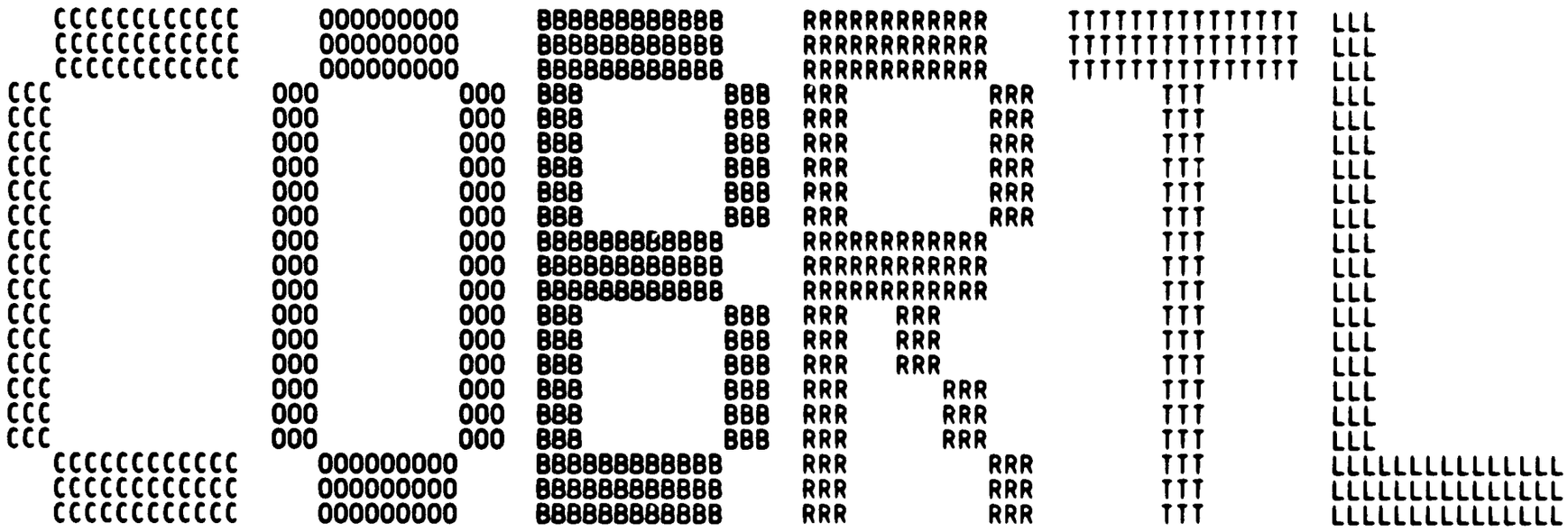
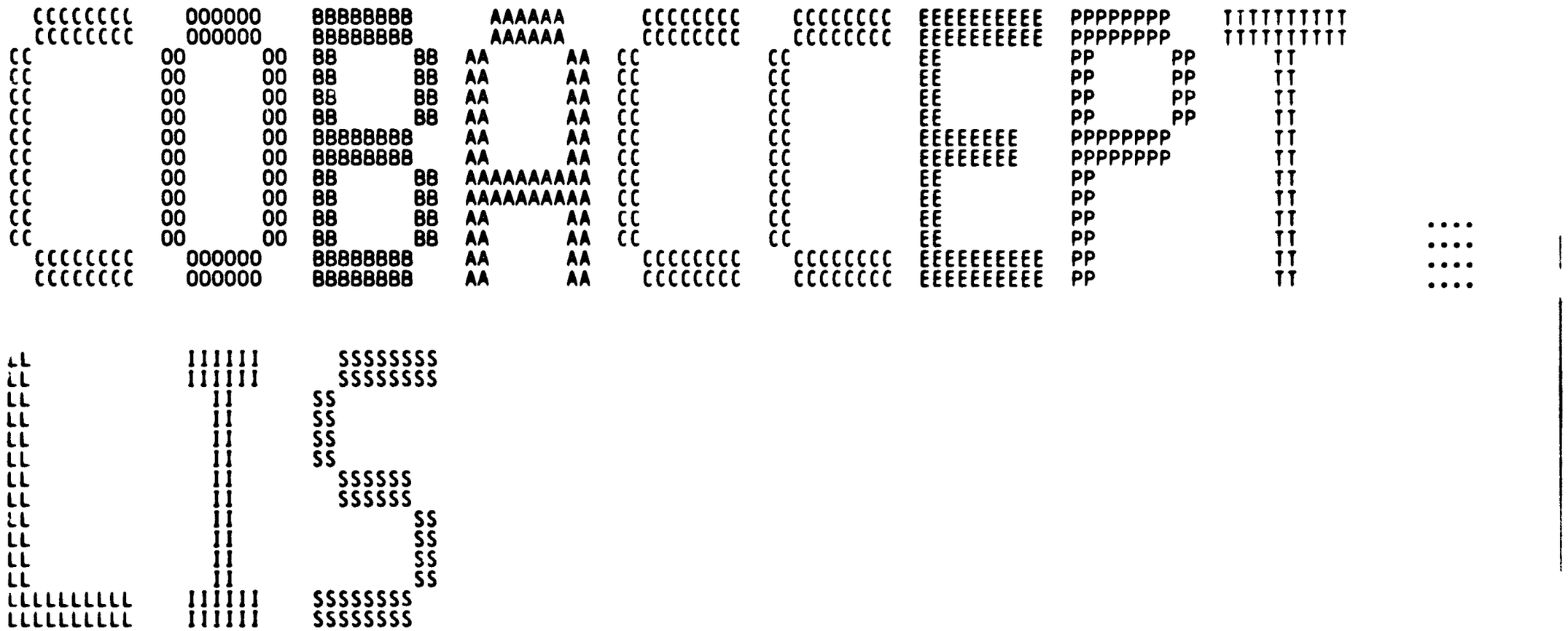

CCCCCCCCCCC 000000000 BBBBBBBBBBBB RRRRRRRRRRR TTTTTTTTTTTTTTT LLL
CCCCCCCCCCC 000000000 BBBBBBBBBBBB RRRRRRRRRRR TTTTTTTTTTTTTTT LLL
CCCCCCCCCCC 000000000 BBBBBBBBBBBB RRRRRRRRRRR TTTTTTTTTTTTTTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBBBBBBBBBB RRRRRRRRRRR TTT LLL
CCC 000 000 BBBBBBBBBBBB RRRRRRRRRRR TTT LLL
CCC 000 000 BBBBBBBBBBBB RRRRRRRRRRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCC 000 000 BBB BBB RRR RRR TTT LLL
CCCCCCCCCCC 000000000 BBBBBBBBBBBB RRR RRR TTT LLLLLLLLLLLLLLL
CCCCCCCCCCC 000000000 BBBBBBBBBBBB RRR RRR TTT LLLLLLLLLLLLLLL
CCCCCCCCCCC 000000000 BBBBBBBBBBBB RRR RRR TTT LLLLLLLLLLLLLLL

FILEID**COBACCEPT



```
;  1          0001  0 %TITLE 'COB$ACCEPT - VAX COBOL ACCEPT Statement'
;  2          0002  0 MODULE COB$ACCEPT (
;  3          0003  0                    IDENT = '1-018'      ! File: COBACCEPT.B32 EDIT:LGB1018
;  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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; 19          0019  1 !*                                                                           *
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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:  COBOL SUPPORT
; 33          0033  1 !
; 34          0034  1 ! ABSTRACT:
; 35          0035  1 !
; 36          0036  1 !       Supports the COBOL ACCEPT statement.
; 37          0037  1 !
; 38          0038  1 !       Contains COB$$OPEN_IN  to open an RMS file for input.
; 39          0039  1 !
; 40          0040  1 !
; 41          0041  1 ! ENVIRONMENT:  VAX-11 User Mode
; 42          0042  1 !
; 43          0043  1 ! AUTHOR: Rich Reichert, CREATION DATE: 16-JULY-79
; 44          0044  1 !
; 45          0045  1 ! MODIFIED BY:
; 46          0046  1 !
; 47          0047  1 ! 1-001 - Original.  RKR 16-JULY-79
; 48          0048  1 ! 1-002 - Make COB$$OPEN_IN stop instead of signal on open error.
; 49          0049  1 !         RKR 4-SEPT-79
; 50          0050  1 ! 1-003 - Make COB$$READ_RMS signal COB$_EOFON_ACC if an EOF is
; 51          0051  1 !         encountered during reading.
; 52          0052  1 !         Do string copy into caller's buffer via CH$COPY instead of
; 53          0053  1 !         STR$COPY to avoid dependency on STR$ routines.
; 54          0054  1 !         RKR 14-SEPT-79
; 55          0055  1 ! 1-004 - Identify file name on bad RMS  status other than EOF.
; 56          0056  1 !         RKR 25-SEPT-79
; 57          0057  1 ! 1-005 - Change name of symbolic LIBRARY file. RKR 1-OCT-79
```

```
;    58          0058  1 ! 1-006 - Make module name match entry point.  RKR 20-OCT-79
;    59          0059  1 ! 1-007 - Change references to LIB$_INVARG to COB$_INVARG.
;    60          0060  1 ! 1-008 - Make sensitive to names in REQUIRE file.  RKR 21-OCT-79
;    61          0061  1 ! 1-009 - Improve errors signaled.  RKR 21-OCT-79
;    62          0062  1 !         Cosmetic changes.  RKR 21-OCT-79
;    63          0063  1 ! 1-010 - Imperative clean-ups, also try SYS$ logicals.
;    64          0064  1 !         PDG 00-FEB-81
;    65          0065  1 ! 1-011 - Fix call to $TRNLOG to test for SS$_NORMAL
;    66          0066  1 !               (since SS$_NOTRAN is a success status).
;    67          0067  1 !         Add COB$ACCEPT_EOF to allow ACCEPT ... AT END imp-statement.
;    68          0068  1 !         Allow MAX(COB$K_ACC_SIZE, .STRING[DSC$W_LENGTH]) bytes for ACCEPT.
;    69          0069  1 !         PDG 24-Jul-1981
;    70          0070  1 ! 1-012 - Updated copyright date.  LB 9-Aug-81
;    71          0071  1 ! 1-013 - Removed COB$ACCEPT_EOF.  This functionality is provided by a flag
;    72          0072  1 !         passed to COB$ACCEPT.
;    73          0073  1 ! 1-014 - Add code in COB$ACCEPT to check the STV2 field in the RAB to
;    74          0074  1 !         determine if the terminator is an escape sequence, and if so,
;    75          0075  1 !         to return the escape sequence in the user's buffer.  This was
;    76          0076  1 !         done in response to an SPR regarding incompatibilities between
;    77          0077  1 !         COBOL-74 and VAX-11 COBOL.  LEB  16-FEB-82
;    78          0078  1 ! 1-015 - Version 3 ACCEPT with screen enhancements.    LGB 15-AUG-83
;    79          0079  1 ! 1-016 - Code converted from QIO calls to RMS.         LGB 20-JAN-84
;    80          0080  1 ! 1-017 - Reset RAB[RAB$V_ETO] bit in COB$ACCEPT.
;    81          0081  1 !         Added code to COB$$ILLEGAL_TERM and COB$$DELETE_KEY to handle
;    82          0082  1 !         a Control Z situation.
;    83          0083  1 !         Added a condition to the IF statement in COB$$ILLEGAL_TERM that
;    84          0084  1 !         handles bell ringing for an illegal terminator.
;    85          0085  1 !         Put an RMS workaround in routine COB$$PARTIAL_SEQ. LGB 11-JUL-84
;    86          0086  1 ! 1-018 - Bug fix to COB$ACCEPT - reverse IF stmt within the CH$COPY stmt.
;    87          0087  1 !                                                          LBG 10-SEP-84
;    88          0088  1 !--
```

```
;    90          0089  1 !
;    91          0090  1 ! PROLOGUE FILE
;    92          0091  1 !
;    93          0092  1 REQUIRE 'RTLIN:COBPROLOG' ;                     ! Switches, Psects, Include
;    94          1609  1                                                ! files
;    95          1610  1 !
;    96          1611  1 ! TABLE OF CONTENTS:
;    97          1612  1 !
;    98          1613  1 FORWARD ROUTINE
;    99          1614  1         COBSACCEPT,                            ! Perform ACCEPT
;   100          1615  1         COBSACC_SCR,                           ! Perform ACCEPT with screen enhancements
;   101          1616  1         COBS$ACC_SCR_FILE,                     ! Dealing with files not terminals,
;   102          1617  1                                                ! RMS call is different
;   103          1618  1         COBS$OPEN_IN            : NOVALUE,     ! Open for input
;   104          1619  1         COBS$RMS_GET            : NOVALUE,     ! Perform an RMS $GET call
;   105          1620  1         COBS$RMS_PUT_BYTE       : NOVALUE,     ! Perform a one byte RMS $PUT
;   106          1621  1         COBS$RMS_PUT_BUFFER     : NOVALUE,     ! Perform a buffer RMS $PUT
;   107          1622  1         COBS$CONTROL_Z          : NOVALUE,     ! Handle Control Z
;   108          1623  1         COBS$PARTIAL_SEQ        : NOVALUE,     ! Put entire escape seq in buffer
;   109          1624  1         COBS$DELETE_KEY         : NOVALUE,     ! Delete Key processing
;   110          1625  1         COBS$ILLEGAL_TERM       : NOVALUE,     ! Look for valid terminator
;   111          1626  1         COBS$CLEAN_UP           : NOVALUE,     ! Clean up before return to COBOL
;   112          1627  1         COBS$RPG_CLEAN_UP       : NOVALUE,     ! Clean up before return to RPG
;   113          1628  1         COBS$FORMAT_FOUR ;                     ! Format four CONTROL KEY routine
;   114          1629  1 !
;   115          1630  1 ! EQUATED SYMBOLS:
;   116          1631  1 !
;   117          1632  1 LITERAL
;   118          1633  1         NUM_UNITS = COB$K_UNIT_MAX - COB$K_UNIT_MIN + 1 ;
;   119          1634  1                                                ! Number of units
;   120          1635  1 LITERAL
;   121          1636  1         DISP      = 0,                         ! Code for Display
;   122          1637  1         DNA       = 1,                         ! Code for Display no Advancing
;   123          1638  1         POS       = 2,                         ! Code for Positioning
;   124          1639  1         POS_DNA   = 3,                         ! Code for Positioning no Advancing
;   125          1640  1         ACC_ADV   = 4,                         ! Code for Accept (COBOL V3)
;   126          1641  1         ACC_DNA   = 5,                         ! Code for Accept no Adv (COBOL V3)
;   127          1642  1         FLAG_MASK = 15,                        ! Mask for first four bits of
;   128          1643  1                                                ! parameter FLAGS (0-3)
;   129          1644  1         V_BELL    = 16,                        ! Bit flag for terminal bell
;   130          1645  1         V_CONV    = 32,                        ! Bit flag for conversion
;   131          1646  1         V_DEC_PT  = 64,                        ! Bit flag for 'Decimal Point
;   132          1647  1                                                ! is Comma'
;   133          1648  1         V_NO_SIGN = 128,                       ! Bit flag yes/no include sign
;   134          1649  1         V_PROTECT = 256,                       ! Bit flag for protection
;   135          1650  1         V_NO_ECHO = 512,                       ! Bit flag for no-echo
;   136          1651  1         V_ADV     = 1024,                      ! Bit flag for advancing(1)/
;   137          1652  1                                                ! no advancing (0)
;   138          1653  1         V_COB_RPG = 2048,                      ! Bit flag for VAX COBOL /
;   139          1654  1                                                ! VAX RPG
;   140          1655  1         DEL_KEY   = %X'7F',                    ! Delete key
;   141          1656  1         CZ        = %X'1A',                    ! Control Z
;   142          1657  1         CARR_RET  = 0,                         ! Parameters for routine
;   143          1658  1         LINE_FD   = 1,                         ! COBS$RMS_PUT_BYTE
;   144          1659  1         RING_BELL = 2,
;   145          1660  1         RMS_HEADER = 14 ;                      ! RMS uses up 14 bytes of
;   146          1661  1 !                                              ! the buffer for header info
```

```
;  147          1662  1 ! GUARDS:
;  148          1663  1 !
;  149          1664  1 !   Since the code assumes that COB$K_UNIT_MIN equals 0, and COB_TABLE
;  150          1665  1 !       has only 7 items in it, we safeguard this module.
;  151          1666  1 !
;  152          1667  1 %IF COB$K_UNIT_MIN NEQ 0 %THEN %ERROR('Unexpected COB$K_UNIT_MIN value') %FI
;  153          1668  1 %IF COB$K_UNIT_MAX GTR 6 %THEN %ERROR('Unexpected COB$K_UNIT_MAX value') %FI
;  154          1669  1
;  155          1670  1 GLOBAL
;  156          1671  1     ACC_SCR       :  INITIAL (0) ;                ! Flag for COB$ACCEPT
;  157          1672  1 OWN
;  158          1673  1     XABTRM        :  $XABTRM_DECL,                ! RMS XABTRM Control Block
;  159          1674  1     XAB_ITMLST    :  $ITMLST_DECL (ITEMS=2),      ! Item list for XABTRM
;  160          1675  1
;  161          1676  1     !+
;  162          1677  1     !   Terminator mask.
;  163          1678  1     !   Leave Control C, Y, S, and Q for VMS.
;  164          1679  1     !   Control I is Tab.  Control M is Carriage Return.
;  165          1680  1     !   ENTER key has the same value as <CR> i.e. Control M.
;  166          1681  1     !   Escape key is a terminator for a VMS V4 system.
;  167          1682  1     !   Delete key is processed via routine COB$$DELETE_KEY.
;  168          1683  1     !-
;  169          1684  1
;  170          1685  1     MASK_VECTOR :  BITVECTOR [160]                ! 20 bytes by 8 bits
;  171          1686  1                    PRESET ( [TAB] = 1,
;  172          1687  1                             [CR ] = 1,
;  173          1688  1                             [26 ] = 1,      ! Control z
;  174          1689  1                             [01 ] = 1,      ! Control a
;  175          1690  1                             [02 ] = 1,      ! Control b
;  176          1691  1                             [04 ] = 1,      ! Control d
;  177          1692  1                             [05 ] = 1,      ! Control e
;  178          1693  1                             [06 ] = 1,      ! Control f
;  179          1694  1                             [07 ] = 1,      ! Control g
;  180          1695  1                             [08 ] = 1,      ! Control h
;  181          1696  1                             [10 ] = 1,      ! Control j
;  182          1697  1                             [11 ] = 1,      ! Control k
;  183          1698  1                             [12 ] = 1,      ! Control l
;  184          1699  1                             [14 ] = 1,      ! Control n
;  185          1700  1                             [15 ] = 1,      ! Control o
;  186          1701  1                             [16 ] = 1,      ! Control p
;  187          1702  1                             [18 ] = 1,      ! Control r
;  188          1703  1                             [20 ] = 1,      ! Control t
;  189          1704  1                             [21 ] = 1,      ! Control u
;  190          1705  1                             [22 ] = 1,      ! Control v
;  191          1706  1                             [23 ] = 1,      ! Control w
;  192          1707  1                             [24 ] = 1,      ! Control x
;  193          1708  1                             [27 ] = 1,      ! Escape key for Arrow & PF Keys
;  194          1709  1                                             ! and Alternate Keypad Mode
;  195          1710  1                             [127] = 1,      ! Delete key
;  196          1711  1                             [143] = 1,      ! SS3 for Professional Keys
;  197          1712  1                             [155] = 1       ! CSI for Professional Keys
;  198          1713  1                           ) ;
;  199          1714  1 !
;  200          1715  1 !
;  201          1716  1 !   MACROS:
;  202          1717  1 !
;  203          1718  1 MACRO  COB$$B_STVO_TERM = 12,0,8,0  %;          ! Location of terminator if it
```

```
;  204          1719  1                                                   ! is not an escape sequence
;  205          1720  1 MACRO  COB$$B_STV2_LEN  = 14,0,8,0  %;           ! Length of escape sequence
;  206          1721  1
;  207          1722  1 MACRO
;  208        M 1723  1     $VERIFY_TERMINATOR =
;  209        M 1724  1     !+
;  210        M 1725  1     !  If parameter KEY not sent (.KEY = 0) then CR, TAB, CONTROL Z,
;  211        M 1726  1     !  and DELETE KEY are the only legal terminators.
;  212        M 1727  1     !
;  213        M 1728  1     !  If parameter KEY not 0 then CR, TAB, CONTROL Z, DELETE KEY, PF,
;  214        M 1729  1     !  ARROW and SPECIAL FUNCTION PROFESSIONAL keys are legal terminators.
;  215        M 1730  1     !  Copy terminator to KEY parameter if valid.
;  216        M 1731  1     !  Flag LEGAL set to 1 if terminator is valid.
;  217        M 1732  1     !-
;  218        M 1733  1           BEGIN
;  219        M 1734  1
;  220        M 1735  1           IF .TERM_SIZE EQL 1
;  221        M 1736  1           THEN
;  222        M 1737  1               BEGIN
;  223        M 1738  1               TERM_PTR = RAB [COB$$B_STV0_TERM] ;
;  224        M 1739  1               SELECTONE .RAB [COB$$B_STV0_TERM] OF
;  225        M 1740  1                   SET
;  226        M 1741  1                       [ CR,                               ! Carriage Return
;  227        M 1742  1                         TAB ] :                           ! Tab
;  228        M 1743  1
;  229        M 1744  1                           BEGIN
;  230        M 1745  1                           IF .KEY NEQ 0
;  231        M 1746  1                           THEN
;  232        M 1747  1                               CH$MOVE ( 1, .TERM_PTR, .KEY [DSC$A_POINTER] ) ;
;  233        M 1748  1               LEGAL = 1 ;
;  234        M 1749  1               END ;
;  235        M 1750  1
;  236        M 1751  1                       [ CZ ] :                          ! Control z
;  237        M 1752  1
;  238        M 1753  1               BEGIN
;  239        M 1754  1               !+
;  240        M 1755  1               !  CONTROL Z hit along with data
;  241        M 1756  1               !-
;  242        M 1757  1               IF (.FLAGS AND V_COB_RPG) NEQ 0
;  243        M 1758  1               THEN
;  244        M 1759  1                   BEGIN                                 ! Control Z is illegal
;  245        M 1760  1                   LEGAL = 0 ;                           ! for VAX RPG
;  246        M 1761  1                   TERM_SIZE = 0 ;
;  247        M 1762  1                   END
;  248        M 1763  1               ELSE                                      ! Special meaning for
;  249        M 1764  1                   BEGIN                                 ! VAX COBOL
;  250        M 1765  1                   COB$$CLEAN_UP ( .PARAMETERS, .FLAGS ) ;
;  251        M 1766  1                   COB$$CONTROL_Z ( .UNIT, .KEY ) ;
;  252        M 1767  1                   RETURN 0 ;
;  253        M 1768  1                   END ;
;  254        M 1769  1               END ;
;  255        M 1770  1
;  256        M 1771  1                       [ DEL_KEY ] :                     ! Delete key
;  257        M 1772  1
;  258        M 1773  1               BEGIN
;  259        M 1774  1               COB$$DELETE_KEY ( .PARAMETERS, .UNIT, .FLAGS ) ;
;  260        M 1775  1               NO_BELL = 1 ;                             ! Special processing for
```

```
;  261          M 1776  1                          END ;                           ! the DELETE KEY.
;  262          M 1777  1
;  263          M 1778  1                      [OTHERWISE] :                       ! Error - key not a
;  264          M 1779  1                                                          ! legal terminator
;  265          M 1780  1                          BEGIN
;  266          M 1781  1                          LEGAL = 0 ;
;  267          M 1782  1                          TERM_SIZE = 0 ;
;  268          M 1783  1                          END ;
;  269          M 1784  1                  TES ;
;  270          M 1785  1              END
;  271          M 1786  1
;  272          M 1787  1          ELSE
;  273          M 1788  1              IF .CHARS_READ EQL 0  AND  .RAB [RAB$L_STS] EQL RMS$_EOF
;  274          M 1789  1              THEN
;  275          M 1790  1                  !+
;  276          M 1791  1                  ! CONTROL Z hit alone
;  277          M 1792  1                  !-
;  278          M 1793  1                  BEGIN
;  279          M 1794  1                  IF (.FLAGS AND V_COB_RPG) NEQ 0
;  280          M 1795  1                  THEN
;  281          M 1796  1                      BEGIN                           ! Control Z is illegal
;  282          M 1797  1                      LEGAL = 0 ;                     ! for VAX RPG
;  283          M 1798  1                      TERM_SIZE = 0 ;
;  284          M 1799  1                      END
;  285          M 1800  1                  ELSE                                ! Special meaning for
;  286          M 1801  1                      BEGIN                           ! VAX COBOL
;  287          M 1802  1                      COB$$CLEAN_UP ( .PARAMETERS, .FLAGS ) ;
;  288          M 1803  1                      COB$$CONTROL_Z ( .UNIT, .KEY ) ;
;  289          M 1804  1                      RETURN 0 ;
;  290          M 1805  1                      END ;
;  291          M 1806  1                  END
;  292          M 1807  1              ELSE
;  293          M 1808  1                  !+
;  294          M 1809  1                  ! Escape Sequence as Terminator.
;  295          M 1810  1                  !-
;  296          M 1811  1                  IF .KEY NEQ 0
;  297          M 1812  1                  THEN
;  298          M 1813  1                      !+
;  299          M 1814  1                      ! COB$$CONTROL_KEY converts terminator sequences to COBOL
;  300          M 1815  1                      ! defined sequences and fills in KEY parameter if terminator
;  301          M 1816  1                      ! is legal.
;  302          M 1817  1                      !-
;  303          M 1818  1                      BEGIN
;  304          M 1819  1                      IF NOT ( COB$$CONTROL_KEY (TERM_PTR, .TERM_SIZE, .KEY) )
;  305          M 1820  1                      THEN
;  306          M 1821  1                          BEGIN
;  307          M 1822  1                          LEGAL = 0 ;
;  308          M 1823  1                          TERM_SIZE = 0 ;
;  309          M 1824  1                          END
;  310          M 1825  1                      ELSE
;  311          M 1826  1                          LEGAL = 1 ;
;  312          M 1827  1                      END
;  313          M 1828  1                  ELSE
;  314          M 1829  1                      !+
;  315          M 1830  1                      ! KEY parameter not passed.  Escape sequences are not
;  316          M 1831  1                      ! legal terminators.
;  317          M 1832  1                      !-
```

```
;   318         M 1833  1                       BEGIN
;   319         M 1834  1                       LEGAL = 0 ;
;   320         M 1835  1                       TERM_SIZE = 0 ;
;   321         M 1836  1                       END ;
;   322         M 1837  1                 END ;                                 ! End $VERIFY_TERMINATOR macro
;   323           1838  1     % ;
;   324           1839  1
;   325           1840  1 MACRO
;   326         M 1841  1     $ERROR_REPROMPT =
;   327         M 1842  1     !+
;   328         M 1843  1     !  Ring terminal bell to signal a CONVERSION  error was been made during
;   329         M 1844  1     !  data input, restore cursor to original position and perform another
;   330         M 1845  1     !  $GET to look for valid data.
;   331         M 1846  1     !-
;   332         M 1847  1
;   333         M 1848  1     BEGIN                                             ! Begin $ERROR_REPROMPT macro
;   334         M 1849  1
;   335         M 1850  1     LOCAL
;   336         M 1851  1         PUT_TOTAL       :  INITIAL (0),               ! # of chars to $PUT
;   337         M 1852  1         INDEX           :  INITIAL (0),               ! Pointer to RESTORE_CURSOR
;   338         M 1853  1         RESTORE_CURSOR  :  VECTOR [5000, BYTE];       ! Holds sequence for restoring
;   339         M 1854  1                                                       ! cursor position.
;   340         M 1855  1     COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
;   341         M 1856  1
;   342         M 1857  1     !+
;   343         M 1858  1     !  If NO ECHO was set no need to do any erasing of input data
;   344         M 1859  1     !-
;   345         M 1860  1
;   346         M 1861  1     IF .YES_NO_ECHO EQL 0
;   347         M 1862  1     THEN
;   348         M 1863  1         BEGIN
;   349         M 1864  1
;   350         M 1865  1         IF (.PUT_FLAG NEQ 0) AND (.YES_PROTECT  EQL  0)
;   351         M 1866  1         THEN
;   352         M 1867  1
;   353         M 1868  1         !+
;   354         M 1869  1         !  If no protection set and attributes were turned on - turn them off.
;   355         M 1870  1         !  If protection was set, leave the FIELD on the screen.  OFF_BUF holds
;   356         M 1871  1         !  escape sequence to turn off attributes.  OFF_LEN - length of that
;   357         M 1872  1         !  sequence.
;   358         M 1873  1         !-
;   359         M 1874  1
;   360         M 1875  1             BEGIN
;   361         M 1876  1             CH$MOVE ( .OFF_LEN, OFF_BUF [0], RESTORE_CURSOR [0] ) ;
;   362         M 1877  1             PUT_TOTAL = .OFF_LEN ;                    ! Total for $PUT so far
;   363         M 1878  1             END ;
;   364         M 1879  1
;   365         M 1880  1         !+
;   366         M 1881  1         !  Sequence for reprompting - Backspace, Space, Backspace for each input
;   367         M 1882  1         !  character.
;   368         M 1883  1         !-
;   369         M 1884  1
;   370         M 1885  1         INDEX = .PUT_TOTAL ;                      ! PUT_TOTAL = 0 or .OFF_LEN
;   371         M 1886  1         INCR P FROM .PUT_TOTAL TO (.PUT_TOTAL+(.CHARS_READ-1)) DO
;   372         M 1887  1             BEGIN
;   373         M 1888  1             RESTORE_CURSOR [.INDEX]   = BS ;          ! Backspace
;   374         M 1889  1             RESTORE_CURSOR [.INDEX+1] = BLANK ;       ! Space
```

```
;  375          M 1890  1              RESTORE_CURSOR [.INDEX+2] = BS ;             ! Backspace
;  376          M 1891  1              INDEX = .INDEX + 3 ;
;  377          M 1892  1              END ;
;  378          M 1893  1          PUT_TOTAL = .PUT_TOTAL + (.CHARS_READ*3) ;      ! Total for $PUT so far
;  379          M 1894  1
;  380          M 1895  1          IF (.PUT_FLAG NEQ 0) AND (.YES_PROTECT  EQL  0)
;  381          M 1896  1          THEN
;  382          M 1897  1
;  383          M 1898  1          !+
;  384          M 1899  1          !  If no protection set and attributes used - turn them on again.
;  385          M 1900  1          !  (after deleting all characters from screen).  ON_BUF holds escape
;  386          M 1901  1          !  sequence to turn on attributes.  ON_LEN - length of that sequence.
;  387          M 1902  1          !-
;  388          M 1903  1
;  389          M 1904  1              BEGIN
;  390          M 1905  1              CH$MOVE ( .ON_LEN, ON_BUF [0], RESTORE_CURSOR [.PUT_TOTAL] ) ;
;  391          M 1906  1              PUT_TOTAL = .PUT_TOTAL + .ON_LEN ;          ! Total for $PUT
;  392          M 1907  1              END ;
;  393          M 1908  1
;  394          M 1909  1          END ;
;  395          M 1910  1
;  396          M 1911  1      !+
;  397          M 1912  1      !  Max for $PUT buffer is 1024 (can be increased by changing the max on
;  398          M 1913  1      !  a SYSGEN parameter).  If user input 500 characters the total sequence
;  399          M 1914  1      !  for reprompting would be 1500 bytes plus possible sequences for turning
;  400          M 1915  1      !  attributes off and on again, therefore perform a $PUT in sets of 1024
;  401          M 1916  1      !  until the whole buffer RESTORE_CURSOR has been written to terminal.
;  402          M 1917  1      !-
;  403          M 1918  1
;  404          M 1919  1      BEGIN
;  405          M 1920  1          LOCAL
;  406          M 1921  1              P_TOT,                                      ! Length of $PUT.
;  407          M 1922  1              LAST_WRITE : INITIAL (0) ;                  ! = 1 for final $PUT -
;  408          M 1923  1                                                          ! $PUT less than 1024 bytes
;  409          M 1924  1      WHILE .LAST_WRITE EQL 0 DO
;  410          M 1925  1          BEGIN
;  411          M 1926  1          IF .PUT_TOTAL GTR (COB$K_ACC_SIZE - RMS_HEADER) !  COB$K_ACC_SIZE = 1024
;  412          M 1927  1          THEN
;  413          M 1928  1              BEGIN                                       ! Need multiple $PUTs.
;  414          M 1929  1              P_TOT = COB$K_ACC_SIZE - RMS_HEADER ;       ! # to Write to screen this time.
;  415          M 1930  1              PUT_TOTAL = .PUT_TOTAL - .P_TOT ;           ! # still to Write.
;  416          M 1931  1              END
;  417          M 1932  1          ELSE
;  418          M 1933  1              BEGIN                                       ! Final $PUT
;  419          M 1934  1              P_TOT = .PUT_TOTAL ;
;  420          M 1935  1              LAST_WRITE = 1 ;
;  421          M 1936  1              END ;
;  422          M 1937  1          END;
;  423          M 1938  1
;  424          M 1939  1          !+
;  425          M 1940  1          !  Clear screen of invalid input
;  426          M 1941  1          !-
;  427          M 1942  1
;  428          M 1943  1          COB$$RMS_PUT_BUFFER ( RESTORE_CURSOR [0], .P_TOT, .FLAGS ) ;
;  429          M 1944  1      END ;
;  430          M 1945  1
;  431          M 1946  1      !+
```

```
;  432        M 1947  1      !  Perform another $GET - looking for valid input
;  433        M 1948  1      !-
;  434        M 1949  1
;  435        M 1950  1      RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
;  436        M 1951  1      COB$$RMS_GET ( .RAB, .FUNC_VAL, .ACC_SIZE, .PUT_HERE [DSC$A_POINTER] ) ;
;  437        M 1952  1
;  438        M 1953  1      REPROMPT_DONE = 1 ;                          ! Signal that REPROMPT has been
;  439        M 1954  1                                                   ! done.
;  440        M 1955  1      END ;                                        ! End of $ERROR_REPROMPT macro
;  441           1956  1    % ;
;  442           1957  1
;  443           1958  1 MACRO
;  444        M 1959  1      $BIND_PARAMETERS =
;  445        M 1960  1      !+
;  446        M 1961  1      !  Put data used by many of the subroutines in a vector of data.
;  447        M 1962  1      !  BIND all the separate names that can be used to identify the
;  448        M 1963  1      !  various elements of the vector.
;  449        M 1964  1      !-
;  450        M 1965  1      BIND
;  451        M 1966  1          PUT_HERE      = PARAMETERS [0]  :  BLOCK [,BYTE],  ! Buffer to hold input
;  452        M 1967  1          NEXT_CHAR     = PARAMETERS [3]  :  VECTOR [,BYTE], ! Buffer used for
;  453        M 1968  1                                                           ! PROTECTION check
;  454        M 1969  1          ACC_SIZE      = PARAMETERS [6]  :  WORD,           ! Length for RMS $GET
;  455        M 1970  1          CHARS_READ    = PARAMETERS [7],                    ! Number of input characters
;  456        M 1971  1          FUNC_VAL      = PARAMETERS [8],                    ! QIO Function Modifiers used
;  457        M 1972  1                                                           ! in the item list for RMS $GET
;  458        M 1973  1          TERM_SIZE     = PARAMETERS [9],                    ! Size of terminator
;  459        M 1974  1          TERM_LOC      = PARAMETERS [10],                   ! Location of terminator
;  460        M 1975  1          TERM_PTR      = PARAMETERS [11],                   ! Pointer to terminator in buffer
;  461        M 1976  1          TERM_IN_NEXT  = PARAMETERS [12],                   ! = 1 if terminator in NEXT_CHAR
;  462        M 1977  1          TERM_FROM_DEL = PARAMETERS [13],                   ! Flag from COB$$DELETE_KEY to
;  463        M 1978  1                                                           ! COB$$ILLEGAL_TERM
;  464        M 1979  1          LEGAL         = PARAMETERS [14],                   ! = 0 if illegal terminator hit
;  465        M 1980  1          YES_PROTECT   = PARAMETERS [15],                   ! = 1 if PROTECTED requested
;  466        M 1981  1          YES_DEFAULT   = PARAMETERS [16],                   ! = 1 if DEFAULT used as input
;  467        M 1982  1          PUT_FLAG      = PARAMETERS [17],                   ! Flag for turning on attributes
;  468        M 1983  1          OFF_BUF       = PARAMETERS [18]  :  VECTOR [,BYTE], ! Holds esc seq to
;  469        M 1984  1                                                           ! turn off attributes
;  470        M 1985  1          OFF_LEN       = PARAMETERS [21] ;                  ! Length of esc seq in OFF_BUF
;  471           1986  1      % ;
;  472           1987  1 !
;  473           1988  1 !    The following tables convert the UNIT number into a logical name.
;  474           1989  1 !
;  475           1990  1 MACRO
;  476           1991  1      DESC_(A) = UPLIT BYTE(%ASCIC A) - BASE %;
;  477           1992  1 BIND
;  478           1993  1      BASE = UPLIT(REP 0 OF (0)),
;  479           1994  1      COB_TABLE = UPLIT(
;  480           1995  1          DESC_('COB$INPUT'),
;  481           1996  1          DESC_('COB$OUTPUT'),
;  482           1997  1          DESC_('COB$CONSOLE'),
;  483           1998  1          DESC_('COB$CARDREADER'),
;  484           1999  1          DESC_('COB$PAPERTAPEREADER'),
;  485           2000  1          DESC_('COB$LINEPRINTER'),
;  486           2001  1          DESC_('COB$PAPERTAPEPUNCH')):   VECTOR[NUM_UNITS],
;  487           2002  1      SYS_TABLE = UPLIT(
;  488           2003  1          DESC_('SYS$INPUT'),
```

```
;  489          2004  1          DESC_('SYS$OUTPUT'),
;  490          2005  1          DESC_('SYS$ERROR'),
;  491          2006  1          DESC_('SYS$INPUT'),
;  492          2007  1          DESC_('SYS$INPUT'),
;  493          2008  1          DESC_('SYS$OUTPUT'),
;  494          2009  1          DESC_('SYS$OUTPUT')): VECTOR[NUM_UNITS];
;  495          2010  1
;  496          2011  1 !
;  497          2012  1 ! EXTERNAL REFERENCES:
;  498          2013  1 !
;  499          2014  1 EXTERNAL ROUTINE
;  500          2015  1
;  501          2016  1          COB$$CONTROL_KEY,                  ! Translate terminator
;  502          2017  1          COB$$ACC_CONVERT,                  ! Conversion routine
;  503          2018  1          COB$$OPEN_OUT    : NOVALUE,        ! Open for output
;  504          2019  1          LIB$STOP : NOVALUE,                ! Signals fatal error
;  505          2020  1          LIB$GET_VM,                        ! Get virtual memory
;  506          2021  1          LIB$FREE_VM,                       ! Free virtual memory
;  507          2022  1          STR$GET1_DX,                       ! Allocate a string
;  508          2023  1          STR$DUPL_CHAR,                     ! Duplicate character n times
;  509          2024  1          STR$FREE1_DX,                      ! Deallocate a string
;  510          2025  1          STR$COPY_R,                        ! Copy a string by ref
;  511          2026  1          COB$$SETUP_TERM_TYPE,              ! Setup terminal type
;  512          2027  1          COB$$SET_ATTRIBUTES_ONLY ;         ! Set bold, reverse, blink,
;  513          2028  1                                             ! underline
;  514          2029  1 EXTERNAL LITERAL
;  515          2030  1          COB$_ERRDURACC,                    ! Error during DISPLAY
;  516          2031  1          COB$_FAIGET_VM,                    ! Failure to get VM
;  517          2032  1          COB$_EOFON_ACC,                    ! EOF on ACCEPT
;  518          2033  1          COB$_INVDEFVAL,                    ! DEFAULT value too large
;  519          2034  1          COB$_INVARG ;                      ! Invalid Argument(s)
;  520          2035  1
;  521          2036  1 EXTERNAL
;  522          2037  1          COB$$AL_WRITE_RAB      :  VECTOR,          ! Address of RAB
;  523          2038  1          COB$$AW_WRITE_IFI      :  VECTOR [,WORD],  ! Internal file identifiers
;  524          2039  1          COB$$AB_USPCODE        :  VECTOR [,BYTE],  ! Prefix and Post upspacing
;  525          2040  1          COB$$AB_PREV           :  VECTOR [,BYTE],  ! History of previous call
;  526          2041  1          COB$ACC_TERM_TYPE,                         ! Terminal type for ACCEPT
;  527          2042  1          COB$TERM_TYPE;                             ! Terminal type for DISPLAY
```

```
;  529          2043  1 %SBTTL 'COB$ACCEPT - Version 1 ACCEPT Statement'
;  530          2044  1 GLOBAL ROUTINE COB$ACCEPT (UNIT, STRING) =
;  531          2045  1
;  532          2046  1 !++
;  533          2047  1 ! FUNCTIONAL DESCRIPTION:
;  534          2048  1 !
;  535          2049  1 !       Reads a record from specified unit and delivers record to
;  536          2050  1 !       caller's string.
;  537          2051  1 !
;  538          2052  1 ! FORMAL PARAMETERS:
;  539          2053  1 !
;  540          2054  1 !       UNIT.rbu.va     Byte integer unit number designating the unit from
;  541          2055  1 !                       which the string is to be read, followed by byte
;  542          2056  1 !                       flag indicating whether routine should (false) abort,
;  543          2057  1 !                       or (true) return status on RMS$_EOF.
;  544          2058  1 !
;  545          2059  1 !       STRING.wt.ds    The address of a fixed-string descriptor to
;  546          2060  1 !                       receive the string read.
;  547          2061  1 !
;  548          2062  1 ! IMPLICIT INPUTS:
;  549          2063  1 !
;  550          2064  1 !       Status of whether the file in question is currently open.
;  551          2065  1 !
;  552          2066  1 ! IMPLICIT OUTPUTS:
;  553          2067  1 !
;  554          2068  1 !       Updated status of the file just used.
;  555          2069  1 !
;  556          2070  1 ! ROUTINE VALUE:
;  557          2071  1 !
;  558          2072  1 !       If .UNIT[1] is false:
;  559          2073  1 !           Unspecified.
;  560          2074  1 !
;  561          2075  1 !       If .UNIT[1] is true:
;  562          2076  1 !           Either true or false, indicating success or EOF, respectively.
;  563          2077  1 !
;  564          2078  1 ! SIDE EFFECTS:
;  565          2079  1 !
;  566          2080  1 !       Reads a record from the designated unit.
;  567          2081  1 !
;  568          2082  1 !--
;  569          2083  1
;  570          2084  2     BEGIN
;  571          2085  2     MAP
;  572          2086  2         UNIT:   VECTOR[,BYTE],
;  573          2087  2         STRING: REF BLOCK[8, BYTE];
;  574          2088  2
;  575          2089  2     LOCAL
;  576          2090  2         RAB:    REF $RAB_DECL,
;  577          2091  2         STATUS,
;  578          2092  2         DESCR:  BLOCK [8, BYTE],
;  579          2093  2         TERM_SIZE,
;  580          2094  2         BUFFER: VECTOR [COB$K_ACC_SIZE, BYTE];
;  581          2095  2
;  582          2096  2     IF .UNIT[0] GTRU COB$K_UNIT_MAX
;  583          2097  2     THEN
;  584          2098  2         LIB$STOP(COB$_INVARG);
;  585          2099  2
```

```
;  586          2100  2     ! If this file is not open, open i..
;  587          2101  2     ! 0 as second parameter to COB$$OPEN_IN signifies that VAX COBOL is used.
;  588          2102  2     !
;  589          2103  2     IF .COB$$AL_WRITE_RAB[.UNIT[0]] EQL 0
;  590          2104  2     THEN
;  591          2105  2         COB$$OPEN_IN(.UNIT[0], 0);
;  592          2106  2
;  593          2107  2     !  Perform a Linefeed when a Version 1 ACCEPT statement follows a
;  594          2108  2     !  Version 3 ACCEPT statement with advancing.
;  595          2109  2     !
;  596          2110  2     IF .COB$$AB_PREV [0] EQL ACC_ADV
;  597          2111  2     THEN COB$$RMS_PUT_BYTE ( LINE_FD, 0 ) ;
;  598          2112  2
;  599          2113  2     ! Read a record into our buffer or caller's buffer, whichever is larger.
;  600          2114  2     !
;  601          2115  2     RAB = .COB$$AL_WRITE_RAB[.UNIT[0]];
;  602          2116  2     IF .STRING[DSC$W_LENGTH] GTRU COB$K_ACC_SIZE
;  603          2117  2     THEN
;  604          2118  3         BEGIN
;  605          2119  3         RAB[RAB$W_USZ] = .STRING[DSC$W_LENGTH];
;  606          2120  3         RAB[RAB$L_UBF] = .STRING[DSC$A_POINTER];
;  607          2121  3         END
;  608          2122  2     ELSE
;  609          2123  3         BEGIN
;  610          2124  3         RAB[RAB$W_USZ] = COB$K_ACC_SIZE;
;  611          2125  3         RAB[RAB$L_UBF] = BUFFER;
;  612          2126  2         END;
;  613          2127  2
;  614          2128  2     !+
;  615          2129  2     !  Turn off RAB [RAB$V_ETO] just in case a 'screen enhancement ACCEPT'
;  616          2130  2     !  was performed before this one.  COB$$RMS_GET set RAB [RAB$V_ETO]
;  617          2131  2     !  to signal to RMS to expect an 'extented terminal' $GET.  Here we
;  618          2132  2     !  only want a simple $GET with no bells and whistles.  If RAB [RAB$V_ETO]
;  619          2133  2     !  is not turned off unwanted behavior will result.
;  620          2134  2     !-
;  621          2135  2
;  622          2136  2     RAB [RAB$V_ETO] = 0 ;
;  623          2137  2
;  624          2138  2     ! Read the record.
;  625          2139  2     !
;  626          2140  2     WHILE $GET(RAB = .RAB) EQL RMS$_RSA DO $WAIT(RAB = .RAB);
;  627          2141  2
;  628          2142  2
;  629          2143  2     IF NOT .RAB[RAB$L_STS]
;  630          2144  2     THEN
;  631          2145  2         LIB$STOP(
;  632          2146  3             (IF .RAB[RAB$L_STS] EQL RMS$_EOF
;  633          2147  3             THEN
;  634          2148  3                 IF .UNIT[1]
;  635          2149  3                 THEN RETURN 0
;  636          2150  3                 ELSE COB$_EOFON_ACC
;  637          2151  2             ELSE COB$_ERRDURACC),
;  638          2152  2             1, .RAB+RAB$C_BLN, .RAB[RAB$L_STS], .RAB[RAB$L_STV]);
;  639          2153  2
;  640          2154  2 !+
;  641          2155  2 ! Check if the terminator size is greater than 1.  If it is,
;  642          2156  2 ! this indicates that the terminator string is an escape sequence.
```

```
;  643          2157  2 ! Return the entire escape sequence in the user's buffer.
;  644          2158  2 !-
;  645          2159  2
;  646          2160  2     TERM_SIZE = .RAB[RAB$W_STV2];                       ! Get terminator size
;  647          2161  2
;  648          2162  3     CH$COPY( (IF .TERM_SIZE GTR 1
;  649          2163  3               THEN .RAB[RAB$W_RSZ] + .TERM_SIZE
;  650          2164  2               ELSE .RAB[RAB$W_RSZ] ),
;  651          2165  2          .RAB[RAB$L_UBF], %C' ', .STRING[DSC$W_LENGTH], .STRING[DSC$A_POINTER]);
;  652          2166  2
;  653          2167  2     !+
;  654          2168  2     !  VAX COBOL Version 1 / Version 3 interaction.
;  655          2169  2     !  Interaction with COB$ACC_SCR - Perform a Carriage Return if necessary
;  656          2170  2     !  and signal that this is an ACCEPT with advancing.
;  657          2171  2     !-
;  658          2172  2
;  659          2173  2     IF .ACC_SCR
;  660          2174  2     THEN
;  661          2175  2         COB$$RMS_PUT_BYTE ( CARR_RET, 0 ) ;
;  662          2176  2     COB$$AB_PREV[0] = ACC_ADV ;
;  663          2177  2
;  664          2178  2     RETURN 1;
;  665          2179  1     END;                                                ! End COB$ACCEPT


;                                                                       .TITLE  COB$ACCEPT COB$ACCEPT - VAX COBOL ACCEPT Statem
;                                                                                       ent
;                                                                       .IDENT  \1-018\

;                                                                       .PSECT  _COB$DATA,NOEXE,  PIC,2

;                                                        00000000  00000 ACC_SCR::
;                                                                       .LONG   0                                               ;
;                                                                 00004 XABTRM: .BLKB   36
;                                                                 00028 XAB_ITMLST:
;                                                                       .BLKB   28
;                                                  0D  F5  FF  F6 00044 MASK_VECTOR:
;                                                                       .BYTE   -10, -1, -11, 13                                ;
;                                                              00# 00048        .BYTE   0[11]                                           ;
;                                                              80  00053        .BYTE   -128                                            ;
;                                                              00  00054        .BYTE   0                                               ;
;                                                              80  00055        .BYTE   -128                                            ;
;                                                              00  00056        .BYTE   0                                               ;
;                                                              08  00057        .BYTE   8                                               ;

;                                                                       .PSECT  _COB$CODE,NOWRT,  SHR,  PIC,2

;                                                                 00000 P.AAA:  .BLKB   0
;                                  54  55  50  4E  49  24  42  4F  43  09 00000 P.AAC:  .ASCII  <9>\CCB$INPUT\                      ;
;                              54  55  50  54  55  4F  24  42  4F  43  0A 0000A P.AAD:  .ASCII  <10>\COB$OUTPUT\                     ;
;                          45  4C  4F  53  4E  4F  43  24  42  4F  43  0B 00015 P.AAE:  .ASCII  <11>\COB$CONSOLE\                    ;
;  52  45  44  41  45  52  44  52  41  43  24  42  4F  43  0E 00021 P.AAF:  .ASCII  <14>\COB$CARDREADER\                    ;
;  52  45  50  41  54  52  45  50  41  50  24  42  4F  43  13 00030 P.AAG:  .ASCII  <19>\COB$PAPERTAPEREADER\                ;
;                                              52  45  44  41  45 0003F                                                            ;
;  45  54  4E  49  52  50  45  4E  49  4C  24  42  4F  43  0F 00044 P.AAH:  .ASCII  <15>\COB$LINEPRINTER\                    ;
;                                                          52 00053                                                                ;
;  50  45  50  41  54  52  45  50  41  50  24  42  4F  43  12 00054 P.AAI:  .ASCII  <18>\COB$PAPERTAPEPUNCH\                   ;
```

```
                                                48  43  4E  55  00063
                                                                00067                   .BLKB   1
00000044  00000030  00000021  00000015  0000000A  00000000      00068 P.AAB:    .LONG   0, 10, 21, 33, 48, 68, 84
                                                  00000054      00080
                    54  55  50  4E  49  24  53  59  53  09      00084 P.AAK:    .ASCII  <9>\SYS$INPUT\
                54  55  50  54  55  4F  24  53  59  53  0A      0008E P.AAL:    .ASCII  <10>\SYS$OUTPUT\
                    52  4F  52  52  45  24  53  59  53  09      00099 P.AAM:    .ASCII  <9>\SYS$ERROR\
                    54  55  50  4E  49  24  53  59  53  09      000A3 P.AAN:    .ASCII  <9>\SYS$INPUT\
                    54  55  50  4E  49  24  53  59  53  09      000AD P.AAO:    .ASCII  <9>\SYS$INPUT\
                54  55  50  54  55  4F  24  53  59  53  0A      000B7 P.AAP:    .ASCII  <10>\SYS$OUTPUT\
                54  55  50  54  55  4F  24  53  59  53  0A      000C2 P.AAQ:    .ASCII  <10>\SYS$OUTPUT\
                                                                000CD                   .BLKB   3
000000B7  000000AD  000000A3  00000099  0000008E  00000084      000D0 P.AAJ:    .LONG   132, 142, 153, 163, 173, 183, 194
                                                  000000C2      000E8

                                                        BASE=               P.AAA
                                                        COB_TABLE=          P.AAB
                                                        SYS_TABLE=          P.AAJ
                                                                .EXTRN  COB$$CONTROL_KEY
                                                                .EXTRN  COB$$ACC_CONVERT
                                                                .EXTRN  COB$$OPEN_OUT, LIB$STOP
                                                                .EXTRN  LIB$GET_VM, LIB$FREE_VM
                                                                .EXTRN  STR$GETT_DX, STR$DUPL_CHAR
                                                                .EXTRN  STR$FREET_DX, STR$COPY_R
                                                                .EXTRN  COB$$SETUP_TERM_TYPE
                                                                .EXTRN  COB$$SET_ATTRIBUTES_ONLY
                                                                .EXTRN  COB$_ERRDURACC, COB$_FAIGET_VM
                                                                .EXTRN  COB$_EOFON_ACC, COB$_INVDEFVAL
                                                                .EXTRN  COB$_INVARG, COB$$AL_WRITE_RAB
                                                                .EXTRN  COB$$AW_WRITE_IFI
                                                                .EXTRN  COB$$AB_USPCODE
                                                                .EXTRN  COB$$AB_PREV, COB$ACC_TERM_TYPE
                                                                .EXTRN  COB$TERM_TYPE, SYS$GET
                                                                .EXTRN  SYS$WAIT

                                          00FC  00000           .ENTRY  COB$ACCEPT, Save R2,R3,R4,R5,R6,R7      ; 2044
                57 00000000G      00  9E  00002           MOVAB   COB$$AB_PREV, R7
                56 00000000G      00  9E  00009           MOVAB   LIB$STOP, R6
                5E      FBF8      CE  9E  00010           MOVAB   -1032(SP), SP
                52        04      AC  9A  00015           MOVZBL  UNIT, R2                                ; 2096
                06                52  91  00019           CMPB    R2, #6
                                  09  1B  0001C           BLEQU   1$
                   00000000G      8F  DD  0001E           PUSHL   #COB$_INVARG                            ; 2098
                66                01  FB  00024           CALLS   #1, LIB$STOP
                53 00000000G0042  DE  00027 1$:         MOVAL   COB$$AL_WRITE_RAB[R2], R3               ; 2103
                                  63  D5  0002F           TSTL    (R3)
                                  09  12  00031           BNEQ    2$
                                  7E  D4  00033           CLRL    -(SP)                                   ; 2105
                                  52  DD  00035           PUSHL   R2
          0000V CF                02  FB  00037           CALLS   #2, COB$$OPEN_IN
                04                67  91  0003C 2$:       CMPB    COB$$AB_PREV, #4                        ; 2110
                                  08  12  0003F           BNEQ    3$
                7E                01  7D  00041           MOVQ    #1, -(SP)                               ; 2111
          0000V CF                02  FB  00044           CALLS   #2, COB$$RMS_PUT_BYTE
                52                63  D0  00049 3$:       MOVL    (R3), RAB                               ; 2115
                53        08      AC  D0  0004C           MOVL    STRING, R3                              ; 2116
          0400  8F                63  B1  00050           CMPW    (R3), #1024
```

```
                                 0B  1B 00055          BLEQU   4$                                          ;
             20  A2              63  B0 00057          MOVW    (R3), 32(RAB)                               ; 2119
             24  A2         04   A3  D0 0005B          MOVL    4(R3), 36(RAB)                              ; 2120
                                 0A  11 00060          BRB     5$                                          ; 2116
             20  A2       0400   8F  B0 00062 4$:      MOVW    #1024, 32(RAB)                              ; 2124
             24  A2              6E  9E 00068          MOVAB   BUFFER, 36(RAB)                             ; 2125
             07  A2              10  8A 0006C 5$:      BICB2   #16, 7(RAB)                                 ; 2136
                                 52  DD 00070 6$:      PUSHL   RAB                                         ; 2140
      00000000G  00              01  FB 00072          CALLS   #1, SYS$GET                                 ;
      000182DA   8F              50  D1 00079          CMPL    R0, #99034                                  ;
                                 0B  12 00080          BNEQ    7$                                          ;
                                 52  DD 00082          PUSHL   RAB                                         ;
      00000000G  00              01  FB 00084          CALLS   #1, SYS$WAIT                                ;
                                 E3  11 0008B          BRB     6$                                          ;
                 2B         08   A2  E8 0008D 7$:      BLBS    8(RAB), 10$                                 ; 2143
                 7E         08   A2  7D 00091          MOVQ    8(RAB), -(SP)                               ; 2152
                            44   A2  9F 00095          PUSHAB  68(RAB)                                     ;
                                 01  DD 00098          PUSHL   #1                                          ; 2145
      0001827A   8F         08   A2  D1 0009A          CMPL    8(RAB), #98938                              ; 2146
                                 0F  12 000A2          BNEQ    8$                                          ;
                 47         05   AC  E8 000A4          BLBS    UNIT+1, 14$                                 ; 2148
                 50  00000000G   8F  D0 000A8          MOVL    #COB$_EOFON_ACC, R0                         ;
                                 50  DD 000AF          PUSHL   R0                                          ;
                                 06  11 000B1          BRB     9$                                          ;
                     00000000G   8F  DD 000B3 8$:      PUSHL   #COB$_ERRDURACC                             ; 2146
                 66              05  FB 000B9 9$:      CALLS   #5, LIB$STOP                                ;
                 50         0E   A2  3C 000BC 10$:     MOVZWL  14(RAB), TERM_SIZE                          ; 2160
                 01              50  D1 000C0          CMPL    TERM_SIZE, #1                               ; 2162
                 09              15  000C3             BLEQ    11$                                         ;
                 51         22   A2  3C 000C5          MOVZWL  34(RAB), R1                                 ; 2163
                 50              51  C0 000C9          ADDL2   R1, R0                                      ;
                                 04  11 000CC          BRB     12$                                         ;
                 50         22   A2  3C 000CE 11$:     MOVZWL  34(RAB), R0                                 ; 2164
    63          20      24       B2  50 2C 000D2 12$:  MOVC5   R0, @36(RAB), #32, (R3), @4(R3)             ; 2165
                            04   B3     000D8                                                              ;
                 07  00000000'   EF  E9 000DA          BLBC    ACC_SCR, 13$                                ; 2173
                                 7E  7C 000E1          CLRQ    -(SP)                                       ; 2175
          0000V  CF              02  FB 000E3          CALLS   #2, COB$$RMS_PUT_BYTE                       ;
                 67              04  90 000E8 13$:     MOVB    #4, COB$$AB_PREV                            ; 2176
                 50              01  D0 000EB          MOVL    #1, R0                                      ; 2178
                                     04 000EE          RET                                                 ;
                                 50  D4 000EF 14$:     CLRL    R0                                          ; 2179
                                     04 000F1          RET                                                 ;

; Routine Size:  242 bytes,    Routine Base:  _COB$CODE + 00EC
```

```
;  667          2180  1 %SBTTL 'COB$ACC_SCR - ACCEPT with screen enhancements'
;  668          2181  1 GLOBAL ROUTINE COB$ACC_SCR ( UNIT          :  VECTOR [2,BYTE],
;  669          2182  1                              STRING_DEST   :  REF $STR$DESCRIPTOR,
;  670          2183  1                              FLAGS,
;  671          2184  1                              DEFAULT       :  REF $STR$DESCRIPTOR,
;  672          2185  1                              SIZE,
;  673          2186  1                              KEY           :  REF $STR$DESCRIPTOR,
;  674          2187  1                              LENGTH
;  675          2188  1                            ) =
;  676          2189  1
;  677          2190  1 !++
;  678          2191  1 ! FUNCTIONAL DESCRIPTION:
;  679          2192  1 !
;  680          2193  1 !       Performs COBOL ACCEPT statement with screen enhancements.
;  681          2194  1 !       Reads a record from a specified UNIT and deposits record in
;  682          2195  1 !       STRING_DEST.
;  683          2196  1 !       A call to COB$POS_ACCEPT is made by the VAX COBOL Compiler
;  684          2197  1 !       prior to the call to COB$ACC_SCR to set cursor position and
;  685          2198  1 !       perform any screen or line erasing.
;  686          2199  1 !
;  687          2200  1 ! CALLING SEQUENCE:
;  688          2201  1 !
;  689          2202  1 !       RETURN_STATUS.wlc.v = COB$ACC_SCR ( UNIT.rbu.va, STRING_DEST.mt.ds,
;  690          2203  1 !                                           [FLAGS.rlu.v], [DEFAULT.rt.dx],
;  691          2204  1 !                                           [SIZE.rlu.v], [KEY.wt.ds],
;  692          2205  1 !                                           [LENGTH.wlu.r] )
;  693          2206  1 ! FORMAL PARAMETERS:
;  694          2207  1 !
;  695          2208  1 !       UNIT.rbu.va     Array of two unsigned byte integers.
;  696          2209  1 !                       The first byte is the unit number designating the
;  697          2210  1 !                       device from which the string is to be read.
;  698          2211  1 !                       The second byte indicates whether the routine should
;  699          2212  1 !                       abort or return to the calling program.
;  700          2213  1 !                         Byte 2 = 0  -  routine will abort on control z
;  701          2214  1 !                                        and reprompt on conversion errors.
;  702          2215  1 !                                = 1  -  ( AT END )
;  703          2216  1 !                                        routine will return to calling program
;  704          2217  1 !                                        on control z and reprompt on conversion
;  705          2218  1 !                                        errors.
;  706          2219  1 !                                = 2  -  ( ON EXCEPTION )
;  707          2220  1 !                                        routine will return to calling program
;  708          2221  1 !                                        on control z and conversion errors.
;  709          2222  1 !
;  710          2223  1 !       STRING_DEST.mt.ds   Address of descriptor to receive the read input.
;  711          2224  1 !
;  712          2225  1 !       FLAGS.rlu.v     Screen enhancement flag;
;  713          2226  1 !
;  714          2227  1 !                               bit 0  -  bold
;  715          2228  1 !                               bit 1  -  reverse
;  716          2229  1 !                               bit 2  -  blink
;  717          2230  1 !                               bit 3  -  underline
;  718          2231  1 !                               bit 4  -  bell
;  719          2232  1 !                               bit 5  -  conversion
;  720          2233  1 !                               bit 6  -  decimal point is comma
;  721          2234  1 !                               bit 7  -  0 to allow space for sign in PROTECTED
;  722          2235  1 !                                         ACCEPT, 1 no allowance for sign
;  723          2236  1 !                               bit 8  -  protect
```

```
;  724          2237  1 !                                   bit 9  -  no-echo
;  725          2238  1 !                                   bit 10 -  0 advancing, 1 no advancing
;  726          2239  1 !                                   bit 11 -  0 for VAX COBOL, 1 for VAX RPG
;  727          2240  1 !
;  728          2241  1 !       DEFAULT.rt.dx   Default source moved to destination descriptor
;  729          2242  1 !                       (STRING_DEST) in the event of null input.
;  730          2243  1 !
;  731          2244  1 !       SIZE.rlu.v      Size of protected field.  Only applicable if the
;  732          2245  1 !                       protected flag is set.
;  733          2246  1 !
;  734          2247  1 !       KEY.wt.ds       Destination of the receiving field of the control key
;  735          2248  1 !
;  736          2249  1 !       LENGTH.wlu.r    Destination of the number of characters read
;  737          2250  1 !
;  738          2251  1 ! IMPLICIT INPUTS:
;  739          2252  1 !
;  740          2253  1 !       Status of whether the input file is currently open.
;  741          2254  1 !
;  742          2255  1 ! IMPLICIT OUTPUTS:
;  743          2256  1 !
;  744          2257  1 !       Updated status of file
;  745          2258  1 !
;  746          2259  1 ! ROUTINE VALUE:
;  747          2260  1 !
;  748          2261  1 !       If .UNIT[1] is false :  Unspecified.
;  749          2262  1 !       If .UNIT[1] is true  :  Either true or false, indicating success or
;  750          2263  1 !                               EOF, respectively.
;  751          2264  1 !
;  752          2265  1 ! SIDE EFFECTS:
;  753          2266  1 !
;  754          2267  1 !       Reads a record from a designated uirt.
;  755          2268  1 !
;  756          2269  1 !--
;  757          2270  1
;  758          2271  2     BEGIN
;  759          2272  2
;  760          2273  2     LOCAL
;  761          2274  2         !+
;  762          2275  2         ! Note; other declarations are in the macro $BIND_PARAMETERS.
;  763          2276  2         !-
;  764          2277  2         RAB             :  REF $RAB_DECL,
;  765          2278  2         PUT_SIZE        :  WORD,                ! ACC_SIZE plus 5 (for escape
;  766          2279  2                                                 ! sequences)
;  767          2280  2         ON_BUF          :  VECTOR [20,BYTE],    ! Holds escape seq to turn on
;  768          2281  2                                                 ! terminal attributes
;  769          2282  2         ON_LEN          :  INITIAL (0),         ! Length of ON_BUF
;  770          2283  2         FUNC_VAL_2,                             ! QIO function Modifiers used
;  771          2284  2                                                 ! in the item list for RMS $GET
;  772          2285  2         PROT_OK         :  INITIAL (0),         ! = 1 if no Protection errors
;  773          2286  2         CONV_OK         :  INITIAL (0),         ! = 1 if no Conversion errors
;  774          2287  2         REPROMPT_DONE   :  INITIAL (0),         ! = 1 if reprompt performed in
;  775          2288  2                                                 ! response to a Conversion error
;  776          2289  2         YES_CONV        :  INITIAL (0),         ! = 1 if Conversion requested
;  777          2290  2         YES_NO_ECHO     :  INITIAL (0),         ! = 1 if No-Echo requested
;  778          2291  2         YES_SIGN        :  INITIAL (1),         ! = 1 if no allowance for sign
;  779          2292  2                                                 ! given. NOTE - initialized to 1
;  780          2293  2         P_DATA_TYPE     :  INITIAL (0),         ! PP99 or 99PP data types
```

```
;  781          2294  2          ZEROES,                                  ! %X'0' filler
;  782          2295  2          BLANKS,                                  ! %C' ' filler
;  783          2296  2          PARAMETERS      :  VECTOR [22]           ! Buffer to hold data to be
;  784          2297  2                             INITIAL (REP 22 OF (0)) ; ! passed to subroutines
;  785          2298  2      BUILTIN
;  786          2299  2          NULLPARAMETER ;
;  787          2300  2
;  788          2301  2       LITERAL
;  789          2302  2          F_PROT_SIZE = 13,                        ! # of chars allowed for input
;  790          2303  2          D_PROT_SIZE = 22 ;                       ! when PROTECTED is requested
;  791          2304  2 !+                                                 ! for floating and double fl.
;  792          2305  2 !  Bind PARAMETERS to other names.
;  793          2306  2 !-
;  794          2307  2       $BIND_PARAMETERS ;
;  795          2308  2
;  796          2309  2 !+
;  797          2310  2 !  Fillers - used by STR$DUPL_CHAR, therefore they cannot be literals
;  798          2311  2 !-
;  799          2312  2       ZEROES = %X'0' ;
;  800          2313  2       BLANKS = %C' ' ;
;  801          2314  2
;  802          2315  2 !+
;  803          2316  2 !  Put ACCEPTed data from RMS $GET in this buffer.
;  804          2317  2 !-
;  805          2318  2
;  806          2319  2       PUT_HERE [DSC$W_LENGTH]  = 0 ;
;  807          2320  2       PUT_HERE [DSC$B_DTYPE]   = DSC$K_DTYPE_NL ;
;  808          2321  2       PUT_HERE [DSC$B_CLASS]   = DSC$K_CLASS_D ;
;  809          2322  2       PUT_HERE [DSC$A_POINTER] = 0 ;
;  810          2323  2
;  811          2324  2 !+
;  812          2325  2 !  Determine if PROTECTION has been requested.
;  813          2326  2 !  If so, set the size of the field by either the value of the SIZE parameter
;  814          2327  2 !  or the length field of the STRING_DEST descriptor.
;  815          2328  2 !  If no PROTECTION requested, use COB$K_ACC_SIZE (1024 - same as
;  816          2329  2 !  V1 Accept).
;  817          2330  2 !  Also make adjustments if both PROTECTION and CONVERSION are requested -
;  818          2331  2 !  add room for sign and a decimal point, in some cases look at DSC$B_DIGITS
;  819          2332  2 !  instead of DSC$W_LENGTH.
;  820          2333  2 !  'P' data types need special handling.
;  821          2334  2 !  Use STR$GET1_DX to allocate space for dynamic string PUT_HERE.
;  822          2335  2 !-
;  823          2336  2
;  824          2337  2       IF ( .FLAGS AND V_CONV ) NEQ 0 THEN YES_CONV = 1 ;     !  Avoid BLISS
;  825          2338  2       IF ( .FLAGS AND V_NO_SIGN ) NEQ 0 THEN YES_SIGN = 0 ;  !  optimization problems
;  826          2339  2
;  827          2340  2       IF ( .FLAGS AND V_PROTECT ) NEQ 0
;  828          2341  2       THEN
;  829          2342  3           BEGIN                                          ! Begin Protect Size
;  830          2343  3           YES_PROTECT = 1 ;
;  831          2344  3           IF .SIZE NEQ 0
;  832          2345  3           THEN ACC_SIZE = .SIZE                          ! Use SIZE
;  833          2346  3           ELSE
;  834          2347  4               BEGIN                                      ! Begin no SIZE param
;  835          2348  4                   LOCAL
;  836          2349  4                       pp99  :  initial (0) ;             ! Scale for PP99 data
;  837          2350  4                                                          ! type
```

```
;  838          2351  4
;  839          2352  4              pp99 = .string_dest [dsc$b_digits] + .string_dest [dsc$b_scale] ;
;  840          2353  4              ACC_SIZE = .STRING_DEST [DSC$W_LENGTH] ;    ! Use STRING_DEST
;  841          2354  4
;  842          2355  4 !+
;  843          2356  4 !  Special case "P" data types (each "P" specifies an assumed scaling position).
;  844          2357  4 !  NOTE:  All code pertaining to the "P" data type is in lowercase.  Since "P"
;  845          2358  4 !  data types are such an off the wall issue, leaving this code in lowercase is
;  846          2359  4 !  the best way to avoid "P" code interfering with "normal" data types.
;  847          2360  4 !-
;  848          2361  6              if ((.string_dest [dsc$b_class] eql dsc$k_class_sd )
;  849          2362  7                  and  ((.pp99 lss 0)                             ! P Picture of PP99
;  850          2363  5                  or (.string_dest[dsc$b_scale] gtr 0)))  ! P Picture of 99PP.
;  851          2364  4              then
;  852          2365  5                  begin                                       ! begin P data types
;  853          2366  5                  p_data_type = 1 ;
;  854          2367  5                  if .pp99 lss 0                              ! P Picture of PP99
;  855          2368  5                  then
;  856          2369  5                      acc_size = abs (.string_dest[dsc$b_scale])
;  857          2370  5                  else
;  858          2371  5                      acc_size = .pp99 ;
;  859          2372  5
;  860          2373  5                  if .yes_conv
;  861          2374  5                  then
;  862          2375  6                      begin
;  863          2376  6                      !+
;  864          2377  6                      !  Allow space for a decimal point for PP99 but not 99pp.
;  865          2378  6                      !-
;  866          2379  6                      if .pp99 lss 0
;  867          2380  6                      then
;  868          2381  6                          acc_size = .acc_size + 1 ;      ! decimal point for pp99
;  869          2382  6
;  870          2383  6                      !+
;  871          2384  6                      !  Because we are reading the digits and scale fields,
;  872          2385  6                      !  all numeric data types will need an extra space for
;  873          2386  6                      !  the sign - except Numeric Unsigned.
;  874          2387  6                      !-
;  875          2388  6
;  876          2389  6                      if .string_dest [dsc$b_dtype] neq dsc$k_dtype_nu
;  877          2390  6                      then
;  878          2391  6                          acc_size = .acc_size + 1 ;
;  879          2392  6                      !+
;  880          2393  6                      !  Additional check for VAX_11 COBOL COMP and COMP3
;  881          2394  6                      !  data types - if YES_SIGN = 0 then do not include
;  882          2395  6                      !  space for sign.
;  883          2396  6                      !-
;  884          2397  8                      if (((.string_dest [dsc$b_dtype] eql dsc$k_dtype_w  ) or
;  885          2398  8                           (.string_dest [dsc$b_dtype] eql dsc$k_dtype_wu ) or
;  886          2399  8                           (.string_dest [dsc$b_dtype] eql dsc$k_dtype_l  ) or
;  887          2400  8                           (.string_dest [dsc$b_dtype] eql dsc$k_dtype_lu ) or
;  888          2401  8                           (.string_dest [dsc$b_dtype] eql dsc$k_dtype_q  ) or
;  889          2402  8                           (.string_dest [dsc$b_dtype] eql dsc$k_dtype_qu ) or
;  890          2403  8                           (.string_dest [dsc$b_dtype] eql dsc$k_dtype_p ))
;  891          2404  7                                                           and .yes_sign eql 0 )
;  892          2405  6                      then
;  893          2406  6                          acc_size = .acc_size - 1 ;
;  894          2407  5                      end ;
```

```
;  895          2408  5                 end                                             ! end P data types
;  896          2409  5
;  897          2410  4             else
;  898          2411  4                 !+
;  899          2412  4                 ! Non P data type
;  900          2413  4                 !-
;  901          2414  5                 begin                                           ! Begin non P data type
;  902          2415  5                 IF .YES_CONV                                    ! Adjust ACC_SIZE
;  903          2416  5                 THEN
;  904          2417  5                     !+
;  905          2418  5                     ! Make room for overpunch sign.
;  906          2419  5                     ! Packed data type - check to see if sign should be
;  907          2420  5                     ! included.
;  908          2421  5                     !-
;  909          2422  6                     BEGIN
;  910          2423  7                     IF ((.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_NRO ) OR
;  911          2424  7                         (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_NLO ) OR
;  912          2425  8                         (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_P  AND
;  913          2426  7                                                        .YES_SIGN ))
;  914          2427  6                     THEN
;  915          2428  6                         ACC_SIZE = .ACC_SIZE + 1 ;
;  916          2429  6
;  917          2430  6                      !+
;  918          2431  6                      ! COMP - look at digits field plus one for sign, only if
;  919          2432  6                      ! conversion is requested.
;  920          2433  6                      ! VAX_COBOL always sends an SD descriptor for W, L, Q when
;  921          2434  6                      ! Conversion is used.
;  922          2435  6                      ! Check to see if sign should be included.
;  923          2436  6                      !-
;  924          2437  6
;  925          2438  7                     IF (.STRING_DEST [DSC$B_CLASS] EQL DSC$K_CLASS_SD )
;  926          2439  6                     THEN
;  927          2440  8                         IF (((.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_W  ) OR
;  928          2441  8                              (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_WU ) OR
;  929          2442  8                              (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_L  ) OR
;  930          2443  8                              (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_LU ) OR
;  931          2444  8                              (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_Q  ) OR
;  932          2445  8                              (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_QU ))
;  933          2446  7                                                        AND .YES_SIGN )
;  934          2447  6                         THEN
;  935          2448  6                             ACC_SIZE = .STRING_DEST [DSC$B_DIGITS] + 1 ;
;  936          2449  6
;  937          2450  6                     !+
;  938          2451  6                     ! Floating pt - 13 for Floating, 22 for Double Floating.
;  939          2452  6                     !-
;  940          2453  6
;  941          2454  7                     IF (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_F )
;  942          2455  6                     THEN
;  943          2456  6                         ACC_SIZE = F_PROT_SIZE ;
;  944          2457  7                     IF (.STRING_DEST [DSC$B_DTYPE] EQL DSC$K_DTYPE_D )
;  945          2458  6                     THEN
;  946          2459  6                         ACC_SIZE = D_PROT_SIZE ;
;  947          2460  6
;  948          2461  6                     !+
;  949          2462  6                     ! Make room for decimal point
;  950          2463  6                     !-
;  951          2464  6
```

```
;  952          2465  7                    IF (.STRING_DEST [DSC$B_CLASS] EQL DSC$K_CLASS_SD )
;  953          2466  6                    THEN
;  954          2467  6                        ACC_SIZE = .ACC_SIZE + 1 ;
;  955          2468  5                    END ;
;  956          2469  4                end ;                                          ! End non P data type
;  957          2470  3            END ;                                              ! End no SIZE param
;  958          2471  3        END                                                    ! End Protect Size
;  959          2472  2    ELSE
;  960          2473  2        ACC_SIZE = COB$K_ACC_SIZE - RMS_HEADER ;               ! 1024 - 14 is same
;  961          2474  2                                                               ! limit as a DISPLAY
;  962          2475  2 !+
;  963          2476  2 ! Allocate enough room in PUT_HERE to hold the terminator escape sequences.
;  964          2477  2 ! Most sequences are 4 bytes or less.  (PUT_SIZE is 5 more than ACC_SIZE.)
;  965          2478  2 ! Note: PUT_SIZE used, not ACC_SIZE.
;  966          2479  2 !-
;  967          2480  2
;  968          2481  2     PUT_SIZE = .ACC_SIZE ;
;  969          2482  2     IF .ACC_SIZE LSS 920 THEN PUT_SIZE = .ACC_SIZE + 5 ;
;  970          2483  2
;  971          2484  3     IF NOT ( STR$GET1_DX ( %REF (.PUT_SIZE ), PUT_HERE ))
;  972          2485  2     THEN LIB$STOP ( COB$_ERRDURACC ) ;
;  973          2486  2
;  974          2487  2 !+
;  975          2488  2 ! Check first byte of UNIT param.
;  976          2489  2 ! If this file is not open, open it.  (Note: only first byte of UNIT is
;  977          2490  2 !                                             sent to COB$$OPEN_IN)
;  978          2491  2 !-
;  979          2492  2
;  980          2493  2     IF .UNIT[0] GTRU COB$K_UNIT_MAX
;  981          2494  2     THEN
;  982          2495  2         LIB$STOP ( COB$_INVARG ) ;
;  983          2496  2
;  984          2497  2     IF .COB$$AL_WRITE_RAB [ .UNIT[0] ] EQL 0
;  985          2498  2     THEN
;  986          2499  2         !+
;  987          2500  2         ! Second parameter tells COB$$OPEN_IN whether VAX COBOL (0)
;  988          2501  2         ! or VAX RPG (1) is the caller.
;  989          2502  2         !-
;  990          2503  2         COB$$OPEN_IN ( .UNIT[0],
;  991          2504  2                        IF ( .FLAGS AND V_COB_RPG ) NEQ 0
;  992          2505  2                        THEN 1
;  993          2506  2                        ELSE 0 ) ;
;  994          2507  2
;  995          2508  2     RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
;  996          2509  2
;  997          2510  2 !+
;  998          2511  2 ! Find out if the device is a terminal.
;  999          2512  2 !-
; 1000          2513  2
; 1001          2514  3     BEGIN
; 1002          2515  3         LOCAL
; 1003          2516  3             STATUS,
; 1004          2517  3             NAM_DSC  :  REF BLOCK [8,BYTE] ;
; 1005          2518  3
; 1006          2519  3     NAM_DSC = .RAB + RAB$C_BLN ;
; 1007          2520  3
; 1008          2521  3     IF .COB$ACC_TERM_TYPE EQL 0
```

```
: 1009          2522  3     THEN
: 1010          2523  4         IF NOT ( COB$$SETUP_TERM_TYPE ( .NAM_DSC [DSC$A_POINTER],
: 1011          2524  4                                         .NAM_DSC [DSC$W_LENGTH],
: 1012          2525  4                                         COB$ACC_TERM_TYPE ) )
: 1013          2526  3         THEN LIB$STOP ( COB$_ERRDURACC ) ;
: 1014          2527  3
: 1015          2528  3     IF .COB$ACC_TERM_TYPE EQL UNKNOWN
: 1016          2529  3     THEN
: 1017          2530  3         !+
: 1018          2531  3         ! If terminal is UNKNOWN then it can be assumed we are working
: 1019          2532  3         ! with files rather than terminals.  Pull out of this routine
: 1020          2533  3         ! and go to COB$$ACC_SCR_FILE which uses a slightly different
: 1021          2534  3         ! variation of the RMS $GET Service.
: 1022          2535  3         !-
: 1023          2536  4         BEGIN
: 1024          2537  4         STATUS = COB$$ACC_SCR_FILE ( .UNIT, .STRING_DEST, .FLAGS, .DEFAULT,
: 1025          2538  4                                      .LENGTH, .ACC_SIZE, PUT_HERE, .YES_CONV,
: 1026          2539  4                                      .YES_PROTECT, .YES_SIGN) ;
: 1027          2540  4         !+
: 1028          2541  4         ! Free local string PUT_HERE
: 1029          2542  4         !-
: 1030          2543  5         IF NOT ( STR$FREE1_DX ( PUT_HERE ))
: 1031          2544  4         THEN LIB$STOP ( COB$_ERRDURACC ) ;
: 1032          2545  4
: 1033          2546  5         IF (NOT .STATUS)
: 1034          2547  4         THEN
: 1035          2548  4             RETURN 0
: 1036          2549  4         ELSE
: 1037          2550  4             RETURN 1 ;
: 1038          2551  3         END ;
: 1039          2552  3
: 1040          2553  2     END ;
: 1041          2554  2
: 1042          2555  2     !+
: 1043          2556  2     ! Flag to COB$ACCEPT that COB$ACC_SCR has been called.  COB$ACCEPT will
: 1044          2557  2     ! have to perform a Carriage Return.
: 1045          2558  2     !-
: 1046          2559  2
: 1047          2560  2     ACC_SCR = 1 ;
: 1048          2561  2
: 1049          2562  3     BEGIN                                          ! Begin $GET
: 1050          2563  3
: 1051          2564  3 !+
: 1052          2565  3 ! VAX COBOL Version 1 / Version 3 Interaction.
: 1053          2566  3 ! Advancing philosophy : <LF>   $GET   <CR>
: 1054          2567  3 ! <LF> based on previous call.
: 1055          2568  3 ! <CR> based on current ACCEPT using FLAGS bit 10.
: 1056          2569  3 ! If previous call requires advancing then perform a linefeed.  DISPLAY (DISP)
: 1057          2570  3 ! and ACCEPT (ACC_ADV) with advancing.  POS = call to module COB$POS_ERASE
: 1058          2571  3 ! remembers what previous call was, if advancing then POS, if no advancing
: 1059          2572  3 ! then POS_DNA
: 1060          2573  3 !-
: 1061          2574  3
: 1062          2575  4     IF (.COB$$AB_PREV[0] EQL DISP
: 1063          2576  4         OR  .COB$$AB_PREV[0] EQL POS
: 1064          2577  4         OR  .COB$$AB_PREV[0] EQL ACC_ADV )
: 1065          2578  3     THEN
```

```
; 1066          2579  3          !+
; 1067          2580  3          !  Echo linefeed to terminal
; 1068          2581  3          !-
; 1069          2582  3          COB$$RMS_PUT_BYTE ( LINE_FD, .FLAGS ) ;
; 1070          2583  3
; 1071          2584  3      !+
; 1072          2585  3      !  Did user request any terminal attributes (bold, blink, underline, reverse) ?
; 1073          2586  3      !  If so, call COB$$SET_ATTRIBUTES_ONLY to get escape sequence to turn
; 1074          2587  3      !  attributes on and off.
; 1075          2588  3      !  PUT_FLAG - first four bits (0-3) of FLAGS parameter.
; 1076          2589  3      !-
; 1077          2590  3
; 1078          2591  3          PUT_FLAG = .FLAGS  AND  FLAG_MASK ;
; 1079          2592  3
; 1080          2593  3          IF .PUT_FLAG NEQ 0
; 1081          2594  3          THEN
; 1082          2595  4              IF NOT ( COB$$SET_ATTRIBUTES_ONLY ( .COB$ACC_TERM_TYPE, .PUT_FLAG,
; 1083          2596  4                                                  ON_BUF [0], ON_LEN,
; 1084          2597  4                                                  OFF_BUF [0], OFF_LEN ) )
; 1085          2598  3              THEN LIB$STOP ( COB$_ERRDURACC ) ;
; 1086          2599  3
; 1087          2600  3      !+
; 1088          2601  3      !  If requested, add sequence to ON_BUF to ring terminal bell.
; 1089          2602  3      !-
; 1090          2603  3
; 1091          2604  3          IF ( .FLAGS AND V_BELL ) NEQ 0
; 1092          2605  3          THEN
; 1093          2606  4              BEGIN
; 1094          2607  4              ON_BUF [ .ON_LEN ] = BELL ;
; 1095          2608  4              ON_LEN = .ON_LEN + 1 ;
; 1096          2609  3              END ;
; 1097          2610  3
; 1098          2611  3      !+
; 1099          2612  3      !  Check parameters to see if the CONTROL KEY FORMAT 4 ACCEPT has been
; 1100          2613  3      !  requested.  If so, pull out of this routine and call COB$$FORMAT_FOUR
; 1101          2614  3      !  which uses a different Terminator Mask and does not need all the
; 1102          2615  3      !  enhancements in COB$ACC_SCR.
; 1103          2616  3      !-
; 1104          2617  3
; 1105          2618  3          IF NOT NULLPARAMETER (KEY)
; 1106          2619  3          THEN
; 1107          2620  4              BEGIN
; 1108          2621  4                  LOCAL
; 1109          2622  4                      KEY_LEN ;
; 1110          2623  4
; 1111          2624  4              KEY_LEN = .KEY [DSC$W_LENGTH] ;
; 1112          2625  4              STR$DUPL_CHAR ( .KEY, KEY_LEN, BLANKS ) ;
; 1113          2626  4
; 1114          2627  4              !+
; 1115          2628  4              !  If these parameters are not present then we are dealing with
; 1116          2629  4              !  a Format Four ACCEPT rather than a Format Three ACCEPT.
; 1117          2630  4              !-
; 1118          2631  4
; 1119          2632  5              IF (NULLPARAMETER (LENGTH)  AND
; 1120          2633  5                  NULLPARAMETER (SIZE)    AND
; 1121          2634  5                  NULLPARAMETER (DEFAULT) AND
; 1122          2635  5                  NULLPARAMETER (STRING_DEST) )
```

```
;  1123          2636  4              THEN
;  1124          2637  5                  IF NOT ( COB$$FORMAT_FOUR ( .UNIT, .FLAGS, .KEY ))
;  1125          2638  4                  THEN RETURN 0
;  1126          2639  4                  ELSE RETURN 1 ;
;  1127          2640  3              END ;
;  1128          2641  3
;  1129          2642  3 !+
;  1130          2643  3 !  Determine FUNC_VAL - QIO Function Modifiers used by RMS $GET Service.
;  1131          2644  3 !  Check FLAGS parameter to see if NO-ECHO was requested (bit 9), if so
;  1132          2645  3 !  set TRM$M_TM_NOECHO to suppress echoing of input characters to the terminal.
;  1133          2646  3 !  Set TRM$M_TM_ESCAPE to allow Escape Sequences to act as terminators (Arrow
;  1134          2647  3 !  keys, PF keys, and the Professional editing and top row function keys).
;  1135          2648  3 !  Set TRM$M_TM_NOFILTR to have the DELETE KEY handled by COB$$DELETE_KEY.
;  1136          2649  3 !  Set TRM$M_TM_TRMNOECHO to suppress echoing of the termination character
;  1137          2650  3 !  (COB$$AB_PREV handles advancing / no advancing).
;  1138          2651  3 !-
;  1139          2652  3
;  1140          2653  3      IF ( .FLAGS AND V_NO_ECHO ) NEQ 0
;  1141          2654  3      THEN
;  1142          2655  4          BEGIN
;  1143          2656  4          FUNC_VAL = TRM$M_TM_ESCAPE + TRM$M_TM_NOFILTR + TRM$M_TM_TRMNOECHO
;  1144          2657  4                                                        + TRM$M_TM_NOECHO ;
;  1145          2658  4          YES_NO_ECHO = 1 ;
;  1146          2659  4          END
;  1147          2660  3      ELSE
;  1148          2661  3          FUNC_VAL = TRM$M_TM_ESCAPE + TRM$M_TM_NOFILTR + TRM$M_TM_TRMNOECHO ;
;  1149          2662  3
;  1150          2663  3 !+
;  1151          2664  3 !  Main Loop of routine.
;  1152          2665  3 !  PROT_OK = 1 -> there was no Protection error  "plus"
;  1153          2666  3 !  CONV_OK = 1 -> there was no Conversion error  "equal"  SUCCESS -> pull out
;  1154          2667  3 !  of loop.  Otherwise continue accepting data until there are no errors.
;  1155          2668  3 !  If error, reprompt user for more input via macro $ERROR_REPROMPT.
;  1156          2669  3 !-
;  1157          2670  3
;  1158          2671  3      WHILE (.PROT_OK EQL 0)  OR  (.CONV_OK EQL 0) DO
;  1159          2672  4          BEGIN                                          ! Begin loop
;  1160          2673  4              LOCAL
;  1161          2674  4                  TERM_SEEN  :  INITIAL (0) ;        ! Flag for PROTECT check
;  1162          2675  4
;  1163          2676  4          IF .REPROMPT_DONE EQL 0
;  1164          2677  4          THEN
;  1165          2678  5              BEGIN                                      ! Begin no reprompt
;  1166          2679  5
;  1167          2680  5              !+
;  1168          2681  5              !  If PROTECTION requested, put a Protected Field on the screen.
;  1169          2682  5              !  $PUT ACC_SIZE blanks to screen with attributes requested
;  1170          2683  5              !  by user turned on.  (Escape sequences geared to VT100
;  1171          2684  5              !  terminals)  Can only set a one line field as a max, therefore
;  1172          2685  5              !  FIELD_BUF holds up to 300 characters.
;  1173          2686  5              !-
;  1174          2687  5
;  1175          2688  5              IF .COB$ACC_TERM_TYPE EQL VT100
;  1176          2689  5              THEN
;  1177          2690  6                  BEGIN                                  ! Begin VT100
;  1178          2691  6                  IF .YES_PROTECT
;  1179          2692  6                  THEN
```

```
; 1180          2693  7                   BEGIN                                   ! Begin Field
; 1181          2694  7                   LOCAL
; 1182          2695  7                       FIELD_BUF       :  VECTOR [300, BYTE],
; 1183          2696  7                       FIELD_LEN ;                         ! size of FIELD_BUF
; 1184          2697  7
; 1185          2698  7                   !+
; 1186          2699  7                   !  Buffer FIELD_BUF to write Protected Field contains
; 1187          2700  7                   !           - escape sequence to turn attributes on,
; 1188          2701  7                   !           - number of blanks to write to screen and
; 1189          2702  7                   !           - backspaces (same # as blanks) to put cursor
; 1190          2703  7                   !             back to original position.
; 1191          2704  7                   !-
; 1192          2705  7
; 1193          2706  7                   CH$MOVE ( .ON_LEN, ON_BUF [0], FIELD_BUF [0] ) ;
; 1194          2707  7                   FIELD_LEN = .ON_LEN ;
; 1195          2708  7                   CH$FILL ( BLANK, .ACC_SIZE, FIELD_BUF [.FIELD_LEN] ) ;
; 1196          2709  7                   FIELD_LEN = .FIELD_LEN + .ACC_SIZE ;
; 1197          2710  7                   CH$FILL ( BS, .ACC_SIZE, FIELD_BUF [.FIELD_LEN] ) ;
; 1198          2711  7                   FIELD_LEN = .FIELD_LEN + .ACC_SIZE ;
; 1199          2712  7
; 1200          2713  7                   !+
; 1201          2714  7                   !  If size of FIELD_BUF is greater than the size of the
; 1202          2715  7                   !  maximum allowed for a $PUT buffer, issue an error
; 1203          2716  7                   !  message.  Issuing multiple $PUTs at this point does
; 1204          2717  7                   !  not help as the cursor is unable to get back to the
; 1205          2718  7                   !  starting position and ends up in the wrong line.
; 1206          2719  7                   !-
; 1207          2720  7
; 1208          2721  8                   IF .FIELD_LEN GTR (COB$K_ACC_SIZE - RMS_HEADER) ! 1024 -14
; 1209          2722  7                   THEN
; 1210          2723  7                       LIB$STOP ( COB$_ERRDURACC ) ;
; 1211          2724  7
; 1212          2725  7                   !+
; 1213          2726  7                   !  $PUT to write Protected Field to terminal
; 1214          2727  7                   !-
; 1215          2728  7
; 1216          2729  7                   COB$$RMS_PUT_BUFFER ( FIELD_BUF [0], .FIELD_LEN, .FLAGS ) ;
; 1217          2730  7
; 1218          2731  6                   END ;                                   ! End Field
; 1219          2732  5               END ;                                       ! End VT100
; 1220          2733  5
; 1221          2734  5           !*****
; 1222          2735  5           !*****  RMS $GET Service
; 1223          2736  5           !*****
; 1224          2737  5
; 1225          2738  5                       !+
; 1226          2739  5                       !  RMS $PUT to turn on terminal attributes (blink,bold,underline,reverse).
; 1227          2740  5                       !  RMS $GET to accept input.  Do not perform the $PUT if PROTECTED
; 1228          2741  5                       !  is requested as the FIELD_BUF $PUT has already turned attributes
; 1229          2742  5                       !  on.
; 1230          2743  5                       !  Note :  RMS$_PROMPT not used because of buffer size limitations.
; 1231          2744  5                       !    TRM$_MODIFIERS uses all of specified buffer for accepting input,
; 1232          2745  5                       !    TRM$_PROMPT uses same buffer for both the prompt string and the
; 1233          2746  5                       !    accepted data, therefore some space for accepting data is lost.
; 1234          2747  5                       !-
; 1235          2748  5
; 1236          2749  5                       IF .ON_LEN NEQ 0 AND .YES_PROTECT NEQ 1     ! If requested, turn
```

```
;  1237     2750  5              THEN                                            ! attributes on
;  1238     2751  5                  COB$$RMS_PUT_BUFFER ( ON_BUF [0], .ON_LEN, .FLAGS ) ;
;  1239     2752  5
;  1240     2753  5              !+
;  1241     2754  5              ! RMS $GET to accept input from terminal.
;  1242     2755  5              !-
;  1243     2756  5
;  1244     2757  5              RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
;  1245     2758  5              COB$$RMS_GET ( .RAB, .FUNC_VAL, .ACC_SIZE,
;  1246     2759  5                                              .PUT_HERE [DSC$A_POINTER] ) ;
;  1247     2760  5
;  1248     2761  5              END                                             ! End of no reprompt
;  1249     2762  4          ELSE
;  1250     2763  4              REPROMPT_DONE = 0 ;                             ! re-set flag
;  1251     2764  4
;  1252     2765  4          !+
;  1253     2766  4          ! Get number of characters read and terminator size from the fields
;  1254     2767  4          ! of the RAB.  Pass this info along to other routines.
;  1255     2768  4          ! RAB fields -
;  1256     2769  4          !       rab [rab$l_sts]        = status
;  1257     2770  4          !       rab [rab$l_rsz]        = x      no. of chars read
;  1258     2771  4          !       rab [cob$$b_stv0_term] = d      <cr> terminator seen
;  1259     2772  4          !       rab [cob$$b_stv2_len]  = 1      size of terminator
;  1260     2773  4          ! Save this information before COB$$PARTIAL_SEQ does any more $GETs.
;  1261     2774  4          !-
;  1262     2775  4
;  1263     2776  4          CHARS_READ = .RAB [RAB$W_RSZ] ;                     ! Number of chars read
;  1264     2777  4          TERM_SIZE  = .RAB [COB$$B_STV2_LEN] ;               ! Size and location of
;  1265     2778  4          TERM_LOC   = .RAB [COB$$B_STV0_TERM] ;              ! terminator - other
;  1266     2779  4                                                              ! routines may update
;  1267     2780  4                                                              ! these
;  1268     2781  4          !+
;  1269     2782  4          ! Check for partial sequence error - not enough room in input buffer
;  1270     2783  4          ! to hold entire escape sequence when a Protected ACCEPT is performed.
;  1271     2784  4          ! If necessary, call COB$$PARTIAL_SEQ to read remainder of sequence.
;  1272     2785  4          !-
;  1273     2786  4
;  1274     2787  4          IF .RAB [RAB$L_STS] EQL RMS$_PES
;  1275     2788  4          THEN
;  1276     2789  5              BEGIN
;  1277     2790  5              TERM_SEEN = 1 ;                                 ! Set flag here as
;  1278     2791  5              COB$$PARTIAL_SEQ ( PARAMETERS, .UNIT ) ;        ! COB$$PARTIAL_SEQ may
;  1279     2792  4              END ;                                           ! change status value
;  1280     2793  4
;  1281     2794  4          !+
;  1282     2795  4          ! If terminator was the DELETE KEY call COB$$DELETE_KEY.
;  1283     2796  4          !-
;  1284     2797  4
;  1285     2798  4          IF .RAB [COB$$B_STV0_TERM] EQL DEL_KEY
;  1286     2799  4          THEN
;  1287     2800  4              COB$$DELETE_KEY ( PARAMETERS, .UNIT, .FLAGS ) ;
;  1288     2801  4
;  1289     2802  4 !*******
;  1290     2803  4 !******* PROTECTED
;  1291     2804  4 !*******
;  1292     2805  4
;  1293     2806  4          !+
```

```
;  1294          2807  4          !  Was terminator seen on PROTECTED READ?
;  1295          2808  4          !
;  1296          2809  4          !  Looking for terminator to make sure that user hasn't tried to go
;  1297          2810  4          !  beyond the bounds of a PROTECTED READ.
;  1298          2811  4          !
;  1299          2812  4          !  Two ways for a protected read to complete -
;  1300          2813  4          !       1. terminator typed before buffer filled ( no further check necessary)
;  1301          2814  4          !       2. buffer fill ( no terminator seen)
;  1302          2815  4          !               - do a one character read to make sure terminator is
;  1303          2816  4          !                       typed, not another character.
;  1304          2817  4          !
;  1305          2818  4          !  The following RAB fields look like this if buffer filled
;  1306          2819  4          !               rab [rab$l_sts]        = status
;  1307          2820  4          !               rab [rab$l_rsz]        = x       no. of chars read (acc_size)
;  1308          2821  4          !               rab [cob$$b_stv0_term] = 0       no terminator seen
;  1309          2822  4          !               rab [cob$$b_stv2_len]  = 0       size of terminator
;  1310          2823  4          !-
;  1311          2824  4
;  1312          2825  5          IF (.YES_PROTECT )                                  ! Was PROTECTION requested?
;  1313          2826  5                AND  ( .CHARS_READ NEQ 0 )                    ! AND is it needed
;  1314          2827  4          THEN
;  1315          2828  4          IF .RAB [RAB$L_STS] EQL RMS$_TNS                    ! RMS$_TNS = Terminator
;  1316          2829  4                              AND .TERM_SEEN EQL 0          ! Not Seen
;  1317          2830  4           THEN
;  1318          2831  5               BEGIN                                         ! Begin protect check $GET
;  1319          2832  5               !+
;  1320          2833  5               !  After initial $GET is performed it is necessary to perform a
;  1321          2834  5               !  $GET of length 1 to make sure that there are no characters
;  1322          2835  5               !  typed by the user that exceed the maximum allowed.
;  1323          2836  5               !  (Do not echo character to terminal.)
;  1324          2837  5               !  If the $GET of one character results in a terminator, there
;  1325          2838  5               !  is no problem.
;  1326          2839  5               !  If the $GET of one character results in an attempt to type
;  1327          2840  5               !  extra characters, there is an error.
;  1328          2841  5               !
;  1329          2842  5               !  If VAX RPG is the caller, always return control to the
;  1330          2843  5               !  calling program on an error.
;  1331          2844  5               !-
;  1332          2845  5
;  1333          2846  5               LOCAL
;  1334          2847  5                   NO_CHAR    :  INITIAL (0),             ! =1 no Protection error
;  1335          2848  5                   HAVE_TERM  :  INITIAL (0) ;            ! =1 terminator seen
;  1336          2849  5
;  1337          2850  5               WHILE .HAVE_TERM NEQ 1 DO
;  1338          2851  6                   BEGIN                                  ! Begin HAVE_TERM loop
;  1339          2852  6
;  1340          2853  6                   NO_CHAR = 0 ;
;  1341          2854  6                   FUNC_VAL_2 = TRM$M_TM_ESCAPE + TRM$M_TM_NOFILTR
;  1342          2855  6                                + TRM$M_TM_TRMNOECHO + TRM$M_TM_NOECHO ;
;  1343          2856  6
;  1344          2857  6                   RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
;  1345          2858  6                   COB$$RMS_GET ( .RAB, .FUNC_VAL_2, 1, NEXT_CHAR ) ;
;  1346          2859  6
;  1347          2860  6                   !+
;  1348          2861  6                   !  If user did not attempt to enter more data, set TERM_SIZE
;  1349          2862  6                   !  and TERM_IN_NEXT before possible call to COB$$PARTIAL_SEQ.
;  1350          2863  6                   !  If not enough room in $GET buffer to hold entire escape
```

```
; 1351          2864  6                       !  sequence then call COB$$PARTIAL_SEQ to read remainder
; 1352          2865  6                       !  of sequence.
; 1353          2866  6                       !-
; 1354          2867  6
; 1355          2868  6                       IF .RAB [RAB$W_RSZ] EQL 0           ! No more data entered.
; 1356          2869  6                       THEN
; 1357          2870  7                           BEGIN
; 1358          2871  7                           NO_CHAR = 1 ;                   ! Move terminator into
; 1359          2872  7                           NEXT_CHAR [0] = .RAB [COB$$B_STV0_TERM] ; ! NEXT_CHAR
; 1360          2873  6                           END ;
; 1361          2874  6                       TERM_SIZE = .RAB [COB$$B_STV2_LEN] ; ! Terminator size.
; 1362          2875  6                       TERM_LOC  = .RAB [COB$$B_STV0_TERM]; ! Terminator location.
; 1363          2876  6                       TERM_IN_NEXT = 1 ;                  ! Terminator on NEXT_CHAR
; 1364          2877  6                       IF .RAB [RAB$L_STS] EQL RMS$_PES
; 1365          2878  6                       THEN
; 1366          2879  6                           COB$$PARTIAL_SEQ ( PARAMETERS, .UNIT ) ;
; 1367          2880  6
; 1368          2881  6                       !+
; 1369          2882  6                       !  Terminators are the only acceptable input at this point.
; 1370          2883  6                       !  If NO_CHAR = 1 then there is no Protection error.
; 1371          2884  6                       !-
; 1372          2885  6
; 1373          2886  6                       IF .NO_CHAR
; 1374          2887  6                       THEN
; 1375          2888  7                           BEGIN                           ! Begin TERM accepted
; 1376          2889  7                           PROT_OK      = 1 ;              ! $GET successful
; 1377          2890  7                           HAVE_TERM    = 1 ;
; 1378          2891  7
; 1379          2892  7 !******
; 1380          2893  7 !****** DELETE KEY
; 1381          2894  7 !******
; 1382          2895  7                                   !+
; 1383          2896  7                                   !  Was termintor the DELETE KEY ?  If so, call
; 1384          2897  7                                   !  COB$$DELETE_KEY to erase the last character
; 1385          2898  7                                   !  read and to continue reading for input.
; 1386          2899  7                                   !-
; 1387          2900  7
; 1388          2901  7                                   IF .RAB [COB$$B_STV0_TERM] EQL DEL_KEY
; 1389          2902  7                                   THEN
; 1390          2903  8                                       BEGIN
; 1391          2904  8                                       COB$$DELETE_KEY ( PARAMETERS, .UNIT, .FLAGS ) ;
; 1392          2905  8                                       !+
; 1393          2906  8                                       !  Check to see if we fell out of COB$$DELETE_KEY
; 1394          2907  8                                       !  without a valid terminator.  If so, keep
; 1395          2908  8                                       !  looking for it.
; 1396          2909  8                                       !-
; 1397          2910  8                                       IF .TERM_SIZE EQL 0
; 1398          2911  8                                       THEN
; 1399          2912  9                                           BEGIN
; 1400          2913  9                                           HAVE_TERM = 0 ;         ! Loop again
; 1401          2914  9                                           PROT_OK = 0 ;
; 1402          2915  9                                           END
; 1403          2916  8                                       ELSE
; 1404          2917  9                                           BEGIN
; 1405          2918  9                                           HAVE_TERM = 1 ;
; 1406          2919  9                                           TERM_IN_NEXT = 0 ;      ! Note - COB$$DELETE_KEY put
; 1407          2920  8                                           END ;                   ! the terminator in
```

```
; 1408          2921  8                                                   ! PUT_HERE.
; 1409          2922  7                           END ;
; 1410          2923  7
; 1411          2924  7                       END                         ! End TERM accepted
; 1412          2925  6                   ELSE
; 1413          2926  6
; 1414          2927  6 !*******
; 1415          2928  6 !******* PROTECTION ERROR
; 1416          2929  6 !*******
; 1417          2930  6
; 1418          2931  6                   !+
; 1419          2932  6                   ! PROTECTION error :
; 1420          2933  6                   ! User tried to input too many characters,
; 1421          2934  6                   !    - sound terminal bell,
; 1422          2935  6                   !    - leave cursor where it is (No reprompt or backspace).
; 1423          2936  6                   !-
; 1424          2937  6
; 1425          2938  7                       BEGIN
; 1426          2939  7                       COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
; 1427          2940  7                       PROT_OK = 0 ;               ! Signal Protection error
; 1428          2941  7                       HAVE_TERM = 0 ;
; 1429          2942  7                       END
; 1430          2943  7
; 1431          2944  5                   END ;                           ! End HAVE_TERM loop
; 1432          2945  5               END                                 ! End protect check $GET
; 1433          2946  4           ELSE
; 1434          2947  4               !+
; 1435          2948  4               ! Protection requested but terminator already seen,
; 1436          2949  4               ! no need for 1 character Read.
; 1437          2950  4               !-
; 1438          2951  4               PROT_OK = 1
; 1439          2952  4       ELSE
; 1440          2953  4           !+
; 1441          2954  4           ! Protection not requested, no need for 1 character Read.
; 1442          2955  4           !-
; 1443          2956  4           PROT_OK = 1 ;
; 1444          2957  4
; 1445          2958  4 !*******
; 1446          2959  4 !******* CONTROL KEY
; 1447          2960  4 !*******
; 1448          2961  4
; 1449          2962  4     IF .PROT_OK
; 1450          2963  4     THEN
; 1451          2964  4         !+
; 1452          2965  4         ! No sense going thru Control key code if there was a protection error.
; 1453          2966  4         !-
; 1454          2967  5         BEGIN                                       ! Begin Control Key
; 1455          2968  5
; 1456          2969  5             IF .TERM_IN_NEXT                        ! Locate terminator,
; 1457          2970  5             THEN                                    ! which buffer is it in.
; 1458          2971  5                 TERM_PTR = NEXT_CHAR[0]
; 1459          2972  5             ELSE
; 1460          2973  5                 TERM_PTR = .PUT_HERE[DSC$A_POINTER] + .CHARS_READ ;
; 1461          2974  5
; 1462          2975  5             !+
; 1463          2976  5             ! If parameter KEY not sent (.KEY = 0) then CR, TAB, CONTROL Z,
; 1464          2977  5             ! and DELETE KEY are the only legal terminators.
```

```
;  1465          2978  5              !
;  1466          2979  5              !  If parameter KEY not 0 then CR, TAB, CONTROL Z, DELETE KEY, PF,
;  1467          2980  5              !  ARROW and SPECIAL FUNCTION PROFESSIONAL Keys are legal
;  1468          2981  5              !  terminators.  Copy terminator to KEY parameter.
;  1469          2982  5              !
;  1470          2983  5              !  Special treatment needed for CONTROL Z under RMS.  There is a
;  1471          2984  5              !  difference between ^Z being typed alone and with data.
;  1472          2985  5              !  When ^Z is typed with data the ^Z is stored in
;  1473          2986  5              !  RAB[RAB$_STV0_TERM], but when ^Z is typed alone the status
;  1474          2987  5              !  RMS$_EOF is returned from the $Get Service.
;  1475          2988  5              !-
;  1476          2989  5
;  1477          2990  5              IF .TERM_SIZE EQL 1                             ! One byte terminator
;  1478          2991  5              THEN
;  1479          2992  6                  BEGIN
;  1480          2993  6                  TERM_PTR = RAB [COB$$B_STV0_TERM] ;
;  1481          2994  6                  SELECTONE .RAB [COB$$B_STV0_TERM] OF
;  1482          2995  6                      SET
;  1483          2996  6                          [ CR,                               ! Carriage Return
;  1484          2997  6                            TAB ] :                           ! Tab
;  1485          2998  6                              !+
;  1486          2999  6                              !  These keys are legal, do nothing if KEY = 0.
;  1487          3000  6                              !-
;  1488          3001  6                              IF NOT NULLPARAMETER (KEY)
;  1489          3002  6                              THEN
;  1490          3003  6                                  CH$MOVE ( 1, .TERM_PTR, .KEY [DSC$A_POINTER] ) ;
;  1491          3004  6
;  1492          3005  6                          [ CZ ] :                          ! Control z
;  1493          3006  6
;  1494          3007  6                              !+
;  1495          3008  6                              !  CONTROL Z hit along with data  ( terminator in
;  1496          3009  6                              !  RAB [COB$$B_STV0_TERM] )
;  1497          3010  6                              !-
;  1498          3011  6
;  1499          3012  7                              BEGIN
;  1500          3013  7                              IF (.FLAGS AND V_COB_RPG) NEQ 0
;  1501          3014  7                              THEN
;  1502          3015  8                                  BEGIN
;  1503          3016  8                                  !+
;  1504          3017  8                                  !  VAX RPG - Control Z is an illegal terminator.
;  1505          3018  8                                  !-
;  1506          3019  8                                  LEGAL = 0 ;
;  1507          3020  8                                  COB$$ILLEGAL_TERM ( PARAMETERS, .UNIT, .FLAGS,
;  1508          3021  8                                                                      .KEY ) ;
;  1509          3022  8                                  END
;  1510          3023  7                              ELSE
;  1511          3024  8                                  BEGIN
;  1512          3025  8                                  !+
;  1513          3026  8                                  !  VAX COBOL - Control Z has special meaning.
;  1514          3027  8                                  !-
;  1515          3028  8                                  COB$$CLEAN_UP ( PARAMETERS, .FLAGS ) ;
;  1516          3029  8                                  COB$$CONTROL_Z ( .UNIT, .KEY ) ;
;  1517          3030  8                                  RETURN 0 ;
;  1518          3031  7                                  END ;
;  1519          3032  6                              END ;
;  1520          3033  6
;  1521          3034  5                          [ DEL_KEY ] :                     ! Delete key
```

```
;  1522          3035  6
;  1523          3036  7                                 BEGIN
;  1524          3037  7                                 COB$$DELETE_KEY ( PARAMETERS, .UNIT, .FLAGS ) ;
;  1525          3038  6                                 END ;
;  1526          3039  6
;  1527          3040  6                             [OTHERWISE] :                       ! Error - key not a
;  1528          3041  6                                                                 ! terminator
;  1529          3042  7                                     BEGIN
;  1530          3043  7                                     LEGAL = 0 ;
;  1531          3044  7                                     COB$$ILLEGAL_TERM ( PARAMETERS, .UNIT, .FLAGS,
;  1532          3045  7                                                                                 .KEY ) ;
;  1533          3046  6                                     END ;
;  1534          3047  6                         TES ;
;  1535          3048  6                     END
;  1536          3049  6
;  1537          3050  5                 ELSE
;  1538          3051  5                     IF .CHARS_READ EQL 0  AND  .RAB [RAB$L_STS] EQL RMS$_EOF
;  1539          3052  5                     THEN
;  1540          3053  6                         BEGIN
;  1541          3054  6                         !+
;  1542          3055  6                         !  CONTROL Z hit alone - terminator not placed in
;  1543          3056  6                         !  RAB [COB$$B_STV0_TERM], but signaled via RAB [RAB$L_STS].
;  1544          3057  6                         !-
;  1545          3058  6                         IF (.FLAGS AND V_COB_RPG) NEQ 0
;  1546          3059  6                         THEN
;  1547          3060  7                             BEGIN
;  1548          3061  7                             LEGAL = 0 ;                     ! VAX RPG - Control Z
;  1549          3062  7                             COB$$ILLEGAL_TERM ( PARAMETERS, .UNIT, .FLAGS, .KEY ) ;
;  1550          3063  7                             END
;  1551          3064  6                         ELSE
;  1552          3065  7                             BEGIN                           ! VAX COBOL
;  1553          3066  7                             COB$$CLEAN_UP ( PARAMETERS, .FLAGS ) ;
;  1554          3067  7                             COB$$CONTROL_Z ( .UNIT, .KEY ) ;
;  1555          3068  7                             RETURN 0 ;
;  1556          3069  6                             END ;
;  1557          3070  6                         END
;  1558          3071  5                 ELSE
;  1559          3072  6                     BEGIN
;  1560          3073  6
;  1561          3074  6                     !+
;  1562          3075  6                     !  Escape Sequence as Terminator.  .TERM_SIZE greater
;  1563          3076  6                     !  than 1 and RMS_$EOF not signaled.
;  1564          3077  6                     !-
;  1565          3078  6
;  1566          3079  6                     IF NOT NULLPARAMETER (KEY)
;  1567          3080  6                     THEN
;  1568          3081  6                         !+
;  1569          3082  6                         !  COB$$CONTROL_KEY converts termirator sequences to
;  1570          3083  6                         !  COBOL defined sequences and fills in KEY parameter
;  1571          3084  6                         !  if terminator is legal.
;  1572          3085  6                         !-
;  1573          3086  7                         BEGIN
;  1574          3087  8                         IF NOT ( COB$$CONTROL_KEY (TERM_PTR, .TERM_SIZE, .KEY) )
;  1575          3088  7                         THEN
;  1576          3089  8                             BEGIN
;  1577          3090  8                             LEGAL = 0 ;                 ! Illegal escape sequence
;  1578          3091  8                             COB$$ILLEGAL_TERM ( PARAMETERS, .UNIT, .FLAGS,
```

```
; 1579          3092  8                                                                   .KEY ) ;
; 1580          3093  7                           END ;
; 1581          3094  7                       END
; 1582          3095  6                   ELSE
; 1583          3096  6                       !+
; 1584          3097  6                       ! Terminator of size greater than 1 is illegal when KEY is
; 1585          3098  6                       ! not used.
; 1586          3099  6                       !-
; 1587          3100  7                       BEGIN
; 1588          3101  7                       LEGAL = 0 ;
; 1589          3102  7                       COB$$ILLEGAL_TERM ( PARAMETERS, .UNIT, .FLAGS, .KEY ) ;
; 1590          3103  6                       END ;
; 1591          3104  5                   END ;
; 1592          3105  4           END ;                                       ! End Control Key
; 1593          3106  4
; 1594          3107  4       !*******
; 1595          3108  4       !******* NULL INPUT
; 1596          3109  4       !*******
; 1597          3110  4
; 1598          3111  4           !+
; 1599          3112  4           ! Null input
; 1600          3113  4           ! RAB fields look like this for null input
; 1601          3114  4           !               rab [rab$l_sts]        = 1      status
; 1602          3115  4           !               rab [rab$l_rsz]        = 0      no. of chars read
; 1603          3116  4           !               rab [cob$$b_stv0_term] = d      <cr> terminator seen
; 1604          3117  4           !               rab [cob$$b_stv2_len]  = 1      size of terminator
; 1605          3118  4           !
; 1606          3119  4           ! Check for DEFAULT parameter - if present prepare to put it through
; 1607          3120  4           ! Conversion routines by placing DEFAULT in PUT_HERE.
; 1608          3121  4           !-
; 1609          3122  4
; 1610          3123  5           IF ( .CHARS_READ EQL 0 ) AND (( .FLAGS AND V_COB_RPG ) NEQ 0 )
; 1611          3124  4           THEN
; 1612          3125  4               !+
; 1613          3126  4               ! In case of null input for RPG, simply return (no DEFAULT).
; 1614          3127  4               ! But perform any necessary clean up first.
; 1615          3128  4               !-
; 1616          3129  5               BEGIN
; 1617          3130  5               COB$$RPG_CLEAN_UP ( .FLAGS ) ;
; 1618          3131  5               RETURN 1 ;
; 1619          3132  4               END ;
; 1620          3133  4
; 1621          3134  5           IF ( .CHARS_READ EQL 0 )
; 1622          3135  4           THEN
; 1623          3136  5               IF NOT NULLPARAMETER (DEFAULT)  AND  (.YES_DEFAULT EQL 0)
; 1624          3137  4               THEN
; 1625          3138  5                   BEGIN                                   ! Begin DEFAULT
; 1626          3139  5
; 1627          3140  5                   CHARS_READ = .DEFAULT [DSC$W_LENGTH];
; 1628          3141  5                   YES_DEFAULT = 1 ;
; 1629          3142  5
; 1630          3143  5                   !+
; 1631          3144  5                   ! Protection check for DEFAULT excluding the Floating
; 1632          3145  5                   ! Point data types ( these will be handled in routine
; 1633          3146  5                   ! COB$$VERIFY_FL_RANGE ).
; 1634          3147  5                   !-
; 1635          3148  5
```

```
; 1636          3149  6                 IF (.YES_PROTECT AND
; 1637          3150  7                         ( .STRING_DEST [DSC$B_DTYPE] NEQ DSC$K_DTYPE_F AND
; 1638          3151  6                           .STRING_DEST [DSC$B_DTYPE] NEQ DSC$K_DTYPE_D ))
; 1639          3152  5                 THEN
; 1640          3153  5                     !+
; 1641          3154  5                     ! If the length of DEFAULT is greater than the expected
; 1642          3155  5                     ! input size ACC_SIZE, then there is a Protection error.
; 1643          3156  5                     ! This should be caught at compile time by VAX COBOL and
; 1644          3157  5                     ! a fatal error message issued, however there is one case
; 1645          3158  5                     ! that the compiler cannot catch, therefore issue a fatal
; 1646          3159  5                     ! run time error here.
; 1647          3160  5                     !-
; 1648          3161  6                     IF (.DEFAULT [DSC$W_LENGTH] GTR .ACC_SIZE)
; 1649          3162  5                     THEN
; 1650          3163  5                         LIB$STOP ( COB$_INVDEFVAL )
; 1651          3164  5                     ELSE
; 1652          3165  5                         PROT_OK = 1                         ! No PROTECT error
; 1653          3166  5                 ELSE
; 1654          3167  5                     PROT_OK = 1 ;                           ! No PROTECT error
; 1655          3168  5
; 1656          3169  4                 END ;                                       ! End DEFAULT
; 1657          3170  4
; 1658          3171  4 !*******
; 1659          3172  4 !******* CONVERSION
; 1660          3173  4 !******* ALL RMS $GETs COMPLETED EXCEPT POSSIBLE REPROMPT ON A CONVERSION ERROR.
; 1661          3174  4 !*******
; 1662          3175  4
; 1663          3176  4 !+
; 1664          3177  4 !  If conversion requested, call routine COB$$ACC_CONVERT
; 1665          3178  4 !-
; 1666          3179  4
; 1667          3180  5         IF ( .PROT_OK )                                     ! If protection error,
; 1668          3181  4         THEN                                                ! don't go thru conversion
; 1669          3182  5             IF ( .YES_CONV )
; 1670          3183  4             THEN
; 1671          3184  4                 CONV_OK = COB$$ACC_CONVERT ( .STRING_DEST, .FLAGS,
; 1672          3185  4                                              .DEFAULT, PUT_HERE, .CHARS_READ,
; 1673          3186  4                                              .YES_DEFAULT, .YES_SIGN )
; 1674          3187  4             ELSE
; 1675          3188  5                 BEGIN
; 1676          3189  5                     LOCAL
; 1677          3190  5                         COPY_NUM ;
; 1678          3191  5                     !+
; 1679          3192  5                     ! No conversion requested - copy input data to STRING_DEST.
; 1680          3193  5                     ! Use STR$COPY_R because it BLANK fills.
; 1681          3194  5                     !-
; 1682          3195  5
; 1683          3196  5                     IF .CHARS_READ LSS .STRING_DEST[DSC$W_LENGTH]
; 1684          3197  5                     THEN
; 1685          3198  5                         COPY_NUM = .CHARS_READ
; 1686          3199  5                     ELSE
; 1687          3200  5                         COPY_NUM = .STRING_DEST[DSC$W_LENGTH] ;
; 1688          3201  5
; 1689          3202  5                     STR$COPY_R ( .STRING_DEST, COPY_NUM,
; 1690          3203  6                                  (IF .YES_DEFAULT
; 1691          3204  6                                   THEN .DEFAULT [DSC$A_POINTER]
; 1692          3205  5                                   ELSE .PUT_HERE [DSC$A_POINTER] )) ;
```

```
; 1693          3206  5
; 1694          3207  5
; 1695          3208  5                     CONV_OK = 1 ;                       ! set CONV_OK to success
; 1696          3209  4                 END;
; 1697          3210  4
; 1698          3211  4             !+
; 1699          3212  4             !  Conversion completed - was it successful ?
; 1700          3213  4             !-
; 1701          3214  4
; 1702          3215  4             IF .CONV_OK EQL 0
; 1703          3216  4             THEN
; 1704          3217  4             !+
; 1705          3218  4             !  CONVERSION error.  Read UNIT parameter to determine what
; 1706          3219  4             !  to do.
; 1707          3220  4             !
; 1708          3221  4             !     Byte 2 of                      Conversion
; 1709          3222  4             !       UNIT                           error
; 1710          3223  4             !
; 1711          3224  4             !        0                             reprompt
; 1712          3225  4             !        1 ( at end )                  reprompt
; 1713          3226  4             !        2 ( on exception )            return
; 1714          3227  4             !-
; 1715          3228  5             BEGIN                                   ! Begin conversion error
; 1716          3229  5                 IF ( .FLAGS AND V_COB_RPG ) NEQ 0
; 1717          3230  5                 THEN
; 1718          3231  5                     !+
; 1719          3232  5                     !  VAX RPG - return on a Conversion Error, ring bell
; 1720          3233  5                     !  and clean up before exiting.
; 1721          3234  5                     !-
; 1722          3235  6                     BEGIN
; 1723          3236  6                     COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
; 1724          3237  6                     COB$$RPG_CLEAN_UP ( .FLAGS ) ;
; 1725          3238  6                     RETURN 0 ;
; 1726          3239  5                     END ;
; 1727          3240  5
; 1728          3241  5             IF .UNIT [1] EQL 2
; 1729          3242  5             THEN
; 1730          3243  6                 BEGIN
; 1731          3244  6                 !+
; 1732          3245  6                 !  Clean up before returning control to VAX COBOL.
; 1733          3246  6                 !-
; 1734          3247  6                 COB$$CLEAN_UP ( PARAMETERS, .FLAGS ) ;
; 1735          3248  6                 RETURN 0 ;
; 1736          3249  6                 END
; 1737          3250  5             ELSE
; 1738          3251  5                 !+
; 1739          3252  5                 !  Reprompt
; 1740          3253  5                 !     - sound terminal bell,
; 1741          3254  5                 !     - clear screen of all typed characters,
; 1742          3255  5                 !     - reset cursor to original line/column position
; 1743          3256  5                 !-
; 1744          3257  6                 BEGIN
; 1745          3258  7                 IF ((.FLAGS AND V_NO_ECHO) NEQ 0 )  OR  (.YES_DEFAULT )
; 1746          3259  6                 THEN
; 1747          3260  7                     BEGIN                           ! No re-positioning
; 1748          3261  7                     COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;  ! necessary
; 1749          3262  7                     END
```

```
; 1750          3263  6                       ELSE
; 1751          3264  7                           BEGIN
; 1752          3265  7                           $ERROR_REPROMPT ;               ! Re-position
; 1753          3266  6                           END ;
; 1754          3267  6                       CONV_OK = 0 ;                       ! Signal Conversion error
; 1755          3268  6                       YES_DEFAULT = 0 ;
; 1756          3269  5                       END ;
; 1757          3270  5                 END                                       ! End conversion error
; 1758          3271  5
; 1759          3272  4             ELSE
; 1760          3273  4                 !+
; 1761          3274  4                 ! Conversion not done either because Protection failed (PROT_OK=0)
; 1762          3275  4                 ! or there was no data to convert
; 1763          3276  4                 !-
; 1764          3277  4                 CONV_OK = 1 ;
; 1765          3278  4
; 1766          3279  3         END ;                                             ! End loop
; 1767          3280  3
; 1768          3281  3             !+
; 1769          3282  3             ! RMS $GET complete - fill in optional LENGTH parameter with the
; 1770          3283  3             ! number of characters read.
; 1771          3284  3             !-
; 1772          3285  3
; 1773          3286  3             IF NOT NULLPARAMETER (LENGTH)
; 1774          3287  3             THEN
; 1775          3288  3                 .LENGTH = .CHARS_READ ;
; 1776          3289  3
; 1777          3290  3 !*******
; 1778          3291  3 !******* CLEAN UP
; 1779          3292  3 !*******
; 1780          3293  3
; 1781          3294  3 !+
; 1782          3295  3 ! Call COB$$CLEAN_UP to perform (if needed) cursor positioning,
; 1783          3296  3 ! turn off terminal attributes, and advancing.
; 1784          3297  3 !-
; 1785          3298  3
; 1786          3299  3     COB$$CLEAN_UP ( PARAMETERS, .FLAGS ) ;
; 1787          3300  3
; 1788          3301  2     END;                                                  !  End $GET
; 1789          3302  2
; 1790          3303  2 !+
; 1791          3304  2 ! Free local strings PUT_HERE
; 1792          3305  2 !-
; 1793          3306  2
; 1794          3307  2     IF NOT ( STR$FREE1_DX ( PUT_HERE ))
; 1795          3308  2     THEN LIB$STOP ( COB$_ERRDURACC ) ;
; 1796          3309  2
; 1797          3310  2
; 1798          3311  2     RETURN 1;
; 1799          3312  1     END;                                          ! end of routine COB$ACC_SCR


                                                001DE          .BLKB   2
                                    00000000# 001E0 P.AAR:      .LONG   0[22]                                                 ;
```

```
                               0FFC 00000         .ENTRY  COB$ACC_SCR, Save R2,R3,R4,R5,R6,R7,R8,R9,- ; 2181
                                                          R10,R11                                     ;
              5E      EBF0  CE  9E 00002          MOVAB   -5136(SP), SP                               ;
                        0C  AE  D4 00007          CLRL    ON_LEN                                      ; 2271
                            5A  D4 0000A          CLRL    PROT_OK                                     ;
                            7E  7C 0000C          CLRQ    REPROMPT_DONE                               ;
                            7E  7C 0000E          CLRQ    YES_NO_ECHO                                 ;
                            01  DD 00010          PUSHL   #1                                          ;
                            56  D4 00012          CLRL    P_DATA_TYPE                                 ;
94  AD      8E  AF      0058  8F  28 00014        MOVC3   #88, P.AAR, PARAMETERS                      ; 2297
                            50  D4 0001C          CLRL    ZEROES                                      ; 2312
            24  AE          20  D0 0001E          MOVL    #32, BLANKS                                 ; 2313
            94  AD 02100000 8F  D0 00022          MOVL    #34603008, PUT_HERE                         ; 2319
                        98  AD  D4 0002A          CLRL    PUT_HERE+4                                  ; 2322
            59          0C  AC  D0 0002D          MOVL    FLAGS, R9                                   ; 2337
    04          59          05  E1 00031          BBC     #5, R9, 1$                                  ;
            08  AE          01  D0 00035          MOVL    #1, YES_CONV                                ;
                            59  95 00039 1$:      TSTB    R9                                          ; 2338
                            02  18 0003B          BGEQ    2$                                          ;
                            6E  D4 0003D          CLRL    YES_SIGN                                    ;
    03          59          08  E0 0003F 2$:      BBS     #8, R9, 3$                                  ; 2340
                          00FC  31 00043          BRW     20$                                         ;
            D0  AD          01  D0 00046 3$:      MOVL    #1, YES_PROTECT                             ; 2343
                        14  AC  D5 0004A          TSTL    SIZE                                        ; 2344
                            08  13 0004D          BEQL    5$                                          ;
            AC  AD      14  AC  B0 0004F          MOVW    SIZE, ACC_SIZE                              ; 2345
                          00F1  31 00054 4$:      BRW     21$                                         ;
                            52  D4 00057 5$:      CLRL    PP99                                        ; 2347
                50      08  AC  D0 00059          MOVL    STRING_DEST, R0                             ; 2352
                52      09  A0  9A 0005D          MOVZBL  9(R0), PP99                                 ;
                51      08  A0  98 00061          CVTBL   8(R0), R1                                   ;
                52          51  C0 00065          ADDL2   R1, PP99                                    ;
            AC  AD          60  B0 00068          MOVW    (R0), ACC_SIZE                              ; 2353
                            54  D4 0006C          CLRL    R4                                          ; 2361
                09      03  A0  91 0006E          CMPB    3(R0), #9                                   ;
                            6B  12 00072          BNEQ    13$                                         ;
                            54  D6 00074          INCL    R4                                          ;
                            52  D5 00076          TSTL    PP99                                        ; 2362
                            05  19 00078          BLSS    6$                                          ;
                        08  A0  95 0007A          TSTB    8(R0)                                       ; 2363
                            60  15 0007D          BLEQ    13$                                         ;
                56          01  D0 0007F 6$:      MOVL    #1, P_DATA_TYPE                             ; 2366
                            53  D4 00082          CLRL    R3                                          ; 2367
                            52  D5 00084          TSTL    PP99                                        ;
                            11  18 00086          BGEQ    8$                                          ;
                            53  D6 00088          INCL    R3                                          ;
                51      08  A0  98 0008A          CVTBL   8(R0), R1                                   ; 2369
                            03  18 0008E          BGEQ    7$                                          ;
                51          51  CE 00090          MNEGL   R1, R1                                      ;
            AC  AD          51  B0 00093 7$:      MOVW    R1, ACC_SIZE                                ;
                            04  11 00097          BRB     9$                                          ;
            AC  AD          52  B0 00099 8$:      MOVW    PP99, ACC_SIZE                              ; 2371
                B3      08  AE  E9 0009D 9$:      BLBC    YES_CONV, 4$                                ; 2373
                03          53  E9 000A1          BLBC    R3, 10$                                     ; 2379
                        AC  AD  B6 000A4          INCW    ACC_SIZE                                    ; 2381
                51      02  A0  9A 000A7 10$:     MOVZBL  2(R0), R1                                   ; 2389
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              0F              51 91 000AB          CMPB    R1, #15                    ;
                              03 13 000AE          BEQL    11$                        ;
                        AC    AD B6 000B0          INCW    ACC_SIZE                   ; 2391
              07              51 91 000B3 11$:     CMPB    R1, #7                     ; 2397
                              1E 13 000B6          BEQL    12$                        ;
              03              51 91 000B8          CMPB    R1, #3                     ; 2398
                              19 13 000BB          BEQL    12$                        ;
              08              51 91 000BD          CMPB    R1, #8                     ; 2399
                              14 13 000C0          BEQL    12$                        ;
              04              51 91 000C2          CMPB    R1, #4                     ; 2400
                              0F 13 000C5          BEQL    12$                        ;
              09              51 91 000C7          CMPB    R1, #9                     ; 2401
                              0A 13 000CA          BEQL    12$                        ;
              05              51 91 000CC          CMPB    R1, #5                     ; 2402
                              05 13 000CF          BEQL    12$                        ;
              15              51 91 000D1          CMPB    R1, #21                    ; 2403
                              72 12 000D4          BNEQ    21$                        ;
                              6E D5 000D6 12$:     TSTL    YES_SIGN                   ; 2404
                              6E 12 000D8          BNEQ    21$                        ;
                        AC    AD B7 000DA          DECW    ACC_SIZE                   ; 2406
                              69 11 000DD          BRB     21$                        ; 2361
              65        08    AE E9 000DF 13$:     BLBC    YES_CONV, 21$              ; 2415
              51        02    A0 9A 000E3          MOVZBL  2(R0), R1                  ; 2423
              13              51 91 000E7          CMPB    R1, #19                    ;
                              0D 13 000EA          BEQL    14$                        ;
              11              51 91 000EC          CMPB    R1, #17                    ; 2424
                              08 13 000EF          BEQL    14$                        ;
              15              51 91 000F1          CMPB    R1, #21                    ; 2425
                              06 12 000F4          BNEQ    15$                        ;
              03              6E E9 000F6          BLBC    YES_SIGN, 15$              ; 2426
                        AC    AD B6 000F9 14$:     INCW    ACC_SIZE                   ; 2428
              29              54 E9 000FC 15$:     BLBC    R4, 17$                    ; 2438
              07              51 91 000FF          CMPB    R1, #7                     ; 2440
                              19 13 00102          BEQL    16$                        ;
              03              51 91 00104          CMPB    R1, #3                     ; 2441
                              14 13 00107          BEQL    16$                        ;
              08              51 91 00109          CMPB    R1, #8                     ; 2442
                              0F 13 0010C          BEQL    16$                        ;
              04              51 91 0010E          CMPB    R1, #4                     ; 2443
                              0A 13 00111          BEQL    16$                        ;
              09              51 91 00113          CMPB    R1, #9                     ; 2444
                              05 13 00116          BEQL    16$                        ;
              05              51 91 00118          CMPB    R1, #5                     ; 2445
                              0B 12 0011B          BNEQ    17$                        ;
              08              6E E9 0011D 16$:     BLBC    YES_SIGN, 17$              ; 2446
        AC    AD        09    A0 9B 00120          MOVZBW  9(R0), ACC_SIZE            ; 2448
                        AC    AD B6 00125          INCW    ACC_SIZE                   ;
              0A              51 91 00128 17$:     CMPB    R1, #10                    ; 2454
                              04 12 0012B          BNEQ    18$                        ;
        AC    AD              0D B0 0012D          MOVW    #13, ACC_SIZE              ; 2456
              0B              51 91 00131 18$:     CMPB    R1, #11                    ; 2457
                              04 12 00134          BNEQ    19$                        ;
        AC    AD              16 B0 00136          MOVW    #22, ACC_SIZE              ; 2459
              0B              54 E9 0013A 19$:     BLBC    R4, 21$                    ; 2465
                        AC    AD B6 0013D          INCW    ACC_SIZE                   ; 2467
                              06 11 00140          BRB     21$                        ; 2340
        AC    AD      03F2    8F B0 00142 20$:     MOVW    #1010, ACC_SIZE            ; 2473
```

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                          50       AC    AD   B0 00148 21$:    MOVW    ACC_SIZE, PUT_SIZE                      ; 2481
                    0398  8F       AC    AD   B1 0014C          CMPW    ACC_SIZE, #920                          ; 2482
                                           05   1E 00152          BGEQU   22$                                     ;
                    50       AC    AD        05   A1 00154          ADDW3   #5, ACC_SIZE, PUT_SIZE                  ;
                                     94    AD   9F 00159 22$:     PUSHAB  PUT_HERE                                ; 2484
                          20       AE        50   3C 0015C          MOVZWL  PUT_SIZE, 32(SP)                        ;
                                     20    AE   9F 00160          PUSHAB  32(SP)                                  ;
                 00000000G  00              02   FB 00163          CALLS   #2, STR$GET1_DX                         ;
                          0D                50   E8 0016A          BLBS    R0, 23$                                 ;
                                00000000G  8F   DD 0016D          PUSHL   #COB$_ERRDURACC                         ; 2485
                 00000000G  00              01   FB 00173          CALLS   #1, LIB$STOP                            ;
                          52       04    AC   9A 0017A 23$:     MOVZBL  UNIT, R2                                ; 2493
                          06                52   91 0017E          CMPB    R2, #6                                  ;
                                           0D   1B 00181          BLEQU   24$                                     ;
                                00000000G  8F   DD 00183          PUSHL   #COB$_INVARG                            ; 2495
                 00000000G  00              01   FB 00189          CALLS   #1, LIB$STOP                            ;
                             14    AE 00000000G0042   DE 00190 24$:     MOVAL   COB$$AL_WRITE_RAB[R2], 20(SP)           ; 2497
                                     14    BE   D5 00199          TSTL    @20(SP)                                 ;
                                           11   12 0019C          BNEQ    27$                                     ;
                    04                59        0B   E1 0019E          BBC     #11, R9, 25$                            ; 2504
                                           01   DD 001A2          PUSHL   #1                                      ;
                                           02   11 001A4          BRB     26$                                     ;
                                           7E   D4 001A6 25$:     CLRL    -(SP)                                   ;
                                           52   DD 001A8 26$:     PUSHL   R2                                      ; 2503
                          0000V    CF              02   FB 001AA          CALLS   #2, COB$$OPEN_IN                        ;
                                57       14    BE   D0 001AF 27$:     MOVL    @20(SP), RAB                            ; 2508
                                50       44    A7   9E 001B3          MOVAB   68(R7), NAM_DSC                         ; 2519
                                   00000000G  00   D5 001B7          TSTL    COB$ACC_TERM_TYPE                       ; 2521
                                              23   12 001BD          BNEQ    28$                                     ;
                                   00000000G  00   9F 001BF          PUSHAB  COB$ACC_TERM_TYPE                       ; 2523
                                7E            60   3C 001C5          MOVZWL  (NAM_DSC), -(SP)                        ; 2524
                                        04    A0   DD 001C8          PUSHL   4(NAM_DSC)                              ; 2523
                 00000000G  00              03   FB 001CB          CALLS   #3, COB$$SETUP_TERM_TYPE                ;
                          0D                50   E8 001D2          BLBS    R0, 28$                                 ;
                                00000000G  8F   DD 001D5          PUSHL   #COB$_ERRDURACC                         ; 2526
                 00000000G  00              01   FB 001DB          CALLS   #1, LIB$STOP                            ;
                                00000000G  00   D5 001E2 28$:     TSTL    COB$ACC_TERM_TYPE                       ; 2528
                                           46   12 001E8          BNEQ    31$                                     ;
                                           6E   DD 001EA          PUSHL   YES_SIGN                                ; 2539
                                     D0    AD   DD 001EC          PUSHL   YES_PROTECT                             ;
                                     10    AE   DD 001EF          PUSHL   YES_CONV                                ; 2538
                                     94    AD   9F 001F2          PUSHAB  PUT_HERE                                ; 2537
                                7E   AC    AD   3C 001F5          MOVZWL  ACC_SIZE, -(SP)                         ; 2538
                                     1C    AC   DD 001F9          PUSHL   LENGTH                                  ;
                                     10    AC   DD 001FC          PUSHL   DEFAULT                                 ; 2537
                                           59   DD 001FF          PUSHL   R9                                      ;
                                7F   04    AC   7D 00201          MOVQ    UNIT, -(SP)                             ;
                          0000V    CF              0A   FB 00205          CALLS   #10, COB$$ACC_SCR_FILE                  ;
                                52              50   D0 0020A          MOVL    R0, STATUS                              ;
                                     94    AD   9F 0020D          PUSHAB  PUT_HERE                                ; 2543
                 00000000G  00              01   FB 00210          CALLS   #1, STR$FREE1_DX                        ;
                          0D                50   E8 00217          BLBS    R0, 29$                                 ;
                                00000000G  8F   DD 0021A          PUSHL   #COB$_ERRDURACC                         ; 2544
                 00000000G  00              01   FB 00220          CALLS   #1, LIB$STOP                            ;
                          03                52   E8 00227 29$:     BLBS    STATUS, 30$                             ; 2546
                                        0542  31   DD 0022A          BRW     106$                                    ;
                                        053B  31   DD 0022D 30$:     BRW     105$                                    ;
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                                00000000'  EF              01  D0 00230 31$:    MOVL    #1, ACC_SCR                             ; 2560
                                           50 00000000G    00  9A 00237         MOVZBL  COB$$AB_PREV, R0                        ; 2575
                                                           0A  13 0023E         BEQL    32$                                     ;
                                           02              50  91 00240         CMPB    R0, #2                                  ; 2576
                                                           05  13 00243         BEQL    32$                                     ;
                                           04              50  91 00245         CMPB    R0, #4                                  ; 2577
                                                           09  12 00248         BNEQ    33$                                     ;
                                                           59  DD 0024A 32$:     PUSHL   R9                                      ; 2582
                                                           01  DD 0024C         PUSHL   #1                                      ;
                                     0000V CF              02  FB 0024E         CALLS   #2, COB$$RMS_PUT_BYTE                   ;
                          D8   AD    59                   04  00  EF 00253 33$:  EXTZV   #0, #4, R9, PUT_FLAG                   ; 2591
                                                           2C  13 00259         BEQL    34$                                     ; 2593
                                                 E8    AD  9F 0025B         PUSHAB  OFF_LEN                                 ; 2597
                                                 DC    AD  9F 0025E         PUSHAB  OFF_BUF                                 ;
                                                 28    AE  9F 00261         PUSHAB  ON_LEN                                  ; 2596
                                                 EC    AD  9F 00264         PUSHAB  ON_BUF                                  ;
                                                 D8    AD  DD 00267         PUSHL   PUT_FLAG                                ; 2595
                                           00000000G       00  DD 0026A         PUSHL   COB$ACC_TERM_TYPE                       ;
                                00000000G  00              06  FB 00270         CALLS   #6, COB$$SET_ATTRIBUTES_ONLY            ;
                                           0D              50  E8 00277         BLBS    R0, 34$                                 ;
                                           00000000G       8F  DD 0027A         PUSHL   #COB$_ERRDURACC                         ; 2598
                                00000000G  00              01  FB 00280         CALLS   #1, LIB$STOP                            ;
                                      0C   59              04  E1 00287 34$:     BBC     #4, R9, 35$                             ; 2604
                                           50         EC    AD  9E 0028B         MOVAB   ON_BUF, R0                              ; 2607
                                      20 BE40                 07  90 0028F         MOVB    #7, @ON_LEN[R0]                         ;
                                           20         AE      D6  00294         INCL    ON_LEN                                  ; 2608
                                           06                 6C  91 00297 35$:     CMPB    (AP), #6                                ; 2618
                                                              58  1F 0029A         BLSSU   41$                                     ;
                                                   18      AC  D5 0029C         TSTL    24(AP)                                  ;
                                                              53  13 0029F         BEQL    41$                                     ;
                                     28    AE      18      BC  3C 002A1         MOVZWL  @KEY, KEY_LEN                           ; 2624
                                                   24      AE  9F 002A6         PUSHAB  BLANKS                                  ; 2625
                                                   2C      AE  9F 002A9         PUSHAB  KEY_LEN                                 ;
                                                   18      AC  DD 002AC         PUSHL   KEY                                     ;
                                00000000G  00                 03  FB 002AF         CALLS   #3, STR$DUPL_CHAR                       ;
                                           07                 6C  91 002B6         CMPB    (AP), #7                                ; 2632
                                                              05  1F 002B9         BLSSU   36$                                     ;
                                                   1C      AC  D5 002BB         TSTL    28(AP)                                  ;
                                                              34  12 002BE         BNEQ    41$                                     ;
                                           05                 6C  91 002C0 36$:     CMPB    (AP), #5                                ; 2633
                                                              05  1F 002C3         BLSSU   37$                                     ;
                                                   14      AC  D5 002C5         TSTL    20(AP)                                  ;
                                                              2A  12 002C8         BNEQ    41$                                     ;
                                           04                 6C  91 002CA 37$:     CMPB    (AP), #4                                ; 2634
                                                              05  1F 002CD         BLSSU   38$                                     ;
                                                   10      AC  D5 002CF         TSTL    16(AP)                                  ;
                                                              20  12 002D2         BNEQ    41$                                     ;
                                           02                 6C  91 002D4 38$:     CMPB    (AP), #2                                ; 2635
                                                              05  1F 002D7         BLSSU   39$                                     ;
                                                   08      AC  D5 002D9         TSTL    8(AP)                                   ;
                                                              16  12 002DC         BNEQ    41$                                     ;
                                                   18      AC  DD 002DE 39$:     PUSHL   KEY                                     ; 2637
                                                              59  DD 002E1         PUSHL   R9                                      ;
                                                   04      AC  DD 002E3         PUSHL   UNIT                                    ;
                                     0000V CF                 03  FB 002E6         CALLS   #3, COB$$FORMAT_FOUR                    ;
                                           03                 50  E8 002EB         BLBS    R0, 40$                                 ;
                                                         047E  31  002EE         BRW     106$                                    ;
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                                          0477  31 002F1 40$:   BRW     105$                                   ;
                                     18    AE  D4 002F4 41$:    CLRL    24(SP)                                 ; 2653
               0F         59               09  E1 002F7         BBC     #9, R9, 42$                            ;
                                     18    AE  D6 002FB         INCL    24(SP)                                 ;
                     B4   AD       5240    8F  3C 002FE         MOVZWL  #21056, FUNC_VAL                       ; 2657
                     04   AE               01  D0 00304         MOVL    #1, YES_NO_ECHO                        ; 2658
                                           06  11 00308         BRB     43$                                    ; 2653
                     B4   AD       5200    8F  3C 0030A 42$:    MOVZWL  #20992, FUNC_VAL                       ; 2661
                                           5A  D5 00310 43$:    TSTL    PROT_OK                                ; 2671
                                           08  13 00312         BEQL    44$                                    ;
                                     10    AE  D5 00314         TSTL    CONV_OK                                ;
                                           03  13 00317         BEQL    44$                                    ;
                                         041C  31 00319         BRW     103$                                   ;
                                           58  D4 0031C 44$:    CLRL    TERM_SEEN                              ; 2672
                                     0C    AE  D5 0031E         TSTL    REPROMPT_DONE                          ; 2676
                                           03  13 00321         BEQL    45$                                    ;
                                         008D  31 00323         BRW     49$                                    ;
                          03 00000000G     00  D1 00326 45$:    CMPL    COB$ACC_TERM_TYPE, #3                  ; 2688
                                           55  12 0032D         BNEQ    47$                                    ;
                          51         D0    AD  E9 0032F         BLBC    YES_PROTECT, 47$                       ; 2691
          FE68   CD       EC  AD     20    AE  28 00333         MOVC3   ON_LEN, ON_BUF, FIELD_BUF              ; 2706
                          56         20    AE  D0 0033B         MOVL    ON_LEN, FIELD_LEN                      ; 2707
 AC   AD         20       6E               00  2C 0033F         MOVC5   #0, (SP), #32, ACC_SIZE, FIELD_BUF-    ; 2708
                               FE68 CD46          00345                 [FIELD_LEN]                            ;
                          50         AC    AD  3C 00349         MOVZWL  ACC_SIZE, R0                           ; 2709
                          56               50  C0 0034D         ADDL2   R0, FIELD_LEN                          ;
 AC   AD         08       6E               00  2C 00350         MOVC5   #0, (SP), #8, ACC_SIZE, FIELD_BUF-     ; 2710
                               FE68 CD46          00356                 [FIELD_LEN]                            ;
                          50         AC    AD  3C 0035A         MOVZWL  ACC_SIZE, R0                           ; 2711
                          56               50  C0 0035E         ADDL2   R0, FIELD_LEN                          ;
             000003F2     8F               56  D1 00361         CMPL    FIELD_LEN, #1010                       ; 2721
                                           0D  15 00368         BLEQ    46$                                    ;
                              00000000G    8F  DD 0036A         PUSHL   #COB$_ERRDURACC                        ; 2723
             00000000G    00               01  FB 00370         CALLS   #1, LIB$STOP                           ;
                                   0240    8F  BB 00377 46$:    PUSHR   #^M<R6,R9>                             ; 2729
                                   FE68    CD  9F 0037B         PUSHAB  FIELD_BUF                              ;
                 0000V    CF               03  FB 0037F         CALLS   #3, COB$$RMS_PUT_BUFFER                ;
                                     20    AE  D5 00384 47$:    TSTL    ON_LEN                                 ; 2749
                                           13  13 00387         BEQL    48$                                    ;
                          01         D0    AD  D1 00389         CMPL    YES_PROTECT, #1                        ;
                                           0D  13 0038D         BEQL    48$                                    ;
                                           59  DD 0038F         PUSHL   R9                                     ; 2751
                                     24    AE  DD 00391         PUSHL   ON_LEN                                 ;
                                     EC    AD  9F 00394         PUSHAB  ON_BUF                                 ;
                 0000V    CF               03  FB 00397         CALLS   #3, COB$$RMS_PUT_BUFFER                ;
                          57         14    BE  D0 0039C 48$:    MOVL    @20(SP), RAB                           ; 2757
                                     98    AD  DD 003A0         PUSHL   PUT_HERE+4                             ; 2759
                          7E         AC    AD  3C 003A3         MOVZWL  ACC_SIZE, -(SP)                        ; 2758
                                     B4    AD  DD 003A7         PUSHL   FUNC_VAL                               ;
                                           57  DD 003AA         PUSHL   RAB                                    ;
                 0000V    CF               04  FB 003AC         CALLS   #4, COB$$RMS_GET                       ;
                                           03  11 003B1         BRB     50$                                    ; 2676
                                     0C    AE  D4 003B3 49$:    CLRL    REPROMPT_DONE                          ; 2763
                     B0   AD         22    A7  3C 003B6 50$:    MOVZWL  34(RAB), CHARS_READ                    ; 2776
                     B8   AD         0E    A7  9A 003BB         MOVZBL  14(RAB), TERM_SIZE                     ; 2777
                     BC   AD         0C    A7  9A 003C0         MOVZBL  12(RAB), TERM_LOC                      ; 2778
             000181C8     8F         08    A7  D1 003C5         CMPL    8(RAB), #98760                         ; 2787
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                                        0E  12 003CD           BNEQ    51$                                                     ;
                                58      01  D0 003CF           MOVL    #1, TERM_SEEN                                           ; 2790
                                    04  AC  DD 003D2           PUSHL   UNIT                                                    ; 2791
                                    94  AD  9F 003D5           PUSHAB  PARAMETERS                                              ;
                          0000V     CF      02 FB 003D8           CALLS   #2, COB$$PARTIAL_SEQ                                  ;
                            7F      8F  0C  A7 91 003DD 51$:      CMPB    12(RAB), #127                                         ; 2798
                                        0D  12 003E2              BNEQ    52$                                                   ;
                                        59  DD 003E4              PUSHL   R9                                                    ; 2800
                                    04  AC  DD 003E6              PUSHL   UNIT                                                  ;
                                    94  AD  9F 003E9              PUSHAB  PARAMETERS                                            ;
                          0000V     CF      03 FB 003EC           CALLS   #3, COB$$DELETE_KEY                                   ;
                                03      D0  AD E8 003F1 52$:      BLBS    YES_PROTECT, 54$                                      ; 2825
                                        00A8 31 003F5 53$:        BRW     63$                                                   ;
                                    B0  AD  D5 003F8 54$:         TSTL    CHARS_READ                                            ; 2826
                                        F8  13 003FB              BEQL    53$                                                   ;
                          000181B8  8F      08  A7 D1 003FD       CMPL    8(RAB), #98744                                        ; 2828
                                        EE  12 00405              BNEQ    53$                                                   ;
                                        58  D5 00407              TSTL    TERM_SEEN                                             ; 2829
                                        EA  12 00409              BNEQ    53$                                                   ;
                                        53  D4 0040B              CLRL    NO_CHAR                                               ; 2831
                                        52  D4 0040D 55$:        CLRL    HAVE_TERM                                             ;
                                01      52  D1 0040F 56$:        CMPL    HAVE_TERM, #1                                         ; 2850
                                        03  12 00412              BNEQ    57$                                                   ;
                                        008C 31 00414             BRW     64$                                                   ;
                                        53  D4 00417 57$:        CLRL    NO_CHAR                                               ; 2853
                            1C  AE  5240    8F 3C 00419           MOVZWL  #21056, FUNC_VAL_2                                    ; 2855
                                57      14  BE D0 0041F           MOVL    @20(SP), RAB                                          ; 2857
                                        A0  AD 9F 00423           PUSHAB  NEXT_CHAR                                             ; 2858
                                            01 DD 00426           PUSHL   #1                                                    ;
                                        24  AE DD 00428           PUSHL   FUNC_VAL_2                                            ;
                                            57 DD 0042B           PUSHL   RAB                                                   ;
                          0000V     CF      04 FB 0042D           CALLS   #4, COB$$RMS_GET                                      ;
                                        22  A7 B5 00432           TSTW    34(RAB)                                               ; 2868
                                            08 12 00435           BNEQ    58$                                                   ;
                                53          01 D0 00437           MOVL    #1, NO_CHAR                                           ; 2871
                              A0    AD      0C A7 90 0043A        MOVB    12(RAB), NEXT_CHAR                                    ; 2872
                              B8    AD      0E A7 9A 0043F 58$:   MOVZBL  14(RAB), TERM_SIZE                                    ; 2874
                              BC    AD      0C A7 9A 00444        MOVZBL  12(RAB), TERM_LOC                                     ; 2875
                              C4    AD          01 D0 00449       MOVL    #1, TERM_IN_NEXT                                      ; 2876
                        000181C8    8F      08  A7 D1 0044D       CMPL    8(RAB), #98760                                        ; 2877
                                            0B  12 00455          BNEQ    59$                                                   ;
                                        04  AC  DD 00457          PUSHL   UNIT                                                  ; 2879
                                        94  AD  9F 0045A          PUSHAB  PARAMETERS                                            ;
                          0000V     CF      02 FB 0045D           CALLS   #2, COB$$PARTIAL_SEQ                                  ;
                                2D          53 E9 00462 59$:      BLBC    NO_CHAR, 62$                                          ; 2886
                                5A          01 D0 00465           MOVL    #1, PROT_OK                                           ; 2889
                                52          01 D0 00468           MOVL    #1, HAVE_TERM                                         ; 2890
                            7F  8F      0C  A7 91 0046B           CMPB    12(RAB), #127                                         ; 2901
                                            9D 12 00470           BNEQ    56$                                                   ;
                                        59  DD 00472              PUSHL   R9                                                    ; 2904
                                        04  AC DD 00474           PUSHL   UNIT                                                  ;
                                        94  AD 9F 00477           PUSHAB  PARAMETERS                                            ;
                          0000V     CF      03 FB 0047A           CALLS   #3, COB$$DELETE_KEY                                   ;
                                        B8  AD D5 0047F           TSTL    TERM_SIZE                                             ; 2910
                                            06 12 00482           BNEQ    61$                                                   ;
                                        52  D4 00484              CLRL    HAVE_TERM                                             ; 2913
                                        5A  D4 00486              CLRL    PROT_OK                                               ; 2914
```

```
                                                    85  11 00488 60$:    BRB     56$                                     ; 2910
                                                    01  D0 0048A 61$:    MOVL    #1, HAVE_TERM                           ; 2918
                                                C4  AD  D4 0048D        CLRL    TERM_IN_NEXT                            ; 2919
                                                    F6  11 00490        BRB     60$                                     ; 2901
                                                    59  DD 00492 62$:    PUSHL   R9                                      ; 2939
                                                    02  DD 00494        PUSHL   #2                                      ;
                                          0000V     CF  02  FB 00496        CALLS   #2, COB$$RMS_PUT_BYTE                   ;
                                                    5A  D4 0049B        CLRL    PROT_OK                                 ; 2940
                                                FF6D    31 0049D        BRW     55$                                     ; 2941
                                                5A      01  D0 004A0 63$:    MOVL    #1, PROT_OK                         ; 2956
                                                6B      5A  E9 004A3 64$:    BLBC    PROT_OK, 70$                        ; 2962
                                                07  C4  AD  E9 004A6        BLBC    TERM_IN_NEXT, 65$                   ; 2969
                                             C0 AD  A0  AD  9E 004AA        MOVAB   NEXT_CHAR, TERM_PTR                     ; 2971
                                                    07  11 004AF        BRB     66$                                     ;
                                          C0 AD     98  AD  B0  AD  C1 004B1 65$:    ADDL3   CHARS_READ, PUT_HERE+4, TERM_ TR ; 2973
                                                01  B8  AD  D1 004B8 66$:    CMPL    TERM_SIZE, #1                       ; 2990
                                                    5D  12 004BC        BNEQ    72$                                     ;
                                             C0 AD  0C  A7  9E 004BE        MOVAB   12(RAB), TERM_PTR                       ; 2993
                                                50  0C  A7  9A 004C3        MOVZBL  12(RAB), R0                             ; 2994
                                                09      50  91 004C7        CMPB    R0, #9                              ; 2996
                                                    05  13 004CA        BEQL    67$                                     ;
                                                0D      50  91 004CC        CMPB    R0, #13                             ;
                                                    15  12 004CF        BNEQ    68$                                     ;
                                                06      6C  91 004D1 67$:    CMPB    (AP), #6                            ; 3001
                                                    3B  1F 004D4        BLSSU   70$                                     ;
                                                18  AC  D5 004D6        TSTL    24(AP)                                  ;
                                                    36  13 004D9        BEQL    70$                                     ;
                                                50  18  AC  D0 004DB        MOVL    KEY, R0                             ; 3003
                                             04 B0  C0  BD  90 004DF        MOVB    @TERM_PTR, @4(R0)                       ;
                                                    2B  11 004E4        BRB     70$                                     ; 3001
                                                1A      50  91 004E6 68$:    CMPB    R0, #26                             ; 3005
                                                    13  12 004E9        BNEQ    69$                                     ;
                                          24        59  0B  E0 004EB        BBS     #11, R9, 71$                        ; 3013
                                                    59  DD 004EF        PUSHL   R9                                      ; 3028
                                                94  AD  9F 004F1        PUSHAB  PARAMETERS                              ;
                                          0000V     CF  02  FB 004F4        CALLS   #2, COB$$CLEAN_UP                       ;
                                                18  AC  DD 004F9        PUSHL   KEY                                     ; 3029
                                                    40  11 004FC        BRB     73$                                     ;
                                             7F     8F      50  91 004FE 69$:    CMPB    R0, #127                        ; 3034
                                                    0F  12 00502        BNEQ    71$                                     ;
                                                    59  DD 00504        PUSHL   R9                                      ; 3037
                                                04  AC  DD 00506        PUSHL   UNIT                                    ;
                                                94  AD  9F 00509        PUSHAB  PARAMETERS                              ;
                                          0000V     CF  03  FB 0050C        CALLS   #3, COB$$DELETE_KEY                     ;
                                                    64  11 00511 70$:    BRB     77$                                     ; 2994
                                                CC  AD  D4 00513 71$:    CLRL    LEGAL                                   ; 3043
                                                18  AC  DD 00516        PUSHL   KEY                                     ; 3045
                                                    4F  11 00519        BRB     76$                                     ; 3044
                                                52  18  AC  D0 0051B 72$:    MOVL    KEY, R2                             ; 3062
                                                B0  AD  D5 0051F        TSTL    CHARS_READ                              ; 3051
                                                    25  12 00522        BNEQ    74$                                     ;
                                       0001827A     8F  08  A7  D1 00524        CMPL    8(RAB), #98938                  ;
                                                    1B  12 0052C        BNEQ    74$                                     ;
                                          33        59  0B  E0 0052E        BBS     #11, R9, 75$                        ; 3058
                                                    59  DD 00532        PUSHL   R9                                      ; 3066
                                                94  AD  9F 00534        PUSHAB  PARAMETERS                              ;
                                          0000V     CF  02  FB 00537        CALLS   #2, COB$$CLEAN_UP                       ;
```

```
                                 52  DD 0053C          PUSHL   R2                                      ; 3067
                              04 AC  DD 0053E 73$:     PUSHL   UNIT
                    0000V     CF     02  FB 00541      CALLS   #2, COB$$CONTROL_Z
                                   0226  31 00546      BRW     106$                                    ; 3068
                              06       6C  91 00549 74$: CMPB    (AP), #6                              ; 3079
                                       17  1F 0054C      BLSSU   75$
                              18 AC    D5  0054E        TSTL    24(AP)
                                       12  13 00551      BEQL    75$
                                       52  DD 00553      PUSHL   R2                                    ; 3087
                              B8 AD    DD  00555        PUSHL   TERM_SIZE
                              C0 AD    9F  00558        PUSHAB  TERM_PTR
                 00000000G    00       03  FB 0055B    CALLS   #3, COB$$CONTROL_KEY
                              12       50  E8 00562    BLBS    R0, 77$
                              CC AD    D4  00565 75$:   CLRL    LEGAL                                 ; 3101
                                       52  DD 00568    PUSHL   R2                                    ; 3102
                                       59  DD 0056A 76$: PUSHL   R9
                              04 AC    DD  0056C        PUSHL   UNIT
                              94 AD    9F  0056F        PUSHAB  PARAMETERS
                    0000V     CF     04  FB 00572      CALLS   #4, COB$$ILLEGAL_TERM
                                       52  D4 00577 77$: CLRL    R2                                    ; 3123
                              B0 AD    D5  00579        TSTL    CHARS_READ
                                       10  12 0057C    BNEQ    78$
                                       52  D6 0057E    INCL    R2
                 0A                59     0B  E1 00580  BBC     #11, R9, 78$
                                       59  DD 00584    PUSHL   R9                                    ; 3130
                    0000V     CF     01  FB 00586      CALLS   #1, COB$$RPG_CLEAN_UP
                                   01DD  31 00588      BRW     105$                                    ; 3131
                              45       52  E9 0058E 78$: BLBC    R2, 80$                               ; 3134
                              04       6C  91 00591    CMPB    (AP), #4                              ; 3136
                                       40  1F 00594    BLSSU   80$
                              10 AC    D5  00596        TSTL    16(AP)
                                       3B  13 00599    BEQL    80$
                              D4 AD    D5  0059B        TSTL    YES_DEFAULT
                                       36  12 0059E    BNEQ    80$
                 B0       AD     10     BC  3C 005A0    MOVZWL  @DEFAULT, CHARS_READ                  ; 3140
                 D4       AD             01  D0 005A5    MOVL    #1, YES_DEFAULT                       ; 3141
                              26       D0  AD E9 005A9  BLBC    YES_PROTECT, 79$                      ; 3149
                              50       08  AC D0 005AD  MOVL    STRING_DEST, R0                       ; 3150
                              0A       02  A0 91 005B1  CMPB    2(R0), #10
                                       1C  13 005B5    BEQL    79$
                              0B       02  A0 91 005B7  CMPB    2(R0), #11                            ; 3151
                                       16  13 005BB    BEQL    79$
                 AC       AD     10     BC  B1 005BD    CMPW    @DEFAULT, ACC_SIZE                    ; 3161
                                       0F  1B 005C2    BLEQU   79$
                          00000000G    8F  DD 005C4    PUSHL   #COB$_INVDEFVAL                       ; 3163
                 00000000G    00       01  FB 005CA    CALLS   #1, LIB$STOP
                                       03  11 005D1    BRB     80$
                              5A               01  D0 005D3 79$: MOVL    #1, PROT_OK                   ; 3167
                              5A               5A  E9 005D6 80$: BLBC    PROT_OK, 86$                  ; 3180
                              20       08      AE  E9 005D9    BLBC    YES_CONV, 81$                     ; 3182
                                               6E  DD 005DD    PUSHL   YES_SIGN                          ; 3186
                                           D4  AD  DD 005DF    PUSHL   YES_DEFAULT
                                           B0  AD  DD 005E2    PUSHL   CHARS_READ                        ; 3185
                                           94  AD  9F 005E5    PUSHAB  PUT_HERE                          ; 3184
                                           10  AC  DD 005E8    PUSHL   DEFAULT                           ; 3185
                                               59  DD 005EB    PUSHL   R9                                ; 3184
                                           08  AC  DD 005ED    PUSHL   STRING_DEST
```

```
                    00000000G  00        07  FB 005F0        CALLS   #7, COB$$ACC_CONVERT                   :
                           10  AE        50  D0 005F7        MOVL    R0, CONV_OK                            :
                                         36  11 005FB        BRB     86$                                    :
 B0   AD      08  BC               10    00  ED 005FD 81$:   CMPZV   #0, #16, @STRING_DEST, CHARS_READ      : 3196
                                         07  15 00604        BLEQ    82$                                    :
                           2C  AE    B0  AD  D0 00606        MOVL    CHARS_READ, COPY_NUM                   : 3198
                                         05  11 0060B        BRB     83$                                    :
                           2C  AE    08  BC  3C 0060D 82$:   MOVZWL  @STRING_DEST, COPY_NUM                 : 3200
                               09    D4  AD  E9 00612 83$:   BLBC    YES_DEFAULT, 84$                       : 3203
                               50    10  AC  D0 00616        MOVL    DEFAULT, R0                            : 3204
                                     04  A0  DD 0061A        PUSHL   4(R0)                                  :
                                         03  11 0061D        BRB     85$                                    :
                                     98  AD  DD 0061F 84$:   PUSHL   PUT_HERE+4                             : 3205
                                     30  AE  9F 00622 85$:   PUSHAB  COPY_NUM                               : 3202
                                     08  AC  DD 00625        PUSHL   STRING_DEST                            :
                    00000000G  00        03  FB 00628        CALLS   #3, STR$COPY_R                         :
                           10  AE        01  D0 0062F        MOVL    #1, CONV_OK                            : 3208
                                     10  AE  D5 00633 86$:   TSTL    CONV_OK                                : 3215
                                         03  13 00636        BEQL    87$                                    :
                                       00F6  31 00638        BRW     101$                                   :
                  12               59    0B  E1 0063B 87$:   BBC     #11, R9, 88$                           : 3229
                                         59  DD 0063F        PUSHL   R9                                     : 3236
                                         02  DD 00641        PUSHL   #2                                     :
                        0000V  CF        02  FB 00643        CALLS   #2, COB$$RMS_PUT_BYTE                  :
                                         59  DD 00648        PUSHL   R9                                     : 3237
                        0000V  CF        01  FB 0064A        CALLS   #1, COB$$RPG_CLEAN_UP                  :
                                         10  11 0064F        BRB     89$                                    : 3238
                               02    05  AC  91 00651 88$:   CMPB    UNIT+1, #2                             : 3241
                                         0D  12 00655        BNEQ    90$                                    :
                                         59  DD 00657        PUSHL   R9                                     : 3247
                                     94  AD  9F 00659        PUSHAB  PARAMETERS                             :
                        0000V  CF        02  FB 0065C        CALLS   #2, COB$$CLEAN_UP                      :
                                       010B  31 00661 89$:   BRW     106$                                   : 3248
                               04    18  AE  E8 00664 90$:   BLBS    24(SP), 91$                            : 3258
                               0C    D4  AD  E9 00668        BLBC    YES_DEFAULT, 92$                       :
                                         59  DD 0066C 91$:   PUSHL   R9                                     : 3261
                                         02  DD 0066E        PUSHL   #2                                     :
                        0000V  CF        02  FB 00670        CALLS   #2, COB$$RMS_PUT_BYTE                  :
                                       00B1  31 00675        BRW     100$                                   : 3258
                                         56  D4 00678 92$:   CLRL    PUT_TOTAL                              : 3264
                                         58  D4 0067A        CLRL    INDEX                                  :
                                         59  DD 0067C        PUSHL   R9                                     :
                                         02  DD 0067E        PUSHL   #2                                     :
                        0000V  CF        02  FB 00680        CALLS   #2, COB$$RMS_PUT_BYTE                  :
                                     04  AE  D5 00685        TSTL    YES_NO_ECHO                            :
                                         59  12 00688        BNEQ    96$                                    :
                                         5B  D4 0068A        CLRL    R11                                    :
                                     D8  AD  D5 0068C        TSTL    PUT_FLAG                               :
                                         12  13 0068F        BEQL    93$                                    :
                                         5B  D6 00691        INCL    R11                                    :
                                     D0  AD  D5 00693        TSTL    YES_PROTECT                            :
                                         0B  12 00696        BNEQ    93$                                    :
              30  AE        DC  AD   E8  AD  28 00698        MOVC3   OFF_LEN, OFF_BUF, RESTORE_CURSOR       :
                                56   E8  AD  D0 0069F        MOVL    OFF_LEN, PUT_TOTAL                     :
                                58       56  D0 006A3 93$:   MOVL    PUT_TOTAL, INDEX                       :
                  51            56   B0  AD  C1 006A6        ADDL3   CHARS_READ, PUT_TOTAL, R1              :
                                50   FF  A6  9E 006AB        MOVAB   -1(R6), P                              :
```

```
                                12  11 006AF        BRB     95$                                           ;
         30 AE48                08  90 006B1 94$:   MOVB    #8, RESTORE_CURSOR[INDEX]                     ;
         31 AE48                20  90 006B6        MOVB    #32, RESTORE_CURSOR+1[INDEX]                  ;
         32 AE48                08  90 006BB        MOVB    #8, RESTORE_CURSOR+2[INDEX]                   ;
              58                03  C0 006C0        ADDL2   #3, INDEX                                     ;
  EA          50                51  F2 006C3 95$:   AOBLSS  R1, P, 94$                                    ;
  50     B0   AD                03  C5 006C7        MULL3   #3, CHARS_READ, R0                            ;
              56                50  C0 006CC        ADDL2   R0, PUT_TOTAL                                 ;
              11                5B  E9 006CF        BLBC    R11, 96$                                      ;
                        D0      AD  D5 006D2        TSTL    YES_PROTECT                                   ;
                                0C  12 006D5        BNEQ    96$                                           ;
30 AE46  EC   AD        20      AE  28 006D7        MOVC3   ON_LEN, ON_BUF, RESTORE_CURSOR[PUT_TOTAL]     ;
              56        20      AE  C0 006DF        ADDL2   ON_LEN, PUT_TOTAL                             ;
                                51  D4 006E3 96$:   CLRL    LAST_WRITE                                    ;
                                51  D5 006E5 97$:   TSTL    LAST_WRITE                                    ;
                                1B  12 006E7        BNEQ    99$                                           ;
     000003F2 8F                56  D1 006E9        CMPL    PUT_TOTAL, #1010                              ;
                                0A  15 006F0        BLEQ    98$                                           ;
              50        03F2    8F  3C 006F2        MOVZWL  #1010, P_TOT                                  ;
              56                50  C2 006F7        SUBL2   P_TOT, PUT_TOTAL                              ;
                                E9  11 006FA        BRB     97$                                           ;
              50                56  D0 006FC 98$:   MOVL    PUT_TOTAL, P_TOT                              ;
              51                01  D0 006FF        MOVL    #1, LAST_WRITE                                ;
                                E1  11 00702        BRB     97$                                           ;
                        0201    8F  BB 00704 99$:   PUSHR   #^M<R0,R9>                                    ;
                          38    AE  9F 00708        PUSHAB  RESTORE_CURSOR                                ;
        0000V CF                03  FB 0070B        CALLS   #3, COB$$RMS_PUT_BUFFER                       ;
              57          14    BE  D0 00710        MOVL    @20(SP), RAB                                  ;
                          98    AD  DD 00714        PUSHL   PUT_HERE+4                                    ;
              7E          AC    AD  3C 00717        MOVZWL  ACC_SIZE, -(SP)                               ;
                          B4    AD  DD 0071B        PUSHL   FUNC_VAL                                      ;
                                57  DD 0071E        PUSHL   RAB                                           ;
        0000V CF                04  FB 00720        CALLS   #4, COB$$RMS_GET                              ;
           0C AE                01  D0 00725        MOVL    #1, REPROMPT_DONE                             ;
                          10    AE  D4 00729 100$:  CLRL    CONV_OK                                       ; 3267
                          D4    AD  D4 0072C        CLRL    YES_DEFAULT                                   ; 3268
                                04  11 0072F        BRB     102$                                          ; 3215
           10 AE                01  D0 00731 101$:  MOVL    #1, CONV_OK                                   ; 3277
                            FBD8    31 00735 102$:  BRW     43$                                           ; 2671
              07                6C  91 00738 103$:  CMPB    (AP), #7                                      ; 3286
                                0A  1F 0073B        BLSSU   104$                                          ;
                          1C    AC  D5 0073D        TSTL    28(AP)                                        ;
                                05  13 00740        BEQL    104$                                          ;
           1C BC          B0    AD  D0 00742        MOVL    CHARS_READ, @LENGTH                           ; 3288
                                59  DD 00747 104$:  PUSHL   R9                                            ; 3299
                          94    AD  9F 00749        PUSHAB  PARAMETERS                                    ;
        0000V CF                02  FB 0074C        CALLS   #2, COB$$CLEAN_UP                             ;
                          94    AD  9F 00751        PUSHAB  PUT_HERE                                      ; 3307
    00000000G 00                01  FB 00754        CALLS   #1, STR$FREE1_DX                              ;
              0D                50  E8 0075B        BLBS    R0, 105$                                      ;
                   00000000G    8F  DD 0075E        PUSHL   #COB$_ERRDURACC                               ; 3308
    00000000G 00                01  FB 00764        CALLS   #1, LIB$STOP                                  ;
              50                01  D0 0076B 105$:  MOVL    #1, R0                                        ; 3311
                                    04 0076E        RET                                                   ;
                                50  D4 0076F 106$:  CLRL    R0                                            ; 3312
                                    04 00771        RET                                                   ;
```

; Routine Size: 1906 bytes, Routine Base: _COB$CODE + 0238

```
;  1801          3313  1 %SBTTL 'COB$ACC_SCR_FILE - Screen enhancements for files'
;  1802          3314  1 ROUTINE COB$$ACC_SCR_FILE ( UNIT          :  VECTOR [2,BYTE],
;  1803          3315  1                             STRING_DEST   :  REF $STR$DESCRIPTOR,
;  1804          3316  1                             FLAGS,
;  1805          3317  1                             DEFAULT       :  REF $STR$DESCRIPTOR,
;  1806          3318  1                             LENGTH,
;  1807          3319  1                             ACC_SIZE,
;  1808          3320  1                             PUT_HERE      :  REF BLOCK [8, BYTE],
;  1809          3321  1                                                  ! Contains input characters
;  1810          3322  1                             YES_CONV,            ! =1 if conversion requested
;  1811          3323  1                             YES_PROTECT,         ! =1 if protection requested
;  1812          3324  1                             YES_SIGN             ! =1 if sign should be included
;  1813          3325  1                           ) =
;  1814          3326  1
;  1815          3327  1 !++
;  1816          3328  1 ! FUNCTIONAL DESCRIPTION:
;  1817          3329  1 !
;  1818          3330  1 !       This routine handles the VAX COBOL Version 3 ACCEPT statement
;  1819          3331  1 !       with Screen Enhancements when a file (not a terminal) is used
;  1820          3332  1 !       for input.  A non terminal $GET service does not contain all the
;  1821          3333  1 !       features of a terminal $GET service, so this routine is a scaled
;  1822          3334  1 !       down version of COB$ACC_SCR.  Note that the fields RAB [RAB$V_ETO]
;  1823          3335  1 !       and RAB [RAB$L_XAB] are not set.
;  1824          3336  1 !
;  1825          3337  1 ! FORMAL PARAMETERS:
;  1826          3338  1 !
;  1827          3339  1 !       UNIT.rbu.va     Array of two unsigned byte integers.
;  1828          3340  1 !                       The first byte is the unit number designating the
;  1829          3341  1 !                       device from which the string is to be read.
;  1830          3342  1 !                       The second byte indicates whether the routine should
;  1831          3343  1 !                       abort or return to the calling program.
;  1832          3344  1 !                         Byte 2 = 0  -  routine will abort on control z
;  1833          3345  1 !                                        and reprompt on conversion errors.
;  1834          3346  1 !                                = 1  -  ( AT END )
;  1835          3347  1 !                                        routine will return to calling program
;  1836          3348  1 !                                        on control z and reprompt on conversion
;  1837          3349  1 !                                        errors.
;  1838          3350  1 !                                = 2  -  ( ON EXCEPTION )
;  1839          3351  1 !                                        routine will return to calling program
;  1840          3352  1 !                                        on control z and conversion errors.
;  1841          3353  1 !
;  1842          3354  1 !       STRING_DEST.mt.ds   Address of descriptor to receive the read input.
;  1843          3355  1 !
;  1844          3356  1 !       FLAGS.rlu.v     Screen enhancement flag;
;  1845          3357  1 !
;  1846          3358  1 !                               bit 0  -  bold
;  1847          3359  1 !                               bit 1  -  reverse
;  1848          3360  1 !                               bit 2  -  blink
;  1849          3361  1 !                               bit 3  -  underline
;  1850          3362  1 !                               bit 4  -  bell
;  1851          3363  1 !                               bit 5  -  conversion
;  1852          3364  1 !                               bit 6  -  decimal point is comma
;  1853          3365  1 !                               bit 7  -  0 to allow space for sign in PROTECTED
;  1854          3366  1 !                                         ACCEPT, 1 no allowance for sign
;  1855          3367  1 !                               bit 8  -  protect
;  1856          3368  1 !                               bit 9  -  no-echo
;  1857          3369  1 !                               bit 10 -  0 advancing, 1 no advancing
```

```
;1858     3370  1 !                                   bit 11 -  0 for VAX COBOL, 1 for VAX RPG
;1859     3371  1 !
;1860     3372  1 !       DEFAULT.rt.dx   Default source moved to destination descriptor
;1861     3373  1 !                       (STRING_DEST) in the event of null input.
;1862     3374  1 !
;1863     3375  1 !       LENGTH.wlu.r    Destination of the number of characters read.
;1864     3376  1 !
;1865     3377  1 !       ACC_SIZE.rlu.v  # of characters to RMS $GET.
;1866     3378  1 !
;1867     3379  1 !       PUT_HERE.rt.dx  Buffer to hold input characters.
;1868     3380  1 !
;1869     3381  1 !       YES_CONV.rlu.v  Flag = 1 if Conversion requested by user.
;1870     3382  1 !
;1871     3383  1 !       YES_PROTECT.rlu.v  Flag = 1 if Protection requested by user.
;1872     3384  1 !
;1873     3385  1 !       YES_SIGN.rlu.v  Flag = 1 if sign should be included in COMP or COMP3
;1874     3386  1 !                       data type.
;1875     3387  1 !
;1876     3388  1 ! IMPLICIT INPUTS:
;1877     3389  1 !
;1878     3390  1 !       Status of whether the input file is currently open.
;1879     3391  1 !
;1880     3392  1 ! IMPLICIT OUTPUTS:
;1881     3393  1 !
;1882     3394  1 !       Updated status of file
;1883     3395  1 !
;1884     3396  1 ! ROUTINE VALUE:
;1885     3397  1 !
;1886     3398  1 !       If .UNIT[1] is false :  Unspecified.
;1887     3399  1 !       If .UNIT[1] is true  :  Either true or false, indicating success or
;1888     3400  1 !                               EOF, respectively.
;1889     3401  1 !
;1890     3402  1 ! SIDE EFFECTS:
;1891     3403  1 !
;1892     3404  1 !       Reads a record from a designated uint.
;1893     3405  1 !
;1894     3406  1 !--
;1895     3407  1
;1896     3408  2     BEGIN
;1897     3409  2
;1898     3410  2     LOCAL
;1899     3411  2         RAB             : REF $RAB_DECL,
;1900     3412  2         CR_BUF          : VECTOR [1,BYTE],
;1901     3413  2         CHARS_READ      : INITIAL (0),          ! Number of characters read
;1902     3414  2         CONV_OK         : INITIAL (0),          ! = 1 if no conversion errors
;1903     3415  2         YES_DEFAULT     : INITIAL (0) ;         ! = 1 if DEFAULT was used as input
;1904     3416  2
;1905     3417  2     BUILTIN
;1906     3418  2         NULLPARAMETER ;
;1907     3419  2
;1908     3420  2     !+
;1909     3421  2     !  RMS $PUT - If previous call requires advancing, $PUT a linefeed to
;1910     3422  2     !  SYS$OUTPUT.  Open SYS$OUTPUT if necessary.
;1911     3423  2     !-
;1912     3424  2
;1913     3425  3     IF (.COB$$AB_PREV[0] EQL DISP
;1914     3426  3         OR .COB$$AB_PREV[0] EQL POS
```

```
;1915     3427  3          OR .COB$$AB_PREV[0] EQL ACC_ADV )
;1916     3428  2      THEN
;1917     3429  2          COB$$RMS_PUT_BYTE ( LINE_FD, .FLAGS ) ;
;1918     3430  2
;1919     3431  2      !+
;1920     3432  2      !  RMS $GET to accept input from a file.
;1921     3433  2      !-
;1922     3434  2
;1923     3435  2      RAB = .COB$$AL_WRITE_RAB [.UNIT[0]] ;
;1924     3436  2      RAB [RAB$W_USZ] = .ACC_SIZE ;
;1925     3437  2      RAB [RAB$L_UBF] = .PUT_HERE [DSC$A_POINTER] ;
;1926     3438  2      !+
;1927     3439  2      !  Turn off RAB [RAB$V_ETO] just in case a 'screen enhancement ACCEPT'
;1928     3440  2      !  was performed before this one.
;1929     3441  2      !-
;1930     3442  2      RAB [RAB$V_ETO] = 0 ;
;1931     3443  2
;1932     3444  2      WHILE $GET (RAB = .RAB) EQL RMS$_RSA DO $WAIT (RAB = .RAB) ;
;1933     3445  2
;1934     3446  2      IF NOT .RAB [RAB$L_STS] AND NULLPARAMETER (DEFAULT)
;1935     3447  2      THEN
;1936     3448  3          LIB$STOP (( IF .RAB[RAB$L_STS] EQL RMS$_EOF
;1937     3449  3                      THEN
;1938     3450  3                          !+
;1939     3451  3                          !  If ON EXCEPTION or AT END, return to user program.
;1940     3452  3                          !-
;1941     3453  3                          IF .UNIT [1] EQL 1 OR .UNIT [1] EQL 2
;1942     3454  3                          THEN
;1943     3455  3                              RETURN 0
;1944     3456  3                          ELSE
;1945     3457  3                              COB$_EOFON_ACC
;1946     3458  3                     ELSE
;1947     3459  2                         COB$_ERRDURACC),
;1948     3460  2                  1, .RAB + RAB$C_BLN, .RAB [RAB$L_STS], .RAB [RAB$L_STV] ) ;
;1949     3461  2
;1950     3462  2      !+
;1951     3463  2      !  Put number of characters read from $GET in CHARS_READ.
;1952     3464  2      !  Pass this info along to COB$$ACC_CONVERT.
;1953     3465  2      !-
;1954     3466  2
;1955     3467  2      CHARS_READ = .RAB [RAB$W_RSZ] ;                    ! Number of chars read
;1956     3468  2
;1957     3469  2  !*******
;1958     3470  2  !******* NULL INPUT
;1959     3471  2  !*******
;1960     3472  2
;1961     3473  2      !+
;1962     3474  2      !  Null input.
;1963     3475  2      !  Check for DEFAULT parameter - if present prepare to put it through
;1964     3476  2      !  Conversion routines by placing DEFAULT in PUT_HERE.
;1965     3477  2      !-
;1966     3478  2
;1967     3479  3      IF ( .CHARS_READ EQL 0 ) AND (( .FLAGS AND V_COB_RPG ) NEQ 0 )
;1968     3480  2      THEN
;1969     3481  2          !+
;1970     3482  2          !  In case of null input for RPG, simply return (no DEFAULT),
;1971     3483  2          !  after setting advancing flag.
```

```
; 1972          3484  2          !-
; 1973          3485  3          BEGIN
; 1974          3486  3          IF (.FLAGS AND V_ADV) NEQ 0
; 1975          3487  3          THEN
; 1976          3488  3              COB$$AB_PREV[0] = ACC_DNA
; 1977          3489  3          ELSE
; 1978          3490  3              COB$$AB_PREV[0] = ACC_ADV ;
; 1979          3491  3          RETURN 1 ;
; 1980          3492  2          END ;
; 1981          3493  2
; 1982          3494  2      !+
; 1983          3495  2      !  There can be no PROTECTION check on input when dealing with files as
; 1984          3496  2      !  RMS will only read ACC_SIZE characters or less.  If .ACC_SIZE were 4
; 1985          3497  2      !  but the record contained "abcdef", only "abcd" will be pulled from the
; 1986          3498  2      !  record.  RMS ignores the remaining characters "ef" and goes on to the
; 1987          3499  2      !  next record.  However it is possible to perform a PROTECTION check
; 1988          3500  2      !  when the DEFAULT value is used.
; 1989          3501  2      !-
; 1990          3502  2
; 1991          3503  3      IF ( .CHARS_READ EQL 0 )
; 1992          3504  2      THEN
; 1993          3505  3          BEGIN
; 1994          3506  4          IF (.DEFAULT NEQ 0) AND (.YES_DEFAULT EQL 0)
; 1995          3507  3          THEN
; 1996          3508  4              BEGIN                                   ! Begin YES Default
; 1997          3509  4
; 1998          3510  4              CHARS_READ = .DEFAULT [DSC$W_LENGTH];
; 1999          3511  4              YES_DEFAULT = 1 ;
; 2000          3512  4
; 2001          3513  4              !+
; 2002          3514  4              !  Protection check for DEFAULT excluding the Floating
; 2003          3515  4              !  Point data types ( these will be handled in
; 2004          3516  4              !  COB$$VERIFY_FL_RANGE.
; 2005          3517  4              !-
; 2006          3518  4
; 2007          3519  5              IF (.YES_PROTECT AND
; 2008          3520  6                      ( .STRING_DEST [DSC$B_DTYPE] NEQ DSC$K_DTYPE_F AND
; 2009          3521  5                        .STRING_DEST [DSC$B_DTYPE] NEQ DSC$K_DTYPE_D ))
; 2010          3522  4              THEN                                    ! Check protection
; 2011          3523  5                  IF (.DEFAULT [DSC$W_LENGTH] GTR .ACC_SIZE)
; 2012          3524  4                  THEN
; 2013          3525  4                      !+
; 2014          3526  4                      !  If the length of DEFAULT is greater than the
; 2015          3527  4                      !  expected input size ACC_SIZE, then there is a
; 2016          3528  4                      !  Protection error.
; 2017          3529  4                      !-
; 2018          3530  4                      LIB$STOP ( COB$_INVDEFVAL ) ;
; 2019          3531  4
; 2020          3532  3              END ;                                   ! End YES Default
; 2021          3533  2          END ;
; 2022          3534  2
; 2023          3535  2  !*******
; 2024          3536  2  !******* CONVERSION
; 2025          3537  2  !*******
; 2026          3538  2
; 2027          3539  2      !+
; 2028          3540  2      !  If conversion requested, call routine COB$$ACC_CONVERT
```

```
;2029           3541  2     !-
;2030           3542  2
;2031           3543  3     IF ( .YES_CONV )
;2032           3544  2     THEN
;2033           3545  2         CONV_OK = COB$$ACC_CONVERT ( .STRING_DEST, .FLAGS,
;2034           3546  2                                      .DEFAULT, .PUT_HERE, .CHARS_READ,
;2035           3547  2                                                .YES_DEFAULT, .YES_SIGN )
;2036           3548  2     ELSE
;2037           3549  3         BEGIN
;2038           3550  3             LOCAL
;2039           3551  3                 COPY_NUM ;
;2040           3552  3
;2041           3553  3             !+
;2042           3554  3             !  No conversion requested - copy input data to STRING_DEST.
;2043           3555  3             !  Use STR$COPY_R because it BLANK fills.
;2044           3556  3             !-
;2045           3557  3
;2046           3558  3             IF .CHARS_READ LSS .STRING_DEST[DSC$W_LENGTH]
;2047           3559  3             THEN
;2048           3560  3                 COPY_NUM = .CHARS_READ
;2049           3561  3             ELSE
;2050           3562  3                 COPY_NUM = .STRING_DEST[DSC$W_LENGTH] ;
;2051           3563  3
;2052           3564  3             STR$COPY_R ( .STRING_DEST, COPY_NUM,
;2053           3565  4                                        (IF .YES_DEFAULT
;2054           3566  4                                        THEN .DEFAULT [DSC$A_POINTER]
;2055           3567  3                                        ELSE .PUT_HERE [DSC$A_POINTER] )) ;
;2056           3568  3
;2057           3569  3             CONV_OK = 1 ;                       ! set CONV_OK to success
;2058           3570  2             END;
;2059           3571  2
;2060           3572  2     !+
;2061           3573  2     !  Conversion completed - was it successful ?
;2062           3574  2     !-
;2063           3575  2
;2064           3576  2     IF .CONV_OK  EQL 0
;2065           3577  2     THEN
;2066           3578  2         !+
;2067           3579  2         !  CONVERSION error.  Read UNIT parameter to determine what
;2068           3580  2         !  to do.  There is no Reprompting done with Files as input.
;2069           3581  2         !
;2070           3582  2         !        Byte 2 of                      Conversion
;2071           3583  2         !          UNIT                           error
;2072           3584  2         !
;2073           3585  2         !           0                             COB$_ERRDURACC
;2074           3586  2         !           1 ( at end )                  COB$_ERRDURACC
;2075           3587  2         !           2 ( on exception )            Return
;2076           3588  2         !-
;2077           3589  2
;2078           3590  3         BEGIN                                     ! Begin conversion error
;2079           3591  3         IF ( .FLAGS AND V_COB_RPG ) NEQ 0
;2080           3592  3         THEN
;2081           3593  3             !+
;2082           3594  3             !  VAX RPG - return on a Conversion Error, ring bell
;2083           3595  3             !  and clean up first.
;2084           3596  3             !-
;2085           3597  4             BEGIN
```

```
; 2086          3598  4              COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
; 2087          3599  4              COB$$RPG_CLEAN_UP ( .FLAGS );
; 2088          3600  4              RETURN 0 ;
; 2089          3601  3              END ;
; 2090          3602  3
; 2091          3603  3          IF .UNIT [1] EQL 2
; 2092          3604  3          THEN
; 2093          3605  3              RETURN 0
; 2094          3606  3          ELSE
; 2095          3607  3
; 2096          3608  3              !+
; 2097          3609  3              ! When dealing with a file, it was decided to return a fatal
; 2098          3610  3              ! error message rather then REPROMPT.  This lets the user know
; 2099          3611  3              ! where the problem in the file is so that the input file can
; 2100          3612  3              ! be corrected before running the program again.  Otherwise, the
; 2101          3613  3              ! the user might run out of data by the end of the program or the
; 2102          3614  3              ! reprompting process may lead to further conversion errors.
; 2103          3615  3              !-
; 2104          3616  3
; 2105          3617  3              LIB$STOP ( COB$_ERRDURACC ) ;
; 2106          3618  2          END ;                                   ! End conversion error
; 2107          3619  2
; 2108          3620  2      !+
; 2109          3621  2      ! Fill in optional LENGTH parameter with the number of
; 2110          3622  2      ! characters read if no error.
; 2111          3623  2      !-
; 2112          3624  2
; 2113          3625  2      IF .LENGTH NEQ 0
; 2114          3626  2      THEN
; 2115          3627  2          .LENGTH = .CHARS_READ ;
; 2116          3628  2
; 2117          3629  2  !*******
; 2118          3630  2  !******* CLEAN UP
; 2119          3631  2  !*******
; 2120          3632  2
; 2121          3633  2      !+
; 2122          3634  2      ! Determine if ADVANCING is requested.
; 2123          3635  2      ! If bit 10 = 0 advancing.  If bit 10 = 1 no advancing.
; 2124          3636  2      ! Set COB$$AB_PREV[0] - also depending on bit 10, to flag to next COBOL
; 2125          3637  2      ! statement that advancing/no advancing is required following this
; 2126          3638  2      ! ACCEPT statement.  Echo carriage return to screen if advancing is
; 2127          3639  2      ! called for.
; 2128          3640  2      !-
; 2129          3641  2
; 2130          3642  2      IF (.FLAGS AND V_ADV) NEQ 0
; 2131          3643  2      THEN
; 2132          3644  2          COB$$AB_PREV[0] = ACC_DNA                       ! No Advancing
; 2133          3645  2      ELSE
; 2134          3646  2          COB$$RMS_PUT_BYTE ( CARR_RET, .FLAGS ) ;        ! Advance via a carriage
; 2135          3647  2                                                          ! return
; 2136          3648  2      RETURN 1;
; 2137          3649  1      END;                                        ! End of COB$$ACC_SCR_FILE
```

```
                                                07FC 00000 COB$$ACC_SCR_FILE:
                                                           .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10                ; 3314
                                5A      0000V   CF   9E 00002          MOVAB   COB$$RMS_PUT_BYTE, R10                  ;
                                59 00000000G    8F   D0 00007          MOVL    #COB$_ERRDURACC, R9                     ;
                                58 00000000G    00   9E 0000E          MOVAB   COB$$AB_PREV, R8                        ;
                                57 00000000G    00   9E 00015          MOVAB   LIB$STOP, R7                            ;
                                5E              04   C2 0001C          SUBL2   #4, SP                                  ;
                                                55   7C 0001F          CLRQ    CHARS_READ                              ; 3408
                                                54   D4 00021          CLRL    YES_DEFAULT                             ;
                                50              68   9A 00023          MOVZBL  COB$$AB_PREV, R0                        ; 3425
                                                0A   13 00026          BEQL    1$                                      ;
                                02              50   91 00028          CMPB    R0, #2                                  ; 3426
                                                05   13 0002B          BEQL    1$                                      ;
                                04              50   91 0002D          CMPB    R0, #4                                  ; 3427
                                                08   12 00030          BNEQ    2$                                      ;
                                        0C      AC   DD 00032 1$:       PUSHL   FLAGS                                   ; 3429
                                                01   DD 00035          PUSHL   #1                                      ;
                                6A              02   FB 00037          CALLS   #2, COB$$RMS_PUT_BYTE                   ;
                                50          04  AC   9A 0003A 2$:       MOVZBL  UNIT, R0                                ; 3435
                                52 00000000G0040 D0   0003E            MOVL    COB$$AL_WRITE_RAB[R0], RAB              ;
                          20    A2        18   AC   B0 00046          MOVW    ACC_SIZE, 32(RAB)                       ; 3436
                                53        1C   AC   D0 0004B          MOVL    PUT_HERE, R3                            ; 3437
                          24    A2        04   A3   D0 0004F          MOVL    4(R3), 36(RAB)                          ;
                          07    A2             10   8A 00054          BICB2   #16, 7(RAB)                             ; 3442
                                                52   DD 00058 3$:       PUSHL   RAB                                     ; 3444
                  00000000G     00             01   FB 0005A          CALLS   #1, SYS$GET                             ;
                  000182DA      8F             50   D1 00061          CMPL    R0, #99034                              ;
                                                0B   12 00068          BNEQ    4$                                      ;
                                                52   DD 0006A          PUSHL   RAB                                     ;
                  00000000G     00             01   FB 0006C          CALLS   #1, SYS$WAIT                            ;
                                                E3   11 00073          BRB     3$                                      ;
                                3C        08   A2   E8 00075 4$:       BLBS    8(RAB), 10$                             ; 3446
                                04              6C   91 00079          CMPB    (AP), #4                                ;
                                                05   1F 0007C          BLSSU   5$                                      ;
                                        10      AC   D5 0007E          TSTL    16(AP)                                  ;
                                                32   12 00081          BNEQ    10$                                     ;
                                7E        08    A2   7D 00083 5$:       MOVQ    8(RAB), -(SP)                           ; 3460
                                          44    A2   9F 00087          PUSHAB  68(RAB)                                 ;
                                                01   DD 0008A          PUSHL   #1                                      ; 3448
                  0001827A      8F        08    A2   D1 0008C          CMPL    8(RAB), #98938                          ;
                                                1A   12 00094          BNEQ    8$                                      ;
                                01        05    AC   91 00096          CMPB    UNIT+1, #1                              ; 3453
                                                04   13 0009A          BEQL    6$                                      ;
                                02        05    AC   91 0009C          CMPB    UNIT+1, #2                              ;
                                                03   12 000A0 6$:       BNEQ    7$                                      ;
                                              00F9   31 000A2          BRW     26$                                     ;
                                50 00000000G    8F   D0 000A5 7$:       MOVL    #COB$_EOFON_ACC, R0                     ;
                                                50   DD 000AC          PUSHL   R0                                      ;
                                                02   11 000AE          BRB     9$                                      ;
                                                59   DD 000B0 8$:       PUSHL   R9                                      ; 3448
                                67              05   FB 000B2 9$:       CALLS   #5, LIB$STOP                            ;
                                55        22    A2   3C 000B5 10$:      MOVZWL  34(RAB), CHARS_READ                     ; 3467
                                                50   D4 000B9          CLRL    R0                                      ; 3479
                                                55   D5 000BB          TSTL    CHARS_READ                              ;
                                                15   12 000BD          BNEQ    12$                                     ;
                                                50   D6 000BF          INCL    R0                                      ;
              0E        0C      AC             0B   E1 000C1          BBC     #11, FLAGS, 12$                         ;
```

```
                03      0C    AC              0A  E1 000C6          BBC     #10, FLAGS, 11$                          ; 3486
                                            00BF  31 000CB          BRW     23$                                      ;
                                        68      04  90 000CE 11$:    MOVB    #4, COB$$AB_PREV                         ; 3490
                                            00C6  31 000D1          BRW     25$                                      ; 3491
                                        36      50  E9 000D4 12$:    BLBC    R0, 13$                                  ; 3503
                                            10  AC  D5 000D7          TSTL    DEFAULT                                  ; 3506
                                                31  13 000DA          BEQL    13$                                      ;
                                                54  D5 000DC          TSTL    YES_DEFAULT                              ;
                                                2D  12 000DE          BNEQ    13$                                      ;
                                        55      10  BC  3C 000E0      MOVZWL  @DEFAULT, CHARS_READ                     ; 3510
                                        54          01  D0 000E4      MOVL    #1, YES_DEFAULT                          ; 3511
                                        22      24  AC  E9 000E7      BLBC    YES_PROTECT, 13$                         ; 3519
                                        50      08  AC  D0 000EB      MOVL    STRING_DEST, R0                          ; 3520
                                        0A      02  A0  91 000EF      CMPB    2(R0), #10                               ;
                                                18  13  00F3          BEQL    13$                                      ;
                                        0B      02  A0  91 000F5      CMPB    2(R0), #11                               ; 3521
                                                12  13  00F9          BEQL    13$                                      ;
    18  AC      10  BC              10              00  ED 000FB      CMPZV   #0, #16, @DEFAULT, ACC_SIZE              ; 3523
                                                09  15  00102         BLEQ    13$                                      ;
                                    00000000G   8F  DD  00104         PUSHL   #COB$_INVDEFVAL                          ; 3530
                                        67          01  FB  0010A     CALLS   #1, LIB$STOP                             ;
                                        1A      20  AC  E9 0010D 13$:    BLBC    YES_CONV, 14$                        ; 3543
                                            28  AC  DD  00111         PUSHL   YES_SIGN                                 ; 3547
                                                54  DD  00114         PUSHL   YES_DEFAULT                              ;
                                                28  3B  00116         PUSHR   #^M<R3,R5>                               ; 3546
                                        7E      0C  AC  7D  00118     MOVQ    FLAGS, -(SP)                             ; 3545
                                            08  AC  DD  0011C         PUSHL   STRING_DEST                              ;
                    00000000G           00          07  FB  0011F     CALLS   #7, COB$$ACC_CONVERT                     ;
                                        56          50  D0  00126     MOVL    R0, CONV_OK                              ;
                                                30  11  00129         BRB     19$                                      ;
        55      08  BC              10              00  ED 0012B 14$:    CMPZV   #0, #16, @STRING_DEST, CHARS_READ        ; 3558
                                                05  15  00131         BLEQ    15$                                      ;
                                        6E          55  D0  00133     MOVL    CHARS_READ, COPY_NUM                     ; 3560
                                                04  11  00136         BRB     16$                                      ;
                                        6E      08  BC  3C  00138 15$:    MOVZWL  @STRING_DEST, COPY_NUM                   ; 3562
                                        09          54  E9  0013C 16$:    BLBC    YES_DEFAULT, 17$                     ; 3565
                                        50      10  AC  D0  0013F     MOVL    DEFAULT, R0                              ; 3566
                                                04  A0  DD  00143     PUSHL   4(R0)                                    ;
                                                03  11  00146         BRB     18$                                      ;
                                                04  A3  DD  00148 17$:    PUSHL   4(R3)                                ; 3567
                                                04  AE  9F  0014B 18$:    PUSHAB  COPY_NUM                             ; 3564
                                                08  AC  DD  0014E     PUSHL   STRING_DEST                              ;
                    00000000G           00          03  FB  00151     CALLS   #3, STR$COPY_R                           ;
                                        56          01  D0  00158     MOVL    #1, CONV_OK                              ; 3569
                                                22  12  0015B 19$:    BNEQ    21$                                      ; 3576
                12      0C    AC              0B  E1 0015D          BBC     #11, FLAGS, 20$                          ; 3591
                                                0C  AC  DD  00162     PUSHL   FLAGS                                    ; 3598
                                                02  DD  00165         PUSHL   #2                                       ;
                                        6A          02  FB  00167     CALLS   #2, COB$$RMS_PUT_BYTE                    ;
                                                0C  AC  DD  0016A     PUSHL   FLAGS                                    ; 3599
                        0000V           CF          01  FB  0016D     CALLS   #1, COB$$RPG_CLEAN_UP                    ;
                                                2A  11  00172         BRB     26$                                      ; 3600
                                        02      05  AC  91  00174 20$:    CMPB    UNIT+1, #2                           ; 3603
                                                24  13  00178         BEQL    26$                                      ;
                                                59  DD  0017A         PUSHL   R9                                       ; 3617
                                        67          01  FB  0017C     CALLS   #1, LIB$STOP                             ;
                                            14  AC  D5  0017F 21$:    TSTL    LENGTH                                   ; 3625
```

```
                                        04  13 00182          BEQL    22$                                                     ;
                                    14  BC  55  D0 00184          MOVL    CHARS_READ, @LENGTH                                     ; 3627
                                05  0C  AC  0A  E1 00188 22$:     BBC     #10, FLAGS, 24$                                         ; 3642
                                    68  05  90 0018D 23$:         MOVB    #5, COB$$AB_PREV                                        ; 3644
                                        08  11 00190              BRB     25$                                                     ;
                                    0C  AC  DD 00192 24$:         PUSHL   FLAGS                                                   ; 3646
                                        7E  D4 00195              CLRL    -(SP)                                                   ;
                                    6A      02  FB 00197          CALLS   #2, COB$$RMS_PUT_BYTE                                   ;
                                    50      01  D0 0019A 25$:     MOVL    #1, R0                                                  ; 3648
                                            04 0019D              RET                                                             ;
                                        50  D4 0019E 26$:         CLRL    R0                                                      ; 3649
                                            04 001A0              RET                                                             ;
                                                                                                                                  ;

; Routine Size:  417 bytes,    Routine Base:  _COB$CODE + 09AA
```

```
;  2139          3650  1 %SBTTL 'COB$$OPEN_IN - Open for INPUT'
;  2140          3651  1 GLOBAL ROUTINE COB$$OPEN_IN (UNIT, RPG): NOVALUE =
;  2141          3652  1
;  2142          3653  1 !++
;  2143          3654  1 ! FUNCTIONAL DESCRIPTION:
;  2144          3655  1 !
;  2145          3656  1 !       Open a file for reading, given its unit number.
;  2146          3657  1 !
;  2147          3658  1 ! FORMAL PARAMETERS:
;  2148          3659  1 !
;  2149          3660  1 !       UNIT.rl.v       integer unit number designating the device
;  2150          3661  1 !                       from which the string is to be read.
;  2151          3662  1 !
;  2152          3663  1 !       RPG.rl.v        = 1 if RPG is calling this routine
;  2153          3664  1 !                       = 0 if COBOL is calling this routine
;  2154          3665  1 !
;  2155          3666  1 ! IMPLICIT INPUTS:
;  2156          3667  1 !
;  2157          3668  1 !       NONE
;  2158          3669  1 !
;  2159          3670  1 ! IMPLICIT OUTPUTS:
;  2160          3671  1 !
;  2161          3672  1 !       NONE
;  2162          3673  1 !
;  2163          3674  1 ! ROUTINE VALUE:
;  2164          3675  1 !
;  2165          3676  1 !       NONE
;  2166          3677  1 !
;  2167          3678  1 ! SIDE EFFECTS:
;  2168          3679  1 !
;  2169          3680  1 !       NONE
;  2170          3681  1 !
;  2171          3682  1 !--
;  2172          3683  1
;  2173          3684  2     BEGIN
;  2174          3685  2     LITERAL
;  2175          3686  2         MAX_BUF =       MAX(LNM$C_NAMLENGTH, NAM$C_MAXRSS);
;  2176          3687  2     LOCAL
;  2177          3688  2         FAB:            $FAB_DECL,
;  2178          3689  2         NAM:            $NAM_DECL,
;  2179          3690  2         RAB:            REF $RAB_DECL,
;  2180          3691  2         FILE_NAME:      BLOCK[8, BYTE],         ! Descriptor for the file name
;  2181          3692  2         TRANSLATE:      BLOCK[8, BYTE],
;  2182          3693  2         P:              REF VECTOR[,BYTE],
;  2183          3694  2         RSLBUF:         VECTOR[MAX_BUF,BYTE],
;  2184          3695  2         STATUS;
;  2185          3696  2
;  2186          3697  2
;  2187          3698  2     ! Determine whether the COB$xxx name is defined.
;  2188          3699  2     ! If so, use it.  If not, use the corresponding SYS$xxx name.
;  2189          3700  2     !
;  2190          3701  2     TRANSLATE[DSC$B_DTYPE]   = DSC$K_DTYPE_T;
;  2191          3702  2     TRANSLATE[DSC$B_CLASS]   = DSC$K_CLASS_S;
;  2192          3703  2     TRANSLATE[DSC$W_LENGTH]  = MAX_BUF;
;  2193          3704  2     TRANSLATE[DSC$A_POINTER] = RSLBUF;
;  2194          3705  2
;  2195          3706  2     !+
```

```
;  2196          3707  2     !  If VAX RPG is calling this routine, bypass COB_TABLE.
;  2197          3708  2     !-
;  2198          3709  2
;  2199          3710  2     IF .RPG
;  2200          3711  2     THEN
;  2201          3712  3         BEGIN                                       . Use the SYS$xxx logical
;  2202          3713  3         P = .SYS_TABLE[.UNIT] + BASE;
;  2203          3714  3         FILE_NAME[DSC$W_LENGTH] = .P[0];
;  2204          3715  3         FILE_NAME[DSC$A_POINTER] = P[1];
;  2205          3716  3         END
;  2206          3717  2     ELSE
;  2207          3718  3         BEGIN                                       ! Use the COB$xxx logical
;  2208          3719  3         P = .COB_TABLE[.UNIT] + BASE;
;  2209          3720  3         FILE_NAME[DSC$B_DTYPE]   = DSC$K_DTYPE_T;
;  2210          3721  3         FILE_NAME[DSC$B_CLASS]   = DSC$K_CLASS_S;
;  2211          3722  3         FILE_NAME[DSC$W_LENGTH]  = .P[0];
;  2212          3723  3         FILE_NAME[DSC$A_POINTER] = P[1];
;  2213          3724  3         IF $TRNLOG(LOGNAM = FILE_NAME, RSLBUF = TRANSLATE) NEQ SS$_NORMAL
;  2214          3725  3         THEN
;  2215          3726  4             BEGIN                                   ! Use the SYS$xxx logical
;  2216          3727  4             P = .SYS_TABLE[.UNIT] + BASE;
;  2217          3728  4             FILE_NAME[DSC$W_LENGTH] = .P[0];
;  2218          3729  4             FILE_NAME[DSC$A_POINTER] = P[1];
;  2219          3730  3             END;
;  2220          3731  2         END ;
;  2221          3732  2
;  2222        P 3733  2     $FAB_INIT(
;  2223        P 3734  2         FAB = FAB,
;  2224        P 3735  2         NAM = NAM,
;  2225        P 3736  2         FAC = <GET,PUT>,
;  2226        P 3737  2         FNA = .FILE_NAME[DSC$A_POINTER],
;  2227        P 3738  2         FNS = .FILE_NAME[DSC$W_LENGTH],
;  2228          3739  2         FOP = SQO);
;  2229          3740  2
;  2230        P 3741  2     $NAM_INIT(
;  2231        P 3742  2         NAM = NAM,
;  2232        P 3743  2         ESA = RSLBUF,
;  2233        P 3744  2         ESS = NAM$C_MAXRSS,
;  2234        P 3745  2         RSA = RSLBUF,
;  2235          3746  2         RSS = NAM$C_MAXRSS);
;  2236          3747  2
;  2237          3748  2     STATUS = $OPEN(FAB = FAB);
;  2238          3749  2     IF (TRANSLATE[DSC$W_LENGTH] = .NAM[NAM$B_RSL]) EQL 0 THEN
;  2239          3750  2     IF (TRANSLATE[DSC$W_LENGTH] = .NAM[NAM$B_ESL]) EQL 0
;  2240          3751  2     THEN
;  2241          3752  3         BEGIN
;  2242          3753  3         TRANSLATE[DSC$W_LENGTH] = .FAB[FAB$B_FNS];
;  2243          3754  3         TRANSLATE[DSC$A_POINTER]= .FAB[FAB$L_FNA];
;  2244          3755  2         END;
;  2245          3756  2
;  2246          3757  2
;  2247          3758  2     IF NOT .STATUS
;  2248          3759  2     THEN
;  2249          3760  2         LIB$STOP(COB$_ERRDURACC, 1, TRANSLATE, .FAB[FAB$L_STS], .FAB[FAB$L_STV]);
;  2250          3761  2
;  2251          3762  2
;  2252          3763  3     IF NOT (STATUS = LIB$GET_VM(%REF(RAB$C_BLN + 8 + .NAM[NAM$B_RSL]), RAB))
```

```
;  2253          3764  2     THEN
;  2254          3765  2         LIB$STOP(COB$_FAIGET_VM, 0, .STATUS);
;  2255          3766  2
;  2256          3767  2
;  2257          3768  2     ! Save a descriptor for the resultant file name string,
;  2258          3769  2     ! and the string itself, after the RAB
;  2259          3770  2     !
;  2260          3771  3     BEGIN
;  2261          3772  3     LOCAL
;  2262          3773  3         Q: REF BLOCK[,BYTE];
;  2263          3774  3     Q = .RAB + RAB$C_BLN;
;  2264          3775  3     Q[DSC$B_DTYPE]   = DSC$K_DTYPE_T;
;  2265          3776  3     Q[DSC$B_CLASS]   = DSC$K_CLASS_S;
;  2266          3777  3     Q[DSC$W_LENGTH]  = .TRANSLATE[DSC$W_LENGTH];
;  2267          3778  3     Q[DSC$A_POINTER] = .RAB+RAB$C_BLN+8;
;  2268          3779  3     CH$MOVE( .Q[DSC$W_LENGTH], .TRANSLATE[DSC$A_POINTER], .RAB+RAB$C_BLN+8 );
;  2269          3780  2     END;
;  2270          3781  2
;  2271          3782  2     !+
;  2272          3783  2     ! Initiate terminal XABTRM and include it in the RAB.
;  2273          3784  2     !-
;  2274          3785  2
;  2275        P 3786  2     $XABTRM_INIT ( XAB         = XABTRM,
;  2276        P 3787  2                    ITMLST      = XAB_ITMLST,
;  2277          3788  2                    ITMLST_LEN = %ALLOCATION (XAB_ITMLST)-4 ) ;  ! $ITMLST_DECL
;  2278          3789  2                                                                 ! adds extra 4
;  2279        P 3790  2     $RAB_INIT(
;  2280        P 3791  2         RAB = .RAB,
;  2281        P 3792  2         FAB = FAB,
;  2282          3793  2         XAB = XABTRM);
;  2283          3794  2
;  2284          3795  3     IF NOT $CONNECT(RAB = .RAB)
;  2285          3796  2     THEN
;  2286          3797  2         LIB$STOP(COB$_ERRDURACC, 1, .RAB+RAB$C_BLN, .RAB[RAB$L_STS], .RAB[RAB$L_STV]);
;  2287          3798  2
;  2288          3799  2     COB$$AL_WRITE_RAB[.UNIT] = .RAB;
;  2289          3800  2     COB$$AW_WRITE_IFI[.UNIT] = .FAB[FAB$W_IFI];
;  2290          3801  2
;  2291          3802  1     END;                                        !  End of COB$$OPEN_IN


                                                $RMS_PTR=           XABTRM
                                                        .EXTRN  SYS$TRNLOG, SYS$OPEN
                                                        .EXTRN  SYS$CONNECT

                                        0FFC 00000      .ENTRY  COB$$OPEN_IN, Save R2,R3,R4,R5,R6,R7,R8,R9,-; 3651
                                                                R10,R11
                                5B 00000000G    00  9E 00002  MOVAB   LIB$STOP, R11                          ;
                                5A 00000000'    EF  9E 00009  MOVAB   $RMS_PTR, R10                         ;
                                5E      FE38    CE  9E 00010  MOVAB   -456(SP), SP                          ;
                        FF40    CD 010E00FF     8F  D0 00015  MOVL    #17694975, TRANSLATE                  ; 3703
                        FF44    CD        08    AE  9E 0001E  MOVAB   RSLBUF, TRANSLATE+4                   ; 3704
                                58        04    AC  D0 00024  MOVL    UNIT, R8                              ; 3713
                    57          58              02  78 00028  ASHL    #2, R8, R7                            ;
                                3A        08    AC  E8 0002C  BLBS    RPG, 1$                               ; 3710
                                50      F481    CF  9E 00030  MOVAB   BASE, R0                              ; 3719
```

```
                                                F4E3 CF47  9F 00035          PUSHAB  COB_TABLE[R7]                                   ;
                                     52                 9E  C1 0003A          ADDL3   @(SP)+, R0, P                                  ;
                                           FF4A    CD   010E  8F  B0 0003E          MOVW    #270, FILE_NAME+2                      ; 3720
                                           FF48    CD        62  9B 00045          MOVZBW  (P), FILE_NAME                         ; 3722
                                           FF4C    CD     01 A2  9E 0004A          MOVAB   1(R2), FILE_NAME+4                     ; 3723
                                                          7E  7C 00050          CLRQ    -(SP)                                  ; 3724
                                                          7E  D4 00052          CLRL    -(SP)                                  ;
                                                FF40      CD  9F 00054          PUSHAB  TRANSLATE                              ;
                                                          7E  D4 00058          CLRL    -(SP)                                  ;
                                                FF48      CD  9F 0005A          PUSHAB  FILE_NAME                              ;
                                        00000000G   00        06  FB 0005E          CALLS   #6, SYS$TRNLOG                         ;
                                                    01        50  D1 00065          CMPL    R0, #1                                 ;
                                                              19  13 00068          BEQL    2$                                     ;
                                                    50  F447  CF  9E 0006A 1$:      MOVAB   BASE, R0                               ; 3727
                                                F511  CF47    9F  0006F          PUSHAB  SYS_TABLE[R7]                          ;
                                     52                 9E  C1 00074          ADDL3   @(SP)+, R0, P                          ;
                                           FF48    CD        62  9B 00078          MOVZBW  (P), FILE_NAME                         ; 3728
                                           FF4C    CD     01 A2  9E 0007D          MOVAB   1(R2), FILE_NAME+4                     ; 3729
0050    8F                   00                 6E        00  2C 00083 2$:      MOVC5   #0, (SP), #0, #80, $RMS_PTR            ; 3739
                                                          B0  AD 0008A                                                          ;
                                        B0      AD   5003 8F  B0 0008C          MOVW    #20483, $RMS_PTR                       ;
                                        B4      AD     40 8F  9A 00092          MOVZBL  #64, $RMS_PTR+4                        ;
                                        C6      AD        03  90 00097          MOVB    #3, $RMS_PTR+22                        ;
                                        CF      AD        02  90 0009B          MOV8    #2, $RMS_PTR+31                        ;
                                        D8      AD   FF50 CD  9E 0009F          MOVAB   NAM, $RMS_PTR+40                       ;
                                        DC      AD   FF4C CD  D0 000A5          MOVL    FILE_NAME+4, $RMS_PTR+44               ;
                                        E4      AD   FF48 CD  90 000AB          MOVB    FILE_NAME, $RMS_PTR+52                 ;
0060    8F                   00                 6E        00  2C 000B1          MOVC5   #0, (SP), #0, #96, $RMS_PTR            ; 3746
                                                FF50      CD  00 000B8                                                          ;
                                           FF50    CD   6002 8F  B0 000BB          MOVW    #24578, $RMS_PTR                       ;
                                           FF52    CD        01  8E  C2 000C2          MNEGB   #1, $RMS_PTR+2                         ;
                                           FF54    CD     08 AE  9E  C7 000C7          MOVAB   RSLBUF, $RMS_PTR+4                     ;
                                           FF5A    CD        01  8E  CD 000CD          MNEGB   #1, $RMS_PTR+10                        ;
                                           FF5C    CD     08 AE  9E  D2 000D2          MOVAB   RSLBUF, $RMS_PTR+12                    ;
                                                    B0        AD  9F  D8 000D8          PUSHAB  FAB                                    ; 3748
                                        00000000G   00        01  FB 000DB          CALLS   #1, SYS$OPEN                           ;
                                                    52        50  D0 000E2          MOVL    R0, STATUS                             ;
                                           FF40    CD   FF53 CD  9B 000E5          MOVZBW  NAM+3, TRANSLATE                       ; 3749
                                                          15  12 000EC          BNEQ    3$                                     ;
                                           FF40    CD   FF5B CD  9B 000EE          MOVZBW  NAM+11, TRANSLATE                      ; 3750
                                                          0C  12 000F5          BNEQ    3$                                     ;
                                           FF40    CD     E4 AD  9B 000F7          MOVZBW  FAB+52, TRANSLATE                      ; 3753
                                           FF44    CD     DC AD  D0 000FD          MOVL    FAB+44, TRANSLATE+4                    ; 3754
                                                    13        52  E8 00103 3$:      BLBS    STATUS, 4$                             ; 3758
                                                    7E     B8 AD  7D 00106          MOVQ    FAB+8, -(SP)                           ; 3760
                                                FF40      CD  9F 0010A          PUSHAB  TRANSLATE                              ;
                                                          01  DD 0010E          PUSHL   #1                                     ;
                                                00000000G     8F  DD 00110          PUSHL   #COB$_ERRDURACC                        ;
                                                    6B        05  FB 00116          CALLS   #5, LIB$STOP                           ;
                                                       04     AE  9F 00119 4$:      PUSHAB  RAB                                    ; 3763
                                                 04    AE   FF53 CD  9A 0011C          MOVZBL  NAM+3, 4(SP)                           ;
                                                 04    AE 0000004C 8F  C0 00122          ADDL2   #76, 4(SP)                             ;
                                                       04     AE  9F 0012A          PUSHAB  4(SP)                                  ;
                                        00000000G   00        02  FB 0012D          CALLS   #2, LIB$GET_VM                         ;
                                                    52        50  D0 00134          MOVL    R0, STATUS                             ;
                                                    0D        52  E8 00137          BLBS    STATUS, 5$                             ;
                                                              52  DD 0013A          PUSHL   STATUS                                 ; 3765
```

```
                                     7E  D4 0013C          CLRL     -(SP)                                    ;
                          00000000G  8F  DD 0013E          PUSHL    #COB$_FAIGET_VM                          ;
                          6B         03  FB 00144          CALLS    #3, LIB$STOP                             ;
                          56     04  AE  D0 00147 5$:      MOVL     RAB, R6                                  ; 3774
                          59     44  A6  9E 0014B          MOVAB    68(R6), R9                               ;
                          50         59  D0 0014F          MOVL     R9, Q                                    ;
                    02    A0   010E  8F  B0 00152          MOVW     #270, 2(Q)                               ; 3775
                          60   FF40  CD  B0 00158          MOVW     TRANSLATE, (Q)                           ; 3777
                    04    A0     4C  A6  9E 0015D          MOVAB    76(R6), 4(Q)                             ; 3778
          4C    A6  FF44  DD         60  28 00162          MOVC3    (Q), @TRANSLATE+4, 76(R6)                ; 3779
    24          00        6E         00  2C 00169          MOVC5    #0, (SP), #0, #36, $RMS_PTR              ; 3788
                                     6A     0016E                                                            ;
                          6A   241F  8F  B0 0016F          MOVW     #9247, $RMS_PTR                          ;
                    08    AA     24  AA  9E 00174          MOVAB    XAB_ITMLST, $RMS_PTR+8                   ;
                    0C    AA         18  B0 00179          MOVW     #24, $RMS_PTR+12                         ;
0044  8F        00        6E         00  2C 0017D          MOVC5    #0, (SP), #0, #68, (R6)                  ; 3793
                                     66     00184                                                            ;
                          66   4401  8F  B0 00185          MOVW     #17409, (R6)                             ;
                    3C    A6     B0  AD  9E 0018A          MOVAB    FAB, 60(R6)                              ;
                    40    A6         6A  9E 0018F          MOVAB    XABTRM, 64(R6)                           ;
                                     56  DD 00193          PUSHL    R6                                       ; 3795
             00000000G    00         01  FB 00195          CALLS    #1, SYS$CONNECT                          ;
                          11         50  E8 0019C          BLBS     R0, 6$                                   ;
                          7E     08  A6  7D 0019F          MOVQ     8(R6), -(SP)                             ; 3797
                                     59  DD 001A3          PUSHL    R9                                       ;
                                     01  DD 001A5          PUSHL    #1                                       ;
                          00000000G  8F  DD 001A7          PUSHL    #COB$_ERRDURACC                          ;
                          6B         05  FB 001AD          CALLS    #5, LIB$STOP                             ;
                          00000000G0047  9F 001B0 6$:      PUSHAB   COB$$AL_WRITE_RAB[R7]                    ; 3799
                          9E         56  D0 001B7          MOVL     R6, @(SP)+                               ;
             00000000G0048       B2  AD  B0 001BA          MOVW     FAB+2, COB$$AW_WRITE_IFI[R8]             ; 3800
                                         04 001C3          RET                                               ; 3802

; Routine Size:  452 bytes,    Routine Base:  _COB$CODE + 0B4B
```

```
;2293   3803  1 %SBTTL 'COB$$RMS_GET - Perform an RMS $GET Service'
;2294   3804  1 ROUTINE COB$$RMS_GET ( RAB      :  REF $RAB_DECL,
;2295   3805  1                         FUNC_VAL,
;2296   3806  1                         LENGTH,
;2297   3807  1                         BUFFER
;2298   3808  1                       )  :  NOVALUE  =
;2299   3809  1
;2300   3810  1 !++
;2301   3811  1 ! FUNCTIONAL DESCRIPTION:
;2302   3812  1 !
;2303   3813  1 !
;2304   3814  1 ! FORMAL PARAMETERS:
;2305   3815  1 !
;2306   3816  1 !
;2307   3817  1 ! IMPLICIT INPUTS:
;2308   3818  1 !
;2309   3819  1 !       NONE
;2310   3820  1 !
;2311   3821  1 ! IMPLICIT OUTPUTS:
;2312   3822  1 !
;2313   3823  1 !       NONE
;2314   3824  1 !
;2315   3825  1 ! ROUTINE VALUE:
;2316   3826  1 ! COMPLETION CODES:
;2317   3827  1 !
;2318   3828  1 !       NONE
;2319   3829  1 !
;2320   3830  1 ! SIDE EFFECTS:
;2321   3831  1 !
;2322   3832  1 !--
;2323   3833  1
;2324   3834  2     BEGIN
;2325   3835  2
;2326 P 3836  2     $ITMLST_INIT (ITMLST = XAB_ITMLST,                      ! Item list for $GET
;2327 P 3837  2                   (ITMCOD = TRM$_MODIFIERS,
;2328 P 3838  2                    BUFSIZ = 4,
;2329 P 3839  2                    BUFADR = .FUNC_VAL),
;2330 P 3840  2                   (ITMCOD = TRM$_TERM,
;2331 P 3841  2                    BUFSIZ = 20,
;2332   3842  2                    BUFADR = MASK_VECTOR) ) ;
;2333   3843  2
;2334   3844  2     RAB [RAB$W_USZ] = .LENGTH ;
;2335   3845  2     RAB [RAB$L_UBF] = .BUFFER ;
;2336   3846  2     RAB [RAB$V_ETO] = 1 ;                                   ! Extended Terminal $GET
;2337   3847  2     RAB [RAB$L_XAB] = XABTRM ;
;2338   3848  2     WHILE $GET (RAB = .RAB) EQL RMS$_RSA DO $WAIT (RAB = .RAB) ;
;2339   3849  2
;2340   3850  2     IF NOT .RAB [RAB$L_STS]
;2341   3851  2     THEN
;2342   3852  2         !+
;2343   3853  2         ! These are special case status that will be handled later.
;2344   3854  2         !-
;2345   3855  3         IF (.RAB [RAB$L_STS] NEQ RMS$_BES AND               ! Bad Escape Sequence
;2346   3856  3             .RAB [RAB$L_STS] NEQ RMS$_EOF AND               ! End Of File
;2347   3857  3             .RAB [RAB$L_STS] NEQ RMS$_PES AND               ! Partial Escape Seq
;2348   3858  3             .RAB [RAB$L_STS] NEQ RMS$_RTB AND               ! Record Too Big
;2349   3859  3             .RAB [RAB$L_STS] NEQ RMS$_TNS )                 ! Terminator Not Seen
```

```
;  2350          3860  2          THEN
;  2351          3861  2              LIB$STOP (COB$_ERRDURACC, 1, .RAB + RAB$C_BLN, .RAB [RAB$L_STS],
;  2352          3862  2                                                             .RAB [RAB$L_STV] ) ;
;  2353          3863  1      END ;


                                        000C 00000 COB$$RMS_GET:
                                                   .WORD   Save R2,R3                                  ; 3804
                    53 00000000'   EF  9E 00002    MOVAB   XAB_ITMLST, R3                              ;
                    50             63  9E 00009    MOVAB   XAB_ITMLST, $$ITMBLKPTR                     ; 3842
                                   80  D4 0000C    CLRL    ($$ITMBLKPTR)+                              ;
                    80        08   AC  D0 0000E    MOVL    FUNC_VAL, ($$ITMBLKPTR)+                    ;
                                   80  D4 00012    CLRL    ($$ITMBLKPTR)+                              ;
                    80 00030014    8F  D0 00014    MOVL    #196628, ($$ITMBLKPTR)+                     ;
                    80        1C   A3  9E 0001B    MOVAB   MASK_VECTOR, ($$ITMBLKPTR)+                 ;
                                   80  7C 0001F    CLRQ    ($$ITMBLKPTR)+                              ;
                    52        04   AC  D0 00021    MOVL    RAB, R2                                     ; 3844
                 20 A2        0C   AC  B0 00025    MOVW    LENGTH, 32(R2)                              ;
                 24 A2        10   AC  D0 0002A    MOVL    BUFFER, 36(R2)                              ; 3845
                 07 A2             10  88 0002F    BISB2   #16, 7(R2)                                  ; 3846
                 40 A2        DC   A3  9E 00033    MOVAB   XABTRM, 64(R2)                              ; 3847
                                   52  DD 00038 1$: PUSHL   R2                                         ; 3848
          00000000G  00            01  FB 0003A    CALLS   #1, SYS$GET                                 ;
          000182DA   8F            50  D1 00041    CMPL    R0, #99034                                  ;
                                   0B  12 00048    BNEQ    2$                                          ;
                                   52  DD 0004A    PUSHL   R2                                          ;
          00000000G  00            01  FB 0004C    CALLS   #1, SYS$WAIT                                ;
                                   E3  11 00053    BRB     1$                                          ;
                    50        08   A2  D0 00055 2$: MOVL    8(R2), R0                                   ; 3850
                    44             50  E8 00059    BLBS    R0, 3$                                      ;
          000181C0  8F             50  D1 0005C    CMPL    R0, #98752                                  ; 3855
                                   3B  13 00063    BEQL    3$                                          ;
          0001827A  8F             50  D1 00065    CMPL    R0, #98938                                  ; 3856
                                   32  13 0006C    BEQL    3$                                          ;
          000181C8  8F             50  D1 0006E    CMPL    R0, #98760                                  ; 3857
                                   29  13 00075    BEQL    3$                                          ;
          000181A8  8F             50  D1 00077    CMPL    R0, #98728                                  ; 3858
                                   20  13 0007E    BEQL    3$                                          ;
          000181B8  8F             50  D1 00080    CMPL    R0, #98744                                  ; 3859
                                   17  13 00087    BEQL    3$                                          ;
                        0C         A2  DD 00089    PUSHL   12(R2)                                      ; 3862
                                   50  DD 0008C    PUSHL   R0                                          ; 3861
                        44         A2  9F 0008E    PUSHAB  68(R2)                                      ;
                                   01  DD 00091    PUSHL   #1                                          ;
                    00000000G      8F  DD 00093    PUSHL   #COB$_ERRDURACC                             ;
          00000000G  00            05  FB 00099    CALLS   #5, LIB$STOP                                ;
                                       04 000A0 3$: RET                                                 ; 3863

; Routine Size:  161 bytes,    Routine Base:  _COB$CODE + 0D0F
```

```
: 2355          3864  1 %SBTTL 'COB$$RMS_PUT_BYTE - Perform an RMS $PUT Service'
: 2356          3865  1 ROUTINE COB$$RMS_PUT_BYTE ( WHICH, FLAGS )  :  NOVALUE  =
: 2357          3866  1
: 2358          3867  1 !++
: 2359          3868  1 ! FUNCTIONAL DESCRIPTION:
: 2360          3869  1 !
: 2361          3870  1 !       This routine writes a one byte buffer to the terminal. Either a
: 2362          3871  1 !       Carriage Return, Linefeed or Ring the Terminal Bell, depending
: 2363          3872  1 !       on the value of WHICH.
: 2364          3873  1 !
: 2365          3874  1 ! FORMAL PARAMETERS:
: 2366          3875  1 !
: 2367          3876  1 !       WHICH.rl.v      if 0, write Linefeed to terminal
: 2368          3877  1 !                       if 1, write Carriage Return to terminal
: 2369          3878  1 !                       if 2, ring terminal bell
: 2370          3879  1 !
: 2371          3880  1 !       FLAGS.rlu.v     Screen enhancement flag
: 2372          3881  1 !
: 2373          3882  1 ! IMPLICIT INPUTS:
: 2374          3883  1 !
: 2375          3884  1 !       NONE
: 2376          3885  1 !
: 2377          3886  1 ! IMPLICIT OUTPUTS:
: 2378          3887  1 !
: 2379          3888  1 !       NONE
: 2380          3889  1 !
: 2381          3890  1 ! ROUTINE VALUE:
: 2382          3891  1 ! COMPLETION CODES:
: 2383          3892  1 !
: 2384          3893  1 !       NONE
: 2385          3894  1 !
: 2386          3895  1 ! SIDE EFFECTS:
: 2387          3896  1 !
: 2388          3897  1 !       NONE
: 2389          3898  1 !--
: 2390          3899  1
: 2391          3900  2     BEGIN
: 2392          3901  2     LOCAL
: 2393          3902  2         RAB     :  REF $RAB_DECL,
: 2394          3903  2         CR_BUF  :  VECTOR [1,BYTE] ;
: 2395          3904  2
: 2396          3905  2     IF .COB$ACC_TERM_TYPE NEQ UNKNOWN
: 2397          3906  2     THEN
: 2398          3907  3         BEGIN
: 2399          3908  3
: 2400          3909  3         SELECTONE .WHICH OF
: 2401          3910  3             SET
: 2402          3911  3                 [0] :   CR_BUF [0] = CR ;               ! Carriage Return
: 2403          3912  3
: 2404          3913  3                 [1] :   CR_BUF [0] = LF ;               ! Linefeed
: 2405          3914  3
: 2406          3915  3                 [2] :   CR_BUF [0] = BELL ;             ! Bell
: 2407          3916  3             TES ;
: 2408          3917  3
: 2409          3918  3         COB$$AB_USPCODE [0] = 0 ;
: 2410          3919  3         COB$$AB_USPCODE [1] = 0 ;
: 2411          3920  3
```

```
;                       3921  3          IF .COB$$AL_WRITE_RAB [1] EQL 0
;                       3922  3          THEN
;                       3923  4              BEGIN
;                       3924  4              !+
;                       3925  4              !  Open SYS$OUTPUT.  Second parameter tells COB$$OPEN_OUT whether
;                       3926  4              !  VAX COBOL (0) or VAX RPG (1) is the caller.
;                       3927  4              !  VMS V4 defines SYS$INPUT as read only, therefore any $PUTs must
;                       3928  4              !  be made through SYS$OUTPUT.  When a terminal is the input device
;                       3929  4              !  for an ACCEPT it is also the OUTPUT device, and must be OPENed
;                       3930  4              !  for both.
;                       3931  4              !-
;                       3932  4              COB$$OPEN_OUT ( 1,
;                       3933  4                              IF ( .FLAGS AND V_COB_RPG ) NEQ 0
;                       3934  4                              THEN 1
;                       3935  4                              ELSE 0 ) ;
;                       3936  3              END ;
;                       3937  3          RAB = .COB$$AL_WRITE_RAB [1] ;
;                       3938  3          RAB [RAB$L_RBF] = CR_BUF [0] ;
;                       3939  3          RAB [RAB$W_RSZ] = 1 ;
;                       3940  3          WHILE $PUT (RAB = .RAB) EQL RMS$_RSA DO $WAIT (RAB = .RAB) ;
;                       3941  3
;                       3942  3          IF NOT .RAB [RAB$L_STS]
;                       3943  3          THEN
;                       3944  3              LIB$STOP ( COB$_ERRDURACC, 1, .RAB + RAB$C_BLN,
;                       3945  3                         .RAB [RAB$L_STS], .RAB [RAB$L_STV] ) ;
;                       3946  2          END ;
;                       3947  1      END ;                                   ! End of COB$$RMS_PUT_BYTE

                                                .EXTRN  SYS$PUT

                                        000C 00000 COB$$RMS_PUT_BYTE:
                                                .WORD   Save R2,R3                                      ; 3865
                    53 00000000G    00  9E 00002        MOVAB   COB$$AL_WRITE_RAB+4, R3                 ;
                    5E              04  C2 00009        SUBL2   #4, SP                                  ;
                       00000000G    00  D5 0000C        TSTL    COB$ACC_TERM_TYPE                       ; 3905
                                    7D  13 00012        BEQL    9$                                      ;
                    50        04    AC  D0 00014        MOVL    WHICH, R0                               ; 3909
                                    05  12 00018        BNEQ    1$                                      ; 3911
                    6E              0D  90 0001A        MOVB    #13, CR_BUF                             ;
                                    12  11 0001D        BRB     3$                                      ;
                    01              50  D1 0001F 1$:    CMPL    R0, #1                                  ; 3913
                                    05  12 00022        BNEQ    2$                                      ;
                    6E              0A  90 00024        MOVB    #10, CR_BUF                             ;
                                    08  11 00027        BRB     3$                                      ;
                    02              50  D1 00029 2$:    CMPL    R0, #2                                  ; 3915
                                    03  12 0002C        BNEQ    3$                                      ;
                    6E              07  90 0002E        MOVB    #7, CR_BUF                              ;
                       00000000G    00  B4 00031 3$:    CLRW    COB$$AB_USPCODE                         ; 3918
                                    63  D5 00037        TSTL    COB$$AL_WRITE_RAB+4                     ; 3921
                                    14  12 00039        BNEQ    6$                                      ;
04        08    AC                  0B  E1 0003B        BBC     #11, FLAGS, 4$                          ; 3933
                                    01  DD 00040        PUSHL   #1                                      ;
                                    02  11 00042        BRB     5$                                      ;
                                    7E  D4 00044 4$:    CLRL    -(SP)                                   ;
                                    01  DD 00046 5$:    PUSHL   #1                                      ; 3932
```

```
                    00000000G  00              02  FB 00048              CALLS   #2, COB$$OPEN_OUT                        ;
                               52              63  D0 0004F 6$:          MOVL    COB$$AL_WRITE_RAB+4, RAB                ; 3937
                          28   A2              6E  9E 00052              MOVAB   CR_BUF, 40(RAB)                         ; 3938
                          22   A2              01  B0 00056              MOVW    #1, 34(RAB)                             ; 3939
                                               52  DD 0005A 7$:          PUSHL   RAB                                     ; 3940
                    00000000G  00              01  FB 0005C              CALLS   #1, SYS$PUT                             ;
                    000182DA   8F              50  D1 00063              CMPL    R0, #99034                              ;
                                               0B  12 0006A              BNEQ    8$                                      ;
                                               52  DD 0006C              PUSHL   RAB                                     ;
                    00000000G  00              01  FB 0006E              CALLS   #1, SYS$WAIT                            ;
                                               E3  11 00075              BRB     7$                                      ;
                               16        08    A2  E8 00077 8$:          BLBS    8(RAB), 9$                              ; 3942
                               7E        08    A2  7D 0007B              MOVQ    8(RAB), -(SP)                           ; 3945
                                         44    A2  9F 0007F              PUSHAB  68(RAB)                                 ; 3944
                                               01  DD 00082              PUSHL   #1                                      ;
                                  00000000G    8F  DD 00084              PUSHL   #COB$_ERRDURACC                         ;
                    00000000G  00              05  FB 0008A              CALLS   #5, LIB$STOP                            ;
                                                   04 00091 9$:          RET                                             ; 3947

; Routine Size:  146 bytes,    Routine Base:  _COB$CODE + 0DB0
```

```
;  2440          3948  1 %SBTTL 'COB$$RMS_PUT_BUFFER - Perform RMS $PUT Service'
;  2441          3949  1 ROUTINE COB$$RMS_PUT_BUFFER ( BUFFER,
;  2442          3950  1                               LENGTH,
;  2443          3951  1                               FLAGS )  :  NOVALUE  =
;  2444          3952  1
;  2445          3953  1 !++
;  2446          3954  1 ! FUNCTIONAL DESCRIPTION:
;  2447          3955  1 !
;  2448          3956  1 !       This routine writes buffer of more than one byte to the terminal.
;  2449          3957  1 !
;  2450          3958  1 ! FORMAL PARAMETERS:
;  2451          3959  1 !
;  2452          3960  1 !       BUFFER.rt.r     Holds sequence to write to screen
;  2453          3961  1 !
;  2454          3962  1 !       LENGHT.rlu.v    Length of BUFFER
;  2455          3963  1 !
;  2456          3964  1 !       FLAGS.rlu.v     Screen enhancement flag
;  2457          3965  1 !
;  2458          3966  1 ! IMPLICIT INPUTS:
;  2459          3967  1 !
;  2460          3968  1 !       NONE
;  2461          3969  1 !
;  2462          3970  1 ! IMPLICIT OUTPUTS:
;  2463          3971  1 !
;  2464          3972  1 !       NONE
;  2465          3973  1 !
;  2466          3974  1 ! ROUTINE VALUE:
;  2467          3975  1 ! COMPLETION CODES:
;  2468          3976  1 !
;  2469          3977  1 !       NONE
;  2470          3978  1 !
;  2471          3979  1 ! SIDE EFFECTS:
;  2472          3980  1 !
;  2473          3981  1 !       NONE
;  2474          3982  1 !--
;  2475          3983  1
;  2476          3984  2     BEGIN
;  2477          3985  2     LOCAL
;  2478          3986  2         RAB     :  REF $RAB_DECL ;
;  2479          3987  2
;  2480          3988  2     IF .COB$ACC_TERM_TYPE NEQ UNKNOWN
;  2481          3989  2     THEN
;  2482          3990  3         BEGIN
;  2483          3991  3
;  2484          3992  3         COB$$AB_USPCODE [0] = 0 ;
;  2485          3993  3         COB$$AB_USPCODE [1] = 0 ;
;  2486          3994  3
;  2487          3995  3         IF .COB$$AL_WRITE_RAB [1] EQL 0
;  2488          3996  3         THEN
;  2489          3997  4             BEGIN
;  2490          3998  4             !+
;  2491          3999  4             !  Open SYS$OUTPUT.  Second parameter tells COB$$OPEN_OUT whether
;  2492          4000  4             !  VAX COBOL (0) or VAX RPG (1) is the caller.
;  2493          4001  4             !-
;  2494          4002  4             COB$$OPEN_OUT ( 1,
;  2495          4003  4                             IF ( .FLAGS AND V_COB_RPG ) NEQ 0
;  2496          4004  4                             THEN 1
```

```
;  2497          4005  4                                ELSE 0 ) ;
;  2498          4006  3                            END ;
;  2499          4007  3                        RAB = .COB$$AL_WRITE_RAB [1] ;
;  2500          4008  3                        RAB [RAB$L_RBF] = .BUFFER ;
;  2501          4009  3                        RAB [RAB$W_RSZ] = .LENGTH ;
;  2502          4010  3                        WHILE $PUT (RAB = .RAB) EQL RMS$_RSA DO $WAIT (RAB = .RAB) ;
;  2503          4011  3
;  2504          4012  3                        IF NOT .RAB [RAB$L_STS]
;  2505          4013  3                        THEN
;  2506          4014  3                            LIB$STOP ( COB$_ERRDURACC, 1, .RAB + RAB$C_BLN,
;  2507          4015  3                                       .RAB [RAB$L_STS], .RAB [RAB$L_STV] ) ;
;  2508          4016  2                        END ;
;  2509          4017  1                END ;                                    ! End of COB$$RMS_PUT_BUFFER



                                                        000C 00000 COB$$RMS_PUT_BUFFER:
                                                                   .WORD   Save R2,R3                                  ;  3949
                                                53 00000000G   00   9E 00002        MOVAB   COB$$AL_WRITE_RAB+4, R3
                                                   00000000G   00   D5 00009        TSTL    COB$ACC_TERM_TYPE           ;  3988
                                                               62   13 0000F        BEQL    6$
                                                   00000000G   00   B4 00011        CLRW    COB$$AB_USPCODE             ;  3992
                                                               63   D5 00017        TSTL    COB$$AL_WRITE_RAB+4         ;  3995
                                                               14   12 00019        BNEQ    3$
                                     04        0C   AC          0B   E1 0001B        BBC     #11, FLAGS, 1$              ;  4003
                                                               01   DD 00020        PUSHL   #1
                                                               ^C   11 00022        BRB     2$
                                                               7E   D4 00024 1$:     CLRL    -(SP)
                                                               01   DD 00026 2$:     PUSHL   #1                          ;  4002
                                  00000000G   00               02   FB 00028        CALLS   #2, COB$$OPEN_OUT
                                              52               63   D0 0002F 3$:     MOVL    COB$$AL_WRITE_RAB+4, RAB    ;  4007
                                        28    A2         04    AC   D0 00032        MOVL    BUFFER, 40(RAB)             ;  4008
                                        22    A2         08    AC   B0 00037        MOVW    LENGTH, 34(RAB)             ;  4009
                                                               52   DD 0003C 4$:     PUSHL   RAB                         ;  4010
                                  00000000G   00               01   FB 0003E        CALLS   #1, SYS$PUT
                                  000182DA    8F               50   D1 00045        CMPL    R0, #99034
                                                               0B   12 0004C        BNEQ    5$
                                                               52   DD 0004E        PUSHL   RAB
                                  00000000G   00               01   FB 00050        CALLS   #1, SYS$WAIT
                                                               E3   11 00057        BRB     4$
                                              16         08    A2   E8 00059 5$:     BLBS    8(RAB), 6$                  ;  4012
                                              7E         08    A2   7D 0005D        MOVQ    8(RAB), -(SP)               ;  4015
                                                         44    A2   9F 00061        PUSHAB  68(RAB)                     ;  4014
                                                               01   DD 00064        PUSHL   #1
                                                   00000000G   8F   DD 00066        PUSHL   #COB$_ERRDURACC
                                  00000000G   00               05   FB 0006C        CALLS   #5, LIB$STOP
                                                               04   00073 6$:     RET                                 ;  4017

; Routine Size:  116 bytes,    Routine Base:  _COB$CODE + 0E42
```

```
;  2511          4018  1 %SBTTL 'COB$$CONTROL_Z - Handle ^Z'
;  2512          4019  1 ROUTINE COB$$CONTROL_Z ( UNIT            :  VECTOR [2, BYTE],
;  2513          4020  1                          KEY             :  REF $STR$DESCRIPTOR
;  2514          4021  1                        )  :  NOVALUE =
;  2515          4022  1 !++
;  2516          4023  1 ! FUNCTIONAL DESCRIPTION:
;  2517          4024  1 !
;  2518          4025  1 !       Read UNIT parameter to determine what to do when a Control Z was typed.
;  2519          4026  1 !
;  2520          4027  1 ! FORMAL PARAMETERS:
;  2521          4028  1 !
;  2522          4029  1 !       UNIT.rbu.va     Array of two unsigned byte integers.
;  2523          4030  1 !                       The first byte is the unit number designating the
;  2524          4031  1 !                       device from which the string is to be read.
;  2525          4032  1 !                       The second byte indicates whether the routine should
;  2526          4033  1 !                       abort or return to the calling program.
;  2527          4034  1 !
;  2528          4035  1 !       KEY.wt.ds       Destination of the receiving field of the control key.
;  2529          4036  1 !
;  2530          4037  1 ! IMPLICIT INPUTS:
;  2531          4038  1 !
;  2532          4039  1 !       NONE
;  2533          4040  1 !
;  2534          4041  1 ! IMPLICIT OUTPUTS:
;  2535          4042  1 !
;  2536          4043  1 !       NONE
;  2537          4044  1 !
;  2538          4045  1 ! ROUTINE VALUE:
;  2539          4046  1 !
;  2540          4047  1 !
;  2541          4048  1 ! SIDE EFFECTS:
;  2542          4049  1 !
;  2543          4050  1 !       NONE
;  2544          4051  1 !--
;  2545          4052  2         BEGIN
;  2546          4053  2             LOCAL
;  2547          4054  2                 TERM_PTR,                               ! Points to terminator
;  2548          4055  2                 CZ_PTR ;                                ! Needed for CH$MOVE
;  2549          4056  2
;  2550          4057  2           !+
;  2551          4058  2           ! CONTROL Z - read UNIT parameter to determine what to do.
;  2552          4059  2           !
;  2553          4060  2           !       Byte 2 of               Ctrl z
;  2554          4061  2           !         UNIT
;  2555          4062  2           !
;  2556          4063  2           !          0                    abort
;  2557          4064  2           !          1 ( at end )         return
;  2558          4065  2           !          2 ( on exception )   return
;  2559          4066  2           !-
;  2560          4067  2
;  2561          4068  2                 IF .UNIT [1]  EQL  0
;  2562          4069  2                 THEN
;  2563          4070  2                     LIB$STOP ( COB$_EOFON_ACC )         ! Abort
;  2564          4071  2                 ELSE
;  2565          4072  3                     BEGIN
;  2566          4073  3                     IF .KEY NEQ 0
;  2567          4074  3                     THEN
```

```
;  2568          4075  4                         BEGIN
;  2569          4076  4                         !+
;  2570          4077  4                         !   Pass CONTROL Z back to user program via KEY,
;  2571          4078  4                         !   if requested
;  2572          4079  4                         !-
;  2573          4080  4                         CZ_PTR = CZ ;                   ! CZ is literal %X'1A'
;  2574          4081  4                         TERM_PTR = CZ_PTR ;
;  2575          4082  4                         CH$MOVE ( 1, .TERM_PTR, .KEY [DSC$A_POINTER] ) ;
;  2576          4083  3                         END ;
;  2577          4084  2                     END ;
;  2578          4085  1           END ;                                 ! End routine COB$$CONTROL_Z



                                                0000 00000 COB$$CONTROL_Z:
                                                           .WORD   Save nothing                        ; 4019
                                5E                  04  C2 00002           SUBL2   #4, SP
                                                    05  AC 95 00005           TSTB    UNIT+1          ; 4068
                                                    0E  12 00008           BNEQ    1$
                                    00000000G       8F  DD 0000A           PUSHL   #COB$_EOFON_ACC     ; 4070
                            00000000G   00          01  FB 00010           CALLS   #1, LIB$STOP
                                                        04 00017           RET
                                50              08  AC  D0 00018 1$:       MOVL    KEY, R0             ; 4073
                                                    0A  13 0001C           BEQL    2$
                                6E                  1A  D0 0001E           MOVL    #26, CZ_PTR         ; 4080
                                51                  6E  9E 00021           MOVAB   CZ_PTR, TERM_PTR    ; 4081
                                  04            B0      61  90 00024       MOVB    (TERM_PTR), 4(R0)   ; 4082
                                                        04 00028 2$:       RET                         ; 4085

; Routine Size:  41 bytes,    Routine Base:  _COB$CODE + 0EB6
```

```
;2580          4086  1 %SBTTL 'COB$$PARTIAL_SEQ - Partial Escape Sequence'
;2581          4087  1 ROUTINE COB$$PARTIAL_SEQ ( PARAMETERS : REF VECTOR,
;2582          4088  1                           UNIT       : VECTOR [2,BYTE] )  :  NOVALUE =
;2583          4089  1 !++
;2584          4090  1 ! FUNCTIONAL DESCRIPTION:
;2585          4091  1 !
;2586          4092  1 !       The entire Escape sequence did not fit in the initial $GET's buffer.
;2587          4093  1 !       Perform 1 character Reads until the full sequence is in PUT_HERE or
;2588          4094  1 !       NEXT_CHAR.
;2589          4095  1 !
;2590          4096  1 !  FORMAL PARAMETERS:
;2591          4097  1 !
;2592          4098  1 !       PARAMETERS.mlu.ra  Contains data for this routine.
;2593          4099  1 !
;2594          4100  1 !       UNIT.rbu.va        Array of two unsigned byte integers.
;2595          4101  1 !                          The first byte is the unit number designating the
;2596          4102  1 !                          device from which the string is to be read.
;2597          4103  1 !                          The second byte indicates whether the routine should
;2598          4104  1 !                          abort or return to the calling program.
;2599          4105  1 !
;2600          4106  1 ! IMPLICIT INPUTS:
;2601          4107  1 !
;2602          4108  1 !       NONE
;2603          4109  1 !
;2604          4110  1 ! IMPLICIT OUTPUTS:
;2605          4111  1 !
;2606          4112  1 !       NONE
;2607          4113  1 !
;2608          4114  1 ! ROUTINE VALUE:
;2609          4115  1 !
;2610          4116  1 !
;2611          4117  1 ! SIDE EFFECTS:
;2612          4118  1 !
;2613          4119  1 !       NONE
;2614          4120  1 !
;2615          4121  1 !--
;2616          4122  2     BEGIN
;2617          4123  2
;2618          4124  2     LOCAL
;2619          4125  2         RAB             :  REF $RAB_DECL,
;2620          4126  2         FUNC_VAL_2,                             ! QIO Function Modifiers for
;2621          4127  2                                                 ! item list of RMS $GET.
;2622          4128  2         TERM_CHAR       :  BYTE,                ! $GET input buffer.
;2623          4129  2         PH              :  REF VECTOR [1100,BYTE],  ! Address of PUT_HERE
;2624          4130  2         PH_PTR,                                 ! Pointer to PUT_HERE.
;2625          4131  2         NC_PTR,                                 ! Pointer to NEXT_CHAR.
;2626          4132  2         END_OF_TERM     :  INITIAL (0) ;        ! =1 whole Seq in buffer.
;2627          4133  2
;2628          4134  2         !+
;2629          4135  2         !  Bind PARAMETERS to other names.
;2630          4136  2         !-
;2631          4137  2
;2632          4138  2         $BIND_PARAMETERS ;
;2633          4139  2         PH = .PUT_HERE [DSC$A_POINTER] ;
;2634          4140  2
;2635          4141  2         !+
;2636          4142  2         !  PH_PTR and NC_PTR point to next free space in buffer
```

```
;2637      4143  2          !  PUT_HERE or NEXT_CHAR.
;2638      4144  2          !-
;2639      4145  2
;2640      4146  2          PH_PTR = .CHARS_READ + .TERM_SIZE ;
;2641      4147  2          NC_PTR = 1 ;
;2642      4148  2
;2643      4149  2          !+
;2644      4150  2          !  Read one character at a time until the entire escape sequence has
;2645      4151  2          !  been read.
;2646      4152  2          !-
;2647      4153  2
;2648      4154  2          WHILE .END_OF_TERM EQL 0 DO
;2649      4155  2              BEGIN                                           ! Begin loop
;2650      4156  2
;2651      4157  2              FUNC_VAL_2 = TRM$M_TM_ESCAPE + TRM$M_TM_NOFILTR + TRM$M_TM_TRMNOECHO
;2652      4158  2                                                              + TRM$M_TM_NOECHO ;
;2653      4159  2
;2654      4160  2              RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
;2655      4161  2              COB$$RMS_GET ( .RAB, .FUNC_VAL_2, 1, TERM_CHAR ) ;
;2656      4162  2
;2657      4163  2              !+
;2658      4164  2              !  Deposit sequence character in appropriate buffer.
;2659      4165  2              !-
;2660      4166  2
;2661      4167  2              IF .TERM_IN_NEXT EQL 0
;2662      4168  2              THEN
;2663      4169  4                  BEGIN
;2664      4170  4                  !+
;2665      4171  4                  !  This is a workaround for an RMS bug that did not
;2666      4172  4                  !  make it into the final code freeze for V4.0.
;2667      4173  4                  !  The next three lines can be pulled when the RMS fix
;2668      4174  4                  !  is made.  (see NEXT_CHAR below)
;2669      4175  4                  !-
;2670      4176  4                  IF .TERM_SIZE EQL 1                         ! Put first character
;2671      4177  4                  THEN                                        ! of terminator seq
;2672      4178  4                      PH [.PH_PTR - 1] = %X'1B' ;             ! into PUT_HERE
;2673      4179  4
;2674      4180  4                  PH [.PH_PTR] = .TERM_CHAR ;                 ! Put character just
;2675      4181  4                  PH_PTR = .PH_PTR + 1 ;                      ! read in PUT_HERE
;2676      4182  4                  TERM_IN_NEXT = 0 ;
;2677      4183  4                  END
;2678      4184  3          ELSE
;2679      4185  4              BEGIN
;2680      4186  4              !+
;2681      4187  4              !  This is a workaround for an RMS bug that did not
;2682      4188  4              !  make it into the final code freeze for V4.0.
;2683      4189  4              !  The next three lines can be pulled when the RMS fix
;2684      4190  4              !  is made.
;2685      4191  4              !-
;2686      4192  4              IF .TERM_SIZE EQL 1                             ! Put first character
;2687      4193  4              THEN                                            ! of terminator seq
;2688      4194  4                  NEXT_CHAR [0] = %X'1B' ;                    ! into NEXT_CHAR.
;2689      4195  4
;2690      4196  4              NEXT_CHAR [.NC_PTR] = .TERM_CHAR ;              ! Put character just
;2691      4197  4              NC_PTR = .NC_PTR + 1 ;                          ! read in NEXT_CHAR
;2692      4198  3              END ;
;2693      4199  3
```

```
;2694   4200  3              TERM_SIZE = .TERM_SIZE + 1 ;                    ! Total Terminator size
;2695   4201  3
;2696   4202  3              !+
;2697   4203  3              !  Ugly - but it's the only way to check for the end of an
;2698   4204  3              !  escape sequence.  All known KEY escape sequences end in
;2699   4205  3              !  one of these characters and none of these characters fall
;2700   4206  3              !  in the middle of an escape sequence.  This will have to be
;2701   4207  3              !  updated if new escape sequences surface.
;2702   4208  3              !-
;2703   4209  3
;2704   4210  4              IF ((.TERM_CHAR GEQ %C'A'  AND  .TERM_CHAR LEQ  %C'M')  OR
;2705   4211  4                  (.TERM_CHAR GEQ %C'P'  AND  .TERM_CHAR LEQ  %C'S')  OR
;2706   4212  4                  (.TERM_CHAR GEQ %C'l'  AND  .TERM_CHAR LEQ  %C'y')  OR
;2707   4213  4                  (.TERM_CHAR EQL %X'7E'))
;2708   4214  3              THEN
;2709   4215  4                  BEGIN
;2710   4216  4                  END_OF_TERM = 1 ;                           ! Signal completion
;2711   4217  4                  !+
;2712   4218  4                  !  Have to get rid of a possible status RMS$_TNS, Terminator
;2713   4219  4                  !  Not Seen.  Assume success if we have reached this point.
;2714   4220  4                  !  It is not advisable to overwrite data in the RAB but there
;2715   4221  4                  !  is not way to avoid it in this case.
;2716   4222  4                  !-
;2717   4223  4                  RAB [RAB$L_STS] = RMS$_SUC ;
;2718   4224  3                  END ;
;2719   4225  3
;2720   4226  2              END ;                                           ! End loop
;2721   4227  1      END ;                                                   ! End COB$$PARTIAL_SEQ


                                07FC 00000 COB$$PARTIAL_SEQ:
                                           .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10        ;4087
                          5E               04  C2 00002        SUBL2   #4, SP
                                           5A  D4 00005        CLRL    END_OF_TERM         ;4122
                          52         04    AC  D0 00007        MOVL    PARAMETERS, R2      ;4132
                          57         24    A2  9E 0000B        MOVAB   36(R2), R7
                          53         04    A2  D0 0000F        MOVL    4(R2), PH           ;4139
                  58      1C         A2    67  C1 00013        ADDL3   (R7), 28(R2), PH_PTR ;4146
                          56               01  D0 00018        MOVL    #1, NC_PTR          ;4147
                          54         08    AC  9A 0001B        MOVZBL  UNIT, R4            ;4160
                                           5A  D5 0001F 1$:    TSTL    END_OF_TERM         ;4154
                                           7F  12 00021        BNEQ    10$
                          59       5240    8F  3C 00023        MOVZWL  #21056, FUNC_VAL_2  ;4158
                          55 00000000G0044  D0 00028        MOVL    COB$$AL_WRITE_RAB[R4], RAB ;4160
                                           5E  DD 00030        PUSHL   SP                  ;4161
                                           01  DD 00032        PUSHL   #1
                                     0220  8F  BB 00034        PUSHR   #^M<R5,R9>
                              FDF3   CF    04  FB 00038        CALLS   #4, COB$$RMS_GET
                          50               6E  9A 0003D        MOVZBL  TERM_CHAR, R0       ;4180
                                     30    A2  D5 00040        TSTL    48(R2)              ;4167
                                           13  12 00043        BNEQ    3$
                          01               67  D1 00045        CMPL    (R7), #1            ;4176
                                           05  12 00048        BNEQ    2$
                       FF A843             1B  90 0004A        MOVB    #27, -1(PH_PTR)[PH] ;4178
```

```
                                8843              50  90 0004F 2$:      MOVB    R0, (PH_PTR)+[PH]                       ; 4180
                                     30           A2  D4 00053          CLRL    48(R2)                                  ; 4182
                                                  10  11 00056          BRB     5$                                      ; 4167
                                   01             67  D1 00058 3$:      CMPL    (R7), #1                                ; 4192
                                                  04  12 0005B          BNEQ    4$                                      ;
                             0C    A2             1B  90 0005D          MOVB    #27, 12(R2)                             ; 4194
                             0C A246              50  90 00061 4$:      MOVB    R0, 12(R2)[NC_PTR]                      ; 4196
                                                  56  D6 00066          INCL    NC_PTR                                  ; 4197
                                                  67  D6 00068 5$:      INCL    (R7)                                    ; 4200
                             41    8F             50  91 0006A          CMPB    R0, #65                                 ; 4210
                                                  06  1F 0006E          BLSSU   6$                                      ;
                             4D    8F             50  91 00070          CMPB    R0, #77                                 ;
                                                  1E  1B 00074          BLEQU   9$                                      ;
                             50    8F             50  91 00076 6$:      CMPB    R0, #80                                 ; 4211
                                                  06  1F 0007A          BLSSU   7$                                      ;
                             53    8F             50  91 0007C          CMPB    R0, #83                                 ;
                                                  12  1B 00080          BLEQU   9$                                      ;
                             6C    8F             50  91 00082 7$:      CMPB    R0, #108                                ; 4212
                                                  06  1F 00086          BLSSU   8$                                      ;
                             79    8F             50  91 00088          CMPB    R0, #121                                ;
                                                  06  1B 0008C          BLEQU   9$                                      ;
                             7E    8F             50  91 0008E 8$:      CMPB    R0, #126                                ; 4213
                                                  8B  12 00092          BNEQ    1$                                      ;
                                   5A             01  D0 00094 9$:      MOVL    #1, END_OF_TERM                         ; 4216
                             08    A5 00010001    8F  D0 00097          MOVL    #65537, 8(R4B)                          ; 4223
                                                FF7D  31 0009F          BRW     1$                                      ; 4154
                                                      04 000A2 10$:     RET                                             ; 4227

; Routine Size:  163 bytes,    Routine Base:  _COB$CODE + 0EDF
```

```
;  2723          4228  1 %SBTTL 'COB$$DELETE_KEY - Delete Key processing'
;  2724          4229  1 ROUTINE COB$$DELETE_KEY ( PARAMETERS : REF VECTOR,
;  2725          4230  1                           UNIT       : VECTOR [2,BYTE],
;  2726          4231  1                           FLAGS                        )  :  NOVALUE =
;  2727          4232  1 !++
;  2728          4233  1 ! FUNCTIONAL DESCRIPTION:
;  2729          4234  1 !
;  2730          4235  1 !       Delete Key processing.
;  2731          4236  1 !
;  2732          4237  1 ! FORMAL PARAMETERS:
;  2733          4238  1 !
;  2734          4239  1 !       PARAMETERS.mlu.ra  Contains data for this routine.
;  2735          4240  1 !
;  2736          4241  1 !       UNIT.rbu.va        Array of two unsigned byte integers.
;  2737          4242  1 !                          The first byte is the unit number designating the
;  2738          4243  1 !                          device from which the string is to be read.
;  2739          4244  1 !                          The second byte indicates whether the routine should
;  2740          4245  1 !                          abort or return to the calling program.
;  2741          4246  1 !
;  2742          4247  1 !       FLAGS.rlu.v        Screen enhancement flag.
;  2743          4248  1 !
;  2744          4249  1 ! IMPLICIT INPUTS:
;  2745          4250  1 !
;  2746          4251  1 !       NONE
;  2747          4252  1 !
;  2748          4253  1 ! IMPLICIT OUTPUTS:
;  2749          4254  1 !
;  2750          4255  1 !       NONE
;  2751          4256  1 !
;  2752          4257  1 ! ROUTINE VALUE:
;  2753          4258  1 !
;  2754          4259  1 !
;  2755          4260  1 ! SIDE EFFECTS:
;  2756          4261  1 !
;  2757          4262  1 !       NONE
;  2758          4263  1 !
;  2759          4264  1 !--
;  2760          4265  2     BEGIN
;  2761          4266  2
;  2762          4267  2         LOCAL
;  2763          4268  2             RAB     :  REF $RAB_DECL,
;  2764          4269  2             DELETE_BUF :  VECTOR [3, BYTE],
;  2765          4270  2             CHARS_OK   :  INITIAL (0),                  ! Characters not deleted
;  2766          4271  2             REST_LEN,                                   ! Length yet to be ACCEPTed
;  2767          4272  2                                                         ! after DELETE KEY was hit
;  2768          4273  2             REST_PTR ;                                  ! Where to put rest of
;  2769          4274  2                                                         ! chars on next $GET
;  2770          4275  2 !+
;  2771          4276  2 !  Delete Key processing.  Delete one character at a time.  Delete previous
;  2772          4277  2 !  character typed by backspacing, writing a space to  delete (overwrite)
;  2773          4278  2 !  character, and backspacing again to put cursor in position to continue
;  2774          4279  2 !  ACCEPTing data.
;  2775          4280  2 !  Hitting the DELETE KEY terminated the previous $GET, therefore perform
;  2776          4281  2 !  another $GET to read the rest of the data expected.
;  2777          4282  2 !
;  2778          4283  2 !  Bind PARAMETERS to other names.
;  2779          4284  2 !-
```

```
;  2780          4285  2
;  2781          4286  2      $BIND_PARAMETERS ;
;  2782          4287  2
;  2783          4288  2      IF ( .FLAGS AND V_NO_ECHO ) NEQ 0
;  2784          4289  2      THEN
;  2785          4290  2          !+
;  2786          4291  2          ! If characters were not echoed to terminal there is no need
;  2787          4292  2          ! to move cursor.
;  2788          4293  2          !-
;  2789          4294  3          BEGIN
;  2790          4295  3          DELETE_BUF [0] = NULL ;                         ! null
;  2791          4296  3          DELETE_BUF [1] = NULL ;
;  2792          4297  3          DELETE_BUF [2] = NULL ;
;  2793          4298  3          END
;  2794          4299  2      ELSE
;  2795          4300  3          BEGIN
;  2796          4301  3          DELETE_BUF [0] = BS ;                           ! Backspace
;  2797          4302  3          DELETE_BUF [1] = BLANK ;                        ! Space
;  2798          4303  3          DELETE_BUF [2] = BS ;                           ! Backspace
;  2799          4304  2          END     ;
;  2800          4305  2
;  2801          4306  2          WHILE .TERM_LOC EQL DEL_KEY DO
;  2802          4307  3              BEGIN                                       ! Begin Delete Loop
;  2803          4308  3
;  2804          4309  3              CHARS_READ = (.CHARS_READ - 1) ;    ! Decr # of valid input chars
;  2805          4310  3              CHARS_OK   = .CHARS_READ ;          ! Save for left border check
;  2806          4311  3
;  2807          4312  3              IF .CHARS_READ LSS 0
;  2808          4313  3              THEN CHARS_READ = 0 ;
;  2809          4314  3
;  2810          4315  3              !+
;  2811          4316  3              ! Calculations for $GET
;  2812          4317  3              !-
;  2813          4318  3              REST_LEN   = .ACC_SIZE - .CHARS_READ ;
;  2814          4319  3              REST_PTR   = .PUT_HERE [DSC$A_POINTER] + .CHARS_READ ;
;  2815          4320  3
;  2816          4321  3              !+
;  2817          4322  3              ! Check for too many deletes, do not delete more characters
;  2818          4323  3              ! then were input.  Ring bell to signal attempt to go beyond
;  2819          4324  3              ! left border.
;  2820          4325  3              !-
;  2821          4326  3              IF .CHARS_OK LSS 0
;  2822          4327  3              THEN
;  2823          4328  4                  BEGIN
;  2824          4329  4                  COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
;  2825          4330  4                  END
;  2826          4331  3              ELSE
;  2827          4332  3                  !+
;  2828          4333  3                  ! $PUT to Delete one character.
;  2829          4334  3                  !-
;  2830          4335  3                  COB$$RMS_PUT_BUFFER ( DELETE_BUF [0], 3, .FLAGS ) ;
;  2831          4336  3
;  2832          4337  3              !+
;  2833          4338  3              ! Continue to Read input
;  2834          4339  3              !-
;  2835          4340  3
;  2836          4341  3              RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
```

```
3           COB$$RMS_GET ( .RAB, .FUNC_VAL, .REST_LEN, .REST_PTR ) ;
3
3           !+
3           !  Reset CHARS_READ - Update # of input chars read.
3           !  Reset TERM_SIZE and TERM_LOC - New terminator ( Note: this could
3           !                                           be the DELETE KEY again)
3           !-
3
3           CHARS_READ = .CHARS_READ + .RAB [RAB$W_RSZ] ;
3           TERM_SIZE  = .RAB [COB$$B_STV2_LEN] ;
3           TERM_LOC   = .RAB [COB$$B_STV0_TERM]; ! Terminator location.
3
3           !+
3           ! Check for partial sequence error
3           !-
3
3           IF .RAB [RAB$L_STS] EQL RMS$_PES
3           THEN
3               COB$$PARTIAL_SEQ ( .PARAMETERS, .UNIT ) ;
3
2           END ;                                   ! End Delete Loop
2
2   !+
2   ! Did the latest $GET come across a terminator ?
2   ! If so, set flag used by COB$$ILLEGAL_TERM to signal that the terminator
2   ! was encountered in this routine.
2   !-
2
2       IF .TERM_SIZE NEQ 0 OR .RAB [RAB$L_STS] EQL RMS$_EOF
2       THEN
2           TERM_FROM_DEL = 1 ;
2
1       END ;                                       ! End COB$$DELETE_KEY
```

```
                                     01FC 00000 COB$$DELETE_KEY:
                                                       .WORD   Save R2,R3,R4,R5,R6,R7,R8          ; 4229
                   5E          04  C2 00002            SUBL2   #4, SP                             ;
                               58  D4 00005            CLRL    CHARS_OK                           ; 4265
                   53     04   AC  D0 00007            MOVL    PARAMETERS, R3                     ; 4273
                   55     1C   A3  9E 0000B            MOVAB   28(R3), R5                         ;
      07     0C    AC          09  E1 0000F            BBC     #9, FLAGS, 1$                      ; 4288
                               6E  B4 00014            CLRW    DELETE_BUF                         ; 4295
                          02   AE  94 00016            CLRB    DELETE_BUF+2                       ; 4297
                               09  11 00019            BRB     2$                                 ; 4288
                   6E   2008   8F  B0 0001B 1$:        MOVW    #8200, DELETE_BUF                  ; 4301
             02    AE          08  90 00020            MOVB    #8, DELETE_BUF+2                   ; 4303
                   54     08   AC  9A 00024 2$:        MOVZBL  UNIT, R4                           ; 4341
       0000007F    8F     28   A3  D1 00028 3$:        CMPL    40(R3), #127                       ; 4306
                               6F  12 00030            BNEQ    7$                                 ;
                               65  D7 00032            DECL    (R5)                               ; 4309
                   58          65  D0 00034            MOVL    (R5), CHARS_OK                     ; 4310
                               02  18 00037            BGEQ    4$                                 ; 4312
                               65  D4 00039            CLRL    (R5)                               ; 4313
```

```
                                57       18    A3  3C 0003B 4$:     MOVZWL  24(R3), REST_LEN                        ; 4318
                                57             65  C2 0003F         SUBL2   (R5), REST_LEN                          ;
                          56       04    A3        65  C1 00042     ADDL3   (R5), 4(R3), REST_PTR                   ; 4319
                                               58  D5 00047         TSTL    CHARS_OK                                ; 4326
                                               0C  18 00049         BGEQ    5$                                      ;
                                         0C    AC  DD 0004B         PUSHL   FLAGS                                   ; 4329
                                               02  DD 0004E         PUSHL   #2                                      ;
                                   FDD9  CF          02  FB 00050     CALLS   #2, COB$$RMS_PUT_BYTE                   ;
                                               0D  11 00055         BRB     6$                                      ; 4326
                                         0C    AC  DD 00057 5$:     PUSHL   FLAGS                                   ; 4335
                                               03  DD 0005A         PUSHL   #3                                      ;
                                         08    AE  9F 0005C         PUSHAB  DELETE_BUF                              ;
                                   FE5C  CF          03  FB 0005F     CALLS   #3, COB$$RMS_PUT_BUFFER                 ;
                                52 00000000G0044    D0 00064 6$:     MOVL    COB$$AL_WRITE_RAB[R4], RAB              ; 4341
                                               56  DD 0006C         PUSHL   REST_PTR                                ; 4342
                                               57  DD 0006E         PUSHL   REST_LEN                                ;
                                         20    A3  DD 00070         PUSHL   32(R3)                                  ;
                                               52  DD 00073         PUSHL   RAB                                     ;
                                   FD13  CF          04  FB 00075     CALLS   #4, COB$$RMS_GET                        ;
                                50       22    A2  3C 0007A         MOVZWL  34(RAB), R0                             ; 4350
                                65             50  C0 0007E         ADDL2   R0, (R5)                                ;
                                   24    A3        0E  A2 9A 00081     MOVZBL  14(RAB), 36(R3)                         ; 4351
                                   28    A3        0C  A2 9A 00086     MOVZBL  12(RAB), 40(R3)                         ; 4352
                          000181C8   8F          08  A2  D1 0008B     CMPL    8(RAB), #98760                          ; 4358
                                               93  12 00093         BNEQ    3$                                      ;
                                         08    AC  DD 00095         PUSHL   UNIT                                    ; 4360
                                               53  DD 00098         PUSHL   R3                                      ;
                                   FEBE  CF          02  FB 0009A     CALLS   #2, COB$$PARTIAL_SEQ                    ;
                                               87  11 0009F         BRB     3$                                      ; 4306
                                         24    A3  D5 000A1 7$:     TSTL    36(R3)                                  ; 4370
                                               0A  12 000A4         BNEQ    8$                                      ;
                          0001827A   8F          08  A2  D1 000A6     CMPL    8(RAB), #98938                          ;
                                               04  12 000AE         BNEQ    9$                                      ;
                                34    A3              01  D0 000B0 8$:     MOVL    #1, 52(R3)                      ; 4372
                                                   04  000B4 9$:     RET                                             ; 4374

; Routine Size:  181 bytes,    Routine Base:  _COB$CODE + 0F82
```

```
;2871   4375  1 %SBTTL 'COB$$ILLEGAL_TERM - Illegal Terminator'
;2872   4376  1 ROUTINE COB$$ILLEGAL_TERM ( PARAMETERS : REF VECTOR,
;2873   4377  1                            UNIT       : VECTOR [2,BYTE],
;2874   4378  1                            FLAGS,
;2875   4379  1                            KEY        : REF $STR$DESCRIPTOR )  :  NOVALUE =
;2876   4380  1 !++
;2877   4381  1 ! FUNCTIONAL DESCRIPTION:
;2878   4382  1 !
;2879   4383  1 !       Terminator from previous $GET was illegal - ring terminal bell to
;2880   4384  1 !       signal this.  Perform another $GET of length 1 to look for another
;2881   4385  1 !       terminator.  Verify this new terminator.
;2882   4386  1 !
;2883   4387  1 ! FORMAL PARAMETERS:
;2884   4388  1 !
;2885   4389  1 !       PARAMETERS.mlu.ra  Contains data for this routine.
;2886   4390  1 !
;2887   4391  1 !       UNIT.rbu.va        Array of two unsigned byte integers.
;2888   4392  1 !                          The first byte is the unit number designating the
;2889   4393  1 !                          device from which the string is to be read.
;2890   4394  1 !                          The second byte indicates whether the routine should
;2891   4395  1 !                          abort or return to the calling program.
;2892   4396  1 !
;2893   4397  1 !       FLAGS.rlu.v        Screen enhancement flag.
;2894   4398  1 !
;2895   4399  1 !       KEY.wt.ds          Destination of the receiving field of the control key.
;2896   4400  1 !
;2897   4401  1 ! IMPLICIT INPUTS:
;2898   4402  1 !
;2899   4403  1 !       NONE
;2900   4404  1 !
;2901   4405  1 ! IMPLICIT OUTPUTS:
;2902   4406  1 !
;2903   4407  1 !       NONE
;2904   4408  1 !
;2905   4409  1 ! ROUTINE VALUE:
;2906   4410  1 !
;2907   4411  1 !
;2908   4412  1 ! SIDE EFFECTS:
;2909   4413  1 !
;2910   4414  1 !       NONE
;2911   4415  1 !
;2912   4416  1 !--
;2913   4417  2     BEGIN
;2914   4418  2         LOCAL
;2915   4419  2             RAB :  REF $RAB_DECL,
;2916   4420  2             FUNC_VAL_2,                                  ! QIO Function Modifiers
;2917   4421  2             NO_BELL            :  INITIAL (0),           ! =0 ring bell, =1 don't
;2918   4422  2             LOOK_FOR_TERM      :  INITIAL (0),           ! =1 buffer full, $GET
;2919   4423  2                                                          ! only for a terminator
;2920   4424  2             REST_LEN,                                    ! Length yet to be input
;2921   4425  2             REST_PTR ;                                   ! Where to put rest of
;2922   4426  2                                                          ! input data
;2923   4427  2 !+
;2924   4428  2 ! Bind PARAMETERS to other names.
;2925   4429  2 !-
;2926   4430  2
;2927   4431  2     $BIND_PARAMETERS ;
```

```
; 2928          4432  2
; 2929          4433  2 !+
; 2930          4434  2 !  Note :  If COB$$DELETE_KEY was called before this routine some
; 2931          4435  2 !  special handling is necessary.
; 2932          4436  2 !         It is possible a previous call to COB$$DELETE_KEY would have
; 2933          4437  2 !         filled the input buffer without coming across a terminator.
; 2934          4438  2 !         When the input buffer is ful. - look for terminator only.
; 2935          4439  2 !
; 2936          4440  2 !         It is also possible that COB$$DELETE_KEY came across a terminator,
; 2937          4441  2 !         therefore it is only necessary to verify the terminator not
; 2938          4442  2 !         perform another $GET.  This is flagged by TERM_FROM_DEL = 1.
; 2939          4443  2 !-
; 2940          4444  2
; 2941          4445  2     WHILE .LEGAL EQL 0 DO
; 2942          4446  3         BEGIN                                           ! Begin Term Loop
; 2943          4447  3         IF .NO_BELL EQL 0 AND .TERM_FROM_DEL EQL 0      ! NO_BELL is set in
; 2944          4448  3         THEN                                            ! $VERIFY_TERMINATOR
; 2945          4449  3             !+
; 2946          4450  3             !  Ring bell to signal illegal terminator.
; 2947          4451  3             !  Don't ring bell if processing the Delete key, or if the
; 2948          4452  3             !  terminator has come from COB$$DELETE_KEY (wait for
; 2949          4453  3             !  $VERIFY_TERMINATOR to check terminator).
; 2950          4454  3             !-
; 2951          4455  4             BEGIN
; 2952          4456  4             COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
; 2953          4457  4             END
; 2954          4458  3         ELSE                                            ! Reset - next time
; 2955          4459  3             NO_BELL = 0 ;                               ! ring bell
; 2956          4460  3         !+
; 2957          4461  3         !  Is there still data yet to be input ?
; 2958          4462  3         !-
; 2959          4463  3
; 2960          4464  3         IF .TERM_FROM_DEL EQL 0
; 2961          4465  3         THEN
; 2962          4466  4             BEGIN                                       ! Begin TERM_FROM_DEL=0
; 2963          4467  4
; 2964          4468  4             IF .ACC_SIZE GTR .CHARS_READ
; 2965          4469  4             THEN
; 2966          4470  5                 BEGIN
; 2967          4471  5
; 2968          4472  5                 !+
; 2969          4473  5                 !  Calculations for $GET.
; 2970          4474  5                 !-
; 2971          4475  5                 REST_LEN   = .ACC_SIZE - .CHARS_READ ;
; 2972          4476  5                 REST_PTR   = .PUT_HERE [DSC$A_POINTER] + .CHARS_READ ;
; 2973          4477  5
; 2974          4478  5                 !+
; 2975          4479  5                 !  NEVER do a Read of 0 length, this causes an infinite loop
; 2976          4480  5                 !  of bell ringing.
; 2977          4481  5                 !-
; 2978          4482  5                 IF .REST_LEN EQL 0 THEN REST_LEN = 1 ;
; 2979          4483  5
; 2980          4484  5                 RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
; 2981          4485  5                 COB$$RMS_GET ( .RAB, .FUNC_VAL, .REST_LEN, .REST_PTR ) ;
; 2982          4486  5
; 2983          4487  5                 !+
; 2984          4488  5                 !  Update CHARS_READ, TERM_SIZE and TERM_LOC.
```

```
;  2985          4489  5                 !-
;  2986          4490  5
;  2987          4491  5                 CHARS_READ = .CHARS_READ + .RAB [RAB$W_RSZ] ;
;  2988          4492  5                 TERM_SIZE  = .RAB [COB$$B_STV2_LEN] ;
;  2989          4493  5                 TERM_LOC   = .RAB [COB$$B_STVC_TERM] ;
;  2990          4494  5
;  2991          4495  4                 END ;
;  2992          4496  4
;  2993          4497  4             !+
;  2994          4498  4             !  $GET buffer filled but no terminator seen - TERM_SIZE = 0
;  2995          4499  4             !  Do 1 character reads until you hit a terminator that
;  2996          4500  4             !  you can then attempt to verify.
;  2997          4501  4             !  Also trap an End of File ^Z here and do not perform
;  2998          4502  4             !  another $GET, $VERIFY_TERMINATOR will take care of the ^Z.
;  2999          4503  4             !  .LOOK_FOR_TERM EQL 1 case -> came into this routine with
;  3000          4504  4             !  $GET buffer filled but illegal terminator, therefore
;  3001          4505  4             !  we are looking only for a terminator.
;  3002          4506  4             !-
;  3003          4507  4
;  3004          4508  4             IF .ACC_SIZE EQL .CHARS_READ
;  3005          4509  4             THEN LOOK_FOR_TERM = 1 ;
;  3006          4510  5             WHILE (.TERM_SIZE EQL 0 AND .RAB [RAB$L_STS] NEQ RMS$_EOF)
;  3007          4511  4                   OR (.LOOK_FOR_TERM EQL 1 ) DO
;  3008          4512  4
;  3009          4513  5                 BEGIN                                   ! Begin 1 char $GET
;  3010          4514  5                 REST_PTR   = .PUT_HERE [DSC$A_POINTER] + .CHARS_READ ;
;  3011          4515  5
;  3012          4516  5                 FUNC_VAL_2 = TRM$M_TM_ESCAPE + TRM$M_TM_NOFILTR
;  3013          4517  5                                + TRM$M_TM_TRMNOECHO + TRM$M_TM_NOECHO ;
;  3014          4518  5
;  3015          4519  5                 RAB = .COB$$AL_WRITE_RAB [ .UNIT[0] ] ;
;  3016          4520  5                 COB$$RMS_GET ( .RAB, .FUNC_VAL_2, 1, .REST_PTR ) ;
;  3017          4521  5
;  3018          4522  5                 !+
;  3019          4523  5                 !  Set TERM_SIZE and TERM_IN_NEXT before possible
;  3020          4524  5                 !  call to COB$$PARTIAL_SEQ.
;  3021          4525  5                 !  If user attempts to input data other than a
;  3022          4526  5                 !  terminator - error.
;  3023          4527  5                 !-
;  3024          4528  5
;  3025          4529  5                 IF .RAB [RAB$W_RSZ] NEQ 0
;  3026          4530  5                 THEN
;  3027          4531  6                     BEGIN
;  3028          4532  6                     COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;   ! Error.
;  3029          4533  6                     TERM_SIZE = 0 ;
;  3030          4534  6                     END
;  3031          4535  5                 ELSE                                    ! Terminator seen.
;  3032          4536  5                     IF .RAB [RAB$L_STS] EQL RMS$_EOF
;  3033          4537  5                     THEN
;  3034          4538  5                         !+
;  3035          4539  5                         !  NOTE:  When Control Z is typed in as the only
;  3036          4540  5                         !  input to a $GET it is not recorded in
;  3037          4541  5                         !  RAB [COB$$B_STV2_LEN] therefore, pull out of
;  3038          4542  5                         !  loop and let $VERIFY_TERMINATOR handle the ^Z,
;  3039          4543  5                         !  but first you have to load the ^Z in
;  3040          4544  5                         !  RAB [COB$$B_STV2_LEN]  as this is where
;  3041          4545  5                         !  $VERIFY_TERMINATOR looks for it.
```

```
;  3042          4546  5                        !-
;  3043          4547  6                        BEGIN
;  3044          4548  6                        TERM_SIZE = 1 ;
;  3045          4549  6                        RAB [COB$$B_STV0_TERM] = CZ ;
;  3046          4550  6                        LOOK_FOR_TERM = 0 ;             ! Set to get out of loop
;  3047          4551  6                        END
;  3048          4552  5                    ELSE
;  3049          4553  6                        BEGIN
;  3050          4554  6                        LOOK_FOR_TERM = 0 ;             ! Set to get out of loop
;  3051          4555  6                        TERM_SIZE = .RAB [COB$$B_STV2_LEN] ;
;  3052          4556  6                        TERM_LOC  = .RAB [COB$$B_STV0_TERM] ;
;  3053          4557  5                        END ;
;  3054          4558  4                END ;                                   ! End 1 char $GET
;  3055          4559  4
;  3056          4560  4            !+
;  3057          4561  4            ! Check for partial sequence error
;  3058          4562  4            !-
;  3059          4563  4
;  3060          4564  4            IF .RAB [RAB$L_STS] EQL RMS$_PES
;  3061          4565  4            THEN
;  3062          4566  4                COB$$PARTIAL_SEQ ( .PARAMETERS, .UNIT ) ;
;  3063          4567  4
;  3064          4568  3            END ;                                       ! End TERM_FROM_DEL=0
;  3065          4569  3
;  3066          4570  3        !+
;  3067          4571  3        ! Now have a Terminator in PUT_HERE.  Reset flags.  Call
;  3068          4572  3        ! macro to verify Terminator.
;  3069          4573  3        !-
;  3070          4574  3
;  3071          4575  3        TERM_PTR = .PUT_HERE [DSC$A_POINTER] + .CHARS_READ ;
;  3072          4576  3        TERM_FROM_DEL = 0 ;
;  3073          4577  3        TERM_IN_NEXT = 0 ;
;  3074          4578  3        $VERIFY_TERMINATOR ;
;  3075          4579  3
;  3076          4580  2            END ;                                       ! End Term Loop
;  3077          4581  2
;  3078          4582  1    END ;                                               ! End COB$$ILLEGAL_TERM


                                 0FFC 00000 COB$$ILLEGAL_TERM:
                                                .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11    ; 4376
                      5E                  04    C2 00002          SUBL2   #4, SP                  ;
                                          5A    7C 00005          CLRQ    LOOK_FOR_TERM           ; 4417
                      52        04        AC    D0 00007          MOVL    PARAMETERS, R2          ; 4425
                      56        1C        A2    9E 0000B          MOVAB   28(R2), R6              ;
                      55        24        A2    9E 0000F          MOVAB   36(R2), R5              ;
                      57        38        A2    9E 00013          MOVAB   56(R2), R7              ;
                                          67    D5 00017 1$:      TSTL    (R7)                    ; 4445
                                          01    13 00019          BEQL    2$                      ;
                                                04 0001B          RET                             ;
                                          5B    D5 0001C 2$:      TSTL    NO_BELL                 ; 4447
                                          11    12 0001E          BNEQ    3$                      ;
                                    34    A2    D5 00020          TSTL    52(R2)                  ;
                                          0C    12 00023          BNEQ    3$                      ;
```

```
                                                0C   AC   DD 00025          PUSHL   FLAGS                                          ; 4456
                                                     02   DD 00028          PUSHL   #2
                                          FD4A   CF       02   FB 0002A          CALLS   #2, COB$$RMS_PUT_BYTE
                                                     02   11 0002F          BRB     4$                                             ; 4447
                                                     5B   D4 00031 3$:       CLRL    NO_BELL                                        ; 4459
                                                34   A2   D5 00033 4$:       TSTL    52(R2)                                         ; 4464
                                                     03   13 00036          BEQL    5$
                                                   00CE   31 00038          BRW     15$
                66       18   A2                 10       00   ED 0003B 5$:       CMPZV   #0, #16, 24(R2), (R6)                  ; 4468
                                                     3D   15 00041          BLEQ    7$
                                                59   18   A2   3C 00043          MOVZWL  24(R2), REST_LEN                       ; 4475
                                                59        66   C2 00047          SUBL2   (R6), REST_LEN
                                          58   04   A2        66   C1 0004A          ADDL3   (R6), 4(R2), REST_PTR                  ; 4476
                                                     59   D5 0004F          TSTL    REST_LEN                                       ; 4482
                                                     03   12 00051          BNEQ    6$
                                                59        01   D0 00053          MOVL    #1, REST_LEN
                                                50   08   AC   9A 00056 6$:       MOVZBL  UNIT, R0                               ; 4484
                                                53 00000000G0040  D0 0005A          MOVL    COB$$AL_WRITE_RAB[R0], RAB
                                                     58   DD 00062          PUSHL   REST_PTR                                       ; 4485
                                                     59   DD 00064          PUSHL   REST_LEN
                                                20   A2   DD 00066          PUSHL   32(R2)
                                                     53   DD 00069          PUSHL   RAB
                                          FC68   CF       04   FB 0006B          CALLS   #4, COB$$RMS_GET
                                                50   22   A3   3C 00070          MOVZWL  34(RAB), R0                            ; 4491
                                                66        5C   C0 00074          ADDL2   R0, (R6)
                                                65   0E   A3   9A 00077          MOVZBL  14(RAB), (R5)                          ; 4492
                                                28   A2   0C   A3   9A 0007B          MOVZBL  12(RAB), 40(R2)                        ; 4493
                66       18   A2                 10       00   ED 00080 7$:       CMPZV   #0, #16, 24(R2), (R6)                  ; 4508
                                                     03   12 00086          BNEQ    8$
                                                5A        01   D0 00088          MOVL    #1, LOOK_FOR_TERM                      ; 4509
                                                54   08   AC   9A 0008B 8$:       MOVZBL  UNIT, R4                               ; 4519
                                                     65   D5 0008F 9$:       TSTL    (R5)                                           ; 4510
                                                     0A   12 00091          BNEQ    10$
                                     0001827A   8F   08   A3   D1 00093          CMPL    8(RAB), #98938
                                                     05   12 00098          BNEQ    11$
                                                01        5A   D1 0009D 10$:      CMPL    LOOK_FOR_TERM, #1                      ; 4511
                                                     53   12 000A0          BNEQ    14$
                                          58   04   A2        66   C1 000A2 11$:      ADDL3   (R6), 4(R2), REST_PTR                  ; 4514
                                                6E        5240   8F   3C 000A7          MOVZWL  #21056, FUNC_VAL_2                     ; 4517
                                                53 00000000G0044  D0 000AC          MOVL    COB$$AL_WRITE_RAB[R4], RAB             ; 4519
                                                     58   DD 000B4          PUSHL   REST_PTR                                       ; 4520
                                                     01   DD 000B6          PUSHL   #1
                                                08   AE   DD 000B8          PUSHL   FUNC_VAL_2
                                                     53   DD 000BB          PUSHL   RAB
                                          FC16   CF       04   FB 000BD          CALLS   #4, COB$$RMS_GET
                                                22   A3   B5 000C2          TSTW    34(RAB)                                        ; 4529
                                                     0E   13 000C5          BEQL    12$
                                                0C   AC   DD 000C7          PUSHL   FLAGS                                          ; 4532
                                                     02   DD 000CA          PUSHL   #2
                                          FCA8   CF       02   FB 000CC          CALLS   #2, COB$$RMS_PUT_BYTE
                                                     65   D4 000D1          CLRL    (R5)                                           ; 4533
                                                     BA   11 000D3          BRB     9$                                             ; 4529
                                                     5A   D4 000D5 12$:      CLRL    LOOK_FOR_TERM                                  ; 4550
                                     0001827A   8F   08   A3   D1 000D7          CMPL    8(RAB), #98938                         ; 4536
                                                     09   12 000DF          BNEQ    13$
                                                65        01   D0 000E1          MOVL    #1, (R5)                               ; 4548
                                                0C   A3        1A   90 000E4          MOVB    #26, 12(RAB)                           ; 4549
```

```
                              A5  11 000E8        BRB     9$                          ; 4536
              65       0E     A3  9A 000EA 13$:   MOVZBL  14(RAB), (R5)               ; 4555
         28   A2       0C     A3  9A 000EE        MOVZBL  12(RAB), 40(R2)             ; 4556
                              9A  11 000F3        BRB     9$                          ; 4510
   000181C8   8F       08     A3  D1 000F5 14$:   CMPL    8(RAB), #98760              ; 4564
                              0A  12 000FD        BNEQ    15$                         ;
                       08     AC  DD 000FF        PUSHL   UNIT                        ; 4566
                              52  DD 00102        PUSHL   R2                          ;
       FD9F   CF              02  FB 00104        CALLS   #2, COB$$PARTIAL_SEQ        ;
2C  A2   04   A2              66  C1 00109 15$:   ADDL3   (R6), 4(R2), 44(R2)         ; 4575
                       30     A2  7C 0010F        CLRQ    48(R2)                      ; 4577
              01              65  D1 00112        CMPL    (R5), #1                    ;
                              3B  12 00115        BNEQ    18$                         ;
         2C   A2       0C     A3  9E 00117        MOVAB   12(RAB), 44(R2)             ;
              51       0C     A3  9A 0011C        MOVZBL  12(RAB), R1                 ;
              09              51  91 00120        CMPB    R1, #9                      ;
                              05  13 00123        BEQL    16$                         ;
              0D              51  91 00125        CMPB    R1, #13                     ;
                              0D  12 00128        BNEQ    17$                         ;
              50       10     AC  D0 0012A 16$:   MOVL    KEY, R0                     ;
                              62  13 0012E        BEQL    21$                         ;
         04   B0       2C     B2  90 00130        MOVB    @44(R2), @4(R0)             ;
                              5B  11 00135        BRB     21$                         ;
              1A              51  91 00137 17$:   CMPB    R1, #26                     ;
                              24  13 0013A        BEQL    19$                         ;
         7F   8F              51  91 0013C        CMPB    R1, #127                    ;
                              55  12 00140        BNEQ    22$                         ;
              7E       08     AC  7D 00142        MOVQ    UNIT, -(SP)                 ;
                              52  DD 00146        PUSHL   R2                          ;
       FDFE   CF              03  FB 00148        CALLS   #3, COB$$DELETE_KEY         ;
              5B              01  D0 0014D        MOVL    #1, NO_BELL                 ;
                              49  11 00150        BRB     23$                         ;
                              66  D5 00152 18$:   TSTL    (R6)                        ;
                              25  12 00154        BNEQ    20$                         ;
   0001827A   8F       08     A3  D1 00156        CMPL    8(RAB), #98938              ;
                              1B  12 0015E        BNEQ    20$                         ;
    32   0C   AC              0B  E0 00160 19$:   BBS     #11, FLAGS, 22$             ;
                       0C     AC  DD 00165        PUSHL   FLAGS                       ;
                              52  DD 00168        PUSHL   R2                          ;
      0000V   CF              02  FB 0016A        CALLS   #2, COB$$CLEAN_UP           ;
                       10     AC  DD 0016F        PUSHL   KEY                         ;
                       08     AC  DD 00172        PUSHL   UNIT                        ;
       FD05   CF              02  FB 00175        CALLS   #2, COB$$CONTROL_Z          ;
                                  04 0017A        RET                                 ;
                       10     AC  D5 0017B 20$:   TSTL    KEY                         ;
                              17  13 0017E        BEQL    22$                         ;
                       10     AC  DD 00180        PUSHL   KEY                         ;
                              65  DD 00183        PUSHL   (R5)                        ;
                       2C     A2  9F 00185        PUSHAB  44(R2)                      ;
  00000000G   00              03  FB 00188        CALLS   #3, COB$$CONTROL_KEY        ;
              05              50  E9 0018F        BLBC    R0, 22$                     ;
              67              01  D0 00192 21$:   MOVL    #1, (R7)                    ;
                              04  11 00195        BRB     23$                         ;
                              67  D4 00197 22$:   CLRL    (R7)                        ;
                              65  D4 00199        CLRL    (R5)                        ;
                            FE79  31 0019B 23$:   BRW     1$                          ; 4445
                                  04 0019E        RET                                 ; 4582
```

; Routine Size: 415 bytes,   Routine Base: _COBSCODE + 1037

```
;3080          4583  1 %SBTTL 'COB$$CLEAN_UP - Clean up for VAX COBOL'
;3081          4584  1 ROUTINE COB$$CLEAN_UP ( PARAMETERS : REF VECTOR,
;3082          4585  1                         FLAGS
;3083          4586  1                       ) : NOVALUE =
;3084          4587  1 !++
;3085          4588  1 ! FUNCTIONAL DESCRIPTION:
;3086          4589  1 !
;3087          4590  1 !       Perform clean up before returning control to VAX COBOL.
;3088          4591  1 !       Position cursor after FIELD of POTECTED ACCEPT, $PUT to turn
;3089          4592  1 !       attributes off, and determine if ADVANCING is needed.
;3090          4593  1 !
;3091          4594  1 ! FORMAL PARAMETERS:
;3092          4595  1 !
;3093          4596  1 !       PARAMETERS.mlu.ra  Contains data for this routine.
;3094          4597  1 !
;3095          4598  1 !       FLAGS.rlu.v        Screen enhancement flag.
;3096          4599  1 !
;3097          4600  1 ! IMPLICIT INPUTS:
;3098          4601  1 !
;3099          4602  1 !       NONE
;3100          4603  1 !
;3101          4604  1 ! IMPLICIT OUTPUTS:
;3102          4605  1 !
;3103          4606  1 !       NONE
;3104          4607  1 !
;3105          4608  1 ! ROUTINE VALUE:
;3106          4609  1 !
;3107          4610  1 !
;3108          4611  1 ! SIDE EFFECTS:
;3109          4612  1 !
;3110          4613  1 !       NONE
;3111          4614  1 !--
;3112          4615  2     BEGIN
;3113          4616  2         LOCAL
;3114          4617  2             RAB  :  REF $RAB_DECL ;
;3115          4618  2
;3116          4619  2     !+
;3117          4620  2     ! Bind PARAMETERS to other names.
;3118          4621  2     !-
;3119          4622  2
;3120          4623  2     $BIND_PARAMETERS ;
;3121          4624  2
;3122          4625  2     !+
;3123          4626  2     ! Position cursor after FIELD of POTECTED Read.
;3124          4627  2     ! This code is necessary if the # of characters input is less than
;3125          4628  2     ! the # of characters expected.  Move cursor the difference of the
;3126          4629  2     ! two numbers.
;3127          4630  2     ! If DEFAULT has been used move cursor the whole length of the expected
;3128          4631  2     ! size.
;3129          4632  2     !-
;3130          4633  2
;3131          4634  2     IF .YES_PROTECT
;3132          4635  2     THEN
;3133          4636  3         BEGIN
;3134          4637  3             LOCAL
;3135          4638  3                 MOVE_CURSOR  :  INITIAL (0),          !  Flag
;3136          4639  3                 MOVE_NUM ;                            !  # of positions to
```

```
;  3137          4640  3                                                   !  move cursor
;  3138          4641  3          IF .YES_DEFAULT NEQ 0
;  3139          4642  3          THEN
;  3140          4643  4              BEGIN
;  3141          4644  4              MOVE_NUM = .ACC_SIZE ;                .  DEFAULT used
;  3142          4645  4              MOVE_CURSOR = 1 ;
;  3143          4646  4              END
;  3144          4647  3          ELSE
;  3145          4648  3              IF .CHARS_READ LSS .ACC_SIZE          !  # of chars input is
;  3146          4649  3              THEN                                  !  less than expected
;  3147          4650  4                  BEGIN
;  3148          4651  4                  MOVE_NUM = .ACC_SIZE - .CHARS_READ ;
;  3149          4652  4                  MOVE_CURSOR = 1 ;
;  3150          4653  3                  END ;
;  3151          4654  3
;  3152          4655  3          IF .MOVE_CURSOR NEQ 0
;  3153          4656  3          THEN
;  3154          4657  4              BEGIN
;  3155          4658  4                  LOCAL
;  3156          4659  4                      SPACE_BUF : VECTOR [200,BYTE] ;
;  3157          4660  4
;  3158          4661  4                  CH$FILL ( BLANK, .MOVE_NUM, SPACE_BUF [0] ) ; ! # of spaces to move
;  3159          4662  4                  COB$$RMS_PUT_BUFFER ( SPACE_BUF [0], .MOVE_NUM, .FLAGS ) ;  ! cursor
;  3160          4663  3                  END ;
;  3161          4664  2      END ;
;  3162          4665  2
;  3163          4666  2      !+
;  3164          4667  2      !  $PUT to turn attributes off.
;  3165          4668  2      !  If no attributes were turned on, there is no need to turn them off.
;  3166          4669  2      !  OFF_BUF holds escape sequence to turn attributes off.  OFF_LEN holds
;  3167          4670  2      !  the length of that sequence.
;  3168          4671  2      !-
;  3169          4672  2
;  3170          4673  2      IF .PUT_FLAG NEQ 0
;  3171          4674  2      THEN
;  3172          4675  2          COB$$RMS_PUT_BUFFER ( OFF_BUF [0], .OFF_LEN, .FLAGS ) ;
;  3173          4676  2
;  3174          4677  2      !+
;  3175          4678  2      !  Determine if ADVANCING is requested.
;  3176          4679  2      !  If bit 10 = 0 advancing.  If bit 10 = 1 no advancing.
;  3177          4680  2      !  Set COB$$AB_PREV[0] - also depending on bit 10, to flag to next COBOL
;  3178          4681  2      !  statement that advancing/no advancing is required following this
;  3179          4682  2      !  ACCEPT statement.
;  3180          4683  2      !-
;  3181          4684  2
;  3182          4685  2      IF (.FLAGS AND V_ADV) NEQ 0
;  3183          4686  2      THEN
;  3184          4687  2          COB$$AB_PREV[0] = ACC_DNA                         ! Signal Do Not Advance
;  3185          4688  2      ELSE
;  3186          4689  2          !+
;  3187          4690  2          !  Echo carriage return to screen if advancing is called for.
;  3188          4691  2          !-
;  3189          4692  3          BEGIN
;  3190          4693  3          COB$$RMS_PUT_BYTE ( CARR_RET, .FLAGS ) ;
;  3191          4694  3          COB$$AB_PREV[0] = ACC_ADV ;                       ! Signal ADVance
;  3192          4695  2          END ;
;  3193          4696  1      END ;                                               ! End of COB$$CLEAN_UP
```

```
                                                01FC 00000 COB$$CLEAN_UP:
                                                           .WORD   Save R2,R3,R4,R5,R6,R7,R8                       ; 4384
                                58 00000000G    00  9E 00002       MOVAB   COB$$AB_PREV, R8                        ;
                                5E       FF38   CE  9E 00009       MOVAB   -200(SP), SP                            ;
                                56         04   AC  D0 0000E       MOVL    PARAMETERS, R6                          ; 4617
                                38         3C   A6  E9 00012       BLBC    60(R6), 4$                              ; 4634
                                                50  D4 00016       CLRL    MOVE_CURSOR                             ; 4636
                                           40   A6  D5 00018       TSTL    64(R6)                                  ; 4641
                                                06  13 0001B       BEQL    1$                                      ;
                                57         18   A6  3C 0001D       MOVZWL  24(R6), MOVE_NUM                        ; 4644
                                                11  11 00021       BRB     2$                                      ; 4645
    1C  A6      18  A6          10              00  ED 00023 1$:    CMPZV   #0, #16, 24(R6), 28(R6)                 ; 4648
                                                0B  15 0002A       BLEQ    3$                                      ;
                                57         18   A6  3C 0002C       MOVZWL  24(R6), MOVE_NUM                        ; 4651
                                57         1C   A6  C2 00030       SUBL2   28(R6), MOVE_NUM                        ;
                                50              01  D0 00034 2$:    MOVL    #1, MOVE_CURSOR                         ; 4652
                                                50  D5 00037 3$:    TSTL    MOVE_CURSOR                             ; 4655
                                                13  13 00039       BEQL    4$                                      ;
        57          20          6E              00  2C 0003B       MOVC5   #0, (SP), #32, MOVE_NUM, SPACE_BUF      ; 4661
                                                6E      00040                                                       ;
                                           08   AC  DD 00041       PUSHL   FLAGS                                   ; 4662
                                           57   DD 00044           PUSHL   MOVE_NUM                                ;
                                           08   AE  9F 00046       PUSHAB  SPACE_BUF                               ;
                                FC1E       CF   03  FB 00049       CALLS   #3, COB$$RMS_PUT_BUFFER                 ;
                                           44   A6  D5 0004E 4$:    TSTL    68(R6)                                  ; 4673
                                                0E  13 00051       BEQL    5$                                      ;
                                           08   AC  DD 00053       PUSHL   FLAGS                                   ; 4675
                                           54   A6  DD 00056       PUSHL   84(R6)                                  ;
                                           48   A6  9F 00059       PUSHAB  72(R6)                                  ;
                                FC0B       CF   03  FB 0005C       CALLS   #3, COB$$RMS_PUT_BUFFER                 ;
                    04            08       AC  0A  E1 00061 5$:    BBC     #10, FLAGS, 6$                          ; 4685
                                           68   05  90 00066       MOVB    #5, COB$$AB_PREV                        ; 4687
                                                04  00069       RET                                             ;
                                           08   AC  DD 0006A 6$:    PUSHL   FLAGS                                   ; 4693
                                                7E  D4 0006D       CLRL    -(SP)                                   ;
                                FB66       CF   02  FB 0006F       CALLS   #2, COB$$RMS_PUT_BYTE                   ;
                                           68   04  90 00074       MOVB    #4, COB$$AB_PREV                        ; 4694
                                                04  00077       RET                                             ; 4696

; Routine Size:  120 bytes,    Routine Base:  _COB$CODE + 11D6
```

```
;  3195          4697  1 %SBTTL 'COB$$RPG_CLEAN_UP - Clean up for VAX RPG'
;  3196          4698  1 ROUTINE COB$$RPG_CLEAN_UP ( FLAGS )  :  NOVALUE =
;  3197          4699  1 !++
;  3198          4700  1 ! FUNCTIONAL DESCRIPTION:
;  3199          4701  1 !
;  3200          4702  1 !       Perform clean up before returning control to VAX RPG.
;  3201          4703  1 !
;  3202          4704  1 ! FORMAL PARAMETERS:
;  3203          4705  1 !
;  3204          4706  1 !       FLAGS.rlu.v     Screen enhancement flag.
;  3205          4707  1 !
;  3206          4708  1 ! IMPLICIT INPUTS:
;  3207          4709  1 !
;  3208          4710  1 !       NONE
;  3209          4711  1 !
;  3210          4712  1 ! IMPLICIT OUTPUTS:
;  3211          4713  1 !
;  3212          4714  1 !       NONE
;  3213          4715  1 !
;  3214          4716  1 ! ROUTINE VALUE:
;  3215          4717  1 !
;  3216          4718  1 !
;  3217          4719  1 ! SIDE EFFECTS:
;  3218          4720  1 !
;  3219          4721  1 !       NONE
;  3220          4722  1 !
;  3221          4723  1 !--
;  3222          4724  2     BEGIN
;  3223          4725  2
;  3224          4726  2     !+
;  3225          4727  2     !  Determine if ADVANCING is requested.
;  3226          4728  2     !  If bit 10 = 0 advancing.  If bit 10 = 1 no advancing.
;  3227          4729  2     !  Set COB$$AB_PREV[0] - also depending on bit 10, to flag to next COBOL
;  3228          4730  2     !  statement that advancing/no advancing is required following this
;  3229          4731  2     !  ACCEPT statement.
;  3230          4732  2     !-
;  3231          4733  2
;  3232          4734  2     IF (.FLAGS AND V_ADV) NEQ 0
;  3233          4735  2     THEN
;  3234          4736  2         COB$$AB_PREV[0] = ACC_DNA                       ! Signal Do Not Advance
;  3235          4737  2     ELSE
;  3236          4738  3         BEGIN
;  3237          4739  3         !+
;  3238          4740  3         !  Echo carriage return to screen if advancing is called for.
;  3239          4741  3         !-
;  3240          4742  3         COB$$RMS_PUT_BYTE ( CARR_RET, .FLAGS ) ;
;  3241          4743  3         COB$$AB_PREV[0] = ACC_ADV ;                     ! Signal ADVance
;  3242          4744  2         END;
;  3243          4745  2
;  3244          4746  1     END ;                                             ! End of COB$$RPG_CLEAN_UP


                        0004 00000 COB$$RPG_CLEAN_UP:
                                           .WORD   Save R2                                  ; 4698
```

```
                         52 00000000G   00  9E 00002          MOVAB   COB$$AB_PREV, R2                          ;
                   04    6C             2A  E1 00009          BBC     #42, FLAGS, 1$                          ; 4734
                         62             05  90 0000D          MOVB    #5, COB$$AB_PREV                        ; 4736
                                        04  00010              RET                                             ;
                               04       AC  DD 00011 1$:      PUSHL   FLAGS                                   ; 4742
                                        7E  D4 00014          CLRL    -(SP)                                   ;
                            FB47 CF     02  FB 00016          CALLS   #2, COB$$RMS_PUT_BYTE                   ;
                         62             04  90 0001B          MOVB    #4, COB$$AB_PREV                        ; 4743
                                        04  0001E              RET                                             ; 4746

; Routine Size:  31 bytes,    Routine Base:  _COB$CODE + 124E
```

```
;3246       4747  1 %SBTTL 'COB$$FORMAT_FOUR - Format Four'
;3247       4748  1 ROUTINE COB$$FORMAT_FOUR  ( UNIT        :  VECTOR [2,BYTE],
;3248       4749  1                             FLAGS,
;3249       4750  1                             KEY         :  REF $STR$DESCRIPTOR
;3250       4751  1                           )  =
;3251       4752  1
;3252       4753  1 !++
;3253       4754  1 ! FUNCTIONAL DESCRIPTION:
;3254       4755  1 !
;3255       4756  1 !       This routine handles VAX COBOL ACCEPT Statement FORMAT FOUR,
;3256       4757  1 !       Control Key.
;3257       4758  1 !
;3258       4759  1 ! FORMAL PARAMETERS:
;3259       4760  1 !
;3260       4761  1 !       UNIT.rbu.va     Array of two unsigned byte integers.
;3261       4762  1 !                       The first byte is the unit number designating the
;3262       4763  1 !                       device from which the string is to be read.
;3263       4764  1 !                       The second byte indicates whether the routine should
;3264       4765  1 !                       abort or return to the calling program.
;3265       4766  1 !                         Byte 2 = 0  -  routine will abort on control z
;3266       4767  1 !                                        and reprompt on conversion errors.
;3267       4768  1 !                                = 1  -  ( AT END )
;3268       4769  1 !                                        routine will return to calling program
;3269       4770  1 !                                        on control z and reprompt on conversion
;3270       4771  1 !                                        errors.
;3271       4772  1 !                                = 2  -  ( ON EXCEPTION )
;3272       4773  1 !                                        routine will return to calling program
;3273       4774  1 !                                        on control z and conversion errors.
;3274       4775  1 !
;3275       4776  1 !       FLAGS.rlu.v     Screen enhancement flag;
;3276       4777  1 !
;3277       4778  1 !       KEY.wt.ds       Destination of the receiving field of the control key.
;3278       4779  1 !
;3279       4780  1 ! IMPLICIT INPUTS:
;3280       4781  1 !
;3281       4782  1 !       NONE
;3282       4783  1 !
;3283       4784  1 ! IMPLICIT OUTPUTS:
;3284       4785  1 !
;3285       4786  1 !       NONE
;3286       4787  1 !
;3287       4788  1 ! ROUTINE VALUE:
;3288       4789  1 !
;3289       4790  1 !
;3290       4791  1 ! SIDE EFFECTS:
;3291       4792  1 !
;3292       4793  1 !       NONE
;3293       4794  1 !
;3294       4795  1 !--
;3295       4796  1
;3296       4797  2     BEGIN
;3297       4798  2
;3298       4799  2     LOCAL
;3299       4800  2         RAB             :  REF $RAB_DECL,
;3300       4801  2         FUNC_VAL,                       ! Read QIO Function Modifiers
;3301       4802  2                                         ! used in item list by RMS
;3302       4803  2         TERM_PTR,                       ! Pointer to terminator in buffer
```

```
;3303          4804  2          NEXT_CHAR       : VECTOR [10,BYTE],    ! Buffer to hold terminator sequence
;3304          4805  2          LEGAL           : INITIAL (0),         ! = 0 if illegal terminator hit
;3305          4806  2          TMASK           : VECTOR [2] ;         ! Longform terminator mask
;3306          4807  2
;3307          4808  2      !+
;3308          4809  2      !  Terminator mask - EVERY key is treated as a terminator.  Each key pressed
;3309          4810  2      !  is checked for validity as a terminator.
;3310          4811  2      !  Valid terminators are Carriage Return, Tab, Control Z, Arrow keys,
;3311          4812  2      !  PF keys, and the PROFESSIONAL Editing and Top Row Function keys.
;3312          4813  2      !-
;3313          4814  2
;3314          4815  2          TMASK [0] = 32 ;
;3315          4816  2          TMASK [1] = UPLIT (-1, -1, -1, -1, -1, -1, -1, -1 ) ;
;3316          4817  2
;3317          4818  2      !+
;3318          4819  2      !  Ring the terminal bell if user requests.
;3319          4820  2      !-
;3320          4821  2
;3321          4822  2          IF ( .FLAGS AND V_BELL ) NEQ 0
;3322          4823  2          THEN
;3323          4824  2              COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
;3324          4825  2
;3325          4826  2      !+
;3326          4827  2      !  Determine FUNC_VAL - QIO Function Modifiers used by RMS $GET Service.
;3327          4828  2      !  Set TRM$M_TM_NOECHO to suppress echoing of input characters to the terminal.
;3328          4829  2      !  Set TRM$M_TM_ESCAPE to allow Escape sequences to act as terminators (Arrow
;3329          4830  2      !  keys and PF keys and the Professional editing and top row function keys).
;3330          4831  2      !  Set TRM$M_TM_NOFILTR to allow this routine to handle the DELETE KEY. (not a
;3331          4832  2      !  valid terminator).
;3332          4833  2      !  Set TRM$M_TM_TRMNOECHO to suppress echoing of the termination character
;3333          4834  2      !  (COB$$AB_PREV handles advancing / no advancing).
;3334          4835  2      !-
;3335          4836  2
;3336          4837  2          FUNC_VAL = TRM$M_TM_ESCAPE + TRM$M_TM_NOFILTR + TRM$M_TM_TRMNOECHO
;3337          4838  2                                                        + TRM$M_TM_NOECHO ;
;3338          4839  2
;3339        P 4840  2          $ITMLST_INIT (ITMLST = XAB_ITMLST,                    ! Item list for $GET
;3340        P 4841  2                        (ITMCOD = TRM$_MODIFIERS,
;3341        P 4842  2                         BUFSIZ = 0,
;3342        P 4843  2                         BUFADR = .FUNC_VAL),
;3343        P 4844  2                        (ITMCOD = TRM$_TERM,
;3344        P 4845  2                         BUFSIZ = 32,                         ! 32 bytes in TMASK
;3345          4846  2                         BUFADR = .TMASK[1]) ) ;
;3346          4847  2      !+
;3347          4848  2      !  RMS $GET - expect only terminators.  NOTE:  This $GET call is not the
;3348          4849  2      !  same as the call in routine COB$$RMS_GET.
;3349          4850  2      !-
;3350          4851  2
;3351          4852  2          WHILE .LEGAL EQL 0 DO
;3352          4853  3              BEGIN                                            ! Begin Loop
;3353          4854  3
;3354          4855  3              RAB = .COB$$AL_WRITE_RAB [.UNIT[0]] ;
;3355          4856  3              RAB [RAB$W_USZ] = 10 ;
;3356          4857  3              RAB [RAB$L_UBF] = NEXT_CHAR ;
;3357          4858  3              RAB [RAB$V_ETO] = 1 ;
;3358          4859  3              RAB [RAB$L_XAB] = XABTRM ;
;3359          4860  3              WHILE $GET (RAB = .RAB) EQL RMS$_RSA DO $WAIT (RAB = .RAB) ;
```

```
; 3360          4861  3
; 3361          4862  3          IF NOT .RAB [RAB$L_STS]
; 3362          4863  3          THEN
; 3363          4864  3              !+
; 3364          4865  3              ! These are special case status that will be handled later.
; 3365          4866  3              ! (See note below for explanation of missing RMS$_TNS)
; 3366          4867  3              !-
; 3367          4868  4              IF (.RAB [RAB$L_STS] NEQ RMS$_BES AND
; 3368          4869  4              .RAB [RAB$L_STS] NEQ RMS$_EOF AND
; 3369          4870  4              .RAB [RAB$L_STS] NEQ RMS$_PES AND
; 3370          4871  4              .RAB [RAB$L_STS] NEQ RMS$_RTB )
; 3371          4872  3              THEN
; 3372          4873  3                  LIB$STOP (COB$_ERRDURACC, 1, .RAB + RAB$C_BLN, .RAB [RAB$L_STS],
; 3373          4874  3                                                  .RAB [RAB$L_STV] ) ;
; 3374          4875  3 !+
; 3375          4876  3 !   NOTE:  No need for call to COB$$PARTIAL_SEQ as buffer of 10 bytes
; 3376          4877  3 !          is more than sufficient to hold complete escape sequences.
; 3377          4878  3 !          Most key escape sequences are between 1-4 bytes long.
; 3378          4879  3 !          Status RMS$_TNS, terminator not seen, would signal a need to
; 3379          4880  3 !          call routine COB$$PARTIAL_SEQ.
; 3380          4881  3 !-
; 3381          4882  3          TERM_PTR = NEXT_CHAR[0] ;
; 3382          4883  3
; 3383          4884  3          !+
; 3384          4885  3          ! Check for legal terminator, then copy it to KEY.
; 3385          4886  3          !-
; 3386          4887  3
; 3387          4888  3              IF .RAB [COB$$B_STV2_LEN] EQL 1             ! Terminator is one byte
; 3388          4889  3              THEN
; 3389          4890  4                  BEGIN
; 3390          4891  4                  TERM_PTR = RAB [COB$$B_STV0_TERM] ;
; 3391          4892  4                  SELECTONE .RAB [COB$$B_STV0_TERM] OF
; 3392          4893  4                      SET
; 3393          4894  4                          [ CR,                           ! Carriage Return
; 3394          4895  4                            TAB ] :                       ! Tab
; 3395          4896  4
; 3396          4897  5                              BEGIN
; 3397          4898  5                              CH$MOVE ( 1, .TERM_PTR, .KEY [DSC$A_POINTER] ) ;
; 3398          4899  5                              LEGAL = 1 ;
; 3399          4900  4                              END ;
; 3400          4901  4
; 3401          4902  4                          [OTHERWISE] :                   ! Error - key not a
; 3402          4903  4                                                          ! terminator
; 3403          4904  5                              BEGIN
; 3404          4905  5                              COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;
; 3405          4906  5                              LEGAL = 0 ;
; 3406          4907  4                              END ;
; 3407          4908  4                      TES ;
; 3408          4909  4                  END
; 3409          4910  4
; 3410          4911  3          ELSE
; 3411          4912  3              IF .RAB [RAB$L_STS] EQL RMS$_EOF
; 3412          4913  3              THEN
; 3413          4914  3                  !+
; 3414          4915  3                  ! CONTROL Z  - the status RMS$_EOF is returned
; 3415          4916  3                  ! from the $Get Service.  ^Z is not stored in
; 3416          4917  3                  ! RAB[RAB$_STV0_TERM].
```

```
;  3417          4918  3                     !-
;  3418          4919  3
;  3419          4920  4                     BEGIN
;  3420          4921  4                     IF .UNIT [1]  EQL  0
;  3421          4922  4                     THEN
;  3422          4923  4                         LIB$STOP ( COB$_EOFON_ACC )       ! Abort
;  3423          4924  4                     ELSE
;  3424          4925  4                         COB$$CONTROL_Z ( .UNIT, .KEY ) ; ! Return to calling
;  3425          4926  4                         RETURN 0 ;                       ! program.
;  3426          4927  4                     END
;  3427          4928  3                 ELSE
;  3428          4929  3                     !+
;  3429          4930  3                     !  Escape Sequence as Terminator.  COB$$CONTROL_KEY converts
;  3430          4931  3                     !  terminator sequences to COBOL defined sequences and fills
;  3431          4932  3                     !  in KEY parameter if terminator is legal.
;  3432          4933  3                     !-
;  3433          4934  3
;  3434          4935  4                     BEGIN
;  3435          4936  5                     IF NOT ( COB$$CONTROL_KEY (TERM_PTR, .RAB [COB$$B_STV2_LEN],
;  3436          4937  5                                                                .KEY) )
;  3437          4938  4                     THEN
;  3438          4939  5                         BEGIN                          ! Error, illegal escape
;  3439          4940  5                         COB$$RMS_PUT_BYTE ( RING_BELL, .FLAGS ) ;    ! sequence.
;  3440          4941  5                         LEGAL = 0 ;
;  3441          4942  5                         END
;  3442          4943  4                     ELSE
;  3443          4944  4                         LEGAL = 1 ;
;  3444          4945  3                     END ;
;  3445          4946  2             END ;                                       ! End Loop
;  3446          4947  2
;  3447          4948  2         !+
;  3448          4949  2         !  VAX COBOL Version 1 / Version 3 interaction.
;  3449          4950  2         !  Determine if ADVANCING is requested.
;  3450          4951  2         !  If bit 10 = 0 advancing.  If bit 10 = 1 no advancing.
;  3451          4952  2         !  Set COB$$AB_PREV[0] - also depending on bit 10, to flag to next COBOL
;  3452          4953  2         !  statement that advancing/no advancing is required following this
;  3453          4954  2         !  ACCEPT statement.
;  3454          4955  2         !-
;  3455          4956  2
;  3456          4957  2         IF (.FLAGS AND V_ADV) NEQ 0
;  3457          4958  2         THEN
;  3458          4959  2             COB$$AB_PREV[0] = ACC_DNA                   ! Signal- Do Not Advance
;  3459          4960  2         ELSE
;  3460          4961  2             !+
;  3461          4962  2             !  Echo carriage return to screen if advancing is called for.
;  3462          4963  2             !-
;  3463          4964  3             BEGIN
;  3464          4965  3             COB$$RMS_PUT_BYTE ( CARR_RET, .FLAGS ) ;
;  3465          4966  3             COB$$AB_PREV[0] = ACC_ADV ;                 ! Signal- ADVance
;  3466          4967  2             END ;
;  3467          4968  2
;  3468          4969  2         RETURN 1 ;
;  3469          4970  1         END ;                                       ! End of routine COB$$FORMAT_FOUR


                                                0126D          .BLKB   3
```

```
FFFFFFFF  FFFFFFFF  FFFFFFFF  FFFFFFFF  FFFFFFFF  FFFFFFFF  01270 P.AAS:  .LONG   -1, -1, -1, -1, -1, -1, -1, -1
                                        FFFFFFFF  FFFFFFFF  01288


                                                  01FC 00000 COB$$FORMAT_FOUR:
                                                             .WORD   Save R2,R3,R4,R5,R6,R7,R8                    ; 4748
                                  58 00000000G   00   9E 00002       MOVAB   COB$$AB_PREV, R8                    ;
                                  57 00000000G   00   9E 00009       MOVAB   LIB$STOP, R7                        ;
                                  56      FB0C   CF   9E 00010       MOVAB   COB$$RMS_PUT_BYTE, R6               ;
                                  5E             18   C2 00015       SUBL2   #24, SP                             ;
                                                 55   D4 00018       CLRL    LEGAL                               ; 4797
                            04    AE             20   D0 0001A       MOVL    #32, TMASK                          ; 4815
                            08    AE         BF  AF   9E 0001E       MOVAB   P.AAS, TMASK+4                      ; 4816
                                  54         08  AC   D0 00023       MOVL    FLAGS, R4                           ; 4822
                      07          54             04   E1 00027       BBC     #4, R4, 1$                          ;
                                                 54   DD 0002B       PUSHL   R4                                  ; 4824
                                                 02   DD 0002D       PUSHL   #2                                  ;
                                  66             02   FB 0002F       CALLS   #2, COB$$RMS_PUT_BYTE               ;
                                  51       5240  8F   3C 00032 1$:    MOVZWL  #21056, FUNC_VAL                    ; 4838
                                  50 00000000'   EF   9E 00037       MOVAB   XAB_ITMLST, $$ITMBLKPTR             ; 4846
                                                 80   D4 0003E       CLRL    ($$ITMBLKPTR)+                      ;
                                  80             51   D0 00040       MOVL    FUNC_VAL, ($$ITMBLKPTR)+            ;
                                                 80   D4 00043       CLRL    ($$ITMBLKPTR)+                      ;
                                  80 00030020    8F   D0 00045       MOVL    #196640, ($$ITMBLKPTR)+             ;
                                  80         08  AE   D0 0004C       MOVL    TMASK+4, ($$ITMBLKPTR)+             ;
                                                 80   7C 00050       CLRQ    ($$ITMBLKPTR)+                      ;
                                  53         04  AC   9A 00052       MOVZBL  UNIT, R3                            ; 4855
                                                 55   D5 00056 2$:    TSTL    LEGAL                               ; 4852
                                                 03   13 00058       BEQL    3$                                  ;
                                                00EB  31 0005A       BRW     14$                                 ;
                                  52 00000000G 0043  D0 0005D 3$:    MOVL    COB$$AL_WRITE_RAB[R3], RAB          ; 4855
                            20    A2                 0A   B0 00065       MOVW    #10, 32(RAB)                    ; 4856
                            24    A2             0C  AE   9E 00069       MOVAB   NEXT_CHAR, 36(RAB)              ; 4857
                            07    A2                 10   88 0006E       BISB2   #16, 7(RAB)                     ; 4858
                            40    A2 00000000'       EF   9E 00072       MOVAB   XABTRM, 64(RAB)                 ; 4859
                                                     52   DD 0007A 4$:    PUSHL   RAB                             ; 4860
                00000000G   00                       01   FB 0007C       CALLS   #1, SYS$GET                     ;
                000182DA    8F                       50   D1 00083       CMPL    R0, #99034                      ;
                                                     0B   12 0008A       BNEQ    5$                              ;
                                                     52   DD 0008C       PUSHL   RAB                             ;
                00000000G   00                       01   FB 0008E       CALLS   #1, SYS$WAIT                    ;
                                                     E3   11 00095       BRB     4$                              ;
                                  50         08  A2   D0 00097 5$:    MOVL    8(RAB), R0                      ; 4862
                                  37             50   E8 0009B       BLBS    R0, 6$                              ;
                000181C0    8F                       50   D1 0009E       CMPL    R0, #98752                      ; 4868
                                                     2E   13 000A5       BEQL    6$                              ;
                0001827A    8F                       50   D1 000A7       CMPL    R0, #98938                      ; 4869
                                                     25   13 000AE       BEQL    6$                              ;
                000181C8    8F                       50   D1 000B0       CMPL    R0, #98760                      ; 4870
                                                     1C   13 000B7       BEQL    6$                              ;
                000181A8    8F                       50   D1 000B9       CMPL    R0, #98728                      ; 4871
                                                     13   13 000C0       BEQL    6$                              ;
                                                 0C  A2   DD 000C2       PUSHL   12(RAB)                         ; 4874
                                                     50   DD 000C5       PUSHL   R0                              ; 4873
                                                 44  A2   9F 000C7       PUSHAB  68(RAB)                         ;
                                                     01   DD 000CA       PUSHL   #1                              ;
```

```
                    00000000G  8F  DD 000CC          PUSHL   #COB$_ERRDURACC
                           67  05  FB 000D2          CALLS   #5, LIB$STOP
                           6E  0C  AE 9E 000D5 6$:    MOVAB   NEXT_CHAR, TERM_PTR                ;  4882
                           01  0E  A2 91 000D9        CMPB    14(RAB), #1                         ;  4888
                               1D  12 000DD          BNEQ    8$
                           6E  0C  A2 9E 000DF        MOVAB   12(RAB), TERM_PTR                   ;  4891
                           50  0C  A2 9A 000E3        MOVZBL  12(RAB), R0                         ;  4892
                           09      50 91 000E7        CMPB    R0, #9                              ;  4894
                                   05 13 000EA        BEQL    7$
                           0D      50 91 000EC        CMPB    R0, #13
                                   46 12 000EF        BNEQ    11$
                           50  0C  AC D0 000F1 7$:    MOVL    KEY, R0                             ;  4898
                        04 B0  00  BE 90 000F5        MOVB    @TERM_PTR, @4(R0)
                                   46 11 000FA        BRB     12$                                 ;  4899
                    0001827A 8F    08  A2 D1 000FC 8$:    CMPL    8(RAB), #98938                  ;  4912
                                   1D 12 00104        BNEQ    10$
                               05  AC 95 00106        TSTB    UNIT+1                              ;  4921
                                   0B 12 00109        BNEQ    9$
                    00000000G  8F  DD 0010B           PUSHL   #COB$_EOFON_ACC                     ;  4923
                           67      01 FB 00111        CALLS   #1, LIB$STOP
                                   49 11 00114        BRB     17$
                               0C  AC DD 00116 9$:    PUSHL   KEY                                 ;  4925
                               04  AC DD 00119        PUSHL   UNIT
                        0106   C6      02 FB 0011C    CALLS   #2, COB$$CONTROL_Z
                                   3C 11 00121        BRB     17$                                 ;  4926
                               0C  AC DD 00123 10$:   PUSHL   KEY                                 ;  4937
                           7E  0E  A2 9A 00126        MOVZBL  14(RAB), -(SP)                      ;  4936
                               08  AE 9F 0012A        PUSHAB  TERM_PTR
                    00000000G  00      03 FB 0012D    CALLS   #3, COB$$CONTROL_KEY
                               0B      50 E8 00134    BLBS    R0, 12$
                                       54 DD 00137 11$:   PUSHL   R4                              ;  4940
                                       02 DD 00139    PUSHL   #2
                                   66  02 FB 0013B    CALLS   #2, COB$$RMS_PUT_BYTE
                                       55 D4 0013E    CLRL    LEGAL                               ;  4941
                                       03 11 00140    BRB     13$                                 ;  4936
                                   55  01 D0 00142 12$:   MOVL    #1, LEGAL                       ;  4944
                                  FF0E 31 00145 13$:   BRW     2$                                  ;  4852
                        05         54  0A E1 00148 14$:   BBC     #10, R4, 15$                    ;  4957
                                   68  05 90 0014C      MOVB    #5, COB$$AB_PREV                    ;  4959
                                       0A 11 0014F    BRB     16$
                                       54 DD 00151 15$:   PUSHL   R4                              ;  4965
                                       7E D4 00153    CLRL    -(SP)
                                   66  02 FB 00155    CALLS   #2, COB$$RMS_PUT_BYTE
                                   68  04 90 00158    MOVB    #4, COB$$AB_PREV                    ;  4966
                                   50  01 D0 0015B 16$:   MOVL    #1, R0                          ;  4969
                                       04 0015E       RET
                                       50 D4 0015F 17$:   CLRL    R0                              ;  4970
                                       04 00161       RET

; Routine Size:  354 bytes,    Routine Base:  _COB$CODE + 1290

; 3470          4971  1
; 3471          4972  1     END                                     ! End of module COB$ACCEPT
; 3472          4973  0     ELUDOM
```

```
;                                   PSECT SUMMARY
;
;       Name                    Bytes                           Attributes
;
;  _COB$DATA                      88  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,  PIC,ALIGN(2)
;  _COB$CODE                    5106  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       153         1         581       00:00.7
;  _$255$DUA28:[COBRTL.OBJ]SMGLIB.L32;1    469        10         2          38       00:00.2


;                                  COMMAND QUALIFIERS

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

; Size:          4745 code + 449 data bytes
; Run Time:         01:09.6
; Elapsed Time:     05:34.6
; Lines/CPU Min:     4290
; Lexemes/CPU-Min: 29151
; Memory Used:  626 pages
; Compilation Complete
```

COBCVTRPQ
LIS

COBCVTDQ
LIS

COBCANCEL
LIS

COBCVTQP
LIS

COBACCTIM
LIS

COBCVTPQ
LIS

COBCVTRFQ
LIS

COBCVTQF
LIS

COBCVTRQP
LIS

COBCALL
LIS

COBCVTFQ
LIS

COBACCEPT
LIS

COBCVTRDQ
LIS

COBCVTQD
LIS