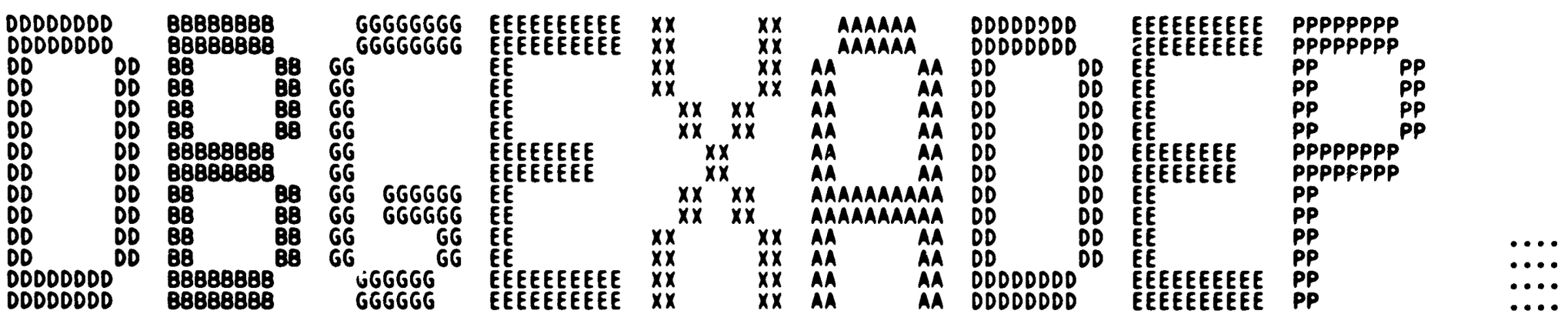
```
DDDDDDDDDDD     EEEEEEEEEEEEEEE  BBBBBBBBBBB      UUU         UUU     GGGGGGGGGGG
DDDDDDDDDDDD    EEEEEEEEEEEEEEE  BBBBBBBBBBBB     UUU         UUU     GGGGGGGGGGGG
DDDDDDDDDDDD    EEEEEEEEEEEEEEE  BBBBBBBBBBBB     UUU         UUU     GGGGGGGGGGGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG
DDD         DDD EEEEEEEEEEE      BBBBBBBBBBBB     UUU         UUU GGG
DDD         DDD EEEEEEEEEEE      BBBBBBBBBBBB     UUU         UUU GGG
DDD         DDD EEEEEEEEEEE      BBBBBBBBBBBB     UUU         UUU GGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG   GGGGGGGGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG   GGGGGGGGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG   GGGGGGGGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG         GGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG         GGG
DDD         DDD EEE              BBB         BBB  UUU         UUU GGG         GGG
DDDDDDDDDDDD    EEEEEEEEEEEEEEE  BBBBBBBBBBBB      UUUUUUUUUUUUUUUUU     GGGGGGGGG
DDDDDDDDDDDD    EEEEEEEEEEEEEEE  BBBBBBBBBBBB      UUUUUUUUUUUUUUUUU     GGGGGGGGG
DDDDDDDDDDDD    EEEEEEEEEEEEEEE  BBBBBBBBBBBB      UUUUUUUUUUUUUUUUU     GGGGGGGGG
```


DDDDDDDD BBBBBBBB GGGGGGGG EEEEEEEEEE XX XX AAAAAA DDDDDDDD EEEEEEEEEE PPPPPPPP
DDDDDDDD BBBBBBBB GGGGGGGG EEEEEEEEEE XX XX AAAAAA DDDDDDDD EEEEEEEEEE PPPPPPPP
DD DD BB BB GG EE XX XX AA AA DD DD EE PP PP
DD DD BB BB GG EE XX XX AA AA DD DD EE PP PP
DD DD BB BB GG EE XX XX AA AA DD DD EE PP PP
DD DD BB BB GG EE XX XX AA AA DD DD EE PP PP
DD DD BBBBBBBB GG EEEEEEEE XX AA AA DD DD EEEEEEEE PPPPPPPP
DD DD BBBBBBBB GG EEEEEEEE XX AA AA DD DD EEEEEEEE PPPPPPPP
DD DD BB BB GG GGGGGG EE XX XX AAAAAAAAAA DD DD EE PP
DD DD BB BB GG GGGGGG EE XX XX AAAAAAAAAA DD DD EE PP
DD DD BB BB GG GG EE XX XX AA AA DD DD EE PP
DD DD BB BB GG GG EE XX XX AA AA DD DD EE PP
DDDDDDDD BBBBBBBB GGGGGG EEEEEEEEEE XX XX AA AA DDDDDDDD EEEEEEEEEE PP
DDDDDDDD BBBBBBBB GGGGGG EEEEEEEEEE XX XX AA AA DDDDDDDD EEEEEEEEEE PP
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 MODULE DBGEXADEP (IDENT = 'V04-000') =
;     2          0002  1 BEGIN
;     3          0003  1
;     4          0004  1 !
;     5          0005  1 !*****************************************************************************
;     6          0006  1 !*                                                                           *
;     7          0007  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                 *
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;    23          0023  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                  *
;    24          0024  1 !*                                                                           *
;    25          0025  1 !*                                                                           *
;    26          0026  1 !*****************************************************************************
;    27          0027  1 !
;    28          0028  1
;    29          0029  1 !++
;    30          0030  1 ! FACILITY:
;    31          0031  1 !
;    32          0032  1 !       DEBUG
;    33          0033  1 !
;    34          0034  1 ! ABSTRACT:
;    35          0035  1 !
;    36          0036  1 !       Parse networks for EXAMINE, DEPOSIT, and EVALUATE.
;    37          0037  1 !
;    38          0038  1 ! ENVIRONMENT:
;    39          0039  1 !
;    40          0040  1 !       VAX/VMS
;    41          0041  1 !
;    42          0042  1 ! AUTHOR:
;    43          0043  1 !
;    44          0044  1 !       David Plummer
;    45          0045  1 !
;    46          0046  1 ! CREATION DATE:
;    47          0047  1 !
;    48          0048  1 !       9-Jul_80
;    49          0049  1 !
;    50          0050  1 ! VERSION:
;    51          0051  1 !
;    52          0052  1 !       V02.2-001
;    53          0053  1 !
;    54          0054  1 ! MODIFIED BY:
;    55          0055  1 !       Richard Title   31-Jul-81
;    56          0056  1 !
;    57          0057  1 ! REVISION HISTORY:
```

```
;    58          0058  1 ! 3.0   31-JUL-81        RT      Added type qualifiers /FLOAT, /D_FLOAT, etc.
;    59          0059  1 ! 3.1   23-Jun-83        WC3     Added support for EXAMINE/PACKED, EXAMINE/DATE_TIME
;    60          0060  1 ! 3.2   11-Jul-83        WC3     Added support for DEP/PACKED:n
;    61          0061  1 ! 3.3   15-Jul-83        WC3     Adaed support for DEP/DATE_TYPE and Fix EXAMINE/DATE_TIME
;    62          0062  1 !                                 to use DBG$CVT_DX_DX.
;    63          0063  1 ! 3.4   20-JAN-84        BAB     Made DEP/INSTR work right.
;    64          0064  1 !
;    65          0065  1 !
;    66          0066  1 !--
```

```
;    68          0067  1 !
;    69          0068  1 ! TABLE OF CONTENTS:
;    70          0069  1 !
;    71          0070  1
;    72          0071  1 FORWARD ROUTINE
;    73          0072  1         DBG$NPARSE_DEPOSIT,             ! Parse network for DEPOSIT
;    74          0073  1         DBG$SET_PAGE_PROT,              ! Sets protection for a page list
;    75          0074  1         DBG$NPARSE_EVALUATE,            ! Parse network
;    76          0075  1         DBG$NPARSE_EXAMINE,             ! Parse network
;    77          0076  1         DBG$NFORMAT_WITH_RADIX: NOVALUE;! Formats a value with radix override
;    78          0077  1
;    79          0078  1 ! REQUIRE FILES:
;    80          0079  1 !
;    81          0080  1 REQUIRE 'SRC$:DBGPROLOG.REQ';
;    82          0214  1 LIBRARY 'LIB$:DBGGEN.L32';
;    83          0215  1
;    84          0216  1 ! EQUATED SYMBOLS
;    85          0217  1 !
;    86          0218  1 LITERAL
;    87          0219  1     DEPOSIT                     = 1,
;    88          0220  1     DEPOSIT_INSTRUCTION         = 2,
;    89          0221  1     DEPOSIT_REGISTER            = 3;
;    90          0222  1
;    91          0223  1 LITERAL
;    92          0224  1     EVALUATE            = 1,            ! Plain jane EVALUATE
;    93          0225  1     EVALUATE_ADDR       = 2,            ! EVALUATE/ADDRESS
;    94          0226  1     EVALUATE_COND       = 3;            ! EVALUATE/CONDITION_VALUE
;    95          0227  1
;    96          0228  1 LITERAL
;    97          0229  1     EXAMINE                     = 1,
;    98          0230  1     EXAMINE_INSTRUCTION         = 2,
;    99          0231  1     EXAMINE_REGISTER            = 3,
;   100          0232  1     EXAMINE_SOURCE              = 4,
;   101          0233  1     EXAMINE_CONDITION_VALUE     = 5,
;   102          0234  1     EXAMINE_PSL                 = 6,
;   103          0235  1     EXAMINE_PSW                 = 7;
;   104          0236  1
;   105          0237  1 LITERAL
;   106          0238  1         DUMMY_TYPE = dbg$k_notype,      ! Used in type node
;   107          0239  1         MAX_STRING_SIZE = 256;          ! Max string size for SYS$GETMSG.
;   108          0240  1
;   109          0241  1
;   110          0242  1 ! EXTERNAL REFERENCES:
;   111          0243  1 !
;   112          0244  1 EXTERNAL ROUTINE
;   113          0245  1         DBG$CVT_DX_DX: NOVALUE,             ! Convert any-any
;   114          0246  1         DBG$DEF_SYM_FIND,                   ! Look up defined symbol
;   115          0247  1         DBG$FLUSHBUF:  NOVALUE,     ! Initializes a new print line.
;   116          0248  1         DBG$GET_TEMPMEM,                    ! Allocates command temporary dynamic storage
;   117          0249  1         DBG$INS_DECODE,                     ! Decodes an instruction
;   118          0250  1         DBG$INS_ENCODE,                     ! Encodes an instruction
;   119          0251  1         DBG$NCOPY_DESC,                     ! Copy a descriptor
;   120          0252  1         DBG$NEWLINE:  NOVALUE,      ! Prints a buffer
;   121          0253  1         DBG$NGET_DEFAULT_TYPE,              ! Obtains user set default type
;   122          0254  1         DBG$NGET_LENGTH,                    ! Obtains a primary's rvalue length
;   123          0255  1         DBG$NGET_LVAL,                      ! Obtains a primary's lvalue
;   124          0256  1         DBG$NGET_MODE,                      ! Returns true if SYMBOLS, false otherwise
```

```
;  125          0257  1          DBG$NGET_OVERRIDE_TYPE,                  ! Obtains user set override type
;  126          0258  1          DBG$NGET_PAGES,                          ! Obtains an rvalue page list
;  127          0259  1          DBG$NGET_POTENTIAL_TYPE : NOVALUE,       ! Returns potential type and length for '.'
;  128          0260  1          DBG$NGET_TYPE,                           ! Obtains type of primary descriptor
;  129          0261  1          DBG$NMAKE_ARG_VECT,                      ! Creates a message arguent vector
;  130          0262  1          DBG$NMAKE_VAL_DESC,                      ! Constructs a value descriptor
;  131          0263  1          DBG$NMATCH,                              ! Matches input against counted strings
;  132          0264  1          DBG$NNEXT_WORD,                          ! Obtains next word of input
;  133          0265  1          DBG$NOUT_INFO,                           ! Outputs and informational message
;  134          0266  1          DBG$NPARSE_ADDRESS,                      ! Interface to Address Expression Interpreter
;  135          0267  1          DBG$NPARSE_EXPRESSION,                   ! Interface to Expression Interpreter
;  136          0268  1          DBG$NSAVE_INTEGER,                       ! Converts current radix input to integer
;  137          0269  1          DBG$NSAVE_LAST_LOC       : NOVALUE,      ! Saves '.'
;  138          0270  1          DBG$NSAVE_LAST_VAL       : NOVALUE,      ! Saves '\'
;  139          0271  1          DBG$NSET_LAST_TYPLEN     : NOVALUE,      ! Saves pseudo type and length
;  140          0272  1          DBG$NSYMBOLIZE,                          ! Symbolizes from a primary descriptor
;  141          0273  1          DBG$NSYNTAX_ERROR,                       ! Formats a syntax error
;  142          0274  1          DBG$NTYPE_CONV,                          ! Type converter
;  143          0275  1          DBG$OUTPUT_PSL           : NOVALUE,      ! Outputs the PSL in special format
;  144          0276  1          DBG$PRINT:  NOVALUE,                     ! Formats into output buffer
;  145          0277  1          DBG$READ_ACCESS,                         ! Probes for read access of virtual address
;  146          0278  1          DBG$SET_MOD_LVL,                         ! Sets MODE pointer
;  147          0279  1          DBG$SRC_TYPE_PC_SOURCE   : NOVALUE,      ! Implements EX/SOURCE
;  148          0280  1          DBG$STA_SETREGISTERS : NOVALUE,          ! Resets registers context
;  149          0281  1          DBG$TRANS_TO_REGNAME,                    ! Translate address to register name
;  150          0282  1          SYS$GETMSG;                              ! Outputs system-type message.
;  151          0283  1
;  152          0284  1  EXTERNAL
;  153          0285  1          DBG$GB_MOD_PTR : REF VECTOR [,BYTE],     ! Pointer to MODE structure
;  154          0286  1          DBG$GB_RADIX: VECTOR[3,BYTE],            ! Radix settings
;  155          0287  1          DBG$GL_CMND_RADIX,                       ! Holds radix of command
;  156          0288  1          DBG$RUNFRAME          : BLOCK [,BYTE];   ! Pointer to current runframe
;  157          0289  1
```

```
;  159     0290  1 GLOBAL ROUTINE DBG$NPARSE_DEPOSIT (INPUT_DESC, VERB_NODE, MESSAGE_VECT) =
;  160     0291  1
;  161     0292  1 !++
;  162     0293  1 ! FUNCTIONAL DESCRIPTION:
;  163     0294  1 !
;  164     0295  1 !       This routine comprises the ATN parse network for the DEPOSIT verb.
;  165     0296  1 !       During parsing, calls are made to other routines to parse expressions
;  166     0297  1 !       and address expressions for inclusion as operands in the command
;  167     0298  1 !       execution tree. The competed tree is used as input to the command
;  168     0299  1 !       execution network which performs the associated semantic actions.
;  169     0300  1 !
;  170     0301  1 !       DEPOSITs are affected by command override types, user set override types,
;  171     0302  1 !       and user set default types. The strategy of this routine is to construct
;  172     0303  1 !       a command execution tree that reflects this situation. Thus, whenver the
;  173     0304  1 !       target of the DEPOSIT is described by anything other than a primary
;  174     0305  1 !       descriptor, adverb nodes are created to describe the type for the
;  175     0306  1 !       target. Primary descriptor entity types are overriden only by command
;  176     0307  1 !       and user set override types, - not the default type.
;  177     0308  1 !
;  178     0309  1 !       When an instruction DEPOSIT is indicated, a kernal DEBUG routine is
;  179     0310  1 !       called to obtain the source of the target. This MUST be a quoted string.
;  180     0311  1 !       The source for all other DEPOSITs is obtained through the Expression
;  181     0312  1 !       Interpreter.
;  182     0313  1 !
;  183     0314  1 ! FORMAL PARAMETERS:
;  184     0315  1 !
;  185     0316  1 !       INPUT_DESC      - A longword containing the address of a standard ascii
;  186     0317  1 !                         string descriptor representing the user's input
;  187     0318  1 !
;  188     0319  1 !       VERB_NODE       - A longword containing the address of the verb (head)
;  189     0320  1 !                         node of the command execution tree
;  190     0321  1 !
;  191     0322  1 !       MESSAGE_VECT    - The address of a longword to contain the address of a
;  192     0323  1 !                         message argument vector upon detection of errors
;  193     0324  1 !
;  194     0325  1 ! IMPLICIT INPUTS:
;  195     0326  1 !
;  196     0327  1 !       NONE
;  197     0328  1 !
;  198     0329  1 ! IMPLICIT OUTPUTS:
;  199     0330  1 !
;  200     0331  1 !       On success, the entire command execution tree is constructed.
;  201     0332  1 !
;  202     0333  1 !       On failure, a message argument vector is constructed and returned.
;  203     0334  1 !
;  204     0335  1 ! ROUTINE VALUE:
;  205     0336  1 !
;  206     0337  1 !       An unsigned integer longword completion code
;  207     0338  1 !
;  208     0339  1 ! COMPLETION CODES:
;  209     0340  1 !
;  210     0341  1 !       STS$K_SUCCESS (1)       - Success. Input parsed and execution tree constructed.
;  211     0342  1 !
;  212     0343  1 !       STS$K_SEVERE  (4)       - Failure. Error detected. Message argument vector
;  213     0344  1 !                                 constructed and returned.
;  214     0345  1 !
;  215     0346  1 ! SIDE EFFECTS:
```

```
;  216     0347  1 !
;  217     0348  1 !       NONE
;  218     0349  1 !
;  219     0350  1 !--
;  220     0351  1
;  221     0352  2     BEGIN
;  222     0353  2
;  223     0354  2     MAP
;  224     0355  2         VERB_NODE               : REF dbg$verb_node;
;  225     0356  2
;  226     0357  2     BIND
;  227     0358  2
;  228     0359  2         ! Strings used at this level of parsing
;  229     0360  2         !
;  230     0361  2         DBG$CS_INSTRUCTION      = UPLIT BYTE (11, 'INSTRUCTION'),
;  231     0362  2         DBG$CS_PACKED           = UPLIT BYTE (6, 'PACKED'),                 ! A3.2
;  232     0363  2         DBG$CS_DATE_TIME        = UPLIT BYTE (9, 'DATE_TIME'),              ! A3.3
;  233     0364  2         DBG$CS_ASCII            = UPLIT BYTE (5, 'ASCII'),
;  234     0365  2         DBG$CS_ASCIC            = UPLIT BYTE (5, 'ASCIC'),
;  235     0366  2         DBG$CS_AC               = UPLIT BYTE (2, 'AC'),
;  236     0367  2         DBG$CS_ASCIW            = UPLIT BYTE (5, 'ASCIW'),
;  237     0368  2         DBG$CS_AW               = UPLIT BYTE (2, 'AW'),
;  238     0369  2         DBG$CS_ASCIZ            = UPLIT BYTE (5, 'ASCIZ'),
;  239     0370  2         DBG$CS_AZ               = UPLIT BYTE (2, 'AZ'),
;  240     0371  2         DBG$CS_ASCID            = UPLIT BYTE (5, 'ASCID'),
;  241     0372  2         DBG$CS_AD               = UPLIT BYTE (2, 'AD'),
;  242     0373  2         DBG$CS_BYTE             = UPLIT BYTE (4, 'BYTE'),
;  243     0374  2         DBG$CS_WORD             = UPLIT BYTE (4, 'WORD'),
;  244     0375  2         DBG$CS_LONGWORD         = UPLIT BYTE (8, 'LONGWORD'),
;  245     0376  2         DBG$CS_QUADWORD         = UPLIT BYTE (8, 'QUADWORD'),
;  246     0377  2         DBG$CS_OCTAWORD         = UPLIT BYTE (8, 'OCTAWORD'),
;  247     0378  2         DBG$CS_FLOAT            = UPLIT BYTE (5, 'FLOAT'),
;  248     0379  2         DBG$CS_F_FLOAT          = UPLIT BYTE (7, 'F_FLOAT'),
;  249     0380  2         DBG$CS_D_FLOAT          = UPLIT BYTE (7, 'D_FLOAT'),
;  250     0381  2         DBG$CS_G_FLOAT          = UPLIT BYTE (7, 'G_FLOAT'),
;  251     0382  2         DBG$CS_H_FLOAT          = UPLIT BYTE (7, 'H_FLOAT'),
;  252     0383  2         DBG$CS_COLON            = UPLIT BYTE (1, dbg$k_colon),
;  253     0384  2         DBG$CS_SLASH            = UPLIT BYTE (1, dbg$k_slash),
;  254     0385  2         DBG$CS_EQUAL_SIGN       = UPLIT BYTE (1, dbg$k_equal),
;  255     0386  2         DBG$CS_CR               = UPLIT BYTE (1, dbg$k_car_return);
;  256     0387  2
;  257     0388  2     LOCAL
;  258     0389  2         ADDR_EXP_DESC   : REF dbg$aed,          ! Address expression descriptor
;  259     0390  2         NOUN_NODE       : REF dbg$noun_node,    ! Object
;  260     0391  2         ADVERB_NODE     : REF dbg$adverb_node,  ! Adverb
;  261     0392  2         LINK,                                   ! Pointer
;  262     0393  2         INP_RADIX,                                      ! Radix for numeric literals
;  263     0394  2         TYPE,                                   ! Type of target
;  264     0395  2         LENGTH,                                 ! Length of target
;  265     0396  2         ADDRESS         : VECTOR [2],           ! Address of target
;  266     0397  2         STATUS,                                 ! Return status
;  267     0398  2         VALPTR          : REF dbg$valdesc;      ! Value descripter
;  268     0399  2
;  269     0400  2     ! Create and link a noun node to contain the target
;  270     0401  2     !
;  271     0402  2     noun_node = dbg$get_tempmem (dbg$k_noun_node_size);
;  272     0403  2     verb_node [dbg$l_verb_object_ptr] = .noun_node;
```

```
;  273          0404  2
;  274          0405  2
;  275          0406  2      ! Initialize target type and length
;  276          0407  2      !
;  277          0408  2      type = -1;          ! -1 indicates that we have not found an override type
;  278          0409  2      length = 0;
;  279          0410  2
;  280          0411  2      ! Accept any command switches. We start out with a verb composite representing
;  281          0412  2      ! a plain DEPOSIT. This may change as a result of command or user set overrides.
;  282          0413  2      ! We changes the composite to DEPOSIT_INSTRUCTION if we find /INSTRUCTION.
;  283          0414  2      ! We do not create an adverb node for radix switches - only types.
;  284          0415  2      !
;  285          0416  2      verb_node [dbg$b_verb_composite] = deposit;
;  286          0417  2      inp_radix = .dbg$gb_radix[dbg$b_radix_input];
;  287          0418  2
;  288          0419  2      WHILE dbg$nmatch (.input_desc, dbg$cs_slash, 1)
;  289          0420  2      DO
;  290          0421  3          BEGIN
;  291          0422  3          SELECTONE true
;  292          0423  3              OF
;  293          0424  3              SET
;  294          0425  3
;  295          0426  3              [dbg$nmatch (.input_desc, dbg$cs_instruction, 1)] : !DEPOSIT/INSTRUCION
;  296          0427  4                  BEGIN
;  297          0428  4                  type = dsc$k_dtype_zi;
;  298          0429  3                  END;
;  299          0430  3
;  300          0431  3              [dbg$nmatch (.input_desc, dbg$cs_byte, 1)] : ! DEPOSIT/BYTE
;  301          0432  4                  BEGIN
;  302          0433  4                  type = dsc$k_dtype_b;
;  303          0434  4                  length = byte_length;
;  304          0435  3                  END;
;  305          0436  3
;  306          0437  3              [dbg$nmatch (.input_desc, dbg$cs_word  1)] : ! DEPOSIT/WORD
;  307          0438  4                  BEGIN
;  308          0439  4                  type = dsc$k_dtype_w;
;  309          0440  4                  length = word_length;
;  310          0441  3                  END;
;  311          0442  3
;  312          0443  3              [dbg$nmatch (.input_desc, dbg$cs_longword, 1)] : ! DEPOSIT/LONGWORD
;  313          0444  4                  BEGIN
;  314          0445  4                  type = dsc$k_dtype_l;
;  315          0446  4                  length = long_length;
;  316          0447  3                  END;
;  317          0448  3
;  318          0449  3              [dbg$nmatch (.input_desc, dbg$cs_quadword, 1)] : ! DEPOSIT/QUAD
;  319          045C  4                  BEGIN
;  320          0451  4                  type = dsc$k_dtype_q;
;  321          0452  4                  length = 8;
;  322          0453  3                  END;
;  323          0454  3
;  324          0455  3              [dbg$nmatch (.input_desc, dbg$cs_date_time, 2)] : ! DEPOSIT/DATE_TIME
;  325          0456  4                  BEGIN
;  326          0457  4                  type = dsc$k_dtype_adt;
;  327          0458  4                  length = 8;
;  328          0459  3                  END;
;  329          0460  3
```

```
;  330     0461  3          [dbg$nmatch (.input_desc, dbg$cs_octaword, 1)] : ! DEPOSIT/OCTAWORD
;  331     0462  4              BEGIN
;  332     0463  4              type = dsc$k_dtype_o;
;  333     0464  4              length = 16;
;  334     0465  3              END;
;  335     0466  3
;  336     0467  3          [dbg$nmatch (.input_desc, dbg$cs_float, 1),
;  337     0468  3           dbg$nmatch (.input_desc, dbg$cs_f_float, 1)] : ! DEPOSIT/FLOAT
;  338     0469  4              BEGIN
;  339     0470  4              type = dsc$k_dtype_f;
;  340     0471  4              length = 4;
;  341     0472  3              END;
;  342     0473  3
;  343     0474  3          [dbg$nmatch (.input_desc, dbg$cs_d_float, 2)] : ! DEPOSIT/D_FLOAT
;  344     0475  4              BEGIN
;  345     0476  4              type = dsc$k_dtype_d;
;  346     0477  4              length = 8;
;  347     0478  3              END;
;  348     0479  3
;  349     0480  3          [dbg$nmatch (.input_desc, dbg$cs_g_float, 1)] : ! DEPOSIT/G_FLOAT
;  350     0481  4              BEGIN
;  351     0482  4              type = dsc$k_dtype_g;
;  352     0483  4              length = 8;
;  353     0484  3              END;
;  354     0485  3
;  355     0486  3          [dbg$nmatch( .input_desc, dbg$cs_h_float, 2)] : ! DEPOSIT/H_FLOAT
;  356     0487  4              BEGIN
;  357     0488  4              type = dsc$k_dtype_h;
;  358     0489  4              length = 16;
;  359     0490  3              END;
;  360     0491  3
;  361     0492  3          [dbg$nmatch (.input_desc, dbg$cs_packed, 1)] :                    ! A3.2
;  362     0493  4              BEGIN                                                         ! A3.2
;  363     0494  4              type = dsc$k_dtype_p;                                         ! A3.2
;  364     0495  4                                                                            ! A3.2
;  365     0496  4              ! Accept the ':' and integer. If there is no colon, use      ! A3.2
;  366     0497  4              ! a length or default of 10.                                  ! A3.2
;  367     0498  4              !                                                             ! A3.2
;  368     0499  4              IF NOT dbg$nmatch (.input_desc, dbg$cs_colon, 1)              ! A3.2
;  369     0500  4              THEN                                                          ! A3.2
;  370     0501  5                  BEGIN                                                     ! A3.2
;  371     0502  5                  length = 10;                                              ! A3.2
;  372     0503  5                  END                                                       ! A3.2
;  373     0504  4              ELSE                                                          ! A3.2
;  374     0505  5                  BEGIN                                                     ! A3.2
;  375     0506  5                                                                            ! A3.2
;  376     0507  5                  ! We found the colon. Accept the integer                  ! A3.2
;  377     0508  5                  !                                                         ! A3.2
;  378     0509  5                  IF NOT dbg$nsave_integer (.input_desc, length)            ! A3.2
;  379     0510  5                  THEN                                                      ! A3.2
;  380     0511  5                      RETURN sts$k_severe;                                  ! A3.2
;  381     0512  5                                                                            ! A3.2
;  382     0513  5                  ! Check to see that the length is within 0 and 31         ! A3.2
;  383     0514  5                  !                                                         ! A3.2
;  384     0515  6                  IF (.length LSS 0)  OR  (.length GTR 31)                  ! A3.2
;  385     0516  5                  THEN                                                      ! A3.2
;  386     0517  5                      SIGNAL(dbg$_illpacsiz, 1, .length);                   ! A3.2
```

```
;  387     0518  4                END;                                                    ! A3.2
;  388     0519  3            END;                                                        ! A3.2
;  389     0520  3
;  390     0521  3        [dbg$nmatch (.input_desc, dbg$cs_ascii, 1)] : ! DEPOSIT/ASCII
;  391     0522  4            BEGIN
;  392     0523  4
;  393     0524  4            ! Accept the ':' and integer. If there is no colon, we assume
;  394     0525  4            ! a length of 4
;  395     0526  4            !
;  396     0527  4            IF dbg$nmatch (.input_desc, dbg$cs_colon, 1)
;  397     0528  4            THEN
;  398     0529  5                BEGIN
;  399     0530  5
;  400     0531  5                ! We found the colon. Accept the integer
;  401     0532  5                !
;  402     0533  5                IF NOT dbg$nsave_integer (.input_desc, length)
;  403     0534  5                THEN
;  404     0535  5                RETURN sts$k_severe;
;  405     0536  5
;  406     0537  5                ! Check to see that the length of the ascii deposit is not 0
;  407     0538  5                !
;  408     0539  5                IF .length LEQ 0
;  409     0540  5                THEN
;  410     0541  6                    BEGIN
;  411     0542  6                    OWN num_desc : dbg$stg_desc;
;  412     0543  6
;  413     0544  6                    num_desc [dsc$w_length] = 1;
;  414     0545  6                    num_desc [dsc$a_pointer] = UPLIT TYPE ('0');
;  415     0546  6                    .message_vect = dbg$nmake_arg_vect (dbg$_invnumber, 1, num_desc);
;  416     0547  6                    RETURN sts$k_severe;
;  417     0548  5                    END;
;  418     0549  5
;  419     0550  4                END;
;  420     0551  4
;  421     0552  4            type = dsc$k_dtype_t;
;  422     0553  4
;  423     0554  4
;  424     0555  3            END;
;  425     0556  3
;  426     0557  3        [dbg$nmatch (.input_desc, dbg$cs_ascic, 5),
;  427     0558  3         dbg$nmatch (.input_desc, dbg$cs_ac, 2)] :
;  428     0559  4            BEGIN
;  429     0560  4            type = dsc$k_dtype_ac;
;  430     0561  4            END;
;  431     0562  3
;  432     0563  3        [dbg$nmatch (.input_desc, dbg$cs_asciw, 5),
;  433     0564  3         dbg$nmatch (.input_desc, dbg$cs_aw, 2)] :
;  434     0565  4            BEGIN
;  435     0566  4            type = dsc$k_dtype_vt;
;  436     0567  4            END;
;  437     0568  3
;  438     0569  3        [dbg$nmatch (.input_desc, dbg$cs_asciz, 5),
;  439     0570  3         dbg$nmatch (.input_desc, dbg$cs_az, 2)] :
;  440     0571  4            BEGIN
;  441     0572  4            type = dsc$k_dtype_az;
;  442     0573  4            END;
;  443     0574  3
```

```
;  444          0575  3              [dbg$nmatch (.input_desc, dbg$cs_ascid, 5),
;  445          0576  3               dbg$nmatch (.input_desc, dbg$cs_ad, 2)] :
;  446          0577  4                  BEGIN
;  447          0578  4                  type = dbg$k_dtype_ad;
;  448          0579  3                  END;
;  449          0580  3
;  450          0581  3              [OTHERWISE] :       ! Some flavor of user error
;  451          0582  4                  BEGIN
;  452          0583  4                  .message_vect =
;  453          0584  5                  ( IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  454          0585  5                    THEN
;  455          0586  5                        dbg$nmake_arg_vect (dbg$_needmore)
;  456          0587  5                    ELSE
;  457          0588  4                        dbg$nsyntax_error (dbg$nnext_word (.input_desc)));
;  458          0589  4                  RETURN sts$k_severe;
;  459          0590  3                  END;
;  460          0591  3
;  461          0592  3              TES;
;  462          0593  3
;  463          0594  2          END;
;  464          0595  2
;  465          0596  2
;  466          0597  2      ! Obtain the target of the DEPOSIT in the form of an address expression descriptor
;  467          0598  2      !
;  468          0599  2      STATUS = DBG$NPARSE_ADDRESS (.INPUT_DESC, NOUN_NODE [DBG$L_NOUN_VALUE],
;  469          0600  2                                   .INP_RADIX, TOKEN$K_TERM_EQUAL, .MESSAGE_VECT);
;  470          0601  2
;  471          0602  2
;  472          0603  2      ! The Address Expression Interpreter MUST give us a warning return to
;  473          0604  2      ! indicate the '=' that seperates the target from the source.
;  474          0605  2      !
;  475          0606  2      IF .status NEQ sts$k_warning
;  476          0607  2      THEN
;  477          0608  3          BEGIN
;  478          0609  3          IF .status EQL sts$k_success ! Missing '='
;  479          0610  3          THEN
;  480          0611  3              .message_vect = dbg$nmake_arg_vect (dbg$_needmore);
;  481          0612  3          RETURN sts$k_severe;
;  482          0613  2          END;
;  483          0614  2
;  484          0615  2
;  485          0616  2      ! Gobble the '='
;  486          0617  2      !
;  487          0618  2      IF NOT dbg$nmatch (.input_desc, dbg$cs_equal_sign, 1)
;  488          0619  2      THEN
;  489          0620  3          BEGIN
;  490          0621  3          .message_vect =
;  491          0622  4          ( IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  492          0623  4            THEN
;  493          0624  4                dbg$nmake_arg_vect (dbg$_needmore)
;  494          0625  4            ELSE
;  495          0626  3                dbg$nsyntax_error (dbg$nnext_word (.input_desc)));
;  496          0627  3          RETURN sts$k_severe;
;  497          0628  2          END;
;  498          0629  2
;  499          0630  2
;  500          0631  2      ! Recover the target address expression descriptor
```

```
;  501          0632  2      !
;  502          0633  2      addr_exp_desc = .noun_node [dbg$l_noun_value];
;  503          0634  2
;  504          0635  2
;  505          0636  2      ! Create an adverb node which we may use to type the target, but don't link
;  506          0637  2      ! it to the verb node until we need to.
;  507          0638  2      !
;  508          0639  2      adverb_node = dbg$get_tempmem (dbg$k_adverb_node_size);
;  509          0640  2
;  510          0641  2
;  511          0642  2      ! Type the target based on command overrides, user set overrides, current
;  512          0643  2      ! location typing, address expression descriptor contents, or user set defaults.
;  513          0644  2      ! Check for command override.
;  514          0645  2      !
;  515          0646  2      IF .type NEQ -1
;  516          0647  2      THEN
;  517          0648  3          BEGIN
;  518          0649  3          verb_node [dbg$l_verb_adverb_ptr] = .adverb_node;
;  519          0650  3          adverb_node [dbg$b_adverb_literal] = .type;
;  520          0651  3          adverb_node [dbg$l_adverb_value] = .length;
;  521          0652  3          END
;  522          0653  2      ELSE
;  523          0654  3          BEGIN
;  524          0655  3
;  525          0656  3          ! There was no command override. Check for a type/override.
;  526          0657  3          !
;  527          0658  3          IF dbg$nget_override_type (type, length)
;  528          0659  3          THEN
;  529          0660  4              BEGIN
;  530          0661  4              verb_node [dbg$l_verb_adverb_ptr] = .adverb_node;
;  531          0662  4              adverb_node [dbg$b_adverb_literal] = .type;
;  532          0663  4              adverb_node [dbg$l_adverb_value] = .length;
;  533          0664  3              END;
;  534          0665  2          END;
;  535          0666  2
;  536          0667  2
;  537          0668  2      ! The adverb node has been set up, and the command has been classified as
;  538          0669  2      ! either DEPOSIT or DEPOSIT_INSTRUCTION. The target has been placed in the
;  539          0670  2      ! first noun node. Now the source must be obtained. We allocate another
;  540          0671  2      ! noun node and link it to the first one for this purpose. This second
;  541          0672  2      ! noun node will point either to a value descriptor or to a buffer containing
;  542          0673  2      ! a potential instruction counted string.
;  543          0674  2      !
;  544          0675  2      link = noun_node [dbg$l_noun_link];
;  545          0676  2
;  546          0677  2      noun_node = dbg$get_tempmem (dbg$k_noun_node_size);
;  547          0678  2      .link = .noun_node; ! This links the new noun node
;  548          0679  2
;  549          0680  2
;  550          0681  2      ! For implementation level 3, we always just want to call the
;  551          0682  2      ! expression parser.
;  552          0683  2      !
;  553          0684  3      IF NOT (STATUS = DBG$NPARSE_EXPRESSION (.INPUT_DESC, .INP_RADIX,
;  554          0685  3                                              NOUN_NODE [DBG$L_NOUN_VALUE],
;  555          0686  3                                              TOKEN$K_TERM_NONE, .MESSAGE_VECT,
;  556          0687  3                                              DBG$K_DEPOSIT_VERB))
;  557          0688  2      THEN
```

```
;  558          0689  3          BEGIN
;  559          0690  3
;  560          0691  3          ! We do not expect more input after the expression
;  561          0692  3          !
;  562          0693  3          IF .status EQL sts$k_warning
;  563          0694  3          THEN
;  564          0695  3              .message_vect = dbg$nsyntax_error (dbg$nnext_word (.input_desc));
;  565          0696  3          RETURN sts$k_severe;
;  566          0697  2          END;
;  567          0698  2
;  568          0699  2      ! This assures that the DEPOSIT/INSTR has a quoted string.
;  569          0700  2      !
;  570          0701  2      IF .type EQL dsc$k_dtype_zi
;  571          0702  2      THEN
;  572          0703  3          BEGIN
;  573          0704  3          valptr = .noun_node [dbg$l_noun_value];
;  574          0705  3          IF .valptr [dbg$b_value_dtype] NEQ dsc$k_dtype_t
;  575          0706  3          THEN
;  576          0707  3              SIGNAL(dbg$_opnotallow, 1, uplit byte(%ascic 'DEPOSIT'));
;  577          0708  2          END;
;  578          0709  2
;  579          0710  2      RETURN sts$k_success;
;  580          0711  1      END;


                                                                .TITLE  DBGEXADFP
                                                                .IDENT  \V04-000\

                                                                .PSECT  DBG$PLIT,NOWRT,  SHR,  PIC,0

                                                    0B  00000 P.AAA:    .BYTE   11
4E  4F  49  54  43  55  52  54  53  4E              49  00001           .ASCII  \INSTRUCTION\
                                                    06  0000C P.AAB:    .BYTE   6
                                44  45  4B  43  41  50  0000D           .ASCII  \PACKED\
                                                    09  00013 P.AAC:    .BYTE   9
        45  4D  49  54  5F  45  54  41              44  00014           .ASCII  \DATE_TIME\
                                                    05  0001D P.AAD:    .BYTE   5
                            49  49  43  53  41  0001E           .ASCII  \ASCII\
                                                    05  00023 P.AAE:    .BYTE   5
                            43  49  43  53  41  00024           .ASCII  \ASCIC\
                                                    02  00029 P.AAF:    .BYTE   2
                                        43  41  0002A           .ASCII  \AC\
                                                    05  0002C P.AAG:    .BYTE   5
                            57  49  43  53  41  0002D           .ASCII  \ASCIW\
                                                    02  00032 P.AAH:    .BYTE   2
                                        57  41  00033           .ASCII  \AW\
                                                    05  00035 P.AAI:    .BYTE   5
                            5A  49  43  53  41  00036           .ASCII  \ASCIZ\
                                                    02  0003B P.AAJ:    .BYTE   2
                                        5A  41  0003C           .ASCII  \AZ\
                                                    05  0003E P.AAK:    .BYTE   5
                            44  49  43  53  41  0003F           .ASCII  \ASCID\
                                                    02  00044 P.AAL:    .BYTE   2
                                        44  41  00045           .ASCII  \AD\
                                                    04  00047 P.AAM:    .BYTE   4
                                45  54  59  42  00048           .ASCII  \BYTE\
                                                    04  0004C P.AAN:    .BYTE   4
```

```
                                44 52 4F 57  0004D             .ASCII  \WORD\
                                   08        00051 P.AAO:      .BYTE   8
                44 52 4F 57 47 4E 4F 4C      00052             .ASCII  \LONGWORD\
                                   08        0005A P.AAP:      .BYTE   8
                44 52 4F 57 44 41 55 51      0005B             .ASCII  \QUADWORD\
                                   08        00063 P.AAQ:      .BYTE   8
                44 52 4F 57 41 54 43 4F      00064             .ASCII  \OCTAWORD\
                                   05        0006C P.AAR:      .BYTE   5
                      54 41 4F 4C  46        0006D             .ASCII  \FLOAT\
                                   07        00072 P.AAS:      .BYTE   7
                   54 41 4F 4C 46 5F 46        00073             .ASCII  \F_FLOAT\
                                   07        0007A P.AAT:      .BYTE   7
                   54 41 4F 4C 46 5F 44        0007B             .ASCII  \D_FLOAT\
                                   07        00082 P.AAU:      .BYTE   7
                   54 41 4F 4C 46 5F 47        00083             .ASCII  \G_FLOAT\
                                   07        0008A P.AAV:      .BYTE   7
                   54 41 4F 4C 46 5F 48        0008B             .ASCII  \H_FLOAT\
                                   3A 01     00092 P.AAW:      .BYTE   1, 58
                                   2F 01     00094 P.AAX:      .BYTE   1, 47
                                   3D 01     00096 P.AAY:      .BYTE   1, 61
                                   0D 01     00098 P.AAZ:      .BYTE   1, 13
                                             0009A             .BLKB   2
                            00 00 00 30      0009C P.ABA:      .ASCII  \0\<0><0><0>
54 49 53 4F 50 45 44 07                      000A0 P.ABB:      .ASCII  <7>\DEPOSIT\

                                                               .PSECT  DBG$OWN,NOEXE,  PIC,2

                                             00000 NUM_DESC:
                                                               .BLKB   12

DBG$CS_INSTRUCTION= P.AAA
DBG$CS_PACKED=      P.AAB
DBG$CS_DATE_TIME=   P.AAC
DBG$CS_ASCII=       P.AAD
DBG$CS_ASCIC=       P.AAE
DBG$CS_AC=          P.AAF
DBG$CS_ASCIW=       P.AAG
DBG$CS_AW=          P.AAH
DBG$CS_ASCIZ=       P.AAI
DBG$CS_AZ=          P.AAJ
DBG$CS_ASCID=       P.AAK
DBG$CS_AD=          P.AAL
DBG$CS_BYTE=        P.AAM
DBG$CS_WORD=        P.AAN
DBG$CS_LONGWORD=    P.AAO
DBG$CS_QUADWORD=    P.AAP
DBG$CS_OCTAWORD=    P.AAQ
DBG$CS_FLOAT=       P.AAR
DBG$CS_F_FLOAT=     P.AAS
DBG$CS_D_FLOAT=     P.AAT
DBG$CS_G_FLOAT=     P.AAU
DBG$CS_H_FLOAT=     P.AAV
DBG$CS_COLON=       P.AAW
DBG$CS_SLASH=       P.AAX
DBG$CS_EQUAL_SIGN=  P.AAY
DBG$CS_CR=          P.AAZ
                               .EXTRN  DBG$CVT_DX_DX, DBG$DEF_SYM_FIND
```

```
                                .EXTRN  DBG$FLUSHBUF, DBG$GET_TEMPMEM
                                .EXTRN  DBG$INS_DECODE, DBG$INS_ENCODE
                                .EXTRN  DBG$NCOPY_DESC, DBG$NEWLINE
                                .EXTRN  DBG$NGET_DEFAULT_TYPE
                                .EXTRN  DBG$NGET_LENGTH
                                .EXTRN  DBG$NGET_LVAL, DBG$NGET_MODE
                                .EXTRN  DBG$NGET_OVERRIDE_TYPE
                                .EXTRN  DBG$NGET_PAGES, DBG$NGET_POTENTIAL_TYPE
                                .EXTRN  DBG$NGET_TYPE, DBG$NMAKE_ARG_VECT
                                .EXTRN  DBG$NMAKE_VAL_DESC
                                .EXTRN  DBG$NMATCH, DBG$NNEXT_WORD
                                .EXTRN  DBG$NOUT_INFO, DBG$NPARSE_ADDRESS
                                .EXTRN  DBG$NPARSE_EXPRESSION
                                .EXTRN  DBG$NSAVE_INTEGER
                                .EXTRN  DBG$NSAVE_LAST_LOC
                                .EXTRN  DBG$NSAVE_LAST_VAL
                                .EXTRN  DBG$NSET_LAST_TYPLEN
                                .EXTRN  DBG$NSYMBOLIZE, DBG$NSYNTAX_ERROR
                                .EXTRN  DBG$NTYPE_CONV, DBG$OUTPUT_PSL
                                .EXTRN  DBG$PRINT, DBG$READ_ACCESS
                                .EXTRN  DBG$SET_MOD_LVL
                                .EXTRN  DBG$SRC_TYPE_PC_SOURCE
                                .EXTRN  DBG$STA_SETREGISTERS
                                .EXTRN  DBG$TRANS_TO_REGNAME
                                .EXTRN  SYS$GETMSG, DBG$GB_MOD_PTR
                                .EXTRN  DBG$GB_RADIX, DBG$GL_CMND_RADIX
                                .EXTRN  DBG$RUNFRAME

                                .PSECT  DBG$CODE,NOWRT,  SHR,  PIC,0

                        0FFC 00000      .ENTRY  DBG$NPARSE_DEPOSIT, Save R2,R3,R4,R5,R6,R7,-; 0290
                                                R8,R9,R10,R11
                5B 00000000'    EF  9E 00002    MOVAB   NUM_DESC, R11
                5A 00000000G    00  9E 00009    MOVAB   DBG$NMATCH, R10
                59 00000000'    EF  9E 00010    MOVAB   DBG$CS_COLON, R9
                5E              10  C2 00017    SUBL2   #16, SP
                                04  DD 0001A    PUSHL   #4                                  ; 0402
    00000000G   00              01  FB 0001C    CALLS   #1, DBG$GET_TEMPMEM
                57              50  D0 00023    MOVL    R0, NOUN_NODE
                55          08  AC  D0 00026    MOVL    VERB_NODE, R5                       ; 0403
            08  A5              57  D0 0002A    MOVL    NOUN_NODE, 8(R5)
            04  AE              01  CE 0002E    MNEGL   #1, TYPE                            ; 0408
                                6E  D4 00032    CLRL    LENGTH                              ; 0409
            01  A5              01  90 00034    MOVB    #1, 1(R5)                           ; 0416
                58 00000000G    00  9A 00038    MOVZBL  DBG$GB_RADIX, INP_RADIX             ; 0417
                53          04  AC  D0 0003F    MOVL    INPUT_DESC, R3                      ; 0419
                                01  DD 00043 1$:  PUSHL   #1
                            02  A9  9F 00045    PUSHAB  DBG$CS_SLASH
                                53  DD 00048    PUSHL   R3
                6A              03  FB 0004A    CALLS   #3, DBG$NMATCH
                03              50  E8 0004D    BLBS    R0, 2$
                            027D    31 00050    BRW     42$
                                01  DD 00053 2$:  PUSHL   #1                                  ; 0426
                        FF6E    C9  9F 00055    PUSHAB  DBG$CS_INSTRUCTION
                                53  DD 00059    PUSHL   R3
                6A              03  FB 0005B    CALLS   #3, DBG$NMATCH
                01              50  D1 0005E    CMPL    R0, #1
```

```
                        06  12 00061          BNEQ    3$                                  ;
                04  AE      16  D0 00063          MOVL    #22, TYPE                           ; 0428
                        DA  11 00067          BRB     1$                                  ; 0422
                        01  DD 00069 3$:       PUSHL   #1                                  ; 0431
                    B5  A9  9F 0006B          PUSHAB  DBG$CS_BYTE                         ;
                        53  DD 0006E          PUSHL   R3                                  ;
                    6A      03  FB 00070          CALLS   #3, DBG$NMATCH                      ;
                    01      50  D1 00073          CMPL    R0, #1                              ;
                        09  12 00076          BNEQ    4$                                  ;
                04  AE      06  D0 00078          MOVL    #6, TYPE                            ; 0433
                6E      01  D0 0007C          MOVL    #1, LENGTH                          ; 0434
                        C2  11 0007F          BRB     1$                                  ; 0422
                        01  DD 00081 4$:       PUSHL   #1                                  ; 0437
                    BA  A9  9F 00083          PUSHAB  DBG$CS_WORD                         ;
                        53  DD 00086          PUSHL   R3                                  ;
                    6A      03  FB 00088          CALLS   #3, DBG$NMATCH                      ;
                    01      50  D1 0008B          CMPL    R0, #1                              ;
                        09  12 0008E          BNEQ    6$                                  ;
                04  AE      07  D0 00090          MOVL    #7, TYPE                            ; 0439
                6E      02  D0 00094          MOVL    #2, LENGTH                          ; 0440
                        AA  11 00097 5$:       BRB     1$                                  ; 0422
                        01  DD 00099 6$:       PUSHL   #1                                  ; 0443
                    BF  A9  9F 0009B          PUSHAB  DBG$CS_LONGWORD                     ;
                        53  DD 0009E          PUSHL   R3                                  ;
                    6A      03  FB 000A0          CALLS   #3, DBG$NMATCH                      ;
                    01      50  D1 000A3          CMPL    R0, #1                              ;
                        06  12 000A6          BNEQ    7$                                  ;
                04  AE      08  D0 000A8          MOVL    #8, TYPE                            ; 0445
                        64  11 000AC          BRB     12$                                 ; 0446
                        01  DD 000AE 7$:       PUSHL   #1                                  ; 0449
                    C8  A9  9F 000B0          PUSHAB  DBG$CS_QUADWORD                     ;
                        53  DD 000B3          PUSHL   R3                                  ;
                    6A      03  FB 000B5          CALLS   #3, DBG$NMATCH                      ;
                    01      50  D1 000B8          CMPL    R0, #1                              ;
                        06  12 000BB          BNEQ    8$                                  ;
                04  AE      09  D0 000BD          MOVL    #9, TYPE                            ; 0451
                        7C  11 000C1          BRB     15$                                 ; 0452
                        02  DD 000C3 8$:       PUSHL   #2                                  ; 0455
                    81  A9  9F 000C5          PUSHAB  DBG$CS_DATE_TIME                    ;
                        53  DD 000C8          PUSHL   R3                                  ;
                    6A      03  FB 000CA          CALLS   #3, DBG$NMATCH                      ;
                    01      50  D1 000CD          CMPL    R0, #1                              ;
                        06  12 000D0          BNEQ    9$                                  ;
                04  AE      23  D0 000D2          MOVL    #35, TYPE                           ; 0457
                        67  11 000D6          BRB     15$                                 ; 0458
                        01  DD 000D8 9$:       PUSHL   #1                                  ; 0461
                    D1  A9  9F 000DA          PUSHAB  DBG$CS_OCTAWORD                     ;
                        53  DD 000DD          PUSHL   R3                                  ;
                    6A      03  FB 000DF          CALLS   #3, DBG$NMATCH                      ;
                    01      50  D1 000E2          CMPL    R0, #1                              ;
                        06  12 000E5          BNEQ    10$                                 ;
                04  AE      1A  D0 000E7          MOVL    #26, TYPE                           ; 0463
                        6A  11 000EB          BRB     17$                                 ; 0464
                        01  DD 000ED 10$:      PUSHL   #1                                  ; 0467
                    DA  A9  9F 000EF          PUSHAB  DBG$CS_FLOAT                        ;
                        53  DD 000F2          PUSHL   R3                                  ;
                    6A      03  FB 000F4          CALLS   #3, DBG$NMATCH                      ;
```

```
                52              50  D0 000F7          MOVL    R0, R2                          ;
                01              52  D1 000FA          CMPL    R2, #1                          ;
                                0F  13 000FD          BEQL    11$                             ;
                                01  DD 000FF          PUSHL   #1                              ; 0468
                        E0      A9  9F 00101          PUSHAB  DBG$CS_F_FLOAT                  ;
                                53  DD 00104          PUSHL   R3                              ;
                6A              03  FB 00106          CALLS   #3, DBG$NMATCH                  ;
                01              50  D1 00109          CMPL    R0, #1                          ;
                                09  12 0010C          BNEQ    13$                             ;
            04  AE              0A  D0 0010E 11$:     MOVL    #10, TYPE                       ; 0470
                6E              04  D0 00112 12$:     MOVL    #4, LENGTH                      ; 0471
                                80  11 00115          BRB     5$                              ; 0422
                                02  DD 00117 13$:     PUSHL   #2                              ; 0474
                        E8      A9  9F 00119          PUSHAB  DBG$CS_D_FLOAT                  ;
                                53  DD 0011C          PUSHL   R3                              ;
                6A              03  FB 0011E          CALLS   #3, DBG$NMATCH                  ;
                01              50  D1 00121          CMPL    R0, #1                          ;
                                06  12 00124          BNEQ    14$                             ;
            04  AE              0B  D0 00126          MOVL    #11, TYPE                       ; 0476
                                13  11 0012A          BRB     15$                             ; 0477
                                01  DD 0012C 14$:     PUSHL   #1                              ; 0480
                        F0      A9  9F 0012E          PUSHAB  DBG$CS_G_FLOAT                  ;
                                53  DD 00131          PUSHL   R3                              ;
                6A              03  FB 00133          CALLS   #3, DBG$NMATCH                  ;
                01              50  D1 00136          CMPL    R0, #1                          ;
                                09  12 00139          BNEQ    16$                             ;
            04  AE              1B  D0 00138          MOVL    #27, TYPE                       ; 0482
                6E              08  D0 0013F 15$:     MOVL    #8, LENGTH                      ; 0483
                                66  11 00142          BRB     21$                             ; 0422
                                02  DD 00144 16$:     PUSHL   #2                              ; 0486
                        F8      A9  9F 00146          PUSHAB  DBG$CS_H_FLOAT                  ;
                                53  DD 00149          PUSHL   R3                              ;
                6A              03  FB 0014B          CALLS   #3, DBG$NMATCH                  ;
                01              50  D1 0014E          CMPL    R0, #1                          ;
                                09  12 00151          BNEQ    18$                             ;
            04  AE              1C  D0 00153          MOVL    #28, TYPE                       ; 0488
                6E              10  D0 00157 17$:     MOVL    #16, LENGTH                     ; 0489
                                4E  11 0015A          BRB     21$                             ; 0422
                                01  DD 0015C 18$:     PUSHL   #1                              ; 0492
                    FF7A        C9  9F 0015E          PUSHAB  DBG$CS_PACKED                   ;
                                53  DD 00162          PUSHL   R3                              ;
                6A              03  FB 00164          CALLS   #3, DBG$NMATCH                  ;
                01              50  D1 00167          CMPL    R0, #1                          ;
                                40  12 0016A          BNEQ    22$                             ;
            04  AE              15  D0 0016C          MOVL    #21, TYPE                       ; 0494
                                01  DD 00170          PUSHL   #1                              ; 0499
                    0208        8F  BB 00172          PUSHR   #^M<R3,R9>                      ;
                6A              03  FB 00176          CALLS   #3, DBG$NMATCH                  ;
                05              50  E8 00179          BLBS    R0, 19$                         ;
                6E              0A  D0 0017C          MOVL    #10, LENGTH                     ; 0502
                                7B  11 0017F          BRB     26$                             ; 0499
                    4008        8F  BB 00181 19$:     PUSHR   #^M<R3,SP>                      ; 0509
    00000000G   00              02  FB 00185          CALLS   #2, DBG$NSAVE_INTEGER           ;
                43              50  E9 00188          BLBC    R0, 23$                         ;
                50              6E  D0 0018F          MOVL    LENGTH, R0                      ; 0515
                                05  19 00192          BLSS    20$                             ;
                1F              50  D1 00194          CMPL    R0, #31                         ;
```

```
                                63  15 00197          BLEQ    26$                                     ;
                                50  DD 00199 20$:     PUSHL   R0                                      ; 0517
                                01  DD 0019B          PUSHL   #1                                      ;
                    00028828    8F  DD 0019D          PUSHL   #165928                                 ;
00000000G   00                  03  FB 001A3          CALLS   #3, LIB$SIGNAL                          ;
                                77  11 001AA 21$:     BRB     29$                                     ; 0422
                                01  DD 001AC 22$:     PUSHL   #1                                      ; 0521
                          8B    A9  9F 001AE          PUSHAB  DBG$CS_ASCII                            ;
                                53  DD 001B1          PUSHL   R3                                      ;
                          6A        03  FB 001B3      CALLS   #3, DBG$NMATCH                          ;
                          01        50  D1 001B6      CMPL    R0, #1                                  ;
                                43  12 001B9          BNEQ    27$                                     ;
                                01  DD 001BB          PUSHL   #1                                      ; 0527
                              0208  8F  BB 001BD      PUSHR   #^M<R3,R9>                              ;
                          6A        03  FB 001C1      CALLS   #3, DBG$NMATCH                          ;
                          31        50  E9 001C4      BLBC    R0, 25$                                 ;
                              4008  8F  BB 001C7      PUSHR   #^M<R3,SP>                              ; 0533
00000000G   00                  02  FB 001CB          CALLS   #2, DBG$NSAVE_INTEGER                   ;
                          03        50  E8 001D2 23$:     BLBS    R0, 24$                             ;
                                01B7  31 001D5          BRW     50$                                 ;
                                6E  D5 001D8 24$:     TSTL    LENGTH                                  ; 0539
                                1C  14 001DA          BGTR    25$                                     ;
                          6B        01  B0 001DC      MOVW    #1, NUM_DESC                            ; 0544
                    04    AB    0A  A9  9E 001DF      MOVAB   P.ABA, NUM_DESC+4                       ; 0545
                                5B  DD 001E4          PUSHL   R11                                     ; 0546
                                01  DD 001E6          PUSHL   #1                                      ;
                    000281B0    8F  DD 001E8          PUSHL   #164272                                 ;
00000000G   00                  03  FB 001EE          CALLS   #3, DBG$NMAKE_ARG_VECT                  ;
                                00D1  31 001F5          BRW     40$                                 ;
                    04    AE        0E  D0 001F8 25$:     MOVL    #14, TYPE                           ; 0552
                                73  11 001FC 26$:     BRB     34$                                     ; 0422
                                05  DD 001FE 27$:     PUSHL   #5                                      ; 0557
                              91    A9  9F 00200          PUSHAB  DBG$CS_ASCIC                        ;
                                53  DD 00203          PUSHL   R3                                      ;
                          6A        03  FB 00205      CALLS   #3, DBG$NMATCH                          ;
                          52        50  D0 00208      MOVL    R0, R2                                  ;
                          01        52  D1 0020B      CMPL    R2, #1                                  ;
                                0F  13 0020E          BEQL    28$                                     ;
                                02  DD 00210          PUSHL   #2                                      ; 0558
                              97    A9  9F 00212          PUSHAB  DBG$CS_AC                           ;
                                53  DD 00215          PUSHL   R3                                      ;
                          6A        03  FB 00217      CALLS   #3, DBG$NMATCH                          ;
                          01        50  D1 0021A      CMPL    R0, #1                                  ;
                                06  12 0021D          BNEQ    30$                                     ;
                    04    AE        26  D0 0021F 28$:     MOVL    #38, TYPE                           ; 0560
                                73  11 00223 29$:     BRB     37$                                     ; 0422
                                05  DD 00225 30$:     PUSHL   #5                                      ; 0563
                              9A    A9  9F 00227          PUSHAB  DBG$CS_ASCIW                        ;
                                53  DD 0022A          PUSHL   R3                                      ;
                          6A        03  FB 0022C      CALLS   #3, DBG$NMATCH                          ;
                          52        50  D0 0022F      MOVL    R0, R2                                  ;
                          01        52  D1 00232      CMPL    R2, #1                                  ;
                                0F  13 00235          BEQL    31$                                     ;
                                02  DD 00237          PUSHL   #2                                      ; 0564
                              A0    A9  9F 00239          PUSHAB  DBG$CS_AW                           ;
                                53  DD 0023C          PUSHL   R3                                      ;
                          6A        03  FB 0023E      CALLS   #3, DBG$NMATCH                          ;
```

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                01      50  D1 00241          CMPL    R0, #1                                  ;
                        06  12 00244          BNEQ    32$                                     ;
            04  AE      25  D0 00246 31$:     MOVL    #37, TYPE                               ; 0566
                        4C  11 0024A          BRB     37$                                     ; 0422
                        05  DD 0024C 32$:     PUSHL   #5                                      ; 0569
                    A3  A9  9F 0024E          PUSHAB  DBG$CS_ASCIZ                            ;
                        53  DD 00251          PUSHL   R3                                      ;
                6A      03  FB 00253          CALLS   #3, DBG$NMATCH                          ;
                52      50  D0 00256          MOVL    R0, R2                                  ;
                01      52  D1 00259          CMPL    R2, #1                                  ;
                        0F  13 0025C          BEQL    33$                                     ;
                        02  DD 0025E          PUSHL   #2                                      ; 0570
                    A9  A9  9F 00260          PUSHAB  DBG$CS_AZ                               ;
                        53  DD 00263          PUSHL   R3                                      ;
                6A      03  FB 00265          CALLS   #3, DBG$NMATCH                          ;
                01      50  D1 00268          CMPL    R0, #1                                  ;
                        06  12 0026B          BNEQ    35$                                     ;
            04  AE      27  D0 0026D 33$:     MOVL    #39, TYPE                               ; 0572
                        25  11 00271 34$:     BRB     37$                                     ; 0422
                        05  DD 00273 35$:     PUSHL   #5                                      ; 0575
                    AC  A9  9F 00275          PUSHAB  DBG$CS_ASCID                            ;
                        53  DD 00278          PUSHL   R3                                      ;
                6A      03  FB 0027A          CALLS   #3, DBG$NMATCH                          ;
                52      50  D0 0027D          MOVL    R0, R2                                  ;
                01      52  D1 00280          CMPL    R2, #1                                  ;
                        0F  13 00283          BEQL    36$                                     ;
                        02  DD 00285          PUSHL   #2                                      ; 0576
                    B2  A9  9F 00287          PUSHAB  DBG$CS_AD                               ;
                        53  DD 0028A          PUSHL   R3                                      ;
                6A      03  FB 0028C          CALLS   #3, DBG$NMATCH                          ;
                01      50  D1 0028F          CMPL    R0, #1                                  ;
                        07  12 00292          BNEQ    38$                                     ;
            04  AE          38  D0 00294 36$:     MOVL    #56, TYPE                           ; 0578
                      FDA8  31  00298 37$:     BRW     1$                                      ; 0422
                        01  DD 0029B 38$:     PUSHL   #1                                      ; 0584
                    06  A9  9F 0029D          PUSHAB  DBG$CS_CR                               ;
                        53  DD 002A0          PUSHL   R3                                      ;
                6A      03  FB 002A2          CALLS   #3, DBG$NMATCH                          ;
                0F      50  E9 002A5          BLBC    R0, 39$                                 ;
            000280D0    8F  DD 002A8          PUSHL   #164048                                 ; 0586
00000000G   00          01  FB 002AE          CALLS   #1, DBG$NMAKE_ARG_VECT                  ;
                        12  11 002B5          BRB     40$                                     ;
                        53  DD 002B7 39$:     PUSHL   R3                                      ; 0588
00000000G   00          01  FB 002B9          CALLS   #1, DBG$NNEXT_WORD                      ;
                        50  DD 002C0          PUSHL   R0                                      ;
00000000G   00          01  FB 002C2          CALLS   #1, DBG$NSYNTAX_ERROR                   ;
          0C    BC      50  D0 002C9 40$:     MOVL    R0, @MESSAGE_VECT                       ; 0584
                      00BF  31  002CD 41$:     BRW     50$                                     ; 0589
                54      0C  AC  D0 002D0 42$:     MOVL    MESSAGE_VECT, R4                    ; 0600
                        54  DD 002D4          PUSHL   R4                                      ;
                        04  DD 002D6          PUSHL   #4                                      ; 0599
                  0188      8F  BB 002D8          PUSHR   #^M<R3,R7,R8>                       ;
00000000G   00          05  FB 002DC          CALLS   #5, DBG$NPARSE_ADDRESS                  ;
                56      50  D0 002E3          MOVL    R0, STATUS                              ;
                        07  13 002E6          BEQL    43$                                     ; 0606
                01      56  D1 002E8          CMPL    STATUS, #1                              ; 0609
                        E0  12 002EB          BNEQ    41$                                     ;
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                                 1A  11 002ED             BRB     44$                                     ; 0611
                                 01  DD 002EF 43$:        PUSHL   #1                                      ; 0618
                              04 A9  9F 002F1             PUSHAB  DBG$CS_EQUAL_SIGN                       ;
                                 53  DD 002F4             PUSHL   R3                                      ;
                           6A    03  FB 002F6             CALLS   #3, DBG$NMATCH                          ;
                           1C    50  E8 002F9             BLBS    R0, 45$                                 ;
                                 01  DD 002FC             PUSHL   #1                                      ; 0622
                              06 A9  9F 002FE             PUSHAB  DBG$CS_CR                               ;
                                 53  DD 00301             PUSHL   R3                                      ;
                           6A    03  FB 00303             CALLS   #3, DBG$NMATCH                          ;
                           71    50  E9 00306             BLBC    R0, 48$                                 ;
                     000280D0    8F  DD 00309 44$:        PUSHL   #164048                                 ; 0624
00000000G   00                   01  FB 0030F             CALLS   #1, DBG$NMAKE_ARG_VECT                  ;
                                 74  11 00316             BRB     49$                                     ; 0622
                           50    67  D0 00318 45$:        MOVL    (NOUN_NODE), ADDR_EXP_DESC              ; 0633
                                 03  DD 0031B             PUSHL   #3                                      ; 0639
00000000G   00                   01  FB 0031D             CALLS   #1, DBG$GET_TEMPMEM                     ;
                           52    50  D0 00324             MOVL    R0, ADVERB_NODE                         ;
FFFFFFFF   8F              04 AE  D1 00327             CMPL    TYPE, #-1                               ; 0646
                                 0F  12 0032F             BNEQ    46$                                     ;
                                 5E  DD 00331             PUSHL   SP                                      ; 0658
                              08 AE  9F 00333             PUSHAB  TYPE                                    ;
00000000G   00                   02  FB 00336             CALLS   #2, DBG$NGET_OVERRIDE_TYPE              ;
                           0C    50  E9 0033D             BLBC    R0, 47$                                 ;
                        04 A5    52  D0 00340 46$:        MOVL    ADVERB_NODE, 4(R5)                      ; 0661
                           62 04 AE  90 00344             MOVB    TYPE, (ADVERB_NODE)                     ; 0662
                        04 A2    6E  D0 00348             MOVL    LENGTH, 4(ADVERB_NODE)                  ; 0663
                           52 08 A7  9E 0034C 47$:        MOVAB   8(R7), LINK                             ; 0675
                                 04  DD 00350             PUSHL   #4                                      ; 0677
00000000G   00                   01  FB 00352             CALLS   #1, DBG$GET_TEMPMEM                     ;
                           57    50  D0 00359             MOVL    R0, NOUN_NODE                           ;
                           62    57  D0 0035C             MOVL    NOUN_NODE, (LINK)                       ; 0678
                                 05  DD 0035F             PUSHL   #5                                      ; 0685
                                 54  DD 00361             PUSHL   R4                                      ; 0686
                                 7E  D4 00363             CLRL    -(SP)                                   ; 0685
                                 57  DD 00365             PUSHL   NOUN_NODE                               ;
                           0108  8F  BB 00367             PUSHR   #^M<R3,R8>                              ;
00000000G   00                   06  FB 0036B             CALLS   #6, DBG$NPARSE_EXPRESSION               ;
                           56    50  D0 00372             MOVL    R0, STATUS                              ;
                           1B    56  E8 00375             BLBS    STATUS, 51$                             ;
                                 15  12 00378             BNEQ    50$                                     ; 0693
                                 53  DD 0037A 48$:        PUSHL   R3                                      ; 0695
00000000G   00                   01  FB 0037C             CALLS   #1, DBG$NNEXT_WORD                      ;
                                 50  DD 00383             PUSHL   R0                                      ;
00000000G   00                   01  FB 00385             CALLS   #1, DBG$NSYNTAX_ERROR                   ;
                           64    50  D0 0038C 49$:        MOVL    R0, (R4)                                ;
                           50    04  D0 0038F 50$:        MOVL    #4, R0                                  ; 0696
                                 04  00392               RET                                             ;
                           16 04 AE  D1 00393 51$:        CMPL    TYPE, #22                               ; 0701
                                 1B  12 00397             BNEQ    52$                                     ;
                           50    67  D0 00399             MOVL    (NOUN_NODE), VALPTR                     ; 0704
                           0E 16 A0  91 0039C             CMPB    22(VALPTR), #14                         ; 0705
                                 12  13 003A0             BEQL    52$                                     ;
                              0E A9  9F 003A2             PUSHAB  P.ABB                                   ; 0707
                                 01  DD 003A5             PUSHL   #1                                      ;
                     000289CA    8F  DD 003A7             PUSHL   #166346                                 ;
00000000G   00                   03  FB 003AD             CALLS   #3, LIB$SIGNAL                          ;
```

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                    50          01  D0 003B4 52$:    MOVL    #1, R0                          ; 0710
                                04  003B7           RET                                     ; 0711

; Routine Size:  952 bytes,    Routine Base:  DBG$CODE + 0000
```

```
;  582          0712  1 GLOBAL ROUTINE DBG$SET_PAGE_PROT (PAGE_LIST, RESET_FLAG, MESSAGE_VECT) =
;  583          0713  1
;  584          0714  1 !++
;  585          0715  1 ! FUNCTIONAL DESCRIPTION:
;  586          0716  1 !
;  587          0717  1 !       This routine accepts the page list data structure produced by dbg$nget_pages
;  588          0718  1 !       or create_page_list and changes the protection of each page so specified
;  589          0719  1 !       to provide write access for DEPOSIT's. As this is done, a new data structure
;  590          0720  1 !       is constructed in which each node in the tree is replace with a node that
;  591          0721  1 !       has one more field. This extra field contains the old protection of the
;  592          0722  1 !       page so that it may be reset after the deposit.
;  593          0723  1 !
;  594          0724  1 !       When called upon to reset the page protections, this routine uses the data
;  595          0725  1 !       structure it produced in the first step, and changes all page protections
;  596          0726  1 !       back to their original values.
;  597          0727  1 !
;  598          0728  1 ! FORMAL PARAMETERS:
;  599          0729  1 !
;  600          0730  1 !       PAGE_LIST               - The address of a longword containing the address
;  601          0731  1 !                                 of the first node in the page list.
;  602          0732  1 !
;  603          0733  1 !       RESET_FLAG              - A longword containing true or false. If false,
;  604          0734  1 !                                 protection is changed to allow write access. If
;  605          0735  1 !                                 true, protection for each page is set back to
;  606          0736  1 !                                 the original value
;  607          0737  1 !
;  608          0738  1 !       MESSAGE_VECT            - The address of a longword to contain the address
;  609          0739  1 !                                 of a message argument vector for errors
;  610          0740  1 !
;  611          0741  1 ! IMPLICIT INPUTS:
;  612          0742  1 !
;  613          0743  1 !       NONE
;  614          0744  1 !
;  615          0745  1 ! IMPLICIT OUTPUTS:
;  616          0746  1 !
;  617          0747  1 !       When NOT .reset_flag, a new page list is constructed.
;  618          0748  1 !       When .reset_flag, page protections are reset to original values.
;  619          0749  1 !
;  620          0750  1 !       On failure, a message argument vector is constructed.
;  621          0751  1 !
;  622          0752  1 ! ROUTINE VALUE:
;  623          0753  1 !
;  624          0754  1 !       An unsigned integer longword completion code
;  625          0755  1 !
;  626          0756  1 ! COMPLETION CODES:
;  627          0757  1 !
;  628          0758  1 !       sts$k_success   (1) - Success. Page protection set or reset.
;  629          0759  1 !
;  630          0760  1 !       sts$k_severe    (4) - Failure. Message argument vector produced.
;  631          0761  1 !
;  632          0762  1 ! SIDE EFFECTS:
;  633          0763  1 !
;  634          0764  1 !       NONE
;  635          0765  1 !
;  636          0766  1 !--
;  637          0767  2     BEGIN
;  638          0768  2
```

```
;  639          0769  2     FIELD PROT_NODE_FIELDS =
;  640          0770  2         SET
;  641          0771  2         NODE_LINK       = [0, 0, 32, 0],        ! Link field
;  642          0772  2         PAGE_NUM        = [1, 0, 32, 0],        ! Page number field
;  643          0773  2         OLD_PROT        = [2, 0, 8, 0]          ! Old protection field
;  644          0774  2         TES;
;  645          0775  2
;  646          0776  2     LITERAL
;  647          0777  2         PROT_NODE_SIZE  = 3;                    ! Length of node in longwords
;  648          0778  2
;  649          0779  2     MACRO
;  650          0780  2         PROT_NODE       = BLOCK [prot_node_size] FIELD (prot_node_fields) %;
;  651          0781  2
;  652          0782  2     LOCAL
;  653          0783  2         PAGE_VECT       : VECTOR [2];           ! Vector to hold page numbers
;  654          0784  2
;  655          0785  2     ! Check to see if we are setting or resetting protections
;  656          0786  2     !
;  657          0787  2     IF .reset_flag
;  658          0788  2     THEN
;  659          0789  3         BEGIN
;  660          0790  3
;  661          0791  3         ! We are restoring protection. Therefore, page_list contains the address
;  662          0792  3         ! of a longword that contains the address of the modified page list.
;  663          0793  3         !
;  664          0794  3         LOCAL
;  665          0795  3             NODE : REF prot_node;       ! Modified page list node
;  666          0796  3
;  667          0797  3         ! Obtain the address of the list.
;  668          0798  3         !
;  669          0799  3         node = ..page_list;
;  670          0800  3
;  671          0801  3         ! Loop and reset the page protections
;  672          0802  3         !
;  673          0803  3         WHILE .node NEQA 0
;  674          0804  3         DO
;  675          0805  4             BEGIN
;  676          0806  4
;  677          0807  4             ! Reset the old protection
;  678          0808  4             !
;  679          0809  4             page_vect [0] = .node [page_num];
;  680          0810  4             page_vect [1] = .node [page_num];   ! We don't use a range
;  681          0811  4
;  682          0812  4             $SETPRT (inadr = page_vect [0], prot = .node [old_prot]);
;  683          0813  4
;  684          0814  4
;  685          0815  4             ! Obtain the next node
;  686          0816  4             !
;  687          0817  4             node = .node [node_link];
;  688          0818  4
;  689          0819  4             END;        ! End of loop
;  690          0820  3
;  691          0821  3         END
;  692          0822  3
;  693          0823  3
;  694          0824  2     ELSE
;  695          0825  3         BEGIN
```

```
;  696          0826  3          BUILTIN PROBEW;
;  697          0827  3
;  698          0828  3          ! We are changing protections. Therefore, we must construct the modified
;  699          0829  3          ! page list.
;  700          0830  3          !
;  701          0831  3          LOCAL
;  702          0832  3              LINK,                                   ! Temporary pointer
;  703          0833  3              NEW_NODE : REF prot_node,               ! Modified list node
;  704          0834  3              OLD_NODE : REF dbg$link_node;           ! Old list node
;  705          0835  3
;  706          0836  3          ! Recover the head node of the unmodified page list
;  707          0837  3          !
;  708          0838  3          old_node = ..page_list;
;  709          0839  3
;  710          0840  3          (link = .page_list) = 0;
;  711          0841  3
;  712          0842  3          ! Loop changing the protection and constructing the new list
;  713          0843  3          !  Check to see if this page is already writeable, before we
;  714          0844  3          ! attempt to set the protection!  This fixes a bug in trying
;  715          0845  3          ! to deposit into a global section (mapped for write access)
;  716          0846  3          ! when changing page protections is not allowed.
;  717          0847  3
;  718          0848  3          WHILE .old_node NEQA 0 DO
;  719          0849  4              BEGIN
;  720          0850  4              IF NOT PROBEW(%REF(0),%REF(1),.old_node[dbg$l_link_node_value]) THEN
;  721          0851  5                  BEGIN
;  722          0852  5
;  723          0853  5                  ! Allocate a modified node and link it
;  724          0854  5                  !
;  725          0855  5                  new_node = dbg$get_tempmem (prot_node_size);
;  726          0856  5                  .link = .new_node;
;  727          0857  5                  link = new_node [node_link];
;  728          0858  5
;  729          0859  5                  ! Copy over relevant info
;  730          0860  5                  !
;  731          0861  5                  new_node [page_num] = .old_node [dbg$l_link_node_value];
;  732          0862  5
;  733          0863  5                  ! Change the protection, if possible
;  734          0864  5                  !
;  735          0865  5                  page_vect [0] = .new_node [page_num];
;  736          0866  5                  page_vect [1] = .new_node [page_num];
;  737          0867  5
;  738        P 0868  5                  IF NOT $SETPRT (inadr = page_vect [0],
;  739        P 0869  5                                  prot = prt$c_uw,
;  740          0870  6                                  prvprt = new_node [old_prot])
;  741          0871  5                  THEN
;  742          0872  6                      BEGIN
;  743          0873  6                      .message_vect = dbg$nmake_arg_vect (dbg$_badtarget);
;  744          0874  6                      RETURN sts$k_severe;
;  745          0875  5                      END;
;  746          0876  5
;  747          0877  4                  END;
;  748          0878  4
;  749          0879  4              ! Pick up the next node
;  750          0880  4              !
;  751          0881  4              old_node = .old_node [dbg$l_link_node_link];
;  752          0882  4
```

```
;  753          0883  3          END;        ! End of loop
;  754          0884  3
;  755          0885  2      END;
;  756          0886  2
;  757          0887  2      RETURN sts$k_success;
;  758          0888  1      END;        ! End of dbg$set_page_prot


                                                                .EXTRN  SYS$SETPRT

                                                003C 00000      .ENTRY  DBG$SET_PAGE_PROT, Save R2,R3,R4,R5     ; 0712
                                    55 00000000G  00  9E 00002  MOVAB   SYS$SETPRT, R5                          ;
                                    5E            08  C2 00009  SUBL2   #8, SP                                  ;
                                    22        08  AC  E9 0000C  BLBC    RESET_FLAG, 2$                        ; 0787
                                    52        04  BC  D0 00010  MOVL    @PAGE_LIST, NODE                      ; 0799
                                              7B  13 00014 1$:  BEQL    5$                                    ; 0804
                                    6E        04  A2  D0 00016  MOVL    4(NODE), PAGE_VECT                    ; 0810
                                04  AE        04  A2  D0 0001A  MOVL    4(NODE), PAGE_VECT+4                  ; 0811
                                              7E  D4 0001F  CLRL    -(SP)                                 ; 0813
                                    7E        08  A2  9A 00021  MOVZBL  8(NODE), -(SP)                        ;
                                              7E  7C 00025  CLRQ    -(SP)                                 ;
                                              10  AE  9F 00027  PUSHAB  PAGE_VECT                             ;
                                    65            05  FB 0002A  CALLS   #5, SYS$SETPRT                       ;
                                    52            62  D0 0002D  MOVL    (NODE), NODE                          ; 0818
                                                  E2  11 00030  BRB     1$                                    ; 0804
                                    53        04  BC  D0 00032 2$:  MOVL    @PAGE_LIST, OLD_NODE                  ; 0838
                                    54        04  AC  D0 00036  MOVL    PAGE_LIST, LINK                       ; 0840
                                                  64  D4 0003A  CLRL    (LINK)                                ;
                                                  53  D5 0003C 3$:  TSTL    OLD_NODE                              ; 0848
                                                  51  13 0003E  BEQL    5$                                    ;
                                04  B3            01  00  0D 00040  PROBEW  #0, #1, @4(OLD_NODE)                ; 0850
                                                  45  12 00045  BNEQ    4$                                    ;
                                                  03  DD 00047  PUSHL   #3                                    ; 0855
                                00000000G     00      01  FB 00049  CALLS   #1, DBG$GET_TEMPMEM                 ;
                                              52      50  D0 00050  MOVL    R0, NEW_NODE                          ;
                                              64      52  D0 00053  MOVL    NEW_NODE, (LINK)                      ; 0856
                                              54      52  D0 00056  MOVL    NEW_NODE, LINK                        ; 0857
                                          04  A2      04  A3 D0 00059  MOVL    4(OLD_NODE), 4(NEW_NODE)              ; 0861
                                          6E      04  A2  D0 0005E  MOVL    4(NEW_NODE), PAGE_VECT                ; 0865
                                      04  AE      04  A2  D0 00062  MOVL    4(NEW_NODE), PAGE_VECT+4              ; 0866
                                                  08  A2  9F 00067  PUSHAB  8(NEW_NODE)                       ; 0870
                                                  04  DD 0006A  PUSHL   #4                                     ;
                                                  7E  7C 0006C  CLRQ    -(SP)                                 ;
                                                  10  AE  9F 0006E  PUSHAB  PAGE_VECT                          ;
                                                65    05  FB 00071  CALLS   #5, SYS$SETPRT                     ;
                                                15    50  E8 00074  BLBS    R0, 4$                            ;
                                                  00028820  8F  DD 00077  PUSHL   #165920                       ; 0873
                                00000000G     00      01  FB 0007D  CALLS   #1, DBG$NMAKE_ARG_VECT             ;
                                          0C  BC      50  D0 00084  MOVL    R0, @MESSAGE_VECT                     ;
                                              50      04  D0 00088  MOVL    #4, R0                                ; 0874
                                                      04  00088  RET                                           ;
                                              53          63  D0 0008C 4$:  MOVL    (OLD_NODE), OLD_NODE          ; 0881
                                                          AB  11 0008F  BRB     3$                            ; 0848
                                              50          01  D0 00091 5$:  MOVL    #1, R0                        ; 0887
                                                          04  00094  RET                                       ; 0888
```

; Routine Size: 149 bytes, Routine Base: DBG$CODE + 03B8

```
;  760          0889  1 GLOBAL ROUTINE DBG$NPARSE_EVALUATE (INPUT_DESC, VERB_NODE, MESSAGE_VECT) =
;  761          0890  1
;  762          0891  1 !++
;  763          0892  1 ! FUNCTIONAL DESCRIPTION:
;  764          0893  1 !
;  765          0894  1 !       Parse network for the EVALUATE command. The parsing method used is that
;  766          0895  1 !       of ATN's. This network constructs a command execution tree to be executed
;  767          0896  1 !       by dbg$nexecute_evaluate.
;  768          0897  1 !
;  769          0898  1 ! FORMAL PARAMETERS:
;  770          0899  1 !
;  771          0900  1 !       INPUT_DESC              - A longword containing the address of a standard
;  772          0901  1 !                                 string descriptor which reflects the input string
;  773          0902  1 !
;  774          0903  1 !       VERB_NODE               - A longword containing the address of the verb
;  775          0904  1 !                                 (head) node of the command execution tree
;  776          0905  1 !
;  777          0906  1 !       MESSAGE_VECT            - The address of a longword to contain the
;  778          0907  1 !                                 address of a standard message argument vector on errors
;  779          0908  1 !
;  780          0909  1 !
;  781          0910  1 ! IMPLICIT INPUTS:
;  782          0911  1 !
;  783          0912  1 !       NONE
;  784          0913  1 !
;  785          0914  1 ! IMPLICIT OUTPUTS:
;  786          0915  1 !
;  787          0916  1 !       On success, a command execution tree is constructed representing the parsed
;  788          0917  1 !       input command.
;  789          0918  1 !
;  790          0919  1 !       On failure, a message argument vector is constructed.
;  791          0920  1 !
;  792          0921  1 ! ROUTINE VALUE:
;  793          0922  1 !
;  794          0923  1 !       An unsigned integer longword completion code
;  795          0924  1 !
;  796          0925  1 ! COMPLETION CODES:
;  797          0926  1 !
;  798          0927  1 !       sts$k_success (1)       - Success. Input parsed and execution tree constructed.
;  799          0928  1 !
;  800          0929  1 !       sts$k_severe  (4)       - Failure. Tree not constructed. Message vector
;  801          0930  1 !                                 constructed.
;  802          0931  1 !
;  803          0932  1 ! SIDE EFFECTS:
;  804          0933  1 !
;  805          0934  1 !       NONE
;  806          0935  1 !
;  807          0936  1 !--
;  808          0937  1
;  809          0938  2     BEGIN
;  810          0939  2
;  811          0940  2     MAP
;  812          0941  2         INPUT_DESC : REF BLOCK [, BYTE],
;  813          0942  2         VERB_NODE  : REF dbg$verb_node;
;  814          0943  2
;  815          0944  2     ! Define counted strings used at this level
;  816          0945  2     !
```

```
;  817          0946  2     BIND
;  818          0947  2         DBG$CS_ADDRESS          = UPLIT BYTE (7, 'ADDRESS'),
;  819          0948  2         DBG$CS_CONDITION        = UPLIT BYTE (15,'CONDITION_VALUE'),
;  820          0949  2         DBG$CS_BINARY           = UPLIT BYTE (6, 'BINARY'),
;  821          0950  2         DBG$CS_HEXADECIMAL      = UPLIT BYTE (11,'HEXADECIMAL'),
;  822          0951  2         DBG$CS_OCTAL            = UPLIT BYTE (5, 'OCTAL'),
;  823          0952  2         DBG$CS_DECIMAL          = UPLIT BYTE (7, 'DECIMAL'),
;  824          0953  2         DBG$CS_COMMA            = UPLIT BYTE (1, dbg$k_comma),
;  825          0954  2         DBG$CS_CR               = UPLIT BYTE (1, dbg$k_car_return),
;  826          0955  2         DBG$CS_SLASH            = UPLIT BYTE (1, dbg$k_slash);
;  827          0956  2
;  828          0957  2     LOCAL
;  829          0958  2         STATUS,                                     ! Holds return status
;  830          0959  2         NOUN_NODE       : REF dbg$noun_node,        ! Object
;  831          0960  2         NEXT_NOUN_NODE  : REF dbg$noun_node,        ! Next object
;  832          0961  2         ADVERB_NODE     : REF dbg$adverb_node,      ! Modifier
;  833          0962  2         RADIX;                                      ! Radix
;  834          0963  2
;  835          0964  2     ! Create and link a noun node
;  836          0965  2     !
;  837          0966  2     noun_node = dbg$get_tempmem (dbg$k_noun_node_size);
;  838          0967  2
;  839          0968  2     verb_node [dbg$l_verb_object_ptr] = .noun_node;
;  840          0969  2
;  841          0970  2
;  842          0971  2     ! Start with default radix
;  843          0972  2     !
;  844          0973  2     radix = .dbg$gb_radix[dbg$b_radix_output_over];
;  845          0974  2
;  846          0975  2
;  847          0976  2     ! Accept any / switches. Start with plain jane evaluate - this may get changed.
;  848          0977  2     !
;  849          0978  2     verb_node [dbg$b_verb_composite] = evaluate;
;  850          0979  2
;  851          0980  2     WHILE dbg$nmatch (.input_desc, dbg$cs_slash, 1)
;  852          0981  2     DO
;  853          0982  3         BEGIN
;  854          0983  3
;  855          0984  3         ! Try to match legal switches
;  856          0985  3         !
;  857          0986  3         SELECTONE true
;  858          0987  3             OF
;  859          0988  3             SET
;  860          0989  3
;  861          0990  3             [dbg$nmatch (.input_desc, dbg$cs_address, 1)]  : ! address switch
;  862          0991  4                 BEGIN
;  863          0992  4                 verb_node [dbg$b_verb_composite] = evaluate_addr;
;  864          0993  3                 END;
;  865          0994  3
;  866          0995  3             [dbg$nmatch (.input_desc, dbg$cs_condition, 1)]  : ! condition switch
;  867          0996  4                 BEGIN
;  868          0997  4                 verb_node [dbg$b_verb_composite] = evaluate_cond;
;  869          0998  3                 END;
;  870          0999  3
;  871          1000  3             [dbg$nmatch (.input_desc, dbg$cs_binary, 2)] :
;  872          1001  4                 BEGIN
;  873          1002  4                 radix = dbg$k_binary;
```

```
;  874          1003  3                END;
;  875          1004  3
;  876          1005  3            [dbg$nmatch (.input_desc, dbg$cs_hexadecimal, 1)]   : ! Change radix to hex
;  877          1006  4                BEGIN
;  878          1007  4                radix = dbg$k_hex;
;  879          1008  4                END;
;  880          1009  3
;  881          1010  3            [dbg$nmatch (.input_desc, dbg$cs_octal, 1)] : ! Change radix to octal
;  882          1011  4                BEGIN
;  883          1012  4                radix = dbg$k_octal;
;  884          1013  4                END;
;  885          1014  3
;  886          1015  3            [dbg$nmatch (.input_desc, dbg$cs_decimal, 1)] : ! Change radix to decimal
;  887          1016  4                BEGIN
;  888          1017  4                radix = dbg$k_decimal;
;  889          1018  4                END;
;  890          1019  3
;  891          1020  3            [OTHERWISE] :       ! Syntax error
;  892          1021  4                BEGIN
;  893          1022  4                .message_vect = dbg$nsyntax_error (dbg$nnext_word (.input_desc));
;  894          1023  4                RETURN sts$k_severe;
;  895          1024  4                END;
;  896          1025  3
;  897          1026  3            TES
;  898          1027  3
;  899          1028  2        END;
;  900          1029  2
;  901          1030  2    ! Be sure the user has supplied us with some sort of input after the verb.
;  902          1031  2    !
;  903          1032  2    IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  904          1033  2    THEN
;  905          1034  3        BEGIN
;  906          1035  3        .message_vect = dbg$nmake_arg_vect (dbg$_needmore);
;  907          1036  3        RETURN sts$k_severe;
;  908          1037  3        END;
;  909          1038  2
;  910          1039  2
;  911          1040  2    ! Loop until input is exhausted.
;  912          1041  2    !
;  913          1042  2    WHILE TRUE DO
;  914          1043  2        BEGIN
;  915          1044  3
;  916          1045  3
;  917          1046  3        ! Obtain the object of the evaluate based on the verb composite
;  918          1047  3        !
;  919          1048  3        CASE .verb_node [dbg$b_verb_composite] FROM evaluate TO evaluate_addr
;  920          1049  3            OF
;  921          1050  3            SET
;  922          1051  3
;  923          1052  3
;  924          1053  3            ! Call the Expression Interpreter to obtain expression value.
;  925          1054  3            !
;  926          1055  3            [evaluate] :
;  927          1056  3                STATUS =  DBG$NPARSE_EXPRESSION (.INPUT_DESC,
;  928          1057  3                          .DBG$GB_RADIX[DBG$B_RADIX_INPUT],
;  929          1058  3                          NOUN_NODE [DBG$L_NOUN_VALUE],
;  930          1059  3
```

```
;  931          1060  1                       TOKEN$K_TERM_COMMA, .MESSAGE_VECT);
;  932          1061  1
;  933          1062  1                   ! Call Address Expression Interpreter.
;  934          1063  1                   !
;  935          1064  1                   [evaluate_addr] :
;  936          1065  1                       STATUS =  DBG$NPARSE_ADDRESS (.INPUT_DESC,
;  937          1066  1                                 NOUN_NODE [DBG$L_NOUN_VALUE],
;  938          1067  1                                 .DBG$GB_RADIX[DBG$B_RADIX_INPUT],
;  939          1068  1                                 TOKEN$K_TERM_COMMA, .MESSAGE_VECT);
;  940          1069  1
;  941          1070  1                   TES;
;  942          1071  1
;  943          1072  1
;  944          1073  1               ! Check the return status.
;  945          1074  1               !
;  946          1075  1               SELECTONE .status OF
;  947          1076  1                   SET
;  948          1077  1
;  949          1078  1                   ! If successful, then continue.
;  950          1079  1                   !
;  951          1080  1                   [sts$k_success]:
;  952          1081  1                       BEGIN
;  953          1082  2                       0;
;  954          1083  2                       END;
;  955          1084  1
;  956          1085  1
;  957          1086  1
;  958          1087  1                   ! If a warning is returned, a comma may have been discovered in the
;  959          1088  1                   ! input stream.  Check for this.  If there is no comma, a syntax error
;  960          1089  1                   ! has occurred.  If a comma is present, there must be more input or else
;  961          1090  1                   ! error.  If all is OK, then link in another noun node.
;  962          1091  1                   !
;  963          1092  1                   [sts$k_warning]:
;  964          1093  2                       BEGIN
;  965          1094  2                       IF NOT dbg$nmatch (.input_desc, dbg$cs_comma, 1)
;  966          1095  2                       THEN
;  967          1096  3                           BEGIN
;  968          1097  3                           .message_vect = dbg$nsyntax_error (dbg$nnext_word (.input_desc));
;  969          1098  3                           RETURN sts$k_severe;
;  970          1099  2                           END;
;  971          1100  2                       IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  972          1101  2                       THEN
;  973          1102  3                           BEGIN
;  974          1103  3                           .message_vect = dbg$nmake_arg_vect (dbg$_needmore);
;  975          1104  3                           RETURN sts$k_severe;
;  976          1105  2                           END;
;  977          1106  2                       next_noun_node = dbg$get_tempmem (dbg$k_noun_node_size);
;  978          1107  2                       noun_node[dbg$l_noun_link] = .next_noun_node;
;  979          1108  2                       noun_node = .next_noun_node;
;  980          1109  2                       END;
;  981          1110  1
;  982          1111  1
;  983          1112  1                   ! Anything else, return severe error.
;  984          1113  1                   !
;  985          1114  1                   [OTHERWISE]:
;  986          1115  2                       BEGIN
;  987          1116  2                       RETURN sts$k_severe;
```

```
;  988          1117  3                END;
;  989          1118  3
;  990          1119  3            TES;
;  991          1120  3
;  992          1121  3
;  993          1122  3        ! Check for exhausted input.
;  994          1123  3        !
;  995          1124  3        IF dbg$nmatch (.input_desc, dbg$cs_cr, 1) OR
;  996          1125  3                       .input_desc[dsc$w_length] EQL 0
;  997          1126  3        THEN
;  998          1127  3            EXITLOOP;
;  999          1128  3
; 1000          1129  3        END;  ! End while loop.
; 1001          1130  3
; 1002          1131  3
; 1003          1132  3    ! Check for a modifier.
; 1004          1133  3    !
; 1005          1134  3    IF .radix NEQ dbg$k_default
; 1006          1135  3    THEN
; 1007          1136  3        BEGIN
; 1008          1137  3
; 1009          1138  3        ! Construct a radix modifier node and link to verb node
; 1010          1139  3        !
; 1011          1140  3        adverb_node = dbg$get_tempmem (dbg$k_adverb_node_size);
; 1012          1141  3
; 1013          1142  3        adverb_node [dbg$b_adverb_literal] = .radix;
; 1014          1143  3        verb_node [dbg$l_verb_adverb_ptr] = .adverb_node;
; 1015          1144  3        adverb_node [dbg$l_adverb_link] = 0;
; 1016          1145  3        END;
; 1017          1146  3
; 1018          1147  2    RETURN sts$k_success;
; 1019          1148  2
; 1020          1149  1    END;                            ! End of dbg$nparse_evaluate


                                                                .PSECT  DBG$PLIT,NOWRT,  SHR,  PIC,0

                                                        07  000A8 P.ABC:  .BYTE   7
                                                53  53  41  000A9        .ASCII  \ADDRESS\
                                                        0F  000B0 P.ABD:  .BYTE   15
45  55  4C  41  56  5F  4E  4F  49  54  49  44  4E  4F  43  000B1        .ASCII  \CONDITION_VALUE\
                                                        06  000C0 P.ABE:  .BYTE   6
                                            59  52  41  4E  49  42  000C1        .ASCII  \BINARY\
                                                        0B  000C7 P.ABF:  .BYTE   11
                                4C  41  4D  49  43  45  44  41  58  45  48  000C8        .ASCII  \HEXADECIMAL\
                                                        05  000D3 P.ABG:  .BYTE   5
                                                4C  41  54  43  4F  000D4        .ASCII  \OCTAL\
                                                        07  000D9 P.ABH:  .BYTE   7
                                                53  4C  41  4D  49  43  45  44  000DA        .ASCII  \DECIMAL\
                                                        2C  01  000E1 P.ABI:  .BYTE   1, 44
                                                        0D  01  000E3 P.ABJ:  .BYTE   1, 13
                                                        2F  01  000E5 P.ABK:  .BYTE   1, 47

                                                                DBG$CS_ADDRESS=     P.ABC
                                                                DBG$CS_CONDITION=   P.ABD
                                                                DBG$CS_BINARY=      P.ABE
```

```
                DBG$CS_HEXADECIMAL= P.ABF
                DBG$CS_OCTAL=       P.ABG
                DBG$CS_DECIMAL=     P.ABH
                DBG$CS_COMMA=       P.ABI
                DBG$CS_CR=          P.ABJ
                DBG$CS_SLASH=       P.ABK


                                        .PSECT  DBG$CODE,NOWRT,  SHR,  PIC,0

                            07FC 00000  .ENTRY  DBG$NPARSE_EVALUATE, Save R2,R3,R4,R5,R6,-  ; 0889
                                                R7,R8,R9,R10
        5A 00000000G   00   9E 00002    MOVAB   DBG$GET_TEMPMEM, R10                        ;
        59 00000000G   00   9E 00009    MOVAB   DBG$NMATCH, R9                              ;
        58 00000000'   EF   9E 00010    MOVAB   DBG$CS_CR, R8                               ;
                       04   DD 00017    PUSHL   #4                                          ; 0966
        6A             01   FB 00019    CALLS   #1, DBG$GET_TEMPMEM                         ;
        53             50   D0 0001C    MOVL    R0, NOUN_NODE                               ;
        54       08    AC   D0 0001F    MOVL    VERB_NODE, R4                               ; 0968
    08  A4             53   D0 00023    MOVL    NOUN_NODE, 8(R4)                            ;
        55 00000000G   00   9A 00027    MOVZBL  DBG$GB_RADIX+2, RADIX                       ; 0973
    01  A4             01   90 0002E    MOVB    #1, 1(R4)                                   ; 0978
        52       04    AC   D0 00032    MOVL    INPUT_DESC, R2                              ; 0980
                       01   DD 00036 1$:  PUSHL   #1                                       ;
                 02    A8   9F 00038    PUSHAB  DBG$CS_SLASH                                ;
                       52   DD 0003B    PUSHL   R2                                          ;
        69             03   FB 0003D    CALLS   #3, DBG$NMATCH                              ;
        03             50   E8 00040    BLBS    R0, 2$                                      ;
                    008E   31   0C043    BRW     10$                                         ;
                       01   DD 00046 2$:  PUSHL   #1                                       ; 0990
                 C5    A8   9F 00048    PUSHAB  DBG$CS_ADDRESS                              ;
                       52   DD 0004B    PUSHL   R2                                          ;
        69             03   FB 0004D    CALLS   #3, DBG$NMATCH                              ;
        01             50   D1 00050    CMPL    R0, #1                                      ;
                       06   12 00053    BNEQ    4$                                          ;
    01  A4             02   90 00055    MOVB    #2, 1(R4)                                   ; 0992
                       DB   11 00059 3$:  BRB     1$                                       ; 0982
                       01   DD 0005B 4$:  PUSHL   #1                                       ; 0995
                 CD    A8   9F 0005D    PUSHAB  DBG$CS_CONDITION                            ;
                       52   DD 00060    PUSHL   R2                                          ;
        69             03   FB 00062    CALLS   #3, DBG$NMATCH                              ;
        01             50   D1 00065    CMPL    R0, #1                                      ;
                       06   12 00068    BNEQ    5$                                          ;
    01  A4             03   90 0006A    MOVB    #3, 1(R4)                                   ; 0997
                       C6   11 0006E    BRB     1$                                          ; 0982
                       02   DD 00070 5$:  PUSHL   #2                                       ; 1000
                 DD    A8   9F 00072    PUSHAB  DBG$CS_BINARY                               ;
                       52   DD 00075    PUSHL   R2                                          ;
        69             03   FB 00077    CALLS   #3, DBG$NMATCH                              ;
        01             50   D1 0007A    CMPL    R0, #1                                      ;
                       05   12 0007D    BNEQ    6$                                          ;
        55             02   D0 0007F    MOVL    #2, RADIX                                   ; 1002
                       B2   11 00082    BRB     1$                                          ; 0982
                       01   DD 00084 6$:  PUSHL   #1                                       ; 1005
                 E4    A8   9F 00086    PUSHAB  DBG$CS_HEXADECIMAL                          ;
                       52   DD 00089    PUSHL   R2                                          ;
        69             03   FB 0008B    CALLS   #3, DBG$NMATCH                              ;
```

```
                                01              50  D1 0008E          CMPL    R0, #1                                  ;
                                                05  12 00091          BNEQ    7$                                      ;
                                55              10  D0 00093          MOVL    #16, RADIX                              ; 1007
                                                9E  11 00096          BRB     1$                                      ; 0982
                                                01  DD 00098  7$:     PUSHL   #1                                      ; 1010
                                        F0      A8  9F 0009A          PUSHAB  DBG$CS_OCTAL                            ;
                                                52  DD 0009D          PUSHL   R2                                      ;
                                69              03  FB 0009F          CALLS   #3, DBG$NMATCH                          ;
                                01              50  D1 000A2          CMPL    R0, #1                                  ;
                                                05  12 000A5          BNEQ    8$                                      ;
                                55              08  D0 000A7          MOVL    #8, RADIX                               ; 1012
                                                8A  11 000AA          BRB     1$                                      ; 0982
                                                01  DD 000AC  8$:     PUSHL   #1                                      ; 1015
                                        F6      A8  9F 000AE          PUSHAB  DBG$CS_DECIMAL                          ;
                                                52  DD 000B1          PUSHL   R2                                      ;
                                69              03  FB 000B3          CALLS   #3, DBG$NMATCH                          ;
                                01              50  D1 000B6          CMPL    R0, #1                                  ;
                                                05  12 000B9          BNEQ    9$                                      ;
                                55              0A  D0 000BB          MOVL    #10, RADIX                              ; 1017
                                                99  11 000BE          BRB     3$                                      ; 0982
                                                52  DD 000C0  9$:     PUSHL   R2                                      ; 1022
                00000000G       00              01  FB 000C2          CALLS   #1, DBG$NNEXT_WORD                      ;
                                                50  DD 000C9          PUSHL   R0                                      ;
                00000000G       00              01  FB 000CB          CALLS   #1, DBG$NSYNTAX_ERROR                   ;
                                                70  11 000D2          BRB     17$                                     ;
                                                01  DD 000D4  10$:     PUSHL   #1                                      ; 1033
                                        0104    8F  BB 000D6          PUSHR   #^M<R2,R8>                              ;
                                69              03  FB 000DA          CALLS   #3, DBG$NMATCH                          ;
                                57              50  E8 000DD          BLBS    R0, 16$                                 ;
                                50 00000000G    00  9A 000E0  11$:     MOVZBL  DBG$GB_RADIX, R0                        ; 1058
                01              01              01  A4 8F 000E7  11$:     CASEB   1(R4), #1, #1                           ; 1049
                                0016                0004      000EC  12$:     .WORD   13$-12$,-                               ;
                                                                                  14$-12$                                 ;
                                        0C      AC  DD 000F0  13$:     PUSHL   MESSAGE_VECT                            ; 1060
                                                01  DD 000F3          PUSHL   #1                                      ; 1059
                                                09  BB 000F5          PUSHR   #^M<R0,R3>                              ;
                                                52  DD 000F7          PUSHL   R2                                      ;
                00000000G       00              05  FB 000F9          CALLS   #5, DBG$NPARSE_EXPRESSION               ;
                                                10  11 00100          BRB     15$                                     ;
                                        0C      AC  DD 00102  14$:     PUSHL   MESSAGE_VECT                            ; 1068
                                                01  DD 00105          PUSHL   #1                                      ; 1066
                                                50  DD 00107          PUSHL   R0                                      ; 1067
                                                0C  BB 00109          PUSHR   #^M<R2,R3>                              ; 1066
                00000000G       00              05  FB 0010B          CALLS   #5, DBG$NPARSE_ADDRESS                  ;
                                57              50  D0 00112  15$:     MOVL    R0, STATUS                              ;
                                01              57  D1 00115          CMPL    STATUS, #1                              ; 1081
                                                45  13 00118          BEQL    20$                                     ;
                                                57  D5 0011A          TSTL    STATUS                                  ; 1092
                                                3D  12 0011C          BNEQ    19$                                     ;
                                                01  DD 0011E          PUSHL   #1                                      ; 1094
                                        FE      A8  9F 00120          PUSHAB  DBG$CS_COMMA                            ;
                                                52  DD 00123          PUSHL   R2                                      ;
                                69              03  FB 00125          CALLS   #3, DBG$NMATCH                          ;
                                95              50  E9 00128          BLBC    R0, 9$                                  ;
                                                01  DD 0012B          PUSHL   #1                                      ; 1100
                                        0104    8F  BB 0012D          PUSHR   #^M<R2,R8>                              ;
                                69              03  FB 00131          CALLS   #3, DBG$NMATCH                          ;
```

```
                                13              50  E9 00134             BLBC    R0, 18$                                 ;
                                    000280D0    8F  DD 00137 16$:        PUSHL   #164048                                 ; 1103
                         00000000G  00          01  FB 0013D            CALLS   #1, DBG$NMAKE_ARG_VECT                  ;
                                0C  BC          50  D0 00144 17$:        MOVL    R0, @MESSAGE_VECT                       ;
                                                11  11 00148            BRB     19$                                     ; 1104
                                                04  DD 0014A 18$:        PUSHL   #4                                      ; 1106
                                6A              01  FB 0014C            CALLS   #1, DBG$GET_TEMPMEM                     ;
                                56              50  D0 0014F            MOVL    R0, NEXT_NOUN_NODE                      ;
                             08 A3              56  D0 00152            MOVL    NEXT_NOUN_NODE, 8(NOUN_NODE)            ; 1107
                                53              56  D0 00156            MOVL    NEXT_NOUN_NODE, NOUN_NODE               ; 1108
                                                04  11 00159            BRB     20$                                     ; 1075
                                50              04  D0 0015B 19$:        MOVL    #4, R0                                  ; 1116
                                                04  04 0015E            RET                                             ;
                                                01  DD 0015F 20$:        PUSHL   #1                                      ; 1124
                                    0104        8F  BB 00161            PUSHR   #^M<R2,R8>                              ;
                                69              03  FB 00165            CALLS   #3, DBG$NMATCH                          ;
                                07              50  E8 00168            BLBS    R0, 21$                                 ;
                                                62  B5 0016B            TSTW    (R2)                                    ; 1125
                                                03  13 0016D            BEQL    21$                                     ;
                                            FF6E    31 0016F            BRW     11$                                     ;
                                01              55  D1 00172 21$:        CMPL    RADIX, #1                               ; 1134
                                                0F  13 00175            BEQL    22$                                     ;
                                                03  DD 00177            PUSHL   #3                                      ; 1140
                                6A              01  FB 00179            CALLS   #1, DBG$GET_TEMPMEM                     ;
                                60              55  90 0017C            MOVB    RADIX, (ADVERB_NODE)                    ; 1142
                             04 A4              50  D0 0017F            MOVL    ADVERB_NODE, 4(R4)                      ; 1143
                                    08          A0  D4 00183            CLRL    8(ADVERB_NODE)                          ; 1144
                                50              01  D0 00186 22$:        MOVL    #1, R0                                  ; 1147
                                                04  04 00189            RET                                             ; 1149

; Routine Size:  394 bytes,    Routine Base:  DBG$CODE + 044D
```

```
;  1022          1150  1 GLOBAL ROUTINE DBG$NPARSE_EXAMINE (INPUT_DESC, VERB_NODE, MESSAGE_VECT) =
;  1023          1151  1
;  1024          1152  1 !++
;  1025          1153  1 ! FUNCTIONAL DESCRIPTION:
;  1026          1154  1 !
;  1027          1155  1 !       ATN parse network for the EXAMINE verb. The network constructs a command
;  1028          1156  1 !       execution tree consisting of a linked list of command operands which the
;  1029          1157  1 !       execution network accepts as input to perform the command.
;  1030          1158  1 !
;  1031          1159  1 !       Three adverb nodes are ALWAYS created and linked. They are in the order:
;  1032          1160  1 !
;  1033          1161  1 !       1) Type node    - This node contains override or default type info. It may
;  1034          1162  1 !                         have the value of dummy_type when the source of the
;  1035          1163  1 !                         EXAMINE is described by a primary descriptor and
;  1036          1164  1 !                         no override type has been specified.
;  1037          1165  1 !
;  1038          1166  1 !       2) Radix node   - The radix to be used in outputting the value.
;  1039          1167  1 !                         For implementation level 2, DBG$K_DEFAULT is
;  1040          1168  1 !                         translated to the real radix.
;  1041          1169  1 !
;  1042          1170  1 !
;  1043          1171  1 !       3) Mode node    - Either true or false. True means symbolic output. False
;  1044          1172  1 !                         means no symbolic output.
;  1045          1173  1 !
;  1046          1174  1 ! FORMAL PARAMETERS:
;  1047          1175  1 !
;  1048          1176  1 !       INPUT_DESC              - A longword containing the address of the command
;  1049          1177  1 !                                 input descriptor
;  1050          1178  1 !
;  1051          1179  1 !       VERB_NODE               - A longword containing the address of the command
;  1052          1180  1 !                                 execution tree verb (head) node
;  1053          1181  1 !
;  1054          1182  1 !       MESSAGE_VECT            - The address of a longword to contain the address
;  1055          1183  1 !                                 of a standard message argument vector on errors
;  1056          1184  1 !
;  1057          1185  1 ! IMPLICIT INPUTS:
;  1058          1186  1 !
;  1059          1187  1 !       NONE
;  1060          1188  1 !
;  1061          1189  1 ! IMPLICIT OUTPUTS:
;  1062          1190  1 !
;  1063          1191  1 !       On success, the command execution tree is constructed.
;  1064          1192  1 !
;  1065          1193  1 !       On failure, a message argument vector is constructed or obtained.
;  1066          1194  1 !
;  1067          1195  1 ! ROUTINE VALUE:
;  1068          1196  1 !
;  1069          1197  1 !       An unsigned integer longword completion code
;  1070          1198  1 !
;  1071          1199  1 ! COMPLETION CODES:
;  1072          1200  1 !
;  1073          1201  1 !       sts$k_success (1)       - Success. Command execution tree constructed.
;  1074          1202  1 !
;  1075          1203  1 !       sts$k_severe  (4)       - Failure. Error encountered. Message argument
;  1076          1204  1 !                                 constructed and returned.
;  1077          1205  1 !
;  1078          1206  1 ! SIDE EFFECTS:
```

```
;1079     1207  1 !
;1080     1208  1 !       NONE
;1081     1209  1 !
;1082     1210  1 !--
;1083     1211  1
;1084     1212  2     BEGIN
;1085     1213  2
;1086     1214  2     MAP
;1087     1215  2         INPUT_DESC      : REF BLOCK [ ,BYTE],
;1088     1216  2         VERB_NODE       : REF dbg$verb_node;
;1089     1217  2
;1090     1218  2     BIND
;1091     1219  2
;1092     1220  2         ! Strings used at this level of parsing
;1093     1221  2         !
;1094     1222  2         DBG$CS_INSTRUCTION      = UPLIT BYTE (11,'INSTRUCTION'),
;1095     1223  2         DBG$CS_SYMBOLS          = UPLIT BYTE (8, 'SYMBOLIC'),
;1096     1224  2         DBG$CS_NOSYMBOLS        = UPLIT BYTE (10,'NOSYMBOLIC'),
;1097     1225  2         DBG$CS_BINARY           = UPLIT BYTE (6, 'BINARY'),
;1098     1226  2         DBG$CS_OCTAL            = UPLIT BYTE (5, 'OCTAL'),
;1099     1227  2         DBG$CS_DECIMAL          = UPLIT BYTE (7, 'DECIMAL'),
;1100     1228  2         DBG$CS_HEXADECIMAL      = UPLIT BYTE (11,'HEXADECIMAL'),
;1101     1229  2         DBG$CS_DEFAULT          = UPLIT BYTE (7, 'DEFAULT'),
;1102     1230  2         DBG$CS_AC               = UPLIT BYTE (2, 'AC'),
;1103     1231  2         DBG$CS_ASCIC            = UPLIT BYTE (5, 'ASCIC'),
;1104     1232  2         DBG$CS_AD               = UPLIT BYTE (2, 'AD'),
;1105     1233  2         DBG$CS_ASCID            = UPLIT BYTE (5, 'ASCID'),
;1106     1234  2         DBG$CS_AW               = UPLIT BYTE (2, 'AW'),
;1107     1235  2         DBG$CS_ASCIW            = UPLIT BYTE (5, 'ASCIW'),
;1108     1236  2         DBG$CS_AZ               = UPLIT BYTE (2, 'AZ'),
;1109     1237  2         DBG$CS_ASCIZ            = UPLIT BYTE (5, 'ASCIZ'),
;1110     1238  2         DBG$CS_ASCII            = UPLIT BYTE (5, 'ASCII'),
;1111     1239  2         DBG$CS_CONDITION_VALUE  = UPLIT BYTE (15,'CONDITION_VALUE'),
;1112     1240  2         DBG$CS_PSL              = UPLIT BYTE (3 ,'PSL'),
;1113     1241  2         DBG$CS_PSW              = UPLIT BYTE (3 ,'PSW'),
;1114     1242  2         DBG$CS_BYTE             = UPLIT BYTE (4, 'BYTE'),
;1115     1243  2         DBG$CS_WORD             = UPLIT BYTE (4, 'WORD'),
;1116     1244  2         DBG$CS_LONGWORD         = UPLIT BYTE (8, 'LONG'),
;1117     1245  2         DBG$CS_QUADWORD         = UPLIT BYTE (8, 'QUADWORD'),
;1118     1246  2         DBG$CS_OCTAWORD         = UPLIT BYTE (8, 'OCTAWORD'),
;1119     1247  2         DBG$CS_FLOAT            = UPLIT BYTE (5, 'FLOAT'),
;1120     1248  2         DBG$CS_F_FLOAT          = UPLIT BYTE (7, 'F_FLOAT'),
;1121     1249  2         DBG$CS_D_FLOAT          = UPLIT BYTE (7, 'D_FLOAT'),
;1122     1250  2         DBG$CS_G_FLOAT          = UPLIT BYTE (7, 'G_FLOAT'),
;1123     1251  2         DBG$CS_H_FLOAT          = UPLIT BYTE (7, 'H_FLOAT'),
;1124     1252  2         DBG$CS_SOURCE           = UPLIT BYTE (6, 'SOURCE'),
;1125     1253  2         DBG$CS_PACKED           = UPLIT BYTE (6, 'PACKED'),                 ! A3.1
;1126     1254  2         DBG$CS_DATE_TIME        = UPLIT BYTE (9, 'DATE_TIME'),              ! A3.1
;1127     1255  2         DBG$CS_COMMA            = UPLIT BYTE (1, dbg$k_comma),
;1128     1256  2         DBG$CS_COLON            = UPLIT BYTE (1, dbg$k_colon),
;1129     1257  2         DBG$CS_SLASH            = UPLIT BYTE (1, dbg$k_slash),
;1130     1258  2         DBG$CS_CR               = UPLIT BYTE (1, dbg$k_car_return);
;1131     1259  2
;1132     1260  2     LOCAL
;1133     1261  2         ADDR_EXP_DESC           : REF dbg$aed,          ! Address expression descriptor
;1134     1262  2         NOUN_NODE               : REF dbg$noun_node,    ! Object
;1135     1263  2         ADVERB_NODE             : REF dbg$adverb_node,  ! Adverb
```

```
;  1136          1264  2          LINK,                                   ! Pointer
;  1137          1265  2          SYM_OVERRIDE_PRESENT,
;  1138          1266  2          INP_RADIX,                              ! Input radix
;  1139          1267  2          RADIX,                                  ! Radix for numeric literals
;  1140          1268  2          TYPE,                                   ! Type of source
;  1141          1269  2          SYMBOL_FLAG,                            ! If true then SYMBOLIC EXAMINE
;  1142          1270  2          LOWER_PC_FLAG,                          ! TRUE if we are parsing
;  1143          1271  2                                                  ! the lower pc in the
;  1144          1272  2                                                  ! pc range.
;  1145          1273  2          SOURCE_FLAG,                            ! TRUE for EX/SOURCE
;  1146          1274  2          MSG_TEXT,                               ! TRUE for EX/CONDITION_VALUE
;  1147          1275  2          LENGTH,                                 ! Length of source
;  1148          1276  2          ADDRESS                 : VECTOR [2],   ! Address of source
;  1149          1277  2          STATUS;                                 ! Return status
;  1150          1278  2
;  1151          1279  2      ! Create and link a noun node to contain the target
;  1152          1280  2      !
;  1153          1281  2      noun_node = dbg$get_tempmem (dbg$k_noun_node_size);
;  1154          1282  2
;  1155          1283  2      verb_node [dbg$l_verb_object_ptr] = .noun_node;
;  1156          1284  2
;  1157          1285  2
;  1158          1286  2      ! Initialize target type and length
;  1159          1287  2      !
;  1160          1288  2      type = -1;          ! -1 indicates that we have not found an override type
;  1161          1289  2      length = 0;
;  1162          1290  2
;  1163          1291  2
;  1164          1292  2      ! Initialize the symbolic - nosymbolic flag and source flag
;  1165          1293  2      !
;  1166          1294  2      symbol_flag = dbg$nget_mode ();
;  1167          1295  2      sym_override_present = FALSE;
;  1168          1296  2      source_flag = FALSE;
;  1169          1297  2      msg_text = FALSE;
;  1170          1298  2
;  1171          1299  2      ! Initialize the lower_pc flag
;  1172          1300  2      !
;  1173          1301  2      lower_pc_flag = TRUE;
;  1174          1302  2
;  1175          1303  2      ! Initialize the radix.
;  1176          1304  2      !
;  1177          1305  2      inp_radix = .dbg$gb_radix[dbg$b_radix_input];
;  1178          1306  2      radix = .dbg$gb_radix[dbg$b_radix_output_over];
;  1179          1307  2
;  1180          1308  2      ! Accept any command switches. We start out with a verb composite representing
;  1181          1309  2      ! a plain EXAMINE. This may change as a result of command or user set overrides.
;  1182          1310  2      ! We changes the composite to EXAMINE_INSTRUCTION if we find /INSTRUCTION.
;  1183          1311  2      ! The composite is changed to EXAMINE_CONDITION_VALUE if /CONDITION_VALUE
;  1184          1312  2      ! is found.
;  1185          1313  2      !
;  1186          1314  2      verb_node [dbg$b_verb_composite] = examine;
;  1187          1315  2
;  1188          1316  2      WHILE dbg$nmatch (.input_desc, dbg$cs_slash, 1)
;  1189          1317  2      DO
;  1190          1318  3          BEGIN
;  1191          1319  3          SELECTONE true
;  1192          1320  3              OF
```

```
;  1193          1321  3          SET
;  1194          1322  3
;  1195          1323  3          [dbg$nmatch (.input_desc, dbg$cs_instruction, 1)] :
;  1196          1324  4              BEGIN
;  1197          1325  4              type = dsc$k_dtype_zi;
;  1198          1326  4              length = 0;
;  1199          1327  4              radix = dbg$k_default;
;  1200          1328  3              END;
;  1201          1329  3
;  1202          1330  3          [dbg$nmatch (.input_desc, dbg$cs_byte, 1)] :
;  1203          1331  4              BEGIN
;  1204          1332  4              type = dsc$k_dtype_b;
;  1205          1333  4              length = byte_length;
;  1206          1334  3              END;
;  1207          1335  3
;  1208          1336  3          [dbg$nmatch (.input_desc, dbg$cs_word, 1)] :
;  1209          1337  4              BEGIN
;  1210          1338  4              type = dsc$k_dtype_w;
;  1211          1339  4              length = word_length;
;  1212          1340  3              END;
;  1213          1341  3
;  1214          1342  3          [dbg$nmatch (.input_desc, dbg$cs_condition_value, 1)]:
;  1215          1343  4              BEGIN
;  1216          1344  4              type = dsc$k_dtype_l;
;  1217          1345  4              length = long_length;
;  1218          1346  4              msg_text = TRUE;
;  1219          1347  3              END;
;  1220          1348  3
;  1221          1349  3          [dbg$nmatch (.input_desc, dbg$cs_date_time, 2)]:                    ! A3.1
;  1222          1350  4              BEGIN                                                          ! A3.1
;  1223          1351  4              type = dsc$k_dtype_adt;                                        ! A3.1 M3.3
;  1224          1352  4              length = 8;                                                    ! A3.1
;  1225          1353  3              END;                                                           ! A3.1
;  1226          1354  3
;  1227          1355  3          [dbg$nmatch (.input_desc, dbg$cs_psl, 3)]:
;  1228          1356  4              BEGIN
;  1229          1357  4              type = dsc$k_dtype_lu;
;  1230          1358  4              length = long_length;
;  1231          1359  4              verb_node [dbg$b_verb_composite] = examine_psl;
;  1232          1360  3              END;
;  1233          1361  3
;  1234          1362  3          [dbg$nmatch (.input_desc, dbg$cs_psw, 3)]:
;  1235          1363  4              BEGIN
;  1236          1364  4              type = dsc$k_dtype_wu;
;  1237          1365  4              length = word_length;
;  1238          1366  4              verb_node [dbg$b_verb_composite] = examine_psw;
;  1239          1367  3              END;
;  1240          1368  3
;  1241          1369  3          [dbg$nmatch (.input_desc, dbg$cs_longword, 1)] :
;  1242          1370  4              BEGIN
;  1243          1371  4              type = dsc$k_dtype_l;
;  1244          1372  4              length = long_length;
;  1245          1373  3              END;
;  1246          1374  3
;  1247          1375  3          [dbg$nmatch (.input_desc, dbg$cs_ac, 2),
;  1248          1376  3           dbg$nmatch (.input_desc, dbg$cs_ascic, 5)]:
;  1249          1377  4              BEGIN
```

```
;  1250          1378  4                    type = dsc$k_dtype_ac;
;  1251          1379  4                    length = byte_length;
;  1252          1380  4                    radix = dbg$k_default;
;  1253          1381  3                    END;
;  1254          1382  3
;  1255          1383  3                [dbg$nmatch (.input_desc, dbg$cs_aw, 2),
;  1256          1384  3                 dbg$nmatch (.input_desc, dbg$cs_asciw, 5)]:
;  1257          1385  4                    BEGIN
;  1258          1386  4                    type = dsc$k_dtype_vt;
;  1259          1387  4                    length = word_length;
;  1260          1388  4                    radix = dbg$k_default;
;  1261          1389  3                    END;
;  1262          1390  3
;  1263          1391  3                [dbg$nmatch (.input_desc, dbg$cs_az, 2),
;  1264          1392  3                 dbg$nmatch (.input_desc, dbg$cs_asciz, 5)]:
;  1265          1393  4                    BEGIN
;  1266          1394  4                    type = dsc$k_dtype_az;
;  1267          1395  4                    length = byte_length;
;  1268          1396  4                    radix = dbg$k_default;
;  1269          1397  3                    END;
;  1270          1398  3
;  1271          1399  3                [dbg$nmatch (.input_desc, dbg$cs_ad, 2),
;  1272          1400  3                 dbg$nmatch (.input_desc, dbg$cs_ascid, 5)]:
;  1273          1401  4                    BEGIN
;  1274          1402  4                    type = dbg$k_dtype_ad;
;  1275          1403  4                    length = 2 * long_length;
;  1276          1404  4                    radix = dbg$k_default;
;  1277          1405  3                    END;
;  1278          1406  3
;  1279          1407  3                [dbg$nmatch (.input_desc, dbg$cs_ascii, 1)] :
;  1280          1408  4                    BEGIN
;  1281          1409  4
;  1282          1410  4                    ! Accept the ':' and integer. If there is no colon, we assume
;  1283          1411  4                    ! a length of 4
;  1284          1412  4                    !
;  1285          1413  4                    IF NOT dbg$nmatch (.input_desc, dbg$cs_colon, 1)
;  1286          1414  4                    THEN
;  1287          1415  5                        BEGIN
;  1288          1416  5                        length = 0;
;  1289          1417  5                        END
;  1290          1418  4                    ELSE
;  1291          1419  5                        BEGIN
;  1292          1420  5
;  1293          1421  5                        ! We found the colon. Accept the integer
;  1294          1422  5                        !
;  1295          1423  5                        IF NOT dbg$nsave_integer (.input_desc, length)
;  1296          1424  5                        THEN
;  1297          1425  5                            RETURN sts$k_severe;
;  1298          1426  5
;  1299          1427  5                        ! Check to see that the length of the ascii examine is not 0
;  1300          1428  5                        !
;  1301          1429  5                        IF .length GTRU 2048
;  1302          1430  5                        THEN
;  1303          1431  6                            BEGIN
;  1304          1432  6                            OWN
;  1305          1433  6                                num_desc : dbg$stg_desc;
;  1306          1434  6
```

```
;  1307          1435  6                    num_desc [dsc$w_length] = 1;
;  1308          1436  6                    num_desc [dsc$a_pointer] = UPLIT TYPE ('0');
;  1309          1437  6                    .message_vect = dbg$nmake_arg_vect (dbg$_invnumber, 1, num_desc);
;  1310          1438  6                    RETURN sts$k_severe;
;  1311          1439  5                    END;
;  1312          1440  4                END;
;  1313          1441  4
;  1314          1442  4            type = dsc$k_dtype_t;
;  1315          1443  4            radix = dbg$k_default;
;  1316          1444  3            END;
;  1317          1445  3
;  1318          1446  3        [dbg$nmatch (.input_desc, dbg$cs_default, 3)] :
;  1319          1447  4            BEGIN
;  1320          1448  4            radix = dbg$k_default;
;  1321          1449  3            END;
;  1322          1450  3
;  1323          1451  3        [dbg$nmatch (.input_desc, dbg$cs_binary, 2)] :
;  1324          1452  4            BEGIN
;  1325          1453  4            radix = dbg$k_binary;
;  1326          1454  3            END;
;  1327          1455  3
;  1328          1456  3        [dbg$nmatch (.input_desc, dbg$cs_octal, 1)] :
;  1329          1457  4            BEGIN
;  1330          1458  4            radix = dbg$k_octal;
;  1331          1459  3            END;
;  1332          1460  3
;  1333          1461  3        [dbg$nmatch (.input_desc, dbg$cs_d_float, 2)] :
;  1334          1462  4            BEGIN
;  1335          1463  4            type = dsc$k_dtype_d;
;  1336          1464  4            length = 8;
;  1337          1465  4            radix = dbg$k_default;
;  1338          1466  3            END;
;  1339          1467  3
;  1340          1468  3        [dbg$nmatch (.input_desc, dbg$cs_decimal, 1)] :
;  1341          1469  4            BEGIN
;  1342          1470  4            radix = dbg$k_decimal;
;  1343          1471  3            END;
;  1344          1472  3
;  1345          1473  3        [dbg$nmatch (.input_desc, dbg$cs_hexadecimal, 1)] :
;  1346          1474  4            BEGIN
;  1347          1475  4            radix = dbg$k_hex;
;  1348          1476  3            END;
;  1349          1477  3
;  1350          1478  3        [dbg$nmatch (.input_desc, dbg$cs_symbols, 1)] :
;  1351          1479  4            BEGIN
;  1352          1480  4            symbol_flag = true;
;  1353          1481  4            sym_override_present = TRUE;
;  1354          1482  3            END;
;  1355          1483  3
;  1356          1484  3        [dbg$nmatch (.input_desc, dbg$cs_nosymbols, 1)] :
;  1357          1485  4            BEGIN
;  1358          1486  4            symbol_flag = false;
;  1359          1487  4            sym_override_present = TRUE;
;  1360          1488  3            END;
;  1361          1489  3
;  1362          1490  3        [dbg$nmatch (.input_desc, dbg$cs_source, 2)] : ! EX/SOURCE
;  1363          1491  4            BEGIN
```

```
;  1364     1492  4                source_flag = TRUE;
;  1365     1493  4                END;
;  1366     1494
;  1367     1495  3            [dbg$nmatch (.input_desc, dbg$cs_quadword, 1)] :
;  1368     1496  4                BEGIN
;  1369     1497  4                type = dsc$k_dtype_q;
;  1370     1498  4                length = 8;
;  1371     1499  4                END;
;  1372     1500
;  1373     1501  3            [dbg$nmatch (.input_desc, dbg$cs_octaword, 5)] :
;  1374     1502  4                BEGIN
;  1375     1503  4                type = dsc$k_dtype_o;
;  1376     1504  4                length = 16;
;  1377     1505  4                END;
;  1378     1506
;  1379     1507  3            [dbg$nmatch (.input_desc, dbg$cs_float, 1),
;  1380     1508  3             dbg$nmatch (.input_desc, dbg$cs_f_float, 1)] :
;  1381     1509  4                BEGIN
;  1382     1510  4                type = dsc$k_dtype_f;
;  1383     1511  4                length = 4;
;  1384     1512  4                radix = dbg$k_default;
;  1385     1513  4                END;
;  1386     1514
;  1387     1515  3            [dbg$nmatch (.input_desc, dbg$cs_g_float, 1)] :
;  1388     1516  4                BEGIN
;  1389     1517  4                type = dsc$k_dtype_g;
;  1390     1518  4                length = 8;
;  1391     1519  4                radix = dbg$k_default;
;  1392     1520  4                END;
;  1393     1521
;  1394     1522  3            [dbg$nmatch (.input_desc, dbg$cs_h_float, 2)] :
;  1395     1523  4                BEGIN
;  1396     1524  4                type = dsc$k_dtype_h;
;  1397     1525  4                length = 16;
;  1398     1526  4                radix = dbg$k_default;
;  1399     1527  4                END;
;  1400     1528  3
;  1401     1529  3            [dbg$nmatch (.input_desc, dbg$cs_packed, 2)] :                  ! A3.1
;  1402     1530  4                BEGIN                                                      ! A3.1
;  1403     1531  4                type = dsc$k_dtype_p;                                      ! A3.1
;  1404     1532  4                radix = dbg$k_default;                                     ! A3.1
;  1405     1533  4                                                                          ! A3.1
;  1406     1534  4                ! Accept the ':' and integer. If there is no colon, use  ! A3.1
;  1407     1535  4                ! a length or -1 to signal that we will have to find the length! A3.1
;  1408     1536  4                ! after its been converted from text.                     ! A3.1
;  1409     1537  4                !                                                         ! A3.1
;  1410     1538  4                IF NOT dbg$nmatch (.input_desc, dbg$cs_colon, 1)          ! A3.1
;  1411     1539  4                THEN                                                      ! A3.1
;  1412     1540  5                    BEGIN                                                 ! A3.1
;  1413     1541  5                    length = -1;                                          ! A3.1
;  1414     1542  5                    END                                                   ! A3.1
;  1415     1543  4                ELSE                                                      ! A3.1
;  1416     1544  5                    BEGIN                                                 ! A3.1
;  1417     1545  5                                                                          ! A3.1
;  1418     1546  5                    ! We found the colon. Accept the integer              ! A3.1
;  1419     1547  5                    !                                                     ! A3.1
;  1420     1548  5                    IF NOT dbg$nsave_integer (.input_desc, length)        ! A3.1
```

```
;  1421          1549  5                    THEN                                                                    ! A3.1
;  1422          1550  5                        RETURN sts$k_severe;                                                ! A3.1
;  1423          1551  5                                                                                            ! A3.1
;  1424          1552  5                        ! Check to see that the length is within 0 and 31                   ! A3.1
;  1425          1553  5                        !                                                                   ! A3.1
;  1426          1554  6                        IF (.length LSS 0)  OR  (.length GTR 31)                            ! A3.1
;  1427          1555  5                        THEN                                                                ! A3.1
;  1428          1556  5                            SIGNAL(dbg$_illpacsiz, 1, .length);                             ! A3.1
;  1429          1557  4                        END;                                                                ! A3.1
;  1430          1558  3                    END;                                                                    ! A3.1
;  1431          1559  3
;  1432          1560  3                [OTHERWISE] :       ! Some flavor of user error
;  1433          1561  4                    BEGIN
;  1434          1562  4                    .message_vect =
;  1435          1563  5                    ( IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  1436          1564  5                      THEN
;  1437          1565  5                          dbg$nmake_arg_vect (dbg$_needmore)
;  1438          1566  5                      ELSE
;  1439          1567  4                          dbg$nsyntax_error (dbg$nnext_word (.input_desc)));
;  1440          1568  4                    RETURN sts$k_severe;
;  1441          1569  3                    END;
;  1442          1570  3
;  1443          1571  3                TES;
;  1444          1572  3
;  1445          1573  2            END;
;  1446          1574  2
;  1447          1575  2
;  1448          1576  2        IF .sym_override_present
;  1449          1577  2        THEN
;  1450          1578  3            BEGIN
;  1451          1579  3            dbg$set_mod_lvl (override_mode);
;  1452          1580  3            dbg$gb_mod_ptr[mode_symbol$] = .symbol_flag;
;  1453          1581  2            END;
;  1454          1582  2
;  1455          1583  2        ! Check for EXAMINE <CR>. If this is the case, we call the pseudo symbol
;  1456          1584  2        ! interpreter to find the meaning of successor ourselves.
;  1457          1585  2        !
;  1458          1586  2        IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  1459          1587  2        THEN
;  1460          1588  3            BEGIN
;  1461          1589  3            LOCAL
;  1462          1590  3                AE_DESC     : REF dbg$aed,  ! Address expression descriptor
;  1463          1591  3                SYMBOL_TYPE,
;  1464          1592  3                SYMBOL_VALUE,
;  1465          1593  3                TYPE,
;  1466          1594  3                LENGTH;
;  1467          1595  3
;  1468          1596  3            MAP
;  1469          1597  3                SYMBOL_VALUE: REF DBG$VALDESC;
;  1470          1598  3
;  1471          1599  3            LOCAL
;  1472          1600  3                DUMMY,
;  1473          1601  3                KIND;
;  1474          1602  3
;  1475          1603  3            ! Look up the symbol in the DEFINE symbol table.
;  1476          1604  3            !
;  1477          1605  3            IF DBG$DEF_SYM_FIND (UPLIT BYTE (%ASCIC '%NEXTLOC'),
```

```
;  1478          1606  3                                   KIND, SYMBOL_VALUE,
;  1479          1607  3                                   DUMMY, DUMMY)
;  1480          1608  3          THEN
;  1481          1609  3              IF .KIND EQL DEFINE_ADDRESS
;  1482          1610  3              OR .KIND EQL DEFINE_VALUE
;  1483          1611  3              THEN
;  1484          1612  4                  BEGIN
;  1485          1613  4
;  1486          1614  4                  ! Turn value descriptors into volatile value descriptors.
;  1487          1615  4                  !
;  1488          1616  4                  IF .SYMBOL_VALUE [DBG$B_DHDR_TYPE] EQL DBG$K_VALUE_DESC
;  1489          1617  4                  THEN
;  1490          1618  5                      BEGIN
;  1491          1619  5                      SYMBOL_VALUE [DBG$B_DHDR_TYPE] = DBG$K_V_VALUE_DESC;
;  1492          1620  5                      SYMBOL_VALUE [DBG$L_VALUE_POINTER] =
;  1493          1621  5                              .SYMBOL_VALUE [DBG$L_VALUE_VALUE0];
;  1494          1622  5                      IF .SYMBOL_VALUE [DBG$B_VALUE_DTYPE] EQL DSC$K_DTYPE_V
;  1495          1623  5                      OR .SYMBOL_VALUE [DBG$B_VALUE_DTYPE] EQL DSC$K_DTYPE_VU
;  1496          1624  5                      OR .SYMBOL_VALUE [DBG$B_VALUE_DTYPE] EQL DSC$K_DTYPE_SV
;  1497          1625  5                      OR .SYMBOL_VALUE [DBG$B_VALUE_DTYPE] EQL DSC$K_DTYPE_SVU
;  1498          1626  5                      THEN
;  1499          1627  5                          SYMBOL_VALUE [DBG$L_VALUE_POS] =
;  1500          1628  5                                  .SYMBOL_VALUE [DBG$L_VALUE_VALUE1];
;  1501          1629  4                      END;
;  1502          1630  4
;  1503          1631  4                  ! We have found a matching DEFINEd symbol.
;  1504          1632  4                  ! Copy the descriptor into temporary memory.
;  1505          1633  4                  ! (Fourth parameter FALSE <-> copy into tempmem).
;  1506          1634  4                  !
;  1507          1635  4                  DBG$NCOPY_DESC (.SYMBOL_VALUE, SYMBOL_VALUE,
;  1508          1636  4                                  DUMMY, FALSE);
;  1509          1637  4                  END
;  1510          1638  4
;  1511          1639  3              ELSE
;  1512          1640  3                  SIGNAL (DBG$_NOCURLOC)
;  1513          1641  3          ELSE
;  1514          1642  3              SIGNAL (DBG$_NOCURLOC);
;  1515          1643  3
;  1516          1644  3          noun_node [dbg$l_noun_value]  = .symbol_value;
;  1517          1645  3          noun_node [dbg$l_noun_value2] = .symbol_value;
;  1518          1646  3          END
;  1519          1647  3
;  1520          1648  2      ELSE
;  1521          1649  2
;  1522          1650  2          ! Loop through the examine list
;  1523          1651  2
;  1524          1652  2          WHILE TRUE DO
;  1525          1653  3              BEGIN
;  1526          1654  3
;  1527          1655  3              ! Check for exhausted input
;  1528          1656  3              !
;  1529          1657  3              IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  1530          1658  3                  OR .input_desc[dsc$w_length] EQL 0
;  1531          1659  3              THEN
;  1532          1660  3                  EXITLOOP;
;  1533          1661  3              !
;  1534          1662  3              ! Input left. Let the AEI deal with it.
```

```
;  1535          1663  3          !
;  1536          1664  3          IF .LOWER_PC_FLAG
;  1537          1665  3          THEN
;  1538          1666  4              BEGIN
;  1539          1667  4              STATUS = DBG$NPARSE_ADDRESS(.INPUT_DESC,
;  1540          1668  4                                          NOUN_NODE [DBG$L_NOUN_VALUE], .INP_RADIX,
;  1541          1669  4                                          TOKEN$K_TERM_COMCOL, .MESSAGE_VECT);
;  1542          1670  4              NOUN_NODE[DBG$L_NOUN_VALUE2] = .NOUN_NODE[DBG$L_NOUN_VALUE];
;  1543          1671  4              END
;  1544          1672  3          ELSE
;  1545          1673  3              STATUS = DBG$NPARSE_ADDRESS(.INPUT_DESC,
;  1546          1674  3                                          NOUN_NODE [DBG$L_NOUN_VALUE2], .INP_RADIX,
;  1547          1675  3                                          TOKEN$K_TERM_COMMA, .MESSAGE_VECT);
;  1548          1676  3
;  1549          1677  3          IF .status NEQ sts$k_success
;  1550          1678  3          THEN
;  1551          1679  3              IF .status EQL sts$k_warning
;  1552          1680  3              THEN
;  1553          1681  4                  BEGIN
;  1554          1682  4
;  1555          1683  4                  ! Check for comma.
;  1556          1684  4
;  1557          1685  4                  IF dbg$nmatch (.input_desc, dbg$cs_comma, 1)
;  1558          1686  4                  THEN
;  1559          1687  4
;  1560          1688  5                      BEGIN
;  1561          1689  5
;  1562          1690  5                      ! Check for end of line after the comma.
;  1563          1691  5                      !
;  1564          1692  5                      IF dbg$nmatch (.input_desc, dbg$cs_cr, 1)
;  1565          1693  5                      THEN
;  1566          1694  5                          SIGNAL(DBG$_NEEDMORE);
;  1567          1695  5
;  1568          1696  5
;  1569          1697  5                      ! Link in another noun node
;  1570          1698  5                      !
;  1571          1699  5
;  1572          1700  5                      noun_node[dbg$l_noun_link] = dbg$get_tempmem (dbg$k_noun_node_size);
;  1573          1701  5                      noun_node = .noun_node[dbg$l_noun_link];
;  1574          1702  5
;  1575          1703  5                      ! Set LOWER_PC_FLAG back to TRUE for the next
;  1576          1704  5                      ! PC range in the list.
;  1577          1705  5                      !
;  1578          1706  5                      lower_pc_flag = TRUE;
;  1579          1707  5                      END
;  1580          1708  5
;  1581          1709  4                  ELSE
;  1582          1710  4                      IF .lower_pc_flag
;  1583          1711  4                      THEN
;  1584          1712  4                      IF dbg$nmatch (.input_desc, dbg$cs_colon, 1)
;  1585          1713  4                          THEN
;  1586          1714  4                              lower_pc_flag = FALSE
;  1587          1715  4                      ELSE
;  1588          1716  5                          BEGIN
;  1589          1717  5                          .message_vect = dbg$nsyntax_error(
;  1590          1718  5                              dbg$nnext_word (.input_desc));
;  1591          1719  5                          RETURN sts$k_severe;
```

```
;  1592     1720  4                        END;
;  1593     1721  4
;  1594     1722  4                    END ! check for comma
;  1595     1723  4
;  1596     1724  3                ELSE
;  1597     1725  3                    RETURN sts$k_severe;
;  1598     1726  3
;  1599     1727  3
;  1600     1728  3            ! Set up for next time around loop
;  1601     1729  3            !
;  1602     1730  2            END; ! While loop
;  1603     1731  2
;  1604     1732  2
;  1605     1733  2        ! The first adverb node we set up is the type node. We start by setting up a
;  1606     1734  2        ! dummy type. If we find a real type, we change the adverb value.
;  1607     1735  2        !
;  1608     1736  2        ! We check to see if type is instruction. If so, we change the verb
;  1609     1737  2        ! composite to an EXAMINE_INSTRUCTION.
;  1610     1738  2        !
;  1611     1739  2        ! Override types and default types apply, as well as command override
;  1612     1740  2        ! types.
;  1613     1741  2        !
;  1614     1742  2        adverb_node = dbg$get_tempmem (dbg$k_adverb_node_size);
;  1615     1743  2
;  1616     1744  2        verb_node [dbg$l_verb_adverb_ptr] = .adverb_node;
;  1617     1745  2        adverb_node [dbg$b_adverb_literal] = dummy_type;
;  1618     1746  2
;  1619     1747  2
;  1620     1748  2        ! Obtain the address expression descriptor
;  1621     1749  2        !
;  1622     1750  2        addr_exp_desc = .noun_node [dbg$l_noun_value];
;  1623     1751  2
;  1624     1752  2
;  1625     1753  2        ! Check for command override
;  1626     1754  2        !
;  1627     1755  2        IF .type NEQ -1
;  1628     1756  2        THEN
;  1629     1757  3            BEGIN
;  1630     1758  3            adverb_node [dbg$b_adverb_literal] = .type;
;  1631     1759  3            adverb_node [dbg$l_adverb_value] = .length;
;  1632     1760  3
;  1633     1761  3            ! Check for EX/CONDITION_VALUE.
;  1634     1762  3            !
;  1635     1763  3            IF .msg_text
;  1636     1764  3            THEN
;  1637     1765  3                verb_node [dbg$b_verb_composite] = examine_condition_value;
;  1638     1766  3            END
;  1639     1767  3
;  1640     1768  2        ELSE
;  1641     1769  3            BEGIN
;  1642     1770  3
;  1643     1771  3            ! There was no command override. Check for a type/override.
;  1644     1772  3            !
;  1645     1773  3            IF dbg$nget_override_type (type, length)
;  1646     1774  3            THEN
;  1647     1775  4                BEGIN
;  1648     1776  4                adverb_node [dbg$b_adverb_literal] = .type;
```

```
;  1649          1777  4              adverb_node [dbg$l_adverb_value] = .length;
;  1650          1778  4              END
;  1651          1779  3          ELSE
;  1652          1780  4              BEGIN
;  1653          1781  4
;  1654          1782  4              ! There was no type override. We supply a type based on the contents
;  1655          1783  4              ! of the address expression descriptor, current location type,
;  1656          1784  4              ! and/or default type. We may also change the verb composite value.
;  1657          1785  4              !
;  1658          1786  4              ! Check for a current loc type. If this is other than 0 or notype,
;  1659          1787  4              ! then we use this type for display.
;  1660          1788  4              !
;  1661          1789  4              dbg$nget_potential_type (type, length);
;  1662          1790  4
;  1663          1791  4              IF .type NEQ dbg$k_notype AND .type NEQ 0
;  1664          1792  4              THEN
;  1665          1793  5                  BEGIN
;  1666          1794  5                  adverb_node [dbg$b_adverb_literal] = .type;
;  1667          1795  5                  adverb_node [dbg$l_adverb_value] = .length;
;  1668          1796  4                  END;
;  1669          1797  3              END;
;  1670          1798  2          END;
;  1671          1799  2
;  1672          1800  2
;  1673          1801  2      ! The adverb type node has been set up, and the command has been classified
;  1674          1802  2      ! as either   EXAMINE,   EXAMINE_INSTRUCTION,   EXAMINE_CONDITION_VALUE, or
;  1675          1803  2      ! EXAMINE_REGISTER. The source has been placed in the first noun node.
;  1676          1804  2      ! Now we construct adverb nodes for radix and mode.
;  1677          1805  2      !
;  1678          1806  2      link = adverb_node [dbg$l_adverb_link];
;  1679          1807  2      adverb_node = dbg$get_tempmem (dbg$k_adverb_node_size);
;  1680          1808  2
;  1681          1809  2      .link = .adverb_node;
;  1682          1810  2      adverb_node [dbg$b_adverb_literal] = .radix;
;  1683          1811  2      dbg$gl_cmnd_radix = .radix;
;  1684          1812  2
;  1685          1813  2      ! Create as adverb node for the mode (symbolic or nosymbolic).
;  1686          1814  2      !
;  1687          1815  2      link = adverb_node [dbg$l_adverb_link];
;  1688          1816  2      adverb_node = dbg$get_tempmem (dbg$k_adverb_node_size);
;  1689          1817  2
;  1690          1818  2      .link = .adverb_node;
;  1691          1819  2      adverb_node [dbg$b_adverb_literal] = .symbol_flag;
;  1692          1820  2
;  1693          1821  2      IF .source_flag
;  1694          1822  2      THEN
;  1695          1823  2          verb_node[dbg$b_verb_composite] = examine_source;
;  1696          1824  2
;  1697          1825  2      RETURN sts$k_success;
;  1698          1826  1      END;


                                                        .PSECT  DBG$PLIT,NOWRT,  SHR,  PIC,0

                                                 0B  000E7 P.ABL:  .BYTE   11                                    ;
                4E  4F  49  54  43  55  52  54  53  4E  49  000E8          .ASCII  \INSTRUCTION\                   ;
```

```
                                                08  000F3 P.ABM:   .BYTE    8
                                  43 49 4C 4F 42 4D 59  53  000F4          .ASCII   \SYMBOLIC\
                                                0A  000FC P.ABN:   .BYTE    10
                              43 49 4C 4F 42 4D 59 53 4F  4E  000FD          .ASCII   \NOSYMBOLIC\
                                                06  00107 P.ABO:   .BYTE    6
                                       59 52 41 4E 49 42  00108          .ASCII   \BINARY\
                                                05  0010E P.ABP:   .BYTE    5
                                          4C 41 54 43 4F  0010F          .ASCII   \OCTAL\
                                                07  00114 P.ABQ:   .BYTE    7
                                    4C 41 4D 49 43 45 44  00115          .ASCII   \DECIMAL\
                                                08  0011C P.ABR:   .BYTE    11
                        4C 41 4D 49 43 45 44 41 58 45 48  0011D          .ASCII   \HEXADECIMAL\
                                                07  00128 P.ABS:   .BYTE    7
                                    54 4C 55 41 46 45 44  00129          .ASCII   \DEFAULT\
                                                02  00130 P.ABT:   .BYTE    2
                                                   43 41  00131          .ASCII   \AC\
                                                05  0C133 P.ABU:   .BYTE    5
                                          43 49 43 53 41  00134          .ASCII   \ASCIC\
                                                02  00139 P.ABV:   .BYTE    2
                                                   44 41  0013A          .ASCII   \AD\
                                                05  0013C P.ABW:   .BYTE    5
                                          44 49 43 53 41  0013D          .ASCII   \ASCID\
                                                02  00142 P.ABX:   .BYTE    2
                                                   57 41  00143          .ASCII   \AW\
                                                05  00145 P.ABY:   .BYTE    5
                                          57 49 43 53 41  00146          .ASCII   \ASCIW\
                                                02  0014B P.ABZ:   .BYTE    2
                                                   5A 41  0014C          .ASCII   \AZ\
                                                05  0014E P.ACA:   .BYTE    5
                                          5A 49 43 53 41  0014F          .ASCII   \ASCIZ\
                                                05  00154 P.ACB:   .BYTE    5
                                          49 49 43 53 41  00155          .ASCII   \ASCII\
                                                0F  0015A P.ACC:   .BYTE    15
45 55 4C 41 56 5F 4E 4F 49 54 49 44 4E 4F  43  0015B          .ASCII   \CONDITION_VALUE\
                                                03  0016A P.ACD:   .BYTE    3
                                             4C 53 50  0016B          .ASCII   \PSL\
                                                03  0016E P.ACE:   .BYTE    3
                                             57 53 50  0016F          .ASCII   \PSW\
                                                04  00172 P.ACF:   .BYTE    4
                                          45 54 59 42  00173          .ASCII   \BYTE\
                                                04  00177 P.ACG:   .BYTE    4
                                          44 52 4F 57  00178          .ASCII   \WORD\
                                                08  0017C P.ACH:   .BYTE    8
                                          47 4E 4F 4C  0017D          .ASCII   \LONG\
                                                08  00181 P.ACI:   .BYTE    8
                              44 52 4F 57 44 41 55 51  00182          .ASCII   \QUADWORD\
                                                08  0018A P.ACJ:   .BYTE    8
                              44 52 4F 57 41 54 43 4F  0018B          .ASCII   \OCTAWORD\
                                                05  00193 P.ACK:   .BYTE    5
                                       54 41 4F 4C 46  00194          .ASCII   \FLOAT\
                                                07  00199 P.ACL:   .BYTE    7
                                    54 41 4F 4C 46 5F 46  0019A          .ASCII   \F_FLOAT\
                                                07  001A1 P.ACM:   .BYTE    7
                                    54 41 4F 4C 46 5F 44  001A2          .ASCII   \D_FLOAT\
                                                07  001A9 P.ACN:   .BYTE    7
                                    54 41 4F 4C 46 5F 47  001AA          .ASCII   \G_FLOAT\
                                                07  001B1 P.ACO:   .BYTE    7
```

```
                    54 41 4F 4C 46 5F 48 001B2          .ASCII  \H_FLOAT\
                                       06 001B9 P.ACP:  .BYTE   6
                       45 43 52 55 4F 53 001BA          .ASCII  \SOURCE\
                                       06 001C0 P.ACQ:  .BYTE   6
                       44 45 4B 43 41 50 001C1          .ASCII  \PACKED\
                                       09 001C7 P.ACR:  .BYTE   9
45 4D 49 54 5F 45 54 41 44             001C8            .ASCII  \DATE_TIME\
                                    2C 01 001D1 P.ACS:  .BYTE   1, 44
                                    3A 01 001D3 P.ACT:  .BYTE   1, 58
                                    2F 01 001D5 P.ACU:  .BYTE   1, 47
                                    0D 01 001D7 P.ACV:  .BYTE   1, 13
                                          001D9         .BLKB   3
                          00 00 00 30 001DC P.ACW:  .ASCII  \0\<0><0><0>
43 4F 4C 54 58 45 4E 25 08             001E0 P.ACX:  .ASCII  <8>\%NEXTLOC\

                                                     .PSECT  DBG$OWN,NOEXE,  PIC,2

                                          0000C NUM_DESC:
                                                     .BLKB   12

                                    DBG$CS_INSTRUCTION= P.ABL
                                    DBG$CS_SYMBOLS=     P.ABM
                                    DBG$CS_NOSYMBOLS=   P.ABN
                                    DBG$CS_BINARY=      P.ABO
                                    DBG$CS_OCTAL=       P.ABP
                                    DBG$CS_DECIMAL=     P.ABQ
                                    DBG$CS_HEXADECIMAL= P.ABR
                                    DBG$CS_DEFAULT=     P.ABS
                                    DBG$CS_AC=          P.ABT
                                    DBG$CS_ASCIC=       P.ABU
                                    DBG$CS_AD=          P.ABV
                                    DBG$CS_ASCID=       P.ABW
                                    DBG$CS_AW=          P.ABX
                                    DBG$CS_ASCIW=       P.ABY
                                    DBG$CS_AZ=          P.ABZ
                                    DBG$CS_ASCIZ=       P.ACA
                                    DBG$CS_ASCII=       P.ACB
                                    DBG$CS_CONDITION_VALUE=
                                                        P.ACC
                                    DBG$CS_PSL=         P.ACD
                                    DBG$CS_PSW=         P.ACE
                                    DBG$CS_BYTE=        P.ACF
                                    DBG$CS_WORD=        P.ACG
                                    DBG$CS_LONGWORD=    P.ACH
                                    DBG$CS_QUADWORD=    P.ACI
                                    DBG$CS_OCTAWORD=    P.ACJ
                                    DBG$CS_FLOAT=       P.ACK
                                    DBG$CS_F_FLOAT=     P.ACL
                                    DBG$CS_D_FLOAT=     P.ACM
                                    DBG$CS_G_FLOAT=     P.ACN
                                    DBG$CS_H_FLOAT=     P.ACO
                                    DBG$CS_SOURCE=      P.ACP
                                    DBG$CS_PACKED=      P.ACQ
                                    DBG$CS_DATE_TIME=   P.ACR
                                    DBG$CS_COMMA=       P.ACS
                                    DBG$CS_COLON=       P.ACT
                                    DBG$CS_SLASH=       P.ACU
```

DBG$CS_CR= P.ACV

```
                                        .PSECT  DBG$CODE,NOWRT,  SHR,  PIC,0

                        0FFC 00000      .ENTRY  DBG$NPARSE_EXAMINE, Save R2,R3,R4,R5,R6,R7,-;  1150
                                                R8,R9,R10,R11
                5E              20  C2 00002    SUBL2   #32, SP
                                04  DD 00005    PUSHL   #4                                    1281
00000000G       00              01  FB 00007    CALLS   #1, DBG$GET_TEMPMEM
                53              50  D0 0000E    MOVL    R0, NOUN_NODE
                55          08  AC  D0 00011    MOVL    VERB_NODE, R5                         1283
          08    A5              53  D0 00015    MOVL    NOUN_NODE, 8(R5)
          14    AE              01  CE 00019    MNEGL   #1, TYPE                              1288
                            10  AE  D4 0001D    CLRL    LENGTH                                1289
00000000G       00              00  FB 00020    CALLS   #0, DBG$NGET_MODE                     1294
                59              50  D0 00027    MOVL    R0, SYMBOL_FLAG
                                56  D4 0002A    CLRL    SYM_OVERRIDE_PRESENT                  1295
                                5A  7C 0002C    CLRQ    MSG_TEXT                              1297
                58              01  D0 0002E    MOVL    #1, LOWER_PC_FLAG                     1301
                6E  00000000G   00  9A 00031    MOVZBL  DBG$GB_RADIX, INP_RADIX               1305
                54  00000000G   00  9A 00038    MOVZBL  DBG$GB_RADIX+2, RADIX                 1306
          01    A5              01  90 0003F    MOVB    #1, 1(R5)                             1314
                52          04  AC  D0 00043    MOVL    INPUT_DESC, R2                        1316
                                01  DD 00047 1$:  PUSHL   #1
                    00000000'   EF  9F 00049    PUSHAB  DBG$CS_SLASH
                                52  DD 0004F    PUSHL   R2
00000000G       00              03  FB 00051    CALLS   #3, DBG$NMATCH
                03              50  E8 00058    BLBS    R0, 2$
                            049F    31 0005B    BRW     59$
                                01  DD 0005E 2$:  PUSHL   #1                                  1323
                    00000000'   EF  9F 00060    PUSHAB  DBG$CS_INSTRUCTION
                                52  DD 00066    PUSHL   R2
00000000G       00              03  FB 00068    CALLS   #3, DBG$NMATCH
                01              50  D1 0006F    CMPL    R0, #1
                                0A  12 00072    BNEQ    3$
          14    AE              16  D0 00074    MOVL    #22, TYPE                             1325
                            10  AE  D4 00078    CLRL    LENGTH                                1326
                          03EB  31 0007B    BRW     50$                                       1327
                                01  DD 0007E 3$:  PUSHL   #1                                  1330
                    00000000'   EF  9F 00080    PUSHAB  DBG$CS_BYTE
                                52  DD 00086    PUSHL   R2
00000000G       00              03  FB 00088    CALLS   #3, DBG$NMATCH
                01              50  D1 0008F    CMPL    R0, #1
                                0A  12 00092    BNEQ    4$
          14    AE              06  D0 00094    MOVL    #6, TYPE                              1332
          10    AE              01  D0 00098    MOVL    #1, LENGTH                            1333
                                A9  11 0009C    BRB     1$                                    1319
                                01  DD 0009E 4$:  PUSHL   #1                                  1336
                    00000000'   EF  9F 000A0    PUSHAB  DBG$CS_WORD
                                52  DD 000A6    PUSHL   R2
00000000G       00              03  FB 000A8    CALLS   #3, DBG$NMATCH
                01              50  D1 000AF    CMPL    R0, #1
                                0A  12 000B2    BNEQ    6$
          14    AE              07  D0 000B4    MOVL    #7, TYPE                              1338
          10    AE              02  D0 000B8    MOVL    #2, LENGTH                            1339
                                89  11 000BC 5$:  BRB     1$                                    1319
```

```
                                01 DD 000BE 6$:     PUSHL   #1                                      ; 1342
                    00000000'   EF 9F 000C0         PUSHAB  DBG$CS_CONDITION_VALUE
                                52 DD 000C6         PUSHL   R2
00000000G   00                  03 FB 000C8         CALLS   #3, DBG$NMATCH
            01                  50 D1 000CF         CMPL    R0, #1
                                0D 12 000D2         BNEQ    7$
      14    AE                  08 D0 000D4         MOVL    #8, TYPE                                ; 1344
      10    AE                  04 D0 000D8         MOVL    #4, LENGTH                              ; 1345
            5A                  01 D0 000DC         MOVL    #1, MSG_TEXT                            ; 1346
                                63 11 000DF         BRB     10$                                     ; 1319
                                02 DD 000E1 7$:     PUSHL   #2                                      ; 1349
                    00000000'   EF 9F 000E3         PUSHAB  DBG$CS_DATE_TIME
                                52 DD 000E9         PUSHL   R2
00000000G   00                  03 FB 000EB         CALLS   #3, DBG$NMATCH
            01                  50 D1 000F2         CMPL    R0, #1
                                07 12 000F5         BNEQ    8$
      14    AE                  23 D0 000F7         MOVL    #35, TYPE                               ; 1351
                          02D1  31 000FB            BRW     42$                                     ; 1352
                                03 DD 000FE 8$:     PUSHL   #3                                      ; 1355
                    00000000'   EF 9F 00100         PUSHAB  DBG$CS_PSL
                                52 DD 00106         PUSHL   R2
00000000G   00                  03 FB 00108         CALLS   #3, DBG$NMATCH
            01                  50 D1 0010F         CMPL    R0, #1
                                0E 12 00112         BNEQ    9$
      14    AE                  04 D0 00114         MOVL    #4, TYPE                                ; 1357
      10    AE                  04 D0 00118         MOVL    #4, LENGTH                              ; 1358
      01    A5                  06 90 0011C         MOVB    #6, 1(R5)                               ; 1359
                                9A 11 00120         BRB     5$                                      ; 1319
                                03 DD 00122 9$:     PUSHL   #3                                      ; 1362
                    00000000'   EF 9F 00124         PUSHAB  DBG$CS_PSW
                                52 DD 0012A         PUSHL   R2
00000000G   00                  03 FB 0012C         CALLS   #3, DBG$NMATCH
            01                  50 D1 00133         CMPL    R0, #1
                                0E 12 00136         BNEQ    11$
      14    AE                  03 D0 00138         MOVL    #3, TYPE                                ; 1364
      10    AE                  02 D0 0013C         MOVL    #2, LENGTH                              ; 1365
      01    A5                  07 90 00140         MOVB    #7, 1(R5)                               ; 1366
                                1E 11 00144 10$:    BRB     12$                                     ; 1319
                                01 DD 00146 11$:    PUSHL   #1                                      ; 1369
                    00000000'   EF 9F 00148         PUSHAB  DBG$CS_LONGWORD
                                52 DD 0014E         PUSHL   R2
00000000G   00                  03 FB 00150         CALLS   #3, DBG$NMATCH
            01                  50 D1 00157         CMPL    R0, #1
                                0B 12 0015A         BNEQ    13$
      14    AE                  08 D0 0015C         MOVL    #8, TYPE                                ; 1371
      10    AE                  04 D0 00160         MOVL    #4, LENGTH                              ; 1372
                          FEE0  31 00164 12$:       BRW     1$                                      ; 1319
                                02 DD 00167 13$:    PUSHL   #2                                      ; 1375
                    00000000'   EF 9F 00169         PUSHAB  DBG$CS_AC
                                52 DD 0016F         PUSHL   R2
00000000G   00                  03 FB 00171         CALLS   #3, DBG$NMATCH
            57                  50 D0 00178         MOVL    R0, R7
            01                  57 D1 0017B         CMPL    R7, #1
                                16 13 0017E         BEQL    14$
                                05 DD 00180         PUSHL   #5                                      ; 1376
                    00000000'   EF 9F 00182         PUSHAB  DBG$CS_ASCIC
                                52 DD 00188         PUSHL   R2
```

```
00000000G  00              03  FB 0018A          CALLS   #3, DBG$NMATCH                    ;
           01              50  D1 00191          CMPL    R0, #1                           ;
                           0A  12 00194          BNEQ    16$                              ;
      14   AE              26  D0 00196 14$:     MOVL    #38, TYPE                        ; 1378
      10   AE              01  D0 0019A 15$:     MOVL    #1, LENGTH                       ; 1379
                           37  11 0019E          BRB     18$                              ; 1380
                           02  DD 001A0 16$:     PUSHL   #2                               ; 1383
                 00000000' EF  9F 001A2          PUSHAB  DBG$CS_AW                        ;
                           52  DD 001A8          PUSHL   R2                               ;
00000000G  00              03  FB 001AA          CALLS   #3, DBG$NMATCH                   ;
           57              50  D0 001B1          MOVL    R0, R7                           ;
           01              57  D1 001B4          CMPL    R7, #1                           ;
                           16  13 001B7          BEQL    17$                              ;
                           05  DD 001B9          PUSHL   #5                               ; 1384
                 00000000' EF  9F 001BB          PUSHAB  DBG$CS_ASCIW                     ;
                           52  DD 001C1          PUSHL   R2                               ;
00000000G  00              03  FB 001C3          CALLS   #3, DBG$NMATCH                   ;
           01              50  D1 001CA          CMPL    R0, #1                           ;
                           0A  12 001CD          BNEQ    19$                              ;
      14   AE              25  D0 001CF 17$:     MOVL    #37, TYPE                        ; 1386
      10   AE              02  D0 001D3          MOVL    #2, LENGTH                       ; 1387
                           6C  11 001D7 18$:     BRB     24$                              ; 1388
                           02  DD 001D9 19$:     PUSHL   #2                               ; 1391
                 00000000' EF  9F 001DB          PUSHAB  DBG$CS_AZ                        ;
                           52  DD 001E1          PUSHL   R2                               ;
00000000G  00              03  FB 001E3          CALLS   #3, DBG$NMATCH                   ;
           57              50  D0 001EA          MOVL    R0, R7                           ;
           01              57  D1 001ED          CMPL    R7, #1                           ;
                           16  13 001F0          BEQL    20$                              ;
                           05  DD 001F2          PUSHL   #5                               ; 1392
                 00000000' EF  9F 001F4          PUSHAB  DBG$CS_ASCIZ                     ;
                           52  DD 001FA          PUSHL   R2                               ;
00000000G  00              03  FB 001FC          CALLS   #3, DBG$NMATCH                   ;
           01              50  D1 00203          CMPL    R0, #1                           ;
                           06  12 00206          BNEQ    21$                              ;
      14   AE              27  D0 00208 20$:     MOVL    #39, TYPE                        ; 1394
                           8C  11 0020C          BRB     15$                              ; 1395
                           02  DD 0020E 21$:     PUSHL   #2                               ; 1399
                 00000000' EF  9F 00210          PUSHAB  DBG$CS_AD                        ;
                           52  DD 00216          PUSHL   R2                               ;
00000000G  00              03  FB 00218          CALLS   #3, DBG$NMATCH                   ;
           57              50  D0 0021F          MOVL    R0, R7                           ;
           01              57  D1 00222          CMPL    R7, #1                           ;
                           16  13 00225          BEQL    22$                              ;
                           05  DD 00227          PUSHL   #5                               ; 1400
                 00000000' EF  9F 00229          PUSHAB  DBG$CS_ASCID                     ;
                           52  DD 0022F          PUSHL   R2                               ;
00000000G  00              03  FB 00231          CALLS   #3, DBG$NMATCH                   ;
           01              50  D1 00238          CMPL    R0, #1                           ;
                           0A  12 0023B          BNEQ    25$                              ;
      14   AE              38  D0 0023D 22$:     MOVL    #56, TYPE                        ; 1402
      10   AE              08  D0 00241 23$:     MOVL    #8, LENGTH                       ; 1403
                           79  11 00245 24$:     BRB     29$                              ; 1404
                           01  DD 00247 25$:     PUSHL   #1                               ; 1407
                 00000000' EF  9F 00249          PUSHAB  DBG$CS_ASCII                     ;
                           52  DD 0024F          PUSHL   R2                               ;
00000000G  00              03  FB 00251          CALLS   #3, DBG$NMATCH                   ;
```

```
                    01              50  D1 00258          CMPL    R0, #1                                  ;
                                    66  12 0025B          BNEQ    30$                                     ;
                                    01  DD 0025D          PUSHL   #1                                      ; 1413
                        00000000'   EF  9F 0025F          PUSHAB  DBG$CS_COLON                            ;
                                    52  DD 00265          PUSHL   R2                                      ;
00000000G               00          03  FB 00267          CALLS   #3, DBG$NMATCH                          ;
                        05          50  E8 0026E          BLBS    R0, 26$                                 ;
                              10    AE  D4 00271          CLRL    LENGTH                                  ; 1416
                                    46  11 00274          BRB     28$                                     ; 1413
                              10    AE  9F 00276 26$:     PUSHAB  LENGTH                                  ; 1423
                                    52  DD 00279          PUSHL   R2                                      ;
00000000G               00          02  FB 0027B          CALLS   #2, DBG$NSAVE_INTEGER                   ;
                        03          50  E8 00282          BLBS    R0, 27$                                 ;
                                03FB  31 00285          BRW     76$                                     ;
00000800                8F      10  AE  D1 00288 27$:     CMPL    LENGTH, #2048                           ; 1429
                                    2A  1B 00290          BLEQU   28$                                     ;
00000000'               EF          01  B0 00292          MOVW    #1, NUM_DESC                            ; 1435
00000000'               EF  0C000000'   EF  9E 00299          MOVAB   P.ACW, NUM_DESC+4                       ; 1436
                            00000000'   EF  9F 002A4          PUSHAB  NUM_DESC                            ; 1437
                                    01  DD 002AA          PUSHL   #1                                      ;
                            000281B0    8F  DD 002AC          PUSHL   #164272                             ;
00000000G               00          03  FB 002B2          CALLS   #3, DBG$NMAKE_ARG_VECT                  ;
                                03C3  31 002B9          BRW     75$                                     ;
                    14  AE              0E  D0 002BC 28$:     MOVL    #14, TYPE                           ; 1442
                                01A6  31 002C0 29$:     BRW     50$                                     ; 1443
                                    03  DD 002C3 30$:     PUSHL   #3                                      ; 1446
                        00000000'   EF  9F 002C5          PUSHAB  DBG$CS_DEFAULT                          ;
                                    52  DD 002CB          PUSHL   R2                                      ;
00000000G               00          03  FB 002CD          CALLS   #3, DBG$NMATCH                          ;
                        01          50  D1 002D4          CMPL    R0, #1                                  ;
                                    E7  13 002D7          BEQL    29$                                     ;
                                    02  DD 002D9          PUSHL   #2                                      ; 1451
                        00000000'   EF  9F 002DB          PUSHAB  DBG$CS_BINARY                           ;
                                    52  DD 002E1          PUSHL   R2                                      ;
00000000G               00          03  FB 002E3          CALLS   #3, DBG$NMATCH                          ;
                        01          50  D1 002EA          CMPL    R0, #1                                  ;
                                    05  12 002ED          BNEQ    31$                                     ;
                        54          02  D0 002EF          MOVL    #2, RADIX                               ; 1453
                                    6C  11 002F2          BRB     35$                                     ; 1319
                                    01  DD 002F4 31$:     PUSHL   #1                                      ; 1456
                        00000000'   EF  9F 002F6          PUSHAB  DBG$CS_OCTAL                            ;
                                    52  DD 002FC          PUSHL   R2                                      ;
00000000G               00          03  FB 002FE          CALLS   #3, DBG$NMATCH                          ;
                        01          50  D1 00305          CMPL    R0, #1                                  ;
                                    05  12 00308          BNEQ    32$                                     ;
                        54          08  D0 0030A          MOVL    #8, RADIX                               ; 1458
                                    51  11 0030D          BRB     35$                                     ; 1319
                                    02  DD 0030F 32$:     PUSHL   #2                                      ; 1461
                        00000000'   EF  9F 00311          PUSHAB  DBG$CS_D_FLOAT                          ;
                                    52  DD 00317          PUSHL   R2                                      ;
00000000G               00          03  FB 00319          CALLS   #3, DBG$NMATCH                          ;
                        01          50  D1 00320          CMPL    R0, #1                                  ;
                                    07  12 00323          BNEQ    33$                                     ;
                    14  AE              0B  D0 00325          MOVL    #11, TYPE                           ; 1463
                                FF15  31 00329          BRW     23$                                     ; 1464
                                    01  DD 0032C 33$:     PUSHL   #1                                      ; 1468
                        00000000'   EF  9F 0032E          PUSHAB  DBG$CS_DECIMAL                          ;
```

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                        52  DD 00334          PUSHL   R2                                          ;
00000000G   00          03  FB 00336          CALLS   #3, DBG$NMATCH                              ;
            01          50  D1 00339          CMPL    R0, #1                                      ;
                        05  12 00340          BNEQ    34$                                         ;
            54          0A  D0 00342          MOVL    #10, RADIX                                  ; 1470
                        6C  11 00345          BRB     40$                                         ; 1319
                        01  DD 00347 34$:      PUSHL   #1                                          ; 1473
                00000000' EF  9F 00349          PUSHAB  DBG$CS_HEXADECIMAL                          ;
                        52  DD 0034F          PUSHL   R2                                          ;
00000000G   00          03  FB 00351          CALLS   #3, DBG$NMATCH                              ;
            01          50  D1 00358          CMPL    R0, #1                                      ;
                        05  12 0035B          BNEQ    36$                                         ;
            54          10  D0 0035D          MOVL    #16, RADIX                                  ; 1475
                        71  11 00360 35$:      BRB     43$                                         ; 1319
                        01  DD 00362 36$:      PUSHL   #1                                          ; 1478
                00000000' EF  9F 00364          PUSHAB  DBG$CS_SYMBOL                               ;
                        52  DD 0036A          PUSHL   R2                                          ;
00000000G   00          03  FB 0036C          CALLS   #3, DBG$NMATCH                              ;
            01          50  D1 00373          CMPL    R0, #1                                      ;
                        05  12 00376          BNEQ    37$                                         ;
            59          01  D0 00378          MOVL    #1, SYMBOL_FLAG                             ; 1480
                        18  11 0037B          BRB     38$                                         ; 1481
                        01  DD 0037D 37$:      PUSHL   #1                                          ; 1484
                00000000' EF  9F 0037F          PUSHAB  DBG$CS_NOSYMBOLS                            ;
                        52  DD 00385          PUSHL   R2                                          ;
00000000G   00          03  FB 00387          CALLS   #3, DBG$NMATCH                              ;
            01          50  D1 0038E          CMPL    R0, #1                                      ;
                        07  12 00391          BNEQ    39$                                         ;
            59          D4 00393            CLRL    SYMBOL_FLAG                                 ; 1486
            56          01  D0 00395 38$:      MOVL    #1, SYM_OVERRIDE_PRESENT                    ; 1487
                        59  11 00398          BRB     45$                                         ; 1319
                        02  DD 0039A 39$:      PUSHL   #2                                          ; 1490
                00000000' EF  9F 0039C          PUSHAB  DBG$CS_SOURCE                               ;
                        52  DD 003A2          PUSHL   R2                                          ;
00000000G   00          03  FB 003A4          CALLS   #3, DBG$NMATCH                              ;
            01          50  D1 003AB          CMPL    R0, #1                                      ;
                        05  12 003AE          BNEQ    41$                                         ;
            5B          01  D0 003B0          MOVL    #1, SOURCE_FLAG                             ; 1492
                        3E  11 003B3 40$:      BRB     45$                                         ; 1319
                        01  DD 003B5 41$:      PUSHL   #1                                          ; 1495
                00000000' EF  9F 003B7          PUSHAB  DBG$CS_QUADWORD                             ;
                        52  DD 003BD          PUSHL   R2                                          ;
00000000G   00          03  FB 003BF          CALLS   #3, DBG$NMATCH                              ;
            01          50  D1 003C6          CMPL    R0, #1                                      ;
                        0A  12 003C9          BNEQ    44$                                         ;
        14  AE          09  D0 003CB          MOVL    #9, TYPE                                    ; 1497
        10  AE          08  D0 003CF 42$:      MOVL    #8, LENGTH                                  ; 1498
                        1E  11 003D3 43$:      BRB     45$                                         ; 1319
                        05  DD 003D5 44$:      PUSHL   #5                                          ; 1501
                00000000' EF  9F 003D7          PUSHAB  DBG$CS_OCTAWORD                             ;
                        52  DD 003DD          PUSHL   R2                                          ;
00000000G   00          03  FB 003DF          CALLS   #3, DBG$NMATCH                              ;
            01          50  D1 003E6          CMPL    R0, #1                                      ;
                        0A  12 003E9          BNEQ    46$                                         ;
        14  AE          1A  D0 003EB          MOVL    #26, TYPE                                   ; 1503
        10  AE          10  D0 003EF          MOVL    #16, LENGTH                                 ; 1504
                        77  11 003F3 45$:      BRB     51$                                         ; 1319
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                                01   DD 003F5 46$:    PUSHL   #1                                      ; 1507
                    00000000'   EF   9F 003F7         PUSHAB  DBG$CS_FLOAT                           ;
                                52   DD 003FD         PUSHL   R2                                     ;
00000000G             00        03   FB 003FF         CALLS   #3, DBG$NMATCH                         ;
                      57        50   D0 00406         MOVL    R0, R7                                 ;
                      01        57   D1 00409         CMPL    R7, #1                                 ;
                                16   13 0040C         BEQL    47$                                    ;
                                01   DD 0040E         PUSHL   #1                                     ; 1508
                    00000000'   EF   9F 00410         PUSHAB  DBG$CS_F_FLOAT                         ;
                                52   DD 00416         PUSHL   R2                                     ;
00000000G             00        03   FB 00418         CALLS   #3, DBG$NMATCH                         ;
                      01        50   D1 0041F         CMPL    R0, #1                                 ;
                                0A   12 00422         BNEQ    48$                                    ;
                14    AE        0A   D0 00424 47$:    MOVL    #10, TYPE                              ; 1510
                10    AE        04   D0 00428         MOVL    #4, LENGTH                             ; 1511
                                3B   11 0042C         BRB     50$                                    ; 1512
                                01   DD 0042E 48$:    PUSHL   #1                                     ; 1515
                    00000000'   EF   9F 00430         PUSHAB  DBG$CS_G_FLOAT                         ;
                                52   DD 00436         PUSHL   R2                                     ;
00000000G             00        03   FB 00438         CALLS   #3, DBG$NMATCH                         ;
                      01        50   D1 0043F         CMPL    R0, #1                                 ;
                                07   12 00442         BNEQ    49$                                    ;
                14    AE        1B   D0 00444         MOVL    #27, TYPE                              ; 1517
                              FDF6   31 00448         BRW     23$                                    ; 1518
                                02   DD 0044B 49$:    PUSHL   #2                                     ; 1522
                    00000000'   EF   9F 0044D         PUSHAB  DBG$CS_H_FLOAT                         ;
                                52   DD 00453         PUSHL   R2                                     ;
00000000G             00        03   FB 00455         CALLS   #3, DBG$NMATCH                         ;
                      01        50   D1 0045C         CMPL    R0, #1                                 ;
                                0D   12 0045F         BNEQ    52$                                    ;
                14    AE        1C   D0 00461         MOVL    #28, TYPE                              ; 1524
                10    AE        10   D0 00465         MOVL    #16, LENGTH                            ; 1525
                      54        01   D0 00469 50$:    MOVL    #1, RADIX                              ; 1526
                                65   11 0046C 51$:    BRB     56$                                    ; 1319
                                02   DD 0046E 52$:    PUSHL   #2                                     ; 1529
                    00000000'   EF   9F 00470         PUSHAB  DBG$CS_PACKED                          ;
                                52   DD 00476         PUSHL   R2                                     ;
00000000G             00        03   FB 00478         CALLS   #3, DBG$NMATCH                         ;
                      01        50   D1 0047F         CMPL    R0, #1                                 ;
                                52   12 00482         BNEQ    57$                                    ;
                14    AE        15   D0 00484         MOVL    #21, TYPE                              ; 1531
                      54        01   D0 00488         MOVL    #1, RADIX                              ; 1532
                                01   DD 0048B         PUSHL   #1                                     ; 1538
                    00000000'   EF   9F 0048D         PUSHAB  DBG$CS_COLON                           ;
                                52   DD 00493         PUSHL   R2                                     ;
00000000G             00        03   FB 00495         CALLS   #3, DBG$NMATCH                         ;
                      06        50   E8 0049C         BLBS    R0, 53$                                ;
                10    AE        01   CE 0049F         MNEGL   #1, LENGTH                             ; 1541
                                CE   11 004A3         BRB     56$                                    ; 1538
                          10    AE   9F 004A5 53$:    PUSHAB  LENGTH                                 ; 1548
                                52   DD 004A8         PUSHL   R2                                     ;
00000000G             00        02   FB 004AA         CALLS   #2, DBG$NSAVE_INTEGER                  ;
                      03        50   E8 004B1         BLBS    R0, 54$                                ;
                              01CC   31 004B4         BRW     76$                                    ;
                      50  10    AE   D0 004B7 54$:    MOVL    LENGTH, R0                             ; 1554
                                05   19 004BB         BLSS    55$                                    ;
                      1F        50   D1 004BD         CMPL    R0, #31                                ;
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                                    11  15 004C0          BLEQ    56$                                     :
                                    50  DD 004C2 55$:     PUSHL   R0                                      : 1556
                                    01  DD 004C4          PUSHL   #1                                      :
                          00028828  8F  DD 004C6          PUSHL   #165928                                 :
00000000G   00                      03  FB 004CC          CALLS   #3, LIB$SIGNAL                          :
                                FB71  31 004D3 56$:     BRW     1$                                      : 1319
                                    01  DD 004D6 57$:     PUSHL   #1                                      : 1563
                          00000000'  EF  9F 004D8          PUSHAB  DBG$CS_CR                               :
                                    52  DD 004DE          PUSHL   R2                                      :
00000000G   00                      03  FB 004E0          CALLS   #3, DBG$NMATCH                          :
            03                      50  E8 004E7          BLBS    R0, 58$                                 :
                                0180  31 004EA          BRW     74$                                     :
                          000280D0  8F  DD 004ED 58$:     PUSHL   #164048                                 : 1565
00000000G   00                      01  FB 004F3          CALLS   #1, DBG$NMAKE_ARG_VECT                  :
                                0182  31 004FA          BRW     75$                                     : 1563
            14                      56  E9 004FD 59$:     BLBC    SYM_OVERRIDE_PRESENT, 60$               : 1576
                                    02  DD 00500          PUSHL   #2                                      : 1579
00000000G   00                      01  FB 00502          CALLS   #1, DBG$SET_MOD_LVL                     :
            50  00000000G   00      D0 00509          MOVL    DBG$GB_MOD_PTR, R0                      : 1580
      02    A0                      59  90 00510          MOVB    SYMBOL_FLAG, 2(R0)                      :
                                    01  DD 00514 60$:     PUSHL   #1                                      : 1586
                          00000000'  EF  9F 00516          PUSHAB  DBG$CS_CR                               :
                                    52  DD 0051C          PUSHL   R2                                      :
00000000G   00                      03  FB 0051E          CALLS   #3, DBG$NMATCH                          :
            03                      50  E8 00525          BLBS    R0, 61$                                 :
                                0086  31 00528          BRW     68$                                     :
                                08  AE  9F 0052B 61$:     PUSHAB  DUMMY                                   : 1605
                                0C  AE  9F 0052E          PUSHAB  DUMMY                                   :
                                14  AE  9F 00531          PUSHAB  SYMBOL_VALUE                            :
                                10  AE  9F 00534          PUSHAB  KIND                                    :
                          00000000'  EF  9F 00537          PUSHAB  P.ACX                                   :
00000000G   00                      05  FB 0053D          CALLS   #5, DBG$DEF_SYM_FIND                    :
            51                      50  E9 00544          BLBC    R0, 65$                                 :
            01          04      AE  D1 00547          CMPL    KIND, #1                                : 1609
                                06  13 0054B          BEQL    62$                                     :
            05          04      AE  D1 0054D          CMPL    KIND, #5                                : 1610
                                45  12 00551          BNEQ    65$                                     :
            50          0C      AE  D0 00553 62$:     MOVL    SYMBOL_VALUE, R0                        : 1616
      7A    8F          02      A0  91 00557          CMPB    2(R0), #122                             :
                                27  12 0055C          BNEQ    64$                                     :
      02    A0          83      8F  90 0055E          MOVB    #-125, 2(R0)                            : 1619
      18    A0          20      A0  D0 00563          MOVL    32(R0), 24(R0)                          : 1621
            01          16      A0  91 00568          CMPB    22(R0), #1                              : 1622
                                12  13 0056C          BEQL    63$                                     :
            22          16      A0  91 0056E          CMPB    22(R0), #34                             : 1623
                                0C  13 00572          BEQL    63$                                     :
            29          16      A0  91 00574          CMPB    22(R0), #41                             : 1624
                                06  13 00578          BEQL    63$                                     :
            2A          16      A0  91 0057A          CMPB    22(R0), #42                             : 1625
                                05  12 0057E          BNEQ    64$                                     :
      1C    A0          24      A0  D0 00580 63$:     MOVL    36(R0), 28(R0)                          : 1628
                                7E  D4 00585 64$:     CLRL    -(SP)                                   : 1635
                                0C  AE  9F 00587          PUSHAB  DUMMY                                   :
                                14  AE  9F 0058A          PUSHAB  SYMBOL_VALUE                            :
                                    50  DD 0058D          PUSHL   R0                                      :
00000000G   00                      04  FB 0058F          CALLS   #4, DBG$NCOPY_DESC                      :
                                    0D  11 00596          BRB     66$                                     : 1609
```

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                 00028808   8F   DD 00598 65$:    PUSHL   #165896                         ; 1642
00000000G   00              01   FB 0059E         CALLS   #1, LIB$SIGNAL                  ;
            63         0C   AE   D0 005A5 66$:    MOVL    SYMBOL_VALUE, (NOUN_NODE)       ; 1644
      0C    A3         0C   AE   D0 005A9         MOVL    SYMBOL_VALUE, 12(NOUN_NODE)     ; 1645
                        00D6 31   005AE 67$:    BRW     77$                             ; 1586
                 01         DD 005B1 68$:    PUSHL   #1                              ; 1657
                 00000000'  EF   9F 005B3         PUSHAB  DBG$CS_CR                       ;
                            52   DD 005B9         PUSHL   R2                              ;
00000000G   00              03   FB 005BB         CALLS   #3, DBG$NMATCH                  ;
            E9              50   E8 005C2         BLBS    R0, 67$                         ;
                            62   B5 005C5         TSTW    (R2)                            ; 1658
                            E5   13 005C7         BEQL    67$                             ;
            1A              58   E9 005C9         BLBC    LOWER_PC_FLAG, 69$              ; 1664
                       0C   AC   DD 005CC         PUSHL   MESSAGE_VECT                    ; 1669
                       08   DD   DD 005CF         PUSHL   #8                              ; 1668
                       08   AE   DD 005D1         PUSHL   INP_RADIX                       ;
                       0C   BB   DD 005D4         PUSHR   #^M<R2,R3>                      ;
00000000G   00              05   FB 005D6         CALLS   #5, DBG$NPARSE_ADDRESS          ;
            57              50   D0 005DD         MOVL    R0, STATUS                      ;
      0C    A3              63   D0 005E0         MOVL    (NOUN_NODE), 12(NOUN_NODE)      ; 1670
                            17   11 005E4         BRB     70$                             ; 1664
                       0C   AC   DD 005E6 69$:    PUSHL   MESSAGE_VECT                    ; 1675
                       01   DD   DD 005E9         PUSHL   #1                              ; 1674
                       08   AE   DD 005EB         PUSHL   INP_RADIX                       ;
                       0C   A3   9F 005EE         PUSHAB  12(NOUN_NODE)                   ;
                            52   DD 005F1         PUSHL   R2                              ;
00000000G   00              05   FB 005F3         CALLS   #5, DBG$NPARSE_ADDRESS          ;
            57              50   D0 005FA         MOVL    R0, STATUS                      ;
            01              57   D1 005FD 70$:    CMPL    STATUS, #1                      ; 1677
                            AF   13 00600         BEQL    68$                             ;
                            57   D5 00602         TSTL    STATUS                          ; 1679
                            7D   12 00604         BNEQ    76$                             ;
                            01   DD 00606         PUSHL   #1                              ; 1685
                 00000000'  EF   9F 00608         PUSHAB  DBG$CS_COMMA                    ;
                            52   DD 0060E         PUSHL   R2                              ;
00000000G   00              03   FB 00610         CALLS   #3, DBG$NMATCH                  ;
            37              50   E9 00617         BLBC    R0, 72$                         ;
                            01   DD 0061A         PUSHL   #1                              ; 1692
                 00000000'  EF   9F 0061C         PUSHAB  DBG$CS_CR                       ;
                            52   DD 00622         PUSHL   R2                              ;
00000000G   00              03   FB 00624         CALLS   #3, DBG$NMATCH                  ;
            0D              50   E9 0062B         BLBC    R0, 71$                         ;
                 000280D0   8F   DD 0062E         PUSHL   #164048                         ; 1694
00000000G   00              01   FB 00634         CALLS   #1, LIB$SIGNAL                  ;
                            04   DD 0063B 71$:    PUSHL   #4                              ; 1700
00000000G   00              01   FB 0063D         CALLS   #1, DBG$GET_TEMPMEM             ;
      08    A3              50   D0 00644         MOVL    R0, 8(NOUN_NODE)                ;
            53         08   A3   D0 00648         MOVL    8(NOUN_NODE), NOUN_NODE         ; 1701
            58              01   D0 0064C         MOVL    #1, LOWER_PC_FLAG               ; 1706
                            19   11 0064F         BRB     73$                             ; 1685
            16              58   E9 00651 72$:    BLBC    LOWER_PC_FLAG, 73$              ; 1710
                            01   DD 00654         PUSHL   #1                              ; 1712
                 00000000'  EF   9F 00656         PUSHAB  DBG$CS_COLON                    ;
                            52   DD 0065C         PUSHL   R2                              ;
00000000G   00              03   FB 0065E         CALLS   #3, DBG$NMATCH                  ;
            05              50   E9 00665         BLBC    R0, 74$                         ;
                            58   D4 00668         CLRL    LOWER_PC_FLAG                   ; 1714
```

```
                                 44  31 0066A 73$:   BRW     68$                                     ;
                                 52  DD 0066D 74$:   PUSHL   R2                                      ; 1718
00000000G   00                   01  FB 0066F        CALLS   #1, DBG$NNEXT_WORD
                                 50  DD 00676        PUSHL   R0
00000000G   00                   01  FB 00678        CALLS   #1, DBG$NSYNTAX_ERROR
         0C BC                   50  D0 0067F 75$:   MOVL    R0, @MESSAGE_VECT
                                 50  04 00683 76$:   MOVL    #4, R0                                  ; 1725
                                     04 00686        RET
                                 03  DD 00687 77$:   PUSHL   #3                                      ; 1742
00000000G   00                   01  FB 00689        CALLS   #1, DBG$GET_TEMPMEM
                                 57  50 D0 00690     MOVL    R0, ADVERB_NODE
         04 A5                   57  D0 00693        MOVL    ADVERB_NODE, 4(R5)                      ; 1744
                                 67  80 8F 90 00697  MOVB    #-128, (ADVERB_NODE)                    ; 1745
                                 50  63 D0 0069B     MOVL    (NOUN_NODE), ADDR_EXP_DESC              ; 1750
FFFFFFFF 8F                  14  AE D1 0069E        CMPL    TYPE, #-1                               ; 1755
                                 12  13 006A6        BEQL    78$
                                 67  14 AE 90 006A8  MOVB    TYPE, (ADVERB_NODE)                     ; 1758
         04 A7                   10 AE D0 006AC     MOVL    LENGTH, 4(ADVERB_NODE)                  ; 1759
                                 3B  5A E9 006B1     BLBC    MSG_TEXT, 80$                           ; 1763
         01 A5                   05 90 006B4        MOVB    #5, 1(R5)                               ; 1765
                                 35  11 006B8        BRB     80$                                     ; 1755
                                 10  AE 9F 006BA 78$:   PUSHAB  LENGTH                              ; 1773
                                 18  AE 9F 006BD     PUSHAB  TYPE
00000000G   00                   02  FB 006C0        CALLS   #2, DBG$NGET_OVERRIDE_TYPE
                                 1C  50 E8 006C7     BLBS    R0, 79$
                                 10  AE 9F 006CA     PUSHAB  LENGTH                                  ; 1789
                                 18  AE 9F 006CD     PUSHAB  TYPE
00000000G   00                   02  FB 006D0        CALLS   #2, DBG$NGET_POTENTIAL_TYPE
00000080 8F                  14  AE D1 006D7        CMPL    TYPE, #128                              ; 1791
                                 0E  13 006DF        BEQL    80$
                                 14  AE D5 006E1     TSTL    TYPE
                                 09  13 006E4        BEQL    80$
                                 67  14 AE 90 006E6 79$:   MOVB    TYPE, (ADVERB_NODE)             ; 1794
         04 A7                   10 AE D0 006EA     MOVL    LENGTH, 4(ADVERB_NODE)                  ; 1795
                                 52  08 A7 9E 006EF 80$:   MOVAB   8(R7), LINK                      ; 1806
                                 03  DD 006F3        PUSHL   #3                                      ; 1807
00000000G   00                   01  FB 006F5        CALLS   #1, DBG$GET_TEMPMEM
                                 57  50 D0 006FC     MOVL    R0, ADVERB_NODE
                                 62  57 D0 006FF     MOVL    ADVERB_NODE, (LINK)                     ; 1809
                                 67  54 90 00702     MOVB    RADIX, (ADVERB_NODE)                    ; 1810
00000000G   00                   54  D0 00705     MOVL    RADIX, DBG$GL_CMND_RADIX                ; 1811
                                 52  08 A7 9E 0070C  MOVAB   8(R7), LINK                            ; 1815
                                 03  DD 00710        PUSHL   #3                                      ; 1816
00000000G   00                   01  FB 00712        CALLS   #1, DBG$GET_TEMPMEM
                                 57  50 D0 00719     MOVL    R0, ADVERB_NODE
                                 62  57 D0 0071C     MOVL    ADVERB_NODE, (LINK)                     ; 1818
                                 67  59 90 0071F     MOVB    SYMBOL_FLAG, (ADVERB_NODE)              ; 1819
                                 04  5B E9 00722     BLBC    SOURCE_FLAG, 81$                        ; 1821
         01 A5                   04 90 00725        MOVB    #4, 1(R5)                               ; 1823
                                 50  01 D0 00729 81$:   MOVL    #1, R0                              ; 1825
                                     04 0072C        RET                                             ; 1826

; Routine Size:  1837 bytes,    Routine Base:  DBG$CODE + 05D7
```

```
;1700     1827  1 GLOBAL ROUTINE DBG$NFORMAT_WITH_RADIX (ADDRESS, OFFSET, LENGTH, RADIX) : NOVALUE =
;1701     1828  1
;1702     1829  1 !++
;1703     1830  1 ! FUNCTIONAL DESCRIPTION:
;1704     1831  1 !
;1705     1832  1 !       Formats the contents of a arbitrary number of bits into a printable
;1706     1833  1 !       hex or octal number, or a sequence of unsigned decimal longwords.
;1707     1834  1 !
;1708     1835  1 ! FORMAL PARAMETERS:
;1709     1836  1 !
;1710     1837  1 !       ADDRESS         -       A longword containing the byte address of the
;1711     1838  1 !                               location to be printed
;1712     1839  1 !
;1713     1840  1 !       OFFSET          -       A longword containing the starting bit offset
;1714     1841  1 !
;1715     1842  1 !       LENGTH          -       A longword containing the number of bits to be
;1716     1843  1 !                               printed
;1717     1844  1 !
;1718     1845  1 !       RADIX           -       A longword containing dbg$k_octal, dbg$k_decimal, or
;1719     1846  1 !                               dbg$k_hex, indicating the radix to be used for output
;1720     1847  1 !
;1721     1848  1 ! IMPLICIT INPUTS:
;1722     1849  1 !
;1723     1850  1 !       NONE
;1724     1351  1 !
;1725     1852  1 ! IMPLICIT OUTPUTS:
;1726     1853  1 !
;1727     1854  1 !       The byte stream corresponding to the translated number is filled
;1728     1855  1 !
;1729     1856  1 ! ROUTINE VALUE:
;1730     1857  1 !
;1731     1858  1 !       NOVALUE
;1732     1859  1 !
;1733     1860  1 ! COMPLETION CODES:
;1734     1861  1 !
;1735     1862  1 !       NONE
;1736     1863  1 !
;1737     1864  1 ! SIDE EFFECTS:
;1738     1865  1 !
;1739     1866  1 !       NONE
;1740     1867  1 !
;1741     1868  1 !--
;1742     1869  2     BEGIN
;1743     1870  2
;1744     1871  2     LOCAL
;1745     1872  2         CHAR_TABLE              : VECTOR [16],          ! Character trans table
;1746     1873  2         NIBBLE                  : BLOCK [1],            ! Nexts bits for char trans
;1747     1874  2         BIT_VECT                : REF BITVECTOR,        ! Bits to be translated
;1748     1875  2         BITS_PER_NIBBLE,                                ! Number of bits for 1 char
;1749     1876  2         FIRST_NIBBLE_BITS,                              ! Number of bits for first nibble
;1750     1877  2         FIRST_FLAG,                                     ! Indicates first nibble
;1751     1878  2         START,                                          ! Start bitvect position
;1752     1879  2         FINISH,                                         ! End bitvect position
;1753     1880  2         LONG_WORD               : REF BLOCK,            ! Longword for decimal output
;1754     1881  2         INDEX;                                          ! Loop counter
;1755     1882  2
;1756     1883  2     MACRO
```

```
; 1757        M 1884  2          GET_NIBBLE      =
; 1758        M 1885  2
; 1759        M 1886  2          BEGIN
; 1760        M 1887  2
; 1761        M 1888  2          ! This macro obtains the next nibble of bits for octal or hex output
; 1762        M 1889  2          !
; 1763        M 1890  2          nibble = 0;
; 1764        M 1891  2
; 1765        M 1892  2
; 1766        M 1893  2          ! Obtain the correct number of bits
; 1767        M 1894  2          !
; 1768        M 1895  2          IF .bits_per_nibble EQL 3
; 1769        M 1896  2          THEN
; 1770        M 1897  2              BEGIN
; 1771        M 1898  2              nibble [0, 2, 1, 0] = .bit_vect [.start];
; 1772        M 1899  2              nibble [0, 1, 1, 0] = .bit_vect [.start - 1];
; 1773        M 1900  2              nibble [0, 0, 1, 0] = .bit_vect [.start - 2];
; 1774        M 1901  2              END
; 1775        M 1902  2          ELSE
; 1776        M 1903  2              BEGIN
; 1777        M 1904  2              nibble [0, 3, 1, 0] = .bit_vect [.start];
; 1778        M 1905  2              nibble [0, 2, 1, 0] = .bit_vect [.start - 1];
; 1779        M 1906  2              nibble [0, 1, 1, 0] = .bit_vect [.start - 2];
; 1780        M 1907  2              nibble [0, 0, 1, 0] = .bit_vect [.start - 3];
; 1781        M 1908  2              END;
; 1782        M 1909  2
; 1783        M 1910  2          start = .start - .bits_per_nibble;
; 1784        M 1911  2
; 1785          1912  2          END %;
; 1786          1913  2
; 1787          1914  2
; 1788          1915  2      ! Check for decimal or other radix
; 1789          1916  2      !
; 1790          1917  2      IF .radix EQL dbg$k_decimal
; 1791          1918  2      THEN
; 1792          1919  3          BEGIN
; 1793          1920  3
; 1794          1921  3          ! Line up the longword and take bits corresponding to the
; 1795          1922  3          ! the first longword and output them
; 1796          1923  3          !
; 1797          1924  3          long_word = .address;
; 1798          1925  3          IF .length + .offset LEQU %BPVAL
; 1799          1926  3          THEN
; 1800          1927  4              BEGIN
; 1801          1928  4
; 1802          1929  4              ! The entity has less than a longword of bits, counting the offset
; 1803          1930  4              !
; 1804          1931  4              nibble = .long_word [0, .offset, .length, 0];
; 1805          1932  4              length = 0;
; 1806          1933  4              END
; 1807          1934  3          ELSE
; 1808          1935  4              BEGIN
; 1809          1936  4
; 1810          1937  4              ! Atleast a longword of bits counting the offset
; 1811          1938  4              !
; 1812          1939  4              nibble = .long_word [0, .offset, %BPVAL - .offset, 0];
; 1813          1940  4              length = .length - (%BPVAL - .offset);
```

```
;  1814          1941  3          END;
;  1815          1942  3
;  1816          1943  3
;  1817          1944  3          ! Output the first longword
;  1818          1945  3          !
;  1819          1946  3          dbg$print (UPLIT BYTE (%ASCIC '!ZL'), .nibble);
;  1820          1947  3
;  1821          1948  3
;  1822          1949  3          ! Loop, outputting the bits a longword at a time
;  1823          1950  3          !
;  1824          1951  3          index = 1;
;  1825          1952  3          WHILE .length GEQU %BPVAL
;  1826          1953  3          DO
;  1827          1954  4              BEGIN
;  1828          1955  4
;  1829          1956  4              ! Output a space
;  1830          1957  4              !
;  1831          1958  4              dbg$print (UPLIT BYTE (%ASCIC '!AC'), UPLIT BYTE (%ASCIC ' '));
;  1832          1959  4
;  1833          1960  4
;  1834          1961  4              ! Output the next longword
;  1835          1962  4              !
;  1836          1963  4               dbg$print (UPLIT BYTE (%ASCIC '!ZL'),
;  1837          1964  4                          .long_word [.index, 0, 32, 0]);
;  1838          1965  4
;  1839          1966  4
;  1840          1967  4              ! Increase index and decrease length
;  1841          1968  4              !
;  1842          1969  4              index = .index + 1;
;  1843          1970  4              length = .length - %BPVAL;
;  1844          1971  4
;  1845          1972  3              END;
;  1846          1973  3
;  1847          1974  3          ! Output remaining bits, if any
;  1848          1975  3          !
;  1849          1976  3          IF .length GTRU 0
;  1850          1977  3          THEN
;  1851          1978  4              BEGIN
;  1852          1979  4              dbg$print (UPLIT BYTE (%ASCIC '!AC'), UPLIT BYTE (%ASCIC ' '));
;  1853          1980  4              nibble = .long_word [.index, 0, .length, 0];
;  1854          1981  4              dbg$print (UPLIT BYTE (%ASCIC '!ZL'), .nibble);
;  1855          1982  3              END;
;  1856          1983  3
;  1857          1984  3          END
;  1858          1985  3
;  1859          1986  2      ELSE
;  1860          1987  3          BEGIN
;  1861          1988  3
;  1862          1989  3          ! Octal or hex radix. Set up the bit vector and the start and finish
;  1863          1990  3          ! indicies
;  1864          1991  3          !
;  1865          1992  3          first_flag = true;
;  1866          1993  3          bit_vect = .address;
;  1867          1994  3          finish = .offset;
;  1868          1995  3          start = .finish + .length - 1;
;  1869          1996  3
;  1870          1997  3
```

```
;  1871          1998  3          ! Set up bits_per_nibble based on radix
;  1872          1999  3          !
;  1873          2000  3          bits_per_nibble = (IF .radix EQL dbg$k_octal THEN 3 ELSE 4);
;  1874          2001  3
;  1875          2002  3
;  1876          2003  3          ! Load up the character trans table
;  1877          2004  3          !
;  1878          2005  3          char_table [0] =  UPLIT BYTE (%ASCIC '0');
;  1879          2006  3          char_table [1] =  UPLIT BYTE (%ASCIC '1');
;  1880          2007  3          char_table [2] =  UPLIT BYTE (%ASCIC '2');
;  1881          2008  3          char_table [3] =  UPLIT BYTE (%ASCIC '3');
;  1882          2009  3          char_table [4] =  UPLIT BYTE (%ASCIC '4');
;  1883          2010  3          char_table [5] =  UPLIT BYTE (%ASCIC '5');
;  1884          2011  3          char_table [6] =  UPLIT BYTE (%ASCIC '6');
;  1885          2012  3          char_table [7] =  UPLIT BYTE (%ASCIC '7');
;  1886          2013  3          char_table [8] =  UPLIT BYTE (%ASCIC '8');
;  1887          2014  3          char_table [9] =  UPLIT BYTE (%ASCIC '9');
;  1888          2015  3          char_table [10] = UPLIT BYTE (%ASCIC 'A');
;  1889          2016  3          char_table [11] = UPLIT BYTE (%ASCIC 'B');
;  1890          2017  3          char_table [12] = UPLIT BYTE (%ASCIC 'C');
;  1891          2018  3          char_table [13] = UPLIT BYTE (%ASCIC 'D');
;  1892          2019  3          char_table [14] = UPLIT BYTE (%ASCIC 'E');
;  1893          2020  3          char_table [15] = UPLIT BYTE (%ASCIC 'F');
;  1894          2021  3
;  1895          2022  3
;  1896          2023  3          ! Determine how many bits go in the first nibble and format the first nibble
;  1897          2024  3          !
;  1898          2025  3          first_nibble_bits = .length MOD .bits_per_nibble;
;  1899          2026  3          nibble = 0;
;  1900          2027  3
;  1901          2028  3          CASE .first_nibble_bits FROM 0 TO 3
;  1902          2029  3              OF
;  1903          2030  3              SET
;  1904          2031  3
;  1905          2032  3              [0] :
;  1906          2033  4                  BEGIN
;  1907          2034  4                  0;                  ! Do nothing since no remainder
;  1908          2035  3                  END;
;  1909          2036  3
;  1910          2037  3              [1] :
;  1911          2038  4                  BEGIN
;  1912          2039  4                  nibble [0, 0, 1, 0] = .bit_vect [.start];
;  1913          2040  3                  END;
;  1914          2041  3
;  1915          2042  3              [2] :
;  1916          2043  4                  BEGIN
;  1917          2044  4                  nibble [0, 1, 1, 0] = .bit_vect [.start];
;  1918          2045  4                  nibble [0, 0, 1, 0] = .bit_vect [.start - 1];
;  1919          2046  3                  END;
;  1920          2047  3
;  1921          2048  3              [3] :
;  1922          2049  4                  BEGIN
;  1923          2050  4                  nibble [0, 2, 1, 0] = .bit_vect [.start];
;  1924          2051  4                  nibble [0, 1, 1, 0] = .bit_vect [.start - 1];
;  1925          2052  4                  nibble [0, 0, 1, 0] = .bit_vect [.start - 2];
;  1926          2053  3                  END;
;  1927          2054  3
```

```
;  1928          2055  3            TES;
;  1929          2056  3
;  1930          2057  3        start = .start - .first_nibble_bits;
;  1931          2058  3
;  1932          2059  3        IF .first_nibble_bits NEQ 0
;  1933          2060  3        THEN
;  1934          2061  4            BEGIN
;  1935          2062  4            first_flag = false;
;  1936          2063  4            dbg$print (UPLIT BYTE (%ASCIC '!AC'), .char_table [.nibble]);
;  1937          2064  3            END;
;  1938          2065  3
;  1939          2066  3
;  1940          2067  3        ! Format the rest of the bits
;  1941          2068  3        !
;  1942          2069  3        WHILE .start GTR .finish
;  1943          2070  3            DO
;  1944          2071  4                BEGIN
;  1945          2072  4                get_nibble;
;  1946          2073  4
;  1947          2074  4
;  1948          2075  4                ! IF the first character emitted is alphabetic, prepend a '0'
;  1949          2076  4                !
;  1950          2077  4                IF .first_flag AND .nibble GTR 9
;  1951          2078  4                THEN
;  1952          2079  4                    dbg$print (UPLIT BYTE (%ASCIC '!AC'), UPLIT BYTE (%ASCIC '0'));
;  1953          2080  4
;  1954          2081  4                dbg$print (UPLIT BYTE (%ASCIC '!AC'), .char_table [.nibble]);
;  1955          2082  4                first_flag = false;
;  1956          2083  3                END;
;  1957          2084  3
;  1958          2085  2            END;
;  1959          2086  2
;  1960          2087  2        RETURN;
;  1961          2088  1        END;                    ! End of format_with_radix


                                                        .PSECT  DBG$PLIT,NOWRT,  SHR,  PIC,0

                                4C  5A  21  03  001E9 P.ACY:  .ASCII  <3>\!ZL\                          ;
                                43  41  21  03  001ED P.ACZ:  .ASCII  <3>\!AC\                          ;
                                        20  01  001F1 P.ADA:  .ASCII  <1>\ \                            ;
                                4C  5A  21  03  001F3 P.ADB:  .ASCII  <3>\!ZL\                          ;
                                43  41  21  03  001F7 P.ADC:  .ASCII  <3>\!AC\                          ;
                                        20  01  001FB P.ADD:  .ASCII  <1>\ \                            ;
                                4C  5A  21  03  001FD P.ADE:  .ASCII  <3>\!ZL\                          ;
                                        30  01  00201 P.ADF:  .ASCII  <1>\0\                            ;
                                        31  01  00203 P.ADG:  .ASCII  <1>\1\                            ;
                                        32  01  00205 P.ADH:  .ASCII  <1>\2\                            ;
                                        33  01  00207 P.ADI:  .ASCII  <1>\3\                            ;
                                        34  01  00209 P.ADJ:  .ASCII  <1>\4\                            ;
                                        35  01  0020B P.ADK:  .ASCII  <1>\5\                            ;
                                        36  01  0020D P.ADL:  .ASCII  <1>\6\                            ;
                                        37  01  0020F P.ADM:  .ASCII  <1>\7\                            ;
                                        38  01  00211 P.ADN:  .ASCII  <1>\8\                            ;
                                        39  01  00213 P.ADO:  .ASCII  <1>\9\                            ;
                                        41  01  00215 P.ADP:  .ASCII  <1>\A\                            ;
```

```
                                        42  01  00217 P.ADQ:   .ASCII  <1>\B\                                  ;
                                        43  01  00219 P.ADR:   .ASCII  <1>\C\                                  ;
                                        44  01  0021B P.ADS:   .ASCII  <1>\D\                                  ;
                                        45  01  0021D P.ADT:   .ASCII  <1>\E\                                  ;
                                        46  01  0021F P.ADU:   .ASCII  <1>\F\                                  ;
                                    43  41  21  03  00221 P.ADV:   .ASCII  <3>\!AC\                            ;
                                    43  41  21  03  00225 P.ADW:   .ASCII  <3>\!AC\                            ;
                                        30  01  00229 P.ADX:   .ASCII  <1>\0\                                  ;
                                    43  41  21  03  0022B P.ADY:   .ASCII  <3>\!AC\                            ;


                                                            .PSECT  DBG$CODE,NOWRT,  SHR,  PIC,0

                                                07FC 00000         .ENTRY  DBG$NFORMAT_WITH_RADIX, Save R2,R3,R4,R5,-  ; 1827
                                                                           R6,R7,R8,R9,R10                          ;
                                5A 00000000G    00   9E 00002         MOVAB   DBG$PRINT, R10                      ;
                                59 00000000'    EF   9E 00009         MOVAB   P.ACY, R9                           ;
                                5E        C0    AE   9E 00010         MOVAB   -64(SP), SP                         ;
                                50        08    AC   D0 00014         MOVL    OFFSET, R0                          ; 1925
                                0A        10    AC   D1 00018         CMPL    RADIX, #10                          ; 1917
                                                71   12 0001C         BNEQ    6$                                  ;
                                53        04    AC   D0 0001E         MOVL    ADDRESS, LONG_WORD                  ; 1924
                    51          50        0C    AC   C1 00022         ADDL3   LENGTH, R0, R1                      ; 1925
                                20              51   D1 00027         CMPL    R1, #32                             ;
                                                0B   1A 0002A         BGTRU   1$                                  ;
            54      63      0C  AC              50   EF 0002C         EXTZV   R0, LENGTH, (LONG_WORD), NIBBLE     ; 1931
                                            0C  AC   D4 00032         CLRL    LENGTH                              ; 1932
                                                0D   11 00035         BRB     2$                                  ; 1925
                    51          20              50   C3 00037 1$:     SUBL3   R0, #32, R1                         ; 1939
            54      63          51              50   EF 0003B         EXTZV   R0, R1, (LONG_WORD), NIBBLE         ;
                            0C  AC              51   C2 00040         SUBL2   R1, LENGTH                          ; 1940
                                                54   DD 00044 2$:     PUSHL   NIBBLE                              ; 1946
                                                59   DD 00046         PUSHL   R9                                  ;
                                6A              02   FB 00048         CALLS   #2, DBG$PRINT                       ;
                                52              01   D0 0004B         MOVL    #1, INDEX                           ; 1951
                                20          0C  AC   D1 0004E 3$:     CMPL    LENGTH, #32                         ; 1952
                                            1A  1F   00052            BLSSU   4$                                  ;
                                        08  A9  9F   00054            PUSHAB  P.ADA                               ; 1958
                                        04  A9  9F   00057            PUSHAB  P.ACZ                               ;
                                6A              02   FB 0005A         CALLS   #2, DBG$PRINT                       ;
                                            6342 DD   0005D            PUSHL   (LONG_WORD)[INDEX]                  ; 1964
                                        0A  A9  9F   00060            PUSHAB  P.ADB                               ; 1963
                                6A              02   FB 00063         CALLS   #2, DBG$PRINT                       ;
                                                52   D6 00066         INCL    INDEX                               ; 1969
                            0C  AC              20   C2 00068         SUBL2   #32, LENGTH                         ; 1970
                                                E0   11 0006C         BRB     3$                                  ; 1952
                                        0C  AC  D5   0006E 4$:     TSTL    LENGTH                              ; 1976
                                            01  12   00071            BNEQ    5$                                  ;
                                                04   00073            RET                                         ;
                                        12  A9  9F   00074 5$:     PUSHAB  P.ADD                               ; 1979
                                        0E  A9  9F   00077            PUSHAB  P.ADC                               ;
                                6A              02   FB 0007A         CALLS   #2, DBG$PRINT                       ;
                                            6342 DF   0007D            PUSHAL  (LONG_WORD)[INDEX]                  ; 1980
            54      9E      0C  AC              00   E1 00080         EXTZV   #0, LENGTH, @(SP)+, NIBBLE          ;
                                                54   DD 00086         PUSHL   NIBBLE                              ; 1981
                                        14  A9  9F   00088            PUSHAB  P.ADE                               ;
```

```
                        6A              02  FB 0008B           CALLS   #2, DBG$PRINT                                   ;
                                        04  0008E             RET                                                     ; 1917
                        58              01  D0 0008F 6$:       MOVL    #1, FIRST_FLAG                                  ; 1992
                        56      04      AC  D0 00092           MOVL    ADDRESS, BIT_VECT                               ; 1993
                        53              50  D0 00096           MOVL    R0, FINISH                                      ; 1994
                51      53      0C      AC  C1 00099           ADDL3   LENGTH, FINISH, R1                              ; 1995
                        52      FF      A1  9E 0009E           MOVAB   -1(R1), START                                   ;
                        08      10      AC  D1 000A2           CMPL    RADIX, #8                                       ; 2000
                                        05  12 000A6           BNEQ    7$                                              ;
                        57              03  D0 000A8           MOVL    #3, BITS_PER_NIBBLE                             ;
                                        03  11 000AB           BRB     8$                                              ;
                        57              04  D0 000AD 7$:       MOVL    #4, BITS_PER_NIBBLE                             ;
                        6E      18      A9  9E 000B0 8$:       MOVAB   P.ADF, CHAR_TABLE                               ; 2005
                04      AE      1A      A9  9E 000B4           MOVAB   P.ADG, CHAR_TABLE+4                             ; 2006
                08      AE      1C      A9  9E 000B9           MOVAB   P.ADH, CHAR_TABLE+8                             ; 2007
                0C      AE      1E      A9  9E 000BE           MOVAB   P.ADI, CHAR_TABLE+12                            ; 2008
                10      AE      20      A9  9E 000C3           MOVAB   P.ADJ, CHAR_TABLE+16                            ; 2009
                14      AE      22      A9  9E 000C8           MOVAB   P.ADK, CHAR_TABLE+20                            ; 2010
                18      AE      24      A9  9E 000CD           MOVAB   P.ADL, CHAR_TABLE+24                            ; 2011
                1C      AE      26      A9  9E 000D2           MOVAB   P.ADM, CHAR_TABLE+28                            ; 2012
                20      AE      28      A9  9E 000D7           MOVAB   P.ADN, CHAR_TABLE+32                            ; 2013
                24      AE      2A      A9  9E 000DC           MOVAB   P.ADO, CHAR_TABLE+36                            ; 2014
                28      AE      2C      A9  9E 000E1           MOVAB   P.ADP, CHAR_TABLE+40                            ; 2015
                2C      AE      2E      A9  9E 000E6           MOVAB   P.ADQ, CHAR_TABLE+44                            ; 2016
                30      AE      30      A9  9E 000EB           MOVAB   P.ADR, CHAR_TABLE+48                            ; 2017
                34      AE      32      A9  9E 000F0           MOVAB   P.ADS, CHAR_TABLE+52                            ; 2018
                38      AE      34      A9  9E 000F5           MOVAB   P.ADT, CHAR_TABLE+56                            ; 2019
                3C      AE      36      A9  9E 000FA           MOVAB   P.ADU, CHAR_TABLE+60                            ; 2020
        7E      00      0C      AC          01  7A 000FF       EMUL    #1, LENGTH, #0, -(SP)                           ; 2025
        50      50              8E          57  7B 00105       EDIV    BITS_PER_NIBBLE, (SP)+, FIRST_NIBBLE_BITS, -    ;
                                                                       FIRST_NIBBLE_BITS                               ;
                                            54  D4 0010A       CLRL    NIBBLE                                          ; 2026
                        03              00  50  CF 0010C       CASEL   FIRST_NIBBLE_BITS, #0, #3                       ; 2028
        0026            0016            000A    004C    00110 9$:       .WORD   14$-9$,-                                ;
                                                                        10$-9$,-                                       ;
                                                                        11$-9$,-                                       ;
                                                                        12$-9$                                         ;
                                            42  11 00118       BRB     14$                                             ;
                51      66      01          52  EF 0011A 10$:       EXTZV   START, #1, (BIT_VECT), R1                   ; 2039
                54      01      00          51  F0 0011F           INSV    R1, #0, #1, NIBBLE                              ;
                                            36  11 00124       BRB     14$                                             ; 2028
                51      66      01          52  EF 00126 11$:       EXTZV   START, #1, (BIT_VECT), R1                   ; 2044
                54      01      01          51  F0 0012B           INSV    R1, #1, #1, NIBBLE                              ;
                                51      FF  A2  9E 00130           MOVAB   -1(R2), R1                                  ; 2045
                                        1C  11 00134           BRB     13$                                             ;
                51      66      01          52  EF 00136 12$:       EXTZV   START, #1, (BIT_VECT), R1                   ; 2050
                54      01      02          51  F0 0013B           INSV    R1, #2, #1, NIBBLE                              ;
                                51      FF  A2  9E 00140           MOVAB   -1(R2), R1                                  ; 2051
                55      66      01          51  EF 00144           EXTZV   R1, #1, (BIT_VECT), R5                      ;
                54      01      01          55  F0 00149           INSV    R5, #1, #1, NIBBLE                              ;
                                51      FE  A2  9E 0014E           MOVAB   -2(R2), R1                                  ; 2052
                55      66      01          51  EF 00152 13$:       EXTZV   R1, #1, (BIT_VECT), R5                      ;
                54      01      00          55  F0 00157           INSV    R5, #0, #1, NIBBLE                              ;
                                52          50  C2 0015C 14$:       SUBL2   FIRST_NIBBLE_BITS, START                    ; 2057
                                            50  D5 0015F           TSTL    FIRST_NIBBLE_BITS                           ; 2059
                                            08  13 00161           BEQL    15$                                             ;
                                            58  D4 00163           CLRL    FIRST_FLAG                                  ; 2062
```

```
                                 6E44  DD 00165          PUSHL   CHAR_TABLE[NIBBLE]                    ; 2063
                              38   A9  9F 00168          PUSHAB  P.ADV
                           6A         02  FB 0016B          CALLS   #2, DBG$PRINT
                           53         52  D1 0016E 15$:     CMPL    START, FINISH                     ; 2069
                                      72  15 00171          BLEQ    19$
                                      54  D4 00173          CLRL    NIBBLE                            ; 2071
                           55   FF    A2  9E 00175          MOVAB   -1(R2), R5
                           51   FE    A2  9E 00179          MOVAB   -2(R2), R1
                           03         57  D1 0017D          CMPL    BITS_PER_NIBBLE, #3
                                      16  12 00180          BNEQ    16$
          50       66       01         52  EF 00182          EXTZV   START, #1, (BIT_VECT), R0
          54       01       02         50  F0 00187          INSV    R0, #2, #1, NIBBLE
          50       66       01         55  EF 0018C          EXTZV   R5, #1, (BIT_VECT), R0
          54       01       01         50  F0 00191          INSV    R0, #1, #1, NIBBLE
                                      22  11 00196          BRB     17$
          50       66       01         52  EF 00198 16$:     EXTZV   START, #1, (BIT_VECT), R0
          54       01       03         50  F0 0019D          INSV    R0, #3, #1, NIBBLE
          50       66       01         55  EF 001A2          EXTZV   R5, #1, (BIT_VECT), R0
          54       01       02         50  F0 001A7          INSV    R0, #2, #1, NIBBLE
          50       66       01         51  EF 001AC          EXTZV   R1, #1, (BIT_VECT), R0
          54       01       01         50  F0 001B1          INSV    R0, #1, #1, NIBBLE
                           51   FD    A2  9E 001B6          MOVAB   -3(R2), R1
          50       66       01         51  EF 001BA 17$:     EXTZV   R1, #1, (BIT_VECT), R0
          54       01       00         50  F0 001BF          INSV    R0, #0, #1, NIBBLE
                           52         57  C2 001C4          SUBL2   BITS_PER_NIBBLE, START
                           0E         58  E9 001C7          BLBC    FIRST_FLAG, 18$                   ; 2077
                           09         54  D1 001CA          CMPL    NIBBLE, #9
                                      09  15 001CD          BLEQ    18$
                              40   A9  9F 001CF          PUSHAB  P.ADX                             ; 2079
                              3C   A9  9F 001D2          PUSHAB  P.ADW
                           6A         02  FB 001D5          CALLS   #2, DBG$PRINT
                                 6E44  DD 001D8 18$:     PUSHL   CHAR_TABLE[NIBBLE]                ; 2081
                              42   A9  9F 001DB          PUSHAB  P.ADV
                           6A         02  FB 001DE          CALLS   #2, DBG$PRINT
                                      58  D4 001E1          CLRL    FIRST_FLAG                        ; 2082
                                      89  11 001E3          BRB     15$                               ; 2069
                                          04 001E5 19$:     RET                                       ; 2088

; Routine Size:  486 bytes,    Routine Base:  DBG$CODE + 0D04

; 1962          2089  1 END                             !End of module
; 1963          2090  0 ELUDOM


                                                                  .EXTRN  LIB$SIGNAL

;                                PSECT SUMMARY
;
;       Name                            Bytes                           Attributes
;
;  DBG$PLIT                              559  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(0)
;  DBG$OWN                                24  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,  PIC,ALIGN(2)
;  DBG$CODE                             3818  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(0)
```

```
;                               Library Statistics
;
;                                    --------- Symbols ---------      Pages       Processing
;       File                         Total     Loaded    Percent      Mapped      Time
;
;  _$255$DUA28:[SYSLIB]LIB.L32;1      18619        27          0        1000        00:01.8
;  _$255$DUA28:[DEBUG.OBJ]STRUCDEF.L32;1
;                                        32         0          0           7        00:00.1
;  _$255$DUA28:[DEBUG.OBJ]DBGLIB.L32;1
;                                      1545        95          6          97        00:01.8
;  _$255$DUA28:[DEBUG.OBJ]DSTRECRDS.L32;1
;                                       418         4          0          31        00:00.3
;  _$255$DUA28:[DEBUG.OBJ]DBGMSG.L32;1
;                                       386         6          1          22        00:00.3
;  _$255$DUA28:[DEBUG.OBJ]DBGGEN.L32;1
;                                       150         5          3          12        00:00.3
```

```
;                                   COMMAND QUALIFIERS

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

; Size:          3818 code + 583 data bytes
; Run Time:         01:00.5
; Elapsed Time:     03:12.6
; Lines/CPU Min:     2071
; Lexemes/CPU-Min: 11613
; Memory Used:  467 pages
; Compilation Complete
```

DBGEXT
LIS

DBGEXADEP
LIS

DBGEXC
LIS