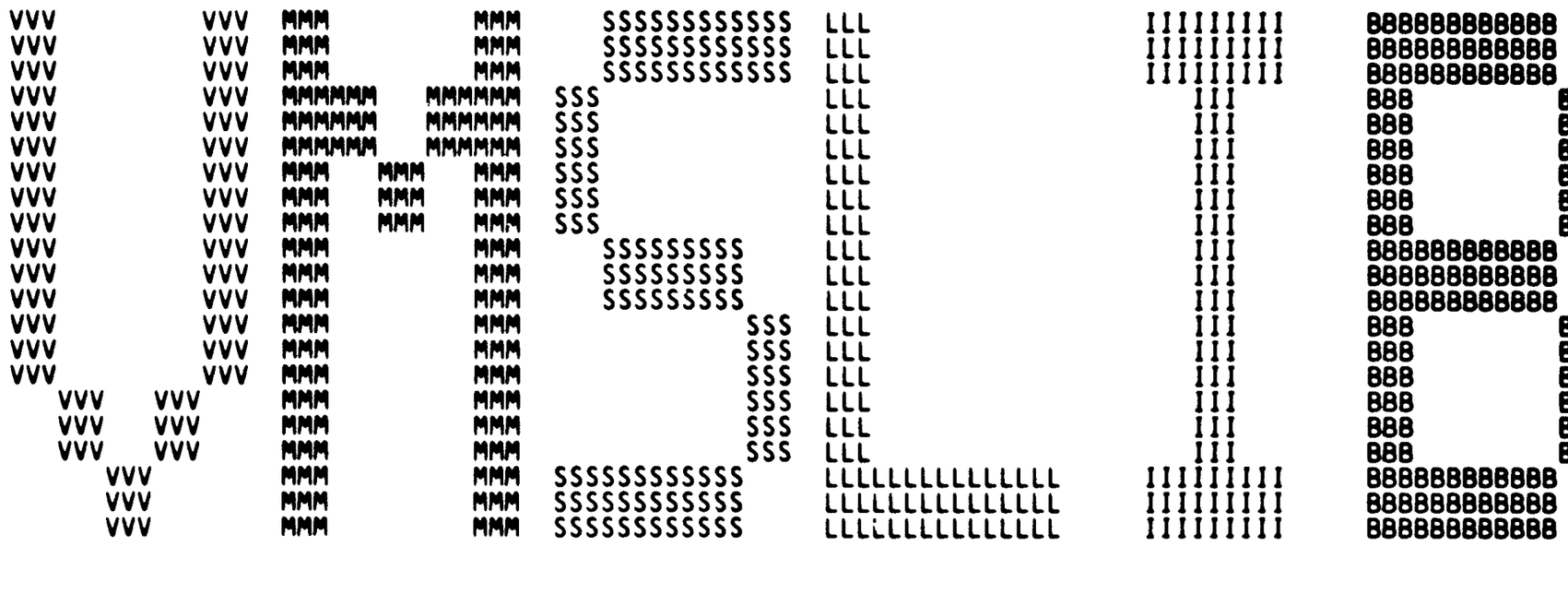
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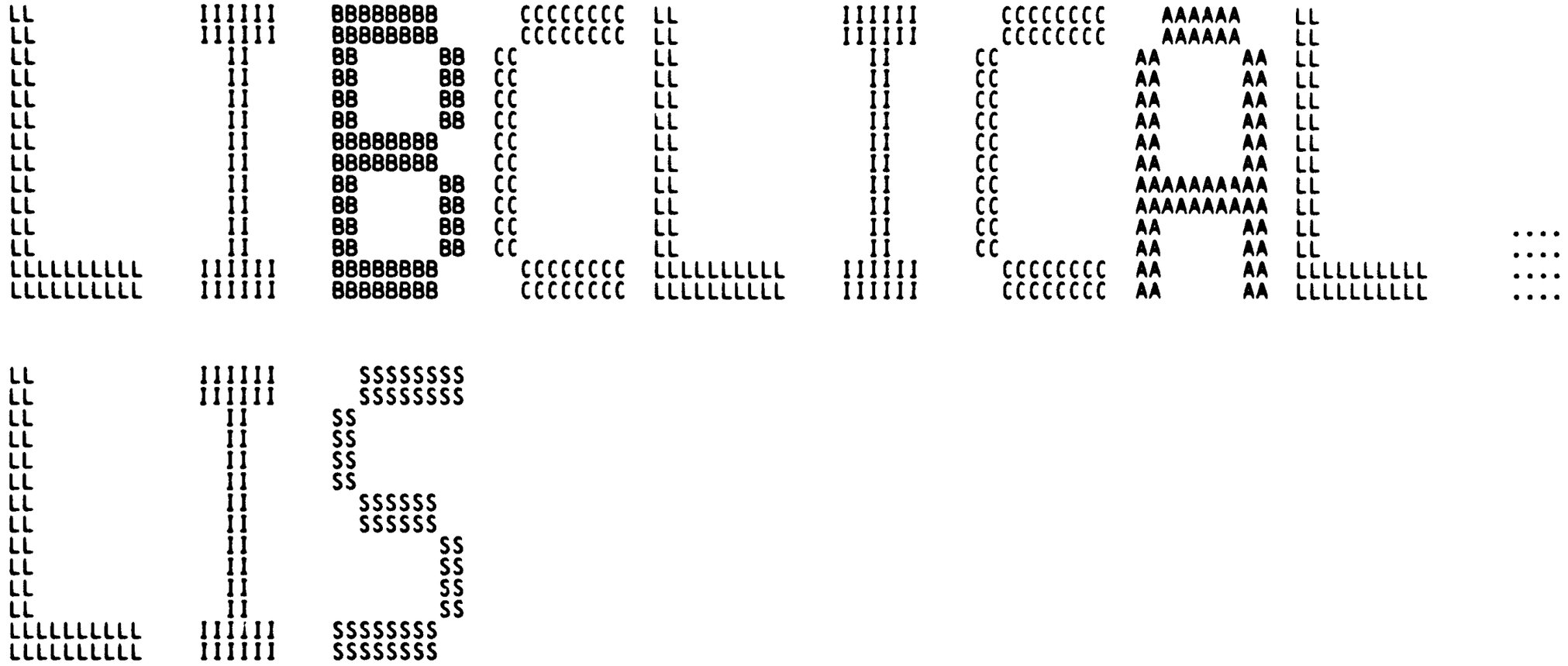

```
;    1          0001  0 %TITLE 'LIB$CLI_CALLBACK - CLI Callback Interface Procedures'
;    2          0002  0 MODULE LIB$CLI_CALLBACK (                       ! CLI Callback Procedures
;    3          0003  0                 IDENT = 'V04-000'       ! File: LIBCLICAL.B32 Edit: STAN3009
;    4          0004  0                 ) =
;    5          0005  1 BEGIN
;    6          0006  1 !
;    7          0007  1 !*****************************************************************************
;    8          0008  1 !*                                                                           *
;    9          0009  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                  *
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;   21          0021  1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT     *
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;   25          0025  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                   *
;   26          0026  1 !*                                                                           *
;   27          0027  1 !*                                                                           *
;   28          0028  1 !*****************************************************************************
;   29          0029  1 !
;   30          0030  1
;   31          0031  1 !++
;   32          0032  1 ! FACILITY:     General Utility Library
;   33          0033  1 !
;   34          0034  1 ! ABSTRACT:
;   35          0035  1 !
;   36          0036  1 !       This module contains callable procedures which allow user programs
;   37          0037  1 !       to access the CLI callback facility.  The procedures in this module
;   38          0038  1 !       are:
;   39          0039  1 !               LIB$GET_SYMBOL          get value of a CLI symbol
;   40          0040  1 !               LIB$SET_SYMBOL          set value of a CLI symbol
;   41          0041  1 !               LIB$DELETE_SYMBOL       delete a CLI symbol
;   42          0042  1 !               LIB$SET_LOGICAL         set value of a supervisor mode
;   43          0043  1 !                                       logical name
;   44          0044  1 !               LIB$DELETE_LOGICAL      delete a supervisor mode logical name
;   45          0045  1 !               LIB$DISABLE_CTRL        disable CLI out-of-band handling
;   46          0046  1 !               LIB$ENABLE_CTRL         re-enable CLI out-of-band handling
;   47          0047  1 !
;   48          0048  1 ! ENVIRONMENT:  Runs only in USER mode - AST reentrant
;   49          0049  1 !
;   50          0050  1 ! AUTHOR: Ralph O. Weber,       CREATION DATE: 19-AUG-1981
;   51          0051  1 !
;   52          0052  1 ! MODIFIED BY:
;   53          0053  1 !
;   54          0054  1 ! 1-001 - Original.  ROW 19-AUG-1981
;   55          0055  1 ! 1-002 - Change symbol name > 255 characters error to LIB$_INVSYMNAM.
;   56          0056  1 !         ROW 3-DEC-1981
;   57          0057  1 ! 1-003 - Use CLI$C_SRVDESC.  Improve code.  SBL 18-Dec-1981
```

```
;    58          0058  1 ! 1-004 - Correct all references to LIB$ANALYZE_SDESC.  DGP 31-Dec-1981
;    59          0059  1 ! 1-005 - Correct PSECT definitions.  SBL 4-Jan-1981
;    60          0060  1 ! 1-006 - Fix reference to CLIMSG.B32 to use SHRLIB$, not LIB$  TMH 14-Feb-1982
;    61          0061  1 ! 1-007 - Allow symbol name to start with $ or _.  SBL 3-Feb-1983
;    62          0062  1 ! 1-008 - Use new callbacks to allow itemlists and attributes. STAN 26-Feb-1984.
;    63          0063  1 ! 1-009 - Fix bug in way pass itemlist to callback. STAN 10-JUL-1984.
;    64          0064  1 !--
```

```
;    66          0065  1 %SBTTL 'Declarations'
;    67          0066  1 !
;    68          0067  1 ! SWITCHES:
;    69          0068  1 !
;    70          0069  1
;    71          0070  1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
;    72          0071  1
;    73          0072  1 !
;    74          0073  1 ! LINKAGES:
;    75          0074  1 !
;    76          0075  1
;    77          0076  1 LINKAGE LIB$ANALYZE_SDESC_JSB_LINK = JSB (REGISTER=0; REGISTER=1,REGISTER=2):
;    78          0077  1         NOTUSED (3,4,5,6,7,8,9,10,11);
;    79          0078  1
;    80          0079  1 !
;    81          0080  1 ! TABLE OF CONTENTS:
;    82          0081  1 !
;    83          0082  1
;    84          0083  1 FORWARD ROUTINE
;    85          0084  1     LIB$GET_SYMBOL,                         ! get value of a CLI symbol
;    86          0085  1     LIB$SET_SYMBOL,                         ! set value of a CLI symbol
;    87          0086  1     LIB$SET_LOGICAL,                        ! set value of a supervisor-mode
;    88          0087  1                                             ! logical name
;    89          0088  1     LIB$DELETE_LOGICAL,                     ! delete a supervisor-mode logical
;    90          0089  1                                             ! name
;    91          0090  1     LIB$DISABLE_CTRL,                       ! disable CLI out-of-band recognition
;    92          0091  1     LIB$ENABLE_CTRL,                        ! re-enable CLI out-of-band recognition
;    93          0092  1     LIB$$BUILD_SYMBOL_NAME;                 ! build a good symbol name
;    94          0093  1
;    95          0094  1 !
;    96          0095  1 ! INCLUDE FILES:
;    97          0096  1 !
;    98          0097  1
;    99          0098  1 LIBRARY 'SYS$LIBRARY:STARLET';              ! System symbol definitions
;   100          0099  1
;   101          0100  1 REQUIRE 'SHRLIB$:CLIMSG';                   ! CLI$_ symbols
;   102          0380  1
;   103          0381  1 !
;   104          0382  1 ! MACROS:
;   105          0383  1 !
;   106          0384  1 !       MACRO MOVEDESC builds a S-type string descriptor at _TO
;   107          0385  1 !       which points to the same data area as that pointed to by
;   108          0386  1 !       the string descriptor at _FROM.  NB: since the _TO
;   109          0387  1 !       descriptor will be used only by SYS$CLI which ignores the
;   110          0388  1 !       DTYPE and CLASS fields, only the LENGTH and POINTER fields
;   111          0389  1 !       are built by MOVEDESC.
;   112          0390  1 !
;   113        M 0391  1     MACRO MOVEDESC (_FROM, _TO) =
;   114        M 0392  1         BEGIN
;   115        M 0393  1         REGISTER
;   116        M 0394  1             RET_STATUS = 0;
;   117        M 0395  1         RET_STATUS = LIB$ANALYZE_SDESC_R2 ( _FROM;
;   118        M 0396  1          BLOCK [_TO, DSC$W_LENGTH; , BYTE],
;   119        M 0397  1          BLOCK [_TO, DSC$A_POINTER; , BYTE] );
;   120        M 0398  1         IF NOT .RET_STATUS
;   121        M 0399  1         THEN
;   122        M 0400  1             RETURN (.RET_STATUS);
```

```
;  123          0401  1          END%;
;  124          0402  1
;  125          0403  1 !
;  126          0404  1 ! EQUATED SYMBOLS:
;  127          0405  1 !
;  128          0406  1 !       NONE
;  129          0407  1 !
;  130          0408  1 ! FIELDS:
;  131          0409  1 !
;  132          0410  1 !       NONE
;  133          0411  1 !
;  134          0412  1 ! PSECTS:
;  135          0413  1 !
;  136          0414  1
;  137          0415  1 PSECT
;  138          0416  1     CODE = _LIB$CODE (READ, NOWRITE, EXECUTE, SHARE, PIC, ADDRESSING_MODE (WORD_RELATIVE)),
;  139          0417  1     PLIT = _LIB$CODE (READ, NOWRITE, EXECUTE, SHARE, PIC, ADDRESSING_MODE (WORD_RELATIVE)),
;  140          0418  1     OWN  = _LIB$DATA (READ, WRITE, NOEXECUTE, NOSHARE, PIC, ADDRESSING_MODE (LONG_RELATIVE)),
;  141          0419  1     GLOBAL = _LIB$DATA (READ, WRITE, NOEXECUTE, NOSHARE, PIC, ADDRESSING_MODE (LONG_RELATIVE));
;  142          0420  1
;  143          0421  1 !
;  144          0422  1 ! OWN STORAGE:
;  145          0423  1 !
;  146          0424  1 !       NONE
;  147          0425  1 !
;  148          0426  1 ! EXTERNAL REFERENCES:
;  149          0427  1 !
;  150          0428  1
;  151          0429  1 EXTERNAL ROUTINE
;  152          0430  1     SYS$CLI,                                        ! CLI Callback Routine
;  153          0431  1     LIB$ANALYZE_SDESC_R2 : LIB$ANALYZE_SDESC_JSB_LINK,
;  154          0432  1                                                     ! Analyze a string descriptor
;  155          0433  1     LIB$SCOPY_DXDX,                                 ! Copy strings of any type
;  156          0434  1                                                     !       to any type
;  157          0435  1     LIB$SGET1_DD,                                   ! Get a dynamic string
;  158          0436  1     LIB$SFREE1_DD;                                  ! Free a dynamic string
;  159          0437  1
;  160          0438  1 EXTERNAL
;  161          0439  1     LIB$AB_UPCASE;                                  ! the string upcase table
;  162          0440  1
;  163          0441  1 EXTERNAL LITERAL                                    ! Condition value symbols
;  164          0442  1     LIB$_INVARG,                                    ! Invalid argument
;  165          0443  1     LIB$_WRONUMARG,                                 ! Wrong number of arguments
;  166          0444  1     LIB$_INVSYMNAM,                                 ! Illegal symbol name
;  167          0445  1     LIB$_NOSUCHSYM,                                 ! No such symbol
;  168          0446  1     LIB$_INSCLIMEM,                                 ! Insufficient CLI memory
;  169          0447  1     LIB$_AMBSYMDEF,                                 ! Ambiguous symbol defined
;  170          0448  1     LIB$_NOCLI,                                     ! No CLI present
;  171          0449  1     LIB$_UNECLIERR;                                 ! Unexpected CLI error
```

```
;  173          0450  1 %SBTTL 'LIB$GET_SYMBOL - get value of a CLI symbol'
;  174          0451  1 GLOBAL ROUTINE LIB$GET_SYMBOL (                      ! get value of a CLI symbol
;  175          0452  1         SYMBOL: REF BLOCK [, BYTE],                  ! symbol string descriptor
;  176          0453  1         RETBUF: REF BLOCK [, BYTE],                  ! return value string descriptor
;  177          0454  1         RETLEN: REF VECTOR [, WORD],                 ! no. bytes returned (opt.)
;  178          0455  1         MODE: REF VECTOR [, LONG]                    ! symbol table searched (opt.)
;  179          0456  1     ) =
;  180          0457  1
;  181          0458  1 !++
;  182          0459  1 ! FUNCTIONAL DESCRIPTION:
;  183          0460  1 !
;  184          0461  1 !       LIB$GET_SYMBOL gets the value of the specified CLI symbol and returns
;  185          0462  1 !       it in the specified buffer.  Before the actual search, however, the
;  186          0463  1 !       specified symbol name is upcased so that it will better match symbol
;  187          0464  1 !       names formed by the CLI.  The local-symbol table is scanned first for
;  188          0465  1 !       the symbol, and if no matching symbol is found there, the global-
;  189          0466  1 !       symbol table is scanned.  The length of the returned value and a mode
;  190          0467  1 !       value, indicating the table in which the symbol value was found, are
;  191          0468  1 !       optionally returned when parameters to receive them are supplied in
;  192          0469  1 !       the calling sequence.
;  193          0470  1 !
;  194          0471  1 !       Numeric values are automatically translated to decimal strings before
;  195          0472  1 !       being returned.
;  196          0473  1 !
;  197          0474  1 !       The optional mode value can be one of:
;  198          0475  1 !               LIB$K_CLI_LOCAL_SYM  = 1 ==> Local symbol table name
;  199          0476  1 !               LIB$K_CLI_GLOBAL_SYM = 2 ==> Global symbol table name
;  200          0477  1 !       These symbols are defined in $LIBCLIDEF.
;  201          0478  1 !
;  202          0479  1 ! CALLING SEQUENCE:
;  203          0480  1 !
;  204          0481  1 !       ret_status.wlc.v = LIB$GET_SYMBOL (symbol.rt.dx, retbuf.wt.dx
;  205          0482  1 !                                          [, retlen.ww.r [, mode.wl.r]])
;  206          0483  1 !
;  207          0484  1 ! FORMAL PARAMETERS:
;  208          0485  1 !
;  209          0486  1 !       symbol.rt.dx  - A string, passed by descriptor, which contains the
;  210          0487  1 !                       symbol to be searched for.  An upcased copy of this
;  211          0488  1 !                       string will actually be used for the search.
;  212          0489  1 !
;  213          0490  1 !       retbuf.wt.dx  - A string, passed by descriptor, into which the value
;  214          0491  1 !                       of the symbol, if found, will be written.
;  215          0492  1 !
;  216          0493  1 !       retlen.ww.r   - An optional word which, if present, will receive
;  217          0494  1 !                       the length of the returned symbol value string.
;  218          0495  1 !
;  219          0496  1 !       mode.wl.r     - An optional longword which, if present, will receive a
;  220          0497  1 !                       value indicating table in which symbol was found.
;  221          0498  1 !                       Possible values are:
;  222          0499  1 !                           LIB$K_CLI_LOCAL_SYM  ==> Local symbol table name
;  223          0500  1 !                           LIB$K_CLI_GLOBAL_SYM ==> Global symbol table name
;  224          0501  1 !
;  225          0502  1 ! IMPLICIT INPUTS:
;  226          0503  1 !
;  227          0504  1 !       NONE
;  228          0505  1 !
;  229          0506  1 ! IMPLICIT OUTPUTS:
```

```
;  230          0507  1 !
;  231          0508  1 !       NONE
;  232          0509  1 !
;  233          0510  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
;  234          0511  1 !
;  235          0512  1 !       SS$_NORMAL      Normal successful completion
;  236          0513  1 !       LIB$_INVARG     Invalid argument
;  237          0514  1 !       LIB$_INVSYMNAM  Invalid symbol name
;  238          0515  1 !       LIB$_NOSUCHSYM  No such symbol found
;  239          0516  1 !       LIB$_INSCLIMEM  Insufficient CLI memory
;  240          0517  1 !       LIB$_NOCLI      No CLI present to perform function
;  241          0518  1 !       LIB$_UNECLIERR  Unexpected CLI Error
;  242          0519  1 !
;  243          0520  1 ! SIDE EFFECTS:
;  244          0521  1 !
;  245          0522  1 !       WARNING:
;  246          0523  1 !       Although this procedure performs some checks on the validity of
;  247          0524  1 !       symbol names passed to it, some symbol name considered valid by
;  248          0525  1 !       this procedure will be considered invalid by DCL.  Callers of this
;  249          0526  1 !       procedure are responsible for insuring that symbol names passed to
;  250          0527  1 !       this procedure contain only alphanumeric characters.
;  251          0528  1 !
;  252          0529  1 !--
;  253          0530  1
;  254          0531  2     BEGIN
;  255          0532  2
;  256          0533  2     BUILTIN
;  257          0534  2         NULLPARAMETER;
;  258          0535  2
;  259          0536  2     LOCAL
;  260          0537  2         CLI_REQ_BLOCK : BLOCK [CLI$C_SRVDESC, BYTE], ! A CLI request block
;  261          0538  2         DYN_STRING : BLOCK [8, BYTE],                ! Descriptor for dynamic string
;  262          0539  2         RETURN_STATUS : BLOCK [4, BYTE];             ! A return status value
;  263          0540  2
;  264          0541  2
;  265          0542  2
;  266          0543  2 !+
;  267          0544  2 ! Initialize CLI Command request block.
;  268          0545  2 !-
;  269          0546  2     CH$FILL (0, CLI$C_SRVDESC, CLI_REQ_BLOCK);
;  270          0547  2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;
;  271          0548  2     CLI_REQ_BLOCK [CLI$W_SERVCOD] = CLI$K_GETSYM;
;  272          0549  2     RETURN_STATUS = LIB$$BUILD_SYMBOL_NAME( .SYMBOL, DYN_STRING,
;  273          0550  2                                 CLI_REQ_BLOCK [CLI$Q_NAMDESC] );
;  274          0551  2     IF NOT .RETURN_STATUS THEN RETURN .RETURN_STATUS;
;  275          0552  2
;  276          0553  2 !+
;  277          0554  2 ! Get CLI symbol value.
;  278          0555  2 !-
;  279          0556  2     RETURN_STATUS = SYS$CLI (CLI_REQ_BLOCK);
;  280          0557  2
;  281          0558  2 !+
;  282          0559  2 ! Free dynamic string used for upcased symbol name.
;  283          0560  2 !-
;  284          0561  2     LIB$$FREE1_DD( DYN_STRING );
;  285          0562  2
;  286          0563  2 !+
```

```
;  287          0564  2 ! Process returned symbol value and requested optional values.
;  288          0565  2 !-
;  289          0566  2     IF .RETURN_STATUS
;  290          0567  2     THEN
;  291          0568  3     BEGIN
;  292          0569  3         LOCAL
;  293          0570  3             CLI_DESC : REF BLOCK [8, BYTE];
;  294          0571  3         CLI_DESC = CLI_REQ_BLOCK [CLI$Q_VALDESC];
;  295          0572  3         RETURN_STATUS = LIB$SCOPY_DXDX (.CLI_DESC, .RETBUF);
;  296          0573  3         IF NOT NULLPARAMETER (3) AND .RETURN_STATUS
;  297          0574  3         THEN
;  298          0575  4         BEGIN
;  299          0576  4             LOCAL
;  300          0577  4                 ADDRESS,
;  301          0578  4                 LENGTH;
;  302          0579  4             LIB$ANALYZE_SDESC_R2 (.RETBUF; LENGTH, ADDRESS );
;  303          0580  4             RETLEN [0] = MINU (.LENGTH, .CLI_DESC [DSC$W_LENGTH]);
;  304          0581  3             END;
;  305          0582  3         IF NOT NULLPARAMETER (4)
;  306          0583  3         THEN
;  307          0584  3             MODE [0] = .CLI_REQ_BLOCK [CLI$B_RQSTAT];
;  308          0585  3         END
;  309          0586  3     ELSE IF (.RETURN_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY)
;  310          0587  2     THEN
;  311          0588  2         RETURN_STATUS =
;  312          0589  3         BEGIN
;  313          0590  3             SELECTONE .RETURN_STATUS OF
;  314          0591  3             SET
;  315          0592  3             [CLI$_UNDSYM] :     LIB$_NOSUCHSYM;
;  316          0593  3             [CLI$_BUFOVF] :     LIB$_INSCLIMEM;
;  317          0594  3             [CLI$_INVREQTYP] :  LIB$_NOCLI;
;  318          0595  3             [OTHERWISE] :       LIB$_UNECLIERR;
;  319          0596  3             TES
;  320          0597  2             END;
;  321          0598  2
;  322          0599  2     RETURN (.RETURN_STATUS);
;  323          0600  2
;  324          0601  1     END;                                    ! End of routine LIB$GET_SYMBOL

                                                                    .TITLE  LIB$CLI_CALLBACK LIB$CLI_CALLBACK - CLI Callbac
;                                                                                            k Interface Proce
                                                                    .IDENT  \V04-000\

                                                                    .EXTRN  SYS$CLI, LIB$ANALYZE_SDESC_R2
                                                                    .EXTRN  LIB$SCOPY_DXDX, LIB$SGET1_DD
                                                                    .EXTRN  LIB$SFREE1_DD, LIB$AB_UPCASE
                                                                    .EXTRN  LIB$_INVARG, LIB$_WRONUMARG
                                                                    .EXTRN  LIB$_INVSYMNAM, LIB$_NOSUCHSYM
                                                                    .EXTRN  LIB$_INSCLIMEM, LIB$_AMBSYMDEF
                                                                    .EXTRN  LIB$_NOCLI, LIB$_UNECLIERR

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

                                                 003C 00000         .ENTRY  LIB$GET_SYMBOL, Save R2,R3,R4,R5            ; 0451
                                  5E        A4   AE  9E 00002       MOVAB   -92(SP), SP                                 ;
    0054   8F          00          6E            00  2C 00006       MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK            ; 0546
```

```
                                        08   AE      0000D
                                  08    AE      05  90  0000F         MOVB    #5, CLI_REQ_BLOCK                                       ;0547
                                  09    AE      0A  B0  00013         MOVW    #10, CLI_REQ_BLOCK+1                                    ;0548
                                        0C    AE  9F  00017         PUSHAB  CLI_REQ_BLOCK+4                                         ;0550
                                        04    AE  9F  0001A         PUSHAB  DYN_STRING                                              ;0549
                                        04    AC  DD  0001D         PUSHL   SYMBOL                                                  ;0550
                                  0000V CF          03  FB  00020         CALLS   #3, LIB$$BUILD_SYMBOL_NAME
                                        53          50  D0  00025         MOVL    R0, RETURN_STATUS
                                        79          53  E9  00028         BLBC    RETURN_STATUS, 4$                               ;0551
                                        08    AE  9F  0002B         PUSHAB  CLI_REQ_BLOCK                                           ;0556
                            00000000G   00          01  FB  0002E         CALLS   #1, SYS$CLI
                                        53          50  D0  00035         MOVL    R0, RETURN_STATUS
                                                    5E  DD  00038         PUSHL   SP                                              ;0561
                            00000000G   00          01  FB  0003A         CALLS   #1, LIB$SFREE1_DD
                                        49          53  E9  0C041         BLBC    RETURN_STATUS, 3$                               ;0566
                                        54    14    AE  9E  00044         MOVAB   CLI_REQ_BLOCK+12, CLI_DESC                      ;0571
                                        08    AC  DD  00048         PUSHL   RETBUF                                                  ;0572
                                                    54  DD  0004B         PUSHL   CLI_DESC
                            00000000G   00          02  FB  0004D         CALLS   #2, LIB$SCOPY_DXDX
                                        53          50  D0  00054         MOVL    R0, RETURN_STATUS
                                        03          6C  91  00057         CMPB    (AP), #3                                        ;0573
                                                    20  1F  0005A         BLSSU   2$
                                        0C    AC  D5  0005C         TSTL    12(AP)
                                                    1B  13  0005F         BEQL    2$
                                        18          53  E9  00061         BLBC    RETURN_STATUS, 2$
                                        50    08    AC  D0  00064         MOVL    RETBUF, R0                                      ;0579
                                  00000000G   00    16  00068         JSB     LIB$ANALYZE_SDESC_R2
                51          64            10          00  ED  0006E         CMPZV   #0, #16, (CLI_DESC), R1                         ;0580
                                                    03  1E  00073         BGEQU   1$
                                        51          64  3C  00075         MOVZWL  (CLI_DESC), R1
                                  0C    BC          51  B0  00078 1$:      MOVW    R1, @RETLEN
                                        04          6C  91  0007C 2$:      CMPB    (AP), #4                                        ;0582
                                                    50  1F  0007F         BLSSU   8$
                                              10    AC  D5  00081         TSTL    16(AP)
                                                    4B  13  00084         BEQL    8$
                                  10    BC    0B    AE  9A  00086         MOVZBL  CLI_REQ_BLOCK+3, @MODE                          ;0584
                                                    44  11  00088         BRB     8$                                              ;0566
                03          53            0C          10  ED  0008D 3$:      CMPZV   #16, #12, RETURN_STATUS, #3                     ;0586
                                                    3D  12  00092         BNEQ    8$
                        00038140    8F              53  D1  00094         CMPL    RETURN_STATUS, #229696                          ;0592
                                                    09  12  0009B         BNEQ    5$
                                        53 00000000G    8F  D0  0009D         MOVL    #LIB$_NOSUCHSYM, RETURN_STATUS
                                                    2B  11  000A4 4$:      BRB     8$
                        00038018    8F              53  D1  000A6 5$:      CMPL    RETURN_STATUS, #229400                          ;0593
                                                    09  12  000AD         BNEQ    6$
                                        53 00000000G    8F  D0  000AF         MOVL    #LIB$_INSCLIMEM, RETURN_STATUS
                                                    19  11  000B6         BRB     8$
                        00038822    8F              53  D1  000B8 6$:      CMPL    RETURN_STATUS, #231458                          ;0594
                                                    09  12  000BF         BNEQ    7$
                                        53 00000000G    8F  D0  000C1         MOVL    #LIB$_NOCLI, RETURN_STATUS
                                                    07  11  000C8         BRB     8$
                                        53 00000000G    8F  D0  000CA 7$:      MOVL    #LIB$_UNECLIERR, RETURN_STATUS          ;0595
                                        50          53  D0  000D1 8$:      MOVL    RETURN_STATUS, R0                               ;0599
                                                    04  000D4         RET                                                             ;0601

; Routine Size:  213 bytes,    Routine Base:  _LIB$CODE + 0000
```

```
;  326          0602  1 %SBTTL 'LIB$SET_SYMBOL - set value of a CLI symbol'
;  327          0603  1 GLOBAL ROUTINE LIB$SET_SYMBOL (                    ! set value of a CLI symbol
;  328          0604  1         SYMBOL: REF BLOCK [, BYTE],                ! symbol string descriptor
;  329          0605  1         VALUE: REF BLOCK [, BYTE],                 ! desired symbol value descriptor
;  330          0606  1         MODE: REF VECTOR [, LONG]                  ! desired symbol table (opt.)
;  331          0607  1     ) =
;  332          0608  1
;  333          0609  1 !++
;  334          0610  1 ! FUNCTIONAL DESCRIPTION:
;  335          0611  1 !
;  336          0612  1 !       This routine defines a CLI symbol giving it the value specified by
;  337          0613  1 !       call parameter value.  Before the actual definition, however, the
;  338          0614  1 !       specified symbol name is upcased so that it will better match symbol
;  339          0615  1 !       names formed by the CLI.  An attempt to define a CLI symbol which
;  340          0616  1 !       already exists results in the value of that symbol being updated to
;  341          0617  1 !       the new value.  The optional mode argument specifies a code
;  342          0618  1 !       (LIB$K_CLI_LOCAL_SYM or LIB$K_CLI_GLOBAL_SYM) which names the symbol
;  343          0619  1 !       table on which the define/update operation will be performed.  If the
;  344          0620  1 !       mode argument is omitted, the the local symbol table is used.
;  345          0621  1 !
;  346          0622  1 !       The optional mode value can be one of:
;  347          0623  1 !               LIB$K_CLI_LOCAL_SYM  = 1 ==> Local symbol table name
;  348          0624  1 !               LIB$K_CLI_GLOBAL_SYM = 2 ==> Global symbol table name
;  349          0625  1 !       These symbols are defined in $LIBCLIDEF.
;  350          0626  1 !
;  351          0627  1 ! CALLING SEQUENCE:
;  352          0628  1 !
;  353          0629  1 !       ret_status.wlc.v = LIB$SET_SYMBOL (symbol.rt.dx, value.rt.dx
;  354          0630  1 !                                          [, mode.rl.r])
;  355          0631  1 !
;  356          0632  1 ! FORMAL PARAMETERS:
;  357          0633  1 !
;  358          0634  1 !       symbol.rt.dx  - A string, passed by descriptor, which contains the
;  359          0635  1 !                       symbol to be defined or modified.  An upcased copy of
;  360          0636  1 !                       this string will actually be used for the define
;  361          0637  1 !                       or update operation.
;  362          0638  1 !
;  363          0639  1 !       value.rt.dx   - A string, passed by descriptor, containing the value
;  364          0640  1 !                       to be given to the symbol.
;  365          0641  1 !
;  366          0642  1 !       mode.rl.r     - An optional longword which, if present, contains a
;  367          0643  1 !                       value indicating into which table the symbol is to be
;  368          0644  1 !                       placed.  If this parameter is omitted, the local
;  369          0645  1 !                       symbol table is used.
;  370          0646  1 !                       Possible values are:
;  371          0647  1 !                           LIB$K_CLI_LOCAL_SYM  ==> Local symbol table name
;  372          0648  1 !                           LIB$K_CLI_GLOBAL_SYM ==> Global symbol table name
;  373          0649  1 !
;  374          0650  1 ! IMPLICIT INPUTS:
;  375          0651  1 !
;  376          0652  1 !       NONE
;  377          0653  1 !
;  378          0654  1 ! IMPLICIT OUTPUTS:
;  379          0655  1 !
;  380          0656  1 !       NONE
;  381          0657  1 !
;  382          0658  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
```

```
;  383          0659  1 !
;  384          0660  1 !       SS$_NORMAL      Normal successful completion
;  385          0661  1 !       LIB$_INVARG     Invalid argument
;  386          0662  1 !       LIB$_INVSYMNAM  Invalid symbol name
;  387          0663  1 !       LIB$_INSCLIMEM  Insuficient CLI memory
;  388          0664  1 !       LIB$_AMBSYMDEF  Ambiguous CLI symbol defined
;  389          0665  1 !       LIB$_NOCLI      No CLI present to perform function
;  390          0666  1 !       LIB$_UNECLIERR  Unexpected CLI Error
;  391          0667  1 !
;  392          0668  1 ! SIDE EFFECTS:
;  393          0669  1 !
;  394          0670  1 !       A CLI symbol is created or updated.
;  395          0671  1 !
;  396          0672  1 !       WARNING:
;  397          0673  1 !       Although this procedure performs some checks on the validity of
;  398          0674  1 !       symbol names passed to it, some symbol name considered valid by
;  399          0675  1 !       this procedure will be considered invalid by DCL.  Callers of this
;  400          0676  1 !       procedure are responsible for insuring that symbol names passed to
;  401          0677  1 !       this procedure contain only alphanumeric characters.  If this
;  402          0678  1 !       procedure is used to create symbols whose names contain invalid
;  403          0679  1 !       characters, deleting those symbols can be accomplished by logging
;  404          0680  1 !       out and logging back in.
;  405          0681  1 !
;  406          0682  1 !--
;  407          0683  1
;  408          0684  2     BEGIN
;  409          0685  2
;  410          0686  2     BUILTIN
;  411          0687  2         NULLPARAMETER;
;  412          0688  2
;  413          0689  2     LOCAL
;  414          0690  2         CLI_REQ_BLOCK : BLOCK [CLI$C_SRVDESC, BYTE], ! A CLI request block
;  415          0691  2         DYN_STRING : BLOCK [8, BYTE],           ! Descriptor for dynamic string
;  416          0692  2         RETURN_STATUS : BLOCK [4, BYTE];        ! A return status value
;  417          0693  2
;  418          0694  2
;  419          0695  2 !+
;  420          0696  2 ! Initialize CLI Command request block.
;  421          0697  2 !-
;  422          0698  2     CH$FILL (0, CLI$C_SRVDESC, CLI_REQ_BLOCK);
;  423          0699  2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;
;  424          0700  3     BEGIN
;  425          0701  3         LOCAL
;  426          0702  3             STRING : REF BLOCK [8, BYTE];
;  427          0703  3         STRING = .VALUE;
;  428          0704  3         IF .STRING [DSC$W_LENGTH] GTRU 255 THEN RETURN LIB$_INVARG;
;  429          0705  2         END;
;  430          0706  2     MOVEDESC ( .VALUE, CLI_REQ_BLOCK [CLI$Q_VALDESC] );
;  431          0707  2     RETURN_STATUS = LIB$$BUILD_SYMBOL_NAME( .SYMBOL, DYN_STRING,
;  432          0708  2                                 CLI_REQ_BLOCK [CLI$Q_NAMDESC] );
;  433          0709  2     IF NOT .RETURN_STATUS THEN RETURN .RETURN_STATUS;
;  434          0710  2
;  435          0711  2 !+
;  436          0712  2 ! Setup service code indicating which symbol table.
;  437          0713  2 !-
;  438          0714  2     CLI_REQ_BLOCK [CLI$W_SERVCOD] =
;  439          0715  3         BEGIN
```

```
;  440          0716  3              IF NULLPARAMETER (3)
;  441          0717  3              THEN
;  442          0718  3                  CLI$K_DEFLOCAL
;  443          0719  3              ELSE
;  444          0720  3                  CASE .MODE [0] FROM LIB$K_CLI_LOCAL_SYM
;  445          0721  3                                  TO LIB$K_CLI_GLOBAL_SYM OF
;  446          0722  3                  SET
;  447          0723  3                  [LIB$K_CLI_LOCAL_SYM]   : CLI$K_DEFLOCAL;
;  448          0724  3                  [LIB$K_CLI_GLOBAL_SYM]  : CLI$K_DEFGLOBAL;
;  449          0725  3                  [OUTRANGE]              : RETURN (LIB$_INVARG);
;  450          0726  3              TES
;  451          0727  2              END;
;  452          0728  2
;  453          0729  2      !+
;  454          0730  2      ! Set CLI symbol.
;  455          0731  2      !-
;  456          0732  2          RETURN_STATUS = SYS$CLI (CLI_REQ_BLOCK);
;  457          0733  2
;  458          0734  2      !+
;  459          0735  2      ! Free dynamic string used for upcased symbol name.
;  460          0736  2      !-
;  461          0737  2          LIB$SFREE1_DD( DYN_STRING );
;  462          0738  2
;  463          0739  2      !+
;  464          0740  2      ! Adjust error return status, if any.
;  465          0741  2      !-
;  466          0742  3          IF NOT .RETURN_STATUS AND (.RETURN_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY)
;  467          0743  2          THEN
;  468          0744  2              RETURN_STATUS =
;  469          0745  3              BEGIN
;  470          0746  3                  SELECTONE .RETURN_STATUS OF
;  471          0747  3                  SET
;  472          0748  3                  [CLI$_SYMOVF] :     LIB$_INSCLIMEM;
;  473          0749  3                  [CLI$_ABSYMD] :     LIB$_AMBSYMDEF;
;  474          0750  3                  [CLI$_INVREQTYP] :  LIB$_NOCLI;
;  475          0751  3                  [OTHERWISE] :       LIB$_UNECLIERR;
;  476          0752  3                  TES
;  477          0753  2                  END;
;  478          0754  2
;  479          0755  2      RETURN (.RETURN_STATUS);
;  480          0756  2
;  481          0757  1      END;                                    ! End of routine LIB$SET_SYMBOL



                                                 003C 00000          .ENTRY  LIB$SET_SYMBOL, Save R2,R3,R4,R5                ; 0603
                                        5E       A4  AE   9E 00002   MOVAB   -92(SP), SP                                     ;
    0054    8F              00                  6E      2C 00006    MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK                ; 0698
                                                08  AE      0000D                                                           ;
                                          08    AE      05  90 0000F    MOVB    #5, CLI_REQ_BLOCK                           ; 0699
                                        50      08  AC      D0 00013    MOVL    VALUE, STRING                               ; 0703
                                    00FF    8F          60  B1 00017    CMPW    (STRING), #255                              ; 0704
                                                        3D  1A 0001C    BGTRU   3$                                          ;
                                        50      08  AC      D0 0001E    MOVL    VALUE, R0                                   ; 0706
                                           00000000G    00  16 00022    JSB     LIB$ANALYZE_SDESC_R2                        ;
```

```
                                14   AE             51  B0 00028          MOVW    R1, CLI_REQ_BLOCK+12                          ;
                                18   AE             52  D0 0002C          MOVL    R2, CLI_REQ_BLOCK+16                          ;
                                     01             50  E8 00030          BLBS    RET_STATUS, 1$                                ;
                                                    04  00033          RET                                                   ;
                                                0C  AE  9F 00034 1$:     PUSHAB  CLI_REQ_BLOCK+4                               ; 0708
                                                04  AE  9F 00037          PUSHAB  DYN_STRING                                    ; 0707
                                                04  AC  DD 0003A          PUSHL   SYMBOL                                        ; 0708
                                          0000V CF      03  FB 0003D          CALLS   #3, LIB$$BUILD_SYMBOL_NAME                    ;
                                                52      50  D0 00042          MOVL    R0, RETURN_STATUS                             ;
                                                7B      52  E9 00045          BLBC    RETURN_STATUS, 9$                             ; 0709
                                                03      6C  91 00048          CMPB    (AP), #3                                      ; 0716
                                                        16  1F 0004B          BLSSU   4$                                            ;
                                                0C  AC  D5 0004D          TSTL    12(AP)                                        ;
                                                        11  13 00050          BEQL    4$                                            ;
                                01                  01  0C  BC  CF 00052          CASEL   @MODE, #1, #1                         ; 0720
                                                0011        000C      00057 2$:     .WORD   4$-2$,-                               ;
                                                                                            5$-2$                                 ;
                                                50 00000000G  8F  D0 0005B 3$:     MOVL    #LIB$_INVARG, R0                      ; 0725
                                                              04  00062          RET                                           ;
                                                50            02  D0 00063 4$:     MOVL    #2, R0                                ; 0720
                                                              03  11 00066          BRB     6$                                    ;
                                                50            03  D0 00068 5$:     MOVL    #3, R0                                ;
                                             09   AE          50  B0 0006B 6$:     MOVW    R0, CLI_REQ_BLOCK+1                   ; 0715
                                                08  AE  9F 0006F          PUSHAB  CLI_REQ_BLOCK                                 ; 0732
                                   00000000G    00      01  FB 00072          CALLS   #1, SYS$CLI                                   ;
                                                52          50  D0 00079          MOVL    R0, RETURN_STATUS                             ;
                                                            5E  DD 0007C          PUSHL   SP                                            ; 0737
                                   00000000G    00      01  FB 0007E          CALLS   #1, LIB$SFREE1_DD                             ;
                                                44          52  E8 00085          BLBS    RETURN_STATUS, 11$                            ; 0742
                          03            52                0C  10  ED 00088          CMPZV   #16, #12, RETURN_STATUS, #3                   ;
                                                            3D  12 0008D          BNEQ    11$                                           ;
                                   00038138     8F          52  D1 0008F          CMPL    RETURN_STATUS, #229688                        ; 0748
                                                            09  12 00096          BNEQ    7$                                            ;
                                                52 00000000G  8F  D0 00098          MOVL    #LIB$_INSCLIMEM, RETURN_STATUS                ;
                                                              2B  11 0009F          BRB     11$                                           ;
                                   000381A0     8F          52  D1 000A1 7$:     CMPL    RETURN_STATUS, #229792                        ; 0749
                                                            09  12 000A8          BNEQ    8$                                            ;
                                                52 00000000G  8F  D0 000AA          MOVL    #LIB$_AMBSYMDEF, RETURN_STATUS                ;
                                                              19  11 000B1          BRB     11$                                           ;
                                   00038822     8F          52  D1 000B3 8$:     CMPL    RETURN_STATUS, #231458                        ; 0750
                                                            09  12 000BA          BNEQ    10$                                           ;
                                                52 00000000G  8F  D0 000BC          MOVL    #LIB$_NOCLI, RETURN_STATUS                    ;
                                                              07  11 000C3 9$:     BRB     11$                                           ;
                                                52 00000000G  8F  D0 000C5 10$:    MOVL    #LIB$_UNECLIERR, RETURN_STATUS                ; 0751
                                                50            52  D0 000CC 11$:    MOVL    RETURN_STATUS, R0                             ; 0755
                                                              04  000CF          RET                                           ; 0757

; Routine Size:  208 bytes,    Routine Base:  _LIB$CODE + 00D5
```

```
;  483          0758  1 %SBTTL 'LIB$DELETE_SYMBOL - delete a CLI symbol'
;  484          0759  1 GLOBAL ROUTINE LIB$DELETE_SYMBOL (                  ! set value of a CLI symbol
;  485          0760  1           SYMBOL: REF BLOCK [, BYTE],               ! symbol string descriptor
;  486          0761  1           MODE: REF VECTOR [, LONG]                 ! desired symbol table (opt.)
;  487          0762  1     ) =
;  488          0763  1
;  489          0764  1 !++
;  490          0765  1 ! FUNCTIONAL DESCRIPTION:
;  491          0766  1 !
;  492          0767  1 !       This routine deletes a CLI symbol.  Before the actual deletion,
;  493          0768  1 !       however, the specified symbol name is upcased so that it will better
;  494          0769  1 !       match symbol names formed by the CLI.  The optional mode argument
;  495          0770  1 !       specifies a code (LIB$K_CLI_LOCAL_SYM or LIB$K_CLI_GLOBAL_SYM) which
;  496          0771  1 !       names the symbol table on which the delete operation will be performed.
;  497          0772  1 !       If the mode argument is omitted, the the local symbol table is used.
;  498          0773  1 !
;  499          0774  1 !       The optional mode value can be one of:
;  500          0775  1 !               LIB$K_CLI_LOCAL_SYM  = 1 ==> Local symbol table name
;  501          0776  1 !               LIB$K_CLI_GLOBAL_SYM = 2 ==> Global symbol table name
;  502          0777  1 !       These symbols are defined in $LIBCLIDEF.
;  503          0778  1 !
;  504          0779  1 ! CALLING SEQUENCE:
;  505          0780  1 !
;  506          0781  1 !       ret_status.wlc.v = LIB$DELETE_SYMBOL (symbol.rt.dx [, mode.rl.r])
;  507          0782  1 !
;  508          0783  1 ! FORMAL PARAMETERS:
;  509          0784  1 !
;  510          0785  1 !       symbol.rt.dx  - A string, passed by descriptor, which contains the
;  511          0786  1 !                       symbol to be defined or modified.  An upcased copy of
;  512          0787  1 !                       this string will actually be used for the deletion.
;  513          0788  1 !
;  514          0789  1 !       mode.rl.r     - An optional longword which, if present, contains a
;  515          0790  1 !                       value indicating from which table the symbol is to be
;  516          0791  1 !                       deleted.  If this parameter is omitted, the local
;  517          0792  1 !                       symbol table is used.
;  518          0793  1 !                       Possible values are:
;  519          0794  1 !                           LIB$K_CLI_LOCAL_SYM  ==> Local symbol table name
;  520          0795  1 !                           LIB$K_CLI_GLOBAL_SYM ==> Global symbol table name
;  521          0796  1 !
;  522          0797  1 ! IMPLICIT INPUTS:
;  523          0798  1 !
;  524          0799  1 !       NONE
;  525          0800  1 !
;  526          0801  1 ! IMPLICIT OUTPUTS:
;  527          0802  1 !
;  528          0803  1 !       NONE
;  529          0804  1 !
;  530          0805  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
;  531          0806  1 !
;  532          0807  1 !       SS$_NORMAL      Normal successful completion
;  533          0808  1 !       LIB$_INVARG     Invalid argument
;  534          0809  1 !       LIB$_INVSYMNAM  Invalid symbol name
;  535          0810  1 !       LIB$_NOSUCHSYM  No such symbol found
;  536          0811  1 !       LIB$_NOCLI      No CLI present to perform function
;  537          0812  1 !       LIB$_UNECLIERR  Unexpected CLI Error
;  538          0813  1 !
;  539          0814  1 ! SIDE EFFECTS:
```

```
;  540     0815  1 !
;  541     0816  1 !       A CLI symbol is deleted.
;  542     0817  1 !
;  543     0818  1 !       WARNING:
;  544     0819  1 !       Although this procedure performs some checks on the validity of
;  545     0820  1 !       symbol names passed to it, some symbol name considered valid by
;  546     0821  1 !       this procedure will be considered invalid by DCL.  Callers of this
;  547     0822  1 !       procedure are responsible for insuring that symbol names passed to
;  548     0823  1 !       this procedure contain only alphanumeric characters.
;  549     0824  1 !
;  550     0825  1 !--
;  551     0826  1
;  552     0827  2     BEGIN
;  553     0828  2
;  554     0829  2     BUILTIN
;  555     0830  2         NULLPARAMETER;
;  556     0831  2
;  557     0832  2     LOCAL
;  558     0833  2         CLI_REQ_BLOCK : BLOCK [CLI$C_SRVDESC, BYTE], ! A CLI request block
;  559     0834  2         DYN_STRING : BLOCK [8, BYTE],                ! Descriptor for dynamic string
;  560     0835  2         RETURN_STATUS : BLOCK [4, BYTE];             ! A return status value
;  561     0836  2
;  562     0837  2
;  563     0838  2 !+
;  564     0839  2 ! Initialize CLI Command request block.
;  565     0840  2 !-
;  566     0841  2     CH$FILL (0, CLI$C_SRVDESC, CLI_REQ_BLOCK);
;  567     0842  2     RETURN_STATUS = LIB$$BUILD_SYMBOL_NAME( .SYMBOL, DYN_STRING,
;  568     0843  2                             CLI_REQ_BLOCK [CLI$Q_NAMDESC] );
;  569     0844  2     IF NOT .RETURN_STATUS THEN RETURN .RETURN_STATUS;
;  570     0845  2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;
;  571     0846  2
;  572     0847  2 !+
;  573     0848  2 ! Setup service code indicating which symbol table.
;  574     0849  2 !-
;  575     0850  2     CLI_REQ_BLOCK [CLI$W_SERVCOD] =
;  576     0851  3         BEGIN
;  577     0852  3             IF NULLPARAMETER (2)
;  578     0853  3             THEN
;  579     0854  3                 CLI$K_DELELCL
;  580     0855  3             ELSE
;  581     0856  3                 CASE .MODE [0] FROM LIB$K_CLI_LOCAL_SYM
;  582     0857  3                                 TO LIB$K_CLI_GLOBAL_SYM OF
;  583     0858  3                 SET
;  584     0859  3                 [LIB$K_CLI_LOCAL_SYM]   : CLI$K_DELELCL;
;  585     0860  3                 [LIB$K_CLI_GLOBAL_SYM]  : CLI$K_DELEGBL;
;  586     0861  3                 [OUTRANGE]              : RETURN (LIB$_INVARG);
;  587     0862  3             TES
;  588     0863  2             END;
;  589     0864  2
;  590     0865  2 !+
;  591     0866  2 ! Delete CLI symbol.
;  592     0867  2 !-
;  593     0868  2     RETURN_STATUS = SYS$CLI (CLI_REQ_BLOCK);
;  594     0869  2
;  595     0870  2 !+
;  596     0871  2 ! Free dynamic string used for upcased symbol name.
```

```
;  597          0872  2 !-
;  598          0873  2     LIB$SFREE1_DD( DYN_STRING );
;  599          0874  2
;  600          0875  2 !+
;  601          0876  2 ! Adjust error return status, if any.
;  602          0877  2 !-
;  603          0878  2     IF NOT .RETURN_STATUS AND (.RETURN_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY)
;  604          0879  2     THEN
;  605          0880  2         RETURN_STATUS =
;  606          0881  3         BEGIN
;  607          0882  3             SELECTONE .RETURN_STATUS OF
;  608          0883  3             SET
;  609          0884  3             [CLI$_UNDSYM] :     LIB$_NOSUCHSYM;
;  610          0885  3             [CLI$_INVREQTYP] :  LIB$_NOCLI;
;  611          0886  3             [OTHERWISE] :       LIB$_UNECLIERR;
;  612          0887  3             TES
;  613          0888  2             END;
;  614          0889  2
;  615          0890  2     RETURN (.RETURN_STATUS);
;  616          0891  2
;  617          0892  1     END;                                    ! End of routine LIB$DELETE_SYMBOL


                                                003C 00000          .ENTRY  LIB$DELETE_SYMBOL, Save R2,R3,R4,R5          ; 0759
                                      5E    A4  AE  9E 00002        MOVAB   -92(SP), SP                                  ;
    0054   8F           00             6E        00  2C 00006        MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK             ; 0841
                                                08  AE     0000D    ;                                                    ;
                                                0C  AE  9F 0000F        PUSHAB  CLI_REQ_BLOCK+4                          ; 0843
                                                04  AE  9F 00012        PUSHAB  DYN_STRING                               ; 0842
                                                04  AC  DD 00015        PUSHL   SYMBOL                                   ; 0843
                                          0000V CF                      03  FB 00018        CALLS   #3, LIB$$BUILD_SYMBOL_NAME    ;
                                                52                      50  D0 0001D        MOVL    R0, RETURN_STATUS     ;
                                                76                      52  E9 00020        BLBC    RETURN_STATUS, 7$     ; 0844
                                             08 AE                      05  90 00023        MOVB    #5, CLI_REQ_BLOCK     ; 0845
                                                02                      6C  91 00027        CMPB    (AP), #2              ; 0852
                                                                        16  1F 0002A        BLSSU   2$                    ;
                                                                    08  AC  D5 0002C        TSTL    8(AP)                 ;
                                                                        11  13 0002F        BEQL    2$                    ;
                                          01                01        08  BC  CF 00031        CASEL   @MODE, #1, #1         ; 0856
                                                      0011                000C        00036 1$:   .WORD   2$-1$,-           ;
                                                                                              3$-1$                 ;
                                                50 00000000G            8F  D0 0003A        MOVL    #LIB$_INVARG, R0      ; 0861
                                                                            04  00041        RET                   ;
                                                50                          0B  D0 00042 2$:    MOVL    #11, R0               ; 0856
                                                                            03  11 00045        BRB     4$                    ;
                                                50                          0C  D0 00047 3$:    MOVL    #12, R0               ;
                                             09 AE                          50  B0 0004A 4$:    MOVW    R0, CLI_REQ_BLOCK+1   ; 0851
                                                                    08  AE  9F 0004E        PUSHAB  CLI_REQ_BLOCK         ; 0868
                                       00000000G 00                         01  FB 00051        CALLS   #1, SYS$CLI           ;
                                                52                          50  D0 00058        MOVL    R0, RETURN_STATUS     ;
                                                                            5E  DD 0005B        PUSHL   SP                    ; 0873
                                       00000000G 00                         01  FB 0005D        CALLS   #1, LIB$SFREE1_DD     ;
                                                32                          52  E8 00064        BLBS    RETURN_STATUS, 7$     ; 0878
                                03              52                      0C  10  ED 00067        CMPZV   #16, #12, RETURN_STATUS, #3   ;
```

```
                                                2B  12 0006C           BNEQ    7$
                                00038140    8F  52  D1 0006E           CMPL    RETURN_STATUS, #229696                  ; 0884
                                                09  12 00075           BNEQ    5$
                                        52 00000000G    8F  D0 00077           MOVL    #LIB$_NOSUCHSYM, RETURN_STATUS
                                                19  11 0007E           BRB     7$
                                00038822    8F  52  D1 00080 5$:      CMPL    RETURN_STATUS, #231458                  ; 0885
                                                09  12 00087           BNEQ    6$
                                        52 00000000G    8F  D0 00089           MOVL    #LIB$_NOCLI, RETURN_STATUS
                                                07  11 00090           BRB     7$
                                        52 00000000G    8F  D0 00092 6$:      MOVL    #LIB$_UNECLIERR, RETURN_STATUS  ; 0886
                                        50              52  D0 00099 7$:      MOVL    RETURN_STATUS, R0               ; 0890
                                                        04  0009C           RET                                     ; 0892

; Routine Size:  157 bytes,    Routine Base:  _LIB$CODE + 01A5
```

```
;  619          0893  1 %SBTTL 'LIB$SET_LOGICAL - set supervisor mode logical name'
;  620          0894  1 GLOBAL ROUTINE LIB$SET_LOGICAL (                    ! set supervisor mode logical name
;  621          0895  1         LOGNAME : REF $BBLOCK,          ! logical name string descriptor
;  622          0896  1         VALUE   : REF $BBLOCK,          ! equivalence name string descriptor
;  623          0897  1         TABNAM  : REF $BBLOCK,          ! logical name table
;  624          0898  1         ATTR    : REF $BBLOCK[4],       ! attributes
;  625          0899  1         ITMLST  : REF $BBLOCK           ! Address of itemlist
;  626          0900  1     ) =
;  627          0901  1
;  628          0902  1 !++
;  629          0903  1 ! FUNCTIONAL DESCRIPTION:
;  630          0904  1 !
;  631          0905  1 !       This routine provides a method by which a non-privileged program can
;  632          0906  1 !       create/modify supervisor mode logical names.  The logical name given
;  633          0907  1 !       by logname is created or modified to have the equivalence name
;  634          0908  1 !       specified by value.
;  635          0909  1 !       The user may specify attributes for the logical name and may
;  636          0910  1 !       specify which logical name table is to be used.
;  637          0911  1 !       Instead of specifying a single equivalence string, via VALUE,
;  638          0912  1 !       the caller may specify an item list to give multiple equivalence strings.
;  639          0913  1 !
;  640          0914  1 !       The $TRNLNM system service can be used to obtain the value of
;  641          0915  1 !       supervisor mode logical names.  The routine is equivalent to the ASSIGN
;  642          0916  1 !       or DEFINE DCL command.
;  643          0917  1 !
;  644          0918  1 ! CALLING SEQUENCE:
;  645          0919  1 !
;  646          0920  1 !       ret_status.wlc.v = LIB$SET_LOGICAL (
;  647          0921  1 !                                       logname.rt.dx
;  648          0922  1 !                                       [, value.rt.dx]
;  649          0923  1 !                                       [, tabnam.rt.dx]
;  650          0924  1 !                                       [, attr.rlu.r]
;  651          0925  1 !                                       [, itmlst.ra.r])
;  652          0926  1 !
;  653          0927  1 ! FORMAL PARAMETERS:
;  654          0928  1 !
;  655          0929  1 !       logname.rt.dx - A string, passed by descriptor, which contains the
;  656          0930  1 !                       supervisor mode logical name to be created or modified.
;  657          0931  1 !
;  658          0932  1 !       value.rt.dx   - A string, passed by descriptor, specifing the value
;  659          0933  1 !                       to be given to the supervisor mode logical name.
;  660          0934  1 !                       If omitted, an itemlist must be present to specify the
;  661          0935  1 !                       value(s) of the logical name.
;  662          0936  1 !
;  663          0937  1 !       tabnam.rt.dx  - Name of the table in which to create the logical name.
;  664          0938  1 !                       If omitted, the LNM$PROCESS table is used.
;  665          0939  1 !
;  666          0940  1 !       attr.rlu.r    - Logical name attributes.  See the description of
;  667          0941  1 !                       the system service $CRELNM for more details.
;  668          0942  1 !                       Currently available attributes are
;  669          0943  1 !                       LNM$M_CONFINE and LNM$M_NO_ALIAS.
;  670          0944  1 !                       If omitted, no special attributes are established.
;  671          0945  1 !                       However, if no table or itemlist is specified,
;  672          0946  1 !                       then the attribute LNM$M_CRELOG is defaulted in.
;  673          0947  1 !
;  674          0948  1 !                       If no itemlist is specified, then the translation
;  675          0949  1 !                       attributes LNM$M_CONCEALED and LNM$M_TERMINAL may
```

```
;  676          0950  1 !                          also be specified here.  They apply to the
;  677          0951  1 !                          equivalence string string specified by the VALUE
;  678          0952  1 !                          parameter.
;  679          0953  1 !
;  680          0954  1 !                          If an itemlist is specified, then the itemlist will
;  681          0955  1 !                          contain the translation attributes for each
;  682          0956  1 !                          equivalence string in the itemlist.
;  683          0957  1 !
;  684          0958  1 !                  itmlst.ra.r     The address of an item list describing the
;  685          0959  1 !                          equivalence name(s) for this logical name.
;  686          0960  1 !                          See the description of the $CRELNM system service
;  687          0961  1 !                          for the format and meaning of the item list.
;  688          0962  1 !
;  689          0963  1 !                          If omitted, the logical name will have just one
;  690          0964  1 !                          value, as specified by the VALUE parameter.
;  691          0965  1 !
;  692          0966  1 !                          Either VALUE or ITMLST must be specified.
;  693          0967  1 !                          If neither are specified, the LIB$_INVARG
;  694          0968  1 !                          error is produced.
;  695          0969  1 !
;  696          0970  1 !                          If both are specified, then the VALUE parameter
;  697          0971  1 !                          is ignored.  In this case, logical name
;  698          0972  1 !                          attributes are permitted, but translation
;  699          0973  1 !                          attributes specified in the ATTR parameter
;  700          0974  1 !                          will be ignored (since these will appear in the
;  701          0975  1 !                          itemlist).
;  702          0976  1 !
;  703          0977  1 !                          The ITMLST parameter is only needed in the case where
;  704          0978  1 !                          you wish to create multiple equivalence strings
;  705          0979  1 !                          for a single logical name (i.e. a search list).
;  706          0980  1 !
;  707          0981  1 ! IMPLICIT INPUTS:
;  708          0982  1 !
;  709          0983  1 !       It is assumed that the logical name table specified already exists.
;  710          0984  1 !
;  711          0985  1 ! IMPLICIT OUTPUTS:
;  712          0986  1 !
;  713          0987  1 !       NONE
;  714          0988  1 !
;  715          0989  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
;  716          0990  1 !
;  717          0991  1 !       SS$_NORMAL      Normal successful completion
;  718          0992  1 !       SS$_SUPERSEDE   Previous logical name replaced (success)
;  719          0993  1 !       SS$_ACCVIO      logname or value cannot be read
;  720          0994  1 !       SS$_IVLOGNAM    logname or value contains more than 255 characters
;  721          0995  1 !       SS$_BADPARAM    One or more arguments had a bad value.
;  722          0996  1 !                       For example, an unknown bit was specified in
;  723          0997  1 !                       the attributes parameter.
;  724          0998  1 !                       Note that if an item list is specified,
;  725          0999  1 !                       then translation attributes (if any) must
;  726          1000  1 !                       appear in the item list and may not appear
;  727          1001  1 !                       in the ATTR parameter.  Only logical name
;  728          1002  1 !                       attributes may appear in the ATTR parameter
;  729          1003  1 !                       in that case.
;  730          1004  1 !       SS$_NOLOGNAM    The specified logical name table does not exist.
;  731          1005  1 !       SS$_NOPRIV      The caller lacks the necessary privieleges
;  732          1006  1 !                       to create the logical name.
```

```
;  733          1007  1 !       SS$_TOOMANYLNAM Logical name translation of the table name exceeded
;  734          1008  1 !                       the allowable depth (10 translations).
;  735          1009  1 !       SS$_DUPLNAM     Attempt to create a logical name that conflicts
;  736          1010  1 !                       with a logical name created at a higher access mode
;  737          1011  1 !                       and which had the LNM$M_NO_ALIAS attribute.
;  738          1012  1 !       SS$_EXLNMQUOTA  Exceeded logical name space quota.
;  739          1013  1 !       SS$_INSFMEM     Insufficient dynamic memory.
;  740          1014  1 !       LIB$_INVARG     Invalid argument. Neither a VALUE nor an ITMLST
;  741          1015  1 !                       was specified.
;  742          1016  1 !                       Or LOGNAME was omitted.
;  743          1017  1 !       LIB$_NOCLI      No CLI present to perform function
;  744          1018  1 !       LIB$_UNECLIERR  Unexpected CLI Error
;  745          1019  1 !       LIB$_WRONUMARG  Wrong number of arguments.  Either fewer than two
;  746          1020  1 !                       arguments or more than 5 arguments were specified.
;  747          1021  1 !
;  748          1022  1 ! SIDE EFFECTS:
;  749          1023  1 !
;  750          1024  1 !       A supervisor mode logical name is created or modified.
;  751          1025  1 !
;  752          1026  1 !--
;  753          1027  1
;  754          1028  2     BEGIN
;  755          1029  2
;  756          1030  2     BUILTIN
;  757          1031  2
;  758          1032  2         ACTUALCOUNT,
;  759          1033  2         NULLPARAMETER;
;  760          1034  2
;  761          1035  2     LOCAL
;  762          1036  2
;  763          1037  2         CLI_REQ_BLOCK : BLOCK [CLI$C_SRVDESC, BYTE],    ! A CLI request block
;  764          1038  2         RETURN_STATUS : BLOCK [4, BYTE],
;  765          1039  2         TRANSLATION_ATTRIBUTES,
;  766          1040  2         LOGICAL_NAME_ATTRIBUTES,
;  767          1041  2         SPECIAL_ITEM_LIST : VECTOR [7];                 ! Special item list
;  768          1042  2
;  769          1043  2 !+
;  770          1044  2 ! Check for proper number of arguments.
;  771          1045  2 !-
;  772          1046  2
;  773          1047  2     IF ACTUALCOUNT() LEQU 1
;  774          1048  2     OR ACTUALCOUNT() GTRU 5
;  775          1049  2     THEN
;  776          1050  2         RETURN  LIB$_WRONUMARG;
;  777          1051  2
;  778          1052  2 !+
;  779          1053  2 ! Initialize CLI Command request block accounting for the differences
;  780          1054  2 ! between creating/modifying a logical name and deleting one.
;  781          1055  2 !-
;  782          1056  2
;  783          1057  2     CH$FILL (0, CLI$C_SRVDESC, CLI_REQ_BLOCK);
;  784          1058  2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;
;  785          1059  2     CLI_REQ_BLOCK [CLI$W_SERVCOD] = CLI$K_CREALOG;
;  786          1060  2
;  787          1061  2 !+
;  788          1062  2 ! Move in the logical name, the equivalence string, and the logical
;  789          1063  2 ! name table name.
```

```
;  790          1064  2 ! Give an error if the logical name is omitted.
;  791          1065  2 ! Give an error if neither VALUE nor ITMLST is supplied.
;  792          1066  2 !-
;  793          1067  2
;  794          1068  2     IF .LOGNAME EQL 0
;  795          1069  2     THEN
;  796          1070  2         RETURN  LIB$_INVARG;
;  797          1071  2
;  798          1072  2     MOVEDESC ( .LOGNAME, CLI_REQ_BLOCK [CLI$Q_NAMDESC] );
;  799          1073  2
;  800          1074  2     IF NULLPARAMETER(VALUE) AND NULLPARAMETER(ITMLST)
;  801          1075  2     THEN
;  802          1076  2         RETURN  LIB$_INVARG;
;  803          1077  2
;  804          1078  2     IF NOT NULLPARAMETER(VALUE)
;  805          1079  2     THEN
;  806          1080  2         MOVEDESC ( .VALUE,  CLI_REQ_BLOCK [CLI$Q_VALDESC] );
;  807          1081  2
;  808          1082  2     !+
;  809          1083  2     ! NOTE:
;  810          1084  2     ! If both VALDESC and ITMLST are specified, DCL will ignore VALUE.
;  811          1085  2     !-
;  812          1086  2
;  813          1087  2     !+
;  814          1088  2     ! Move in the table name if present.
;  815          1089  2     ! If not present, DCL defaults to LNM$PROCESS.
;  816          1090  2     !-
;  817          1091  2
;  818          1092  2     IF NOT NULLPARAMETER(TABNAM)
;  819          1093  2     THEN
;  820          1094  2         MOVEDESC ( .TABNAM, CLI_REQ_BLOCK [CLI$Q_TABDESC] );
;  821          1095  2
;  822          1096  2     !+
;  823          1097  2     ! Move in the address of the item list (if present).
;  824          1098  2     ! If not present, DCL will create an itemlist from CLI$Q_VALDESC.
;  825          1099  2     !-
;  826          1100  2
;  827          1101  2     IF NOT NULLPARAMETER(ITMLST)
;  828          1102  2     THEN
;  829          1103  2         CLI_REQ_BLOCK [CLI$L_ITMLST] = .ITMLST;
;  830          1104  2
;  831          1105  2     !+
;  832          1106  2     ! Move in the address of the attributes (if present).
;  833          1107  2     !-
;  834          1108  2
;  835          1109  2     IF NOT NULLPARAMETER(ATTR)
;  836          1110  2     THEN
;  837          1111  2         CLI_REQ_BLOCK [CLI$L_ATTR] = .ATTR;
;  838          1112  2
;  839          1113  2     !+
;  840          1114  2     ! NOTE:
;  841          1115  2     ! If CLI$Q_TABDESC, CLI$L_ITMLST, and CLI$L_ATTR are all 0,
;  842          1116  2     ! then DCL defaults in the attribute LNM$M_CRELOG, i.e.
;  843          1117  2     ! the call back looks like a V3 call back.
;  844          1118  2     !-
;  845          1119  2
;  846          1120  2 !+
```

```
;  847          1121  2 ! If the caller has specified translation attributes in ATTR
;  848          1122  2 ! (as opposed to just logical name attributes), this is normally
;  849          1123  2 ! an error.  That is because translation attributes should go in
;  850          1124  2 ! the itemlist.  However, as a convenience to RTL users who find
;  851          1125  2 ! it hard to build itemlists, we allow translation attributes to
;  852          1126  2 ! occur if no itemlist is specified.  In that case, we have to go
;  853          1127  2 ! through the trouble of building an itemlist for him.
;  854          1128  2 !-
;  855          1129  2
;  856          1130  2     IF NULLPARAMETER(ITMLST) AND NOT NULLPARAMETER(ATTR)
;  857          1131  2     THEN
;  858          1132  3         BEGIN   ! Check for translation attributes
;  859          1133  3         BIND    ATTR_VECTOR = .ATTR     : VECTOR[4,BYTE],
;  860          1134  3                 ATTR_VALUE  = .ATTR     : LONG;
;  861          1135  3
;  862          1136  3         !+
;  863          1137  3         ! The first byte of attributes are logical name attributes.
;  864          1138  3         ! The second byte of attributes are translation attributes.
;  865          1139  3         ! The other 2 bytes are reserved for VMS use.
;  866          1140  3         !-
;  867          1141  3
;  868          1142  3         IF .ATTR_VECTOR[1] NEQ 0
;  869          1143  3         THEN
;  870          1144  4                 BEGIN   ! Build special itemlist
;  871          1145  4                 BIND EQUIV_STRING_DESC = CLI_REQ_BLOCK[CLI$Q_VALDESC] : $BBLOCK;
;  872          1146  4
;  873          1147  4                 !+
;  874          1148  4                 ! Create translation attributes from the specified attributes.
;  875          1149  4                 !-
;  876          1150  4
;  877          1151  4                 TRANSLATION_ATTRIBUTES=.ATTR_VALUE AND %X'FF00';
;  878          1152  4
;  879          1153  4                 !+
;  880          1154  4                 ! Create logical name attributes from the specified attributes.
;  881          1155  4                 !-
;  882          1156  4
;  883          1157  4                 LOGICAL_NAME_ATTRIBUTES=.ATTR_VALUE AND %X'FF';
;  884          1158  4
;  885          1159  4                 SPECIAL_ITEM_LIST[0]=LNM$_ATTRIBUTES^16+4;
;  886          1160  4                 SPECIAL_ITEM_LIST[1]=TRANSLATION_ATTRIBUTES;
;  887          1161  4                 SPECIAL_ITEM_LIST[2]=0;
;  888          1162  4                 SPECIAL_ITEM_LIST[3]=LNM$_STRING^16+.EQUIV_STRING_DESC[DSC$W_LENGTH];
;  889          1163  4                 SPECIAL_ITEM_LIST[4]=.EQUIV_STRING_DESC[DSC$A_POINTER];
;  890          1164  4                 SPECIAL_ITEM_LIST[5]=0;
;  891          1165  4                 SPECIAL_ITEM_LIST[6]=0;                 ! no more entries
;  892          1166  4
;  893          1167  4                 !+
;  894          1168  4                 ! Store specially revised attributes and item list in
;  895          1169  4                 ! the request block.
;  896          1170  4                 !-
;  897          1171  4
;  898          1172  4                 CLI_REQ_BLOCK[CLI$L_ATTR]=LOGICAL_NAME_ATTRIBUTES;
;  899          1173  4                 CLI_REQ_BLOCK[CLI$L_ITMLST]=SPECIAL_ITEM_LIST
;  900          1174  4
;  901          1175  4                 END     ! Build special itemlist
;  902          1176  4
;  903          1177  2         END;    ! Check for translation attributes
```

```
;  904          1178  2
;  905          1179  2 !+
;  906          1180  2 ! Create or modify the supervisor mode logical name.
;  907          1181  2 !-
;  908          1182  2     RETURN_STATUS = SYS$CLI (CLI_REQ_BLOCK);
;  909          1183  2
;  910          1184  2 !+
;  911          1185  2 ! Adjust error return status, if any.
;  912          1186  2 !-
;  913          1187  3     IF NOT .RETURN_STATUS AND (.RETURN_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY)
;  914          1188  2     THEN
;  915          1189  2         RETURN_STATUS =
;  916          1190  3         BEGIN
;  917          1191  3             SELECTONE .RETURN_STATUS OF
;  918          1192  3             SET
;  919          1193  3             [CLI$_INVREQTYP] :  LIB$_NOCLI;
;  920          1194  3             [OTHERWISE] :       LIB$_UNECLIERR;
;  921          1195  3             TES
;  922          1196  2             END;
;  923          1197  2
;  924          1198  2     RETURN .RETURN_STATUS
;  925          1199  2
;  926          1200  1     END;                                    ! End of LIB$SET_LOGICAL

                                 007C 00000         .ENTRY  LIB$SET_LOGICAL, Save R2,R3,R4,R5,R6    ; 0894
                     56 00000000G  00   9E 00002    MOVAB   LIB$ANALYZE_SDESC_R2, R6
                     5E        88  AE   9E 00009    MOVAB   -120(SP), SP
                     01            6C   91 0000D    CMPB    (AP), #1                                ; 1047
                                   05   1B 00010    BLEQU   1$
                     05            6C   91 00012    CMPB    (AP), #5                                ; 1048
                                   08   1B 00015    BLEQU   2$
                     50 00000000G  8F   D0 00017 1$: MOVL    #LIB$_WRONUMARG, R0                     ; 1050
                                   04   0001E    RET
0054  8F       00          6E       00   2C 0001F 2$: MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK       ; 1057
                                24 AE        00026
                        24  AE             05   90 00028    MOVB    #5, CLI_REQ_BLOCK               ; 1058
                        25  AE             06   B0 0002C    MOVW    #6, CLI_REQ_BLOCK+1             ; 1059
                                04 AC       D5 00030    TSTL    LOGNAME                             ; 1068
                                           25   13 00033    BEQL    4$
                     50         04 AC       D0 00035    MOVL    LOGNAME, R0                         ; 1072
                                           66   16 00039    JSB     LIB$ANALYZE_SDESC_R2
                        28  AE             51   B0 0003B    MOVW    R1, CLI_REQ_BLOCK+4
                        2C  AE             52   D0 0003F    MOVL    R2, CLI_REQ_BLOCK+8
                                           4F   50 E9 00043    BLBC    RET_STATUS, 7$
                                           02   6C   91 00046    CMPB    (AP), #2                    ; 1074
                                                05   1F 00049    BLSSU   3$
                                08 AC       D5 0004B    TSTL    8(AP)
                                           12   12 0004E    BNEQ    5$
                     05                    6C   91 00050 3$: CMPB    (AP), #5
                                                05   1F 00053    BLSSU   4$
                                14 AC       D5 00055    TSTL    20(AP)
                                           08   12 00058    BNEQ    5$
                     50 00000000G  8F   D0 0005A 4$: MOVL    #LIB$_INVARG, R0                    ; 1076
```

```
                                                 04 00061          RET
                    02                        6C 91 00062 5$:      CMPB    (AP), #2                                    ;1078
                                              16 1F 00065          BLSSU   6$
                              08              AC D5 00067          TSTL    8(AP)
                                              11 13 0006A          BEQL    6$
                    50        08              AC D0 0006C          MOVL    VALUE, R0                                   ;1080
                                              66 16 00070          JSB     LIB$ANALYZE_SDESC_R2
                 30 AE                        51 B0 00072          MOVW    R1, CLI_REQ_BLOCK+12
                 34 AE                        52 D0 00076          MOVL    R2, CLI_REQ_BLOCK+16
                    18                        50 E9 0007A          BLBC    RET_STATUS, 7$
                    03                        6C 91 0007D 6$:      CMPB    (AP), #3                                    ;1092
                                              17 1F 00080          BLSSU   8$
                              0C              AC D5 00082          TSTL    12(AP)
                                              12 13 00085          BEQL    8$
                    50        0C              AC D0 00087          MOVL    TABNAM, R0                                  ;1094
                                              66 16 0008B          JSB     LIB$ANALYZE_SDESC_R2
                 38 AE                        51 B0 0008D          MOVW    R1, CLI_REQ_BLOCK+20
                 3C AE                        52 D0 00091          MOVL    R2, CLI_REQ_BLOCK+24
                    01                        50 E8 00095 7$:      BLBS    RET_STATUS, 8$
                                                 04 00098          RET
                    05                        6C 91 00099 8$:      CMPB    (AP), #5                                    ;1101
                                              0A 1F 0009C          BLSSU   9$
                              14              AC D5 0009E          TSTL    20(AP)
                                              05 13 000A1          BEQL    9$
                 40 AE        14              AC D0 000A3          MOVL    ITMLST, CLI_REQ_BLOCK+28                    ;1103
                    04                        6C 91 000A8 9$:      CMPB    (AP), #4                                    ;1109
                                              0A 1F 000AB          BLSSU   10$
                              10              AC D5 000AD          TSTL    16(AP)
                                              05 13 000B0          BEQL    10$
                 44 AE        10              AC D0 000B2          MOVL    ATTR, CLI_REQ_BLOCK+32                      ;1111
                    05                        6C 91 000B7 10$:     CMPB    (AP), #5                                    ;1130
                                              05 1F 000BA          BLSSU   11$
                              14              AC D5 000BC          TSTL    20(AP)
                                              4B 12 000BF          BNEQ    12$
                    04                        6C 91 000C1 11$:     CMPB    (AP), #4
                                              46 1F 000C4          BLSSU   12$
                                 10           AC D5 000C6          TSTL    16(AP)
                                              41 13 000C9          BEQL    12$
                    50           10           AC D0 000CB          MOVL    ATTR, R0                                    ;1133
                                 01           A0 95 000CF          TSTB    1(R0)                                       ;1142
                                              38 13 000D2          BEQL    12$
                 6E           10 BC FFFF00FF  8F CB 000D4          BICL3   #-65281, @ATTR, TRANSLATION_ATTRIBUTES      ;1151
                              04 AE        10 BC 9A 000DD          MOVZBL  @ATTR, LOGICAL_NAME_ATTRIBUTES              ;1157
                              08 AE 00030004  8F D0 000E2          MOVL    #196612, SPECIAL_ITEM_LIST                  ;1159
                              0C AE           6E 9E 000EA          MOVAB   TRANSLATION_ATTRIBUTES, SPECIAL_ITEM_LIST+4 ;1160
                                 10 AE        D4 000EE             CLRL    SPECIAL_ITEM_LIST+8                         ;1161
                              14 AE        30 AE 3C 000F1          MOVZWL  EQUIV_STRING_DESC, SPECIAL_ITEM_LIST+12     ;1162
                              16 AE           02 A0 000F6          ADDW2   #2, SPECIAL_ITEM_LIST+12
                              18 AE        34 AE D0 000FA          MOVL    EQUIV_STRING_DESC+4, SPECIAL_ITEM_LIST+16   ;1163
                                 1C AE        7C 000FF             CLRQ    SPECIAL_ITEM_LIST+20                        ;1164
                              44 AE        04 AE 9E 00102          MOVAB   LOGICAL_NAME_ATTRIBUTES, CLI_REQ_BLOCK+32   ;1172
                              40 AE        08 AE 9E 00107          MOVAB   SPECIAL_ITEM_LIST, CLI_REQ_BLOCK+28         ;1173
                                 24 AE        9F 0010C 12$:        PUSHAB  CLI_REQ_BLOCK                               ;1182
                    00000000G    00              01 FB 0010F      CALLS   #1, SYS$CLI
                                 1F              50 E8 00116      BLBS    RETURN_STATUS, 14$                          ;1187
 03                 50           0C              10 ED 00119      CMPZV   #16, #T2, RETURN_STATUS, #3
                                                 18 12 0011E      BNEQ    14$
```

```
                          00038822   8F            50  D1 00120          CMPL    RETURN_STATUS, #231458                  ; 1193
                                                 08  12 00127          BNEQ    13$                                     ;
                                     50 00000000G  8F  D0 00129          MOVL    #LIB$_NOCLI, RETURN_STATUS              ;
                                                       04 00130          RET                                             ;
                                     50 00000000G  8F  D0 00131 13$:     MOVL    #LIB$_UNECLIERR, RETURN_STATUS          ; 1194
                                                       04 00138 14$:     RET                                             ; 1200

; Routine Size:  313 bytes,    Routine Base:  _LIB$CODE + 0242
```

```
;  928          1201  1 %SBTTL 'LIB$DELETE_LOGICAL - delete supervisor mode logical name'
;  929          1202  1 GLOBAL ROUTINE LIB$DELETE_LOGICAL (                ! delete supervisor mode logical name
;  930          1203  1         LOGNAME : REF $BBLOCK,          ! logical name string descriptor
;  931          1204  1         TABNAM  : REF $BBLOCK           ! table name
;  932          1205  1     ) =
;  933          1206  1
;  934          1207  1 !++
;  935          1208  1 ! FUNCTIONAL DESCRIPTION:
;  936          1209  1 !
;  937          1210  1 !       This routine provides a method by which a non-privileged program can
;  938          1211  1 !       delete a supervisor mode logical name.  The logical name given by
;  939          1212  1 !       logname is deleted from the specified or implied logical name table.
;  940          1213  1 !
;  941          1214  1 !       The $TRNLOG system service can be used to obtain the value of
;  942          1215  1 !       supervisor mode logical names.  The routine is equivalent to the
;  943          1216  1 !       DEASSIGN DCL command.
;  944          1217  1 !
;  945          1218  1 ! CALLING SEQUENCE:
;  946          1219  1 !
;  947          1220  1 !       ret_status.wlc.v = LIB$DELETE_LOGICAL (logname.rt.dx [,tabnam.rt.dx])
;  948          1221  1 !
;  949          1222  1 ! FORMAL PARAMETERS:
;  950          1223  1 !
;  951          1224  1 !       logname.rt.dx - A string, passed by descriptor, which contains the
;  952          1225  1 !                       supervisor mode logical name to be deleted.
;  953          1226  1 !                       Must be present.
;  954          1227  1 !
;  955          1228  1 !       tabnam.rt.dx  - A string, passed by descriptor, that contains the
;  956          1229  1 !                       name of the logical name table from which the
;  957          1230  1 !                       logical name is to be deleted.
;  958          1231  1 !                       If omitted, the logical name is removed from
;  959          1232  1 !                       the LNM$PROCESS logical name table.
;  960          1233  1 !
;  961          1234  1 ! IMPLICIT INPUTS:
;  962          1235  1 !
;  963          1236  1 !       It is assumed that the logical name table specified already exists.
;  964          1237  1 !
;  965          1238  1 ! IMPLICIT OUTPUTS:
;  966          1239  1 !
;  967          1240  1 !       NONE
;  968          1241  1 !
;  969          1242  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
;  970          1243  1 !
;  971          1244  1 !       SS$_NORMAL       Normal successful completion
;  972          1245  1 !       SS$_ACCVIO       logname cannot be read
;  973          1246  1 !       SS$_IVLOGNAM     logname contains more than 63 characters
;  974          1247  1 !       SS$_NOLOGNAM     No such logical name defined or logical name specified
;  975          1248  1 !                            was declared in executative or kernel mode
;  976          1249  1 !       SS$_IVLOGTAB     Invalid logical name table specified
;  977          1250  1 !       SS$_NOPRIV       Caller lacks the necessary privilege to delete
;  978          1251  1 !                            the logical name
;  979          1252  1 !       SS$_TOOMANYLNAM Logical name translation of the table name exceeded
;  980          1253  1 !                            the allowable depth (10 translations)
;  981          1254  1 !       LIB$_INVARG      Invalid argument
;  982          1255  1 !       LIB$_NOCLI       No CLI present to perform function
;  983          1256  1 !       LIB$_UNECLIERR   Unexpected CLI Error
;  984          1257  1 !       LIB$_WRONUMARG   No arguments specified or more than two specified.
```

```
;  985          1258  1 !
;  986          1259  1 ! SIDE EFFECTS:
;  987          1260  1 !
;  988          1261  1 !       A supervisor mode logical name is deleted from the specified or
;  989          1262  1 !       implied logical name table.
;  990          1263  1 !
;  991          1264  1 !--
;  992          1265  1
;  993          1266  2     BEGIN
;  994          1267  2
;  995          1268  2     BUILTIN
;  996          1269  2         ACTUALCOUNT,
;  997          1270  2         NULLPARAMETER;
;  998          1271  2
;  999          1272  2     LOCAL
; 1000          1273  2         CLI_REQ_BLOCK : BLOCK [CLI$C_SRVDESC, BYTE], ! A CLI request block
; 1001          1274  2         RETURN_STATUS : BLOCK [4, BYTE];
; 1002          1275  2
; 1003          1276  2 !+
; 1004          1277  2 ! Check for proper number of arguments.
; 1005          1278  2 !-
; 1006          1279  2
; 1007          1280  2     IF ACTUALCOUNT() EQLU 0
; 1008          1281  2     OR ACTUALCOUNT() GTRU 2
; 1009          1282  2     THEN
; 1010          1283  2         RETURN  LIB$_WRONUMARG;
; 1011          1284  2 !+
; 1012          1285  2 ! Initialize CLI Command request block.
; 1013          1286  2 !-
; 1014          1287  2     CH$FILL (0, CLI$C_SRVDESC, CLI_REQ_BLOCK);
; 1015          1288  2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;
; 1016          1289  2     CLI_REQ_BLOCK [CLI$W_SERVCOD] = CLI$K_DELELOG;
; 1017          1290  2
; 1018          1291  2 !+
; 1019          1292  2 ! Move in the logical name.
; 1020          1293  2 !-
; 1021          1294  2
; 1022          1295  2     MOVEDESC ( .LOGNAME, CLI_REQ_BLOCK [CLI$Q_NAMDESC] ),
; 1023          1296  2
; 1024          1297  2 !+
; 1025          1298  2 ! Move in the table name, if specified.
; 1026          1299  2 ! If not specified, DCL willd efault in LNM$PROCESS.
; 1027          1300  2 !-
; 1028          1301  2
; 1029          1302  2     IF NOT NULLPARAMETER(TABNAM)
; 1030          1303  2     THEN
; 1031          1304  2             MOVEDESC ( .TABNAM, CLI_REQ_BLOCK [CLI$Q_TABDESC] );
; 1032          1305  2
; 1033          1306  2 !+
; 1034          1307  2 ! Delete the supervisor mode logical name.
; 1035          1308  2 !-
; 1036          1309  2     RETURN_STATUS = SYS$CLI (CLI_REQ_BLOCK);
; 1037          1310  2
; 1038          1311  2 !+
; 1039          1312  2 ! Adjust error return status, if any.
; 1040          1313  2 !-
; 1041          1314  3     IF NOT .RETURN_STATUS AND (.RETURN_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY)
```

```
;  1042          1315  2     THEN
;  1043          1316  2         RETURN_STATUS =
;  1044          1317  3         BEGIN
;  1045          1318  3             SELECTONE .RETURN_STATUS OF
;  1046          1319  3             SET
;  1047          1320  3             [CLI$_INVREQTYP] :  LIB$_NOCLI;
;  1048          1321  3             [OTHERWISE] :       LIB$_UNECLIERR;
;  1049          1322  3             TES
;  1050          1323  2             END;
;  1051          1324  2
;  1052          1325  2     RETURN .RETURN_STATUS
;  1053          1326  2
;  1054          1327  1     END;                                    ! End of LIB$DELETE_LOGICAL


                                        007C 00000          .ENTRY  LIB$DELETE_LOGICAL, Save R2,R3,R4,R5,R6      ; 1202
                              56 00000000G  00  9E 00002    MOVAB   LIB$ANALYZE_SDESC_R2, R6                     ;
                              5E       AC   AE  9E 00009    MOVAB   -84(SP), SP                                  ;
                                            6C  95 0000D    TSTB    (AP)                                         ; 1280
                                            05  13 0000F    BEQL    1$                                           ;
                              02            6C  91 00011    CMPB    (AP), #2                                     ; 1281
                                            08  1B 00014    BLEQU   2$                                           ;
                              50 00000000G  8F  D0 00016 1$:  MOVL    #LIB$_WRONUMARG, R0                          ; 1283
                                            04  0001D       RET                                                  ;
    0054    8F          00                6E  00  2C 0001E 2$:  MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK        ; 1287
                                              6E    00025                                                        ;
                              6E            05  90 00026    MOVB    #5, CLI_REQ_BLOCK                            ; 1288
                           01 AE            07  B0 00029    MOVW    #7, CLI_REQ_BLOCK+1                          ; 1289
                              50       04 AC  D0 0002D       MOVL    LOGNAME, R0                                  ; 1295
                                            66  16 00031    JSB     LIB$ANALYZE_SDESC_R2                         ;
                           04 AE            51  B0 00033    MOVW    R1, CLI_REQ_BLOCK+4                          ;
                           08 AE            52  D0 00037    MOVL    R2, CLI_REQ_BLOCK+8                          ;
                              46            50  E9 0003B    BLBC    RET_STATUS, 5$                               ;
                              02            6C  91 0003E    CMPB    (AP), #2                                     ; 1302
                                            16  1F 00041    BLSSU   3$                                           ;
                                    08 AC   D5  00043       TSTL    8(AP)                                        ;
                                            11  13 00046    BEQL    3$                                           ;
                              50        08 AC  D0 00048       MOVL    TABNAM, R0                                   ; 1304
                                            66  16 0004C    JSB     LIB$ANALYZE_SDESC_R2                         ;
                           14 AE            51  B0 0004E    MOVW    R1, CLI_REQ_BLOCK+20                         ;
                           18 AE            52  D0 00052    MOVL    R2, CLI_REQ_BLOCK+24                         ;
                              2B            50  E9 00056    BLBC    RET_STATUS, 5$                               ;
                                            5E  DD 00059 3$:  PUSHL   SP                                         ; 1309
                    00000000G 00            01  FB 0005B    CALLS   #1, SYS$CLI                                  ;
                              1F            50  E8 00062    BLBS    RETURN_STATUS, 5$                            ; 1314
    03          50            0C            1C  ED 00065    CMPZV   #16, #12, RETURN_STATUS, #3                   ;
                                            18  12 0006A    BNEQ    5$                                           ;
                    00038822  8F            50  D1 0006C    CMPL    RETURN_STATUS, #231458                       ; 1320
                                            08  12 00073    BNEQ    4$                                           ;
                              50 00000000G  8F  D0 00075    MOVL    #LIB$_NOCLI, RETURN_STATUS                   ;
                                            04  0007C       RET                                                  ;
                              50 00000000G  8F  D0 0007D 4$:  MOVL    #LIB$_UNECLIERR, RETURN_STATUS               ; 1321
                                            04  00084 5$:  RET                                                  ; 1327
```

; Routine Size:  133 bytes,    Routine Base:  _LIB$CODE + 037B

```
;  1056          1328  1 %SBTTL 'LIB$DISABLE_CTRL - disable CLI out-of-band character(s) handler'
;  1057          1329  1 GLOBAL ROUTINE LIB$DISABLE_CTRL (                    ! disable CLI out-of-band
;  1058          1330  1         DISABLE_MASK : REF VECTOR [, LONG],          ! disable bit mask
;  1059          1331  1         PREVIOUS_MASK : REF VECTOR [, LONG]          ! previous enable bit mask
;  1060          1332  1     ) =
;  1061          1333  1
;  1062          1334  1 !++
;  1063          1335  1 ! FUNCTIONAL DESCRIPTION:
;  1064          1336  1 !
;  1065          1337  1 !       This routine disables CLI processing for out-of-band the characters
;  1066          1338  1 !       identified by DISABLE_MASK.  When normal CLI processing for one or
;  1067          1339  1 !       more out-of-band characters is disabled, a user program can intercept
;  1068          1340  1 !       and respond to them.  There are no privilege requirements for calling
;  1069          1341  1 !       this routine.
;  1070          1342  1 !
;  1071          1343  1 !       Currently, this routine supports disabling of CLI out-of-band
;  1072          1344  1 !       processing for CTRL-T and CTRL-Y when the DCL CLI is in use, and for
;  1073          1345  1 !       CTRL-Y when the MCR CLI is in use.  The macro $LIBCLIDEF defines the
;  1074          1346  1 !       two masks used for disabling processing for these two out-of-band
;  1075          1347  1 !       characters as follows:
;  1076          1348  1 !               LIB$M_CLI_CTRLT         mask for CTRL-T
;  1077          1349  1 !               LIB$M_CLI_CTRLY         mask for CTRL-Y
;  1078          1350  1 !       If the masks are logically or'd together, processing for both
;  1079          1351  1 !       out-of-band characters will be effected.
;  1080          1352  1 !
;  1081          1353  1 ! CALLING SEQUENCE:
;  1082          1354  1 !
;  1083          1355  1 !       ret_status.wlc.v = LIB$DISABLE_CTRL (disable_mask.rl.r
;  1084          1356  1 !                                            [, previous_mask.wl.r ] )
;  1085          1357  1 !
;  1086          1358  1 ! FORMAL PARAMETERS:
;  1087          1359  1 !
;  1088          1360  1 !       disable_mask.rl.r     - the mask controlling which out-of-band
;  1089          1361  1 !                               characters the CLI should ignore.  Values
;  1090          1362  1 !                               should be selected from one of, or the logical
;  1091          1363  1 !                               OR of more than one of:
;  1092          1364  1 !                                       LIB$M_CLI_CTRLT
;  1093          1365  1 !                                       LIB$M_CLI_CTRLY
;  1094          1366  1 !                               These symbols are defined in $LIBCLIDEF.
;  1095          1367  1 !
;  1096          1368  1 !       previous_mask.wl.r    - a longword into which will be stored a mask
;  1097          1369  1 !                               having the same format as disable_mask, but
;  1098          1370  1 !                               which represents the enabled state for all
;  1099          1371  1 !                               out-of-band character processing before
;  1100          1372  1 !                               disable_mask is applied.
;  1101          1373  1 !
;  1102          1374  1 ! IMPLICIT INPUTS:
;  1103          1375  1 !
;  1104          1376  1 !       NONE
;  1105          1377  1 !
;  1106          1378  1 ! IMPLICIT OUTPUTS:
;  1107          1379  1 !
;  1108          1380  1 !       NONE
;  1109          1381  1 !
;  1110          1382  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
;  1111          1383  1 !
;  1112          1384  1 !       SS$_NORMAL      Normal successful completion
```

```
;  1113          1385  1 !       LIB$_INVARG     Disable_mask has an unrecognized bit set
;  1114          1386  1 !       LIB$_NOCLI      No CLI present to perform function
;  1115          1387  1 !       LIB$_UNECLIERR  Unexpected CLI Error
;  1116          1388  1 !
;  1117          1389  1 ! SIDE EFFECTS:
;  1118          1390  1 !
;  1119          1391  1 !       CLI out-of-band processing of one or more characters is disabled.
;  1120          1392  1 !
;  1121          1393  1 !--
;  1122          1394  1
;  1123          1395  2     BEGIN
;  1124          1396  2
;  1125          1397  2     BUILTIN
;  1126          1398  2         NULLPARAMETER;
;  1127          1399  2
;  1128          1400  2     LOCAL
;  1129          1401  2         CLI_REQ_BLOCK : BLOCK [CLI$C_SRVDESC, BYTE], ! A CLI request block
;  1130          1402  2         RETURN_STATUS : BLOCK [4, BYTE];
;  1131          1403  2
;  1132          1404  2
;  1133          1405  2 !+
;  1134          1406  2 ! Initialize CLI Command request block.
;  1135          1407  2 !-
;  1136          1408  2     CH$FILL (0, CLI$C_SRVDESC, CLI_REQ_BLOCK);
;  1137          1409  2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;
;  1138          1410  2     CLI_REQ_BLOCK [CLI$W_SERVCOD] = CLI$K_DISAOOB;
;  1139          1411  2     CLI_REQ_BLOCK [CLI$L_NEW_MASK] = .DISABLE_MASK [0];
;  1140          1412  2
;  1141          1413  2 !+
;  1142          1414  2 ! Request CLI out-of-band processing be disabled.
;  1143          1415  2 !-
;  1144          1416  2     RETURN_STATUS = SYS$CLI (CLI_REQ_BLOCK);
;  1145          1417  2
;  1146          1418  2 !+
;  1147          1419  2 ! If requested, return previous out-of-band enabled mask.
;  1148          1420  2 ! It may be good.
;  1149          1421  2 !-
;  1150          1422  2     IF NOT NULLPARAMETER (2)
;  1151          1423  2     THEN
;  1152          1424  2         PREVIOUS_MASK [0] = .CLI_REQ_BLOCK [CLI$L_OLD_MASK];
;  1153          1425  2
;  1154          1426  2 !+
;  1155          1427  2 ! Adjust error return status, if any.
;  1156          1428  2 !-
;  1157          1429  3     IF NOT .RETURN_STATUS AND (.RETURN_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY)
;  1158          1430  2     THEN
;  1159          1431  2         RETURN_STATUS =
;  1160          1432  3         BEGIN
;  1161          1433  3             SELECTONE .RETURN_STATUS OF
;  1162          1434  3             SET
;  1163          1435  3             [CLI$_BADCTLMSK] :  LIB$_INVARG;
;  1164          1436  3             [CLI$_INVREQTYP] :  LIB$_NOCLI;
;  1165          1437  3             [OTHERWISE] :       LIB$_UNECLIERR;
;  1166          1438  3             TES
;  1167          1439  2             END;
;  1168          1440  2
;  1169          1441  2     RETURN (.RETURN_STATUS);
```

```
;  1170          1442  2
;  1171          1443  1     END;                                    ! End of LIB$DISABLE_CTRL



                                                    003C 00000          .ENTRY  LIB$DISABLE_CTRL, Save R2,R3,R4,R5          ; 1329
                                          5E        AC      AE  9E 00002      MOVAB   -84(SP), SP
    0054    8F              00            6E              00  2C 00006      MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK            ; 1408
                                          6E                  6E 0000D
                                          6E                  05  90 0000E      MOVB    #5, CLI_REQ_BLOCK                       ; 1409
                                                  01      AE  0D  B0 00011      MOVW    #13, CLI_REQ_BLOCK+1                    ; 1410
                                                  04      AE      04  BC  D0 00015      MOVL    @DISABLE_MASK, CLI_REQ_BLOCK+4  ; 1411
                                                                      5E  DD 0001A      PUSHL   SP                              ; 1416
                                      00000000G   00                  01  FB 0001C      CALLS   #1, SYS$CLI
                                                  02                  6C  91 00023      CMPB    (AP), #2                        ; 1422
                                                                      0A  1F 00026      BLSSU   1$
                                                          08      AC  D5 00028      TSTL    8(AP)
                                                                  05  13 0002B      BEQL    1$
                                                  08      BC      08  AE  D0 0002D      MOVL    CLI_REQ_BLOCK+8, @PREVIOUS_MASK ; 1424
                                                  30                  50  E8 00032 1$:  BLBS    RETURN_STATUS, 4$               ; 1429
            03            50                    0C                  10  ED 00035      CMPZV   #16, #12, RETURN_STATUS, #3
                                                                      29  12 0003A      BNEQ    4$
                                      000388CA    8F                  50  D1 0003C      CMPL    RETURN_STATUS, #231626          ; 1435
                                                                      08  12 00043      BNEQ    2$
                                                  50  00000000G       8F  D0 00045      MOVL    #LIB$_INVARG, RETURN_STATUS
                                                                          04  0004C      RET
                                      00038822    8F                  50  D1 0004D 2$:  CMPL    RETURN_STATUS, #231458          ; 1436
                                                                      08  12 00054      BNEQ    3$
                                                  50  00000000G       8F  D0 00056      MOVL    #LIB$_NOCLI, RETURN_STATUS
                                                                          04  0005D      RET
                                                  50  00000000G       8F  D0 0005E 3$:  MOVL    #LIB$_UNECLIERR, RETURN_STATUS  ; 1437
                                                                          04  00065 4$:  RET                                     ; 1443

;  Routine Size:  102 bytes,    Routine Base:  _LIB$CODE + 0400
```

```
;  1173          1444  1 %SBTTL 'LIB$ENABLE_CTRL - re-enable CLI out-of-band character(s) handler'
;  1174          1445  1 GLOBAL ROUTINE LIB$ENABLE_CTRL (                  ! re-enable CLI out-of-band
;  1175          1446  1         ENABLE_MASK : REF VECTOR [, LONG],        ! enable bit mask
;  1176          1447  1         PREVIOUS_MASK : REF VECTOR [, LONG]       ! previous enable bit mask
;  1177          1448  1     ) =
;  1178          1449  1
;  1179          1450  1 !++
;  1180          1451  1 ! FUNCTIONAL DESCRIPTION:
;  1181          1452  1 !
;  1182          1453  1 !       This routine re-enables CLI processing for out-of-band the characters
;  1183          1454  1 !       identified by ENABLE_MASK, presumable after such processing has been
;  1184          1455  1 !       disabled by a call to LIB$DISABLE_CTRL.  There are no privilege
;  1185          1456  1 !       requirements for calling this routine.
;  1186          1457  1 !
;  1187          1458  1 !       Currently, this routine supports re-enabling of CLI out-of-band
;  1188          1459  1 !       processing for CTRL-T and CTRL-Y when the DCL CLI is in use, and for
;  1189          1460  1 !       CTRL-Y when the MCR CLI is in use.  The macro $LIBCLIDEF defines the
;  1190          1461  1 !       two masks used for enabling processing for these two out-of-band
;  1191          1462  1 !       characters as follows:
;  1192          1463  1 !               LIB$M_CLI_CTRLT         mask for CTRL-T
;  1193          1464  1 !               LIB$M_CLI_CTRLY         mask for CTRL-Y
;  1194          1465  1 !       If the masks are logically or'd together, processing for both
;  1195          1466  1 !       out-of-band characters will be effected.
;  1196          1467  1 !
;  1197          1468  1 ! CALLING SEQUENCE:
;  1198          1469  1 !
;  1199          1470  1 !       ret_status.wlc.v = LIB$ENABLE_CTRL (enable_mask.rl.r
;  1200          1471  1 !                                           [, previous_mask.wl.r ] )
;  1201          1472  1 !
;  1202          1473  1 ! FORMAL PARAMETERS:
;  1203          1474  1 !
;  1204          1475  1 !       enable_mask.rl.r      - the mask controlling which out-of-band
;  1205          1476  1 !                               characters the CLI should process.  Values
;  1206          1477  1 !                               should be selected from one of, or the logical
;  1207          1478  1 !                               OR of more than one of:
;  1208          1479  1 !                                       LIB$M_CLI_CTRLT
;  1209          1480  1 !                                       LIB$M_CLI_CTRLY
;  1210          1481  1 !                               These symbols are defined in $LIBCLIDEF.
;  1211          1482  1 !
;  1212          1483  1 !       previous_mask.wl.r    - a longword into which will be stored a mask
;  1213          1484  1 !                               having the same format as enable_mask, but
;  1214          1485  1 !                               which represents the enabled state for all
;  1215          1486  1 !                               out-of-band character processing before
;  1216          1487  1 !                               enable_mask is applied.
;  1217          1488  1 !
;  1218          1489  1 ! IMPLICIT INPUTS:
;  1219          1490  1 !
;  1220          1491  1 !       NONE
;  1221          1492  1 !
;  1222          1493  1 ! IMPLICIT OUTPUTS:
;  1223          1494  1 !
;  1224          1495  1 !       NONE
;  1225          1496  1 !
;  1226          1497  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
;  1227          1498  1 !
;  1228          1499  1 !       SS$_NORMAL      Normal successful completion
;  1229          1500  1 !       LIB$_INVARG     Enable_mask has an unrecognized bit set
```

```
;  1230          1501  1 !       LIB$_NOCLI      No CLI present to perform function
;  1231          1502  1 !       LIB$_UNECLIERR  Unexpected CLI Error
;  1232          1503  1 !
;  1233          1504  1 ! SIDE EFFECTS:
;  1234          1505  1 !
;  1235          1506  1 !       CLI out-of-band processing of one or more characters is enabled.
;  1236          1507  1 !
;  1237          1508  1 !--
;  1238          1509  1
;  1239          1510  2     BEGIN
;  1240          1511  2
;  1241          1512  2     BUILTIN
;  1242          1513  2         NULLPARAMETER;
;  1243          1514  2
;  1244          1515  2     LOCAL
;  1245          1516  2         CLI_REQ_BLOCK : BLOCK [CLI$C_SRVDESC, BYTE], ! A CLI request block
;  1246          1517  2         RETURN_STATUS : BLOCK [4, BYTE];
;  1247          1518  2
;  1248          1519  2
;  1249          1520  2 !+
;  1250          1521  2 ! Initialize CLI Command request block.
;  1251          1522  2 !-
;  1252          1523  2     CH$FILL (0, CLI$C_SRVDESC, CLI_REQ_BLOCK);
;  1253          1524  2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;
;  1254          1525  2     CLI_REQ_BLOCK [CLI$W_SERVCOD] = CLI$K_ENABOOB;
;  1255          1526  2     CLI_REQ_BLOCK [CLI$L_NEW_MASK] = .ENABLE_MASK [0];
;  1256          1527  2
;  1257          1528  2 !+
;  1258          1529  2 ! Request CLI out-of-band processing be enabled.
;  1259          1530  2 !-
;  1260          1531  2     RETURN_STATUS = SYS$CLI (CLI_REQ_BLOCK);
;  1261          1532  2
;  1262          1533  2 !+
;  1263          1534  2 ! If requested, return previous out-of-band enabled mask.
;  1264          1535  2 ! It may be good.
;  1265          1536  2 !-
;  1266          1537  2     IF NOT NULLPARAMETER (2)
;  1267          1538  2     THEN
;  1268          1539  2         PREVIOUS_MASK [0] = .CLI_REQ_BLOCK [CLI$L_OLD_MASK];
;  1269          1540  2
;  1270          1541  2 !+
;  1271          1542  2 ! Adjust error return status, if any.
;  1272          1543  2 !-
;  1273          1544  3     IF NOT .RETURN_STATUS AND (.RETURN_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY)
;  1274          1545  2     THEN
;  1275          1546  2         RETURN_STATUS =
;  1276          1547  3         BEGIN
;  1277          1548  3             SELECTONE .RETURN_STATUS OF
;  1278          1549  3             SET
;  1279          1550  3             [CLI$_BADCTLMSK] :  LIB$_INVARG;
;  1280          1551  3             [CLI$_INVREQTYP] :  LIB$_NOCLI;
;  1281          1552  3             [OTHERWISE] :       LIB$_UNECLIERR;
;  1282          1553  3             TES
;  1283          1554  2             END;
;  1284          1555  2
;  1285          1556  2     RETURN (.RETURN_STATUS);
;  1286          1557  2
```

```
; 1287          1558  1     END;                                    ! End of LIB$ENABLE_CTRL



                                                    003C 00000          .ENTRY  LIB$ENABLE_CTRL, Save R2,R3,R4,R5       ; 1445
                                              5E        AC  AE  9E 00002  MOVAB   -84(SP), SP                             ;
    0054    8F              00                6E            00  2C 00006  MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK     ; 1523
                                                            6E      0000D   ;
                                              6E            05  90 0000E  MOVB    #5, CLI_REQ_BLOCK                       ; 1524
                                                    01      AE  0E  B0 00011  MOVW    #14, CLI_REQ_BLOCK+1                    ; 1525
                                                    04      AE      04  BC  D0 00015  MOVL    @ENABLE_MASK, CLI_REQ_BLOCK+4   ; 1526
                                                            5E  DD 0001A  PUSHL   SP                                      ; 1531
                                          00000000G         00          01  FB 0001C  CALLS   #1, SYS$CLI                    ;
                                                            02          6C  91 00023  CMPB    (AP), #2                        ; 1537
                                                                        0A  1F 00026  BLSSU   1$                              ;
                                                                    08  AC  D5 00028  TSTL    8(AP)                           ;
                                                                        05  13 0002B  BEQL    1$                              ;
                                                    08      BC      08  AE  D0 0002D  MOVL    CLI_REQ_BLOCK+8, @PREVIOUS_MASK ; 1539
                                                            30          50  E8 00032  1$:   BLBS    RETURN_STATUS, 4$               ; 1544
            03              50                      0C          10  ED 00035  CMPZV   #16, #12, RETURN_STATUS, #3            ;
                                                                    29  12 0003A  BNEQ    4$                              ;
                                          000388CA  8F          50  D1 0003C  CMPL    RETURN_STATUS, #231626          ; 1550
                                                                    08  12 00043  BNEQ    2$                              ;
                                                    50 00000000G  8F  D0 00045  MOVL    #LIB$_INVARG, RETURN_STATUS     ;
                                                                    04  0004C   RET                                         ;
                                          00038822  8F          50  D1 0004D  2$:   CMPL    RETURN_STATUS, #231458          ; 1551
                                                                    08  12 00054  BNEQ    3$                              ;
                                                    50 00000000G  8F  D0 00056  MOVL    #LIB$_NOCLI, RETURN_STATUS      ;
                                                                    04  0005D   RET                                         ;
                                                    50 00000000G  8F  D0 0005E  3$:   MOVL    #LIB$_UNECLIERR, RETURN_STATUS  ; 1552
                                                                    04  00065  4$:   RET                                     ; 1558

; Routine Size:  102 bytes,    Routine Base:  _LIB$CODE + 0466
```

```
;  1289          1559  1 %SBTTL 'LIB$$BUILD_SYMBOL_NAME - Build a symbol name string'
;  1290          1560  1 ROUTINE LIB$$BUILD_SYMBOL_NAME (                      ! build a symbol name string
;  1291          1561  1         SYMBOL: REF BLOCK [, BYTE],                   ! input symbol string descriptor
;  1292          1562  1         DYNSTR: REF BLOCK [, BYTE],                   ! dynamic string descriptor
;  1293          1563  1         CLI_SYMBOL: REF BLOCK [, BYTE]                ! CLI symbol string descriptor
;  1294          1564  1     ) =
;  1295          1565  1
;  1296          1566  1 !++
;  1297          1567  1 ! FUNCTIONAL DESCRIPTION:
;  1298          1568  1 !
;  1299          1569  1 !       Using the string pointed to by SYMBOL, LIB$$BUILD_SYMBOL_NAME builds a
;  1300          1570  1 !       dynamic string, pointed to by CLI_SYMBOL, which has been upcased and
;  1301          1571  1 !       has trailing blanks deleted.  The string pointed to by SYMBOL is also
;  1302          1572  1 !       tested for validity as a symbol name; the first character must be
;  1303          1573  1 !       alphabetic or $ or _ , there must be less than 255 characters in the name
;  1304          1574  1 !       (trailing blanks excluded), and there must be at least one non-blank
;  1305          1575  1 !       character in the name.
;  1306          1576  1 !
;  1307          1577  1 !       SCRATCH is a string descriptor into which the actual descriptor for
;  1308          1578  1 !       the dynamic string will be written.  The calling procedure must use
;  1309          1579  1 !       this descriptor to deallocate the dynamic string.
;  1310          1580  1 !
;  1311          1581  1 !       If this routine detects an error after it has allocated the dynamic
;  1312          1582  1 !       string, it will deallocate the dynamic string thus freeing its caller
;  1313          1583  1 !       from that responsibility.
;  1314          1584  1 !
;  1315          1585  1 ! CALLING SEQUENCE:
;  1316          1586  1 !
;  1317          1587  1 !       ret_status.wlc.v = LIB$$BUILD_SYMBOL_NAME (symbol.rt.dx,
;  1318          1588  1 !                                                  dynstr.wt.dx,
;  1319          1589  1 !                                                  cli_symbol.wt.dx)
;  1320          1590  1 !
;  1321          1591  1 ! FORMAL PARAMETERS:
;  1322          1592  1 !
;  1323          1593  1 !       symbol.rt.dx  - A string, passed by descriptor, which contains the
;  1324          1594  1 !                       original symbol name.
;  1325          1595  1 !
;  1326          1596  1 !       dynstr.wt.dx  - A string descriptor into which the descriptor for the
;  1327          1597  1 !                       actual dynamic string used to contain the converted
;  1328          1598  1 !                       symbol name will be written.  The calling procedure
;  1329          1599  1 !                       must use this descriptor to deallocate the dynamic
;  1330          1600  1 !                       string.
;  1331          1601  1 !
;  1332          1602  1 !       cli_symbol.wt.dx - A string, passed by descriptor, into which the
;  1333          1603  1 !                       processed symbol name will be placed.  This routine
;  1334          1604  1 !                       creates a new dynamic string in this descriptor: the
;  1335          1605  1 !                       contents of the descriptor upon entry are overwritten.
;  1336          1606  1 !
;  1337          1607  1 ! IMPLICIT INPUTS:
;  1338          1608  1 !
;  1339          1609  1 !       LIB$AB_UPCASE    the address of an upcase translation table.
;  1340          1610  1 !
;  1341          1611  1 ! IMPLICIT OUTPUTS:
;  1342          1612  1 !
;  1343          1613  1 !       NONE
;  1344          1614  1 !
;  1345          1615  1 ! COMPLETION STATUS: (or ROUTINE VALUE:)
```

```
;  1346          1616  1 !
;  1347          1617  1 !       SS$_NORMAL      Normal successful completion
;  1348          1618  1 !       LIB$_INVARG     Symbol name contains more than 255 characters or is
;  1349          1619  1 !                       all blanks
;  1350          1620  1 !       LIB$_INVSYMNAM  Symbol name does not begin with a letter
;  1351          1621  1 !       LIB$_INSVIRMEM  Insufficient virtual memory for dynamic string
;  1352          1622  1 !       Other completion stati from LIB$ANALYZE_SDESC.
;  1353          1623  1 !
;  1354          1624  1 !
;  1355          1625  1 ! SIDE EFFECTS:
;  1356          1626  1 !
;  1357          1627  1 !       WARNING:
;  1358          1628  1 !       Although this procedure performs some checks on the validity of
;  1359          1629  1 !       symbol names passed to it, some symbol name considered valid by
;  1360          1630  1 !       this procedure will be considered invalid by DCL.
;  1361          1631  1 !
;  1362          1632    :--
;  1363          1633  1
;  1364          1634  2     BEGIN
;  1365          1635  2
;  1366          1636  2     LOCAL
;  1367          1637  2         ADDRESS,                                ! a string address
;  1368          1638  2         LENGTH : WORD,                          ! a string length
;  1369          1639  2         IN_PTR, OUT_PTR,                        ! two pointer variables
;  1370          1640  2         STATUS;                                 ! a return status value
;  1371          1641  2
;  1372          1642  2
;  1373          1643  2
;  1374          1644  2 !+
;  1375          1645  2 ! Gather information about input symbol name string
;  1376          1646  2 ! and build pointer input symbol name string.
;  1377          1647  2 !-
;  1378          1648  2
;  1379          1649  2     STATUS = LIB$ANALYZE_SDESC_R2 (.SYMBOL; LENGTH, ADDRESS );
;  1380          1650  2     IF NOT .STATUS THEN RETURN .STATUS;
;  1381          1651  2     IN_PTR = CH$PTR( .ADDRESS, .LENGTH - 1 );
;  1382          1652  2
;  1383          1653  2 !+
;  1384          1654  2 ! Work backwards from the end of the string to locate
;  1385          1655  2 ! the first non-blank character; i.e. locate beginning
;  1386          1656  2 ! of the trailing blanks.
;  1387          1657  2 !-
;  1388          1658  2     LENGTH = 1 +
;  1389          1659  3         BEGIN
;  1390          1660  3             DECR J FROM .LENGTH - 1 TO 0 DO
;  1391          1661  4             BEGIN
;  1392          1662  4                 IF CH$RCHAR( .IN_PTR ) NEQU %C' ' THEN EXITLOOP .J;
;  1393          1663  4                 IN_PTR = CH$PLUS( .IN_PTR, -1 );
;  1394          1664  4                 END
;  1395          1665  2             END;
;  1396          1666  2     IF .LENGTH EQLU 0 OR .LENGTH GTRU 255 THEN RETURN LIB$_INVSYMNAM;
;  1397          1667  2
;  1398          1668  2 !+
;  1399          1669  2 ! Allocate a dynamic string and setup CLI symbol name
;  1400          1670  2 ! string descriptor.
;  1401          1671  2 !-
;  1402          1672  2     DYNSTR [DSC$B_CLASS] = DSC$K_CLASS_D;
```

```
; 1403          1673  2     DYNSTR [DSC$B_DTYPE] = DSC$K_DTYPE_T;
; 1404          1674  2     DYNSTR [DSC$W_LENGTH] = 0;
; 1405          1675  2     DYNSTR [DSC$A_POINTER] = 0;
; 1406          1676  2     STATUS = LIB$$GET1_DD( LENGTH, .DYNSTR );
; 1407          1677  2     IF NOT .STATUS THEN RETURN .STATUS;
; 1408          1678  2     CLI_SYMBOL [DSC$A_POINTER] = .DYNSTR [DSC$A_POINTER];
; 1409          1679  2     CLI_SYMBOL [DSC$W_LENGTH] = .LENGTH;
; 1410          1680  2
; 1411          1681  2 !+
; 1412          1682  2 ! Upcase the symbol name.
; 1413          1683  2 !-
; 1414          1684  2     IN_PTR = CH$PTR( .ADDRESS );
; 1415          1685  2     OUT_PTR = CH$PTR( .CLI_SYMBOL [DSC$A_POINTER] );
; 1416          1686  2     CH$TRANSLATE( LIB$AB_UPCASE, .LENGTH, .IN_PTR, %C' ', .LENGTH, .OUT_PTR );
; 1417          1687  2
; 1418          1688  2 !+
; 1419          1689  2 ! Check for reasonable first character in symbol name.
; 1420          1690  2 !-
; 1421          1691  2     IF (CH$RCHAR( .OUT_PTR ) LSSU %C'A' OR CH$RCHAR( .OUT_PTR ) GTRU %C'Z') AND
; 1422          1692  3        (CH$RCHAR( .OUT_PTR ) NEQU %C'$' OR CH$RCHAR( .OUT_PTR ) NEQU %C'_')
; 1423          1693  2     THEN
; 1424          1694  3     BEGIN
; 1425          1695  3         LIB$$FREE1_DD( .DYNSTR );
; 1426          1696  3         RETURN LIB$_INVSYMNAM;
; 1427          1697  3         END
; 1428          1698  2     ELSE
; 1429          1699  2         RETURN SS$_NORMAL;
; 1430          1700  2
; 1431          1701  1     END;                                    ! End of routine LIB$$BUILD_SYMBOL_NAME


                                 00FC 00000 LIB$$BUILD_SYMBOL_NAME:
                                                .WORD   Save R2,R3,R4,R5,R6,R7          ; 1560
                              5E         04  C2 00002               SUBL2   #4, SP          ;
                              50     04      AC  D0 00005               MOVL    SYMBOL, R0      ; 1649
                          00000000G          00  16 00009               JSB     LIB$ANALYZE_SDESC_R2 ;
                              53             52  D0 0000F               MOVL    R2, R3          ;
                              6E             51  D0 00012               MOVL    R1, LENGTH      ;
                              41             50  E9 00015               BLBC    STATUS, 4$      ; 1650
                              52             6E  3C 00018               MOVZWL  LENGTH, R2      ; 1651
                              52             53  C0 0001B               ADDL2   ADDRESS, R2     ;
                                             52  D7 0001E               DECL    IN_PTR          ;
                              51             6E  3C 00020               MOVZWL  LENGTH, J       ; 1660
                                             07  11 00023               BRB     2$              ;
                              20             62  91 00025 1$:           CMPB    (IN_PTR), #32   ; 1662
                                             08  12 00028               BNEQ    3$              ;
                                             52  D7 0002A               DECL    IN_PTR          ; 1663
                              F6             51  F4 0002C 2$:           SOBGEQ  J, 1$           ; 1660
                              51             01  CE 0002F               MNEGL   #1, R1          ;
                          6E                 51  01  A1 00032 3$:       ADDW3   #1, R1, LENGTH  ; 1658
                                             62  13 00036               BEQL    7$              ; 1666
                      00FF    8F             6E  B1 00038               CMPW    LENGTH, #255    ;
                                             5B  1A 0003D               BGTRU   7$              ;
                              56     08      AC  D0 0003F               MOVL    DYNSTR, R6      ; 1672
```

```
                                    66 020E0000    8F  D0 00043          MOVL    #34471936, (R6)                                 ; 1674
                                               04   A6  D4 0004A          CLRL    4(R6)                                           ; 1675
                                               56   DD  0004D          PUSHL   R6                                              ; 1676
                                               04   AE  9F 0004F          PUSHAB  LENGTH
                          00000000G            00       02  FB 00052          CALLS   #2, LIB$SGET1_DD
                                               49       50  E9 00059 4$:      BLBC    STATUS, 9$                              ; 1677
                                               50   0C  AC  D0 0005C          MOVL    CLI_SYMBOL, R0                          ; 1678
                                          04   A0   04  A6  D0 00060          MOVL    4(R8), 4(R0)
                                               60       6E  B0 00065          MOVW    LENGTH, (R0)                            ; 1679
                                               52       53  D0 00068          MOVL    ADDRESS, IN_PTR                         ; 1684
                                               57   04  A0  D0 0006B          MOVL    4(R0), OUT_PTR                          ; 1685
00000000G  00                20                 62       6E  2E 0006F          MOVTC   LENGTH, (IN_PTR), #32, LIB$AB_UPCASE, - ; 1686
                                               67       6E      00078                  LENGTH, (OUT_PTR)
                                          41   8F           67  91 0007A          CMPB    (OUT_PTR), #65                          ; 1691
                                                            06  1F 0007E          BLSSU   5$
                                          5A   8F           67  91 00080          CMPB    (OUT_PTR), #90
                                                            1C  1B 00084          BLEQU   8$
                                               24           67  91 00086 5$:      CMPB    (OUT_PTR), #36                          ; 1692
                                                            06  12 00089          BNEQ    6$
                                          5F   8F           67  91 0008B          CMPB    (OUT_PTR), #95
                                                            11  13 0008F          BEQL    8$
                                                            56  DD 00091 6$:      PUSHL   R6                                      ; 1695
                          00000000G            00           01  FB 00093          CALLS   #1, LIB$SFREE1_DD
                                               50 00000000G 8F  D0 0009A 7$:      MOVL    #LIB$_INVSYMNAM, R0                     ; 1699
                                                                04 000A1          RET
                                               50           01  D0 000A2 8$:      MOVL    #1, R0
                                                                04 000A5 9$:      RET                                             ; 1701

; Routine Size:  166 bytes,    Routine Base:  _LIB$CODE + 04CC
```

```
; 1433          1702  1 END                                   . End of module LIB$CLI_CALLBACK
; 1434          1703  0 ELUDOM


;                                   PSECT SUMMARY
;
;       Name                    Bytes                           Attributes
;
;  _LIB$CODE                      1394  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(2)


;                                 Library Statistics
;
;                                        -------- Symbols --------      Pages       Processing
;       File                             Total    Loaded   Percent      Mapped      Time
;
;  _$255$DUA28:[SYSLIB]STARLET.L32;1       9776        38         0       581          00:01.0


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

; Size:          1394 code + 0 data bytes
; Run Time:         00:34.2
; Elapsed Time:     01:07.4
; Lines/CPU Min:     2990
; Lexemes/CPU-Min: 37106
; Memory Used:  171 pages
; Compilation Complete
```

LIBACP
LIS

CALLIMAGE
LIS

DISMOUMSG
LIS

LIBCLICAL
LIS

LIBCOMAT
LIS

FILEDFLT
LIS

LIBASSIGN
LIS

CORMSG
LIS

CVTATB
LIS

LIBCQUAL
LIS

INITMSG
LIS

CREMAPSEC
LIS