351          DC    AL2(N00013)
002534  0013               352          DC    XL2'0013'
00000D                     353 EQN00013 EQU       0013
002536  26D8               354          DC    AL2(N00014)
002538  0014               355          DC    XL2'0014'
00000E                     356 EQN00014 EQU       0014
00253A  26EE               357          DC    AL2(N00015)
00253C  0015               358          DC    XL2'0015'
00000F                     359 EQN00015 EQU       0015
00253E  26FA               360          DC    AL2(N00016)
002540  0016               361          DC    XL2'0016'
000010                     362 EQN00016 EQU       0016
002542  2706               363          DC    AL2(N00017)
002544  0017               364          DC    XL2'0017'
000011                     365 EQN00017 EQU       0017
002546  270A               366          DC    AL2(N00018)
002548  0018               367          DC    XL2'0018'
000012                     368 EQN00018 EQU       0018
00254A  270E               369          DC    AL2(N00019)
00254C  0019               370          DC    XL2'0019'
000013                     371 EQN00019 EQU       0019
00254E  2722               372          DC    AL2(N00020)
002550  0020               373          DC    XL2'0020'
000014                     374 EQN00020 EQU       0020
002552  2726               375          DC    AL2(N00021)
002554  0021               376          DC    XL2'0021'
000015                     377 EQN00021 EQU       0021
002556  273C               378          DC    AL2(N00022)
002558  0022               379          DC    XL2'0022'
000016                     380 EQN00022 EQU       0022
00255A  2748               381          DC    AL2(N00023)
00255C  0023               382          DC    XL2'0023'
000017                     383 EQN00023 EQU       0023
00255E  275E               384          DC    AL2(N00024)
002560  0024               385          DC    XL2'0024'
000018                     386 EQN00024 EQU       0024
002562  276A               387          DC    AL2(N00025)
002564  0025               388          DC    XL2'0025'
000019                     389 EQN00025 EQU       0025
002566  2780               390          DC    AL2(N00026)
002568  0026               391          DC    XL2'0026'
00001A                     392 EQN00026 EQU       0026
00256A  278C               393          DC    AL2(N00027)
00256C  0027               394          DC    XL2'0027'
00001B                     395 EQN00027 EQU       0027
00256E  27A2               396          DC    AL2(N00028)
002570  0028               397          DC    XL2'0028'
00001C                     398 EQN00028 EQU       0028
002572  27AE               399          DC    AL2(N00029)
002574  0029               400          DC    XL2'0029'
00001D                     401 EQN00029 EQU       0029
002576  27C4               402          DC    AL2(N00030)
002578  0030               403          DC    XL2'0030'
00001E                     404 EQN00030 EQU       0030
00257A  27D0               405          DC    AL2(N00031)
00257C  0031               406          DC    XL2'0031'
00001F                     407 EQN00031 EQU       0031
00257E  27E6               408          DC    AL2(N00032)
002580  0032               409          DC    XL2'0032'
000020                     410 EQN00032 EQU       0032
002582  27F2               411          DC    AL2(N00033)
002584  0033               412          DC    XL2'0033'
000021                     413 EQN00033 EQU       0033
002586  2808               414          DC    AL2(N00034)
002588  0034               415          DC    XL2'0034'
000022                     416 EQN00034 EQU       0034
00258A  2814               417          DC    AL2(N00035)
00258C  0035               418          DC    XL2'0035'
000023                     419 EQN00035 EQU       0035
00258E  282A               420          DC    AL2(N00036)
002590  0036               421          DC    XL2'0036'
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000024                     422 EQN00036 EQU       0036
002592  2836               423          DC    AL2(N00037)
002594  0037               424          DC    XL2'0037'
000025                     425 EQN00037 EQU       0037
002596  284C               426          DC    AL2(N00038)
002598  0038               427          DC    XL2'0038'
000026                     428 EQN00038 EQU       0038
00259A  2858               429          DC    AL2(N00039)
00259C  0039               430          DC    XL2'0039'
000027                     431 EQN00039 EQU       0039
00259E  286A               432          DC    AL2(N00040)
0025A0  0040               433          DC    XL2'0040'
000028                     434 EQN00040 EQU       0040
0025A2  2876               435          DC    AL2(N00041)
0025A4  0041               436          DC    XL2'0041'
000029                     437 EQN00041 EQU       0041
0025A6  288C               438          DC    AL2(N00042)
0025A8  0042               439          DC    XL2'0042'
00002A                     440 EQN00042 EQU       0042
0025AA  2898               441          DC    AL2(N00043)
0025AC  0043               442          DC    XL2'0043'
00002B                     443 EQN00043 EQU       0043
0025AE  28AC               444          DC    AL2(N00044)
0025B0  0044               445          DC    XL2'0044'
00002C                     446 EQN00044 EQU       0044
0025B2  28B8               447          DC    AL2(N00045)
0025B4  0045               448          DC    XL2'0045'
00002D                     449 EQN00045 EQU       0045
0025B6  28CE               450          DC    AL2(N00046)
0025B8  0046               451          DC    XL2'0046'
00002E                     452 EQN00046 EQU       0046
0025BA  28DA               453          DC    AL2(N00047)
0025BC  0047               454          DC    XL2'0047'
00002F                     455 EQN00047 EQU       0047
0025BE  28EC               456          DC    AL2(N00048)
0025C0  0048               457          DC    XL2'0048'
000030                     458 EQN00048 EQU       0048
0025C2  28F8               459          DC    AL2(N00049)
0025C4  0049               460          DC    XL2'0049'
000031                     461 EQN00049 EQU       0049
0025C6  290E               462          DC    AL2(N00050)
0025C8  0050               463          DC    XL2'0050'
000032                     464 EQN00050 EQU       0050
0025CA  291A               465          DC    AL2(N00051)
0025CC  0051               466          DC    XL2'0051'
000033                     467 EQN00051 EQU       0051
0025CE  292E               468          DC    AL2(N00052)
0025D0  0052               469          DC    XL2'0052'
000034                     470 EQN00052 EQU       0052
0025D2  293A               471          DC    AL2(N00053)
0025D4  0053               472          DC    XL2'0053'
000035                     473 EQN00053 EQU       0053
0025D6  2950               474          DC    AL2(N00054)
0025D8  0054               475          DC    XL2'0054'
000036                     476 EQN00054 EQU       0054
0025DA  295C               477          DC    AL2(N00055)
0025DC  0055               478          DC    XL2'0055'
000037                     479 EQN00055 EQU       0055
0025DE  296E               480          DC    AL2(N00056)
0025E0  0056               481          DC    XL2'0056'
000038                     482 EQN00056 EQU       0056
0025E2  297A               483          DC    AL2(N00057)
0025E4  0057               484          DC    XL2'0057'
000039                     485 EQN00057 EQU       0057
0025E6  2990               486          DC    AL2(N00058)
0025E8  0058               487          DC    XL2'0058'
00003A                     488 EQN00058 EQU       0058
0025EA  299C               489          DC    AL2(N00059)
0025EC  0059               490          DC    XL2'0059'
00003B                     491 EQN00059 EQU       0059
0025EE  29B0               492          DC    AL2(N00060)
0025F0  0060               493          DC    XL2'0060'
00003C                     494 EQN00060 EQU       0060
0025F2  29BC               495          DC    AL2(N00061)
0025F4  0061               496          DC    XL2'0061'
00003D                     497 EQN00061 EQU       0061
0025F6  29CE               498          DC    AL2(N00062)
0025F8  0062               499          DC    XL2'0062'
00003E                     500 EQN00062 EQU       0062
0025FA  29DA               501          DC    AL2(N00063)
0025FC  0063               502          DC    XL2'0063'
00003F                     503 EQN00063 EQU       0063
0025FE  29EC               504          DC    AL2(N00064)
002600  0064               505          DC    XL2'0064'
000040                     506 EQN00064 EQU       0064
002602  29F8               507          DC    AL2(N00065)
002604  0065               508          DC    XL2'0065'
000041                     509 EQN00065 EQU       0065
002606  2A0A               510          DC    AL2(N00066)
002608  0066               511          DC    XL2'0066'
000042                     512 EQN00066 EQU       0066
00260A  2A16               513          DC    AL2(N00067)
00260C  0067               514          DC    XL2'0067'
000043                     515 EQN00067 EQU       0067
00260E  0000               516          DC    AL2(DUMMY)
                           517 ************************************************************************
                           518 ************************************************************************
                           519 **                                                                    **
                           520 **                    RULE INFORMATION TABLE                          **
                           521 **                                                                    **
                           522 ************************************************************************
                           523 ************************************************************************
                           524 N00001   $TUXX T7A50,01,80,OF,QT=(Q00040),YES=N00003,CT=(C00039)
                           525+N00001   DC    A(@TUXX)
002610  0500               526+         DC    AL2(N00003)
002612  2626               527+         DC    A(T7A50)
002614  32FC               528+         DC    AL2(OF)
002616  0202               529+         DC    AL2(01)
002618  0001               530+         DC    X'80'
00261A  80                 531+         ALIGN WORD
00261B  00                 532+         DC    AL2(0)
00261C  0000               533+         DC    C'AA'
00261E  C1C1               534+         ALIGN WORD
                           535+         DC     AL2(PARMARA)
002620  196E
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                           536 N00002   $FIXT FT=(F00042)
                           537+N00002   DC    A(@FIXT)
002622  0101               538+         DC    A(F00042)
002624  2A32               539 N00003   $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=6F0000,QT=(Q00045),        X
                           540+N00003   DC    A(@TUXX)
002626  0500               541+         DC    AL2(N00009)
002628  2680               542+         DC    A(T7A01)
00262A  3322               543+         DC    AL2(EQ)
00262C  0000               544+         DC    AL2(02)
00262E  0002               545+         DC    X'0708'
002630  0708               546+         ALIGN WORD
002632  0006               547+         DC    AL2(6)
002634  F6C6F0F0F0F0       548+         DC    C'6F0000'
                           549+         ALIGN WORD
00263A  196E               550+         DC     AL2(PARMARA)
                           551 N00004   $TUXX T7A02,02,0008,EQ,,QT=(Q00048),YES=N00006
00263C  0500               552+N00004   DC    A(@TUXX)
00263E  265A               553+         DC    AL2(N00006)
002640  2DB8               554+         DC    A(T7A02)
002642  0000               555+         DC    AL2(EQ)
002644  0002               556+         DC    AL2(02)
002646  0008               557+         DC    X'0008'
                           558+         ALIGN WORD
002648  0000               559+         DC    AL2(0)
00264A  C1C1               560+         DC    C'AA'
                           561+         ALIGN WORD
00264C  196E               562+         DC     AL2(PARMARA)
                           563 N00005   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00264E  0201               564+N00005   DC    A(@CALL)
002650  2A46               565+         DC    A(F00012)
002652  F7C1F0F1           566+         DC    CL4'7A01'
002656  C140               567+         DC    CL2'A'
002658  0001               568+         DC    AL2(XTRNL)
                           569 N00006   $TUXX T7A01,02,0008,EQ,PLNG=6,PARM=200000,QT=(Q00053),        X
00265A  0500               570+N00006   DC    A(@TUXX)
00265C  267C               571+         DC    AL2(N00008)
00265E  3322               572+         DC    A(T7A01)
002660  0000               573+         DC    AL2(EQ)
002662  0002               574+         DC    AL2(02)
002664  0008               575+         DC    X'0008'
                           576+         ALIGN WORD
002666  0006               577+         DC    AL2(6)
002668  F2F0F0F0F0F0       578+         DC    C'200000'
                           579+         ALIGN WORD
00266E  196E               580+         DC     AL2(PARMARA)
                           581 N00007   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
002670  0201               582+N00007   DC    A(@CALL)
002672  2A46               583+         DC    A(F00012)
002674  F7C1F0F1           584+         DC    CL4'7A01'
002678  C140               585+         DC    CL2'A'
00267A  0001               586+         DC    AL2(XTRNL)
                           587 N00008   $FIXT FT=(F00058)
00267C  0101               588+N00008   DC    A(@FIXT)
00267E  2AC2               589+         DC    A(F00058)
                           590 N00009   $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=200000,QT=(Q00066),        X
002680  0500               591+N00009   DC    A(@TUXX)
002682  270E               592+         DC    AL2(N00019)
002684  3322               593+         DC    A(T7A01)
002686  0000               594+         DC    AL2(EQ)
002688  0002               595+         DC    AL2(02)
00268A  0708               596+         DC    X'0708'
                           597+         ALIGN WORD
00268C  0006               598+         DC    AL2(6)
00268E  F2F0F0F0F0F0       599+         DC    C'200000'
                           600+         ALIGN WORD
002694  196E               601+         DC     AL2(PARMARA)
                           602 N00010   $TUXX T7A02,02,0508,EQ,QT=(Q00069),YES=N00018,ST=(S00034)
002696  0500               603+N00010   DC    A(@TUXX)
002698  270A               604+         DC    AL2(N00018)
00269A  2DB8               605+         DC    A(T7A02)
00269C  0000               606+         DC    AL2(EQ)
00269E  0002               607+         DC    AL2(02)
0026A0  0508               608+         DC    X'0508'
                           609+         ALIGN WORD
0026A2  0000               610+         DC    AL2(0)
0026A4  C1C1               611+         DC    C'AA'
                           612+         ALIGN WORD
0026A6  196E               613+         DC     AL2(PARMARA)
                           614 N00011   $TUXX T7A02,02,0308,EQ,QT=(Q00072),YES=N00017,ST=(S00034)
0026A8  0500               615+N00011   DC    A(@TUXX)
0026AA  2706               616+         DC    AL2(N00017)
0026AC  2DB8               617+         DC    A(T7A02)
0026AE  0000               618+         DC    AL2(EQ)
0026B0  0002               619+         DC    AL2(02)
0026B2  0308               620+         DC    X'0308'
                           621+         ALIGN WORD
0026B4  0000               622+         DC    AL2(0)
0026B6  C1C1               623+         DC    C'AA'
                           624+         ALIGN WORD
0026B8  196E               625+         DC     AL2(PARMARA)
                           626 N00012   $TUXX T7A02,02,0208,EQ,QT=(Q00075),YES=N00014,ST=(S00034)
0026BA  0500               627+N00012   DC    A(@TUXX)
0026BC  26D8               628+         DC    AL2(N00014)
0026BE  2DB8               629+         DC    A(T7A02)
0026C0  0000               630+         DC    AL2(EQ)
0026C2  0002               631+         DC    AL2(02)
0026C4  0208               632+         DC    X'0208'
                           633+         ALIGN WORD
0026C6  0000               634+         DC    AL2(0)
0026C8  C1C1               635+         DC    C'AA'
                           636+         ALIGN WORD
0026CA  196E               637+         DC     AL2(PARMARA)
                           638 N00013   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0026CC  0201               639+N00013   DC    A(@CALL)
0026CE  2A46               640+         DC    A(F00012)
0026D0  F7C1F0F1           641+         DC    CL4'7A01'
0026D4  C140               642+         DC    CL2'A'
0026D6  0001               643+         DC    AL2(XTRNL)
                           644 N00014   $TUXX T7A01,02,0708,EQ,PLNG=6,PAPM=200000,QT=(Q00081),        X
0026D8  0500               645+N00014   DC    A(@TUXX)
0026DA  26FA               646+         DC    AL2(N00016)
0026DC  3322               647+         DC    A(T7A01)
0026DE  0000               648+         DC    AL2(EQ)
0026E0  0002               649+         DC    AL2(02)
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0026E2  0708               650+         DC    X'0708'
                           651+         ALIGN WORD
0026E4  0006               652+         DC    AL2(6)
0026E6  F2F0F0F0F0F0       653+         DC    C'200000'
                           654+         ALIGN WORD
0026EC  196E               655+         DC     AL2(PARMARA)
                           656 N00015   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0026EE  0201               657+N00015   DC    A(@CALL)
0026F0  2A46               658+         DC    A(F00012)
0026F2  F7C1F0F1           659+         DC    CL4'7A01'
0026F6  C140               660+         DC    CL2'A'
0026F8  0001               661+         DC    AL2(XTRNL)
                           662 N00016   $GOTO TYPE=INTFNL,EP=C,FT=(F00086),GTO=(N00019)
0026FA  0200               663+N00016   DC    A(@GOTO)
0026FC  2BAC               664+         DC    A(F00086)
0026FE  F3C3F0F0           665+         DC    CL4'3C00'
002702  C340               666+         DC    CL2'C'
002704  0000               667+         DC    AL2(INTRNL)
                           668 N00017   $FIXT FT=(F00008),CT=(C00038)
002706  0101               669+N00017   DC    A(@FIXT)
002708  2BCA               670+         DC    A(F00008)
                           671 N00018   $FIXT FT=(F00010),CT=(C00038)
00270A  0101               672+N00018   DC    A(@FIXT)
00270C  2BFE               673+         DC    A(F00010)
                           674 N00019   $TUXX T7A02,04,07083006,ON,QT=(Q00095),YES=N00021,ST=(S00034)
00270E  0500               675+N00019   DC    A(@TUXX)
002710  2726               676+         DC    AL2(N00021)
002712  2DB8               677+         DC    A(T7A02)
002714  0200               678+         DC    AL2(ON)
002716  0004               679+         DC    AL2(04)
002718  07083006           680+         DC    X'07083006'
                           681+         ALIGN WORD
00271C  0000               682+         DC    AL2(0)
00271E  C1C1               683+         DC    C'AA'
                           684+         ALIGN WORD
002720  196E               685+         DC     AL2(PARMARA)
                           686 N00020   $FIXT FT=(F00098)
002722  0101               687+N00020   DC    A(@FIXT)
002724  2C38               688+         DC    A(F00098)
                           689 N00021   $TUXX T7A01,02,0308,EQ,PLNG=6,PARM=000000,QT=(Q00107),        X
002726  0500               690+N00021   DC    A(@TUXX)
002728  2748               691+         DC    AL2(N00023)
00272A  3322               692+         DC    A(T7A01)
00272C  0000               693+         DC    AL2(EQ)
00272E  0002               694+         DC    AL2(02)
002730  0308               695+         DC    X'0308'
                           696+         ALIGN WORD
002732  0006               697+         DC    AL2(6)
002734  F0F0F0F0F0F0       698+         DC    C'000000'
                           699+         ALIGN WORD
00273A  196E               700+         DC     AL2(PARMARA)
                           701 N00022   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00273C  0201               702+N00022   DC    A(@CALL)
00273E  2A46               703+         DC    A(F00012)
002740  F7C1F0F1           704+         DC    CL4'7A01'
002744  C140               705+         DC    CL2'A'
002746  0001               706+         DC    AL2(XTRNL)
                           707 N00023   $TUXX T7A01,02,0308,EQ,PLNG=6,PARM=100000,QT=(Q00114),        X
002748  0500               708+N00023   DC    A(@TUXX)
00274A  276A               709+         DC    AL2(N00025)
00274C  3322               710+         DC    A(T7A01)
00274E  0000               711+         DC    AL2(EQ)
002750  0002               712+         DC    AL2(02)
002752  0308               713+         DC    X'0308'
                           714+         ALIGN WORD
002754  0006               715+         DC    AL2(6)
002756  F1F0F0F0F0F0       716+         DC    C'100000'
                           717+         ALIGN WORD
00275C  196E               718+         DC     AL2(PARMARA)
                           719 N00024   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00275E  0201               720+N00024   DC    A(@CALL)
002760  2A46               721+         DC    A(F00012)
002762  F7C1F0F1           722+         DC    CL4'7A01'
002766  C140               723+         DC    CL2'A'
002768  0001               724+         DC    AL2(XTRNL)
                           725 N00025   $TUXX T7A01,02,0308,EQ,PLNG=6,PARM=270000,QT=(Q00121),        X
00276A  0500               726+N00025   DC    A(@TUXX)
00276C  278C               727+         DC    AL2(N00027)
00276E  3322               728+         DC    A(T7A01)
002770  0000               729+         DC    AL2(EQ)
002772  0002               730+         DC    AL2(02)
002774  0308               731+         DC    X'0308'
                           732+         ALIGN WORD
002776  0006               733+         DC    AL2(6)
002778  F2F7F0F0F0F0       734+         DC    C'270000'
                           735+         ALIGN WORD
00277E  196E               736+         DC     AL2(PARMARA)
                           737 N00026   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
002780  0201               738+N00026   DC    A(@CALL)
002782  2A46               739+         DC    A(F00012)
002784  F7C1F0F1           740+         DC    CL4'7A01'
002788  C140               741+         DC    CL2'A'
00278A  0001               742+         DC    AL2(XTRNL)
                           743 N00027   $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=600000,QT=(Q00128),        X
00278C  0500               744+N00027   DC    A(@TUXX)
00278E  27AE               745+         DC    AL2(N00029)
002790  3322               746+         DC    A(T7A01)
002792  0000               747+         DC    AL2(EQ)
002794  0002               748+         DC    AL2(02)
002796  0708               749+         DC    X'0708'
                           750+         ALIGN WORD
002798  0006               751+         DC    AL2(6)
00279A  F6F0F0F0F0F0       752+         DC    C'600000'
                           753+         ALIGN WORD
0027A0  196E               754+         DC     AL2(PARMARA)
                           755 N00028   $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0027A2  0201               756+N00028   DC    A(@CALL)
0027A4  2A46               757+         DC    A(F00012)
0027A6  F7C1F0F1           758+         DC    CL4'7A01'
0027AA  C140               759+         DC    CL2'A'
0027AC  0001               760+         DC    AL2(XTRNL)
                           761 N00029   $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=602222,QT=(Q00135),        X
0027AE  0500               762+N00029   DC    A(@TUXX)
0027B0  27D0               763+         DC    AL2(N00031)
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0027B2  3322              764+          DC    A(T7A01)
0027B4  0000              765+          DC    AL2(EQ)
0027B6  0002              766+          DC    AL2(02)
0027B8  0708              767+          DC    X'0708'
                          768+          ALIGN WORD
0027BA  0006              769+          DC    AL2(6)
0027BC  F6F0F2F2F2F2      770+          DC    C'602222'
                          771+          ALIGN WORD
0027C2  196E              772+          DC     AL2(PARMARA)
                          773 N00030    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0027C4  0201              774+N00030    DC    A(@CALL)
0027C6  2A46              775+          DC    A(F00012)
0027C8  F7C1F0F1          776+          DC    CL4'7A01'
0027CC  C140              777+          DC    CL2'A'
0027CE  0001              778+          DC    AL2(XTRNL)
                          779 N00031    $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=60FFFE,QT=(Q00142),        X
0027D0  0500              780+N00031    DC    A(@TUXX)
0027D2  27F2              781+          DC    AL2(N00033)
0027D4  3322              782+          DC    A(T7A01)
0027D6  0000              783+          DC    AL2(EQ)
0027D8  0002              784+          DC    AL2(02)
0027DA  0708              785+          DC    X'0708'
                          786+          ALIGN WORD
0027DC  0006              787+          DC    AL2(6)
0027DE  F6F0C6C6C6C5      788+          DC    C'60FFFE'
                          789+          ALIGN WORD
0027E4  196E              790+          DC     AL2(PARMARA)
                          791 N00032    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0027E6  0201              792+N00032    DC    A(@CALL)
0027E8  2A46              793+          DC    A(F00012)
0027EA  F7C1F0F1          794+          DC    CL4'7A01'
0027EE  C140              795+          DC    CL2'A'
0027F0  0001              796+          DC    AL2(XTRNL)
                          797 N00033    $TUXX T7A01,02,0308,EQ,PLNG=6,PARM=650000,QT=(Q00149),        X
0027F2  0500              798+N00033    DC    A(@TUXX)
0027F4  2814              799+          DC    AL2(N00035)
0027F6  3322              800+          DC    A(T7A01)
0027F8  0000              801+          DC    AL2(EQ)
0027FA  0002              802+          DC    AL2(02)
0027FC  0308              803+          DC    X'0308'
                          804+          ALIGN WORD
0027FE  0006              805+          DC    AL2(6)
002800  F6F5F0F0F0F0      806+          DC    C'650000'
                          807+          ALIGN WORD
002806  196E              808+          DC     AL2(PARMARA)
                          809 N00034    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
002808  0201              810+N00034    DC    A(@CALL)
00280A  2A46              811+          DC    A(F00012)
00280C  F7C1F0F1          812+          DC    CL4'7A01'
002810  C140              813+          DC    CL2'A'
002812  0001              814+          DC    AL2(XTRNL)
                          815 N00035    $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=6F0000,QT=(Q00155),        X
002814  0500              816+N00035    DC    A(@TUXX)
002816  2836              817+          DC    AL2(N00037)
002818  3322              818+          DC    A(T7A01)
00281A  0000              819+          DC    AL2(EQ)
00281C  0002              820+          DC    AL2(02)
00281E  0708              821+          DC    X'0708'
                          822+          ALIGN WORD
002820  0006              823+          DC    AL2(6)
002822  F6C6F0F0F0F0      824+          DC    C'6F0000'
                          825+          ALIGN WORD
002828  196E              826+          DC     AL2(PARMARA)
                          827 N00036    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00282A  0201              828+N00036    DC    A(@CALL)
00282C  2A46              829+          DC    A(F00012)
00282E  F7C1F0F1          830+          DC    CL4'7A01'
002832  C140              831+          DC    CL2'A'
002834  0001              832+          DC    AL2(XTRNL)
                          833 N00037    $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=600001,QT=(Q00162),        X
002836  0500              834+N00037    DC    A(@TUXX)
002838  2858              835+          DC    AL2(N00039)
00283A  3322              836+          DC    A(T7A01)
00283C  0000              837+          DC    AL2(EQ)
00283E  0002              838+          DC    AL2(02)
002840  0708              839+          DC    X'0708'
                          840+          ALIGN WORD
002842  0006              841+          DC    AL2(6)
002844  F6F0F0F0F0F1      842+          DC    C'600001'
                          843+          ALIGN WORD
00284A  196E              844+          DC     AL2(PARMARA)
                          845 N00038    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00284C  0201              846+N00038    DC    A(@CALL)
00284E  2A46              847+          DC    A(F00012)
002850  F7C1F0F1          848+          DC    CL4'7A01'
002854  C140              849+          DC    CL2'A'
002856  0001              850+          DC    AL2(XTRNL)
                          851 N00039    $TUXX T7A02,02,0708,EQ,QT=(Q00167),YES=N00041,ST=(S00034)
002858  0500              852+N00039    DC    A(@TUXX)
00285A  2876              853+          DC    AL2(N00041)
00285C  2DB8              854+          DC    A(T7A02)
00285E  0000              855+          DC    AL2(EQ)
002860  0002              856+          DC    AL2(02)
002862  0708              857+          DC    X'0708'
                          858+          ALIGN WORD
002864  0000              859+          DC    AL2(0)
002866  C1C1              860+          DC    C'AA'
                          861+          ALIGN WORD
002868  196E              862+          DC     AL2(PARMARA)
                          863 N00040    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00286A  0201              864+N00040    DC    A(@CALL)
00286C  2A46              865+          DC    A(F00012)
00286E  F7C1F0F1          866+          DC    CL4'7A01'
002872  C140              867+          DC    CL2'A'
002874  0001              868+          DC    AL2(XTRNL)
                          869 N00041    $TUXX T7A03,02,0702,EQ,PLNG=6,PARM=4D0000,QT=(Q00175),        X
002876  0500              870+N00041    DC    A(@TUXX)
002878  2898              871+          DC    AL2(N00043)
00287A  3388              872+          DC    A(T7A03)
00287C  0000              873+          DC    AL2(EQ)
00287E  0002              874+          DC    AL2(02)
002880  0702              875+          DC    X'0702'
                          876+          ALIGN WORD
002882  0006              877+          DC    AL2(6)
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002884  F4C4F0F0F0F0      878+          DC    C'4D0000'
                          879+          ALIGN WORD
00288A  196E              880+          DC     AL2(PARMARA)
                          881 N00042    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00288C  0201              882+N00042    DC    A(@CALL)
00288E  2A46              883+          DC    A(F00012)
002890  F7C1F0F1          884+          DC    CL4'7A01'
002894  C140              885+          DC    CL2'A'
002896  0001              886+          DC    AL2(XTRNL)
                          887 N00043    $TUXX T7A02,03,070240,ON,QT=(Q00185),YES=N00045,CT=(C00180),  X
002898  0500              888+N00043    DC    A(@TUXX)
00289A  28B8              889+          DC    AL2(N00045)
00289C  2DB8              890+          DC    A(T7A02)
00289E  0200              891+          DC    AL2(ON)
0028A0  0003              892+          DC    AL2(03)
0028A2  070240            893+          DC    X'070240'
0028A5  00                894+          ALIGN WORD
0028A6  0000              895+          DC    AL2(0)
0028A8  C1C1              896+          DC    C'AA'
                          897+          ALIGN WORD
0028AA  196E              898+          DC     AL2(PARMARA)
                          899 N00044    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0028AC  0201              900+N00044    DC    A(@CALL)
0028AE  2A46              901+          DC    A(F00012)
0028B0  F7C1F0F1          902+          DC    CL4'7A01'
0028B4  C140              903+          DC    CL2'A'
0028B6  0001              904+          DC    AL2(XTRNL)
                          905 N00045    $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=600003,QT=(Q00191),        X
0028B8  0500              906+N00045    DC    A(@TUXX)
0028BA  28DA              907+          DC    AL2(N00047)
0028BC  3322              908+          DC    A(T7A01)
0028BE  0000              909+          DC    AL2(EQ)
0028C0  0002              910+          DC    AL2(02)
0028C2  0708              911+          DC    X'0708'
                          912+          ALIGN WORD
0028C4  0006              913+          DC    AL2(6)
0028C6  F6F0F0F0F0F3      914+          DC    C'600003'
                          915+          ALIGN WORD
0028CC  196E              916+          DC     AL2(PARMARA)
                          917 N00046    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0028CE  0201              918+N00046    DC    A(@CALL)
0028D0  2A46              919+          DC    A(F00012)
0028D2  F7C1F0F1          920+          DC    CL4'7A01'
0028D6  C140              921+          DC    CL2'A'
0028D8  0001              922+          DC    AL2(XTRNL)
                          923 N00047    $TUXX T7A02,02,0708,EQ,QT=(Q00196),YES=N00049,ST=(S00034)
0028DA  0500              924+N00047    DC    A(@TUXX)
0028DC  28F8              925+          DC    AL2(N00049)
0028DE  2DB8              926+          DC    A(T7A02)
0028E0  0000              927+          DC    AL2(EQ)
0028E2  0002              928+          DC    AL2(02)
0028E4  0708              929+          DC    X'0708'
                          930+          ALIGN WORD
0028E6  0000              931+          DC    AL2(0)
0028E8  C1C1              932+          DC    C'AA'
                          933+          ALIGN WORD
0028EA  196E              934+          DC     AL2(PARMARA)
                          935 N00048    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0028EC  0201              936+N00048    DC    A(@CALL)
0028EE  2A46              937+          DC    A(F00012)
0028F0  F7C1F0F1          938+          DC    CL4'7A01'
0028F4  C140              939+          DC    CL2'A'
0028F6  0001              940+          DC    AL2(XTRNL)
                          941 N00049    $TUXX T7A03,02,0702,EQ,PLNG=6,PARM=4C0000,QT=(Q00204),        X
0028F8  0500              942+N00049    DC    A(@TUXX)
0028FA  291A              943+          DC    AL2(N00051)
0028FC  3388              944+          DC    A(T7A03)
0028FE  0000              945+          DC    AL2(EQ)
002900  0002              946+          DC    AL2(02)
002902  0702              947+          DC    X'0702'
                          948+          ALIGN WORD
002904  0006              949+          DC    AL2(6)
002906  F4C3F0F0F0F0      950+          DC    C'4C0000'
                          951+          ALIGN WORD
00290C  196E              952+          DC     AL2(PARMARA)
                          953 N00050    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00290E  0201              954+N00050    DC    A(@CALL)
002910  2A46              955+          DC    A(F00012)
002912  F7C1F0F1          956+          DC    CL4'7A01'
002916  C140              957+          DC    CL2'A'
002918  0001              958+          DC    AL2(XTRNL)
                          959 N00051    $TUXX T7A02,03,070240,ON,QT=(Q00214),YES=N00053,CT=(C00209),  X
00291A  0500              960+N00051    DC    A(@TUXX)
00291C  293A              961+          DC    AL2(N00053)
00291E  2DB8              962+          DC    A(T7A02)
002920  0200              963+          DC    AL2(ON)
002922  0003              964+          DC    AL2(03)
002924  070240            965+          DC    X'070240'
002927  00                966+          ALIGN WORD
002928  0000              967+          DC    AL2(0)
00292A  C1C1              968+          DC    C'AA'
                          969+          ALIGN WORD
00292C  196E              970+          DC     AL2(PARMARA)
                          971 N00052    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00292E  0201              972+N00052    DC    A(@CALL)
002930  2A46              973+          DC    A(F00012)
002932  F7C1F0F1          974+          DC    CL4'7A01'
002936  C140              975+          DC    CL2'A'
002938  0001              976+          DC    AL2(XTRNL)
                          977 N00053    $TUXX T7A01,02,0708,EQ,PLNG=6,PARM=600005,QT=(Q00220),        X
00293A  0500              978+N00053    DC    A(@TUXX)
00293C  295C              979+          DC    AL2(N00055)
00293E  3322              980+          DC    A(T7A01)
002940  0000              981+          DC    AL2(EQ)
002942  0002              982+          DC    AL2(02)
002944  0708              983+          DC    X'0708'
                          984+          ALIGN WORD
002946  0006              985+          DC    AL2(6)
002948  F6F0F0F0F0F5      986+          DC    C'600005'
                          987+          ALIGN WORD
00294E  196E              988+          DC     AL2(PARMARA)
                          989 N00054    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
002950  0201              990+N00054    DC    A(@CALL)
002952  2A46              991+          DC    A(F00012)
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976
002954  F7C1F0F1          992+          DC    CL4'7A01'
002958  C140              993+          DC    CL2'A'
00295A  0001              994+          DC    AL2(XTRNL)
                          995 N00055    $TUXX T7A02,02,0708,EQ,QT=(Q00225),YES=N00057,ST=(S00034)
00295C  0500              996+N00055    DC    A(@TUXX)
00295E  297A              997+          DC    AL2(N00057)
002960  2DB8              998+          DC    A(T7A02)
002962  0000              999+          DC    AL2(EQ)
002964  0002             1000+          DC    AL2(02)
002966  0708             1001+          DC    X'0708'
                         1002+          ALIGN WORD
002968  0000             1003+          DC    AL2(0)
00296A  C1C1             1004+          DC    C'AA'
                         1005+          ALIGN WORD
00296C  196E             1006+          DC     AL2(PARMARA)
                         1007 N00056    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
00296E  0201             1008+N00056    DC    A(@CALL)
002970  2A46             1009+          DC    A(F00012)
002972  F7C1F0F1         1010+          DC    CL4'7A01'
002976  C140             1011+          DC    CL2'A'
002978  0001             1012+          DC    AL2(XTRNL)
                         1013 N00057    $TUXX T7A03,02,0702,EQ,PLNG=6,PARM=500000,QT=(Q00233),        X
                         1014+N00057    DC    A(@TUXX)
00297A  0500             1015+          DC    AL2(N00059)
00297C  299C             1016+          DC    A(T7A03)
00297E  3388             1017+          DC    AL2(EQ)
002980  0000             1018+          DC    AL2(02)
002982  0002             1019+          DC    X'0702'
002984  0702             1020+          ALIGN WORD
002986  0006             1021+          DC    AL2(6)
002988  F5F0F0F0F0F0     1022+          DC    C'500000'
                         1023+          ALIGN WORD
00298E  196E             1024+          DC     AL2(PARMARA)
                         1025 N00058    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
002990  0201             1026+N00058    DC    A(@CALL)
002992  2A46             1027+          DC    A(F00012)
002994  F7C1F0F1         1028+          DC    CL4'7A01'
002998  C140             1029+          DC    CL2'A'
00299A  0001             1030+          DC    AL2(XTRNL)
                         1031 N00059    $TUXX T7A02,03,070240,ON,QT=(Q00244),YES=N00061,CT=(C00238),  X
00299C  0500             1032+N00059    DC    A(@TUXX)
00299E  29BC             1033+          DC    AL2(N00061)
0029A0  2DB8             1034+          DC    A(T7A02)
0029A2  0200             1035+          DC    AL2(ON)
0029A4  0003             1036+          DC    AL2(03)
0029A6  070240           1037+          DC    X'070240'
0029A9  00               1038+          ALIGN WORD
0029AA  0000             1039+          DC    AL2(0)
0029AC  C1C1             1040+          DC    C'AA'
                         1041+          ALIGN WORD
0029AE  196E             1042+          DC     AL2(PARMARA)
                         1043 N00060    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0029B0  0201             1044+N00060    DC    A(@CALL)
0029B2  2A46             1045+          DC    A(F00012)
0029B4  F7C1F0F1         1046+          DC    CL4'7A01'
0029B8  C140             1047+          DC    CL2'A'
0029BA  0001             1048+          DC    AL2(XTRNL)
                         1049 N00061    $TUXX T7A04,02,0007,OF,QT=(Q00251),YES=N00063,CT=(C00249)
0029BC  0500             1050+N00061    DC    A(@TUXX)
0029BE  29DA             1051+          DC    AL2(N00063)
0029C0  33FC             1052+          DC    A(T7A04)
0029C2  0202             1053+          DC    AL2(OF)
0029C4  0002             1054+          DC    AL2(02)
0029C6  0007             1055+          DC    X'0007'
                         1056+          ALIGN WORD
0029C8  0000             1057+          DC    AL2(0)
0029CA  C1C1             1058+          DC    C'AA'
                         1059+          ALIGN WORD
0029CC  196E             1060+          DC     AL2(PARMARA)
                         1061 N00062    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
0029CE  0201             1062+N00062    DC    A(@CALL)
0029D0  2A46             1063+          DC    A(F00012)
0029D2  F7C1F0F1         1064+          DC    CL4'7A01'
0029D6  C140             1065+          DC    CL2'A'
0029D8  0001             1066+          DC    AL2(XTRNL)
                         1067 N00063    $TUXX T7A02,02,0008,OF,QT=(Q00255),YES=N00065,ST=(S00034)
0029DA  0500             1068+N00063    DC    A(@TUXX)
0029DC  29F8             1069+          DC    AL2(N00065)
0029DE  2DB8             1070+          DC    A(T7A02)
0029E0  0202             1071+          DC    AL2(OF)
0029E2  0002             1072+          DC    AL2(02)
0029E4  0008             1073+          DC    X'0008'
                         1074+          ALIGN WORD
0029E6  0000             1075+          DC    AL2(0)
0029E8  C1C1             1076+          DC    C'AA'
                         1077+          ALIGN WORD
0029EA  196E             1078+          DC     AL2(PARMARA)
                         1079 N00064    $CALL TYPE=XTRNL,MAP=7A80,EP=A,FT=(F00258),GTO=((7A80,A))
0029EC  0201             1080+N00064    DC    A(@CALL)
0029EE  2D22             1081+          DC    A(F00258)
0029F0  F7C1F8F0         1082+          DC    CL4'7A80'
0029F4  C140             1083+          DC    CL2'A'
0029F6  0001             1084+          DC    AL2(XTRNL)
                         1085 N00065    $TUXX T7A05,01,00,EQ,QT=(Q00264),YES=N00067,CT=(C00261)
0029F8  0500             1086+N00065    DC    A(@TUXX)
0029FA  2A16             1087+          DC    AL2(N00067)
0029FC  356C             1088+          DC    A(T7A05)
0029FE  0000             1089+          DC    AL2(EQ)
002A00  0001             1090+          DC    AL2(01)
002A02  00               1091+          DC    X'00'
002A03  00               1092+          ALIGN WORD
002A04  0000             1093+          DC    AL2(0)
002A06  C1C1             1094+          DC    C'AA'
                         1095+          ALIGN WORD
002A08  196E             1096+          DC     AL2(PARMARA)
                         1097 N00066    $CALL TYPE=XTRNL,EP=A,MAP=7A01,FT=(F00012)
002A0A  0201             1098+N00066    DC    A(@CALL)
002A0C  2A46             1099+          DC    A(F00012)
002A0E  F7C1F0F1         1100+          DC    CL4'7A01'
002A12  C140             1101+          DC    CL2'A'
002A14  0001             1102+          DC    AL2(XTRNL)
                         1103 N00067    $GOTO TYPE=XTRNL,EP=A,MAP=7A10,FT=(F00267)
002A16  0200             1104+N00067    DC    A(@GOTO)
002A18  2D3A             1105+          DC    A(F00267)
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                   COPYRIGHT IBM CORP 1976
002A1A  F7C1F1F0         1106+          DC    CL4'7A10'
002A1E  C140             1107+          DC    CL2'A'
002A20  0001             1108+          DC    AL2(XTRNL)
002A22  0000             1109           DC    AL2(DUMMY)
002A24                   1110 ENTPT     EQU   *
                         1111 ********************************************************************************
                         1112 ********************************************************************************
                         1113 **                                                                            **
                         1114 **                          ENTRY POINT TABLE                                 **
                         1115 **                                                                            **
                         1116 ********************************************************************************
                         1117 ********************************************************************************
                         1118          ENTPT EP=A,STEP=00001
002A24  C140             1119+          DC    CL2'A'
002A26  2610             1120+          DC    A(N00001)
                         1121          ENTPT EP=B,STEP=00037
002A28  C240             1122+          DC    CL2'B'
002A2A  2836             1123+          DC    A(N00037)
                         1124          ENTPT EP=C,STEP=00019
002A2C  C340             1125+          DC    CL2'C'
002A2E  270E             1126+          DC    A(N00019)
002A30  0000             1127           DC    AL2(DUMMY)
                         1128 ********************************************************************************
                         1129 ********************************************************************************
                         1130 **                                                                            **
                         1131 **                          MESSAGE TABLE                                     **
                         1132 **                                                                            **
                         1133 ********************************************************************************
                         1134 ********************************************************************************
002A32                   1135 F00042    EQU   *
002A32  0001             1136           DC    AL2(0001)
002A34  0010             1137           DC    A(0016)
002A36  D5D640C6C9D3C540C 1138          DC    CL0016'NO FILE ATTACHED'
002A46                   1139 F00012    EQU   *
002A46  0003             1140           DC    AL2(0003)
002A48  002A             1141           DC    A(0042)
002A4A  C3C8C5C3D240E3C8C 1142          DC    CL0042'CHECK THE VOLTAGES TO THE ATTACHMENT CARD,'
002A74  0028             1143           DC    A(0040)
002A76  E3C8C5D540C4C9E2C 1144          DC    CL0040'THEN DISCONNECT THE CABLES FROM THE 4963'
002A9E  0022             1145           DC    A(0034)
002AA0  C1E3E3C1C3C8D4C5D 1146          DC    CL0034'ATTACHMENT CARD AND RUN MAP 7A01. '
002AC2                   1147 F00058    EQU   *
002AC2  0008             1148           DC    AL2(0008)
002AC4  0014             1149           DC    A(0020)
002AC6  86D9D6D5C740C4C5E 1150          DC    CL0020'WRONG DEVICE ADDRESS'
002ADA  0024             1151           DC    A(0036)
002ADC  C3C8C5C3D240E3C8C 1152          DC    CL0036'CHECK THE DEVICE ADDRESS AGAINST THE'
002B00  000E             1153           DC    A(0014)
002B02  C3D6D5C6C9C7E4D9C 1154          DC    CL0014'CONFIGURATOR. '
002B10  0028             1155           DC    A(0040)
002B12  C9C640E3C8C540C4C 1156          DC    CL0040'IF THE DEVICE ADDRESS IS WPONG, RUN TEST'
002B3A  000A             1157           DC    A(0010)
002B3C  C1C7C1C9D540E6C9E 1158          DC    CL0010'AGAIN WITH'
002B46  001C             1159           DC    A(0028)
002B48  E3C8C540C3D6D9D9C 1160          DC    CL0028'THE CORRECT DEVICE ADDRESS. '
002B64  0022             1161           DC    A(0034)
002B66  C9C640E3C8C540C4C 1162          DC    CL0034'IF THE DEVICE ADDRESS IS CORRECT,:'
002B88  0022             1163           DC    A(0034)
002B8A  C5E7C3C8C1D5C7C54 1164          DC    CL0034'EXCHANGE THE 4963 ATTACHMENT CARD.'
002BAC                   1165 F00086    EQU   *
002BAC  0001             1166           DC    AL2(0001)
002BAE  001A             1167           DC    A(0026)
002BB0  C2E4E2E840E2E3C1E 1168          DC    CL0026'BUSY STATUS - OK ON RETRY '
002BCA                   1169 F00008    EQU   *
002BCA  0002             1170           DC    AL2(0002)
002BCC  002A             1171           DC    A(0042)
002BCE  C3D6D4D4C1D5C440D 1172          DC    CL0042'COMMAND REJECT - EXCHANGE 4963 ATTACHMENT '
002BF8  0004             1173           DC    A(004)
002BFA  C3C1D9C4         1174           DC    CL0004'CARD'
002BFE                   1175 F00010    EQU   *
002BFE  0002             1176           DC    AL2(0002)
002C00  0024             1177           DC    A(0036)
002C02  C9D5E3C5D9C6C1C3C 1178          DC    CL0036'INTERFACE DATA CHECK - EXCHANGE 4963'
002C26  0010             1179           DC    A(0016)
002C28  C1E3E3C1C3C8D4C5D 1180          DC    CL0016'ATTACHMENT CARD '
002C38                   1181 F00098    EQU   *
002C38  0008             1182           DC    AL2(0008)
002C3A  0014             1183           DC    A(0020)
002C3C  E6D9D6D5C740C4C5E 1184          DC    CL0020'WRONG DEVICE ADDRESS'
002C50  0024             1185           DC    A(0036)
002C52  C3C8C5C3D240E3C8C 1186          DC    CL0036'CHECK THE DEVICE ADDRESS AGAINST THE'
002C76  000E             1187           DC    A(0014)
002C78  C3D6D5C6C9C7E4D9C 1188          DC    CL0014'CONFIGURATOR. '
002C86  0028             1189           DC    A(0040)
002C88  C9C640E3C8C540C4C 1190          DC    CL0040'IF THE DEVICE ADDRESS IS WRONG, RUN TEST'
002CB0  000A             1191           DC    A(0010)
002CB2  C1C7C1C9D540E6C9E 1192          DC    CL0010'AGAIN WITH'
002CBC  001C             1193           DC    A(0028)
002CBE  E3C8C540C3D6D9D9C 1194          DC    CL0028'THE CORRECT DEVICE ADDRESS. '
002CDA  0022             1195           DC    A(0034)
002CDC  C9C640E3C8C540C4C 1196          DC    CL0034'IF THE DEVICE ADDRESS IS CORRECT,:'
002CFE  0022             1197           DC    A(0034)
002D00  C5E7C3C8C1D5C7C54 1198          DC    CL0034'EXCHANGE THE 4963 ATTACHMENT CARD.'
002D22                   1199 F00258    EQU   *
002D22  0001             1200           DC    AL2(0001)
002D24  0014             1201           DC    A(0020)
002D26  C4C5E5C9C3C540C9E 1202          DC    CL0020'DEVICE IS NOT READY '
002D3A                   1203 F00267    EQU   *
002D3A  0001             1204           DC    AL2(0001)
002D3C  002A             1205           DC    A(0042)
002D3E  C3D6D5F3C9D5E4C54 1206          DC    CL0042'CONTINUE WITH 4963 DISK UNIT DEVICE MAPS. '
                         1207          PDIT  00
002D68  0000             1209+OPTN1 DC  X'0000'                 PROGRAM OPTION CONTROL WORD 1
                         1210+*
002D6A  0000             1211+OPTN2 DC  X'0000'                 PROGRAM OPTION CONTROL WORD 2
                         1212+*                      BIT    HEX
000010                   1213+B48   EQU   16      0      8      PROBLEM PROGRAM CONTROL BITS
000011                   1214+B49   EQU   17      1      4      *
000012                   1215+B50   EQU   18      2      2      * THESE BITS ARE USED WITH THE
000013                   1216+B51   EQU   19      3      1      * SECOND OPTION WD   AND ARE TO
000014                   1217+B52   EQU   20      4      8      * BE ASSIGNED BY EACH PROGRAMMER
000015                   1218+B53   EQU   21      5      4      *
000016                   1219+B54   EQU   22      6      2      *
000017                   1220+B55   EQU   23      7      1      *
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
000018                  1221+B56  EQU   24      8       8       *
000019                  1222+B57  EQU   25      9       4       *
00001A                  1223+B58  EQU   26      10      2       *
00001B                  1224+B59  EQU   27      11      1       *
00001C                  1225+B60  EQU   28      12      8       *
00001D                  1226+B61  EQU   29      13      4       *
00001E                  1227+B62  EQU   30      14      2       *
00001F                  1228+B63  EQU   31      15      1       *
00001E                  1229+CH   EQU   30      14      2       CHARACTER SUPPLIED
00001F                  1230+CMP  EQU   31      15      1       COMPARE OPERATION
002D6C  0000            1232+OPTN3 DC     X'0000'                PROGRAM OPTION CONTROL WORD 3
                        1233+**
                        1234+**  0  MYSTERY INTERRUPT     MI          8  CS STATUS IN PROGRESS    CS
                        1235+**  1  ERROR INTERRUPT       ER          9  CS AVAILLABLE            CSA
                        1236+**  2  EXPECTED INTERRUPT    XI         10  CS STATUS INTERRUPT ERR  CE
                        1237+**  3  INTERRUPT RECEIVED    IN         11  ISB BITS ON (1-7)        ISBON
                        1238+**
                        1239+**  4  EXPECTED ERR/ATTENT   XF         12  TEST UNIT RESULTS VOID   NG
                        1240+**  5  HARD ERROR FOUND      HE         13  OIO CC ERROR             IOCC
                        1241+**  6  WRONG INTR LEVEL      $LE        14  NO INTERRUPT             NOIN
                        1242+**  7  NO INTR EXPECTED      NI         15  INTERRUPT CC ERROR       INCC
                        1243+**                          BIT    HEX
000020                  1244+MI   EQU   32      0       8       MYSTERY INTERRUPT HAPPENED
000021                  1245+ER   EQU   33      1       4       ERROR PECEIVED ON INTERRUPT
000022                  1246+XI   EQU   34      2       2       EXPECTED INTERRUPT CONTROL BIT
000023                  1247+IN   EQU   35      3       1       INTERRUPT RECEIVED CONTROL BIT
000024                  1248+XE   EQU   36      4       8       EXPECTED ERROR RESPONSE
000025                  1249+HE   EQU   37      5       4       HARD ERROR, 8 RETRIES
000026                  1250+$LE  EQU   38      6       2       INTERRUPT ON WRONG LEVEL ERROR
000027                  1251+NI   EQU   39      7       1       NO INTERRUPT EXPECTED E
000028                  1252+CS   EQU   40      8       8       CYCLE STATUS IN PROGRESS
000029                  1253+CSA  EQU   41      9       4       CYCLE STEAL AVAILABLE
00002A                  1254+CE   EQU   42      10      2       CYCLE STEAL STATUS INERRRUPT ERROR
00002B                  1255+ISBON EQU  43      11      1       ISB BITS ON (1-7)
00002C                  1256+NG   EQU   44      12      8       TEST UNIT RESULTS NO GOOD
00002D                  1257+IOCC EQU   45      13      4       OIO CC ERROR
00002E                  1258+NOIN EQU   46      14      2       NO INTERRUPT
00002F                  1259+INCC EQU   47      15      1       INTERRUPT CC EPROR
                        1260+**
                        1261+**      COMMON BUFFER FOR PRINTING DATA
                        1262+**
002D6E  0000            1264+$TUID DC     A(*-*)                 TEST UNIT IDENTIFICATION
002D70  0000            1265+$IOIN DC     A(*-*)                 I/O AND INTR CONDITION CODES
002D72  0000            1266+$ISB  DC     A(*-*)                 R/, INTR STATUS BYTE & DEV ADRS
002D74  0000            1267+LSTIO DC     A(*-*)                 ADRS OF LAST I/O + 4 BYTES
002D76  0000            1268+DEV1  DC     A(*-*)                 DEVICE DEPENDENT DATA
002D78  0000            1269+DEV2  DC     A(*-*)                 *
002D7A  0000            1270+DEV3  DC     A(*-*)                 *
002D7C  0000            1271+DEV4  DC     A(*-*)                 CS STATUS ERROR ISB & INTR CC
002D76                  1272+SCTID EQU    DEV1                   READ ID BUFFER FOR IBIS & TERN
002D7E                  1273+DCBUF EQU    *                      DCB BUFFER FOR LAST DCB USED
002D7E  0000            1274+DCB1  DC     A(*-*)                 LAST DCB TABLE, CONTROL WORD
002D80  0000            1275+DCB2  DC     A(*-*)                 LAST DCB TABLE, DEV DEP WORD
002D82  0000            1276+DCB3  DC     A(*-*)                 LAST DCB TABLE, DEV DEP WORD
002D84  0000            1277+DCB4  DC     A(*-*)                 LAST DCB TABLE, DEV DEP WORD
002D86  0000            1278+DCB5  DC     A(*-*)                 LAST DCB TABLE, DEV DEP WORD
002D88  0000            1279+DCB6  DC     A(*-*)                 LAST DCB TABLE, CHAIN ADRS
002D8A  0000            1280+DCB7  DC     A(*-*)                 LAST DCB TABLE, BYTE COUNT
002D8C  0000            1281+DCB8  DC     A(*-*)                 LAST DCB TABLE, BUFFER ADDRESS
                        1282+**
002D8E                  1283+CSBUF EQU    *                      CYCLE STEAL DATA BUFFER
002D8E  0000            1284+CSTL1 DC     A(*-*)                 CS STATUS WD 0, RESIDUAL ADDRESS
002D90  0000            1285+CSTL2 DC     A(*-*)                 CS STATUS WD 1, RESIDUAL COUNT
002D92  0000            1286+CSTL3 DC     A(*-*)                 CS STATUS WD 2, RETRY CNT WD 1
002D94  0000            1287+CSTL4 DC     A(*-*)                 CS STATUS WD 3, RETRY CNT WD 2
002D96  0000            1288+CSTL5 DC     A(*-*)                 CS STATUS WD 4, ERROR STATUS WD 1
002D98  0000            1289+CSTL6 DC     A(*-*)                 CS STATUS WD 5, ERROR STATUS WD 2
002D9A  0000            1290+CSTL7 DC     A(*-*)                 CS STATUS WD 6, LAST DCB ADDRESS
002D9C  0000            1291+CSTL8 DC     A(*-*)                 CS STATUS WD 7, PREVIOUS HD/CYL
002D9E  0000            1292+CSTL9 DC     A(*-*)                 CS STATUS WD 8, CURRENT HD/CYL
002DA0  0000            1293+CST10 DC     A(*-*)                 CS STATUS WD 9, FLAG/SECTOR
002DA2  0000            1294+CST11 DC     A(*-*)                 CS STATUS WD 10, HEAD/CYLINDER
002DA4  0000            1295+CST12 DC     A(*-*)                 CS STATUS WD 11, DIAG BYTES 1, 2
002DA6  0000            1296+CST13 DC     A(*-*)                 CS STATUS WD 12, AND 3 + WRAP BYTE
                        1297+**
002DA8  0000            1298+$SUBN DC     A(*-*)                 LAST SUBROUTINE ADDRESS USED
002DAA  00000000        1299+$DATA DC     2A(*-*)                OPTIONAL DATA
002DAE  0021            1300+$INTL DC     X'0021'                INTERRUPT LEVEL REQUESTED
002DB0  0000            1301+TURTN DC     A(*-*)                 TEST UNIT RETURN ADRS TO MDI
002DB2  00              1302+$DVID DC     X'00'                  DEVICE ID
002DB4  19D0            1303+SVCAL DC     A(DEVADD)              ADRS OF DEVICE ADDRESS
002DB6  0000            1304+     DC      A(*-*)                 IBIS CYLINDER ADDRESS
                        1305+**
                        1306+**      THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
                        1307+**      FUNCTION. THE RESULTS THAT WERE SET UP IN THE RESULTS AREA ARE
                        1308+**      STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
                        1309+**
002DB8  4020 2D6E 7A02  1310+T7A02 MVWI   X'7A02',$TUID          SET UP TEST UNIT ID
002DBE  5700            1311+     BXS    (R7)                   RETURN TO MDI SUPVR
                        1313      COPY   COMEQU
                        1314 **********************************************************************
                        1315 *                                                                    *
                        1316 *                EQUATED NAMES FOR SUPPORTED SVC'S                   *
                        1317 *                                                                    *
                        1318 **********************************************************************
000000                  1319 OUT    EQU   0                        OUT SVC
000001                  1320 OUTIN  EQU   1                        OUTIN SVC
000002                  1321 IDLE   EQU   2                        IDLE SVC
000003                  1322 IDLE5  EQU   3                        IDLE SVC - INDEPENDENT OF CPU TYPE
000004                  1323 CHNGE  EQU   4                        CHANGE LEVEL SVC
000005                  1324 PGMCK  EQU   5                        ALLOW RETURN ON PROGRAM CHECK SVC
000006                  1325 EXIT   EQU   6                        EXIT SVC
000007                  1326 TERM   EQU   7                        TERMINATE SVC
000008                  1327 RESET  EQU   8                        RESET DEVICE SVC
000009                  1328 RID    EQU   9                        READ ID SVC
00000A                  1329 START  EQU   10                       START CYCLE STEAL SVC
00000B                  1330 STCSS  EQU   11                       START CYCLE STEAL STATUS SVC
00000C                  1331 PREP   EQU   12                       PREPARE DEVICE SVC
00000D                  1332 READ0  EQU   13                       READ WITH FUNCTION BIT 3 OFF SVC
00000E                  1333 READ1  EQU   14                       READ WITH FUNCTION BIT 3 ON SVC
00000F                  1334 RSTAT  EQU   15                       READ STATUS SVC
000010                  1335 WRIT0  EQU   16                       WRITE WITH FUNCTION BIT 3 OFF SVC
000011                  1336 WRIT1  EQU   17                       WRITE WITH FUNCTION BIT 3 ON SVC
000012                  1337 CTRL   EQU   18                       CONTROL SVC
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
000013                  1338 RICB   EQU   19                       RELEASE INTERUPT CONTROL BLOCK SVC
000014                  1339 CICB   EQU   20                       CONNECT INTERUPT CONTROL BLOCK SVC
000015                  1340 HIO    EQU   21                       HALT ALL I/O
000016                  1341 REQSD  EQU   22                       REQUFST USE OF DCP DISK SVC
000017                  1342 RELSD  EQU   23                       RELEASE USE OF DCP DISK SVC
000018                  1343 HALT   EQU   24                       HALT SVC
000019                  1344 ETOH   EQU   25                       EBCDIC TO HEX SVC (STRING)
00001A                  1345 HTOE   EQU   26                       HEX TO EBCDIC SVC (STRING)
00001B                  1346 ATOH   EQU   27                       ASCII TO HEX SVC (STRING)
00001C                  1347 HTOA   EQU   28                       HEX TO ASCII SVC (STRING)
00001D                  1348 ETOA   EQU   29                       EBCDIC TO ASCII SVC (STRING)
00001E                  1349 ATOE   EQU   30                       ASCII TO EBCDIC SVC (STRING)
00001F                  1350 READI  EQU   31                       READ DATA SETS FOR MDI/UTIL
000020                  1351 WRITI  EQU   32                       WRITE DATA SETS FOR UTIL
                        1353 **********************************************************************
                        1354 *                                                                    *
                        1355 *                EQUATES USED BY TU'S AS CONSTANTS                   *
                        1356 *                                                                    *
                        1357 **********************************************************************
00004E                  1358 PLUS   EQU   C'+'                     PLUS CHAR
000060                  1359 MINUS  EQU   C'-'                     MINUS CHAR
000000                  1361 ZERO   EQU   0
000001                  1362 ONE    EQU   1
000002                  1363 TWO    EQU   2
000003                  1364 THREE  EQU   3
000004                  1365 FOUR   EQU   4
000005                  1366 FIVE   EQU   5
000006                  1367 SIX    EQU   6
000007                  1368 SEVEN  EQU   7
000008                  1369 EIGHT  EQU   8
000009                  1370 NINE   EQU   9
00000A                  1371 TEN    EQU   10
00000B                  1372 ELEVN  EQU   11                                   11
00000C                  1373 TWELV  EQU   12                                   12
00000D                  1374 THRTN  EQU   13                                   13
00000F                  1375 FIVTN  EQU   15                                   15
000010                  1376 SIXTN  EQU   16                                   16
000020                  1377 THRT2  EQU   32                                   32
000040                  1378 SIXT4  EQU   64                                   64
000080                  1379 ONE28  EQU   128                                  128
000100                  1380 TWO56  EQU   256                                  256
000400                  1381 ONEK   EQU   1024                                 1024
000800                  1382 TWOK   EQU   2048                                 2048
000C00                  1383 THREK  EQU   3072                                 3072
001000                  1384 FOURK  EQU   4096                                 4096
FFFFFF                  1386 M1     EQU   -1                                   -1
FFFFFE                  1387 M2     EQU   -2                                   -2
FFFFFD                  1388 M3     EQU   -3                                   -3
FFFFFC                  1389 M4     EQU   -4                                   -4
                        1391 **********************************************************************
                        1392 *                                                                    *
                        1393 *     THE FOLLOWING ARE EQUATES FOR BIT DISPLACEMENTS FROM THE       *
                        1394 *     BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES.     *
                        1395 *                                                                    *
                        1396 **********************************************************************
000000                  1397 BS0    EQU   0
000001                  1398 BS1    EQU   1
000002                  1399 BS2    EQU   2
000003                  1400 BS3    EQU   3
000004                  1401 BS4    EQU   4
000005                  1402 BS5    EQU   5
000006                  1403 BS6    EQU   6
000007                  1404 BS7    EQU   7
000008                  1405 BS8    EQU   8
000009                  1406 BS9    EQU   9
00000A                  1407 BS10   EQU   10
00000B                  1408 BS11   EQU   11
00000C                  1409 BS12   EQU   12
00000D                  1410 BS13   EQU   13
00000E                  1411 BS14   EQU   14
00000F                  1412 BS15   EQU   15
                        1414      COPY   T7A00DCB                      26OCT77
                        1415 ** (T7A00DCB)
                        1416 *
                        1417 ***************************************************4/28/77**********
                        1418 *
                        1419 *     DCB TABLES AND DC'S
                        1420 *
                        1421 **********************************************************************
                        1422 *
                        1423 ***** DIAGNOSTIC DCB   ********
                        1424 *
002DC0  2008            1425 DGDCB  DC    X'2008'                  DIAGNOSTIC DCB
002DC2  0000            1426       DC    A(*-*)                   FLAG / PHYSICAL SECTOR#
002DC4  0000            1427       DC    A(*-*)                   HEAD / CYLINDER#'S
002DC6  0000            1428       DC    X'0000'                  NOT USED
002DC8  2E9A            1429       DC    A(RSBA)                  RSB ADDRESS
002DCA  0000            1430       DC    A(*-*)                   CHAINING ADDRESS
002DCC  0100            1431       DC    X'0100'                  BYTE COUNT
002DCE  0000            1432       DC    A(*-*)                   DATA ADDRESS
                        1433 *
                        1434 ***** RECALIBRATE DCB  ********
                        1435 *
002DD0  0001            1436 CLDCB  DC    X'0001'                  RECALIBRATE DCB
002DD2  0000000000000000 1437      DC    7A(*-*)
                        1438 *
                        1439 ***** WRITE SECTOR ID  ********
                        1440 *
002DE0  002D            1441 WSDCB  DC    X'002D'                  WRITE SECTOR ID CNTL WORD
002DE2  0000            1442       DC    A(*-*)                   FLAG / PHYSICAL SECTOR#
002DE4  0000            1443       DC    A(*-*)                   HEAD / CYLINDER#'S
002DE6  0000            1444       DC    X'0000'                  NOT USED
002DE8  2E9A            1445       DC    A(RSBA)                  RSB ADDRESS
002DEA  0000            1446       DC    A(*-*)                   CHAIN ADDRESS
002DEC  0004            1447       DC    X'0004'                  BYTE COUNT
002DEE  2E8E            1448       DC    A(WRSID)                 ADDR OF SECTOR ID DATA
                        1449 *
                        1450 ***** READ SECTOR ID DCB  *******
                        1451 *
002DF0  201C            1452 RSDCB  DC    X'201C'                  READ SECTOR ID CNTL WORD
002DF2  0000            1453       DC    A(*-*)                   FLAG / PHYSICAL SECTOR#
002DF4  0000            1454       DC    X'0000'                  HEAD / CYLINDER#'S
002DF6  0000            1455       DC    X'0000'                  NOT USED
002DF8  2E9A            1456       DC    A(RSBA)                  RSB ADDRESS
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 LOCTR  OBJECT TEXT   STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
002DFA  0000          1457        DC    A(*-*)                 CHAIN ADDRESS
002DFC  0004          1458        DC    X'0004'                BYTE COUNT FOR READ SECTOR ID
002DFE  2D76          1459        DC    A(SCTID)               SECTOR ID DATA ADDRESS
                      1460 *
                      1461 ***** SEEK DCB  ********
                      1462 *
002E00  0000          1463 SKDCB  DC    X'0000'                SEEK DCB CONTROL WORD
002E02  0000          1464        DC    X'0000'                NOT USED
002E04  0000          1465        DC    A(*-*)                 HEAD / CYLINDER#'S
002E06  0000          1466        DC    X'0000'                NOT USED
002E08  2E9A          1467        DC    A(RSBA)                RSB ADDRESS
002E0A  0000          1468        DC    A(*-*)                 CHAIN ADDRESS
002E0C  0000          1469        DC    X'0000'                NOT USED
002E0E  0000          1470        DC    X'0000'                NOT USED
                      1471 *
                      1472 ***** CYCLE STEAL STATUS DCB  ********
                      1473 *
002E10  2000          1474 CSDCB  DC    X'2000'                CONTROL WORD
002E12  0000          1475        DC    F'0'                   NOT USED
002E14  0000          1476        DC    F'0'                   NOT USED
002E16  0000          1477        DC    F'0'                   NOT USED
002E18  0000          1478        DC    F'0'                   NOT USED
002E1A  0000          1479        DC    F'0'                   NOT USED
002E1C  001A          1480        DC    X'001A'                13 WORDS OF STATUS
002E1E  2D8E          1481        DC    A(CSBUF)               ADDRESS OF CYCLE STEAL STATUS DATA
                      1482 *
                      1483 ***** WRITE DCB  **********
                      1484 *
002E20  0028          1485 WRDCB  DC    X'0028'                WRITE DATA DCB CNTL WORD
002E22  0000          1486        DC    A(*-*)                 FLAG / RECORD#
002E24  0000          1487        DC    A(*-*)                 HEAD / CYLINDER#'S
002E26  0000          1488        DC    A(*-*)                 SCAN / REPEAT COUNT
002E28  2E9A          1489        DC    A(RSBA)                RSB ADDRESS
002E2A  0000          1490        DC    A(*-*)                 CHAIN ADDRESS
002E2C  0100          1491        DC    X'0100'                BYTE COUNT
002E2E  0000          1492        DC    A(*-*)                 WRITE DATA ADDRESS
                      1493 *
                      1494 ***** VERIFY DCB   *******
                      1495 *
002E30  0019          1496 VRDCB  DC    X'0019'                CONTROL WORD
002E32  0000          1497        DC    A(*-*)                 FLAG / RECORD#
002E34  0000          1498        DC    A(*-*)                 HEAD / CYLINDER#'S
002E36  0000          1499        DC    A(*-*)                 SCAN / REPEAT COUNT
002E38  2E9A          1500        DC    A(RSBA)                RSB ADDRESS
002E3A  0000          1501        DC    A(*-*)                 CHAIN ADDRESS
002E3C  0000          1502        DC    A(*-*)                 BYTE COUNT
002E3E  0000          1503        DC    F'0'                   NOT USED
                      1504 *
                      1505 ***** READ DCB   *******
                      1506 *
002E40  2018          1507 RDDCB  DC    X'2018'                READ DCB CONTROL WORD
002E42  0000          1508        DC    A(*-*)                 FLAG / RECORD#
002E44  0000          1509        DC    A(*-*)                 HEAD / CYLINDER#'S
002E46  0000          1510        DC    A(*-*)                 SCAN / REPEAT COUNT
002E48  2E9A          1511        DC    A(RSBA)                RSB ADDRESS
002E4A  0000          1512        DC    A(*-*)                 CHAIN ADDRESS
002E4C  0100          1513        DC    X'0100'                BYTE COUNT
002E4E  0000          1514        DC    A(*-*)                 READ DATA ADDRESS
                      1515 *
                      1516 ****  WRITE SECTOR ID SKEWED   ****
                      1517 *
002E50  002F          1518 WKDCB  DC    X'002F'                CONTROL WORD
002E52  0000          1519        DC    A(*-*)                 FLAG / PHYSICAL SECTOR#
002E54  0000          1520        DC    A(*-*)                 HEAD / CYLINDER#'S
002E56  0000          1521        DC    F'0'                   NOT USED
002E58  2E9A          1522        DC    A(RSBA)                RSB ADDRESS
002E5A  0000          1523        DC    A(*-*)                 CHAIN ADDRESS
002E5C  0004          1524        DC    X'0004'                BYTE COUNT
002E5E  2E8E          1525        DC    A(WRSID)               ADDR OF SECTOR ID DATA
                      1526 *
                      1527 ****  READ SECTOR ID SKEWED    ****
                      1528 *
002E60  201D          1529 RKDCB  DC    X'201D'                CONTROL WORD
002E62  0000          1530        DC    A(*-*)                 FLAG / PHYSICAL SECTOR#
002E64  0000          1531        DC    A(*-*)                 HEAD / CYLINDER#'S
002E66  0000          1532        DC    F'0'                   NOT USED
002E68  2E9A          1533        DC    A(RSBA)                RSB ADDRESS
002E6A  0000          1534        DC    A(*-*)                 CHAIN ADDRESS
002E6C  0004          1535        DC    X'0004'                BYTE COUNT
002E6E  2D76          1536        DC    A(SCTID)               SECTOR ID DATA ADDRESS
                      1537 *
                      1538 ****  READ MULTIPLE SECTOR IDS     ****
                      1539 *
002E70  201C          1540 RMDCB  DC    X'201C'                CONTROL WORD
002E72  0000          1541        DC    A(*-*)                 FLAG / PHYSICAL SECTOR#
002E74  0000          1542        DC    A(*-*)                 HEAD / CYLINDER#'S
002E76  0000          1543        DC    F'0'                   NOT USED
002E78  2E9A          1544        DC    A(RSBA)                RSB ADDRESS
002E7A  0000          1545        DC    A(*-*)                 CHAIN ADDRESS
002E7C  0084          1546        DC    X'0084'                BYTE COUNT
002E7E  2EAA          1547        DC    A(ID00)                DATA AREA ADDRESS
                      1548 *
                      1549 *  CONSTANTS AND DEFINED STORAGE  LOCATIONS
002E80  0000          1550 ZERO0  DC    X'0000'                CONSTANT ZERO
002E82  0001          1551 ONE1   DC    X'0001'                CONSTANT ONE
002E84  0000          1552 RAY    DC    A(*-*)                 WRITE PARAMETER POINTER
002E86  EB6D          1553 WDATA  DC    X'EB6D'                WRITE DATA
002E88  6BDB          1554        DC    X'6BDB'                *
002E8A  0000          1555 LGSEC  DC    X'0000'                LOGICAL SECTOR #
002E8C  0000          1556 PHYSC  DC    X'0000'                CONVERTED PHYSICAL SEC #
002E8E  0000          1557 WRSID  DC    X'0000'                FLAG,SECTOR    (WRT SECTOR ID DATA)
002E90  0000          1558        DC    X'0000'                HEAD,CYLINDER
002E92  FF34          1559 WSIDT  DC    X'FF34'                WRITE SECTOR ID TEST DATA
002E94  5678          1560        DC    X'5678'                *
002E96  0000          1561 SCTST  DC    X'0000'                READ SECTOR ID TEST DATA BUFFER
002E98  0000          1562        DC    X'0000'                *
002E9A  00000000000000000000  1563 RSBA  DC    6A(*-*)        RESIDUAL STATUS BLOCK
002EA6  0000          1564 CTR02  DC    X'0000'                COUNTER
002EA8  0000          1565 CTR03  DC    X'0000'                COUNTER
002EAA  0000          1566 ID00   DC    X'0000'                ID ADDRESS TO BE SET BY USER
002EAC  1010          1567 PDATA  DC    X'1010'                WRITE DIAG WORD 1 DATA PATTERNS
002EAE  5555          1568        DC    X'5555'                *
002EB0  AAAA          1569        DC    X'AAAA'                *
002EB2  FFFF          1570        DC    X'FFFF'                *
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 LOCTR  OBJECT TEXT   STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                      1571 *
                      1572 ****************************4/06/77**********************************
                      1573 *
                      1574 *  SUBROUTINE
                      1575 *
                      1576 *     PURPOSE
                      1577 *
                      1578 *          COMPARE READ SECTOR ID DATA TO WRITE SECTOR ID DATA
                      1579 *
                      1580 *     CALLING SEQUENCE
                      1581 *
                      1582 *          BAL  CMPRW,R6          (NORMAL)
                      1583 *
                      1584 *     RETURN
                      1585 *
                      1586 *          BXS (R6,2)     -   NORMAL
                      1587 *
                      1588 *
                      1589 ************************************************************************
                      1590 *
002EB4  4724 0004     1591 CMPRW  MVWI  4,R7                     COMPARE BYTE COUNT
002EB8  4324 2D76     1592        MVA   SCTID,R3                 ADDR OF RD SEC ID DATA
002EBC  4524 2E8E     1593        MVA   WRSID,R5                 ADDR OF WR SEC ID DATA
002EC0  2BA6          1594        CMPEN (R3),,(R5)               COMPARE ID DATA
002EC2  68C0 0002     1595        BE    (R6,2)                   ECH IF WRITE ID DATA OK
002EC6  68D2 0000     1596        B     (R6)*                    COMPARE ERROR
                      1597 ************************************************************************
                      1598 *
                      1599 *     EXECUTE INPUT & OUTPUT COMMANDS
                      1600 *     TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
                      1601 *     EACH OF THESE ENTRIES SET R7 WITH THE ADRS OF ITS PARAMETER
                      1602 *     LIST AND ANY SPECIAL SWITCHES BEFOPE BRANCHING TO THE
                      1603 *     SUPVR CALL.
                      1604 *     .
                      1605 *     THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
                      1606 *     .
                      1607 *     1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
                      1608 *     2. ERROR INTERRUPTS RECEIVED FROM SUPVR
                      1609 *
                      1610 *     THIS ROUTINE HAS THE FOLLOWING ENTPIES:
                      1611 *     .
                      1612 * 1   BAL   $RKEW,R6               READ SECTOR ID SKEWED
                      1613 *     .
                      1614 * 2   BAL   $WKEW,R6               WRITE SECTOR ID SKEWED
                      1615 *     .
                      1616 * 3   BAL   $WSEC,R6               WRITE SECTOR ID
                      1617 *     .
                      1618 * 4   BAL   $DIAG,R6               DIAGNOSTIC
                      1619 *     .
                      1620 * 5   BAL   XIOCS,R6               CYCLE STEAL STATUS
                      1621 *     .
                      1622 * 6   BAL   $SEEK,R6               SEEK
                      1623 *     .
                      1624 * 7   BAL   $RECL,R6               RECALIBRATE
                      1625 *     .
                      1626 * 8   BAL   $RDID,R6               READ SECTOR ID
                      1627 *     .
                      1628 * 9   BAL   $RD,R6                 READ
                      1629 *     .
                      1630 * 10  BAL   $RDVY,R6               READ VERIFY
                      1631 *     .
                      1632 * 11  BAL   $WRT,R6                WRITE
                      1633 *     .
                      1634 * 12  BAL   $RDIM,R6               READ MULTI SECTOR IDS
                      1635 *
                      1636 ************************************************************************
                      1637 *
002ECA  4020 30E2 2E00  1638 $SEEK  MVA   SKDCB,IODCB          SET UP CONTROL BLOCK FOR SVC CALL
002ED0  507F          1639        J     XIO
                      1640 *
002ED2  4020 30E2 2DD0  1641 $RECL  MVA   CLDCB,IODCB          SET UP BLOCK FOR SVC CALL
002ED8  507B          1642        J     XIO
                      1643 *
002EDA  4020 30E2 2DF0  1644 $RDID  MVA   RSDCB,IODCB          SET UP BLOCK FOR SVC CALL
002EE0  0BBB          1645        MVBI  X'BB',R3               SET BUFFER TO B'S
002EE2  4524 2D76     1646        MVA   SCTID,R5               SETUP READ SECTOR ID BUFFER ADRS
002EE6  4724 0004     1647        MVWI  4,R7                   SETUP BUFFER LENGTH
002EEA  2BAC          1648        FFN   R3,(R5)                INIT READ SECTOR ID BUFFER
002EEC  4020 2DFE 2D76  1649      MVA   SCTID,RSDCB+14         DATA ADDR
002EF2  506E          1650        J     XIO
                      1651 *
002EF4  4020 30E2 2E70  1652 $RDIM  MVA   RMDCB,IODCB          SET UP CONTROL BLOCK FOR SVC CALL
002EFA  4724 0084     1653        MVWI  132,R7                 SET BUFFER LENGTH
002EFE  4524 2EAA     1654        MVA   ID00,R5                SET BUFFER ADDRESS
002F02  0BBB          1655        MVBI  X'BB',R3               SET CLEAR CHARACTERS
002F04  2BAC          1656        FFN   R3,(R5)                CLEAR THE BUFFER
002F06  5064          1657        J     XIO
                      1658 *
002F08  0BFF          1659 $RD    MVBI  X'FF',R3               SETRD BUFFER TO ALL F'S
002F0A  6D08 2E4E     1660        MVW   RDDCB+14,R5            SET UP READ BUFFER ADRS
002F0E  6F08 2E4C     1661        MVW   RDDCB+12,R7            SET UP BUFFER LENGTH
002F12  2BAC          1662        FFN   R3,(R5)                CLEAR READ BUFFER
002F14  4020 30E2 2E40  1663 $RD$   MVA   RDDCB,IODCB          SET UP BLOCK FOR SVC CALL
002F1A  505A          1664        J     XIO
                      1665 *
002F1C  4020 30E2 2E30  1666 $RDVY  MVA   VRDCB,IODCB          SET UP CONTROL BLOCK FOR SVC CALL
002F22  5056          1667        J     XIO
                      1668 *
002F24  4020 30E2 2E20  1669 $WRT   MVA   WRDCB,IODCB          SET UP CONTROL BLOCK FOR SVC CALL
002F2A  5052          1670        J     XIO
                      1671 *
002F2C  4020 30E2 2E60  1672 $RKEW  MVA   RKDCB,IODCB           SET UP CONTROL BLOCK FOR SVC CALL
002F32  0BBB          1673        MVBI  X'BB',R3               SET BUFFER TO B'S
002F34  4524 2D76     1674        MVA   SCTID,R5               SETUP READ SECTOR ID BUFFER ADRS
002F38  4724 0004     1675        MVWI  4,R7                   SETUP BUFFER LENGTH
002F3C  2BAC          1676        FFN   R3,(R5)                INIT READ SECTOR ID BUFFER
002F3E  4020 2E6E 2D76  1677      MVA   SCTID,RKDCB+14          DATA ADDR
002F44  5045          1678        J     XIO
                      1679 *
002F46  4020 30E2 2E50  1680 $WKEW  MVA   WKDCB,IODCB           SET UP CONTROL BLOCK FOR SVC CALL
002F4C  4020 2E5E 2E8E  1681        MVA   WRSID,WKDCB+14         DATA ADDR
002F52  503E          1682        J     XIO
                      1683 *
002F54  4020 30E2 2DE0  1684 $WSEC  MVA   WSDCB,IODCB           SET UP CONTROL BLOCK FOR SVC CALL
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
002F5A  4020 2DEE 2E8E   1686        MVA   WRSID,WSDCB+14        DATA ADDR
002F60  5037             1687        J     XIO
                         1688  *
002F62  4020 30E2 2DC0   1689  $DIAG MVA   DGDCB,IODCB           SET UP CONTROL BLOCK FOR SVC CALL
002F68  5033             1690        J     XIO
                         1691  *
002F6A  6E0D 2D74        1692  $WRT0 MVW   R6,LSTIO              SAVE IAR FOR RETRY IF REQUESTED
002F6E  0BFF             1693        MVBI  255,R3                CLEAR CYCLE STATUS BUFFER
002F70  4524 2D8E        1694        MVA   CSBUF,R5              *  TO ALL ONES  *
002F74  0F16             1695        MVBI  22,R7                 *
002F76  2BAC             1696        FFN   R3,(R5)               *
002F78  4524 2D7E        1697        MVA   DCBUF,R5              CLEAR DCB BUFFER TO ALL ONES
002F7C  0F10             1698        MVBI  16,R7                 *
002F7E  2BAC             1699        FFN   R3,(R5)               *
002F80  4020 2D70 0708   1700        MVWI  X'0708',$IOIN         OVERLAY OLD CONDITION CODES
002F86  CB25 2D72        1701        MVWZ  $ISB,R3               ZERO OUT OLD ISB VALUE
002F8A  4CA3             1702        TBTR  (R4,IN)               CLEAR INTERRUPT RECEIVED CNTL BIT
002F8C  4CA1             1703        TBTR  (R4,ER)               RESET ANY ERROR BEFORE I/O COMMAND
002F8E  4C62             1704        TBTS  (R4,XI)               SET EXPECTED INTR CONTROL BIT
002F90  4724 30DE        1705        MVA   IOBLK,R7              SET UP CONTROL BLK FOR SUPR
002F94  C020 30E5        1706        MVB   IOMOD+1,R0            GET IDCB FUNC/MODIFIER
002F98  402D 30E4 00F0   1707        RETWI X'00F0',IOMOD         REMOVE FUNCTION FROM 'IOMOD'
002F9E  3022             1708        SRL   4,R0                  RIGHT JUSTIFY FUNCTION BITS IN R0
002FA0  F005             1709        CBI   5,R0                  IDCB FUNCTION = 5?
002FA2  1003             1710        JE    $WRT1                 YES - ISSUE 'SVC  WRIT1'
002FA4  6010             1711        SVC   WRIT0                 ISSUE WRITE DPC '4X' OP
002FA6  6802 302A        1712        B     XIO8-4                GO WAIT FOR THE INTERRUPT
002FAA  6011             1713  $WRT1 SVC   WRIT1                 ISSUE WRITE DPC '5X' OP
002FAC  6802 302A        1714        B     XIO8-4                GO WAIT FOR THE INTERRUPT
                         1715  *
002FB0  4020 30E2 2E20   1716  $DGWR MVA   WRDCB,IODCB           SET UP CONTROL BLK FOR SVC CALL
002FB6  6802 2FD6        1717        B     XIODG                 ISSUE START CS DIAG CMD
                         1718  *
002FBA  4020 30E2 2E40   1719  $DGRD MVA   RDDCB,IODCB           SET UP CONTROL BLK FOR SVC CALL
002FC0  6F08 2E4C        1720        MVW   RDDCB+12,R7           GET NO. OF BYTES TO CLEAR
002FC4  6D08 2E4E        1721        MVW   RDDCB+14,R5           ADDR OF READ BUFFER
002FC8  0BFF             1722        MVBI  X'FF',R3              CLEAR TO F'S
002FCA  2BAC             1723        FFN   R3,(R5)               *
002FCC  6802 2FD6        1724        B     XIODG                 ISSUE START CS DIAG CMD
                         1726        COPY  T7AXEQ                09MAR78
                         1727         PRINT OFF
                         2291        T7AXEQ
                         2292+*****************************************************************29JUL76**
                         2293+*
                         2294+* SUB-ROUTINE
                         2295+*
                         2296+*     EXECUTE INPUT AND OUTPUT COMMANDS
                         2297+*
                         2298+* PURPOSE
                         2299+*
                         2300+*     TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
                         2301+*     THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
                         2302+*
                         2303+*        1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
                         2304+*           THE I/O COMMAND.
                         2305+*        2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
                         2306+*           ISSUED BY THIS SUBROUTINE.
                         2307+*        3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
                         2308+*           START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
                         2309+*        4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
                         2310+*           SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
                         2311+*           MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
                         2312+*        5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
                         2313+*           EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC  START'.
                         2314+*        6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
                         2315+*           STARTS TO DETERMINE A LOST INTERRUPT.
                         2316+*        7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
                         2317+*           WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL.
                         2318+*        8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
                         2319+*        9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
                         2320+*       10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.
                         2321+*       11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
                         2322+*       12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
                         2323+*           ISSUED BY THIS SUBROUTINE.
                         2324+*       13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
                         2325+*           CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
                         2326+*           COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
                         2327+*
                         2328+* CALLING SEQUENCE
                         2329+*
                         2330+*     THIS ROUTINE HAS THE FOLLOWING ENTRIES:
                         2331+*
                         2332+* --> BAL   XIO        OR          XEQ ANY CYCLE STEAL COMMAND, MOD=0
                         2333+* --> BAL   XIO1                  MOD PARM PRELOADED IN 'IOMOD'
                         2334+* --> BAL   XIOCS,R6   OR          XEQ START CYCLE STEAL STATUS, MOD=F
                         2335+* --> BAL   XIOCS-4,R6            AUTO CS STATUS (FOLLOWING OTHER XIO
                         2336+*     .                           AND DOES NOT POST INTERRUPT STATUS)
                         2337+*
                         2338+* RETURN CONTROL
                         2339+*
                         2340+*     BXS   (R6,2)                RETURN TO USER NO ERROR
                         2341+* OR  B     (R6)*                 RETURN AND RETEY ON ERROR
                         2342+*****************************************************************************
002FD0  CB25 30E4        2344+XIO   MVWZ  IOMOD,R3              SET MOF OF 0 FOR CYCLE STEAL OP
002FD4  500E             2345+      J     XIO1                  CS I/O'S ARE NOT RETRIED
                         2346+*
002FD6  4020 30E4 000D   2347+XIODG MVWI  X'000D',IOMOD         SET MODIFIER FOR DIAGNOSTIC OPS
002FDC  500A             2348+      J     XIO1                  GO TO CS OPS
                         2349+*
002FDE  4CAA             2350+      TBTR  (R4,CE)               RESET CS STATUS INTER ERROR INDICAT.
002FE0  4C68             2351+      TBTS  (R4,CS)               SET 'CYCLE STEAL STATUS' IN PROGRESS
002FE2  4020 30E2 2E10   2352+XIOCS MVA   CSDCB,IODCB          SET UP CONTROL BLOCK FOR SVC CALL
002FE8  4020 30E4 000F   2353+      MVWI  X'000F',IOMOD         SET CYCLE STEAL MODIFIER
002FEE  4C28             2354+      TBT   (R4,CS)               IS CS IN PROGRESS, ERROR CONDITION
002FF0  1213             2355+      JON   XIO2                  * YES, BYPASS SAVING I/O ADRS
002FF2  6E0D 2D74        2356+XIO1  MVW   R6,LSTIO              SAVE IAR FOR RETRY IF REQUESTED
002FF6  4324 2D7E        2357+      MVA   DCBUF,R3              SET UP TO ADRS TO MOVE DCB TABLE
002FFA  6D08 30E2        2358+      MVW   IODCB,R5              * AND THE FROM ADRS, ALONG WITH
002FFE  0F1A             2359+      MVBI  26,R7                 * THE NUMBER OF MOVES
003000  2D64             2360+      MVFN  (R5),(R3)             MOVE 1 STATUS WORD AND ADJUST
003002  0BFF             2361+      MVBI  255,R3                CLEAR CYCLE STATUS BUFFER
003004  4524 2D8E        2362+      MVA   CSBUF,R5              *  TO ALL ONES  *
003008  0F1A             2363+      MVBI  26,R7                 *
00300A  2BAC             2364+      FFN   R3,(R5)               *
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 LOCTR  OBJECT TEXT      STMT SOURCE STATEMENT                                  COPYRIGHT IBM CORP 1976
00300C  4020 2D70 0708   2365+      MVWI  X'0708',$IOIN         OVERLAY OLD CONDITION CODES
003012  CB25 2D72        2366+      MVWZ  $ISB,R3               ZERO OUT OLD ISB VALUE
                         2367+*
003016  4CA1             2368+      TBTR  (R4,ER)               RESET ANY ERROR BEFORE I/O COMMAND
003018  4CA3             2369+XIO2  TBTR  (R4,IN)               CLEAR INTERRUPT RECEIVED CNTL BIT
00301A  4724 30DE        2370+      MVA   IOBLK,R7              SET UP CONTROL BLOCK FOR SUPVR
00301E  4CA6             2371+      TBTR  (R4,$LE)              RESET LEVEL ERROR INDICATOR
003020  4C62             2372+      TBTS  (R4,XI)               SET EXPECTED INTR CONTROL BIT
003022  600A             2373+      SVC   START                 CALL SUPVR FOR I/O COMMAND
                         2374+*
003024  4CA7             2375+      TBTR  (R4,NI)               IS AN INTR EXPECTED
003026  6AC0 0002        2376+      BN    (R6,2)                * NO, RETURN TO USER
                         2377+*
                         2378+*          THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
                         2379+*
00302A  4524 0000        2380+      MVWI  0,R5                  SET UP WORK REG FOR 'LOST INTR'
00302E  4CA3             2381+XIO8  TBTR  (R4,IN)               HAS INTERRUPT BEEN RECEIVED
003030  1239             2382+      JON   XIOCK                 * YES, CHECK IF ALL WAS SATISFACTORY
003032  6002             2383+      SVC   IDLE                  ALLOW ANOTHER PROGRAM A CHANCE TO RUN
                         2384+*                                 SUPVR WILL RETURN HERE
003034  6002             2385+      SVC   IDLE                  ALLOW ANOTHER PROGRAM A CHANCE TO RUN
                         2386+*                                 SUPVR WILL RETURN HERE
003036  7DA1 0001        2387+      AWI   1,R5                  ADVANCE TIME OUT COUNT
00303A  18F9             2388+      JNZ   XIO8                  BCH IF TIME OUT NOT REACHED
00303C  4C61             2389+      TBTS  (R4,ER)               SET ON ERROR CONTROL BIT
00303E  68D2 0000        2390+      B     (R6)*                 ERR 'NO INTERRUPT'
                         2392+*****************************************************************03FEB76**
                         2393+*
                         2394+* SUBROUTINE
                         2395+*
                         2396+*     I/O EXECUTE ERROR HANDLING ROUTINE
                         2397+*
                         2398+* PURPOSE
                         2399+*
                         2400+*     THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
                         2401+*     PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
                         2402+*     SUPERVISOR AND IT WAS NOT ACCEPTED.
                         2403+*
                         2404+* CALLING SEQUENCE
                         2405+*
                         2406+*     SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
                         2407+*
                         2408+* RETURN CONTROL
                         2409+*
                         2410+*     B     (R6)*                 RETURN TO USERS ERROR HANDLER
                         2411+*
                         2412+*****************************************************************************
                         2413+*
                         2414+* CC        0= DEVICE NOT ATTACHED
                         2415+* FOR       1= DEVICE BUSY
                         2416+* I/O       2= DEVICE BUSY AFTER RESET
                         2417+*           3= COMMAND REJECT
                         2418+*           4= INTERVENTION REQUIRED
                         2419+*           5= INTERFACE DATA CHECK
                         2420+*           6= CONTROLLER BUSY
                         2421+*           7= I/O COMMAND EXCEPTED
                         2422+*
003042  706E             2423+XIOER CPLSR R3                    COPY STATUS ANY LEVEL INTO R3
003044  336A             2424+      SRL   13,R3                 POSITION CC CODE TO BITS 13-15
003046  C328 2D70        2425+      MVB   R3,$IOIN              * PUT IN LOG OUT AREA
00304A  68D2 0000        2426+      B     (R6)*                 RETURN TO USER ERROR HANDLER
                         2428+*****************************************************************14APR76**IL
                         2429+*                                                                       IL
                         2430+* SUB-ROUTINE                                                          IL
                         2431+*                                                                       IL
                         2432+*     ERROR INTERRUPT             RUNS ON INTERRUPT LEVEL '$INTL'       IL
                         2433+*                                                                       IL
                         2434+* PURPOSE                                                             IL
                         2435+*                                                                       IL
                         2436+*     THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR      IL
                         2437+*     OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE        IL
                         2438+*     EXPECTED CODE.                                                    IL
                         2439+*                                                                       IL
                         2440+* CALLING SEQUENCE                                                     IL
                         2441+*                                                                       IL
                         2442+*     SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT          IL
                         2443+*                                                                       IL
                         2444+* RETURN CONTROL                                                       IL
                         2445+*                                                                       IL
                         2446+*     SVC   EXIT                  RETURN TO USER VIA SUPVR              IL
                         2447+*                                                                       IL
                         2448+*****************************************************************      IL
                         2449+*                                                                       IL
                         2450+* CC        0= CONTROLLER END                 ISB   0= ADD STATUS       IL
                         2451+* FOR       1= PROGRAM CONTROL INTERRUPT      BITS  1= COMD REJECT      IL
                         2452+* INTR      2= EXCEPTION INTERRUPT            FOR   2= INCOR LENGTH     IL
                         2453+*           3= DEVICE END INTERRUPT           INTR  3= DCB SPEC CK      IL
                         2454+*           4= ATTENTION INTERRUPT                  4= STG DATA CK      IL
                         2455+*           5= ATTENTION / PROGRAM CNTL INTR        5= INV STG ADRS     IL
                         2456+*           6= ATTENTION / EXCEPTION INTR           6= PROTECT CK       IL
                         2457+*           7= ATTENTION / DEVICE END INTR          7= I-FACE DATA      IL
                         2458+*                                                                       IL
003050  336A             2459+INTER CPLSR R3                    COPY STATUS ANY LEVEL INTO R3         IL
003052  4A24 2D68        2460+      SRL   13,R3                 POSITION INDICATORS IN R3             IL
003056  4C28             2461+      MVA   OPTN1,R4              SET UP BASE ADRS                      IL
003058  1006             2462+      TBT   (R4,CS)               IS CS IN PROGRESS                     IL
00305A  4C6A             2463+      JOFF  INTES                 * NO                                  IL
00305C  6F0D 2D7C        2464+      TBTS  (R4,CE)               TURN ON CYCLE STEAL INTER ERROR       IL
003060  C328 2D7D        2465+      MVW   R7,DEV4               SAVE CS ERR ISB VALUE, BITS 0-7       IL
003064  500A             2466+      MVB   R3,DEV4+1             * AND THE COND CODE                   IL
003066  4C24             2467+      J     INTR1                                                       IL
003068  1002             2468+INTES TBT   (R4,XE)               TEST  EXPECTED ATTEN / ERROR IND      IL
00306A  F304             2469+      JOFF  INTET                 RCH IF NOT EXPECTED                   IL
00306C  1006             2470+      CBI   4,R3                  IS THIS AN 'ATTENTION' INTR           IL
00306E  4C61             2471+      JE    INTR1                 * YES, BCH TO END INTR SEQUENCE       IL
003070  5004             2472+INTET TBTS  (R4,FR)               SET ERROR ON I/O COMMAND CNTL BIT     IL
                         2473+      J     INTR1                                                       IL
                         2474+*                                 THE ERROR INTERRUPT USES THE SAME     IL
                         2475+*                                 ENDING SEQUENCE AS THE NORMAL INTR    IL
                         2477+*****************************************************************14APR76IL
                         2478+*                                                                       IL
                         2479+* SOUBROUTINE                                                          IL
                         2480+*                                                                       IL
                         2481+*     OKAY  INTERRUPT             RUNS ON INTERRUPT LEVEL '$INTL'       IL
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                          COPYRIGHT IBM CORP 1976

                           2482+*                                                                 IL
                           2483+* PURPOSE                                                         IL
                           2484+*                                                                 IL
                           2485+*     TO CHECK THE INTERRUPT AND CONTINUE THE TEST                 IL
                           2486+*                                                                 IL
                           2487+* CALLING SEQUENCE                                               IL
                           2488+*                                                                 IL
                           2489+*     SUPERVISOR WILL ENTER HERE  IF INTR CC IS AS REQUESTED      IL
                           2490+*     THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE     IL
                           2491+*     AFTER THE SPECIAL PART HAS BEEN COMPLETED  AND THE          IL
                           2492+*     COMMON SECTION IS HANDLED HERE.                             IL
                           2493+*                                                                 IL
                           2494+* RETURN CONTROL                                                 IL
                           2495+*                                                                 IL
                           2496+*     SVC   EXIT                  RETURN TO USER VIA SUPVR        IL
                           2497+*                                                                 IL
                           2498+*************************************************************** IL
003072  706E               2499+INTOK CPLSR R3                    COPY STATUS ANY LEVEL INTO R3   IL
003074  336A               2500+      SRL   13,R3                 POSITION INDICATORS IN R3       IL
003076  4424  2D68         2501+      MVA   OPTN1,R4              SET UP BASE ADRS                IL
00307A  4C63               2502+INTR1 TBTS  (R4,IN)               SET   INTERRUPT RECEIVED        II
00307C  4C28               2503+      TBT   (R4,CS)               IS 'CS IN PROGRESS' ON          IL
00307E  1204               2504+      JON   INTR2                 * YES, BCH AROUND UPDATE        IL
003080  C328  2D71         2505+      MVB   R3,$IOIN+1            SAVE INTERRUPTING CC CODE       IL
003084  6F0D  2D72         2506+      MVW   R7,$ISB               SAVE INTR STATUS AND DEV ADRS   IL
003088                     2507+INTR2 EQU   *
                           2508+*     CPCL  R5                    CURRENT LEVEL COPIED BY DCP     IL
003088  3521               2509+      SLL   4,R5                  POSITION INTR LEVEL AND PUT     IL
00308A  0501               2510+      ABI   1,R5                  * IN 'I' BIT                    IL
00308C  CD24  2DAE         2511+      CW    $INTL,R5              IS THIS THE CORRECT INTR LEVEL  IL
003090  1002               2512+      JE    INTR3                 * YES, GO EXIT THIS LEVEL       IL
003092  4C66               2513+      TBTS  (R4,$LE)              SET INTR LEVEL ERROR CONTROL BIT IL
003094  4C61               2514+      TBTS  (R4,ER)               SET ERROR ON I/O COMMAND CNTL BIT IL
003096  4CA2               2515+INTR3 TBTR  (R4,XI)               WAS INTERRUPT EXPECTED          IL
003098  1204               2516+      JON   INTRX                 * YES, EXIT OFF THIS INTR LEVEL IL
00309A  4C60               2517+      TBTS  (R4,MI)               * NO, SET MYSTERY INTR CONTROL BIT IL
00309C  F304               2518+      CBI   4,R3                  ATTENTION INTERRUPT?            IL
00309E  1001               2519+      JE    INTRX                 YES                             IL
0030A0  4C6C               2520+      TBTS  (R4,NG)               ERROR,UNEXPECTED INTERRUPT      IL
0030A2  6006               2521+INTRX SVC   EXIT                  EXIT THIS LEVEL VIA SUPVR TO PGM IL
                           2523+*************************************************************03FEB76**
                           2524+*
                           2525+*     THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
                           2526+*     HAS BEEN SERVICED. THE EXERCISER FINDS AN INTERRUPT HAS BEEN
                           2527+*     RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
                           2528+*
                           2529+*
0030A4  4CA4               2530+XIOCK TBTR  (R4,XE)               WAS AN ERROR EXPECTED
0030A6  6AC0  0002         2531+      BN    (R6,2)               * YES, EXIT THIS ROUTINE
0030AA  4CA8               2532+      TBTR  (R4,CS)              WAS AUTO CS IN PROGRESS
0030AC  1006               2533+      JOFF  XIOCV                * NO, CONTINUE CHECKING
0030AE  4C2A               2534+      TBT   (R4,CE)              IS CS IN AN ERP CONDITION
0030B0  1002               2535+      JOFF  XIOCO                * NO, BCH
0030B2  68D2  0000         2536+      B     (R6)*                CS ERROR
0030B6  4C69               2537+XIOCO TBTS  (R4,CSA)             TURN ON CS STATS AVAIL FLAG
0030B8  5601               2538+      BXS   (R6,2)               GO TO USER
0030BA  4C21               2539+XIOCV TBT   (R4,ER)              WAS ERROR INTR CONTROL BIT ON
0030BC  100D               2540+      JOFF  XIOCX                * NO, EXIT THIS ROUTINE
                           2541+*
0030BE  C520  2D71         2542+      MVB   $IOIN+1,R5           GET LAST INTR CC CODE
0030C2  F502               2543+      CBI   2,R5                 IS THIS CC=2
0030C4  1003               2544+      JE    XIOCQ                YES
0030C6  F506               2545+      CBI   6,R5                 IS THIS CC=6
0030C8  6B91  0000         2546+      BNE   (R6)*                * NO, BCH TO ERROR HANDLER
0030CC  C520  2D72         2547+XIOCQ MVB   $ISB,R5              GET LAST ISB DATA BYTE AND IF CS
0030D0  6A00  2FDE         2548+      BN    XIOCS-4              * AVAILABLE, GO AND GET IT
0030D4  68D2  0000         2549+      B     (R6)*                ERROR
0030D8  CB25  2D6C         2550+XIOCX MVWZ  OPTN3,R3             CLEAR OUT OPTION 3 CNTL BITS
0030DC  5601               2551+      BXS   (R6,2)               RETURN TO USER VIA REG 6
                           2552+*
                           2553+*                 I/O   PARAMETER LIST
                           2554+*
0030DE  19D0               2555+IOBLK DC    A(DEVADD)            ADRS OF DEVICE ADRS
0030E0  3042               2556+      DC    A(XIOER)             ERROR ROUTINE ADRS
0030E2  0000               2557+IODCB DC    A(*-*)               DCB ADRS OR LEVEL & INTR
0030E4  0000               2558+IOMOD DC    A(*-*)               MODIFIER
0030E6  0000               2559+      DC    A(*-*)               ADRS OF LAST SVC CALL
0030E8  0000               2560+IORSP DC    A(*-*)               SECOND WORD OF LAST IDCB
                           2561+*
                           2562+*                 INTERRUPT CONTROL BLOCK FOR I/O COMMANDS
                           2563+*
0030EA  19D0               2564+INTBL DC    A(DEVADD)            ADRS OF DEVICE ADRS
0030EC  3072               2565+      DC    A(INTOK)             INTERRUPT OK RETURN ADRS
0030EE  304E               2566+      DC    A(INTER)             INTERRUPT ERROR ADRS
0030F0  0003               2567+INTCC DC    X'0003'              INTERRUPT CODE EXPECTED
                           2569+*************************************************************11MAY76**
                           2570+*
                           2571+* SUBROUTINE
                           2572+*
                           2573+*     CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE
                           2574+*
                           2575+* PURPOSE
                           2576+*
                           2577+*     TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
                           2578+*     PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
                           2579+*     TO INTERRUPT.
                           2580+*
                           2581+* CALLING SEQUENCE
                           2582+*
                           2583+*     THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
                           2584+*
                           2585+* --> BAL   $CONC,R6             CLEAR DEV DEP STG AND CONNECT I/O BLK
                           2586+* --> BAL   $CONP,R6             PREPARE DEVICE ONLY, ALREADY CONNECT
                           2587+*
                           2588+* RETURN CONTROL
                           2589+*
                           2590+*     BXS   (R6,2)               RETURN TO USER VIA REG 6 IF OKAY
                           2591+* OR  B     (R6)*                IF THE DEVICE COULD NOT BE CONNECTED
                           2592+*
                           2593+*************************************************************
0030F2  0F06               2594+$CONC MVBI  6,R7                 NUMBER OF BYTE TO CLEAR
0030F4  0B00               2595+      MVBI  0,R3                 * AND THE DATA TO USE
0030F6  4524  2D76         2596+      MVA   DEV1,R5              * ALONG WITH THE ADRS TO USE
0030FA  2BAC               2597+      FFN   R3,(R5)              *
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                          COPYRIGHT IBM CORP 1976

0030FC  CB25  2D6C         2598+      MVWZ  OPTN3,R3             CLEAR OLD CONTROLS FOR NEW ROUTINE
003100  4724  30EA         2599+      MVA   INTBL,R7             SET R7 TO CONTROL BLOCK AND
003104  6014               2600+      SVC   CICB                 * CONNECT IT TO THIS DEVICE
003106  6AD0  0000         2601+      BN    (R6)*                ERROR RETURN TO USER
                           2602+*
00310A  8828  2DAE 30E2    2603+$CONP MVW   $INTL,IODCB          PUT IN LEVEL & INTR PARAMETER
003110  4724  30DE         2604+      MVA   IOBLK,R7             SET R7 TO CONTROL BLOCK TO PREPARE
003114  4020  2D70  0708   2605+      MVWI  X'0708',$IOIN        INITIALIZE CONDITION CODE STORAGE
00311A  CB25  2D72         2606+      MVWZ  $ISB,R3              * AND CLEAR OLD ISB VALUE
00311E  6E0D  2D74         2607+      MVW   R6,LSTIO             SET UP ADDRESS THAT STARTED LAST I/O
003122  600C               2608+      SVC   PREP                 * AND CALL ON SUPVR
003124  5601               2609+      BXS   (R6,2)               RETURN TO USER
                           2611+*************************************************************06APR76**
                           2612+*
                           2613+* SUBROUTINE
                           2614+*
                           2615+*     DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
                           2616+*
                           2617+* PURPOSE
                           2618+*
                           2619+*     DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
                           2620+*     SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS
                           2621+*     BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
                           2622+*
                           2623+* CALLING SEQUENCE
                           2624+*
                           2625+*     THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
                           2626+*
                           2627+* --> B     $ERR$                SET 'NG' BIT AND CONVERT DATA TO LOG
                           2628+* --> B     $CONX                RETURN TO MDI SUPERVISOR TO TEST STS
                           2629+*
                           2630+* RETURN CONTROL
                           2631+*
                           2632+*     B     TURTN*               RETURN TO MDI
                           2633+* OR  B     (R6)*                IF THE DEVICE COULD NOT BE CONNECTED
                           2634+*
                           2635+*************************************************************
003126  4020  1818  8000   2636+$ERR$ MVWI  X'8000',TUSTATUS     SET ON 'NO GOOD' STATUS BIT
00312C  4724  32F6         2637+      MVA   HEBLK,R7             GET ADRS OF CONTROL BLOCK
003130  601A               2638+      SVC   HTOE                 CONVERT HEX TO EBC VIS DCP
003132  4020  188E  4040   2639+      MVWI  X'4040',TUWORK+116
003138  4020  1890  4040   2640+      MVWI  X'4040',TUWORK+118
00313E  4020  1892  4040   2641+      MVWI  X'4040',TUWORK+120
003144  0D04               2642+$PRNT MVBI  4,R5
003146  4324  181A         2643+      MVA   TUWORK,R3            SET UP BUFFER STORAGE
00314A  6B0D  32EE         2644+      MVW   R3,BUFPT
00314E  4124  31CA         2645+      MVA   LINE1,R1
003152  0F04               2646+      MVBI  4,R7
003154  0E08               2647+      MVBI  8,R6
003156  2B24               2648+MVBUF MVFN  (R3),(R1)
003158  0F04               2649+      MVBI  4,R7
00315A  0A40               2650+      MVBI  X'40',R2
00315C  C258               2651+      MVB   R2,(R1)+
00315E  BEFB               2652+      JCT   MVBUF,R6
003160  0E08               2653+      MVBI  8,R6
003162  7921  002C         2654+      AWI   44,R1
003166  BDF7               2655+      JCT   MVBUF,R5
003168  4020  1802  F1F0   2656+      MVWI  PIDMSG10,PID+2
00316E  4020  19B8  32F4   2657+      MVA   FAKETU,@DCADD1
003174  4020  19BA  32F0   2658+      MVA   DC2PT,@DCADD2
00317A  402C  19C4  0080   2659+      OWI   BIT0080,SUPSTAT
003180  4324  2D6E         2660+      MVA   $TUID,R3             SET UP BUFFER STORAGE
003184  6F13  18BA         2661+      BAL   TUMSGWTR*,R7         GO TO MESSAGE WRITER
                           2662+*
003188                     2663+$CONX EQU   *
003188  C720  19D0         2664+      MVB   DEVADD,R7            GET DEVICE ADDRESS FROM MDI
00318C  6013               2665+      SVC   RICB                 RELEASE INTERRUPT CONTROL BLOCK
00318E  6812  2DB0         2666+      B     TURTN*               RETURN TO MDI SUPERVISOR
                           2667+*
003192  0009               2668+BEGIN DC    A(0009)              NUMBER OF LINES TO PRINT
003194  0008               2669+      DC    A(0008)              LINE LENGTH = 8 CHAR
003196  5C5C40C1C2D6D9E3   2670+      DC    C'** ABORT'
00319E  0028               2671+      DC    A(0040)              LINE LENGTH = 40 CHAR
0031A0  E3E4C9C440C9D6C9D  2672+      DC    C'TUID IOIN ISB  INST SECT  ID  DATA CSCC '
0031C8  0028               2673+      DC    A(0040)              LINE LENGTH = 40 CHAR
0031CA  4040404040404040   2674+LINE1 DC    C'                                        '
0031F2  0028               2675+      DC    A(0040)              LINE LENGTH = 40 CHAR
0031F4  C3D5E3D340C4C3C2F  2676+      DC    C'CNTL  DCB1 DCB2  DCB3  DCB4 CHAD BYCT ADRS '
00321C  0028               2677+      DC    A(0040)              LINE LENGTH = 40 CHAR
00321E  4040404040404040   2678+LINE2 DC    C'                                        '
003246  0028               2679+      DC    A(0040)              LINE LENGTH = 40 CHAR
003248  C3E260F040C3E260F  2680+      DC    C'CS-0 CS-1 CS-2 CS-3  CS-4 CS-5 CS-6 CS-7 '
003270  0028               2681+      DC    A(0040)              LINE LENGTH = 40 CHAR
003272  4040404040404040   2682+LINE3 DC    C'                                        '
00329A  0028               2683+      DC    A(0040)              LINE LENGTH = 40 CHAR
00329C  C3E260F840C3E260F  2684+      DC    C'CS-8 CS-9 CS-A CS-B  CS-C '
0032C4  0028               2685+      DC    A(0040)              LINE LENGTH = 40 CHAR
0032C6  4040404040404040   2686+LINE4 DC    C'                                        '
                           2687+*
0032EE  0000               2688+BUFPT DC    A(*-*)
0032F0  3192               2689+DC2PT DC    A(BEGIN)
0032F2  0101               2690+FIXTU DC    X'0101'
0032F4  0101               2691+FAKETU    DC  X'0101'
00F1F0                     2692+PIDMSG10  EQU   X'F1F0'
000080                     2693+BIT0080   EQU   X'0080'
                           2694+*
                           2695+*      DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
                           2696+*
0032F6  003A               2697+HEBLK DC    A(58)                NUMBER OF BYTES TO CONVERT
0032F8  2D6E               2698+      DC    A($TUID)             FROM ADRS
0032FA  181A               2699+      DC    A(TUWORK)            AND THE TO ADRS
                           2700       COPY  T7A50                21APR78
                           2701 T7A50 TUIT  ,1
                           2702+*************************************************************06FEB76**
                           2703+*
                           2704+* TEST UNIT
                           2705+*
                           2706+*
                           2707+*
                           2708+* PURPOSE
                           2709+*
                           2710+*     TEST THE CONFIGURATION RECORD FOR A FILE PRESENT AT THIS
                           2711+*     ADDRESS.
                           2712+*
```

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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                           2713+* CALLING SEQUENCE
                           2714+*
                           2715+*      MDI=@TUXX,T7A50,1,80,OF'
                           2716+*      .
                           2717+*      TURESUL BIT(S)  0 -........FILE NOT ATTACHED
                           2718+*
                           2719+* RETURN CONTROL
                           2720+*
                           2721+*       B      TURTN*                RETURN TO MDI SUPERVISOR
                           2722+*
                           2723+*****************************************************************
0032FC  6F0D 2DB0          2724+T7A50  MVW    R7,TURTN              SAVE RETURN ADDRESS
003300  4020 2D6E 7A50     2725+       MVWI   X'7A50',$TUID         SAVE TU ID FOR DISPLAY
003306  4424 2D68          2726+       MVA    OPTN1,R4              SET UP POINTER ADRS IN R4
                           2727+*
00330A  D025 18C8          2728        MVDZ   TURESUL,R0            CLEAR THE RESULTS AREA
00330E  4224 18C8          2729        MVA    TURESUL,R2            LOAD RESULTS BASE REG.
003312  802B 3320 19D4     2730        CB     NULL,DEVADD+4         TEST IF NO FILE ATTACHED
003318  1801              2731        JNE    T7A50X                NO CONTINUE THIS MAP
00331A  4A40               2732        TBTS   (R2,0)                SET NO FILE BIT ON
                           2733 T7A50X TXIT                         * RESULTS AND EXIT
00331C  6802 3188          2734+T7A50X B      $CONX                 RETURN TO MDI CONTROLLER
                           2735+*****************************************************************
003320  FFFF               2736 NULL   DC     X'FFFF'               MASK FOR NULL ENTRY
                           2738        COPY   T7A01                 26OCT77
                           2739 T7A01 TUIT    1
                           2740+*****************************************************************06FEB76**
                           2741+*
                           2742+* TEST UNIT
                           2743+*
                           2744+*      DIRECT PROGRAM CONTROL TEST UNIT
                           2745+*
                           2746+* PURPOSE
                           2747+*
                           2748+*      THREE PARAMETERS ARE NEEDED FOR THE EXECUTION OF THIS TU AND ARE
                           2749+*      .
                           2750+*      1. ONE BYTE OF FUNCTION-MODIFIER,IE, X'60' FOR PREPARE
                           2751+*      2. TWO BYTES OF DATA TO BE USED IN THE SECOND PART OF THE IDCB,
                           2752+*      .  IE, X'0005' TO SELECT LEVEL 2 FOR AN INTERRUPT.
                           2753+*      .
                           2754+* CALLING SEQUENCE
                           2755+*
                           2756+*      MDI=@TUXX,T7A01,2,0708,EQ,PLNG=6,PRAM=FMXXXX'
                           2757+*      .
                           2758+*      TURESUL BIT(S)  0 - 15.........OIO CONDITION CODE
                           2759+*      .              16 - 21.........SECOND WORD OF IDCB
                           2760+*
                           2761+* RETURN CONTROL
                           2762+*
                           2763+*       B      TURTN*                RETURN TO MDI SUPERVISOR
                           2764+*
                           2765+*****************************************************************
003322  6F0D 2DB0          2766+T7A01  MVW    R7,TURTN              SAVE RETURN ADDRESS
003326  4020 2D6E 7A01     2767+       MVWI   X'7A01',$TUID         SAVE TU ID FOR DISPLAY
00332C  4424 2D68          2768+       MVA    OPTN1,R4              SET UP POINTER ADRS IN R4
                           2769+*
003330  4724 30EA          2770        MVA    INTBL,R7              SET R7 TO CONTROL BLOCK AND
003334  6014               2771        SVC    CICB                  * CONNECT IT TO THIS DEVICE
003336  4020 2D70 0708     2772        MVWI   X'0708',$IOIN         INIT THE CONDITION CODES
00333C  6908 189A          2773        MVW    TUPARM1,R1            SET UP PARM ADRS
003340  8118 3384          2774        MVB    (R1)+,T7A01I          * AND SET IN FUNCTION-MODIFIER
003344  8028 19D0 3385     2775        MVB    DEVADD,T7A01I+1       * FOLLOWED BY THE DEVICE ADRS
00334A  8118 3386          2776        MVB    (R1)+,T7A01I+2        * AND LOAD IMMEDIATE DATA
00334E  8108 3387          2777        MVB    (R1),T7A01I+3         *
003352  D020 3384          2778        MVD    T7A01I,R0             GET FUNCTION, MODIFIER AND DEV ADRS
                           2779 *
003356  680C 3384          2780        IO     T7A01I                ISSUE THE I/O COMMAND AND
00335A  70AE               2781        CPLSR  R5                    * GET THE I/O CONDITION CODE IN R5
00335C  356A               2782        SRL    13,R5                 RIGHT-JUSTIFY CC AND SAVE IT
00335E  C528 2D70          2783        MVB    R5,$IOIN              * IN THE RESULTS FIELD
003362  3042              2784        SRL    8,R0                  POSITION FUNC/MOD IN RIGHTMOST BYTE
003364  F06F               2785        CBI    X'6F',R0              WAS A DEVICE RESET DONE?
003366  1803               2786        JNE    DLYD+4                NO - SKIP DELAY
003368  0DFF               2787        MVBI   -1,R5                 SET UP DELAY COUNT
00336A  6002               2788 DLYD   SVC    IDLE                  DELAY
00336C  BDFE               2789        JCT    DLYD,R5               *
00336E  3022               2790        SRL    4,R0                  POSITION FUNC IN RIGHTMOST BYTE
003370  F002               2791        CBI    X'02',R0              WAS A READ OR READ STATUS OP EXEC?
003372  1D03               2792        JGT    T7A01X                NO - SEND BACK ONLY OIO CC
003374  8828 3386 18CA     2793        MVW    T7A01I+2,TURESUL+2    LOAD DATA READ INTO RESULTS AREA
00337A  8828 2D70 18C8     2794 T7A01X MVW    $IOIN,TURESUL         PUT ANY INTR COND CODE FOUND IN
                           2795        TXIT                         * RESULTS AND EXIT
003380  6802 3188          2796+       B      $CONX                 RETURN TO MDI CONTROLLER
                           2797+*****************************************************************
                           2798 *
                           2799 *              IDCB FOR DIPECT PROGRAM CONTROL COMMAND
                           2800 *
003384  0000               2801 T7A01I DC     X'0000'                 FUNCTION-MODIFIER-DEVICE ADDRESS
003386  0000               2802        DC     X'0000'                 IMMEDIATE DATA BUFFER
                           2804        COPY   T7A03                 26OCT77
                           2805 T7A03 TUIT
                           2806+*****************************************************************06FEB76**
                           2807+*
                           2808+* TEST UNIT
                           2809+*
                           2810+*      DIRECT PROGRAM CONTROL INTERRUPTING CMDS
                           2811+*
                           2812+* PURPOSE
                           2813+*
                           2814+*      THREE PARAMETERS ARE NEEDED FOR THE EXECUTION OF THIS TU AND ARE:
                           2815+*      .
                           2816+*      1. ONE BYTE OF FUNCTION-MODIFIER,IE, X'4X' FOR DPC WRITE,
                           2817+*      2. TWO BYTES OF DATA TO BE  USED IN THE SECOND PART OF THE IDCB,
                           2818+*      .  IE, X'0005' TO BE SENT TO THE DEVICE.
                           2819+*      .
                           2820+*      THIS TEST UNIT PREPARES THE DEVICE AND EXPECTS AN INTERRUPT
                           2821+*      AND WILL SEND BACK THE CONDITION CODES OF THE I/O AND INTR.
                           2822+*
                           2823+* CALLING SEQUENCE
                           2824+*
                           2825+*      MDI=@TUXX,T7A03,2,0708,EQ,PLNG=6,PARM=FMXXXX'
                           2826+*      .
                           2827+*      TURESUL BIT(S)  0 - 15.........OIO CC, INTR CC
                           2828+*      .              16 - 23.........INTERRUPT STATUS BYTE
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976
                           2829+*      .                  24-31.....CYCLE STEAL STATUS IO/INTR ERROR
                           2830+*      .               32 - 47.....CYCLE STEAL STATUS WORD 4
                           2831+*      .               48 - 63.....CYCLE STEAL STATUS WORD 5
                           2832+*
                           2833+* RETURN CONTROL
                           2834+*
                           2835+*       B      TURTN*                RETURN TO MDI SUPERVISOR
                           2836+*
                           2837+*****************************************************************
003388  6F0D 2DB0          2838+T7A03  MVW    R7,TURTN              SAVE RETURN ADDRESS
00338C  4020 2D6E 7A03     2839+       MVWI   X'7A03',$TUID         SAVE TU ID FOR DISPLAY
003392  4424 2D68          2840+       MVA    OPTN1,R4              SET UP POINTER ADRS IN R4
003396  6E03 30F2          2841+       BAL    $CONC,R6              CLEAR DEV DEP STG AND CONNECT I/O BL
00339A  3126               2842+       DC     A($ERR$)              ERROR ADRS FOR INVALID PREP
                           2843+*
00339C  4224 18C8          2844        MVA    TURESUL,R2            LOAD ADDR TURESULS BUFF IN REG 2
0033A0  4020 2D70 0708     2845        MVWI   X'0708',$IOIN         INIT THE CONDITION CODES
0033A6  6908 189A          2846        MVW    TUPARM1,R1            SET UP PARM ADRS
0033AA  8118 33F8          2847        MVB    (R1)+,T7A03L          * AND SET IN FUNCTION-MODIFIER
0033AE  8028 19D0 33F9     2848        MVB    DEVADD,T7A03L+1       * FOLLOWED BY THE DEVICE ADRS
0033B4  8118 33FA          2849        MVB    (R1)+,T7A03L+2        * AND SET IN EVEN BYTE DATA
0033B8  8118 33FB          2850        MVB    (R1)+,T7A03L+3        * AND SET IN ODD BYTE DATA
0033BC  D020 33F8          2851        MVD    T7A03L,R0             GET FUNCTION, MODIFIER AND DEV ADRS
                           2852 *                                   * AND THE SECOND WORD OF THE IDCB
0033C0  680C 33F8          2853        IO     T7A03L                ISSUE THE I/O COMMAND AND
0033C4  70AE               2854        CPLSR  R5                    * GET THE I/O CONDITION CODE IN R5
0033C6  356A               2855        SRL    13,R5                 POSITION CC IN THE RESULTS FIELD
0033C8  C528 2D70          2856        MVB    R5,$IOIN              * AND SAVE IT IN THE RESULTS
0033CC  0DFF               2857        MVBI   -1,R5                 SET UP FOR DELAY
0033CE  6002               2858 T7A03K SVC    IDLE                  WAIT FOR INTERRUPT
0033D0  4CA3               2859        TBTR   (R4,IN)               HAS IT COME YET
0033D2  1201               2860        JN     T7A03M                * YES, GET OUT OF DELAY
0033D4  BDFC               2861        JCT    T7A03K,R5             * NO, CHECK FOR TIME OUT
0033D6  9028 2D70 18C8     2862 T7A03M MVD    $IOIN,TURESUL         PUT ANY INTR COND CODE FOUND IN
0033DC  C025 18CB          2863        MVBZ   TURESUL+3,R0          CLEAR BYTE 3 OF TURESULS BUFFER
0033E0  6E03 2FE2          2864        BAL    XIOCS,R6              GET CYCLE STEAL STATUS
0033E4  33F4               2865        DC     A(IO3ER)              OIO ERROR
0033E6  4C21               2866        TBT    (R4,ER)               EXCEPTION INTERRUPT OCCUR?
0033E8  1205               2867        JON    IO3ER                 YES - SET CSS INTR ERROR BIT ON
0033EA  9028 2D96 18CC     2868        MVD    CSTL5,TURESUL+4       MOVE CSS WORD 4 & 5 IN RESULTS
                           2869 X7A03  TXIT                         * RESULTS AND EXIT
0033F0  6802 3188          2870+X7A03  B      $CONX                 RETURN TO MDI CONTROLLER
                           2871+*****************************************************************
                           2872 *
0033F4  4A58               2873 IO3ER  TBTS   (R2,24)               CYCLE STEAL STATUS OIO ERROR
0033F6  50FC               2874        J      X7A03                 RETURN TO MDI
                           2875 *
                           2876 *              IDCB FOR DIRECT PROGRAM CONTROL COMMAND
                           2877 *
0033F8  0000               2878 T7A03L DC     X'0000'               FUNCTION-MODIFIER-DEVICE ADDRESS
0033FA  0000               2879        DC     X'0000'               IMMEDIATE DATA BUFFER
                           2881        COPY   T7A04                 26OCT77
                           2882 T7A04 TUIT T01ER
                           2883+*****************************************************************06FEB76**
                           2884+*
                           2885+* TEST UNIT
                           2886+*
                           2887+*      CHANNEL INTERFACE TEST
                           2888+*
                           2889+* PURPOSE
                           2890+*
                           2891+*      TO VERIFY THE CHANNEL INTERFACE CAN INTERRUPT ON ALL LEVELS
                           2892+*
                           2893+* CALLING SEQUENCE
                           2894+*
                           2895+*      THE HOST WILL PREPARE THE I/O DEVICE TO INTERRUPT ON LEVEL ZERO
                           2896+*      AND CAUSE AN INTERRUPT. WHEN THE INTERRUPT OCCURS, THE LEVEL IS
                           2897+*      COMPARED TO THE EXPECTED LEVEL. THIS IS DONE ON ALL LEVELS.
                           2898+*      LEVEL THREE WILL NOT OCCUR BECAUSE THIS PROGRAM WILL BE RUNNING
                           2899+*      AS A BACKGROUND PROGRAM.
                           2900+*
                           2901+*      MDI=$TUXX,T7A04,02,0000,EQ
                           2902+*      .
                           2903+*      TURESUL BIT(S)  0 - 10 ........ NOT USED
                           2904+*      .                  2 ........ FALSE STORE PROTECT CHECK
                           2905+*      .               3 - 4 ........ NOT USED
                           2906+*      .                  5 ........ STORE PROT NOT ON IS ISB
                           2907+*      .                  6 ........ STOR PROT CHECK NOT REPORTED
                           2908+*      .                  7 ........ INVAL STOR CK NOT ON IS ISB
                           2909+*      .                  8 ........ WRONG CONDITION CODE
                           2910+*      .                  9 ........ INVAL STOR ADDR NOT DETECTED
                           2911+*      .              10 - 11 ........ NOT USED
                           2912+*      .                 11 ........ CYCLE STEAL STATUS ERROR
                           2913+*      .                 12 ........ FILE NOT READY
                           2914+*      .                 13 ........ OIO CC ERROR
                           2915+*      .                 14 ........ WRONG INTERRUPT LEVEL
                           2916+*      .                 15 ........ CYCLE STEAL STATUS INTR ERROR
                           2917+*      .              16 - 31 ........ CYCLE STEAL STATUS WORD 4
                           2918+*      .              32 - 47 ........ CYCLE STEAL STATUS WORD 5
                           2919+*
                           2920+* RETURN CONTROL
                           2921+*
                           2922+*       B      TURTN*                RETURN TO MDI SUPERVISOR
                           2923+*
                           2924+*****************************************************************
0033FC  6F0D 2DB0          2925+T7A04  MVW    R7,TURTN              SAVE RETURN ADDRESS
003400  4020 2D6E 7A04     2926+       MVWI   X'7A04',$TUID         SAVE TU ID FOR DISPLAY
003406  4424 2D68          2927+       MVA    OPTN1,R4              SET UP POINTER ADRS IN R4
00340A  6E03 30F2          2928+       BAL    $CONC,R6              CLEAR DEV DEP STG AND CONNECT I/O BL
00340E  3568               2929+       DC     A(T01ER)              ERROR ADRS FOR INVALID PREP
                           2930+*
003410  0F0C               2931        MVBI   12,R7                 CLEAR 'TU' RESULTS BUFFER
003412  0B00               2932        MVBI   0,R3                  *
003414  4224 18C8          2933        MVA    TURESUL,R2            *
003418  2B4C               2934        FFN    R3,(R2)               *
00341A  02F4               2935        ABI    -12,R2                AJUST POINTER TO BEG OF RESULTS BUF
00341C  4724 30DE          2936        MVA    IOBLK,R7              RESET DEVICE
003420  6008               2937        SVC    RESET                 *
                           2938 ********************************
                           2939 *      TEMPORARY DELAY
                           2940 *
                           2941 ********************************
                           2942 *
003422  4024 FFFF          2943        MVWI   X'FFFF',R0            DELAY ROUTINE TO GET BY BUSY AFTER
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976

003426  6003              2944 TEMP   SVC   IDLE5                  * RESET
003428  B8FE              2945        JCT   TEMP,R0                *
00342A  6908 2DAE         2946        MVW   $INTL,R1               SAVE CURRENT INTR LEVEL
00342E  4020 2DAE FFF1    2947        MVWI  X'FFF1',$INTL          SET UP INTERRUPT LEVEL FOR PREP
003432  4029 2DAE 0010    2948 ITST1  AWI   X'10',$INTL            ADV INTR LEVEL, STARTING AT 0
00343A  6E03 30F2         2949        BAL   $CONC,R6               CONNECT DEV CNTL BLOCK AND PREP DEV
00343E  3568              2950        DC    A(T01ER)               ERROR - DEV COULDN'T BE CONNECTED
003440  4C64              2951        TBTS  (R4,XE)                SET EXPECTED ERROR BIT ON
003442  6E03 2FE2         2952        BAL   XIOCS,R6               ISSUE CS STATUS OP TO CAUSE INTR
003446  3568              2953        DC    A(T01ER)               ERROR - NO CS STATUS AVAILABLE
003448  4C21              2954        TBT   (R4,ER)                WAS THERE AN INTERRUPT ERROR?
00344A  1278              2955        JON   T01F                   YES - SET APPROPRIATE BIT SWITCHES
00344C  802B 2E80 2D72    2956        CB    ZERO0,$ISB             ISB = ZERO?
003452  6801 3564         2957        BNE   T01B                   NO - SET ERROR INDICATOR ON
003456  802B 19D0 2D73    2958        CB    DEVADD,$ISB+1          DEVICE ADDRESS RETURNED IN ISB?
00345C  6801 3564         2959        BNE   T01B                   NO - SET ERROR INDICATOR ON
003460  402F 2DAE 0021    2960 CONT   CWI   X'21',$INTL            HAS INTR LEVEL COME DOWN TO 2?
003466  1826              2961        JNE   ITST1                  * NO, BCH AND CONTINUE TEST
003468  6802 3516         2962        B     T01C
00346C  6808 18C4         2963        MVW   TULAST,R0              GET LAST VALID STG ADDRESS
003470  7802 0034         2964        SWI   52,R0                  DEV LAST VALID STORAGE ADDR FOR CS
003474  8828 18C2 2E1E    2965        MVW   TUBUFF,CSDCB+14        FIRST AVAILABLE STOR LOCATION
00347A  4C64              2966 T01H   TBTS  (R4,XE)                SET EXPECTED ERROR
00347C  6E03 2FE2         2967        BAL   XIOCS,R6               CYCLE STEAL STATUS
003480  3568              2968        DC    A(T01ER)               ERROR
003482  4CA1              2969        TBTR  (R4,ER)                INTERRUPT ERROR?
003484  126F              2970        JON   T01F                   YES
003486  C824 2E1E         2971        CW    CSDCB+14,R0            END OF PHYSICAL STORAGE?
00348A  1704              2972        JLLT  T01G                   YES
00348C  4029 2E1E 001A    2973        AWI   26,CSDCB+14            INCREMENT CSS DATA BUFFER ADDR
003492  50F3              2974        J     T01H
003494  7806 FFF0         2975 T01G   CWI   X'FFF0',R0             MAX STORAGE?
003498  1011              2976        JE    T01J                   YES
00349A  4029 2E1E 001C    2977        AWI   28,CSDCB+14            FORCE INVALID STG ADDRESS
0034A0  4C64              2978        TBTS  (R4,XE)                SET EXPECTED ERROR
0034A2  6E03 2FE2         2979        BAL   XIOCS,R6               CYCLE STEAL STATUS
0034A6  3568              2980        DC    A(T01ER)               ERROR
0034A8  4CA1              2981        TBTR  (R4,ER)                INTERRUPT ERROR?
0034AA  1049              2982        JOFF  T01N                   NO - INV STG ADDR NO REPORTED
0034AC  402F 2D70 0702    2983        CWI   X'0702',$IOIN          ARE COND CODES 7 AND 2?
0034B2  1843              2984        JNE   T01P                   NO-ERROR
0034B4  402B 2D72 0400    2985        TWI   X'0400',$ISB           INVALID STORAGE BIT ON IN ISB?
0034BA  103D              2986        JOFF  T01Q                   NO-ERROR
0034BC  4020 2E1E 2D8E    2987 T01J   MVA   CSBUF,CSDCB+14         CS ADDRESS
0034C2  C020 0232         2988        MVB   CPUID,R0               DETERMINE TYPE OF PROCESSOR
0034C6  F025              2989        CBI   37,R0                 *
0034C8  1826              2990        JNE   T01C                   JUMP IF NOT 4955
0034CA  4020 2E10 2000    2991        MVWI  X'2000',CSDCB          CS CONTROL WORD
0034D0  6208              2992        EN    X'08'                  ENABLE STORE PROTECT KEY
0034D2  4C64              2993        TBTS  (R4,XE)                SET EXPECTED ERROR
0034D4  6E03 2FE2         2994        BAL   XIOCS,R6               CYCLE STEAL STATUS TO CAUSE INTER
0034D8  3568              2995        DC    A(T01ER)               ERROR
0034DA  4CA1              2996        TBTR  (R4,ER)                INTERRUPT ERROR?
0034DC  1226              2997        JON   T01Y                   YES-FLASE STORE PROTECT KEY
0034DE  4029 2E10 0100    2998 T01K   AWI   X'0100',CSDCB          SET OR INCREMENT KEYS
0034E4  4C64              2999        TBTS  (R4,XE)                SET EXPECTED ERROR
0034E6  6E03 2FE2         3000        BAL   XIOCS,R6               CYCLE STEAL STATUS
0034EA  3568              3001        DC    A(T01ER)               ERROR
0034EC  4CA1              3002        TBTR  (R4,ER)                INTERRUPT ERROR?
0034EE  1021              3003        JOFF  T01X                   NO,STOR PROTECT NOT REPORTED
0034F0  402F 2D70 0702    3004        CWI   X'0702',$IOIN          ARE COND CODES 7 AND 2?
0034F6  1821              3005        JNE   T01C                   NO-ERROR
0034F8  402B 2D72 0200    3006        TWI   X'0200',$ISB           STOR PROT BIT NOT ON IN ISB?
0034FE  1017              3007        JOFF  T01U                   NO-ERROR
003500  402F 2E10 2700    3008        CWI   X'2700',CSDCB          ALL KEYS CHECKED?
003506  18EB              3009        JNE   T01K                   NO
003508  6308              3010 DSSP   DIS   X'08'                 DISABLE STORAGE PROTECT
00350A  4020 2E10 2000    3011        MVWI  X'2000',CSDCB          RESTORE CS STATUS DCB
003510  4020 2E1E 2D8E    3012        MVA   CSBUF,CSDCB+14         *
003516  690D 2DAE         3013 T01C   MVW   R1,$INTL               RESTORE ORIGINAL INTR LEVEL
00351A  9028 2D96 18CA    3014        MVD   CSTL5,TURESUL+2        SAVE CSS ERROR STATUS WORDS
003520  9028 2DA4 18CE    3015        MVD   CST12,TURESUL+6        SAVE DIAG. SENSE BYTES
003526  6802 3188         3016        TXIT                         RETURN TO MDI
                          3017+       B     $CONX                  RETURN TO MDI CONTROLLER
                          3018+*****************************************************************
                          3019 *
00352A  4A42              3020 T01Y   TBTS  (R2,2)                 FALSE STORE PROTECT CHECK
00352C  50ED              3021        J     DSSP                   EXIT
00352E  4A45              3022 T01U   TBTS  (R2,5)                 STOR PROT NOT ON IN ISB
003530  50EB              3023        J     DSSP                   EXIT
003532  4A46              3024 T01X   TBTS  (R2,6)                 STOR PROTECT NOT DETECTED
003534  50E9              3025        J     DSSP                   EXIT
003536  4A47              3026 T01Q   TBTS  (R2,7)                 INV STOR BIT NOT ON IN ISB
003538  50E8              3027        J     T01C                   EXIT
00353A  4A48              3028 T01P   TBTS  (R2,8)                 WRONG CONDITION CODE
00353C  50E5              3029        J     DSSP                   EXIT
00353E  4A49              3030 T01N   TBTS  (R2,9)                 INVALID STOR ADDR NOT DETECTED
003540  50EA              3031        J     T01C                   EXIT
003542  4C26              3032 T01L   TBT   (R4,$LE)               INTERRUPT ON WRONG LEVEL?
003544  1002              3033        JOFF  T01Z                   NO - SET CSS INTR ERROR BIT ON
003546  4A4E              3034        TBTS  (R2,14)                YES - SET WRONG INTR LVL BIT ON
003548  50E6              3035        J     T01C                   RETURN TO MDI
00354A  402B 2D96 0001    3036 T01Z   TWI   X'0001',CSTL5         CYCLE STEAL STATUS ERROR?
003550  1206              3037        JON   T01A                   YES - SET CS STATUS ERROR BIT ON
003552  402B 2D98 0001    3038        TWI   X'0001',CSTL6         FILE NOT READY?
003558  1005              3039        JOFF  T01B                   NO - SET CS STATUS INTR ERR BIT ON
00355A  4A4C              3040        TBTS  (R2,12)                SET FILE NOT READY BIT ON
00355C  50DC              3041        J     T01C                   RETURN TO MDI
00355E  4A4B              3042 T01A   TBTS  (R2,11)                CYCLE STEAL STATUS ERROR
003560  6802 3460         3043        B     CONT                   CONTINUE WITH TEST
003564  4A4F              3044 T01B   TBTS  (R2,15)                CYCLE STEAL STATUS INTR ERROR
003566  50D7              3045        J     T01C                   RETURN TO MDI
003568  4A4D              3046 T01ER  TBTS  (R2,13)                OIO CC ERROR
00356A  50CE              3047        J     DSSP                   RETURN TO MDI
                          3048 *
000232                    3049 CPUID  EQU   X'232'
                          3051        COPY  T7A05                  26OCT77
                          3052 T7A05 TUIT
                          3053+*************************************************************06FEB76**
                          3054+**
                          3055+* TEST UNIT
                          3056+*
                          3057+*      ATTACHMENT DIAGNOSTIC CHECKOUT
                          3058+**
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 LOCTR  OBJECT TEXT        STMT SOURCE STATEMENT                    COPYRIGHT IBM CORP 1976

                          3059+* PURPOSE
                          3060+*
                          3061+*      TO CHECKOUT THE 4963 ATTACHMENT CARD DIAGNOSTICALLY.
                          3062+*
                          3063+* CALLING SEQUENCE
                          3064+*
                          3065+*      TURESUL BIT(S) 0.............TEST FAILED TO EXECUTE
                          3066+*                     1.............FAULTY ROS DETECTED
                          3067+*                     2.............DIAG READ DETECTED FAULT
                          3068+*                     3.............DIAG WRITE DETECTED FAULT
                          3069+*                     4 ........... READ ACCESS MEMORY FAULT
                          3070+*                     5 ........... GEN DIAG DETECTED FAULT
                          3071+*                     6 ........... OIO ERROR
                          3072+*                 7 - 15 ........... NOT USED
                          3073+*                16 - 31 ........... CYCLE STEAL STATUS WD 5
                          3074+*                32 - 47 ........... CYCLE STEAL STATUS WD 6
                          3075+*                47 - 63 ........... I/O AND INTR CONDITION CODES
                          3076+*
                          3077+*      MDI=$TUXX,T7A05,01,00,EQ
                          3078+*
                          3079+* RETURN CONTROL
                          3080+*
                          3081+*       B      TURTN*                RETURN TO MDI SUPERVISOR
                          3082+*
                          3083+*****************************************************************
003560  6802 3460         3084+T7A05  MVW   R7,TURTN               SAVE RETURN ADDRESS
003564  4A4F              3085+       MVWI  X'7A05',$TUID          SAVE TU ID FOR DISPLAY
003566  50D7              3086+       MVA   OPTN1,R4               SET UP POINTER ADRS IN R4
003568  4A4D              3087+       BAL   $CONC,R6               CLEAR DEV DEP STG AND CONNECT I/O BL
00356A  50CE              3088+       DC    A($ERR$)               ERROR ADRS FOR INVALID PREP
                          3089+*
                          3090        MVDZ  TURESUL,R0             CLEAR TU RESULTS STATUS AREA
                          3091        MVDZ  TURESUL,R0             *
                          3092        MVDZ  TURESUL,R0             *
                          3093        MVA   TURESUL,R2             LOAD ADDR OF RESULTS AREA IN REG
00356C  6F0D 2DB0         3094        MVA   RDBUF,RDDCB+14         LOAD ADDR OF READ BUFFER IN DCB
003570  4020 2D68 7A05    3095        MVA   WRBUF,WRDCB+14         LOAD ADDR OF WRITE BUFFER IN DCB
003576  4424 1DC8         3096 ROS    MVWI  X'2012',RDDCB          LOAD ROS CNTL WD IN DCB
00357A  6E03 30F2         3097        MVWI  4,RDDCB+12             LOAD BYTE CNT IN DCB
00357E  3126              3098        BAL   $DGRD,R6               EXECUTE ROS TEST
003580  D025 18C8         3099        DC    A(OIOER)               BRANCH IF TEST FAILED TO EXECUTE
003584  D025 18C8         3100        TBTR  (R4,ER)                DID A DEVICE END INTR OCCUR?
003588  D025 18C8         3101        BON   ROSER                  NO - ROS TEST FAILURE
00358C  4224 1DC8         3102        CW    RDBUF,RDBUF+2          DO CHECKSUM VALUES EQUAL?
003590  4020 2E4E 3758    3103        BNE   ROSER                  NO - SET TU RESULTS BIT (MISCOMPARE)
003596  4020 2E2E 3658    3104 *
00359C  4020 2E40 2012    3105        MVWI  X'2013',RDDCB          LOAD DIAG READ CNTL WORD IN DCB
0035A2  4020 2E4C 0004    3106        MVWI  256,RDDCB+12           LOAD BYTE CNT IN DCB
0035A8  6E03 2FBA         3107        BAL   $DGRD,R6               EXECUTE ATTCH DIAG READ TEST
0035AC  363E              3108        DC    A(OIOER)               BRANCH IF TEST FAILED TO EXECUTE
0035AE  4CA1              3109        TBTR  (R4,ER)                DID A DEVICE END INTR OCCUR?
0035B0  6A00 3644         3110        BON   DGRDD                  NO - ATTCH DIAG READ FAILURE
0035B4  882B 3758 375A    3111        MVWI  128,R7                 SET UP EXPECTED DATA BUFFER (WRBUF)
0035BA  6801 3644         3112        MVA   WRBUF,R3               *
                          3113        MVBI  0,R5                   *
0035BE  4020 2E40 2013    3114 AGAIN  MVW   R5,(R3)+               *
0035C4  4020 2E4C 0100    3115        AWI   X'0101',R5             *
0035CA  6E03 2FBA         3116        JCT   AGAIN,R7               *
0035CE  363E              3117        MVWI  256,R7                 GET NUMBER OF BYTES TO CHECK
0035D0  4CA1              3118        MVA   RDBUF,R3               GET ADDRESS OF DATA READ
0035D2  6A00 3648         3119        MVA   WRBUF,R5               GET ADDRESS OF EXPECTED DATA
0035D6  4724 0080         3120        CFNEN (R3),(R5)              DATA AS EXPECTED?
0035DA  4324 3658         3121        JNE   DGRDD                  NO - DIAG READ COMPARE ERROR
0035DE  0D00              3122 *
0035E0  CDD8              3123        MVWI  X'0014',WRDCB          LOAD ATTCH DIAG WRITE CNTL WORD
0035E2  7DA1 0101         3124        MVWI  256,WRDCB+12           LOAD BYTE CNT
0035E6  BFFC              3125        BAL   $DGWR,R6               EXECUTE ATTCH DIAG WRITE TEST
0035E8  4724 0100         3126        DC    A(OIOER)               BRANCH IF TEST FAILED TO EXECUTE
0035EC  4324 3758         3127        TBTR  (R4,ER)                DID ANY PARITY ERRRORS OCCUR?
0035F0  4524 3658         3128        JON   DGWRT                  YES - FAULT DETECTED
0035F4  2BA6              3129 *
0035F6  1828              3130        MVWI  X'000E',IOMOD          LOAD READ ACCESS MEMORY IDCB MOD
                          3131        BAL   $WRTO,R6               EXECUTE READ ACCESS MEMORY TEST
0035F8  4020 2E20 0014    3132        DC    A(OIOER)               BRANCH IF TEST FAILED TO EXECUTE
0035FE  4020 2E2C 0100    3133        TBTR  (R4,ER)                ANY FAULT DETECTED BY TEST?
003604  6E03 2FB0         3134        JON   RAMER                  YES - SET ERROR BIT ON IN STATUS WD
003608  363E              3135 *
00360A  4CA1              3136        MVWI  1,IOMOD                SET UP ATTCH GEN IDCB MODIFIER
00360C  121F              3137        BAL   $WRTO,R6               EXECUTE ATTCH GEN DIAG TEST
                          3138        DC    A(OIOER)               BRANCH IF TEST FAILED TO EXECUTE
00360E  4020 30E4 000E    3139        TBTR  (R4,ER)                FAULT DETECTED WITH GEN DIAG TEST?
003614  6E03 2F6A         3140        JON   GENER                  YES - SET ERROR BIT ON IN STATUS WD
003618  363E              3141 RETRN  MVD   CSTL5,TURESUL+2        LOAD CYCLE STEAL STATUS ERROR WDS
00361A  4CA1              3142        MVW   $IOIN,TURESUL+6        LOAD I/O AND INTR CONDITION CODES
00361C  1219              3143        TXIT
                          3144+       B     $CONX                  RETURN TO MDI CONTROLLER
                          3145+*****************************************************************
00361E  4020 30E4 0001    3146 *
003624  6E03 2F6A         3147 OIOER  TBTS  (R2,6)                 SET OIO ERROR BIT ON
003628  363E              3148 IOER1  TBTS  (R2,0)                 SET STATUS BIT ON - TEST FAILED
00362A  4CA1              3149        J     RETRN
00362C  1213              3150 ROSER  TBTS  (R2,1)                 ROS TEST ENCOUNTERED A FAULT
00362E  9028 2D96 18CA    3151        J     IOER1
003634  8828 2D70 18CE    3152 DGRDD  TBTS  (R2,2)                 DIAG READ DETECTED FAULT HS DATA BUS
                          3153        J     IOER1
00363A  6802 3188         3154 DGWRT  TBTS  (R2,3)                 DIAG WRITE DETECTED PARITY ERROR
                          3155        J     IOER1
                          3156 RAMER  TBTS  (R2,4)                 READ ACCESS MEMORY TEST FAULT
00363E  4A46              3157        J     IOER1
003640  4A40              3158 GENER  TBTS  (R2,5)                 GEN DIAG DETECTED FAULT
003642  50F5              3159        J     IOER1
003644  4A42              3160 *
003646  50FC              3161 WRBUF  DC    128F'0'
003648  4A43              3162 RDBUF  DC    128F'0'
00364A  50FA              3163        END
00364C  4A44
00364E  50F8
003650  4A4C
003652  50F6
003654  4A45
003656  50F4

003658  0000000000000000
003758  0000000000000000
000000
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CROSS-REFERENCE LISTING

DECLARED	NAME	ATTRIBUTES AND REFERENCES
2594	$CONC	ADDRESS. HEX LOCATION(000030F2) IN CSECT(I7A00) LENGTH(2) 2841 2928 2949 3087
2663	$CONX	ADDRESS. HEX LOCATION(00003188) IN CSECT(I7A00) LENGTH(1) 2734 2796 2870 3017 3144
1719	$DGRD	ADDRESS. HEX LOCATION(00002FBA) IN CSECT(I7A00) LENGTH(6) 3098 3107
1716	$DGWR	ADDRESS. HEX LOCATION(00002FB0) IN CSECT(I7A00) LENGTH(6) 3125
2636	ERR	ADDRESS. HEX LOCATION(00003126) IN CSECT(I7A00) LENGTH(6) 2842 3088
1300	$INTL	ADDRESS. HEX LOCATION(00002DAE) IN CSECT(I7A00) LENGTH(2) 2511 2603 2946 2947 2948 2960 3013
1265	$IOIN	ADDRESS. HEX LOCATION(00002D70) IN CSECT(I7A00) LENGTH(2) 1700 2365 2425 2505 2542 2605 2772 2783 2794 2845 2856 2862 2983 3004 3142
1266	$ISB	ADDRESS. HEX LOCATION(00002D72) IN CSECT(I7A00) LENGTH(2) 1701 2366 2506 2547 2606 2956 2958 2985 3006
1250	$LE	ABSOLUTE. HEX VALUE(00000026) 2371 2513 3032
1264	$TUID	ADDRESS. HEX LOCATION(00002D6E) IN CSECT(I7A00) LENGTH(2) 1310 2660 2698 2725 2767 2839 2926 3085
1692	$WRT0	ADDRESS. HEX LOCATION(00002F6A) IN CSECT(I7A00) LENGTH(4) 3131 3137
1713	$WRT1	ADDRESS. HEX LOCATION(00002FAA) IN CSECT(I7A00) LENGTH(2) 1710
42	@CALL	ABSOLUTE. HEX VALUE(00000201) 564 582 639 657 702 720 738 756 774 792 810 828 846 864 882 900 918 936 954 972 990 1008 1026 1044 1062 1080 1098
102	@DCADD1	ADDRESS. HEX LOCATION(000019B8) IN CSECT(I7A00) LENGTH(1) 2657
103	@DCADD2	ADDRESS. HEX LOCATION(000019BA) IN CSECT(I7A00) LENGTH(1) 2658
39	@FIXT	ABSOLUTE. HEX VALUE(00000101) 537 588 669 672 687
41	@GOTO	ABSOLUTE. HEX VALUE(00000200) 663 1104
45	@TUXX	ABSOLUTE. HEX VALUE(00000500) 525 540 552 570 591 603 615 627 645 675 690 708 726 744 762 780 798 816 834 852 870 888 906 924 942 960 978 996 1014 1032 1050 1068 1086
3114	AGAIN	ADDRESS. HEX LOCATION(000035E0) IN CSECT(I7A00) LENGTH(2) 3116
2668	BEGIN	ADDRESS. HEX LOCATION(00003192) IN CSECT(I7A00) LENGTH(2) 2689
2693	BIT0080	ABSOLUTE. HEX VALUE(00000080) 2659
2688	BUFPT	ADDRESS. HEX LOCATION(000032EE) IN CSECT(I7A00) LENGTH(2) 2644
1254	CE	ABSOLUTE. HEX VALUE(0000002A) 2350 2464 2534
1339	CICB	ABSOLUTE. HEX VALUE(00000014) 2600 2771
1436	CLDCB	ADDRESS. HEX LOCATION(00002DD0) IN CSECT(I7A00) LENGTH(2) 1642
2960	CONT	ADDRESS. HEX LOCATION(00003460) IN CSECT(I7A00) LENGTH(6) 3043
3049	CPUID	ABSOLUTE. HEX VALUE(00000232) 2988
1252	CS	ABSOLUTE. HEX VALUE(00000028) 2351 2354 2462 2503 2532
1253	CSA	ABSOLUTE. HEX VALUE(00000029) 2537
1283	CSBUF	ADDRESS. HEX LOCATION(00002D8E) IN CSECT(I7A00) LENGTH(1) 1481 1694 2362 2987 3012
1474	CSDCB	ADDRESS. HEX LOCATION(00002E10) IN CSECT(I7A00) LENGTH(2) 2352 2955 2971 2973 2977 2987 2991 2998 3008 3011 3012
1288	CSTL5	ADDRESS. HEX LOCATION(00002D96) IN CSECT(I7A00) LENGTH(2) 2868 3014 3036 3141
1289	CSTL6	ADDRESS. HEX LOCATION(00002D98) IN CSECT(I7A00) LENGTH(2) 3038
1295	CST12	ADDRESS. HEX LOCATION(00002DA4) IN CSECT(I7A00) LENGTH(2) 3015
1273	DCBUF	ADDRESS. HEX LOCATION(00002D7E) IN CSECT(I7A00) LENGTH(1) 1697 2357
2689	DC2PT	ADDRESS. HEX LOCATION(000032F0) IN CSECT(I7A00) LENGTH(2) 2658
105	DEVADD	ADDRESS. HEX LOCATION(000019D0) IN CSECT(I7A00) LENGTH(1) 1303 2555 2564 2664 2730 2775 2848 2958
1268	DEV1	ADDRESS. HEX LOCATION(00002D76) IN CSECT(I7A00) LENGTH(2) 1272 2596
1271	DEV4	ADDRESS. HEX LOCATION(00002D7C) IN CSECT(I7A00) LENGTH(2) 2465 2466
1425	DGDCB	ADDRESS. HEX LOCATION(00002DC0) IN CSECT(I7A00) LENGTH(2) 1689
3152	DGRDD	ADDRESS. HEX LOCATION(00003648) IN CSECT(I7A00) LENGTH(2) 3110 3121
3154	DGWRT	ADDRESS. HEX LOCATION(0000364C) IN CSECT(I7A00) LENGTH(2) 3128
2788	DLYD	ADDRESS. HEX LOCATION(0000336A) IN CSECT(I7A00) LENGTH(2) 2786 2789
3010	DSSP	ADDRESS. HEX LOCATION(00003508) IN CSECT(I7A00) LENGTH(2) 3021 3023 3025 3029 3047
67	DUMMY	ABSOLUTE. HEX VALUE(00000000) 516 1109 1127
1110	ENTPT	ADDRESS. HEX LOCATION(00002A24) IN CSECT(I7A00) LENGTH(1) 198
47	EQ	ABSOLUTE. HEX VALUE(00000000) 543 555 573 594 606 618 630 648 693 711 729 747 765 783 801 819 837 855 873 909 927 945 981 999 1017 1089
1245	ER	ABSOLUTE. HEX VALUE(00000021) 1703 2368 2389 2472 2514 2539 2866 2954 2969 2981 2996 3002 3100 3109 3127 3133 3139
1325	EXIT	ABSOLUTE. HEX VALUE(00000006) 2521
2691	FAKETU	ADDRESS. HEX LOCATION(000032F4) IN CSECT(I7A00) LENGTH(2) 2657
1169	F00008	ADDRESS. HEX LOCATION(00002BCA) IN CSECT(I7A00) LENGTH(1)

CROSS-REFERENCE LISTING

DECLARED	NAME	ATTRIBUTES AND REFERENCES
		670
1175	F00010	ADDRESS. HEX LOCATION(00002BFE) IN CSECT(I7A00) LENGTH(1) 673
1139	F00012	ADDRESS. HEX LOCATION(00002A46) IN CSECT(I7A00) LENGTH(1) 565 583 640 658 703 721 739 757 775 793 811 829 847 865 883 901 919 937 955 973 991 1009 1027 1045 1063 1099
1135	F00042	ADDRESS. HEX LOCATION(00002A32) IN CSECT(I7A00) LENGTH(1) 538
1147	F00058	ADDRESS. HEX LOCATION(00002AC2) IN CSECT(I7A00) LENGTH(1) 589
1165	F00086	ADDRESS. HEX LOCATION(00002BAC) IN CSECT(I7A00) LENGTH(1) 664
1181	F00098	ADDRESS. HEX LOCATION(00002C38) IN CSECT(I7A00) LENGTH(1) 688
1199	F00258	ADDRESS. HEX LOCATION(00002D22) IN CSECT(I7A00) LENGTH(1) 1081
1203	F00267	ADDRESS. HEX LOCATION(00002D3A) IN CSECT(I7A00) LENGTH(1) 1105
3158	GENER	ADDRESS. HEX LOCATION(00003654) IN CSECT(I7A00) LENGTH(2) 3140
2697	HEBLK	ADDRESS. HEX LOCATION(000032F6) IN CSECT(I7A00) LENGTH(2) 2637
1345	HTOE	ABSOLUTE. HEX VALUE(0000001A) 2638
1321	IDLE	ABSOLUTE. HEX VALUE(00000002) 2383 2385 2788 2858
1322	IDLE5	ABSOLUTE. HEX VALUE(00000003) 2944
1566	ID00	ADDRESS. HEX LOCATION(00002EAA) IN CSECT(I7A00) LENGTH(2) 1547 1655
1247	IN	ABSOLUTE. HEX VALUE(00000023) 1702 2369 2381 2502 2859
2564	INTBL	ADDRESS. HEX LOCATION(000030EA) IN CSECT(I7A00) LENGTH(2) 2599 2770
2459	INTER	ADDRESS. HEX LOCATION(0000304E) IN CSECT(I7A00) LENGTH(2) 2566
2468	INTES	ADDRESS. HEX LOCATION(00003066) IN CSECT(I7A00) LENGTH(2) 2463
2472	INTET	ADDRESS. HEX LOCATION(0000306E) IN CSECT(I7A00) LENGTH(2) 2469
2499	INTOK	ADDRESS. HEX LOCATION(00003072) IN CSECT(I7A00) LENGTH(2) 2565
63	INTRNL	ABSOLUTE. HEX VALUE(00000000) 667
2521	INTRX	ADDRESS. HEX LOCATION(000030A2) IN CSECT(I7A00) LENGTH(2) 2516 2519
2502	INTR1	ADDRESS. HEX LOCATION(0000307A) IN CSECT(I7A00) LENGTH(2) 2467 2471 2473
2507	INTR2	ADDRESS. HEX LOCATION(00003088) IN CSECT(I7A00) LENGTH(1) 2504
2515	INTR3	ADDRESS. HEX LOCATION(00003096) IN CSECT(I7A00) LENGTH(2) 2512
2555	IOBLK	ADDRESS. HEX LOCATION(000030DE) IN CSECT(I7A00) LENGTH(2) 1705 2370 2604 2936
2557	IODCB	ADDRESS. HEX LOCATION(000030E2) IN CSECT(I7A00) LENGTH(2) 1639 1642 1645 1653 1664 1667 1670 1673 1681 1685 1689 1716 1719 2352 2358 2603
3148	IOER1	ADDRESS. HEX LOCATION(00003640) IN CSECT(I7A00) LENGTH(2) 3151 3153 3155 3157 3159
2558	IOMOD	ADDRESS. HEX LOCATION(000030E4) IN CSECT(I7A00) LENGTH(2) 1706 1707 2344 2347 2353 3130 3136
2873	IO3ER	ADDRESS. HEX LOCATION(000033F4) IN CSECT(I7A00) LENGTH(2) 2865 2867
2948	ITST1	ADDRESS. HEX LOCATION(00003434) IN CSECT(I7A00) LENGTH(6) 2961
37	I7A00	CSECT. START(00002500) LENGTH(4952) ESDID(1) 37
2674	LINE1	ADDRESS. HEX LOCATION(000031CA) IN CSECT(I7A00) LENGTH(40) 2645
1267	LSTIO	ADDRESS. HEX LOCATION(00002D74) IN CSECT(I7A00) LENGTH(2) 1692 2356 2607
1244	MI	ABSOLUTE. HEX VALUE(00000020) 2517
2648	MVBUF	ADDRESS. HEX LOCATION(00003156) IN CSECT(I7A00) LENGTH(2) 2652 2655
1256	NG	ABSOLUTE. HEX VALUE(0000002C) 2520
1251	NI	ABSOLUTE. HEX VALUE(00000027) 2375
2736	NULL	ADDRESS. HEX LOCATION(00003320) IN CSECT(I7A00) LENGTH(2) 2730
525	N00001	ADDRESS. HEX LOCATION(00002610) IN CSECT(I7A00) LENGTH(2) 315 1120
537	N00002	ADDRESS. HEX LOCATION(00002622) IN CSECT(I7A00) LENGTH(2) 318
540	N00003	ADDRESS. HEX LOCATION(00002626) IN CSECT(I7A00) LENGTH(2) 321 526
552	N00004	ADDRESS. HEX LOCATION(0000263C) IN CSECT(I7A00) LENGTH(2) 324
564	N00005	ADDRESS. HEX LOCATION(0000264E) IN CSECT(I7A00) LENGTH(2) 327
570	N00006	ADDRESS. HEX LOCATION(0000265A) IN CSECT(I7A00) LENGTH(2) 330 553
582	N00007	ADDRESS. HEX LOCATION(00002670) IN CSECT(I7A00) LENGTH(2) 333
588	N00008	ADDRESS. HEX LOCATION(0000267C) IN CSECT(I7A00) LENGTH(2) 336 571
591	N00009	ADDRESS. HEX LOCATION(00002680) IN CSECT(I7A00) LENGTH(2) 339 541
603	N00010	ADDRESS. HEX LOCATION(00002696) IN CSECT(I7A00) LENGTH(2) 342
615	N00011	ADDRESS. HEX LOCATION(000026A8) IN CSECT(I7A00) LENGTH(2) 345
627	N00012	ADDRESS. HEX LOCATION(000026BA) IN CSECT(I7A00) LENGTH(2) 348
639	N00013	ADDRESS. HEX LOCATION(000026CC) IN CSECT(I7A00) LENGTH(2) 351
645	N00014	ADDRESS. HEX LOCATION(000026D8) IN CSECT(I7A00) LENGTH(2) 354 628
657	N00015	ADDRESS. HEX LOCATION(000026EE) IN CSECT(I7A00) LENGTH(2)

CROSS-REFERENCE LISTING

DECLARED	NAME	ATTRIBUTES AND REFERENCES
		357
663	N00016	ADDRESS. HEX LOCATION(000026FA) IN CSECT(I7A00) LENGTH(2)
		360 646
669	N00017	ADDRESS. HEX LOCATION(00002706) IN CSECT(I7A00) LENGTH(2)
		363 616
672	N00018	ADDRESS. HEX LOCATION(0000270A) IN CSECT(I7A00) LENGTH(2)
		366 604
675	N00019	ADDRESS. HEX LOCATION(0000270E) IN CSECT(I7A00) LENGTH(2)
		369 592 1126
687	N00020	ADDRESS. HEX LOCATION(00002722) IN CSECT(I7A00) LENGTH(2)
		372
690	N00021	ADDRESS. HEX LOCATION(00002726) IN CSECT(I7A00) LENGTH(2)
		375 676
702	N00022	ADDRESS. HEX LOCATION(0000273C) IN CSECT(I7A00) LENGTH(2)
		378
708	N00023	ADDRESS. HEX LOCATION(00002748) IN CSECT(I7A00) LENGTH(2)
		381 691
720	N00024	ADDRESS. HEX LOCATION(0000275E) IN CSECT(I7A00) LENGTH(2)
		384
726	N00025	ADDRESS. HEX LOCATION(0000276A) IN CSECT(I7A00) LENGTH(2)
		387 709
738	N00026	ADDRESS. HEX LOCATION(00002780) IN CSECT(I7A00) LENGTH(2)
		390
744	N00027	ADDRESS. HEX LOCATION(0000278C) IN CSECT(I7A00) LENGTH(2)
		393 727
756	N00028	ADDRESS. HEX LOCATION(000027A2) IN CSECT(I7A00) LENGTH(2)
		396
762	N00029	ADDRESS. HEX LOCATION(000027AE) IN CSECT(I7A00) LENGTH(2)
		399 745
774	N00030	ADDRESS. HEX LOCATION(000027C4) IN CSECT(I7A00) LENGTH(2)
		402
780	N00031	ADDRESS. HEX LOCATION(000027D0) IN CSECT(I7A00) LENGTH(2)
		405 763
792	N00032	ADDRESS. HEX LOCATION(000027E6) IN CSECT(I7A00) LENGTH(2)
		408
798	N00033	ADDRESS. HEX LOCATION(000027F2) IN CSECT(I7A00) LENGTH(2)
		411 781
810	N00034	ADDRESS. HEX LOCATION(00002808) IN CSECT(I7A00) LENGTH(2)
		414
816	N00035	ADDRESS. HEX LOCATION(00002814) IN CSECT(I7A00) LENGTH(2)
		417 799
828	N00036	ADDRESS. HEX LOCATION(0000282A) IN CSECT(I7A00) LENGTH(2)
		420
834	N00037	ADDRESS. HEX LOCATION(00002836) IN CSECT(I7A00) LENGTH(2)
		423 817 1123
846	N00038	ADDRESS. HEX LOCATION(0000284C) IN CSECT(I7A00) LENGTH(2)
		426
852	N00039	ADDRESS. HEX LOCATION(00002858) IN CSECT(I7A00) LENGTH(2)
		429 835
864	N00040	ADDRESS. HEX LOCATION(0000286A) IN CSECT(I7A00) LENGTH(2)
		432
870	N00041	ADDRESS. HEX LOCATION(00002876) IN CSECT(I7A00) LENGTH(2)
		435 853
882	N00042	ADDRESS. HEX LOCATION(0000288C) IN CSECT(I7A00) LENGTH(2)
		438
888	N00043	ADDRESS. HEX LOCATION(00002898) IN CSECT(I7A00) LENGTH(2)
		441 871
900	N00044	ADDRESS. HEX LOCATION(000028AC) IN CSECT(I7A00) LENGTH(2)
		444
906	N00045	ADDRESS. HEX LOCATION(000028B8) IN CSECT(I7A00) LENGTH(2)
		447 889
918	N00046	ADDRESS. HEX LOCATION(000028CE) IN CSECT(I7A00) LENGTH(2)
		450
924	N00047	ADDRESS. HEX LOCATION(000028DA) IN CSECT(I7A00) LENGTH(2)
		453 907
936	N00048	ADDRESS. HEX LOCATION(000028EC) IN CSECT(I7A00) LENGTH(2)
		456
942	N00049	ADDRESS. HEX LOCATION(000028F8) IN CSECT(I7A00) LENGTH(2)
		459 925
954	N00050	ADDRESS. HEX LOCATION(0000290E) IN CSECT(I7A00) LENGTH(2)
		462
960	N00051	ADDRESS. HEX LOCATION(0000291A) IN CSECT(I7A00) LENGTH(2)
		465 943
972	N00052	ADDRESS. HEX LOCATION(0000292E) IN CSECT(I7A00) LENGTH(2)
		468
978	N00053	ADDRESS. HEX LOCATION(0000293A) IN CSECT(I7A00) LENGTH(2)
		471 961
990	N00054	ADDRESS. HEX LOCATION(00002950) IN CSECT(I7A00) LENGTH(2)
		474
996	N00055	ADDRESS. HEX LOCATION(0000295C) IN CSECT(I7A00) LENGTH(2)
		477 979
1008	N00056	ADDRESS. HEX LOCATION(0000296E) IN CSECT(I7A00) LENGTH(2)
		480
1014	N00057	ADDRESS. HEX LOCATION(0000297A) IN CSECT(I7A00) LENGTH(2)
		483 997
1026	N00058	ADDRESS. HEX LOCATION(00002990) IN CSECT(I7A00) LENGTH(2)
		486
1032	N00059	ADDRESS. HEX LOCATION(0000299C) IN CSECT(I7A00) LENGTH(2)
		489 1015
1044	N00060	ADDRESS. HEX LOCATION(000029B0) IN CSECT(I7A00) LENGTH(2)
		492
1050	N00061	ADDRESS. HEX LOCATION(000029BC) IN CSECT(I7A00) LENGTH(2)
		495 1033
1062	N00062	ADDRESS. HEX LOCATION(000029CE) IN CSECT(I7A00) LENGTH(2)
		498
1068	N00063	ADDRESS. HEX LOCATION(000029DA) IN CSECT(I7A00) LENGTH(2)
		501 1051
1080	N00064	ADDRESS. HEX LOCATION(000029EC) IN CSECT(I7A00) LENGTH(2)
		504
1086	N00065	ADDRESS. HEX LOCATION(000029F8) IN CSECT(I7A00) LENGTH(2)
		507 1069
1098	N00066	ADDRESS. HEX LOCATION(00002A0A) IN CSECT(I7A00) LENGTH(2)
		510
1104	N00067	ADDRESS. HEX LOCATION(00002A16) IN CSECT(I7A00) LENGTH(2)
		513 1087
58	OF	ABSOLUTE. HEX VALUE(00000202)
		528 1053 1071
3147	OIOER	ADDRESS. HEX LOCATION(0000363E) IN CSECT(I7A00) LENGTH(2)
		3099 3108 3126 3132 3138
57	ON	ABSOLUTE. HEX VALUE(00000200)
		678 891 963 1035

CROSS-REFERENCE LISTING

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1209	OPTN1	ADDRESS. HEX LOCATION(00002D68) IN CSECT(I7A00) LENGTH(2)
		2461 2501 2726 2768 2840 2927 3086
1232	OPTN3	ADDRESS. HEX LOCATION(00002D6C) IN CSECT(I7A00) LENGTH(2)
		2550 2598
101	PARMARA	ADDRESS. HEX LOCATION(0000196E) IN CSECT(I7A00) LENGTH(1)
		535 550 562 580 601 613 625 637 655
		685 700 718 736 754 772 790 808 826
		844 862 880 898 916 934 952 970 988
		1006 1024 1042 1060 1078 1096
69	PID	ADDRESS. HEX LOCATION(00001800) IN CSECT(I7A00) 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 2656
2692	PIDMSG10	ABSOLUTE. HEX VALUE(0000F1F0)
		2656
1331	PREP	ABSOLUTE. HEX VALUE(0000000C)
		2608
3156	RAMER	ADDRESS. HEX LOCATION(00003650) IN CSECT(I7A00) LENGTH(2)
		3134
3162	RDBUF	ADDRESS. HEX LOCATION(00003758) IN CSECT(I7A00) LENGTH(2)
		3094 3102 3102 3118
1507	RDDCB	ADDRESS. HEX LOCATION(00002E40) IN CSECT(I7A00) LENGTH(2)
		1661 1662 1664 1719 1720 1721 3094 3096 3097
		3105 3106
1327	RESET	ABSOLUTE. HEX VALUE(00000008)
		2937
3141	RETRN	ADDRESS. HEX LOCATION(0000362E) IN CSECT(I7A00) LENGTH(6)
		3149
1338	RICB	ABSOLUTE. HEX VALUE(00000013)
		2665
1529	RKDCB	ADDRESS. HEX LOCATION(00002E60) IN CSECT(I7A00) LENGTH(2)
		1673 1678
1540	RMDCB	ADDRESS. HEX LOCATION(00002E70) IN CSECT(I7A00) LENGTH(2)
		1653
3150	ROSER	ADDRESS. HEX LOCATION(00003644) IN CSECT(I7A00) LENGTH(2)
		3101 3103
1563	RSBA	ADDRESS. HEX LOCATION(00002E9A) IN CSECT(I7A00) LENGTH(2)
		1429 1445 1456 1467 1489 1500 1511 1522 1533
		1544
1452	RSDCB	ADDRESS. HEX LOCATION(00002DF0) IN CSECT(I7A00) LENGTH(2)
		1645 1650
0	R0	REGISTER. HEX VALUE(00000000)
		1706 1708 1709 2728 2778 2784 2785 2790 2791
		2851 2863 2943 2945 2963 2964 2971 2975 2988
		2989 3090 3091 3092
0	R1	REGISTER. HEX VALUE(00000001)
		2645 2648 2651 2654 2773 2774 2776 2777 2846
		2847 2849 2850 2946 3013
0	R2	REGISTER. HEX VALUE(00000002)
		2650 2651 2729 2732 2844 2873 2933 2934 2935
		3020 3022 3024 3026 3028 3030 3034 3040 3042
		3044 3046 3093 3147 3148 3150 3152 3154 3156
		3158
0	R3	REGISTER. HEX VALUE(00000003)
		1592 1594 1646 1649 1656 1657 1660 1663 1674
		1677 1693 1696 1699 1701 1722 1723 2344 2357
		2360 2361 2364 2366 2423 2424 2425 2459 2460
		2466 2470 2499 2500 2505 2518 2550 2595 2597
		2598 2606 2643 2644 2648 2660 2932 2934 3112
		3114 3114 3118 3120
0	R4	REGISTER. HEX VALUE(00000004)
		1702 1703 1704 2350 2351 2354 2368 2369 2371
		2372 2375 2381 2389 2461 2462 2464 2468 2472
		2501 2502 2503 2513 2514 2515 2517 2520 2530
		2532 2534 2537 2539 2726 2768 2840 2859 2866
		2927 2951 2954 2966 2969 2978 2981 2993 2996
		2999 3002 3032 3086 3100 3109 3127 3133 3139
0	R5	REGISTER. HEX VALUE(00000005)
		1593 1594 1647 1649 1655 1657 1661 1663 1675
		1677 1694 1696 1697 1699 1721 1723 2358 2360
		2362 2364 2385 2387 2509 2510 2511 2542 2543
		2545 2547 2596 2597 2642 2655 2781 2782 2783
		2787 2789 2854 2855 2856 2857 2861 3113 3114
		3115 3119 3120
0	R6	REGISTER. HEX VALUE(00000006)
		1595 1596 1692 2356 2376 2390 2426 2531 2536
		2538 2546 2549 2551 2601 2607 2609 2647 2652
		2653 2841 2864 2928 2949 2952 2967 2979 2994
		3000 3087 3098 3107 3125 3131 3137
0	R7	REGISTER. HEX VALUE(00000007)
		1311 1591 1648 1654 1662 1676 1695 1698 1705
		1720 2359 2363 2370 2465 2506 2594 2599 2604
		2637 2646 2649 2661 2664 2724 2766 2770 2838
		2925 2931 2936 3084 3111 3116 3117
1272	SCTID	ADDRESS. HEX LOCATION(00002D76) IN CSECT(I7A00) LENGTH(2)
		1459 1536 1592 1647 1650 1675 1678
1463	SKDCB	ADDRESS. HEX LOCATION(00002E00) IN CSECT(I7A00) LENGTH(2)
		1639
1329	START	ABSOLUTE. HEX VALUE(0000000A)
		2373
104	SUPSTAT	ADDRESS. HEX LOCATION(000019C4) IN CSECT(I7A00) LENGTH(1)
		2659
2944	TEMP	ADDRESS. HEX LOCATION(00003426) IN CSECT(I7A00) LENGTH(2)
		2945
95	TUBUFF	ADDRESS. HEX LOCATION(000018C2) IN CSECT(I7A00) LENGTH(1)
		2965
96	TULAST	ADDRESS. HEX LOCATION(000018C4) IN CSECT(I7A00) LENGTH(1)
		2963
92	TUMSGWTR	ADDRESS. HEX LOCATION(000018BA) IN CSECT(I7A00) LENGTH(1)
		2661
76	TUPARM1	ADDRESS. HEX LOCATION(0000189A) IN CSECT(I7A00) LENGTH(1)
		2773 2846
98	TURESUL	ADDRESS. HEX LOCATION(000018C8) IN CSECT(I7A00) LENGTH(1)
		2728 2729 2793 2794 2844 2862 2863 2868 2933
		3014 3015 3090 3091 3092 3093 3141 3142
1301	TURTN	ADDRESS. HEX LOCATION(00002DB0) IN CSECT(I7A00) LENGTH(2)
		2666 2724 2766 2838 2925 3084
74	TUSTATUS	ADDRESS. HEX LOCATION(00001818) IN CSECT(I7A00) LENGTH(1)
		2636

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DECLARED  NAME     ATTRIBUTES AND REFERENCES
      75  TUWORK     ADDRESS. HEX LOCATION(0000181A) IN CSECT(I7A00   ) LENGTH(1)
                    2639  2640  2641  2643  2699
    3042  T01A       ADDRESS. HEX LOCATION(0000355E) IN CSECT(I7A00   ) LENGTH(2)
                    3037
    3044  T01B       ADDRESS. HEX LOCATION(00003564) IN CSECT(I7A00   ) LENGTH(2)
                    2957  2959  2970  3039
    3013  T01C       ADDRESS. HEX LOCATION(00003516) IN CSECT(I7A00   ) LENGTH(4)
                    2962  2990  3027  3031  3035  3041  3045
    3046  T01ER      ADDRESS. HEX LOCATION(00003568) IN CSECT(I7A00   ) LENGTH(2)
                    2929  2950  2953  2968  2980  2995  3001
    2975  T01G       ADDRESS. HEX LOCATION(00003494) IN CSECT(I7A00   ) LENGTH(4)
                    2972
    2966  T01H       ADDRESS. HEX LOCATION(0000347A) IN CSECT(I7A00   ) LENGTH(2)
                    2974
    2987  T01J       ADDRESS. HEX LOCATION(000034BC) IN CSECT(I7A00   ) LENGTH(6)
                    2976
    2998  T01K       ADDRESS. HEX LOCATION(000034DE) IN CSECT(I7A00   ) LENGTH(6)
                    3009
    3032  T01L       ADDRESS. HEX LOCATION(00003542) IN CSECT(I7A00   ) LENGTH(2)
                    2955
    3030  T01N       ADDRESS. HEX LOCATION(0000353E) IN CSECT(I7A00   ) LENGTH(2)
                    2982
    3028  T01P       ADDRESS. HEX LOCATION(0000353A) IN CSECT(I7A00   ) LENGTH(2)
                    2984  3005
    3026  T01Q       ADDRESS. HEX LOCATION(00003536) IN CSECT(I7A00   ) LENGTH(2)
                    2986
    3022  T01U       ADDRESS. HEX LOCATION(0000352E) IN CSECT(I7A00   ) LENGTH(2)
                    3007
    3024  T01X       ADDRESS. HEX LOCATION(00003532) IN CSECT(I7A00   ) LENGTH(2)
                    3003
    3020  T01Y       ADDRESS. HEX LOCATION(0000352A) IN CSECT(I7A00   ) LENGTH(2)
                    2997
    3036  T01Z       ADDRESS. HEX LOCATION(0000354A) IN CSECT(I7A00   ) LENGTH(6)
                    3033
    2766  T7A01      ADDRESS. HEX LOCATION(00003322) IN CSECT(I7A00   ) LENGTH(4)
                     542   572   593   647   692   710   728   746   764
                     782   800   818   836   908   980
    2801  T7A01I     ADDRESS. HEX LOCATION(00003384) IN CSECT(I7A00   ) LENGTH(2)
                    2774  2775  2776  2777  2778  2780  2793
    2794  T7A01X     ADDRESS. HEX LOCATION(0000337A) IN CSECT(I7A00   ) LENGTH(6)
                    2792
    1310  T7A02      ADDRESS. HEX LOCATION(00002DB8) IN CSECT(I7A00   ) LENGTH(6)
                     554   605   617   629   677   854   890   926   962
                     998  1034  1070
    2838  T7A03      ADDRESS. HEX LOCATION(00003388) IN CSECT(I7A00   ) LENGTH(4)
                     872   944  1016
    2858  T7A03K     ADDRESS. HEX LOCATION(000033CE) IN CSECT(I7A00   ) LENGTH(2)
                    2861
    2878  T7A03L     ADDRESS. HEX LOCATION(000033F8) IN CSECT(I7A00   ) LENGTH(2)
                    2847  2848  2849  2850  2851  2853
    2862  T7A03M     ADDRESS. HEX LOCATION(000033D6) IN CSECT(I7A00   ) LENGTH(6)
                    2860
    2925  T7A04      ADDRESS. HEX LOCATION(000033FC) IN CSECT(I7A00   ) LENGTH(4)
                    1052
    3084  T7A05      ADDRESS. HEX LOCATION(0000356C) IN CSECT(I7A00   ) LENGTH(4)
                    1088
    2724  T7A50      ADDRESS. HEX LOCATION(000032FC) IN CSECT(I7A00   ) LENGTH(4)
                     527
    2734  T7A50X     ADDRESS. HEX LOCATION(0000331C) IN CSECT(I7A00   ) LENGTH(4)
                    2731
    1496  VRDCB      ADDRESS. HEX LOCATION(00002E30) IN CSECT(I7A00   ) LENGTH(2)
                    1667
    1518  WKDCB      ADDRESS. HEX LOCATION(00002E50) IN CSECT(I7A00   ) LENGTH(2)
                    1681  1682
    3161  WRBUF      ADDRESS. HEX LOCATION(00003658) IN CSECT(I7A00   ) LENGTH(2)
                    3095  3112  3119
    1485  WRDCB      ADDRESS. HEX LOCATION(00002E20) IN CSECT(I7A00   ) LENGTH(2)
                    1670  1716  3095  3123  3124
    1335  WRIT0      ABSOLUTE. HEX VALUE(00000010)
                    1711
    1336  WRIT1      ABSOLUTE. HEX VALUE(00000011)
                    1713
    1557  WRSID      ADDRESS. HEX LOCATION(00002E8E) IN CSECT(I7A00   ) LENGTH(2)
                    1448  1525  1593  1682  1686
    1441  WSDCB      ADDRESS. HEX LOCATION(00002DE0) IN CSECT(I7A00   ) LENGTH(2)
                    1685  1686
    1248  XE         ABSOLUTE. HEX VALUE(00000024)
                    2468  2530  2951  2966  2978  2993  2999
    1246  XI         ABSOLUTE. HEX VALUE(00000022)
                    1704  2372  2515
    2344  XIO        ADDRESS. HEX LOCATION(00002FD0) IN CSECT(I7A00   ) LENGTH(4)
                    1640  1643  1651  1658  1665  1668  1671  1679  1683
                    1687  1690
    2530  XIOCK      ADDRESS. HEX LOCATION(000030A4) IN CSECT(I7A00   ) LENGTH(2)
                    2382
    2537  XIOCO      ADDRESS. HEX LOCATION(000030B6) IN CSECT(I7A00   ) LENGTH(2)
                    2535
    2547  XIOCQ      ADDRESS. HEX LOCATION(000030CC) IN CSECT(I7A00   ) LENGTH(4)
                    2544
    2352  XIOCS      ADDRESS. HEX LOCATION(00002FE2) IN CSECT(I7A00   ) LENGTH(6)
                    2548  2864  2952  2967  2979  2994  3000
    2539  XIOCV      ADDRESS. HEX LOCATION(000030BA) IN CSECT(I7A00   ) LENGTH(2)
                    2533
    2550  XIOCX      ADDRESS. HEX LOCATION(000030D8) IN CSECT(I7A00   ) LENGTH(4)
                    2540
    2347  XIODG      ADDRESS. HEX LOCATION(00002FD6) IN CSECT(I7A00   ) LENGTH(6)
                    1717  1724
    2423  XIOER      ADDRESS. HEX LOCATION(00003042) IN CSECT(I7A00   ) LENGTH(2)
                    2556
    2356  XIO1       ADDRESS. HEX LOCATION(00002FF2) IN CSECT(I7A00   ) LENGTH(4)
                    2345  2348
    2369  XIO2       ADDRESS. HEX LOCATION(00003018) IN CSECT(I7A00   ) LENGTH(2)
                    2355
    2381  XIO8       ADDRESS. HEX LOCATION(0000302E) IN CSECT(I7A00   ) LENGTH(2)
                    1712  1714  2388
      62  XTRNL      ABSOLUTE. HEX VALUE(00000001)
                     568   586   643   661   706   724   742   760   778
                     796   814   832   850   868   886   904   922   940
                     958   976   994  1012  1030  1048  1066  1084  1102
                    1108
    2870  X7A03      ADDRESS. HEX LOCATION(000033F0) IN CSECT(I7A00   ) LENGTH(4)
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DECLARED  NAME     ATTRIBUTES AND REFERENCES
    1550  ZERO0      2874
                     ADDRESS. HEX LOCATION(00002E80) IN CSECT(I7A00   ) LENGTH(2)
                    2956
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