```
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR      TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR      TTTTTTTTTTTTTTT  LLL
LLL                 IIIIIIIII     BBBBBBBBBBBB     RRRRRRRRRRRR      TTTTTTTTTTTTTTT  LLL
LLL                    III        BBB         BBB  RRR         RRR         TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR         TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR         TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR         TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR         TTT        LLL
LLL                    III        BBB         BBB  RRR         RRR         TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR            TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR            TTT        LLL
LLL                    III        BBBBBBBBBBBB     RRRRRRRRRRRR            TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR               TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR               TTT        LLL
LLL                    III        BBB         BBB  RRR   RRR               TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR            TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR            TTT        LLL
LLL                    III        BBB         BBB  RRR      RRR            TTT        LLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR         TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR         TTT        LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL     IIIIIIIII     BBBBBBBBBBBB     RRR         RRR         TTT        LLLLLLLLLLLLLLL
```

```
LL              IIIIII    BBBBBBBB      CCCCCCCC  VV      VV  TTTTTTTTTT  DDDDDDDD    XX      XX
LL              IIIIII    BBBBBBBB      CCCCCCCC  VV      VV  TTTTTTTTTT  DDDDDDDD    XX      XX
LL                II      BB      BB  CC          VV      VV      TT      DD      DD  XX      XX
LL                II      BB      BB  CC          VV      VV      TT      DD      DD  XX      XX
LL                II      BB      BB  CC          VV      VV      TT      DD      DD    XX  XX
LL                II      BB      BB  CC          VV      VV      TT      DD      DD    XX  XX
LL                II      BBBBBBBB    CC          VV      VV      TT      DD      DD      XX
LL                II      BBBBBBBB    CC          VV      VV      TT      DD      DD      XX
LL                II      BB      BB  CC          VV      VV      TT      DD      DD    XX  XX
LL                II      BB      BB  CC          VV      VV      TT      DD      DD    XX  XX
LL                II      BB      BB  CC            VV  VV        TT      DD      DD  XX      XX      ....
LL                II      BB      BB  CC            VV  VV        TT      DD      DD  XX      XX      ....
LLLLLLLLLL      IIIIII    BBBBBBBB      CCCCCCCC      VV          TT      DDDDDDDD    XX      XX      ....
LLLLLLLLLL      IIIIII    BBBBBBBB      CCCCCCCC      VV          TT      DDDDDDDD    XX      XX      ....


LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

```
;  1          0001  0 %TITLE 'LIB$CVT_DX_DX  any to any data type conversion'
;  2          0002  0 MODULE LIB$CVTDXDX (                    ! General data type conversion.
;  3          0003  0                     IDENT = '1-009'     ! File:LIBCVTDX.B32 Edit: FM1009
;  4          0004  0                     ) =
;  5          0005  1 BEGIN
;  6          0006  1 !
;  7          0007  1 !******************************************************************************
;  8          0008  1 !*                                                                            *
;  9          0009  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                   *
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; 26          0026  1 !*                                                                            *
; 27          0027  1 !*                                                                            *
; 28          0028  1 !******************************************************************************
; 29          0029  1 !
; 30          0030  1
; 31          0031  1 !++
; 32          0032  1 ! FACILITY:     General Utility Library
; 33          0033  1 !
; 34          0034  1 ! ABSTRACT:
; 35          0035  1 !
; 36          0036  1 !               This is the general data type conversion facility.
; 37          0037  1 !               Given two parameters, one the source descriptor,
; 38          0038  1 !               second the destination descriptor this routine
; 39          0039  1 !               will convert the source to destination.
; 40          0040  1 !               The permitted set of class, data type and combination
; 41          0041  1 !               of the two is a subset of the ones allowed in the
; 42          0042  1 !               calling standard.
; 43          0043  1 !
; 44          0044  1 !       The following is a general description of LIB$CVT_DX_DX.
; 45          0045  1 !
; 46          0046  1 !       This module is divided into two routines on the bases of functional
; 47          0047  1 !       modularity.  The front-end (LIB$$FIND_CVT_PATH), and back-end (LIB$CVT_DX_DX).
; 48          0048  1 !       The front-end frees the back-end of any error checking of invalid
; 49          0049  1 !       class or data type or combination of the two, or decisions that requires
; 50          0050  1 !       knowledge of which class or data type is being converted.  The only
; 51          0051  1 !       information that the back-end knows about is what the conversion path
; 52          0052  1 !       is, and where the intermediate data is.  The back-end then scales the
; 53          0053  1 !       intermediate data if necessary and converts it to the destination
; 54          0054  1 !       data type.  Note that even though a scale may not be necessary, the
; 55          0055  1 !       intermediate data is still converted to a second intermediate data type
; 56          0056  1 !       just to be consistent.
; 57          0057  1 !
```

```
;    58          0058  1 !     1.  Upon entry to LIB$CVT_DX_DX, LIB$$FIND_CVT_PATH routine is called.
;    59          0059  1 !         LIB$$FIND_CVT_PATH has 4 functions, they are :
;    60          0060  1 !               a. Find any errors concerning the class, and data type of
;    61          0061  1 !                  source and destination descriptor.  These errors can be
;    62          0062  1 !                  invalid class, invalid data type, or invalid combination
;    63          0063  1 !                  of a class and data type.  It can also tell which descriptors
;    64          0064  1 !                  are supported by the VAX-11 calling standard and which are
;    65          0065  1 !                  supported by this routine.
;    66          0066  1 !
;    67          0067  1 !               b. Figure out what the conversion path is, i.e. class,dtype --> class,dtype.
;    68          0068  1 !                  these paths are given names such as K_SMLINT_DEC, which reads
;    69          0069  1 !                  "from small integer to decimal" (categories are defined later).
;    70          0070  1 !
;    71          0071  1 !               c. Convert the source data to an intermediate data.  The strategy
;    72          0072  1 !                  used to select the appropriate intermediate data is explained later.
;    73          0073  1 !
;    74          0074  1 !               d. Put whatever information needed about the source and destination
;    75          0075  1 !                  descriptor in two structures passed by LIB$CVT_DX_DX.
;    76          0076  1 !                  These two structures SRC_INFO, and DST_INFO, contain the kind
;    77          0077  1 !                  of information that can only be visible when the class, and
;    78          0078  1 !                  data type of the source and destination descriptors are being
;    79          0079  1 !                  manipulated. These two structures can be expanded to contain
;    80          0080  1 !                  more information as new class, and data types may require it.
;    81          0081  1 !
;    82          0082  1 !
;    83          0083  1 !     2.  The following is an overview of the design of FIND_CVT_PATH :
;    84          0084  1 !         The problem to be solved is to recognize "valid" descriptors.
;    85          0085  1 !         A descriptor is valid if CLASS and DATA TYPE fields of the descriptor
;    86          0086  1 !         satisfy certain conditions.
;    87          0087  1 !         With this problem in mind we shall use some formal language theory
;    88          0088  1 !         and applications to solve it.
;    89          0089  1 !         Let us take a hypothetical problem that is very close but smaller in
;    90          0090  1 !         magnitude of the original problem and solve it.
;    91          0091  1 !         Suppose that the set of classes that we are interested about are
;    92          0092  1 !         CLASS = { c1, c2, c3 }, and the set of data types are
;    93          0093  1 !         DTYPE = { d1, d2, d3, d4 }.  Then suppose that only a certain combinations
;    94          0094  1 !         of CLASS and DTYPE are valid, and they are c1d3, c2d1, c3d2, c3d4.
;    95          0095  1 !         Hence language L(G) is consisted of sentences { c1d3, c2d1, c3d2, c3d4 }.
;    96          0096  1 !         First we need to come up with a grammar for the language L(G).
;    97          0097  1 !         Grammar for L(G) :
;    98          0098  1 !               Z  -->  <S1>d3 ! <S2>d1 ! <S3>d2 ! <S3>d4
;    99          0099  1 !               S1 -->  c1
;   100          0100  1 !               S2 -->  c2
;   101          0101  1 !               S3 -->  c3
;   102          0102  1 !               S4 -->  c4
;   103          0103  1 !         A close look shows that this is a Chomsky type 3 regular grammar,
;   104          0104  1 !         because productions are all
;   105          0105  1 !               NON-TERMINAL --> terminal
;   106          0106  1 !                        or
;   107          0107  1 !               NON_TERMINAL --> <NON-TERMINAL>terminal
;   108          0108  1 !         This type of grammar has the nice feature that its sentential forms
;   109          0109  1 !         can be "accepted" by a finite state machine.
;   110          0110  1 !         The sentential forms of this grammar can also be accepted by a
;   111          0111  1 !         deterministic finite automaton because each right hand side has a
;   112          0112  1 !         unique left hand side.
;   113          0113  1 !         A DFA can be written to recognize sentences of this grammar and to
;   114          0114  1 !         reject sentences that are not in the language.
```

```
;  115          0115  1 !          The original problem is very similar to this hypothetical one, the
;  116          0116  1 !          only difference is that the set CLASS and DTYPE is larger.
;  117          0117  1 !          LIB$$FIND_CVT_PATH is just a DFA that accepts sentences of language L(V)
;  118          0118  1 !          when L(V) is pairs of VAX-11 DSC$K_CLASS_x DSC$K_DTYPE_y.  The grammar
;  119          0119  1 !          for L(V) is very similar to the grammar for L(G) above.
;  120          0120  1 !
;  121          0121  1 !      3.  In order to achieve the conflicting goals : fast,  not  large
;  122          0122  1 !          in  size,  expandable, no loss of precision as a result of intermediate
;  123          0123  1 !          values, there is a need for  a  compromise.  The strategy for categorizing
;  124          0124  1 !          the data types is based on three goals:  precision should not be lost
;  125          0125  1 !          as a result of converting to intermediate data types, data types of
;  126          0126  1 !          the same category should share similar internal representations, so
;  127          0127  1 !          they can be converted to and from each other easily, and seperate data
;  128          0128  1 !          types that the machine architecture has not yet provided machine
;  129          0129  1 !          instructions for.  The third goal provides easy and fast conversions for
;  130          0130  1 !          data types that there exists machine instructions for their conversions.
;  131          0131  1 !          The current categories were formulated by the following strategy:
;  132          0132  1 !          Divide  the  integers into two groups, small and large integers.
;  133          0133  1 !          Divide the floating numbers into two categories small and large
;  134          0134  1 !          floating. The small category will be the data types
;  135          0135  1 !          that machine instructions are available for their conversions.
;  136          0136  1 !          The large category consist of data types that there are no machine instructions for
;  137          0137  1 !          their conversions or the instructions must be emulated (LIB$EMULATE)
;  138          0138  1 !          for some VAX machines.
;  139          0139  1 !          This categorization will provide the callers that are attempting a 'simple' conversion
;  140          0140  1 !          a fast and smooth way.
;  141          0141  1 !          As a result we have the following :
;  142          0142  1 !          INTEGER       --> SMALL_INTEGER ! LARGE_INTEGER
;  143          0143  1 !          FLOAT         --> SMALL_FLOAT ! LARGE_FLOAT
;  144          0144  1 !          SMALL_INTEGER --> bu ! wu ! b ! w ! l          !Intermediate L
;  145          0145  1 !          LARGE_INTEGER --> lu ! q                       !Intermediate OU
;  146          0146  1 !          SMALL_FLOAT   --> f ! d                        !Intermediate D
;  147          0147  1 !          LARGE_FLOAT   --> g ! h                        !Intermediate H
;  148          0148  1 !          DEC           --> nu ! nl ! nlo ! nr ! nro ! nz !Intermediate P
;  149          0149  1 !          NBDS          --> nbds                         !Intermediate T
;  150          0150  1 !
;  151          0151  1 !      4.  Upon return from LIB$$FIND_CVT_PATH, the main routine then enters a
;  152          0152  1 !          CASE statement that selects the desired conversion.  This CASE
;  153          0153  1 !          is explained in detail in the first paragraph of the statement.
;  154          0154  1 !
;  155          0155  1 !
;  156          0156  1 ! ENVIRONMENT:  User mode - AST reentrant
;  157          0157  1 !
;  158          0158  1 ! AUTHOR:       Farokh Morshed          01-09-1981
;  159          0159  1 !
;  160          0160  1 ! MODIFIED BY:
;  161          0161  1 !
;  162          0162  1 ! 1-001 - Original.  FM1001     01-09-1981
;  163          0163  1 ! 1-002 - Fix the problem with (SMLINT, LRGINT, DEC) to NBDS having an explicit
;  164          0164  1 !         sign when plus should be implied.  Also [DEC_NBDS] scaled twice,
;  165          0165  1 !         changed it to scale only once.  FM 5-NOV-81.
;  166          0166  1 ! 1-003 - Fix the problem with [K_DEC_NBDS].  The length of CLASS_S_DESC was
;  167          0167  1 !         not being reset. FM
;  168          0168  1 ! 1-004 - Put in a new data type, DSC$K_DTYPE_VT.  Cleaned up data type B
;  169          0169  1 !         out of NBDS.  FM 1-DEC-81.
;  170          0170  1 ! 1-005 - Fix the bug where destination length is not picked up from DST_INFO.
;  171          0171  1 !         FM 2-DEC-81.
```

```
;  172          0172  1 ! 1-006 - Constants which are addressed by things like PACK_ZERO should be
;  173          0173  1 !           all longwords.
;  174          0174  1 ! 1-007 - LIB$_ROPRAND was left out of the exception handler.  FM 8-FEB-82.
;  175          0175  1 ! 1-008 - A couple of missing dots fixed -Q -> G and H.
;  176          0176  1 ! 1-009 - The following problems were fixed:    FM 1-Apr-83
;  177          0177  1 !                 The macro M_SCALE_OU_H did not grab the low order 8 bytes of
;  178          0178    !                 the H.
;  179          0179    !                 The macros M_SCALE_P_D and M_SCALE_P_H called the OTS$ routine
;  180          0180  1 !                 with a scale of the wrong sign.
;  181          0181  1 !                 The cases [K_SMLFLT_NBDS] and [K_LRGFLT_NBDS] did not pick up
;  182          0182  1 !                 the correct DIGITS_IN_FRACT when calling the FOR$CVT_x_TE.
;  183          0183  1 !                 The case [K_LRGFLT_NBDS] did not pick up the correct number of
;  184          0184  1 !                 digits in exponent when calling FOR$CVT_H_TE.
;  185          0185  1 !--
;  186          0186  1
```

```
;  188          0187  1 %SBTTL 'Declarations'
;  189          0188  1 !
;  190          0189  1 ! SWITCHES:
;  191          0190  1 !
;  192          0191  1
;  193          0192  1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
;  194          0193  1
;  195          0194  1 !
;  196          0195  1 ! LINKAGES:
;  197          0196  1 !
;  198          0197  1 !The reason for using PRESERVE is that it is of no cost, and the benefits may
;  199          0198  1 !be of value.  It can be taken out.
;  200          0199  1 !
;  201          0200  1
;  202          0201  1 LINKAGE
;  203          0202  1     JSB_R0 = JSB (REGISTER = 0) : PRESERVE (0, 1),
;  204          0203  1     JSB_R1 = JSB (REGISTER = 0, REGISTER = 1) : PRESERVE (0, 1),
;  205          0204  1     JSB_RETRO_R1 = JSB (REGISTER = 0, REGISTER = 1) : PRESERVE (1),
;  206          0205  1     JSB_R2 = JSB (REGISTER = 0, REGISTER = 1, REGISTER = 2) : PRESERVE (0, 1),
;  207          0206  1     JSB_R3 = JSB (REGISTER = 0, REGISTER = 1, REGISTER = 2, REGISTER = 3) : PRESERVE (0, 1),
;  208          0207  1     JSB_R6 = JSB (REGISTER = 0, REGISTER = 1, REGISTER = 2, REGISTER = 3, REGISTER = 4, REGISTER = 5) :
;  209          0208  1     PRESERVE (0, 1),
;  210          0209  1     SCOPYR_JSB_R6 = JSB (REGISTER = 0, REGISTER = 1, REGISTER = 2) : NOPRESERVE (2),
;  211          0210  1     SCOPY_JSB_R6 = JSB (REGISTER = 0, REGISTER = 1);
;  212          0211  1
;  213          0212  1 !
;  214          0213  1 ! TABLE OF CONTENTS:
;  215          0214  1 !
;  216          0215  1
;  217          0216  1 FORWARD ROUTINE
;  218          0217  1     LIB$CVT_DX_DX,                          ! The conversion routine.
;  219          0218  1     CVT_HANDLER;                            ! Error handler.
;  220          0219  1
;  221          0220  1                                             ! being done and report any
;  222          0221  1                                             ! unsupported fields in the descriptors.
;  223          0222  1 !
;  224          0223  1 ! INCLUDE FILES:
;  225          0224  1 !
;  226          0225  1
;  227          0226  1 LIBRARY 'RTLSTARLE';                        ! System symbols, from SYS$LIBRARY:STARLET.L32
;  228          0227  1
;  229          0228  1 REQUIRE 'RTLIN:RTLPSECT';                   ! Define PSECT declarations macros
;  230          0323  1
;  231          0324  1 !+
;  232          0325  1 ! EXTERNAL LITERAL
;  233          0326  1 !-
;  234          0327  1
;  235          0328  1 EXTERNAL LITERAL
;  236          0329  1 !+
;  237          0330  1 ! These are condition value.
;  238          0331  1 !-
;  239          0332  1     LIB$_INTOVF,                            ! Integer overflow.
;  240          0333  1     LIB$_FLTOVF,                            ! Floating overflow.
;  241          0334  1     LIB$_DECOVF,                            ! Decimal overflow.
;  242          0335  1     LIB$_FLTUND,                            ! Floating underflow.
;  243          0336  1     LIB$_ROPRAND,                           ! Reserved operand.
;  244          0337  1     LIB$_INVCVT,                            ! Invalid conversion.
```

```
   1       LIB$_INVDTYDSC,                          ! Invalid dtype in descriptor.
   1       LIB$_INVCLADSC,                          ! Invalid class in descriptor.
   1       LIB$_INVCLADTY,                          ! Invalid class dtype combination.
   1       LIB$_INVNBDS,                            ! Invalid numeric byte data string.
   1       LIB$_DESSTROVF,                          ! Destination string overflow.
   1       LIB$_OUTSTRTRU,                          ! Output string truncated (warning).
   1       LIB$_FATERRLIB,                          ! Fatal error in library.
   1       LIB$_STRTRU;                             ! String truncated.
   1
   1  !
   1  ! MACROS:
   1  !
   1  !<BLF/MACRO>
   1  !+
   1  ! These MACROs have been put in the module declartion part to make the routine cleaner,
   1  ! and easier to read.
   1  !-
   1
   1  MACRO
   1  !+
   1  ! These MACROs are defined for the purpose of clarity, less typing, and anticipation
   1  ! of future support of BUILTINs.
   1  !-
M  1       CVTROUD =
   1           LIB$$CVT_CVTROUD_R1 %,
M  1       CVTROUH =
   1           LIB$$CVT_CVTROUH_R1 %,
M  1       CVTRDQ =
   1           LIB$$CVT_CVTRDQ_R1 %,
M  1       CVTDH =
   1           LIB$$CVT_CVTDH_R1 %,
M  1       CVTLH =
   1           LIB$$CVT_CVTLH_R1 %,
M  1       CVTRHL =
   1           LIB$$CVT_CVTRHL_R1 %,
M  1       CVTRHO =
   1           LIB$$CVT_CVTRHO_R1 %,
M  1       CVTRHQ =
   1           LIB$$CVT_CVTRHQ_R1 %,
M  1       CVTHF =
   1           LIB$$CVT_CVTHF_R1 %,
M  1       CVTHD =
   1           LIB$$CVT_CVTHD_R1 %,
M  1       CVTHG =
   1           LIB$$CVT_CVTHG_R1 %,
M  1       CVTGH =
   1           LIB$$CVT_CVTGH_R1 %,
M  1       CVTLB =
   1           LIB$$CVT_CVTLB_R1 %,
M  1       CVTLW =
   1           LIB$$CVT_CVTLW_R1 %,
M  1       MULH2 =
   1           LIB$$CVT_MULH2_R1 %,
M  1       DIVH2 =
   1           LIB$$CVT_DIVH2_R1 %,
M  1       MULD2 =
   1           LIB$$CVT_MULD2_R1 %,
```

```
;  302        M 0395  1     DIVD2 =
;  303          0396  1         LIB$$CVT_DIVD2_R1 %,
;  304        M 0397  1     CMPH =
;  305          0398  1         LIB$$CVT_CMPH_R1 %,
;  306        M 0399  1     ASHP =
;  307          0400  1         LIB$$CVT_ASHP_R1 %,
;  308          0401  1 !+
;  309          0402  1 ! These MACROs define parts of the intermediate data buffer.
;  310          0403  1 !-
;  311        M 0404  1     LONG_1 =
;  312          0405  1         0, 0, 32, 0 %,
;  313        M 0406  1     LONG_2 =
;  314          0407  1         4, 0, 32, 0 %,
;  315        M 0408  1     LONG_3 =
;  316          0409  1         8, 0, 32, 0 %,
;  317        M 0410  1     LONG_4 =
;  318          0411  1         12, 0, 32, 0 %,
;  319        M 0412  1     LONG_5 =
;  320          0413  1         16, 0, 32, 0 %,
;  321        M 0414  1     LONG_6 =
;  322          0415  1         20, 0, 32, 0 %,
;  323        M 0416  1     LONG_7 =
;  324          0417  1         24, 0, 32, 0 %,
;  325        M 0418  1     LONG_8 =
;  326          0419  1         28, 0, 32, 0 %,
;  327        M 0420  1     S_LONG_1 =
;  328          0421  1         0, 0, 32, 1 %,
;  329        M 0422  1     S_LONG_2 =
;  330          0423  1         4, 0, 32, 1 %,
;  331        M 0424  1     S_BYTE_1 =
;  332          0425  1         0, 0, 8, 1 %,
;  333        M 0426  1     BYTE_1 =
;  334          0427  1         0, 0, 8, 0 %,
;  335        M 0428  1     BYTE_2 =
;  336          0429  1         1, 0, 8, 0 %,
;  337        M 0430  1     S_WORD_1 =
;  338          0431  1         0, 0, 16, 1 %,
;  339        M 0432  1     WORD_1 =
;  340          0433  1         0, 0, 16, 0 %,
;  341        M 0434  1     WORD_2 =
;  342          0435  1         2, 0, 16, 0 %,
;  343        M 0436  1     NIBBLE_1 =
;  344          0437  1         0, 0, 4, 0 %,
;  345          0438  1 !+
;  346          0439  1 ! These MACROs scale the longword in INTMED_DATA buffer.
;  347          0440  1 !-
;  348        M 0441  1     M_SCALE_L_L =
;  349        M 0442  1
;  350        M 0443  1         WHILE .SCALE GTR 0 DO
;  351        M 0444  1             BEGIN
;  352        M 0445  1             INTMED_DATA [LONG_1] = .INTMED_DATA [S_LONG_1]*10;
;  353        M 0446  1             SCALE = .SCALE - 1;
;  354        M 0447  1             END;
;  355        M 0448  1
;  356        M 0449  1         WHILE .SCALE LSS 0 DO
;  357        M 0450  1             BEGIN
;  358        M 0451  1             INTMED_DATA [LONG_1] = .INTMED_DATA [S_LONG_1]/10;
```

```
;  359        M 0452  1              SCALE = .SCALE + 1;
;  360        M 0453  1              END
;  361        M 0454  1
;  362          0455  1      %,
;  363          0456  1  !+
;  364          0457  1  ! Convert L to OU and scale it.  INTMED_DATA is used for L and OU
;  365          0458  1  !-
;  366        M 0459  1      M_SCALE_L_OU =
;  367        M 0460  1
;  368        M 0461  1          IF .INTMED_DATA [S_LONG_1] LSS 0
;  369        M 0462  1          THEN
;  370        M 0463  1              BEGIN
;  371        M 0464  1              INTMED_DATA [LONG_1] = ABS (.INTMED_DATA [S_LONG_1]);
;  372        M 0465  1              SRC_INFO [S_SIGN] = 1;
;  373        M 0466  1              END;
;  374        M 0467  1
;  375        M 0468  1          WHILE .SCALE GTR 0 DO
;  376        M 0469  1              BEGIN
;  377        M 0470  1              LIB$$CVT_SCALE_OU_UP_BY_10_R1 (INTMED_DATA);
;  378        M 0471  1              SCALE = .SCALE - 1;
;  379        M 0472  1              END;
;  380        M 0473  1
;  381        M 0474  1          WHILE .SCALE LSS 0 DO
;  382        M 0475  1              BEGIN
;  383        M 0476  1              LIB$$CVT_SCALE_OU_DOWN_BY_10_R1 (INTMED_DATA);
;  384        M 0477  1              SCALE = .SCALE + 1;
;  385        M 0478  1              END
;  386        M 0479  1
;  387          0480  1      %,
;  388          0481  1  !+
;  389          0482  1  ! Convert L to D, and scale it.  INTMED_DATA buffer is used for L and D.
;  390          0483  1  !-
;  391        M 0484  1      M_SCALE_L_D =
;  392        M 0485  1          CVTLD (INTMED_DATA, INTMED_DATA);
;  393        M 0486  1
;  394        M 0487  1          WHILE .SCALE GTR 0 DO
;  395        M 0488  1              BEGIN
;  396        M 0489  1              MULD2 (UPLIT (%D'10'), INTMED_DATA);
;  397        M 0490  1              SCALE = .SCALE - 1;
;  398        M 0491  1              END;
;  399        M 0492  1
;  400        M 0493  1          WHILE .SCALE LSS 0 DO
;  401        M 0494  1              BEGIN
;  402        M 0495  1              DIVD2 (UPLIT (%D'10'), INTMED_DATA);
;  403        M 0496  1              SCALE = .SCALE + 1;
;  404        M 0497  1              END
;  405        M 0498  1
;  406          0499  1      %,
;  407          0500  1  !+
;  408          0501  1  ! Convert L to P, and scale it.  INTMED_DATA is the buffer for L and P.
;  409          0502  1  !-
;  410        M 0503  1      M_SCALE_L_P =
;  411        M 0504  1
;  412        M 0505  1          IF .INTMED_DATA [S_LONG_1] LSS 0 THEN SRC_INFO [S_SIGN] = 1;
;  413        M 0506  1
;  414        M 0507  1          NO_DIGITS = 31;
;  415        M 0508  1          CVTLP (INTMED_DATA, NO_DIGITS, INTMED_DATA);
```

```
;  416        M 0509  1
;  417        M 0510  1          IF .SCALE NEQ 0
;  418        M 0511  1          THEN
;  419        M 0512  1              BEGIN
;  420        M 0513  1              MOVP (NO_DIGITS, INTMED_DATA, TEMP_BUF1);
;  421        M 0514  1              ASHP (SCALE, NO_DIGITS, TEMP_BUF1, %REF (5), NO_DIGITS, INTMED_DATA);
;  422        M 0515  1              END
;  423        M 0516  1
;  424          0517  1      %,
;  425          0518  1  !+
;  426          0519  1  ! Scale the OU in INTMED_DATA buffer.
;  427          0520  1  !-
;  428        M 0521  1      M_SCALE_OU_OU =
;  429        M 0522  1
;  430        M 0523  1          WHILE .SCALE GTR 0 DO
;  431        M 0524  1              BEGIN
;  432        M 0525  1              LIB$$CVT_SCALE_OU_UP_BY_10_R1 (INTMED_DATA);
;  433        M 0526  1              SCALE = .SCALE - 1;
;  434        M 0527  1              END;
;  435        M 0528  1
;  436        M 0529  1          WHILE .SCALE LSS 0 DO
;  437        M 0530  1              BEGIN
;  438        M 0531  1              LIB$$CVT_SCALE_OU_DOWN_BY_10_R1 (INTMED_DATA);
;  439        M 0532  1              SCALE = .SCALE + 1;
;  440        M 0533  1              END
;  441        M 0534  1
;  442          0535  1      %,
;  443          0536  1  !+
;  444          0537  1  ! Convert OU to D, and scale it.  INTMED_DATA is used for OU and D.
;  445          0538  1  !-
;  446        M 0539  1      M_SCALE_OU_D =
;  447        M 0540  1          CVTROUD (INTMED_DATA, TEMP_BUF1);
;  448        M 0541  1          CH$MOVE (8, TEMP_BUF1, INTMED_DATA);
;  449        M 0542  1
;  450        M 0543  1          WHILE .SCALE GTR 0 DO
;  451        M 0544  1              BEGIN
;  452        M 0545  1              MULD2 (UPLIT (%D'10'), INTMED_DATA);
;  453        M 0546  1              SCALE = .SCALE - 1;
;  454        M 0547  1              END;
;  455        M 0548  1
;  456        M 0549  1          WHILE .SCALE LSS 0 DO
;  457        M 0550  1              BEGIN
;  458        M 0551  1              DIVD2 (UPLIT (%D'10'), INTMED_DATA);
;  459        M 0552  1              SCALE = .SCALE + 1;
;  460        M 0553  1              END
;  461        M 0554  1
;  462          0555  1      %,
;  463          0556  1  !+
;  464          0557  1  ! Convert OU to H, and scale it.  INTMED_DATA is used for OU and H.
;  465          0558  1  !-
;  466        M 0559  1      M_SCALE_OU_H =
;  467        M 0560  1          CVTROUH (INTMED_DATA, TEMP_BUF1);
;  468        M 0561  1          CH$MOVE (16, TEMP_BUF1, INTMED_DATA);
;  469        M 0562  1
;  470        M 0563  1          WHILE .SCALE GTR 0 DO
;  471        M 0564  1              BEGIN
;  472        M 0565  1              MULH2 (UPLIT (%H'10'), INTMED_DATA);
```

```
;  473        M 0566  1              SCALE = .SCALE - 1;
;  474        M 0567  1              END;
;  475        M 0568  1
;  476        M 0569  1          WHILE .SCALE LSS 0 DO
;  477        M 0570  1              BEGIN
;  478        M 0571  1              DIVH2 (UPLIT (%H'10'), INTMED_DATA);
;  479        M 0572  1              SCALE = .SCALE + 1;
;  480        M 0573  1              END
;  481        M 0574  1
;  482          0575  1      %,
;  483          0576  1  !+
;  484          0577  1  ! Convert L to H, and scale it.  INTMED_DATA is used for L and H.
;  485          0578  1  !-
;  486        M 0579  1      M_SCALE_L_H =
;  487        M 0580  1          CVTLH (INTMED_DATA, INTMED_DATA);
;  488        M 0581  1
;  489        M 0582  1          WHILE .SCALE GTR 0 DO
;  490        M 0583  1              BEGIN
;  491        M 0584  1              MULH2 (UPLIT (%H'10'), INTMED_DATA);
;  492        M 0585  1              SCALE = .SCALE - 1;
;  493        M 0586  1              END;
;  494        M 0587  1
;  495        M 0588  1          WHILE .SCALE LSS 0 DO
;  496        M 0589  1              BEGIN
;  497        M 0590  1              DIVH2 (UPLIT (%H'10'), INTMED_DATA);
;  498        M 0591  1              SCALE = .SCALE + 1;
;  499        M 0592  1              END
;  500        M 0593  1
;  501          0594  1      %,
;  502          0595  1  !+
;  503          0596  1  ! Scale D in INTMED_DATA.
;  504          0597  1  !-
;  505        M 0598  1      M_SCALE_D_D =
;  506        M 0599  1
;  507        M 0600  1          WHILE .SCALE GTR 0 DO
;  508        M 0601  1              BEGIN
;  509        M 0602  1              MULD2 (UPLIT (%D'10'), INTMED_DATA);
;  510        M 0603  1              SCALE = .SCALE - 1;
;  511        M 0604  1              END;
;  512        M 0605  1
;  513        M 0606  1          WHILE .SCALE LSS 0 DO
;  514        M 0607  1              BEGIN
;  515        M 0608  1              DIVD2 (UPLIT (%D'10'), INTMED_DATA);
;  516        M 0609  1              SCALE = .SCALE + 1;
;  517        M 0610  1              END
;  518        M 0611  1
;  519          0612  1      %,
;  520          0613  1  !+
;  521          0614  1  ! Convert D to H, and scale it.  INTMED_DATA is used for D and H.
;  522          0615  1  !-
;  523        M 0616  1      M_SCALE_D_H =
;  524        M 0617  1          CVTDH (INTMED_DATA, INTMED_DATA);
;  525        M 0618  1
;  526        M 0619  1          WHILE .SCALE GTR 0 DO
;  527        M 0620  1              BEGIN
;  528        M 0621  1              MULH2 (UPLIT (%H'10'), INTMED_DATA);
;  529        M 0622  1              SCALE = .SCALE - 1;
```

```
;  530          M 0623  1              END;
;  531          M 0624  1
;  532          M 0625  1          WHILE .SCALE LSS 0 DO
;  533          M 0626  1              BEGIN
;  534          M 0627  1              DIVH2 (UPLIT (%H'10'), INTMED_DATA);
;  535          M 0628  1              SCALE = .SCALE + 1;
;  536          M 0629  1              END
;  537          M 0630  1
;  538            0631  1      %,
;  539            0632  1  !+
;  540            0633  1  ! Scale H in INTMED_DATA.
;  541            0634  1  !-
;  542          M 0635  1      M_SCALE_H_H =
;  543          M 0636  1
;  544          M 0637  1          WHILE .SCALE GTR 0 DO
;  545          M 0638  1              BEGIN
;  546          M 0639  1              MULH2 (UPLIT (%H'10'), INTMED_DATA);
;  547          M 0640  1              SCALE = .SCALE - 1;
;  548          M 0641  1              END:
;  549          M 0642  1
;  550          M 0643  1          WHILE .SCALE LSS 0 DO
;  551          M 0644  1              BEGIN
;  552          M 0645  1              DIVH2 (UPLIT (%H'10'), INTMED_DATA);
;  553          M 0646  1              SCALE = .SCALE + 1;
;  554          M 0647  1              END
;  555          M 0648  1
;  556            0649  1      %,
;  557            0650  1  !+
;  558            0651  1  ! Scale P in INTMED_DATA
;  559            0652  1  !-
;  560          M 0653  1      M_SCALE_P_P =
;  561          M 0654  1          NO_DIGITS = .SRC_INFO [S_LEN];
;  562          M 0655  1
;  563          M 0656  1          IF (CMPP (NO_DIGITS, INTMED_DATA, %REF (1), .PACK_ZERO) LSS 0) THEN SRC_INFO [S_SIGN] = 1;
;  564          M 0657  1
;  565          M 0658  1          IF .SCALE NEQ 0
;  566          M 0659  1          THEN
;  567          M 0660  1              BEGIN
;  568          M 0661  1              MOVP (NO_DIGITS, INTMED_DATA, TEMP_BUF1);
;  569          M 0662  1              ASHP (SCALE, NO_DIGITS, TEMP_BUF1, %REF (5), NO_DIGITS, INTMED_DATA);
;  570          M 0663  1              END
;  571          M 0664  1
;  572            0665  1      %,
;  573            0666  1  !+
;  574            0667  1  ! Convert P to OU, and scale it.  INTMED_DATA is used for P and OU.
;  575            0668  1  !-
;  576          M 0669  1      M_SCALE_P_OU =
;  577          M 0670  1          NO_DIGITS = .SRC_INFO [S_LEN];
;  578          M 0671  1          CVTPS (NO_DIGITS, INTMED_DATA, NO_DIGITS, TEMP_BUF1);
;  579          M 0672  1          CLASS_S_DESC [DSC$W_LENGTH] = .NO_DIGITS + 1;
;  580          M 0673  1          CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF1;
;  581          M 0674  1          OTS$CVT_T_H (CLASS_S_DESC, TEMP_BUF2);
;  582          M 0675  1
;  583          M 0676  1          IF .TEMP_BUF2 [0, 15, 1, 0]
;  584          M 0677  1          THEN
;  585          M 0678  1              BEGIN
;  586          M 0679  1              TEMP_BUF2 [0, 15, 1, 0] = 0;
```

```
;  587          M 0680  1              SRC_INFO [S_SIGN] = 1;
;  588          M 0681  1              END;
;  589          M 0682  1
;  590          M 0683  1          CVTRHO (TEMP_BUF2, INTMED_DATA);
;  591          M 0684  1
;  592          M 0685  1          WHILE .SCALE GTR 0 DO
;  593          M C686  1              BEGIN
;  594          M 0687  1              LIB$$CVT_SCALE_OU_UP_BY_10_R1 (INTMED_DATA);
;  595          M 0688  1              SCALE = .SCALE - 1;
;  596          M 0689  1              END;
;  597          M 0690  1
;  598          M 0691  1          WHILE .SCALE LSS 0 DO
;  599          M 0692  1              BEGIN
;  600          M 0693  1              LIB$$CVT_SCALE_OU_DOWN_BY_10_R1 (INTMED_DATA);
;  601          M 0694  1              SCALE = .SCALE + 1;
;  602          M 0695  1              END
;  603          M 0696  1
;  604             0697  1      %,
;  605             0698  1  !+
;  606             0699  1  ! Convert P to D, and scale it.  INTMED_DATA is used for P and D.
;  607             0700  1  !-
;  608          M 0701  1      M_SCALE_P_D =
;  609          M 0702  1          NO_DIGITS = .SRC_INFO [S_LEN];
;  610          M 0703  1          CVTPS (NO_DIGITS, INTMED_DATA, NO_DIGITS, TEMP_BUF1);
;  611          M 0704  1          CLASS_S_DESC [DSC$W_LENGTH] = .NO_DIGITS + 1;
;  612          M 0705  1          CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF1;
;  613          M 0706  1          STATUS = OTS$CVT_T_D (CLASS_S_DESC, INTMED_DATA, 0, -.SCALE, (K_ENB_UNDERFLOW OR K_ENB_SCALE));
;  614          M 0707  1
;  615          M 0708  1          IF NOT .STATUS
;  616          M 0709  1          THEN
;  617          M 0710  1              RETURN (
;  618          M 0711  1                  BEGIN
;  619          M 0712  1
;  620          M 0713  1                  IF .SCALE LSS 0 THEN LIB$_FLTUND ELSE LIB$_FLTOVF
;  621          M 0714  1
;  622          M 0715  1                  END
;  623             0716  1                  ) %,
;  624             0717  1
;  625             0718  1  !+
;  626             0719  1  ! Convert P to H, and scale it.  INTMED_DATA is used for P and H.
;  627             0720  1  !-
;  628          M 0721  1      M_SCALE_P_H =
;  629          M 0722  1          NO_DIGITS = .SRC_INFO [S_LEN];
;  630          M 0723  1          CVTPS (NO_DIGITS, INTMED_DATA, NO_DIGITS, TEMP_BUF1);
;  631          M 0724  1          CLASS_S_DESC [DSC$W_LENGTH] = .NO_DIGITS + 1;
;  632          M 0725  1          CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF1;
;  633          M 0726  1          STATUS = OTS$CVT_T_H (CLASS_S_DESC, INTMED_DATA, 0, -.SCALE, (K_ENB_UNDERFLOW OR K_ENB_SCALE));
;  634          M 0727  1
;  635          M 0728  1          IF NOT .STATUS
;  636          M 0729  1          THEN
;  637          M 0730  1              RETURN (
;  638          M 0731  1                  BEGIN
;  639          M 0732  1
;  640          M 0733  1                  IF .SCALE LSS 0 THEN LIB$_FLTUND ELSE LIB$_FLTOVF
;  641          M 0734  1
;  642          M 0735  1                  END
;  643             0736  1                  ) %;
```

```
;  644          0737  1
;  645          0738  1 !+
;  646          0739  1 ! PSECTS
;  647          0740  1 !-
;  648          0741  1 DECLARE_PSECTS (LIB);                   ! Declare PSECTs for LIB$ facility
;  649          0742  1 !+
;  650          0743  1 ! OWN STORAGE:
;  651          0744  1 !
;  652          0745  1 !       NONE
;  653          0746  1 !-
```

```
;  655          0747  1 %SBTTL 'The conversion routine, UPI level'
;  656          0748  1
;  657          0749  1 GLOBAL ROUTINE LIB$CVT_DX_DX (                  ! The UPI level of the conversion routine.
;  658          0750  1         SOURCE,                                  ! Source descriptor.
;  659          0751  1         DESTINATION,                             ! Destination descriptor.
;  660          0752  1         OUTLEN)                                  ! An output optional parameter.
;  661          0753  1     =
;  662          0754  2     BEGIN
;  663          0755  2
;  664          0756  2 !++
;  665          0757  2 ! FUNCTIONAL DESCRIPTION:
;  666          0758  2 !
;  667          0759  2 !       Upon entry FIND_CVT_PATH is called to identify which conversion is to be
;  668          0760  2 !       done, i.e. from which CLASS, DTYPE combination to which CLASS, DTYPE
;  669          0761  2 !       combination the conversion is being done.
;  670          0762  2 !       Also, FIND_CVT_PATH will do all the work of identifying the errors such
;  671          0763  2 !       as unsupported class, data type, or combinations.
;  672          0764  2 !       This routine is just a tree of CASE statements that the first
;  673          0765  2 !       level CASE statement labels have been identified by the FIND_CVT_PATH
;  674          0766  2 !       routine.
;  675          0767  2 !
;  676          0768  2 !
;  677          0769  2 ! CALLING SEQUENCE:
;  678          0770  2 !
;  679          0771  2 !       ret_status.wlc.v = LIB$CVT_DX_DX ( SOURCE.rx.dx, DESTINATION.wx.dx
;  680          0772  2 !                                          <OUTLEN.wwu.r> )
;  681          0773  2 !
;  682          0774  2 ! FORMAL PARAMETERS:
;  683          0775  2 !
;  684          0776  2 !       SOURCE                  Address of source descriptor.
;  685          0777  2 !       DESTINATION             Address of destination descriptor.
;  686          0778  2 !       OUTLEN                  Output length.  Optional parameter for this
;  687          0779  2 !                               routine to put the length of actual data (without padding) in.
;  688          0780  2 !                               This is used only when destination is of data
;  689          0781  2 !                               type T.
;  690          0782  2 !
;  691          0783  2 ! IMPLICIT INPUTS:
;  692          0784  2 !
;  693          0785  2 !       NONE
;  694          0786  2 !
;  695          0787  2 ! IMPLICIT OUTPUTS:
;  696          0788  2 !
;  697          0789  2 !       NONE
;  698          0790  2 !
;  699          0791  2 ! COMPLETION STATUS: (or ROUTINE VALUE:)
;  700          0792  2 !
;  701          0793  2 !       SS$_NORMAL      Normal successful completion
;  702          0794  2 !       LIB$_INVCVT     Invalid conversion
;  703          0795  2 !       LIB$_INTOVF     Integer overflow error
;  704          0796  2 !       LIB$_FLTOVF     Floating overflow
;  705          0797  2 !       LIB$_DECOVF     Packed decimal overflow
;  706          0798  2 !       LIB$_FLTUND     Floating underflow
;  707          0799  2 !       LIB$_ROPRAND    Reserved operand
;  708          0800  2 !       LIB$_INVNBDS    Invalid Numeric Byte Data String
;  709          0801  2 !       LIB$_INVCLADSC  Invalid class in descriptor
;  710          0802  2 !       LIB$_INVDTYDSC  Invalid data type in descriptor
;  711          0803  2 !       LIB$_INVCLADTY  Invalid class data type combination in descriptor
```

```
;  712          0804  2 !       LIB$_DESSTROVF  Output conversion error
;  713          0805  2 !       LIB$_OUTSTRTRU  Output string truncated
;  714          0806  2 !
;  715          0807  2 ! SIDE EFFECTS
;  716          0808  2 !       Every routine in this module turns on every arithmetic trap in PSW.
;  717          0809  2 !       Caller must have LIB$EMULATE as handler
;  718          0810  2 !       if any G, or H conversions are asked for.
;  719          0811  2 !
;  720          0812  2 !+
;  721          0813  2 ! LITERAL
;  722          0814  2 !-
;  723          0815  2
;  724          0816  2     LITERAL
;  725          0817  2 !+
;  726          0818  2 !Status returned by FIND_CVT_PATH.
;  727          0819  2 !-
;  728          0820  2         K_UNSCLAROU = -1,                       ! Unsupported CLASS by routine.
;  729          0821  2         K_UNSDTYROU = -2,                       ! Unsupported DATA TYPE by routine.
;  730          0822  2         K_UNSDESROU = -3,                       ! Unsupported descriptor by routine.
;  731          0823  2         K_UNSDESSTA = -4,                       ! Unsupported descriptor by standard.
;  732          0824  2         K_UNSCLASTA = -5,                       ! Unsupported CLASS by standard.
;  733          0825  2         K_UNSDTYSTA = -6,                       ! Unsupported DTYPE by standard
;  734          0826  2         K_INVNBDS = -7,                         ! Invalid NBDS
;  735          0827  2                                                 ! because either array size is larger
;  736          0828  2                                                 ! than a WU or it is not a one
;  737          0829  2                                                 ! dimensional array.
;  738          0830  2         K_SUPPORTED = 1,                        ! This descriptor is supported, and valid.
;  739          0831  2 !+
;  740          0832  2 !Literals used by all routines of this module.
;  741          0833  2 !-
;  742          0834  2         K_INTMED_DATA_LENGTH = 32,              ! Intermediate data buffer length
;  743          0835  2         K_LRGST_WU = 65535,
;  744          0836  2         K_LRGST_LU = 4294967295,                ! Largest unsigned longword.
;  745          0837  2         K_LRGST_NEG_L = -2147483648,            ! Largest negative longword.
;  746          0838  2 !+
;  747          0839  2 ! These are the values for the index to the main CASE statement.
;  748          0840  2 !-
;  749          0841  2         K_SMLINT_SMLINT = 1,
;  750          0842  2         K_SMLINT_LRGINT = 2,
;  751          0843  2         K_SMLINT_SMLFLT = 3,
;  752          0844  2         K_SMLINT_LRGFLT = 4,
;  753          0845  2         K_SMLINT_DEC = 5,
;  754          0846  2         K_SMLINT_NBDS = 6,
;  755          0847  2         K_LRGINT_SMLINT = 7,
;  756          0848  2         K_LRGINT_LRGINT = 8,
;  757          0849  2         K_LRGINT_SMLFLT = 9,
;  758          0850  2         K_LRGINT_LRGFLT = 10,
;  759          0851  2         K_LRGINT_DEC = 11,
;  760          0852  2         K_LRGINT_NBDS = 12,
;  761          0853  2         K_SMLFLT_SMLINT = 13,
;  762          0854  2         K_SMLFLT_LRGINT = 14,
;  763          0855  2         K_SMLFLT_SMLFLT = 15,
;  764          0856  2         K_SMLFLT_LRGFLT = 16,
;  765          0857  2         K_SMLFLT_DEC = 17,
;  766          0858  2         K_SMLFLT_NBDS = 18,
;  767          0859  2         K_LRGFLT_SMLINT = 19,
;  768          0860  2         K_LRGFLT_LRGINT = 20,
```

```
;  769          0861  2          K_LRGFLT_SMLFLT = 21,
;  770          0862  2          K_LRGFLT_LRGFLT = 22,
;  771          0863  2          K_LRGFLT_DEC = 23,
;  772          0864  2          K_LRGFLT_NBDS = 24,
;  773          0865  2          K_DEC_SMLINT = 25,
;  774          0866  2          K_DEC_LRGINT = 26,
;  775          0867  2          K_DEC_SMLFLT = 27,
;  776          0868  2          K_DEC_LRGFLT = 28,
;  777          0869  2          K_DEC_DEC = 29,
;  778          0870  2          K_DEC_NBDS = 30,
;  779          0871  2          K_NBDS_SMLINT = 31,
;  780          0872  2          K_NBDS_LRGINT = 32,
;  781          0873  2          K_NBDS_SMLFLT = 33,
;  782          0874  2          K_NBDS_LRGFLT = 34,
;  783          0875  2          K_NBDS_DEC = 35,
;  784          0876  2          K_NBDS_NBDS = 36,
;  785          0877  2  !+
;  786          0878  2  ! Length of these records in bytes.
;  787          0879  2  !-
;  788          0880  2          K_SRC_INFO_LENGTH = 8,
;  789          0881  2          K_DST_INFO_LENGTH = 8,
;  790          0882  2          K_TEMP_BUF_LENGTH = 50,
;  791          0883  2  !+
;  792          0884  2  ! Limits of numbers.
;  793          0885  2  !-
;  794          0886  2          K_LRGST_NEG_B = -128,
;  795          0887  2          K_LRGST_NEG_W = -32768,
;  796          0888  2          K_LRGST_B = 127,
;  797          0889  2          K_LRGST_W = 32767,
;  798          0890  2          K_LRGST_BU = 255,
;  799          0891  2          K_LRGST_L = 2147483647,
;  800          0892  2          K_PACK_LU_LEN = 10,
;  801          0893  2  !+
;  802          0894  2  ! Define bit patterns for calling OTS conversion routines.
;  803          0895  2  !-
;  804          0896  2          K_IGN_BLKS = 1,
;  805          0897  2          K_ENB_UNDERFLOW = 4,
;  806          0898  2          K_IGN_TABS = 16,
;  807          0899  2          K_ENB_SCALE = 64,
;  808          0900  2  !+
;  809          0901  2  ! Bit map to use to set all arithmetic traps
;  810          0902  2  !-
;  811          0903  2          K_SET_ARITHMETIC_TRAP = 32 + 64 + 128;
;  812          0904  2
;  813          0905  2  !
;  814          0906  2  ! BUILTIN
;  815          0907  2  !
;  816          0908  2
;  817          0909  2      BUILTIN
;  818          0910  2          CVTTP,
;  819          0911  2          CVTSP,
;  820          0912  2          CVTLF,
;  821          0913  2          CVTLD,
;  822          0914  2          CVTPT,
;  823          0915  2          CVTPS,
;  824          0916  2          CMPP,
;  825          0917  2          CMPD,
```

```
;  826     0918  2          CVTRDL,
;  827     0919  2          CVTRFL,
;  828     0920  2          CVTDF,
;  829     0921  2          CVTPL,
;  830     0922  2          CVTLP,
;  831     0923  2          BICPSW,
;  832     0924  2          BISPSW,
;  833     0925  2          TESTBITSC,
;  834     0926  2          MOVP,
;  835     0927  2          ACTUALCOUNT,
;  836     0928  2          ACTUALPARAMETER;
;  837     0929  2
;  838     0930  2  !+
;  839     0931  2  ! EXTERNAL REFERENCES:
;  840     0932  2  !-
;  841     0933  2
;  842     0934  2      EXTERNAL ROUTINE
;  843     0935  2          LIB$$FIND_CVT_PATH,
;  844     0936  2          LIB$STOP : NOVALUE,
;  845     0937  2          OTS$CVT_L_TI,
;  846     0938  2          OTS$CVT_T_D,
;  847     0939  2          OTS$CVT_T_G,
;  848     0940  2          OTS$CVT_T_H,
;  849     0941  2          FOR$CVT_D_TE,
;  850     0942  2          FOR$CVT_D_TF,
;  851     0943  2          FOR$CVT_H_TE,
;  852     0944  2          FOR$CVT_H_TF,
;  853     0945  2          LIB$SCOPY_R_DX6 : SCOPYR_JSB_R6,
;  854     0946  2          LIB$SCOPY_DXDX6 : SCOPY_JSB_R6,
;  855     0947  2          MTH$CVT_D_G : NOVALUE,
;  856     0948  2          CVTLB : JSB_R1 NOVALUE,
;  857     0949  2          CVTLW : JSB_R1 NOVALUE,
;  858     0950  2          CVTLH : JSB_R1 NOVALUE,
;  859     0951  2          CVTRHO : JSB_R1 NOVALUE,
;  860     0952  2          MULH2 : JSB_R1 NOVALUE,
;  861     0953  2          DIVH2 : JSB_R1 NOVALUE,
;  862     0954  2          CVTROUD : JSB_R1 NOVALUE,
;  863     0955  2          CVTROUH : JSB_R1 NOVALUE,
;  864     0956  2          CVTRDQ : JSB_R1 NOVALUE,
;  865     0957  2          CVTDH : JSB_R1 NOVALUE,
;  866     0958  2          CVTRHL : JSB_R1 NOVALUE,
;  867     0959  2          CVTRHQ : JSB_R1 NOVALUE,
;  868     0960  2          CVTHF : JSB_R1 NOVALUE,
;  869     0961  2          CVTHD : JSB_R1 NOVALUE,
;  870     0962  2          CVTHG : JSB_R1 NOVALUE,
;  871     0963  2          CVTGH : JSB_R1 NOVALUE,
;  872     0964  2          CMPH : JSB_RETRO_R1,
;  873     0965  2          LIB$$CVT_SCALE_OU_UP_BY_10_R1 : JSB_R0 NOVALUE,
;  874     0966  2          LIB$$CVT_SCALE_OU_DOWN_BY_10_R1 : JSB_R0 NOVALUE,
;  875     0967  2          MULD2 : JSB_R1 NOVALUE,
;  876     0968  2          DIVD2 : JSB_R1 NOVALUE,
;  877     0969  2          ASHP : JSB_R6 NOVALUE;
;  878     0970  2
;  879     0971  2  !+
;  880     0972  2  ! These are the translation tables used when translating from or to packed decimal.
;  881     0973  2  !-
;  882     0974  2
```

```
;  883          0975  2      EXTERNAL
;  884          0976  2          LIB$AB_CVTTP_U,
;  885          0977  2          LIB$AB_CVT_O_U,
;  886          0978  2          LIB$AB_CVTTP_O,
;  887          0979  2          LIB$AB_CVT_U_O,
;  888          0980  2          LIB$AB_CVTPT_U,
;  889          0981  2          LIB$AB_CVTPT_O,
;  890          0982  2          LIB$AB_CVTPT_Z,
;  891          0983  2          LIB$AB_CVTTP_Z;
;  892          0984  2
;  893          0985  2  !+
;  894          0986  2  ! FIELD DECLARATIONS
;  895          0987  2  !-
;  896          0988  2
;  897          0989  2      FIELD
;  898          0990  2          SRC_INFO_FIELDS =
;  899          0991  2              SET
;  900          0992  2              S_SCALE = [0, 0, 8, 1],
;  901          0993  2              S_POINTER = [1, 0, 32, 0],
;  902          0994  2              S_LEN = [5, 0, 16, 0],
;  903          0995  2              S_SIGN = [7, 0, 1, 0]
;  904          0996  2              TES;
;  905          0997  2
;  906          0998  2      FIELD
;  907          0999  2          DST_INFO_FIELDS =
;  908          1000  2              SET
;  909          1001  2              D_SCALE = [0, 0, 8, 1],
;  910          1002  2              D_LEN = [5, 0, 16, 0]
;  911          1003  2              TES;
;  912          1004  2
;  913          1005  2      LOCAL
;  914          1006  2  !+
;  915          1007  2  !Source information.  LIB$$FIND_CVT_PATH puts source information in this structure.
;  916          1008  2  !-
;  917          1009  2          SRC_INFO : BLOCK [K_SRC_INFO_LENGTH, BYTE] FIELD (SRC_INFO_FIELDS),
;  918          1010  2  !+
;  919          1011  2  !Destination information.  LIB$$FIND_CVT_PATH puts destination information in this structure.
;  920          1012  2  !-
;  921          1013  2          DST_INFO : BLOCK [K_DST_INFO_LENGTH, BYTE] FIELD (DST_INFO_FIELDS),
;  922          1014  2  !+
;  923          1015  2  !Intermediate data.  LIB$$FIND_CVT_PATH puts the intermediate data in this buffer.
;  924          1016  2  !-
;  925          1017  2          INTMED_DATA : BLOCK [K_INTMED_DATA_LENGTH, BYTE],
;  926          1018  2  !+
;  927          1019  2  !Temporary buffer 1.  Used by LIB$CVT_DX_DX to keep temporary data.
;  928          1020  2  !-
;  929          1021  2          TEMP_BUF1 : BLOCK [K_TEMP_BUF_LENGTH, BYTE],
;  930          1022  2  !+
;  931          1023  2  !Temporary buffer 2.  Used by LIB$CVT_DX_DX to keep temporary data.
;  932          1024  2  !-
;  933          1025  2          TEMP_BUF2 : BLOCK [K_TEMP_BUF_LENGTH, BYTE],
;  934          1026  2  !+
;  935          1027  2  !Class S descriptor.  A class S descriptor for any use.
;  936          1028  2  !-
;  937          1029  2          CLASS_S_DESC : BLOCK [8, BYTE],
;  938          1030  2  !+
;  939          1031  2  !Final length.  Length of actual data in TEMP_BUF2.
```

```
;  940          1032  2 !-
;  941          1033  2          FINAL_LEN,
;  942          1034  2 !+
;  943          1035  2 !Convert path.  The convert path calculated by LIB$$FIND_CVT_PATH.
;  944          1036  2 !-
;  945          1037  2          CVT_PATH,
;  946          1038  2 !+
;  947          1039  2 !Number of digits.  Number of digits of a decimal number.
;  948          1040  2 !-
;  949          1041  2          NO_DIGITS,
;  950          1042  2 !+
;  951          1043  2 !Digits in fraction.  Used for calling OTS$CVT_x_TE.
;  952          1044  2 !-
;  953          1045  2          DIGITS_IN_FRACT,
;  954          1046  2 !+
;  955          1047  2 !Various status returned by routines.
;  956          1048  2 !-
;  957          1049  2          STATUS,
;  958          1050  2 !+
;  959          1051  2 !largest LU in a packed decimal.
;  960          1052  2 !-
;  961          1053  2          LRGST_P_LU,
;  962          1054  2 !+
;  963          1055  2 !Largest LU in a double floating.
;  964          1056  2 !-
;  965          1057  2          LRGST_D_LU,
;  966          1058  2 !+
;  967          1059  2 !A zero in a packed decimal.
;  968          1060  2 !-
;  969          1061  2          PACK_ZERO,
;  970          1062  2 !+
;  971          1063  2 !Largest LU in a H floating.
;  972          1064  2 !-
;  973          1065  2          LRGST_H_LU,
;  974          1066  2 !+
;  975          1067  2 !This is an offset to the actual data in TEMP_BUF(1 : 2).
;  976          1068  2 !-
;  977          1069  2          BUF_OFFSET,
;  978          1070  2 !+
;  979          1071  2 !For simplicity purposes we will set this to be the address of destination data
;  980          1072  2 !-
;  981          1073  2          OUTPUT,
;  982          1074  2 !+
;  983          1075  2 !Output string length.  The optional parameter to indicate length of actual
;  984          1076  2 !string that has been written to destination.
;  985          1077  2 !-
;  986          1078  2          OUTPUT_STR_LEN,
;  987          1079  2 !+
;  988          1080  2 !The effective scale.  source scale minus destination scale.
;  989          1081  2 !-
;  990          1082  2          SCALE;
;  991          1083  2
;  992          1084  2      MAP
;  993          1085  2          OUTPUT : REF BLOCK [, BYTE],
;  994          1086  2          SOURCE : REF BLOCK [, BYTE],
;  995          1087  2          DESTINATION : REF BLOCK [, BYTE];
;  996          1088  2
```

```
;  997          1089  2 !+
;  998          1090  2 ! Establish CVT_HANDLER as handler.
;  999          1091  2 !-
; 1000          1092  2
; 1001          1093  2     ENABLE
; 1002          1094  2         CVT_HANDLER;
; 1003          1095  2
; 1004          1096  2 !+
; 1005          1097  2 ! OUTPUT is used through out the main case statement to indicate the destination
; 1006          1098  2 ! of the converted data.
; 1007          1099  2 !-
; 1008          1100  2     OUTPUT = .DESTINATION [DSC$A_POINTER];
; 1009          1101  2 !+
; 1010          1102  2 ! Zero out these records for LIB$$FIND_CVT_PATH.
; 1011          1103  2 !-
; 1012          1104  2     CH$FILL (0, K_SRC_INFO_LENGTH, SRC_INFO);
; 1013          1105  2     CH$FILL (0, K_DST_INFO_LENGTH, DST_INFO);
; 1014          1106  2     CH$FILL (0, K_INTMED_DATA_LENGTH, INTMED_DATA);
; 1015          1107  2     CH$FILL (%C' ', K_TEMP_BUF_LENGTH, TEMP_BUF1);
; 1016          1108  2     CH$FILL (%C' ', K_TEMP_BUF_LENGTH, TEMP_BUF2);
; 1017          1109  2     OUTPUT_STR_LEN = 0;
; 1018          1110  2 !+
; 1019          1111  2 ! This descriptor is always class S, dtype T.
; 1020          1112  2 ! It is used on various occasions to call routines that require descriptors for
; 1021          1113  2 ! their parameters.
; 1022          1114  2 !-
; 1023          1115  2     CLASS_S_DESC [DSC$B_DTYPE] = DSC$K_DTYPE_T;
; 1024          1116  2     CLASS_S_DESC [DSC$B_CLASS] = DSC$K_CLASS_S;
; 1025          1117  2 !+
; 1026          1118  2 ! Initialize some constants
; 1027          1119  2 !-
; 1028          1120  2     LRGST_P_LU = UPLIT (%P'+4294967295');
; 1029          1121  2     LRGST_D_LU = UPLIT (%D'+4294967295');
; 1030          1122  2     LRGST_H_LU = UPLIT (%H'+4294967295');
; 1031          1123  2     PACK_ZERO = UPLIT (%P'+0');
; 1032          1124  2 !+
; 1033          1125  2 ! SRC_INFO structure will contain the information about the source data, but in
; 1034          1126  2 ! most cases it points to the INTMED_DATA buffer because the source data is
; 1035          1127  2 ! usually converted to an intermidiate data, so before calling LIB$$FIND_CVT_PATH we
; 1036          1128  2 ! will set up the pointer and length fields of SRC_INFO to be INTMED_DATA.
; 1037          1129  2 !-
; 1038          1130  2     SRC_INFO [S_POINTER] = INTMED_DATA;
; 1039          1131  2     SRC_INFO [S_LEN] = K_INTMED_DATA_LENGTH;
; 1040          1132  2 !+
; 1041          1133  2 ! This MACRO is used to test out the LIB$$FIND_CVT_PATH routine, so in a working
; 1042          1134  2 ! module this macro is commented out.
; 1043          1135  2 !-
; 1044          1136  2 !    M_TEST_LIB$$FIND_CVT_PATH
; 1045          1137  2 !+
; 1046          1138  2 ! Lets call LIB$$FIND_CVT_PATH to get SRC_INFO, and DST_INFO all filled out with information
; 1047          1139  2 ! about SOURCE and DESTINATION.
; 1048          1140  2 ! The output parameter CVT_PATH will contain the conversion path when we return.
; 1049          1141  2 !-
; 1050          1142  2     STATUS = LIB$$FIND_CVT_PATH (.SOURCE, .DESTINATION, SRC_INFO, DST_INFO, CVT_PATH);
; 1051          1143  2 !+
; 1052          1144  2 ! If we got an error returned to us by LIB$$FIND_CVT_PATH, it means that one of the
; 1053          1145  2 ! descriptors SOURCE, or DESTINATION was invalid to this routine.
```

```
;  1054          1146  2 ! All errors are negative values.  They are listed in the completion status
;  1055          1147  2 ! section of LIB$$FIND_CVT_PATH.  Although we get a variety of errors; from -1 to -7
;  1056          1148  2 ! we will do some overlaping of errors.
;  1057          1149  2 !-
;  1058          1150  2
;  1059          1151  2     IF .STATUS LSS 0
;  1060          1152  2     THEN
;  1061          1153  3         BEGIN
;  1062          1154  3
;  1063          1155  3         CASE .STATUS FROM K_INVNBDS TO K_UNSCLAROU OF
;  1064          1156  3             SET
;  1065          1157  3
;  1066          1158  3             [K_UNSDTYSTA, K_UNSDTYROU] :
;  1067          1159  3                 RETURN (LIB$_INVDTYDSC);
;  1068          1160  3
;  1069          1161  3             [K_UNSCLASTA, K_UNSCLAROU] :
;  1070          1162  3                 RETURN (LIB$_INVCLADSC);
;  1071          1163  3
;  1072          1164  3             [K_UNSDESSTA, K_UNSDESROU] :
;  1073          1165  3                 RETURN (LIB$_INVCLADTY);
;  1074          1166  3
;  1075          1167  3             [K_INVNBDS] :
;  1076          1168  3                 RETURN (LIB$_INVNBDS);
;  1077          1169  3             TES;
;  1078          1170  3
;  1079          1171  2         END;
;  1080          1172  2
;  1081          1173  2 !+
;  1082          1174  2 ! Enable all arithmetic traps, and figure out the scale fator to be used by
;  1083          1175  2 ! the main CASE statement below.
;  1084          1176  2 !-
;  1085          1177  2     BISPSW (%REF (K_SET_ARITHMETIC_TRAP));
;  1086          1178  2     SCALE = .SRC_INFO [S_SCALE] - .DST_INFO [D_SCALE];
;  1087          1179  2 !<BLF/PAGE>
```

```
; 1089          1180  2 !+
; 1090          1181  2 ! Now that we have SRC_INFO, and DST_INFO structures, and CVT_PATH available,
; 1091          1182  2 ! and source data has been converted to an intermediate data, we will
; 1092          1183  2 ! go from intermediate data that LIB$$FIND_CVT_PATH provided to
; 1093          1184  2 ! a scale intermediate data type, to the actual data type that our caller desired.
; 1094          1185  2 !
; 1095          1186  2 ! The following explains the objective of the conversions :
; 1096          1187  2 !
; 1097          1188  2 !       The objective is to convert from intermediate data type provided by
; 1098          1189  2 !       LIB$$FIND_CVT_PATH routine to the data type that the user has requested in
; 1099          1190  2 !       the destination descriptor.
; 1100          1191  2 !
; 1101          1192  2 !       The intermediate data is in INTMED_DATA, except for when source is
; 1102          1193  2 !       of data type T.  LIB$$FIND_CVT_PATH did not convert or transferred the T
; 1103          1194  2 !       data types, so the intermediate data for this data type is described
; 1104          1195  2 !       by the SOURCE descriptor itself.
; 1105          1196  2 !
; 1106          1197  2 !       The first step is to scale the intermediate data.  This scale is
; 1107          1198  2 !       calculated as :    SCALE = (source scale) - (destination scale).
; 1108          1199  2 !       Scaling cannot always be done on the intermediate data, because
; 1109          1200  2 !       it may under/over flow it, so scaling is done on either the intermediate
; 1110          1201  2 !       or the higest data type of the category that the destination data type
; 1111          1202  2 !       falls in.  The data type with greater range is always selected.
; 1112          1203  2 !       Caution is taken not to select a scaling intermediate
; 1113          1204  2 !       data type that requires G, H, or O instructions, unless source or
; 1114          1205  2 !       destination is of these types.
; 1115          1206  2 !       At the beginning of each sub_case statement a macro is placed to go
; 1116          1207  2 !       from intermediate data type to scaling intermediate data type.
; 1117          1208  2 !       Regardless of whether there is scaling involved or not the intermediate
; 1118          1209  2 !       data type is converted to scaling intermediate data type.
; 1119          1210  2 !       The scaled intermediate data will again end up in INTMED_DATA buffer.
; 1120          1211  2 !
; 1121          1212  2 !       Macros that do this scaling are called M_SCALE_x_y which means convert
; 1122          1213  2 !       x to y and the result value in y is scaled according to the scale specified
; 1123          1214  2 !       in source and destination descriptors.
; 1124          1215  2 !
; 1125          1216  2 !       The next step is to convert the scaled intermediate data to destination
; 1126          1217  2 !       data type and move it to the destination as specified by descriptor.
; 1127          1218  2 !       This is done as close to a 'interrupt proof' manner as possible.
; 1128          1219  2 !       Since only NBDS can be of semantics other than fixed, only in case of
; 1129          1220  2 !       NBDS (or just text) destination is copied to via LIB$SCOPY_x.
; 1130          1221  2 !
; 1131          1222  2 !       PSW is masked such that IV, FU, DV bits are set.
; 1132          1223  2 !
; 1133          1224  2 !-
; 1134          1225  2
; 1135          1226  2     CASE .CVT_PATH FROM K_SMLINT_SMLINT TO K_NBDS_NBDS OF
; 1136          1227  2         SET
; 1137          1228  2 !<BLF/PAGE>
```

```
;  1139          1229  2
;  1140          1230  2          [K_SMLINT_SMLINT] :
;  1141          1231  3              BEGIN
;  1142          1232  3              M_SCALE_L_L;
;  1143          1233  3
;  1144          1234  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_BU TO DSC$K_DTYPE_L OF
;  1145          1235  3                  SET
;  1146          1236  3
;  1147          1237  3                  [DSC$K_DTYPE_BU] :
;  1148          1238  4                      BEGIN
;  1149          1239  4
;  1150          1240  4                      IF .INTMED_DATA [S_LONG_1] LSS 0 THEN RETURN (LIB$_INVCVT);
;  1151          1241  4
;  1152          1242  4                      IF (OUTPUT [BYTE_1] = .INTMED_DATA [LONG_1]) GTRU K_LRGST_BU THEN RETURN (LIB$_INTOVF);
;  1153          1243  4
;  1154          1244  3                      END;
;  1155          1245  3
;  1156          1246  3                  [DSC$K_DTYPE_WU] :
;  1157          1247  4                      BEGIN
;  1158          1248  4
;  1159          1249  4                      IF .INTMED_DATA [LONG_1] LSS 0 THEN RETURN (LIB$_INVCVT);
;  1160          1250  4
;  1161          1251  4                      IF (OUTPUT [WORD_1] = .INTMED_DATA [S_LONG_1]) GTRU K_LRGST_WU THEN RETURN (LIB$_INTOVF)
;  1162          1252  4
;  1163          1253  3                      END;
;  1164          1254  3
;  1165          1255  3                  [DSC$K_DTYPE_B] :
;  1166          1256  3                      CVTLB (INTMED_DATA, .OUTPUT);
;  1167          1257  3
;  1168          1258  3                  [DSC$K_DTYPE_W] :
;  1169          1259  3                      CVTLW (INTMED_DATA, .OUTPUT);
;  1170          1260  3
;  1171          1261  3                  [DSC$K_DTYPE_L] :
;  1172          1262  3                      OUTPUT [LONG_1] = .INTMED_DATA [S_LONG_1];
;  1173          1263  3
;  1174          1264  3                  [INRANGE, OUTRANGE] :
;  1175          1265  3                      RETURN (LIB$_FATERRLIB);
;  1176          1266  3                  TES;                                !For SMLINT_SMLINT
;  1177          1267  3
;  1178          1268  2              END;
;  1179          1269  2 !<BLF/PAGE>
```

```
;  1181          1270  2
;  1182          1271  2          [K_SMLINT_LRGINT, K_LRGINT_LRGINT] :
;  1183          1272  3              BEGIN
;  1184          1273  3
;  1185          1274  3              SELECTONE .CVT_PATH OF
;  1186          1275  3                  SET
;  1187          1276  3
;  1188          1277  3                  [K_SMLINT_LRGINT] :
;  1189          1278  4                      BEGIN
;  1190          1279  4                      M_SCALE_L_OU;
;  1191          1280  3                      END;
;  1192          1281  3
;  1193          1282  3                  [K_LRGINT_LRGINT] :
;  1194          1283  4                      BEGIN
;  1195          1284  4                      M_SCALE_OU_OU;
;  1196          1285  3                      END;
;  1197          1286  3                  TES;
;  1198          1287  3
;  1199          1288  3              SELECTONE .DESTINATION [DSC$B_DTYPE] OF
;  1200          1289  3                  SET
;  1201          1290  3
;  1202          1291  3                  [DSC$K_DTYPE_LU] :
;  1203          1292  4                      BEGIN
;  1204          1293  4
;  1205          1294  4                      IF .SRC_INFO [S_SIGN] THEN RETURN (LIB$_INVCVT);
;  1206          1295  4
;  1207          1296  4                      IF (.INTMED_DATA [LONG_2] OR .INTMED_DATA [LONG_3] OR .INTMED_DATA [LONG_4]) NEQ 0
;  1208          1297  4                      THEN
;  1209          1298  4                          RETURN (LIB$_INTOVF);
;  1210          1299  4
;  1211          1300  4                      OUTPUT [LONG_1] = .INTMED_DATA [LONG_1];
;  1212          1301  3                      END;
;  1213          1302  3
;  1214          1303  3                  [DSC$K_DTYPE_Q] :
;  1215          1304  4                      BEGIN
;  1216          1305  4
;  1217          1306  4                      IF (.INTMED_DATA [LONG_3] OR .INTMED_DATA [LONG_4] OR .INTMED_DATA [4, 31, 1, 0]) NEQ 0
;  1218          1307  4                      THEN
;  1219          1308  4                          RETURN (LIB$_INTOVF);
;  1220          1309  4
;  1221          1310  4                      IF .SRC_INFO [S_SIGN]
;  1222          1311  4                      THEN
;  1223          1312  5                          BEGIN
;  1224          1313  5                          INTMED_DATA [LONG_1] = .INTMED_DATA [LONG_1] XOR %X'FFFFFFFF';
;  1225          1314  5                          INTMED_DATA [LONG_2] = .INTMED_DATA [LONG_2] XOR %X'FFFFFFFF';
;  1226          1315  5
;  1227          1316  5                          IF .INTMED_DATA [LONG_1] EQLU %X'FFFFFFFF'
;  1228          1317  5                          THEN
;  1229          1318  6                              BEGIN
;  1230          1319  6                              INTMED_DATA [LONG_1] = 0;
;  1231          1320  6                              INTMED_DATA [LONG_2] = .INTMED_DATA [LONG_2] + 1;
;  1232          1321  6                              END
;  1233          1322  5                          ELSE
;  1234          1323  5                              INTMED_DATA [LONG_1] = .INTMED_DATA [LONG_1] + 1;
;  1235          1324  5
;  1236          1325  4                          END;
;  1237          1326  4
```

```
;  1238          1327  4                    OUTPUT [LONG_1] = .INTMED_DATA [LONG_1];
;  1239          1328  4                    OUTPUT [LONG_2] = .INTMED_DATA [LONG_2];
;  1240          1329  3                    END;
;  1241          1330  3
;  1242          1331  3                [OTHERWISE] :
;  1243          1332  3                    RETURN (LIB$_FATERRLIB);
;  1244          1333  3                TES;                                !For SMLINT_LRGINT, LRGINI_LRGINT.
;  1245          1334  3
;  1246          1335  2            END;
;  1247          1336  2 !<BLF/PAGE>
```

```
;  1249          1337  2
;  1250          1338  2          [K_SMLINT_SMLFLT, K_LRGINT_SMLFLT, K_SMLFLT_SMLFLT, K_DEC_SMLFLT, K_NBDS_SMLFLT] :
;  1251          1339  3              BEGIN
;  1252          1340  3
;  1253          1341  3              SELECTONE .CVT_PATH OF
;  1254          1342  3                  SET
;  1255          1343  3
;  1256          1344  3                  [K_SMLINT_SMLFLT] :
;  1257          1345  4                      BEGIN
;  1258          1346  4                      M_SCALE_L_D;
;  1259          1347  3                      END;
;  1260          1348  3
;  1261          1349  3                  [K_LRGINT_SMLFLT] :
;  1262          1350  4                      BEGIN
;  1263          1351  4                      M_SCALE_QU_D;
;  1264          1352  3                      END;
;  1265          1353  3
;  1266          1354  3                  [K_SMLFLT_SMLFLT] :
;  1267          1355  4                      BEGIN
;  1268          1356  4                      M_SCALE_D_D;
;  1269          1357  3                      END;
;  1270          1358  3
;  1271          1359  3                  [K_DEC_SMLFLT] :
;  1272          1360  4                      BEGIN
;  1273          1361  4                      M_SCALE_P_D;
;  1274          1362  3                      END;
;  1275          1363  3
;  1276          1364  3                  [K_NBDS_SMLFLT] :
;  1277          1365  4                      BEGIN
;  1278          1366  4                      CLASS_S_DESC [DSC$W_LENGTH] = .SRC_INFO [S_LEN];
;  1279          1367  4                      CLASS_S_DESC [DSC$A_POINTER] = .SRC_INFO [S_POINTER];
;  1280          1368  4                      STATUS = OTS$CVT_T_D (CLASS_S_DESC, INTMED_DATA, 0, -.SCALE,
;  1281          1369  4                          (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
;  1282          1370  4
;  1283          1371  4                      IF NOT .STATUS THEN RETURN (LIB$_INVNBDS);
;  1284          1372  4
;  1285          1373  3                      END;
;  1286          1374  3                  TES;
;  1287          1375  3
;  1288          1376  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_F TO DSC$K_DTYPE_D OF
;  1289          1377  3                  SET
;  1290          1378  3
;  1291          1379  3                  [DSC$K_DTYPE_F] :
;  1292          1380  4                      BEGIN
;  1293          1381  4                      CVTDF (INTMED_DATA, .OUTPUT);
;  1294          1382  4
;  1295          1383  4                      IF .SRC_INFO [S_SIGN] THEN OUTPUT [0, 15, 1, 0] = 1;
;  1296          1384  4
;  1297          1385  3                      END;
;  1298          1386  3
;  1299          1387  3                  [DSC$K_DTYPE_D] :
;  1300          1388  4                      BEGIN
;  1301          1389  4                      OUTPUT [LONG_1] = .INTMED_DATA [LONG_1];
;  1302          1390  4                      OUTPUT [LONG_2] = .INTMED_DATA [LONG_2];
;  1303          1391  4
;  1304          1392  4                      IF .SRC_INFO [S_SIGN] THEN OUTPUT [0, 15, 1, 0] = 1;
;  1305          1393  4
```

```
;  1306          1394  3                      END;
;  1307          1395  3
;  1308          1396  3                  [INRANGE, OUTRANGE] :
;  1309          1397  3                      RETURN (LIB$_FATERRLIB);
;  1310          1398  3                  TES;            !For SMLINT_SMLFLT, LRGINT_SMLFLT, SMLFLT_SMLFLT, DEC_SMLFLT, NBDS_SMLFLT.
;  1311          1399  3
;  1312          1400  2              END;
;  1313          1401  2 !<BLF/PAGE>
```

```
;  1315          1402  2
;  1316          1403  2          [K_SMLINT_LRGFLT, K_LRGINT_LRGFLT, K_SMLFLT_LRGFLT, K_LRGFLT_LRGFLT, K_DEC_LRGFLT] :
;  1317          1404  3              BEGIN
;  1318          1405  3
;  1319          1406  3              SELECTONE .CVT_PATH OF
;  1320          1407  3                  SET
;  1321          1408  3
;  1322          1409  3                  [K_SMLINT_LRGFLT] :
;  1323          1410  4                      BEGIN
;  1324          1411  4                      M_SCALE_L_H;
;  1325          1412  3                      END;
;  1326          1413  3
;  1327          1414  3                  [K_LRGINT_LRGFLT] :
;  1328          1415  4                      BEGIN
;  1329          1416  4                      M_SCALE_OU_H;
;  1330          1417  3                      END;
;  1331          1418  3
;  1332          1419  3                  [K_SMLFLT_LRGFLT] :
;  1333          1420  4                      BEGIN
;  1334          1421  4                      M_SCALE_D_H;
;  1335          1422  3                      END;
;  1336          1423  3
;  1337          1424  3                  [K_LRGFLT_LRGFLT] :
;  1338          1425  4                      BEGIN
;  1339          1426  4                      M_SCALE_H_H;
;  1340          1427  3                      END;
;  1341          1428  3
;  1342          1429  3                  [K_DEC_LRGFLT] :
;  1343          1430  4                      BEGIN
;  1344          1431  4                      M_SCALE_P_H;
;  1345          1432  3                      END;
;  1346          1433  3                  TES;
;  1347          1434  3
;  1348          1435  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_G TO DSC$K_DTYPE_H OF
;  1349          1436  3                  SET
;  1350          1437  3
;  1351          1438  3                  [DSC$K_DTYPE_G] :
;  1352          1439  4                      BEGIN
;  1353          1440  4                      CVTHG (INTMED_DATA, .OUTPUT);
;  1354          1441  4
;  1355          1442  4                      IF .SRC_INFO [S_SIGN] THEN OUTPUT [0, 15, 1, 0] = 1;
;  1356          1443  4
;  1357          1444  3                      END;
;  1358          1445  3
;  1359          1446  3                  [DSC$K_DTYPE_H] :
;  1360          1447  4                      BEGIN
;  1361          1448  4                      CH$MOVE (16, INTMED_DATA, .OUTPUT);
;  1362          1449  4
;  1363          1450  4                      IF .SRC_INFO [S_SIGN] THEN OUTPUT [0, 15, 1, 0] = 1;
;  1364          1451  4
;  1365          1452  3                      END;
;  1366          1453  3
;  1367          1454  3                  [INRANGE, OUTRANGE] :
;  1368          1455  3                      RETURN (LIB$_FATERRLIB);
;  1369          1456  3                  TES;            !For SMLINT_LRGFLT, LRGINT_LRGFLT, SMLFLT_LRGFLT, LRGFLT_LRGFLT, DEC_LRGFLT.
;  1370          1457  3
;  1371          1458  2              END;
```

; 1372 1459 2 !<BLF/PAGE>

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; 1374          1460  2
; 1375          1461  2         [K_SMLINT_DEC, K_DEC_DEC] :
; 1376          1462  3             BEGIN
; 1377          1463  3
; 1378          1464  3             SELECTONE .CVT_PATH OF
; 1379          1465  3                 SET
; 1380          1466  3
; 1381          1467  3                 [K_SMLINT_DEC] :
; 1382          1468  4                     BEGIN
; 1383          1469  4                     M_SCALE_L_P;
; 1384          1470  3                     END;
; 1385          1471  3
; 1386          1472  3                 [K_DEC_DEC] :
; 1387          1473  4                     BEGIN
; 1388          1474  4                     M_SCALE_P_P;
; 1389          1475  3                     END;
; 1390          1476  3                 TES;
; 1391          1477  3
; 1392          1478  3             CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_NU TO DSC$K_DTYPE_P OF
; 1393          1479  3                 SET
; 1394          1480  3
; 1395          1481  3                 [DSC$K_DTYPE_NU] :
; 1396          1482  4                     BEGIN
; 1397          1483  4
; 1398          1484  4                     IF .SRC_INFO [S_SIGN] THEN RETURN (LIB$_INVCVT);
; 1399          1485  4
; 1400          1486  4                     CVTPT (NO_DIGITS, INTMED_DATA, LIB$AB_CVTPT_U, DESTINATION [DSC$W_LENGTH], .OUTPUT);
; 1401          1487  3                     END;
; 1402          1488  3
; 1403          1489  3                 [DSC$K_DTYPE_NL] :
; 1404          1490  3                     CVTPS (NO_DIGITS, INTMED_DATA,
; 1405          1491  3                         %REF (
; 1406          1492  3
; 1407          1493  3                             IF .DESTINATION [DSC$W_LENGTH] EQL 0 THEN 0 ELSE .DESTINATION [DSC$W_LENGTH] - 1
; 1408          1494  3
; 1409          1495  3                     , .OUTPUT);
; 1410          1496  3
; 1411          1497  3                 [DSC$K_DTYPE_NLO] :
; 1412          1498  4                     BEGIN
; 1413          1499  4                     CVTPT (NO_DIGITS, INTMED_DATA, LIB$AB_CVTPT_U, DESTINATION [DSC$W_LENGTH], TEMP_BUF1);
; 1414          1500  6                     TEMP_BUF1 [BYTE_1] = (IF .SRC_INFO [S_SIGN] THEN .(.TEMP_BUF1 [BYTE_1] + LIB$AB_CVT_U_O
; 1415          1501  4                         48 + 10) ELSE .(.TEMP_BUF1 [BYTE_1] + LIB$AB_CVT_U_O - 48));
; 1416          1502  4                     CH$MOVE (.DESTINATION [DSC$W_LENGTH], TEMP_BUF1, .OUTPUT);
; 1417          1503  3                     END;
; 1418          1504  3
; 1419          1505  3                 [DSC$K_DTYPE_NR] :
; 1420          1506  4                     BEGIN
; 1421          1507  4
; 1422          1508  4                     LOCAL
; 1423          1509  4                         DES_LEN,
; 1424          1510  4
; 1425          1511  4                     DES_LEN =
; 1426          1512  5                     BEGIN
; 1427          1513  5
; 1428          1514  5                     IF .DESTINATION [DSC$W_LENGTH] EQL 0 THEN 0 ELSE .DESTINATION [DSC$W_LENGTH] - 1
; 1429          1515  5
; 1430          1516  4                     END;
```

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; 1431          1517  4                   CVTPS (NO_DIGITS, INTMED_DATA, DES_LEN, TEMP_BUF1);
; 1432          1518  4                   BLOCK [INTMED_DATA + .DES_LEN, 0, 0, 8, 0;, BYTE] = .TEMP_BUF1 [BYTE_1];
; 1433          1519  4                   CH$MOVE (.DES_LEN, TEMP_BUF1 + 1, INTMED_DATA);
; 1434          1520  4                   CH$MOVE (.DES_LEN + 1, INTMED_DATA, .OUTPUT);
; 1435          1521  3                   END;
; 1436          1522  3
; 1437          1523  3               [DSC$K_DTYPE_NRO, DSC$K_DTYPE_NZ] :
; 1438          1524  3                   CVTPT (NO_DIGITS, INTMED_DATA,
; 1439          1525  4                       (IF .DESTINATION [DSC$B_DTYPE] EQL DSC$K_DTYPE_NRO THEN LIB$AB_CVTPT_0 ELSE
; 1440          1526  3                           LIB$AB_CVTPT_Z), DESTINATION [DSC$W_LENGTH], .OUTPUT);
; 1441          1527  3
; 1442          1528  3               [DSC$K_DTYPE_P] :
; 1443          1529  4                   BEGIN
; 1444          1530  4                   CVTPS (NO_DIGITS, INTMED_DATA, DESTINATION [DSC$W_LENGTH], TEMP_BUF1);
; 1445          1531  4                   CVTSP (DESTINATION [DSC$W_LENGTH], TEMP_BUF1, DESTINATION [DSC$W_LENGTH], .OUTPUT);
; 1446          1532  3                   END;
; 1447          1533  3
; 1448          1534  3               [INRANGE, OUTRANGE] :
; 1449          1535  3                   RETURN (LIB$_FATERRLIB);
; 1450          1536  3               TES;                                !For SMLINT_DEC, DEC_DEC
; 1451          1537  3
; 1452          1538  2           END;
; 1453          1539  2 !<BLF/PAGE>
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;  1455          1540  2
;  1456          1541  2          [K_LRGINT_SMLINT] :
;  1457          1542  2              BEGIN
;  1458          1543  2              M_SCALE_OU_OU;
;  1459          1544  2
;  1460          1545  2              IF (.INTMED_DATA [LONG_2] OR .INTMED_DATA [LONG_3] OR .INTMED_DATA [LONG_4]) NEQ 0
;  1461          1546  2              THEN
;  1462          1547  2                  RETURN (LIB$_INTOVF);
;  1463          1548  2
;  1464          1549  2              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_BU TO DSC$K_DTYPE_L OF
;  1465          1550  2                  SET
;  1466          1551  2
;  1467          1552  2                  [DSC$K_DTYPE_BU] :
;  1468          1553  4                      BEGIN
;  1469          1554  4
;  1470          1555  4                      IF .SRC_INFO [S_SIGN] THEN RETURN (LIB$_INVCVT);
;  1471          1556  4
;  1472          1557  4                      IF .INTMED_DATA [BYTE_2] OR .INTMED_DATA [WORD_2] NEQ 0 THEN RETURN (LIB$_INTOVF);
;  1473          1558  4
;  1474          1559  4                      OUTPUT [BYTE_1] = .INTMED_DATA [LONG_1];
;  1475          1560  3                      END;
;  1476          1561  3
;  1477          1562  3                  [DSC$K_DTYPE_WU] :
;  1478          1563  4                      BEGIN
;  1479          1564  4
;  1480          1565  4                      IF .SRC_INFO [S_SIGN] THEN RETURN (LIB$_INVCVT);
;  1481          1566  4
;  1482          1567  4                      IF .INTMED_DATA [WORD_2] NEQ 0 THEN RETURN (LIB$_INTOVF);
;  1483          1568  4
;  1484          1569  4                      OUTPUT [WORD_1] = .INTMED_DATA [LONG_1];
;  1485          1570  3                      END;
;  1486          1571  3
;  1487          1572  3                  [DSC$K_DTYPE_B] :
;  1488          1573  4                      BEGIN
;  1489          1574  4
;  1490          1575  4                      IF .INTMED_DATA [S_LONG_1] LSS 0 THEN RETURN (LIB$_INTOVF);
;  1491          1576  4
;  1492          1577  4                      IF .SRC_INFO [S_SIGN] THEN INTMED_DATA [LONG_1] = -.INTMED_DATA [S_LONG_1];
;  1493          1578  4
;  1494          1579  4                      CVTLB (INTMED_DATA, .OUTPUT);
;  1495          1580  3                      END;
;  1496          1581  3
;  1497          1582  3                  [DSC$K_DTYPE_W] :
;  1498          1583  4                      BEGIN
;  1499          1584  4
;  1500          1585  4                      IF .INTMED_DATA [S_LONG_1] LSS 0 THEN RETURN (LIB$_INTOVF);
;  1501          1586  4
;  1502          1587  4                      IF .SRC_INFO [S_SIGN] THEN INTMED_DATA [LONG_1] = -.INTMED_DATA [S_LONG_1];
;  1503          1588  4
;  1504          1589  4                      CVTLW (INTMED_DATA, .OUTPUT);
;  1505          1590  3                      END;
;  1506          1591  3
;  1507          1592  3                  [DSC$K_DTYPE_L] :
;  1508          1593  4                      BEGIN
;  1509          1594  4
;  1510          1595  4                      IF .INTMED_DATA [S_LONG_1] EQL K_LRGST_NEG_L AND .SRC_INFO [S_SIGN] EQL 1
;  1511          1596  4                      THEN
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```
;  1512          1597  4                          OUTPUT [LONG_1] = .INTMED_DATA [S_LONG_1]
;  1513          1598  4                      ELSE
;  1514          1599  5                          BEGIN
;  1515          1600  5
;  1516          1601  5                          IF .INTMED_DATA [S_LONG_1] LSS 0 THEN RETURN (LIB$_INTOVF);
;  1517          1602  5
;  1518          1603  5                          IF .SRC_INFO [S_SIGN] THEN INTMED_DATA [LONG_1] = -.INTMED_DATA [S_LONG_1];
;  1519          1604  5
;  1520          1605  5                          OUTPUT [LONG_1] = .INTMED_DATA [S_LONG_1];
;  1521          1606  4                          END;
;  1522          1607  4
;  1523          1608  3                      END;
;  1524          1609  3
;  1525          1610  3                  [INRANGE, OUTRANGE] :
;  1526          1611  3                      RETURN (LIB$_FATERRLIB);
;  1527          1612  3                  TES;                                !For LRGINT_SMLINT
;  1528          1613  3
;  1529          1614  2              END;
;  1530          1615  2 !<BLF/PAGE>
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; 1532          1616  2
; 1533          1617  2         [K_LRGINT_DEC, K_SMLFLT_DEC, K_LRGFLT_DEC, K_NBDS_DEC] :
; 1534          1618  3             BEGIN
; 1535          1619  3             CLASS_S_DESC [DSC$W_LENGTH] = K_TEMP_BUF_LENGTH;
; 1536          1620  3             CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF2;
; 1537          1621  3
; 1538          1622  3             SELECTONE .CVT_PATH OF
; 1539          1623  3                 SET
; 1540          1624  3
; 1541          1625  3                 [K_LRGINT_DEC] :
; 1542          1626  4                     BEGIN
; 1543          1627  4                     CVTROUH (INTMED_DATA, TEMP_BUF1);
; 1544          1628  4
; 1545          1629  4                     IF .SRC_INFO [S_SIGN] THEN TEMP_BUF1<15, 1, 0> = 1;
; 154?          1630  4
; 154?          1631  4                     STATUS = FOR$CVT_H_TF (TEMP_BUF1, CLASS_S_DESC, 0, .SCALE, 0, 0, 1);
; 1548          1632  3                     END;
; 1549          1633  3
; 1550          1634  3                 [K_SMLFLT_DEC] :
; 1551          1635  4                     BEGIN
; 1552          1636  4
; 1553          1637  4                     IF .INTMED_DATA<15, 1, 0> THEN SRC_INFO [S_SIGN] = 1;
; 155?          1638  4
; 1555          1639  4                     STATUS = FOR$CVT_D_TF (INTMED_DATA, CLASS_S_DESC, 0, .SCALE, 0, 0, 1);
; 1556          1640  3                     END;
; 1557          1641  3
; 1558          1642  3                 [K_LRGFLT_DEC] :
; 1559          1643  4                     BEGIN
; 1560          1644  4
; 1561          1645  4                     IF .INTMED_DATA<15, 1, 0> THEN SRC_INFO [S_SIGN] = 1;
; 1562          1646  4
; 1563          1647  4                     STATUS = FOR$CVT_H_TF (INTMED_DATA, CLASS_S_DESC, 0, .SCALE, 0, 0, 1);
; 1564          1648  3                     END;
; 1565          1649  3
; 1566          1650  3                 [K_NBDS_DEC] :
; 1567          1651  4                     BEGIN
; 1568          1652  4                     CLASS_S_DESC [DSC$W_LENGTH] = .SRC_INFO [S_LEN];
; 1569          1653  4                     CLASS_S_DESC [DSC$A_POINTER] = .SRC_INFO [S_POINTER];
; 1570          1654  4                     STATUS = OTS$CVT_T_A (CLASS_S_DESC, TEMP_BUF1, 0, -.SCALE,
; 1571          1655  4                         (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
; 1572          1656  4
; 1573          1657  4                     IF NOT .STATUS THEN RETURN (LIB$_INVNBDS);
; 1574          1658  4
; 1575          1659  4                     IF .TEMP_BUF1<15, 1, 0> THEN SRC_INFO [S_SIGN] = 1;
; 1576          1660  4
; 1577          1661  4                     CLASS_S_DESC [DSC$W_LENGTH] = K_TEMP_BUF_LENGTH;
; 1578          1662  4                     CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF2;
; 1579          1663  4                     STATUS = FOR$CVT_H_TF (TEMP_BUF1, CLASS_S_DESC, 0, 0, 0, 0, 1);
; 1580          1664  3                     END;
; 1581          1665  3                 TES;
; 1582          1666  3
; 1583          1667  3             IF NOT .STATUS THEN RETURN (LIB$_DECOVF);
; 1584          1668  3
; 1585          1669  3             BUF_OFFSET = CH$FIND_NOT_CH (K_TEMP_BUF_LENGTH, TEMP_BUF2, %C' ') - TEMP_BUF2;
; 1586          1670  3             NO_DIGITS = K_TEMP_BUF_LENGTH - .BUF_OFFSET - 2;
; 1587          1671  3
; 1588          1672  3             IF .NO_DIGITS GTR 31 THEN RETURN (LIB$_ROPRAND);
```

```
;  1589          1673  3
;  1590          1674  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_NU TO DSC$K_DTYPE_P OF
;  1591          1675  3                  SET
;  1592          1676  3
;  1593          1677  3                  [DSC$K_DTYPE_NU] :
;  1594          1678  4                      BEGIN
;  1595          1679  4
;  1596          1680  4                      IF .SRC_INFO [S_SIGN] THEN RETURN (LIB$_INVCVT);
;  1597          1681  4
;  1598          1682  4                      IF .NO_DIGITS GTR .DESTINATION [DSC$W_LENGTH] THEN RETURN (LIB$_DECOVF);
;  1599          1683  4
;  1600          1684  4                      CH$FILL (%X'30', .DESTINATION [DSC$W_LENGTH] - .NO_DIGITS, TEMP_BUF1);
;  1601          1685  4                      CH$MOVE (.NO_DIGITS, TEMP_BUF2 + .BUF_OFFSET + 1,
;  1602          1686  4                          TEMP_BUF1 + .DESTINATION [DSC$W_LENGTH] - .NO_DIGITS);
;  1603          1687  4                      CH$MOVE (.DESTINATION [DSC$W_LENGTH], TEMP_BUF1, .OUTPUT);
;  1604          1688  3                      END;
;  1605          1689  3
;  1606          1690  3                  [DSC$K_DTYPE_NL] :
;  1607          1691  4                      BEGIN
;  1608          1692  4
;  1609          1693  4                      LOCAL
;  1610          1694  4                          DES_LEN;
;  1611          1695  4
;  1612          1696  4                      DES_LEN =
;  1613          1697  5                      BEGIN
;  1614          1698  5
;  1615          1699  5                      IF .DESTINATION [DSC$W_LENGTH] EQL 0 THEN 0 ELSE .DESTINATION [DSC$W_LENGTH] - 1
;  1616          1700  5
;  1617          1701  4                      END;
;  1618          1702  4
;  1619          1703  4                      IF .DES_LEN LSS .NO_DIGITS THEN RETURN (LIB$_DECOVF);
;  1620          1704  4
;  1621          1705  4                      CVTSP (NO_DIGITS, TEMP_BUF2 + .BUF_OFFSET, DES_LEN, TEMP_BUF1);
;  1622          1706  4                      CVTPS (DES_LEN, TEMP_BUF1, DES_LEN, .OUTPUT);
;  1623          1707  3                      END;
;  1624          1708  3
;  1625          1709  3                  [DSC$K_DTYPE_NLO] :
;  1626          1710  4                      BEGIN
;  1627          1711  4                      CH$FILL (%X'30', .BUF_OFFSET + 1, TEMP_BUF2);
;  1628          1712  4
;  1629          1713  4                      IF .NO_DIGITS GTR .DESTINATION [DSC$W_LENGTH] THEN RETURN (LIB$_DECOVF);
;  1630          1714  4
;  1631          1715  4                      BUF_OFFSET = K_TEMP_BUF_LENGTH - .DESTINATION [DSC$W_LENGTH] - 1;
;  1632          1716  6                      BLOCK [TEMP_BUF2 + .BUF_OFFSET, 0, 0, 8, 0;, BYTE] = (IF .SRC_INFO [S_SIGN] THEN .(.BLOC
;  1633          1717  6                          [TEMP_BUF2 + .BUF_OFFSET, 0, 0, 8, 0;, BYTE] + LIB$AB_CVT_U_0 - 48 + 10) ELSE .(
;  1634          1718  4                          .BLOCK [TEMP_BUF2 + .BUF_OFFSET, 0, 0, 8, 0;, BYTE] + LIB$AB_CVT_U_0 - 48));
;  1635          1719  4                      CH$MOVE (.DESTINATION [DSC$W_LENGTH], TEMP_BUF2 + .BUF_OFFSET, .OUTPUT);
;  1636          1720  3                      END;
;  1637          1721  3
;  1638          1722  3                  [DSC$K_DTYPE_NR] :
;  1639          1723  4                      BEGIN
;  1640          1724  4
;  1641          1725  4                      LOCAL
;  1642          1726  4                          DES_LEN;
;  1643          1727  4
;  1644          1728  4                      DES_LEN =
;  1645          1729  5                      BEGIN
```

```
;  1646          1730  5
;  1647          1731  5                    IF .DESTINATION [DSC$W_LENGTH] EQL 0 THEN 0 ELSE .DESTINATION [DSC$W_LENGTH] - 1
;  1648          1732  5
;  1649          1733  4                    END;
;  1650          1734  4
;  1651          1735  4                    IF .NO_DIGITS GTR .DES_LEN THEN RETURN (LIB$_DECOVF);
;  1652          1736  4
;  1653          1737  4                    CH$FILL (%X'30', .DES_LEN - .NO_DIGITS + 1, TEMP_BUF1);
;  1654          1738  4                    CH$MOVE (.NO_DIGITS, TEMP_BUF2 + .BUF_OFFSET + 1, TEMP_BUF1 + .DES_LEN - .NO_DIGITS);
;  1655          1739  4                    BLOCK [TEMP_BUF1 + .DES_LEN, 0, 0, 8, 0;, BYTE] = .BLOCK [TEMP_BUF2 + .BUF_OFFSET, 0,
;  1656          1740  4                        0, 8, 0;, BYTE];
;  1657          1741  4                    CH$MOVE (.DES_LEN + 1, TEMP_BUF1, .OUTPUT);
;  1658          1742  3                    END;
;  1659          1743  3
;  1660          1744  3                [DSC$K_DTYPE_NRO, DSC$K_DTYPE_NZ] :
;  1661          1745  4                    BEGIN
;  1662          1746  4
;  1663          1747  4                    IF .NO_DIGITS GTR .DESTINATION [DSC$W_LENGTH] THEN RETURN (LIB$_DECOVF);
;  1664          1748  4
;  1665          1749  4                    CVTSP (NO_DIGITS, TEMP_BUF2 + .BUF_OFFSET, DESTINATION [DSC$W_LENGTH], TEMP_BUF1);
;  1666          1750  4                    CVTPT (DESTINATION [DSC$W_LENGTH], TEMP_BUF1,
;  1667          1751  5                        (IF .DESTINATION [DSC$B_DTYPE] EQL DSC$K_DTYPE_NRO THEN LIB$AB_CVTPT_0 ELSE
;  1668          1752  4                            LIB$AB_CVTPT_Z), DESTINATION [DSC$W_LENGTH], .OUTPUT);
;  1669          1753  3                    END;
;  1670          1754  3
;  1671          1755  3                [DSC$K_DTYPE_P] :
;  1672          1756  4                    BEGIN
;  1673          1757  4
;  1674          1758  4                    IF .NO_DIGITS GTR 31 THEN RETURN (LIB$_DECOVF);
;  1675          1759  4
;  1676          1760  4                    CVTSP (NO_DIGITS, TEMP_BUF2 + .BUF_OFFSET, DESTINATION [DSC$W_LENGTH], .OUTPUT);
;  1677          1761  3                    END;
;  1678          1762  3
;  1679          1763  3                [INRANGE, OUTRANGE] :
;  1680          1764  3                    RETURN (LIB$_FATERRLIB);
;  1681          1765  3                TES;                                !For LRGINT_DEC, SMLFLT_DEC, LRGFLT_DEC, NBDS_DEC.
;  1682          1766  3
;  1683          1767  2            END;
;  1684          1768  2 !<BLF/PAGE>
```

```
; 1686          1769  2
; 1687          1770  2         [K_SMLINT_NBDS, K_LRGINT_NBDS, K_DEC_NBDS] :
; 1688          1771  2
; 1689          1772  2             SELECTONE .DESTINATION [DSC$B_DTYPE] OF
; 1690          1773  2                 SET
; 1691          1774  2
; 1692          1775  2                 [DSC$K_DTYPE_BU, DSC$K_DTYPE_T, DSC$K_DTYPE_VT] :
; 1693          1776  3                     BEGIN
; 1694          1777  3                     CLASS_S_DESC [DSC$W_LENGTH] = K_TEMP_BUF_LENGTH;
; 1695          1778  3                     CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF2;
; 1696          1779  3
; 1697          1780  3                     IF .SCALE GEQ 0 THEN DIGITS_IN_FRACT = 0 ELSE DIGITS_IN_FRACT = -.SCALE;
; 1698          1781  3
; 1699          1782  3                     SELECTONE .CVT_PATH OF
; 1700          1783  3                         SET
; 1701          1784  3
; 1702          1785  3                         [K_SMLINT_NBDS] :
; 1703          1786  4                             BEGIN
; 1704          1787  4                             CVTLD (INTMED_DATA, TEMP_BUF1);
; 1705          1788  4                             STATUS = FOR$CVT_D_TF (TEMP_BUF1, CLASS_S_DESC, .DIGITS_IN_FRACT, .SCALE);
; 1706          1789  3                             END;
; 1707          1790  3
; 1708          1791  3                         [K_LRGINT_NBDS] :
; 1709          1792  4                             BEGIN
; 1710          1793  4                             CVTROUH (INTMED_DATA, TEMP_BUF1);
; 1711          1794  4
; 1712          1795  4                             IF .SRC_INFO [S_SIGN] THEN TEMP_BUF1<15, 1, 0> = 1;
; 1713          1796  4
; 1714          1797  4                             STATUS = FOR$CVT_H_TF (TEMP_BUF1, CLASS_S_DESC, .DIGITS_IN_FRACT, .SCALE);
; 1715          1798  3                             END;
; 1716          1799  3
; 1717          1800  3                         [K_DEC_NBDS] :
; 1718          1801  4                             BEGIN
; 1719          1802  4                             NO_DIGITS = .SRC_INFO [S_LEN];
; 1720          1803  4                             CVTPS (NO_DIGITS, INTMED_DATA, NO_DIGITS, TEMP_BUF2);
; 1721          1804  4                             CLASS_S_DESC [DSC$W_LENGTH] = .NO_DIGITS + 1;
; 1722          1805  4                             OTS$CVT_T_H (CLASS_S_DESC, TEMP_BUF1, 0, 0,
; 1723          1806  4                                 (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS ));
; 1724          1807  4                             CLASS_S_DESC [DSC$W_LENGTH] = K_TEMP_BUF_LENGTH;
; 1725          1808  4                             STATUS = FOR$CVT_H_TF (TEMP_BUF1, CLASS_S_DESC, .DIGITS_IN_FRACT, .SCALE);
; 1726          1809  3                             END;
; 1727          1810  3                         TES;
; 1728          1811  3
; 1729          1812  3                     BUF_OFFSET = CH$FIND_NOT_CH (K_TEMP_BUF_LENGTH, TEMP_BUF2, %C' ') - TEMP_BUF2;
; 1730          1813  3                     FINAL_LEN = K_TEMP_BUF_LENGTH = .BUF_OFFSET -
; 1731          1814  4                     BEGIN
; 1732          1815  4
; 1733          1816  4                     IF .DIGITS_IN_FRACT EQL 0 THEN 1 ELSE 0
; 1734          1817  4
; 1735          1818  3                     END;
; 1736          1819  3
; 1737          1820  3                     IF NOT .STATUS
; 1738          1821  3                     THEN
; 1739          1822  4                         BEGIN
; 1740          1823  4
; 1741          1824  4                         IF .DST_INFO [D_LEN] - 9 LEQ 0
; 1742          1825  4                         THEN
```

```
;  1743          1826  4                                 DIGITS_IN_FRACT = 33
;  1744          1827  4                             ELSE
;  1745          1828  4                                 DIGITS_IN_FRACT = MIN (33, .DST_INFO [D_LFN] - 9);
;  1746          1829  4
;  1747          1830  4                             STATUS = FOR$CVT_H_TE (TEMP_BUF1, CLASS_S_DESC, .DIGITS_IN_FRACT, .SCALE, 0, 4);
;  1748          1831  4
;  1749          1832  4                             IF NOT .STATUS THEN RETURN (LIB$_FATERRLIB);
;  1750          1833  4
;  1751          1834  4                             BUF_OFFSET = CH$FIND_NOT_CH (K_TEMP_BUF_LENGTH, TEMP_BUF2, %C' ') - TEMP_BUF2;
;  1752          1835  4                             FINAL_LEN = K_TEMP_BUF_LENGTH - .BUF_OFFSET;
;  1753          1836  4                             END;
;  1754          1837  3
;  1755          1838  3                         OUTPUT_STR_LEN = .FINAL_LEN;
;  1756          1839  3                         STATUS = LIB$SCOPY_R_DX6 (.FINAL_LEN, TEMP_BUF2 + .BUF_OFFSET, .DESTINATION);
;  1757          1840  3
;  1758          1841  3                         IF .STATUS EQL LIB$_STRTRU THEN RETURN (LIB$_DESSTROVF);
;  1759          1842  3
;  1760          1843  3                         IF NOT .STATUS THEN RETURN (.STATUS);
;  1761          1844  3
;  1762          1845  2                         END;
;  1763          1846  2
;  1764          1847  2                     [OTHERWISE] :
;  1765          1848  2                         RETURN (LIB$_FATERRLIB);
;  1766          1849  2                     TES;                                !For SMLINT_NBDS, LRGINT_NBDS, DEC_NBDS
;  1767          1850  2
;  1768          1851  2 !<BLF/PAGE>
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```
; 1770          1852  2
; 1771          1853  2         [K_SMLFLT_SMLINT] :
; 1772          1854  3             BEGIN
; 1773          1855  3             M_SCALE_D_D;
; 1774          1856  3             CVTRDL (INTMED_DATA, TEMP_BUF1);
; 1775          1857  3
; 1776          1858  3             CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_BU TO DSC$K_DTYPE_L OF
; 1777          1859  3                 SET
; 1778          1860  3
; 1779          1861  3                 [DSC$K_DTYPE_BU] :
; 1780          1862  4                     BEGIN
; 1781          1863  4
; 1782          1864  4                     IF .INTMED_DATA<15, 1, 0> THEN RETURN (LIB$_INVCVT);
; 1783          1865  4
; 1784          1866  4                     IF .TEMP_BUF1 [LONG_1] GTRU K_LRGST_BU THEN RETURN (LIB$_INTOVF);
; 1785          1867  4
; 1786          1868  4                     OUTPUT [BYTE_1] = .TEMP_BUF1 [BYTE_1];
; 1787          1869  3                     END;
; 1788          1870  3
; 1789          1871  3                 [DSC$K_DTYPE_WU] :
; 1790          1872  4                     BEGIN
; 1791          1873  4
; 1792          1874  4                     IF .INTMED_DATA<15, 1, 0> THEN RETURN (LIB$_INVCVT);
; 1793          1875  4
; 1794          1876  4                     IF .TEMP_BUF1 [LONG_1] GTRU K_LRGST_WU THEN RETURN (LIB$_INTOVF);
; 1795          1877  4
; 1796          1878  4                     OUTPUT [WORD_1] = .TEMP_BUF1 [WORD_1];
; 1797          1879  3                     END;
; 1798          1880  3
; 1799          1881  3                 [DSC$K_DTYPE_B] :
; 1800          1882  4                     BEGIN
; 1801          1883  4                     CVTLB (TEMP_BUF1, .OUTPUT);
; 1802          1884  3                     END;
; 1803          1885  3
; 1804          1886  3                 [DSC$K_DTYPE_W] :
; 1805          1887  4                     BEGIN
; 1806          1888  4                     CVTLW (TEMP_BUF1, .OUTPUT);
; 1807          1889  3                     END;
; 1808          1890  3
; 1809          1891  3                 [DSC$K_DTYPE_L] :
; 1810          1892  3                     OUTPUT [LONG_1] = TEMP_BUF1 [S_LONG_1];
; 1811          1893  3
; 1812          1894  3                 [INRANGE, OUTRANGE] :
; 1813          1895  3                     RETURN (LIB$_FATERRLIB);
; 1814          1896  3                 TES;                                !For SMLFLT_SMLINT
; 1815          1897  3
; 1816          1898  2             END;
; 1817          1899  2 !<BLF/PAGE>
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;1819     1900  2
;1820     1901  2          [K_SMLFLT_LRGINT] :
;1821     1902  3              BEGIN
;1822     1903  3              M_SCALE_D_D;
;1823     1904  3
;1824     1905  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_LU TO DSC$K_DTYPE_Q OF
;1825     1906  3                  SET
;1826     1907  3
;1827     1908  3                  [DSC$K_DTYPE_LU] :
;1828     1909  4                      BEGIN
;1829     1910  4
;1830     1911  4                      IF .INTMED_DATA<15, 1, 0> THEN RETURN (LIB$_INVCVT);
;1831     1912  4
;1832     1913  4                      IF CMPD (INTMED_DATA, .LRGST_D_LU) GTR 0 THEN RETURN (LIB$_INTOVF);
;1833     1914  4
;1834     1915  4                      BICPSW (%REF (K_SET_ARITHMETIC_TRAP));
;1835     1916  4                      CVTRDL (INTMED_DATA, .OUTPUT);
;1836     1917  4                      BISPSW (%REF (K_SET_ARITHMETIC_TRAP));
;1837     1918  3                      END;
;1838     1919  3
;1839     1920  3                  [DSC$K_DTYPE_Q] :
;1840     1921  3                      CVTRDQ (INTMED_DATA, .OUTPUT);
;1841     1922  3
;1842     1923  3                  [INRANGE, OUTRANGE] :
;1843     1924  3                      RETURN (LIB$_FATERRLIB);
;1844     1925  3                  TES;                                !For SMLFLT_LRGINT
;1845     1926  3
;1846     1927  2              END;
;1847     1928  2 !<BLF/PAGE>
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```
;  1849          1929  2
;  1850          1930  2          [K_SMLFLT_NBDS] :
;  1851          1931  2
;  1852          1932  2              SELECTONE .DESTINATION [DSC$B_DTYPE] OF
;  1853          1933  2                  SET
;  1854          1934  2
;  1855          1935  2                  [DSC$K_DTYPE_BU, DSC$K_DTYPE_T, DSC$K_DTYPE_VT] :
;  1856          1936  3                      BEGIN
;  1857          1937  3                      CLASS_S_DESC [DSC$W_LENGTH] = K_TEMP_BUF_LENGTH;
;  1858          1938  3                      CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF2;
;  1859          1939  3                      DIGITS_IN_FRACT =
;  1860          1940  4                      BEGIN
;  1861          1941  4
;  1862          1942  4                      CASE .SOURCE [DSC$B_DTYPE] FROM DSC$K_DTYPE_F TO DSC$K_DTYPE_D OF
;  1863          1943  4                          SET
;  1864          1944  4
;  1865          1945  4                          [DSC$K_DTYPE_F] :
;  1866          1946  4                              7;
;  1867          1947  4
;  1868          1948  4                          [DSC$K_DTYPE_D] :
;  1869          1949  4                              16;
;  1870          1950  4                          TES
;  1871          1951  4
;  1872          1952  3                      END;
;  1873          1953  3
;  1874          1954  3                      IF .DST_INFO [D_LEN] - 7 GTR 0
;  1875          1955  3                      THEN
;  1876          1956  3                          DIGITS_IN_FRACT = MIN (.DIGITS_IN_FRACT,
;  1877          1957  3                              .DST_INFO [D_LEN] - 7);
;  1878          1958  3
;  1879          1959  3                      STATUS = FOR$CVT_D_TE (INTMED_DATA, CLASS_S_DESC, .DIGITS_IN_FRACT, .SCALE, 0);
;  1880          1960  3
;  1881          1961  3                      IF NOT .STATUS THEN RETURN (LIB$_FATERRLIB);
;  1882          1962  3
;  1883          1963  3                      BUF_OFFSET = CH$FIND_NOT_CH (K_TEMP_BUF_LENGTH, TEMP_BUF2, %C' ') - TEMP_BUF2;
;  1884          1964  3                      FINAL_LEN = K_TEMP_BUF_LENGTH - .BUF_OFFSET;
;  1885          1965  3                      OUTPUT_STR_LEN = .FINAL_LEN;
;  1886          1966  3                      STATUS = LIB$SCOPY_R_DX6 (.FINAL_LEN, TEMP_BUF2 + .BUF_OFFSET, .DESTINATION);
;  1887          1967  3
;  1888          1968  3                      IF .STATUS EQL LIB$_STRTRU THEN RETURN (LIB$_DESSTROVF);
;  1889          1969  3
;  1890          1970  3                      IF NOT .STATUS THEN RETURN (.STATUS);
;  1891          1971  3
;  1892          1972  2                      END;
;  1893          1973  2
;  1894          1974  2                  [OTHERWISE] :
;  1895          1975  2                      RETURN (LIB$_FATERRLIB);
;  1896          1976  2                  TES;                                !For SMLFLT_NBDS
;  1897          1977  2
;  1898          1978  2 !<BLF/PAGE>
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```
;  1900          1979  2
;  1901          1980  2          [K_LRGFLT_SMLINT] :
;  1902          1981  3              BEGIN
;  1903          1982  3              M_SCALE_H_H;
;  1904          1983  3              CVTRHL (INTMED_DATA, TEMP_BUF1);
;  1905          1984  3
;  1906          1985  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_BU TO DSC$K_DTYPE_L OF
;  1907          1986  3                  SET
;  1908          1987  3
;  1909          1988  3                  [DSC$K_DTYPE_BU] :
;  1910          1989  4                      BEGIN
;  1911          1990  4
;  1912          1991  4                      IF .INTMED_DATA<15, 1, 0> THEN RETURN (LIB$_INVCVT);
;  1913          1992  4
;  1914          1993  4                      IF .TEMP_BUF1 [LONG_1] GTRU K_LRGST_BU THEN RETURN (LIB$_INTOVF);
;  1915          1994  4
;  1916          1995  4                      OUTPUT [BYTE_1] = .TEMP_BUF1 [BYTE_1];
;  1917          1996  3                      END;
;  1918          1997  3
;  1919          1998  3                  [DSC$K_DTYPE_WU] :
;  1920          1999  4                      BEGIN
;  1921          2000  4
;  1922          2001  4                      IF .INTMED_DATA<15, 1, 0> THEN RETURN (LIB$_INVCVT);
;  1923          2002  4
;  1924          2003  4                      IF .TEMP_BUF1 [LONG_1] GTRU K_LRGST_WU THEN RETURN (LIB$_INTOVF);
;  1925          2004  4
;  1926          2005  4                      OUTPUT [WORD_1] = .TEMP_BUF1 [WORD_1];
;  1927          2006  3                      END;
;  1928          2007  3
;  1929          2008  3                  [DSC$K_DTYPE_B] :
;  1930          2009  4                      BEGIN
;  1931          2010  4                      CVTLB (TEMP_BUF1, .OUTPUT);
;  1932          2011  3                      END;
;  1933          2012  3
;  1934          2013  3                  [DSC$K_DTYPE_W] :
;  1935          2014  4                      BEGIN
;  1936          2015  4                      CVTLW (TEMP_BUF1, .OUTPUT);
;  1937          2016  3                      END;
;  1938          2017  3
;  1939          2018  3                  [DSC$K_DTYPE_L] :
;  1940          2019  3                      OUTPUT [LONG_1] = .TEMP_BUF1 [S_LONG_1];
;  1941          2020  3
;  1942          2021  3                  [INRANGE, OUTRANGE] :
;  1943          2022  3                      RETURN (LIB$_FATERRLIB);
;  1944          2023  3                  TES;                                !For LRGFLT_SMLINT
;  1945          2024  3
;  1946          2025  2              END;
;  1947          2026  2 !<BLF/PAGE>
```

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; 1949          2027  2
; 1950          2028  2          [K_LRGFLT_LRGINT] :
; 1951          2029  3              BEGIN
; 1952          2030  3              M_SCALE_H_H;
; 1953          2031  3
; 1954          2032  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_LU TO DSC$K_DTYPE_Q OF
; 1955          2033  3                  SET
; 1956          2034  3
; 1957          2035  3                  [DSC$K_DTYPE_LU] :
; 1958          2036  4                      BEGIN
; 1959          2037  4
; 1960          2038  4                      IF .INTMED_DATA<15, 1, 0> THEN RETURN (LIB$_INVCVT);
; 1961          2039  4
; 1962          2040  4                      IF CMPH (INTMED_DATA, .LRGST_H_LU) GTR 0 THEN RETURN (LIB$_INTOVF);
; 1963          2041  4
; 1964          2042  4                      BICPSW (%REF (K_SET_ARITHMETIC_TRAP));
; 1965          2043  4                      CVTRHL (INTMED_DATA, .OUTPUT);
; 1966          2044  4                      BISPSW (%REF (K_SET_ARITHMETIC_TRAP));
; 1967          2045  3                      END;
; 1968          2046  3
; 1969          2047  3                  [DSC$K_DTYPE_Q] :
; 1970          2048  3                      CVTRHQ (INTMED_DATA, .OUTPUT);
; 1971          2049  3
; 1972          2050  3                  [INRANGE, OUTRANGE] :
; 1973          2051  3                      RETURN (LIB$_FATERRLIB);
; 1974          2052  3                  TES;                                !For LRGFLT_LRGINT
; 1975          2053  3
; 1976          2054  2              END;
; 1977          2055  2 !<BLF/PAGE>
```

```
; 1979          2056  2
; 1980          2057  2          [K_LRGFLT_SMLFLT] :
; 1981          2058  3              BEGIN
; 1982          2059  3              M_SCALE_H_H;
; 1983          2060  3
; 1984          2061  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_F TO DSC$K_DTYPE_D OF
; 1985          2062  3                  SET
; 1986          2063  3
; 1987          2064  3                  [DSC$K_DTYPE_F] :
; 1988          2065  3                      CVTHF (INTMED_DATA, .OUTPUT);
; 1989          2066  3
; 1990          2067  3                  [DSC$K_DTYPE_D] :
; 1991          2068  3                      CVTHD (INTMED_DATA, .OUTPUT);
; 1992          2069  3
; 1993          2070  3                  [INRANGE, OUTRANGE] :
; 1994          2071  3                      RETURN (LIB$_FATERRLIB);
; 1995          2072  3                  TES;                                !For LRGFLT_SMLFLT
; 1996          2073  3
; 1997          2074  2              END;
; 1998          2075  2 !<BLF/PAGE>
```

```
;  2000          2076  2
;  2001          2077  2          [K_LRGFLT_NBDS] :
;  2002          2078  2
;  2003          2079  2              SELECTONE .DESTINATION [DSC$B_DTYPE] OF
;  2004          2080  2                  SET
;  2005          2081  2
;  2006          2082  2                  [DSC$K_DTYPE_BU, DSC$K_DTYPE_T, DSC$K_DTYPE_VT] :
;  2007          2083  3                      BEGIN
;  2008          2084  3
;  2009          2085  3                      LOCAL
;  2010          2086  3                          NOT_DIGITS_IN_FRACT;
;  2011          2087  3
;  2012          2088  3                      CLASS_S_DESC [DSC$W_LENGTH] = K_TEMP_BUF_LENGTH;
;  2013          2089  3                      CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF2;
;  2014          2090  3                      DIGITS_IN_FRACT =
;  2015          2091  4                      BEGIN
;  2016          2092  4
;  2017          2093  4                      CASE .SOURCE [DSC$B_DTYPE] FROM DSC$K_DTYPE_G TO DSC$K_DTYPE_H OF
;  2018          2094  4                          SET
;  2019          2095  4
;  2020          2096  4                          [DSC$K_DTYPE_G] :
;  2021          2097  4                              15;
;  2022          2098  4
;  2023          2099  4                          [DSC$K_DTYPE_H] :
;  2024          2100  4                              33;
;  2025          2101  4                          TES
;  2026          2102  4
;  2027          2103  3                      END;
;  2028          2104  3                      NOT_DIGITS_IN_FRACT =
;  2029          2105  4                      BEGIN
;  2030          2106  4
;  2031          2107  4                      CASE .SOURCE [DSC$B_DTYPE] FROM DSC$K_DTYPE_G TO DSC$K_DTYPE_H OF
;  2032          2108  4                          SET
;  2033          2109  4
;  2034          2110  4                          [DSC$K_DTYPE_G] :
;  2035          2111  4                              7;
;  2036          2112  4
;  2037          2113  4                          [DSC$K_DTYPE_H] :
;  2038          2114  4                              8;
;  2039          2115  4                          TES
;  2040          2116  4
;  2041          2117  3                      END;
;  2042          2118  3
;  2043          2119  3                      IF .DST_INFO [D_LEN] - .NOT_DIGITS_IN_FRACT GTR 0
;  2044          2120  3                      THEN
;  2045          2121  3                          DIGITS_IN_FRACT = MIN (.DIGITS_IN_FRACT,
;  2046          2122  3                              .DST_INFO [D_LEN] - .NOT_DIGITS_IN_FRACT);
;  2047          2123  3
;  2048          2124  3                      STATUS = FOR$CVT_H_TE (INTMED_DATA, CLASS_S_DESC, .DIGITS_IN_FRACT, .SCALE, 0, 4);
;  2049          2125  3
;  2050          2126  3                      IF NOT .STATUS THEN RETURN (LIB$_FATERRLIB);
;  2051          2127  3
;  2052          2128  3                      BUF_OFFSET = CH$FIND_NOT_CH (K_TEMP_BUF_LENGTH, TEMP_BUF2, %C' ') - TEMP_BUF2;
;  2053          2129  3                      FINAL_LEN = K_TEMP_BUF_LENGTH - .BUF_OFFSET;
;  2054          2130  3                      OUTPUT_STR_LEN = .FINAL_LEN;
;  2055          2131  3                      STATUS = LIB$SCOPY_R_DX6 (.FINAL_LEN, TEMP_BUF2 + .BUF_OFFSET, .DESTINATION);
;  2056          2132  3
```

```
;  2057          2133  3                    IF .STATUS EQL LIB$_STRTRU THEN RETURN (LIB$_DESSTROVF);
;  2058          2134  3
;  2059          2135  3                    IF NOT .STATUS THEN RETURN (.STATUS);
;  2060          2136  3
;  2061          2137  2                    END;
;  2062          2138  2
;  2063          2139  2                [OTHERWISE] :
;  2064          2140  2                    RETURN (LIB$_FATERRLIB);
;  2065          2141  2                TES;                                !For LRGFLT_NBDS
;  2066          2142  2
;  2067          2143  2 !<BLF/PAGE>
```

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; 2069          2144  2
; 2070          2145  2          [K_DEC_SMLINT] :
; 2071          2146  3              BEGIN
; 2072          2147  3              M_SCALE_P_P;
; 2073          2148  3              CVTPL (NO_DIGITS, INTMED_DATA, TEMP_BUF1);
; 2074          2149  3
; 2075          2150  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_BU TO DSC$K_DTYPE_L OF
; 2076          2151  3                  SET
; 2077          2152  3
; 2078          2153  3                  [DSC$K_DTYPE_BU] :
; 2079          2154  4                      BEGIN
; 2080          2155  4
; 2081          2156  4                      IF .TEMP_BUF1 [S_LONG_1] LSS 0 THEN RETURN (LIB$_INVCVT);
; 2082          2157  4
; 2083          2158  4                      IF .TEMP_BUF1 [LONG_1] GTRU K_LRGST_BU THEN RETURN (LIB$_INTOVF);
; 2084          2159  4
; 2085          2160  4                      OUTPUT [BYTE_1] = .TEMP_BUF1 [BYTE_1]
; 2086          2161  3                      END;
; 2087          2162  3
; 2088          2163  3                  [DSC$K_DTYPE_WU] :
; 2089          2164  4                      BEGIN
; 2090          2165  4
; 2091          2166  4                      IF .TEMP_BUF1 [S_LONG_1] LSS 0 THEN RETURN (LIB$_INVCVT);
; 2092          2167  4
; 2093          2168  4                      IF .TEMP_BUF1 [LONG_1] GTRU K_LRGST_WU THEN RETURN (LIB$_INTOVF);
; 2094          2169  4
; 2095          2170  4                      OUTPUT [WORD_1] = .TEMP_BUF1 [WORD_1]
; 2096          2171  3                      END;
; 2097          2172  3
; 2098          2173  3                  [DSC$K_DTYPE_B] :
; 2099          2174  4                      BEGIN
; 2100          2175  4                      CVTLB (TEMP_BUF1, .OUTPUT);
; 2101          2176  3                      END;
; 2102          2177  3
; 2103          2178  3                  [DSC$K_DTYPE_W] :
; 2104          2179  4                      BEGIN
; 2105          2180  4                      CVTLW (TEMP_BUF1, .OUTPUT);
; 2106          2181  3                      END;
; 2107          2182  3
; 2108          2183  3                  [DSC$K_DTYPE_L] :
; 2109          2184  3                      OUTPUT [LONG_1] = .TEMP_BUF1 [S_LONG_1];
; 2110          2185  3
; 2111          2186  3                  [INRANGE, OUTRANGE] :
; 2112          2187  3                      RETURN (LIB$_FATERRLIB);
; 2113          2188  3                  TES;                                !For DEC_SMLINT
; 2114          2189  3
; 2115          2190  2              END;
; 2116          2191  2 !<BLF/PAGE>
```

```
;  2118          2192  2
;  2119          2193  2          [K_DEC_LRGINT] :
;  2120          2194  3              BEGIN
;  2121          2195  3              M_SCALF_P_P;
;  2122          2196  3
;  2123          2197  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_LU TO DSC$K_DTYPE_Q OF
;  2124          2198  3                  SET
;  2125          2199  3
;  2126          2200  3                  [DSC$K_DTYPE_LU] :
;  2127          2201  4                      BEGIN
;  2128          2202  4
;  2129          2203  4                      IF .SRC_INFO [S_SIGN] THEN RETURN (LIB$_INVCVT);
;  2130          2204  4
;  2131          2205  5                      IF (CMPP (NO_DIGITS, INTMED_DATA, %REF (K_PACK_LU_LEN), .LRGST_P_LU) GEQ 0)
;  2132          2206  4                      THEN
;  2133          2207  4                          RETURN (LIB$_INTOVF);
;  2134          2208  4
;  2135          2209  4                      BICPSW (%REF (K_SET_ARITHMETIC_TRAP));
;  2136          2210  4                      CVTPL (NO_DIGITS, INTMED_DATA, .OUTPUT);
;  2137          2211  4                      BISPSW (%REF (K_SET_ARITHMETIC_TRAP));
;  2138          2212  3                      END;
;  2139          2213  3
;  2140          2214  3                  [DSC$K_DTYPE_Q] :
;  2141          2215  4                      BEGIN
;  2142          2216  4                      CVTPS (NO_DIGITS, INTMED_DATA, NO_DIGITS, TEMP_BUF2);
;  2143          2217  4                      CLASS_S_DESC [DSC$W_LENGTH] = .NO_DIGITS + 1;
;  2144          2218  4                      CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF2;
;  2145          2219  4                      OTS$CVT_T_H (CLASS_S_DESC, TEMP_BUF1);
;  2146          2220  4                      CVTRHQ (TEMP_BUF1, .OUTPUT);
;  2147          2221  3                      END;
;  2148          2222  3
;  2149          2223  3                  [INRANGE, OUTRANGE] :
;  2150          2224  3                      RETURN (LIB$_FATERRLIB);
;  2151          2225  3                  TES;                                !For DEC_LRGINT
;  2152          2226  3
;  2153          2227  2              END;
;  2154          2228  2 !<BLF/PAGE>
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;  2156     2229  2
;  2157     2230  2          [K_NBDS_SMLINT] :
;  2158     2231  3              BEGIN
;  2159     2232  3              CLASS_S_DESC [DSC$W_LENGTH] = .SRC_INFO [S_LEN];
;  2160     2233  3              CLASS_S_DESC [DSC$A_POINTER] = .SRC_INFO [S_POINTER];
;  2161     2234  3              STATUS = OTS$CVT_T_D (CLASS_S_DESC, TEMP_BUF1, 0, -.SCALE,
;  2162     2235  3                  (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
;  2163     2236  3
;  2164     2237  3              IF NOT .STATUS THEN RETURN (LIB$_INVNBDS);
;  2165     2238  3
;  2166     2239  3              CVTRDL (TEMP_BUF1, TEMP_BUF2);
;  2167     2240  3
;  2168     2241  3              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_BU TO DSC$K_DTYPE_L OF
;  2169     2242  3                  SET
;  2170     2243  3
;  2171     2244  3                  [DSC$K_DTYPE_BU] :
;  2172     2245  4                      BEGIN
;  2173     2246  4
;  2174     2247  4                      IF .TEMP_BUF2 [S_LONG_1] LSS 0 THEN RETURN (LIB$_INVCVT);
;  2175     2248  4
;  2176     2249  4                      IF .TEMP_BUF2 [LONG_1] GTRU K_LRGST_BU THEN RETURN (LIB$_INTOVF);
;  2177     2250  4
;  2178     2251  4                      OUTPUT [BYTE_1] = .TEMP_BUF2 [BYTE_1];
;  2179     2252  3                      END;
;  2180     2253  3
;  2181     2254  3                  [DSC$K_DTYPE_WU] :
;  2182     2255  4                      BEGIN
;  2183     2256  4
;  2184     2257  4                      IF .TEMP_BUF2 [S_LONG_1] LSS 0 THEN RETURN (LIB$_INVCVT);
;  2185     2258  4
;  2186     2259  4                      IF .TEMP_BUF2 [LONG_1] GTRU K_LRGST_WU THEN RETURN (LIB$_INTOVF);
;  2187     2260  4
;  2188     2261  4                      OUTPUT [WORD_1] = .TEMP_BUF2 [WORD_1];
;  2189     2262  3                      END;
;  2190     2263  3
;  2191     2264  3                  [DSC$K_DTYPE_B] :
;  2192     2265  4                      BEGIN
;  2193     2266  4                      CVTLB (TEMP_BUF2, .OUTPUT);
;  2194     2267  3                      END;
;  2195     2268  3
;  2196     2269  3                  [DSC$K_DTYPE_W] :
;  2197     2270  4                      BEGIN
;  2198     2271  4                      CVTLW (TEMP_BUF2, .OUTPUT);
;  2199     2272  3                      END;
;  2200     2273  3
;  2201     2274  3                  [DSC$K_DTYPE_L] :
;  2202     2275  4                      BEGIN
;  2203     2276  4                      OUTPUT [LONG_1] = .TEMP_BUF2 [S_LONG_1];
;  2204     2277  3                      END;
;  2205     2278  3
;  2206     2279  3                  [INRANGE, OUTRANGE] :
;  2207     2280  3                      RETURN (LIB$_FATERRLIB);
;  2208     2281  3                  TES;                                !For NBDS_SMLINT
;  2209     2282  3
;  2210     2283  2              END;
;  2211     2284  2 !<BLF/PAGE>
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;  2213          2285  2
;  2214          2286  2          [K_NBDS_LRGINT] :
;  2215          2287  2
;  2216          2288  2              CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_LU TO DSC$K_DTYPE_Q OF
;  2217          2289  2                  SET
;  2218          2290  2
;  2219          2291  2                  [DSC$K_DTYPE_LU] :
;  2220          2292  3                      BEGIN
;  2221          2293  3                      CLASS_S_DESC [DSC$W_LENGTH] = .SRC_INFO [S_LEN];
;  2222          2294  3                      CLASS_S_DESC [DSC$A_POINTER] = .SRC_INFO [S_POINTER];
;  2223          2295  3                      STATUS = OTS$CVT_T_D (CLASS_S_DESC, TEMP_BUF1, 0, -.SCALE,
;  2224          2296  3                          (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
;  2225          2297  3
;  2226          2298  3                      IF NOT .STATUS THEN RETURN (LIB$_INVNBDS);
;  2227          2299  3
;  2228          2300  3                      IF .TEMP_BUF1<15, 1, 0> THEN RETURN (LIB$_INVCVT);
;  2229          2301  3
;  2230          2302  3                      IF CMPD (TEMP_BUF1, .LRGST_D_LU) GTR 0 THEN RETURN (LIB$_INTOVF);
;  2231          2303  3
;  2232          2304  3                      BICPSW (%REF (K_SET_ARITHMETIC_TRAP));
;  2233          2305  3                      CVTRDL (TEMP_BUF1, .OUTPUT);
;  2234          2306  3                      BISPSW (%REF (K_SET_ARITHMETIC_TRAP));
;  2235          2307  2                      END;
;  2236          2308  2
;  2237          2309  2                  [DSC$K_DTYPE_Q] :
;  2238          2310  3                      BEGIN
;  2239          2311  3                      CLASS_S_DESC [DSC$W_LENGTH] = .SRC_INFO [S_LEN];
;  2240          2312  3                      CLASS_S_DESC [DSC$A_POINTER] = .SRC_INFO [S_POINTER];
;  2241          2313  3                      STATUS = OTS$CVT_T_H (CLASS_S_DESC, TEMP_BUF1, 0, -.SCALE,
;  2242          2314  3                          (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
;  2243          2315  3
;  2244          2316  3                      IF NOT .STATUS THEN RETURN (LIB$_INVNBDS);
;  2245          2317  3
;  2246          2318  3                      CVTRHQ (TEMP_BUF1, .OUTPUT);
;  2247          2319  2                      END;
;  2248          2320  2
;  2249          2321  2                  [INRANGE, OUTRANGE] :
;  2250          2322  2                      RETURN (LIB$_FATERRLIB);
;  2251          2323  2                  TES;                                !For NBDS_LRGINT
;  2252          2324  2
;  2253          2325  2 !<BLF/PAGE>
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;  2255          2326  2
;  2256          2327  2          [K_NBDS_LRGFLT] :
;  2257          2328                  BEGIN
;  2258          2329  3               CLASS_S_DESC [DSC$W_LENGTH] = .SRC_INFO [S_LEN];
;  2259          2330  3               CLASS_S_DESC [DSC$A_POINTER] = .SRC_INFO [S_POINTER];
;  2260          2331  3
;  2261          2332  3               CASE .DESTINATION [DSC$B_DTYPE] FROM DSC$K_DTYPE_G TO DSC$K_DTYPE_H OF
;  2262          2333  3                   SET
;  2263          2334  3
;  2264          2335  3                   [DSC$K_DTYPE_G] :
;  2265          2336  4                       BEGIN
;  2266          2337  4                       STATUS = OTS$CVT_T_G (CLASS_S_DESC, TEMP_BUF1, 0, -.SCALE,
;  2267          2338  4                           (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
;  2268          2339  4
;  2269          2340  4                       IF NOT .STATUS THEN RETURN (LIB$_INVNBDS);
;  2270          2341  4
;  2271          2342  4                       OUTPUT [LONG_1] = .TEMP_BUF1 [LONG_1];
;  2272          2343  4                       OUTPUT [LONG_2] = .TEMP_BUF1 [LONG_2];
;  2273          2344  3                       END;
;  2274          2345  3
;  2275          2346  3                   [DSC$K_DTYPE_H] :
;  2276          2347  4                       BEGIN
;  2277          2348  4                       STATUS = OTS$CVT_T_H (CLASS_S_DESC, TEMP_BUF1, 0, -.SCALE,
;  2278          2349  4                           (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
;  2279          2350  4
;  2280          2351  4                       IF NOT .STATUS THEN RETURN (LIB$_INVNBDS);
;  2281          2352  4
;  2282          2353  4                       CH$MOVE (16, TEMP_BUF1, .OUTPUT);
;  2283          2354  3                       END;
;  2284          2355  3
;  2285          2356  3                   [INRANGE, OUTRANGE] :
;  2286          2357  3                       RETURN (LIB$_FATERRLIB);
;  2287          2358  3                   TES;                                !For NBDS_LRGFLT
;  2288          2359  3
;  2289          2360  2               END;
;  2290          2361  2 !<BLF/PAGE>
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;  2292          2362  2
;  2293          2363  2          [K_NBDS_NBDS] :
;  2294          2364  2
;  2295          2365  2              SELECTONE .DESTINATION [DSC$B_DTYPE] OF
;  2296          2366  2                  SET
;  2297          2367  2
;  2298          2368  2                  [DSC$K_DTYPE_BU, DSC$K_DTYPE_T, DSC$K_DTYPE_VT] :
;  2299          2369  3                      BEGIN
;  2300          2370  3
;  2301          2371  3                      IF .SCALE NEQ 0
;  2302          2372  3                      THEN
;  2303          2373  4                          BEGIN
;  2304          2374  4                          CLASS_S_DESC [DSC$W_LENGTH] = .SRC_INFO [S_LEN];
;  2305          2375  4                          CLASS_S_DESC [DSC$A_POINTER] = .SRC_INFO [S_POINTER];
;  2306          2376  4                          STATUS = OTS$CVT_T_A (CLASS_S_DESC, TEMP_BUF1, 0, -.SCALE,
;  2307          2377  4                              (K_IGN_BLKS OR K_ENB_UNDERFLOW OR K_IGN_TABS OR K_ENB_SCALE));
;  2308          2378  4
;  2309          2379  4                          IF .STATUS
;  2310          2380  4                          THEN
;  2311          2381  5                              BEGIN
;  2312          2382  5                              CLASS_S_DESC [DSC$W_LENGTH] = K_TEMP_BUF_LENGTH;
;  2313          2383  5                              CLASS_S_DESC [DSC$A_POINTER] = TEMP_BUF2;
;  2314          2384  5
;  2315          2385  5                              IF .DST_INFO [D_LEN] - 9 LEQ 0
;  2316          2386  5                              THEN
;  2317          2387  5                                  DIGITS_IN_FRACT = 33
;  2318          2388  5                              ELSE
;  2319          2389  5                                  DIGITS_IN_FRACT = MIN (33, .DST_INFO [D_LEN] - 9);
;  2320          2390  5
;  2321          2391  5                              STATUS = FOR$CVT_H_TE (TEMP_BUF1, CLASS_S_DESC, .DIGITS_IN_FRACT, 0, 4);
;  2322          2392  5
;  2323          2393  5                              IF NOT .STATUS THEN RETURN (LIB$_FATERRLIB);
;  2324          2394  5
;  2325          2395  5                              BUF_OFFSET = CH$FIND_NOT_CH (K_TEMP_BUF_LENGTH, TEMP_BUF2, %C' ') - TEMP_BUF2;
;  2326          2396  5                              FINAL_LEN = K_TEMP_BUF_LENGTH - .BUF_OFFSET;
;  2327          2397  5                              OUTPUT_STR_LEN = .FINAL_LEN;
;  2328          2398  5                              STATUS = LIB$SCOPY_R_DX6 (.FINAL_LEN, TEMP_BUF2 + .BUF_OFFSET, .DESTINATION);
;  2329          2399  5
;  2330          2400  5                              IF .STATUS EQL LIB$_STRTRU THEN RETURN (LIB$_OUTSTRTRU);
;  2331          2401  5
;  2332          2402  5                              IF NOT .STATUS THEN RETURN (.STATUS);
;  2333          2403  5
;  2334          2404  5                              END
;  2335          2405  4                          ELSE
;  2336          2406  4                              RETURN (LIB$_INVNBDS);
;  2337          2407  4
;  2338          2408  4                          END
;  2339          2409  3                      ELSE
;  2340          2410  4                          BEGIN
;  2341          2411  4                          OUTPUT_STR_LEN = .SOURCE [DSC$W_LENGTH];
;  2342          2412  4                          STATUS = LIB$SCOPY_DXDX6 (.SOURCE, .DESTINATION);
;  2343          2413  4
;  2344          2414  4                          IF .STATUS EQL LIB$_STRTRU THEN RETURN (LIB$_OUTSTRTRU);
;  2345          2415  4
;  2346          2416  4                          IF NOT .STATUS THEN RETURN (.STATUS);
;  2347          2417  4
;  2348          2418  3                          END;
```

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;  2349          2419  3
;  2350          2420  2                    END;
;  2351          2421  2
;  2352          2422  2                [OTHERWISE] :
;  2353          2423  2                    RETURN (LIB$_FATERRLIB);
;  2354          2424  2                TES;                                    .For NBDS_NBDS
;  2355          2425  2
;  2356          2426  2            TES;                                        !End of the main CASE statement.
;  2357          2427  2
;  2358          2428  2 !+
;  2359          2429  2 ! If output string length is requested then supply it.
;  2360          2430  2 !-
;  2361          2431  2
;  2362          2432  2     IF ACTUALCOUNT () GTR 2 THEN (.OUTLEN)<0, 16, 0> = .OUTPUT_STR_LEN;
;  2363          2433  2
;  2364          2434  2 !<BLF/PAGE>
```

```
; 2366          2435  2     RETURN (SS$_NORMAL);
; 2367          2436  1     END;                                    ! End of routine LIB$CVT_DX_DX.


;                                                                    .TITLE  LIB$CVTDXDX LIB$CVT_DX_DX  any to any data type
                                                                                         conversion
                                                                     .IDENT  \1-009\

                                                                     .PSECT  _LIB$CODE,NOWRT,  SHR,  PIC,2

                                  00  00  5C  29  67  49  29  04  00000 P.AAA:  .ASCII  <4>\)Ig)\<92><0><0>
                                              0000FF00  FFFF507F  00008 P.AAB:  .LONG   ^XFFFF507F, ^X0000FF00
                        00000000  00000000  0000FFFE  FFFF4020  00010 P.AAC:  .LONG   -
                                                                                     ^XFFFF4020, ^X0000FFFE, ^X00000000, ^X0000-
                                                                                     0000
                                                  00  00  00  0C  00020 P.AAD:  .ASCII  <12><0><0><0>
                                              00000000  00004220  00024 P.AAE:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  0002C P.AAF:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  00034 P.AAG:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  0003C P.AAH:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  00044 P.AAI:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  0004C P.AAJ:  .LONG   ^X00004220, ^X00000000
                        00000000  00000000  00000000  40004004  00054 P.AAK:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  00064 P.AAL:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  00074 P.AAM:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  00084 P.AAN:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  00094 P.AAO:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  000A4 P.AAP:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  000B4 P.AAQ:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  000C4 P.AAR:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                                              00000000  00004220  000D4 P.AAS:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  000DC P.AAT:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  000E4 P.AAU:  .LONG   ^X00004220, ^X00000000
                                              00000000  00004220  000EC P.AAV:  .LONG   ^X00004220, ^X00000000
                        00000000  00000000  00000000  40004004  000F4 P.AAW:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  00104 P.AAX:  .LONG   -
                                                                                     ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                     0000
                        00000000  00000000  00000000  40004004  00114 P.AAY:  .LONG   -
```

```
                                                                                ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                0000
                00000000  00000000  00000000  40004004  00124 P.AAZ:  .LONG    -
                                                                                ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                0000
                00000000  00000000  00000000  40004004  00134 P.ABA:  .LONG    -
                                                                                ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                0000
                00000000  00000000  00000000  40004004  00144 P.ABB:  .LONG    -
                                                                                ^X40004004, ^X00000000, ^X00000000, ^X0000-
                                                                                0000

                                                        .EXTRN  LIB$_INTOVF, LIB$_FLTOVF
                                                        .EXTRN  LIB$_DECOVF, LIB$_FLTUND
                                                        .EXTRN  LIB$_ROPRAND, LIB$_INVCVT
                                                        .EXTRN  LIB$_INVDTYDSC, LIB$_INVCLADSC
                                                        .EXTRN  LIB$_INVCLADTY, LIB$_INVNBDS
                                                        .EXTRN  LIB$_DESSTROVF, LIB$_OUTSTRTRU
                                                        .EXTRN  LIB$_FATERRLIB, LIB$_STRTRU
                                                        .EXTRN  LIB$$FIND_CVT_PATH
                                                        .EXTRN  LIB$STOP, OTS$CVT_L_TI
                                                        .EXTRN  OTS$CVT_T_D, OTS$CVT_T_G
                                                        .EXTRN  OTS$CVT_T_H, FOR$CVT_D_TE
                                                        .EXTRN  FOR$CVT_D_TF, FOR$CVT_G_TE
                                                        .EXTRN  FOR$CVT_H_TF, LIB$SCOPY_R_DX6
                                                        .EXTRN  LIB$SCOPY_DXDX6
                                                        .EXTRN  MTH$CVT_D_G, LIB$$CVT_CVTLB_R1
                                                        .EXTRN  LIB$$CVT_CVTLW_R1
                                                        .EXTRN  LIB$$CVT_CVTLH_R1
                                                        .EXTRN  LIB$$CVT_CVTRHO_R1
                                                        .EXTRN  LIB$$CVT_MULH2_R1
                                                        .EXTRN  LIB$$CVT_DIVH2_R1
                                                        .EXTRN  LIB$$CVT_CVTROOD_R1
                                                        .EXTRN  LIB$$CVT_CVTROUH_R1
                                                        .EXTRN  LIB$$CVT_CVTRDQ_R1
                                                        .EXTRN  LIB$$CVT_CVTDH_R1
                                                        .EXTRN  LIB$$CVT_CVTRHL_R1
                                                        .EXTRN  LIB$$CVT_CVTRHQ_R1
                                                        .EXTRN  LIB$$CVT_CVTHF_R1
                                                        .EXTRN  LIB$$CVT_CVTHD_R1
                                                        .EXTRN  LIB$$CVT_CVTHG_R1
                                                        .EXTRN  LIB$$CVT_CVTGH_R1
                                                        .EXTRN  LIB$$CVT_CMPH_R1
                                                        .EXTRN  LIB$$CVT_SCALE_OU_UP_BY_10_R1
                                                        .EXTRN  LIB$$CVT_SCALE_OU_DOWN_BY_TO_R1
                                                        .EXTRN  LIB$$CVT_MULD2_R1
                                                        .EXTRN  LIB$$CVT_DIVD2_R1
                                                        .EXTRN  LIB$$CVT_ASHP_R1
                                                        .EXTRN  LIB$AB_CVTTP_O, LIB$AB_CVT_O_U
                                                        .EXTRN  LIB$AB_CVTTP_O, LIB$AB_CVT_U_O
                                                        .EXTRN  LIB$AB_CVTPT_U, LIB$AB_CVTPT_O
                                                        .EXTRN  LIB$AB_CVTPT_Z, LIB$AB_CVTTP_Z

                                    0FFC 00000          .ENTRY  LIB$CVT_DX_DX, Save R2,R3,R4,R5,R6,R7,R8,-      ; 0749
                                                                R9,R10,R11
5E      FF3C    CE   9E 00002       MOVAB   -196(SP), SP                                                        ;
6D      10DA    CF   DE 00007       MOVAL   306$, (FP)                                                          ; 0754
```

```
                              5B       08   AC  D0 0000C          MOVL    DESTINATION, R11                    ; 1100
                              58       04   AB  D0 00010          MOVL    4(R11), OUTPUT                      ;
    08          00            6E            00  2C 00014          MOVC5   #0, (SP), #0, #8, SRC_INFO          ; 1104
                                       F8   AD     00019                                                      ;
    08          00            6E            00  2C 0001B          MOVC5   #0, (SP), #0, #8, DST_INFO          ; 1105
                                       F0   AD     00020                                                      ;
    20          00            6E            00  2C 00022          MOVC5   #0, (SP), #0, #32, INTMED_DATA      ; 1106
                                       D0   AD     00027                                                      ;
    32          20            6E            00  2C 00029          MOVC5   #0, (SP), #32, #50, TEMP_BUF1       ; 1107
                                       60   AE     0002E                                                      ;
    32          20            6E            00  2C 00030          MOVC5   #0, (SP), #32, #50, TEMP_BUF2       ; 1108
                                       2C   AE     00035                                                      ;
                                       10   AE  D4 00037          CLRL    OUTPUT_STR_LEN                      ; 1109
                       26     AE     010E   8F  B0 0003A          MOVW    #270, CLASS_S_DESC+2                ; 1115
                       0C     AE     FE68   CF  9E 00040          MOVAB   P.AAA, LRGST_P_LU                   ; 1120
                       08     AE     FE6A   CF  9E 00046          MOVAB   P.AAB, LRGST_D_LU                   ; 1121
                       04     AE     FE6C   CF  9E 0004C          MOVAB   P.AAC, LRGST_H_LU                   ; 1122
                              57     FE76   CF  9E 00052          MOVAB   P.AAD, PACK_ZERO                    ; 1123
                       F9     AD       D0   AD  9E 00057          MOVAB   INTMED_DATA, SRC_INFO+1             ; 1130
                       FD     AD            20  B0 0005C          MOVW    #32, SRC_INFO+5                     ; 1131
                                       18   AE  9F 00060          PUSHAB  CVT_PATH                            ; 1142
                                       F0   AD  9F 00063          PUSHAB  DST_INFO                            ;
                                       F8   AD  9F 00066          PUSHAB  SRC_INFO                            ;
                              5A       04   AC  D0 00069          MOVL    SOURCE, R10                         ;
                              7E            5A  7D 0006D          MOVQ    R10, -(SP)                          ;
                   00000000G  00            05  FB 00070          CALLS   #5, LIB$$FIND_CVT_PATH              ;
                              6E            50  D0 00077          MOVL    R0, STATUS                          ;
                                            2E  18 0007A          BGEQ    5$                                  ; 1151
                06 FFFFFFF9   8F            6E  CF 0007C          CASEL   STATUS, #-7, #6                     ; 1168
  001E        0016          000E          101B     00084 1$:      .WORD   299$-1$,-                           ;
              0016          000E          001E     0008C                  2$-1$,-                             ;
                                                                          3$-1$,-                             ;
                                                                          4$-1$,-                             ;
                                                                          4$-1$,-                             ;
                                                                          2$-1$,-                             ;
                                                                          3$-1$                               ;
                              50 00000000G  8F  D0 00092 2$:      MOVL    #LIB$_INVDTYDSC, R0                 ;
                                                04 00099          RET                                         ;
                              50 00000000G  8F  D0 0009A 3$:      MOVL    #LIB$_INVCLADSC, R0                 ;
                                                04 000A1          RET                                         ;
                              50 00000000G  8F  D0 000A2 4$:      MOVL    #LIB$_INVCLADTY, R0                 ;
                                                04 000A9          RET                                         ;
                                     00E0   8F  B8 000AA 5$:      BISPSW  #224                                ; 1177
                              50       F8   AD  98 000AE          CVTBL   SRC_INFO, R0                        ; 1178
                              51       F0   AD  98 000B2          CVTBL   DST_INFO, R1                        ;
                20     AE     50            51  C3 000B6          SUBL3   R1, R0, SCALE                       ;
                              59       02   AB  9E 000BB          MOVAB   2(R11), R9                          ; 1234
                              56       18   AE  D0 000BF          MOVL    CVT_PATH, R6                        ; 1226
                23            01            56  CF 000C3          CASEL   R6, #1, #35                         ;
  02B1        0174          00A9          0048     000C7 6$:      .WORD   7$-6$,-                             ;
  00A9        055F          083A          042C     000CF                  17$-6$,-                            ;
  083A        061A          02B1          0174     000D7                  32$-6$,-                            ;
  02B1        0174          09A3          0937     000DF                  49$-6$,-                            ;
  0AD7        0A86          0A1B          061A     000E7                  70$-6$,-                            ;
  0BA9        061A          02B1          0B50     000EF                  151$-6$,-                           ;
  02B1        0174          0CF2          0C60     000F7                  94$-6$,-                            ;
  0E30        0D9C          083A          042C     000FF                  17$-6$,-                            ;
```

```
   0F2F        061A        0ED2        0174   00107              32$-6$,-                       ;
                                                                 49$-6$,-                       ;
                                                                 112$-6$,-                      ;
                                                                 151$-6$,-                      ;
                                                                 167$-6$,-                      ;
                                                                 175$-6$,-                      ;
                                                                 32$-6$,-                       ;
                                                                 49$-6$,-                       ;
                                                                 112$-6$,-                      ;
                                                                 186$-6$,-                      ;
                                                                 195$-6$,-                      ;
                                                                 200$-6$,-                      ;
                                                                 209$-6$,-                      ;
                                                                 49$-6$,-                       ;
                                                                 112$-6$,-                      ;
                                                                 217$-6$,-                      ;
                                                                 235$-6$,-                      ;
                                                                 247$-6$,-                      ;
                                                                 32$-6$,-                       ;
                                                                 49$-6$,-                       ;
                                                                 70$-6$,-                       ;
                                                                 151$-6$,-                      ;
                                                                 255$-6$,-                      ;
                                                                 269$-6$,-                      ;
                                                                 32$-6$,-                       ;
                                                                 283$-6$,-                      ;
                                                                 112$-6$,-                      ;
                                                                 291$-6$                        ;
                                        20   AE  D5 0010F 7$:    TSTL    SCALE                  ; 1231
                                             09  15 00112        BLEQ    8$                     ;
                          D0    AD           0A  C4 00114        MULL2   #10, INTMED_DATA       ;
                                        20   AE  D7 00118        DECL    SCALE                  ;
                                             F2  11 0011B        BRB     7$                     ;
                                             09  18 0011D 8$:    BGEQ    9$                     ;
                          D0    AD           0A  C6 0011F        DIVL2   #10, INTMED_DATA       ;
                                        20   AE  D6 00123        INCL    SCALE                  ;
                                             F5  11 00126        BRB     8$                     ;
                  06          02             69  8F 00128 9$:    CASEB   (R9), #2, #6           ; 1234
   0FA3         0FA3        0026       0011     0012C 10$:   .WORD   11$-10$,-              ;
                05AE        058B       0576     00134            12$-10$,-                      ;
                                                                 303$-10$,-                     ;
                                                                 303$-10$,-                     ;
                                                                 105$-10$,-                     ;
                                                                 107$-10$,-                     ;
                                                                 110$-10$                       ;
                                           0F92  31 0013A        BRW     303$                   ; 1265
                                        D0   AD  D5 0013D 11$:   TSTL    INTMED_DATA            ; 1240
                                             13  19 00140        BLSS    13$                    ;
                              50        D0   AD  D0 00142        MOVL    INTMED_DATA, R0        ; 1242
                              68             50  90 00146        MOVB    R0, (OUTPUT)           ;
                    000000FF  8F             50  D1 00149        CMPL    R0, #255               ;
                                             16  11 00150        BRB     15$                    ;
                                        D0   AD  D5 00152 12$:   TSTL    INTMED_DATA            ; 1249
                                             03  18 00155 13$:   BGEQ    14$                    ;
                                           0DDC  31 00157        BRW     273$                   ;
                              50        D0   AD  D0 0015A 14$:   MOVL    INTMED_DATA, R0        ; 1251
                              68             50  B0 0015E        MOVW    R0, (OUTPUT)           ;
```

```
          0000FFFF  8F             50  D1 00161          CMPL    R0, #65535                              ;
                                   03  1B 00168 15$:     BLEQU   16$                                     ;
                                 0DE0  31 0016A          BRW     275$                                    ;
                                 0F67  31 0016D 16$:     BRW     304$                                    ;
                    02             56  D1 00170 17$:     CMPL    R6, #2                                  ; 1277
                                   3B  12 00173          BNEQ    21$                                     ;
                             D0    AD  D5 00175          TSTL    INTMED_DATA                             ; 1278
                                   11  18 00178          BGEQ    19$                                     ;
                    50       D0    AD  D0 0017A          MOVL    INTMED_DATA, R0                         ;
                                   03  18 0017E          BGEQ    18$                                     ;
                    50             50  CE 00180          MNEGL   R0, R0                                  ;
                D0  AD             50  D0 00183 18$:     MOVL    R0, INTMED_DATA                         ;
                FF  AD             01  88 00187          BISB2   #1, SRC_INFO+7                          ;
                             20    AE  D5 0018B 19$:     TSTL    SCALE                                   ;
                                   0F  15 0018E          BLEQ    20$                                     ;
                    50       D0    AD  9E 00190          MOVAB   INTMED_DATA, R0                         ;
                       00000000G   00  16 00194          JSB     LIB$$CVT_SCALE_OU_UP_BY_10_R1           ;
                             20    AE  D7 0019A          DECL    SCALE                                   ;
                                   EC  11 0019D          BRB     19$                                     ;
                                   39  18 0019F 20$:     BGEQ    24$                                     ;
                    50       D0    AD  9E 001A1          MOVAB   INTMED_DATA, R0                         ;
                       00000000G   00  16 001A5          JSB     LIB$$CVT_SCALE_OU_DOWN_BY_10_R1         ;
                             20    AE  D6 001AB          INCL    SCALE                                   ;
                                   EF  11 001AE          BRB     20$                                     ;
                    08             56  D1 001B0 21$:     CMPL    R6, #8                                  ; 1282
                                   25  12 001B3          BNEQ    24$                                     ;
                             20    AE  D5 001B5 22$:     TSTL    SCALE                                   ; 1283
                                   0F  15 001B8          BLEQ    23$                                     ;
                    50       D0    AD  9E 001BA          MOVAB   INTMED_DATA, R0                         ;
                       00000000G   00  16 001BE          JSB     LIB$$CVT_SCALE_OU_UP_BY_10_R1           ;
                             20    AE  D7 001C4          DECL    SCALE                                   ;
                                   EC  11 001C7          BRB     22$                                     ;
                                   0F  18 001C9 23$:     BGEQ    24$                                     ;
                    50       D0    AD  9E 001CB          MOVAB   INTMED_DATA, R0                         ;
                       00000000G   00  16 001CF          JSB     LIB$$CVT_SCALE_OU_DOWN_BY_10_R1         ;
                             20    AE  D6 001D5          INCL    SCALE                                   ;
                                   EF  11 001D8          BRB     23$                                     ;
                    04             69  91 001DA 24$:     CMPB    (R9), #4                                ; 1291
                                   16  12 001DD          BNEQ    26$                                     ;
                    03       FF    AD  E9 001DF          BLBC    SRC_INFO+7, 25$                         ; 1294
                                 0D50  31 001E3          BRW     273$                                    ;
          50        D4  AD       D8    AD  C9 001E6 25$:     BISL3   INTMED_DATA+8, INTMED_DATA+4, R0        ; 1296
                    50       DC    AD  C8 001EC          BISL2   INTMED_DATA+12, R0                      ;
                                   1A  12 001F0          BNEQ    28$                                     ;
                                 04E5  31 001F2          BRW     110$                                    ;
                    09             69  91 001F5 26$:     CMPB    (R9), #9                                ; 1303
                                   03  13 001F8          BEQL    27$                                     ;
                                 0ED2  31 001FA          BRW     303$                                    ;
          50        D8  AD       DC    AD  C9 001FD 27$:     BISL3   INTMED_DATA+12, INTMED_DATA+8, R0       ; 1306
  51        D7  AD           01        07  EF 00203          EXTZV   #7, #1, INTMED_DATA+7, R1               ;
                    50             51  C8 00209          BISL2   R1, R0                                  ;
                                   03  13 0020C 28$:     BEQL    29$                                     ;
                                 0D3C  31 0020E          BRW     275$                                    ;
                    1F       FF    AD  E9 00211 29$:     BLBC    SRC_INFO+7, 31$                         ; 1310
                D0  AD       D0    AD  D2 00215          MCOML   INTMED_DATA, INTMED_DATA                ; 1313
                D4  AD       D4    AD  D2 0021A          MCOML   INTMED_DATA+4, INTMED_DATA+4            ; 1314
          FFFFFFFF  8F       D0    AD  D1 0021F          CMPL    INTMED_DATA, #-1                        ; 1316
```

```
                             08  12 00227        BNEQ    30$                              ;
                    D0       AD  D4 00229        CLRL    INTMED_DATA                      ; 1319
                    D4       AD  D6 0022C        INCL    INTMED_DATA+4                    ; 1320
                             03  11 0022F        BRB     31$                              ; 1316
                    D0       AD  D6 00231 30$:   INCL    INTMED_DATA                      ; 1323
                68  D0       AD  7D 00234 31$:   MOVQ    INTMED_DATA, (OUTPUT)            ; 1327
                        0E9C     31 00238        BRW     304$                             ; 1288
                03           56  D1 0023B 32$:   CMPL    R6, #3                           ; 1344
                             34  12 0023E        BNEQ    35$
            D0  AD  D0       AD  6E 00240        CVTLD   INTMED_DATA, INTMED_DATA         ; 1345
                    20       AE  D5 00245 33$:   TSTL    SCALE                            ;
                             14  15 00248        BLEQ    34$                              ;
                51  D0       AD  9E 0024A        MOVAB   INTMED_DATA, R1                  ;
                50  FC7E     CF  9E 0024E        MOVAB   P.AAE, R0                        ;
                    00000000G 00 16 00253        JSB     LIB$$CVT_MULD2_R1                ;
                    20       AE  D7 00259        DECL    SCALE                            ;
                             E7  11 0025C        BRB     33$                              ;
                             7A  18 0025E 34$:   BGEQ    40$                              ;
                51  D0       AD  9E 00260        MOVAB   INTMED_DATA, R1                  ;
                50  FC70     CF  9E 00264        MOVAB   P.AAF, R0                        ;
                    00000000G 00 16 00269        JSB     LIB$$CVT_DIVD2_R1                ;
                    20       AE  D6 0026F        INCL    SCALE                            ;
                             EA  11 00272        BRB     34$                              ;
                09           56  D1 00274 35$:   CMPL    R6, #9                           ; 1349
                             43  12 00277        BNEQ    38$                              ;
                51  60       AE  9E 00279        MOVAB   TEMP_BUF1, R1                    ; 1350
                50  D0       AD  9E 0027D        MOVAB   INTMED_DATA, R0                  ;
                    00000000G 00 16 00281        JSB     LIB$$CVT_CVTROUD_R1              ;
    D0  AD      60  AE       08  28 00287        MOVC3   #8, TEMP_BUF1, INTMED_DATA       ;
                    20       AE  D5 0028D 36$:   TSTL    SCALE                            ;
                             14  15 00290        BLEQ    37$                              ;
                51  D0       AD  9E 00292        MOVAB   INTMED_DATA, R1                  ;
                50  FC46     CF  9E 00296        MOVAB   P.AAG, R0                        ;
                    00000000G 00 16 0029B        JSB     LIB$$CVT_MULD2_R1                ;
                    20       AE  D7 002A1        DECL    SCALE                            ;
                             E7  11 002A4        BRB     36$                              ;
                             32  18 002A6 37$:   BGEQ    40$                              ;
                51  D0       AD  9E 002A8        MOVAB   INTMED_DATA, R1                  ;
                50  FC38     CF  9E 002AC        MOVAB   P.AAH, R0                        ;
                    00000000G 00 16 002B1        JSB     LIB$$CVT_DIVD2_R1                ;
                    20       AE  D6 002B7        INCL    SCALE                            ;
                             EA  11 002BA        BRB     37$                              ;
                0F           56  D1 002BC 38$:   CMPL    R6, #15                          ; 1354
                             32  12 002BF        BNEQ    42$                              ;
                    20       AE  D5 002C1 39$:   TSTL    SCALE                            ; 1355
                             14  15 002C4        BLEQ    40$                              ;
                51  D0       AD  9E 002C6        MOVAB   INTMED_DATA, R1                  ;
                50  FC22     CF  9E 002CA        MOVAB   P.AAI, R0                        ;
                    00000000G 00 16 002CF        JSB     LIB$$CVT_MULD2_R1                ;
                    20       AE  D7 002D5        DECL    SCALE                            ;
                             E7  11 002D8        BRB     39$                              ;
                             03  19 002DA 40$:   BLSS    41$                              ;
                        0081     31 002DC        BRW     44$                              ;
                51  D0       AD  9E 002DF 41$:   MOVAB   INTMED_DATA, R1                  ;
                50  FC11     CF  9E 002E3        MOVAB   P.AAJ, R0                        ;
                    00000000G 00 16 002E8        JSB     LIB$$CVT_DIVD2_R1                ;
                    20       AE  D6 002EE        INCL    SCALE                            ;
```

```
                                 E7  11 002F1         BRB     40$
               1B                56  D1 002F3 42$:    CMPL    R6, #27                                        ; 1359
                                 39  12 002F6         BNEQ    43$
            1C AE          FD    AD  3C 002F8         MOVZWL  SRC_INFO+5, NO_DIGITS                          ; 1360
60 AE  1C AE   D0 AD       1C    AE  08 002FD         CVTPS   NO_DIGITS, INTMED_DATA, NO_DIGITS, -           ;
                                                              TEMP_BUF1                                      ;
       24 AE   1C AE             01  A1 00306         ADDW3   #1, NO_DIGITS, CLASS_S_DESC                    ;
               28 AE       60    AE  9E 0030C         MOVAB   TEMP_BUF1, CLASS_S_DESC+4                      ;
                  7E       44    8F  9A 00311         MOVZBL  #68, -(SP)                                     ;
                  7E       24    AE  CE 00315         MNEGL   SCALE, -(SP)                                   ;
                                 7E  D4 00319         CLRL    -(SP)                                          ;
                           D0    AD  9F 0031B         PUSHAB  INTMED_DATA                                    ;
                           34    AE  9F 0031E         PUSHAB  CLASS_S_DESC                                   ;
          00000000G 00           05  FB 00321         CALLS   #5, OTS$CVT_T_D                                ;
                    6E           50  D0 00328         MOVL    R0, STATUS                                     ;
                    32           6E  E8 0032B         BLBS    STATUS, 44$                                    ;
                               0182  31 0032E         BRW     62$                                            ;
                    21           56  D1 00331 43$:    CMPL    R6, #33                                        ; 1364
                                 2A  12 00334         BNEQ    44$                                            ;
               24 AE       FD    AD  B0 00336         MOVW    SRC_INFO+5, CLASS_S_DESC                       ; 1366
               28 AE       F9    AD  D0 0033B         MOVL    SRC_INFO+1, CLASS_S_DESC+4                     ; 1367
                  7E       55    8F  9A 00340         MOVZBL  #85, -(SP)                                     ; 1369
                  7E       24    AE  CE 00344         MNEGL   SCALE, -(SP)                                   ; 1368
                                 7E  D4 00348         CLRL    -(SP)                                          ;
                           D0    AD  9F 0034A         PUSHAB  INTMED_DATA                                    ;
                           34    AE  9F 0034D         PUSHAB  CLASS_S_DESC                                   ;
          00000000G 00           05  FB 00350         CALLS   #5, OTS$CVT_T_D                                ;
                    6E           50  D0 00357         MOVL    R0, STATUS                                     ;
                    03           6E  E8 0035A         BLBS    STATUS, 44$                                    ; 1371
                               0D3F  31 0035D         BRW     299$                                           ;
         01         0A           69  8F 00360 44$:    CASEB   (R9), #10, #1                                  ; 1376
                  000D         0007     00364 45$:    .WORD   46$-45$,-                                      ;
                                                              47$-45$                                        ;
                               0D64  31 00368         BRW     303$                                           ; 1397
                    68     D0    AD  76 0036B 46$:    CVTDF   INTMED_DATA, (OUTPUT)                          ; 1381
                                 04  11 0036F         BRB     48$                                            ; 1383
                    68     D0    AD  7D 00371 47$:    MOVQ    INTMED_DATA, (OUTPUT)                          ; 1389
                               016F  31 00375 48$:    BRW     68$                                            ; 1392
                    04           56  D1 00378 49$:    CMPL    R6, #4                                         ; 1409
                                 3D  12 0037B         BNEQ    52$                                            ;
                    51     D0    AD  9E 0037D         MOVAB   INTMED_DATA, R1                                ; 1410
                    50     D0    AD  9E 00381         MOVAB   INTMED_DATA, R0                                ;
                 00000000G 00    16  00385            JSB     LIB$$CVT_CVTLH_R1                              ;
                           20    AE  D5 0038B 50$:    TSTL    SCALE                                          ;
                                 14  15 0038E         BLEQ    51$                                            ;
                    51     D0    AD  9E 00390         MOVAB   INTMED_DATA, R1                                ;
                    50   FB68    CF  9E 00394         MOVAB   P.AAK, R0                                      ;
                 00000000G 00    16  00399            JSB     LIB$$CVT_MULH2_R1                              ;
                           20    AE  D7 0039F         DECL    SCALE                                          ;
                                 E7  11 003A2         BRB     50$                                            ;
                                 46  18 003A4 51$:    BGEQ    54$                                            ;
                    51     D0    AD  9E 003A6         MOVAB   INTMED_DATA, R1                                ;
                    50   FB62    CF  9E 003AA         MOVAB   P.AAL, R0                                      ;
                 00000000G 00    16  003AF            JSB     LIB$$CVT_DIVH2_R1                              ;
                           20    AE  D6 003B5         INCL    SCALE                                          ;
                                 EA  11 003B8         BRB     51$                                            ;
                    0A           56  D1 003BA 52$:    CMPL    R6, #10                                        ; 1414
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                                        43  12 003BD        BNEQ    55$
                          51     60     AE  9E 003BF        MOVAB   TEMP_BUF1, R1                                  ; 1415
                          50     D0     AD  9E 003C3        MOVAB   INTMED_DATA, R0                                ;
                             00000000G  00  16 003C7        JSB     LIB$$CVT_CVTROUH_R1                            ;
             D0   AD     60     AE      10  28 003CD        MOVC3   #16, TEMP_BUF1, INTMED_DATA                    ;
                                 20     AE  D5 003D3 53$:   TSTL    SCALE                                          ;
                                        14  15 003D6        BLEQ    54$                                            ;
                          51     D0     AD  9E 003D8        MOVAB   INTMED_DATA, R1                                ;
                          50   FB40     CF  9E 003DC        MOVAB   P.AAM, R0                                      ;
                             00000000G  00  16 003E1        JSB     LIB$$CVT_MULH2_R1                              ;
                                 20     AE  D7 003E7        DECL    SCALE                                          ;
                                        E7  11 003EA        BRB     53$                                            ;
                                        74  18 003EC 54$:   BGEQ    60$                                            ;
                          51     D0     AD  9E 003EE        MOVAB   INTMED_DATA, R1                                ;
                          50   FB3A     CF  9E 003F2        MOVAB   P.AAN, R0                                      ;
                             00000000G  00  16 003F7        JSB     LIB$$CVT_DIVH2_R1                              ;
                                 20     AE  D6 003FD        INCL    SCALE                                          ;
                                        EA  11 00400        BRB     54$                                            ;
                          10            56  D1 00402 55$:   CMPL    R6, #16                                        ; 1419
                                        3D  12 00405        BNEQ    58$                                            ;
                          51     D0     AD  9E 00407        MOVAB   INTMED_DATA, R1                                ; 1420
                          50     D0     AD  9E 0040B        MOVAB   INTMED_DATA, R0                                ;
                             00000000G  00  16 0040F        JSB     LIB$$CVT_CVTDH_R1                              ;
                                 20     AE  D5 00415 56$:   TSTL    SCALE                                          ;
                                        14  15 00418        BLEQ    57$                                            ;
                          51     D0     AD  9E 0041A        MOVAB   INTMED_DATA, R1                                ;
                          50   FB1E     CF  9E 0041E        MOVAB   P.AAO, R0                                      ;
                             00000000G  00  16 00423        JSB     LIB$$CVT_MULH2_R1                              ;
                                 20     AE  D7 00429        DECL    SCALE                                          ;
                                        E7  11 0042C        BRB     56$                                            ;
                                        32  18 0042E 57$:   BGEQ    60$                                            ;
                          51     D0     AD  9E 00430        MOVAB   INTMED_DATA, R1                                ;
                          50   FB18     CF  9E 00434        MOVAB   P.AAP, R0                                      ;
                             00000000G  00  16 00439        JSB     LIB$$CVT_DIVH2_R1                              ;
                                 20     AE  D6 0043F        INCL    SCALE                                          ;
                                        EA  11 00442        BRB     57$                                            ;
                          16            56  D1 00444 58$:   CMPL    R6, #22                                        ; 1424
                                        2F  12 00447        BNEQ    61$                                            ;
                                 20     AE  D5 00449 59$:   TSTL    SCALE                                          ; 1425
                                        14  15 0044C        BLEQ    60$                                            ;
                          51     D0     AD  9E 0044E        MOVAB   INTMED_DATA, R1                                ;
                          50   FB0A     CF  9E 00452        MOVAB   P.AAQ, R0                                      ;
                             00000000G  00  16 00457        JSB     LIB$$CVT_MULH2_R1                              ;
                                 20     AE  D7 0045D        DECL    SCALE                                          ;
                                        E7  11 00460        BRB     59$                                            ;
                                        64  18 00462 60$:   BGEQ    64$                                            ;
                          51     D0     AD  9E 00464        MOVAB   INTMED_DATA, R1                                ;
                          50   FB04     CF  9E 00468        MOVAB   P.AAR, R0                                      ;
                             00000000G  00  16 0046D        JSB     LIB$$CVT_DIVH2_R1                              ;
                                 20     AE  D6 00473        INCL    SCALE                                          ;
                                        EA  11 00476        BRB     60$                                            ;
                          1C            56  D1 00478 61$:   CMPL    R6, #28                                        ; 1429
                                        4B  12 0047B        BNEQ    64$                                            ;
                   1C     AE     FD     AD  3C 0047D        MOVZWL  SRC_INFO+5, NO_DIGITS                          ; 1430
 60   AE     1C    AE     D0     AD     1C  AE  08 00482    CVTPS   NO_DIGITS, INTMED_DATA, NO_DIGITS, -           ;
                                                                    TEMP_BUF1                                      ;
             24   AE     1C     AE          01  A1 0048B    ADDW3   #1, NO_DIGITS, CLASS_S_DESC                    ;
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                        28   AE        60   AE   9E 00491          MOVAB   TEMP_BUF1, CLASS_S_DESC+4                    ;
                             7E        44   8F   9A 00496          MOVZBL  #68,-(SP)                                    ;
                             7E        24   AE   CE 0049A          MNEGL   SCALE, -(SP)                                 ;
                                         7E   D4 0049E            CLRL    -(SP)                                        ;
                                       D0   AD   9F 004A0         PUSHAB  INTMED_DATA                                  ;
                                       34   AE   9F 004A3         PUSHAB  CLASS_S_DESC                                 ;
                    00000000G          00        05   FB 004A6    CALLS   #5, OTS$CVT_T_H                              ;
                             6E                50   D0 004AD     MOVL    R0, STATUS                                   ;
                             15                6E   E8 004B0     BLBS    STATUS, 64$                                  ;
                                       20   AE   D5 004B3 62$:    TSTL    SCALE                                        ;
                                            08   18 004B6         BGEQ    63$                                          ;
                             50 00000000G   8F   D0 004B8         MOVL    #LIB$_FLTUND, R0                             ;
                                            04 004BF             RET                                                  ;
                             50 00000000G   8F   D0 004C0 63$:    MOVL    #LIB$_FLTOVF, R0                             ;
                                            04 004C7             RET                                                  ;
                    01             1B          69   8F 004C8 64$:    CASEB   (R9), #27, #1                            ; 1435
                              0016           0007     004CC 65$:    .WORD   66$-65$,-                                ;
                                                                            67$-65$                                  ;
                                       0BFC   31 004D0            BRW     303$                                         ; 1455
                             50        D0   AD   9E 004D3 66$:    MOVAB   INTMED_DATA, R0                              ; 1440
                             51             58   D0 004D7         MOVL    OUTPUT, R1                                   ;
                                00000000G   00   16 004DA         JSB     LIB$$CVT_CVTHG_R1                            ;
                                            05   11 004E0         BRB     68$                                          ; 1442
                    68       D0   AD             10   28 004E2 67$:    MOVC3   #16, INTMED_DATA, (OUTPUT)               ; 1448
                             05        FF   AD   E9 004E7 68$:    BLBC    SRC_INFO+7, 69$                              ; 1450
                             01   A8   80   8F   88 004EB         BISB2   #128, 1(OUTPUT)                              ;
                                       0BE4   31 004F0 69$:    BRW     304$                                         ; 1226
                             05             56   D1 004F3 70$:    CMPL    R6, #5                                       ; 1467
                                            16   12 004F6         BNEQ    72$                                          ;
                                       D0   AD   D5 004F8         TSTL    INTMED_DATA                                  ; 1468
                                            04   18 004FB         BGEQ    71$                                          ;
                                  FF   AD        01   88 004FD    BISB2   #1, SRC_INFO+7                               ;
                                  1C   AE        1F   D0 00501 71$:    MOVL    #31, NO_DIGITS                           ;
                        D0   AD   1C   AE   D0   AD   F9 00505         CVTLP   INTMED_DATA, NO_DIGITS, INTMED_DATA      ;
                                            20   11 0050C         BRB     73$                                          ;
                             1D             56   D1 0050E 72$:    CMPL    R6, #29                                      ; 1472
                                            49   12 00511         BNEQ    74$                                          ;
                                  1C   AE   FD   AD   3C 00513    MOVZWL  SRC_INFO+5, NO_DIGITS                        ; 1473
                    67        01   D0   AD   1C   AE   37 00518    CMPP4   NO_DIGITS, INTMED_DATA, #1, (PACK_ZERO)      ;
                                            54   DC 0051F         MOVPSL  R4                                           ;
                    54        54        02        02   EF 00521    EXTZV   #2, #2, R4, R4                               ;
                                            54   D7 00526         DECL    R4                                           ;
                                            04   15 00528         BLEQ    73$                                          ;
                                  FF   AD        01   88 0052A    BISB2   #1, SRC_INFO+7                               ;
                                       20   AE   D5 0052E 73$:    TSTL    SCALE                                        ;
                                            29   13 00531         BEQL    74$                                          ;
                        60   AE   D0   AD   1C   AE   34 00533    MOVP    NO_DIGITS, INTMED_DATA, TEMP_BUF1            ;
                                  55   D0   AD   9E 0053A         MOVAB   INTMED_DATA, R5                              ;
                                  54   1C   AE   9E 0053E         MOVAB   NO_DIGITS, R4                                ;
                                  14   AE        05   D0 00542    MOVL    #5, 20(SP)                                   ;
                                  53        14   AE   9E 00546    MOVAB   20(SP), R3                                   ;
                                  52        60   AE   9E 0054A    MOVAB   TEMP_BUF1, R2                                ;
                                  51        1C   AE   9E 0054E    MOVAB   NO_DIGITS, R1                                ;
                                  50        20   AE   9E 00552    MOVAB   SCALE, R0                                    ;
                                       00000000G   00   16 00556    JSB     LIB$$CVT_ASHP_R1                         ;
                             06             0F        69   8F 0055C 74$:    CASEB   (R9), #15, #6                    ; 1478
                    006D          003C             0026     0011     00560 75$:    .WORD   76$-75$,-                ;
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                00B6          0097          0097      00568                   78$-75$,-                                   ;
                                                                              81$-75$,-                                   ;
                                                                              84$-75$,-                                   ;
                                                                              88$-75$,-                                   ;
                                                                              88$-75$,-                                   ;
                                                                              92$-75$                                     ;
                                            0B5E   31 0056E           BRW     303$                                        ; 1535
                              03        FF    AD   E9 00571 76$:      BLBC    SRC_INFO+7, 77$                             ; 1484
                                            09BE   31 00575           BRW     273$                                        ;
       6B 00000000G  00       D0   AD    1C   AE   24 00578 77$:      CVTPT   NO_DIGITS, INTMED_DATA, LIB$AB_CVTPT_U, -   ; 1486
                                              68      00583                   (RT1), (OUTPUT)                             ;
                                              6F   11 00584           BRB     87$                                         ; 1478
                                              6B   B5 00586 78$:      TSTW    (R11)                                       ; 1493
                                              04   12 00588           BNEQ    79$                                         ;
                                              50   D4 0058A           CLRL    R0                                          ;
                                              05   11 0058C           BRB     80$                                         ;
                              50              6B   3C 0058E 79$:      MOVZWL  (R11), R0                                   ;
                                              50   D7 00591           DECL    R0                                          ;
       68            50       D0   AD    1C   AE   08 00593 80$:      CVTPS   NO_DIGITS, INTMED_DATA, R0, (OUTPUT)        ; 1495
                                              78   11 0059A           BRB     91$                                         ; 1490
       6B 00000000G  00       D0   AD    1C   AE   24 0059C 81$:      CVTPT   NO_DIGITS, INTMED_DATA, LIB$AB_CVTPT_U, -   ; 1499
                                         60   AE      005A7                   (RT1), TEMP_BUF1                            ;
                              50         60   AE   9A 005A9           MOVZBL  TEMP_BUF1, R0                               ; 1500
                              50 00000000G0040     9E 005AD           MOVAB   LIB$AB_CVT_U_O-48[R0], R0                   ;
                              06        FF    AD   E9 005B5           BLBC    SRC_INFO+7, 82$                             ;
                              50        0A    A0   D0 005B9           MOVL    10(R0), R0                                  ;
                                              03   11 005BD           BRB     83$                                         ;
                              50              60   D0 005BF 82$:      MOVL    (R0), R0                                    ; 1501
                         60   AE              50   90 005C2 83$:      MOVB    R0, TEMP_BUF1                               ; 1500
                     68  60   AE              6B   28 005C6           MOVC3   (R11), TEMP_BUF1, (OUTPUT)                  ; 1502
                                              57   11 005CB           BRB     93$                                         ; 1478
                                              6B   B5 005CD 84$:      TSTW    (R11)                                       ; 1514
                                              04   12 005CF           BNEQ    85$                                         ;
                                              56   D4 005D1           CLRL    DES_LEN                                     ;
                                              05   11 005D3           BRB     86$                                         ;
                              56              6B   3C 005D5 85$:      MOVZWL  (R11), DES_LEN                              ;
                                              56   D7 005D8           DECL    DES_LEN                                     ;
  60   AE            56       D0   AD    1C   AE   08 005DA 86$:      CVTPS   NO_DIGITS, INTMED_DATA, DES_LEN, TEMP_BUF1  ; 1517
                              D0 AD46    60   AE   90 005E2           MOVB    TEMP_BUF1, INTMED_DATA[DES_LEN]             ; 1518
                 D0  AD       61   AE              56   28 005E8      MOVC3   DES_LEN, TEMP_BUF1+1, INTMED_DATA           ; 1519
                                              56   D6 005EE           INCL    R6                                          ; 1520
                     68       D0   AD         56   28 005F0           MOVC3   R6, INTMED_DATA, (OUTPUT)                   ;
                                              2D   11 005F5 87$:      BRB     ??$                                         ; 1478
                              13              69   91 005F7 88$:      CMPB    (R9), #19                                   ; 1525
                                              09   12 005FA           BNEQ    89$                                         ;
                              50 00000000G    00   9E 005FC           MOVAB   LIB$AB_CVTPT_O, R0                          ;
                                              07   11 00603           BRB     90$                                         ;
                              50 00000000G    00   9E 00605 89$:      MOVAB   LIB$AB_CVTPT_Z, R0                          ;
       6B            60       D0   AD    1C   AE   24 0060C 90$:      CVTPT   NO_DIGITS, INTMED_DATA, (R0), (R11), -      ; 1526
                                              68      00613                   (OUTPUT)                                    ;
                                              7C   11 00614 91$:      BRB     103$                                        ;
  60   AE            6B       D0   AD    1C   AE   08 00616 92$:      CVTPS   NO_DIGITS, INTMED_DATA, (R11), TEMP_BUF1    ; 1530
       68            6B       60   AE         6B   09 0061E           CVTSP   (RT1), TEMP_BUF1, (R11), (OUTPUT)           ; 1531
                                              6C   11 00624 93$:      BRB     103$                                        ; 1226
                                        20    AE   D5 00626 94$:      TSTL    SCALE                                       ; 1542
                                              0F   15 00629           BLEQ    95$                                         ;
                              50        D0    AD   9E 0062B           MOVAB   INTMED_DATA, R0                             ;
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                                000000000G  00  16 0062F          JSB     LIB$$CVT_SCALE_OU_UP_BY_10_R1                       ;
                                      20    AE  D7 00635          DECL    SCALE                                               ;
                                            EC  11 00638          BRB     94$                                                 ;
                                            0F  16 0063A 95$:     BGEQ    96$                                                 ;
                                      50    D0  AD 9E 0063C       MOVAB   INTMED_DATA, R0                                     ;
                                000000000G  00  16 00640          JSB     LIB$$CVT_SCALE_OU_DOWN_BY_10_R1                     ;
                                      20    AE  D6 00646          INCL    SCALE                                               ;
                                            EF  11 00649          BRB     95$                                                 ;
                  50      D4    AD      D8    AD  C9 0064B 96$:     BISL3   INTMED_DATA+8, INTMED_DATA+4, R0                    ; 1545
                                50      DC    AD  C8 00651          BISL2   INTMED_DATA+12, R0                                  ;
                                            1D  12 00655          BNEQ    99$                                                 ;
                06                  02          69  8F 00657     CASEB   (R9), #2, #6                                        ; 1549
        0A74    0A74                0027        0011        0065B 97$:     .WORD   98$-97$,-                                   ;
                0063                004E        0039        00663                 101$-97$,-                                    ;
                                                                                  303$-97$,-                                    ;
                                                                                  303$-97$,-                                    ;
                                                                                  104$-97$,-                                    ;
                                                                                  106$-97$,-                                    ;
                                                                                  108$-97$                                      ;
                                          0A63  31  00669          BRW     303$                                                ; 1611
                                      12  FF    AD  E8 0066C 98$:     BLBS    SRC_INFO+7, 101$                                ; 1555
                                      03  D1    AD  E9 00670          BLBC    INTMED_DATA+1, 100$                             ; 1557
                                          08D6  31  00674 99$:     BRW     275$                                                ;
                                          D2    AD  B5 00677 100$:    TSTW    INTMED_DATA+2                                   ;
                                                F8  12 0067A          BNEQ    99$                                             ;
                                      68        D0  AD 90 0067C       MOVB    INTMED_DATA, (OUTPUT)                           ; 1559
                                                5C  11 00680          BRB     111$                                            ; 1549
                                      03        FF  AD  E9 00682 101$:    BLBC    SRC_INFO+7, 102$                            ; 1565
                                          08AD  31  00686          BRW     273$                                                ;
                                          D2    AD  B5 00689 102$:    TSTW    INTMED_DATA+2                                   ; 1567
                                                E6  12 0068C          BNEQ    99$                                             ;
                                      68        D0  AD B0 0068E       MOVW    INTMED_DATA, (OUTPUT)                           ; 1569
                                                4A  11 00692 103$:    BRB     111$                                            ; 1549
                                          D0    AD  D5 00694 104$:    TSTL    INTMED_DATA                                     ; 1575
                                                DB  19 00697          BLSS    99$                                             ;
                                      05        FF  AD  E9 00699          BLBC    SRC_INFO+7, 105$                            ; 1577
                        D0    AD      D0    AD  CE 0069D          MNEGL   INTMED_DATA, INTMED_DATA                            ;
                                50      D0    AD  9E 006A2 105$:    MOVAB   INTMED_DATA, R0                                     ; 1579
                                          082E  31  006A6          BRW     264$                                                ;
                                          D0    AD  D5 006A9 106$:    TSTL    INTMED_DATA                                     ; 1585
                                                C6  19 006AC          BLSS    99$                                             ;
                                      05        FF  AD  E9 006AE          BLBC    SRC_INFO+7, 107$                            ; 1587
                        D0    AD      D0    AD  CE 006B2          MNEGL   INTMED_DATA, INTMED_DATA                            ;
                                50      D0    AD  9E 006B7 107$:    MOVAB   INTMED_DATA, R0                                     ; 1589
                                          0828  31  006BB          BRW     266$                                                ;
        80000000        8F      D0    AD  D1 006BE 108$:    CMPL    INTMED_DATA, #-2147483648                               ; 1595
                                            04  12 006C6          BNEQ    109$                                                ;
                                      0E        FF  AD  E8 006C8          BLBS    SRC_INFO+7, 110$                            ;
                                          D0    AD  D5 006CC 109$:    TSTL    INTMED_DATA                                     ; 1601
                                                A3  19 006CF          BLSS    99$                                             ;
                                      05        FF  AD  E9 006D1          BLBC    SRC_INFO+7, 110$                            ; 1603
                        D0    AD      D0    AD  CE 006D5          MNEGL   INTMED_DATA, INTMED_DATA                            ;
                                08      D0    AD  D0 006DA 110$:    MOVL    INTMED_DATA, (OUTPUT)                           ; 1605
                                          09F6  31  006DE 111$:    BRW     304$                                                ; 1549
                    24  AE                32  B0 006E1 112$:    MOVW    #50, CLASS_S_DESC                               ; 1619
                    28  AE          2C    AE  9E 006E5          MOVAB   TEMP_BUF2, CLASS_S_DESC+4                           ; 1620
                                0B          56  D1 006EA          CMPL    R6, #11                                             ; 1625
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                                  21  12 006ED          BNEQ    114$                                 ;
                 51          60   AE  9E 006EF          MOVAB   TEMP_BUF1, R1                        ; 1627
                 50          D0   AD  9E 006F3          MOVAB   INTMED_DATA, R0                      ;
                     00000000G    00  16 006F7          JSB     LIB$$CVT_CVTROUH_R1                  ;
                 05          FF   AD  E9 006FD          BLBC    SRC_INFO+7, 113$                     ; 1629
           61    AE          80   8F  88 00701          BISB2   #128, TEMP_BUF1+1                    ;
                                  01  DD 00706 113$:    PUSHL   #1                                   ; 1631
                                  7E  7C 00708          CLRQ    -(SP)                                ;
                             2C   AE  DD 0070A          PUSHL   SCALE                                ;
                                008C  31 0070D          BRW     121$                                 ;
                 11               56  D1 00710 114$:    CMPL    R6, #17                              ; 1634
                                  21  12 00713          BNEQ    116$                                 ;
                             D1   AD  95 00715          TSTB    INTMED_DATA+1                        ; 1637
                                  04  18 00718          BGEQ    115$                                 ;
           FF    AD               01  88 0071A          BISB2   #1, SRC_INFO+7                       ;
                                  01  DD 0071E 115$:    PUSHL   #1                                   ; 1639
                                  7E  7C 00720          CLRQ    -(SP)                                ;
                             2C   AE  DD 00722          PUSHL   SCALE                                ;
                                  7E  D4 00725          CLRL    -(SP)                                ;
                             38   AE  9F 00727          PUSHAB  CLASS_S_DESC                         ;
                             D0   AD  9F 0072A          PUSHAB  INTMED_DATA                          ;
     00000000G   00               07  FB 0072D          CALLS   #7, FOR$CVT_D_TF                     ;
                                  75  11 00734          BRB     123$                                 ;
                 17               56  D1 00736 116$:    CMPL    R6, #23                              ; 1642
                                  1A  12 00739          BNEQ    118$                                 ;
                             D1   AD  95 0073B          TSTB    INTMED_DATA+1                        ; 1645
                                  04  18 0073E          BGEQ    117$                                 ;
           FF    AD               01  88 00740          BISB2   #1, SRC_INFO+7                       ;
                                  01  DD 00744 117$:    PUSHL   #1                                   ; 1647
                                  7E  7C 00746          CLRQ    -(SP)                                ;
                             2C   AE  DD 00748          PUSHL   SCALE                                ;
                                  7E  D4 0074B          CLRL    -(SP)                                ;
                             38   AE  9F 0074D          PUSHAB  CLASS_S_DESC                         ;
                             D0   AD  9F 00750          PUSHAB  INTMED_DATA                          ;
                                  4F  11 00753          BRB     122$                                 ;
                 23               56  D1 00755 118$:    CMPL    R6, #35                              ; 1650
                                  54  12 00758          BNEQ    124$                                 ;
           24    AE          FD   AD  B0 0075A          MOVW    SRC_INFO+5, CLASS_S_DESC             ; 1652
           28    AE          F9   AD  D0 0075F          MOVL    SRC_INFO+1, CLASS_S_DESC+4           ; 1653
                 7E          55   8F  9A 00764          MOVZBL  #85, -(SP)                           ; 1655
                 7E          24   AE  CE 00768          MNEGL   SCALE, -(SP)                         ; 1654
                                  7E  D4 0076C          CLRL    -(SP)                                ;
                             6C   AE  9F 0076E          PUSHAB  TEMP_BUF1                            ;
                             34   AE  9F 00771          PUSHAB  CLASS_S_DESC                         ;
     00000000G   00               05  FB 00774          CALLS   #5, OTS$CVT_T_H                      ;
                 6E               50  D0 0077B          MOVL    R0, STATUS                           ;
                 03               6E  E8 0077E          BLBS    STATUS, 119$                         ; 1657
                                091B  31 00781          BRW     299$                                 ;
                             61   AE  95 00784 119$:    TSTB    TEMP_BUF1+1                          ; 1659
                                  04  18 00787          BGEQ    120$                                 ;
           FF    AD               01  88 00789          BISB2   #1, SRC_INFO+7                       ;
           24    AE               32  B0 0078D 120$:    MOVW    #50, CLASS_S_DESC                    ; 1661
           28    AE          2C   AE  9E 00791          MOVAB   TEMP_BUF2, CLASS_S_DESC+4            ; 1662
                                  01  DD 00796          PUSHL   #1                                   ; 1663
                                  7E  7C 00798          CLRQ    -(SP)                                ;
                                  7E  D4 0079A          CLRL    -(SP)                                ;
                                  7E  D4 0079C 121$:    CLRL    -(SP)                                ;
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                                38    AE  9F 0079E          PUSHAB  CLASS_S_DESC                                    ;
                                78    AE  9F 007A1          PUSHAB  TEMP_BUF1                                       ;
                      00000000G 00   07  FB 007A4 122$:    CALLS   #7, FOR$CVT_H_TF                                ;
                                6E   50  D0 007AB 123$:    MOVL    R0, STATUS                                      ;
                                03   6E  E8 007AE 124$:    BLBS    STATUS, 126$                                    ; 1667
                                   013A  31 007B1 125$:    BRW     148$                                            ;
            2C    AE            32   20  3B 007B4 126$:    SKPC    #32, #50, TEMP_BUF2                             ; 1669
                                     02  12 007B9          BNEQ    127$                                            ;
                                     51  D4 007BB          CLRL    R1                                              ;
                                50   2C  AE  9E 007BD 127$: MOVAB  TEMP_BUF2, R0                                   ;
                        56      51       50  C3 007C1      SUBL3   R0, R1, BUF_OFFSET                              ;
            1C    AE            30       56  C3 007C5      SUBL3   BUF_OFFSET, #48, NO_DIGITS                      ; 1670
                                5A   1C  AE  D0 007CA      MOVL    NO_DIGITS, R10                                  ; 1672
                                     50  D4 007CE          CLRL    R0                                              ;
                                1F   5A  D1 007D0          CMPL    R10, #31                                        ;
                                     0A  15 007D3          BLEQ    128$                                            ;
                                     50  D6 007D5          INCL    R0                                              ;
                           50 00000000G  8F  D0 007D7      MOVL    #LIB$_ROPRAND, R0                               ;
                                     04 007DE              RET                                                     ;
                        06      0F   69  8F 007DF 128$:    CASEB   (R9), #15, #6                                   ; 1674
      009E            005F    003C   0011    007E3 129$:   .WORD   130$-129$,-                                     ;
                      0108    00DA   00DA    007EB                 132$-129$,-                                     ;
                                                                   135$-129$,-                                     ;
                                                                   138$-129$,-                                     ;
                                                                   143$-129$,-                                     ;
                                                                   143$-129$,-                                     ;
                                                                   147$-129$                                       ;
                                   08DB  31 007F1          BRW     303$                                            ; 1764
                                03   FF  AD  E9 007F4 130$: BLBC   SRC_INFO+7, 131$                                ; 1680
                                   073B  31 007F8          BRW     273$                                            ;
                                57   6B  3C 007FB 131$:    MOVZWL  (R11), R7                                       ; 1682
                                57   5A  C1 007FE          CMPL    R10, R7                                         ;
                                     AE  14 00801          BGTR    125$                                            ;
                        50      57   5A  C3 00803          SUBL3   R10, R7, R0                                     ; 1684
      50                30      6E   00  2C 00807          MOVC5   #0, (SP), #48, R0, TEMP_BUF1                    ;
                             60  AE     0080C                                                                      ;
                                50   60 AE47  9E 0080E     MOVAB   TEMP_BUF1[R7], R0                               ; 1686
                                50   5A  C2 00813          SUBL2   R10, R0                                         ;
                        60    2D AE46    5A  28 00816      MOVC3   R10, TEMP_BUF2+1[BUF_OFFSET], (R0)              ;
                                   0097  31 0081C          BRW     141$                                            ; 1687
                                     6B  B5 0081F 132$:    TSTW    (R11)                                           ; 1699
                                     04  12 00821          BNEQ    133$                                            ;
                                     54  D4 00823          CLRL    DES_LEN                                         ;
                                     05  11 00825          BRB     134$                                            ;
                                54   6B  3C 00827 133$:    MOVZWL  (R11), DES_LEN                                  ;
                                     54  D7 0082A          DECL    DES_LEN                                         ;
                                5A   54  D1 0082C 134$:    CMPL    DES_LEN, R10                                    ; 1703
                                     80  19 0082F          BLSS    125$                                            ;
   60   AE              54    2C AE46  1C  AE  09 00831    CVTSP   NO_DIGITS, TEMP_BUF2[BUF_OFFSET], DES_LEN, -    ; 1705
                                                                   TEMP_BUF1                                       ;
        68              54    60    AE   54  08 0083A      CVTPS   DES_LEN, TEMP_BUF1, DES_LEN, (OUTPUT)           ; 1706
                                     79  11 00840          BRB     142$                                            ; 1674
                                50   01  A6  9E 00842 135$: MOVAB  1(R6), R0                                       ; 1711
        50              30      6E   00  2C 00846          MOVC5   #0, (SP), #48, R0, TEMP_BUF2                    ;
                             2C  AE     0084B                                                                      ;
        5A              6B      10   00  ED 0084D          CMPZV   #0, #16, (R11), R10                             ; 1713
                                     6E  19 00852          BLSS    144$                                            ;
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                                56              6B  3C 00854          MOVZWL  (R11), BUF_OFFSET                                       ; 1715
                            56  31              56  C3 00857          SUBL3   BUF_OFFSET, #49, BUF_OFFSET
                                51          2C AE46  9E 0085B          MOVAB   TEMP_BUF2[BUF_OFFSET], R1                               ; 1716
                                50              61  9A 00860          MOVZBL  (R1), R0
                                50 00000000G0040    9E 00863          MOVAB   LIB$AB_CVT_U_0-48[R0], R0                               ; 1717
                                06          FF  AD  E9 0086B          BLBC    SRC_INFO+7, T36$                                        ; 1716
                                50          0A  A0  D0 0086F          MOVL    10(R0), R0
                                                03  11 00873          BRB     137$
                                50              60  D0 00875 136$:    MOVL    (R0), R0                                                ; 1717
                                61              50  90 00878 137$:    MOVB    R0, (R1)                                                ; 1716
                            68  61              6B  28 0087B          MOVC3   (R11), (R1), (OUTPUT)                                   ; 1719
                                                7D  11 0087F          BRB     150$                                                    ; 1674
                                                6B  B5 00881 138$:    TSTW    (R11)                                                   ; 1731
                                                04  12 00883          BNEQ    139$
                                                57  D4 00885          CLRL    DES_LEN
                                                05  11 00887          BRB     140$
                                57              6B  3C 00889 139$:    MOVZWL  (R11), DES_LEN
                                57              57  D7 0088C          DECL    DES_LEN
                                57              5A  D1 0088E 140$:    CMPL    R10, DES_LEN                                            ; 1735
                                                5B  14 00891          BGTR    148$
                            50  57              5A  C3 00893          SUBL3   R10, DES_LEN, R0                                        ; 1737
                                                50  D6 00897          INCL    R0
                        50  30  6E              00  2C 00899          MOVC5   #0, (SP), #48, R0, TEMP_BUF1
                                            60  AE      0089E
                                59      60 AE47  9E 008A0          MOVAB   TEMP_BUF1[DES_LEN], R9                                  ; 1738
                            50  59              5A  C3 008A5          SUBL3   R10, R9, R0
                            60      2D AE46      5A  28 008A9          MOVC3   R10, TEMP_BUF2+1[BUF_OFFSET], (R0)
                                69          2C AE46  90 008AF          MOVB    TEMP_BUF2[BUF_OFFSET], (R9)                             ; 1739
                                                57  D6 008B4          INCL    R7                                                      ; 1741
                            68  60  AE              57  28 008B6 141$:    MOVC3   R7, TEMP_BUF1, (OUTPUT)
                                                41  11 008BB 142$:    BRB     150$                                                    ; 1674
                        5A  6B              10      00  ED 008BD 143$:    CMPZV   #0, #16, (R11), R10                                     ; 1747
                                                2A  19 008C2 144$:    BLSS    148$
                    60  AE  6B          2C AE46      1C  AE 09 008C4          CVTSP   NO_DIGITS, TEMP_BUF2[BUF_OFFSET], (R11), -      ; 1749
                                                                                    TEMP_BUF1
                                13              69  91 008CD          CMPB    (R9), #19                                               ; 1751
                                                09  12 008D0          BNEQ    145$
                                50 00000000G    00  9E 008D2          MOVAB   LIB$AB_CVTPT_0, R0
                                                07  11 008D9          BRB     146$
                                50 00000000G    00  9E 008DB 145$:    MOVAB   LIB$AB_CVTPT_Z, R0
                        6B      60  60  AE          6B  24 008E2 146$:    CVTPT   (R11), TEMP_BUF1, (R0), (R11), (OUTPUT)             ; 1752
                                                68      008E8
                                                13  11 008E9          BRB     150$                                                    ; 1674
                                08              50  E9 008EB 147$:    BLBC    R0, 149$                                                ; 1758
                                50 00000000G    8F  D0 008EE 148$:    MOVL    #LIB$_DECOVF, R0
                                                04      008F5          RET
                        68      6B      2C AE46      1C  AE 09 008F6 149$:    CVTSP   NO_DIGITS, TEMP_BUF2[BUF_OFFSET], (R11), -      ; 1760
                                                                                    (OUTPUT)
                                            07D6    31  008FE 150$:    BRW     304$                                                    ; 1226
                                02              69  91 00901 151$:    CMPB    (R9), #2                                                ; 1775
                                                0D  13 00904          BEQL    152$
                                0E              69  91 00906          CMPB    (R9), #14
                                                08  13 00909          BEQL    152$
                                25              69  91 0090B          CMPB    (R9), #37
                                                03  13 0090E          BEQL    152$
                                            07BC    31  00910          BRW     303$
                            24  AE              32  B0 00913 152$:    MOVW    #50, CLASS_S_DESC                                       ; 1777
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                         28   AE        2C   AE  9E 00917          MOVAB   TEMP_BUF2, CLASS_S_DESC+4                      ; 1778
                              55        20   AE  D0 0091C          MOVL    SCALE, R5                                      ; 1780
                                             04  19 00920          BLSS    153$                                           ;
                                             57  D4 00922          CLRL    DIGITS_IN_FRACT                                ;
                                             03  11 00924          BRB     154$                                           ;
                              57             55  CE 00926 153$:    MNEGL   R5, DIGITS_IN_FRACT                            ;
                              06             56  D1 00929 154$:    CMPL    R6, #6                                         ; 1785
                                             18  12 0092C          BNEQ    155$                                           ;
                         60   AE        D0   AD  6E 0092E          CVTLD   INTMED_DATA, TEMP_BUF1                         ; 1787
                                             55  DD 00933          PUSHL   R5                                             ; 1788
                                             57  DD 00935          PUSHL   DIGITS_IN_FRACT                                ;
                                        2C   AE  9F 00937          PUSHAB  CLASS_S_DESC                                   ;
                                        6C   AE  9F 0093A          PUSHAB  TEMP_BUF1                                      ;
                  00000000G   00             04  FB 0093D          CALLS   #4, FOR$CVT_D_TF                               ;
                                             5D  11 00944          BRB     158$                                           ;
                              0C             56  D1 00946 155$:    CMPL    R6, #12                                        ; 1791
                                             19  12 00949          BNEQ    156$                                           ;
                              51        60   AE  9E 0094B          MOVAB   TEMP_BUF1, R1                                  ; 1793
                              50        D0   AD  9E 0094F          MOVAB   INTMED_DATA, R0                                ;
                                00000000G    00  16 00953          JSB     LIB$$CVT_CVTROUH_R1                            ;
                              35        FF   AD  E9 00959          BLBC    SRC_INFO+7, 157$                               ; 1795
                         61   AE        80   8F  88 0095D          BISB2   #128, TEMP_BUF1+1                              ;
                                             2E  11 00962          BRB     157$                                           ; 1797
                              1E             56  D1 00964 156$:    CMPL    R6, #30                                        ; 1800
                                             3D  12 00967          BNEQ    159$                                           ;
                         1C   AE        FD   AD  3C 00969          MOVZWL  SRC_INFO+5, NO_DIGITS                          ; 1802
    2C   AE     1C   AE  D0   AD        1C   AE  08 0096E          CVTPS   NO_DIGITS, INTMED_DATA, NO_DIGITS, -           ; 1803
                                                                           TEMP_BUF2
                24   AE  1C   AE             01  A1 00977          ADDW3   #1, NO_DIGITS, CLASS_S_DESC                    ; 1804
                                             15  DD 0097D          PUSHL   #21                                            ; 1806
                                             7E  7C 0097F          CLRQ    -(SP)                                          ; 1805
                                        6C   AE  9F 00981          PUSHAB  TEMP_BUF1                                      ;
                                        34   AE  9F 00984          PUSHAB  CLASS_S_DESC                                   ;
                  00000000G   00             05  FB 00987          CALLS   #5, OTS$CVT_T_H                                ;
                         24   AE             32  B0 0098E          MOVW    #50, CLASS_S_DESC                              ; 1807
                                             55  DD 00992 157$:    PUSHL   R5                                             ; 1808
                                             57  DD 00994          PUSHL   DIGITS_IN_FRACT                                ;
                                        2C   AE  9F 00996          PUSHAB  CLASS_S_DESC                                   ;
                                        6C   AE  9F 00999          PUSHAB  TEMP_BUF1                                      ;
                  00000000G   00             04  FB 0099C          CALLS   #4, FOR$CVT_H_TF                               ;
                              6E             50  D0 009A3 158$:    MOVL    R0, STATUS                                     ;
                2C   AE       32             20  3B 009A6 159$:    SKPC    #32, #50, TEMP_BUF2                            ; 1812
                                             02  12 009AB          BNEQ    160$                                           ;
                                             51  D4 009AD          CLRL    R1                                             ;
                              50        2C   AE  9E 009AF 160$:    MOVAB   TEMP_BUF2, R0                                  ;
                     56       51             50  C3 009B3          SUBL3   R0, R1, BUF_OFFSET                             ;
                                             57  D5 009B7          TSTL    DIGITS_IN_FRACT                                ; 1816
                                             05  12 009B9          BNEQ    161$                                           ;
                              50             01  D0 009BB          MOVL    #1, R0                                         ;
                                             02  11 009BE          BRB     162$                                           ;
                                             50  D4 009C0 161$:    CLRL    R0                                             ;
                              54      CE A046    9E 009C2 162$:    MOVAB   -50(R0)[BUF_OFFSET], FINAL_LEN                 ; 1813
                              54             54  CE 009C7          MNEGL   FINAL_LEN, FINAL_LEN                           ;
                              03             6E  E9 009CA          BLBC    STATUS, 163$                                   ; 1820
                                           032B  31 009CD          BRW     233$                                           ;
                              09        F5   AD  B1 009D0 163$:    CMPW    DST_INFO+5, #9                                 ; 1824
                                             05  1A 009D4          BGTRU   164$                                           ;
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                              57          21  D0 009D6          MOVL    #33, DIGITS_IN_FRACT          ; 1826
                                          12  11 009D9          BRB     166$                          ;
                              50      F5  AD  3C 009DB 164$:    MOVZWL  DST_INFO+5, R0                ; 1828
                              50          09  C2 009DF          SUBL2   #9, R0                        ;
                              21          50  D1 009E2          CMPL    R0, #33                       ;
                                          03  15 009E5          BLEQ    165$                          ;
                              50          21  D0 009E7          MOVL    #33, R0                       ;
                              57          50  D0 009EA 165$:    MOVL    R0, DIGITS_IN_FRACT           ;
                                          04  DD 009ED 166$:    PUSHL   #4                            ; 1830
                                          7E  D4 009EF          CLRL    -(SP)                         ;
                                          55  DD 009F1          PUSHL   R5                            ;
                                          57  DD 009F3          PUSHL   DIGITS_IN_FRACT               ;
                                      34  AE  9F 009F5          PUSHAB  CLASS_S_DESC                  ;
                                      74  AE  9F 009F8          PUSHAB  TEMP_BUF1                     ;
                                    02D8  31 009FB          BRW     229$                          ;
                                      20  AE  D5 009FE 167$:    TSTL    SCALE                         ; 1854
                                          14  15 00A01          BLEQ    168$                          ;
                              51      D0  AD  9E 00A03          MOVAB   INTMED_DATA, R1               ;
                              50    F575  CF  9E 00A07          MOVAB   P.AAS, R0                     ;
                               00000000G  00  16 00A0C          JSB     LIB$$CVT_MULD2_R1             ;
                                      20  AE  D7 00A12          DECL    SCALE                         ;
                                          E7  11 00A15          BRB     167$                          ;
                                          14  18 00A17 168$:    BGEQ    169$                          ;
                              51      D0  AD  9E 00A19          MOVAB   INTMED_DATA, R1               ;
                              50    F567  CF  9E 00A1D          MOVAB   P.AAT, R0                     ;
                               00000000G  00  16 00A22          JSB     LIB$$CVT_DIVD2_R1             ;
                                      20  AE  D6 00A28          INCL    SCALE                         ;
                                          EA  11 00A2B          BRB     168$                          ;
                         60  AE       D0  AD  6B 00A2D 169$:    CVTRDL  INTMED_DATA, TEMP_BUF1        ; 1856
                  06         02           69  8F 00A32          CASEB   (R9), #2, #6                  ; 1858
0699            0699       0022         0010     00A36 170$:    .WORD   171$-170$,-                   ;
                037C       0375         036E     00A3E                  173$-170$,-                   ;
                                                                        303$-170$,-                   ;
                                                                        303$-170$,-                   ;
                                                                        243$-170$,-                   ;
                                                                        244$-170$,-                   ;
                                                                        245$-170$                     ;
                                          63  11 00A44          BRB     179$                          ; 1895
                                      D1  AD  95 00A46 171$:    TSTB    INTMED_DATA+1                 ; 1864
                                          64  19 00A49 172$:    BLSS    181$                          ;
                  000000FF   8F       60  AE  D1 00A4B          CMPL    TEMP_BUF1, #255               ; 1866
                                          6F  1A 00A53          BGTRU   183$                          ;
                                    033A  31 00A55          BRW     240$                          ;
                                      D1  AD  95 00A58 173$:    TSTB    INTMED_DATA+1                 ; 1874
                                          52  19 00A5B 174$:    BLSS    181$                          ;
                  0000FFFF   8F       60  AE  D1 00A5D          CMPL    TEMP_BUF1, #65535             ; 1876
                                          5D  1A 00A65          BGTRU   183$                          ;
                                    0334  31 00A67          BRW     242$                          ;
                                      20  AE  D5 00A6A 175$:    TSTL    SCALE                         ; 1902
                                          14  15 00A6D          BLEQ    176$                          ;
                              51      D0  AD  9E 00A6F          MOVAB   INTMED_DATA, R1               ;
                              50    F519  CF  9E 00A73          MOVAB   P.AAU, R0                     ;
                               00000000G  00  16 00A78          JSB     LIB$$CVT_MULD2_R1             ;
                                      20  AE  D7 00A7E          DECL    SCALE                         ;
                                          E7  11 00A81          BRB     175$                          ;
                                          14  18 00A83 176$:    BGEQ    177$                          ;
                              51      D0  AD  9E 00A85          MOVAB   INTMED_DATA, R1               ;
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                        50      F50B   CF  9E 00A89          MOVAB   P.AAV, R0                          :
                           00000000G   00  16 00A8E          JSB     LIB$$CVT_DIVD2_R1                  :
                                  20   AE  D6 00A94          INCL    SCALE                              :
                                       EA  11 00A97          BRB     176$                               :
                05              04     69  8F 00A99 177$:    CASEB   (R9), #4, #5                       : 1905
      0632      0632          0632   000F     00A9D 178$:    .WORD   180$-178$,-                        :
                              0035   0632     00AA5                  303$-178$,-                        :
                                                                     303$-178$,-                        :
                                                                     303$-178$,-                        :
                                                                     303$-178$,-                        :
                                                                     185$-178$                          :
                                     0623  31 00AA9 179$:    BRW     303$                               : 1924
                                  D1   AD  95 00AAC 180$:    TSTB    INTMED_DATA+1                      : 1911
                                       03  18 00AAF 181$:    BGEQ    182$                               :
                                     0482  31 00AB1          BRW     273$                               :
                08      BE        D0   AD  71 00AB4 182$:    CMPD    INTMED_DATA, @LRGST_D_LU           : 1913
                                       50  DC 00AB9          MOVPSL  R0                                 :
      50        50      02             02  EF 00ABB          EXTZV   #2, #2, R0, R0                     :
                                       50  D7 00AC0          DECL    R0                                 :
                                       03  18 00AC2          BGEQ    184$                               :
                                     0486  31 00AC4 183$:    BRW     275$                               :
                                00E0   8F  B9 00AC7 184$:    BICPSW  #224                               : 1915
                        68        D0   AD  6B 00ACB          CVTRDL  INTMED_DATA, (OUTPUT)              : 1916
                                     048B  31 00ACF          BRW     277$                               : 1917
                        50        D0   AD  9E 00AD2 185$:    MOVAB   INTMED_DATA, R0                    : 1921
                        51             58  D0 00AD6          MOVL    OUTPUT, R1                         :
                           00000000G   00  16 00AD9          JSB     LIB$$CVT_CVTRDQ_R1                 :
                                     05F5  31 00ADF          BRW     304$                               : 1226
                        02             69  91 00AE2 186$:    CMPB    (R9), #2                           : 1935
                                       0A  13 00AE5          BEQL    187$                               :
                        0E             69  91 00AE7          CMPB    (R9), #14                          :
                                       05  13 00AEA          BEQL    187$                               :
                        25             69  91 00AEC          CMPB    (R9), #37                          :
                                       B8  12 00AEF          BNEQ    179$                               :
                24      AE             32  B0 00AF1 187$:    MOVW    #50, CLASS_S_DESC                  : 1937
                28      AE        2C   AE  9E 00AF5          MOVAB   TEMP_BUF2, CLASS_S_DESC+4          : 1938
                01      0A        02   AA  8F 00AFA          CASEB   2(R10), #10, #1                    : 1942
                      0009       0004     00AFF 188$:    .WORD   189$-188$,-                        :
                                                                     190$-188$                          :
                        57             07  D0 00B03 189$:    MOVL    #7, DIGITS_IN_FRACT                :
                                       03  11 00B06          BRB     191$                               :
                        57             10  D0 00B08 190$:    MOVL    #16, DIGITS_IN_FRACT               :
                        07        F5   AD  B1 00B0B 191$:    CMPW    DST_INFO+5, #7                     : 1954
                                       15  1B 00B0F          BLEQU   193$                               :
                        51        F5   AD  3C 00B11          MOVZWL  DST_INFO+5, R1                     : 1957
                        51             07  C2 00B15          SUBL2   #7, R1                             :
                        50             57  D0 00B18          MOVL    DIGITS_IN_FRACT, R0                :
                        51             50  D1 00B1B          CMPL    R0, R1                             :
                                       03  15 00B1E          BLEQ    192$                               :
                        50             51  D0 00B20          MOVL    R1, R0                             :
                        57             50  D0 00B23 192$:    MOVL    R0, DIGITS_IN_FRACT                : 1956
                                       7E  D4 00B26 193$:    CLRL    -(SP)                              : 1959
                                  24   AE  DD 00B28          PUSHL   SCALE                              :
                                       57  DD 00B2B          PUSHL   DIGITS_IN_FRACT                    :
                                  30   AE  9F 00B2D          PUSHAB  CLASS_S_DESC                       :
                                  D0   AD  9F 00B30          PUSHAB  INTMED_DATA                        :
                   00000000G    00     05  FB 00B33          CALLS   #5, FOR$CVT_D_TE                   :
```

```
                        6E          50  D0 00B3A          MOVL   R0, STATUS                      :
                        5C          6E  E9 00B3D          BLBC   STATUS, 199$                    : 1961
            2C    AE    32          20  3B 00B40          SKPC   #32, #50, TEMP_BUF2             : 1963
                                    03  13 00B45          BEQL   194$                            :
                                  01A5  31 00B47          BRW    232$                            :
                                  01A0  31 00B4A 194$:    BRW    231$                            :
                              20    AE  D5 00B4D 195$:    TSTL   SCALE                           : 1981
                                    14  15 00B50          BLEQ   196$                            :
                        51    D0    AD  9E 00B52          MOVAB  INTMED_DATA, R1                 :
                        50  F446    CF  9E 00B56          MOVAB  P.AAW, R0                       :
                     00000000G      00  16 00B5B          JSB    LIB$$CVT_MULH2_R1               :
                              20    AE  D7 00B61          DECL   SCALE                           :
                                    E7  11 00B64          BRB    195$                            :
                                    14  18 00B66 196$:    BGEQ   197$                            :
                        51    D0    AD  9E 00B68          MOVAB  INTMED_DATA, R1                 :
                        50  F440    CF  9E 00B6C          MOVAB  P.AAX, R0                       :
                     00000000G      00  16 00B71          JSB    LIB$$CVT_DIVH2_R1               :
                              20    AE  D6 00B77          INCL   SCALE                           :
                                    EA  11 00B7A          BRB    196$                            :
                        51    60    AE  9E 00B7C 197$:    MOVAB  TEMP_BUF1, R1                   : 1983
                        50    D0    AD  9E 00B80          MOVAB  INTMED_DATA, R0                 :
                     00000000G      00  16 00B84          JSB    LIB$$CVT_CVTRHL_R1              :
                  06    02          69  8F 00B8A          CASEB  (R9), #2, #6                    : 1985
      0541      0541  FECA        FEB8     00B8E 198$:    .WORD  171$-198$,-                     :
                0224  021D        0216     00B96                 173$-198$,-                     :
                                                                 303$-198$,-                     :
                                                                 303$-198$,-                     :
                                                                 243$-198$,-                     :
                                                                 244$-198$,-                     :
                                                                 245$-198$                       :
                                    3F  11 00B9C 199$:    BRB    204$                            : 2022
                              20    AE  D5 00B9E 200$:    TSTL   SCALE                           : 2029
                                    14  15 00BA1          BLEQ   201$                            :
                        51    D0    AD  9E 00BA3          MOVAB  INTMED_DATA, R1                 :
                        50  F415    CF  9E 00BA7          MOVAB  P.AAY, R0                       :
                     00000000G      00  16 00BAC          JSB    LIB$$CVT_MULH2_R1               :
                              20    AE  D7 00BB2          DECL   SCALE                           :
                                    E7  11 00BB5          BRB    200$                            :
                                    14  18 00BB7 201$:    BGEQ   202$                            :
                        51    D0    AD  9E 00BB9          MOVAB  INTMED_DATA, R1                 :
                        50  F40F    CF  9E 00BBD          MOVAB  P.AAZ, R0                       :
                     00000000G      00  16 00BC2          JSB    LIB$$CVT_DIVH2_R1               :
                              20    AE  D6 00BC8          INCL   SCALE                           :
                                    EA  11 00BCB          BRB    201$                            :
                  05    04          69  8F 00BCD 202$:    CASEB  (R9), #4, #5                    : 2032
      04FE      04FE  04FE        000E     00BD1 203$:    .WORD  205$-203$,-                     :
                      003F        04FE     00BD9                 303$-203$,-                     :
                                                                 303$-203$,-                     :
                                                                 303$-203$,-                     :
                                                                 303$-203$,-                     :
                                                                 208$-203$                       :
                                    6F  11 00BDD 204$:    BRB    213$                            : 2051
                              D1    AD  95 00BDF 205$:    TSTB   INTMED_DATA+1                   : 2038
                                    03  18 00BE2          BGEQ   206$                            :
                                  034F  31 00BE4          BRW    273$                            :
                        50    D0    AD  9E 00BE7 206$:    MOVAB  INTMED_DATA, R0                 : 2040
                        51    04    AE  D0 00BEB          MOVL   LRGST_A_LU, R1                  :
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                         00000000G  00  16 00BEF          JSB     LIB$$CVT_CMPH_R1                   ;
                                    50  D5 00BF5          TSTL    R0                                 ;
                                    03  15 00BF7          BLEQ    207$                               ;
                                  0351  31 00BF9          BRW     275$                               ;
                             00E0   8F  B9 00BFC 207$:    BICPSW  #224                               ; 2042
                  50          D0    AD  9E 00C00          MOVAB   INTMED_DATA, R0                    ; 2043
                  51                58  D0 00C04          MOVL    OUTPUT, R1                         ;
                         00000000G  00  16 00C07          JSB     LIB$$CVT_CVTRHL_R1                 ;
                                  034D  31 00C0D          BRW     277$                               ; 2044
                  50          D0    AD  9E 00C10 208$:    MOVAB   INTMED_DATA, R0                    ; 2048
                                  0377  31 00C14          BRW     282$                               ;
                              20    AE  D5 00C17 209$:    TSTL    SCALE                              ; 2058
                                    14  15 00C1A          BLEQ    210$                               ;
                  51          D0    AD  9E 00C1C          MOVAB   INTMED_DATA, R1                    ;
                  50        F3BC    CF  9E 00C20          MOVAB   P.ABA, R0                          ;
                         00000000G  00  16 00C25          JSB     LIB$$CVT_MULH2_R1                  ;
                              20    AE  D7 00C2B          DECL    SCALE                              ;
                                    E7  11 00C2E          BRB     209$                               ;
                                    14  18 00C30 210$:    BGEQ    211$                               ;
                  51          D0    AD  9E 00C32          MOVAB   INTMED_DATA, R1                    ;
                  50        F3B6    CF  9E 00C36          MOVAB   P.ABB, R0                          ;
                         00000000G  00  16 00C3B          JSB     LIB$$CVT_DIVH2_R1                  ;
                              20    AE  D6 00C41          INCL    SCALE                              ;
                                    EA  11 00C44          BRB     210$                               ;
             01               0A    69  8F 00C46 211$:    CASEB   (R9), #10, #1                      ; 2061
                    0016          0007     00C4A 212$:    .WORD   214$-212$,-                        ;
                                                                  215$-212$                          ;
                                  047E  31 00C4E 213$:    BRW     303$                               ; 2071
                  50          D0    AD  9E 00C51 214$:    MOVAB   INTMED_DATA, R0                    ; 2065
                  51                58  D0 00C55          MOVL    OUTPUT, R1                         ;
                         00000000G  00  16 00C58          JSB     LIB$$CVT_CVTHF_R1                  ;
                                    0D  11 00C5E          BRB     216$                               ;
                  50          D0    AD  9E 00C60 215$:    MOVAB   INTMED_DATA, R0                    ; 2068
                  51                58  D0 00C64          MOVL    OUTPUT, R1                         ;
                         00000000G  00  16 00C67          JSB     LIB$$CVT_CVTHD_R1                  ;
                                  0467  31 00C6D 216$:    BRW     304$                               ; 1226
                  02                69  91 00C70 217$:    CMPB    (R9), #2                           ; 2082
                                    0A  13 00C73          BEQL    218$                               ;
                  0E                69  91 00C75          CMPB    (R9), #14                          ;
                                    05  13 00C78          BEQL    218$                               ;
                  25                69  91 00C7A          CMPB    (R9), #37                          ;
                                    CF  12 00C7D          BNEQ    213$                               ;
          24      AE                32  B0 00C7F 218$:    MOVW    #50, CLASS_S_DESC                  ; 2088
          28      AE          2C    AE  9E 00C83          MOVAB   TEMP_BUF2, CLASS_S_DESC+4          ; 2089
             01   1B          02    AA  8F 00C88          CASEB   2(R10), #27, #1                    ; 2093
                0009          0004         00C8D 219$:    .WORD   220$-219$,-                        ;
                                                                  221$-219$                          ;
                  57                0F  D0 00C91 220$:    MOVL    #15, DIGITS_IN_FRACT               ;
                                    03  11 00C94          BRB     222$                               ;
                  57                21  D0 00C96 221$:    MOVL    #33, DIGITS_IN_FRACT               ;
             01   1B          02    AA  8F 00C99 222$:    CASEB   2(R10), #27, #1                    ; 2107
                0009          0004         00C9E 223$:    .WORD   224$-223$,-                        ;
                                                                  225$-223$                          ;
                  50                07  D0 00CA2 224$:    MOVL    #7, NOT_DIGITS_IN_FRACT            ;
                                    03  11 00CA5          BRB     226$                               ;
                  50                08  D0 00CA7 225$:    MOVL    #8, NOT_DIGITS_IN_FRACT            ;
 50      F5   AD  10                00  ED 00CAA 226$:    CMPZV   #0, #16, DST_INFO+5, NOT_DIGITS_IN_FRACT  ; 2119
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                                  15   15 00CB0          BLEQ    228$                                          ;
                    51       F5   AD   3C 00CB2          MOVZWL  DST_INFO+5, R1                                ; 2122
                    51            50   C2 00CB6          SUBL2   NOT_DIGITS_IN_FRACT, R1                       ;
                    50            57   D0 00CB9          MOVL    DIGITS_IN_FRACT, R0                           ;
                    51            50   D1 00CBC          CMPL    R0, R1                                        ;
                                  03   15 00CBF          BLEQ    227$                                          ;
                    50            51   D0 00CC1          MOVL    R1, R0                                        ;
                    57            50   D0 00CC4 227$:    MOVL    R0, DIGITS_IN_FRACT                           ; 2121
                                  04   DD 00CC7 228$:    PUSHL   #4                                            ; 2124
                                  7E   D4 00CC9          CLRL    -(SP)                                         ;
                             28   AE   DD 00CCB          PUSHL   SCALE                                         ;
                                  57   DD 00CCE          PUSHL   DIGITS_IN_FRACT                               ;
                             34   AE   9F 00CD0          PUSHAB  CLASS_S_DESC                                  ;
                             D0   AD   9F 00CD3          PUSHAB  INTMED_DATA                                   ;
             00000000G  00        06   FB 00CD6 229$:    CALLS   #6, FOR$CVT_H_TE                              ;
                        6E        50   D0 00CDD          MOVL    R0, STATUS                                    ;
                        03        6E   E8 00CE0          BLBS    STATUS, 230$                                  ; 2126
                                03E9   31 00CE3          BRW     303$                                          ;
      2C     AE         32        20   3B 00CE6 230$:    SKPC    #32, #50, TEMP_BUF2                           ; 2128
                                  02   12 00CEB          BNEQ    232$                                          ;
                                  51   D4 00CED 231$:    CLRL    R1                                            ;
                    50       2C   AE   9E 00CEF 232$:    MOVAB   TEMP_BUF2, R0                                 ;
             56     51            50   C3 00CF3          SUBL3   R0, R1, BUF_OFFSET                            ;
             54     32            56   C3 00CF7          SUBL3   BUF_OFFSET, #50, FINAL_LEN                    ; 2129
                 10 AE            54   D0 00CFB 233$:    MOVL    FINAL_LEN, OUTPUT_STR_LEN                     ; 2130
                    51       2C AE46   9E 00CFF          MOVAB   TEMP_BUF2[BUF_OFFSET], R1                     ; 2131
                    52            5B   D0 00D04          MOVL    R11, R2                                       ;
                    50            54   D0 00D07          MOVL    FINAL_LEN, R0                                 ;
                       00000000G  00   16 00D0A          JSB     LIB$SCOPY_R_DX6                               ;
                    6E            50   D0 00D10          MOVL    R0, STATUS                                    ;
             00000000G  8F        6E   D1 00D13          CMPL    STATUS, #LIB$_STRTRU                          ; 2133
                                  03   13 00D1A          BEQL    234$                                          ;
                                03A9   31 00D1C          BRW     302$                                          ;
                    50 00000000G  8F   D0 00D1F 234$:    MOVL    #LIB$_DESSTROVF, R0                           ;
                                       04 00D26          RET                                                   ;
                 1C AE       FD   AD   3C 00D27 235$:    MOVZWL  SRC_INFO+5, NO_DIGITS                         ; 2146
   67        01  D0 AD       1C   AE   37 00D2C          CMPP4   NO_DIGITS, INTMED_DATA, #1, (PACK_ZERO)       ;
                                  54   DC 00D33          MOVPSL  R4                                            ;
   54        54     02            02   EF 00D35          EXTZV   #2, #2, R4, R4                                ;
                                  54   D7 00D3A          DECL    R4                                            ;
                                  04   15 00D3C          BLEQ    236$                                          ;
                 FF AD            01   88 00D3E          BISB2   #1, SRC_INFO+7                                ;
                             20   AE   D5 00D42 236$:    TSTL    SCALE                                         ;
                                  29   13 00D45          BEQL    237$                                          ;
      60     AE  D0 AD       1C   AE   34 00D47          MOVP    NO_DIGITS, INTMED_DATA, TEMP_BUF1             ;
                    55       D0   AD   9E 00D4E          MOVAB   INTMED_DATA, R5                               ;
                    54       1C   AE   9E 00D52          MOVAB   NO_DIGITS, R4                                 ;
                 14 AE            05   D0 00D56          MOVL    #5, 20(SP)                                    ;
                    53       14   AE   9E 00D5A          MOVAB   20(SP), R3                                    ;
                    52       60   AE   9E 00D5E          MOVAB   TEMP_BUF1, R2                                 ;
                    51       1C   AE   9E 00D62          MOVAB   NO_DIGITS, R1                                 ;
                    50       20   AE   9E 00D66          MOVAB   SCALE, R0                                     ;
                       00000000G  00   16 00D6A          JSB     LIB$$CVT_ASHP_R1                              ;
      60     AE  D0 AD       1C   AE   36 00D70 237$:    CVTPL   NO_DIGITS, INTMED_DATA, TEMP_BUF1             ; 2148
             06     02            69   8F 00D77          CASEB   (R9), #2, #6                                  ; 2150
 0354      0354   001D          0011      00D7B 238$:    .WORD   239$-238$,-                                   ;
           0037   0030          0029      00D83          241$-238$,-                                           ;
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                                                                      303$-238$,-                          ;
                                                                      303$-238$,-                          ;
                                                                      243$-238$,-                          ;
                                                                      244$-238$,-                          ;
                                                                      245$-238$                            ;
                                    0343  31 00D89         BRW        303$                                 ; 2187
                               60     AE  D5 00D8C 239$:   TSTL       TEMP_BUF1                            ; 2156
                                  FCB7  31 00D8F           BRW        172$                                 ;
                      68       60     AE  90 00D92 240$:   MOVB       TEMP_BUF1, (OUTPUT)                  ; 2160
                                    1E  11 00D96           BRB        246$                                 ;
                               60     AE  D5 00D98 241$:   TSTL       TEMP_BUF1                            ; 2166
                                  FCBD  31 00D9B           BRW        174$                                 ;
                      68       60     AE  B0 00D9E 242$:   MOVW       TEMP_BUF1, (OUTPUT)                  ; 2170
                                    12  11 00DA2           BRB        246$                                 ;
                      50       60     AE  9E 00DA4 243$:   MOVAB      TEMP_BUF1, R0                        ; 2175
                                  012C  31 00DA8           BRW        264$                                 ;
                      50       60     AE  9E 00DAB 244$:   MOVAB      TEMP_BUF1, R0                        ; 2180
                                  0134  31 00DAF           BRW        266$                                 ;
                      68       60     AE  D0 00DB2 245$:   MOVL       TEMP_BUF1, (OUTPUT)                  ; 2184
                                  031E  31 00DB6 246$:     BRW        304$                                 ; 1226
                 1C   AE       FD     AD  3C 00DB9 247$:   MOVZWL     SRC_INFO+5, NO_DIGITS                ; 2194
   67        01  D0   AD       1C     AE  37 00DBE         CMPP4      NO_DIGITS, INTMED_DATA, #1, (PACK_ZERO) ;
                                      54  DC 00DC5         MOVPSL     R4                                   ;
   54        54       02              02  EF 00DC7         EXTZV      #2, #2, R4, R4                       ;
                                      54  D7 00DCC         DECL       R4                                   ;
                                      04  15 00DCE         BLEQ       248$                                 ;
                 FF   AD              01  88 00DD0         BISB2      #1, SRC_INFO+7                       ;
                               20     AE  D5 00DD4 248$:   TSTL       SCALE                                ;
                                      29  13 00DD7         BEQL       249$                                 ;
        60   AE  D0   AD       1C     AE  34 00DD9         MOVP       NO_DIGITS, INTMED_DATA, TEMP_BUF1    ;
                      55       D0     AD  9E 00DE0         MOVAB      INTMED_DATA, R5                      ;
                      54       1C     AE  9E 00DE4         MOVAB      NO_DIGITS, R4                        ;
                 14   AE              05  D0 00DE8         MOVL       #5, 20(SP)                           ;
                      53       14     AE  9E 00DEC         MOVAB      20(SP), R3                           ;
                      52       60     AE  9E 00DF0         MOVAB      TEMP_BUF1, R2                        ;
                      51       1C     AE  9E 00DF4         MOVAB      NO_DIGITS, R1                        ;
                      50       20     AE  9E 00DF8         MOVAB      SCALE, R0                            ;
                       00000000G      00  16 00DFC         JSB        LIB$$CVT_ASHP_R1                     ;
             05       04              69  8F 00E02 249$:   CASEB      (R9), #4, #5                         ; 2197
 02C9      02C9     02C9            000F     00E06 250$:   .WORD      251$-250$,-                          ;
                    0039            02C9     00E0E                    303$-250$,-                          ;
                                                                      303$-250$,-                          ;
                                                                      303$-250$,-                          ;
                                                                      303$-250$,-                          ;
                                                                      254$-250$                            ;
                                    02BA  31 00E12         BRW        303$                                 ; 2224
                      03       FF     AD  E9 00E15 251$:   BLBC       SRC_INFO+7, 252$                     ; 2203
                                  011A  31 00E19           BRW        273$                                 ;
 0C   BE     0A  D0   AD       1C     AE  37 00E1C 252$:   CMPP4      NO_DIGITS, INTMED_DATA, #10, @LRGST_P_LU ; 2205
                                      54  DC 00E24         MOVPSL     R4                                   ;
   54        54       02              02  EF 00E26         EXTZV      #2, #2, R4, R4                       ;
                                      54  D7 00E2B         DECL       R4                                   ;
                                      03  14 00E2D         BGTR       253$                                 ;
                                  011B  31 00E2F           BRW        275$                                 ;
                           00E0       8F  B9 00E32 253$:   BICPSW     #224                                 ; 2209
             68  D0   AD       1C     AE  36 00E36         CVTPL      NO_DIGITS, INTMED_DATA, (OUTPUT)     ; 2210
                                  011E  31 00E3C           BRW        277$                                 ; 2211
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 2C  AE       1C  AE       D0  AD       1C  AE  08 00E3F 254$:  CVTPS   NO_DIGITS, INTMED_DATA, NO_DIGITS, -          ; 2216
                                                                        TEMP_BUF2
              24  AE       1C  AE           01  A1 00E48        ADDW3   #1, NO_DIGITS, CLASS_S_DESC                   ; 2217
                           28  AE       2C  AE  9E 00E4E        MOVAB   TEMP_BUF2, CLASS_S_DESC+4                     ; 2218
                                        60  AE  9F 00E53        PUSHAB  TEMP_BUF1                                     ; 2219
                                        28  AE  9F 00E56        PUSHAB  CLASS_S_DESC                                  ;
                      00000000G 00          02  FB 00E59        CALLS   #2, OTS$CVT_T_H                               ;
                                          0127  31 00E60        BRW     281$                                          ; 2220
                           24  AE       FD  AD  B0 00E63 255$:  MOVW    SRC_INFO+5, CLASS_S_DESC                      ; 2232
                           28  AE       F9  AD  D0 00E68        MOVL    SRC_INFO+1, CLASS_S_DESC+4                    ; 2233
                               7E       55  8F  9A 00E6D        MOVZBL  #85, -(SP)                                    ; 2235
                               7E       24  AE  CE 00E71        MNEGL   SCALE, -(SP)                                  ; 2234
                                            7F  D4 00E75        CLRL    -(SP)                                         ;
                                        6C  AE  9F 00E77        PUSHAB  TEMP_BUF1                                     ;
                                        34  AE  9F 00E7A        PUSHAB  CLASS_S_DESC                                  ;
                      00000000G 00          05  FB 00E7D        CALLS   #5, OTS$CVT_T_D                               ;
                               6E           50  D0 00E84        MOVL    R0, STATUS                                    ;
                               03           6E  E8 00E87        BLBS    STATUS, 256$                                  ; 2237
                                          0212  31 00E8A        BRW     299$                                          ;
                           2C  AE       60  AE  6B 00E8D 256$:  CVTRDL  TEMP_BUF1, TEMP_BUF2                          ; 2239
                   06          02           69  8F 00E92        CASEB   (R9), #2, #6                                  ; 2241
 0239            0239        0025         0010     00E96 257$:  .WORD   258$-257$,-                                   ;
                 005B        004C         003D     00E9E                259$-257$,-                                   ;
                                                                        303$-257$,-                                   ;
                                                                        303$-257$,-                                   ;
                                                                        263$-257$,-                                   ;
                                                                        265$-257$,-                                   ;
                                                                        267$-257$                                     ;
                                            61  11 00EA4        BRB     271$                                          ; 2280
                                        2C  AE  D5 00EA6 258$:  TSTL    TEMP_BUF2                                     ; 2247
                                            13  19 00EA9        BLSS    260$                                          ;
                      000000FF  8F      2C  AE  D1 00EAB        CMPL    TEMP_BUF2, #255                               ; 2249
                                            13  1A 00EB3        BGTRU   261$                                          ;
                                68      2C  AE  90 00EB5        MOVB    TEMP_BUF2, (OUTPUT)                           ; 2251
                                            3A  11 00EB9        BRB     268$                                          ; 2241
                                        2C  AE  D5 00EBB 259$:  TSTL    TEMP_BUF2                                     ; 2257
                                            76  19 00EBE 260$:  BLSS    273$                                          ;
                      0000FFFF  8F      2C  AE  D1 00EC0        CMPL    TEMP_BUF2, #65535                             ; 2259
                                            03  1B 00EC8 261$:  BLEQU   262$                                          ;
                                          0080  31 00ECA        BRW     275$                                          ;
                                68      2C  AE  B0 00ECD 262$.  MOVW    TEMP_BUF2, (OUTPUT)                           ; 2261
                                            22  11 00ED1        BRB     268$                                          ; 2241
                                50      2C  AE  9E 00ED3 263$:  MOVAB   TEMP_BUF2, R0                                 ; 2266
                                51          58  D0 00ED7 264$:  MOVL    OUTPUT, R1                                    ;
                                  00000000G 00  16 00EDA        JSB     LIB$$CVT_CVTLB_R1                             ;
                                            7F  11 00EE0        BRB     278$                                          ; 2241
                                50      2C  AE  9E 00EE2 265$:  MOVAB   TEMP_BUF2, R0                                 ; 2271
                                51          58  D0 00EE6 266$:  MOVL    OUTPUT, R1                                    ;
                                  00000000G 00  16 00EE9        JSB     LIB$$CVT_CVTLW_R1                             ;
                                            70  11 00EEF        BRB     278$                                          ; 2241
                                68      2C  AE  D0 00EF1 267$:  MOVL    TEMP_BUF2, (OUTPUT)                           ; 2276
                                            6A  11 00EF5 268$:  BRB     278$                                          ; 1226
                   05          04           69  8F 00EF7 269$:  CASEB   (R9), #4, #5                                  ; 2288
 01D4            01D4        01D4         000F     00EFB 270$:  .WORD   272$-270$,-                                   ;
                             0068         01D4     00F03                303$-270$,-                                   ;
                                                                        303$-270$,-                                   ;
                                                                        303$-270$,-                                   ;
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                                                            303$-270$,-                    ;
                                                            279$-270$                      ;
                              01C5  31 00F07 271$:   BRW    303$                           ; 2322
          24   AE       FD    AD  B0 00F0A 272$:   MOVW   SRC_INFO+5, CLASS_S_DESC       ; 2293
          28   AE       F9    AD  D0 00F0F         MOVL   SRC_INFO+1, CLASS_S_DESC+4     ; 2294
               7E       55    8F  9A 00F14         MOVZBL #85, -(SP)                     ; 2296
               7E       24    AE  CE 00F18         MNEGL  SCALE, -(SP)                   ; 2295
                              7E  D4 00F1C         CLRL   -(SP)                          ;
                        6C    AE  9F 00F1E         PUSHAB TEMP_BUF1                      ;
                        34    AE  9F 00F21         PUSHAB CLASS_S_DESC                   ;
     00000000G 00             05  FB 00F24         CALLS  #5, OTS$CVT_T_D                ;
               6E             50  D0 00F2B         MOVL   R0, STATUS                     ;
               56             6E  E9 00F2E         BLBC   STATUS, 280$                   ; 2298
                        61    AE  95 00F31         TSTB   TEMP_BUF1+1                    ; 2300
                        08    18  00F34            BGEQ   274$                           ;
               50 00000000G   8F  D0 00F36 273$:   MOVL   #LIB$_INVCVT, R0               ;
                              04  00F3D            RET                                   ;
          08   BE       60    AE  71 00F3E 274$:   CMPD   TEMP_BUF1, @LRGST_D_LU         ; 2302
                              50  DC 00F43         MOVPSL R0                             ;
 50       50   02             02  EF 00F45         EXTZV  #2, #2, R0, R0                 ;
               08             50  F4 00F4A         SOBGEQ R0, 276$                       ;
               50 00000000G   8F  D0 00F4D 275$:   MOVL   #LIB$_INTOVF, R0               ;
                              04  00F54            RET                                   ;
                      00E0    8F  B9 00F55 276$:   BICPSW #224                           ; 2304
               68       60    AE  6B 00F59         CVTRDL TEMP_BUF1, (OUTPUT)            ; 2305
                      00E0    8F  B8 00F5D 277$:   BISPSW #224                           ; 2306
                              6C  11 00F61 278$:   BRB    287$                           ; 2288
          24   AE       FD    AD  B0 00F63 279$:   MOVW   SRC_INFO+5, CLASS_S_DESC       ; 2311
          28   AE       F9    AD  D0 00F68         MOVL   SRC_INFO+1, CLASS_S_DESC+4     ; 2312
               7E       55    8F  9A 00F6D         MOVZBL #85, -(SP)                     ; 2314
               7E       24    AE  CE 00F71         MNEGL  SCALE, -(SP)                   ; 2313
                              7E  D4 00F75         CLRL   -(SP)                          ;
                        6C    AE  9F 00F77         PUSHAB TEMP_BUF1                      ;
                        34    AE  9F 00F7A         PUSHAB CLASS_S_DESC                   ;
     00000000G 00             05  FB 00F7D         CALLS  #5, OTS$CVT_T_H                ;
               6E             50  D0 00F84         MOVL   R0, STATUS                     ;
               61             6E  E9 00F87 280$:   BLBC   STATUS, 289$                   ; 2316
               50       60    AE  9E 00F8A 281$:   MOVAB  TEMP_BUF1, R0                  ; 2318
               51             58  D0 00F8E 282$:   MOVL   OUTPUT, R1                     ;
                  00000000G   00  16 00F91         JSB    LIB$$CVT_CVTRHQ_R1             ;
                              5A  11 00F97         BRB    290$                           ; 2288
          24   AE       FD    AD  B0 00F99 283$:   MOVW   SRC_INFO+5, CLASS_S_DESC       ; 2329
          28   AE       F9    AD  D0 00F9E         MOVL   SRC_INFO+1, CLASS_S_DESC+4     ; 2330
     01        1B             69  8F 00FA3         CASEB  (R9), #27, #1                  ; 2332
          002A              0007     00FA7 284$:   .WORD  286$-284$,-                    ;
                                                          288$-284$                      ;
                              0121  31 00FAB 285$:   BRW    303$                           ; 2357
               7E       55    8F  9A 00FAE 286$:   MOVZBL #85, -(SP)                     ; 2338
               7E       24    AE  CE 00FB2         MNEGL  SCALE, -(SP)                   ; 2337
                              7E  D4 00FB6         CLRL   -(SP)                          ;
                        6C    AE  9F 00FB8         PUSHAB TEMP_BUF1                      ;
                        34    AE  9F 00FBB         PUSHAB CLASS_S_DESC                   ;
     00000000G 00             05  FB 00FBE         CALLS  #5, OTS$CVT_T_G                ;
               6E             50  D0 00FC5         MOVL   R0, STATUS                     ;
               66             6E  E9 00FC8         BLBC   STATUS, 294$                   ; 2340
               68       60    AE  7D 00FCB         MOVQ   TEMP_BUF1, (OUTPUT)            ; 2342
                              22  11 00FCF 287$:   BRB    290$                           ; 2332
```

```
                     7E         55   8F   9A 00FD1 288$:   MOVZBL  #85, -(SP)                              ; 2349
                     7E         24   AE   CE 00FD5         MNEGL   SCALE, -(SP)                            ; 2348
                                     7E   D4 00FD9         CLRL    -(SP)                                   ;
                                6C   AE   9F 00FDB         PUSHAB  TEMP_BUF1                               ;
                                34   AE   9F 00FDE         PUSHAB  CLASS_S_DESC                            ;
       00000000G     00              05   FB 00FE1         CALLS   #5, OTS$CVT_T_H                         ;
                     6E              50   D0 00FE8         MOVL    R0, STATUS                              ;
                     43              6E   E9 00FEB 289$:   BLBC    STATUS, 294$                            ; 2351
     68        60    AE              10   28 00FEE         MOVC3   #16, TEMP_BUF1, (OUTPUT)                ; 2353
                                   00E1   31 00FF3 290$:   BRW     304$                                    ; 1226
                     02              69   91 00FF6 291$:   CMPB    (R9), #2                                ; 2368
                                     0A   13 00FF9         BEQL    292$                                    ;
                     0E              69   91 00FFB         CMPB    (R9), #14                               ;
                                     05   13 00FFE         BEQL    292$                                    ;
                     25              69   91 01000         CMPB    (R9), #37                               ;
                                     A6   12 01003         BNEQ    285$                                    ;
                                20   AE   D5 01005 292$:   TSTL    SCALE                                   ; 2371
                                     03   12 01008         BNEQ    293$                                    ;
                                   009A   31 0100A         BRW     300$                                    ;
               24    AE         FD   AD   B0 0100D 293$:   MOVW    SRC_INFO+5, CLASS_S_DESC                ; 2374
               28    AE         F9   AD   D0 01012         MOVL    SRC_INFO+1, CLASS_S_DESC+4              ; 2375
                     7E         55   8F   9A 01017         MOVZBL  #85, -(SP)                              ; 2377
                     7E         24   AE   CE 0101B         MNEGL   SCALE, -(SP)                            ; 2376
                                     7E   D4 0101F         CLRL    -(SP)                                   ;
                                6C   AE   9F 01021         PUSHAB  TEMP_BUF1                               ;
                                34   AE   9F 01024         PUSHAB  CLASS_S_DESC                            ;
       00000000G     00              05   FB 01027         CALLS   #5, OTS$CVT_T_H                         ;
                     6E              50   D0 0102E         MOVL    R0, STATUS                              ;
                     6B              6E   E9 01031 294$:   BLBC    STATUS, 299$                            ; 2379
               24    AE              32   B0 01034         MOVW    #50, CLASS_S_DESC                       ; 2382
               28    AE         2C   AE   9E 01038         MOVAB   TEMP_BUF2, CLASS_S_DESC+4               ; 2383
                     09         F5   AD   B1 0103D         CMPW    DST_INFO+5, #9                          ; 2385
                                     05   1A 01041         BGTRU   295$                                    ;
                     57              21   D0 01043         MOVL    #33, DIGITS_IN_FRACT                    ; 2387
                                     12   11 01046         BRB     297$                                    ;
                     50         F5   AD   3C 01048 295$:   MOVZWL  DST_INFO+5, R0                          ; 2389
                     50              09   C2 0104C         SUBL2   #9, R0                                  ;
                     21              50   D1 0104F         CMPL    R0, #33                                 ;
                                     03   15 01052         BLEQ    296$                                    ;
                     50              21   D0 01054         MOVL    #33, R0                                 ;
                     57              50   D0 01057 296$:   MOVL    R0, DIGITS_IN_FRACT                     ;
                                     04   DD 0105A 297$:   PUSHL   #4                                      ; 2391
                                     7E   D4 0105C         CLRL    -(SP)                                   ;
                                     57   DD 0105E         PUSHL   DIGITS_IN_FRACT                         ;
                                30   AE   9F 01060         PUSHAB  CLASS_S_DESC                            ;
                                70   AE   9F 01063         PUSHAB  TEMP_BUF1                               ;
       00000000G     00              05   FB 01066         CALLS   #5, FOR$CVT_H_TE                        ;
                     6E              50   D0 0106D         MOVL    R0, STATUS                              ;
                     5C              6E   E9 01070         BLBC    STATUS, 303$                            ; 2393
 2C    AE            32              20   3B 01073         SKPC    #32, #50, TEMP_BUF2                     ; 2395
                                     02   12 01078         BNEQ    298$                                    ;
                                     51   D4 0107A         CLRL    R1                                      ;
                     50         2C   AE   9E 0107C 298$:   MOVAB   TEMP_BUF2, R0                           ;
     56              51              50   C3 01080         SUBL3   R0, R1, BUF_OFFSET                      ;
     54              32              56   C3 01084         SUBL3   BUF_OFFSET, #50, FINAL_LEN              ; 2396
               10    AE              54   D0 01088         MOVL    FINAL_LEN, OUTPUT_STR_LEN               ; 2397
                     51         2C AE46   9E 0108C         MOVAB   TEMP_BUF2[BUF_OFFSET], R1               ; 2398
```

```
                 52           5B  D0 01091          MOVL    R11, R2                         ;
                 50           54  D0 01094          MOVL    FINAL_LEN, R0                   ;
                    00000000G 00  16 01097          JSB     LIB$SCOPY_R_DX6                 ;
                              15  11 0109D          BRB     301$                            ;
                 50 00000000G 8F  D0 0109F 299$:    MOVL    #LIB$_INVNBDS, R0               ; 2406
                              04  010A6             RET                                     ;
            10   AE           6A  3C 010A7 300$:    MOVZWL  (R10), OUTPUT_STR_LEN           ; 2411
                 50           5A  7D 010AB          MOVQ    R10, R0                         ; 2412
                    00000000G 00  16 010AE          JSB     LIB$SCOPY_DXDX6                 ;
                 6E           50  D0 010B4 301$:    MOVL    R0, STATUS                      ;
      00000000G  8F           6E  D1 010B7          CMPL    STATUS, #LIB$_STRTRU            ; 2414
                              08  12 010BE          BNEQ    302$                            ;
                 50 00000000G 8F  D0 010C0          MOVL    #LIB$_OUTSTRTRU, R0             ;
                              04  010C7             RET                                     ;
                 0C           6E  E8 010C8 302$:    BLBS    STATUS, 304$                    ; 2416
                 50           6E  D0 010CB          MOVL    STATUS, R0                      ;
                              04  010CE             RET                                     ;
                 50 00000000G 8F  D0 010CF 303$:    MOVL    #LIB$_FATERRLIB, R0             ; 2423
                              04  010D6             RET                                     ;
                 02           6C  91 010D7 304$:    CMPB    (AP), #2                        ; 2432
                              05  1B 010DA          BLEQU   305$                            ;
            0C   BC       10  AE  B0 010DC          MOVW    OUTPUT_STR_LEN, @OUTLEN         ;
                 50           01  D0 010E1 305$:    MOVL    #1, R0                          ; 2435
                              04  010E4             RET                                     ; 2436
                            0000  010E5 306$:       .WORD   Save nothing                    ; 0754
                              7E  D4 010E7          CLRL    -(SP)                           ;
                              5E  DD 010E9          PUSHL   SP                              ;
                 7E       04  AC  7D 010EB          MOVQ    4(AP), -(SP)                    ;
          0000V  CF           03  FB 010EF          CALLS   #3, CVT_HANDLER                 ;
                              04  010F4             RET                                     ;

; Routine Size:  4341 bytes,    Routine Base:  _LIB$CODE + 0154


; 2368            2437  1
; 2369            2438  1 !<BLF/PAGE>
```

```
; 2372          2439  1 %SBTTL 'The error handler for conversion routine'
; 2373          2440  1 ROUTINE CVT_HANDLER (                                  ! Conversion routine's handler
; 2374          2441  1         SIG                                           ! Signal arguments.
; 2375          2442  1       , MECH                                          ! Mechanism arguments.
; 2376          2443  1       ) =
; 2377          2444  1
; 2378          2445  1 !++
; 2379          2446  1 ! FUNCTIONAL DESCRIPTION:
; 2380          2447  1 !
; 2381          2448  1 !       This handler will resignal opcode reserved to digital and call
; 2382          2449  1 !       LIB$SIG_TO_RET for every other case.
; 2383          2450  1 !
; 2384          2451  1 ! FORMAL PARAMETERS:
; 2385          2452  1 !
; 2386          2453  1 !       SIG.rr.r        A counted vector of parameters describing the condition.
; 2387          2454  1 !       MECH.rr.r       A counted vector of parameters from CHF.
; 2388          2455  1 !
; 2389          2456  1 ! IMPLICIT INPUTS:
; 2390          2457  1 !
; 2391          2458  1 !       NONE
; 2392          2459  1 !
; 2393          2460  1 ! IMPLICIT OUTPUTS:
; 2394          2461  1 !
; 2395          2462  1 !       NONE
; 2396          2463  1 !
; 2397          2464  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
; 2398          2465  1 !
; 2399          2466  1 !       SS$_RESIGNAL when opcode reserved to digital exception, any other case
; 2400          2467  1 !       will result in an unwind to the caller of establisher with R0 containing
; 2401          2468  1 !       the condition value.
; 2402          2469  1 !
; 2403          2470  1 ! SIDE EFFECTS:
; 2404          2471  1 !
; 2405          2472  1 !       NONE
; 2406          2473  1 !
; 2407          2474  1 !--
; 2408          2475  1
; 2409          2476  2     BEGIN
; 2410          2477  2
; 2411          2478  2     EXTERNAL ROUTINE
; 2412          2479  2         LIB$SIG_TO_RET : NOVALUE,
; 2413          2480  2         LIB$MATCH_COND;
; 2414          2481  2
; 2415          2482  2     MAP
; 2416          2483  2         SIG : REF VECTOR,
; 2417          2484  2         MECH : REF VECTOR;
; 2418          2485  2
; 2419          2486  2 !+
; 2420          2487  2 !Call LIB$SIG_TO_RET if this is not an UNWIND, or opcode reserved to digital.
; 2421          2488  2 !Otherwise resignal.  If caller of LIB$CVT_DX_DX has LIB$EMULATE then it will
; 2422          2489  2 !be given the chance to handle the fault.  In case of UNWIND the SS$_RESIGNAL
; 2423          2490  2 !is of course ignored.
; 2424          2491  2 !-
; 2425          2492  2
; 2426          2493  2     IF (LIB$MATCH_COND (SIG [1], %REF (SS$_UNWIND), %REF (SS$_OPCDEC))) GTR 0 THEN RETURN (SS$_RESIGNAL);
; 2427          2494  2
; 2428          2495  2 !+
```

```
2 !Translate all numeric exceptions to this facility's code.
2 !Also, translate SS$_ROPRAND to LIB$_ROPRAND.
2 !-
3     SIG [1] = (SELECTONE .SIG [1] OF
3         SET
3         [SS$_INTOVF] : LIB$_INTOVF;
3         [SS$_DECOVF] : LIB$_DECOVF;
3         [SS$_FLTOVF, SS$_FLTOVF_F] : LIB$_FLTOVF;
3         [SS$_FLTUND  SS$_FLTUND_F] : LIB$_FLTUND;
3         [SS$_ROPRAND] : [IB$_ROPRAND;
3         [OTHERWISE] : .SIG [T];
2         TES);
2     LIB$SIG_TO_RET (.SIG, .MECH);
2     RETURN T;                                   ! Never gets here.
1     END;                                        ! End of CVT_HANDLER


                                          .EXTRN  LIB$SIG_TO_RET, LIB$MATCH_COND

                          0004 00000 CVT_HANDLER:
                                          .WORD   Save R2                      ; 2440
           5E             08   C2 00002   SUBL2   #8, SP                       ;
       04  AE     043C    8F   3C 00005   MOVZWL  #1084, 4(SP)                 ; 2493
                    04    AE   9F 0000B   PUSHAB  4(SP)                        ;
       04  AE     0920    8F   3C 0000E   MOVZWL  #2336, 4(SP)                 ;
                    04    AE   9F 00014   PUSHAB  4(SP)                        ;
           52       04    AC   D0 00017   MOVL    SIG, R2                      ;
                    04    A2   9F 0001B   PUSHAB  4(R2)                        ;
 00000000G 00             03   FB 0001E   CALLS   #3, LIB$MATCH_COND           ;
                          50   D5 00025   TSTL    R0                           ;
                          06   15 00027   BLEQ    1$                           ;
           50     0918    8F   3C 00029   MOVZWL  #2328, R0                    ;
                               04 0002E   RET                                  ;
           50       04    A2   D0 0002F 1$: MOVL  4(R2), R0                    ; 2499
 0000047C  8F             50   D1 00033   CMPL    R0, #1148                    ; 2501
                          09   12 0003A   BNEQ    2$                           ;
           50 00000000G   8F   D0 0003C   MOVL    #LIB$_INTOVF, R0             ;
                          5E   11 00043   BRB     9$                           ;
 000004A4  8F             50   D1 00045 2$: CMPL  R0, #1188                    ; 2502
                          09   12 0004C   BNEQ    3$                           ;
           50 00000000G   8F   D0 0004E   MOVL    #LIB$_DECOVF, R0             ;
                          4C   11 00055   BRB     9$                           ;
 0000048C  8F             50   D1 00057 3$: CMPL  R0, #1164                    ; 2503
                          09   13 0005E   BEQL    4$                           ;
 000004B4  8F             50   D1 00060   CMPL    R0, #1204                    ;
                          09   12 00067   BNEQ    5$                           ;
           50 00000000G   8F   D0 00069 4$: MOVL  #LIB$_FLTOVF, R0             ;
                          31   11 00070   BRB     9$                           ;
 0000049C  8F             50   D1 00072 5$: CMPL  R0, #1180                    ; 2504
                          09   13 00079   BEQL    6$                           ;
 000004C4  8F             50   D1 0007B   CMPL    R0, #1220                    ;
                          09   12 00082   BNEQ    7$                           ;
           50 00000000G   8F   D0 00084 6$: MOVL  #LIB$_FLTUND, R0             ;
                          16   11 0008B   BRB     9$                           ;
 00000454  8F             50   D1 0008D 7$: CMPL  R0, #1108                    ; 2505
                          09   12 00094   BNEQ    8$                           ;
```

```
                      50 00000000G  8F  D0 00096         MOVL    #LIB$_ROPRAND, R0                  ;
                                    04  11 0009D         BRB     9$                                 ;
                      50        04  A2  D0 0009F 8$:     MOVL    4(R2), R0                          ; 2506
               04     A2            50  D0 000A3 9$:     MOVL    R0, 4(R2)                          ; 2499
                      7E        04  AC  7D 000A7         MOVQ    SIG, -(SP)                         ; 2508
         00000000G    00            02  FB 000AB         CALLS   #2, LIB$SIG_TO_RET                 ;
                      50            01  D0 000B2         MOVL    #1, R0                             ; 2509
                                        04 000B5         RET                                        ; 2510

; Routine Size:  182 bytes,    Routine Base:  _LIB$CODE + 1249


; 2444          2511  1 END                                           ! End of module LIB$CVTDXDX.
; 2445          2512  1
; 2446          2513  0 ELUDOM



;                                   PSECT SUMMARY
;
;       Name                       Bytes                        Attributes
;
;  _LIB$CODE                          4863  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)



;                           Library Statistics
;
;                                                -------- Symbols --------        Pages       Processing
;       File                                     Total    Loaded   Percent        Mapped      Time
;
;  _$255$DUA28:[SYSLIB]STARLET.L32;1              9776       36         0          581         00:00.7




;                                    COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS$:LIBCVTDX/OBJ=OBJ$:LIBCVTDX MSRC$:LIBCVTDX/UPDATE=(ENH$:LIBCVTDX)

; Size:         4523 code + 340 data bytes
; Run Time:        01:02.6
; Elapsed Time:    04:11.9
; Lines/CPU Min:     2407
; Lexemes/CPU-Min: 19978
; Memory Used:  1281 pages
; Compilation Complete
```

LIBCVTDX
LIS

LIBCVTMAC
LIS

LIBCRCTAB
LIS

LIBCVTDF
LIS

LIBCUSTOM
LIS

LIBCREDIR
LIS

LIBCUTATB
LIS

LIBCOMMON
LIS

LIBCRC
LIS